



GRIPPING MODULES

AUTOMATION

2010

SCHUNK takes the initiative. For you!

As a worldwide competence leader in gripping systems we are in the middle of the market. As the first in developing solutions for highly specialized industry segments you as our customer are continuously in the center of our efforts. We respect your requirements within our products and create new potential for faster, more efficient and more flexible processes.

We are one of the innovative market leaders that heavily influences the state-of-the-art technology. We continuously set new forward-looking elements for the entire automation industry.

Profit from our one-of-a-kind powerful offering: gripping modules, rotary- and swivel modules, linear modules, robot accessories and customer specific solutions.

Discover a partner that can innovatively and sustainably strengthen your company and your business. In every industry. Worldwide.



GRIPPING
MODULES



ROTARY MODULES



LINEAR MODULES



ROBOT ACCESSORIES



MODULAR ASSEMBLY
AUTOMATION



MODULAR ROBOTICS

Gripping Systems

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Gripping Systems Pneumatic
















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Gripping Systems Electric

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Product Overview

Gripping Modules

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2-Finger Gripper for small components		
	MPG 10 - 80	Page 22
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2-Finger Universal Gripper		
	LGP 8 - 40	Page 162
	PGN-plus 40 - 380	Page 180
	JGP 40 - 160	Page 280
	PGF 50 - 125	Page 346
	PGM 29 - 140	Page 370
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Sealed 2-Finger Parallel Gripper		
	DPG-plus 40 - 300	Page 440
2-Finger Long-stroke Gripper		
	PFH 30 - 50	Page 490
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	PSH 22 - 52	Page 526
2-Finger Heavy-load Gripper		
	SPG 100	Page 552

3-Finger Gripper for small components		
	MPZ 16 - 45	Page 562
3-Finger Universal Gripper		
	LGZ 16 - 50	Page 590
	PZN-plus 40 - 300	Page 600
	JGZ 40 - 160	Page 690
	PZB-plus 50 - 160	Page 746
Sealed 3-Finger Centric Gripper		
	DPZ-plus 40 - 200	Page 792
4-Finger Centric Gripper		
	PZV 64 - 200	Page 840
2-Finger Angular Gripper for small components		
	SGB 32 - 50	Page 884
	SWG 10 - 50	Page 900
2-Finger Universal Angular Gripper		
	LGW 10 - 40	Page 932
	PWG-S 40 - 80	Page 946
	PWG 65 - 230	Page 962
3-Finger Angular Gripper		
	SGW 40 - 64	Page 996
2-Finger Universal Radial Gripper		
	LGR 10 - 40	Page 1014

2-Finger Universal Radial Gripper		
	PRG 26 - 125	Page 1028
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KONEX Modular Gripping System		
	KONEX P 50	Page 1100
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GSM Gripper Swivel Modules		
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Electric Gripping Modules		
2-Finger Gripper for small components		
	MEG 40 - 64	Page 1204
2-Finger Universal Gripper		
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2-Finger Long-stroke Gripper		
	PEH 30 - 50	Page 1252

2-Finger Long-stroke Gripper		
	LEG 760	Page 1268
3-Finger Universal Gripper		
	EZN 64 / 100	Page 1278
Special Gripper		
Food Gripper		
	LMG 44 - 64	Page 1292
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Gripper with shaft interface		
	GSW-B 50 - 100	Page 1310
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	RGG 20	Page 1334

Product Selection Table

Gripping Modules

		Stoke per finger [mm]			Gripping force [N]			
Pneumatic 2-Finger Parallel Gripper		1-10	11-100	101-300	10-100	101-1000	1001-10000	10001-100000
DPG-plus	Page 440	2	25			110	5940	
JGP	Page 280	2.5	16			123	2210	
KGG	Page 86		10	60	45	540		
KTG	Page 78	4.5			13			
LGP	Page 162	2	13		26	1090		
MPG	Page 22	1	14		9	540		
PFH 30 - 50	Page 490		30	100		630	2950	
PFH 150 - 300	Page 506			150	300		2200	
PGB	Page 406	4	10		90	610		
PGF	Page 346		7.5	31.5		240	1900	
PGM	Page 370	2	15		30	1180		
PGN-plus	Page 180	2	45			123	21150	
PSH	Page 526		14	100		320	1760	
RH	Page 128	2.5	40		13	460		
SPG	Page 552			100				10000
Electric 2-Finger Parallel Gripper								
EGN	Page 1220		8	16		400	1000	
EVG	Page 1244		20	50	24	57		
LEG	Page 1268			281		1050	1500	
MEG	Page 1204	6	10		40	175		
PEH	Page 1252		60	100		750	1800	
PG	Page 1236		34			200		
Pneumatic 3-Finger Centric Gripper								
DPZ-plus	Page 792	2	25			230	16500	
JGZ	Page 690	2.5	16			255	8480	
LGZ	Page 590	3	7			120	1470	
MPZ	Page 562	1	5		20	310		
PZB-plus	Page 746	2	13			340	5400	
PZN-plus	Page 600	2	35			255	35500	
Electric 3-Finger Centric Gripper								
EZN	Page 1278	6	10			500	800	
Pneumatic 4-Finger Centric Gripper								
PZV	Page 840	4	16			570	6900	
Gripper for Automatic Machine Operation								
GSW-B	Page 1310	2	10			140	5900	

		Working environment						Typical areas of application								
		Normal, clean environment	Dirty environment I Grit	Dirty environment II Fine dust and fluids	Dirty environment III Aggressive fluids	High temperature range > 90 °C	Clean room	Machine tools	Material feed Component insertion	Assembly	Packaging	Electronics	Paintshop	Clean room/laboratory	Foundry	Food
<div></div> Well suited																
<div></div> Suitable in a special design (on request)																
<div></div> Limited suitability																
Pneumatic 2-Finger Parallel Gripper																
DPG-plus	Page 440							●	●				●		●	
JGP	Page 280								●				●		●	
KGG	Page 86								●	●	●	●				
KTG	Page 78								●	●	●	●				
LGP	Page 162								●	●	●	●				
MPG	Page 22								●	●	●	●				
PFH 30 - 50	Page 490								●	●	●					
PFH 150 - 300	Page 506								●	●	●					
PGB	Page 406							●	●	●	●	●				
PGF	Page 346								●	●	●					
PGM	Page 370							●	●	●	●	●				
PGN-plus	Page 180							●	●	●	●	●			●	
PSH	Page 526							●	●	●	●					
RH	Page 128								●	●	●	●				
SPG	Page 552								●	●					●	
Electric 2-Finger Parallel Gripper																
EGN	Page 1220								●	●	●	●				
EVG	Page 1244								●	●		●		●		
LEG	Page 1268								●	●	●			●		
MEG	Page 1204								●	●	●	●		●		
PEH	Page 1252								●	●		●				
PG	Page 1236								●	●		●		●		
Pneumatic 3-Finger Centric Gripper																
DPZ-plus	Page 792							●	●				●		●	
JGZ	Page 690								●	●	●	●				
LGZ	Page 590								●	●	●	●				
MPZ	Page 562							●	●	●	●	●			●	
PZB-plus	Page 746							●	●	●	●	●			●	
PZN-plus	Page 600							●	●	●	●	●			●	
Electric 3-Finger Centric Gripper																
EZN	Page 1278								●	●	●	●				
Pneumatic 4-Finger Centric Gripper																
PZV	Page 840							●	●	●	●	●			●	
Gripper for Automatic Machine Operation																
GSW-B	Page 1310							●								




Product Selection Table

Gripping Modules

		Stroke per finger [mm]			Gripping force [N]			Torque [Nm]		
Pneumatic Modular Gripping System		1-5	6-10	11-20	1-200	201-300	301-400	0.0-1.0	1.1-2.0	2.1-3.0
KONEX	Page 1096		5		100			0.9		
Pneumatic Gripper Swivel Modules										
with 2-Finger Parallel Gripper										
GSM-P	Page 1116	4	10		39	162		0.3		2.9
with 3-Finger Centric Gripper										
GSM-Z	Page 1136	3	5		55	310		0.3		2.7

		Opening angle [°]		Gripping moment [Nm]			Torque [Nm]		
Pneumatic Gripper Swivel Modules		1-10	11-100	0.01-10	11-100	101-1000	0.0-1.0	1.1-2.0	2.1-3.0
with 2-Finger Angular Gripper									
GSM-W	Page 1152		20	0.46	5.6		0.3		2.9
with 2-Finger Radial Gripper									
GSM-R	Page 1176		90	0.45	7.5		0.3		2.9

		Opening angle [°]		Gripping moment [Nm]			Torque [Nm]		
Pneumatic Angular Gripper		1-10	11-100	0.01-10	11-100	101-1000	0.1-1.0	1.1-2.0	2.1-3.0
LGW	Page 932		20	0.22	11.2				
LMG	Page 1292		90	8.2	31.5				
PWG	Page 962		20	6.44	934.2				
PWG-S	Page 946		20	5.98	50.82				
SGB	Page 884	8		0.9	4.95				
SWG	Page 900		15	0.01	2.8				
Pneumatic 3-Finger Angular Gripper									
SGW	Page 996	8		1.35	7.45				
Pneumatic Radial Gripper									
DRG	Page 1064		90	8.2	143				
LGR	Page 1014		90	0.3	15				
PRG	Page 1028		30	2	295				

		Ambient conditions						Typical areas of application								
		Normal, clean ambient conditions	Dirty environment I Grit	Dirty environment II Fine dust on fluids	Dirty environment III Aggressive fluids	High temperature range > 90 °C	Clean room	Machine tools	Material feed Component insertion	Assembly	Packaging	Electronics	Paintshop	Clean room/laboratory	Foundry	Food
 Well suited																
 Suitable in a special design (on request)																
 Limited suitability																
Pneumatic Modular Gripping System																
KONEX	Page 1096								●	●	●	●				
Pneumatic Gripper Swivel Modules																
with 2-Finger Parallel Gripper																
GSM-P	Page 1116								●	●	●	●				
with 3-Finger Centric Gripper																
GSM-Z	Page 1136								●	●	●	●				

Pneumatic Gripper Swivel Modules																
with 2-Finger Angular Gripper																
GSM-W	Page 1152								●	●	●	●				
with 2-Finger Radial Gripper																
GSM-R	Page 1176								●	●	●	●				

Pneumatic Angular Gripper																
LGW	Page 932								●	●	●	●				
LMG	Page 1292										●					●
PWG	Page 962								●	●	●					
PWG-S	Page 946								●	●	●					
SGB	Page 884									●	●	●				●
SWG	Page 900									●	●	●				●
Pneumatic 3-Finger Angular Gripper																
SGW	Page 996															
Pneumatic Radial Gripper																
DRG	Page 1064							●	●				●		●	
LGR	Page 1014								●	●	●	●				
PRG	Page 1028								●	●	●					

Synergies with SCHUNK

SCHUNK SYNERGY: Toolholding/Workholding and Automation

Visions in two technology areas

Toolholding/workholding and automation are our core competences. The resulting synergy effects make us unique. SCHUNK understands this complex world of clamping and handling like no one else. As a long-standing components specialist we know the demands and requirements of both technology areas. Moreover there's the fascination of new possibilities. With our twofold expertise we can provide you with trend-setting leading technology. From the spindle to robotics.

We call this "SCHUNK SYNERGY". Get to know us as your active "all-in-one" partner – all the services from one source to benefit you.



AUTOMATION

TOOLHOLDING AND
WORKHOLDING

More innovative for you!

SCHUNK opens up new horizons

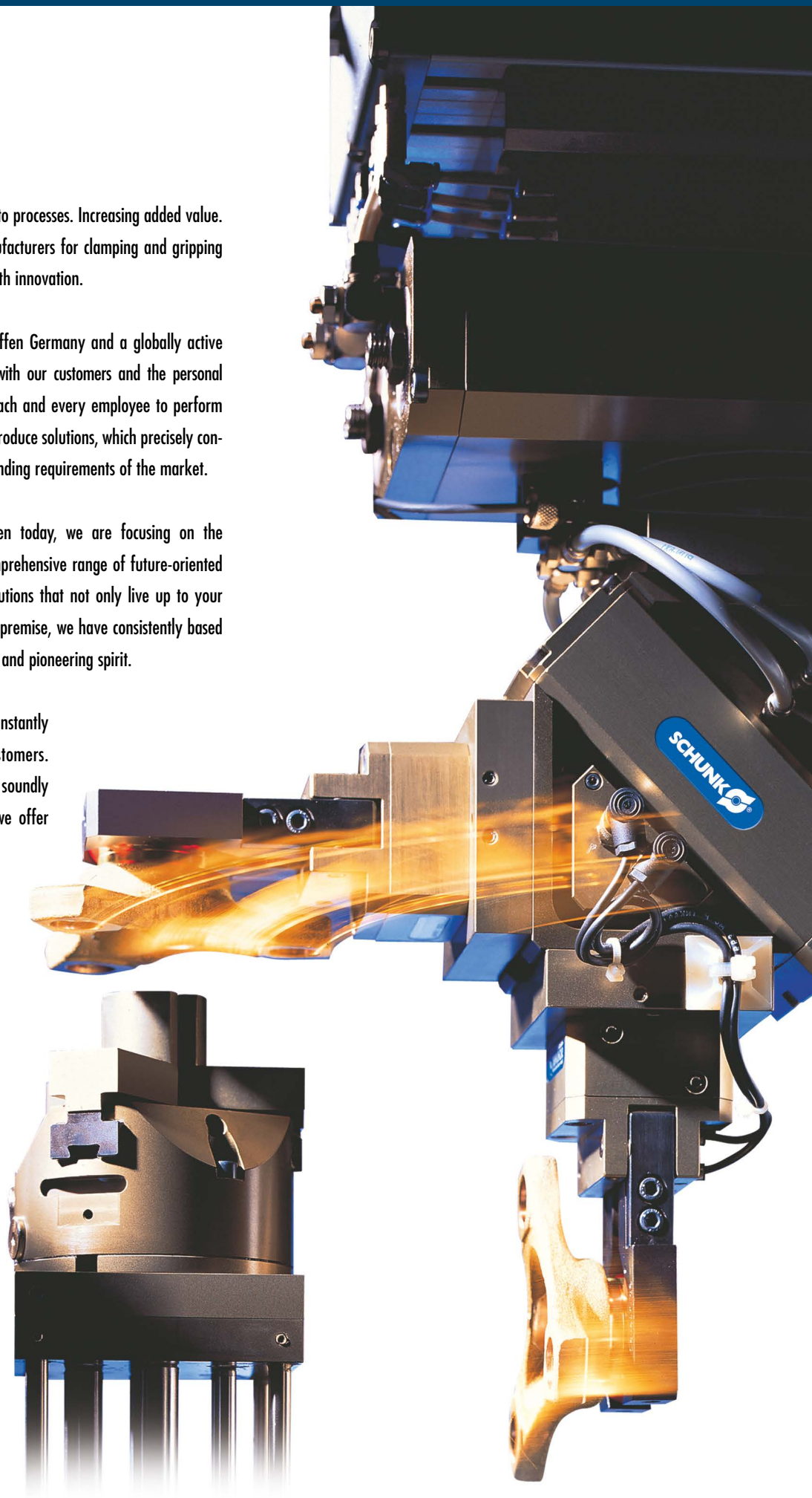
Shaping technology. Putting the dynamics into processes. Increasing added value. SCHUNK is one of the world's leading manufacturers for clamping and gripping technology, and our name is synonymous with innovation.

We are a family-run business based in Lauffen Germany and a globally active company rolled into one. Continual dialog with our customers and the personal responsibility and individual endeavors of each and every employee to perform the work faultlessly and in the best quality produce solutions, which precisely conform to our customers' needs and the demanding requirements of the market.

SCHUNK opens up new horizons. For even today, we are focusing on the opportunities of tomorrow, and boast a comprehensive range of future-oriented technologies. Our promise: High-quality solutions that not only live up to your expectations, but exceed them! And on this premise, we have consistently based our corporate philosophy: Quality, reliability and pioneering spirit.

Through continuous development, we are constantly opening up new prospects for our customers. Technical creativity, supreme expertise and soundly based experience are the success factors we offer you in engineering, production and service.

We are thinking ahead – for you!



Partners with a System Approach

System partners

Solutions from one source

As one of the most innovative market leaders, we offer unique solutions with our gripping systems, rotary units, linear modules, robot accessories and customized applications. Our broad product range enables us to offer precisely the right solution, even for your specialized tasks. We are development partners for various industries and specialize in your handling applications.

Whenever handling tasks require maximum precision and economic efficiency, SCHUNK provides the momentum and the perfect solution for putting them into practice.

You, too, can benefit from our complete automation range from one source. From standardized and individual gripper modules to complex functional modules. Rediscover SCHUNK! Again and again.



Gripping Modules

SCHUNK currently has the most comprehensive range of universal grippers and gripper modules for small components. Pneumatic or electric. Offering all features from state-of-the-art materials and coatings employed as standard to internal media feed-through. With our high level of technical expertise, SCHUNK sets the trend for cost-efficient handling in any industry, in any field.



Rotary Modules

Technology and functionality in the most compact form. SCHUNK's range of rotary modules represents the entire spectrum of compact turning and rotary units, swivel heads and rotary fingers. In other words, it's the ideal solution for handling tasks.



Linear Modules

Precision mini-slides, pneumatic linear modules, rigid gantry axes and axes with servo-electric linear drive – the SCHUNK product range offers linear technology for high-speed automated assembly. Compact and designed as a modular system.



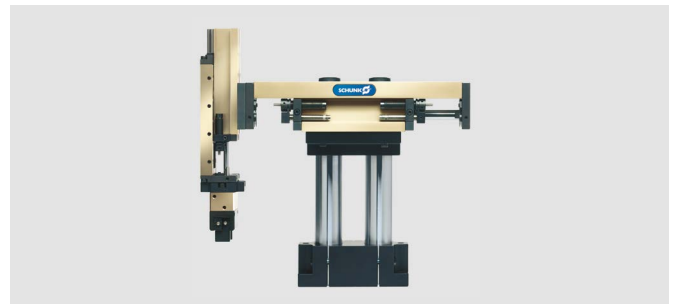
Robot Accessories

Robot accessories from SCHUNK – the complete range of modules for perfect interplay between the robot arm and the tool. Suitable for all types of robot, it is also an ideal enhancement to flexible robot applications.



Modular Assembly Automation

Flexible – fast – future-secure. This is the system GEMOTEC from SCHUNK. The comprehensive program of pneumatic and electric modules opens an unforeseen variety of combination possibilities. All actuators are compatible with each other. Where other companies still have to conduct design work, the system GEMOTEC is already assembled. Fast and straightforward.



Modular Robotics

The future, both in the service as well as in industrial robotics, has much greater demands on the mechanical design, the gripping technology, the sensor systems and the control and feedback control technology. As a pioneer of the modular robotics SCHUNK focuses on the expansion of usable approaches for market-ready, economic, and everyday products for service robotics, industrial robotics and research.



SCHUNK sets Standards

Gripping Systems

Quality, reliability, precision

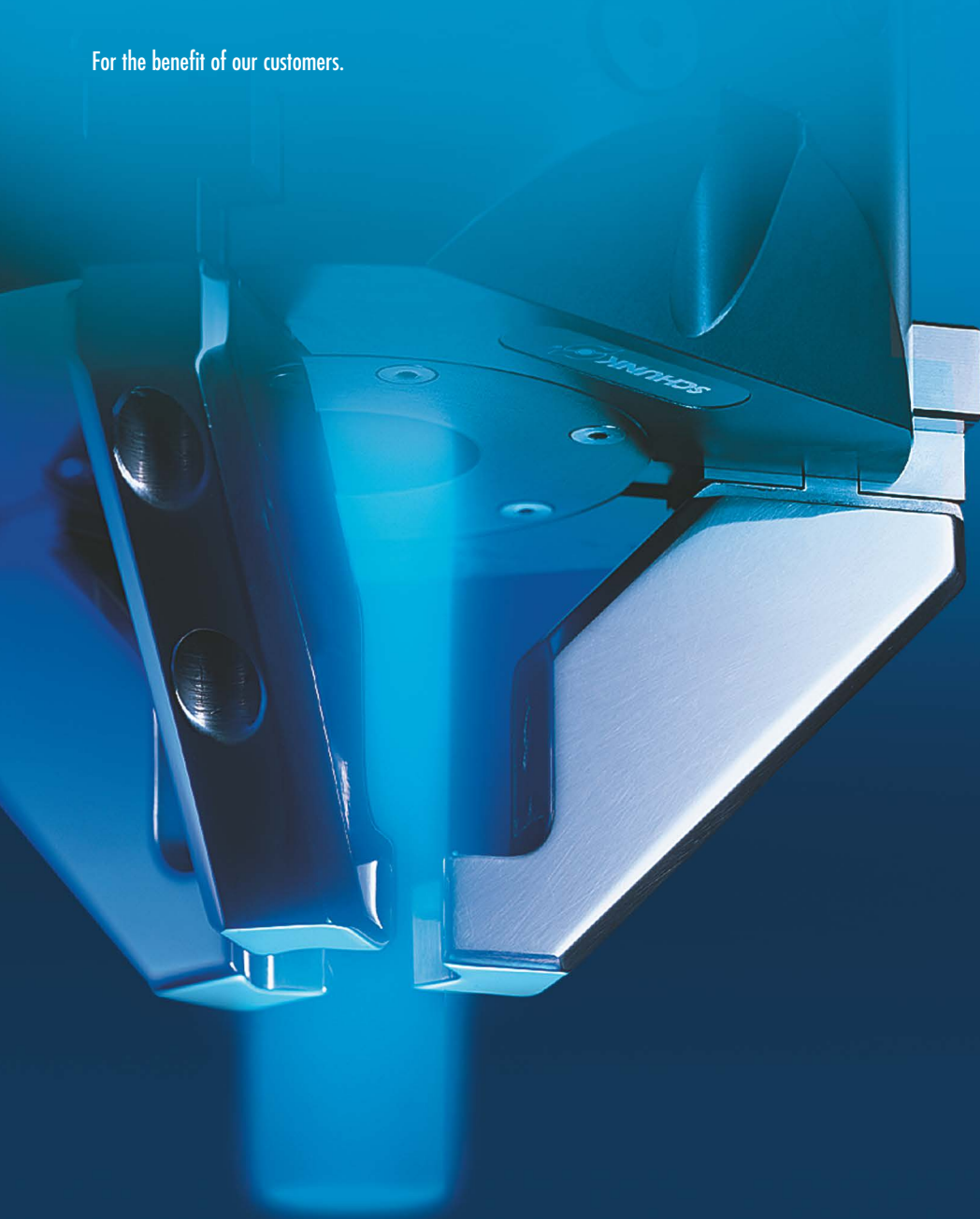
Our small component and universal gripping module program is extensive and is characterized by high product quality and many monitoring possibilities. The optimally graded sizes cover the complete spectrum of workpiece sizes. The requirement for this "Made in Germany" cutting edge technology is our continued innovative drive.

SCHUNK offers more. More willingness to take up challenges and make ideas a reality, more commitment to investment in innovative technologies, more flexibility to provide solutions for the tasks of a rapidly developing future. This is what we stand for.

For the benefit of our customers.

Good reasons for choosing gripper modules from SCHUNK:

- Simple set up
- High torque capacity
- Strong kinematics for long life
- High gripping force
- Large stroke ranges in relation to size
- Economic solutions and fast delivery times thanks to the modular design
- Pneumatic or electric



PGN-plus – the most versatile of all-rounders

The PGN-plus 2-finger parallel gripper, together with the PZN-plus 3-finger centric gripper, is undoubtedly the “best among its class” in the SCHUNK premium range of gripping modules. The first gripper with multi-tooth guidance. The first gripper with an oval piston drive concept. The first gripper with comprehensive accessories.

PGN-plus represents efficiency and precision in handling. It sets the technological standards in gripping technology. The versatile options for special application cases, neatly stepped sizes and large gripping forces make it an ideal solution for all your applications. PGN-plus is the quintessence of the best, perfectly combined in one universal product range.

Benefit from the leading expert in gripping technology:

- Sturdy multi-tooth guidance for precise handling
- Significantly higher moments loads, making it possible to use longer gripper fingers
- Higher gripping forces provided by oval pistons
- Fastened on two sides of the gripper in three screwing directions for universal and flexible gripper assembly
- Hose-free direct connection or connection via screws for flexible pressure supply in all automation solutions
- Comprehensive sensor accessories for manifold monitoring possibilities, including stroke position control
- Compact dimensions for minimum interfering contours in handling
- Wide variety of options for optimization tailored to your specific application

SUPERIOR!

The SCHUNK multi-tooth guidance
PGN-plus 2-Finger Parallel Gripper



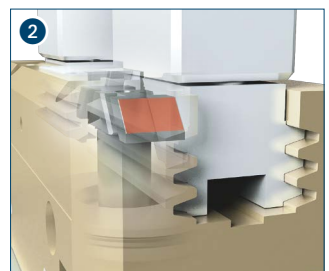
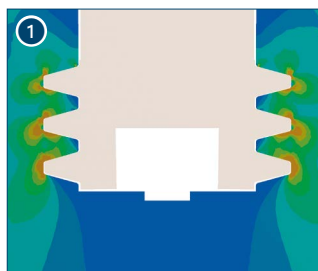
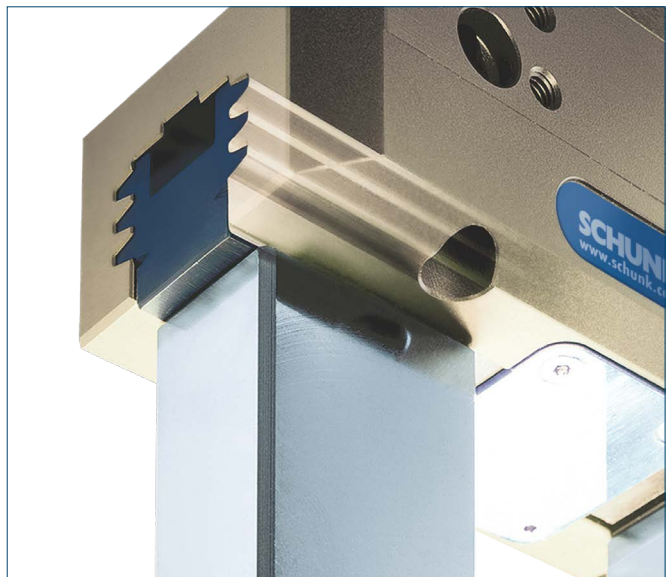
The SCHUNK multi-tooth guidance

Spreading the load across many shoulders – that is the principle behind the multi-tooth guidance developed by SCHUNK. The guidance tasks in parallel and centric grippers are no longer carried out using the classical T-slot; now multiple prismatic guidance arranged in parallel do the job.

Your advantages: forces and moments are distributed across multiple guiding areas. As a result, the guidances have a higher load capacity.

The effect: you can use longer gripper fingers with the same gripper size, without overloading the guidance. The added guiding area reduces the surface pressure – and therefore wear – to a minimum. The multi-tooth guidance ensures minimal guidance play throughout the gripper's service life.

- Precise, process reliable handling
- Maximum gripping force
- Large moment and power absorption
- Trouble-free use of long gripper fingers
- Maximum service life



- ① The load on the multi-tooth guidance is spread across many shoulders.
- ② More power: The large space between the multi-tooth guidance allows for a particularly strong diagonal pull. This guarantees that the force of the powerful oval piston is exerted to the fullest extent while limiting wear and damage.

This total system has superior precision, strength and reliability.

Premium gripper range with SCHUNK multi-tooth guidance

PGN-plus



2-finger
parallel gripper

PZN-plus



3-finger
centric gripper

DPG-plus



Sealed 2-finger
parallel gripper

DPZ-plus



Sealed 3-finger
centric gripper

PGB



2-finger
parallel gripper
with center bore

PZB-plus



3-finger
centric gripper
with center bore

PZV



4-finger
centric gripper

Environment



HUE dust cover

Soft plastic cover for long-lasting protection of grippers against fluids and dust.



High-temperature version of dust cover

For reliable use in hot environments.



Cleanroom

PGN-plus is certified to EN ISO 14644 cleanroom class ISO 5 as standard, with the HUE dust cover also available as standard for use in ISO 2 cleanrooms. All SCHUNK premium products are delivered with cleanroom certification.

Dust protection version

For use in dusty environments. Completely dust-proof versions with increased protection against penetrating materials for total reliability.

K corrosion-protected version

All steel parts are securely protected for use in corrosive environments.



EX explosion protection version



All of SCHUNK's Premium products are also provided with ATEX certification as standard.



V high-temperature version

For use in environments with high temperatures or aggressive fluids.

Compatible with ...



TCU compensation unit

The TCU can be moved in the X, Y and Z directions, thereby enabling it to correct angle errors and compensate rotation.



Modular assembly automation

Versatile, standardized combinations of the modular design, e.g. multi-tooth guided gripper with linear units.

Further options

OD/ID gripping force safety device

The GKS mechanical gripping force safety device ensures that a minimum clamping force will be applied even if there is a drop of pressure. Besides this, the gripping force safety device can be used to increase gripping force or for single actuated gripping.

KVZ increased force version

For increased gripping force requirements when opening and closing.

P Precision version

Special modification of the high precision gripping module for absolute replacement accuracy when changing grippers.

Machine tools



Spindle interfaces

The spindle interfaces are available as standard to increase your productivity, particularly when it comes to automatic machine operation.



Shank interface

GSW 20 gripper with shank interface for toolholders: loads and unloads machine tools fully automatically, using the centers' own machine axes.

... and much more

Sensor systems



MMS-P programmable magnetic switch

With adjustable hysteresis. For monitoring two switching points.



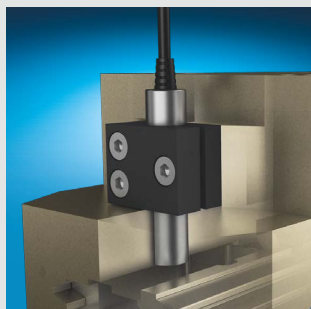
MMS electronic magnetic switch

Fitted to the gripper's C-slot to monitor a switching point.



RMS reed switch

Mechanical magnetic switch. Fitted to the gripper's C-slot to monitor a switching point.



IN inductive proximity switch

For monitoring the current state of automation components.



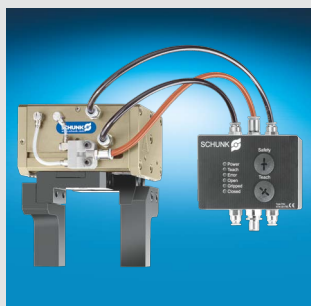
FPS flexible position sensor

For monitoring up to 5 switching points.



APS analog position sensor

System consisting of sensors and electronics for precise recording of the gripper jaw position.



PA-3 pneumatic monitoring

Particularly resistant to contamination, can be used in explosive areas or in "wireless" applications.



RSS wireless monitoring system

Wireless sensor system for monitoring the signals and states of sensors and processes.



FMS force measuring system

For measuring the gripping forces during the gripping process or, for example, for checking process forces in the case of taught robot applications.

Accessories



BSWS quick-change jaw system

Exchangeable gripper fingers enable quick refitting for handling other workpieces and minimize set-up times.



UZZ universal intermediate jaw

Enables rapid adjustment of the stroke position, without tools, thanks to the grid system provided and the tool-free clamping device.



MV micro valves








Simple to integrate – fitted directly to the actuator. Benefit from the lowest possible energy consumption, short cycle times and the minimum of installation work.

The best standardization options to keep you flexible

Multi-tooth all-round solutions

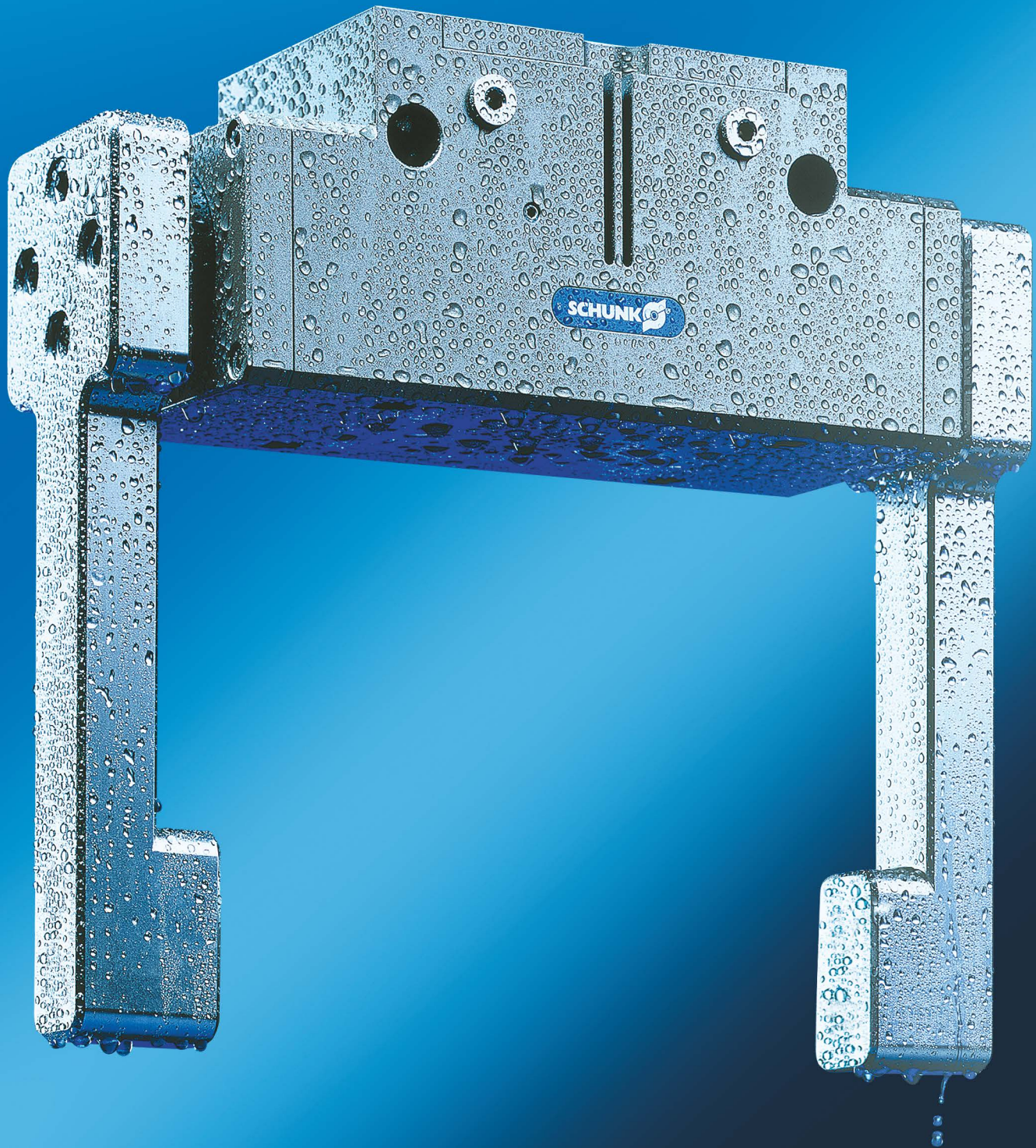
SCHUNK provides superior quality multi-tooth guidance in a large portion of its products. In addition to standardized screw connection diagrams, SCHUNK's product range includes numerous product variants and a wide range of accessory components. We can therefore provide you with the right gripper for any type of application, whether that involves specific ambient effects such as

temperature, contamination or aggressive media, or cleanroom or explosive ambient conditions. It goes without saying that our range of services also includes the appropriate sensor systems. Furthermore, we offer you many additional options for reducing idle times and maximizing the flexibility of your plants.

							
GKS Gripping force safety device	■	■	■	■	■	■	
SD dust protection version	■	■					
K corrosion-protected version	■						
V high-temperature version	■	■	■	■	■	■	■
KVZ increased force version	■	■	■	■			
P precision version	■	■					
EX explosion protection version	■	■	■	■			
MMS-P programmable magnetic switch	■	■	■	■	■	■	■
APS analog position sensor	■	■			■	■	■
FPS flexible position sensor	■	■			■	■	■
PA3 pneumatic monitoring	■	■	■	■	■	■	■
RMS reed switch	■	■	■	■	■	■	■
RSS radio sensor system	■	■	■	■	■	■	■
FMS force measuring system	■	■			■	■	■
IN inductive proximity switch	■	■			■	■	■
MMS magnetic switch	■	■	■	■	■	■	■
ABR, SBR finger blanks	■	■			■	■	■
HUE dust cover	■	■					
BSWS quick-change jaw system	■	■			■	■	■
UZB universal intermediate jaw	■	■			■	■	■

Pneumatic Gripping Modules

Pneumatic • 2-Finger Parallel Gripper



2-FINGER PARALLEL GRIPPER

Series	Size	Page
Gripper for small components		
MPG		22
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MPG	50	60
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KTG		78
KTG	50	82
KGG		86
KGG	60	90
KGG	70	96
KGG	80	102
KGG	100	108
KGG	140	114
KGG	220	120
KGG	280	124
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Universal Gripper		
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Series	Size	Page
Universal Gripper		
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PGN-plus	80	208
PGN-plus	100	218
PGN-plus	125	228
PGN-plus	160	238
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PGN-plus	240	258
PGN-plus	300	266
PGN-plus	380	274
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JGP	40	284
JGP	50	290
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JGP	100	318
JGP	125	328
JGP	160	338
PGF		346
PGF	50	350
PGF	64	354
PGF	80	358
PGF	100	362
PGF	125	366
PGM		370
PGM	29	374
PGM	38	378
PGM	50	382
PGM	60	386
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PGM	96	394
PGM	120	398
PGM	140	402
PGB		406
PGB	64	410
PGB	80	416
PGB	100	424
PGB	125	432

Series	Size	Page
Sealed Gripper		
DPG-plus		440
DPG-plus	40	444
DPG-plus	50	450
DPG-plus	64	456
DPG-plus	80	462
DPG-plus	100	468
DPG-plus	125	474
DPG-plus	160	480
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Long-stroke Gripper		
PFH 30 .. 50		490
PFH	30	494
PFH	40	498
PFH	50	502
PFH 150 .. 300		506
PFH	150	510
PFH	200	514
PFH	250	518
PFH	300	522
PSH		526
PSH	22	530
PSH	32	536
PSH	42	542
PSH	52	548
Heavy-load Gripper		
SPG		552
SPG	100	556

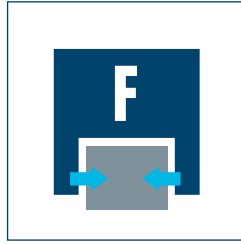




Sizes
10 ... 80



Weight
0.01 kg ... 1.35 kg



Gripping force
9 N ... 540 N



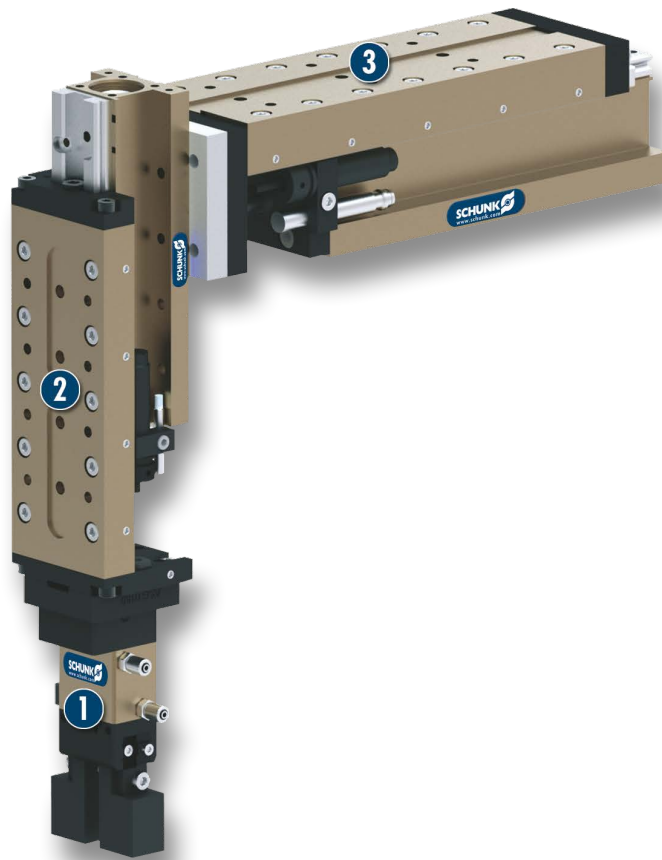
Stroke per finger
1 mm ... 14 mm



Workpiece weight
0.05 kg ... 1.9 kg



Application example



Pneumatically driven, dual-axis pick-and-place machine for small components

1 MPG 2-Finger Parallel Gripper with standard finger blanks

2 FST-S Mini-slide for vertical movement

3 FST-S Mini-slide for horizontal movement

Gripper for small components

2-Finger Parallel Gripper with smooth running base jaws guided on roller bearings

Field of application

Gripping and moving of small to medium-sized workpieces in clean environments, such as assembly, testing, laboratory and pharmaceutical industry

Your advantages and benefits

Roller guide

for precise gripping through base jaw guidance with minimum play

Base jaws guided on double roller bearings

ensuring low friction and smooth running actuation

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Cover material

Steel

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

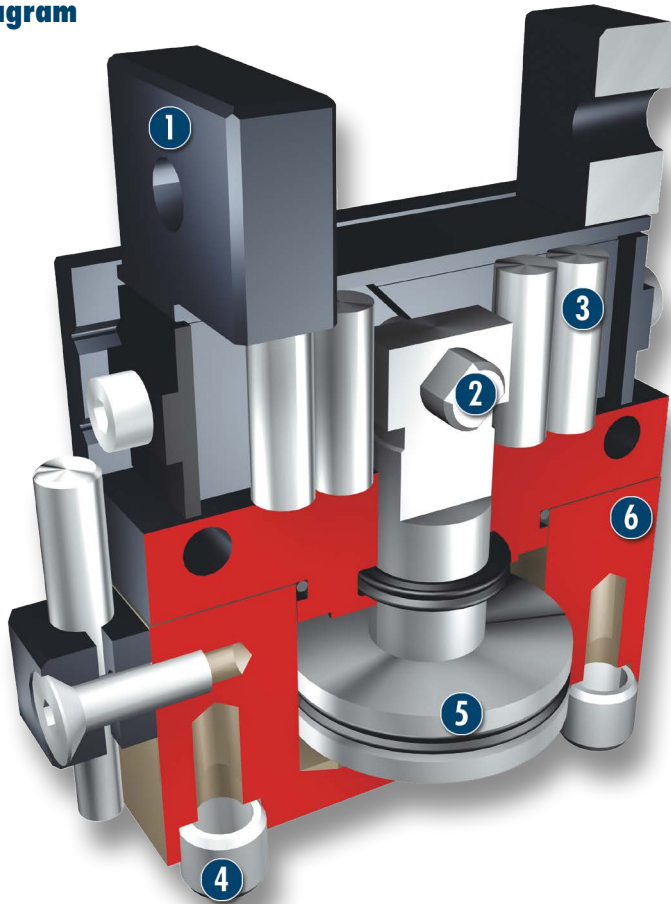
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Roller guide**
precise gripping through base jaw guide with minimum play
- 4 Centering and mounting possibilities**
for assembly of the gripper to a base area and at the long side
- 5 Drive**
double-acting piston drive system
- 6 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The piston is moved up and down by compressed air. The side hooks at the upper end of the piston rod guide in the angular slots of both base jaws, and thus transform this movement into the synchronized opening or closing of the base fingers.

Options and special information

Additional mounting bores

for centering the fingers via sleeves, instead of normal mounting surfaces. Special versions on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Sensor system



Sensor cables



Carbide clamping inserts



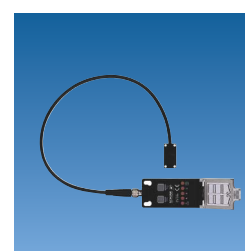
Plastic inserts



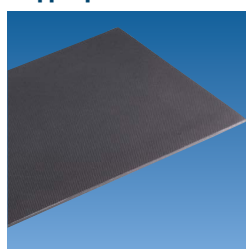
Sensor Distributor



Flexible Position Sensor



Gripper pads



Pressure maintenance valve



Switching valve



Finger blanks



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

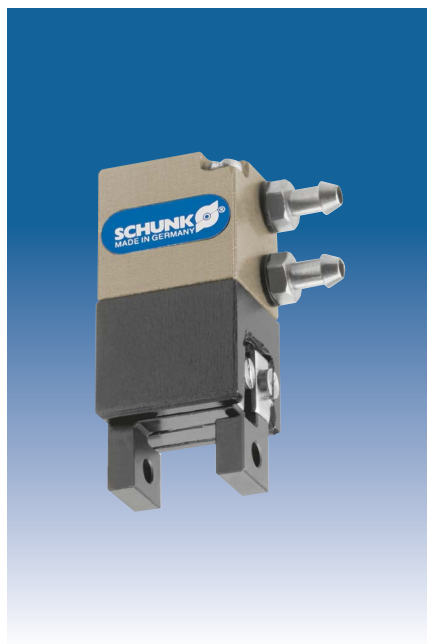
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

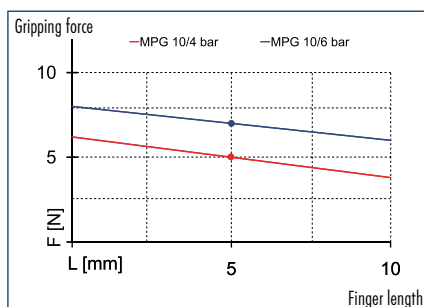
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

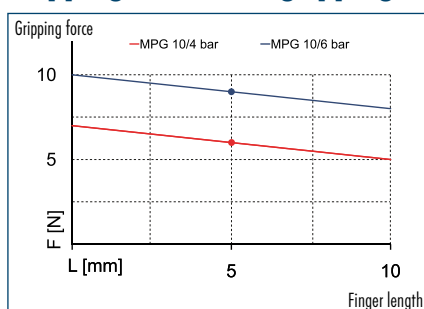
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



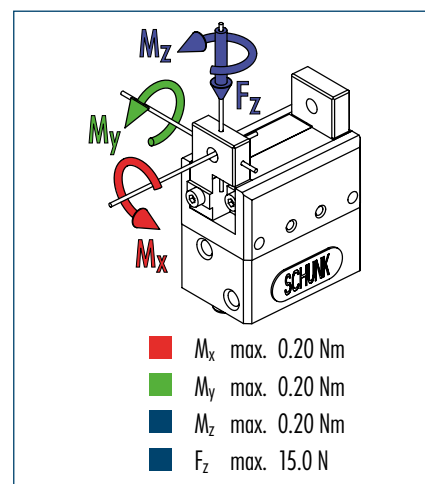
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

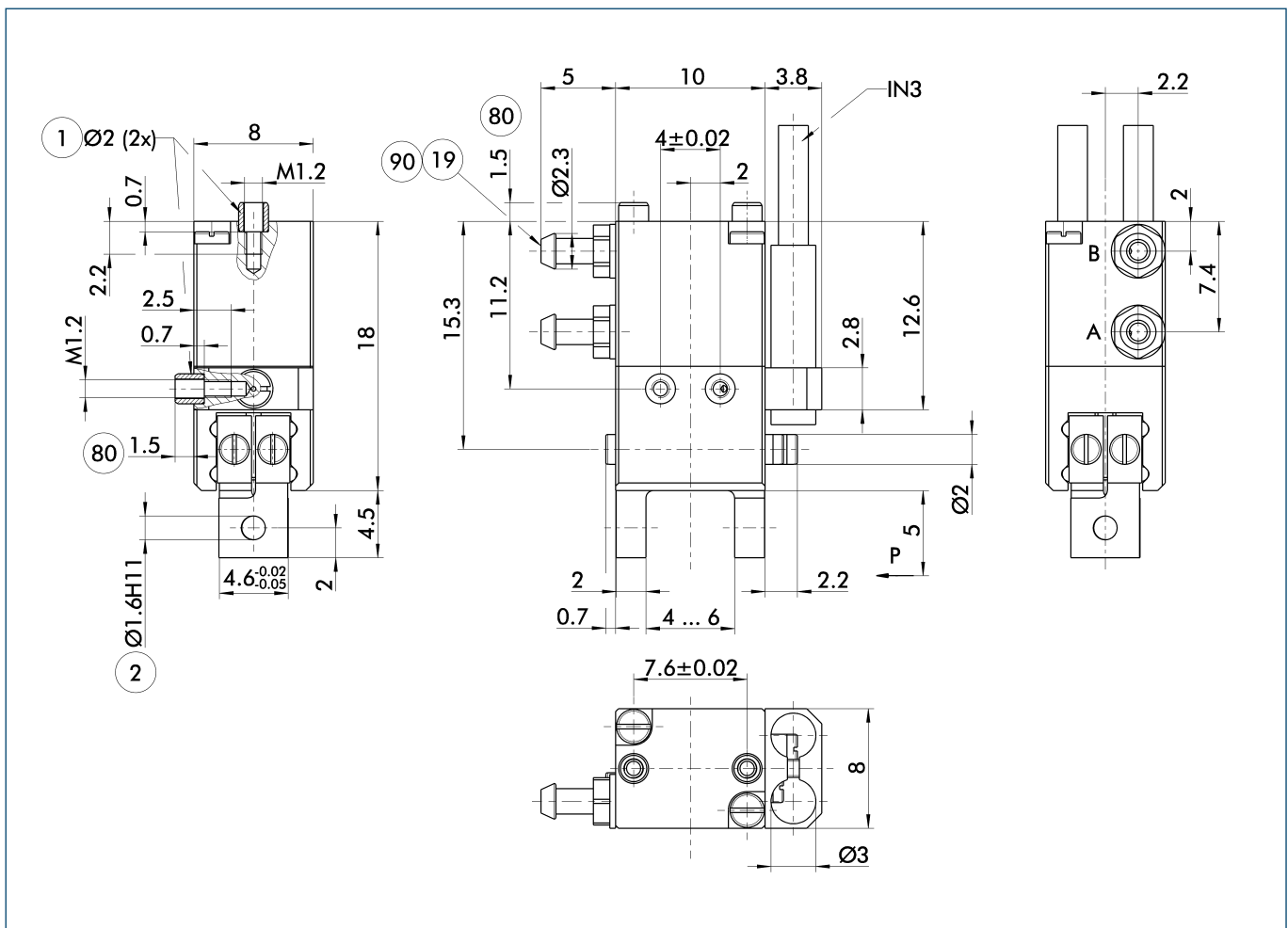


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 10
ID		0340006
Stroke per finger	[mm]	1
Closing force	[N]	9
Opening force	[N]	7
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Air consumption per double stroke	[cm ³]	0.15
Min./max. operating pressure	[bar]	3/6
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.01/0.01
Max. permitted finger length	[mm]	10
Max. permitted weight per finger	[kg]	0.01
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02
Cleanroom class		5
ISO-classification 14644-1		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection

② Finger connection

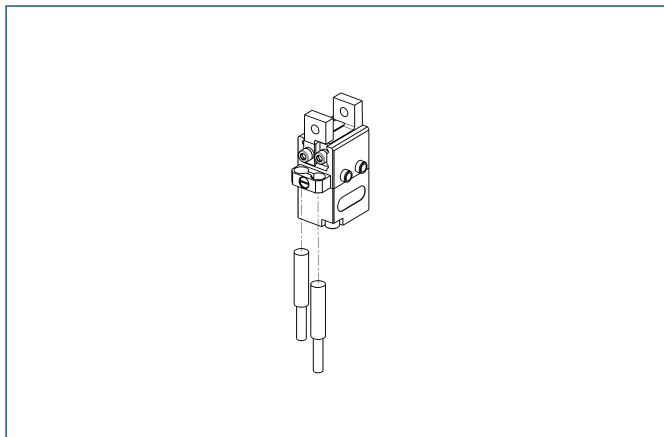
⑱ Air connection

⑧ Depth of the centering sleeve hole in the matching part

⑨ Polyurethane hoses with an I.D. of 1.6 mm.

Source: AC Aircontrols GmbH, Kempen, Germany

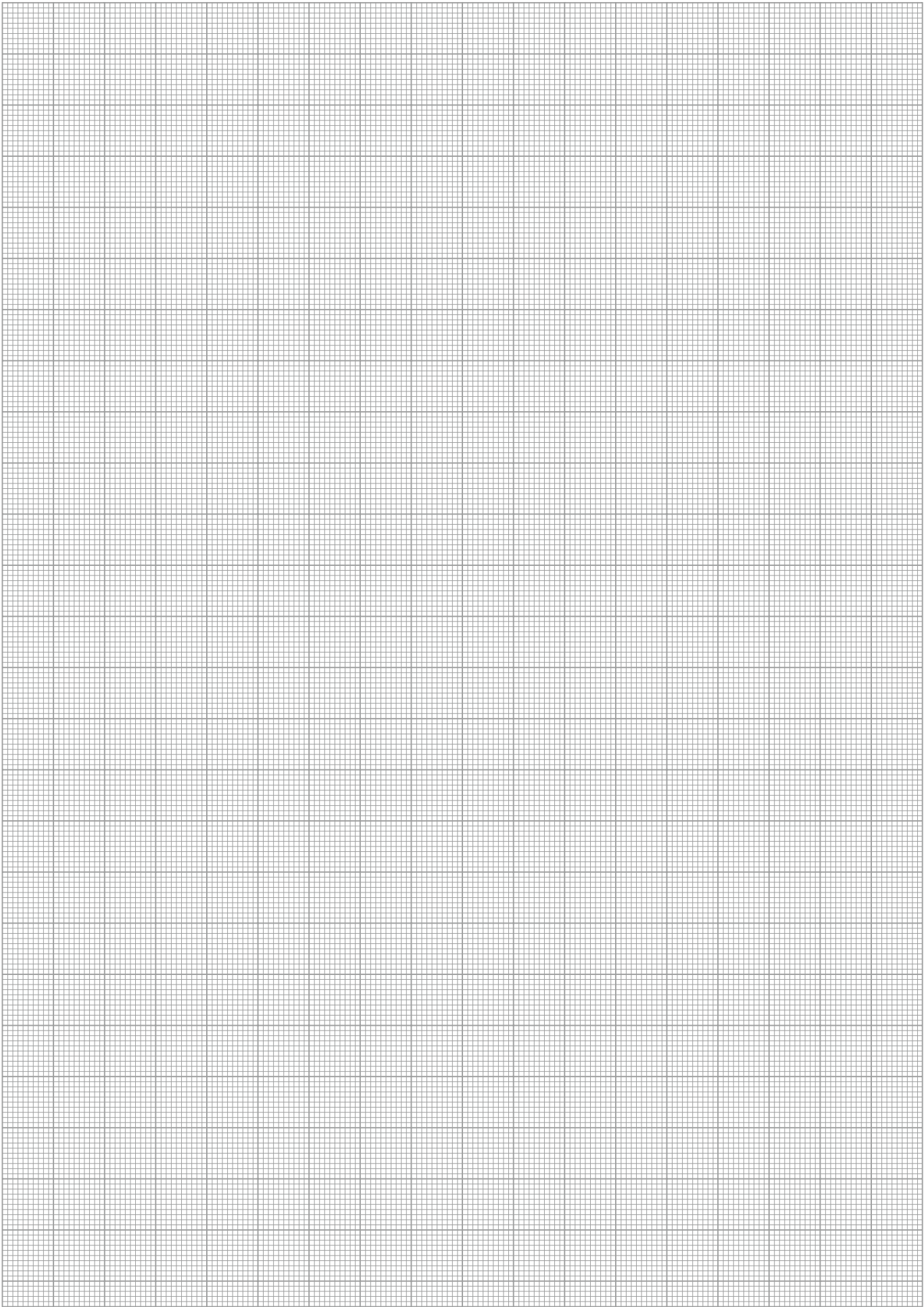
Inductive proximity switches



End position monitoring for direct mounting

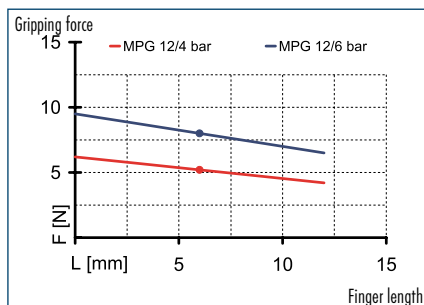
Description	ID	Recommended product
Inductive proximity switches		
IN 3-S-M8-PNP	0301466	•
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

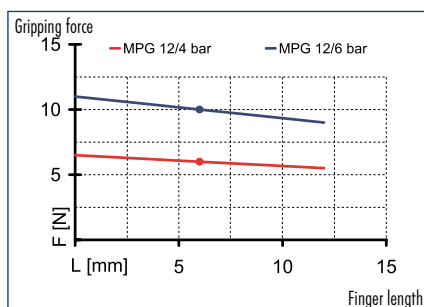




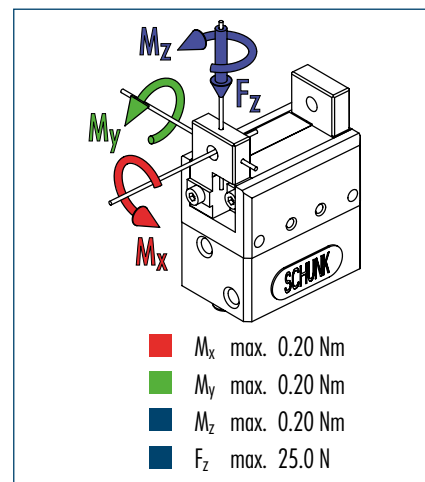
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

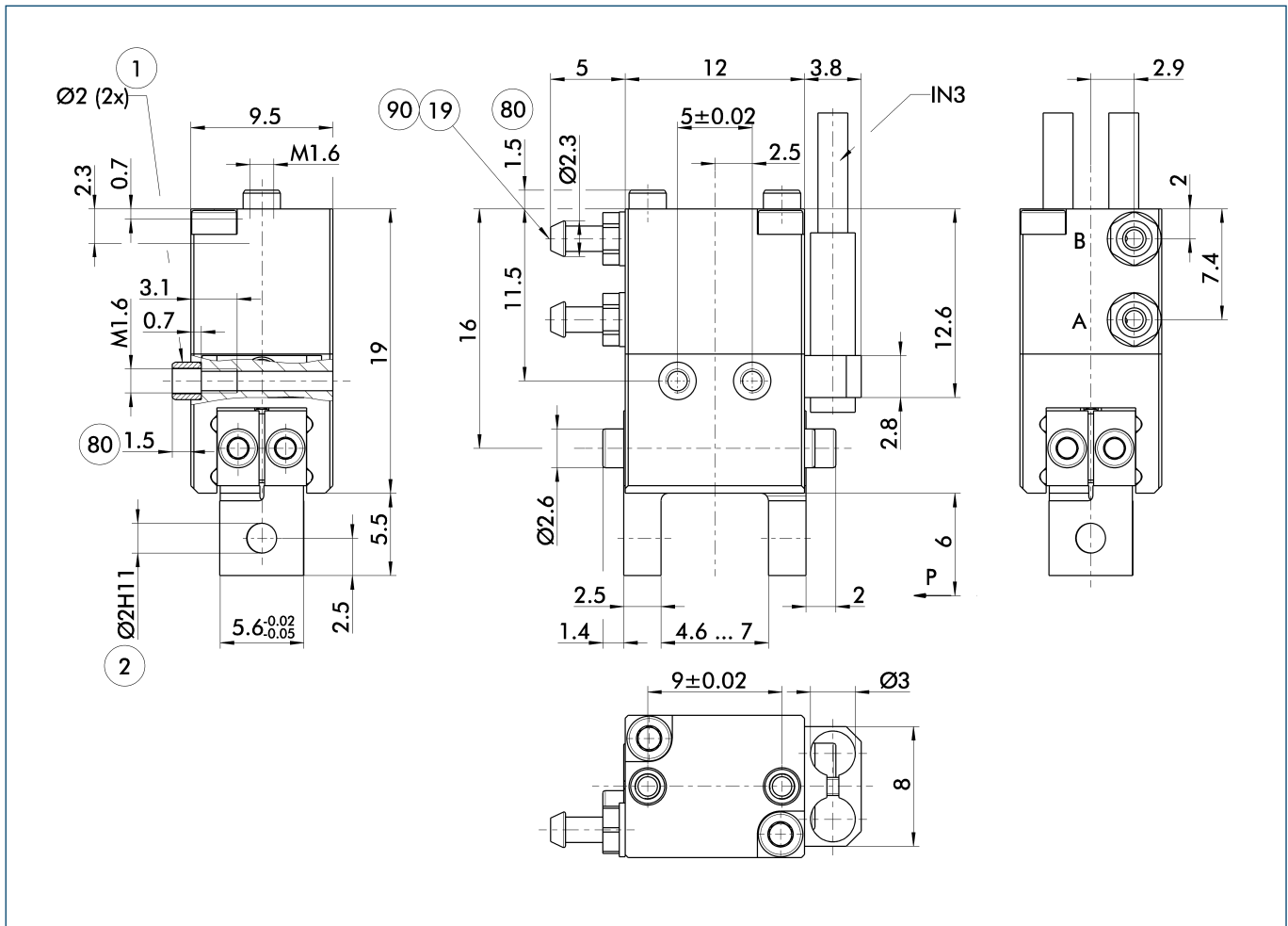


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 12
ID		0340007
Stroke per finger	[mm]	1.2
Closing force	[N]	10
Opening force	[N]	8
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Air consumption per double stroke	[cm ³]	0.2
Min./max. operating pressure	[bar]	3/6
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.01/0.01
Max. permitted finger length	[mm]	12
Max. permitted weight per finger	[kg]	0.01
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02
Cleanroom class		5
ISO-classification 14644-1		

Main view



The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection

② Finger connection

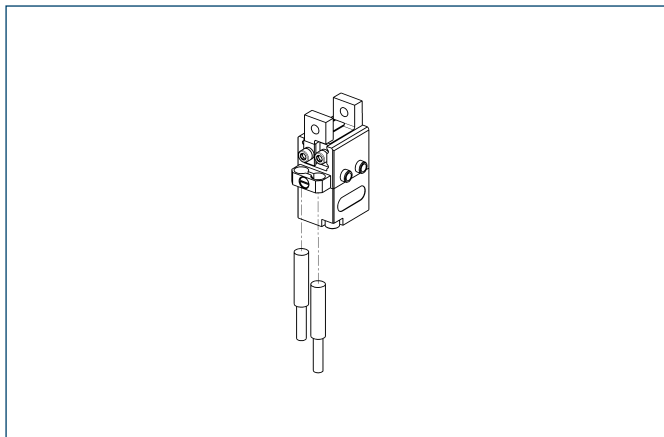
①⑨ Air connection

⑧⑨ Depth of the centering sleeve hole in the matching part

⑨⑨ Polyurethane hoses with an I.D. of 1.6 mm.

Source: AC Aircontrols GmbH, Kempen, Germany

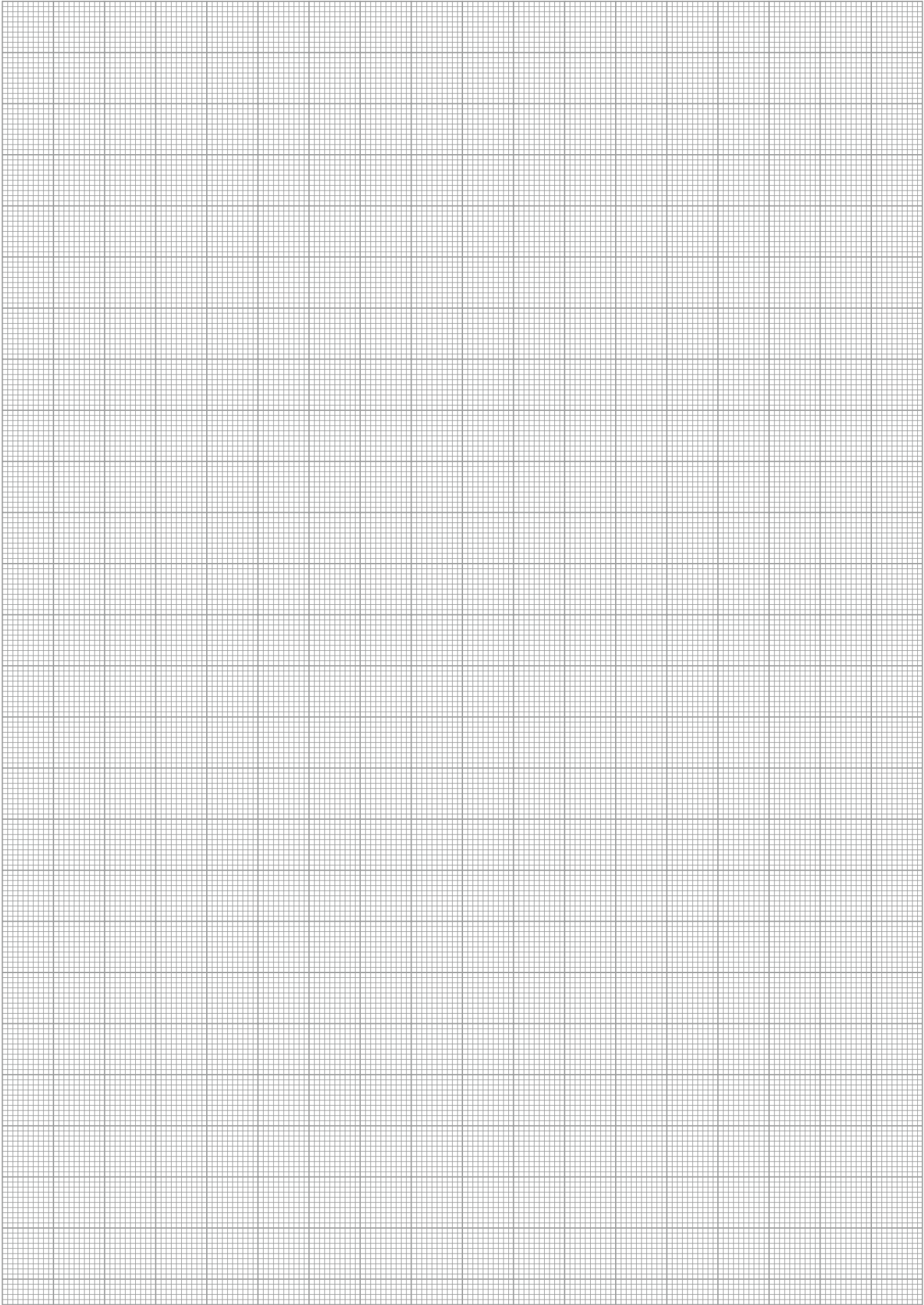
Inductive proximity switches



End position monitoring for direct mounting

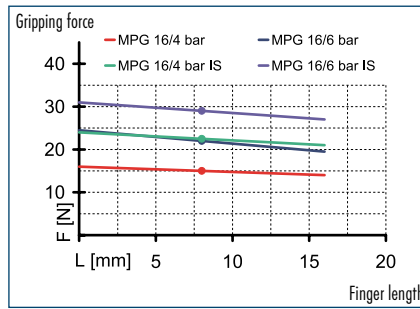
Description	ID	Recommended product
Inductive proximity switches		
IN 3-S-M8-PNP	0301466	•
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

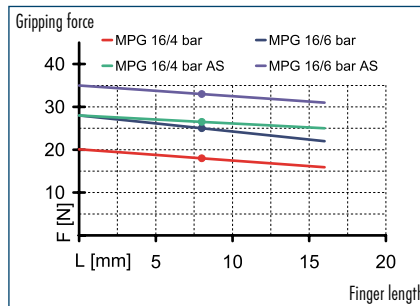




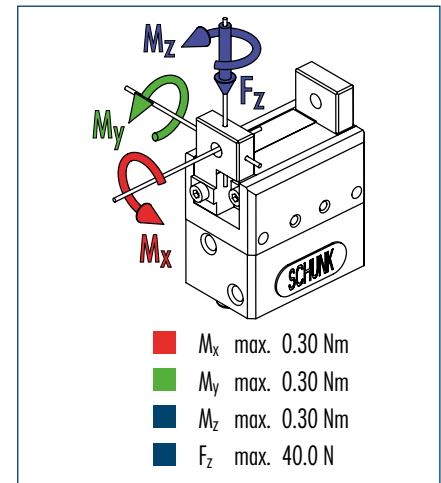
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

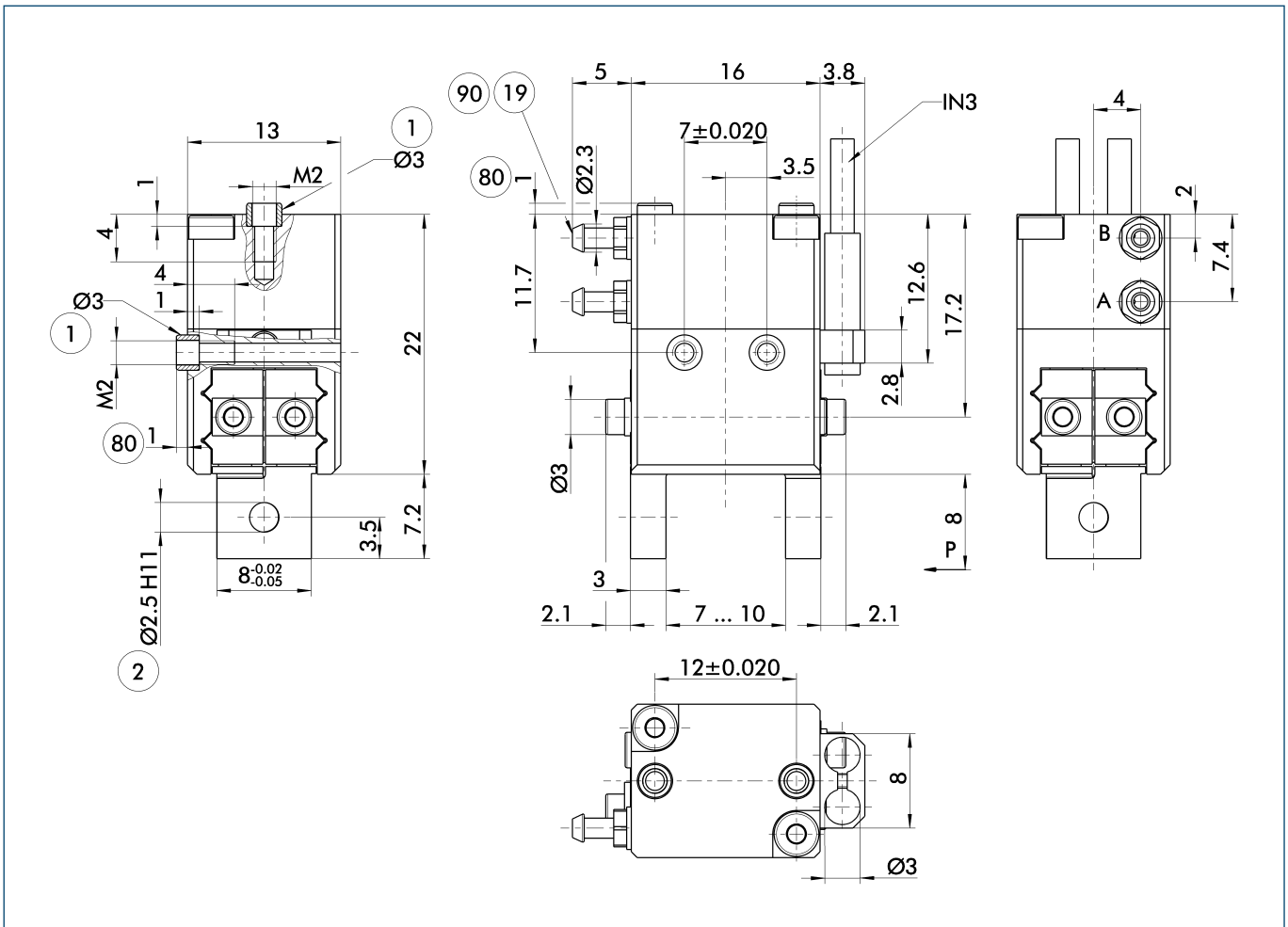


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 16	MPG 16-AS	MPG 16-IS
ID		0340008	0340038	0340058
Stroke per finger	[mm]	1.5	1.5	1.5
Closing force	[N]	25	33	
Opening force	[N]	22		29
Min. spring force	[N]		8	7
Weight	[kg]	0.03	0.03	0.03
Recommended workpiece weight	[kg]	0.13	0.13	0.13
Air consumption per double stroke	[cm ³]	0.35	0.82	0.71
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.01/0.01	0.01/0.025	0.025/0.01
Max. permitted finger length	[mm]	16	16	16
Max. permitted weight per finger	[kg]	0.01	0.01	0.01
IP class		30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



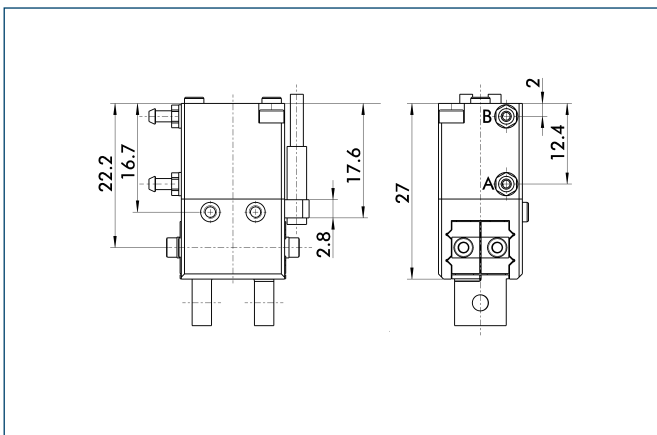
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑱ Air connection

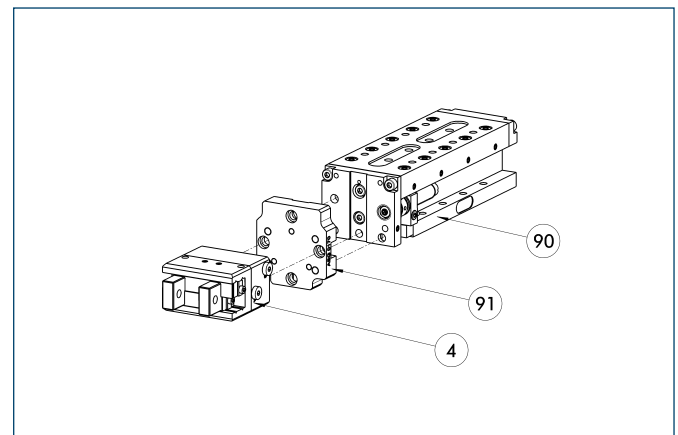
80 Depth of the centering sleeve hole in the matching part
90 Polyurethane hoses with an I.D. of 1.6 mm.
Source: AC Aircontrols GmbH, Kempen, Germany

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

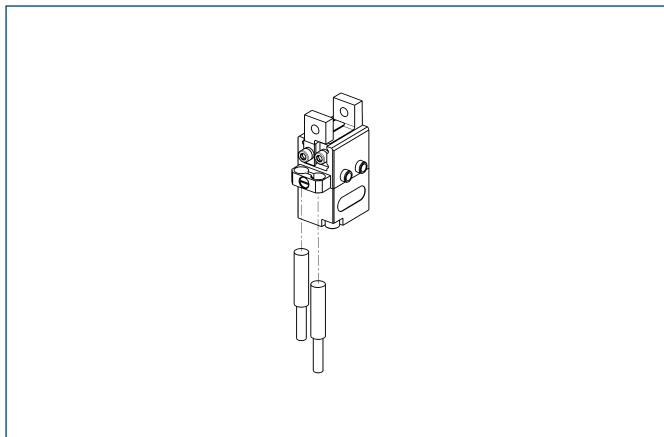


④ Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

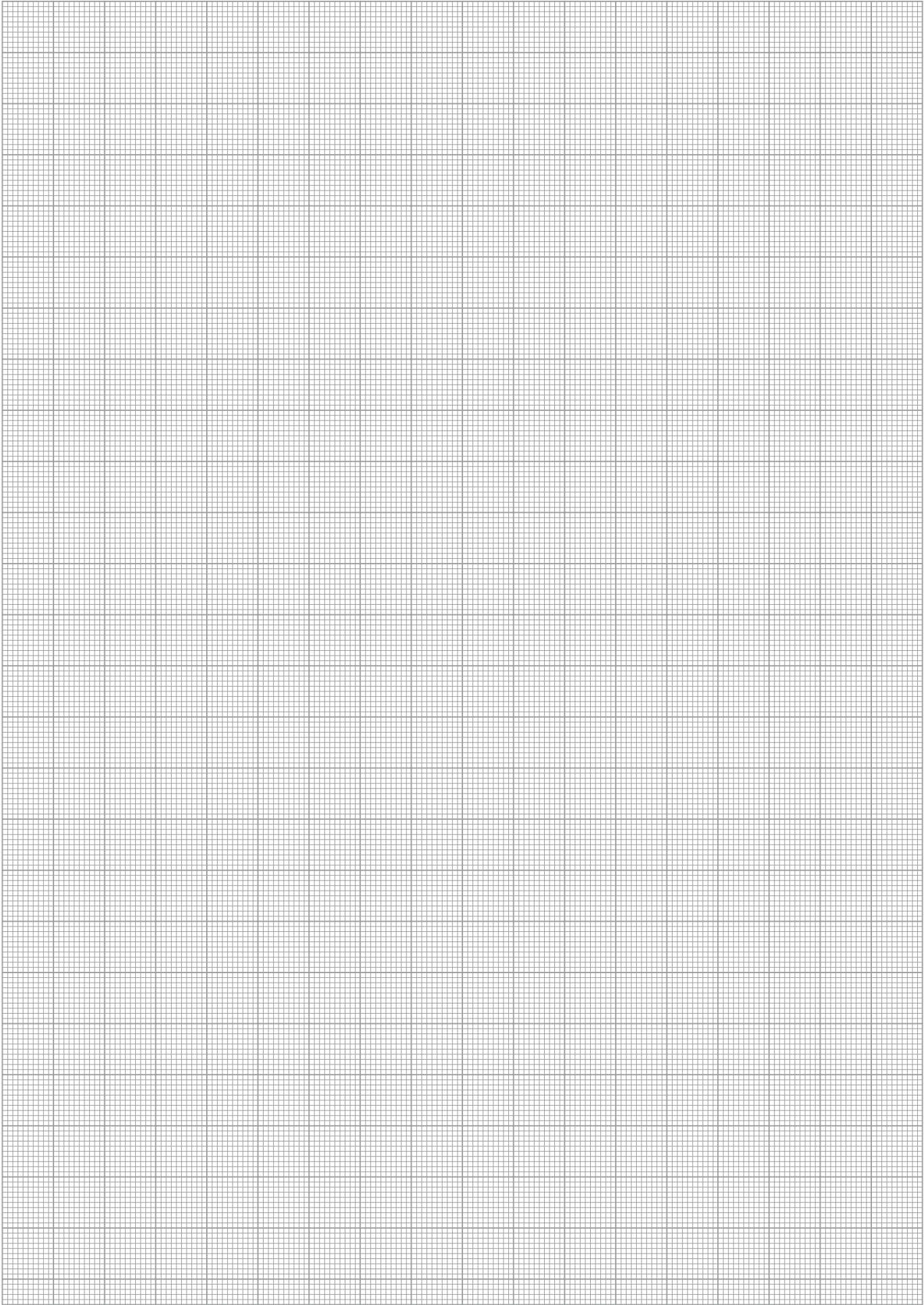
Inductive proximity switches



End position monitoring for direct mounting

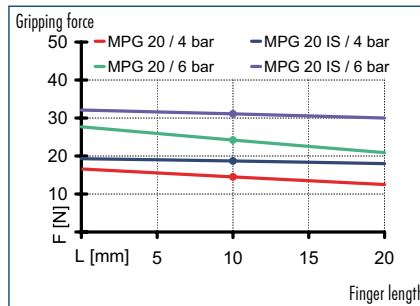
Description	ID	Recommended product
Inductive proximity switches		
IN 3-S-M8-PNP	0301466	•
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
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KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

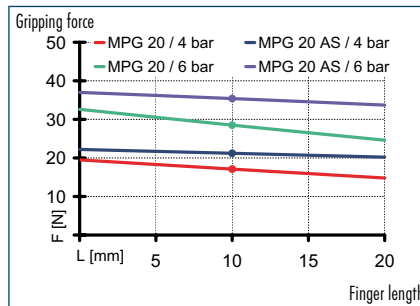




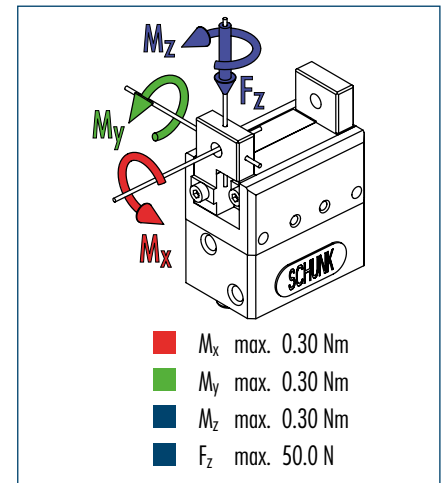
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

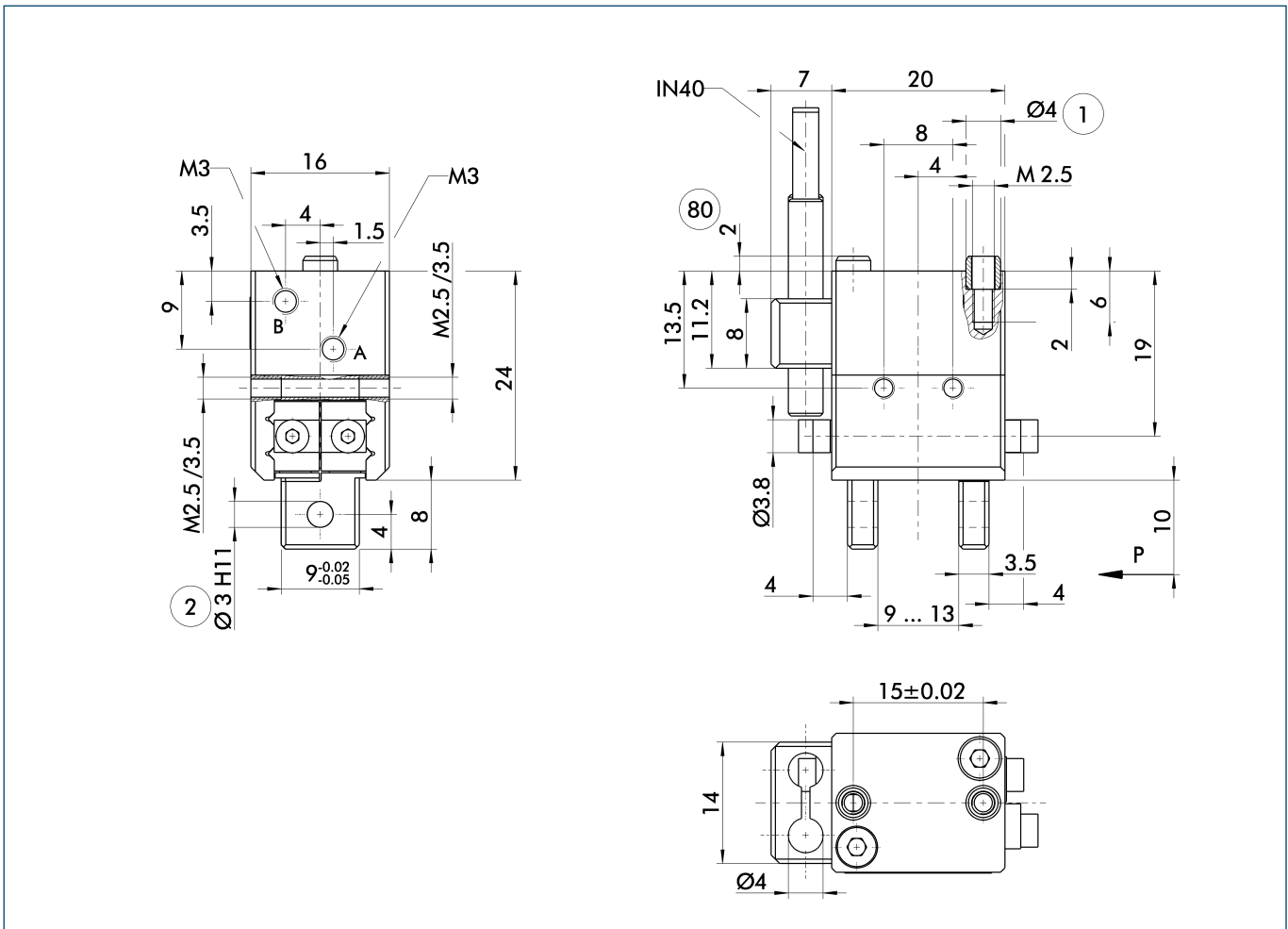


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Technical data

Description		MPG 20	MPG 20-FPS	MPG 20-AS	MPG 20-IS
ID		0340009	0340069	0340039	0340059
Stroke per finger	[mm]	2	2	2	2
Closing force	[N]	28	28	36	
Opening force	[N]	24	24		31
Min. spring force	[N]			8	7
Weight	[kg]	0.04	0.05	0.05	0.05
Recommended workpiece weight	[kg]	0.14	0.14	0.14	0.14
Air consumption per double stroke	[cm ³]	0.6	0.62	1.35	1.07
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.015/0.015	0.015/0.015	0.02/0.03	0.03/0.02
Max. permitted finger length	[mm]	20	20	20	20
Max. permitted weight per finger	[kg]	0.01	0.01	0.01	0.01
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Main view



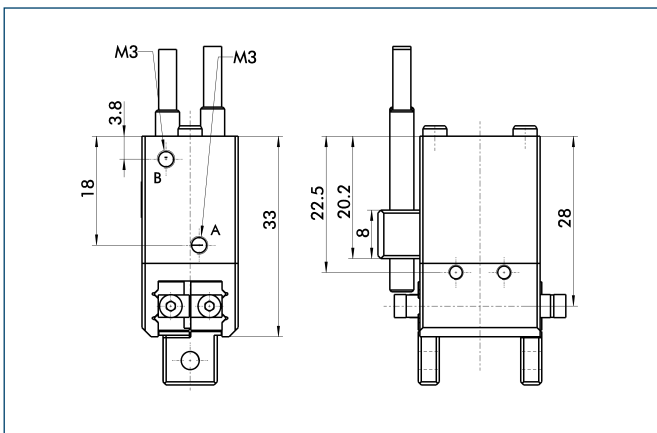
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

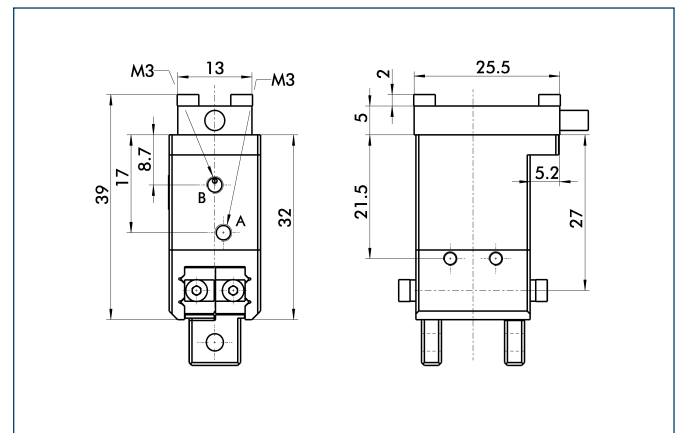
80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



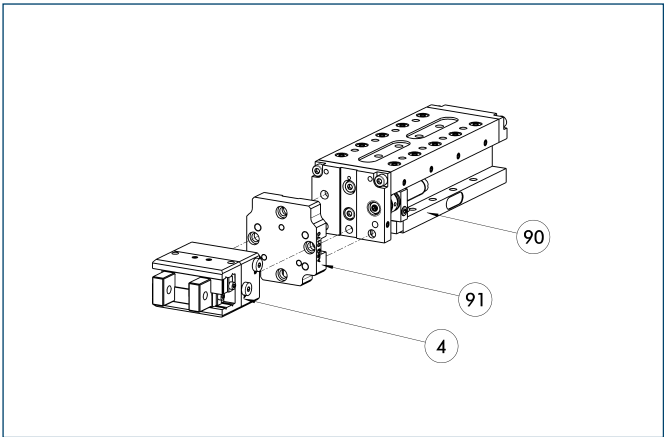
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Flexible Position Sensor



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

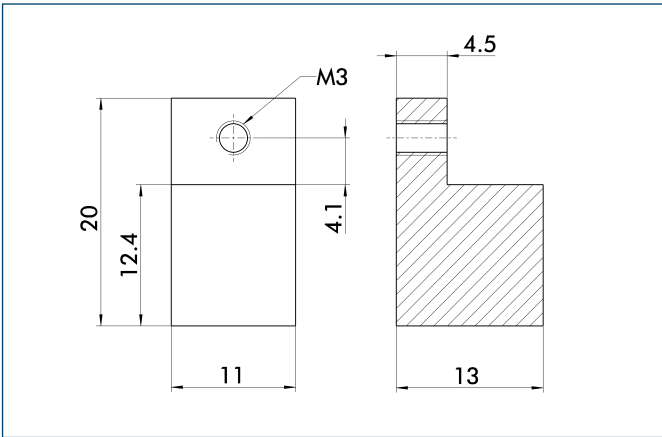
Modular Assembly Automation



④ Gripper
⑨① CLM
⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog “Modular Assembly Automation”.

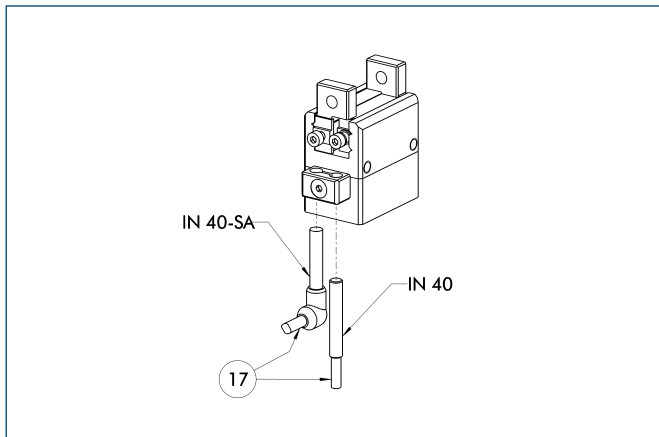
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 20	0340210	Aluminum	2

Inductive proximity switches



⑰ Cable outlet

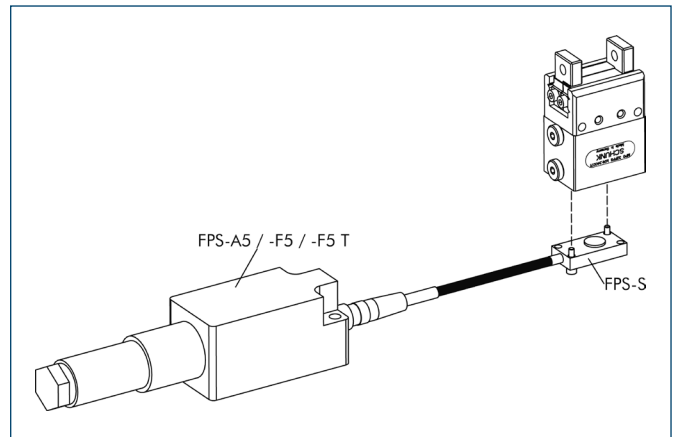
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

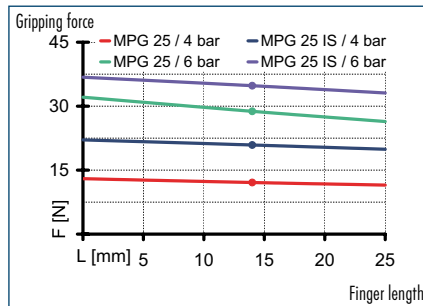
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



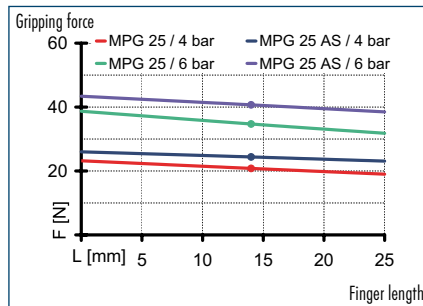
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



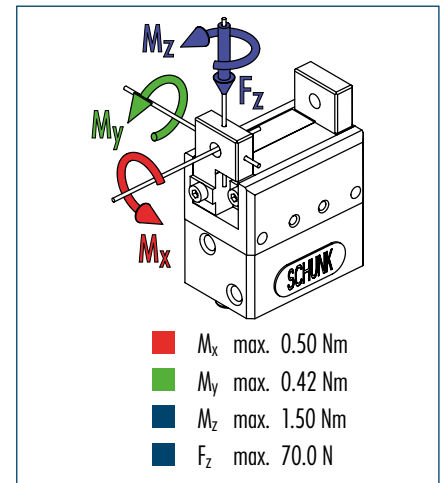
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

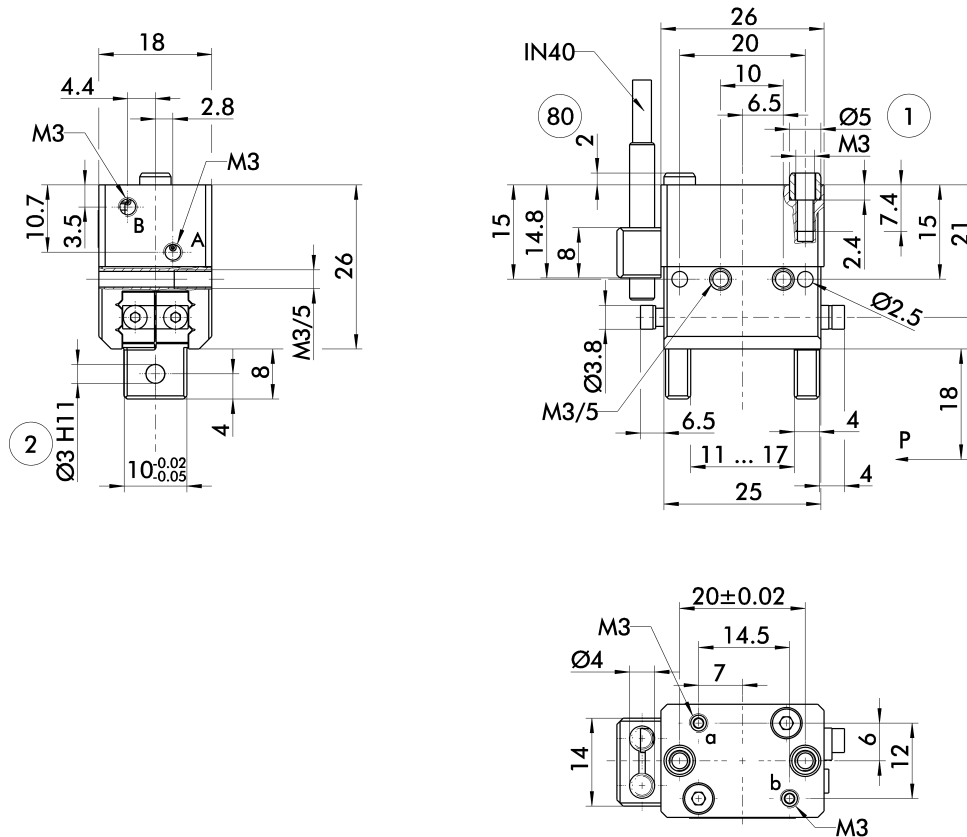


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 25	MPG 25-FPS	MPG 25-AS	MPG 25-IS
ID		0340010	0340070	0340040	0340060
Stroke per finger	[mm]	3	3	3	3
Closing force	[N]	31	31	41	
Opening force	[N]	28	28		38
Min. spring force	[N]			10	9
Weight	[kg]	0.06	0.07	0.08	0.08
Recommended workpiece weight	[kg]	0.16	0.16	0.16	0.16
Air consumption per double stroke	[cm ³]	1.08	1.14	2.39	1.95
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.035	0.035/0.02
Max. permitted finger length	[mm]	25	25	25	25
Max. permitted weight per finger	[kg]	0.02	0.02	0.02	0.02
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Main view

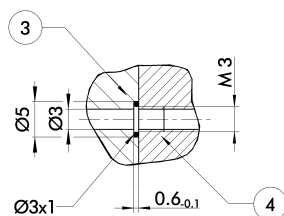


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

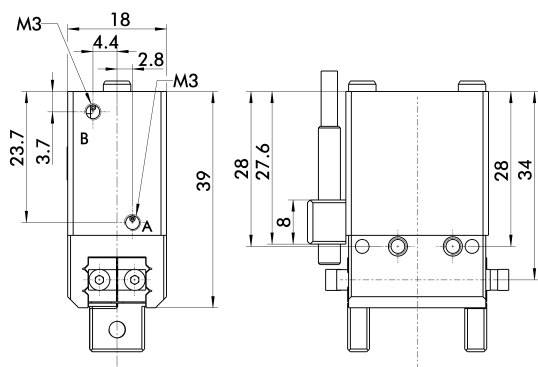
Hose-free direct connection



- ③ Adapter
- ④ Gripper

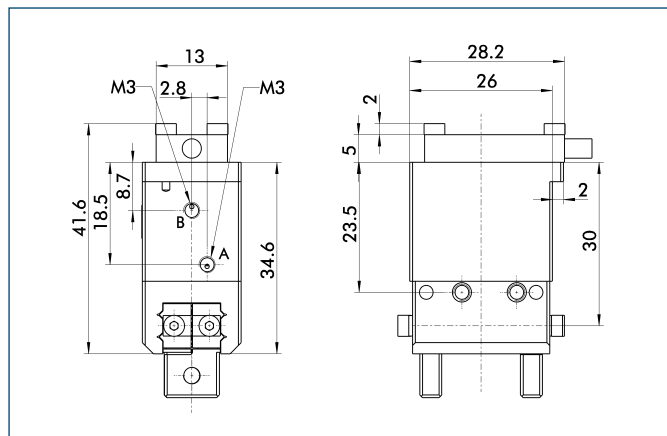
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



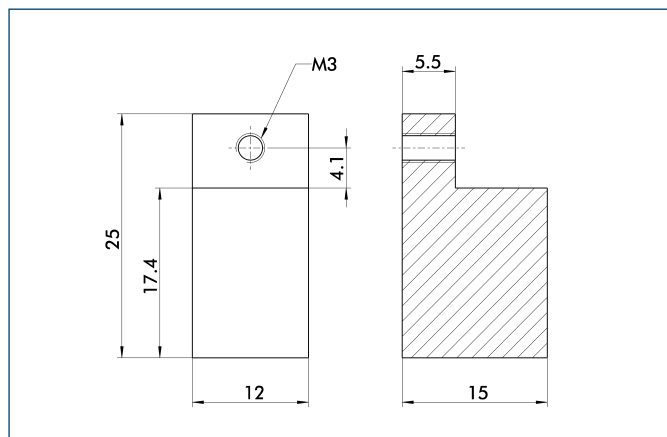
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Flexible Position Sensor



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

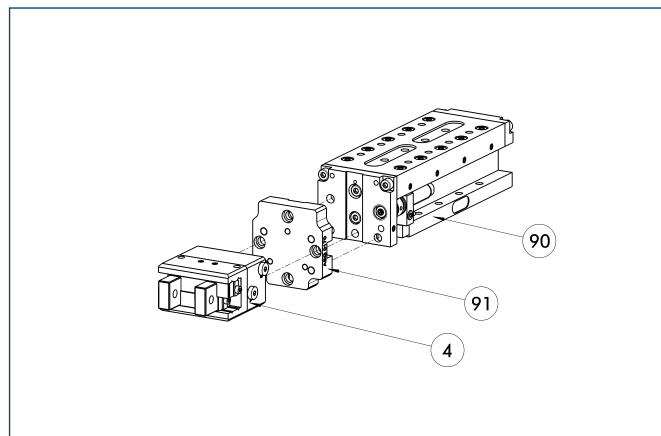
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 25	0340211	Aluminum	2

Modular Assembly Automation

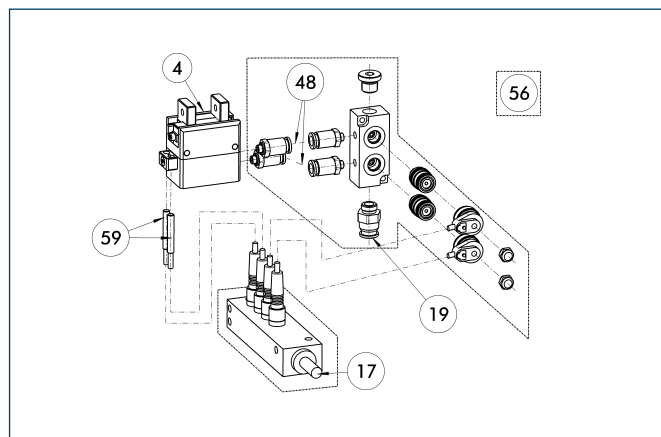


- ④ Gripper
- ⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves



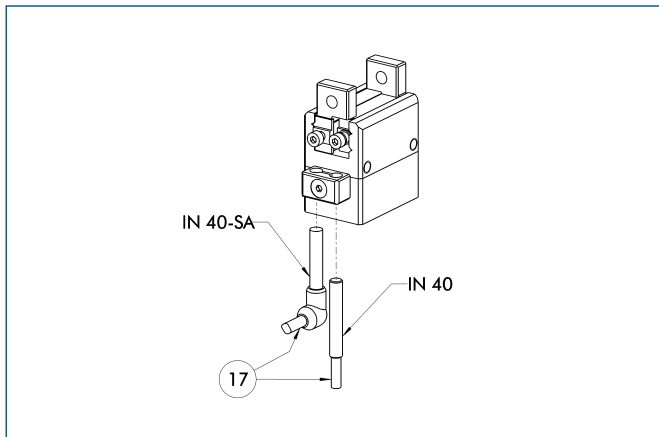
- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose

⑤⑥ Included in delivery
⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-S2-M5	0303375
ABV-MV15-S2-M5-V2-M8	0303376
ABV-MV15-S2-M5-V4-M8	0303377
ABV-MV15-S2-M5-V8-M8	0303378

Inductive proximity switches



⑰ Cable outlet

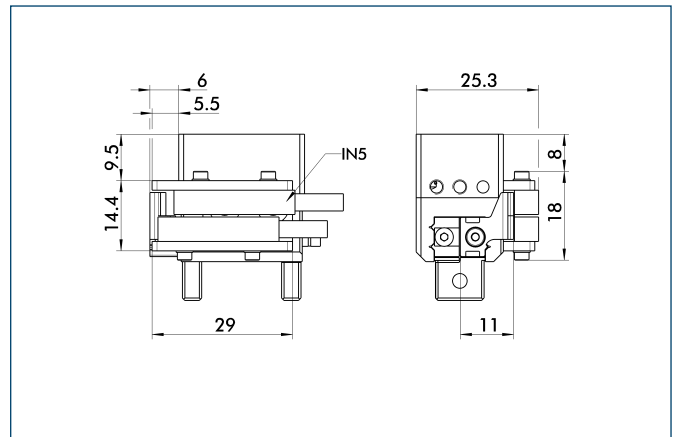
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

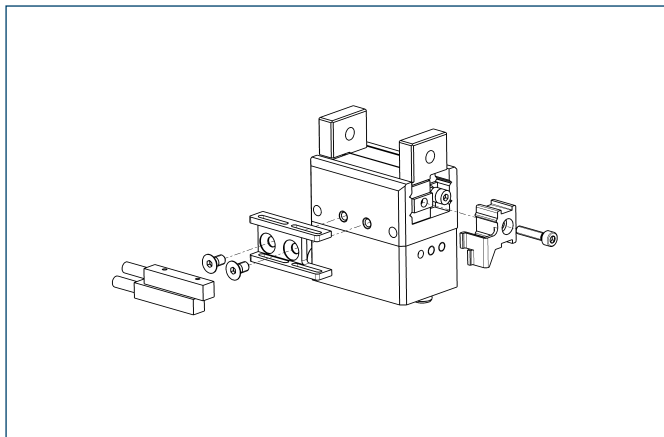
Description	ID
Mounting kit for proximity switch	
AS-MPG 25	0340150

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

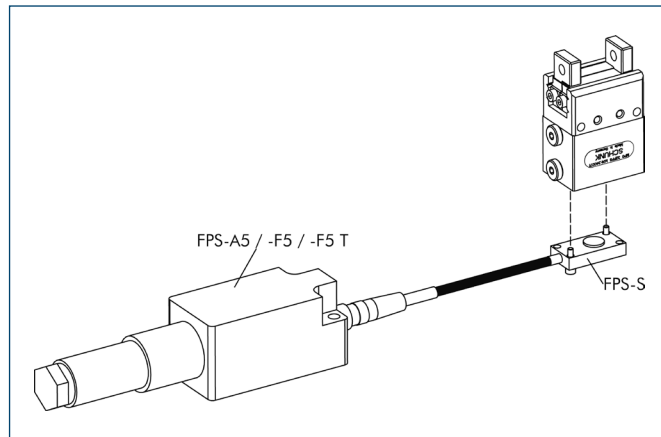


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 25	0340150	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

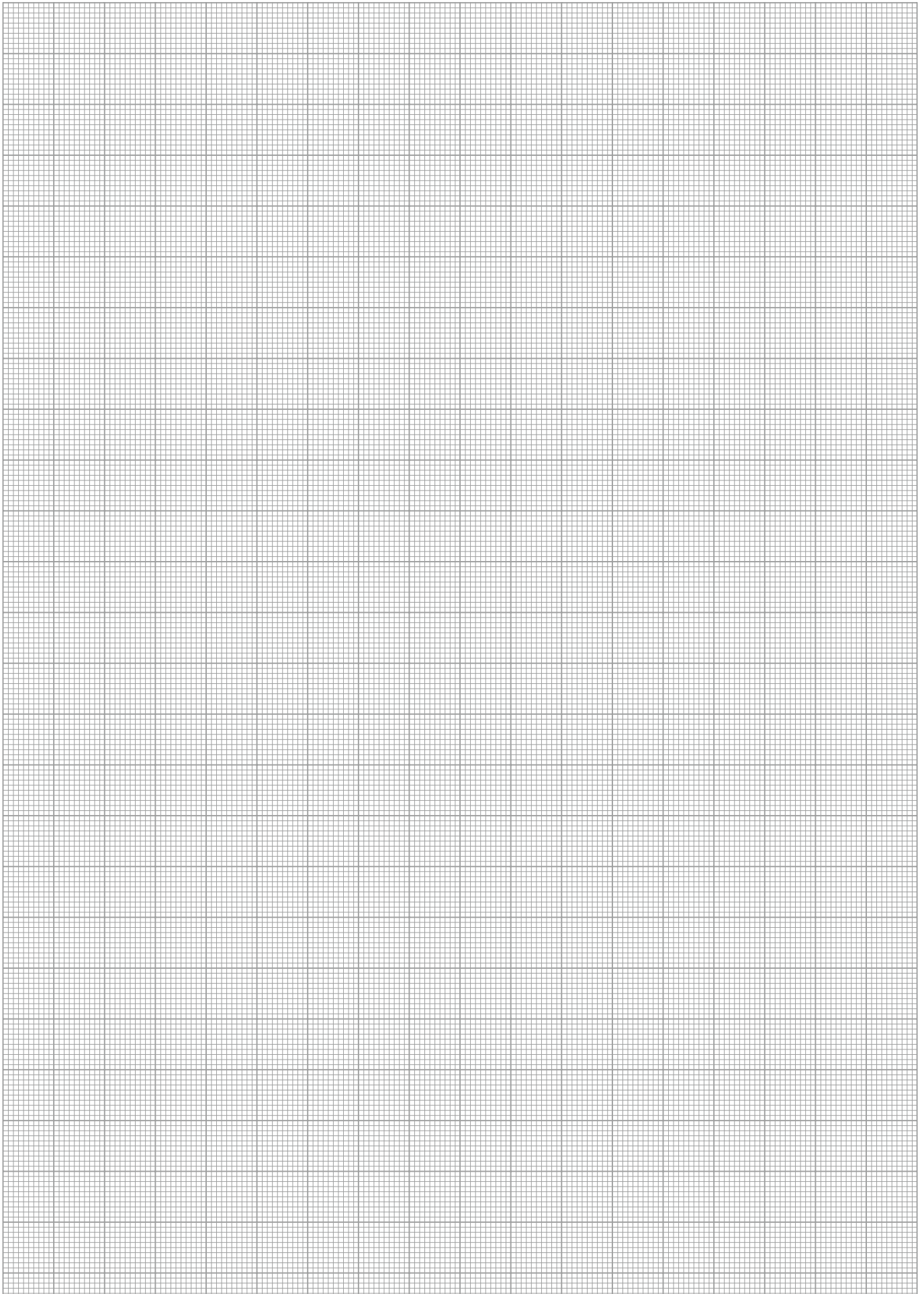
Flexible Position Sensor



Flexible position monitoring of up to five positions

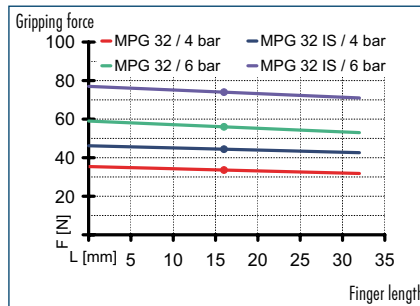
Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or AS) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

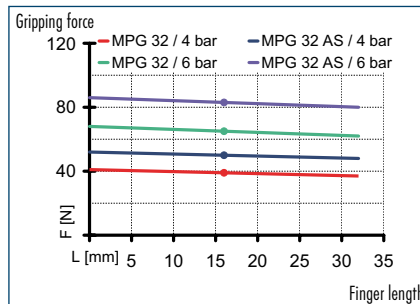




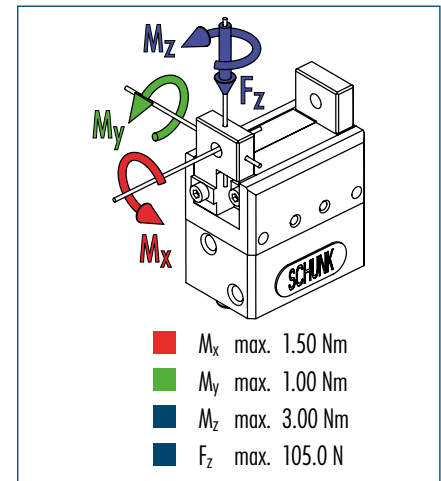
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

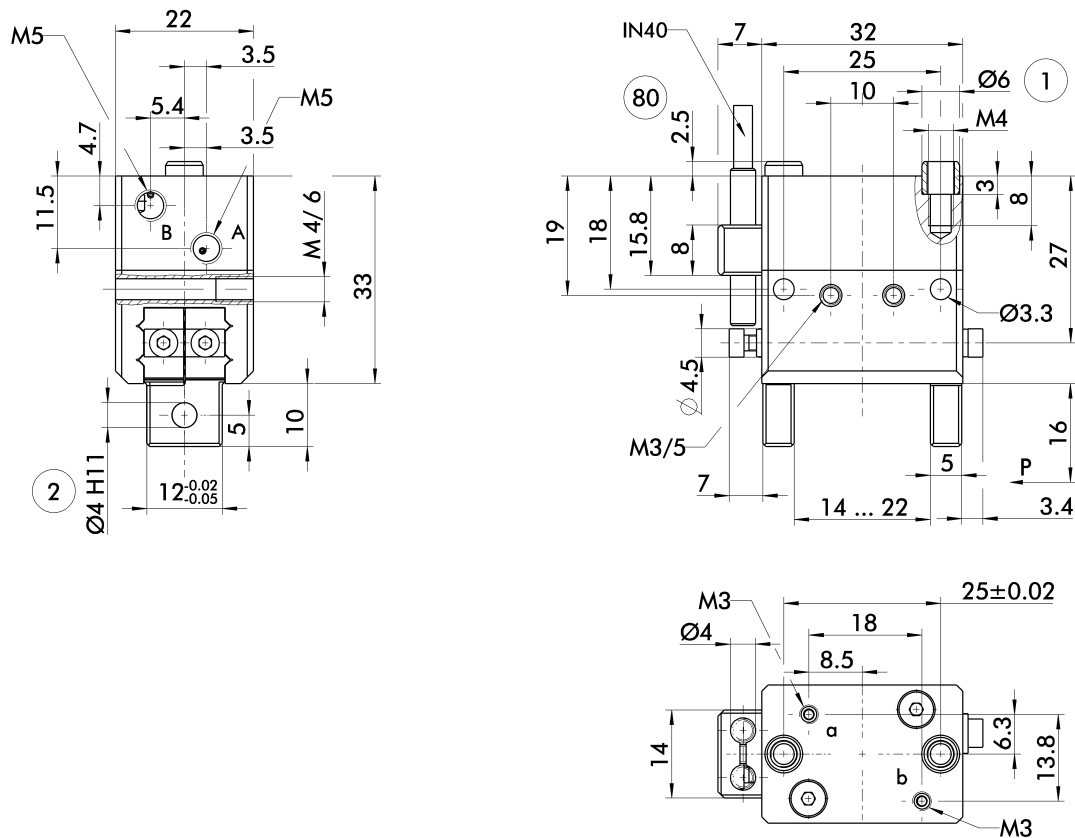


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 32	MPG 32-FPS	MPG 32-AS	MPG 32-IS
ID		0340011	0340071	0340041	0340061
Stroke per finger	[mm]	4	4	4	4
Closing force	[N]	65	65	85	
Opening force	[N]	55	55		80
Min. spring force	[N]			20	25
Weight	[kg]	0.12	0.14	0.14	0.14
Recommended workpiece weight	[kg]	0.33	0.33	0.33	0.33
Air consumption per double stroke	[cm ³]	2.55	2.59	5.03	4.49
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.025/0.025	0.025/0.025	0.035/0.05	0.05/0.035
Max. permitted finger length	[mm]	32	32	32	32
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class					
ISO-classification 14644-1		5	5	5	5

Main view



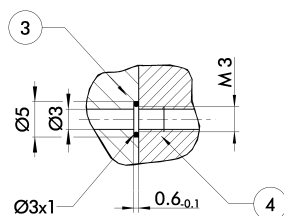
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

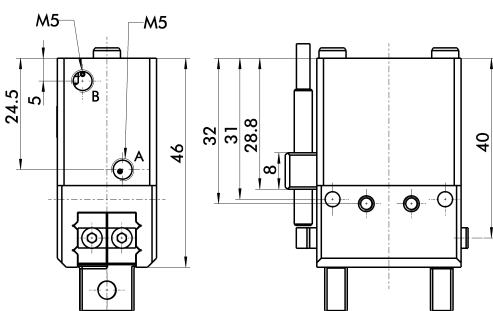
Hose-free direct connection



③ Adapter
④ Gripper

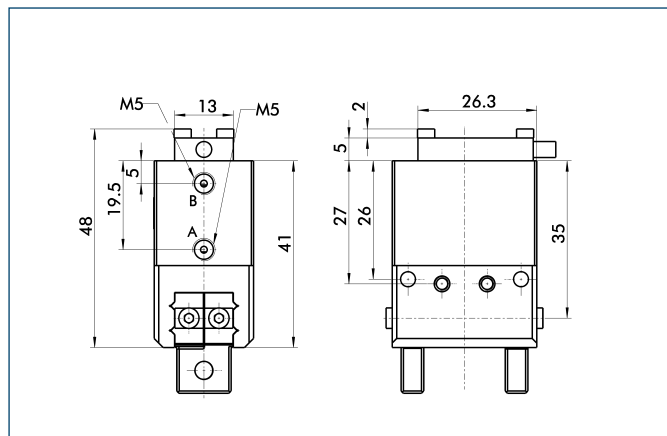
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



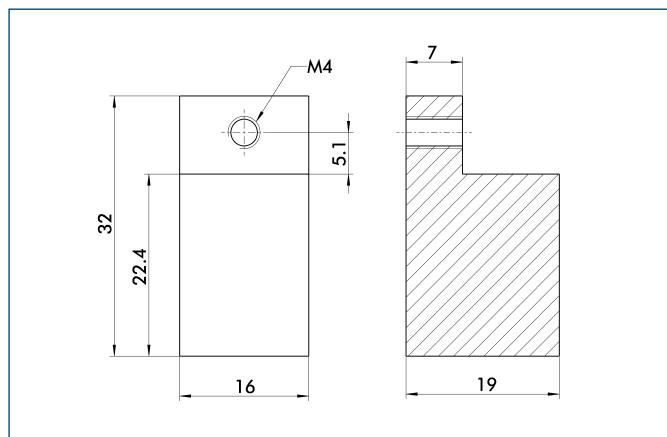
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Flexible Position Sensor



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

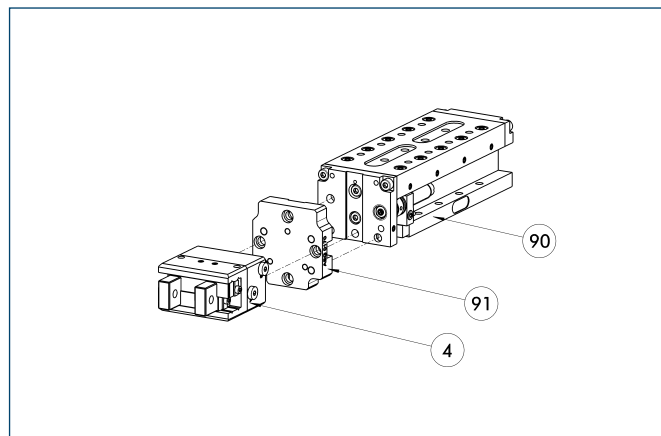
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 32	0340212	Aluminum	2

Modular Assembly Automation

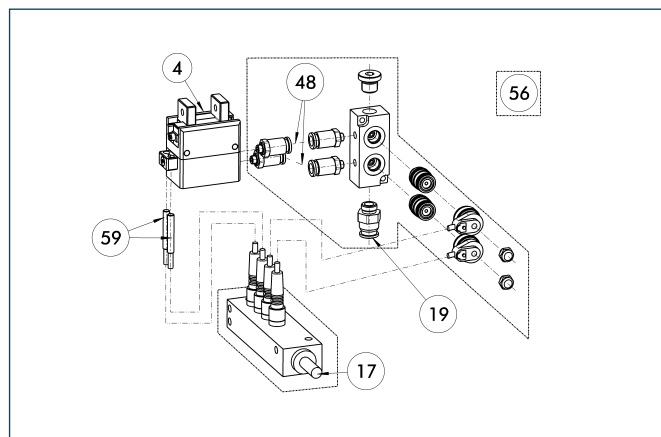


- ④ Gripper
- ⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves



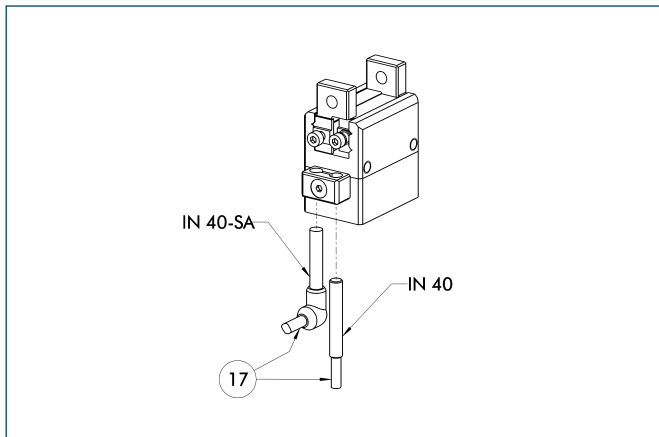
- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose

⑤⑥ Included in delivery
⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-S2-M5	0303375
ABV-MV15-S2-M5-V2-M8	0303376
ABV-MV15-S2-M5-V4-M8	0303377
ABV-MV15-S2-M5-V8-M8	0303378

Inductive proximity switches



⑰ Cable outlet

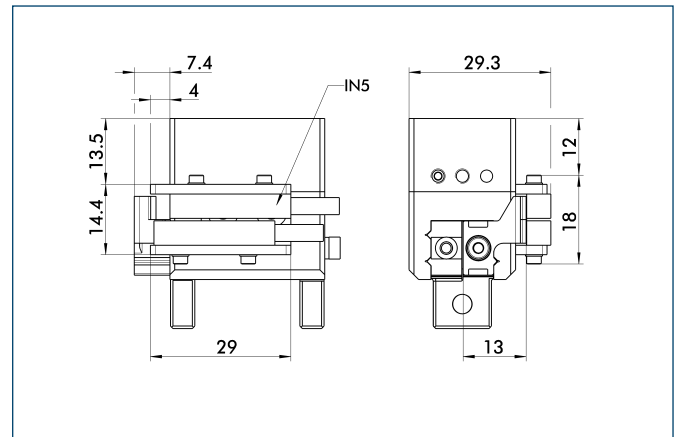
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

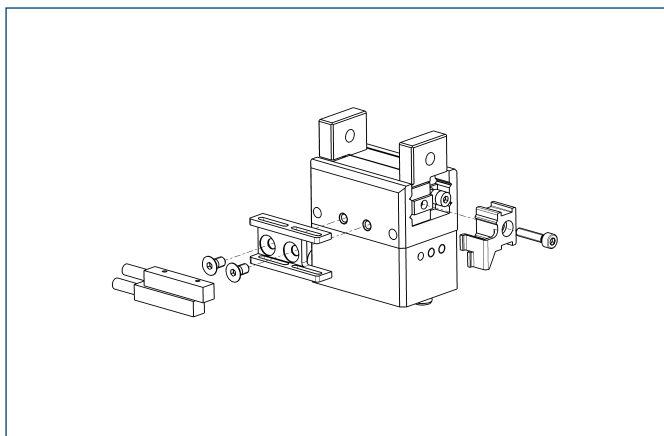
Description	ID
Mounting kit for proximity switch	
AS-MPG 32	0340151

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches

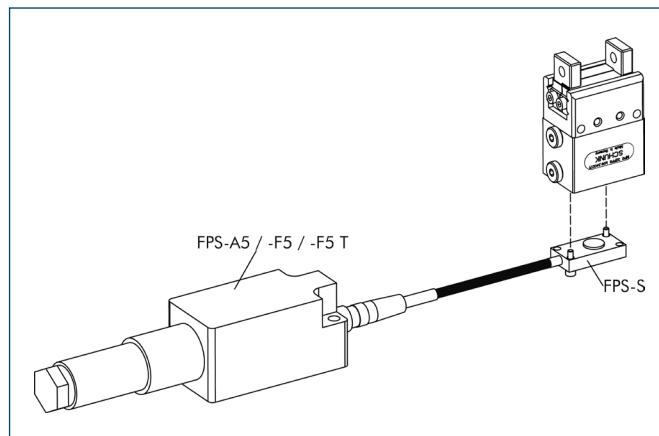


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 32	0340151	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

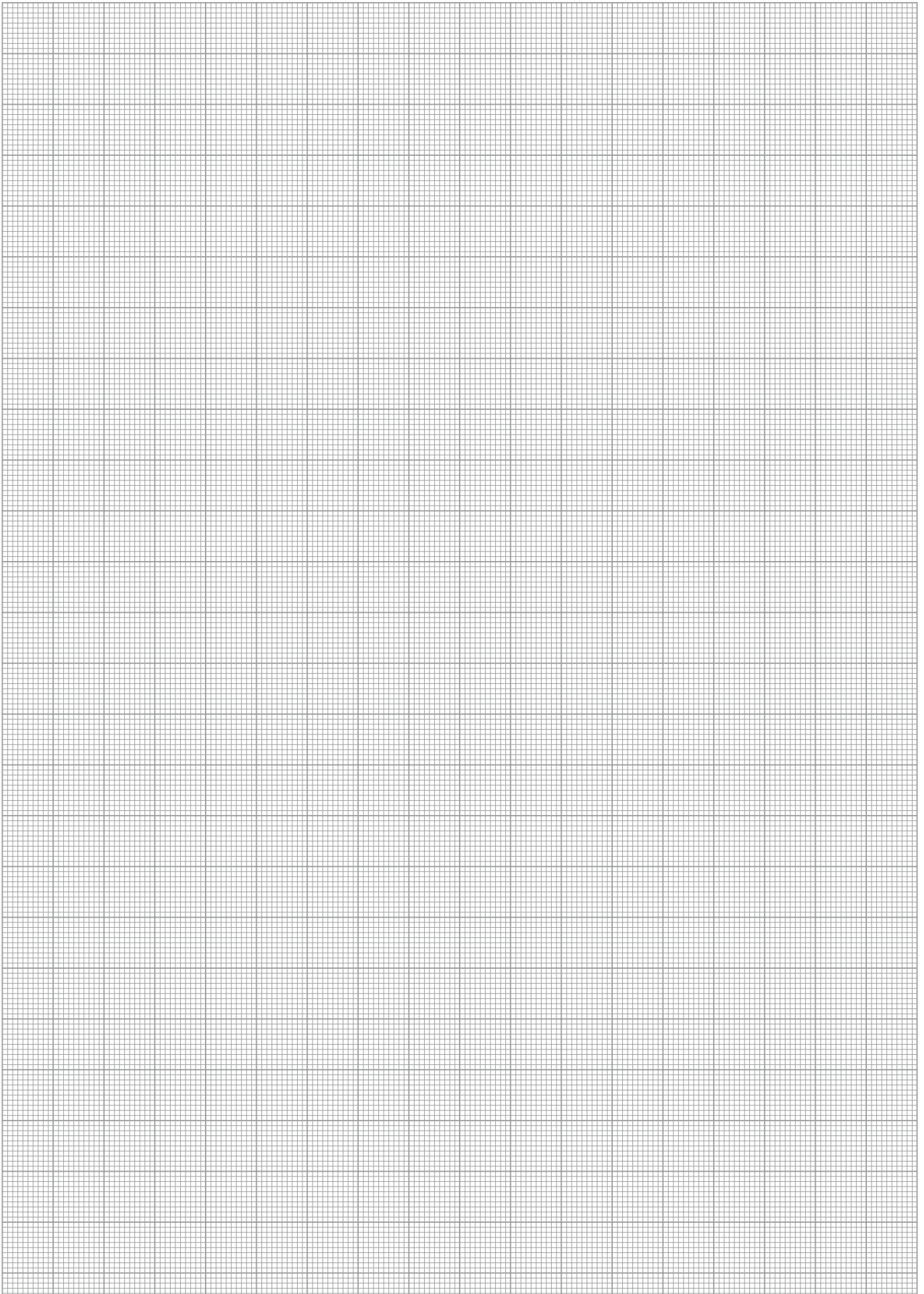
Flexible Position Sensor



Flexible position monitoring of up to five positions

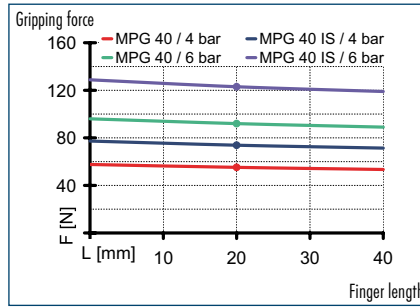
Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or AS) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

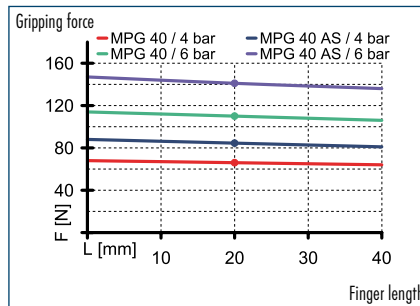




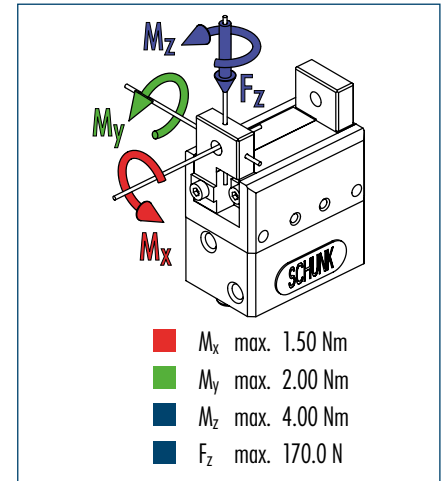
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

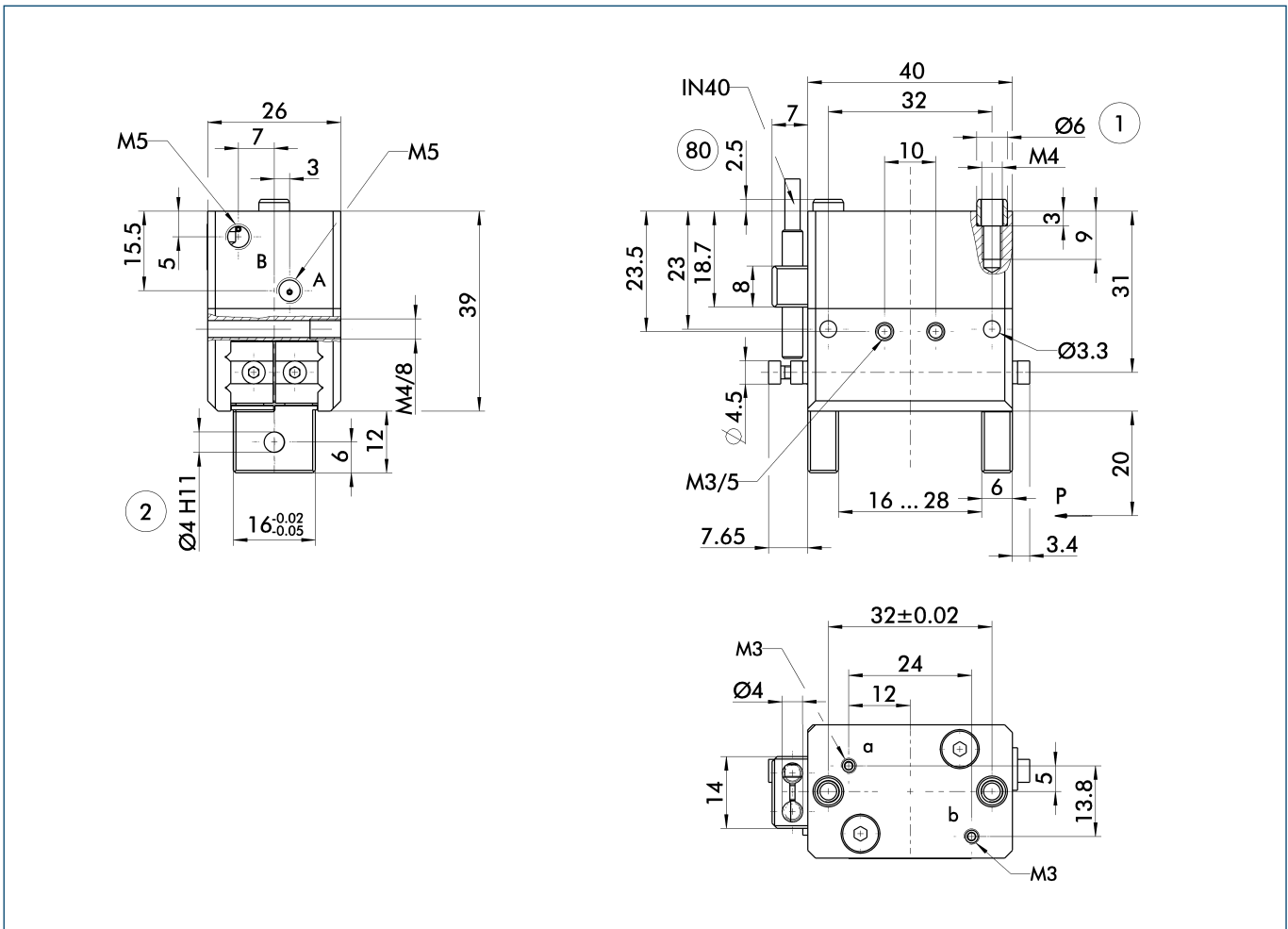


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 40	MPG 40-AS	MPG 40-IS
ID		0340012	0340042	0340062
Stroke per finger	[mm]	6	6	6
Closing force	[N]	110	145	
Opening force	[N]	90		115
Min. spring force	[N]		35	25
Weight	[kg]	0.2	0.26	0.26
Recommended workpiece weight	[kg]	0.55	0.55	0.55
Air consumption per double stroke	[cm ³]	5.76	12.5	10.98
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.05/0.05	0.055/0.08	0.08/0.055
Max. permitted finger length	[mm]	40	40	40
Max. permitted weight per finger	[kg]	0.08	0.08	0.08
IP class		30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



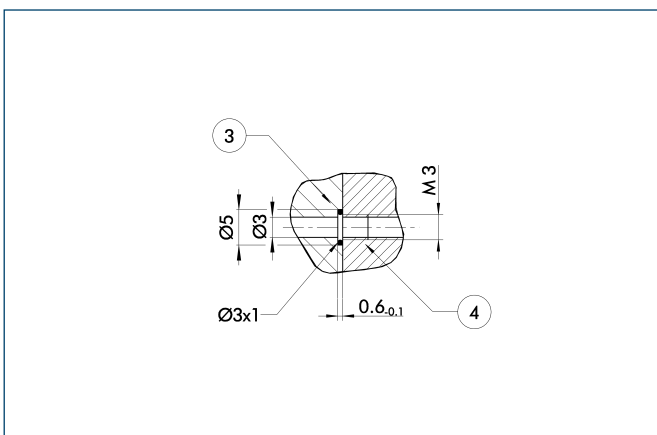
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

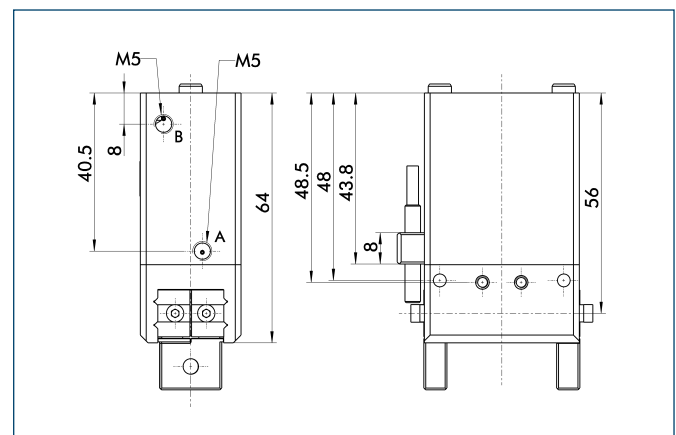
Hose-free direct connection



③ Adapter
④ Gripper

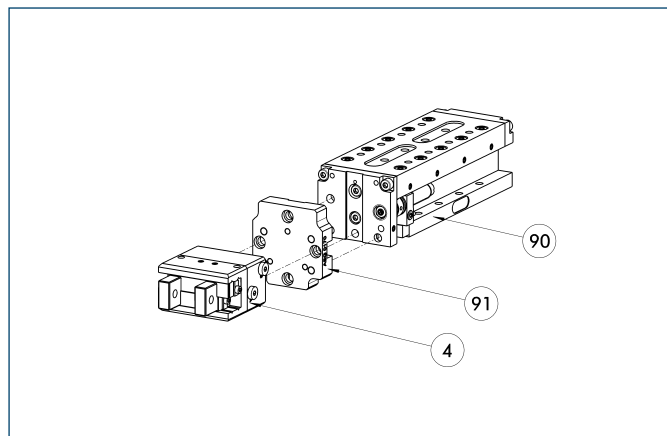
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

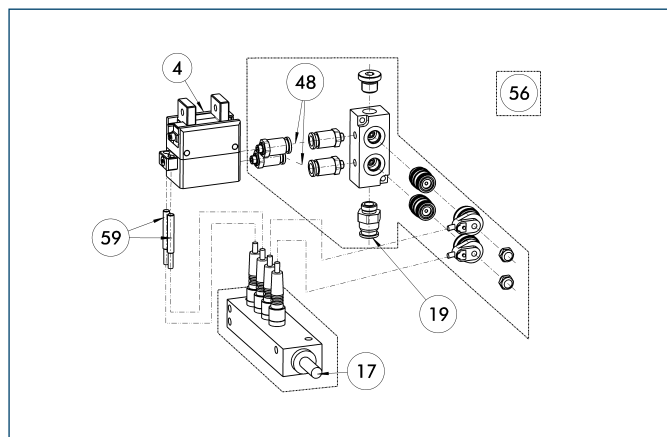
Modular Assembly Automation



- ④ Gripper
⑨① CLM
⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves

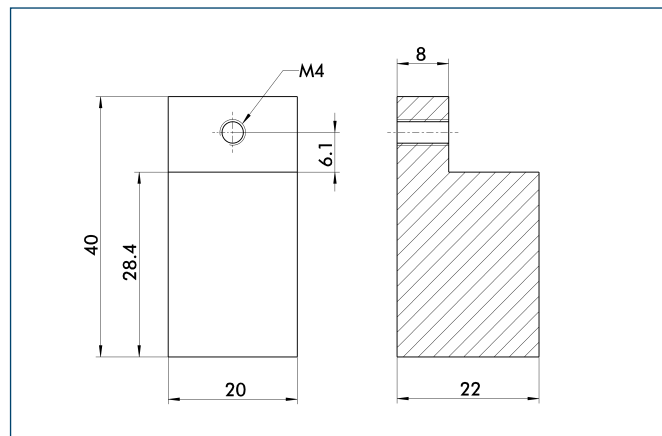


- ④ Gripper
①⑦ Cable outlet
①⑨ Air connection
④⑧ Hose
⑤⑥ Included in delivery
⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-S2-M5	0303375
ABV-MV15-S2-M5-V2-M8	0303376
ABV-MV15-S2-M5-V4-M8	0303377
ABV-MV15-S2-M5-V8-M8	0303378

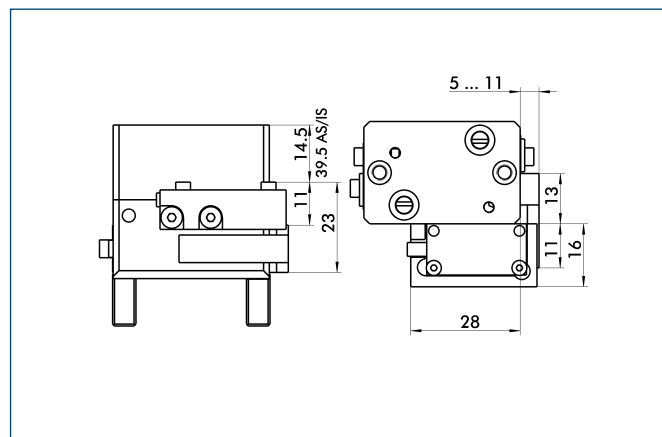
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 40	0340213	Aluminum	2

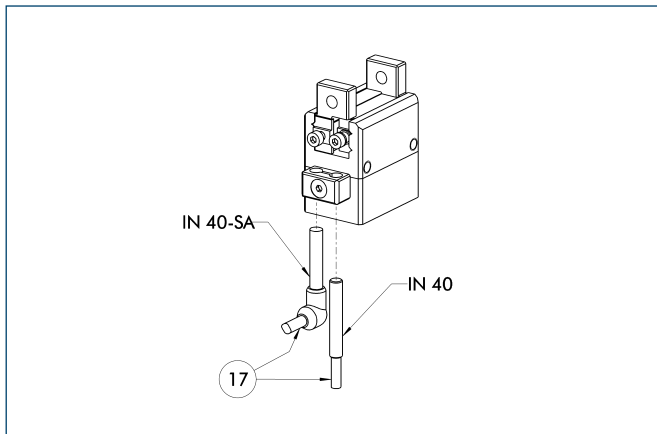
Mounting kit for FPS



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-MPG 40	0301762

Inductive proximity switches



⑰ Cable outlet

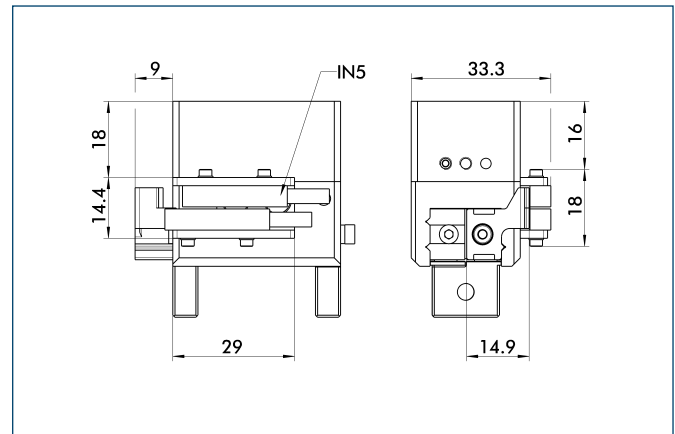
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

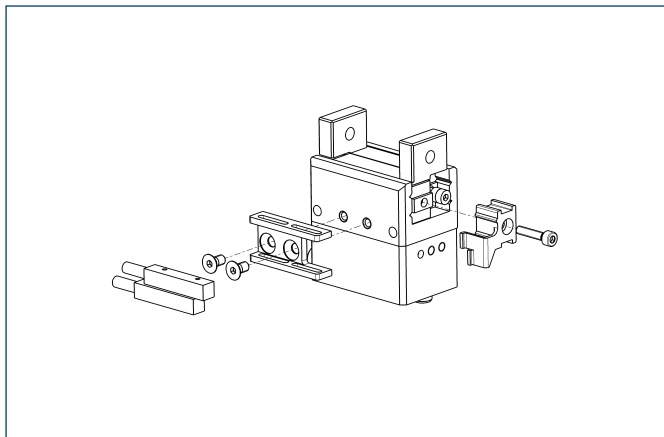
Description	ID
Mounting kit for proximity switch	
AS-MPG 40	0340152

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches

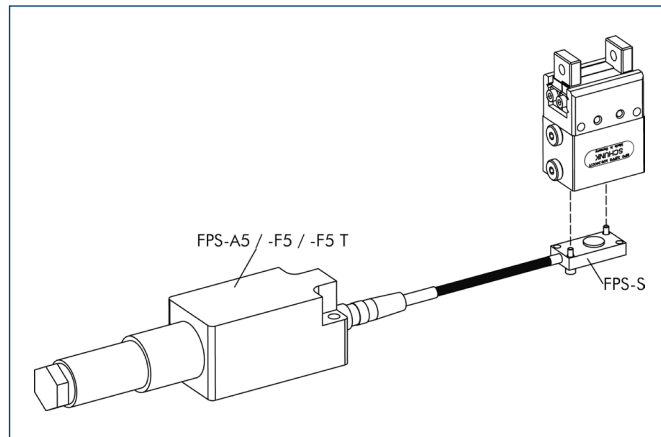


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 40	0340152	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

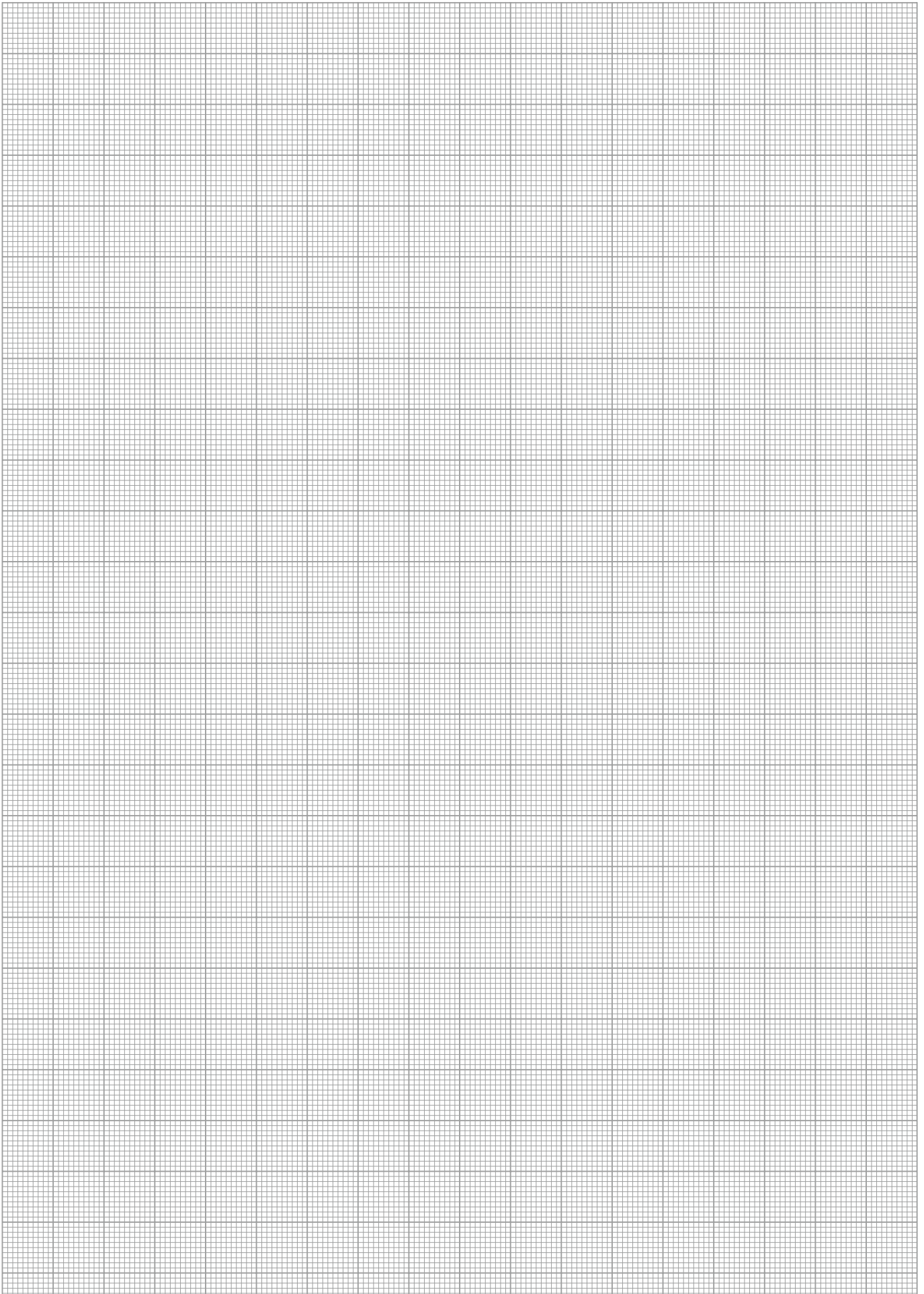
Flexible Position Sensor



Flexible position monitoring of up to five positions

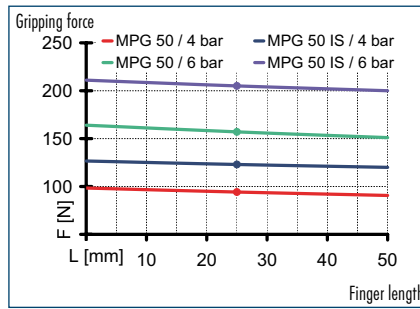
Description	ID
Mounting kit for FPS	
AS-MPG 40	0301762
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

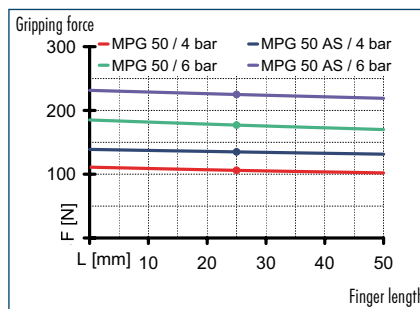




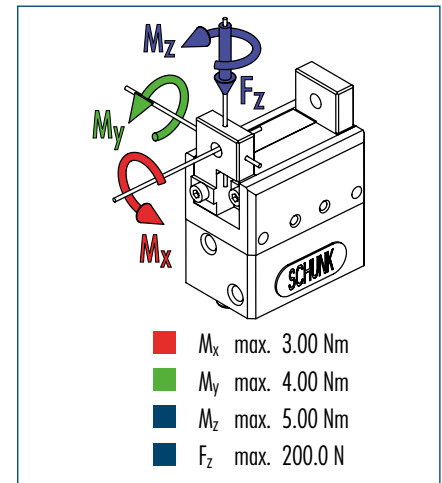
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

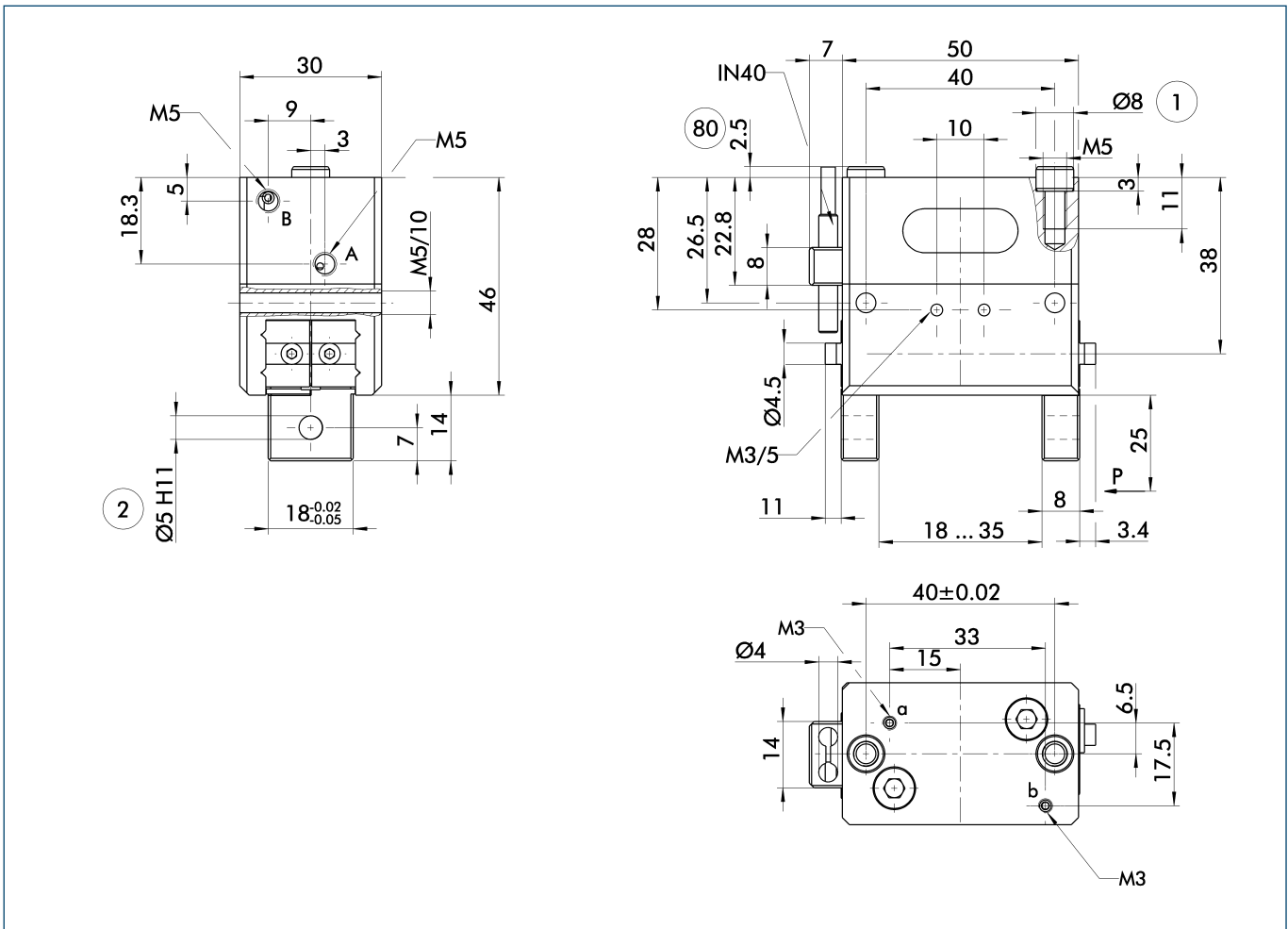


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 50	MPG 50-AS	MPG 50-IS
ID		0340013	0340043	0340063
Stroke per finger	[mm]	8	8	8
Closing force	[N]	175	225	
Opening force	[N]	155		190
Min. spring force	[N]		50	35
Weight	[kg]	0.35	0.4	0.4
Recommended workpiece weight	[kg]	0.9	0.9	0.9
Air consumption per double stroke	[cm ³]	11.33	19.98	16.6
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.035/0.035	0.035/0.05	0.05/0.035
Max. permitted finger length	[mm]	50	50	50
Max. permitted weight per finger	[kg]	0.14	0.14	0.14
IP class		30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



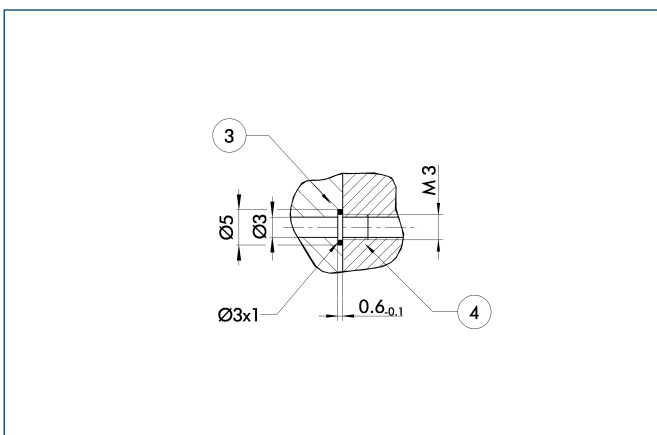
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

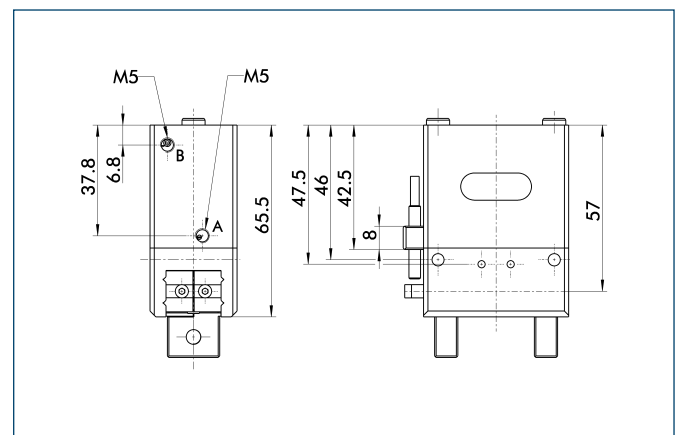
Hose-free direct connection



③ Adapter
④ Gripper

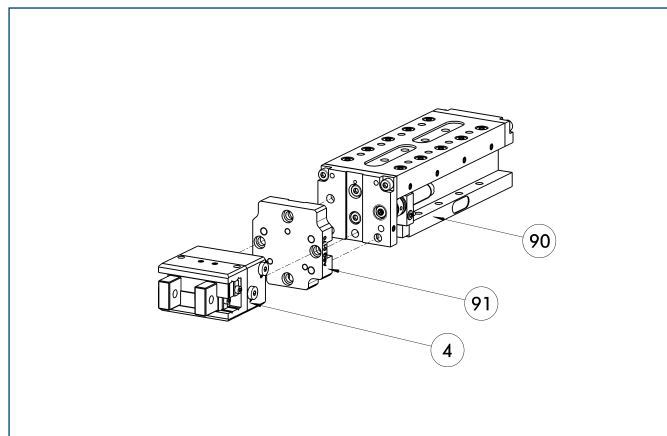
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

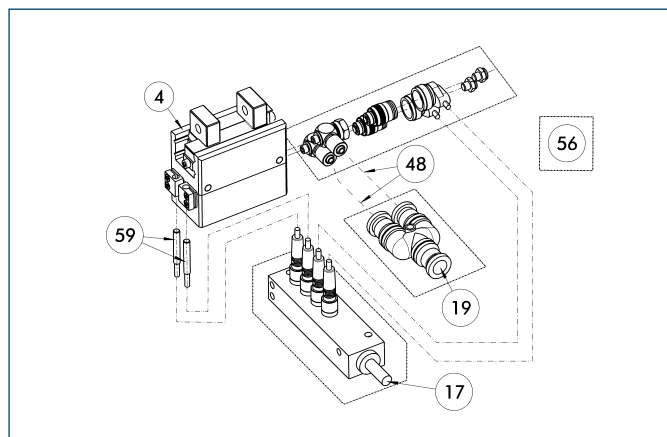
Modular Assembly Automation



- ④ Gripper
- ⑨① CLM
- ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves

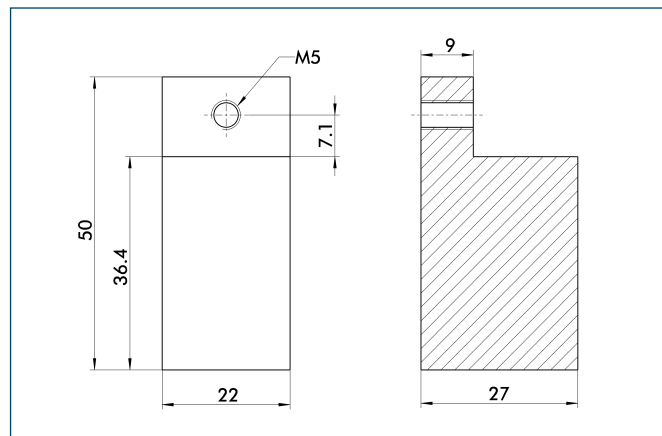


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M5	0303323
ABV-MV15-M5-V2-M8	0303386
ABV-MV15-M5-V4-M8	0303356
ABV-MV15-M5-V8-M8	0303357

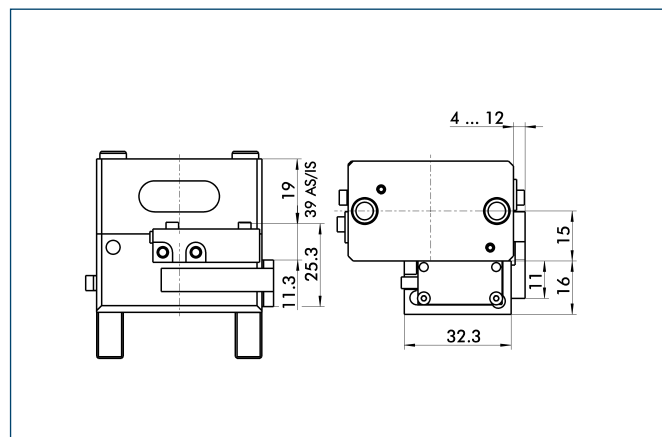
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 50	0340214	Aluminum	2

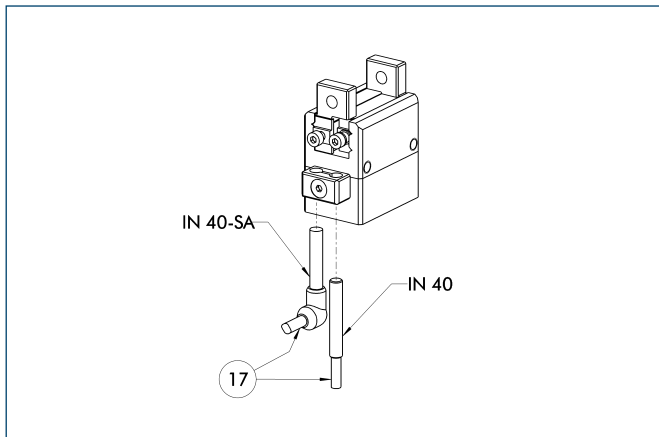
Mounting kit for FPS



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-MPG 50	0301763

Inductive proximity switches



⑰ Cable outlet

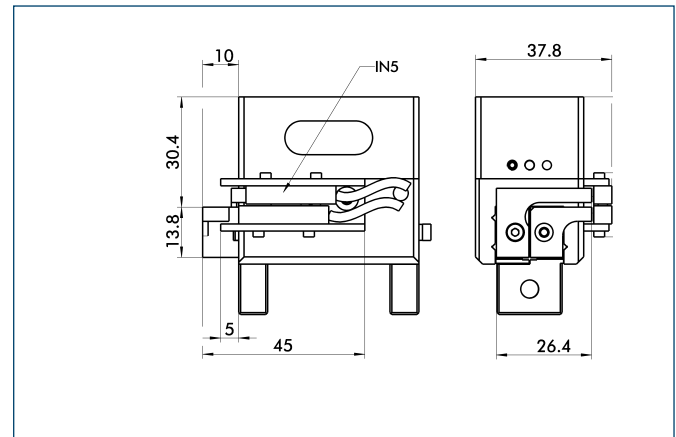
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

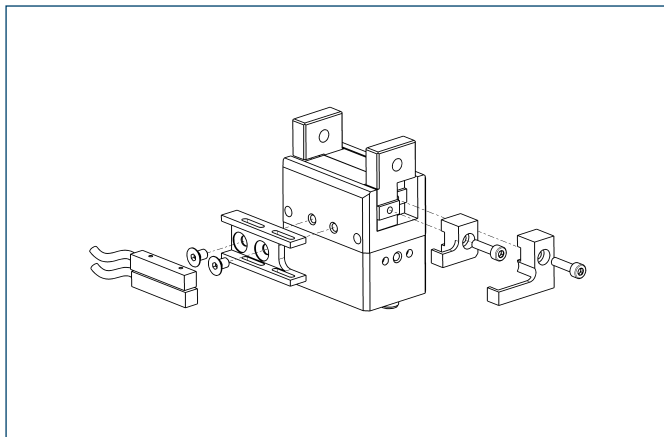
Description	ID
Mounting kit for proximity switch	
AS-MPG 50	0340153

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

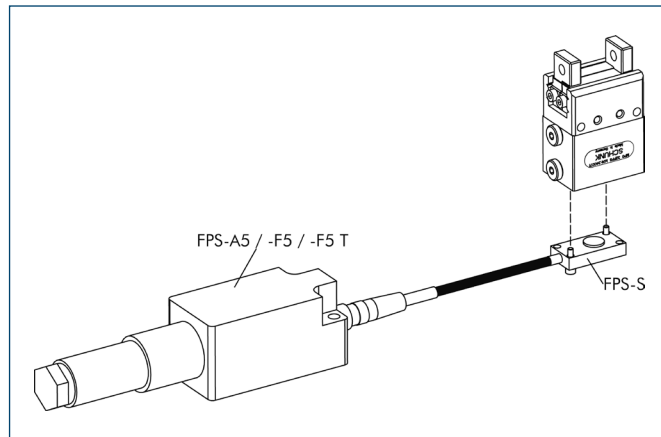


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 50	0340153	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

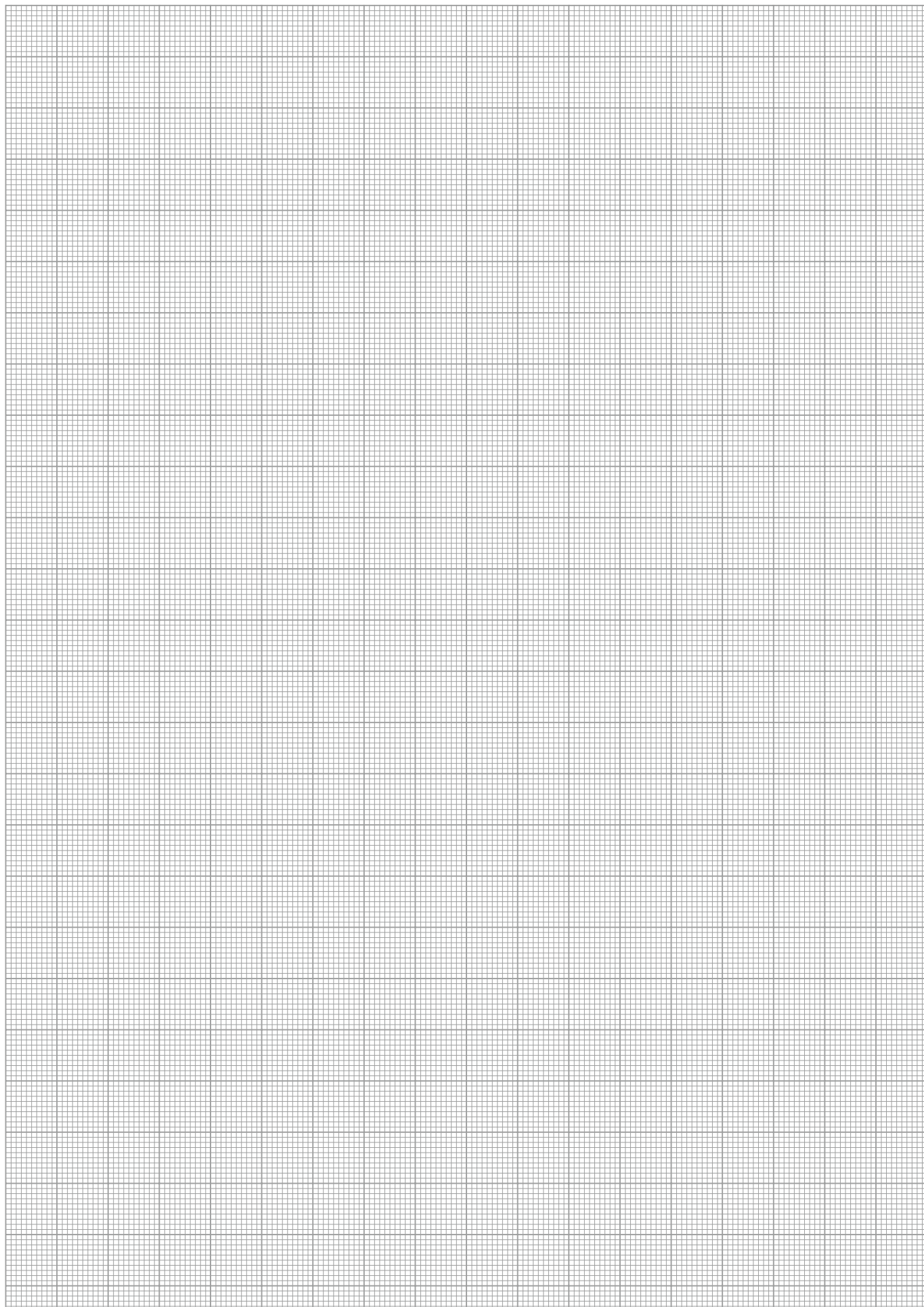
Flexible Position Sensor



Flexible position monitoring of up to five positions

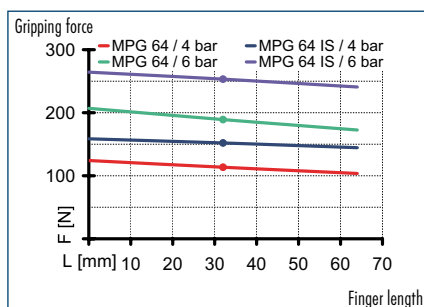
Description	ID
Mounting kit for FPS	
AS-MPG 50	0301763
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

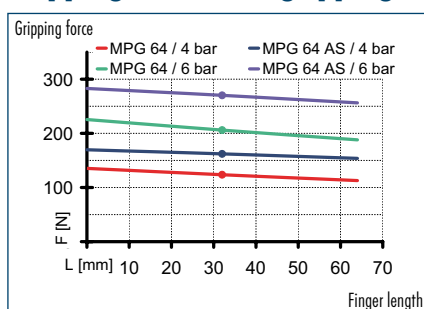




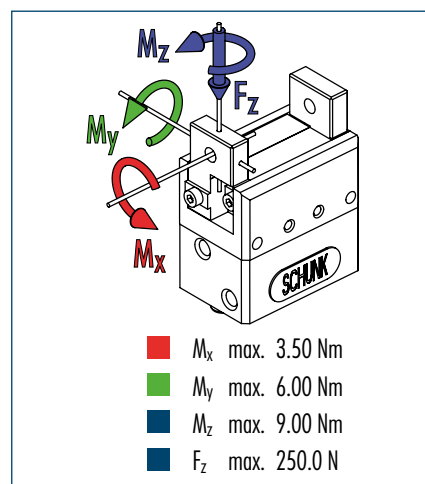
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

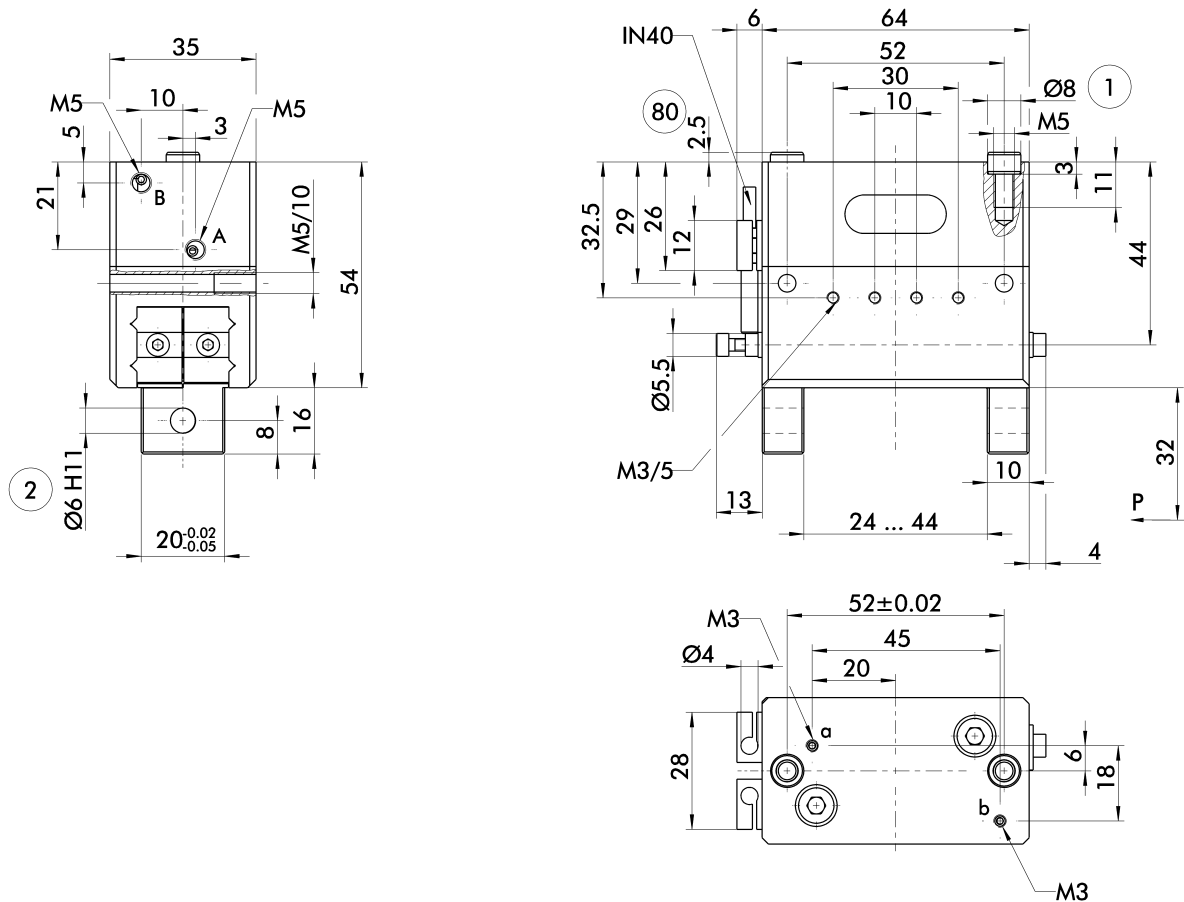


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 64	MPG 64-AS	MPG 64-IS
ID		0340014	0340044	0340064
Stroke per finger	[mm]	10	10	10
Closing force	[N]	200	270	
Opening force	[N]	190		245
Min. spring force	[N]		70	55
Weight	[kg]	0.6	0.7	0.7
Recommended workpiece weight	[kg]	1	1	1
Air consumption per double stroke	[cm ³]	18.85	28.58	26.6
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.045/0.045	0.045/0.06	0.06/0.045
Max. permitted finger length	[mm]	64	64	64
Max. permitted weight per finger	[kg]	0.24	0.24	0.24
IP class		30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



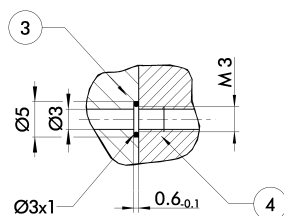
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

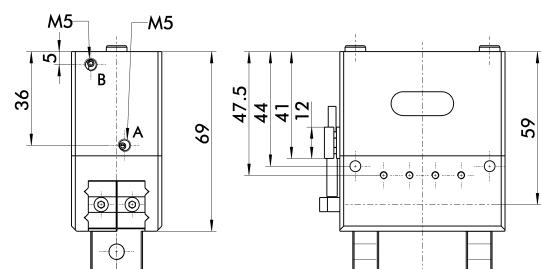
Hose-free direct connection



③ Adapter
④ Gripper

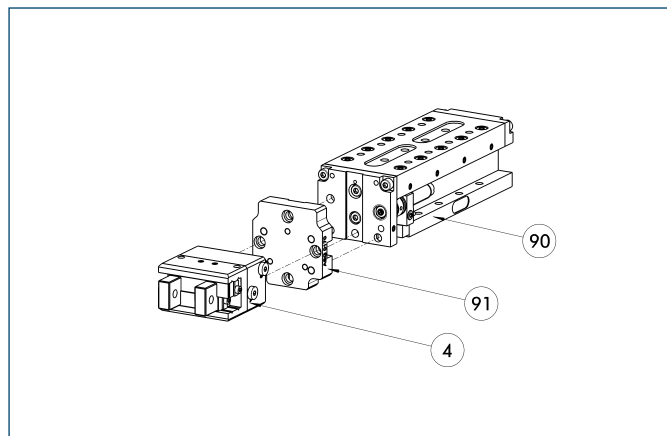
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

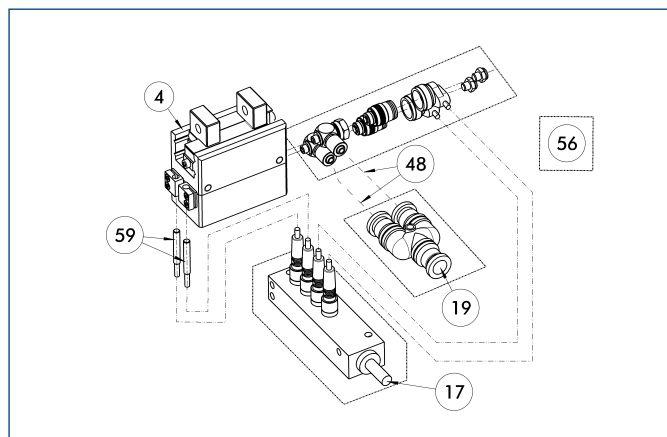
Modular Assembly Automation



- ④ Gripper
⑨① CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves



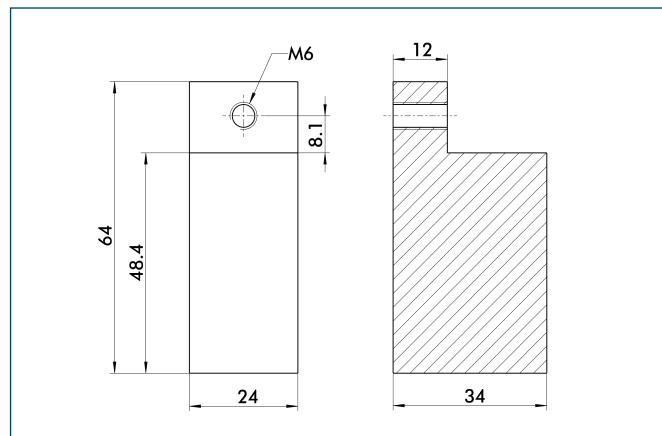
- ④ Gripper
①⑦ Cable outlet
①⑨ Air connection
④⑧ Hose

- ⑤⑥ Included in delivery
⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV25-M5	0303326
ABV-MV25-M5-V2-M8	0303392
ABV-MV25-M5-V4-M8	0303362
ABV-MV25-M5-V8-M8	0303363

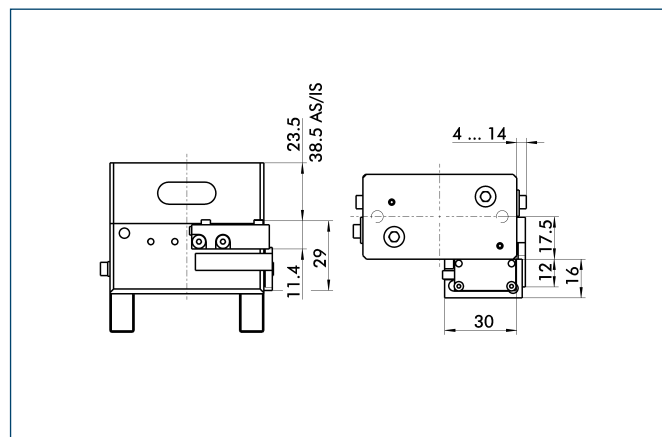
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 64	0340215	Aluminum	2

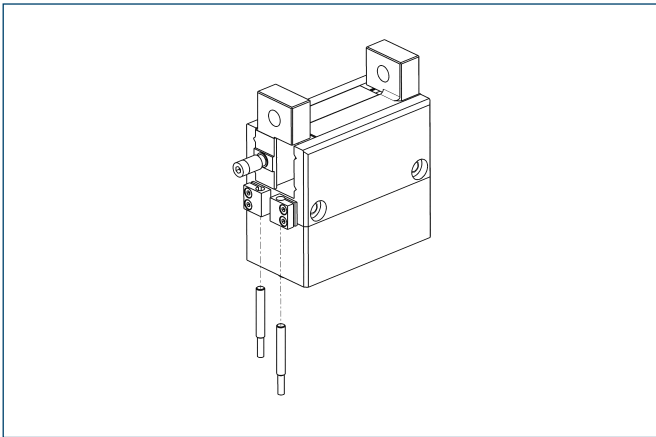
Mounting kit for FPS



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-MPG 64	0301764

Inductive proximity switches

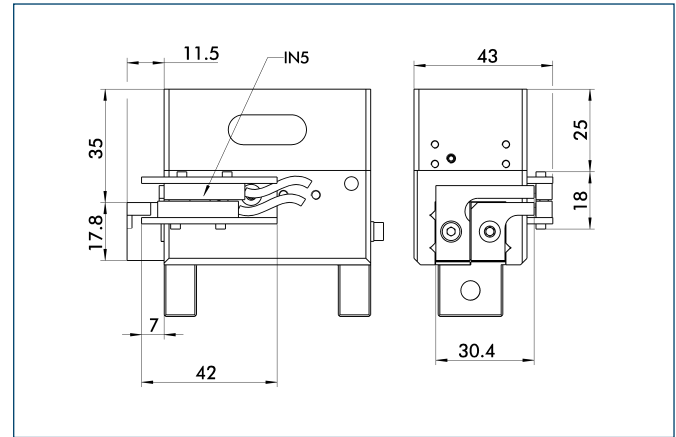


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

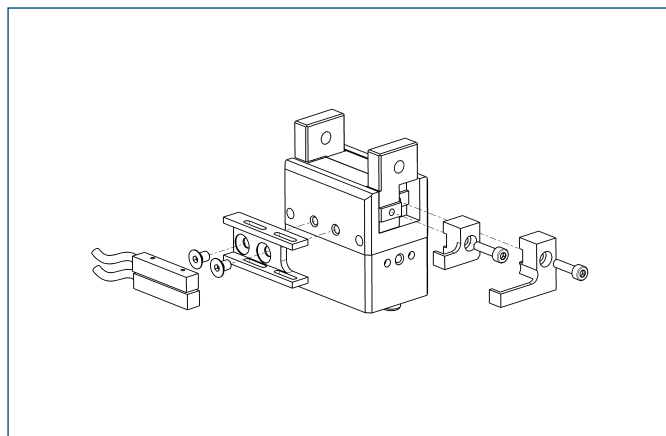
Description	ID
Mounting kit for proximity switch	
AS-MPG 64	0340154

- ① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

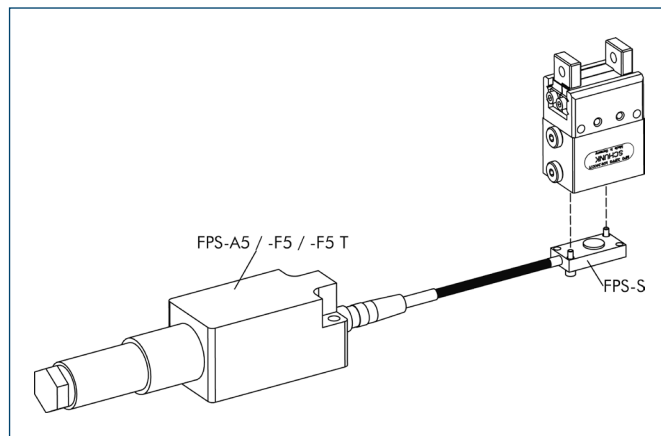


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 64	0340154	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

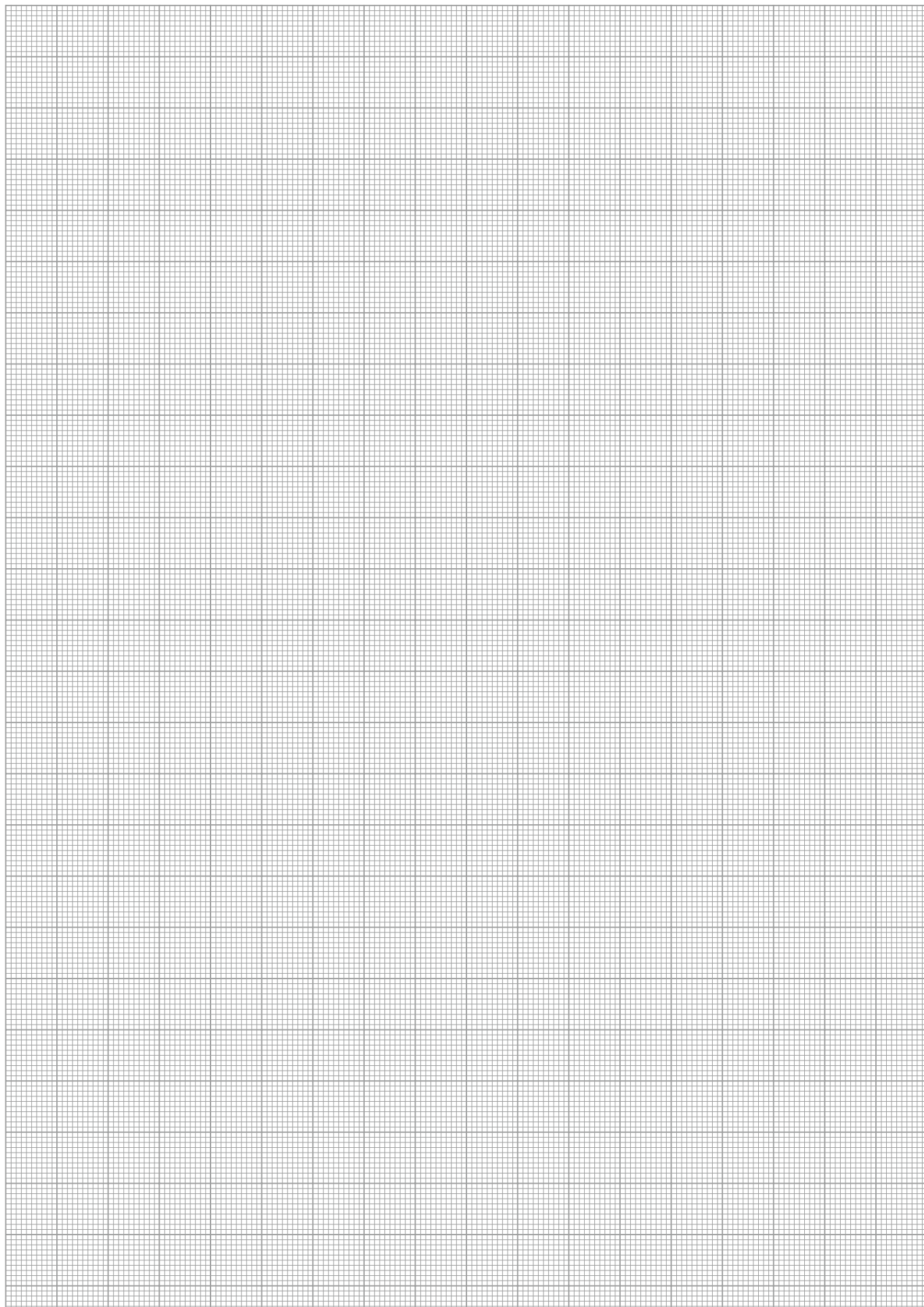
Flexible Position Sensor



Flexible position monitoring of up to five positions

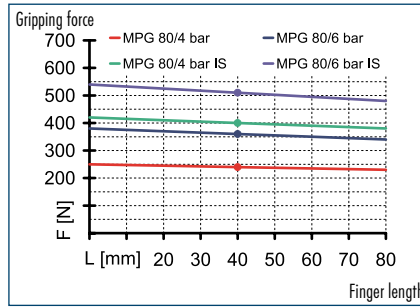
Description	ID
Mounting kit for RSS	
AS-MPG 64	0301764
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

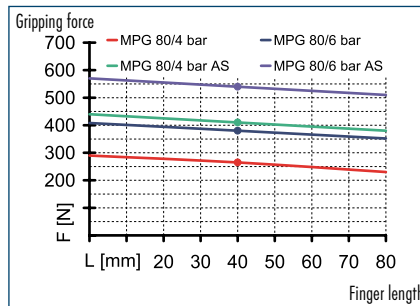




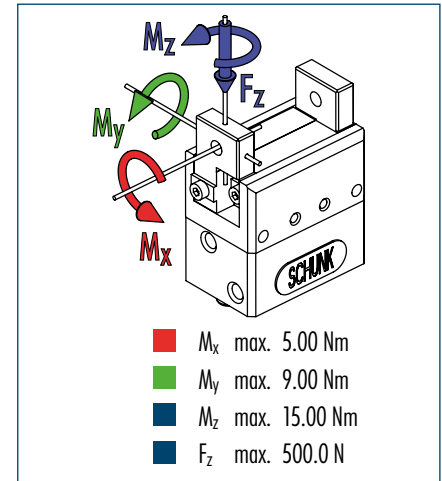
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

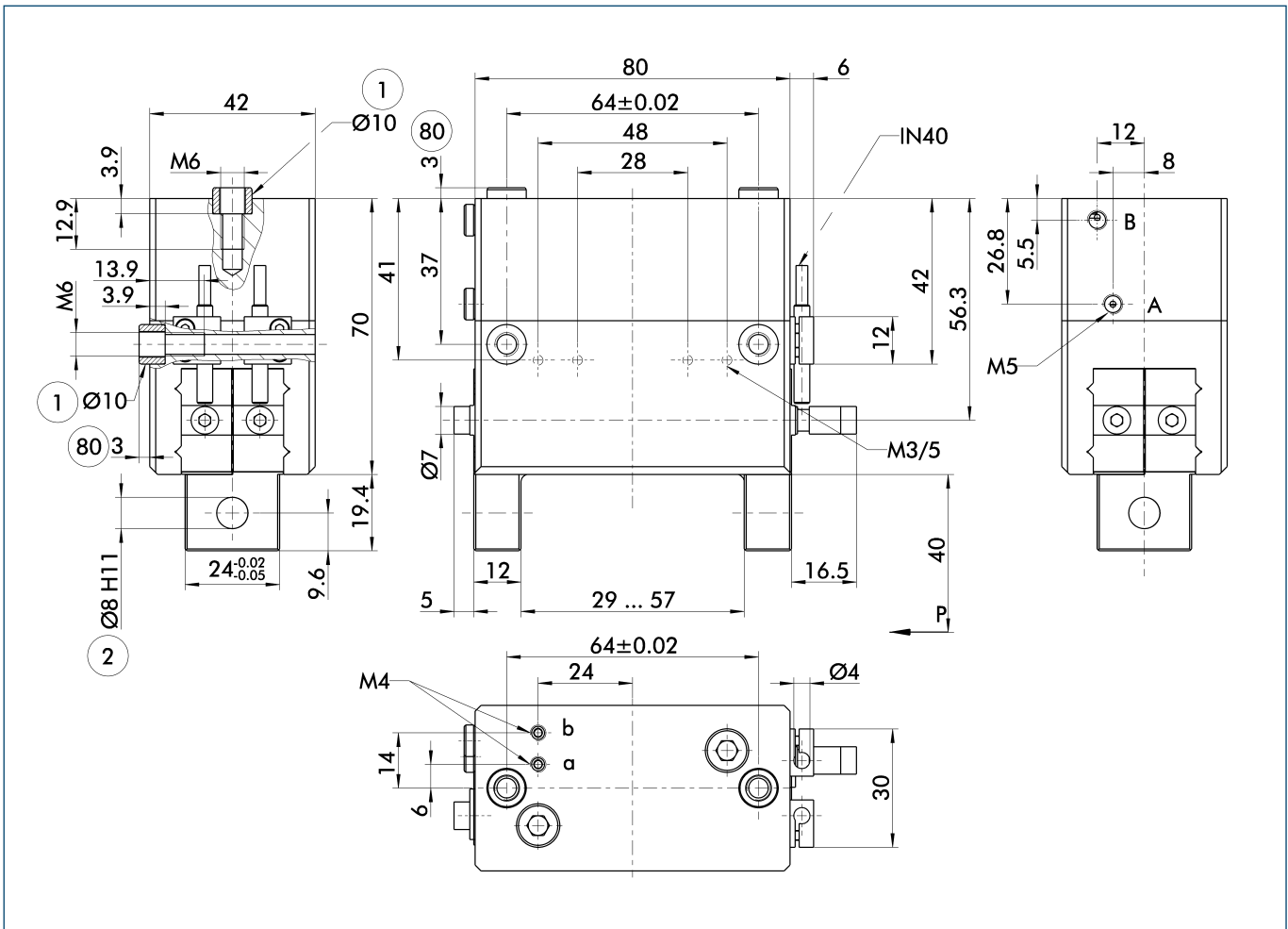


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPG 80	MPG 80-AS	MPG 80-IS
ID		0340015	0340045	0340065
Stroke per finger	[mm]	14	14	14
Closing force	[N]	380	540	
Opening force	[N]	360		510
Min. spring force	[N]		160	150
Weight	[kg]	1.2	1.35	1.35
Recommended workpiece weight	[kg]	1.9	1.9	1.9
Air consumption per double stroke	[cm ³]	29.3	61.4	57.1
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.06/0.06	0.055/0.085	0.085/0.055
Max. permitted finger length	[mm]	80	80	80
Max. permitted weight per finger	[kg]	0.4	0.4	0.4
IP class		30	30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



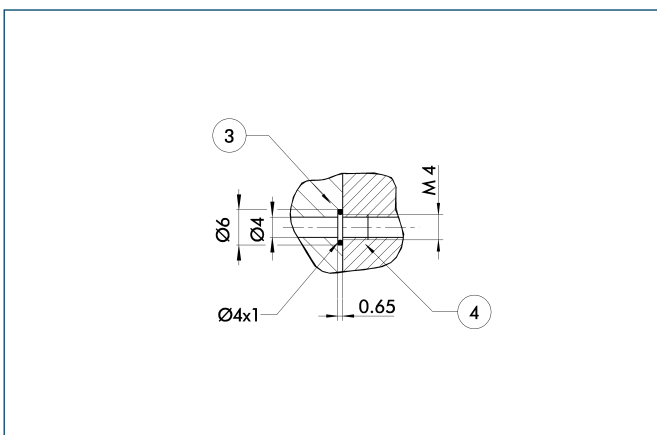
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

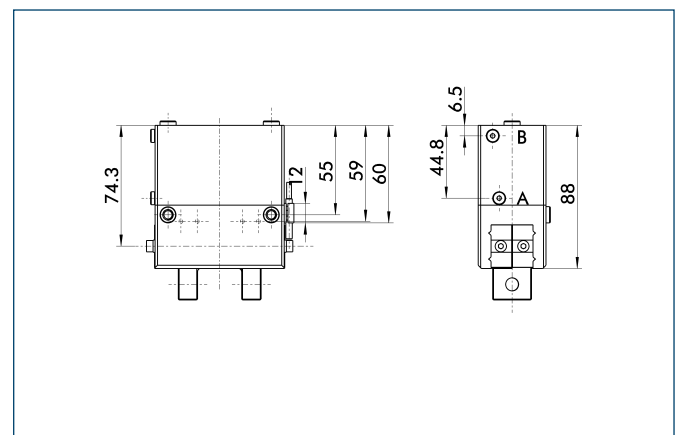
Hose-free direct connection



③ Adapter
④ Gripper

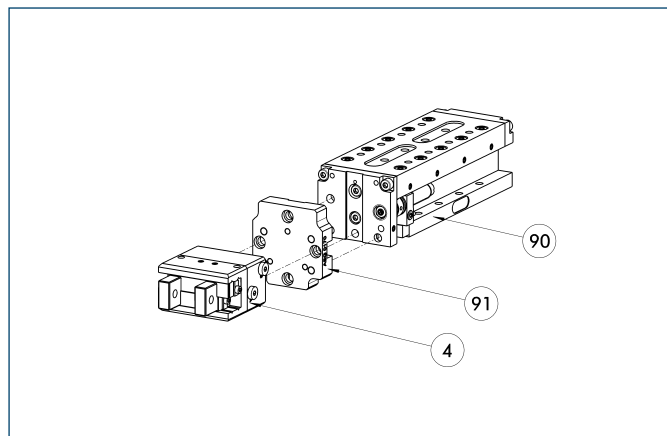
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

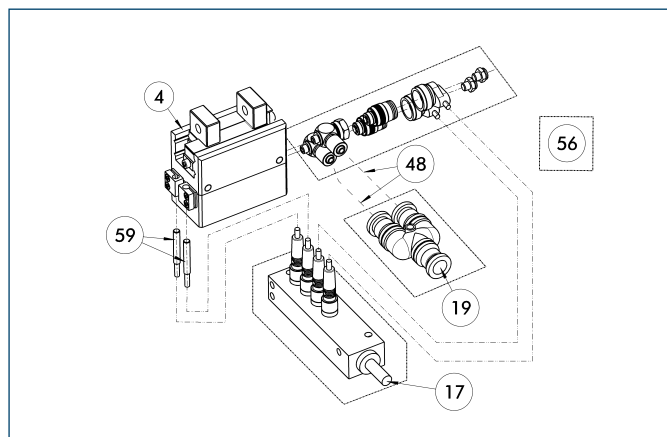
Modular Assembly Automation



- ④ Gripper
⑨① CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Attachment valves

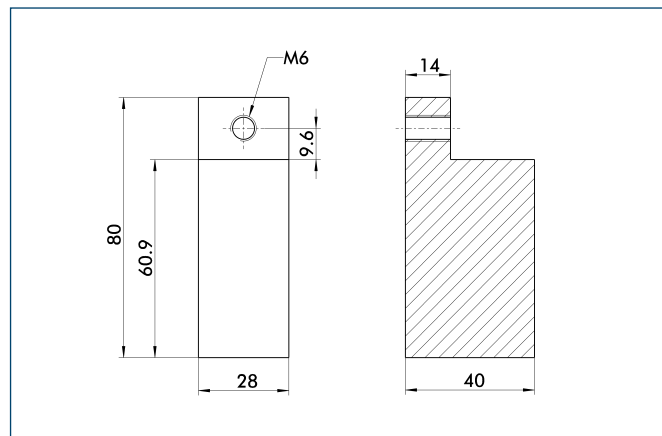


- ④ Gripper
①⑦ Cable outlet
①⑨ Air connection
④⑧ Hose

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV25-M5	0303326
ABV-MV25-M5-V2-M8	0303392
ABV-MV25-M5-V4-M8	0303362
ABV-MV25-M5-V8-M8	0303363

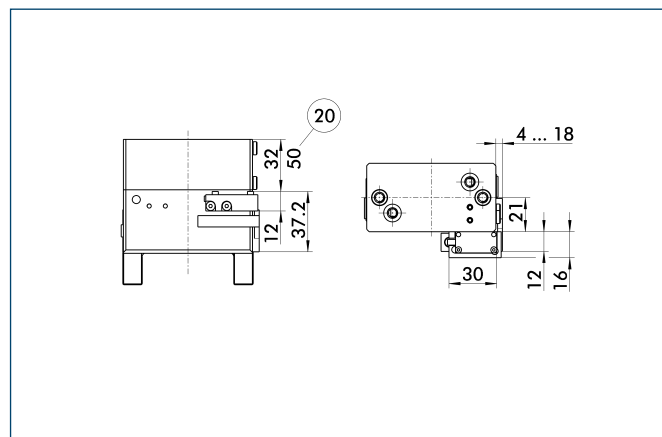
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 80	0340216	Aluminum	2

Mounting kit for FPS

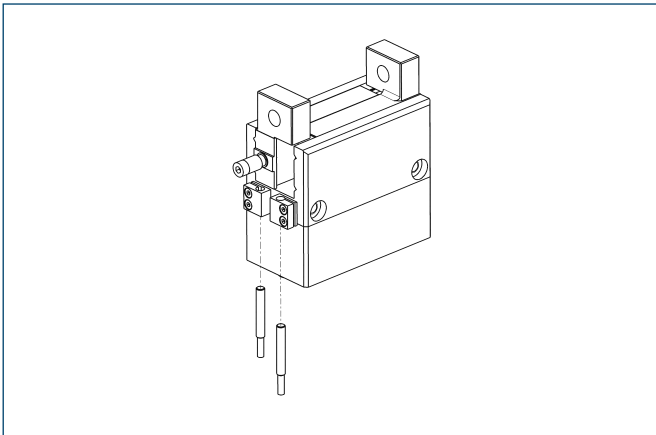


- ②① For AS / IS version

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-MPG 80	0301765

Inductive proximity switches

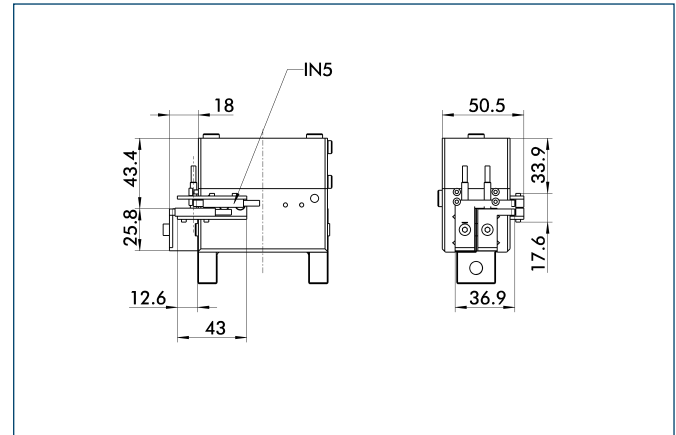


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

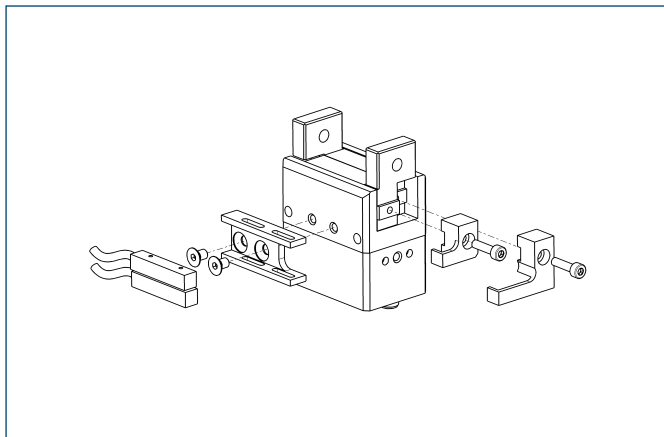
Description	ID
Mounting kit for proximity switch	
AS-MPG 80	0340155

- ① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

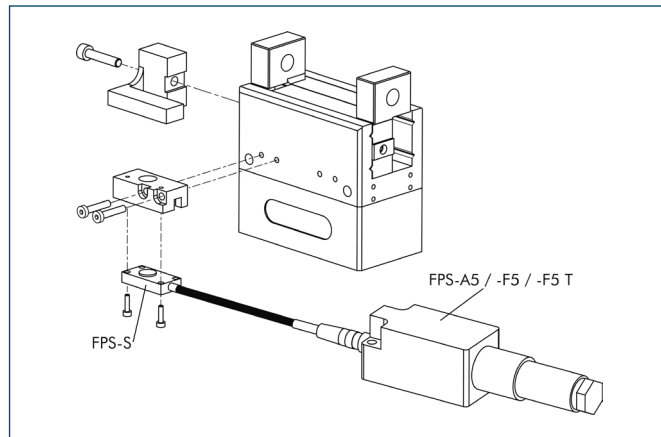


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-MPG 80	0340155	
Inductive proximity switches		
IN 5-S-M8	0301469	•
IN 5-S-M12	0301569	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

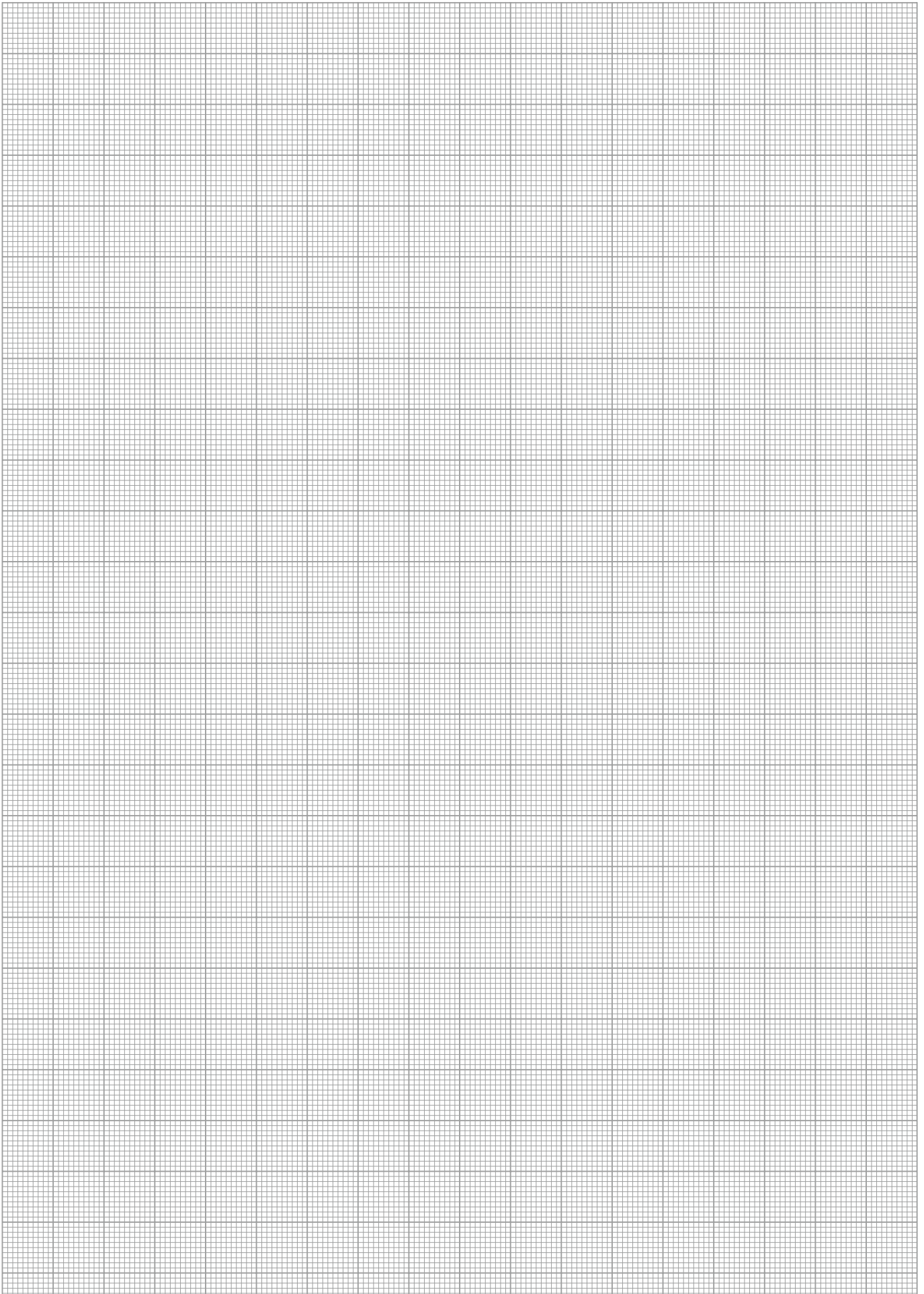
Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-MPG 80	0301765
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

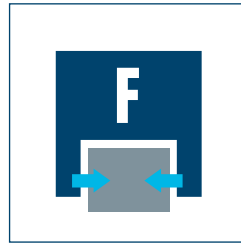




Size
50



Weight
0.08 kg



Gripping force
13 N



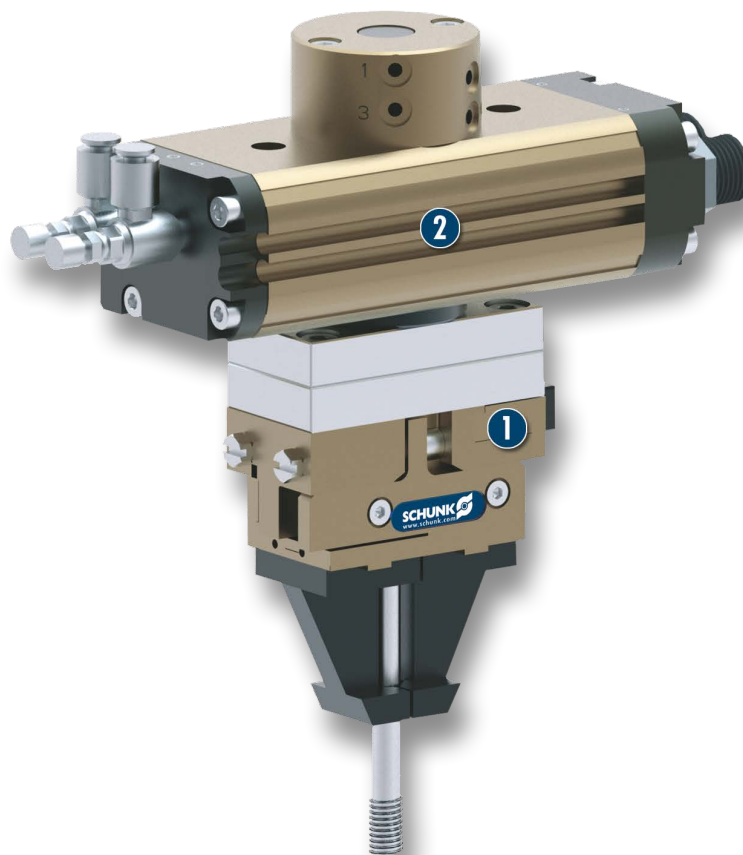
Stroke per finger
4.5 mm



Workpiece weight
0.07 kg



Application example



Rotary gripper module for small components

1

KTG 2-Finger Parallel Gripper with
workpiece-specific fingers

2

SRU-mini Miniature Rotary Unit

Gripper for small components

2-Finger Parallel Gripper with center bore

Field of application

Gripping and moving of small to medium-sized workpieces in low contaminated environments, equipped with end-to-end center bore for workpiece feeding, sensor systems or actuators

Your advantages and benefits

Low weight

for weight-reduced handling solutions

Large stroke

in proportion to size

Base jaws guided on roller bearings

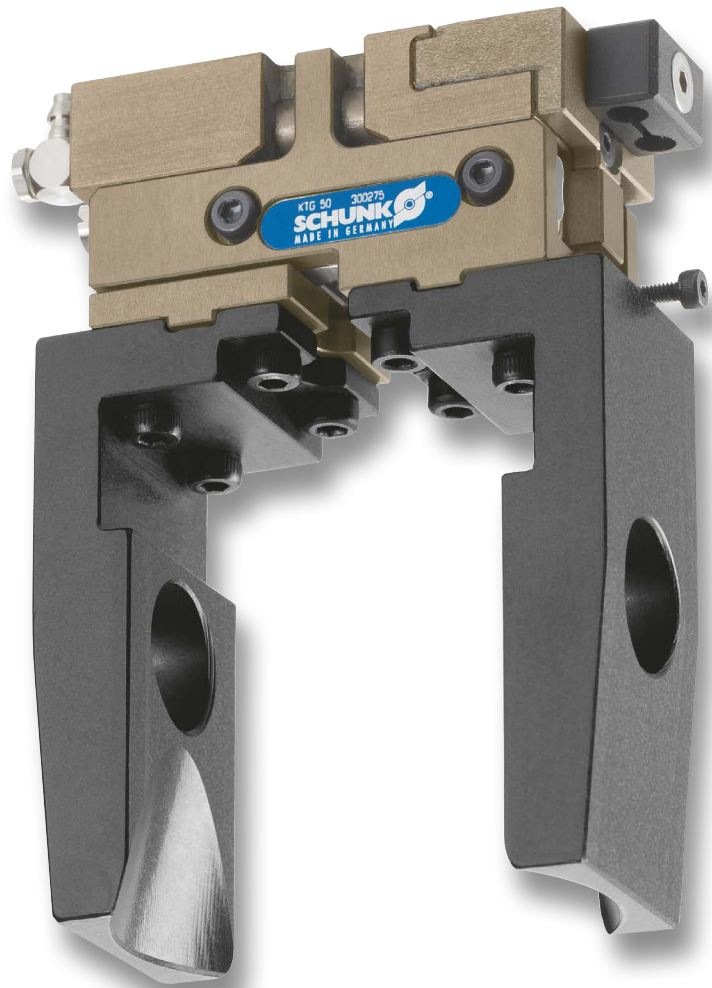
for precise gripping

Center through-hole

for workpiece feeding, sensor systems or actuators

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

synchronized double piston

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

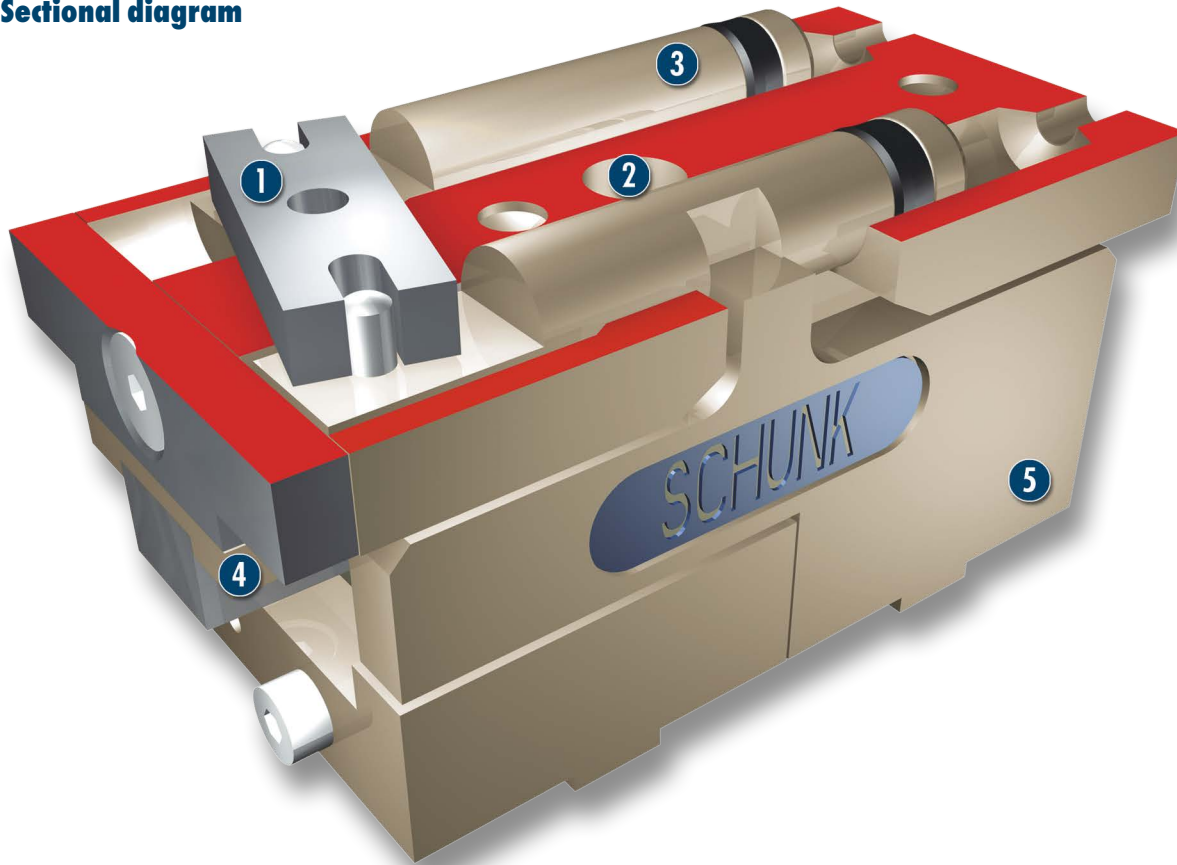
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Kinematics**
synchronization using lever principle for centric clamping
- 2 Center bore**
for workpiece feeding, for sensor systems, actuators (ejectors) or optical workpiece recognition
- 3 Drive**
through pneumatic double piston system
- 4 Roller guide**
precise gripping through base jaw guide with minimum play
- 5 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

By pressurizing the first or second piston, the base jaws which are individually guided by a carrier on the piston, are moved. The movement is synchronized by means of lever kinematics.

Options and special information

Available with reinforced jaw guidances on request. Gripping force can be maintained by the SDV-P pressure maintenance valve.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Sensor system



Sensor cables



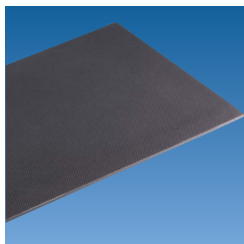
Carbide clamping inserts



Plastic inserts



Gripper pads



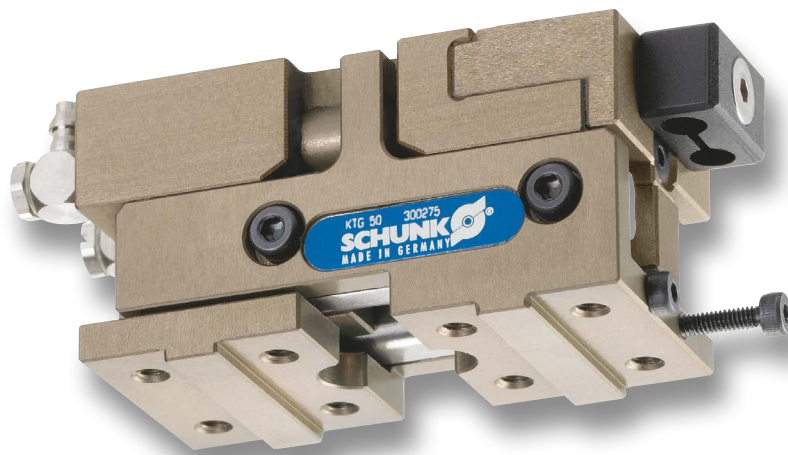
Pressure maintenance valve



Sensor Distributor



Finger blanks



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

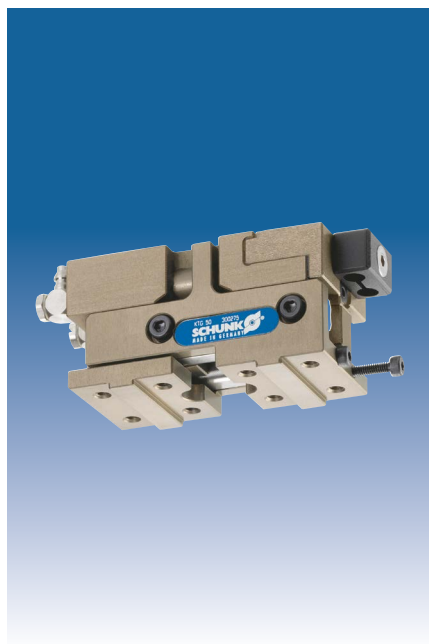
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

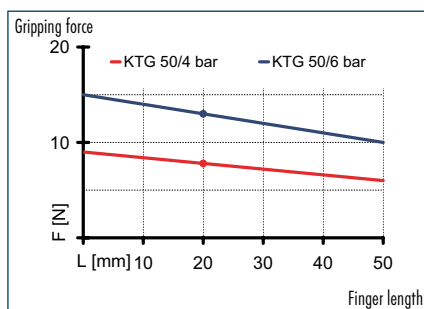
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

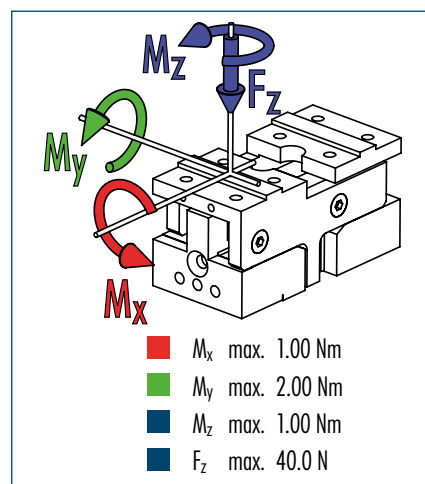


Gripping force



① The gripping force diagram applies for I.D. and O.D. gripping.

Finger load

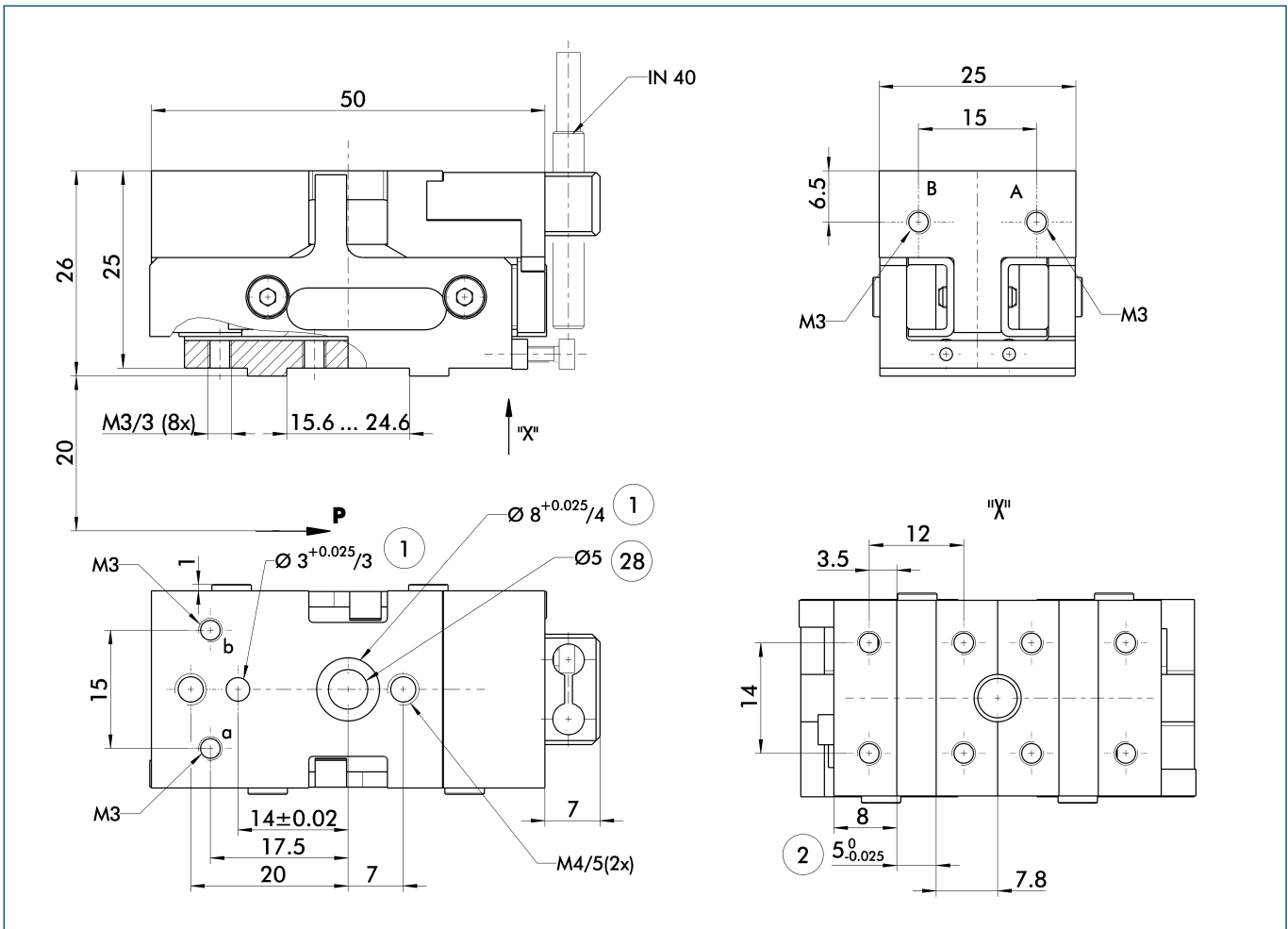


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KTG 50
ID		0300275
Stroke per finger	[mm]	4.5
Closing force	[N]	13
Opening force	[N]	13
Weight	[kg]	0.08
Recommended workpiece weight	[kg]	0.07
Air consumption per double stroke	[cm ³]	0.23
Min./max. operating pressure	[bar]	1/7
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.05/0.05
Max. permitted finger length	[mm]	50
Max. permitted weight per finger	[kg]	0.04
IP class		20
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02
Diameter of center bore	[mm]	5

Main view

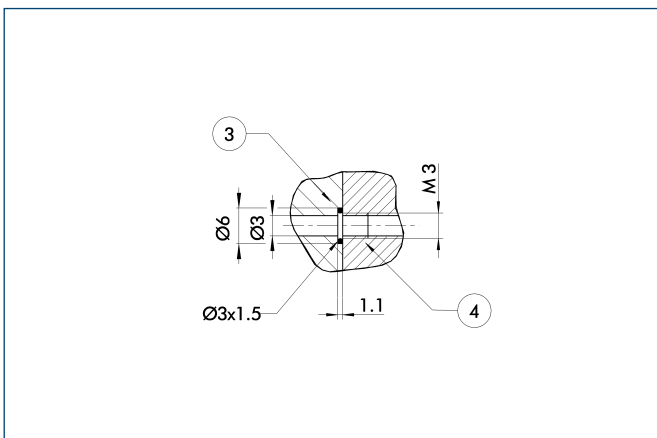


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
②② Through-bore

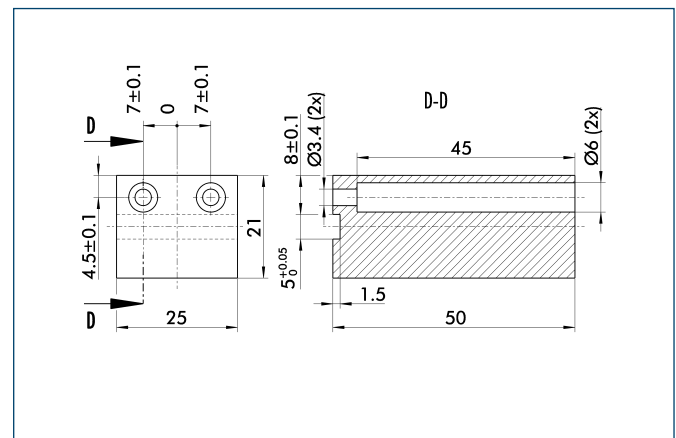
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Finger blanks



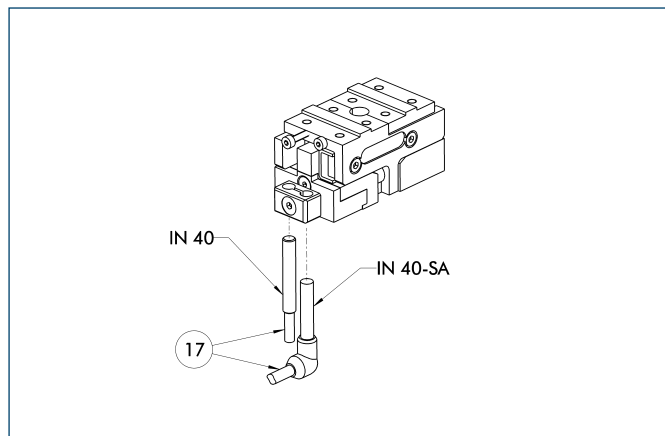
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
RB 50	0300280	Aluminum	2



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches



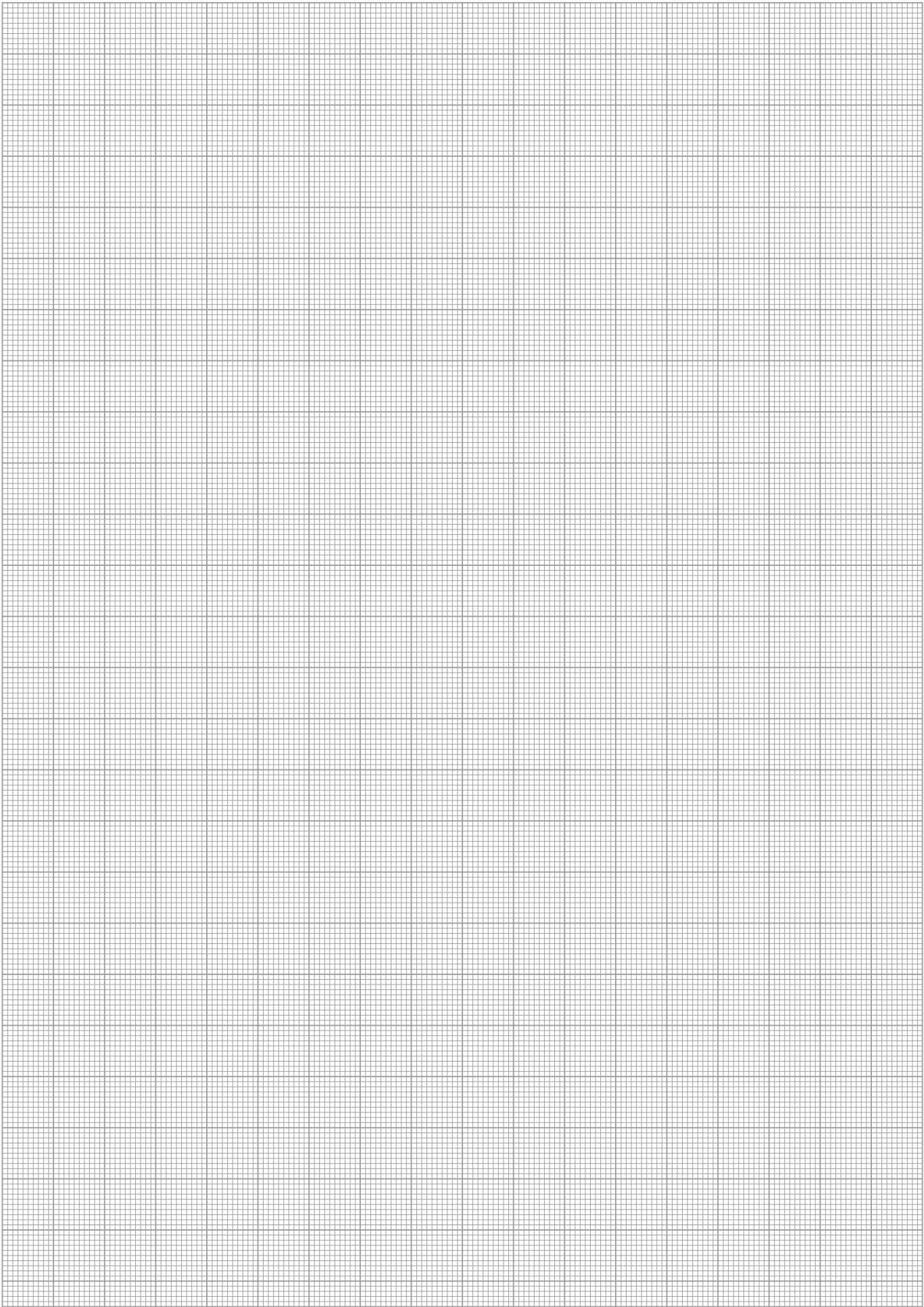
⑰ Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

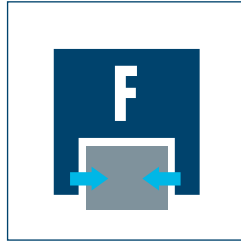




Sizes
60 ... 280



Weight
0.09 kg ... 4.2 kg



Gripping force
45 N ... 540 N

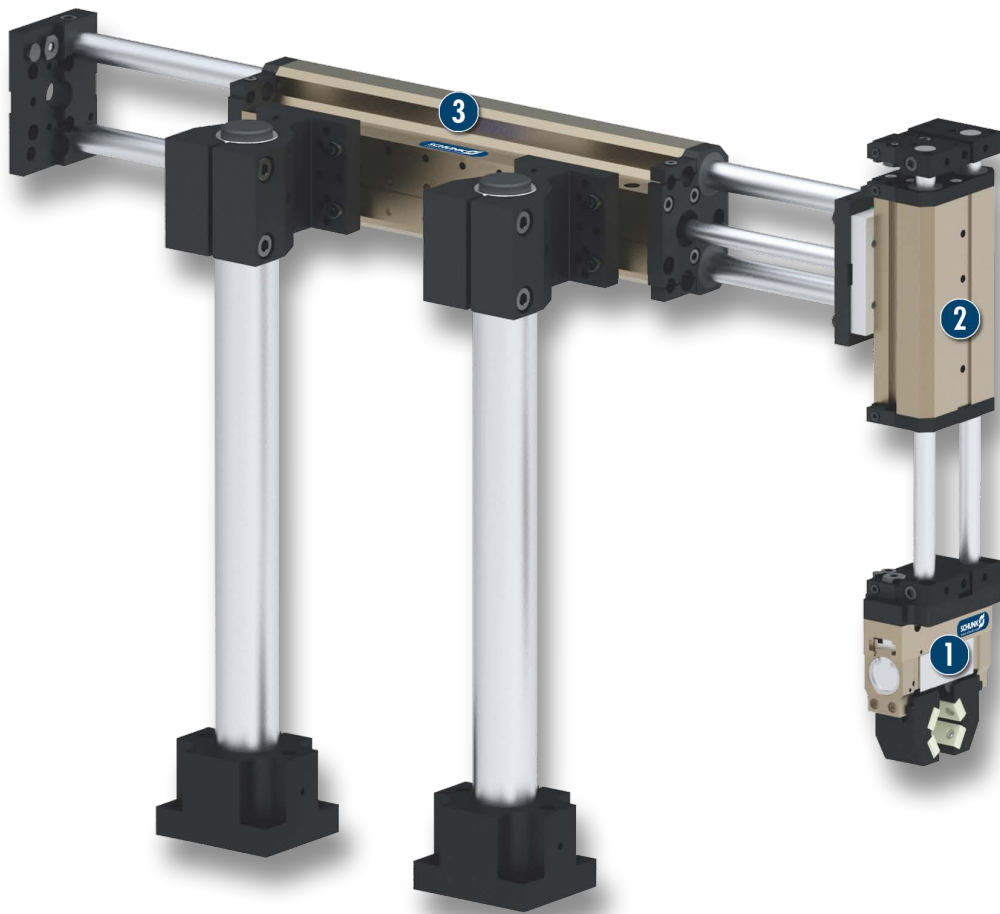


Stroke per finger
10 mm ... 60 mm



Workpiece weight
0.23 kg ... 2.7 kg

Application example



Ejection unit for small components, which require an especially long gripper stroke due to their great variation in size

- 1 KGG 2-Finger Parallel Gripper with workpiece-specific fingers
- 2 FST-S Mini-slide for horizontal movement
- 3 FST-S Mini-slide for vertical movement

Gripper for small components

narrow 2-finger parallel gripper with long stroke

Field of application

for universal use in clean environments with light to medium workpiece weights and a large stroke range

Your advantages and benefits

Robust T-slot guidance

for high maximum moments

Pneumatic 2-piston drive design

for direct power transmission and high efficiency

Rack and pinion principle

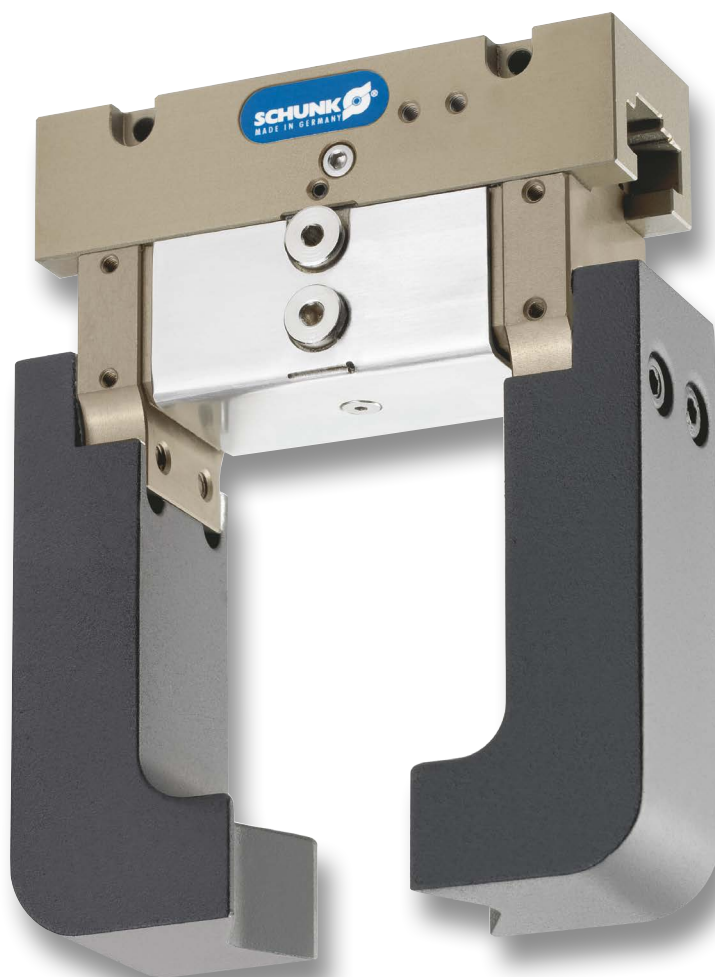
for centric clamping

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Directly driven base jaws, synchronized by rack and pinion

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

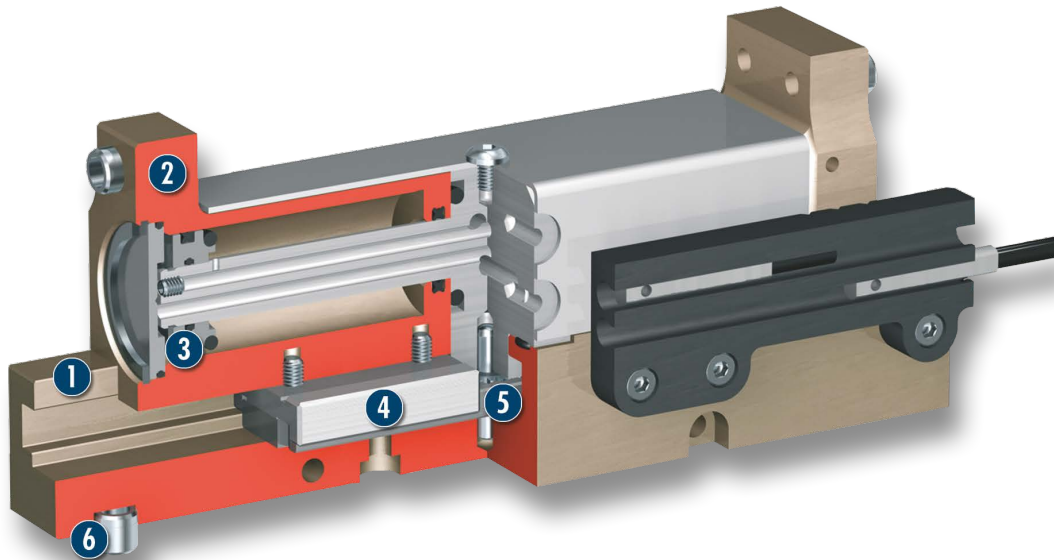
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- | | | |
|---|---|--|
| <p>1 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy</p> | <p>3 Drive
pneumatic 2-piston system</p> | <p>5 Kinematics
pinion and rack principle for centric clamping, even at large strokes</p> |
| <p>2 Base jaw
for the connection of workpiece-specific gripper fingers</p> | <p>4 Guidance
high maximum moments due to the robust T-slot guidance</p> | <p>6 Centering and mounting possibilities
for assembly of the gripper to a base area and at the long side</p> |

Functional description

The aligned base jaws are actuated with compressed air directly by the fixed piston, which opens and closes them.
The base jaws are synchronized by the internal rack and pinion arrangement.

Options and special information

Please note that the mass moment of inertia of the gripper fingers must be kept to a minimum in the case of long-stroke grippers.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Inductive proximity switches



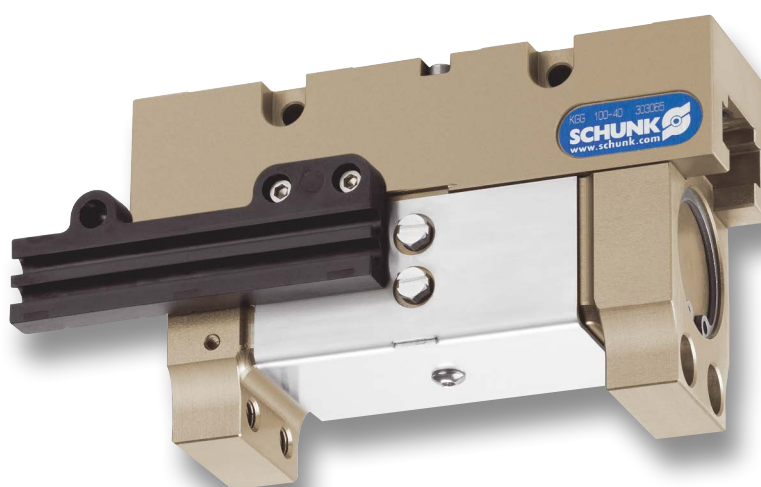
Magnetic Switches



Carbide clamping inserts



Plastic inserts



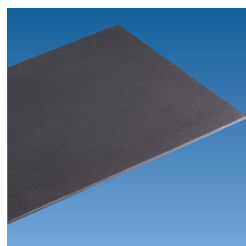
Sensor cables



Sensor Distributor



Gripper pads



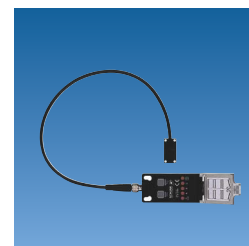
Pressure maintenance valve



Finger blanks



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

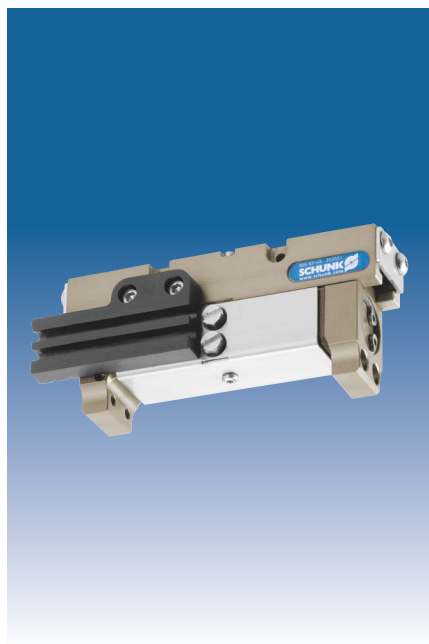
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

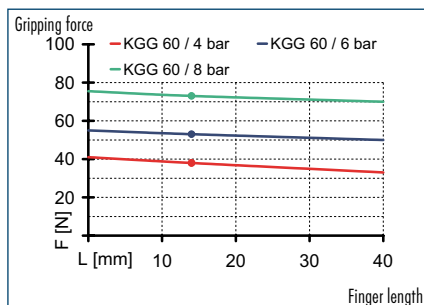
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

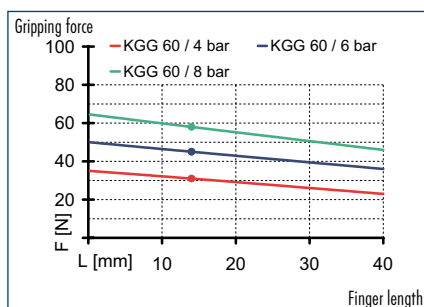
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



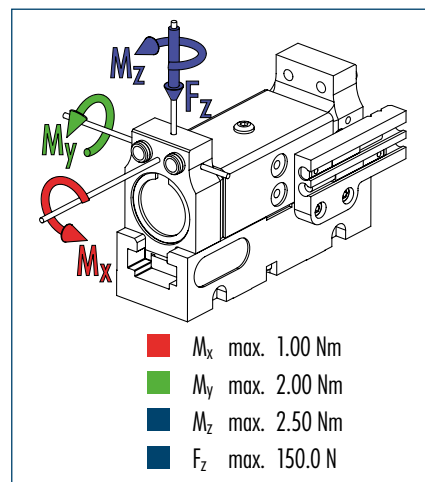
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



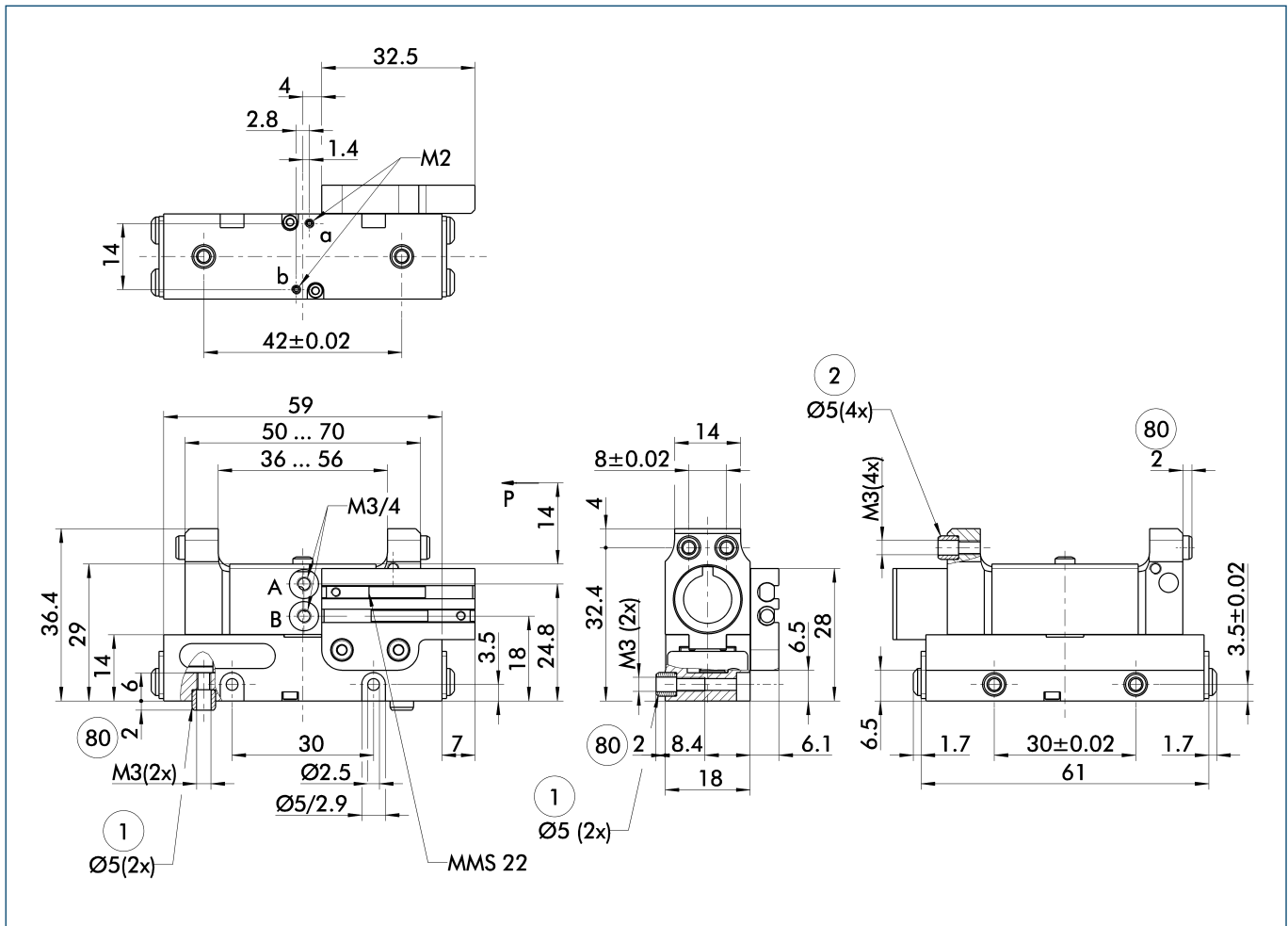
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 60-20	KGG 60-40
ID		0303050	0303051
Stroke per finger	[mm]	10	20
Closing force	[N]	45	45
Opening force	[N]	53	53
Weight	[kg]	0.09	0.11
Recommended workpiece weight	[kg]	0.23	0.23
Air consumption per double stroke	[cm ³]	3	6
Min./max. operating pressure	[bar]	2/8	2/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.03/0.03	0.04/0.04
Max. permitted finger length	[mm]	42	42
Max. permitted weight per finger	[kg]	0.04	0.04
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



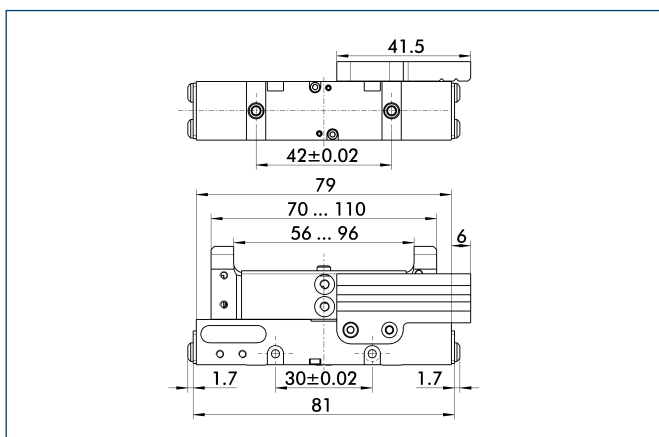
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

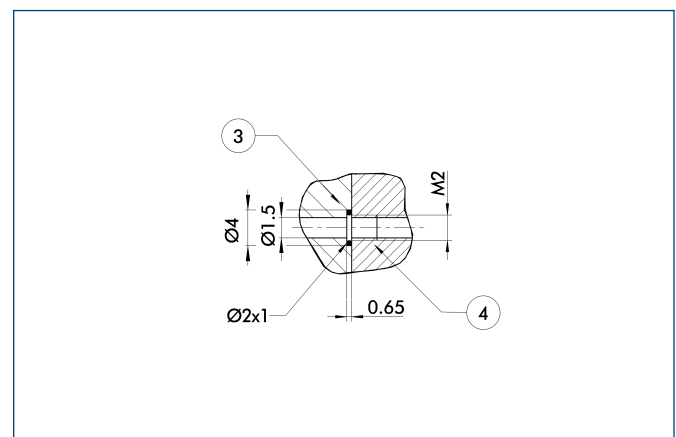
⑧ Depth of the centering sleeve hole in the matching part

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

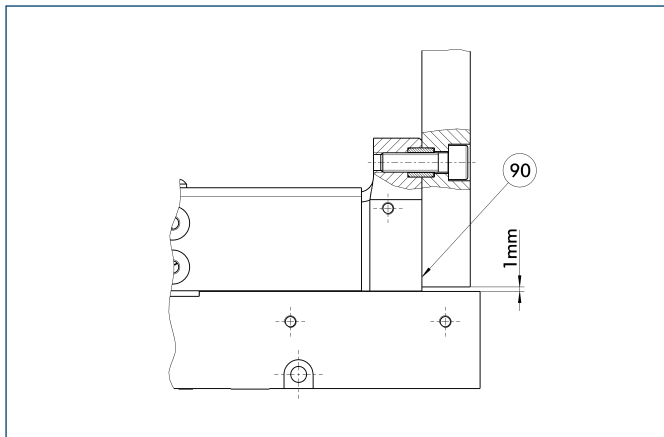
Hose-free direct connection



③ Adapter
④ Gripper

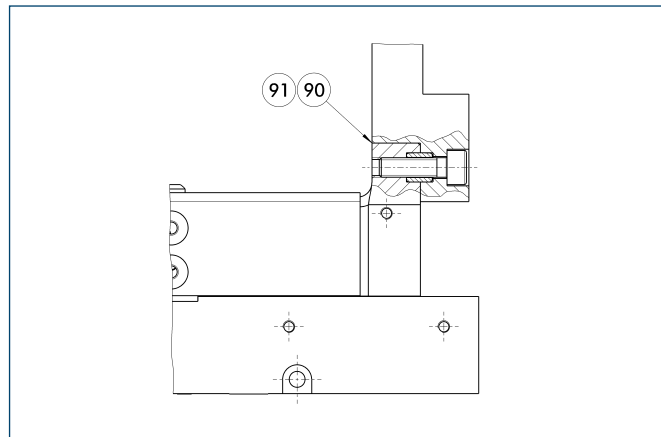
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw design O.D. gripping



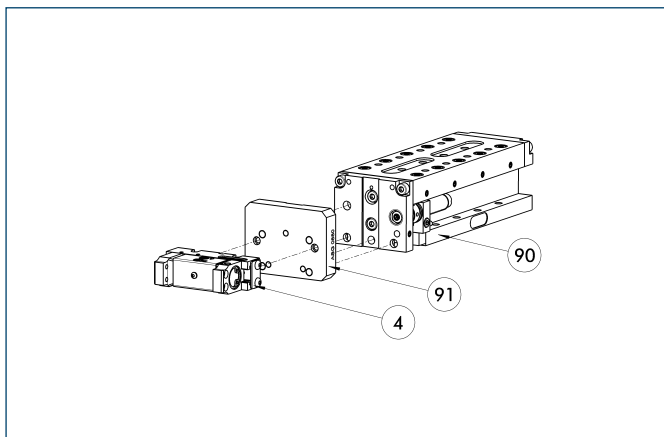
90 Support top jaws at the base jaw

Jaw design I.D. gripping



90 Support top jaws at the base jaw
91 For dimensions of steps at the top jaw see drawings of finger blanks

Modular Assembly Automation

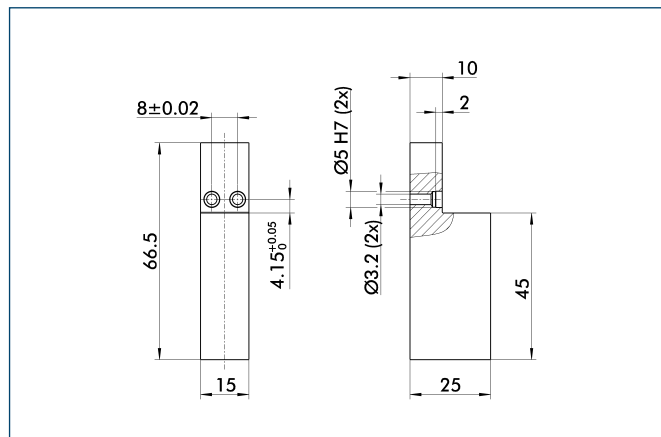


4 Gripper
90 CLM

91 ASG

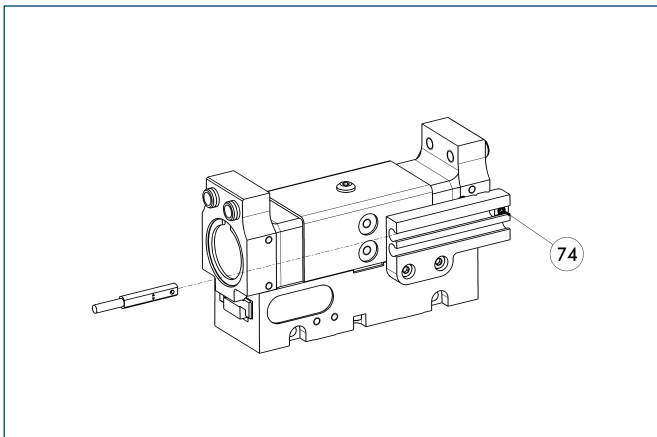
This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 60	0303087	Aluminum	2

Programmable magnetic switch



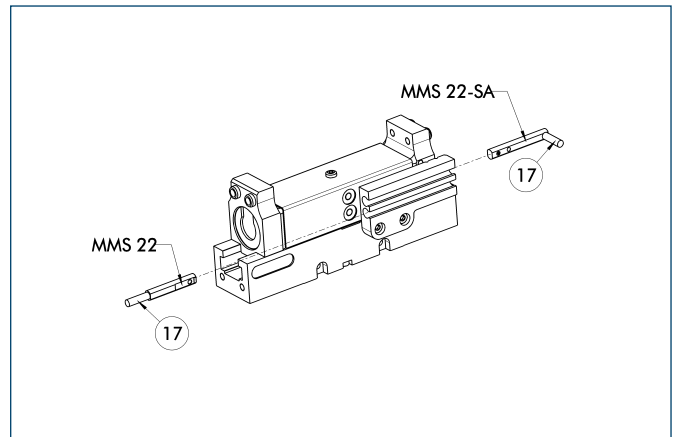
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.
- ① Within the KGG series, the MMS-P could just cover the whole piston area of KGG 60-20/70-24/80-30

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

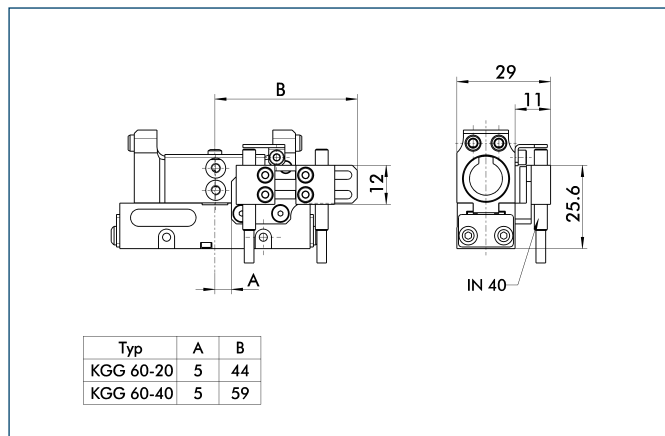
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Mounting kit for proximity switch

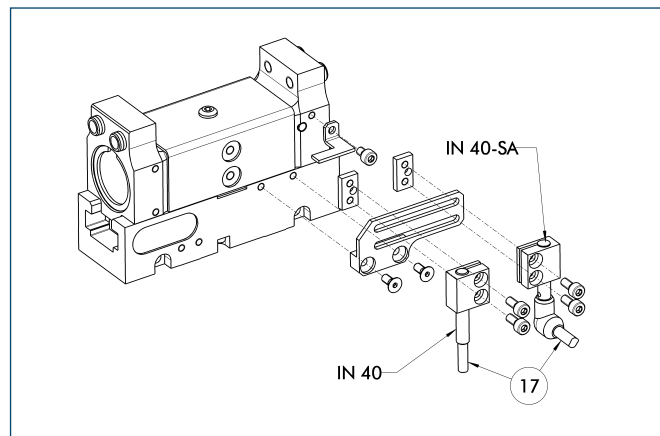


The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-KGG 60-40 / 70-48	0303080
AS-KGG 60-20 / 70-24	0303081

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

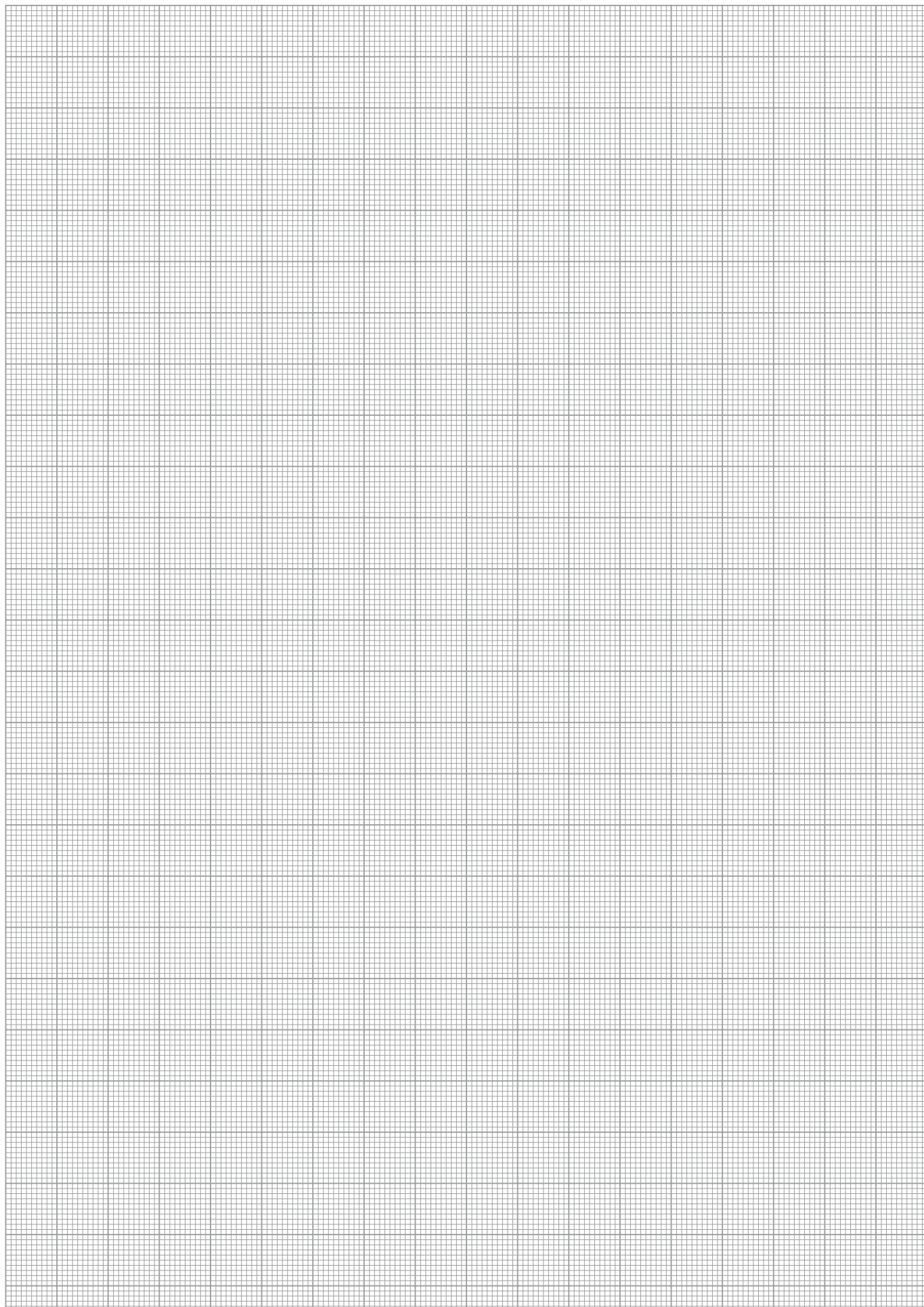
End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-KGG 60-40 / 70-48	0303080	
AS-KGG 60-20 / 70-24	0303081	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

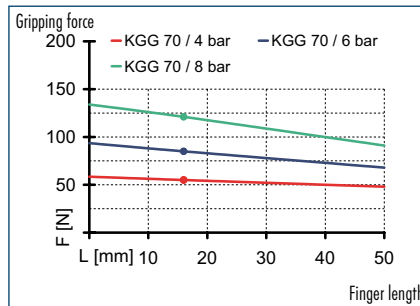
① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

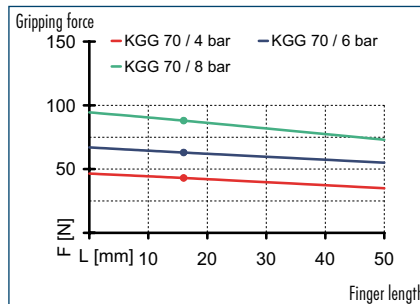




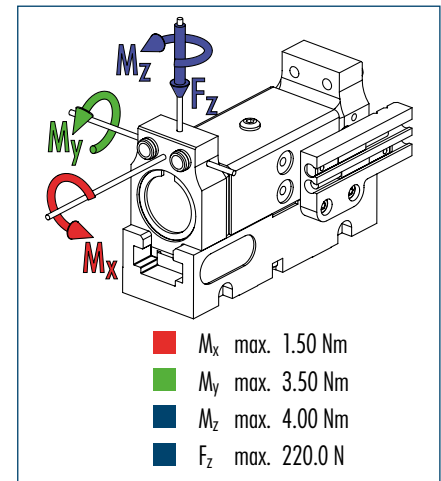
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



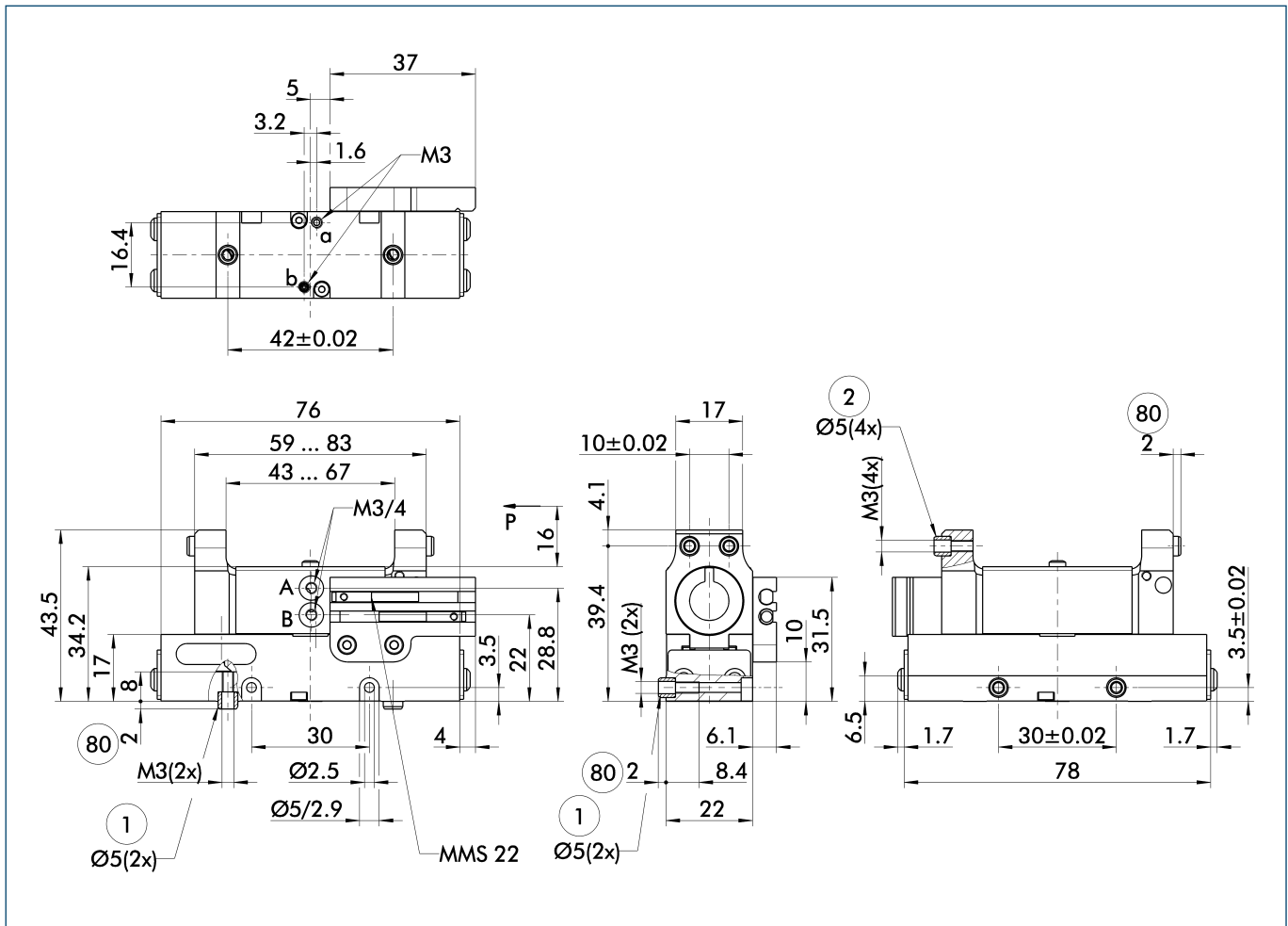
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 70-24	KGG 70-48
ID		0303055	0303056
Stroke per finger	[mm]	12	24
Closing force	[N]	62	62
Opening force	[N]	85	85
Weight	[kg]	0.15	0.19
Recommended workpiece weight	[kg]	0.32	0.32
Air consumption per double stroke	[cm ³]	5	10
Min./max. operating pressure	[bar]	2/8	2/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.04/0.04	0.05/0.05
Max. permitted finger length	[mm]	50	50
Max. permitted weight per finger	[kg]	0.06	0.06
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



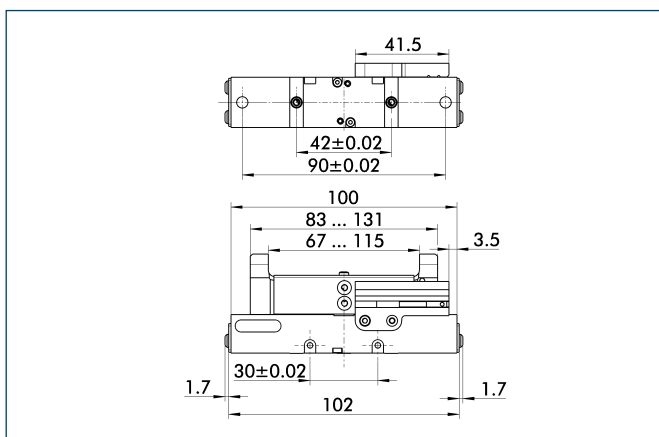
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

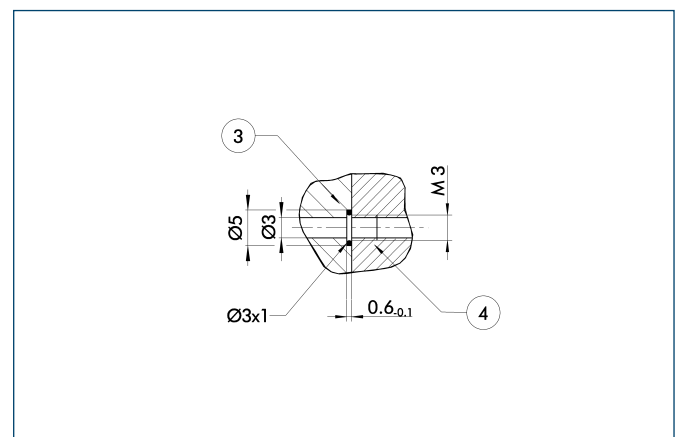
Ø80 Depth of the centering sleeve hole in the matching part

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

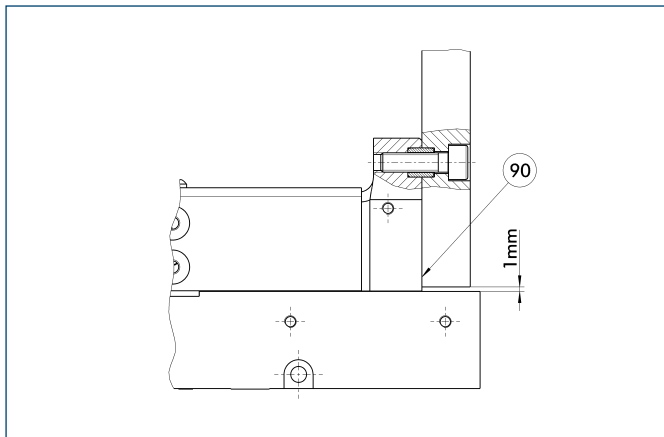
Hose-free direct connection



③ Adapter
④ Gripper

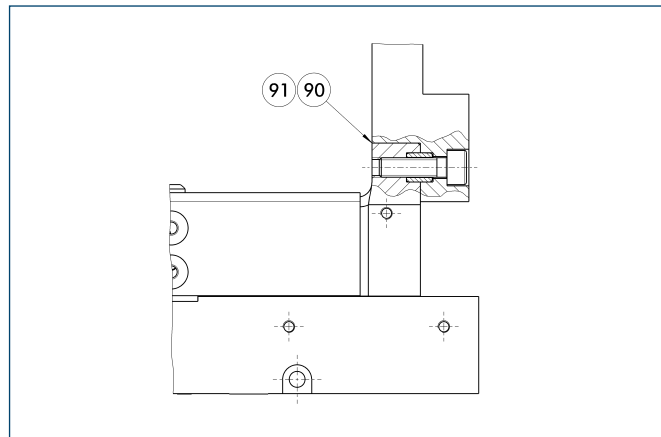
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw design O.D. gripping



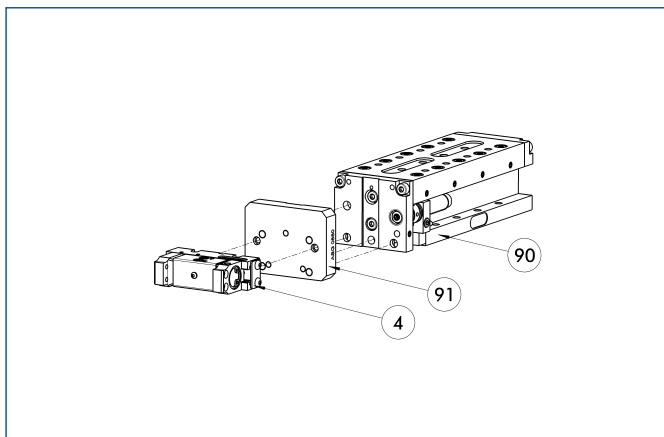
90 Support top jaws at the base jaw

Jaw design I.D. gripping



90 Support top jaws at the base jaw
91 For dimensions of steps at the top jaw see drawings of finger blanks

Modular Assembly Automation

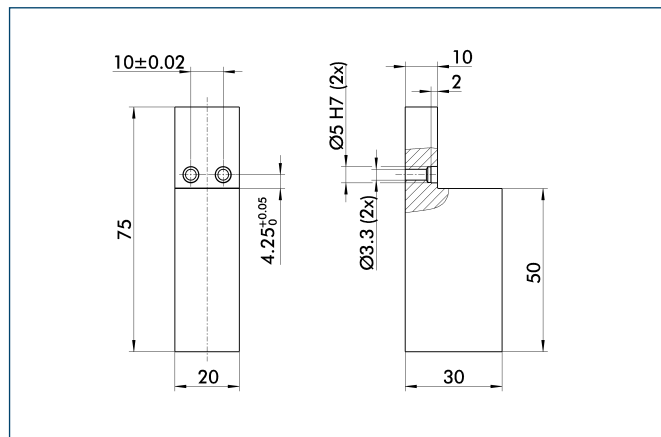


4 Gripper
90 CLM

91 ASG

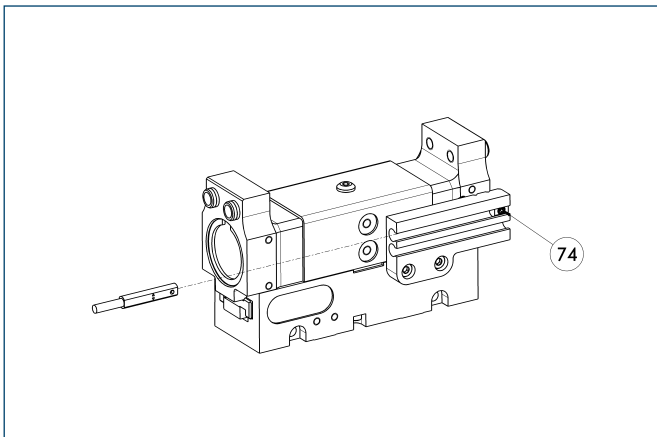
This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 70	0303088	Aluminum	2

Programmable magnetic switch



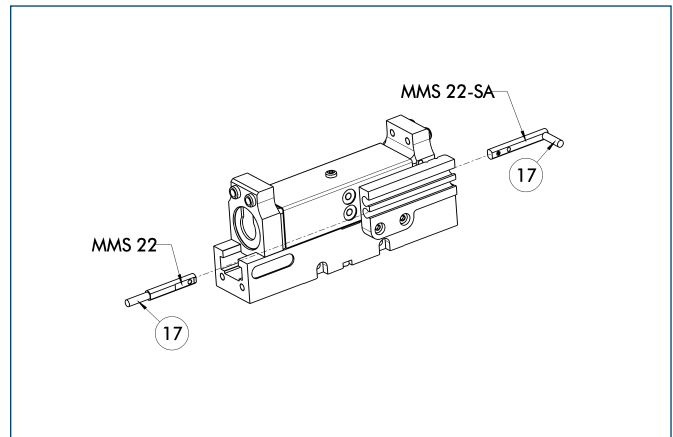
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.
- ① Within the KGG series, the MMS-P could just cover the whole piston area of KGG 60-20/70-24/80-30

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

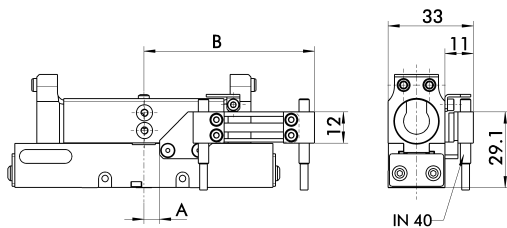
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Mounting kit for proximity switch



Typ	A	B
KGG 70-24	6	45
KGG 70-48	6	66

Description ID

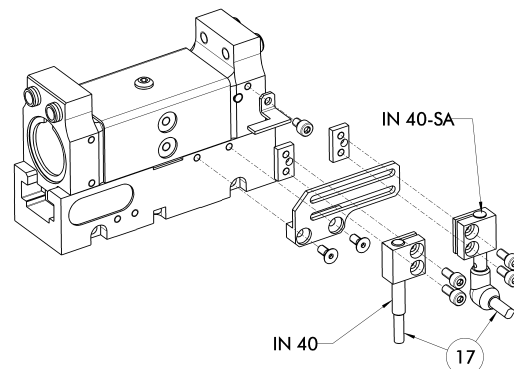
Mounting kit for proximity switch

AS-KGG 60-40 / 70-48 0303080

AS-KGG 60-20 / 70-24 0303081

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

End position monitoring mounted with mounting kit

Description ID Recommended product

Mounting kit for proximity switch

AS-KGG 60-40 / 70-48 0303080

AS-KGG 60-20 / 70-24 0303081

Inductive proximity switches

IN 40-S-M8 0301474 •

IN 40-S-M12 0301574

INK 40-S 0301555

Inductive proximity switch with lateral outlet

IN 40-S-M12-SA 0301577

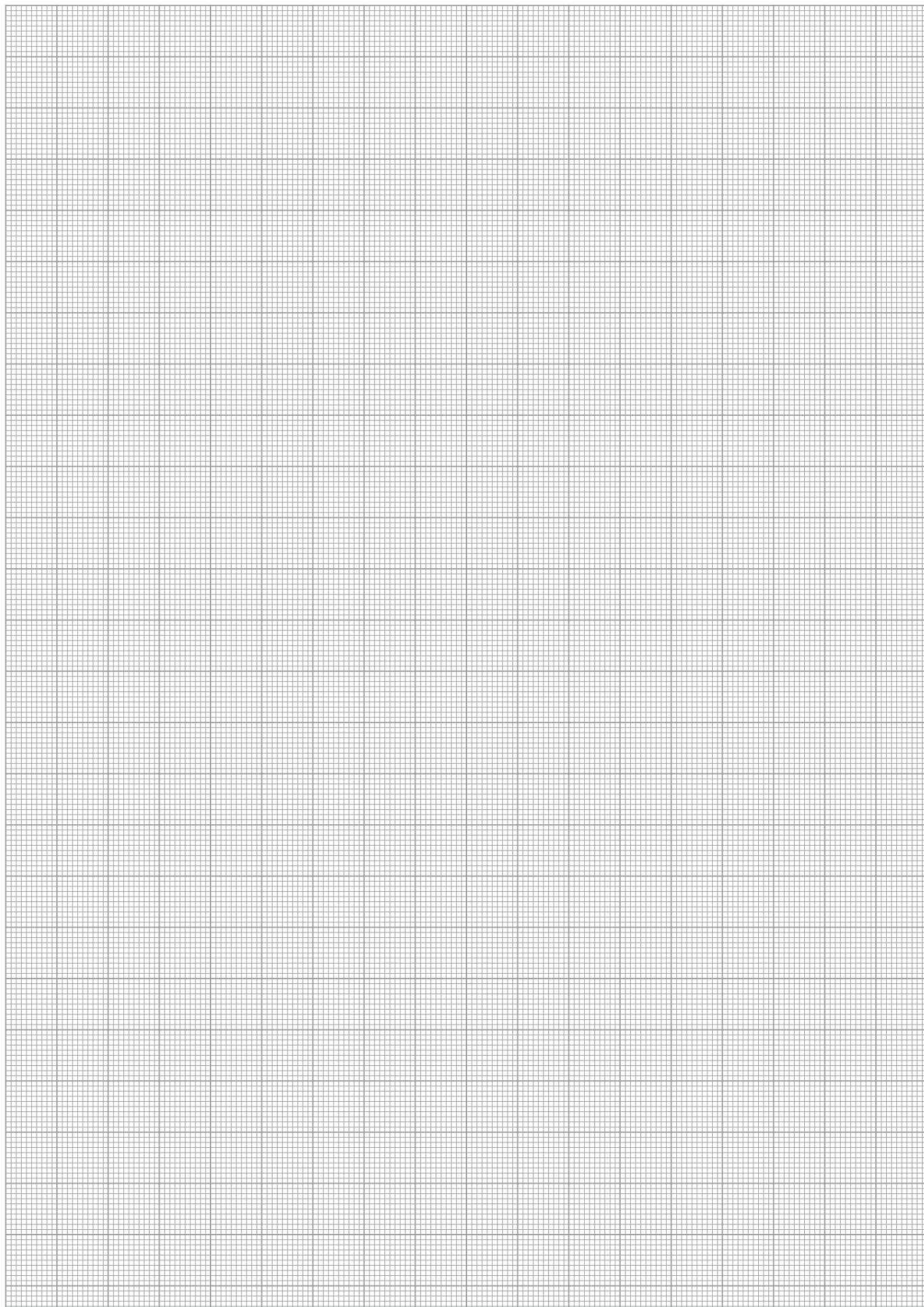
IN 40-S-M8-SA 0301473 •

INK 40-S-SA 0301565

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

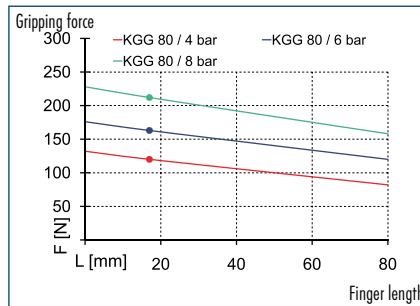
① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

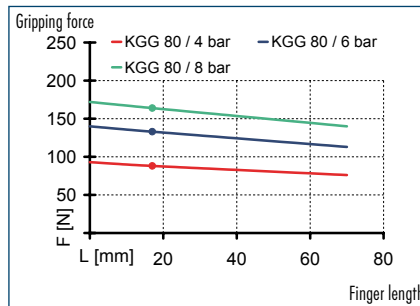




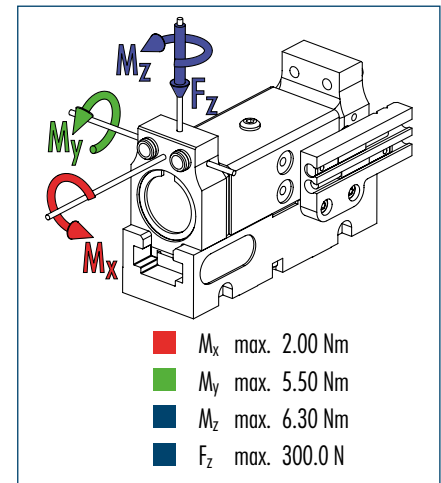
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



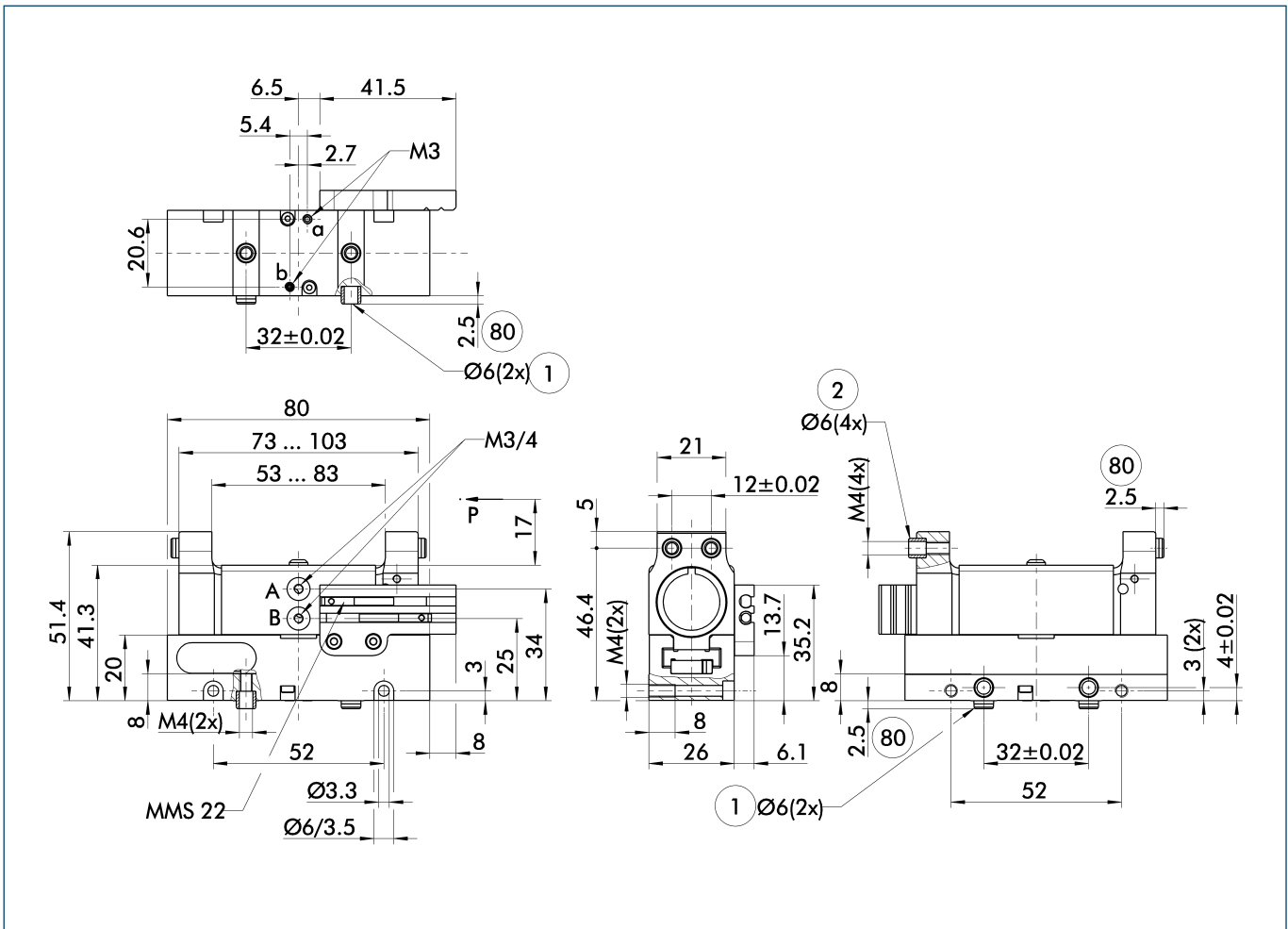
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 80-30	KGG 80-60
ID		0303060	0303061
Stroke per finger	[mm]	15	30
Closing force	[N]	130	130
Opening force	[N]	165	165
Weight	[kg]	0.25	0.33
Recommended workpiece weight	[kg]	0.66	0.66
Air consumption per double stroke	[cm ³]	12	24
Min./max. operating pressure	[bar]	2/8	2/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.05/0.05	0.08/0.07
Max. permitted finger length	[mm]	80	80
Max. permitted weight per finger	[kg]	0.15	0.15
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



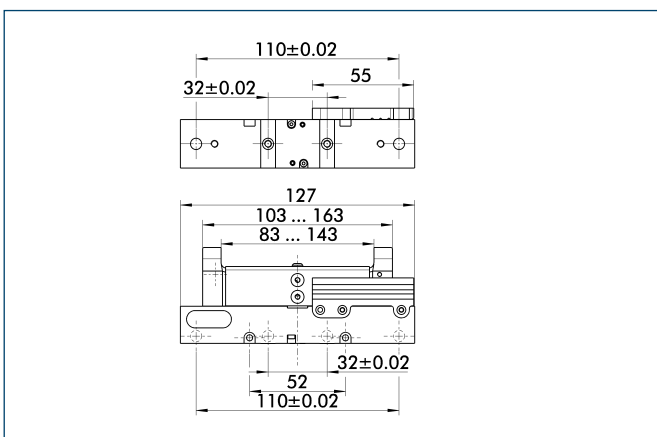
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

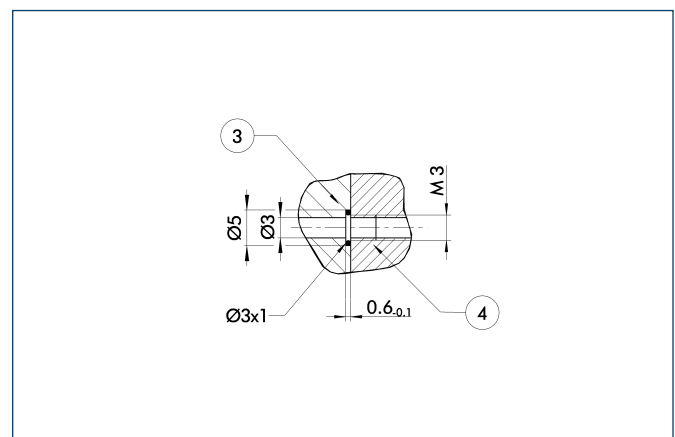
80 Depth of the centering sleeve hole in the matching part

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

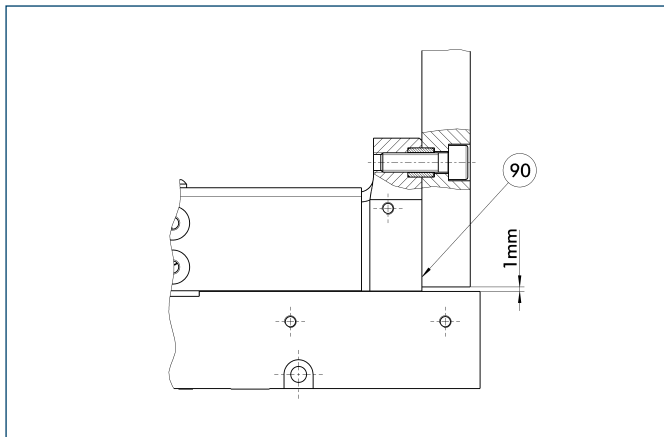
Hose-free direct connection



③ Adapter
④ Gripper

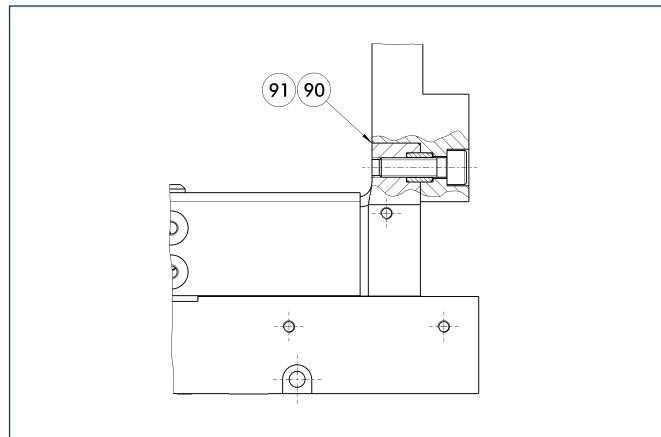
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw design O.D. gripping



90 Support top jaws at the base jaw

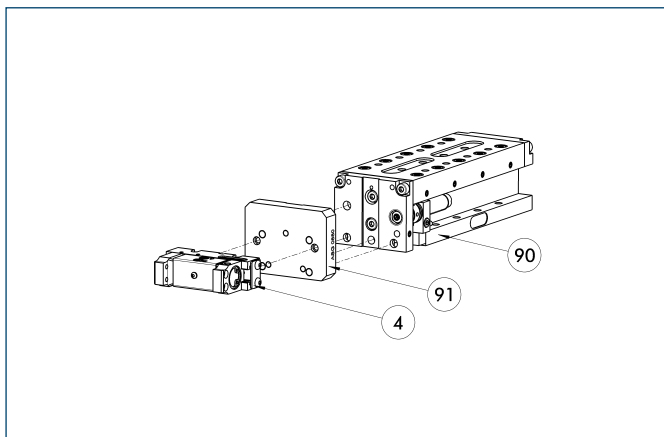
Jaw design I.D. gripping



90 Support top jaws at the base jaw

91 For dimensions of steps at the top jaw see drawings of finger blanks

Modular Assembly Automation



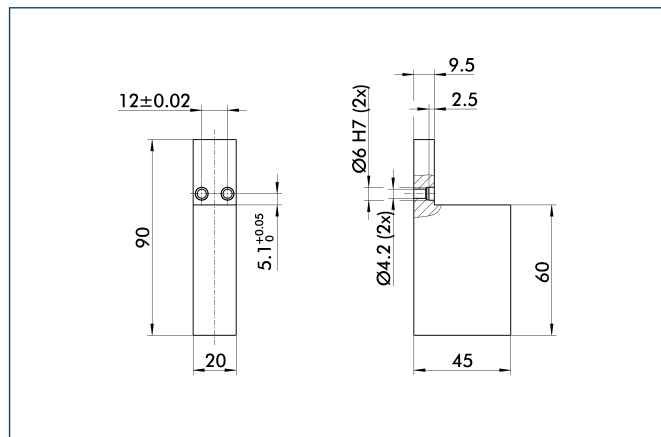
4 Gripper

90 CLM

91 ASG

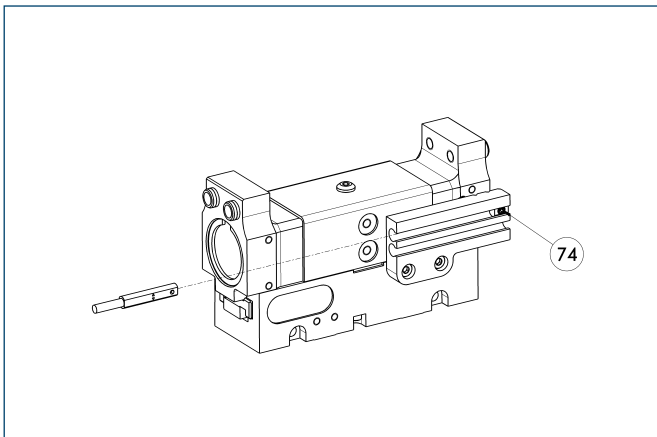
This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 80	0303089	Aluminum	2

Programmable magnetic switch



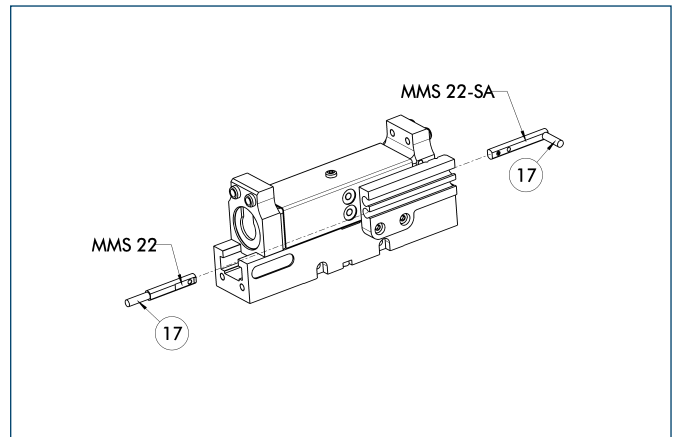
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.
- ① Within the KGG series, the MMS-P could just cover the whole piston area of KGG 60-20/70-24/80-30

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

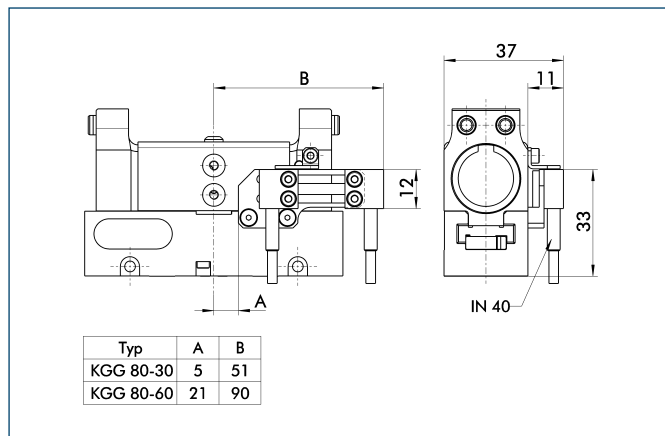
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Mounting kit for proximity switch



Description ID

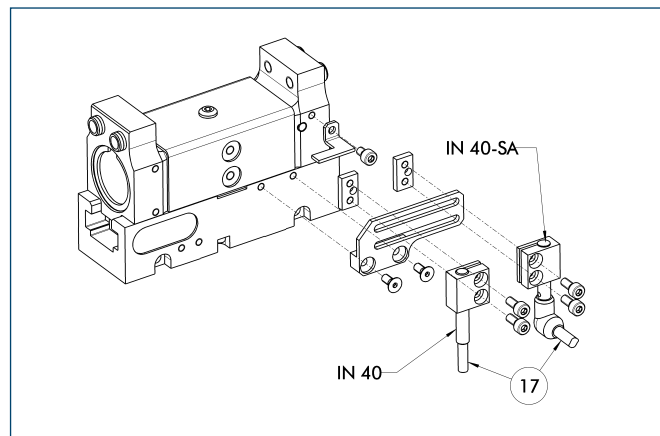
Mounting kit for proximity switch

AS-KGG 80-30 0303083

AS-KGG 80-60 / 100-80 / 140-60 0303084

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



⑰ Cable outlet

End position monitoring mounted with mounting kit

Description ID Recommended product

Mounting kit for proximity switch

AS-KGG 80-30 0303083

AS-KGG 80-60 / 100-80 / 140-60 0303084

Inductive proximity switches

IN 40-S-M8 0301474 •

IN 40-S-M12 0301574

INK 40-S 0301555

Inductive proximity switch with lateral outlet

IN 40-S-M12-SA 0301577

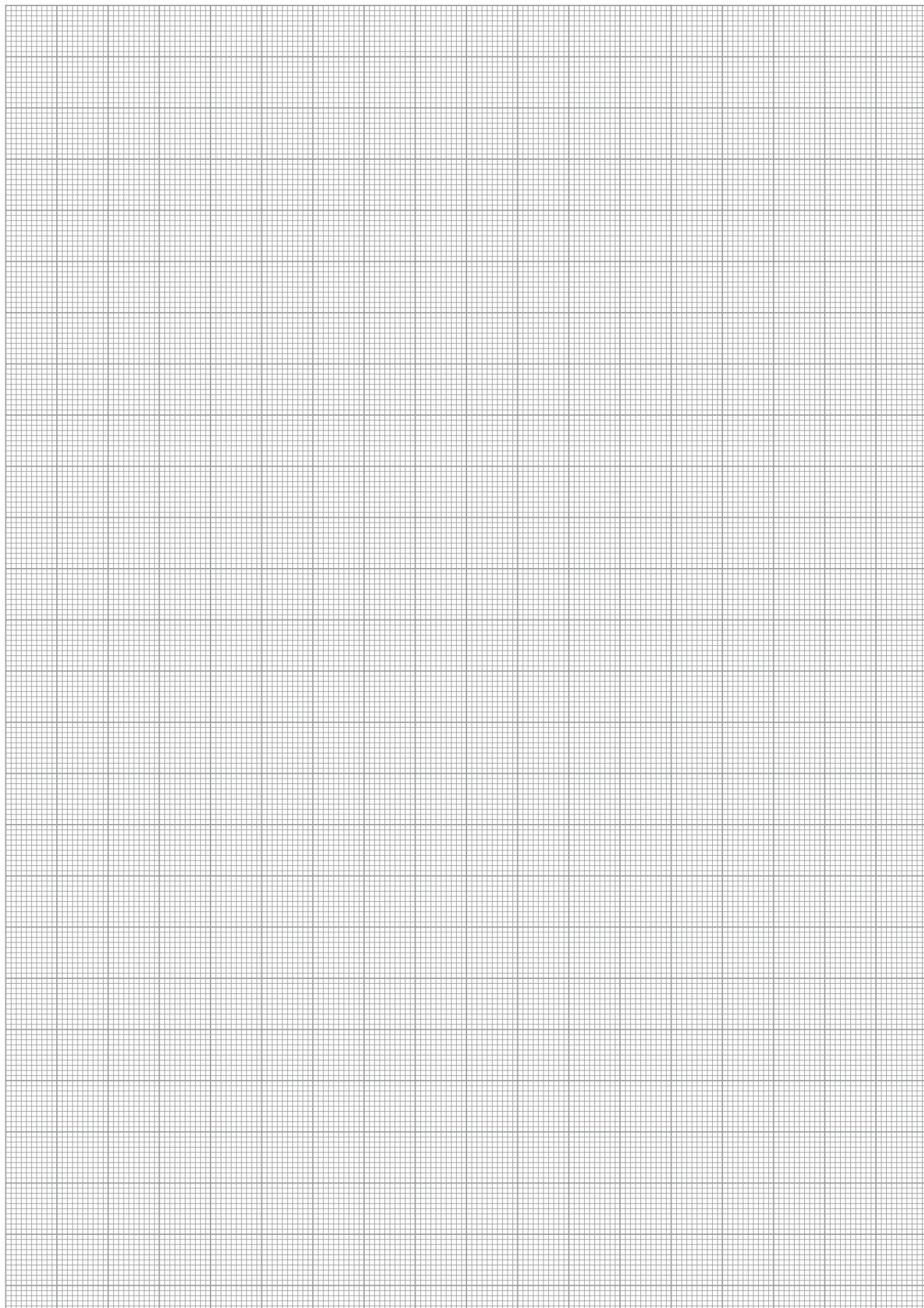
IN 40-S-M8-SA 0301473 •

INK 40-S-SA 0301565

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

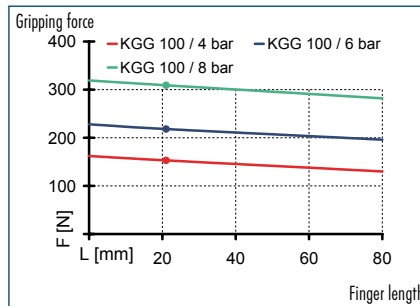
① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

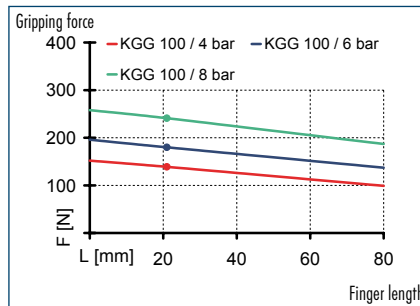




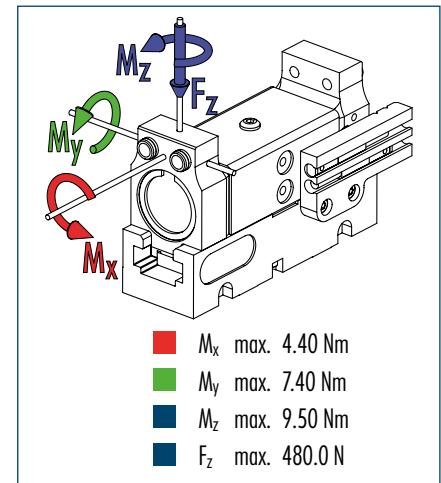
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



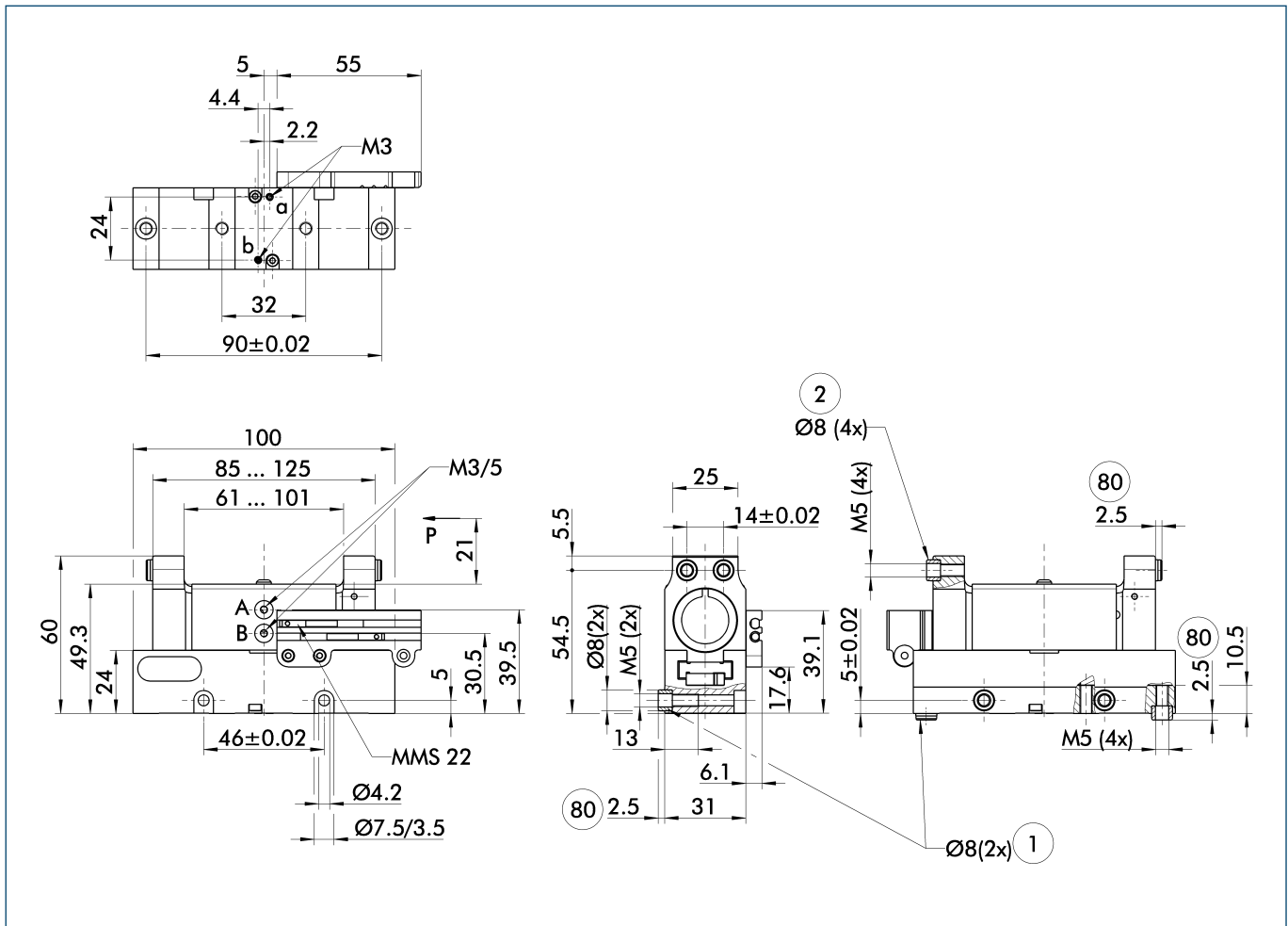
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 100-40	KGG 100-80
ID		0303065	0303066
Stroke per finger	[mm]	20	40
Closing force	[N]	175	175
Opening force	[N]	220	220
Weight	[kg]	0.37	0.5
Recommended workpiece weight	[kg]	0.9	0.9
Air consumption per double stroke	[cm³]	22.5	45
Min./max. operating pressure	[bar]	2/8	2/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.09/0.07	0.19/0.15
Max. permitted finger length	[mm]	80	80
Max. permitted weight per finger	[kg]	0.3	0.3
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view

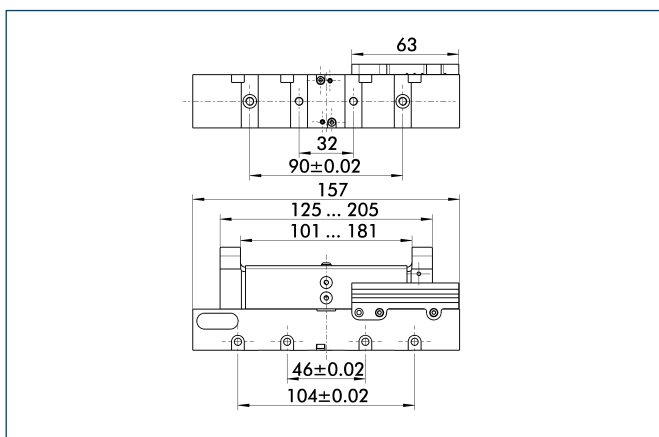


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

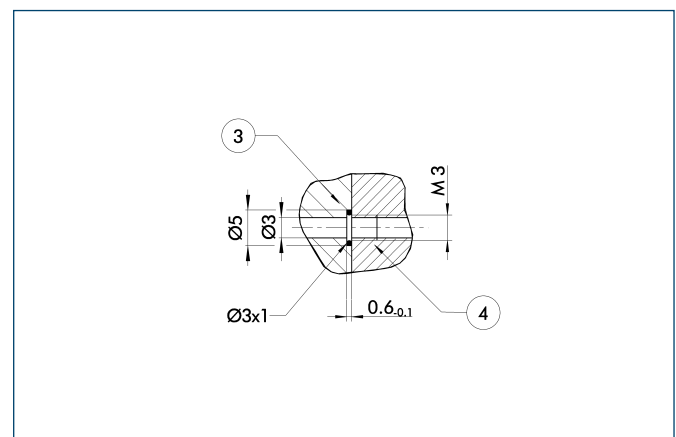
- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

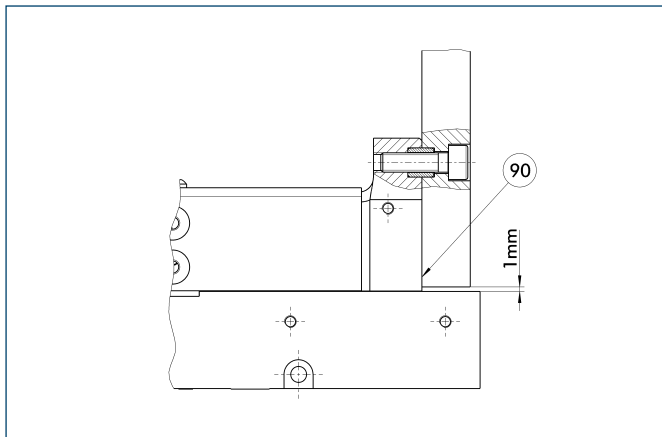
Hose-free direct connection



- ③ Adapter
- ④ Gripper

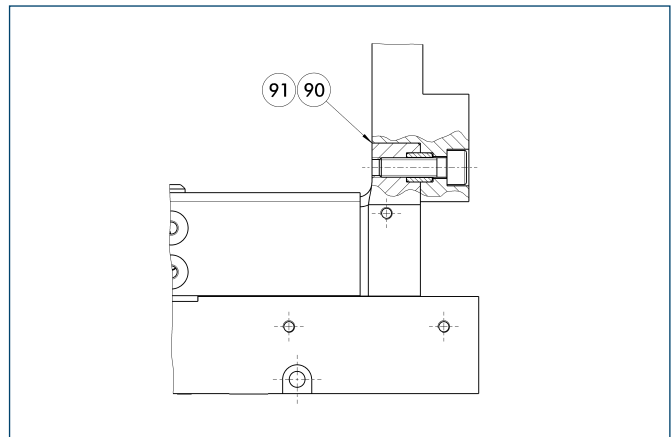
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw design O.D. gripping



90 Support top jaws at the base jaw

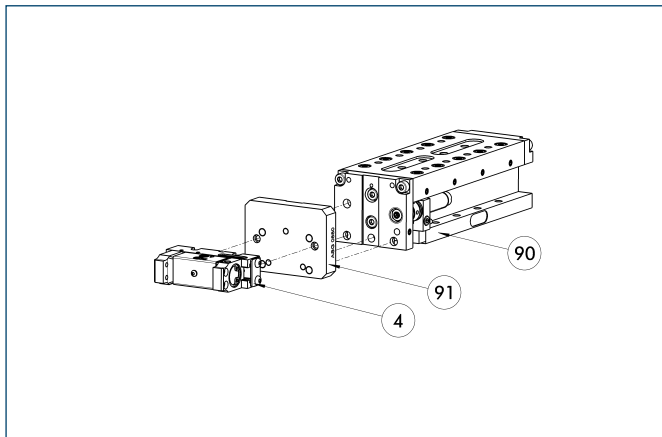
Jaw design I.D. gripping



90 Support top jaws at the base jaw

91 For dimensions of steps at the top jaw see drawings of finger blanks

Modular Assembly Automation



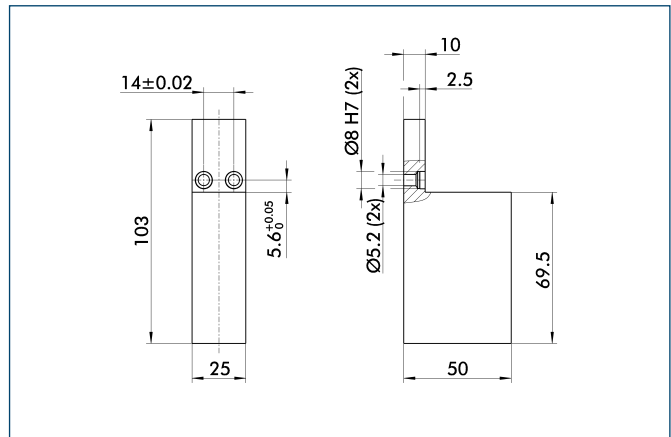
4 Gripper

90 CLM

91 ASG

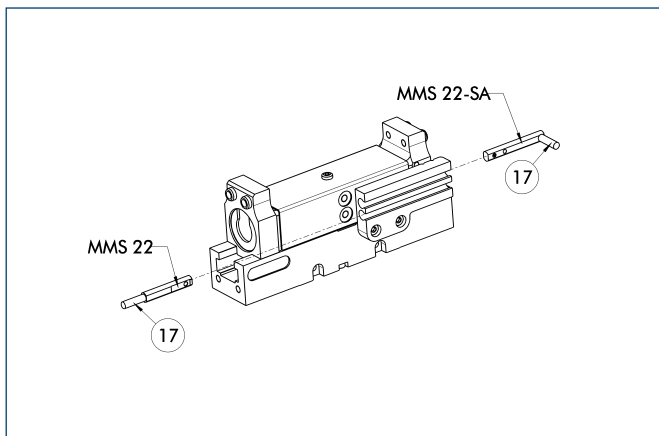
This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 100	0303090	Aluminum	2

Electronic magnetic switches



⑰ Cable outlet

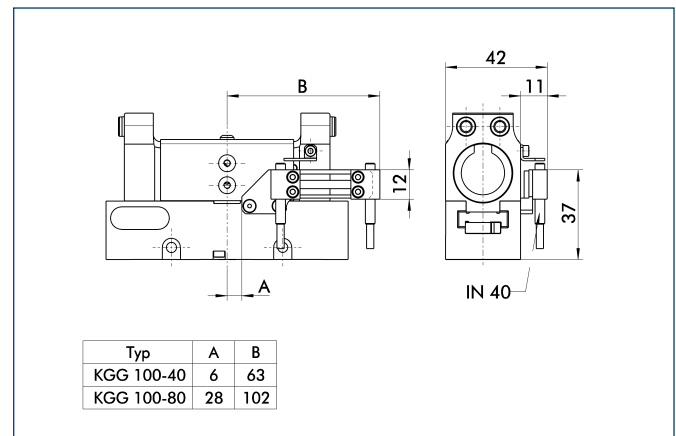
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

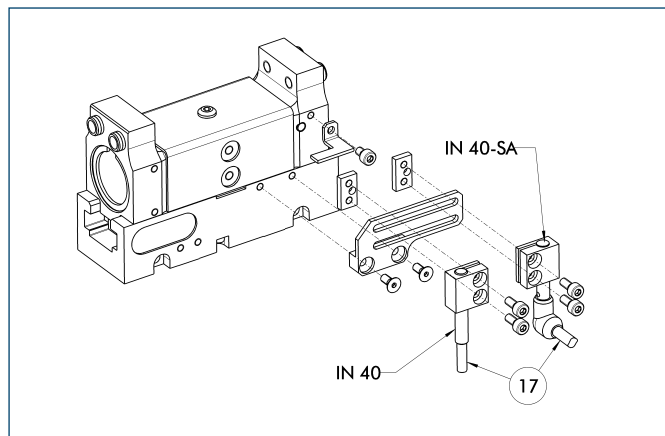


Description	ID
Mounting kit for proximity switch	
AS-KGG 100-40	0303082
AS-KGG 80-60 / 100-80 / 140-60	0303084

① This mounting kit needs to be ordered optionally as an accessory.



Inductive proximity switches



17 Cable outlet

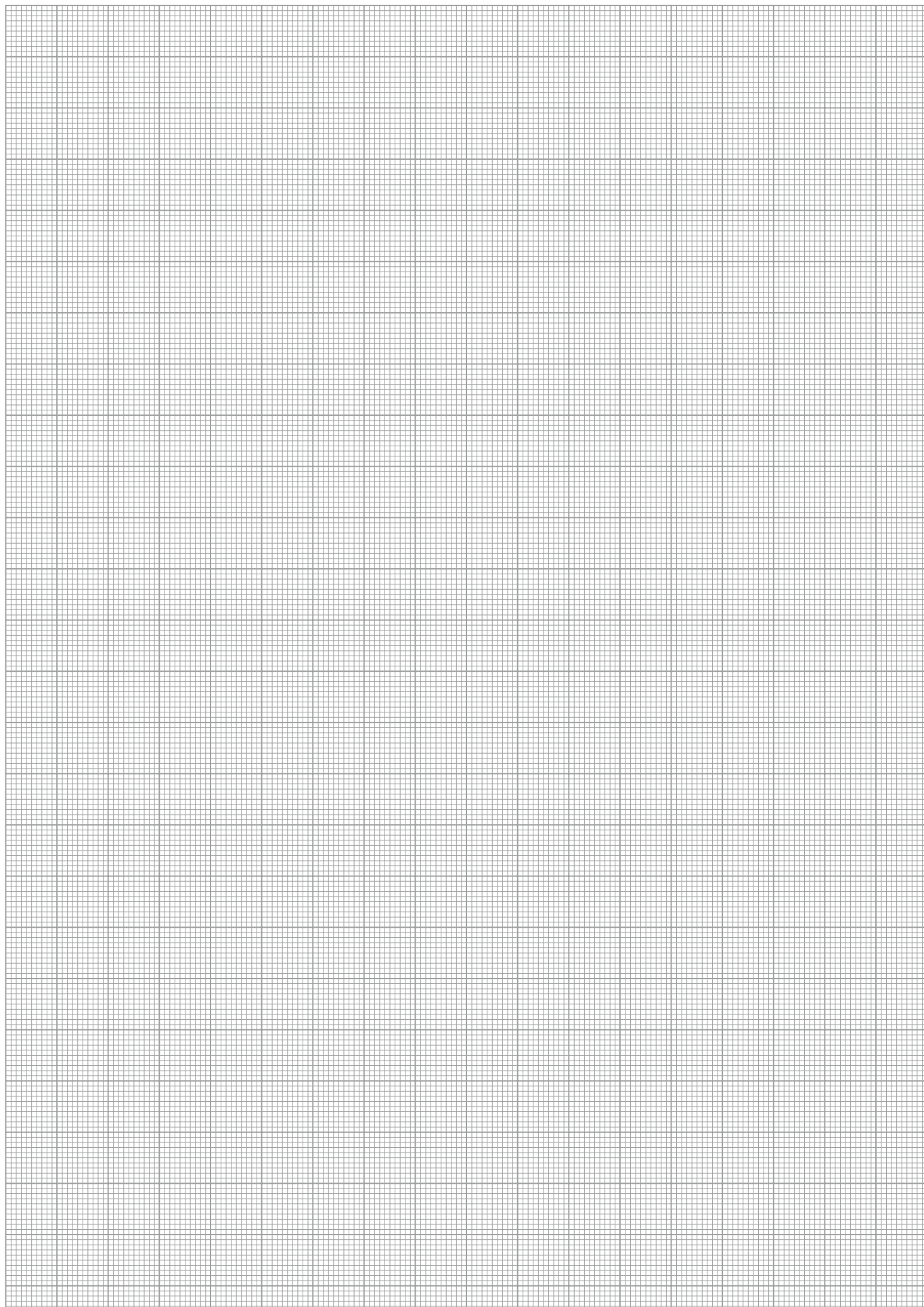
End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-KGG 100-40	0303082	
AS-KGG 80-60 / 100-80 / 140-60	0303084	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

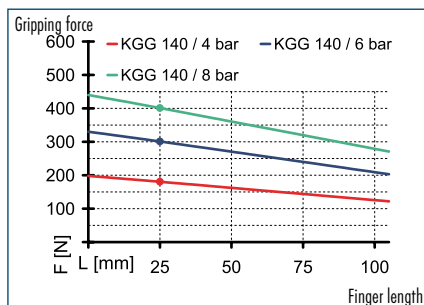
① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

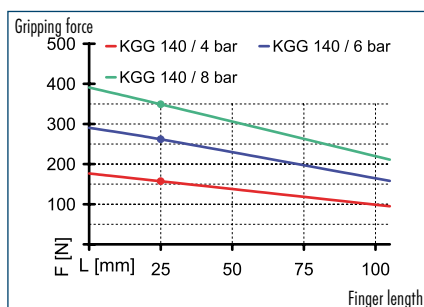




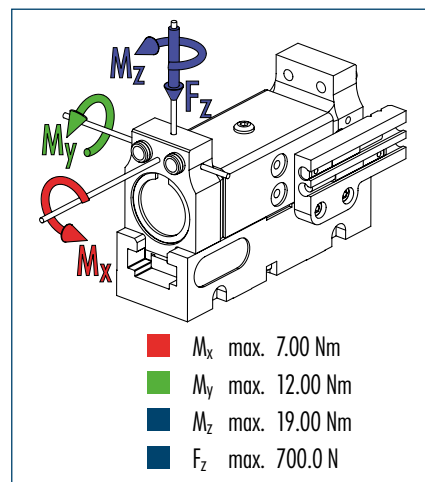
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



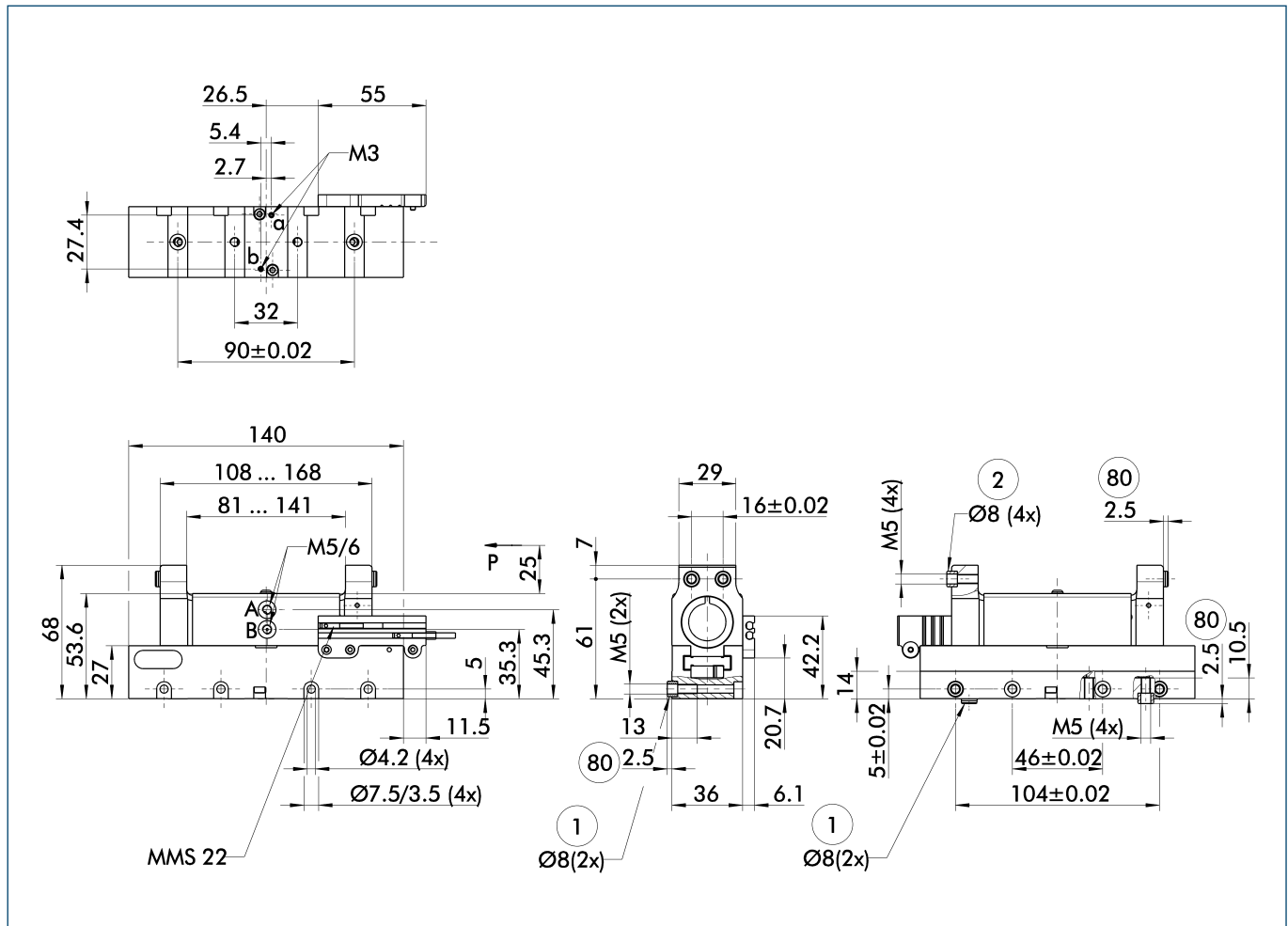
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 140-60
ID		0303070
Stroke per finger	[mm]	30
Closing force	[N]	260
Opening force	[N]	300
Weight	[kg]	0.77
Recommended workpiece weight	[kg]	1.3
Air consumption per double stroke	[cm ³]	42
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.17/0.17
Max. permitted finger length	[mm]	100
Max. permitted weight per finger	[kg]	0.5
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



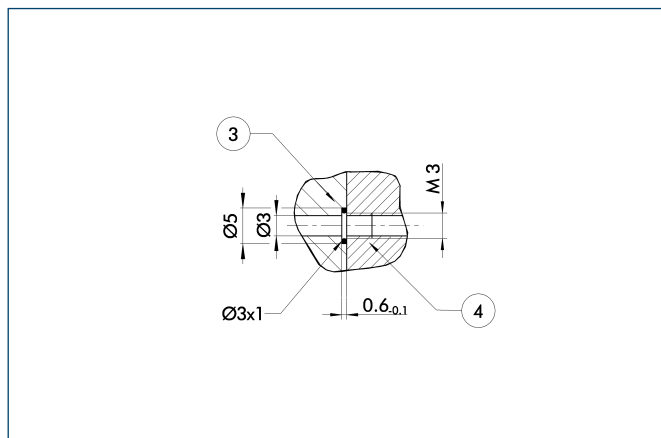
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

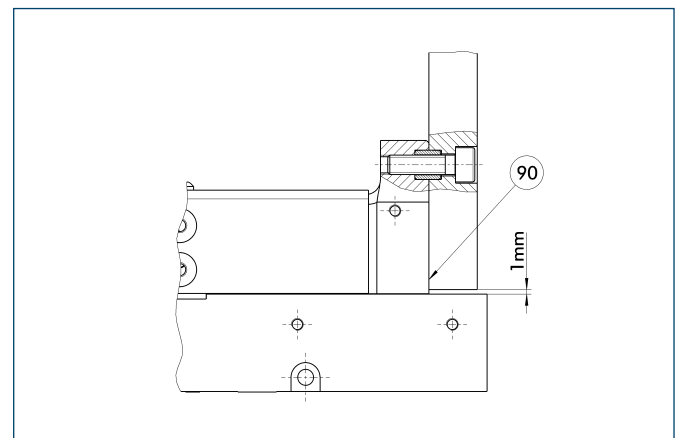
90 Depth of the centering sleeve hole in the matching part

Hose-free direct connection



③ Adapter
④ Gripper

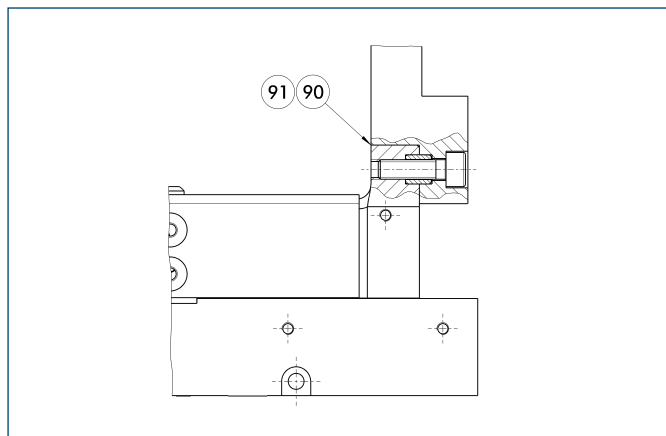
Jaw design O.D. gripping



90 Support top jaws at the base jaw

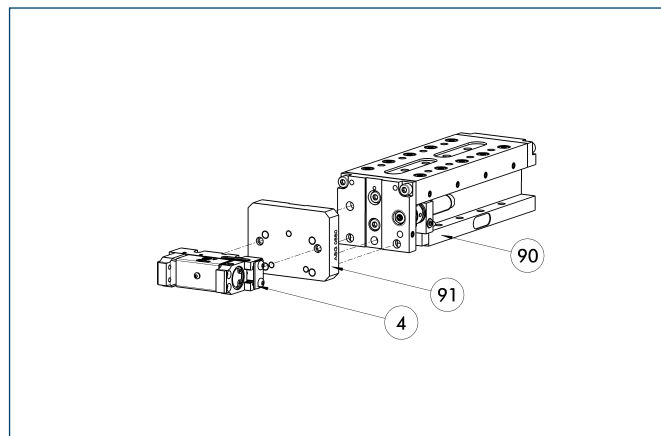
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw design I.D. gripping



- 90 Support top jaws at the base jaw
- 91 For dimensions of steps at the top jaw see drawings of finger blanks

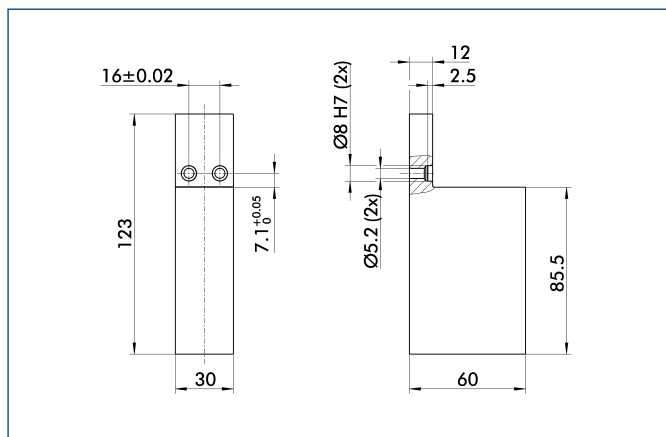
Modular Assembly Automation



- 4 Gripper
- 90 CLM
- 91 ASG

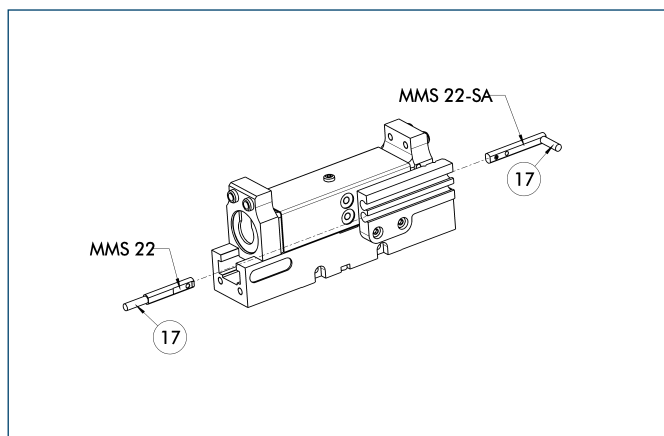
This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 140	0303091	Aluminum	2

Electronic magnetic switches



⑰ Cable outlet

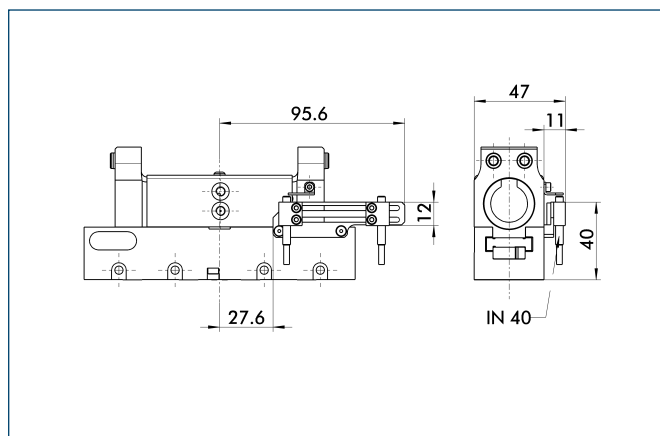
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

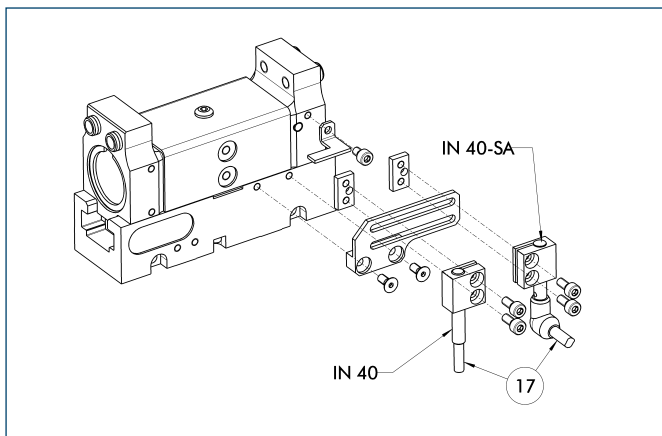


Description	ID
Mounting kit for proximity switch	
AS-KGG 80-60 / 100-80 / 140-60	0303084

① This mounting kit needs to be ordered optionally as an accessory.



Inductive proximity switches

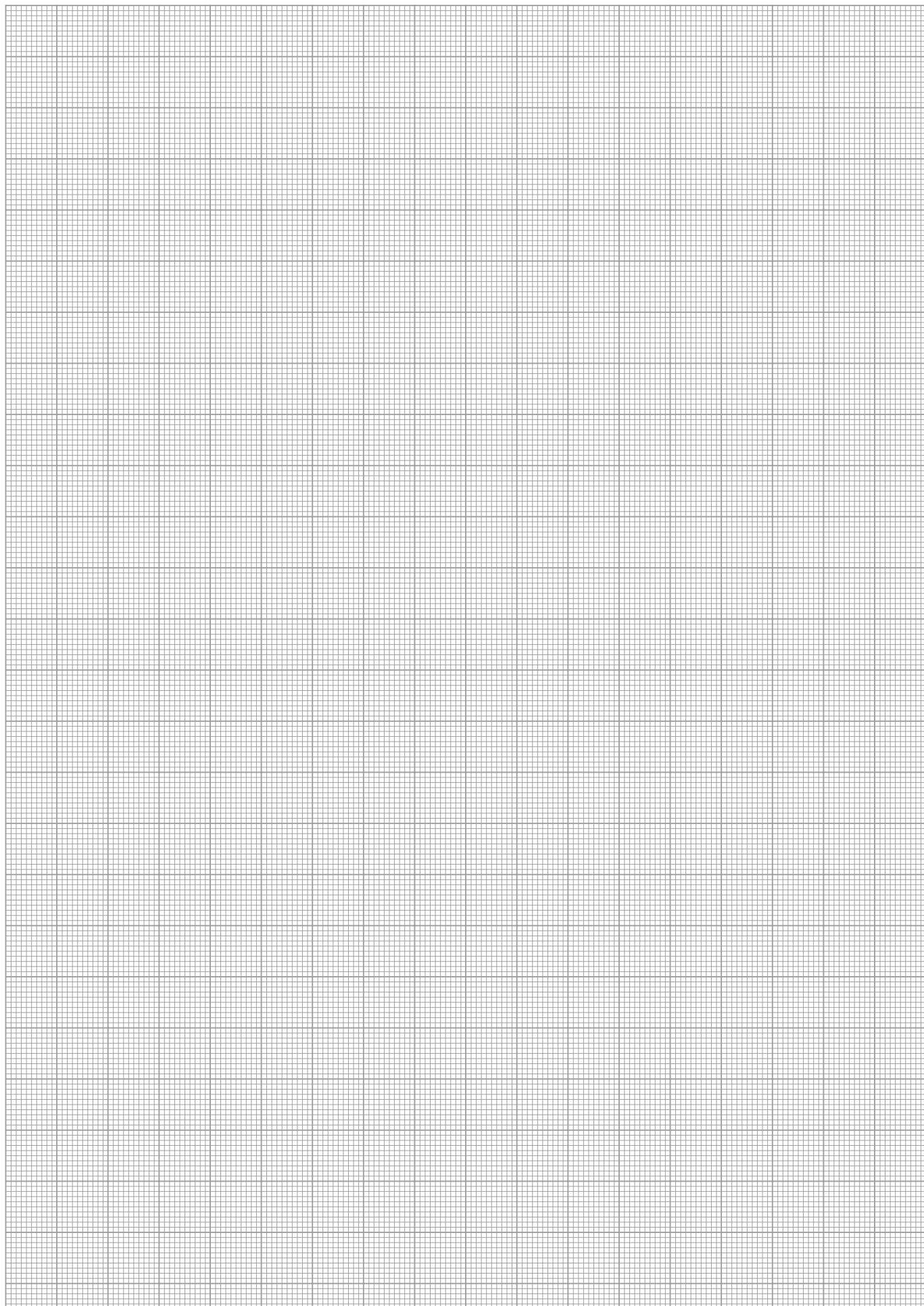


17 Cable outlet

End position monitoring mounted with mounting kit

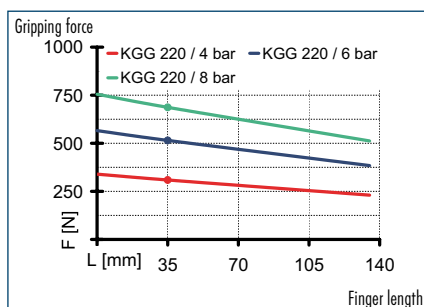
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-KGG 80-60 / 100-80 / 140-60	0303084	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

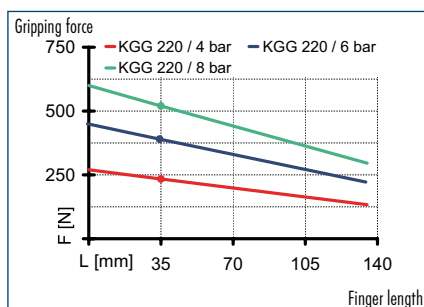




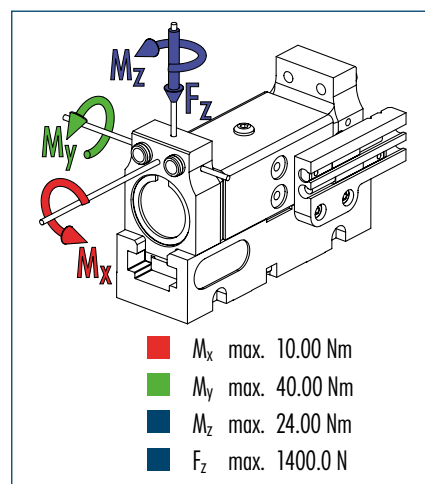
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



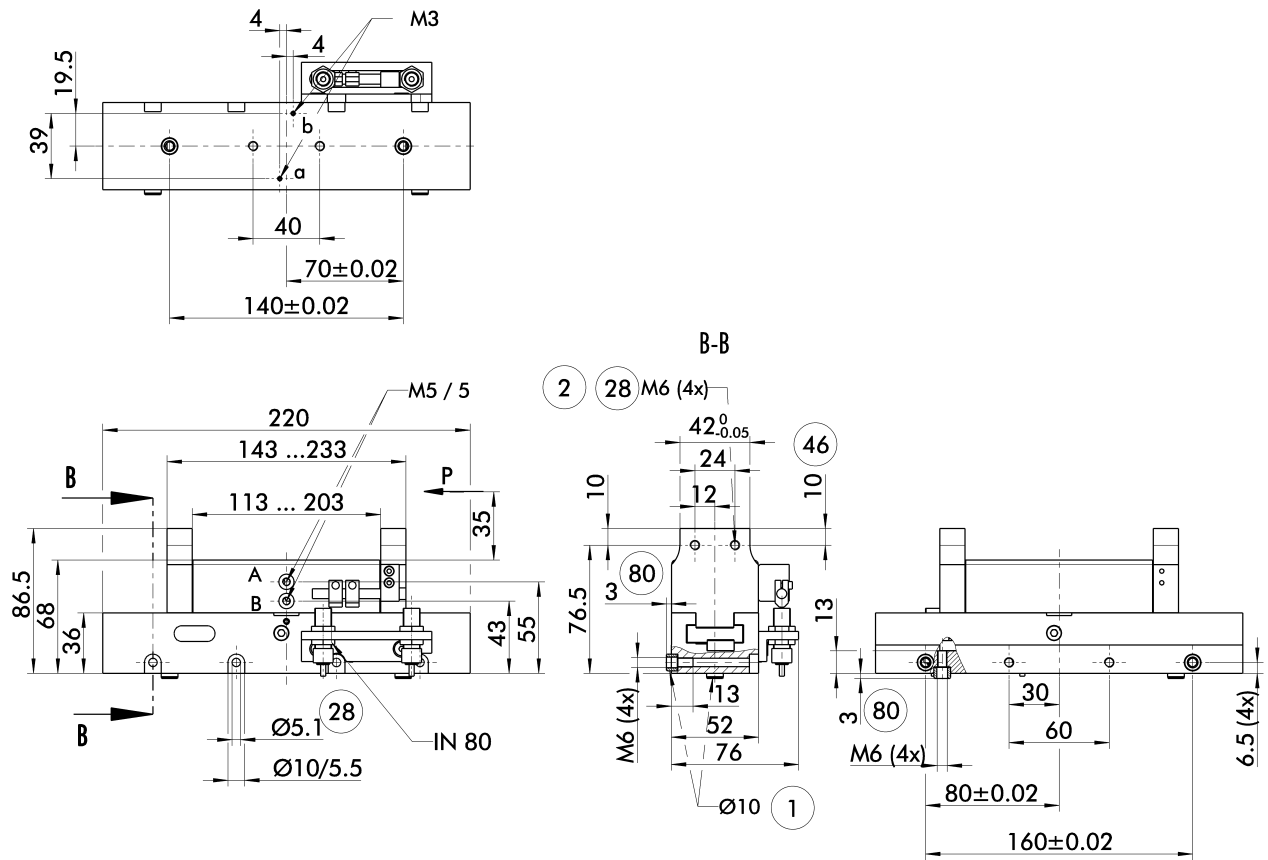
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 220
ID		0340312
Stroke per finger	[mm]	45
Closing force	[N]	390
Opening force	[N]	515
Weight	[kg]	2
Recommended workpiece weight	[kg]	1.95
Air consumption per double stroke	[cm ³]	98
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.25/0.25
Max. permitted finger length	[mm]	130
Max. permitted weight per finger	[kg]	1
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.05

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



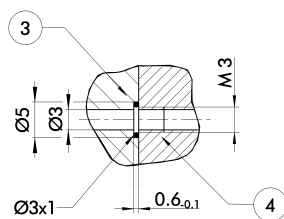
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
②8 Through-bore

- ④⑥ Fitting length
⑧⑩ Depth of the centering sleeve hole in the matching part

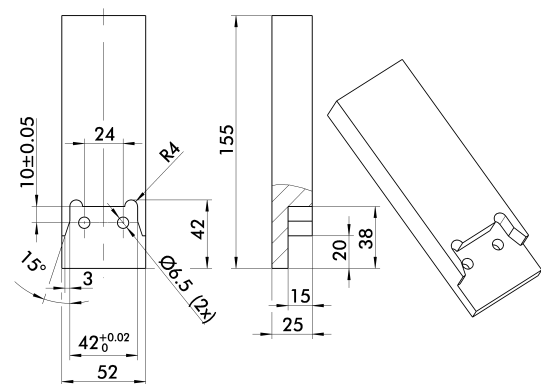
Hose-free direct connection



- ③ Adapter
- ④ Gripper

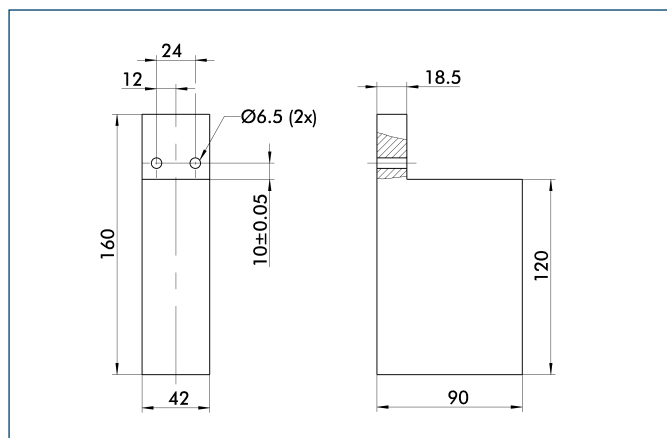
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Finger design



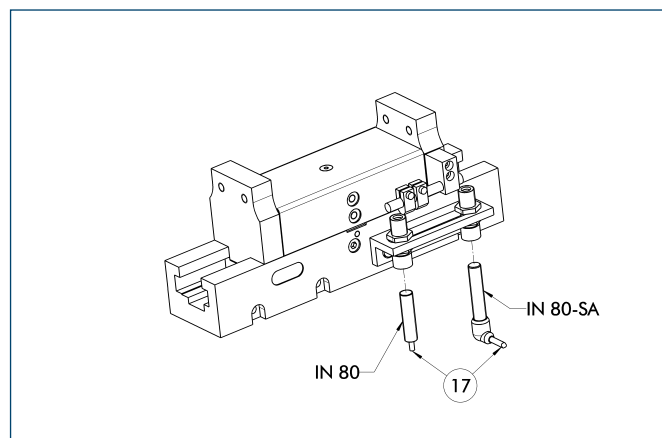
Suggestion for connection dimensions of the gripper fingers

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 220	0300286	Aluminum	2

Inductive proximity switches



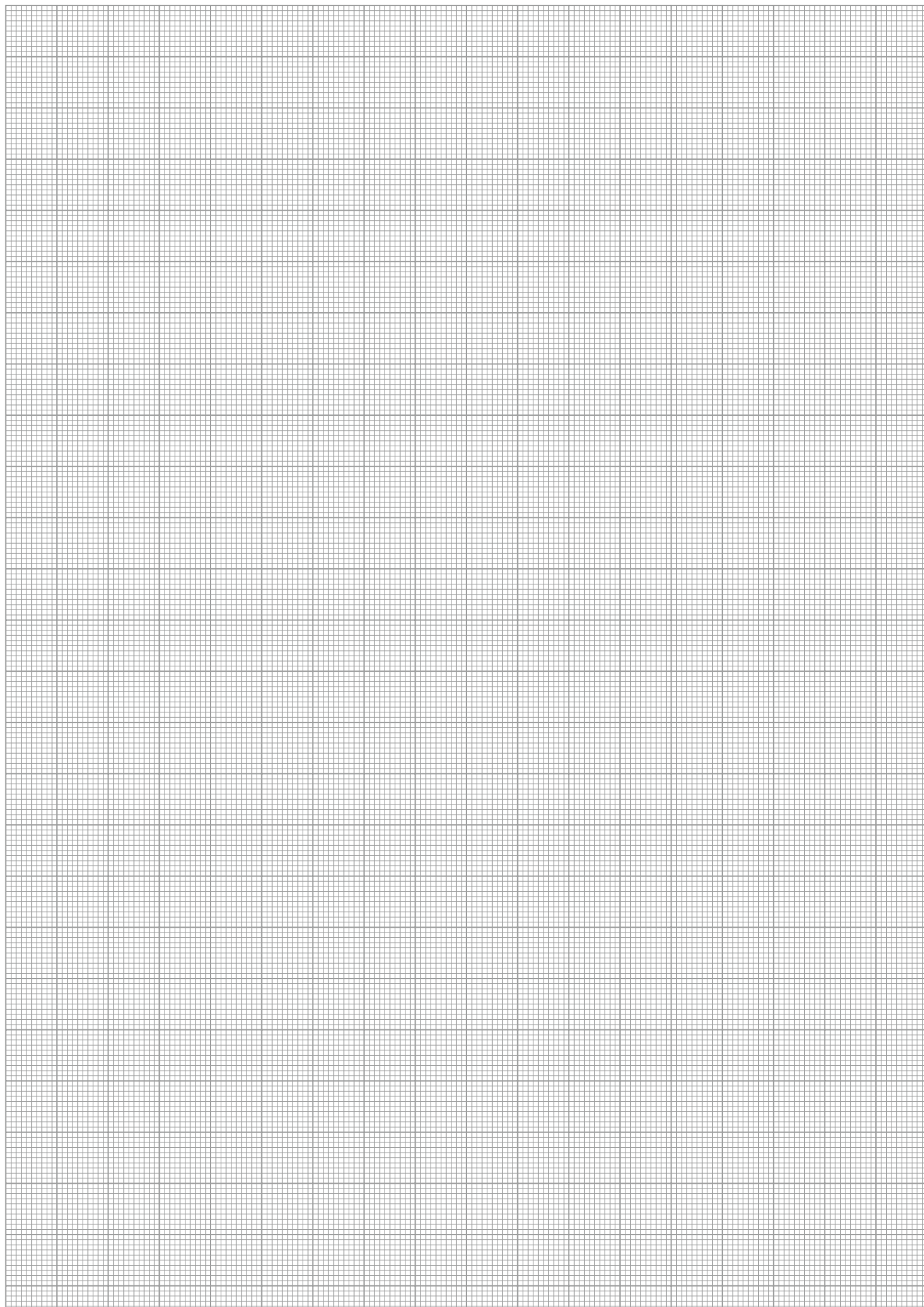
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

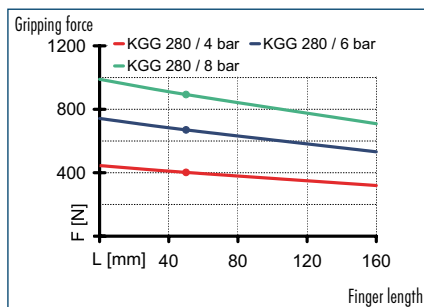
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

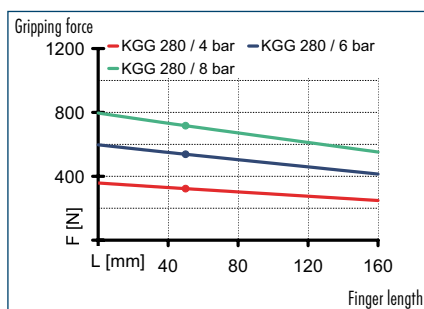




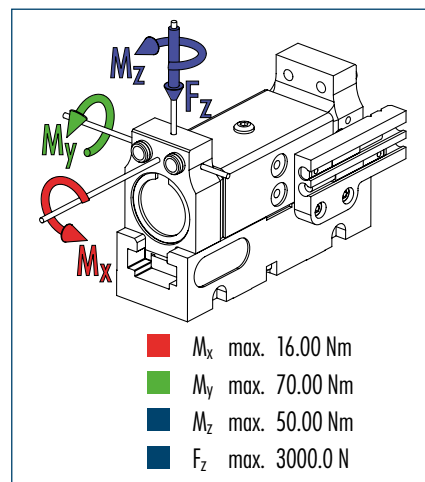
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



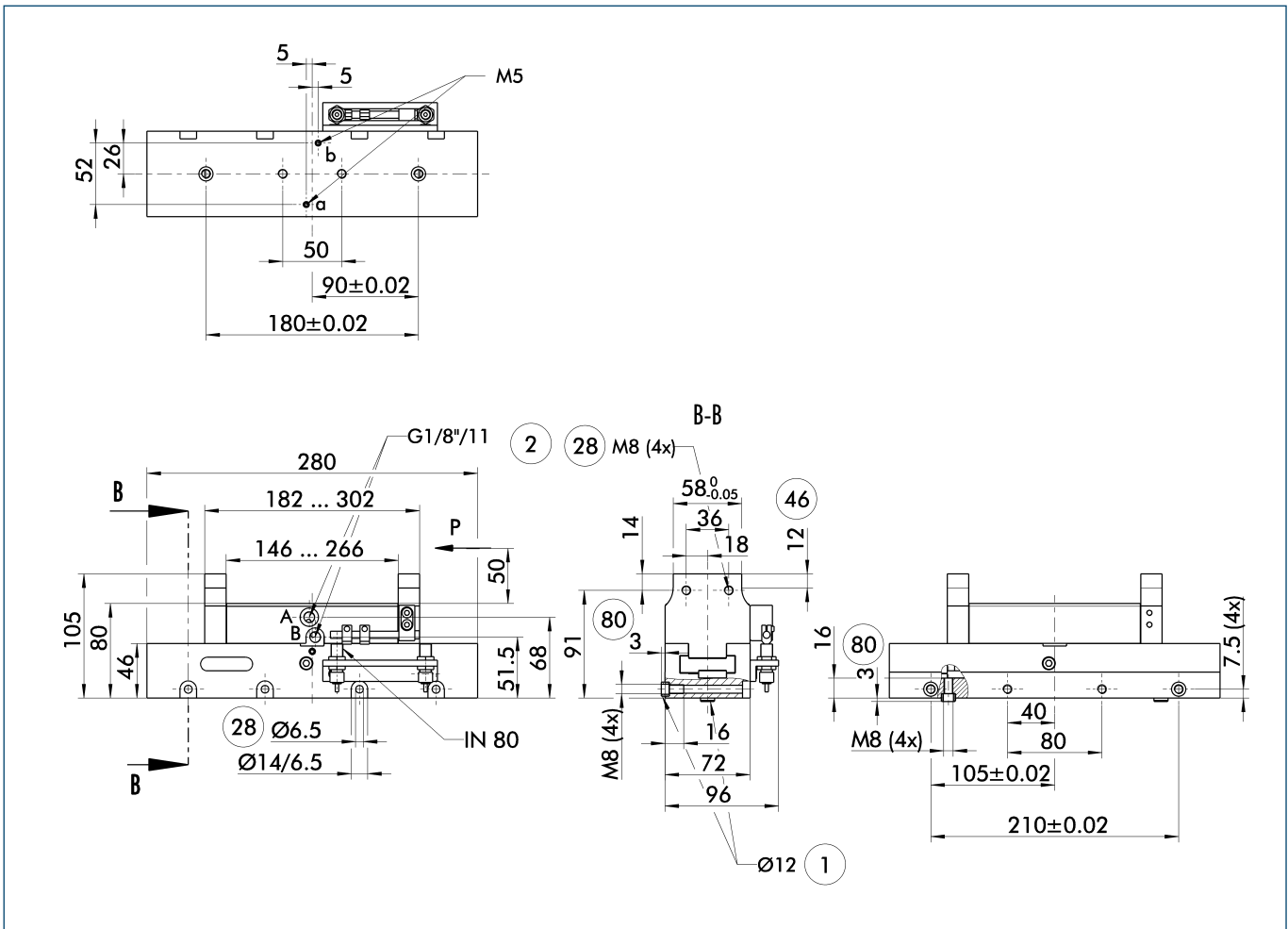
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		KGG 280
ID		0340313
Stroke per finger	[mm]	60
Closing force	[N]	540
Opening force	[N]	670
Weight	[kg]	4.2
Recommended workpiece weight	[kg]	2.7
Air consumption per double stroke	[cm ³]	170
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.29/0.25
Max. permitted finger length	[mm]	160
Max. permitted weight per finger	[kg]	2
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.1

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

① Gripper connection

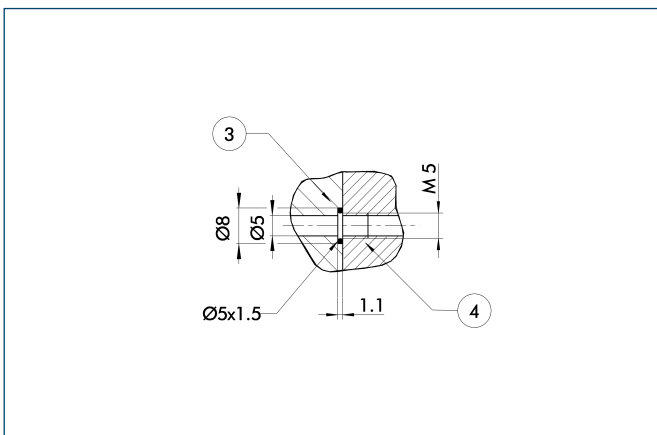
② Finger connection

② Through-bore

④6 Fitting length

⑧0 Depth of the centering sleeve hole in the matching part

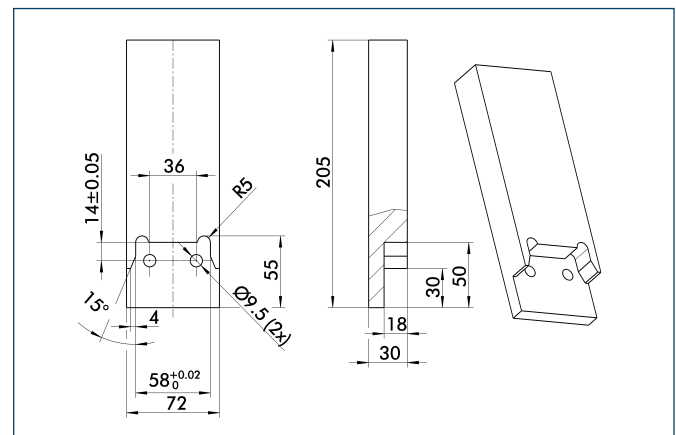
Hose-free direct connection



③ Adapter

④ Gripper

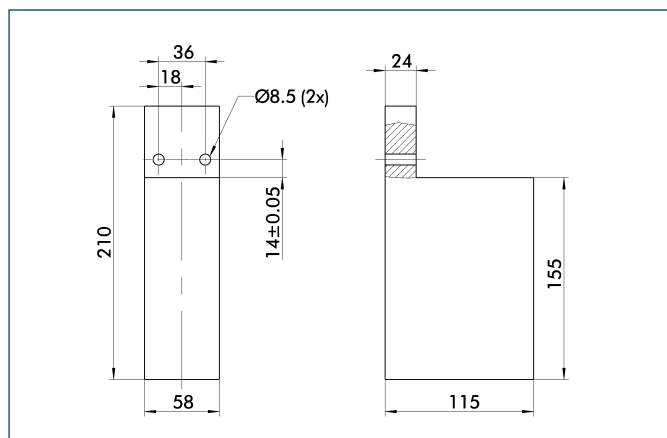
Finger design



Suggestion for connection dimensions of the gripper fingers

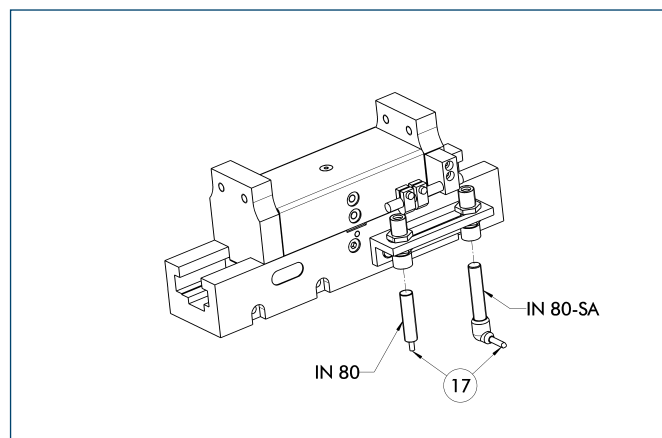
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
RB 280	0300287	Aluminum	2

Inductive proximity switches



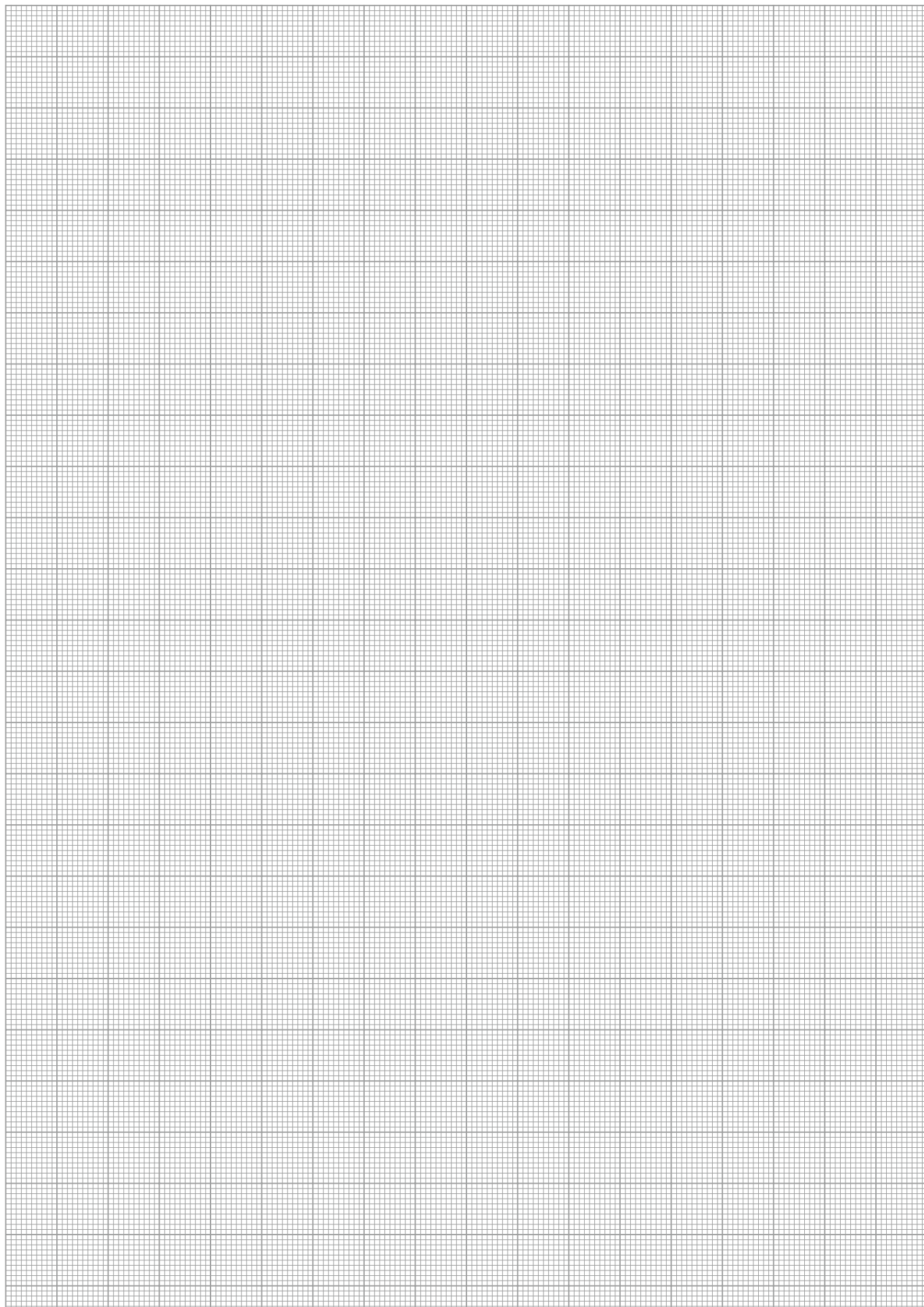
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

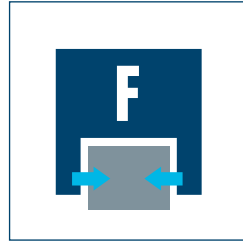




Sizes
801 ... 9010



Weight
0.04 kg ... 1.1 kg



Gripping force
13 N ... 460 N

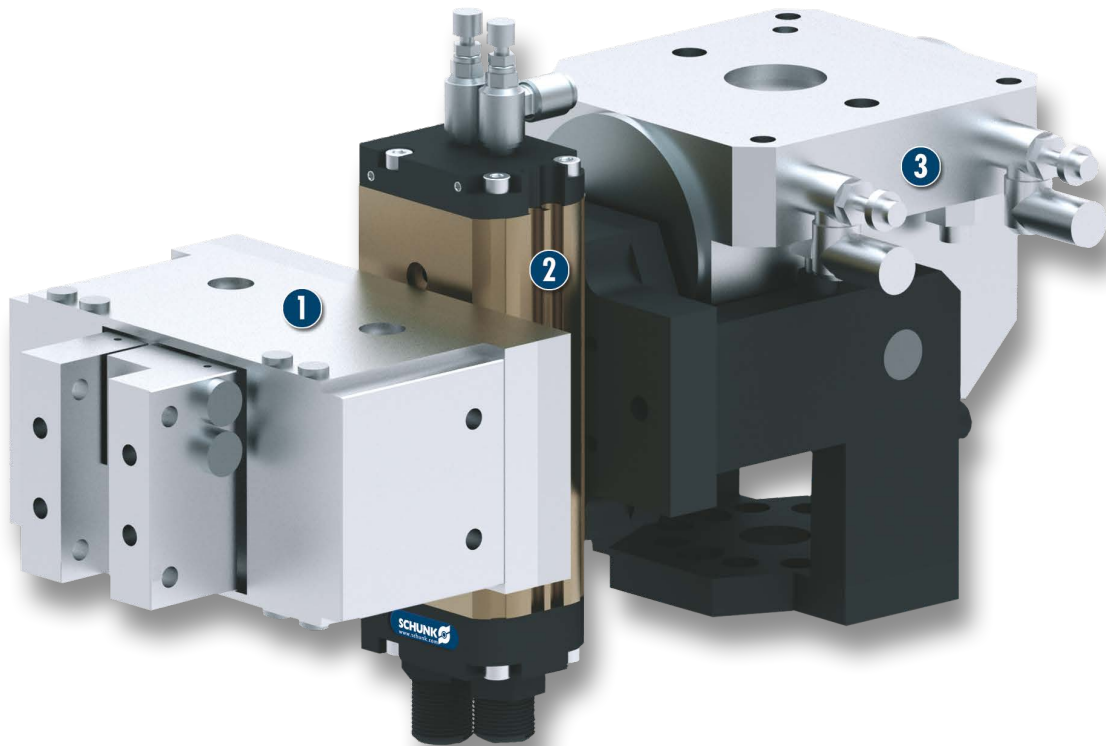


Stroke per finger
2.5 mm ... 40 mm



Workpiece weight
0.065 kg ... 2.3 kg

Application example



Transfer station with simultaneous 90° reorientation of the workpiece in two axes

1 RH Gripper for small components

2 SRU-mini Miniature Rotary Unit

3 SKE Rotary Actuator

Gripper for small components

The RH series is a low-price gripping system, which is particularly suitable for light applications

Field of application

for use in clean environmental conditions (e.g. assembly or packaging zones) with low process forces

Your advantages and benefits

Economical gripper series

for simple applications with low loads in clean environments

Maintenance-free

with low weight

Excellent price-performance ratio

making it an attractive option for low-budget applications



General note to the series

Principle of function

Wedge-hook kinematics

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering elements, assembly and operating instruction with manufacturer's declaration



Functional description

RH grippers work with pneumatic pistons, which produce a synchronized motion due to kinematics that vary depending on the type.

Options and special information

In order to keep the manufacturing costs and thus the sales prices low, the RH series is designed for low-cost production. Therefore repair works are generally not economically feasible.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Fittings



Sensor system



Sensor cables



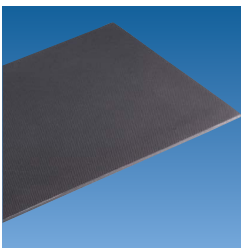
Pressure maintenance valve



Plastic inserts



Gripper pads



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

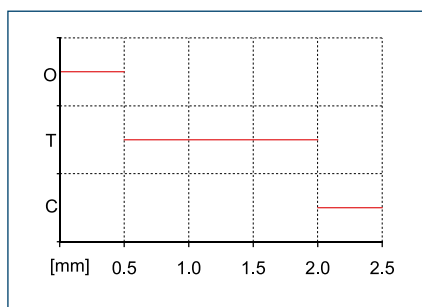
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

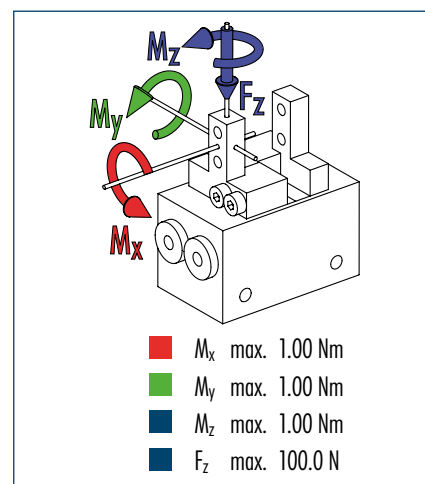
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Sensor switching characteristics



Finger load

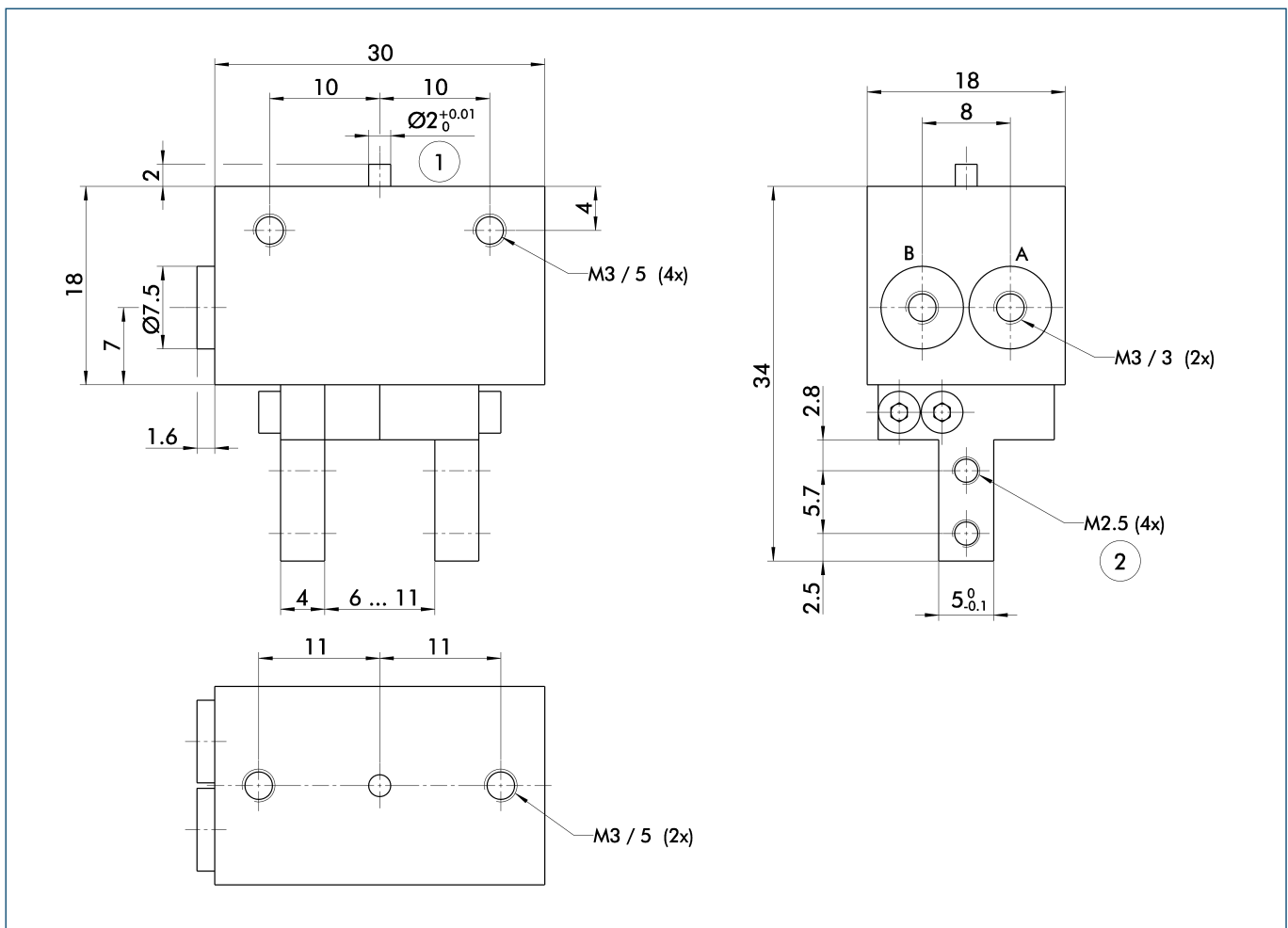


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 901K	RH 901K-FS QC 5	RH 901K-FS OT 5	RH 901K-FS TC 5
ID		0360131	0360132	0360133	0360134
Stroke per finger	[mm]	2.5	2.5	2.5	2.5
Closing force	[N]	13	13	13	13
Opening force	[N]	13	13	13	13
Weight	[kg]	0.04	0.04	0.04	0.04
Recommended workpiece weight	[kg]	0.065	0.065	0.065	0.065
Air consumption per double stroke	[cm ³]	1	1	1	1
Min./max. operating pressure	[bar]	2/7	2/7	2/7	2/7
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.06/0.06	0.06/0.06	0.06/0.06	0.06/0.06
Max. permitted finger length	[mm]	35	35	35	35
Max. permitted weight per finger	[kg]	0.02	0.02	0.02	0.02
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01

Main view



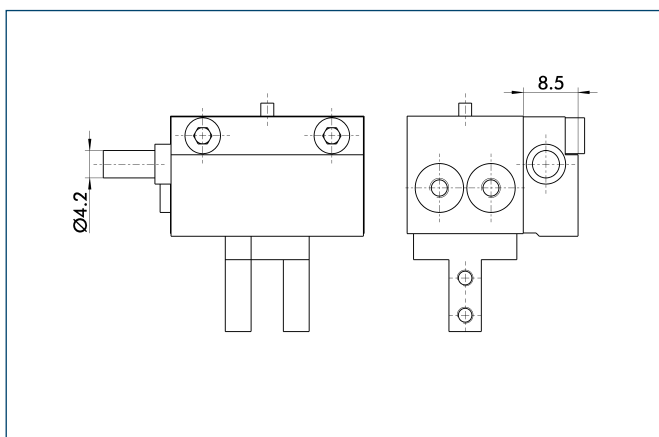
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

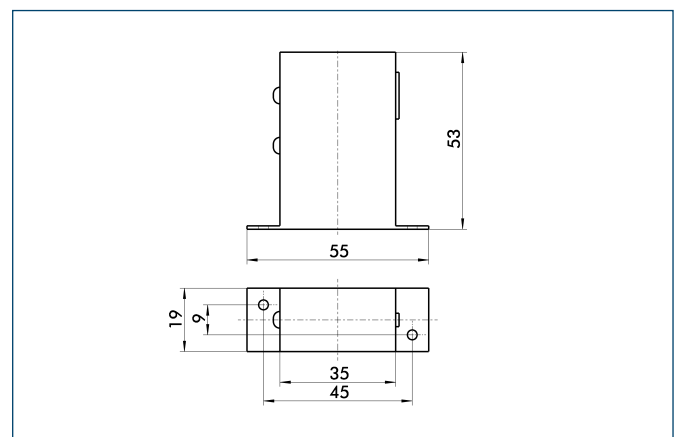
- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

Micro-Photo Sensor



Grippers with an integrated photo sensor indicate two of three positions.
(O = open, T = gripped, C = closed)

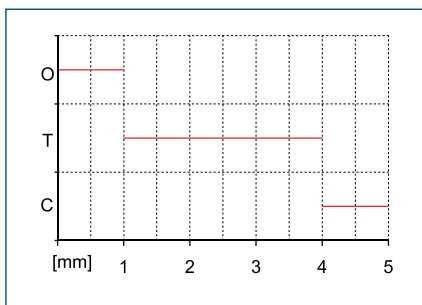
Amplifier



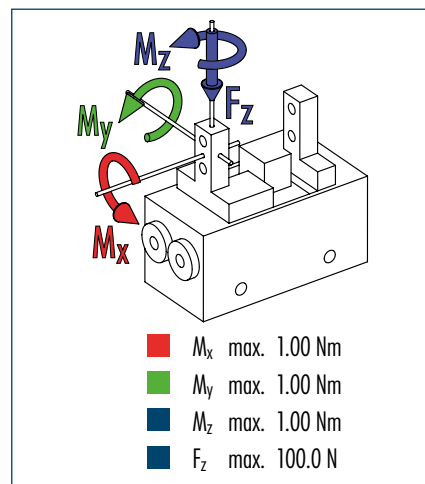
Dimensions of the amplifier for the photo sensor (FS). The amplifier is included in the scope of delivery of grippers in FS-version.



Sensor switching characteristics



Finger load

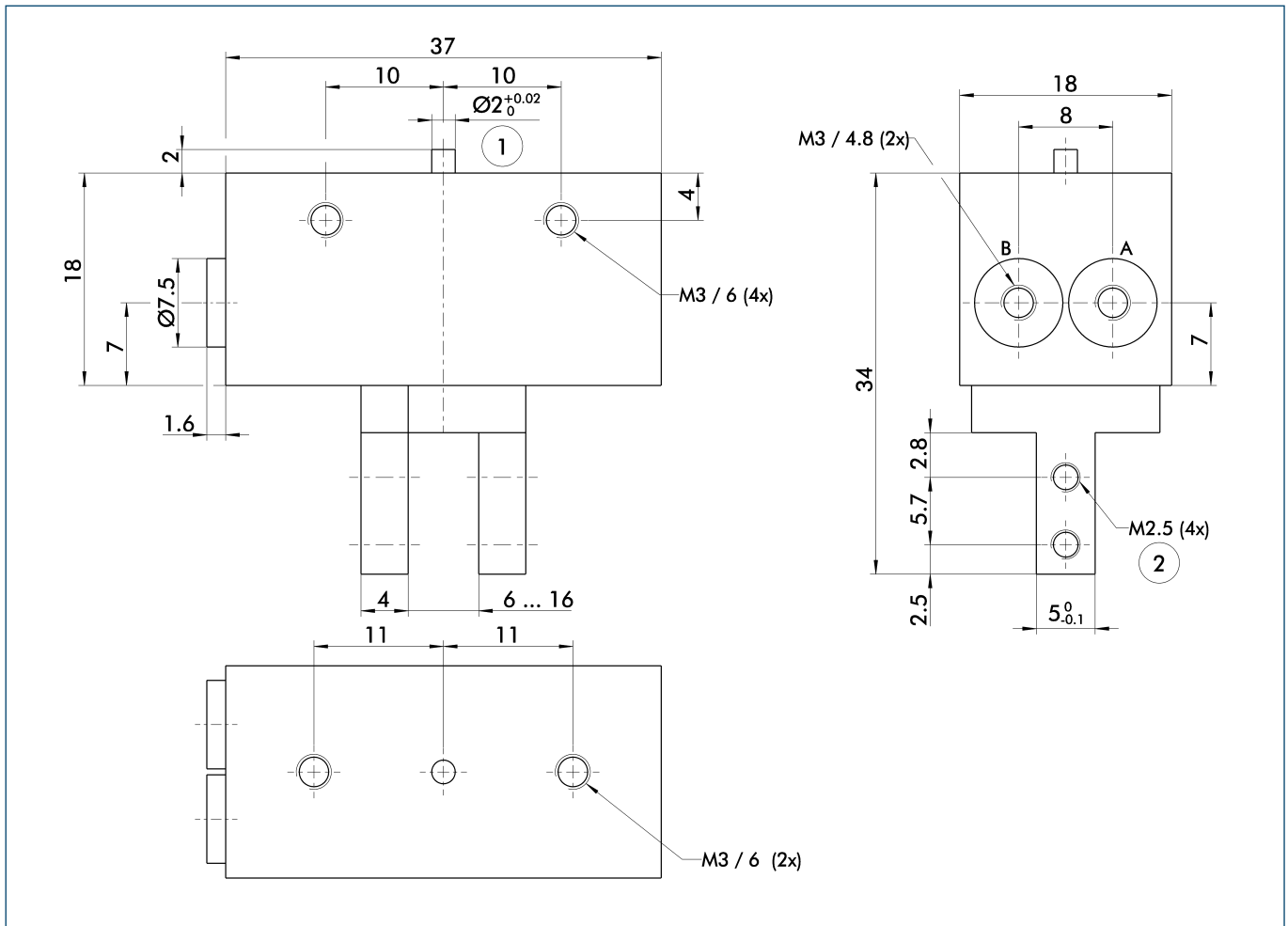


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 901K-ST10	RH 901K-ST10-FS QC 5	RH 901K-ST10-FS OT 5	RH 901K-ST10-FS TC 5
ID		0360164	0360166	0360167	0360168
Stroke per finger	[mm]	5	5	5	5
Closing force	[N]	13	13	13	13
Opening force	[N]	13	13	13	13
Weight	[kg]	0.04	0.04	0.04	0.04
Recommended workpiece weight	[kg]	0.065	0.065	0.065	0.065
Air consumption per double stroke	[cm ³]	1	1	1	1
Min./max. operating pressure	[bar]	2/7	2/7	2/7	2/7
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.13/0.13	0.13/0.13	0.13/0.13	0.13/0.13
Max. permitted finger length	[mm]	35	35	35	35
Max. permitted weight per finger	[kg]	0.02	0.02	0.02	0.02
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01

Main view



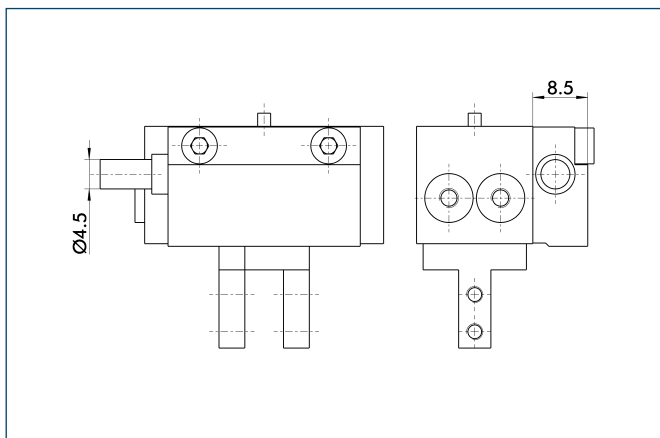
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

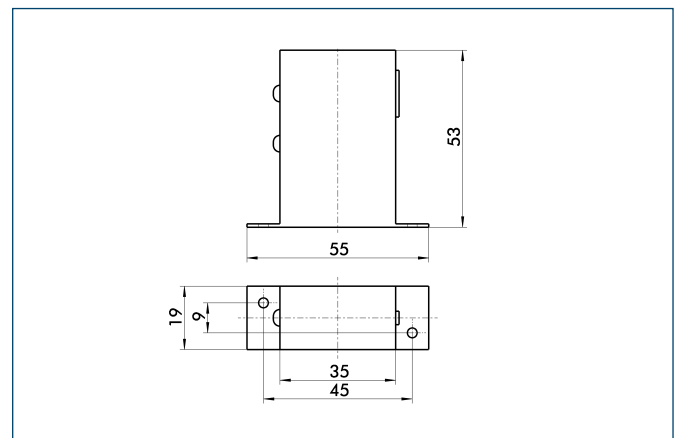
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

Micro-Photo Sensor



Grippers with an integrated photo sensor indicate two of three positions.
(O = open, T = gripped, C = closed)

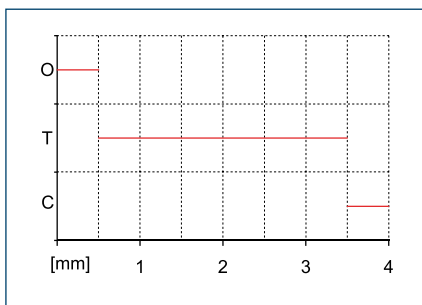
Amplifier



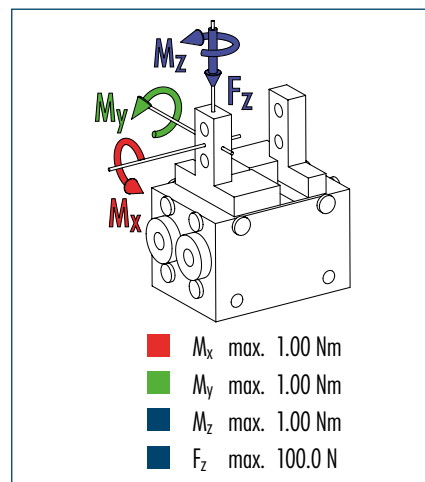
Dimensions of the amplifier for the photo sensor (FS). The amplifier is included in the scope of delivery of grippers in FS-version.



Sensor switching characteristics



Finger load

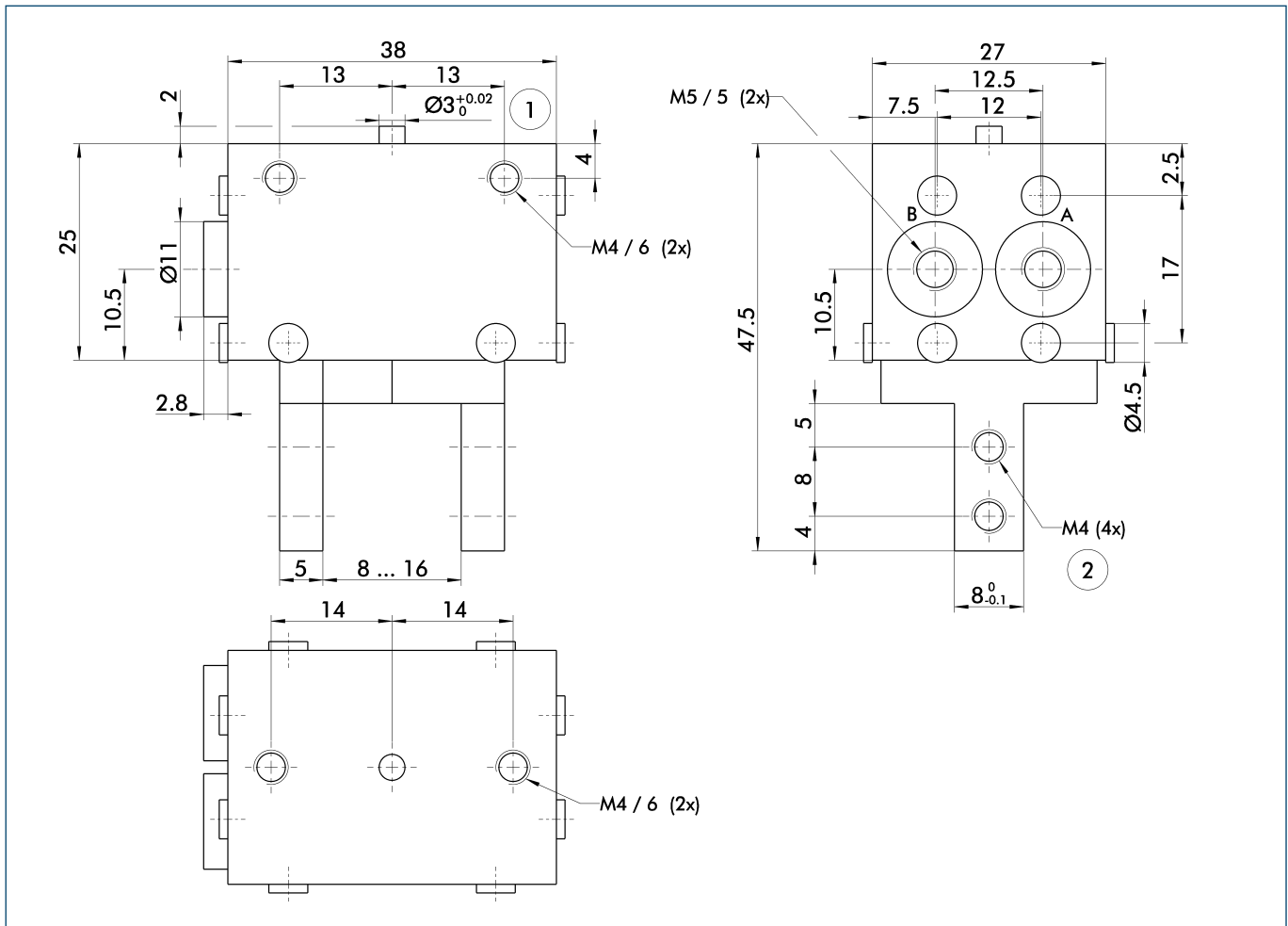


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 905	RH 905-FS TC 5	RH 905-FS OC 5	RH 905-FS OT 5
ID		0360110	0360259	0360257	0360258
Stroke per finger	[mm]	4	4	4	4
Closing force	[N]	44	44	44	44
Opening force	[N]	44	44	44	44
Weight	[kg]	0.09	0.09	0.09	0.09
Recommended workpiece weight	[kg]	0.22	0.22	0.22	0.22
Air consumption per double stroke	[cm ³]	1	1	1	1
Min./max. operating pressure	[bar]	2/7	2/7	2/7	2/7
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.13/0.13	0.13/0.13	0.13/0.13	0.13/0.13
Max. permitted finger length	[mm]	35	35	35	35
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01

Main view



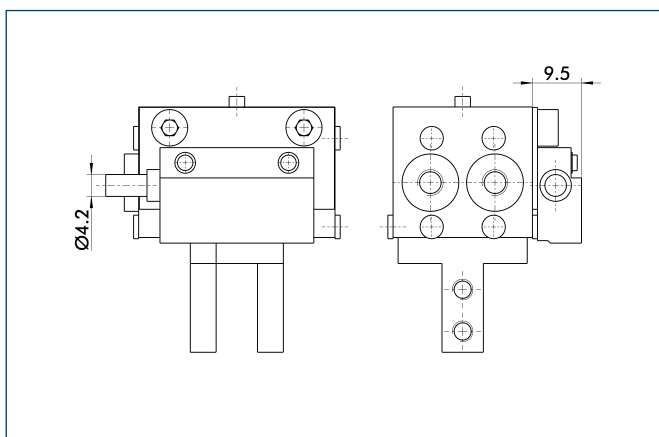
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

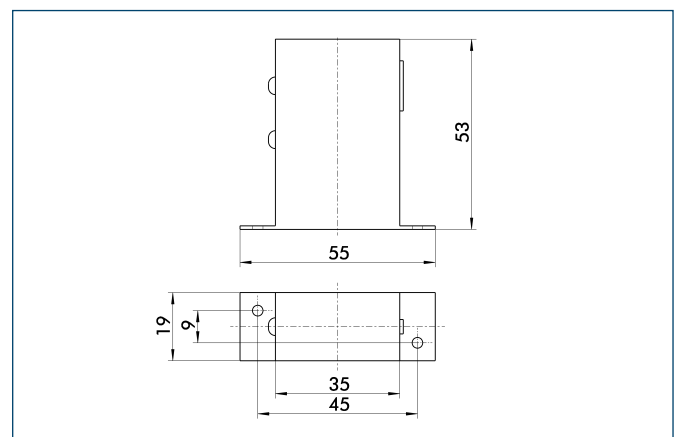
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

Micro-Photo Sensor



Grippers with an integrated photo sensor indicate two of three positions.
(O = open, T = gripped, C = closed)

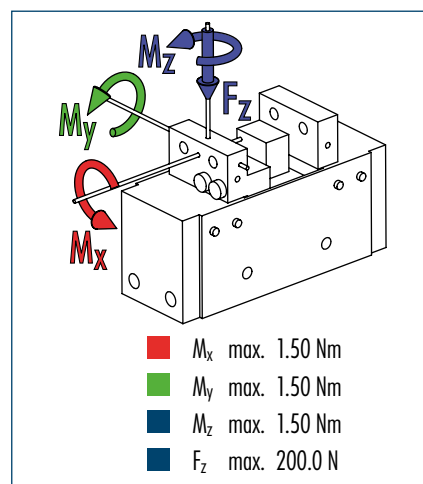
Amplifier



Dimensions of the amplifier for the photo sensor (FS). The amplifier is included in the scope of delivery of grippers in FS-version.



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 907
ID		0360200
Stroke per finger	[mm]	8
Closing force	[N]	80
Opening force	[N]	80
Weight	[kg]	0.17
Recommended workpiece weight	[kg]	0.4
Air consumption per double stroke	[cm ³]	2
Min./max. operating pressure	[bar]	2/7
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.17/0.17
Max. permitted finger length	[mm]	20
Max. permitted weight per finger	[kg]	0.05
IP class		30
Min./max. ambient temperature	[°C]	5/60
Repeat accuracy	[mm]	0.01

Technical drawing of a 2x2 array of components, showing top and side views with dimensions and callouts.

Top View Dimensions:

- Overall width: 72
- Overall height: 44.5
- Internal width: 60
- Internal height: 30.5
- Top edge offset: 8.5
- Bottom edge offset: 14
- Bottom edge hole offset: $8^{0}_{-0.3}$
- Bottom edge hole diameter: $\varnothing 3 + 0.02 / - 0.2$
- Bottom edge hole spacing: 7
- Bottom edge hole length: 9 ... 25
- Bottom edge hole diameter: $\varnothing 3 + 0.02 / - 0.2$
- Bottom edge hole spacing: 28
- Bottom edge hole diameter: $\varnothing 3 + 0.02 / - 0.2$

Side View Dimensions:

- Overall width: 29.3
- Overall height: 27
- Internal width: 15
- Internal height: 5.5
- Bottom edge offset: 4
- Bottom edge hole offset: $24^{0}_{-0.05}$
- Bottom edge hole spacing: 12
- Bottom edge hole diameter: $\varnothing 3 + 0.02 / - 0.2$
- Bottom edge hole length: 24
- Bottom edge hole diameter: $\varnothing 3 + 0.02 / - 0.2$

Callouts:

- M4 / 7 (4x)
- M5 / 3 (2x)
- M4 (4x)
- M4 / 7 (2x)

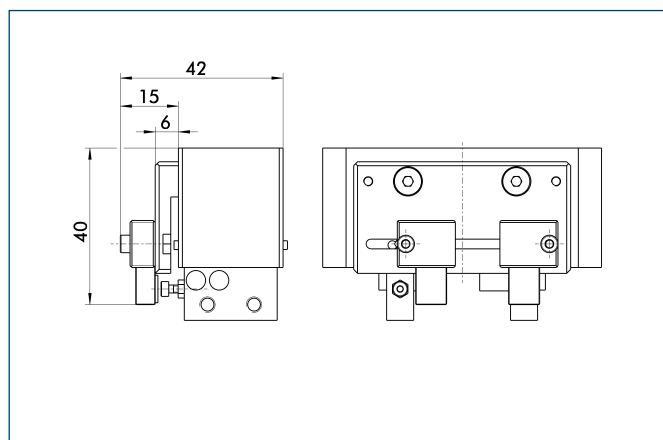
Other Dimensions:

- 1
- 2
- "P"

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

Mounting kit for proximity switch

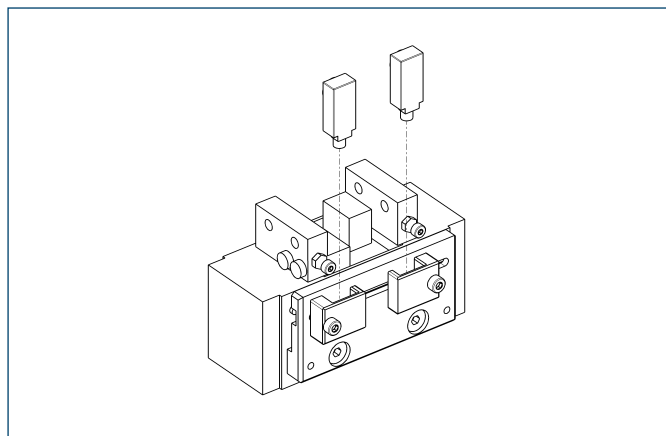


Description	ID
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AS-RH 907	0360206
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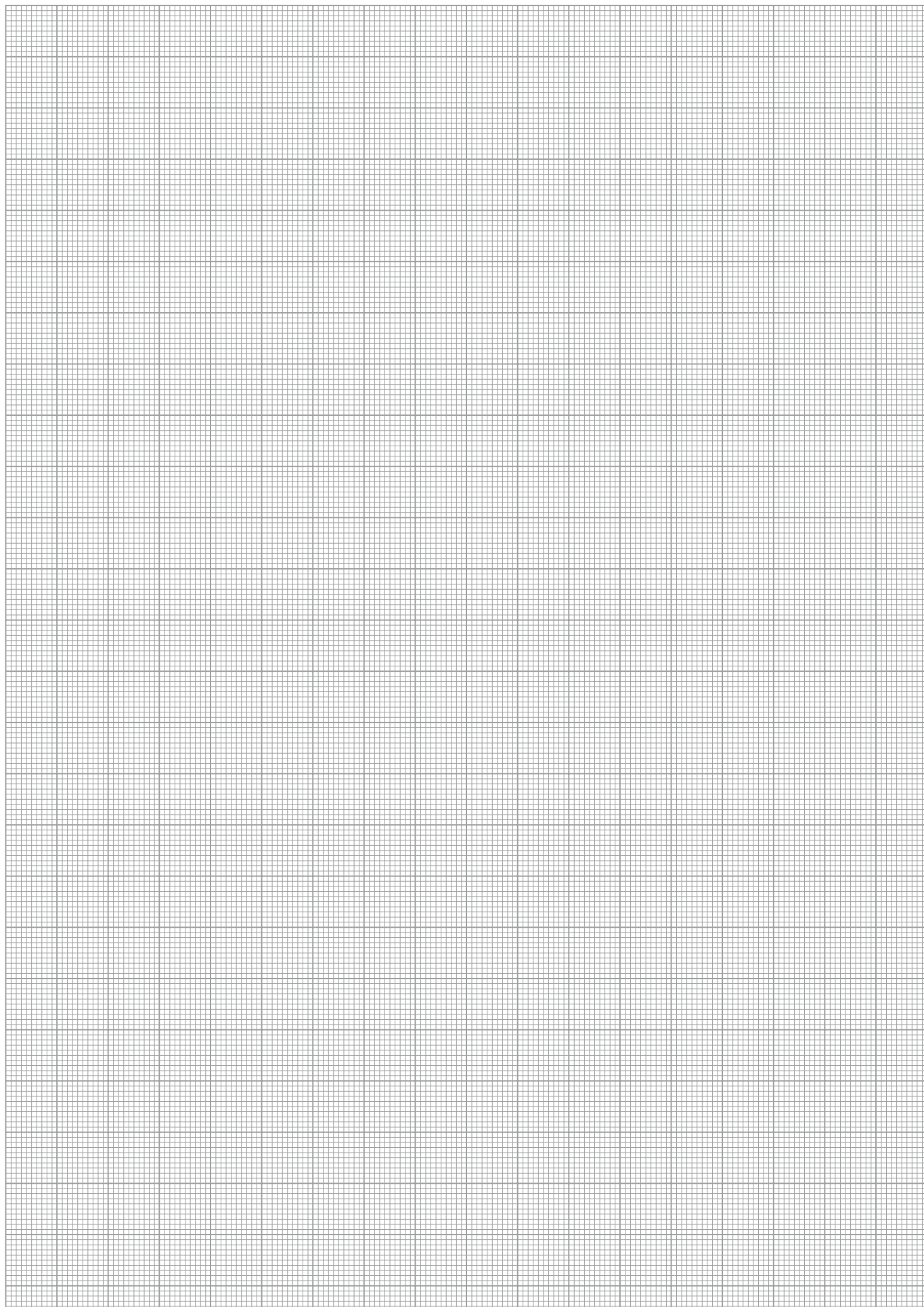
Inductive proximity switches



End position monitoring for direct mounting

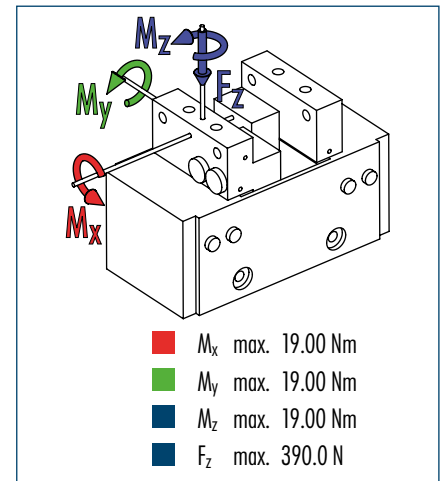
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-RH 907	0360206	
Inductive proximity switches		
IN 8-S-M8	0301481	•
IN 8-S-M12	0301581	
INK 8-S	9700052	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





Finger load

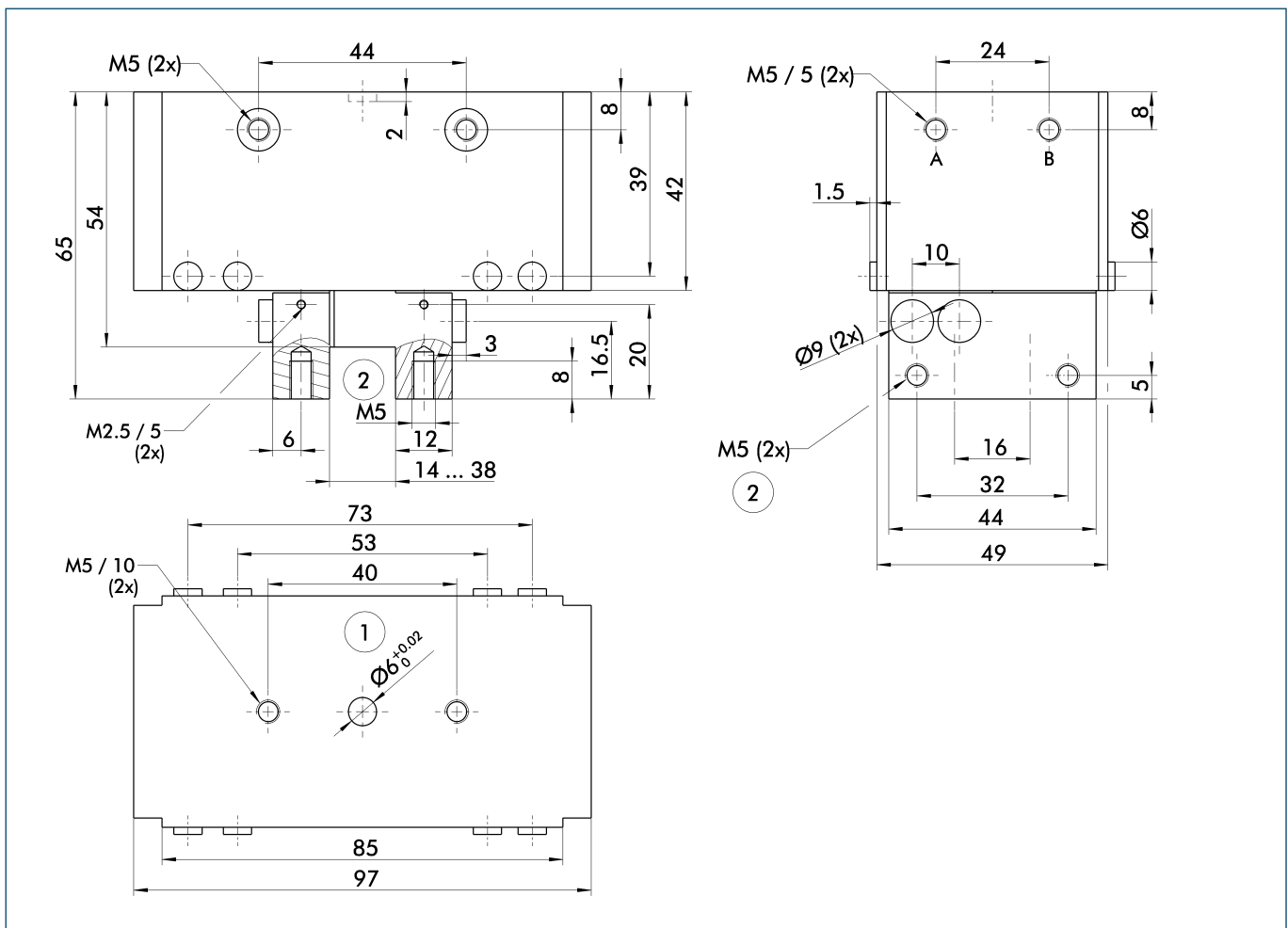


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 925	RH 925 PX
ID		0360300	0360301
Stroke per finger	[mm]	12	12
Closing force	[N]	270	270
Opening force	[N]	270	270
Weight	[kg]	0.55	0.55
Recommended workpiece weight	[kg]	1.3	1.3
Air consumption per double stroke	[cm ³]	8	8
Min./max. operating pressure	[bar]	2/7	2/7
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.5/0.5	0.5/0.5
Max. permitted finger length	[mm]	30	30
Max. permitted weight per finger	[kg]	0.08	0.08
IP class		30	30
Min./max. ambient temperature	[°C]	5/60	5/60
Repeat accuracy	[mm]	0.02	0.02

Main view



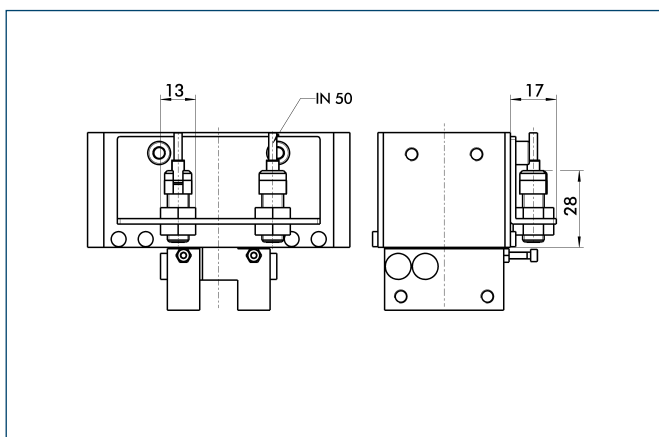
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

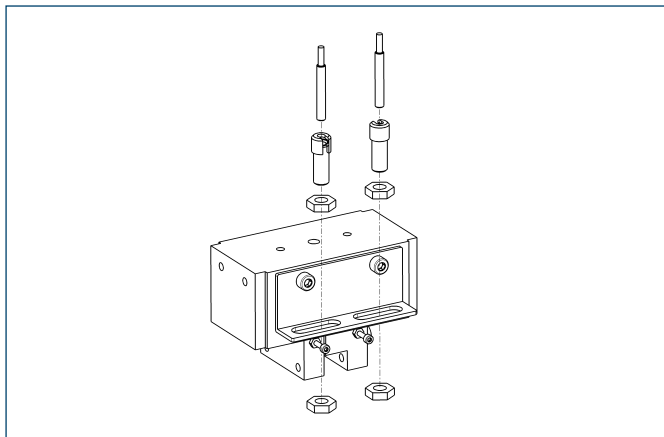
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

Attachment to the proximity switch



For PX-versions, the mounting kit for attachment is delivered with the proximity switch.

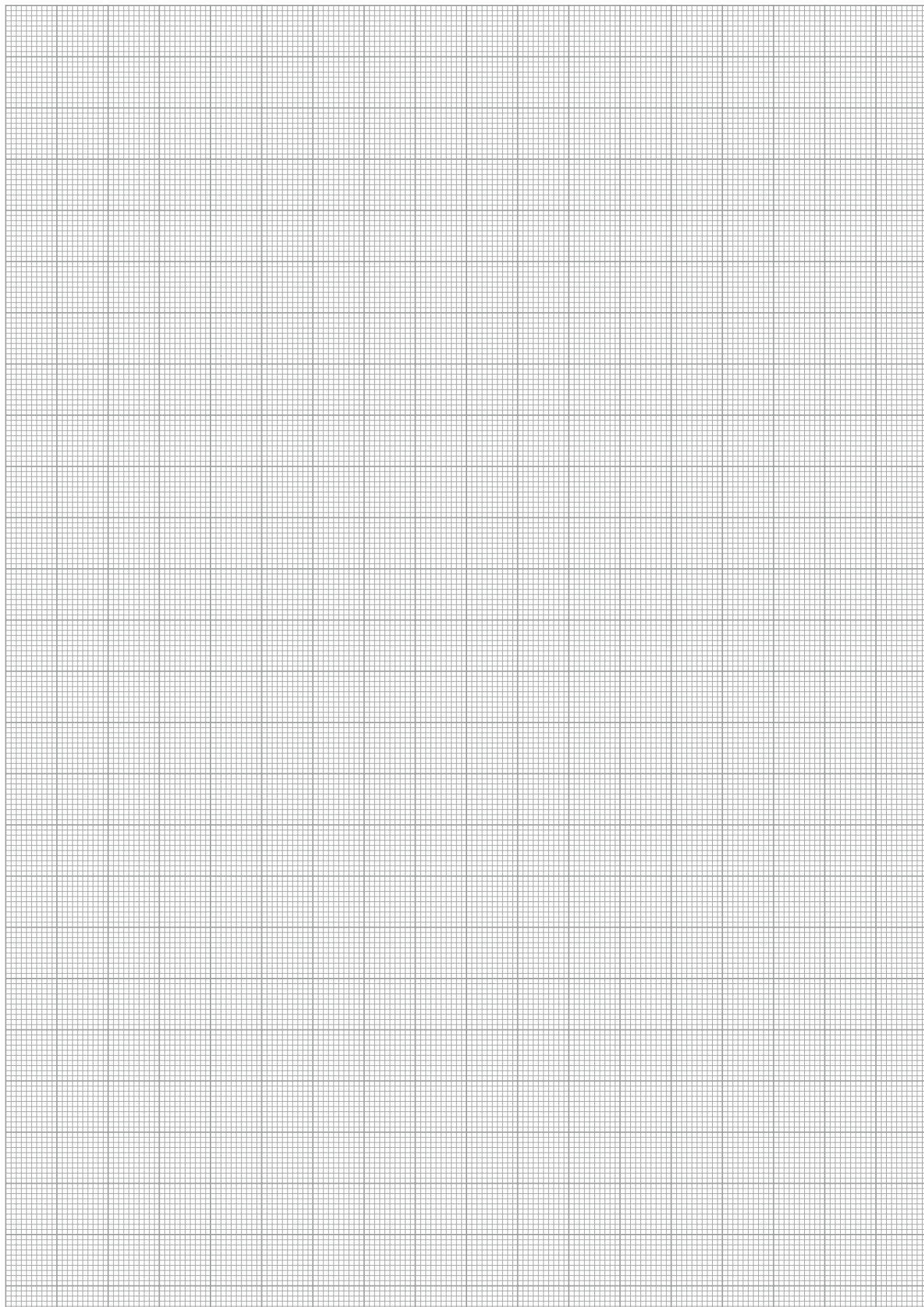
Inductive proximity switches



End position monitoring for direct mounting

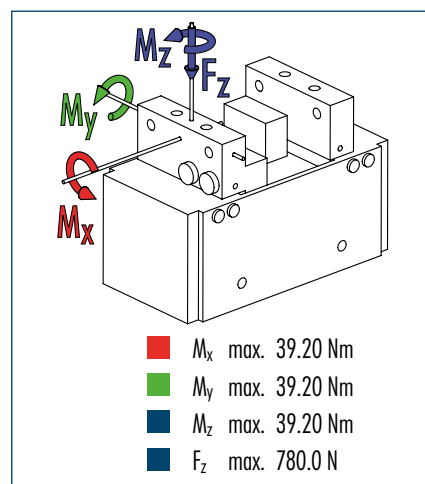
Description	ID	Recommended product
Inductive proximity switches		
IN 50-S-M12	0301575	•
INK 50-S	0301560	
Connection cables		
KA BG12-L 3P-0500-PNP	30016369	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





Finger load

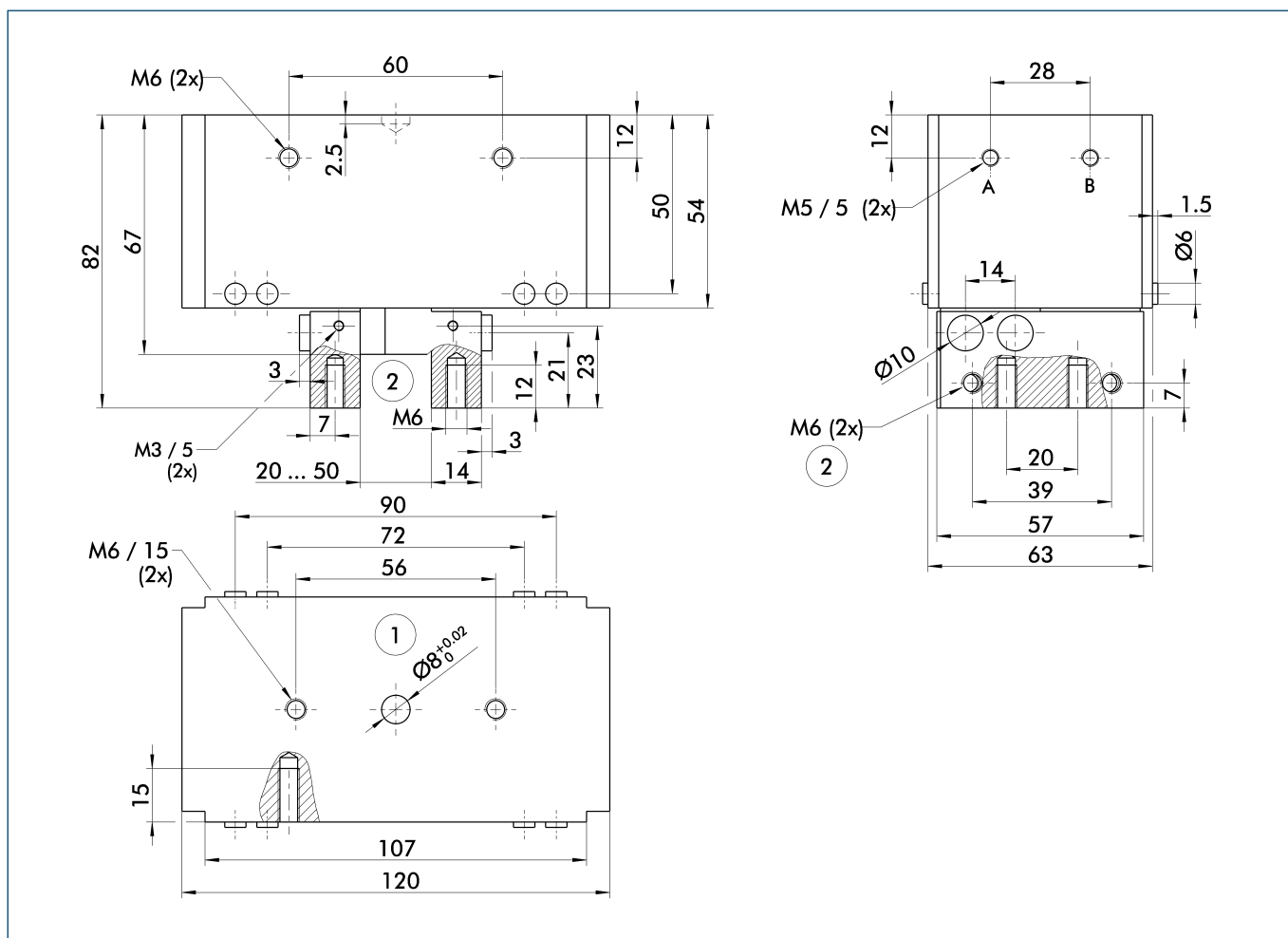


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 940	RH 940 PX
ID		0360310	0360311
Stroke per finger	[mm]	15	15
Closing force	[N]	460	460
Opening force	[N]	460	460
Weight	[kg]	1.1	1.1
Recommended workpiece weight	[kg]	2.3	2.3
Air consumption per double stroke	[cm ³]	14	14
Min./max. operating pressure	[bar]	2/7	2/7
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.5/0.5	0.5/0.5
Max. permitted finger length	[mm]	50	50
Max. permitted weight per finger	[kg]	0.13	0.13
IP class		30	30
Min./max. ambient temperature	[°C]	5/60	5/60
Repeat accuracy	[mm]	0.02	0.02

Main view



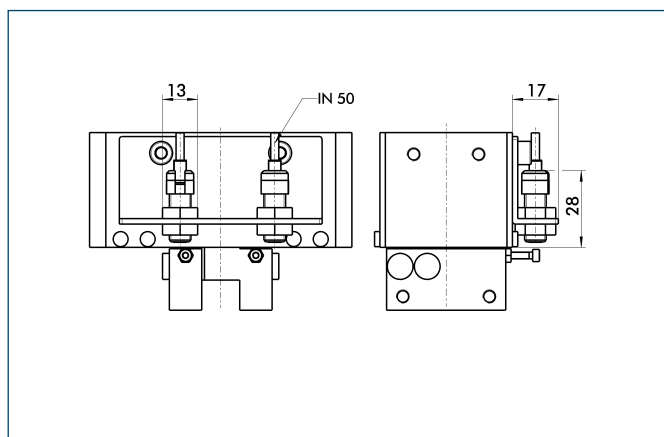
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

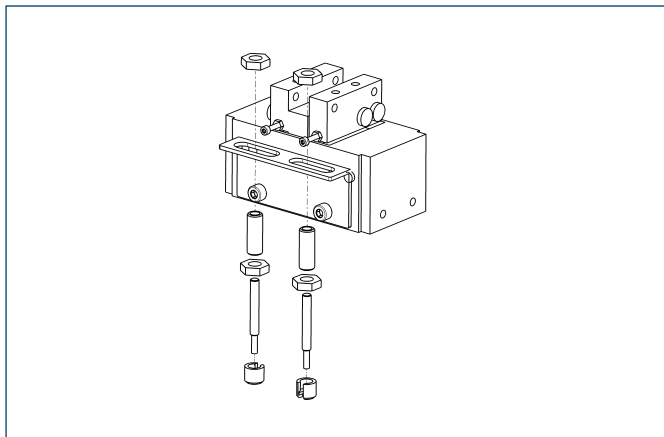
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

Attachment to the proximity switch



For PX-versions, the mounting kit for attachment is delivered with the proximity switch.

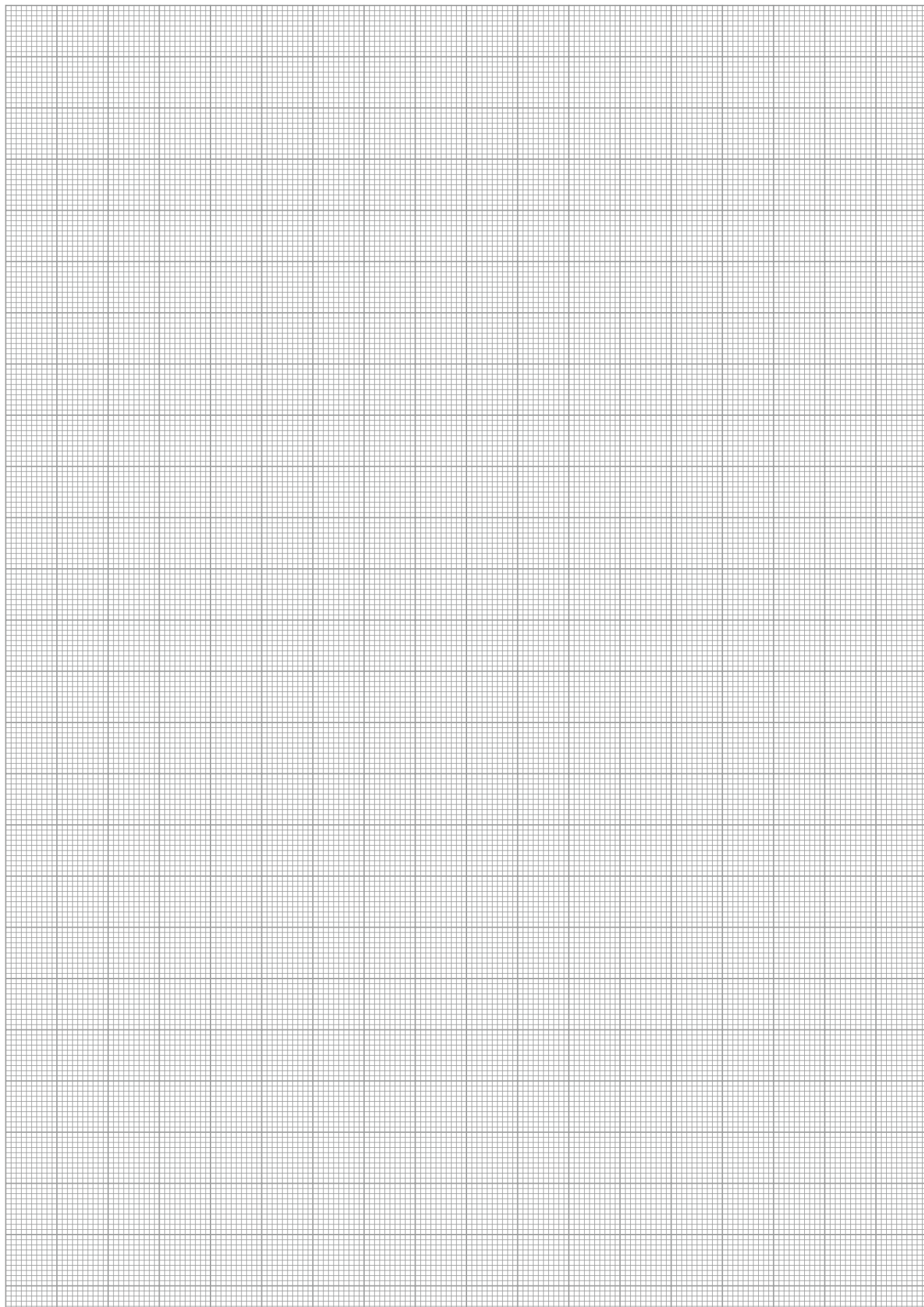
Inductive proximity switches



End position monitoring for direct mounting

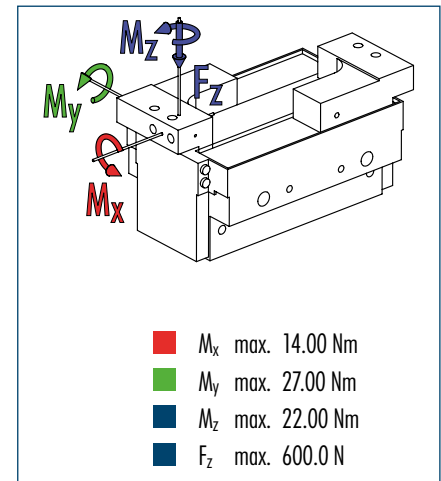
Description	ID	Recommended product
Inductive proximity switches		
IN 50-S-M12	0301575	•
INK 50-S	0301560	
Connection cables		
KA BG12-L 3P-0500-PNP	30016369	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

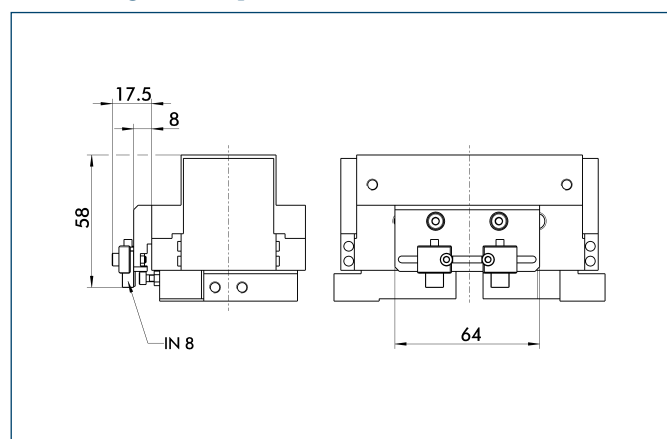
Technical data

Description		RH 9010
ID		0360141
Stroke per finger	[mm]	40
Closing force	[N]	150
Opening force	[N]	150
Weight	[kg]	0.89
Recommended workpiece weight	[kg]	0.75
Air consumption per double stroke	[cm ³]	8
Min./max. operating pressure	[bar]	2/7
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.5/0.5
Max. permitted finger length	[mm]	100
Max. permitted weight per finger	[kg]	0.15
IP class		30
Min./max. ambient temperature	[°C]	5/60
Repeat accuracy	[mm]	0.02

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

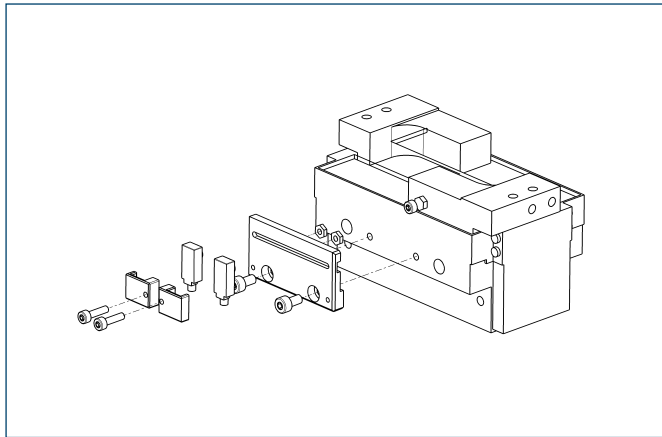
Mounting kit for proximity switch



Description	ID
Mounting kit for proximity switch	
AS-RH 9010	0360207



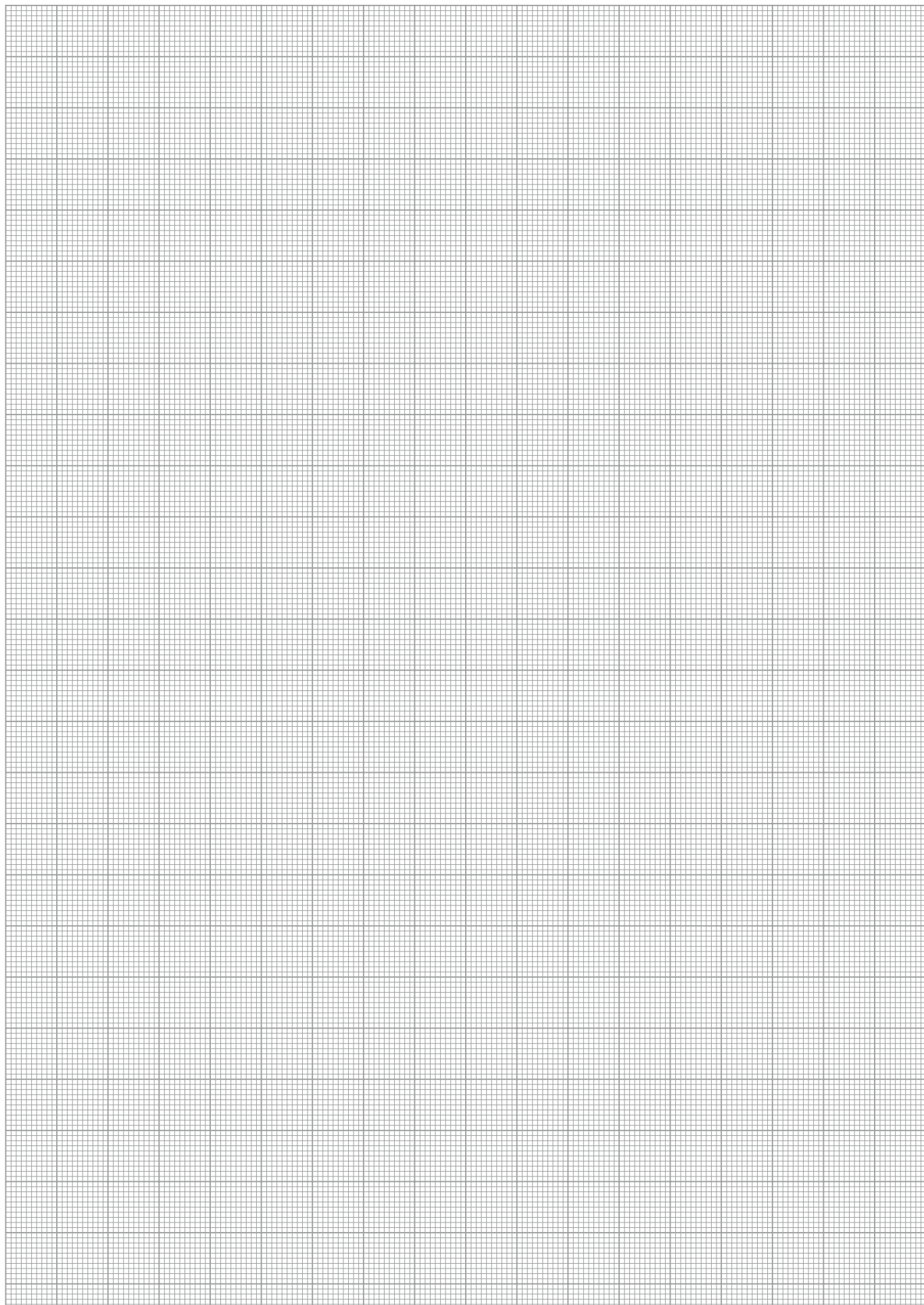
Inductive proximity switches



End position monitoring mounted with mounting kit

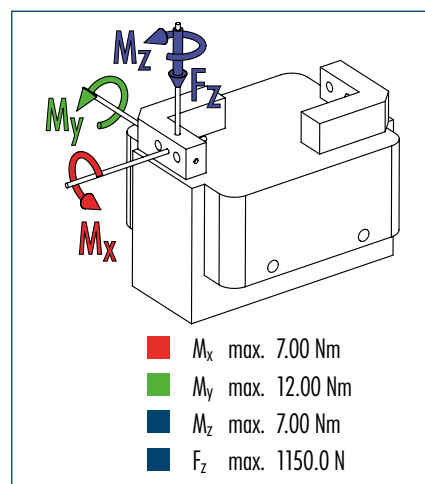
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-RH 9010	0360207	
Inductive proximity switches		
IN 8-S-M8	0301481	•
IN 8-S-M12	0301581	
INK 8-S	9700052	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





Finger load

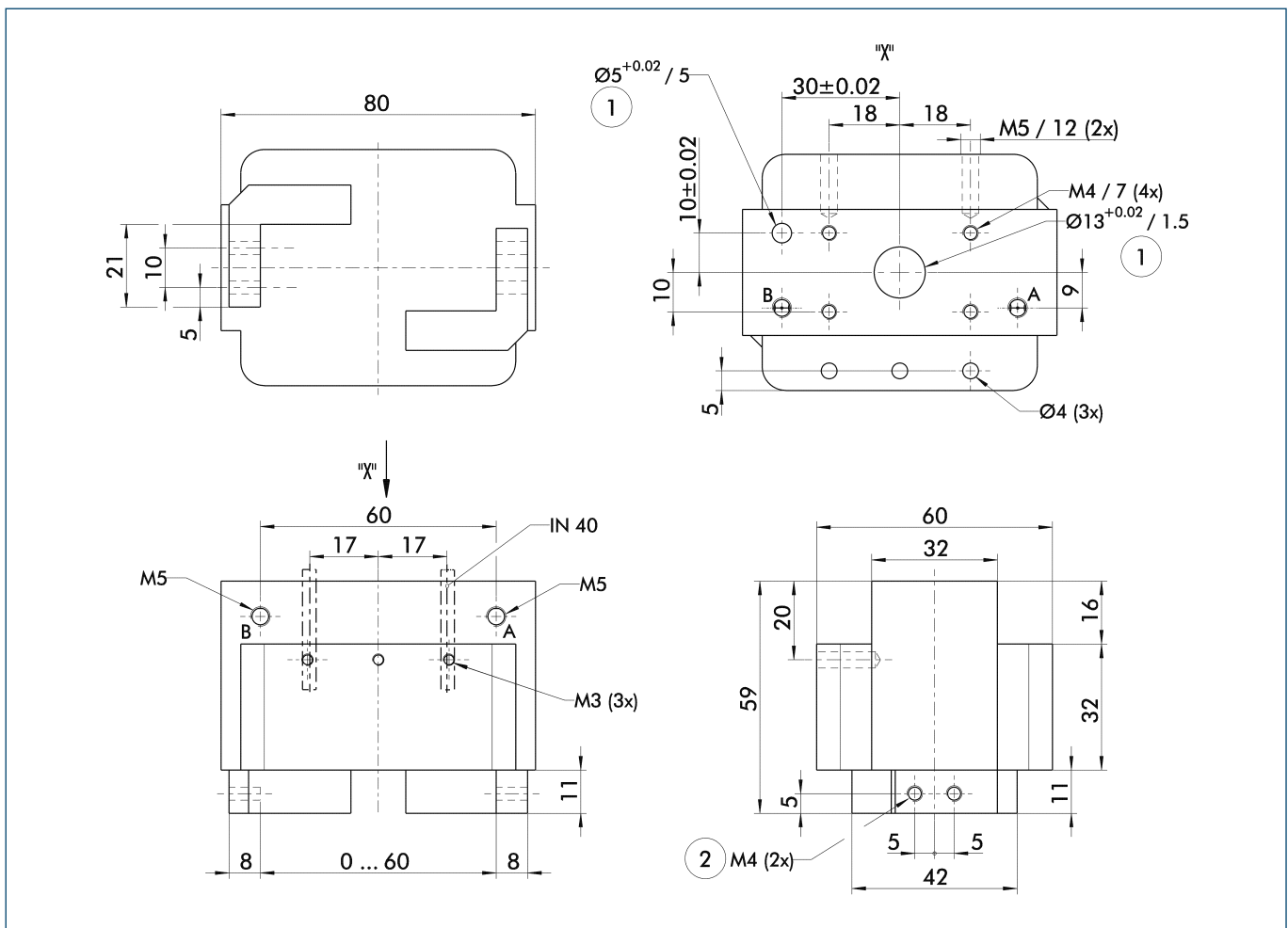


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 918	RH 918-POD
ID		0360140	0360142
Stroke per finger	[mm]	30	30
Closing force	[N]	100	100
Opening force	[N]	100	100
Weight	[kg]	0.48	0.6
Recommended workpiece weight	[kg]	0.5	0.5
Air consumption per double stroke	[cm ³]	16	16
Min./max. operating pressure	[bar]	2/7	2/7
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.4/0.4	0.4/0.4
Max. permitted finger length	[mm]	65	65
Max. permitted weight per finger	[kg]	0.12	0.12
IP class		30	30
Min./max. ambient temperature	[°C]	5/60	5/60
Repeat accuracy	[mm]	0.02	0.02


Main view



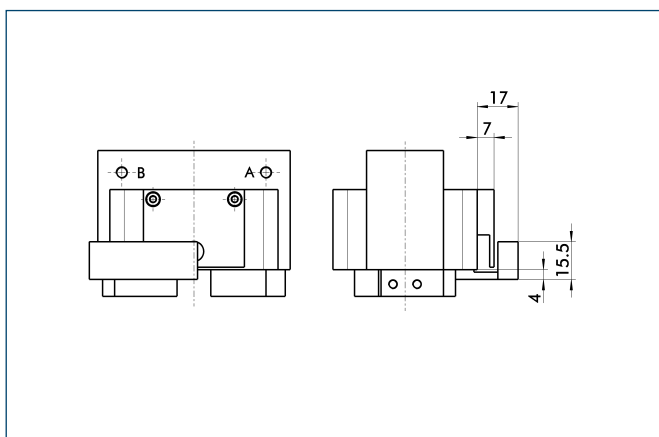
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

-  The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

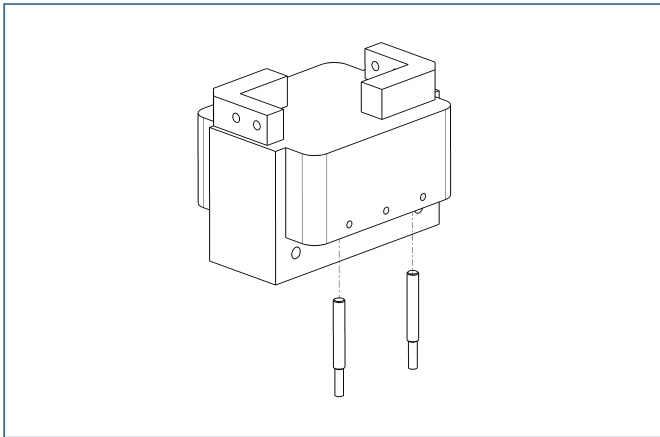
Mounting kit for FPS



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-RH 918	0301718

Inductive proximity switches

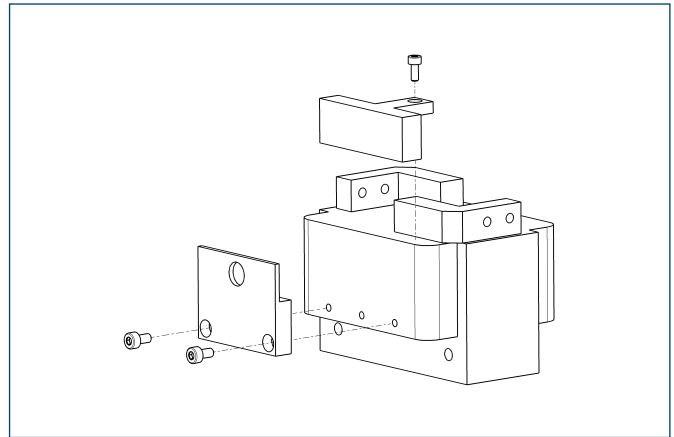


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

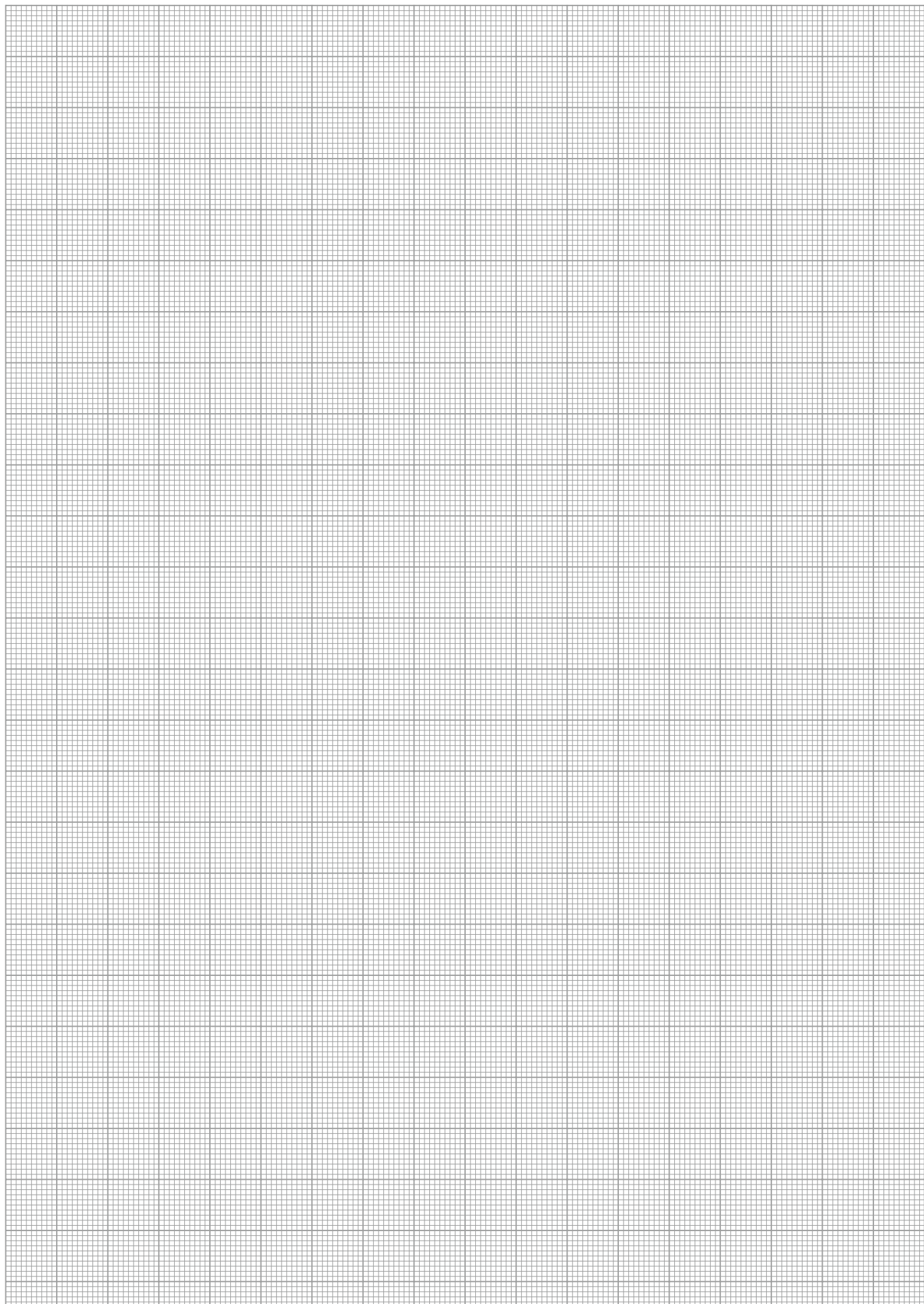
Flexible Position Sensor



Flexible position monitoring of up to five positions

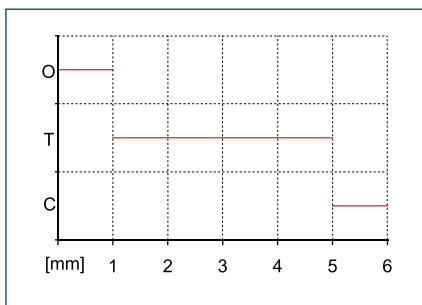
Description	ID
Mounting kit for FPS	
AS-RH 918	0301718
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

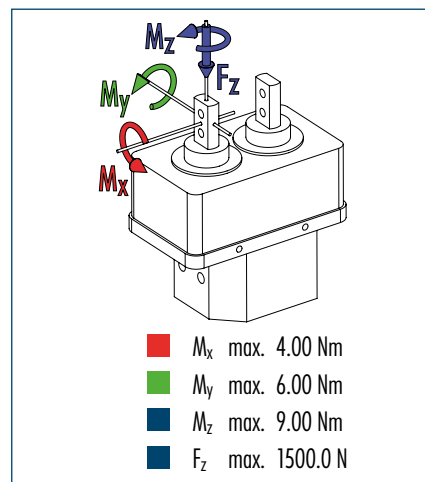




Sensor switching characteristics



Finger load

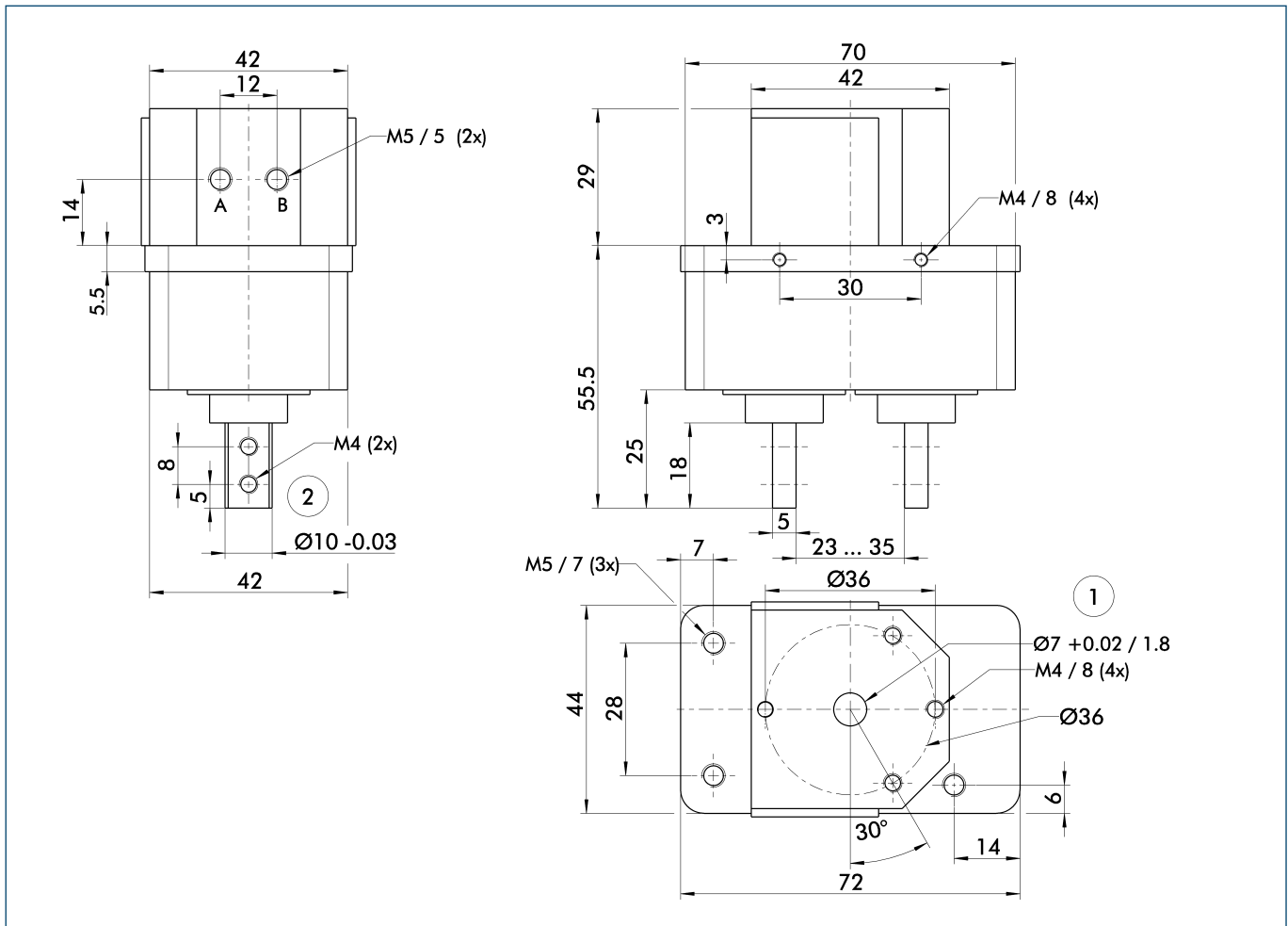


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 806 KP	RH 806 KP PX OT5	RH 806 KP PX OC5	RH 806 KP PX TC5
ID		0360178	0360179	0360180	0360181
Stroke per finger	[mm]	6	6	6	6
Closing force	[N]	65	65	65	65
Opening force	[N]	65	65	65	65
Weight	[kg]	0.36	0.36	0.36	0.36
Recommended workpiece weight	[kg]	0.325	0.325	0.325	0.325
Air consumption per double stroke	[cm ³]	10	10	10	10
Min./max. operating pressure	[bar]	2/7	2/7	2/7	2/7
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.13/0.1	0.13/0.1	0.13/0.1	0.13/0.1
Max. permitted finger length	[mm]	50	50	50	50
Max. permitted weight per finger	[kg]	0.07	0.07	0.07	0.07
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02

Main view



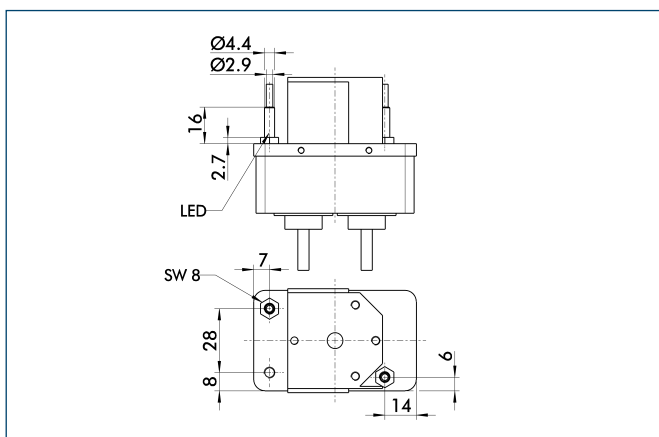
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

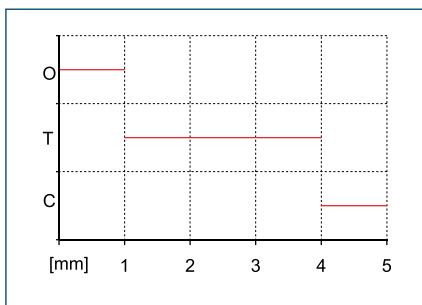
Attachment to the proximity switch



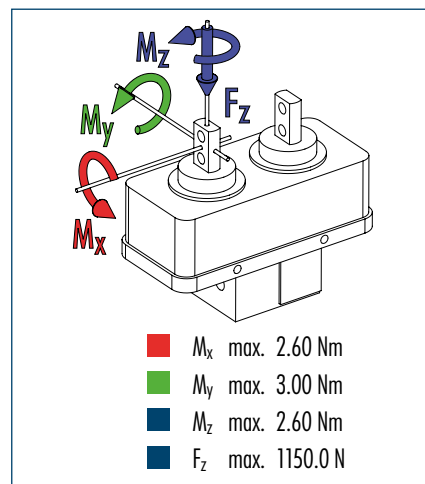
For PX-versions, the scope of delivery comprises the sensor and installation material.



Sensor switching characteristics



Finger load

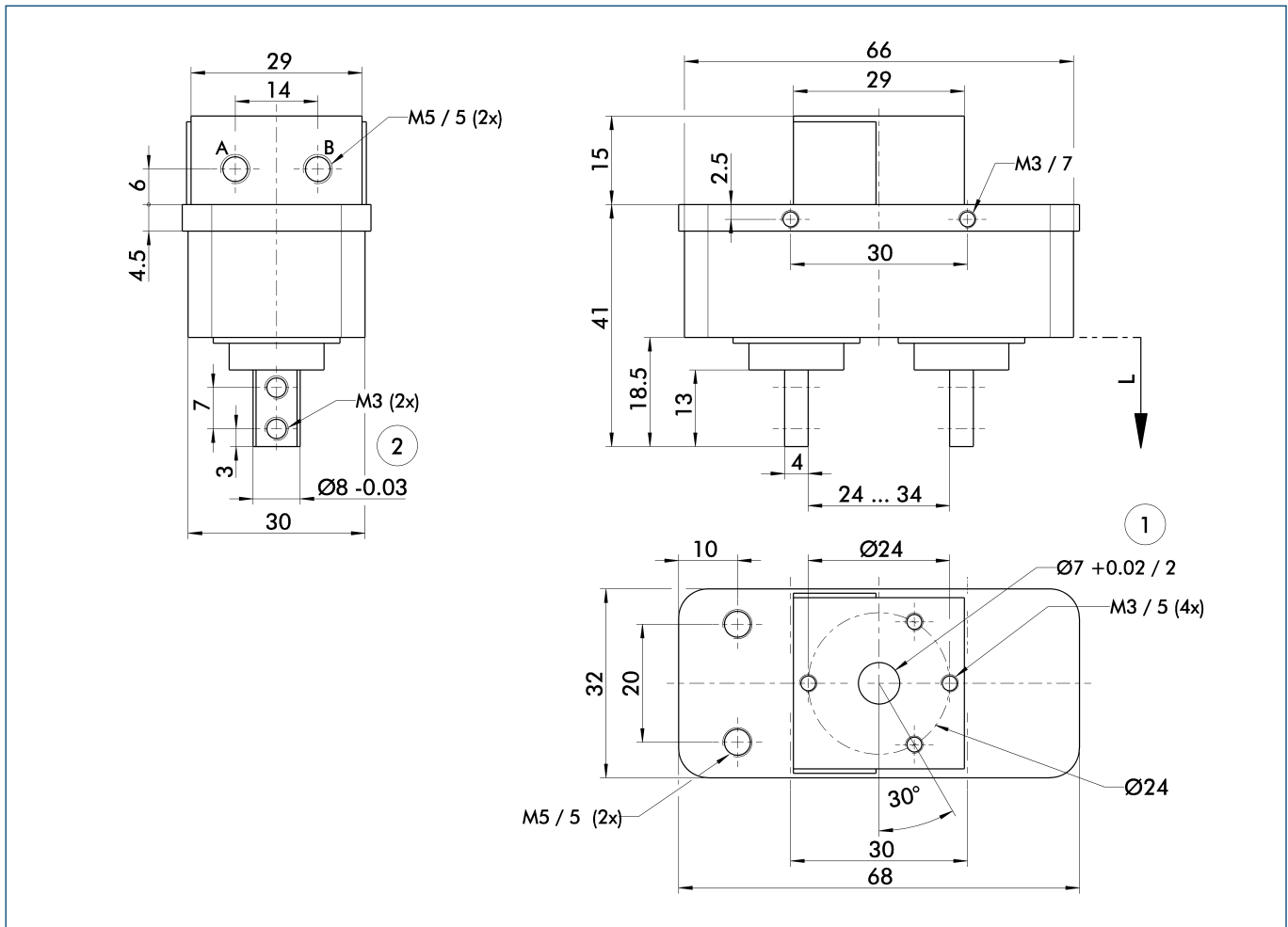


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		RH 801 KP	RH 801 KP PX C5	RH 801 KP PX O5	RH 801 KP PX T5
ID		0360174	0360177	0360175	0360176
Stroke per finger	[mm]	5	5	5	5
Closing force	[N]	23	23	23	23
Opening force	[N]	23	23	23	23
Weight	[kg]	0.15	0.15	0.15	0.15
Recommended workpiece weight	[kg]	0.115	0.115	0.115	0.115
Air consumption per double stroke	[cm ³]	2	2	2	2
Min./max. operating pressure	[bar]	2/7	2/7	2/7	2/7
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.13/0.1	0.13/0.1	0.13/0.1	0.13/0.1
Max. permitted finger length	[mm]	25	25	25	25
Max. permitted weight per finger	[kg]	0.05	0.05	0.05	0.05
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02

Main view



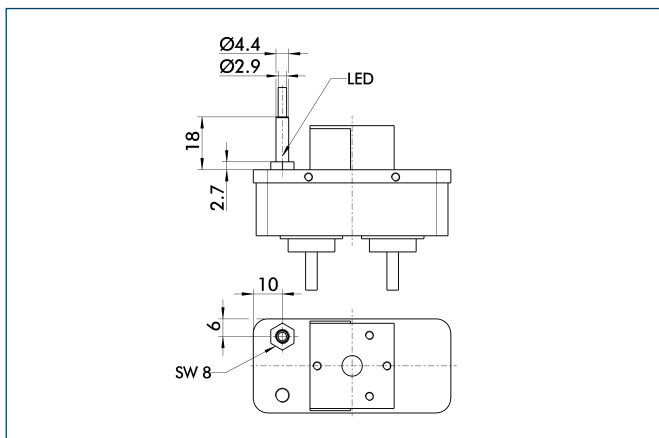
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

Attachment to the proximity switch



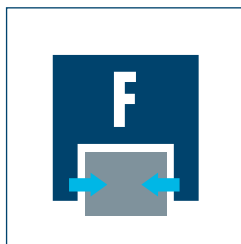
For PX-versions, the scope of delivery comprises the sensor and installation material.



Sizes
8 ... 40



Weight
0.03 kg ... 1.6 kg



Gripping force
26 N ... 1090 N



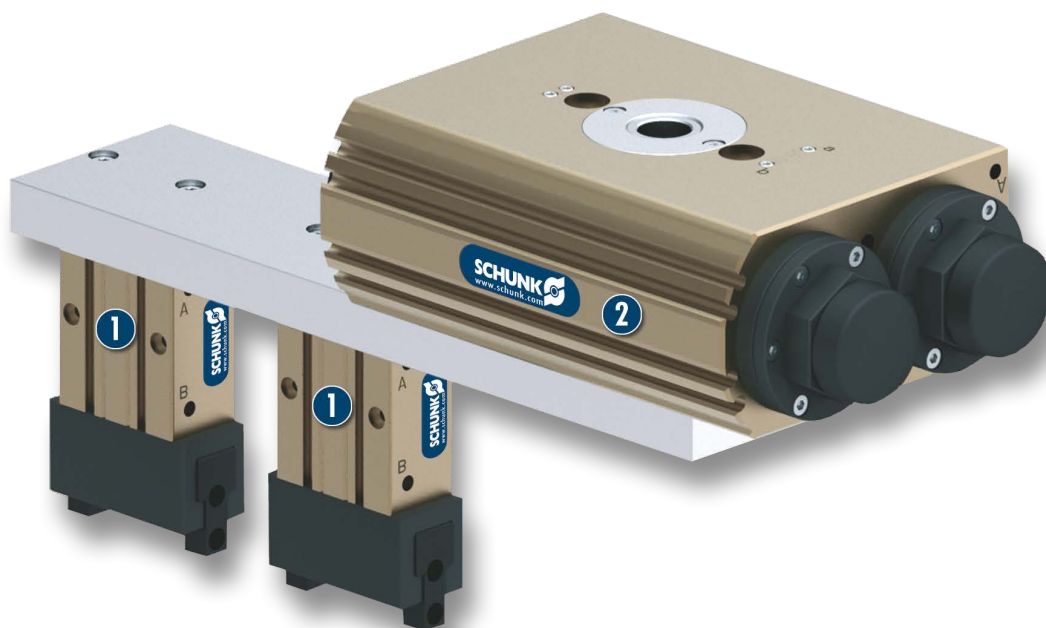
Stroke per finger
2 mm ... 13 mm



Workpiece weight
0.13 kg ... 4.2 kg



Application example



Pneumatic double transfer unit

- 1 2-Finger Parallel Gripper LGP
- 2 Universal Rotary Actuator SRU-plus

Universal Gripper

universal 2-Finger Parallel Gripper with T-slot guidance and excellent cost-performance ratio

Field of application

universal application in clean surroundings, such as assembly areas

Your advantages and benefits

Function optimized gripper type

for maximum cost effectiveness

Stable, ground T-groove slideway

for highest precision in handling

Matching SCHUNK C-slot switch

for process reliable position interrogation

Hard-anodized or hardened functional components

for long lifetime

Centering sleeves

for a repeat accurate exchange of grippers and fingers

Compact dimensions

for minimized interfering contours



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

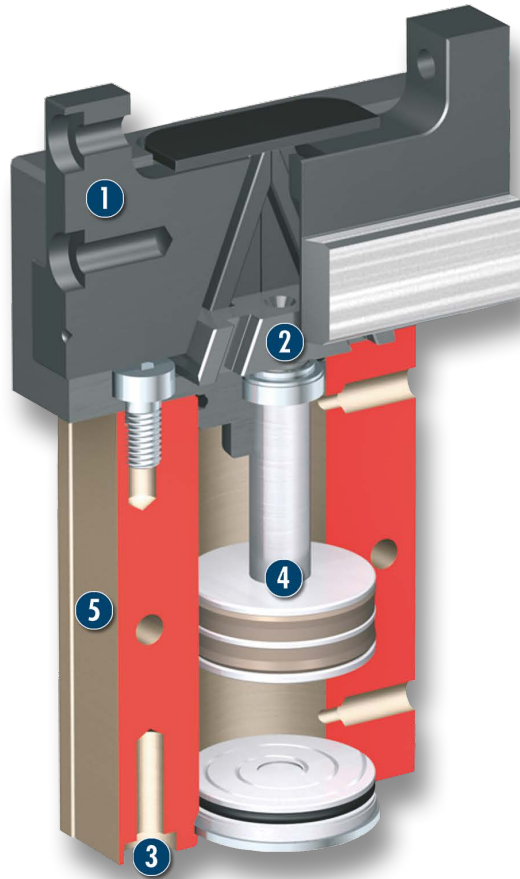
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering elements, assembly and operating instruction with manufacturer's declaration

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Centering and mounting possibilities**
for assembly of the gripper to a base area and at the long side
- 4 Drive**
pneumatic piston drive
- 5 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The round piston is moved up or down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Monitoring with a SCHUNK MMS 22 or RMS 22 sensor is not possible. The use of the recommended sensors MZN and RZN is not compulsory.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Inductive proximity switches



Programmable magnetic switch



Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

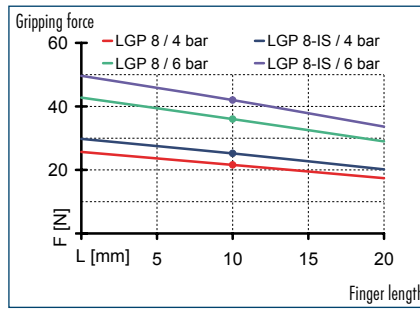
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

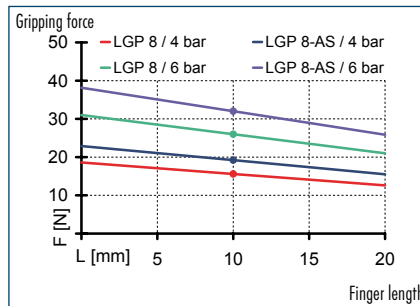
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



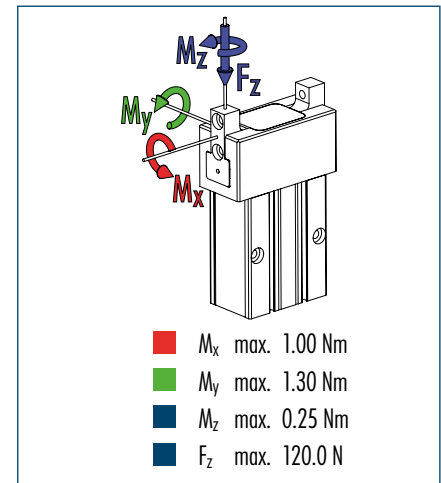
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 8	LGP 8-AS	LGP 8-IS
ID		0312900	0312901	0312902
Stroke per finger	[mm]	2	2	2
Closing force	[N]	26	32	
Opening force	[N]	36		42
Min. spring force	[N]		6	6
Weight	[kg]	0.03	0.04	0.04
Recommended workpiece weight	[kg]	0.13	0.13	0.13
Air consumption per double stroke	[cm ³]	0.9	0.9	0.9
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.01/0.01	0.01/0.02	0.02/0.01
Max. permitted finger length	[mm]	20	20	20
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

[illegible]

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

Technical drawing of the MMS-P sensor showing front and side views with dimensions.

Front View (Left):

- Overall width: 23
- Mounting flange thickness: 0.5
- Mounting flange diameter: 10
- Central vertical slot width: 6.6
- Four circular mounting holes are arranged in a 2x2 pattern.

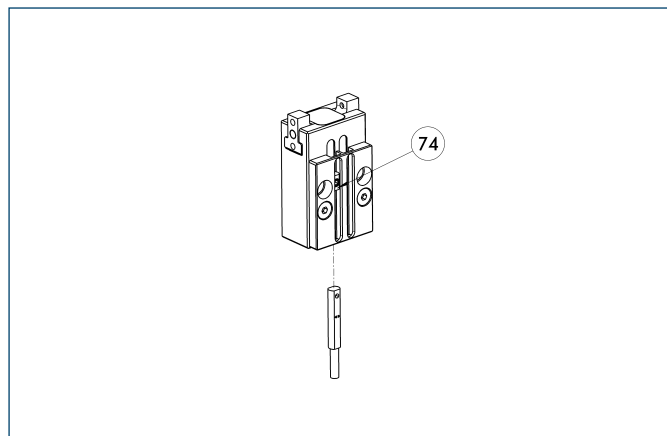
Side View (Right):

- Overall height: 29.5
- Top flange width: 16.5
- Top flange thickness: 0.5
- Bottom flange width: 3.5
- Bottom flange thickness: 0.5
- Central vertical slot depth: 29.5

Label: MMS-P

The magnetic switches have to be clamped together with the clamping plate at the gripper housing.

Programmable magnetic switch

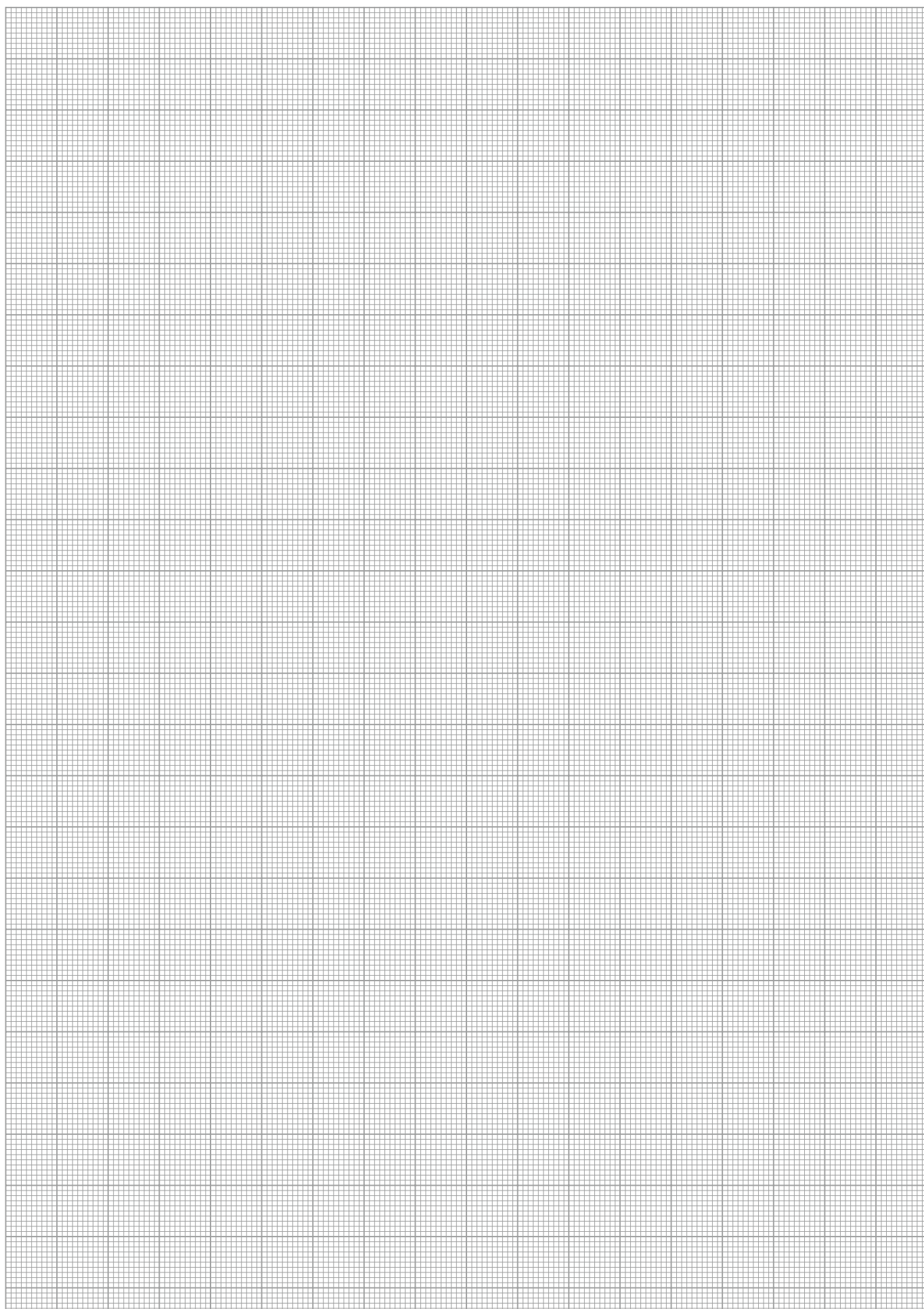


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

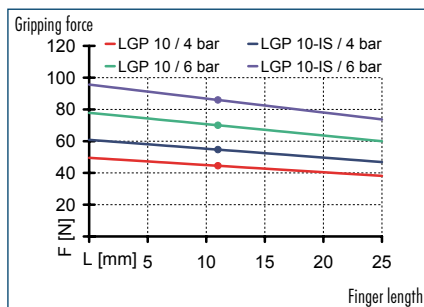
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

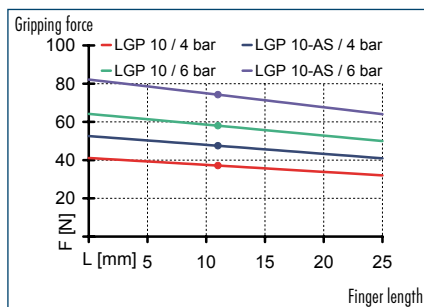




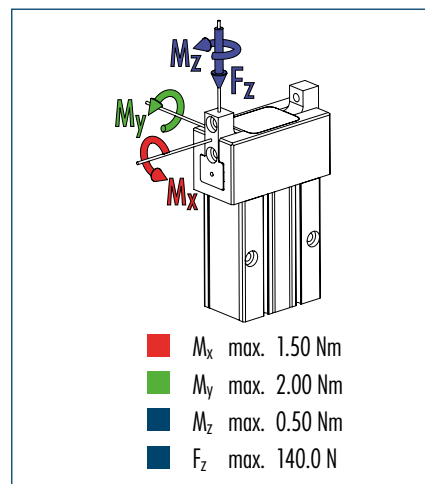
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

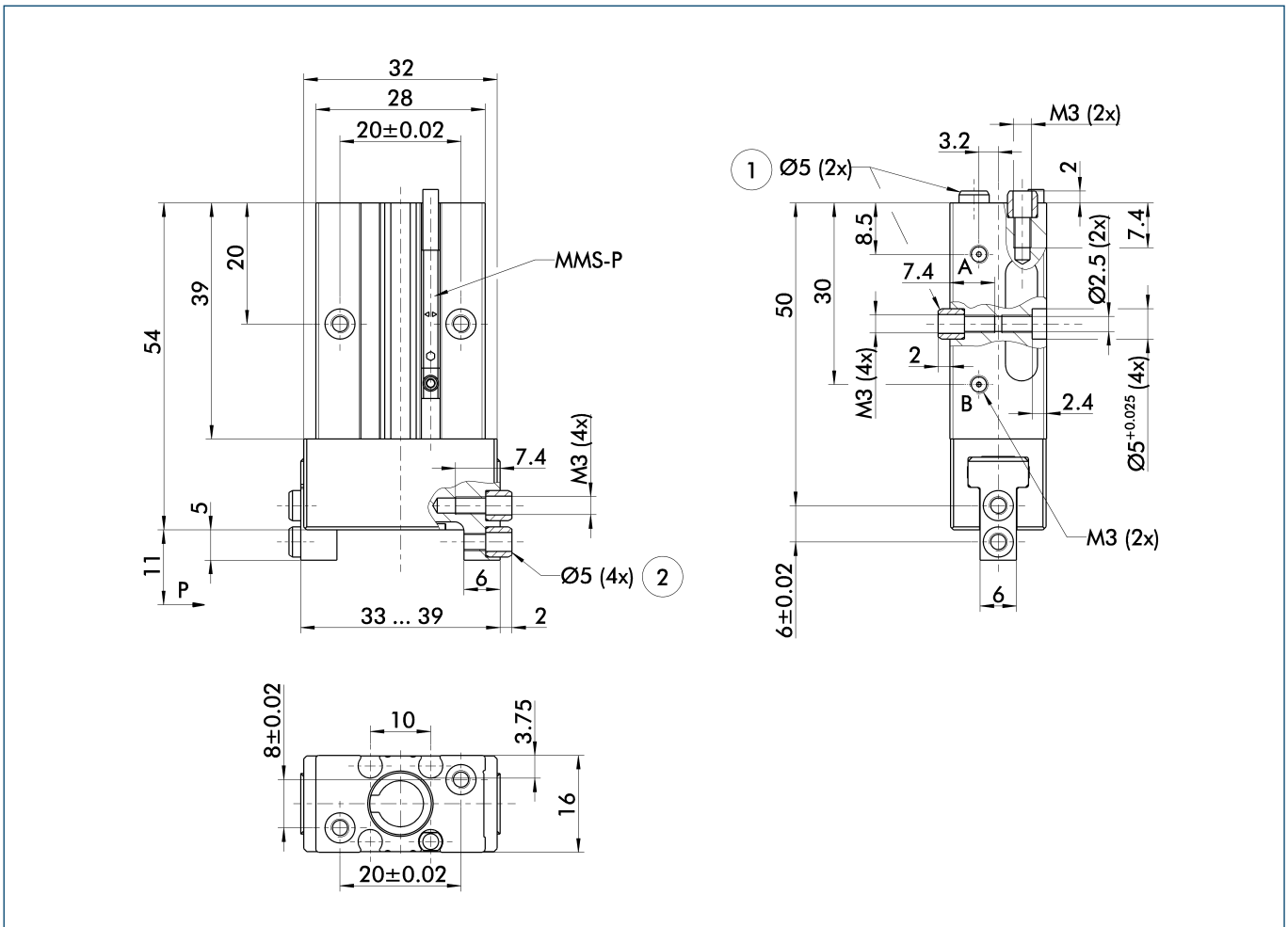


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 10	LGP 10-AS	LGP 10-IS
ID		0312903	0312904	0312905
Stroke per finger	[mm]	3	3	3
Closing force	[N]	58	74	
Opening force	[N]	70		86
Min. spring force	[N]		16	16
Weight	[kg]	0.07	0.08	0.08
Recommended workpiece weight	[kg]	0.29	0.29	0.29
Air consumption per double stroke	[cm ³]	1.8	1.8	1.8
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.01/0.01	0.01/0.02	0.02/0.01
Max. permitted finger length	[mm]	25	25	25
Max. permitted weight per finger	[kg]	0.04	0.04	0.04
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view

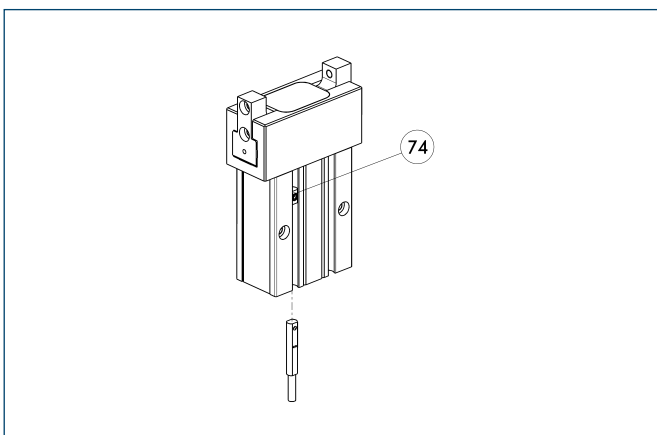


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

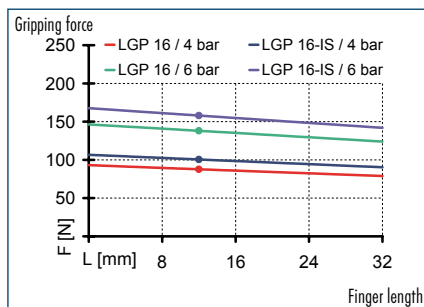
② Per gripper one sensor (closer/NO) is required, optionally a cable extension.



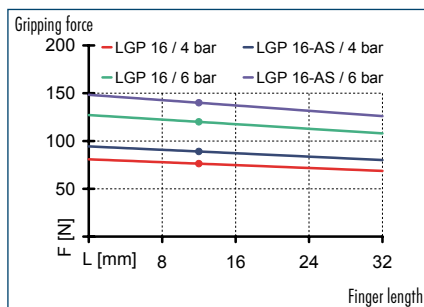
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



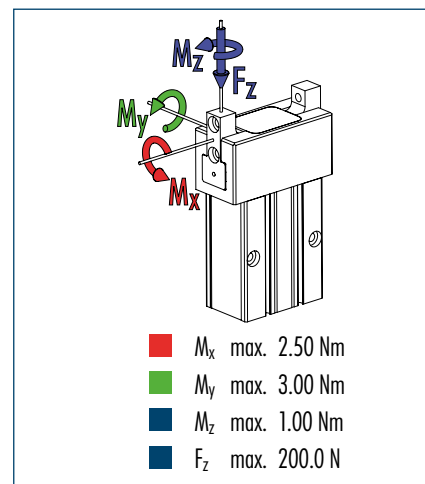
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

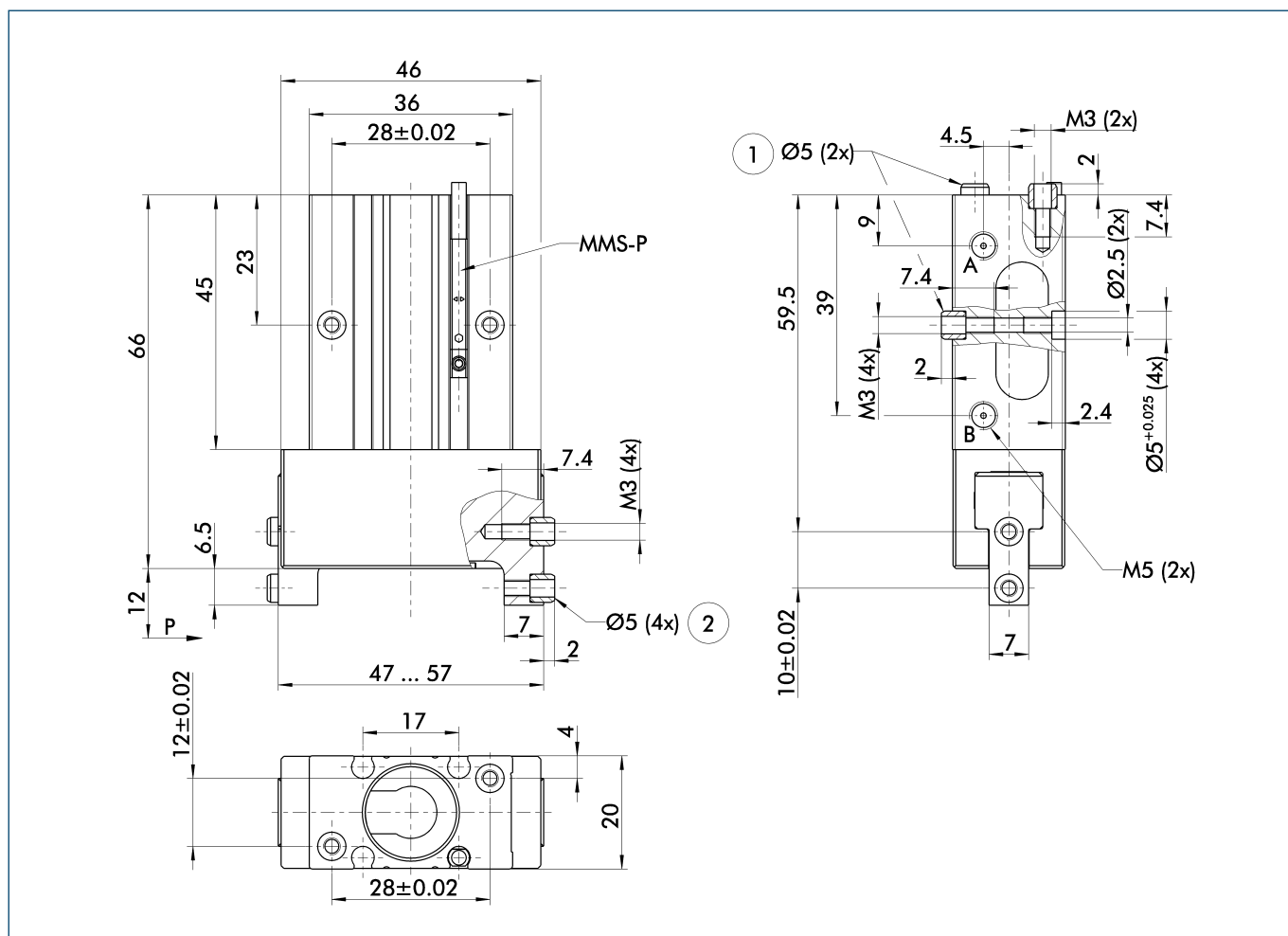


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 16	LGP 16-AS	LGP 16-IS
ID		0312906	0312907	0312908
Stroke per finger	[mm]	5	5	5
Closing force	[N]	120	140	
Opening force	[N]	138		158
Min. spring force	[N]		20	20
Weight	[kg]	0.15	0.16	0.16
Recommended workpiece weight	[kg]	0.6	0.6	0.6
Air consumption per double stroke	[cm ³]	7	7	7
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.03/0.02
Max. permitted finger length	[mm]	32	32	32
Max. permitted weight per finger	[kg]	0.06	0.06	0.06
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view

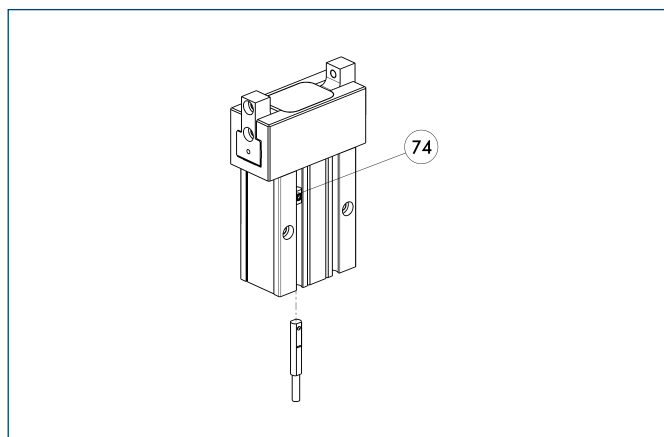


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

Programmable magnetic switch



⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

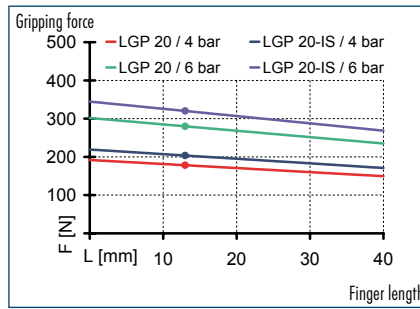
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

 Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

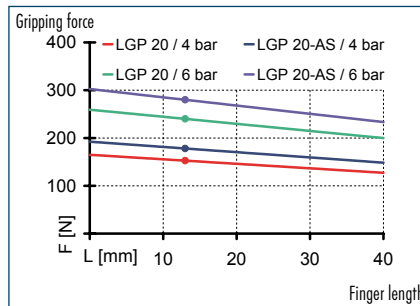
 Per gripper one sensor (closer/NO) is required, optionally a cable extension.



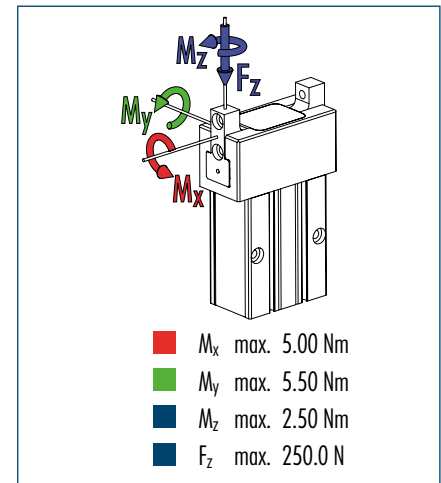
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 20	LGP 20-AS	LGP 20-IS
ID		0312909	0312910	0312911
Stroke per finger	[mm]	6	6	6
Closing force	[N]	240	280	
Opening force	[N]	280		320
Min. spring force	[N]		40	40
Weight	[kg]	0.24	0.25	0.25
Recommended workpiece weight	[kg]	1.2	1.2	1.2
Air consumption per double stroke	[cm ³]	13	13	13
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	40	40	40
Max. permitted weight per finger	[kg]	0.09	0.09	0.09
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Technical drawing of a mechanical part, showing three views: front, top, and side. The drawing includes dimensions and labels for various components.

Front View:

- Overall width: 50
- Inner width: 42
- Dimension: 32 ± 0.02
- Dimension: 77.5
- Dimension: 52
- Dimension: 26
- Label: MMS-P
- Dimension: 10
- Label: M4 (4x)
- Dimension: 7.5
- Dimension: 13
- Dimension: 51 ... 63
- Dimension: 8
- Dimension: 2.5
- Label: Ø6 (4x) (2)

Top View:

- Dimension: 19
- Dimension: 3.8
- Dimension: 24
- Dimension: 32 ± 0.02

Side View:

- Dimension: 69
- Dimension: 44.5
- Dimension: 11
- Dimension: 10
- Label: M4 (4x)
- Dimension: 2.5
- Dimension: 5.5
- Label: M4 (2x)
- Dimension: 2.5
- Dimension: 10
- Label: Ø3.3 (2x)
- Dimension: 10
- Label: Ø6 +0.025 (4x)
- Dimension: 2.9
- Label: M5 (2x)
- Dimension: 8
- Dimension: 12 ± 0.02

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

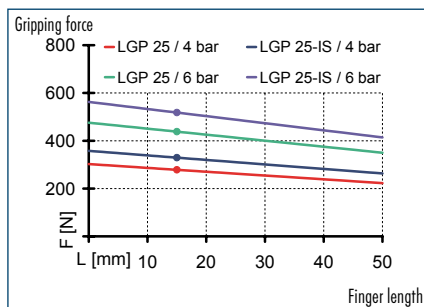
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

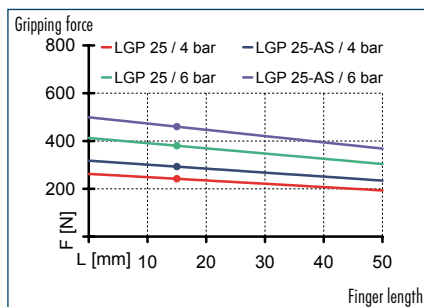
- ❶ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❷ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



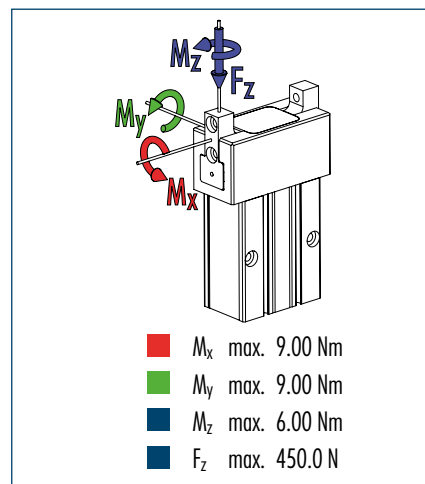
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

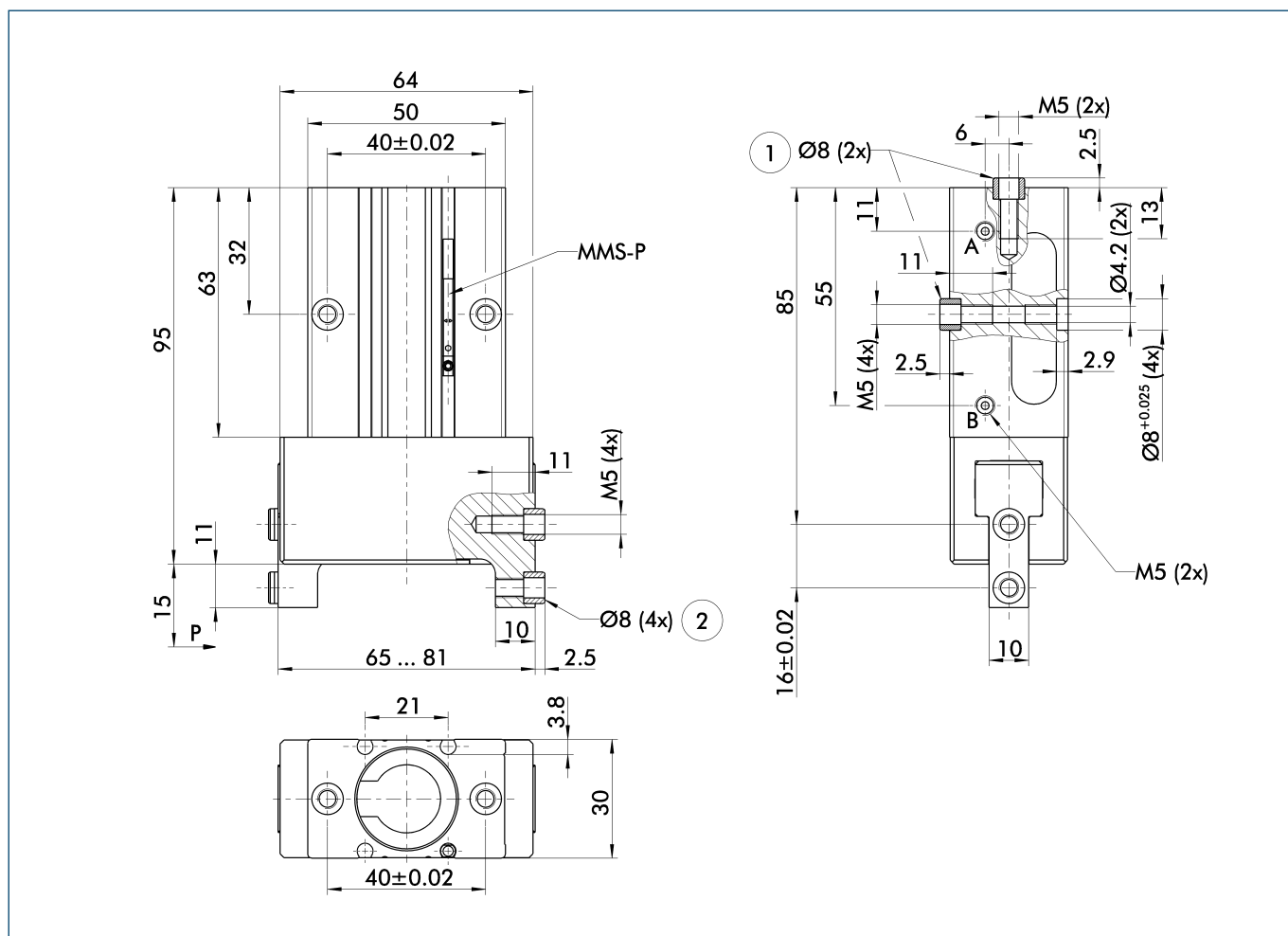


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 25	LGP 25-AS	LGP 25-IS
ID		0312912	0312913	0312914
Stroke per finger	[mm]	8	8	8
Closing force	[N]	380	460	
Opening force	[N]	438		518
Min. spring force	[N]		80	80
Weight	[kg]	0.46	0.48	0.48
Recommended workpiece weight	[kg]	1.9	1.9	1.9
Air consumption per double stroke	[cm ³]	27	27	27
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.05/0.05	0.04/0.07	0.07/0.04
Max. permitted finger length	[mm]	50	50	50
Max. permitted weight per finger	[kg]	0.12	0.12	0.12
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view

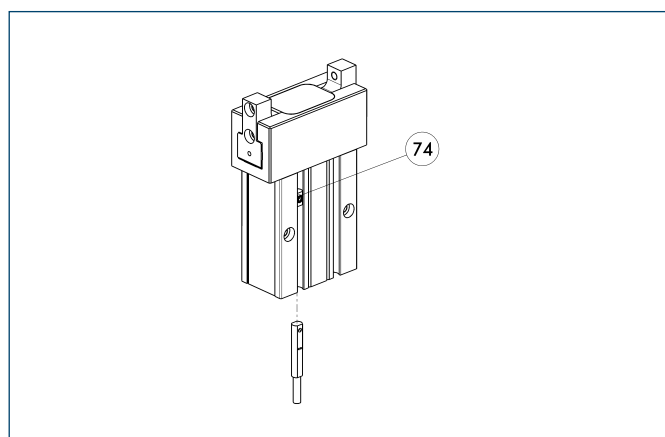


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

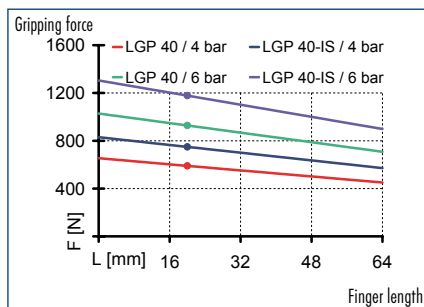
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ② Per gripper one sensor (closer/NO) is required, optionally a cable extension.

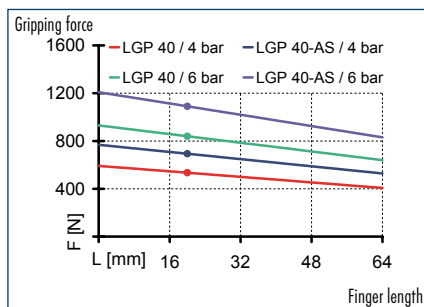




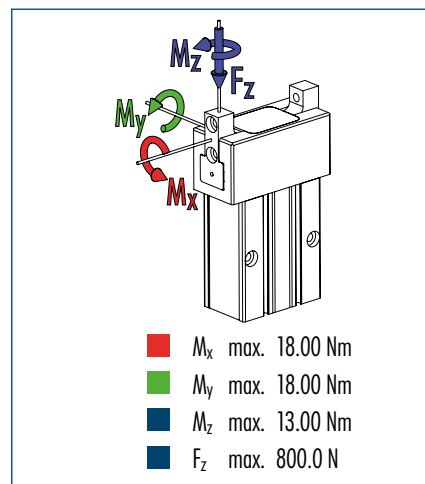
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

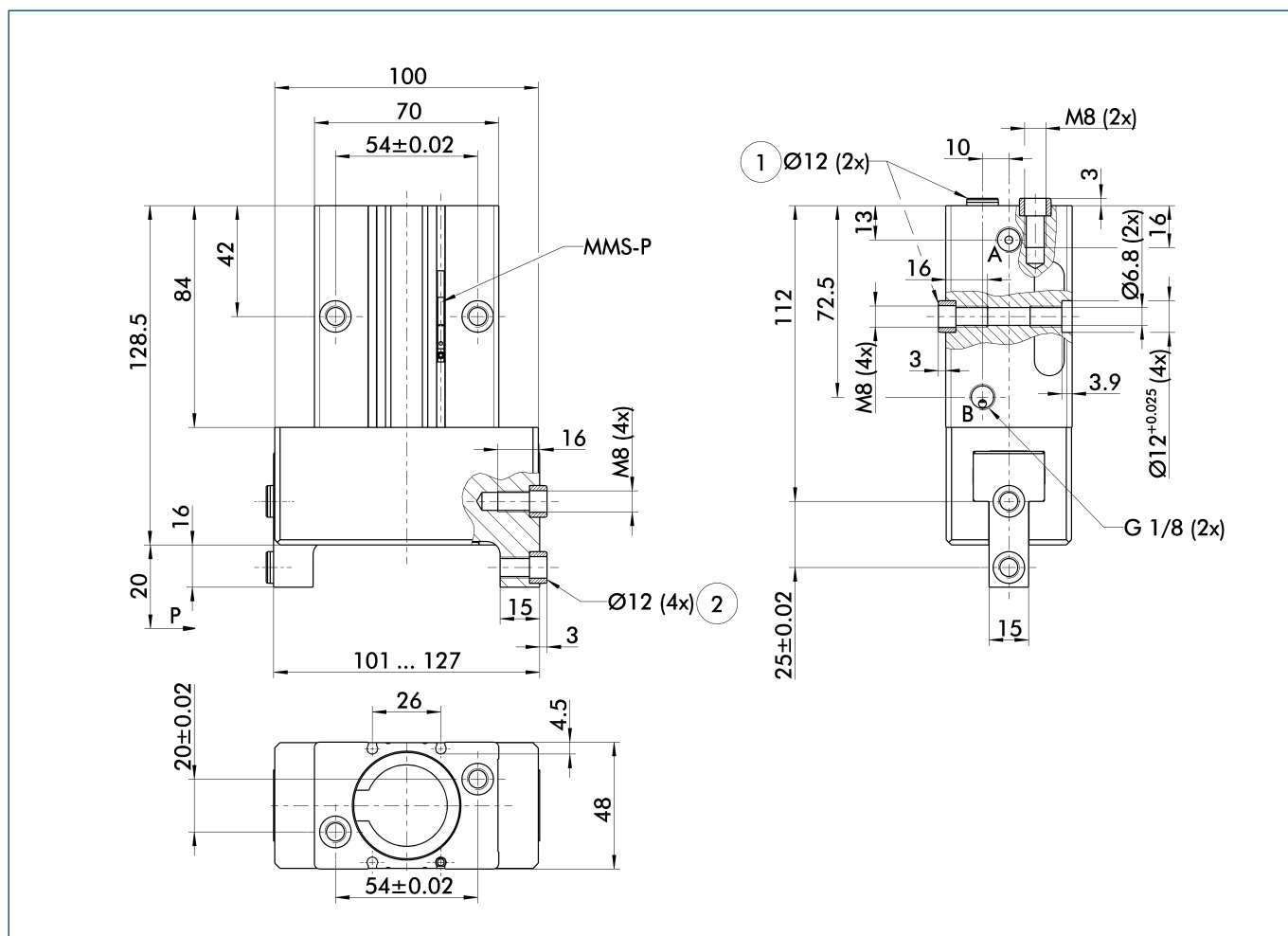


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGP 40	LGP 40-AS	LGP 40-IS
ID		0312915	0312916	0312917
Stroke per finger	[mm]	13	13	13
Closing force	[N]	840	1090	
Opening force	[N]	928		1178
Min. spring force	[N]		250	250
Weight	[kg]	1.5	1.6	1.6
Recommended workpiece weight	[kg]	4.2	4.2	4.2
Air consumption per double stroke	[cm ³]	89	89	89
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.1/0.1	0.08/0.12	0.12/0.08
Max. permitted finger length	[mm]	64	64	64
Max. permitted weight per finger	[kg]	0.3	0.3	0.3
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view

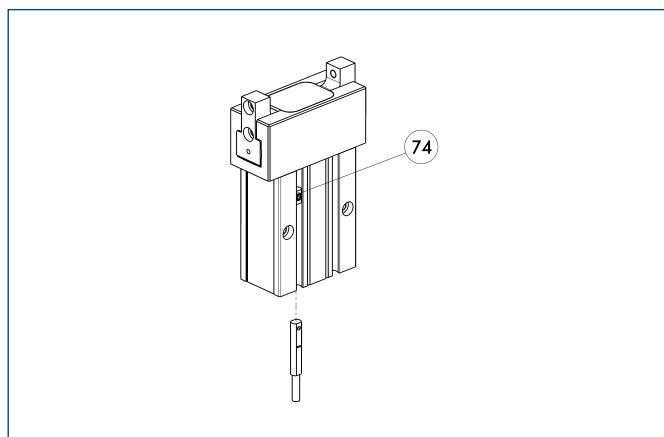


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

Programmable magnetic switch



⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

 Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

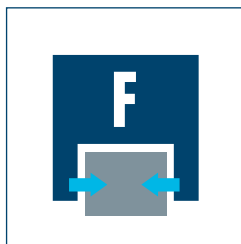
 Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Sizes
40 ... 380



Weight
0.08 kg ... 39.5 kg



Gripping force
123 N ... 21150 N



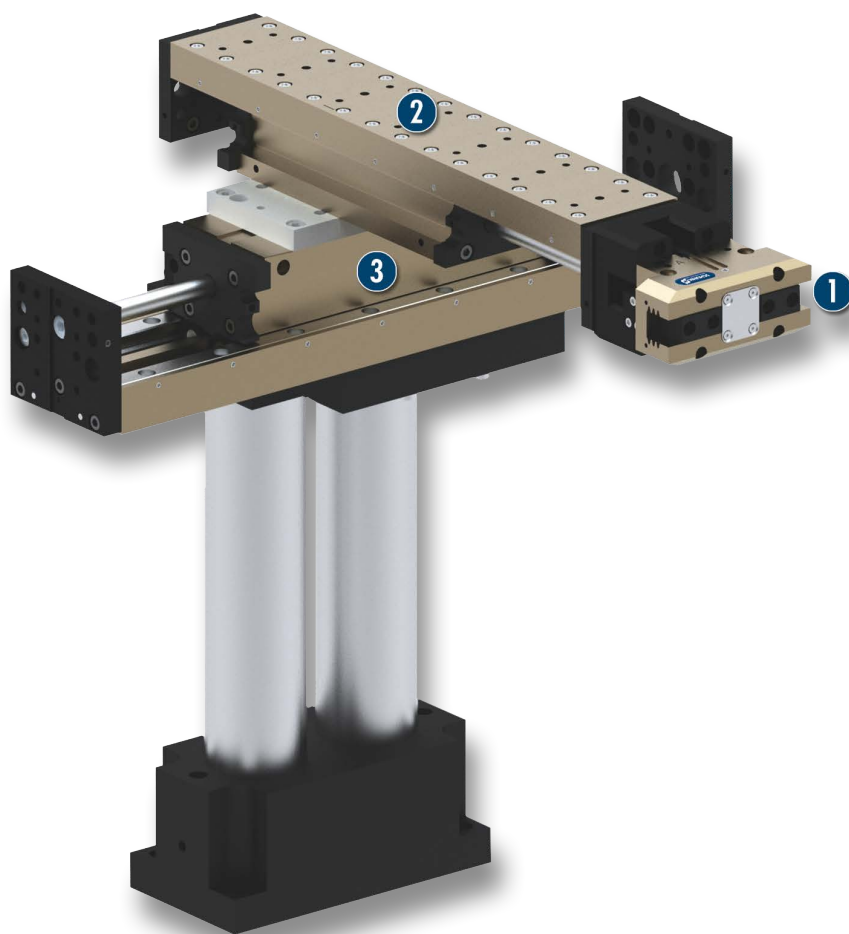
Stroke per finger
2 mm ... 45 mm



Workpiece weight
0.62 kg ... 80.5 kg



Application example



Pick-and-place unit for light to medium-weight components

1 2-Finger Parallel Gripper PGN-plus

2 Linear module LM

3 Linear module LM

Universal Gripper

Universal 2-finger parallel gripper with large gripping force and high maximum moments thanks to multi-tooth guidance.

Field of application

Ideal standard solution for numerous fields of application. For universal use in clean to slightly dirty environments. Special versions available for dirty environments.

Your advantages and benefits

Robust multi-tooth guidance

for precise handling

High maximum moments possible

suitable for using long gripper fingers

Drive concept oval piston

for maximum gripping forces

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for universal and flexible gripper assembly

Comprehensive sensor accessory program

for versatile interrogation possibilities and control of stroke position

Compact dimensions

for minimal interfering contours in handling

Manifold options

for perfect adaption to your case of application (dust protection, high temperature, anti-corrosion and many more)



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

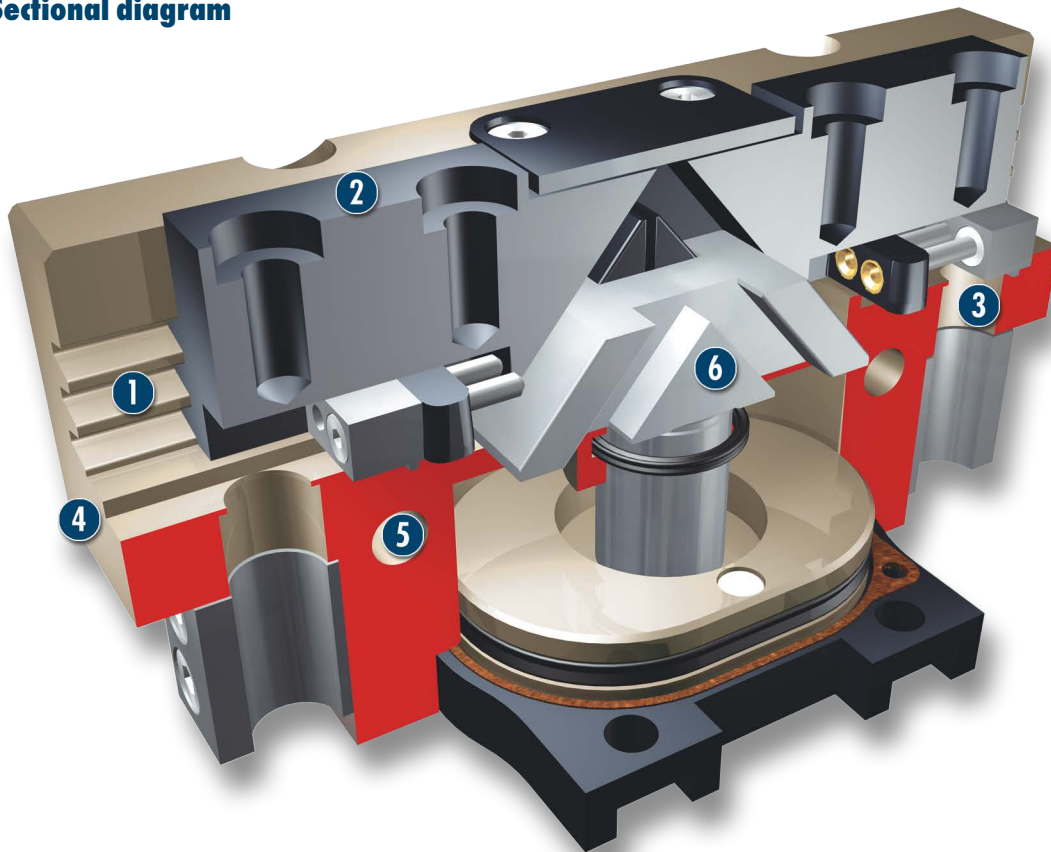
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1 Multiple-tooth guidance**
high-loadable base jaw guidance with minimum play for long fingers
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Sensor system**
Brackets for proximity switches and adjustable control cams in the housing
- 4 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 5 Centering and mounting possibilities**
for universal assembly of the gripper
- 6 Wedge-hook design**
for high power transmission and centric gripping

Functional description

The oval piston is moved up or down by means of compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Dust-protection version

Absolutely sealed, increased degree of protection against the ingress of materials, for use in dusty environments

Anti-corrosion version

for use in corrosion-inducing atmospheres

High-temperature version

for use in hot environments

Force intensified version

if higher gripping forces are required

Precision version

for a higher accuracy

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Sensor system



Fittings



Universal intermediate jaw



Compensation unit



Protection cover



Quick-change Jaw System



Sensor cables



Sensor Distributor



Pressure maintenance valve



Finger blanks



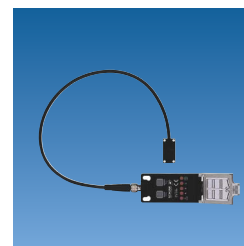
Force measuring jaws



Analog position sensor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

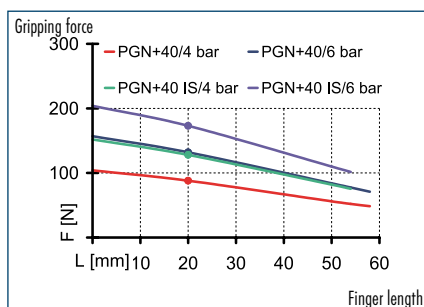
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

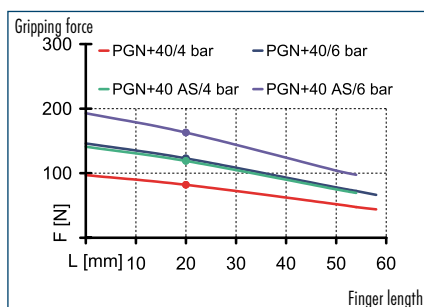
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



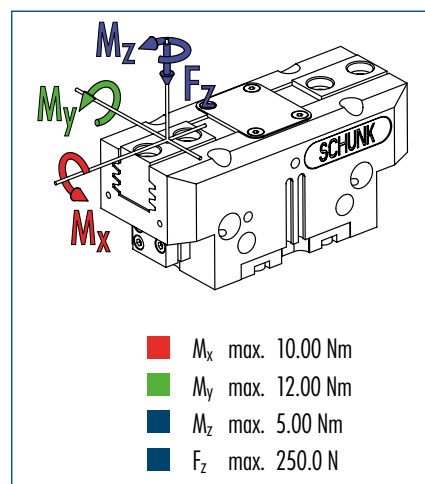
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

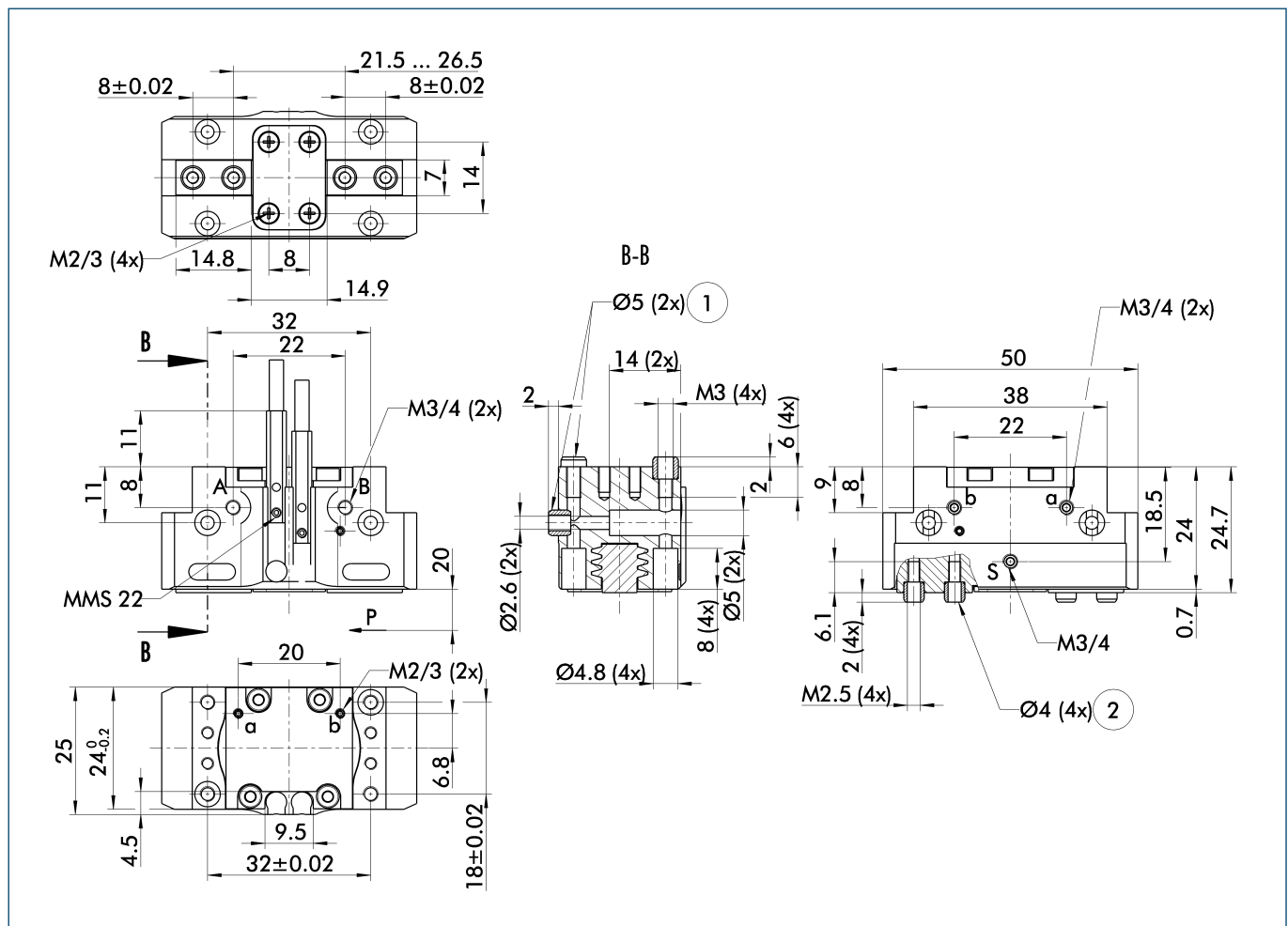
Technical data

Description		PGN-plus 40	PGN-plus 40-AS	PGN-plus 40-IS
ID		0371080	0371082	0371084
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	123	163	
Opening force	[N]	132		
Min. spring force	[N]		40	50
Weight	[kg]	0.08	0.1	0.1
Recommended workpiece weight	[kg]	0.62	0.62	0.62
Air consumption per double stroke	[cm ³]	2.5	5.5	5.5
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.03/0.02
Max. permitted finger length	[mm]	58	54	54
Max. permitted weight per finger	[kg]	0.1	0.1	0.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

OPTIONS and their characteristics

Dust-protection version		37371080	37371082	37371084
IP class		64	64	64
Weight	[kg]	0.1	0.12	0.12
Anti-corrosion version		38371080	38371082	38371084
High-temperature version		39371080	39371082	39371084
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 40-KVZ	PGN-plus 40-AS-KVZ	PGN-plus 40-IS-KVZ
ID		0372098	0372398	0372458
Closing force	[N]	225	265	
Opening force	[N]	235		285
Weight	[kg]	0.11	0.13	0.13
Maximum pressure	[bar]	8	6	6
Max. permitted finger length	[mm]	50	50	50
Precision version		0371120	0371420	

Main view



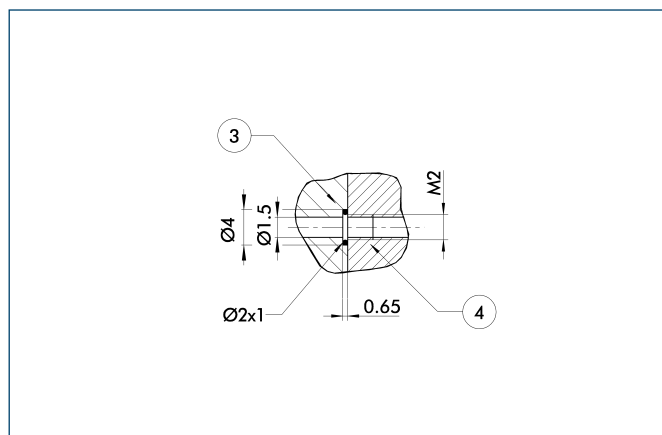
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection, or deaeration bore

① Gripper connection
② Finger connection

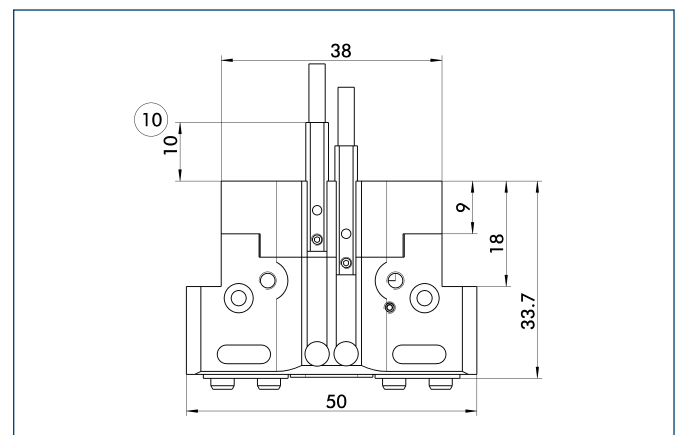
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

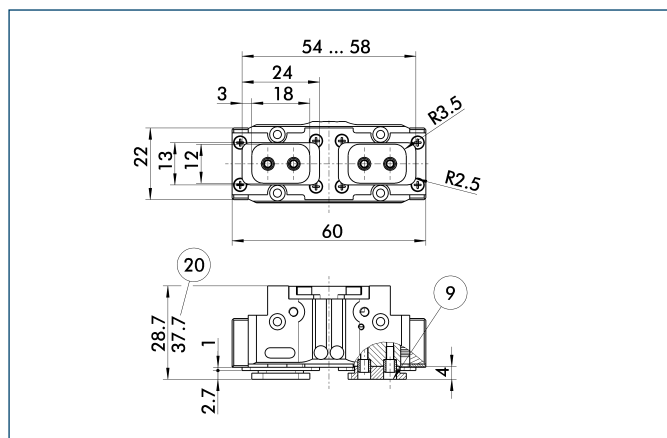
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

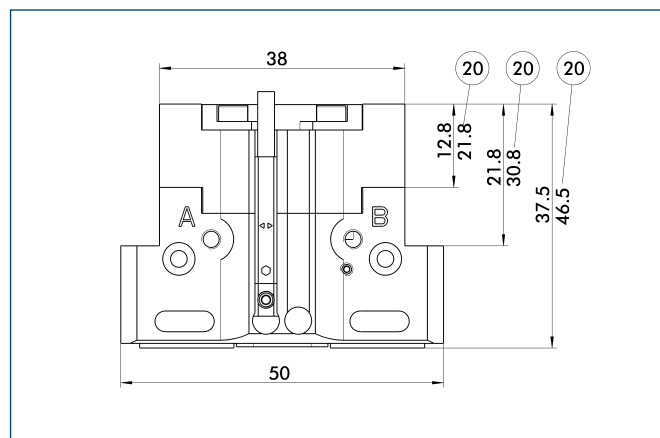
Dust-protection version



⑨ For mounting screw connection diagram, see basic version ⑳ For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

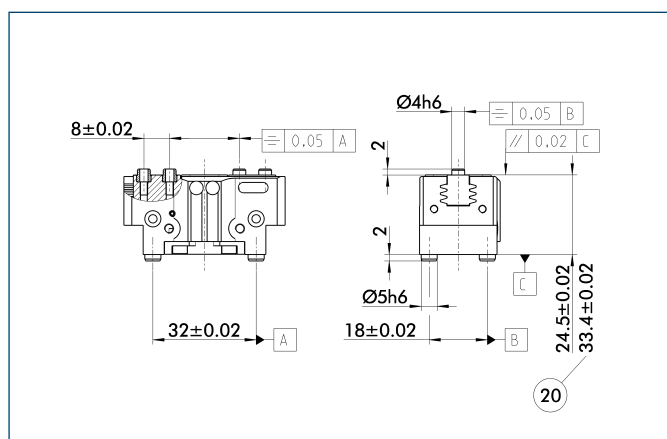
Force intensified version



⑳ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

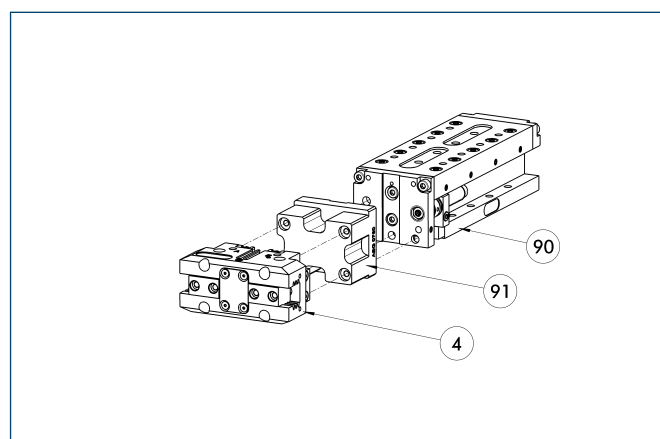
Precision version



⑳ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

Modular Assembly Automation

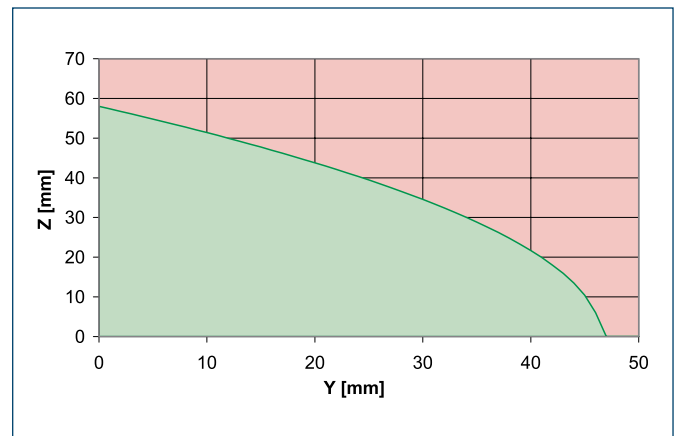
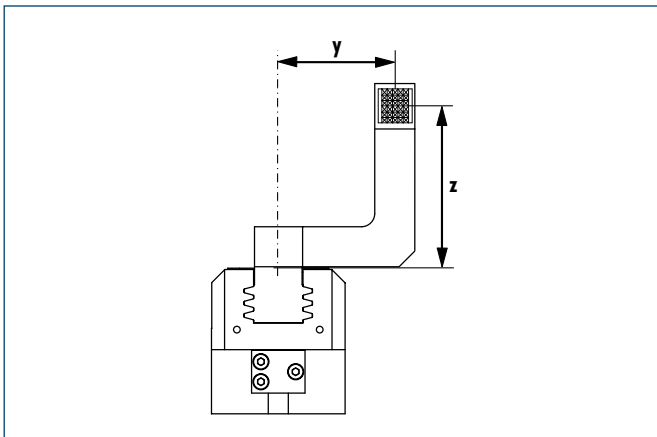


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

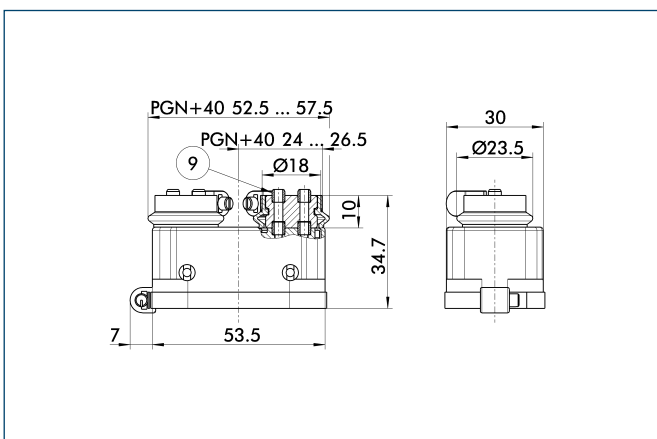
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

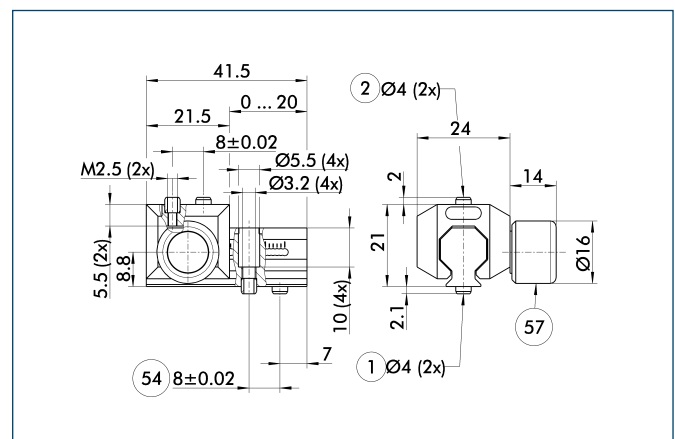


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 40	0371490	2

Universal intermediate jaw



① Gripper connection
② Finger connection

⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

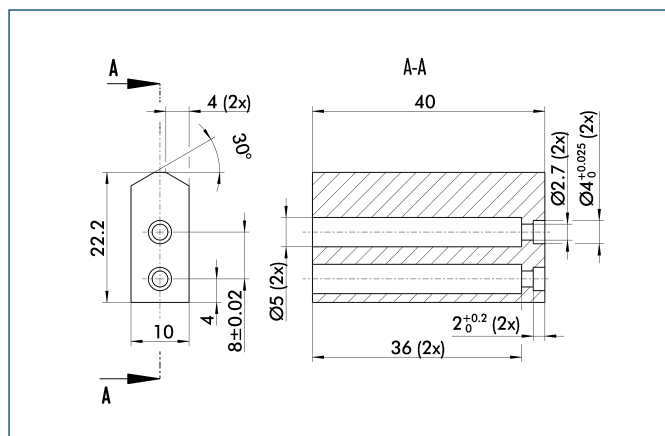
Description	ID	Grid dimension
Universal intermediate jaw		
UZH 40	0300040	1 mm

① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

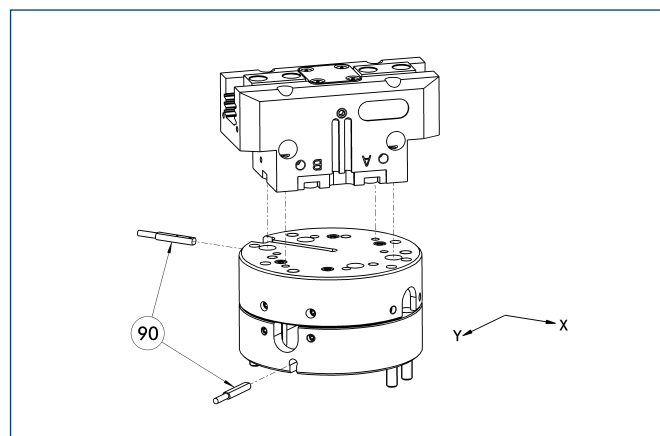
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 40	0300008	Aluminum	1
SBR-plus 40	0300018	16 MnCr 5	1

Compensation unit with spring reset

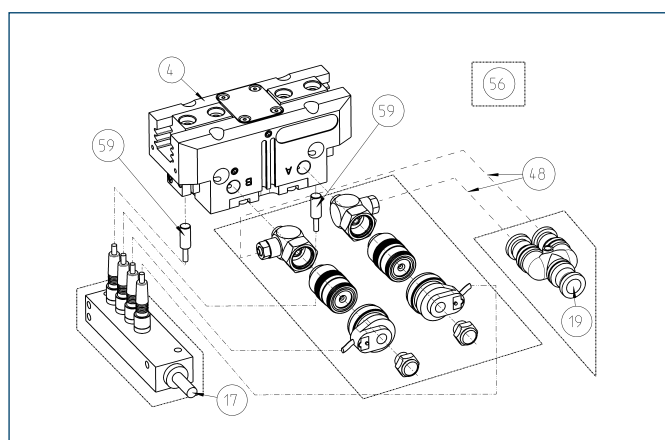


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Attachment valves

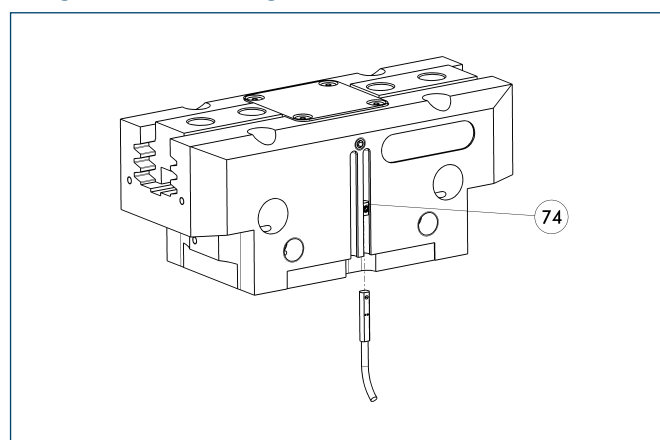


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M3	0303322
ABV-MV15-M3-V2-M8	0303384
ABV-MV15-M3-V4-M8	0303354
ABV-MV15-M3-V8-M8	0303355

Programmable magnetic switch



⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

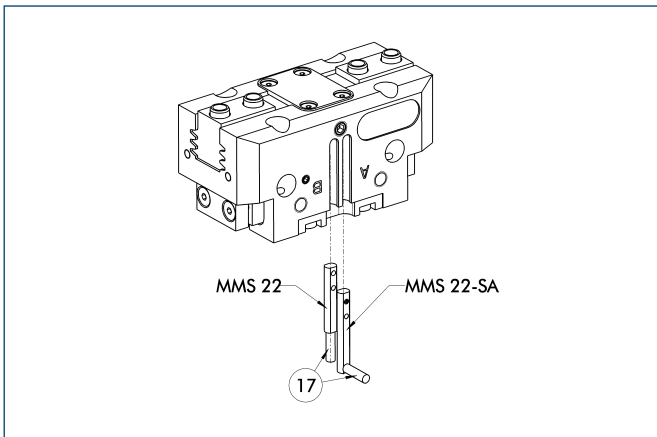
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

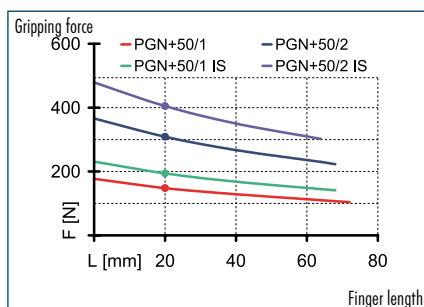
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



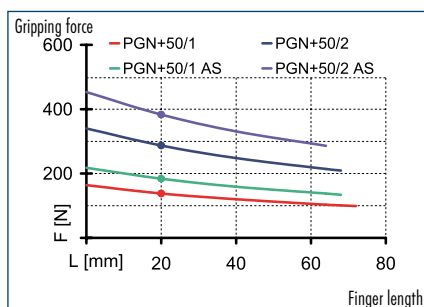
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



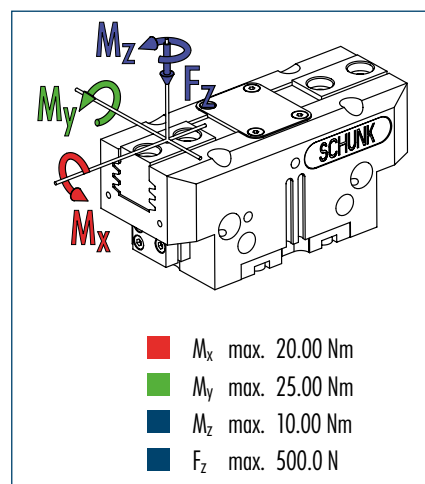
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

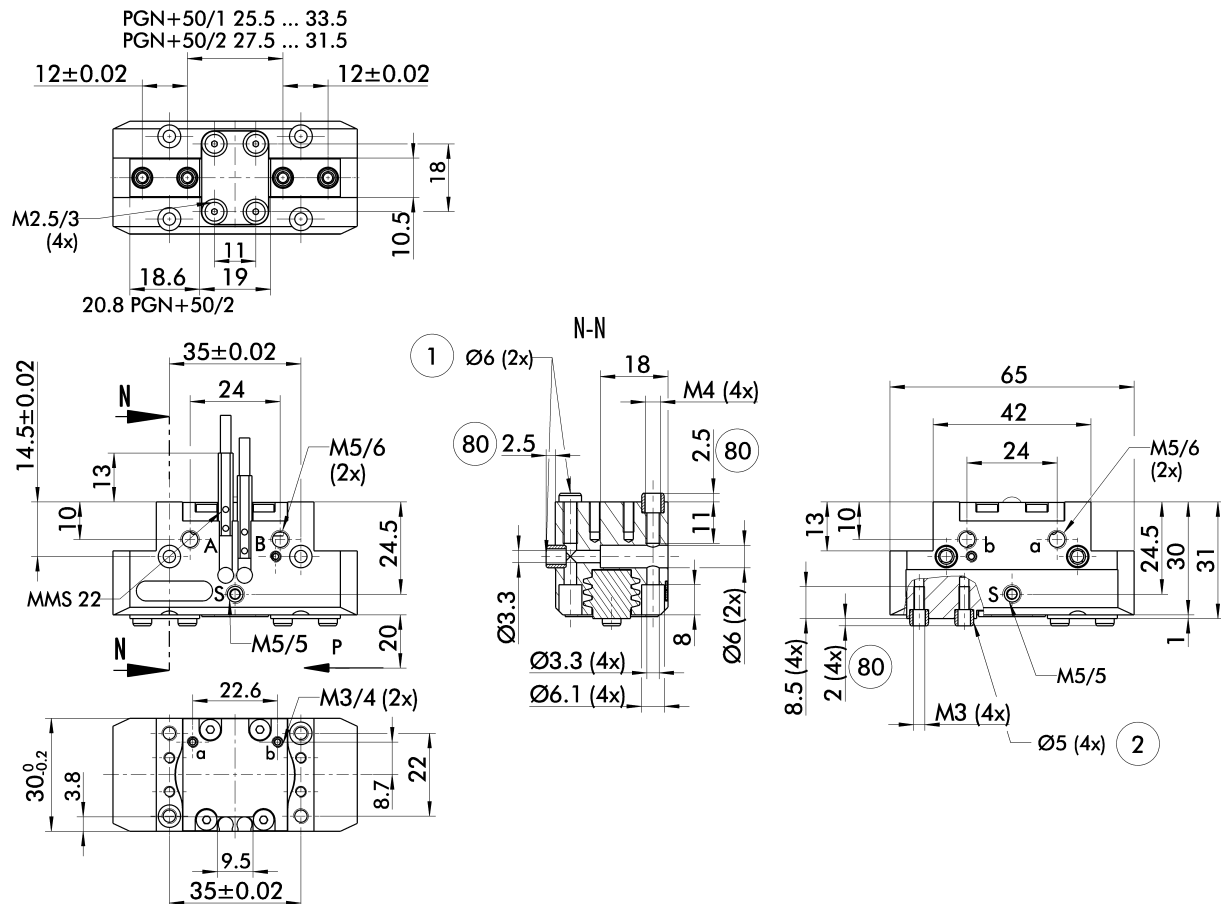
Technical data

Description		PGN-plus 50-1	PGN-plus 50-2	PGN-plus 50-1-AS	PGN-plus 50-2-AS	PGN-plus 50-1-IS	PGN-plus 50-2-IS
ID		0371099	0371149	0371399	0371449	0371459	0371469
Stroke per finger	[mm]	4	2	4	2	4	2
Closing force	[N]	140	290	185	385		
Opening force	[N]	145	310			190	405
Min. spring force	[N]			45	95	45	95
Weight	[kg]	0.17	0.17	0.21	0.21	0.21	0.21
Recommended workpiece weight	[kg]	0.7	1.45	0.7	1.45	0.7	1.45
Air consumption per double stroke	[cm³]	5	5	12	12	5	12
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.03	0.02/0.03	0.03/0.02	0.03/0.02
Max. permitted finger length	[mm]	72	68	68	68	64	64
Max. permitted weight per finger	[kg]	0.18	0.18	0.18	0.18	0.18	0.18
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371099	37371149	37371399	37371449	37371459	37371469
IP class		64	64	64	64	64	64
Weight	[kg]	0.2	0.2	0.24	0.24	0.24	0.24
Anti-corrosion version		38371099	38371149	38371399	38371449	38371459	38371469
High-temperature version		39371099	39371149	39371399	39371449	39371459	39371469
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 50-1-KVZ	PGN-plus 50-2-KVZ	PGN-plus 50-1-AS-KVZ		PGN-plus 50-1-IS-KVZ	
ID		0372099	0372149	0372399		0372459	
Closing force	[N]	250	520	295			
Opening force	[N]	260	560			305	
Weight	[kg]	0.21	0.21	0.26		0.26	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	64	50	50		50	
Precision version		0371121	0371171	0371421	0371436		

Main view

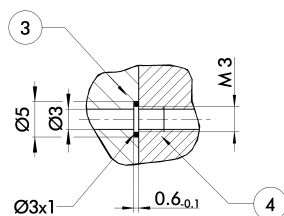


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|--|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | 80 | Depth of the centering sleeve hole in the matching part |
| S | Air purge connection, or deaeration bore | | |
| ① | Gripper connection | | |

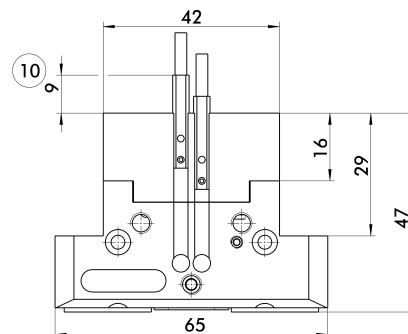
Hose-free direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

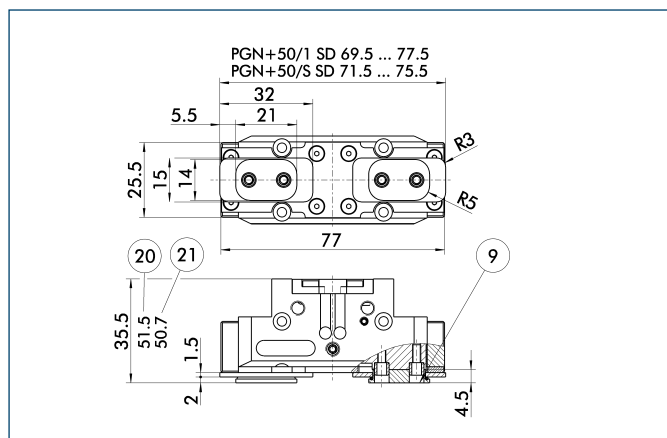
AS/IS gripping force maintenance device



- ⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

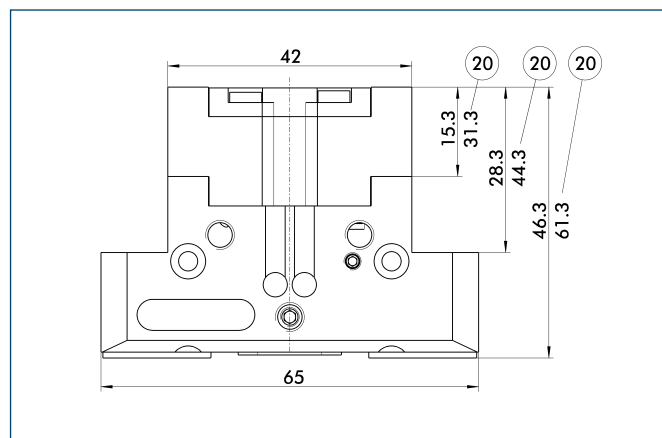
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
 ②① Applies for KVZ version
 ②② For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

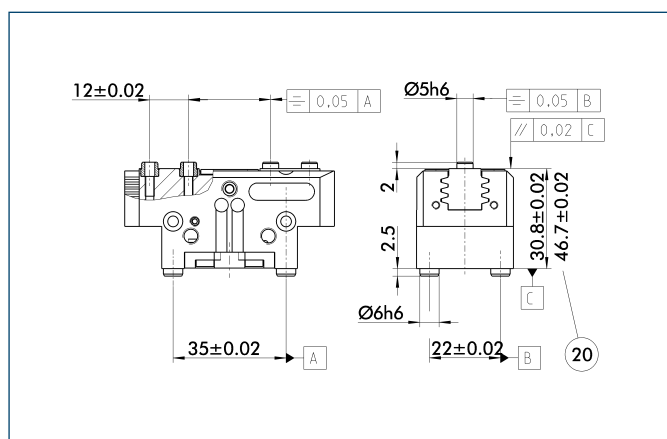
Force intensified version



- ②② For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

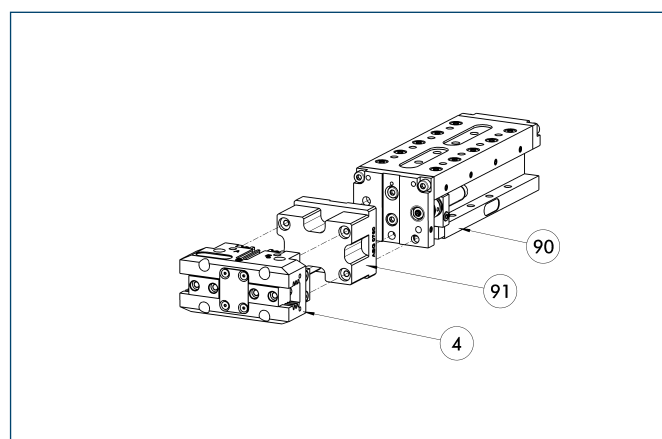
Precision version



- ②② For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

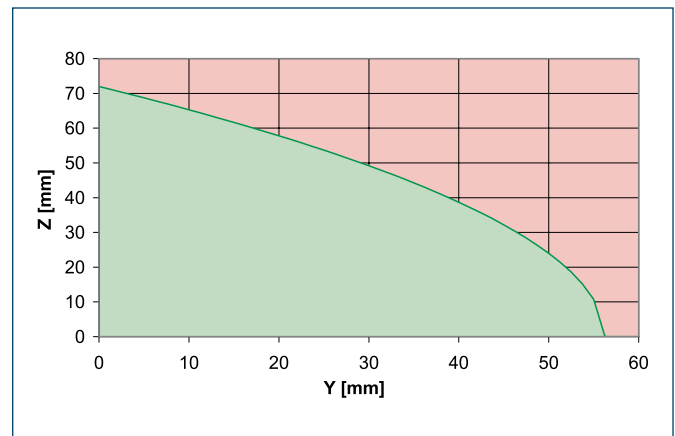
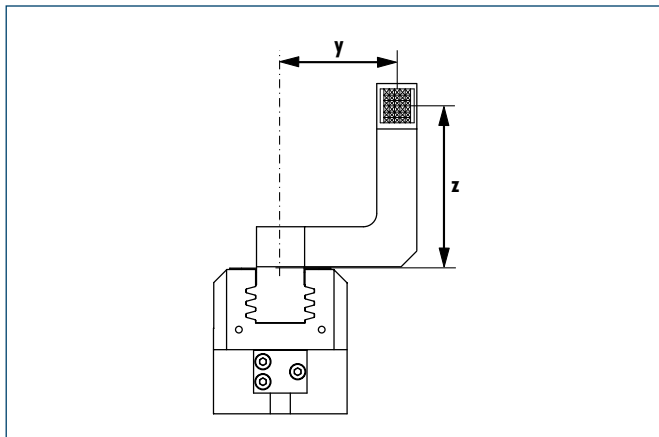
Modular Assembly Automation



- ④ Gripper
 ⑨① CLM
 ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

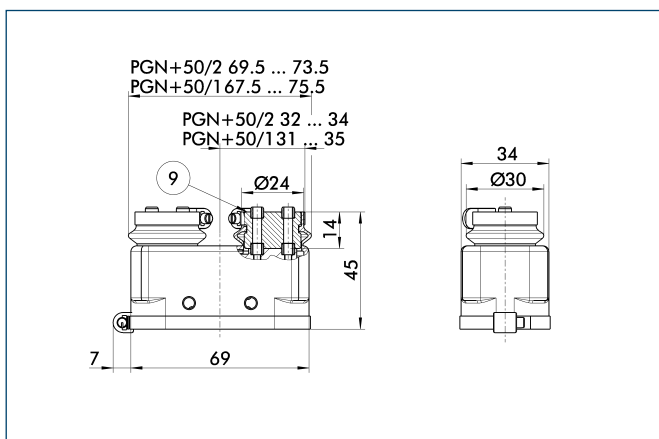
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

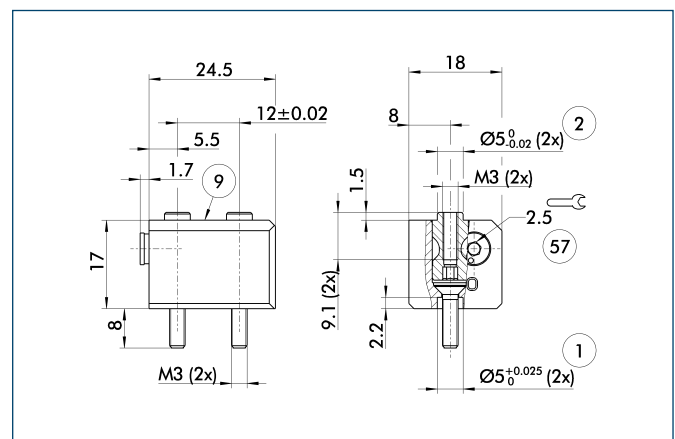


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 50	0371479	2

Quick-change Jaw System



① Gripper connection
 ② Finger connection
 ⑨ For mounting screw connection diagram, see basic version
 ⑤7 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

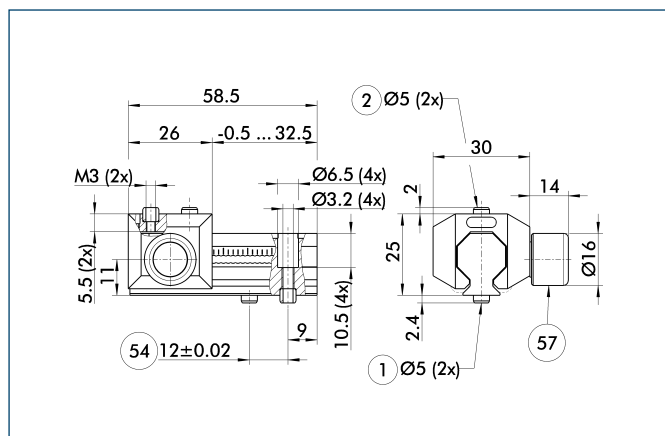
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



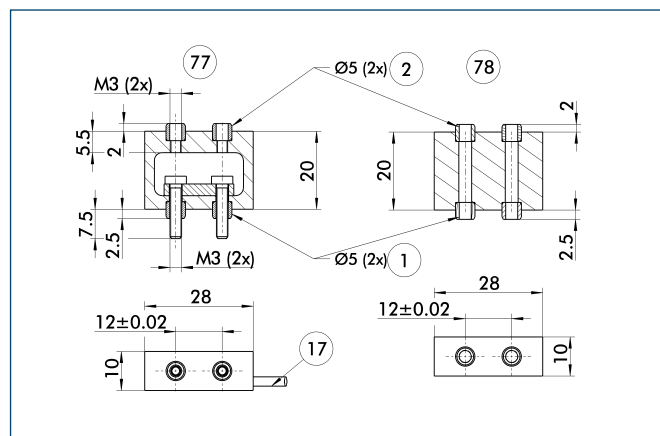
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 50	0300041	1.5 mm

- ① The slide UZF-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

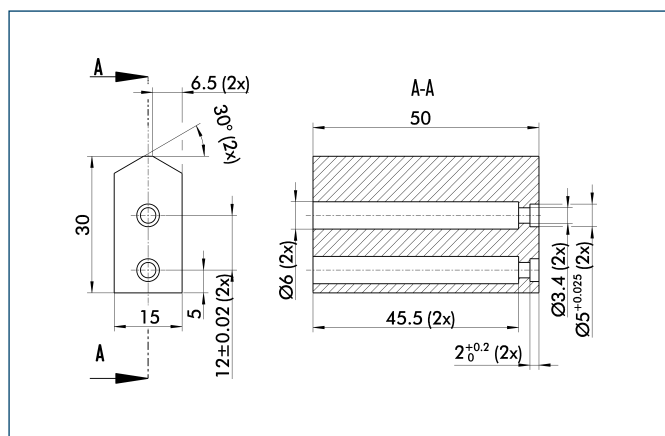


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

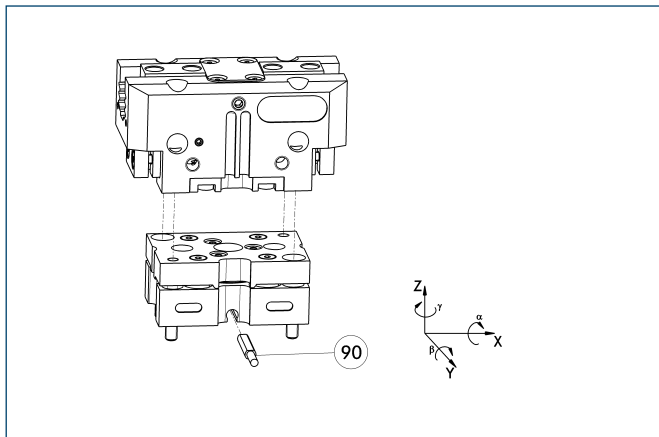


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

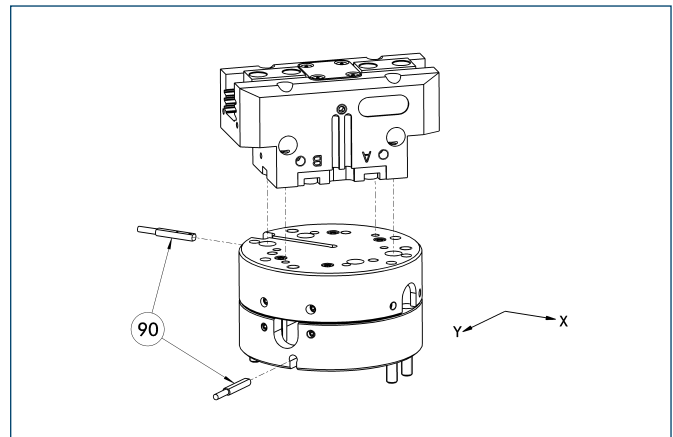


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-OV-P	0324757	No	$\pm 0^\circ / \pm 1^\circ / \pm 0^\circ$

Compensation unit with spring reset

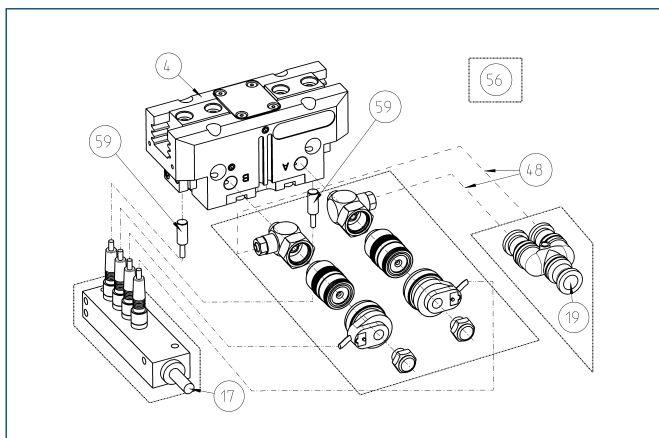


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	± 2 mm	1 N
AGE-F-XY-040-2	0324921	± 2 mm	2.5 N
AGE-F-XY-040-3	0324922	± 2 mm	3.3 N

Attachment valves

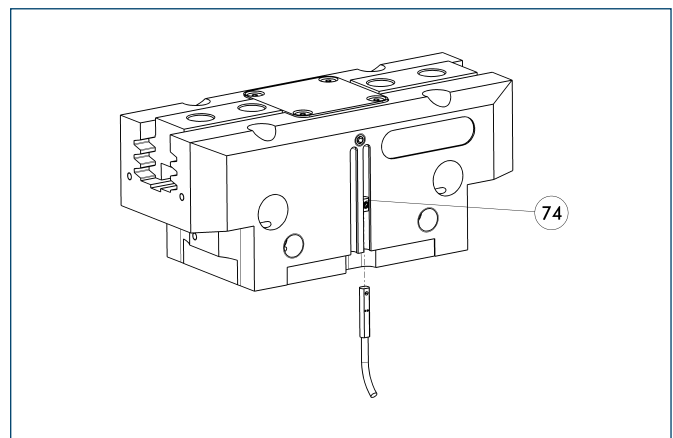


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M5	0303323
ABV-MV15-M5-V2-M8	0303386
ABV-MV15-M5-V4-M8	0303356
ABV-MV15-M5-V8-M8	0303357

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

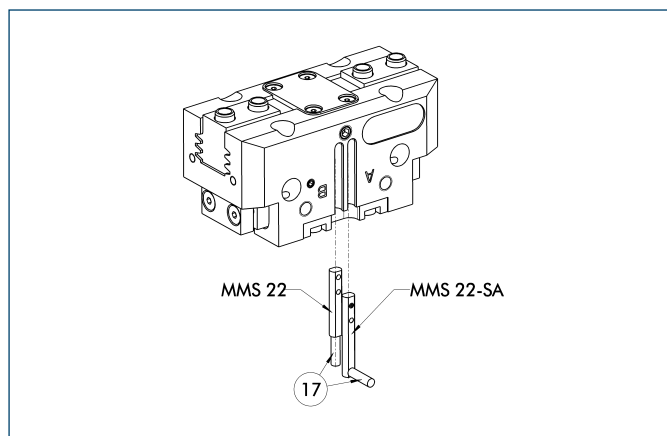
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



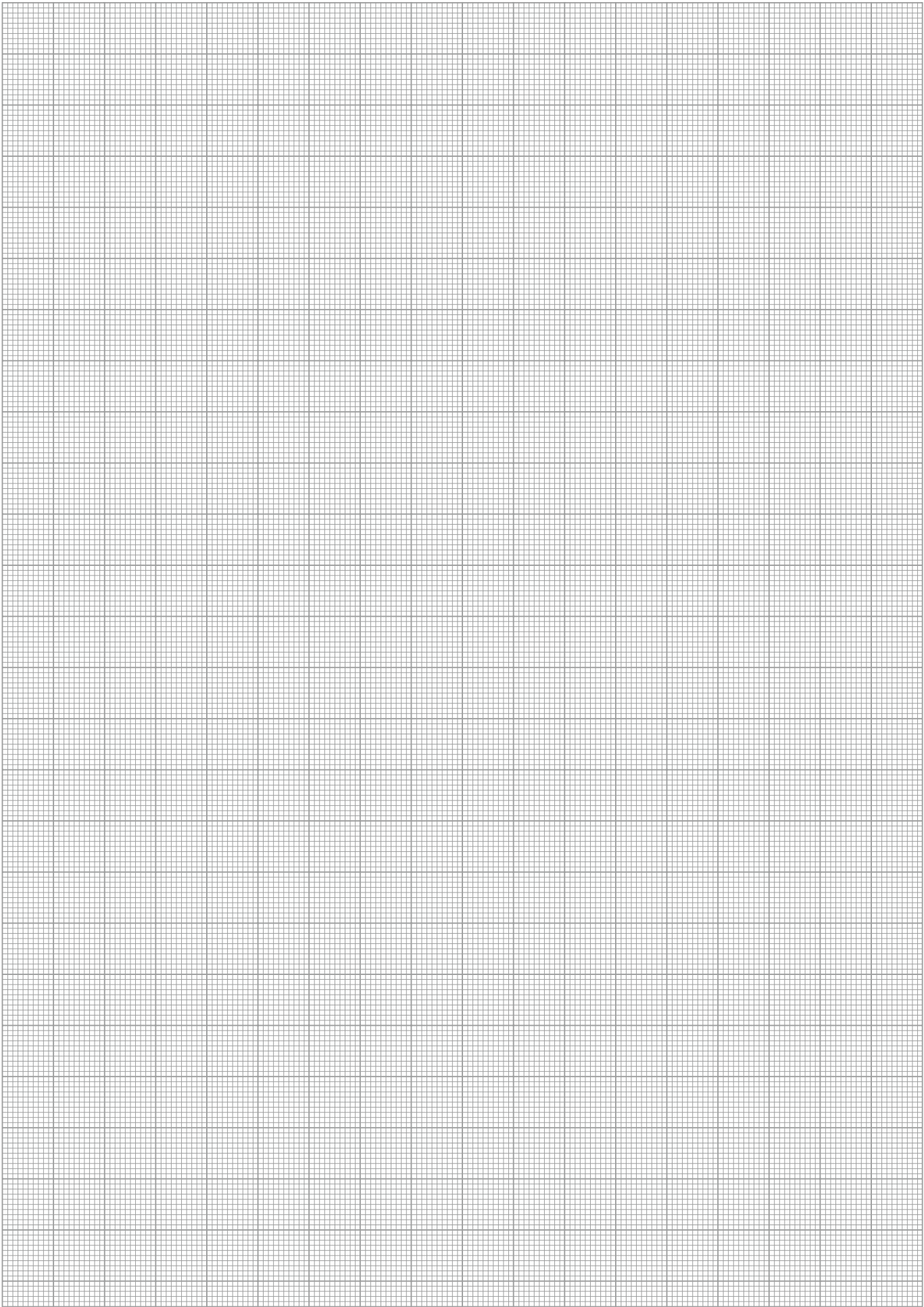
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

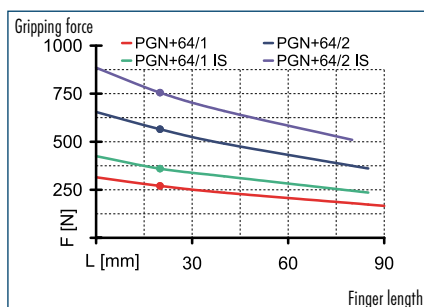
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

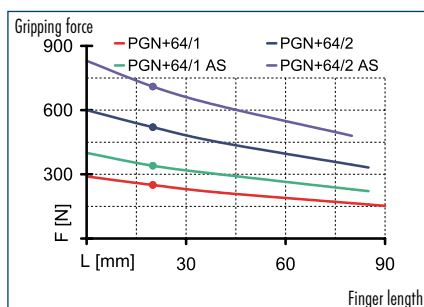




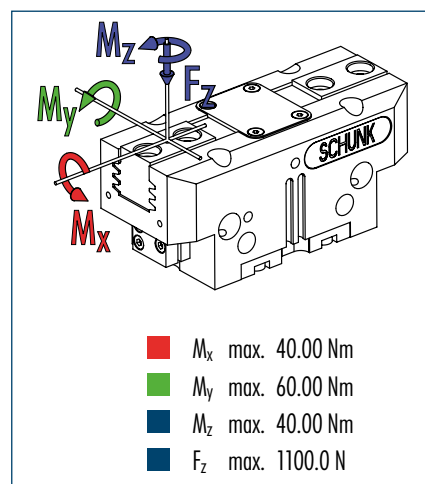
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

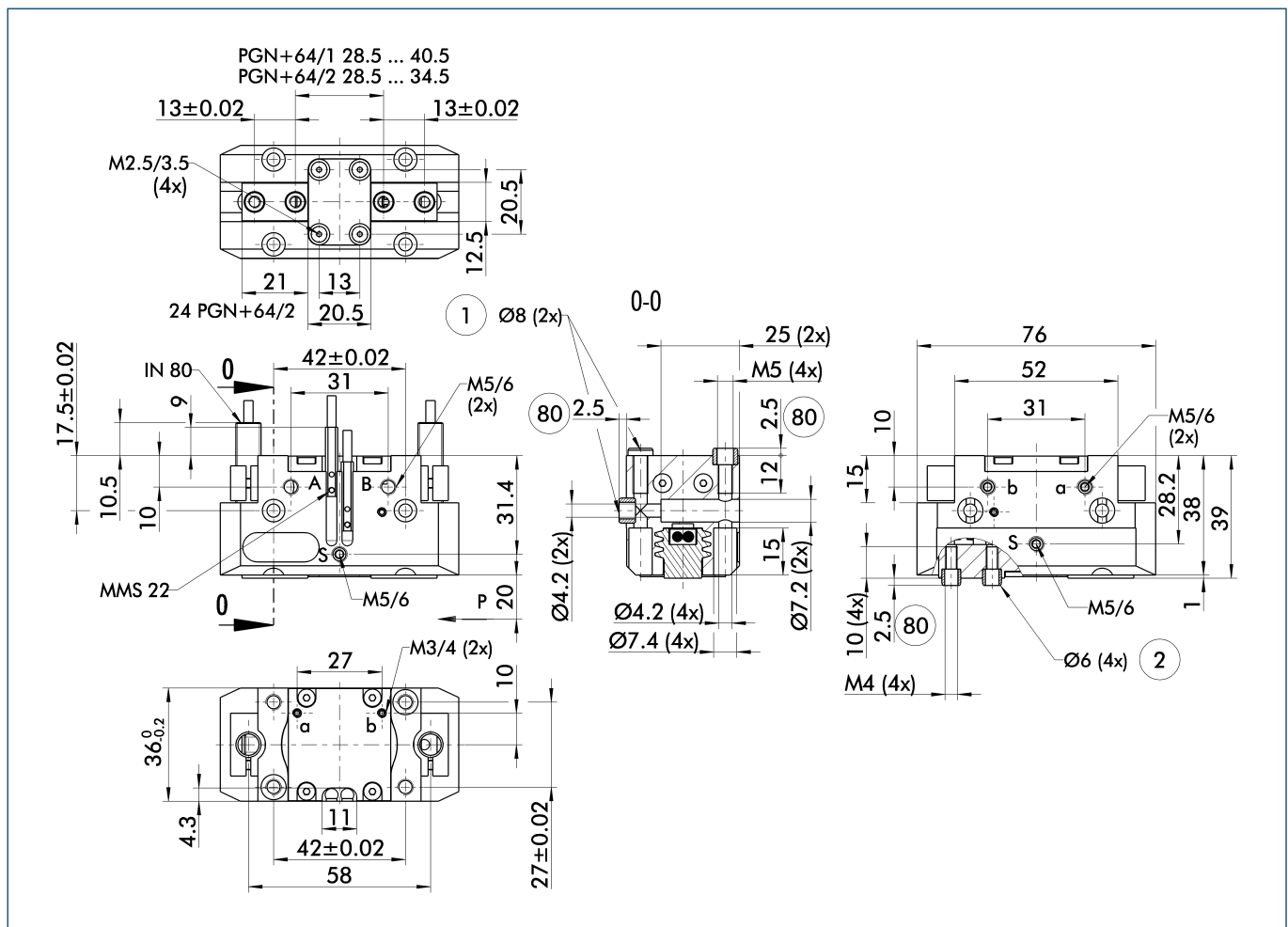
Technical data

Description		PGN-plus 64-1	PGN-plus 64-2	PGN-plus 64-1-AS	PGN-plus 64-2-AS	PGN-plus 64-1-IS	PGN-plus 64-2-IS
ID		0371090	0371091	0371092	0371093	0371094	0371095
Stroke per finger	[mm]	6	3	6	3	6	3
Closing force	[N]	250	520	340	710		
Opening force	[N]	270	565			360	755
Min. spring force	[N]			90	190	90	190
Weight	[kg]	0.28	0.28	0.37	0.37	0.37	0.37
Recommended workpiece weight	[kg]	1.25	2.6	1.25	2.6	1.25	2.6
Air consumption per double stroke	[cm³]	9	9	48	48	48	48
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Max. permitted finger length	[mm]	90	85	85	80	85	80
Max. permitted weight per finger	[kg]	0.35	0.35	0.35	0.35	0.35	0.35
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371090	37371091	37371092	37371093	37371094	37371095
IP class		64	64	64	64	64	64
Weight	[kg]	0.35	0.35	0.44	0.44	0.44	0.44
Anti-corrosion version		38371090	38371091	38371092	38371093	38371094	38371095
High-temperature version		39371090	39371091	39371092	39371093	39371094	39371095
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 64-1-KVZ	PGN-plus 64-2-KVZ	PGN-plus 64-1-AS-KVZ		PGN-plus 64-1-IS-KVZ	
ID		0372090	0372091	0372092		0372093	
Closing force	[N]	450	520	540			
Opening force	[N]	485	1015			575	
Weight	[kg]	0.35	0.35	0.43		0.43	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	80	64	64		64	
Precision version		0371122	0371172	0371422	0371437		

Main view



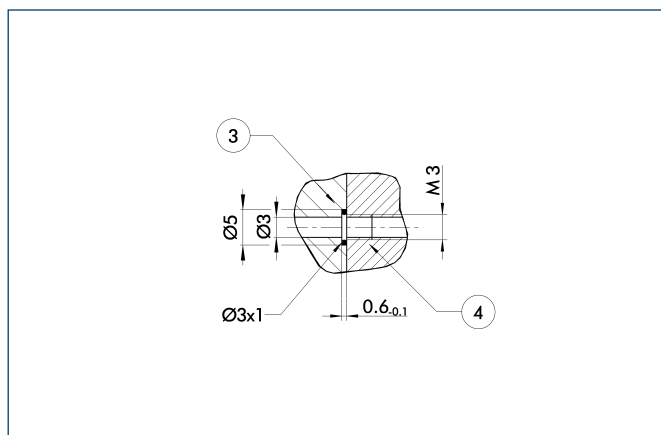
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection, or deaeration bore
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

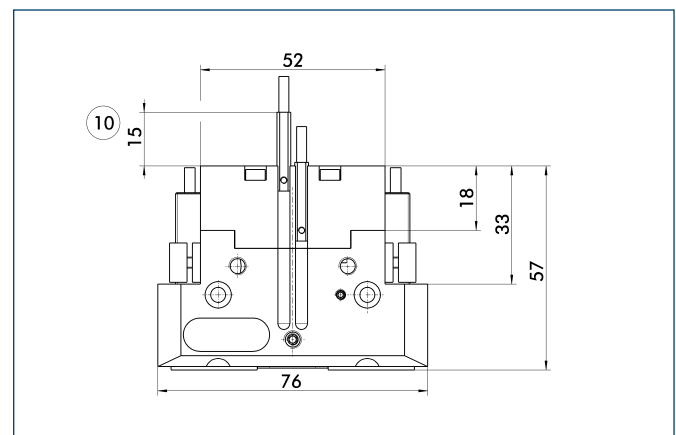
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

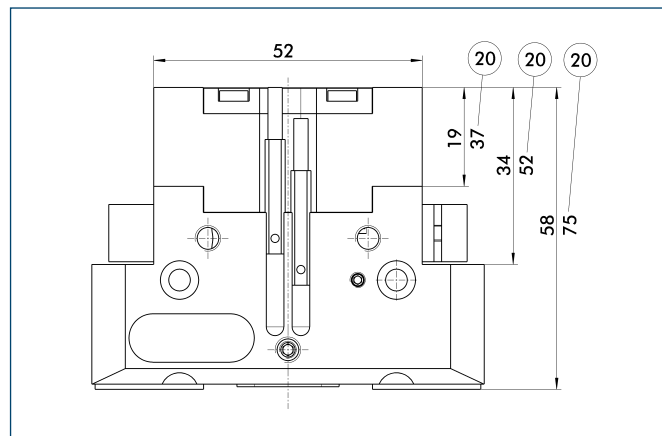
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

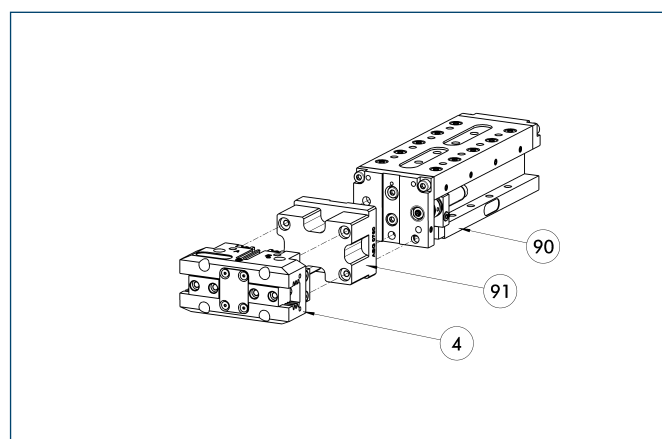
Force intensified version



- ② For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

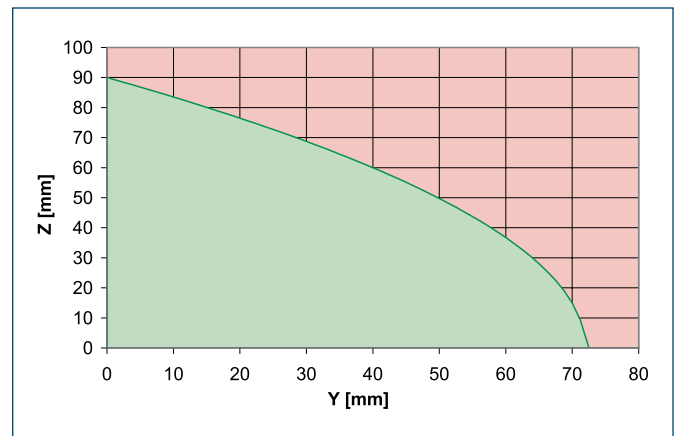
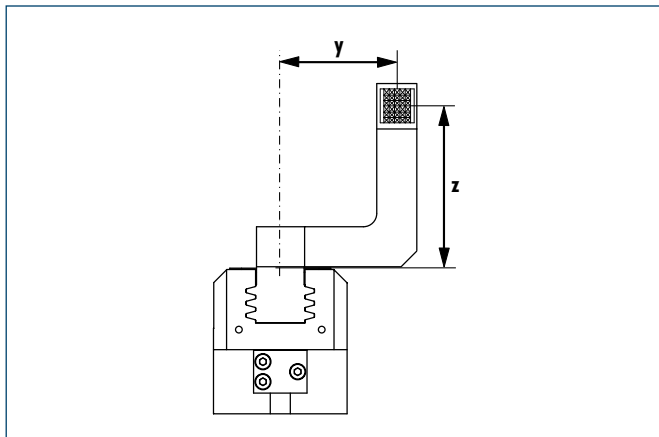
Modular Assembly Automation



- ④ Gripper ⑨1 ASG
⑨0 CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

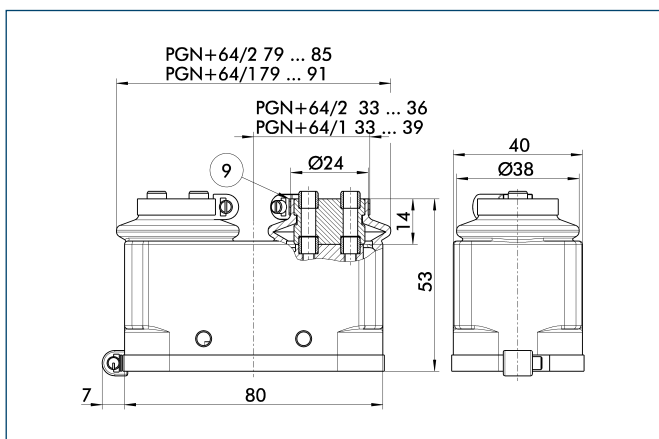
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

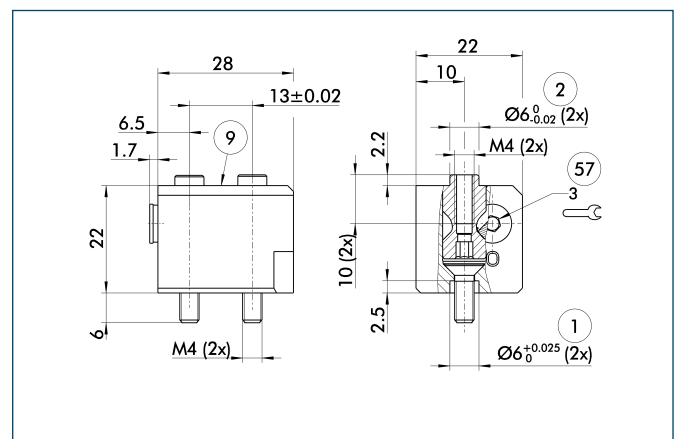


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 64	0371480	2

Quick-change Jaw System



① Gripper connection
 ② Finger connection
 ⑨ For mounting screw connection diagram, see basic version
 57 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

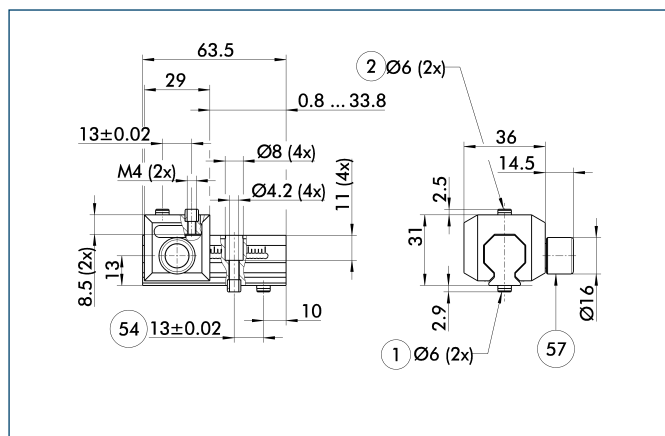
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



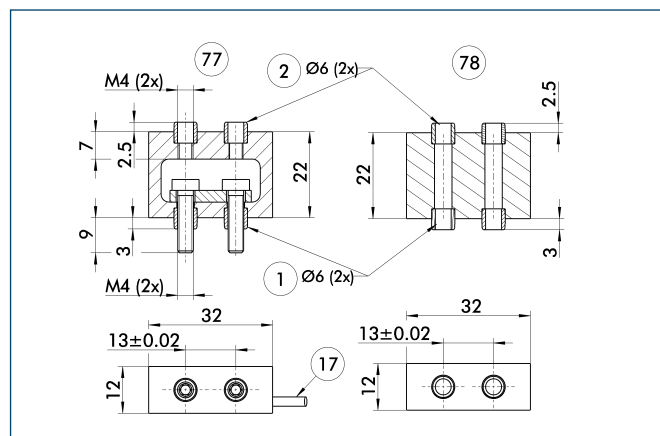
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 64	0300042	1.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

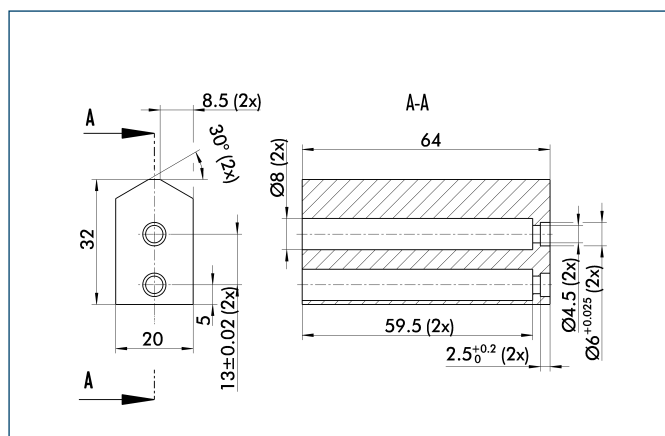


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

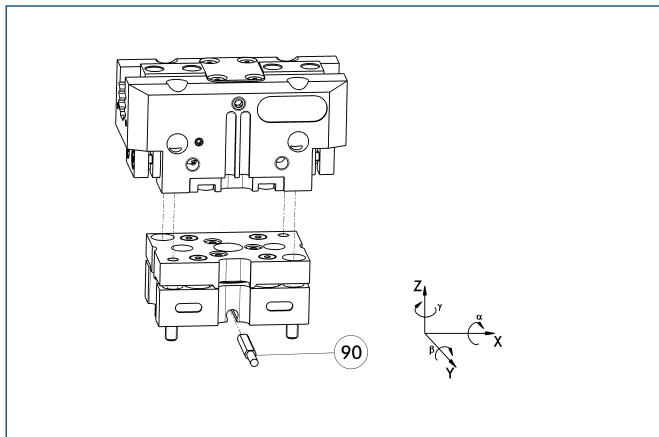


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

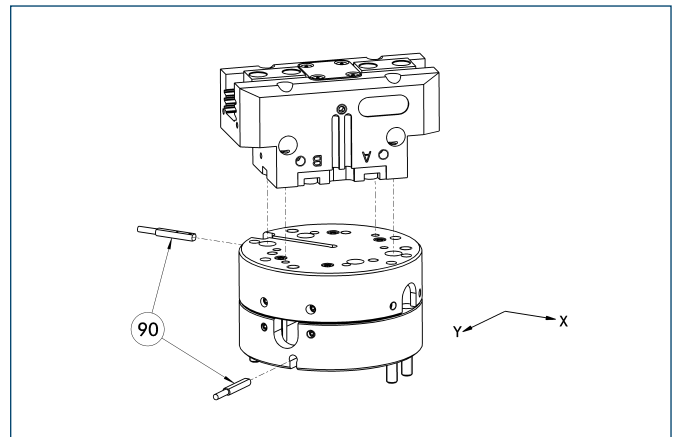


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-P	0324774	Yes	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-064-3-OV-P	0324775	No	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

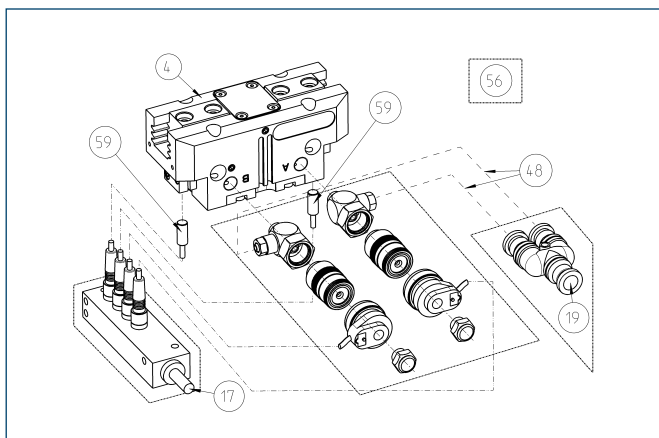


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Attachment valves

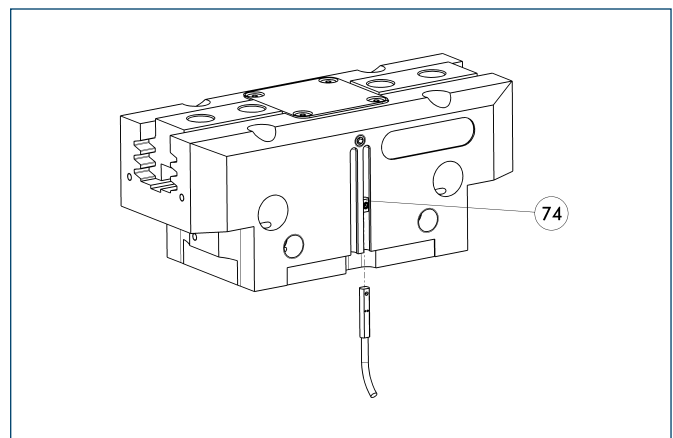


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M5	0303323
ABV-MV15-M5-V2-M8	0303386
ABV-MV15-M5-V4-M8	0303356
ABV-MV15-M5-V8-M8	0303357

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

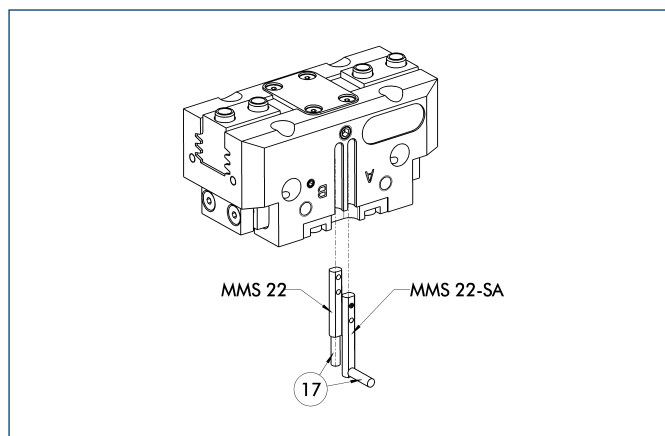
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

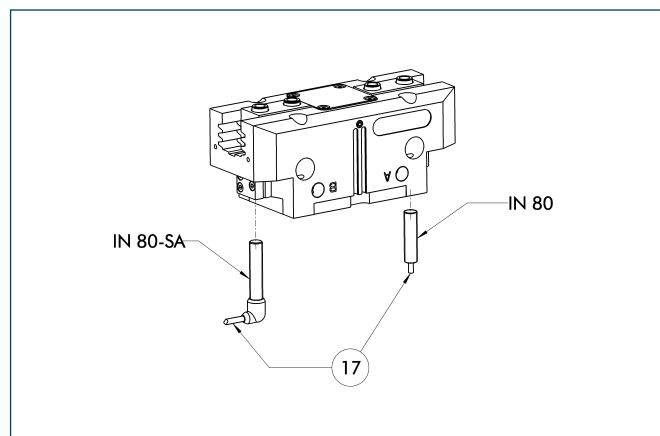
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

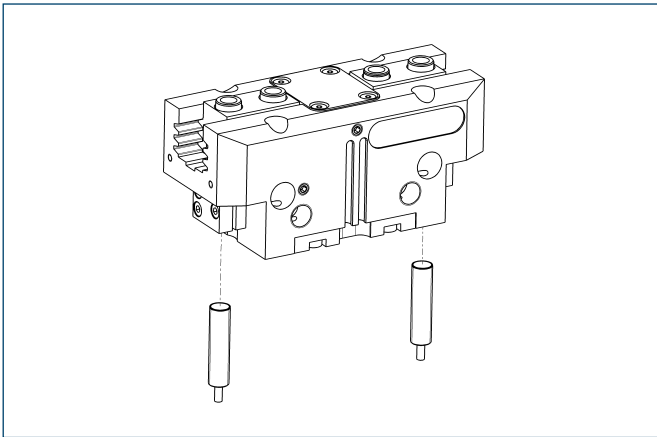
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

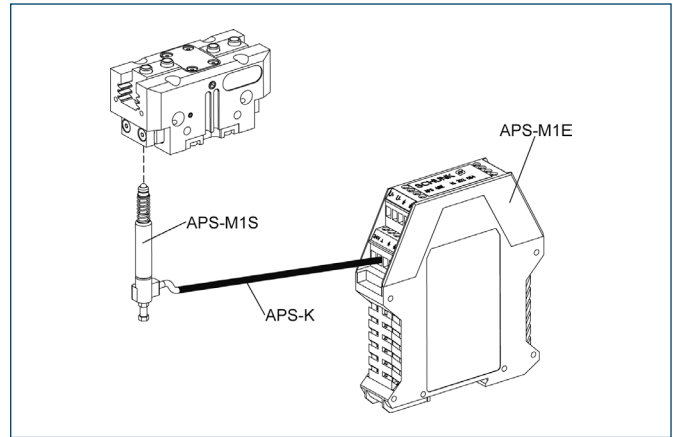


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

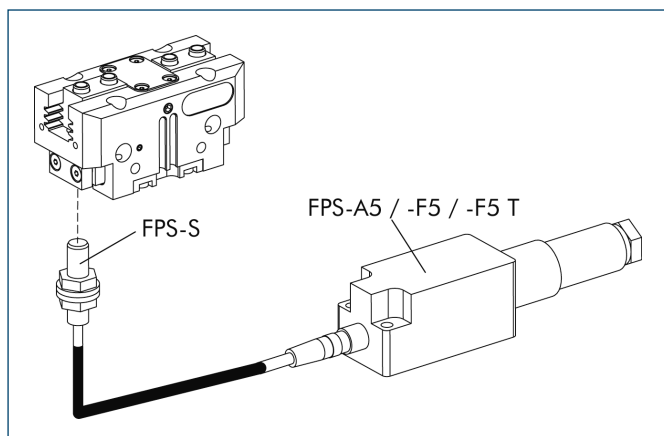
Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
AS-APS-M1-64/2	0302076
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

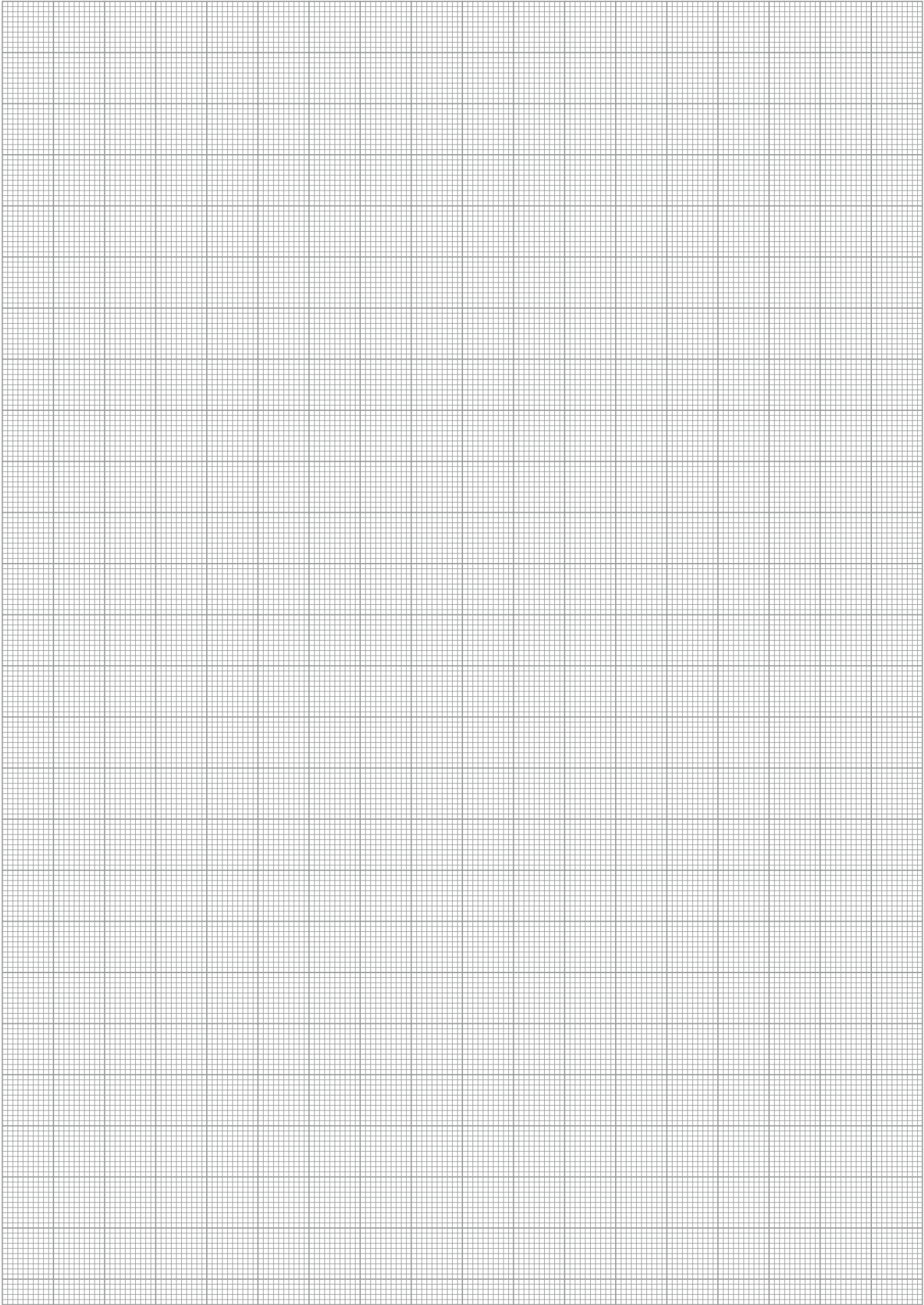
Flexible Position Sensor



Flexible position monitoring of up to five positions

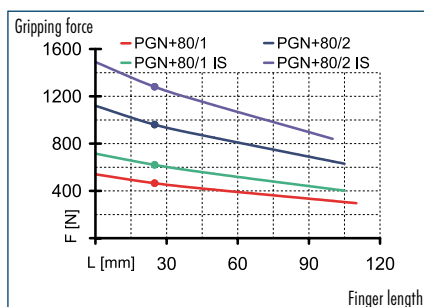
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

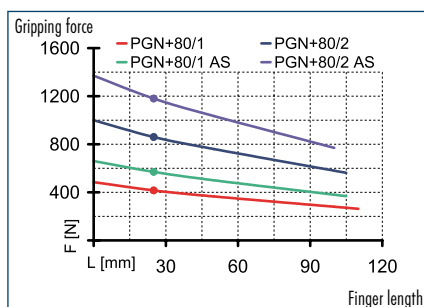




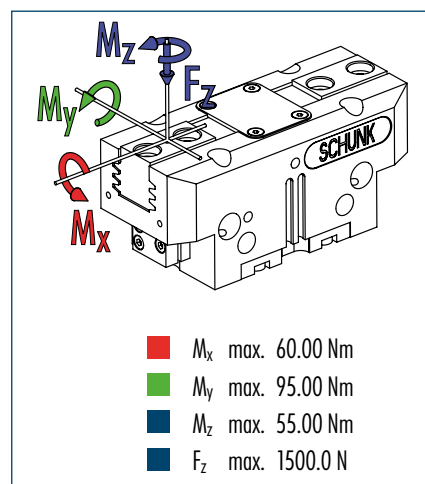
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

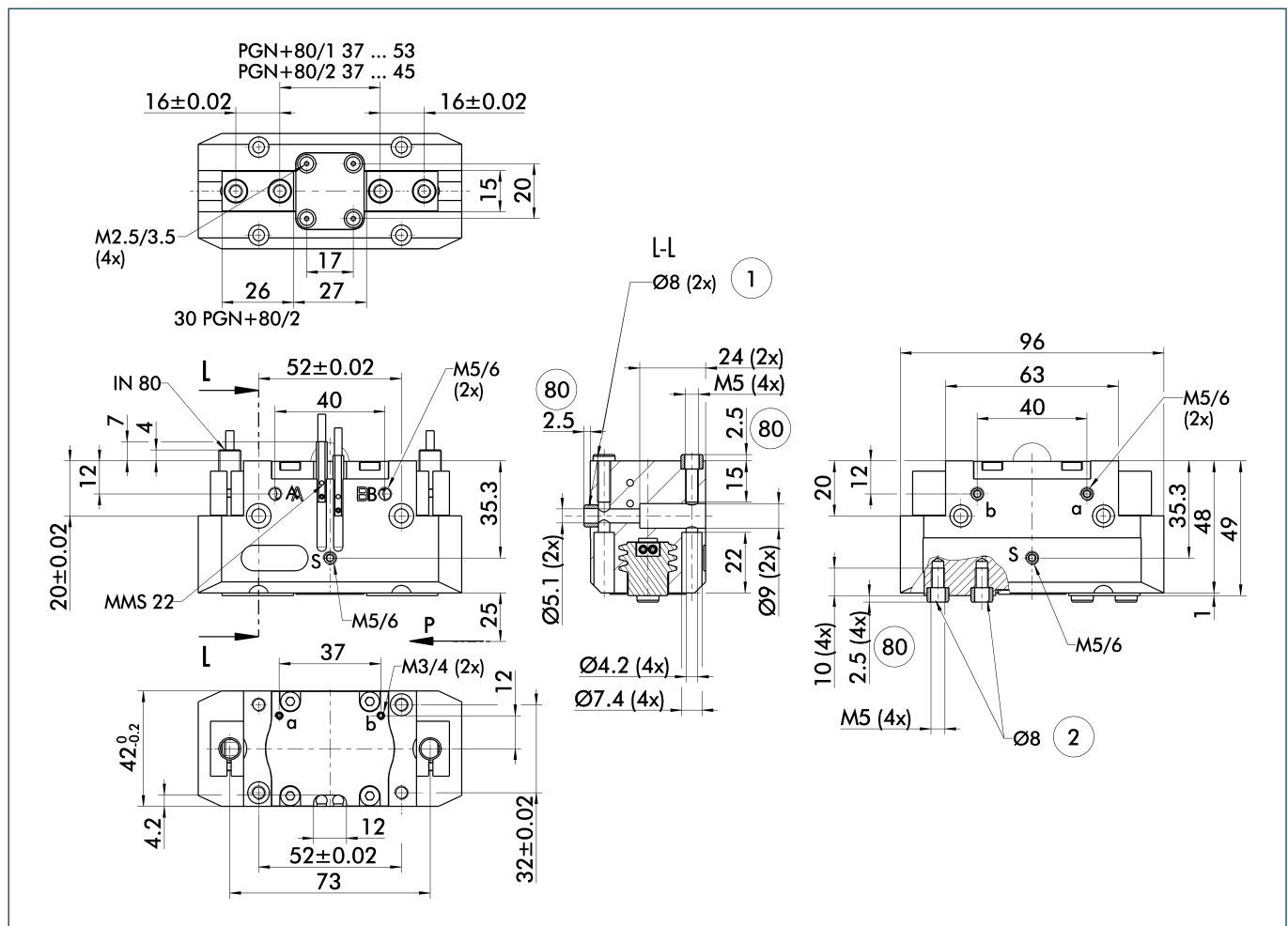
Technical data

Description		PGN-plus 80-1	PGN-plus 80-2	PGN-plus 80-1-AS	PGN-plus 80-2-AS	PGN-plus 80-1-IS	PGN-plus 80-2-IS
ID		0371101	0371151	0371401	0371451	0371461	0371471
Stroke per finger	[mm]	8	4	8	4	8	4
Closing force	[N]	415	860	570	1180		
Opening force	[N]	465	960			620	1280
Min. spring force	[N]			155	320	155	320
Weight	[kg]	0.5	0.5	0.6	0.6	0.6	0.6
Recommended workpiece weight	[kg]	2.1	4.3	2.1	4.3	2.1	4.3
Air consumption per double stroke	[cm³]	21	21	45	45	45	45
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Max. permitted finger length	[mm]	110	105	105	100	105	100
Max. permitted weight per finger	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371101	37371151	37371401	37371451	37371461	37371471
IP class		64	64	64	64	64	64
Weight	[kg]	0.6	0.6	0.7	0.7	0.7	0.7
Anti-corrosion version		38371101	38371151	38371401	38371451	38371461	38371471
High-temperature version		39371101	39371151	39371401	39371451	39371461	39371471
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 80-1-KVZ	PGN-plus 80-2-KVZ	PGN-plus 80-1-AS-KVZ		PGN-plus 80-1-IS-KVZ	
ID		0372101	0372151	0372401		0372461	
Closing force	[N]	745	1550	900			
Opening force	[N]	835	1730			990	
Weight	[kg]	0.65	0.65	0.75		0.75	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	100	80	80		80	
Precision version		0371123	0371173	0371423	0371438		

Main view



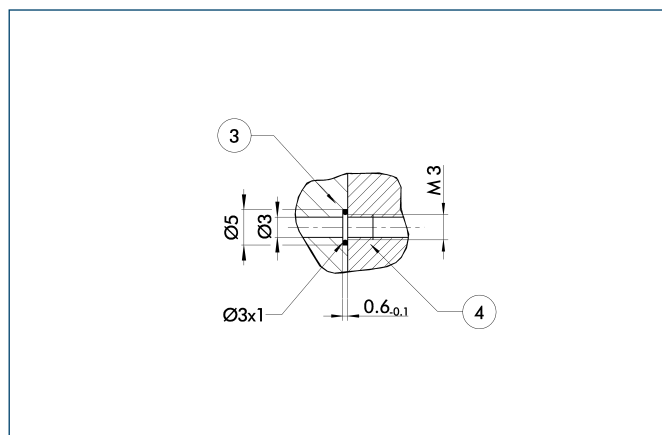
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection, or deaeration bore
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

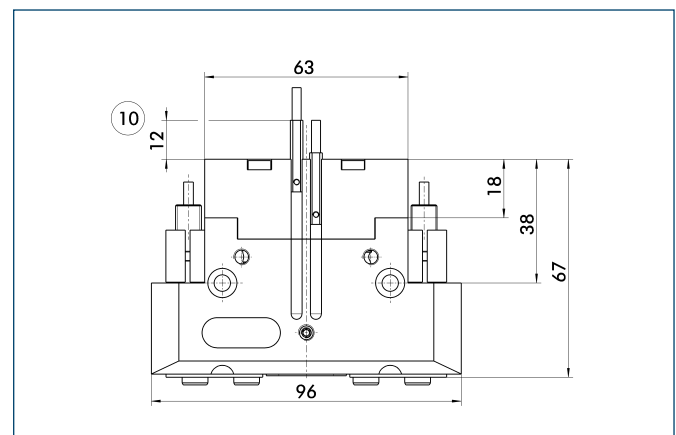
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

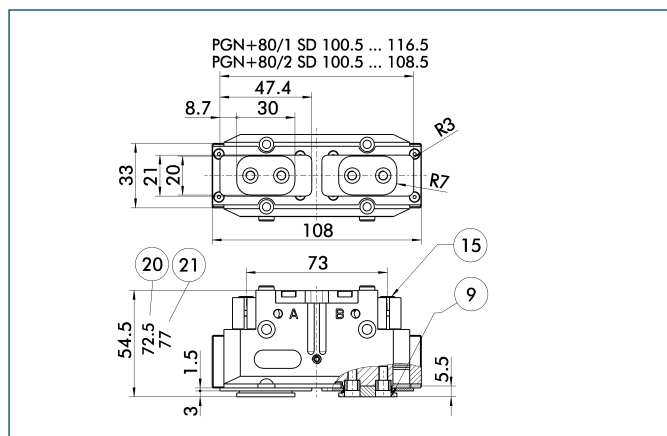
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

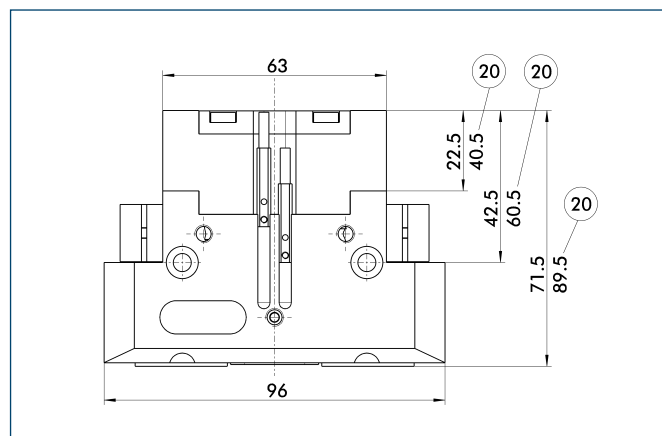
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
⑮ Sealing bolt
⑳ For AS / IS version
㉑ Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

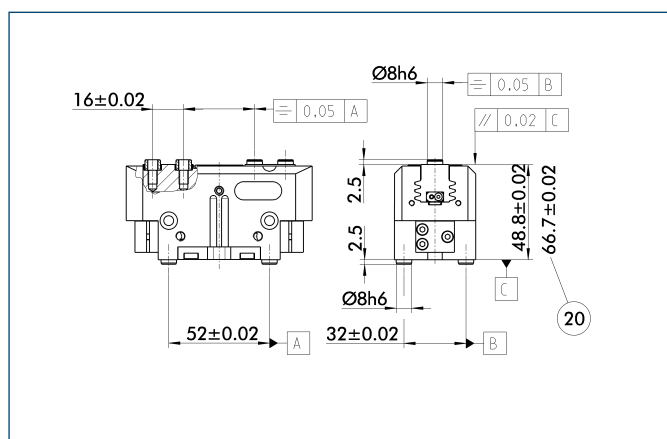
Force intensified version



- ㉑ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

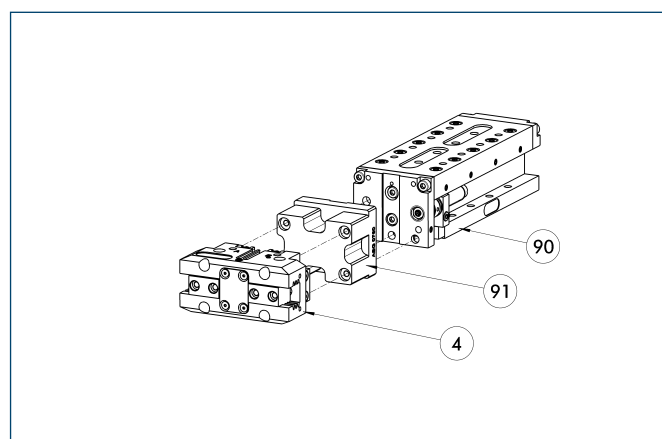
Precision version



- ㉑ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

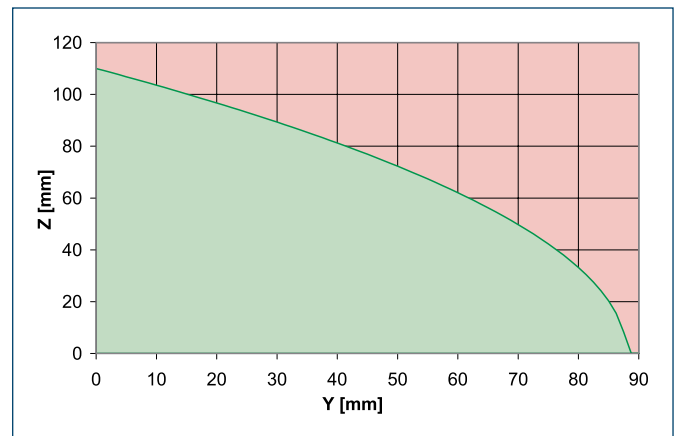
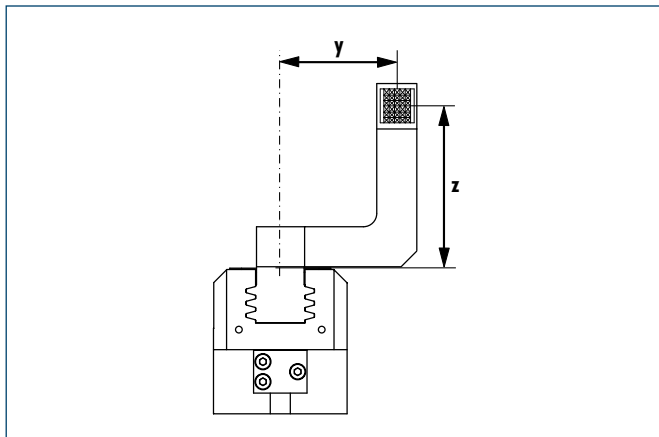
Modular Assembly Automation



- ④ Gripper
⑨① CLM
⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

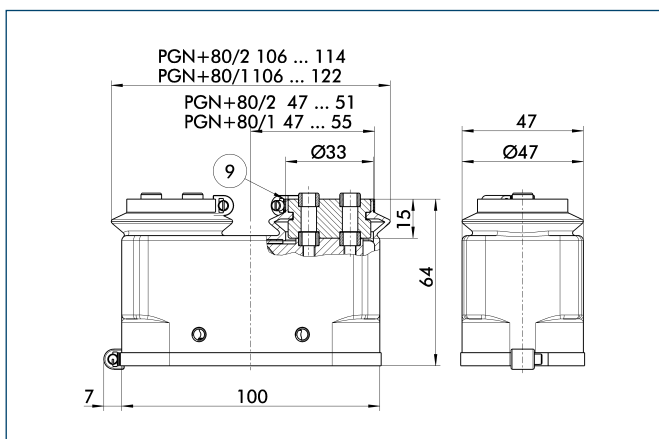
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

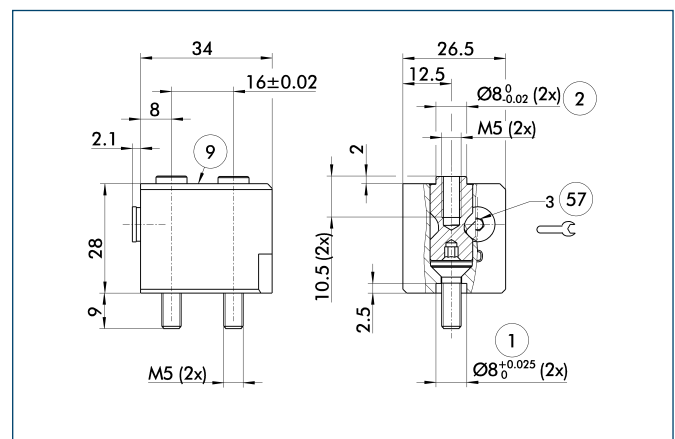


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 80	0371481	2

Quick-change Jaw System



① Gripper connection
 ② Finger connection
 ⑨ For mounting screw connection diagram, see basic version
 ⑤7 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

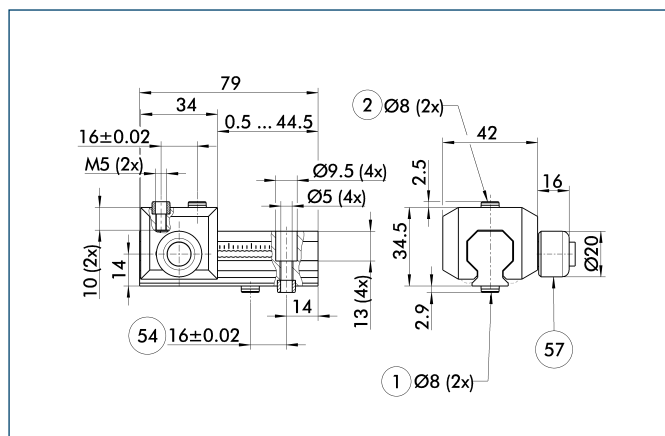
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



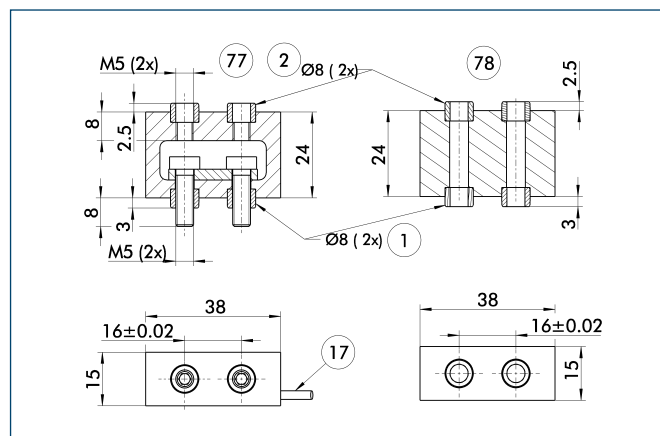
- ① Gripper connection
- ② Finger connection
- 54 Optional right or left connection
- 57 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	0300043	2 mm
UZB-S 80	5518271	2 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

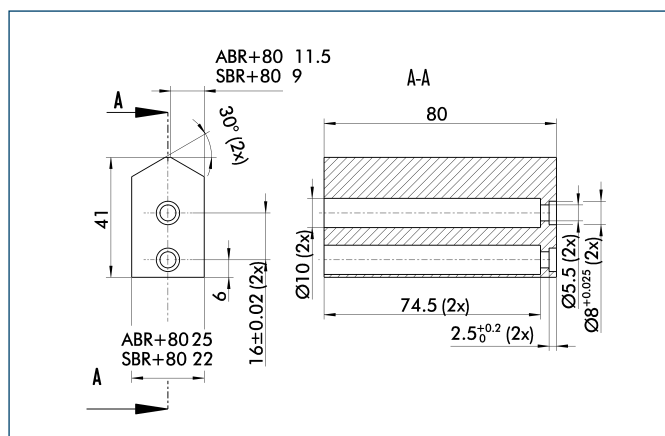


- ① Gripper connection
- ② Finger connection
- 17 Cable outlet
- 77 Active intermediate jaws
- 78 Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

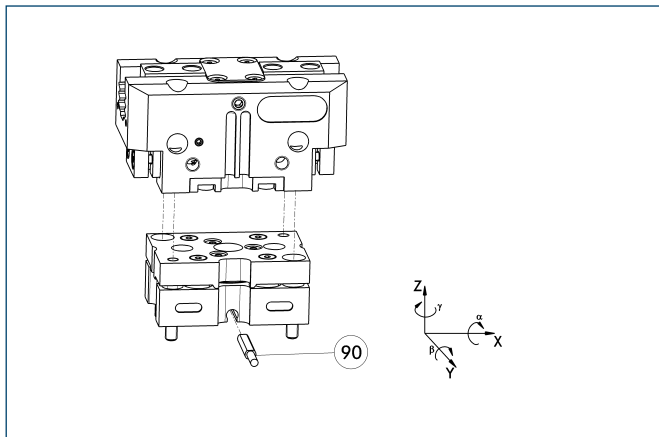


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

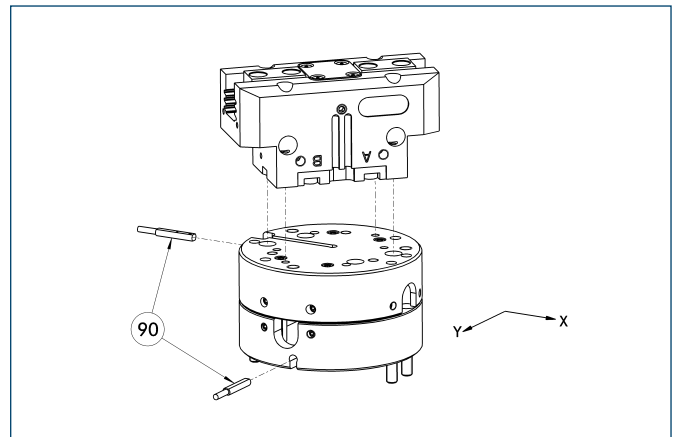


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-P	0324792	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-080-3-OV-P	0324793	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

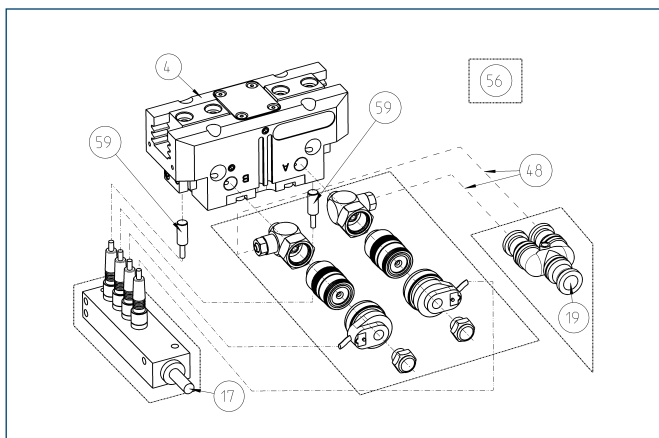


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Attachment valves

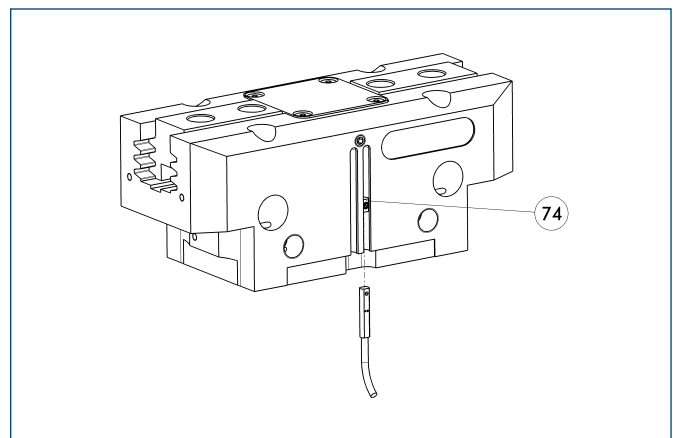


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV25-M5	0303326
ABV-MV25-M5-V2-M8	0303392
ABV-MV25-M5-V4-M8	0303362
ABV-MV25-M5-V8-M8	0303363

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

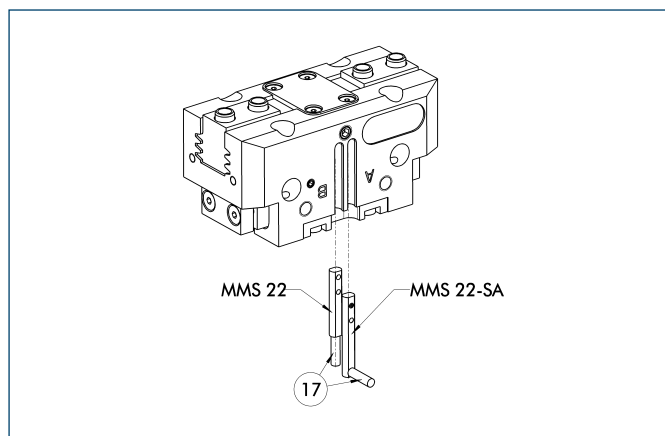
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

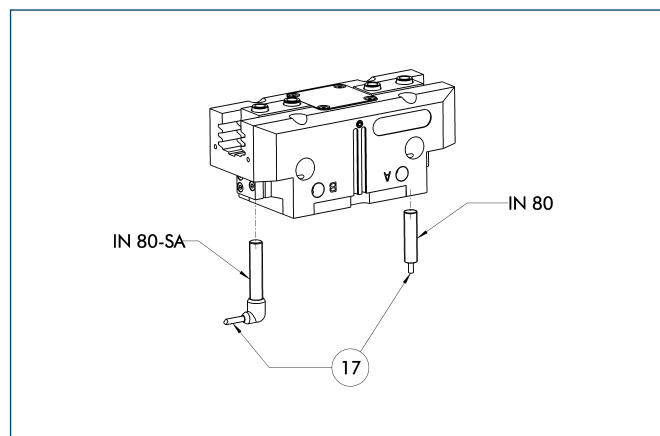
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

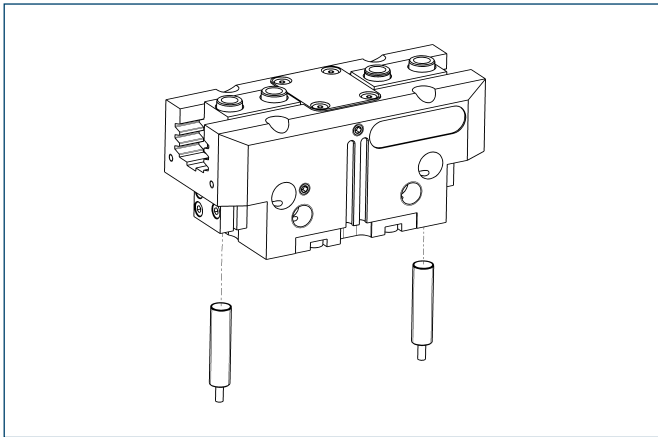
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

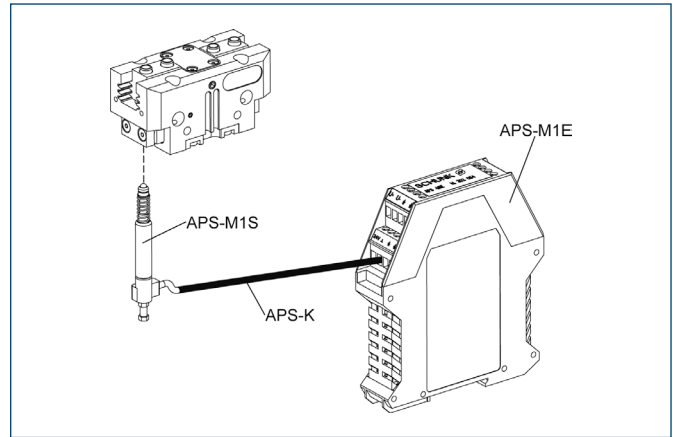


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

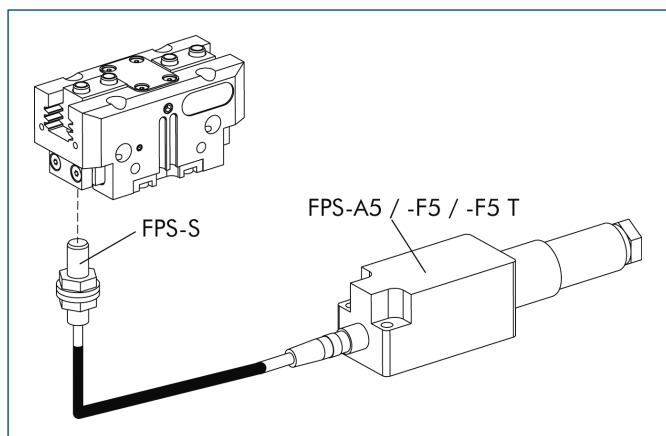
Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
AS-APS-M1-80/2	0302078
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

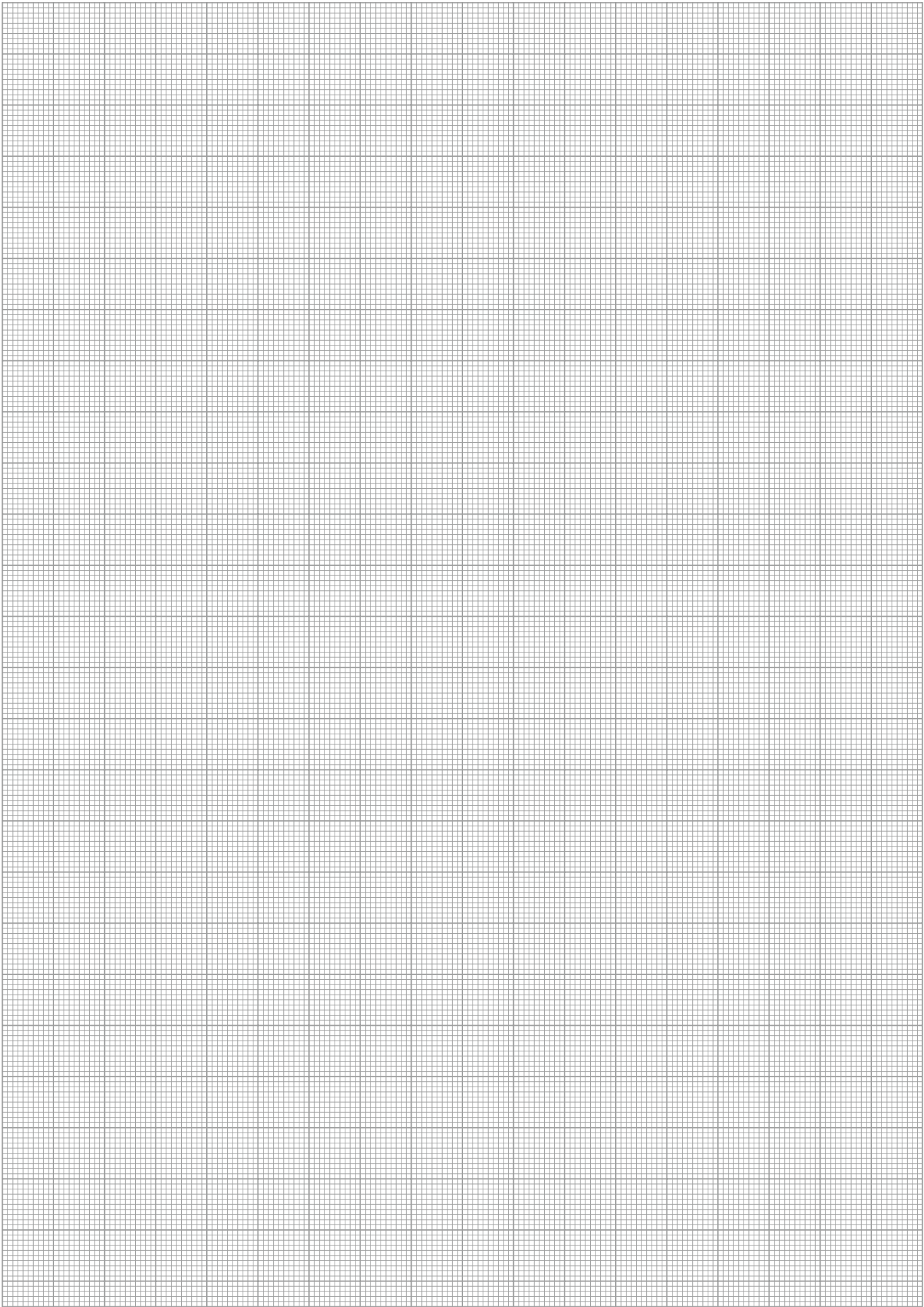
Flexible Position Sensor



Flexible position monitoring of up to five positions

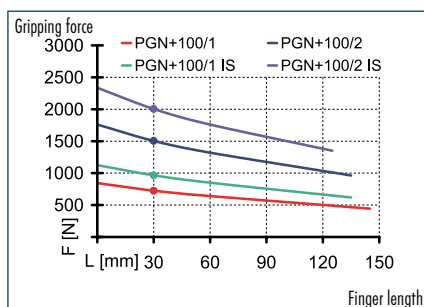
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

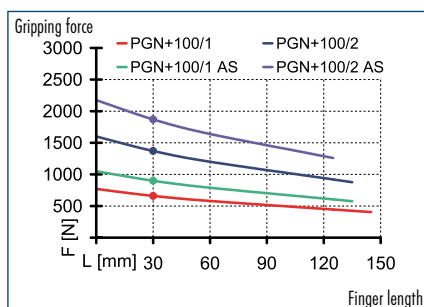




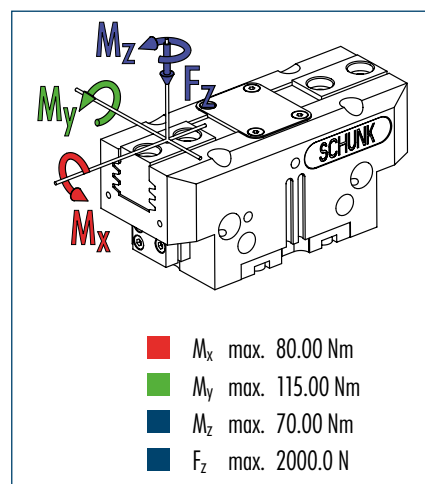
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

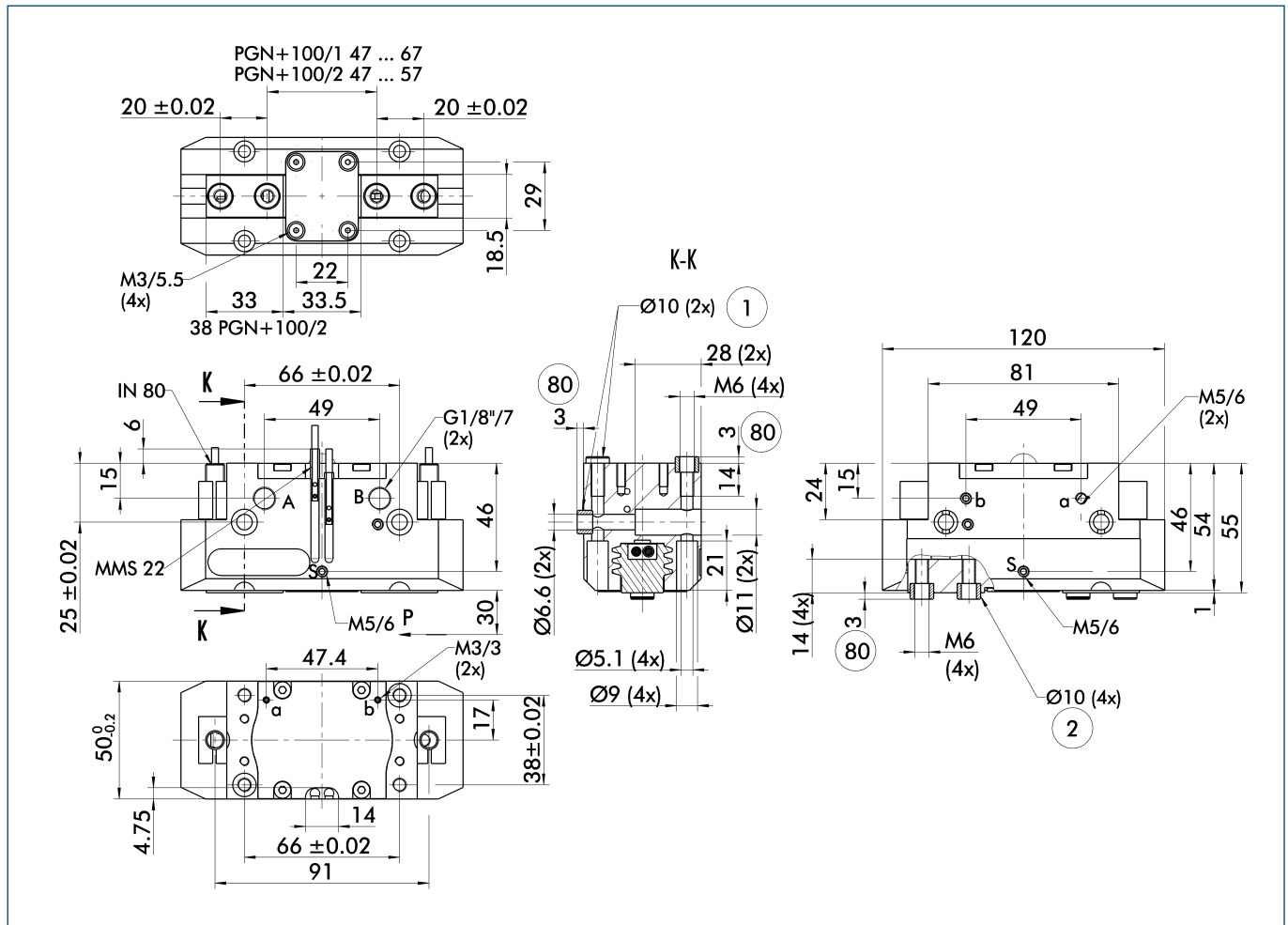
Technical data

Description		PGN-plus 100-1	PGN-plus 100-2	PGN-plus 100-1-AS	PGN-plus 100-2-AS	PGN-plus 100-1-IS	PGN-plus 100-2-IS
ID		0371102	0371152	0371402	0371452	0371462	0371472
Stroke per finger	[mm]	10	5	10	5	10	5
Closing force	[N]	660	1370	900	1870		
Opening force	[N]	725	1500			965	1740
Min. spring force	[N]			240	500	240	500
Weight	[kg]	0.81	0.81	1	1	1	1
Recommended workpiece weight	[kg]	3.3	6.85	3.3	6.85	3.3	6.85
Air consumption per double stroke	[cm³]	40	40	85	85	85	85
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.07/0.07	0.07/0.07	0.05/0.09	0.05/0.09	0.09/0.05	0.09/0.05
Max. permitted finger length	[mm]	145	135	135	125	135	125
Max. permitted weight per finger	[kg]	1.1	1.1	1.1	1.1	1.1	1.1
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371102	37371152	37371402	37371452	37371462	37371472
IP class		64	64	64	64	64	64
Weight	[kg]	0.99	0.99	1.18	1.18	1.18	1.18
Anti-corrosion version		38371102	38371152	38371402	38371452	38371462	38371472
High-temperature version		39371102	39371152	39371402	39371452	39371462	39371472
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 100-1-KVZ	PGN-plus 100-2-KVZ	PGN-plus 100-1-AS-KVZ		PGN-plus 100-1-IS-KVZ	
ID		0372102	0372152	0372402		0372462	
Closing force	[N]	1190	2465	1430			
Opening force	[N]	1305	2700			1545	
Weight	[kg]	1.05	1.05	1.3		1.3	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	125	100	100		100	
Precision version		0371124	0371174	0371424	0371439		

Main view



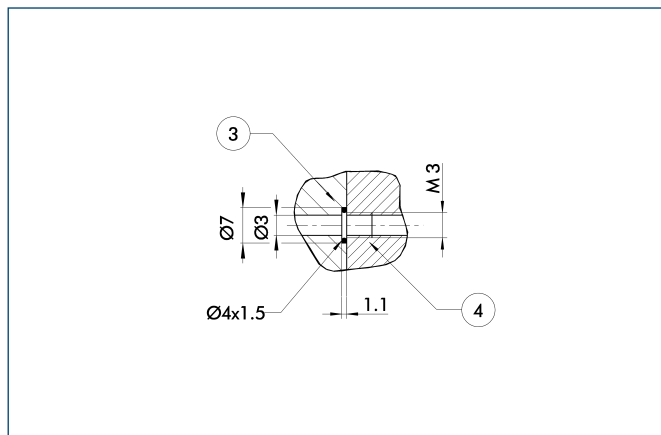
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
⑧ Depth of the centering sleeve hole in the matching part

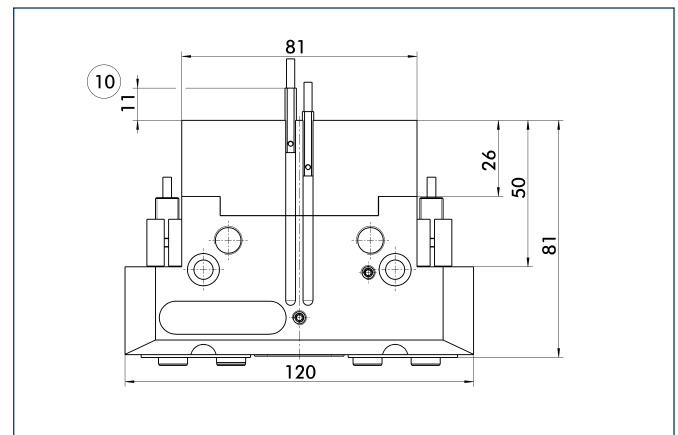
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

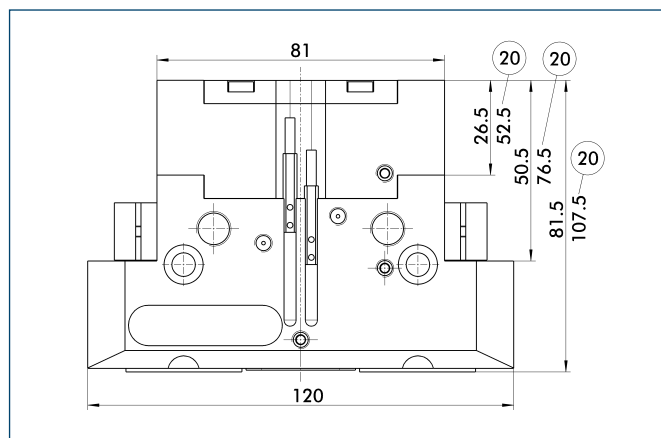
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

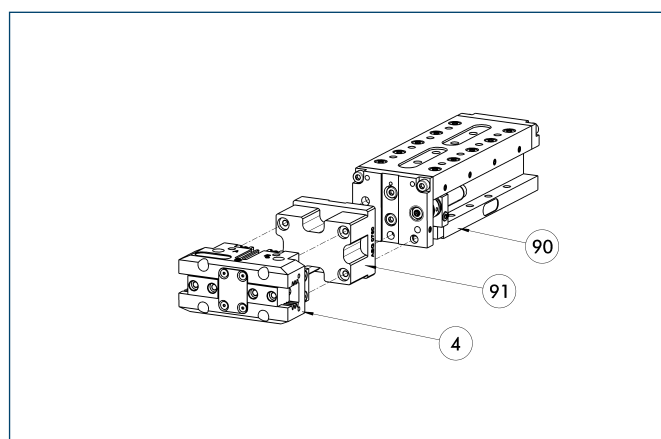
Force intensified version



- ②⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

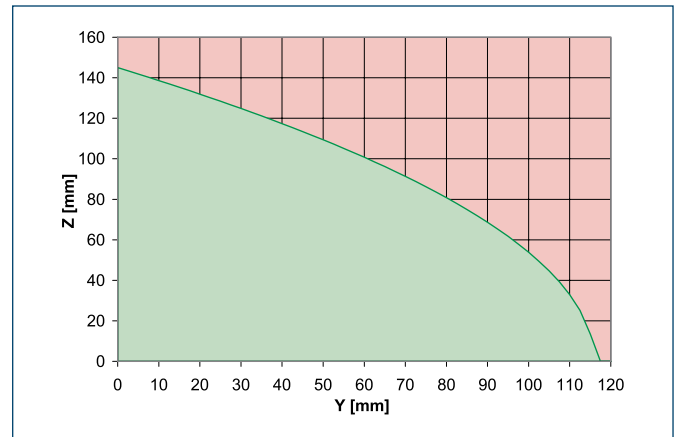
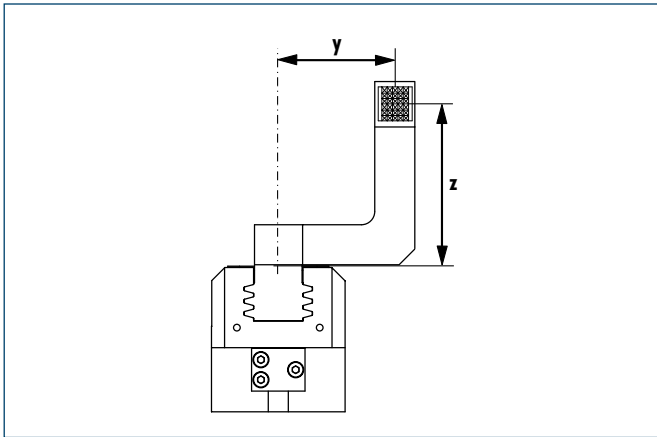
Modular Assembly Automation



- ④ Gripper ⑨① ASG
⑨① CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

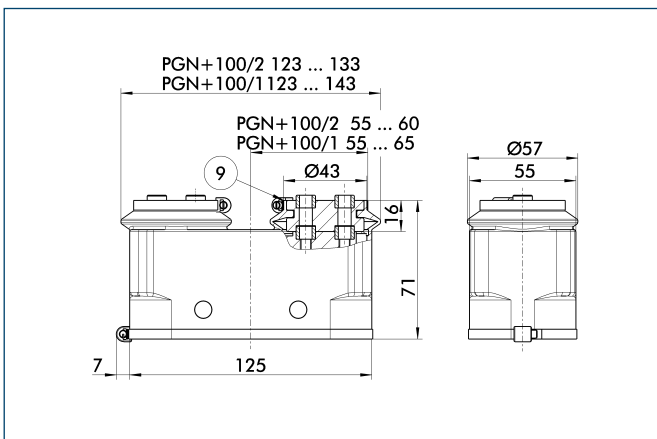
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

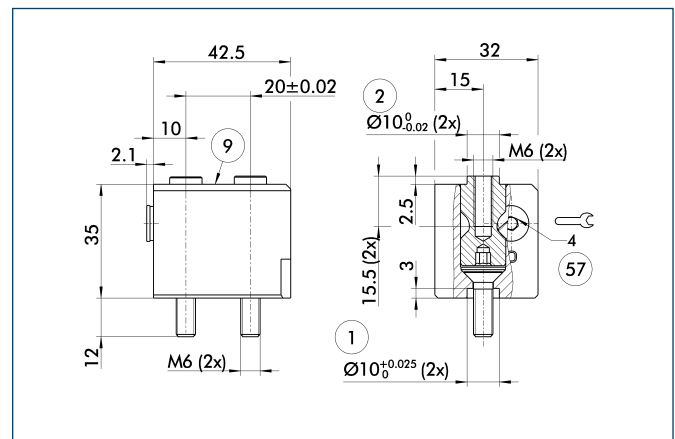


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 100	0371482	2

Quick-change Jaw System



① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
⑤7 Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

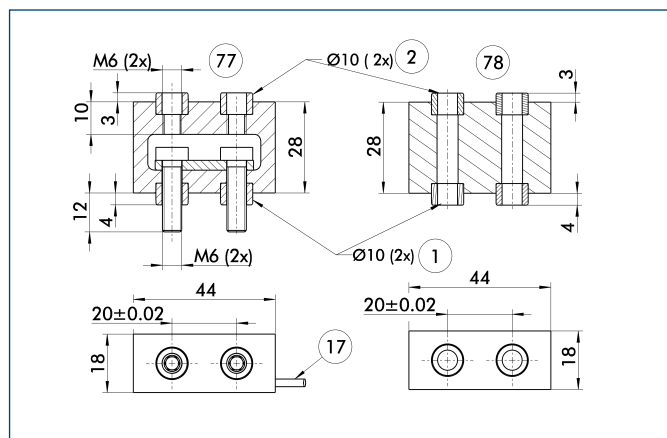
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Force measuring jaws



- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

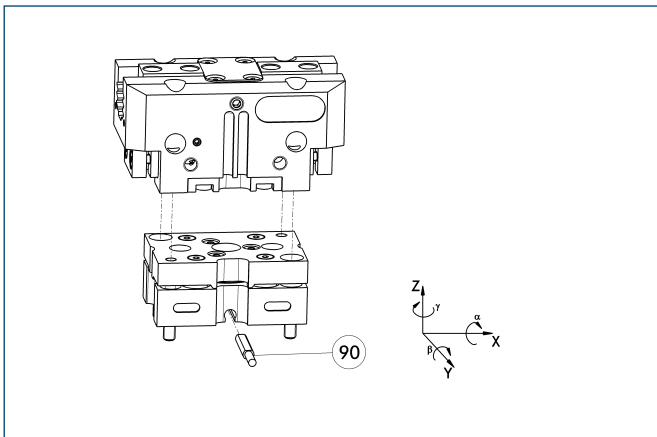
Finger blanks



Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1

222

Tolerance compensation unit

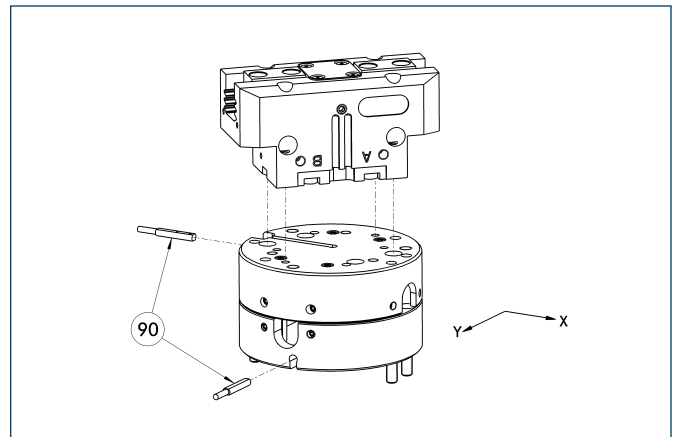


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-P	0324808	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$
TCU-100-3-OV-P	0324811	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$

Compensation unit with spring reset

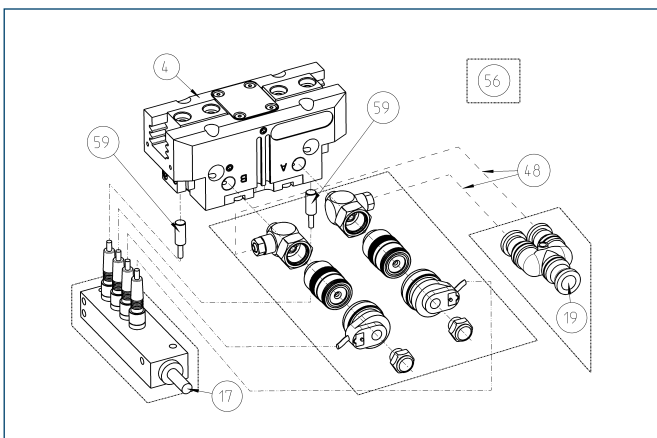


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Attachment valves

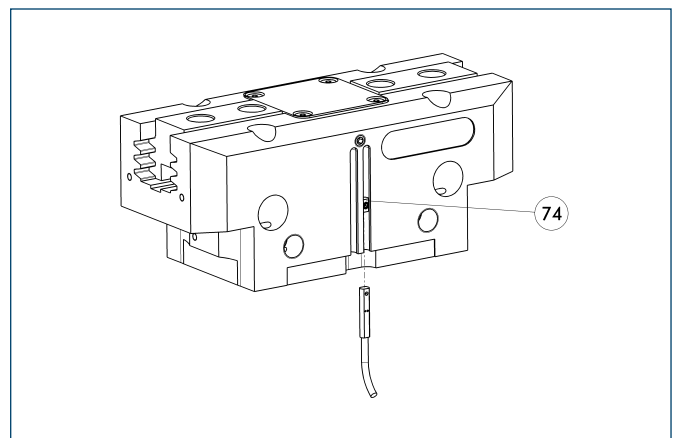


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367

Programmable magnetic switch



74 Stop for MMS-P

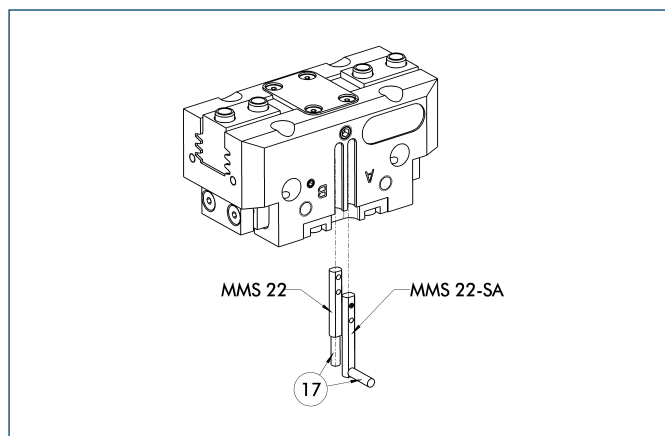
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Electronic magnetic switches



⑰ Cable outlet

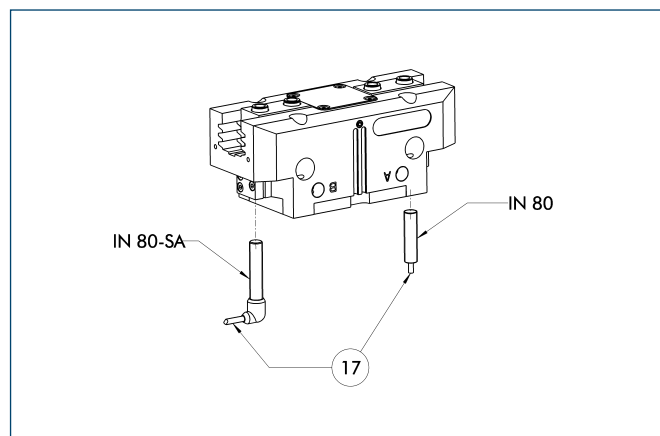
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

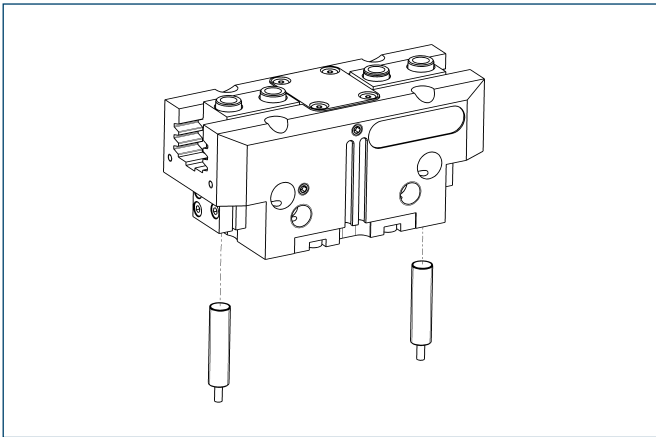
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M8-SA	0301483	•
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

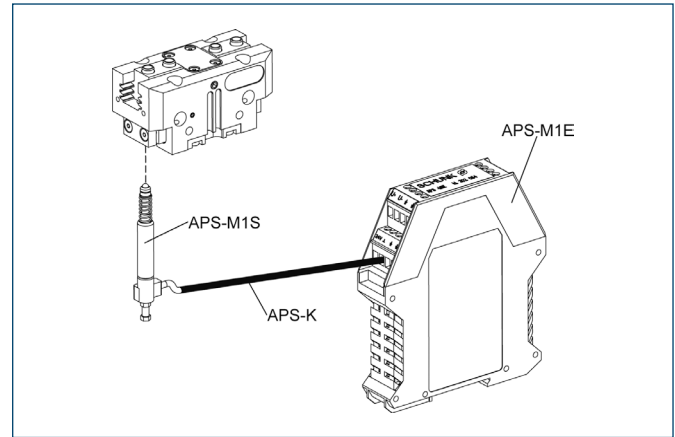


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

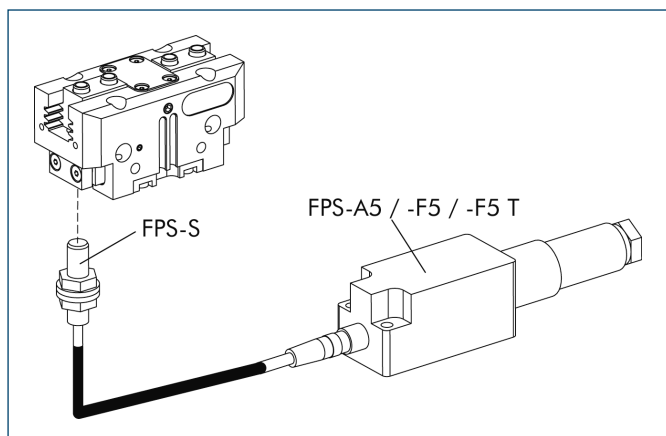
Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
AS-APS-M1-100/2	0302080
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

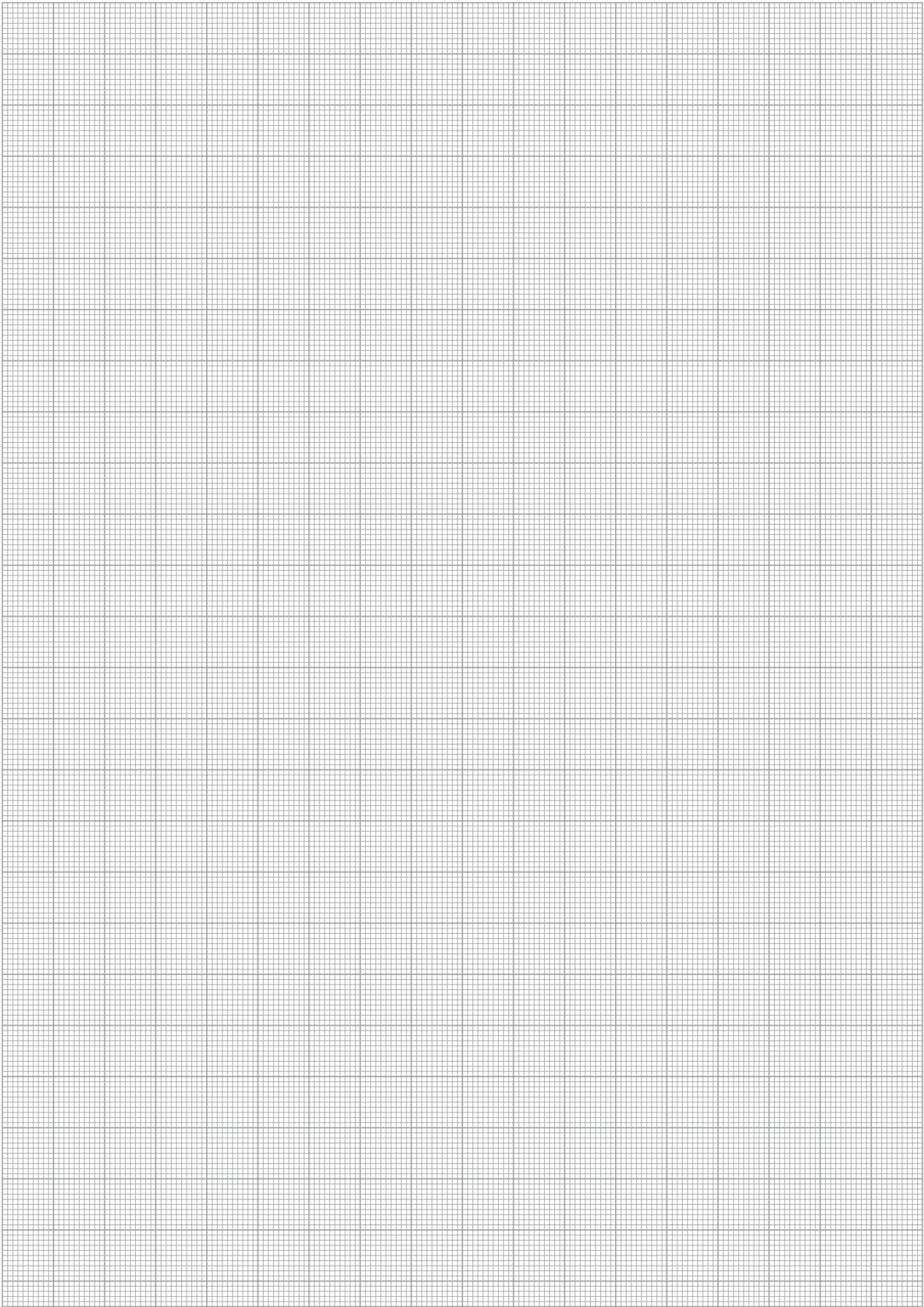
Flexible Position Sensor



Flexible position monitoring of up to five positions

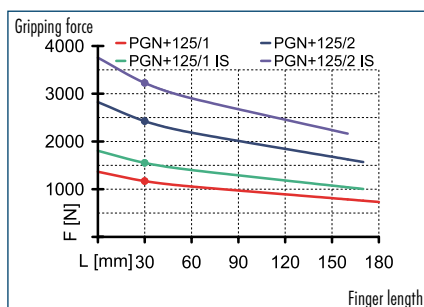
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
AS-PGN/PZN-plus 100/2, PZB 125	0301635
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

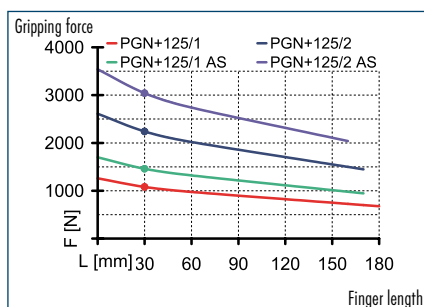




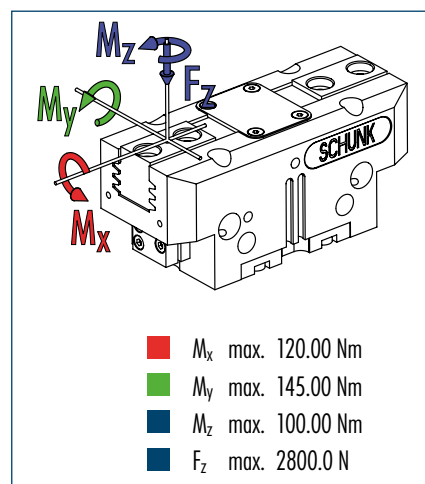
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

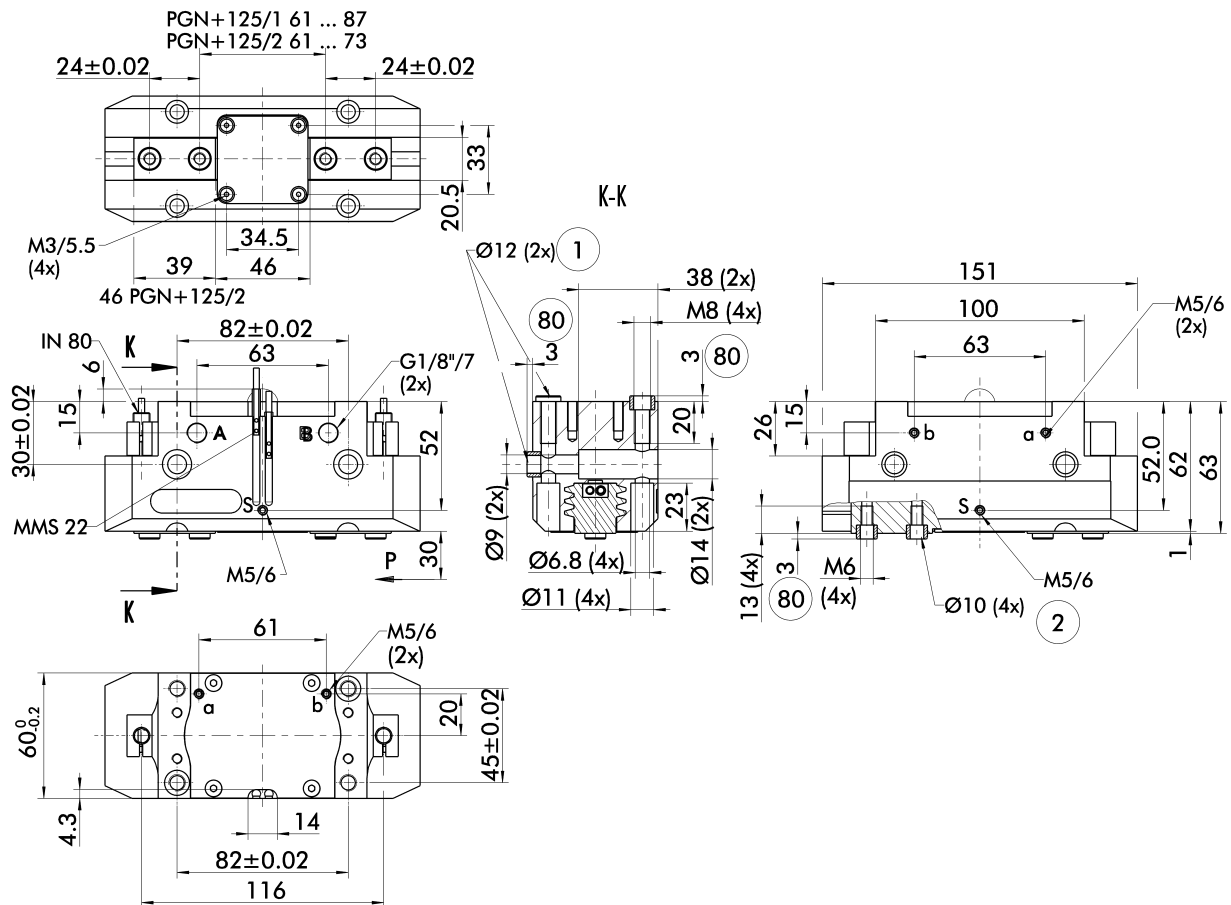
Technical data

Description		PGN-plus 125-1	PGN-plus 125-2	PGN-plus 125-1-AS	PGN-plus 125-2-AS	PGN-plus 125-1-IS	PGN-plus 125-2-IS
ID		0371103	0371153	0371403	0371453	0371463	0371473
Stroke per finger	[mm]	13	6	13	6	13	6
Closing force	[N]	1080	2240	1470	3040		
Opening force	[N]	1170	2420			1560	3220
Min. spring force	[N]			390	800	390	800
Weight	[kg]	1.35	1.35	1.85	1.85	1.85	1.85
Recommended workpiece weight	[kg]	5.4	11.2	5.4	11.2	5.4	11.2
Air consumption per double stroke	[cm ³]	81	81	158	158	158	158
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.1/0.1	0.1/0.1	0.08/0.12	0.08/0.12	0.12/0.08	0.12/0.08
Max. permitted finger length	[mm]	180	170	170	160	170	160
Max. permitted weight per finger	[kg]	2.1	2.1	2.1	2.1	2.1	2.1
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371103	37371153	37371403	37371453	37371463	37371473
IP class		64	64	64	64	64	64
Weight	[kg]	1.55	1.55	2.05	2.05	2.05	2.05
Anti-corrosion version		38371103	38371153	38371403	38371453	38371463	38371473
High-temperature version		39371103	39371153	39371403	39371453	39371463	39371473
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 125-1-KVZ	PGN-plus 125-2-KVZ	PGN-plus 125-1-AS-KVZ		PGN-plus 125-1-IS-KVZ	
ID		0372103	0372153	0372403		0372463	
Closing force	[N]	1945	4030	2335			
Opening force	[N]	2105	4355			2495	
Weight	[kg]	1.85	1.85	2.3		2.3	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	180	125	125		125	
Precision version		0371125	0371175	0371425	0371440		

Main view

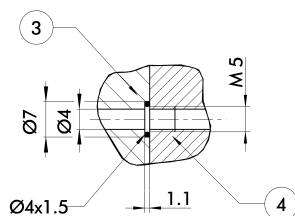


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|--|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | 80 | Depth of the centering sleeve hole in the matching part |
| S | Air purge connection, or deaeration bore | | |
| ① | Gripper connection | | |

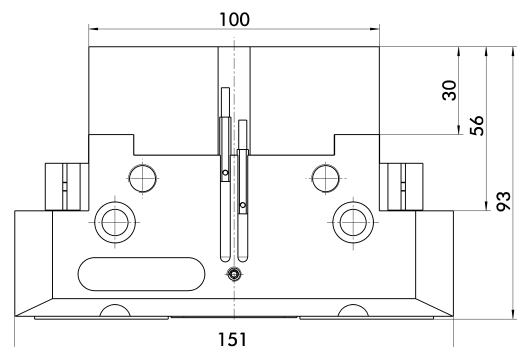
Hose-free direct connection



- ③ Adapter
- ④ Gripper

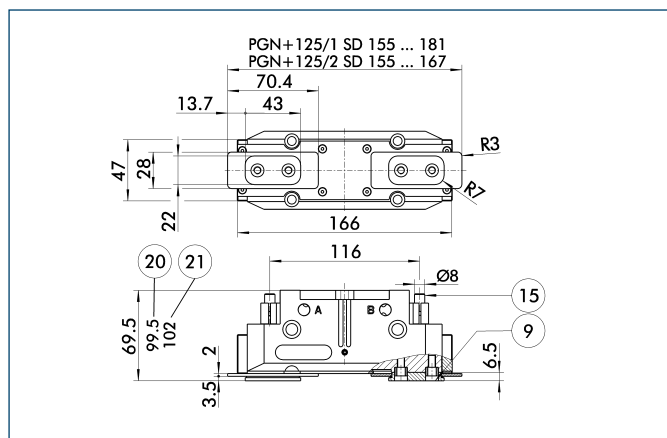
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

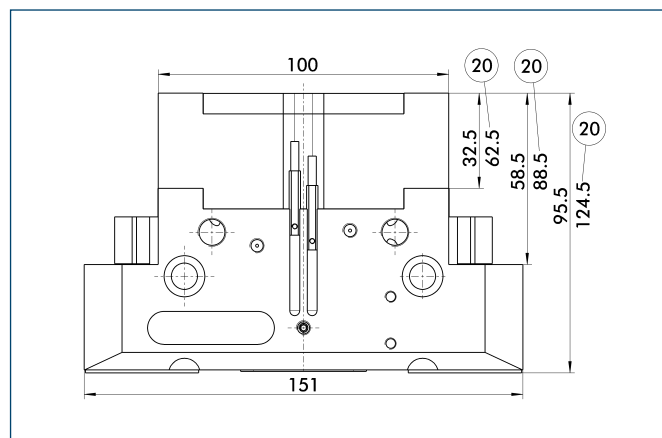
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
 ⑮ Sealing bolt
 ⑳ For AS / IS version
 ㉑ Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

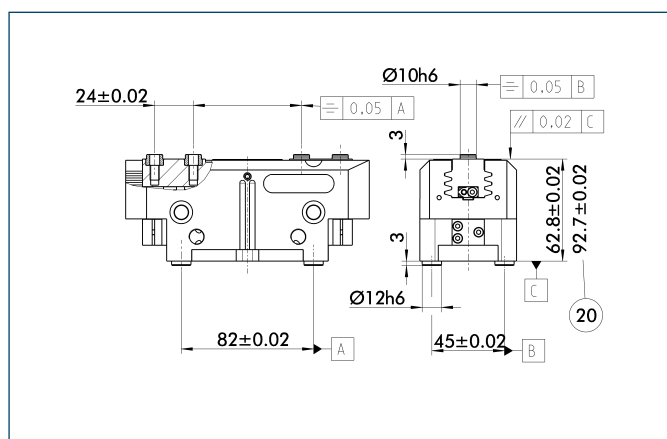
Force intensified version



- ㉑ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

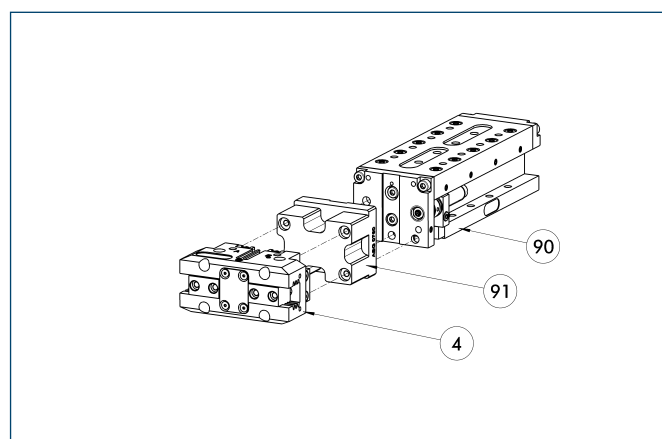
Precision version



- ㉑ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

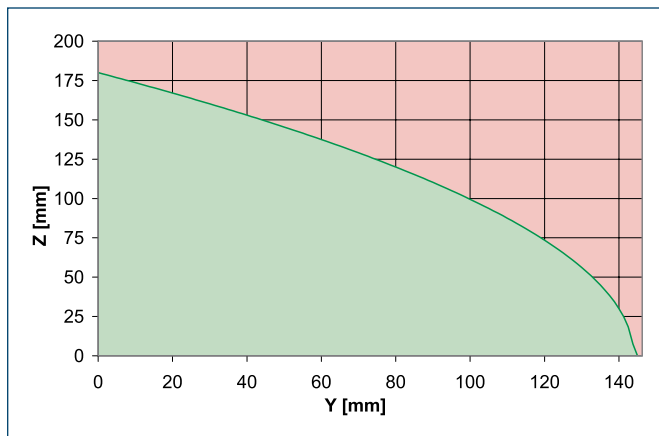
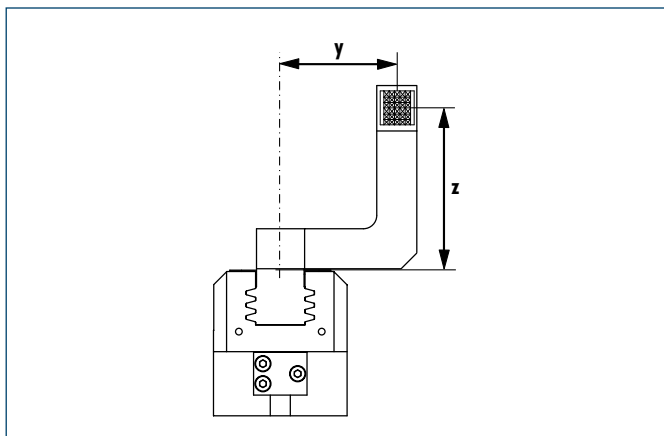
Modular Assembly Automation



- ④ Gripper
 ⑨① CLM
 ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

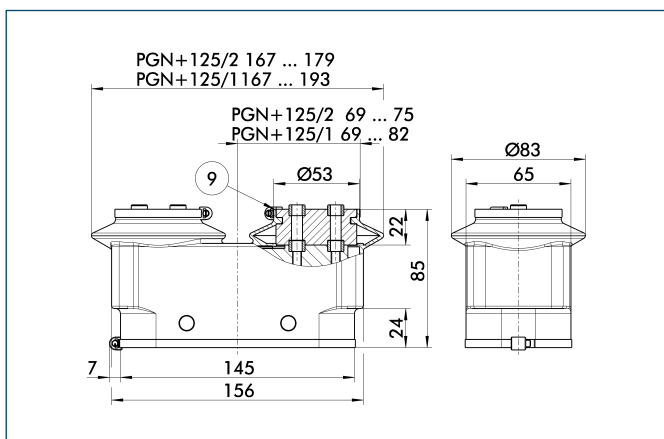
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

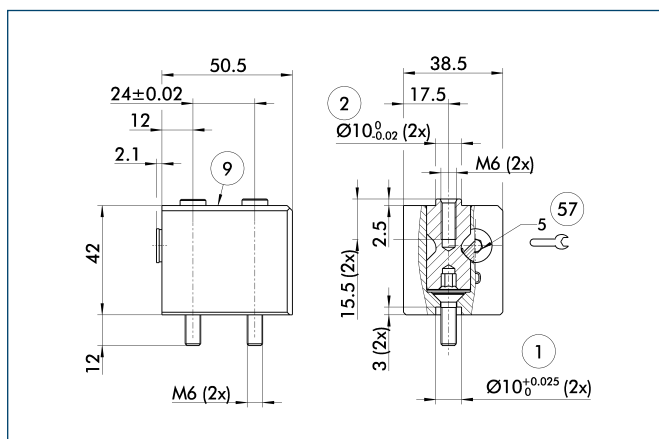


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 125	0371483	2

Quick-change Jaw System



① Gripper connection
 ② Finger connection
 ⑨ For mounting screw connection diagram, see basic version

57 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

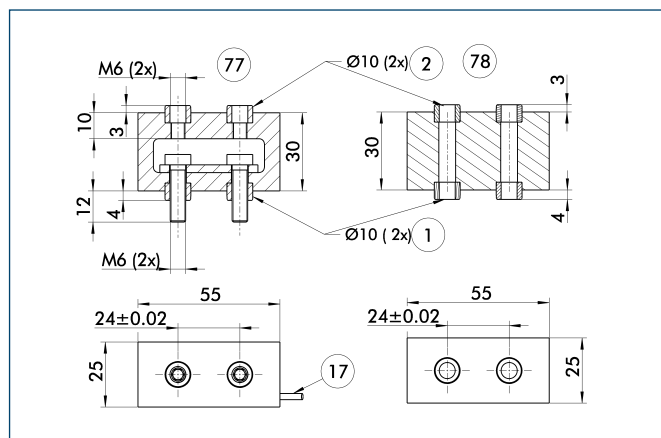
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 125	0303028
Quick-change Jaw System base	
BSWS-B 125	0303029
Quick-change Jaw System reversed	
BSWS-U 125	0303044



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Force measuring jaws



- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

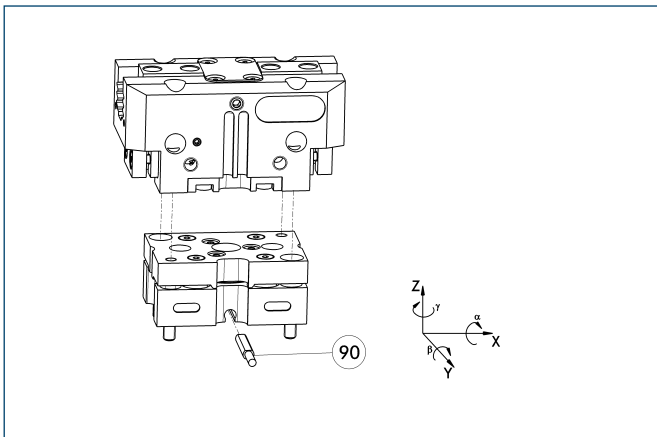
Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



 You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Tolerance compensation unit

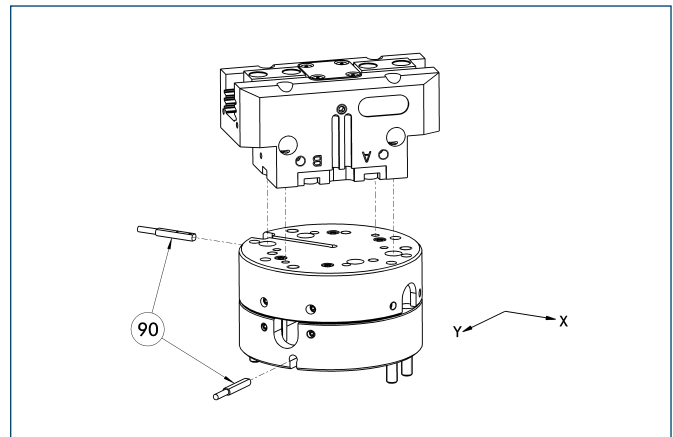


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-P	0324828	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-125-3-OV-P	0324829	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$

Compensation unit with spring reset

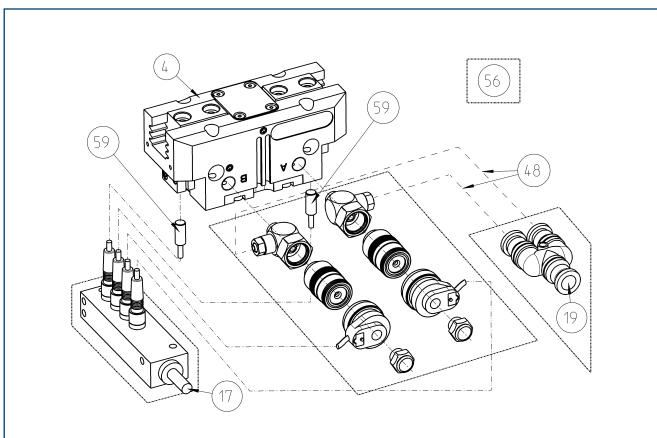


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Attachment valves

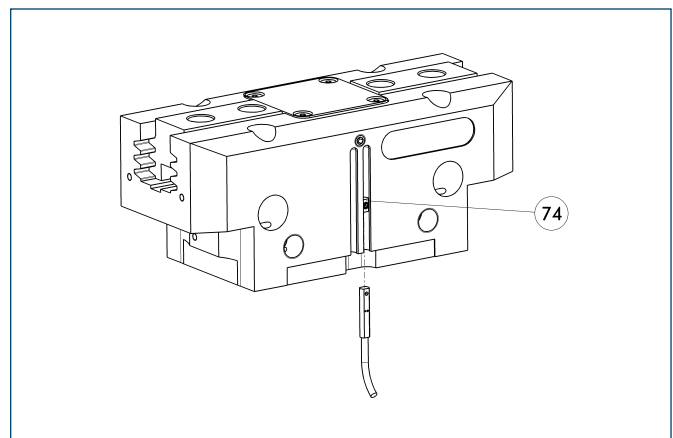


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367

Programmable magnetic switch



74 Stop for MMS-P

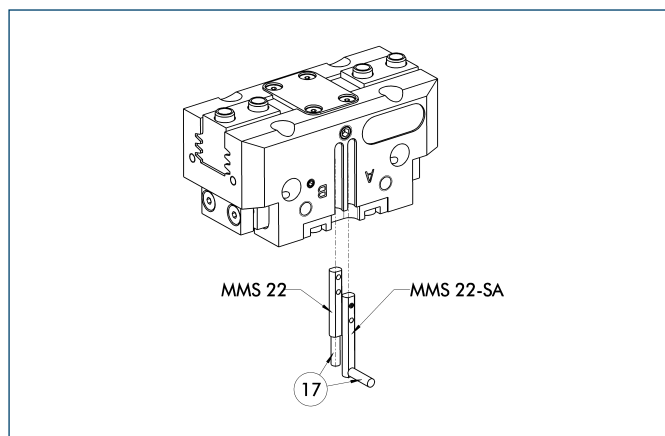
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Electronic magnetic switches



⑰ Cable outlet

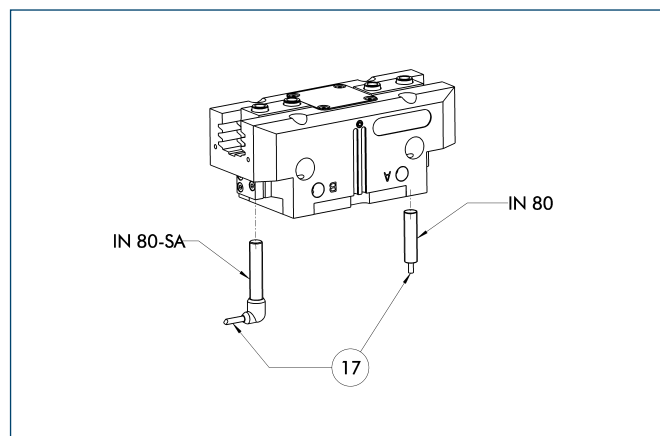
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

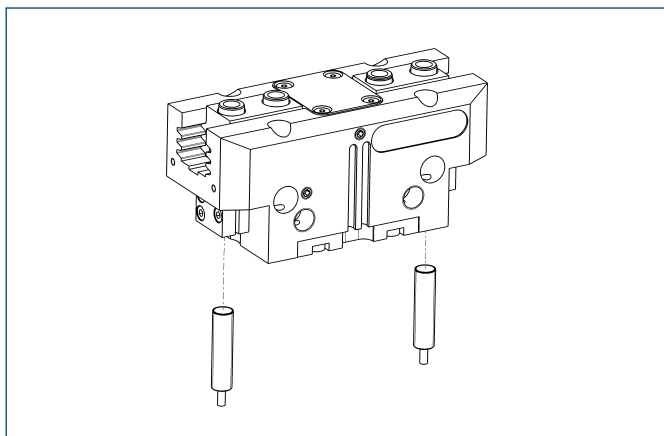
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

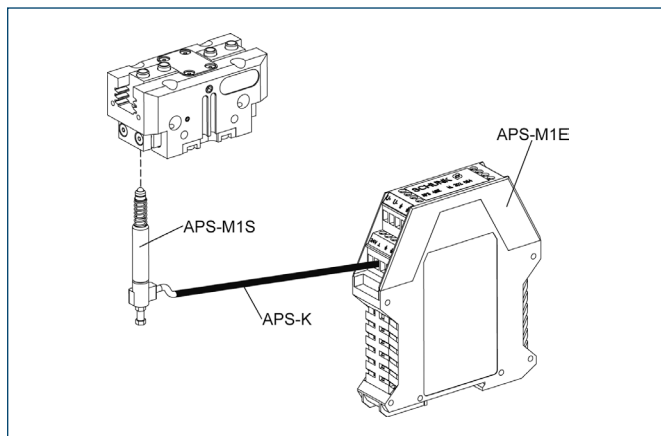


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

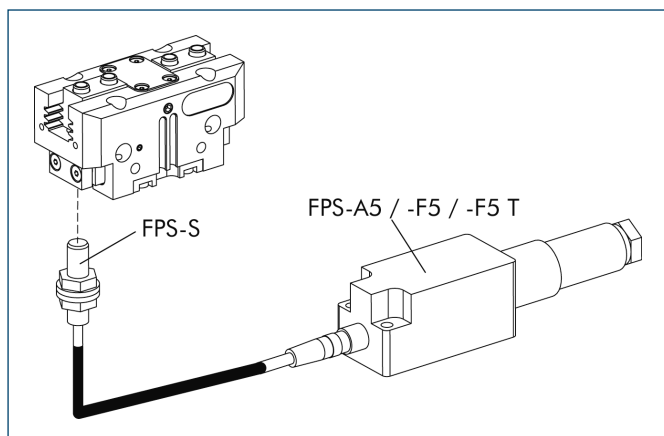
Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
AS-APS-M1-125/2	0302082
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

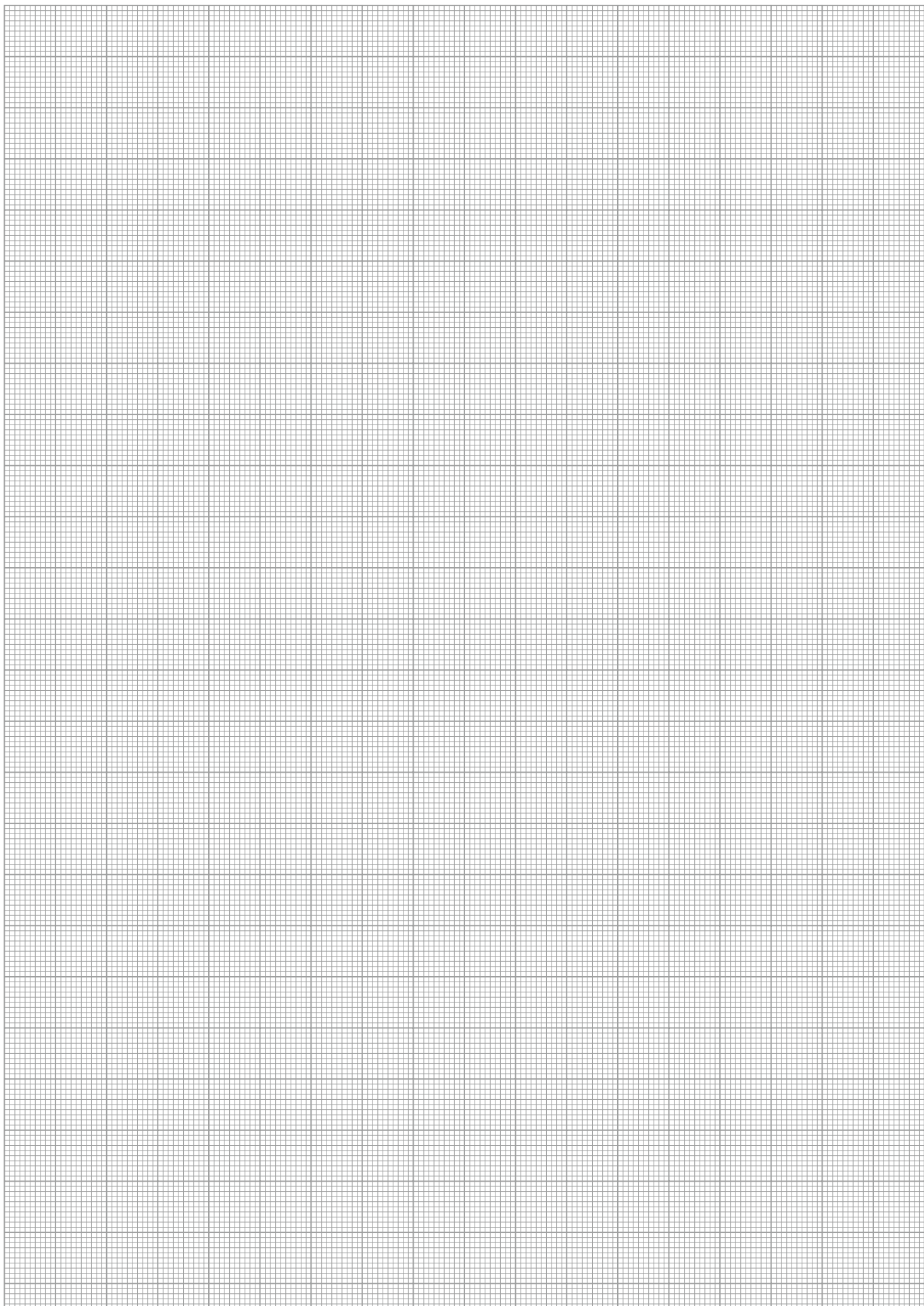
Flexible Position Sensor



Flexible position monitoring of up to five positions

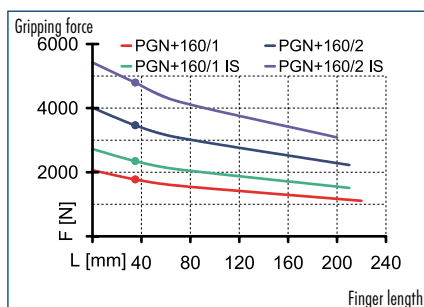
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
AS-PGN/PZN-plus 125/2	0301637
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

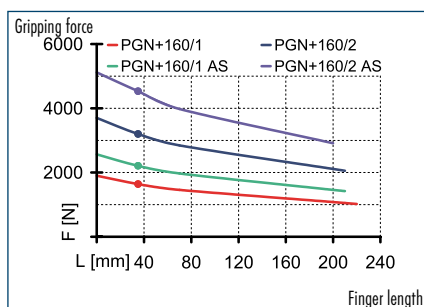




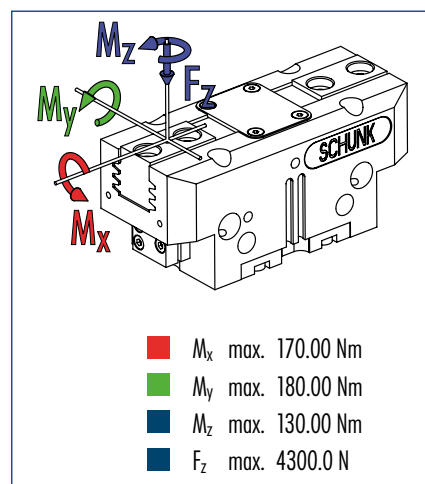
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

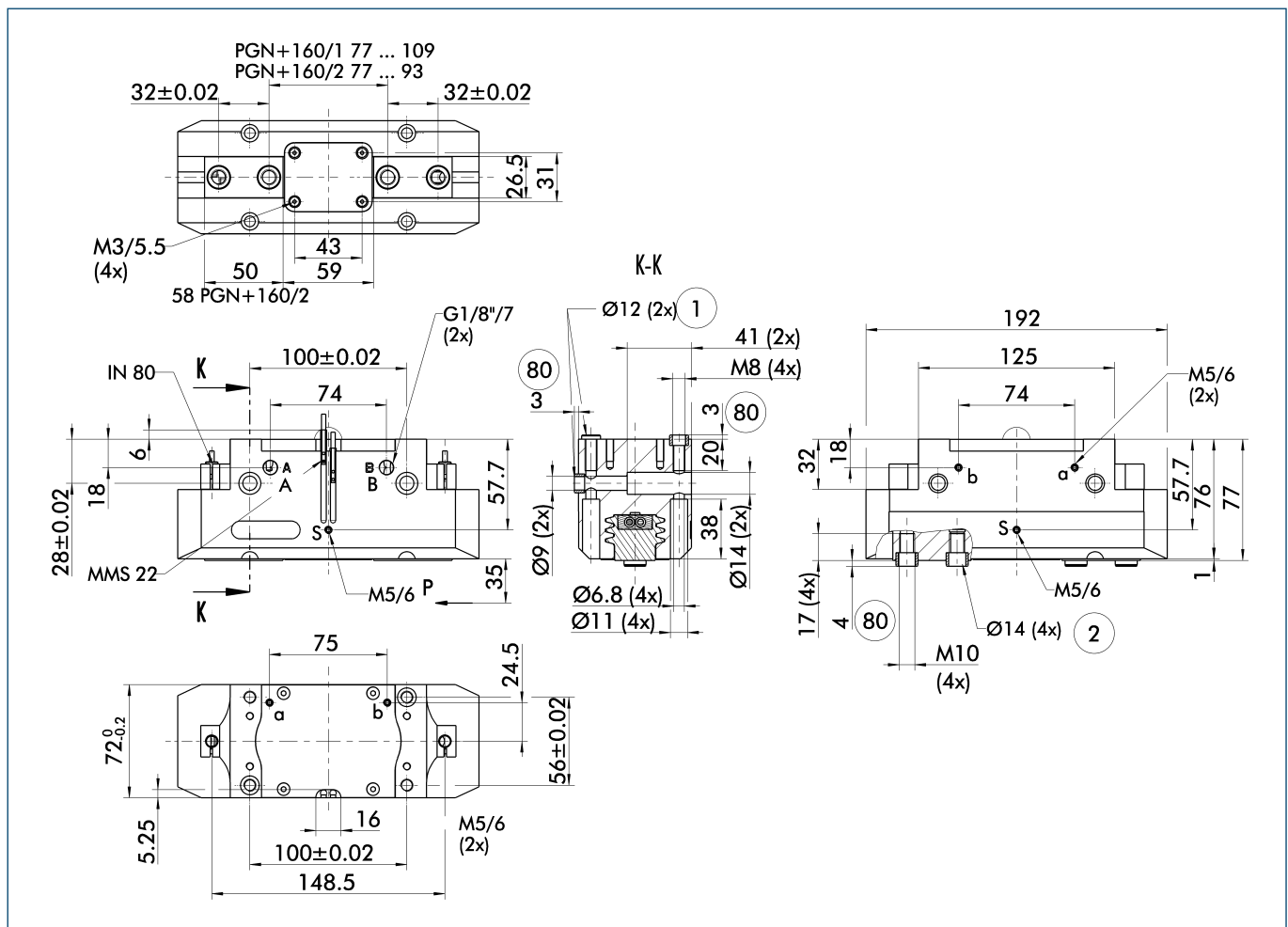
Technical data

Description		PGN-plus 160-1	PGN-plus 160-2	PGN-plus 160-1-AS	PGN-plus 160-2-AS	PGN-plus 160-1-IS	PGN-plus 160-2-IS
ID		0371104	0371154	0371404	0371454	0371464	0371474
Stroke per finger	[mm]	16	8	16	8	16	8
Closing force	[N]	1640	3200	2210	4420		
Opening force	[N]	1770	3460			2340	
Min. spring force	[N]			570	1220	570	1220
Weight	[kg]	2.6	2.6	3.3	3.3	3.3	3.3
Recommended workpiece weight	[kg]	8.2	16	8.2	16	8.2	16
Air consumption per double stroke	[cm ³]	157	157	265	265	265	265
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.15/0.15	0.15/0.15	0.12/0.25	0.12/0.25	0.25/0.12	0.25/0.12
Max. permitted finger length	[mm]	220	210	210	200	210	200
Max. permitted weight per finger	[kg]	3.5	3.5	3.5	3.5	3.5	3.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371104	37371154	37371404	37371454	37371464	37371474
IP class		64	64	64	64	64	64
Weight	[kg]	3	3	3.7	3.7	3.7	3.7
Anti-corrosion version		38371104	38371154	38371404	38371454	38371464	38371474
High-temperature version		39371104	39371154	39371404	39371454	39371464	39371474
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 160-1-KVZ	PGN-plus 160-2-KVZ	PGN-plus 160-1-AS-KVZ		PGN-plus 160-1-IS-KVZ	
ID		0372104	0372154	0372404		0372464	
Closing force	[N]	2950	5760	3520			
Opening force	[N]	3185	6230			3755	
Weight	[kg]	3.4	3.4	4.4		4.4	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	160	125	125		125	
Precision version		0371126	0371176	0371426	0371441		

Main view



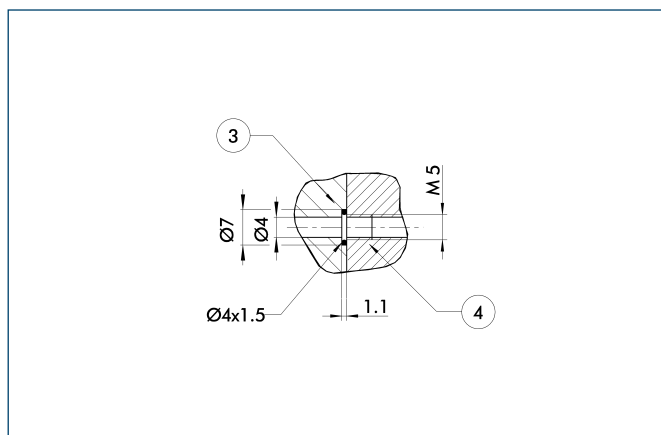
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
⑧ Depth of the centering sleeve hole in the matching part

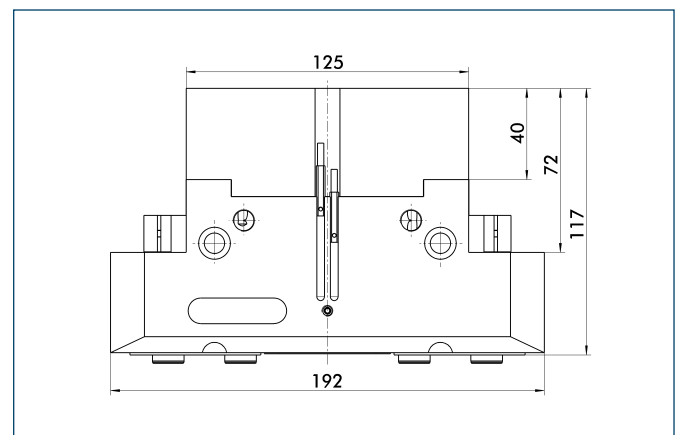
Hose-free direct connection



③ Adapter
④ Gripper

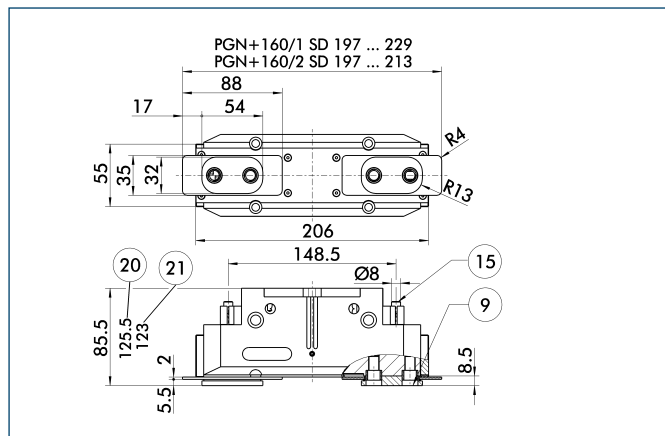
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

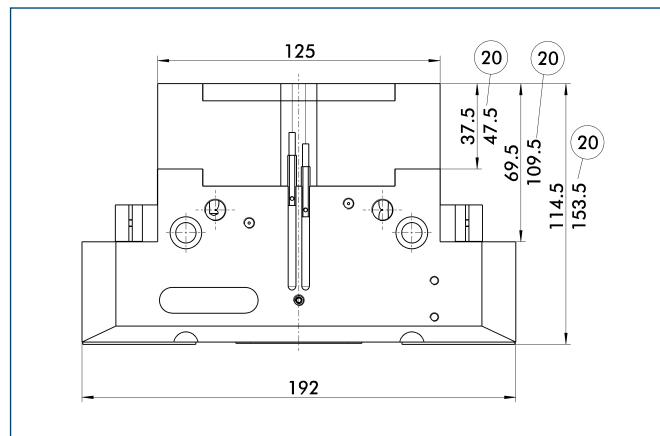
Dust-protection version



- 9 For mounting screw connection diagram, see basic version
 15 Sealing bolt
 20 For AS / IS version
 21 Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

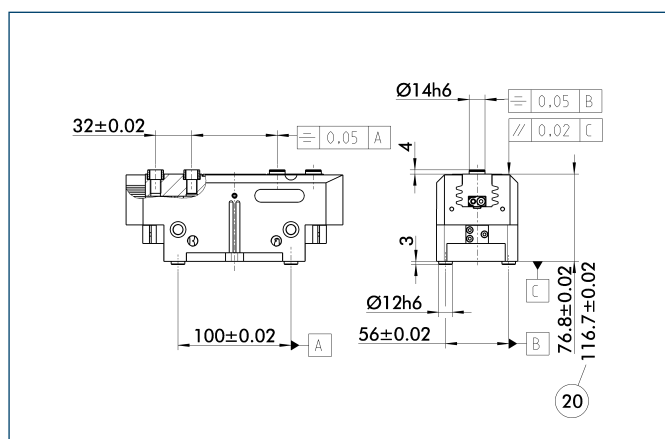
Force intensified version



- 20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

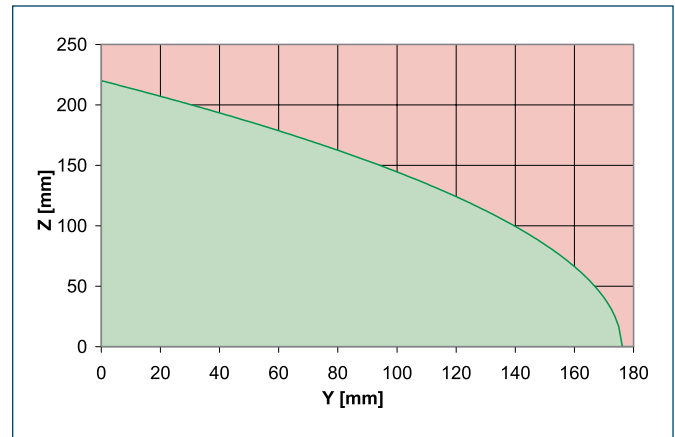
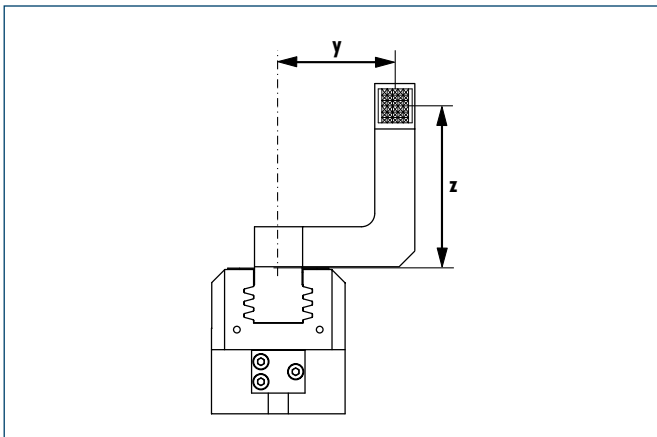
Precision version



- 20 For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

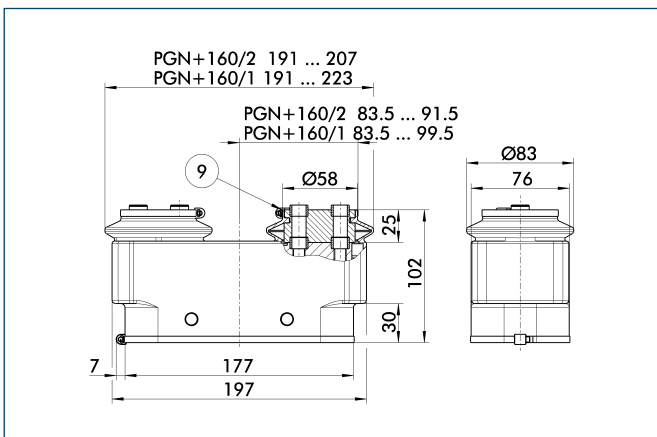
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Protection cover

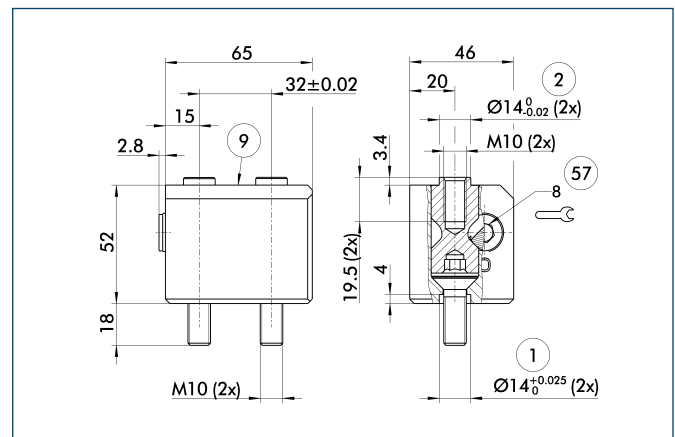


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PGN-plus 160	0371484	2

Quick-change Jaw System



① Gripper connection
 ② Finger connection
 ⑨ For mounting screw connection diagram, see basic version
 57 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

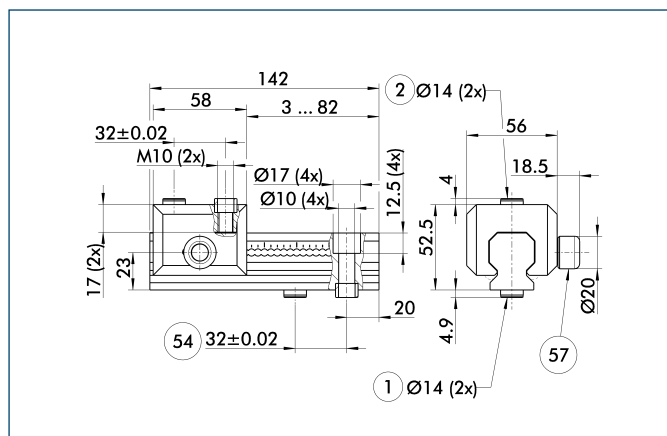
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031
Quick-change Jaw System reversed	
BSWS-U 160	0303045



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



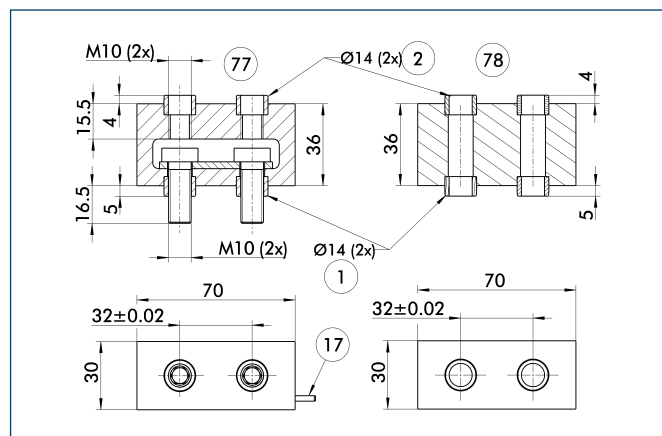
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 160	0300046	4 mm
UZB-S 160	5518274	4 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

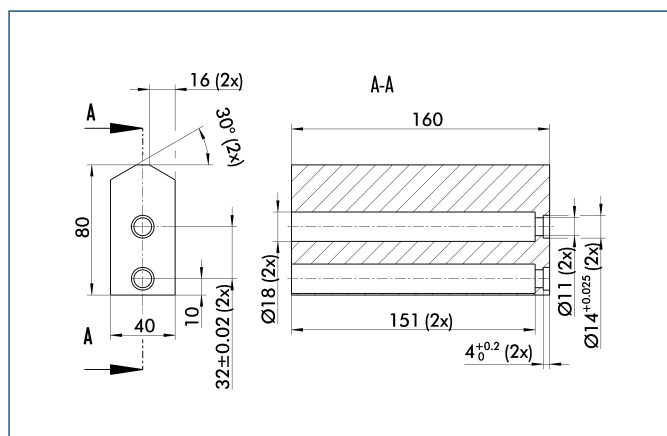


- ① Gripper connection
- ② Finger connection
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws
- ①⑦ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

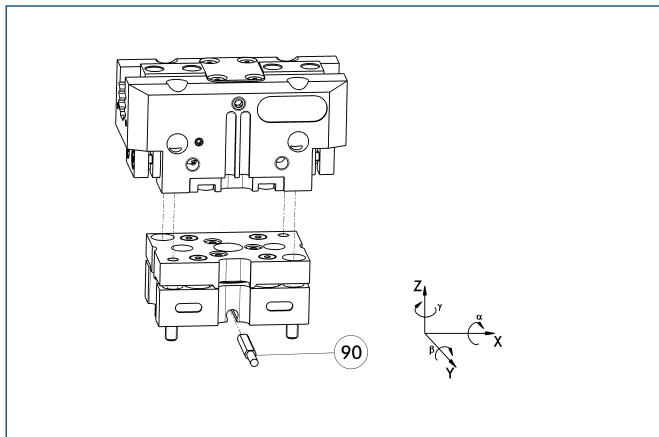


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

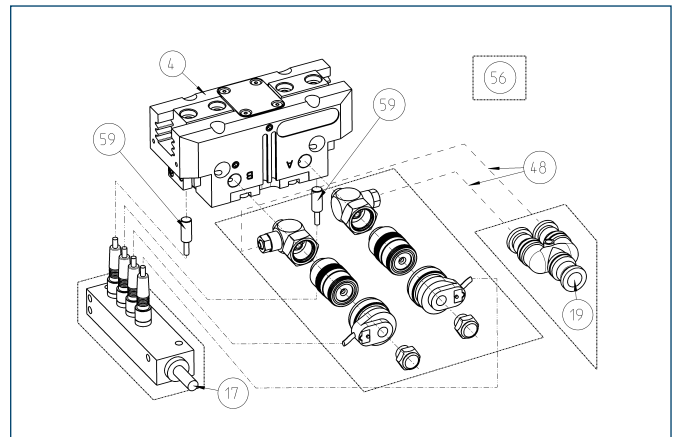


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-P	0324846	Yes	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-160-3-OV-P	0324847	No	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$

Attachment valves



- 4 Gripper
- 17 Cable outlet
- 19 Air connection
- 48 Hose
- 56 Included in delivery
- 59 Monitoring "gripping"

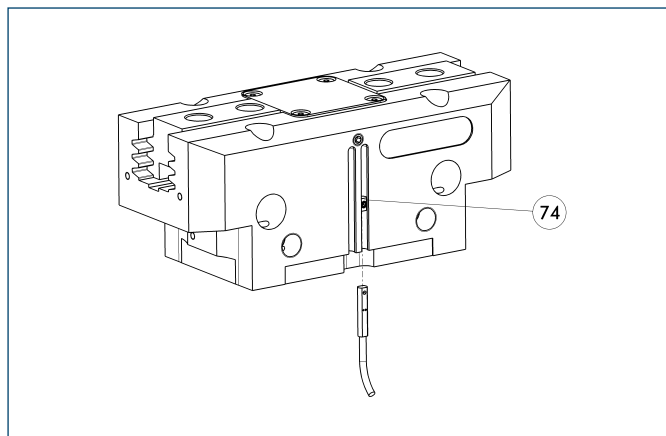
For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Programmable magnetic switch



74 Stop for MMS-P

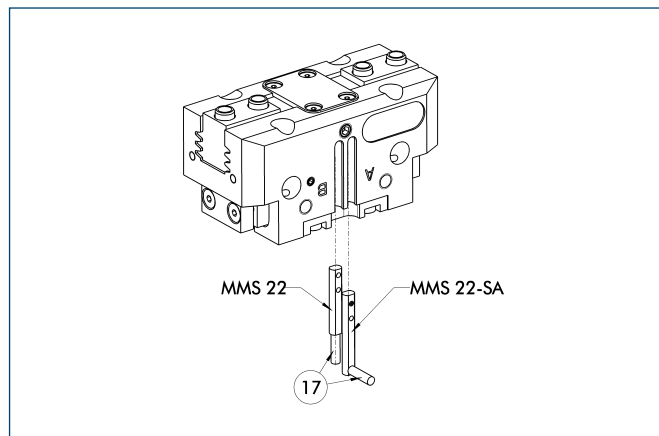
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

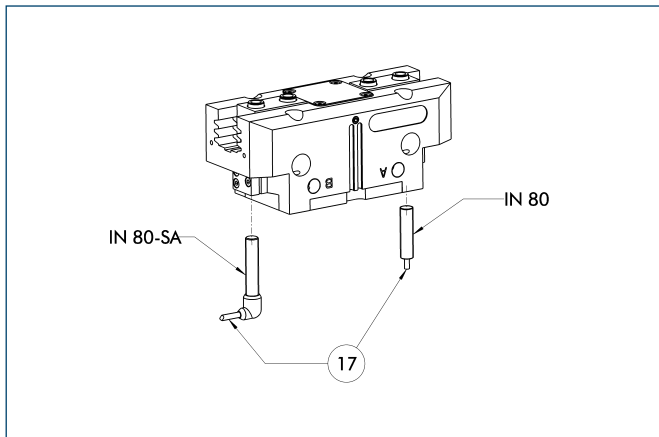
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

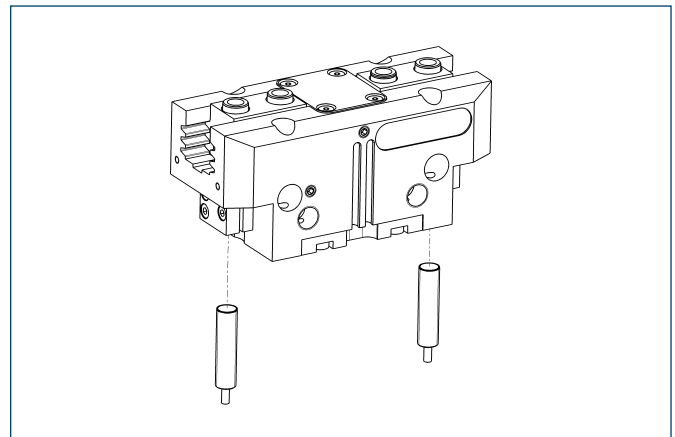
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

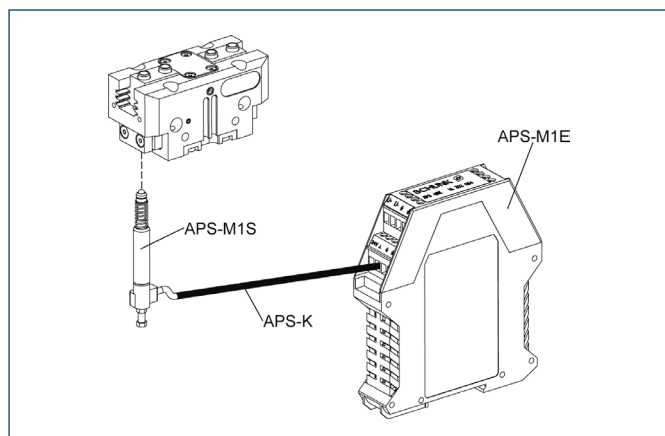
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Analog position sensor

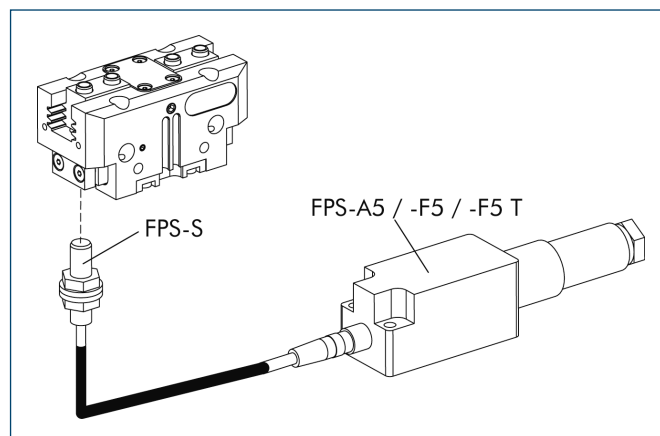


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-160/2	0302084
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

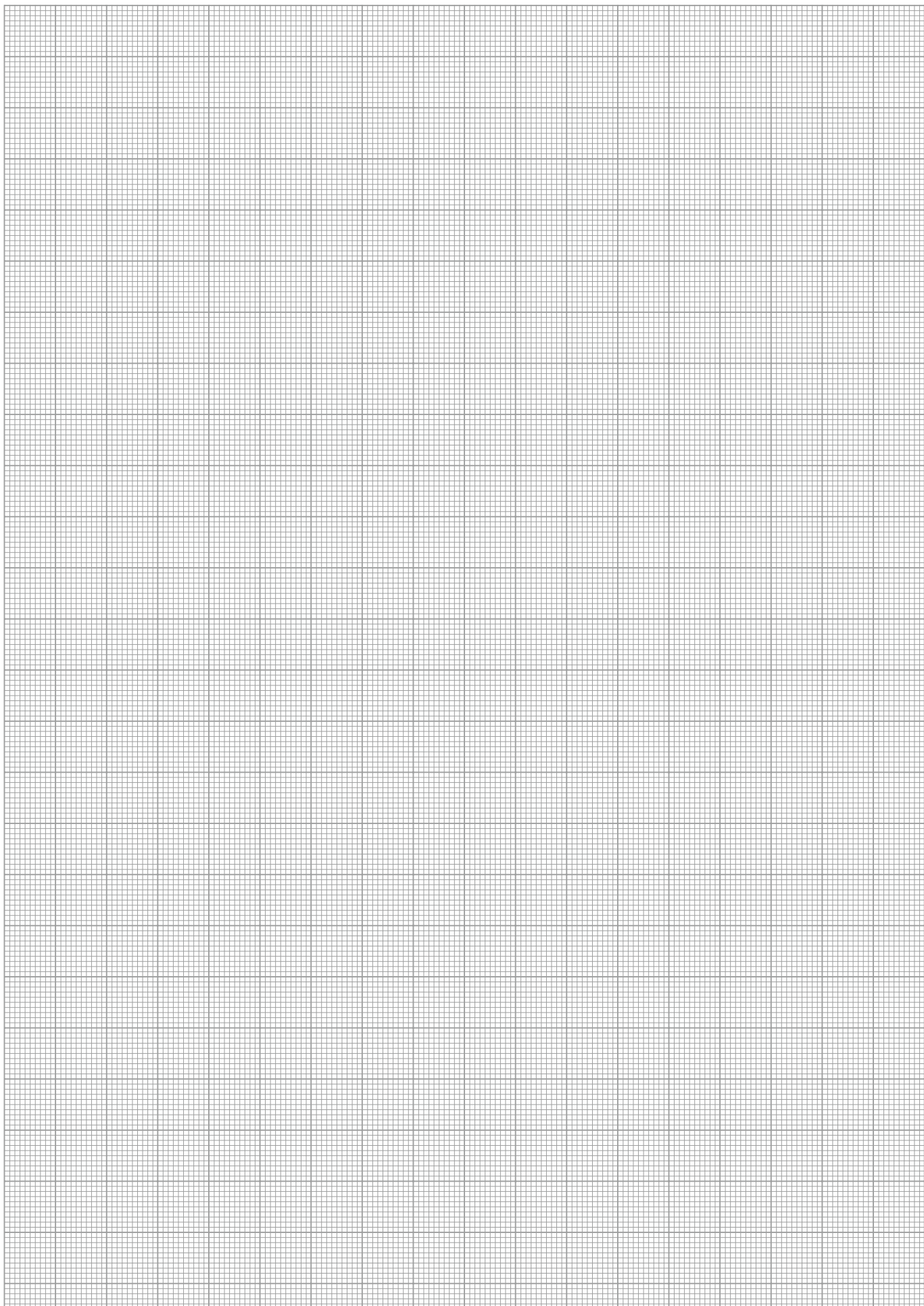
Flexible Position Sensor



Flexible position monitoring of up to five positions

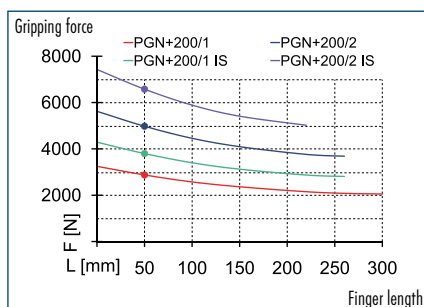
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 160/1	0301638
AS-PGN/PZN-plus 160/2	0301639
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

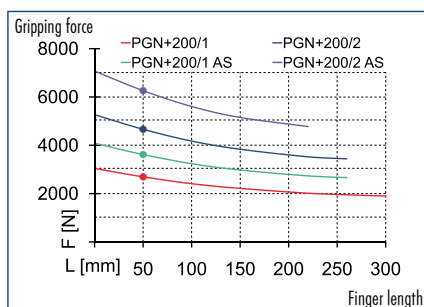




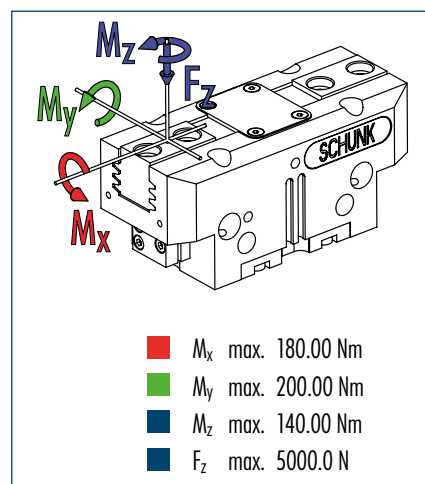
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

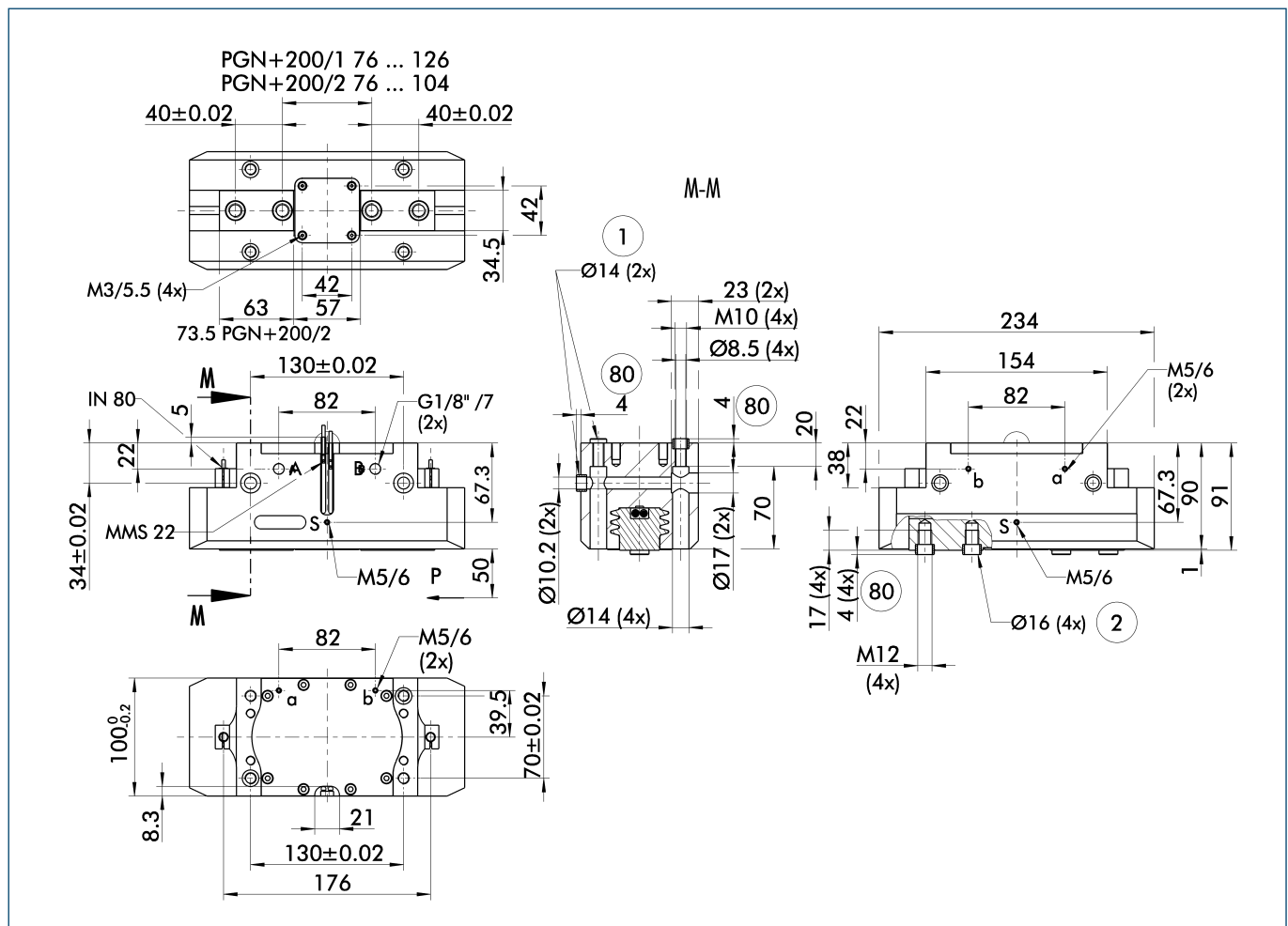
Technical data

Description		PGN-plus 200-1	PGN-plus 200-2	PGN-plus 200-1-AS	PGN-plus 200-2-AS	PGN-plus 200-1-IS	PGN-plus 200-2-IS
ID		0371105	0371155	0371405	0371455	0371465	0371475
Stroke per finger	[mm]	25	14	25	14	25	14
Closing force	[N]	2700	4650	3610	6250		
Opening force	[N]	2870	4980			3780	6580
Min. spring force	[N]			910	1600	910	1600
Weight	[kg]	5.4	5.4	7.5	7.5	7.5	7.5
Recommended workpiece weight	[kg]	13.5	23.5	13.5	23.5	13.5	23.5
Air consumption per double stroke	[cm³]	390	390	635	635	635	635
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.35/0.35	0.35/0.35	0.3/0.6	0.3/0.6	0.6/0.3	0.6/0.3
Max. permitted finger length	[mm]	280	240	240	200	240	200
Max. permitted weight per finger	[kg]	6.5	6.5	6.5	6.5	6.5	6.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371105	37371155	37371405	37371455	37371465	37371475
IP class		64	64	64	64	64	64
Weight	[kg]	6	6	8.1	8.1	8.1	8.1
Anti-corrosion version		38371105	38371155	38371405	38371455	38371465	38371475
High-temperature version		39371105	39371155	39371405	39371455	39371465	39371475
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PGN-plus 200-1-KVZ	PGN-plus 200-2-KVZ	PGN-plus 200-1-AS-KVZ		PGN-plus 200-1-IS-KVZ	
ID		0372105	0372155	0372405		0372465	
Closing force	[N]	4860	8370	5770			
Opening force	[N]	5165	8965			6075	
Weight	[kg]	6.7	6.7	9		9	
Maximum pressure	[bar]	6	6	6		6	
Max. permitted finger length	[mm]	200	160	160		160	
Precision version		0371127	0371177	0371427	0371442		

Main view



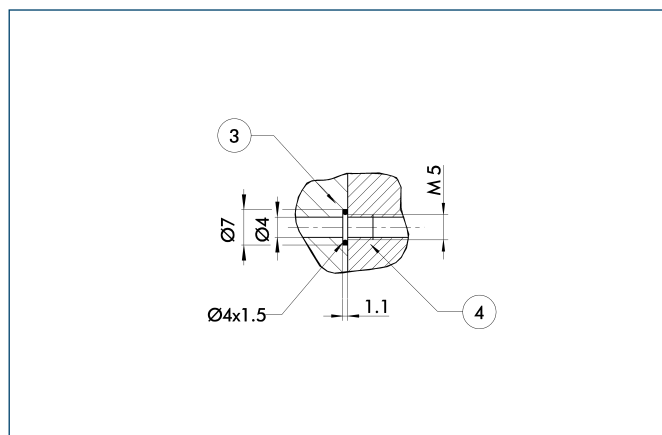
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

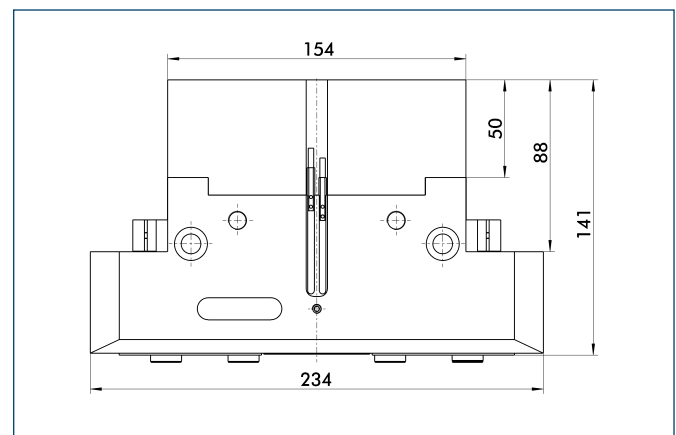
Hose-free direct connection



③ Adapter
④ Gripper

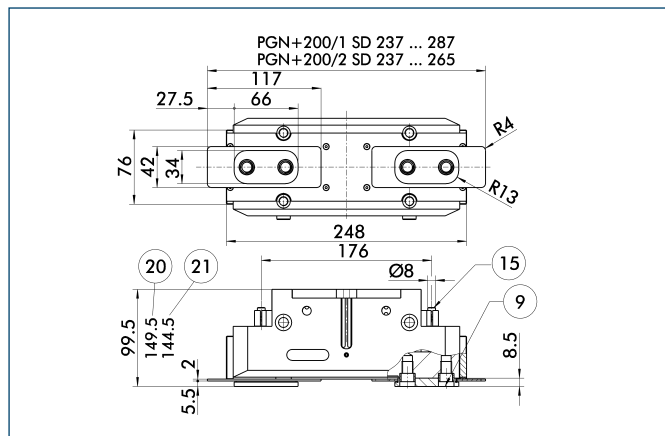
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

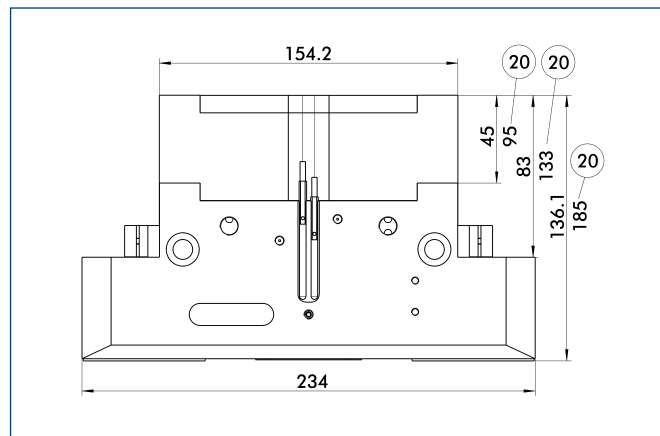
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
⑮ Sealing bolt
⑳ For AS / IS version
㉑ Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

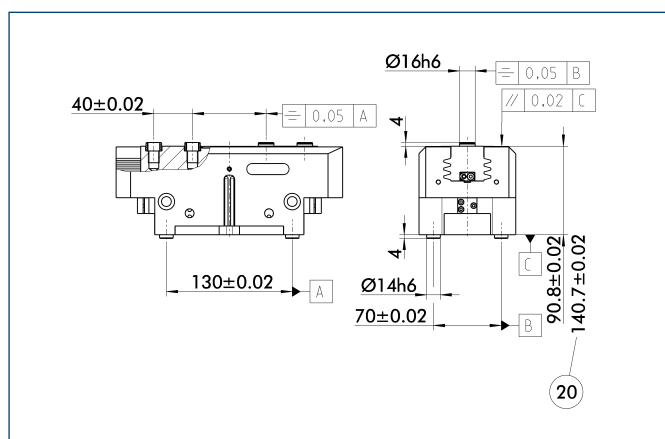
Force intensified version



- ㉑ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

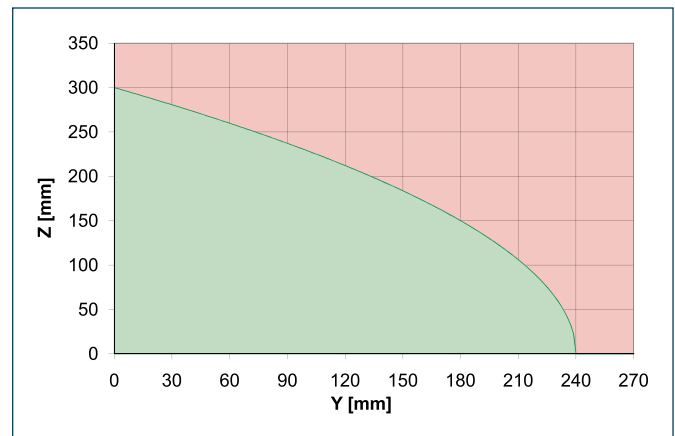
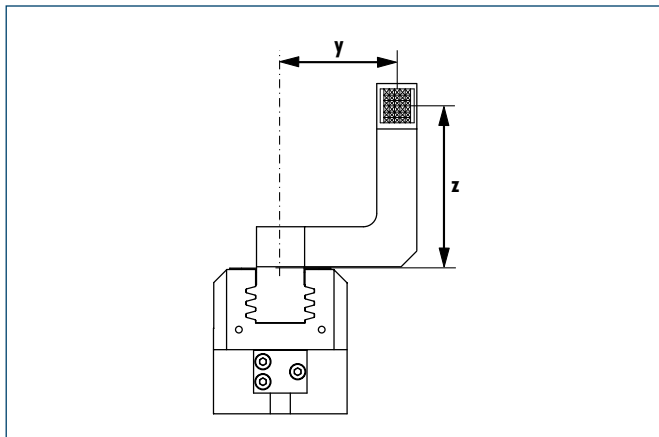
Precision version



- ㉑ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

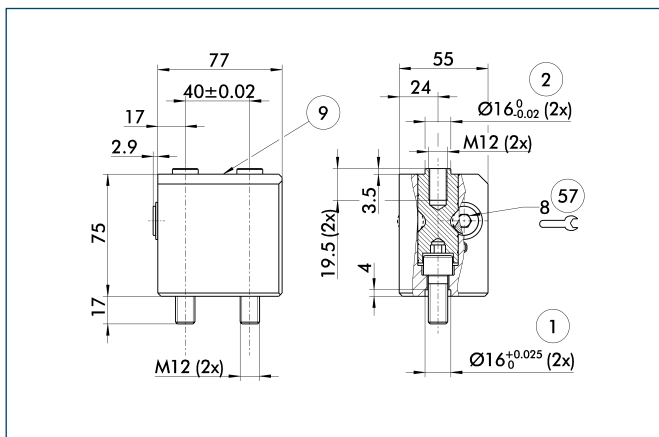
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



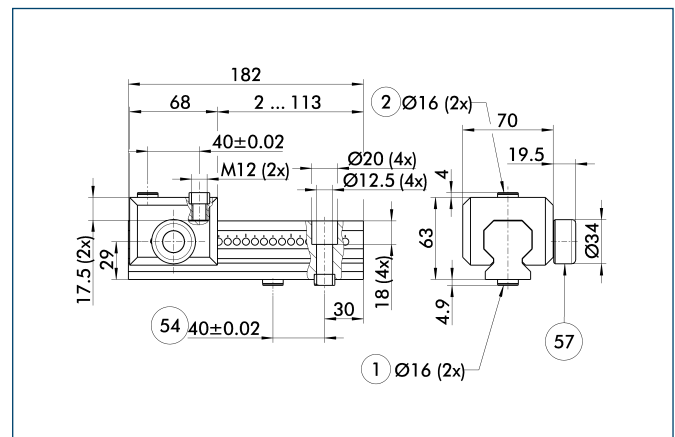
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 200	0303032
Quick-change Jaw System base	
BSWS-B 200	0303033
Quick-change Jaw System reversed	
BSWS-U 200	0303046

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

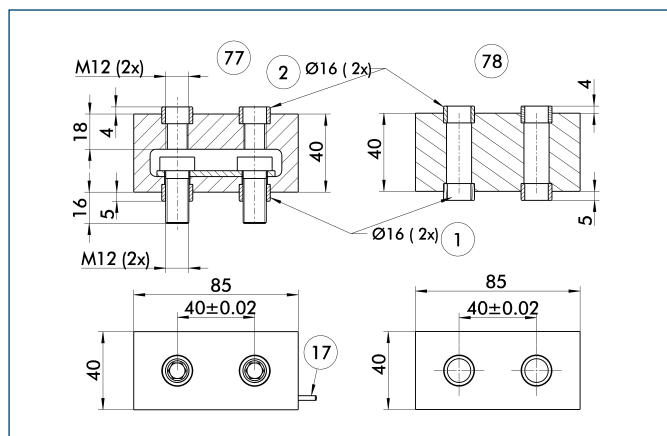
Description	ID	Grid dimension
Universal intermediate jaw		
UZB 200	0300047	7 mm
UZB-S 200	5518275	7 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Force measuring jaws

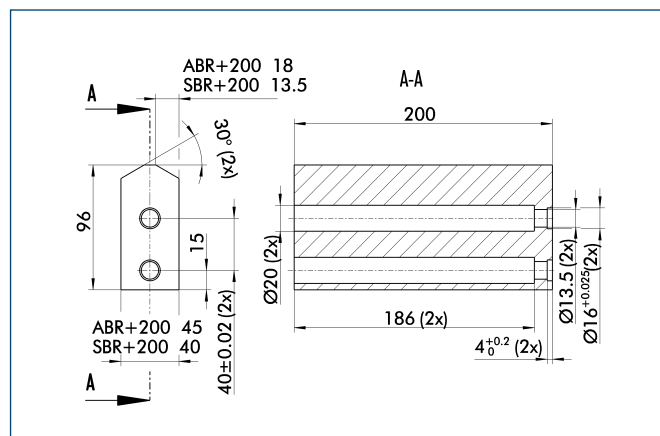


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 200	0301842
Passive intermediate jaws	
FMS-ZBP 200	0301843
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

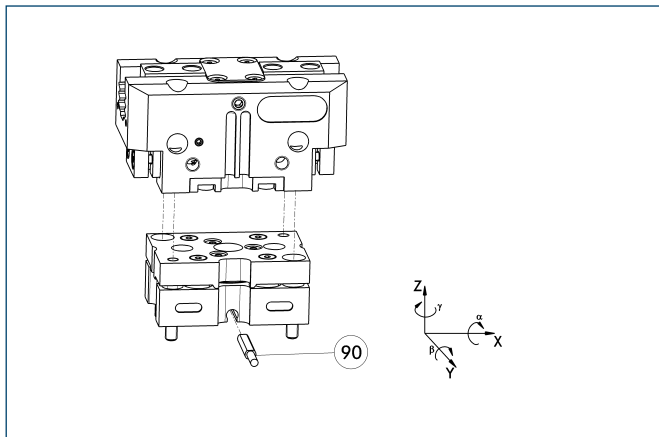
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 200	0300015	Aluminum	1
SBR-plus 200	0300025	16 MnCr 5	1

Tolerance compensation unit

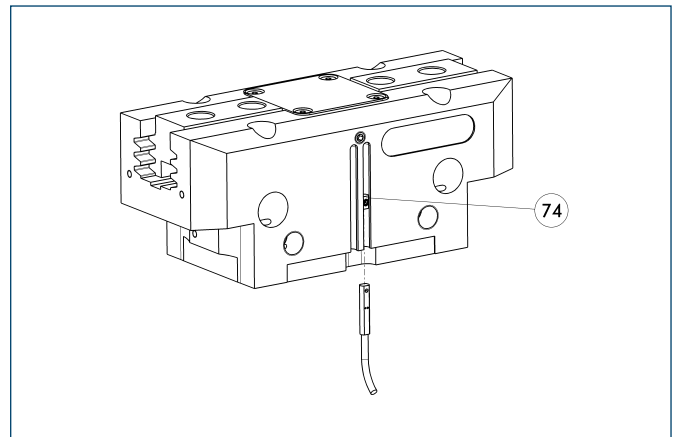


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-200-3-MV-P	0324864	Yes	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-200-3-OV-P	0324865	No	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

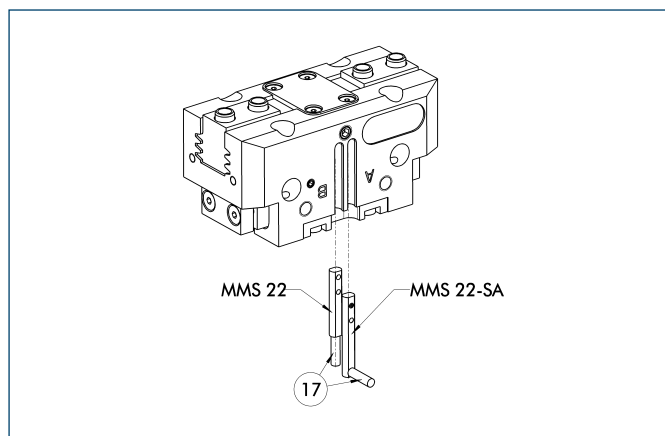
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

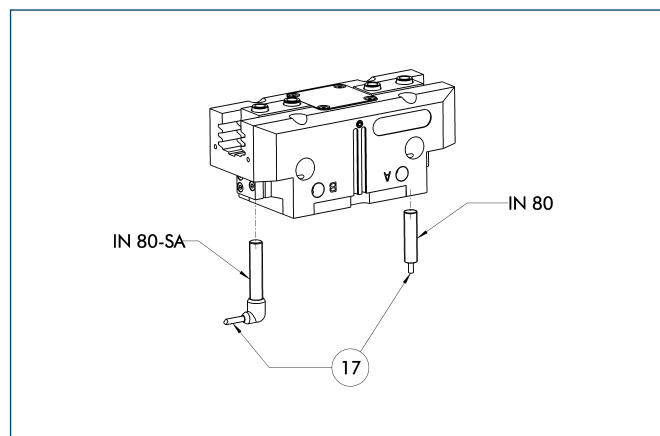
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

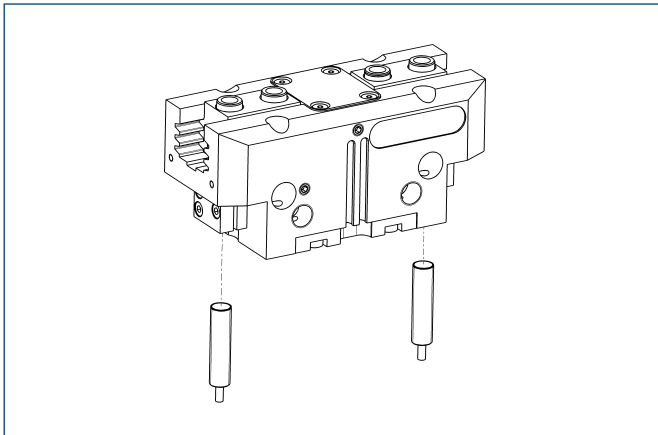
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

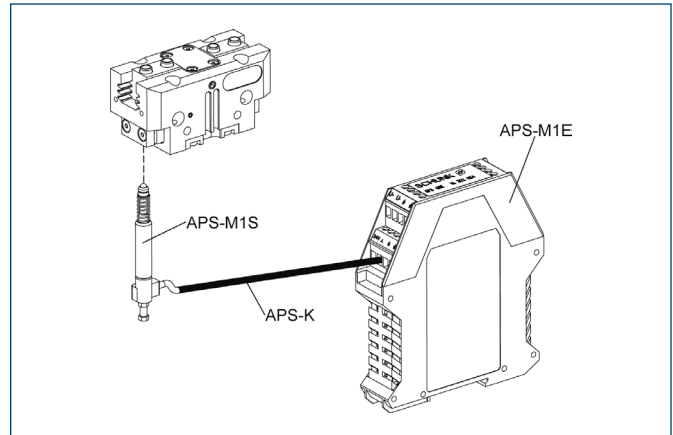


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

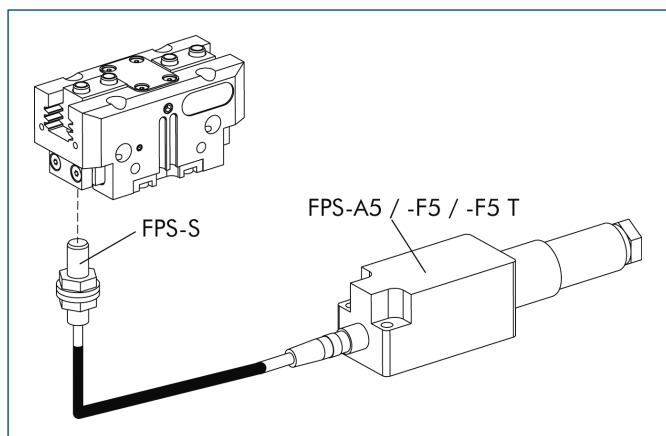
Description	ID
Mounting kit	
AS-APS-M1-200/1 and 380/2	0302085
AS-APS-M1-200/2	0302086
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

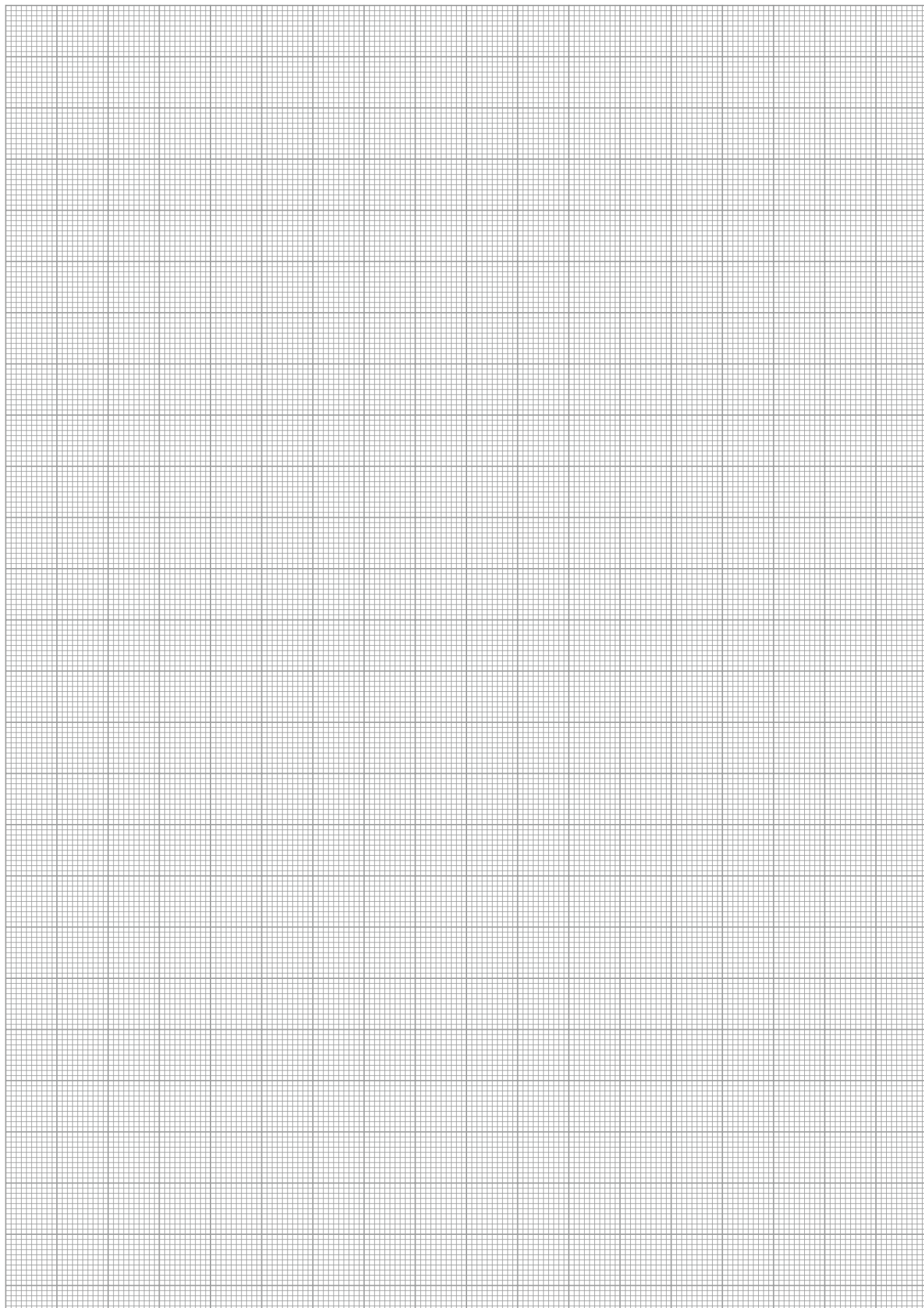
Flexible Position Sensor



Flexible position monitoring of up to five positions

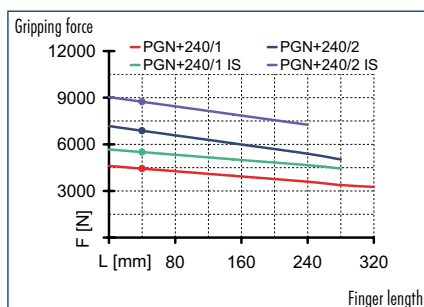
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 200/1	0301640
AS-PGN/PZN-plus 200/2	0301641
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

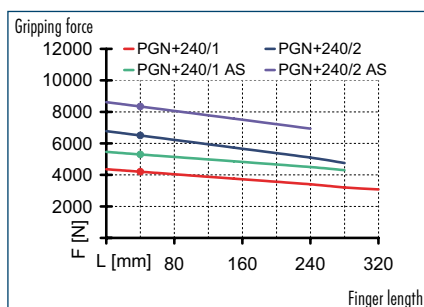




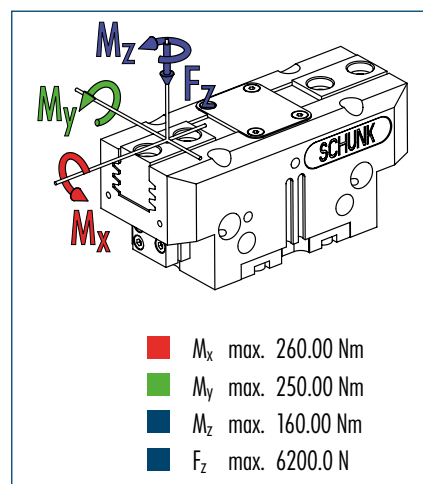
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

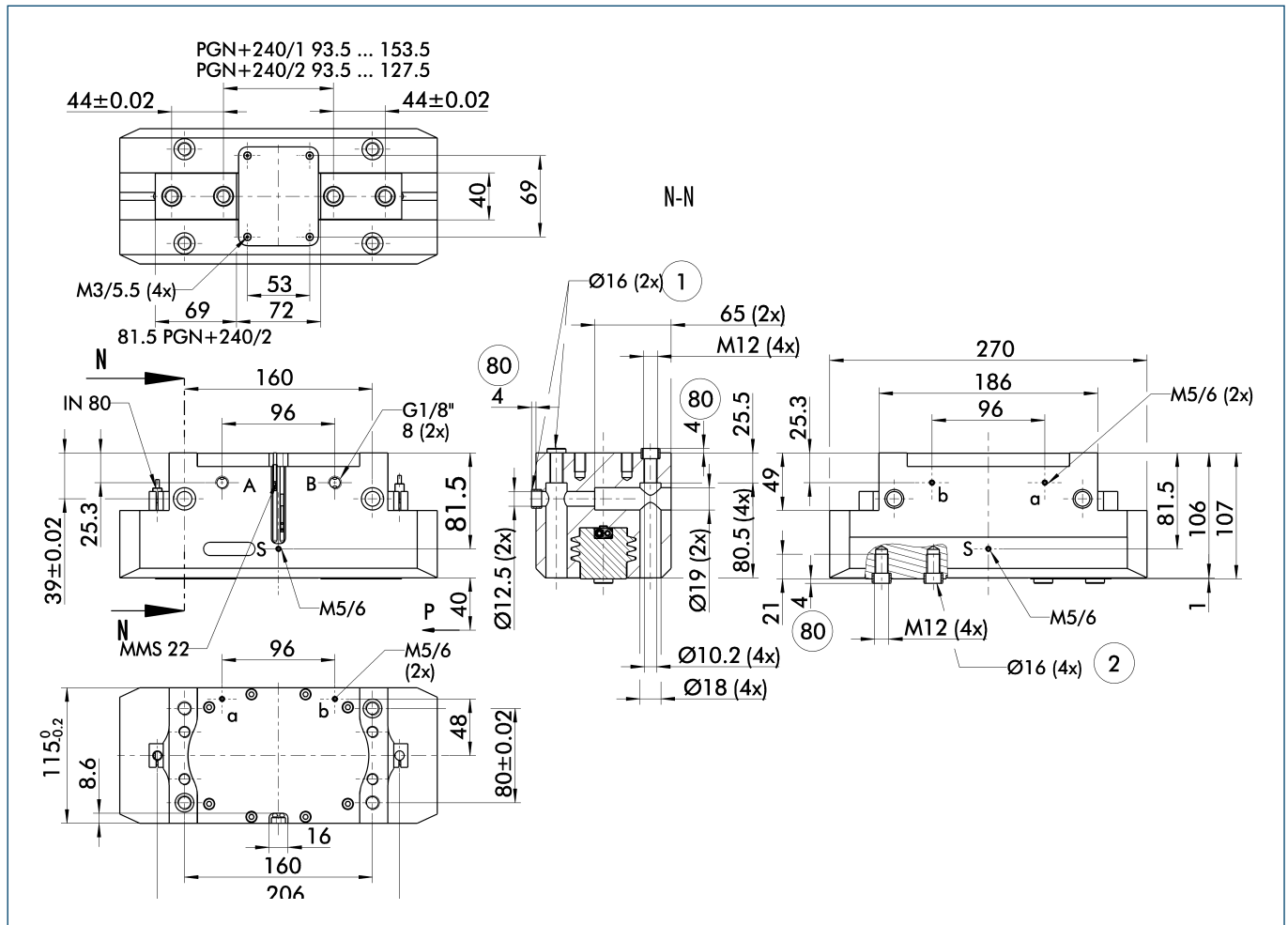
Technical data

Description		PGN-plus 240-1	PGN-plus 240-2	PGN-plus 240-1-AS	PGN-plus 240-2-AS	PGN-plus 240-1-IS	PGN-plus 240-2-IS
ID		0371108	0371158	0371408	0371458	0371468	0371478
Stroke per finger	[mm]	30	17	30	17	30	17
Closing force	[N]	4200	6500	5300	8340		
Opening force	[N]	4440	6870			5540	8710
Min. spring force	[N]			1100	1840	1100	1840
Weight	[kg]	8.5	8.5	12	12	12	12
Recommended workpiece weight	[kg]	21.5	33	21.5	33	21.5	33
Air consumption per double stroke	[cm³]	646	646	1026	1026	1026	1026
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.45/0.45	0.45/0.45	0.35/0.65	0.35/0.65	0.65/0.35	0.65/0.35
Max. permitted finger length	[mm]	320	280	280	240	280	240
Max. permitted weight per finger	[kg]	8.5	8.5	8.5	8.5	8.5	8.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.04	0.04	0.04	0.04	0.04	0.04
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

OPTIONS and their characteristics

Dust-protection version		37371108	37371158	37371408	37371458	37371468	37371478
IP class		64	64	64	64	64	64
Weight	[kg]	11.4	11.4	14.4	14.4	14.4	14.4
Anti-corrosion version		38371108	38371158	38371408	38371458	38371468	38371478
High-temperature version		39371108	39371158	39371408	39371458	39371468	39371478
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version		0371128	0371178	0371428	0371443		

Main view



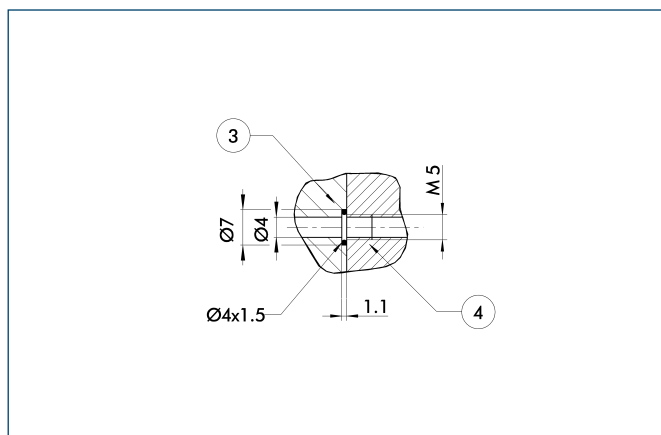
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

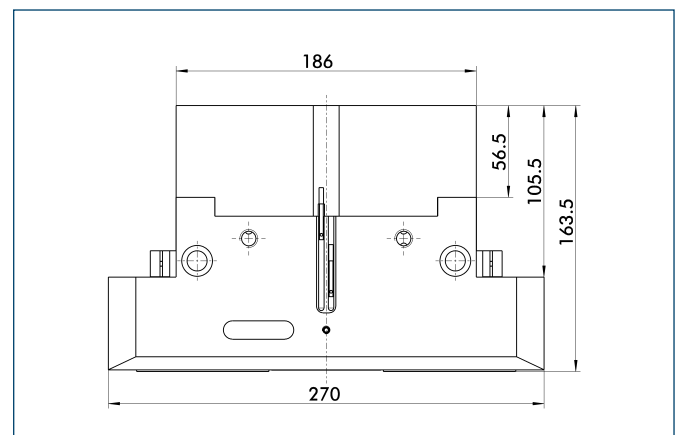
Hose-free direct connection



③ Adapter
④ Gripper

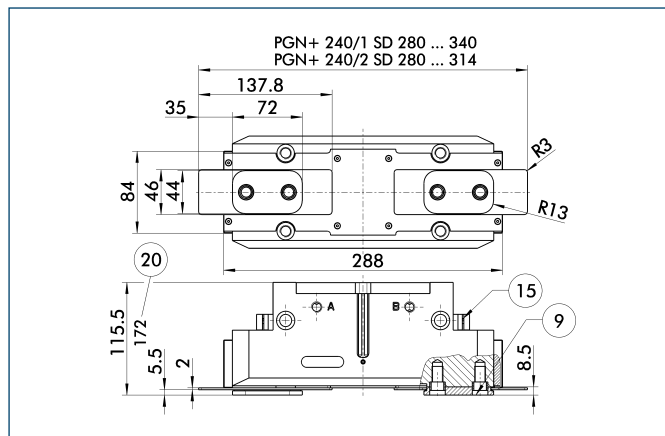
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

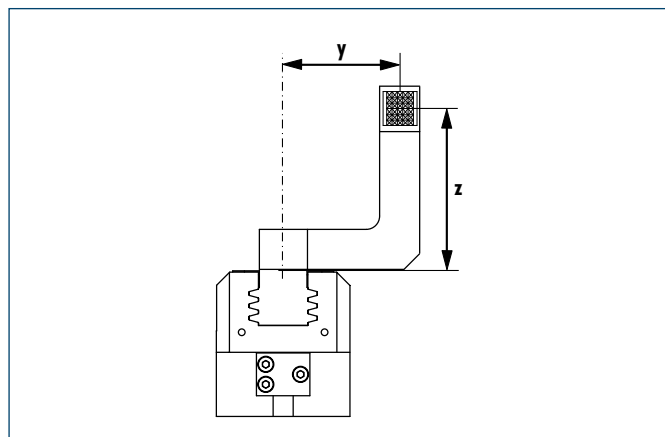
Dust-protection version



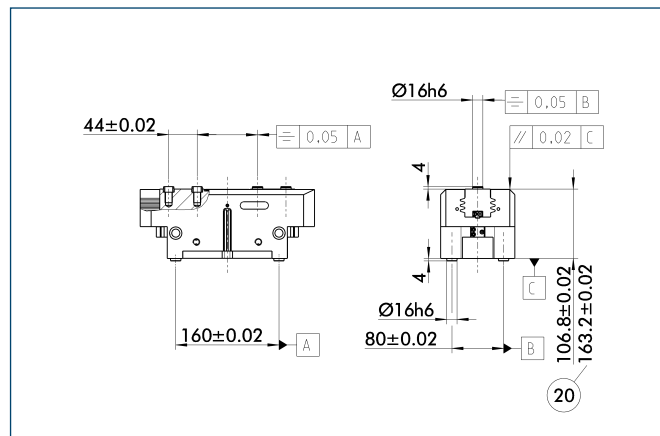
- ⑨ For mounting screw connection diagram, see basic version
⑮ Sealing bolt
⑳ For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Maximum permitted finger projection

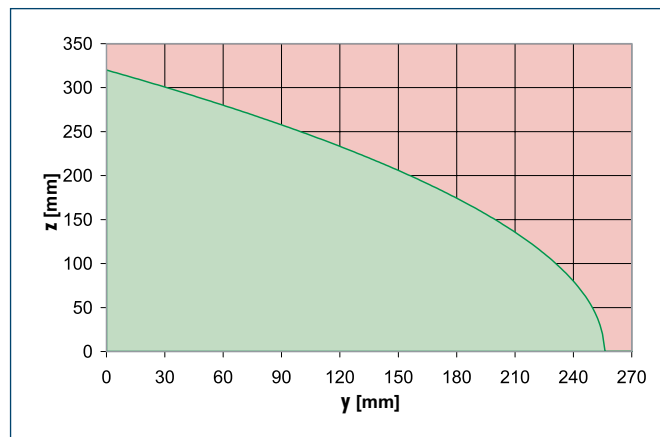


Precision version



- ⑳ For AS / IS version

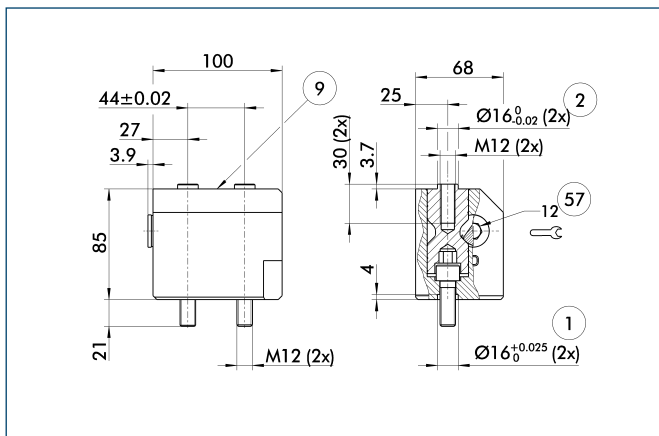
The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.



- Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



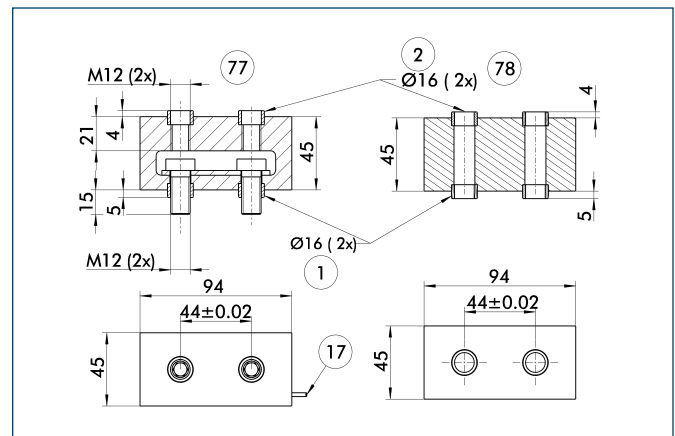
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSW quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U, is that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 240	0303034
Quick-change Jaw System base	
BSWS-B 240	0303035
Quick-change Jaw System reversed	
BSWS-U 240	0303047

Force measuring jaws

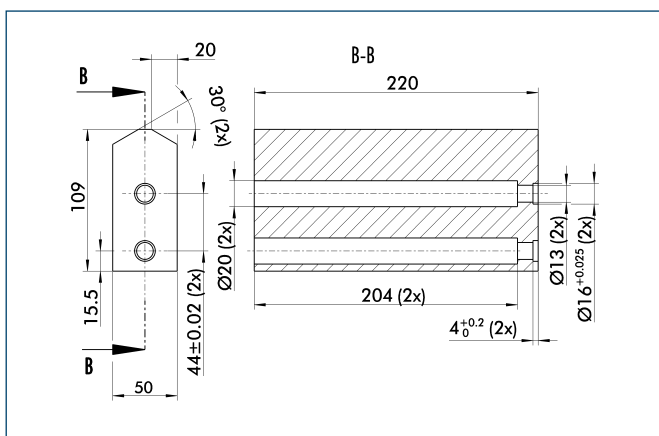


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 240	0301844
Passive intermediate jaws	
FMS-ZBP 240	0301845
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



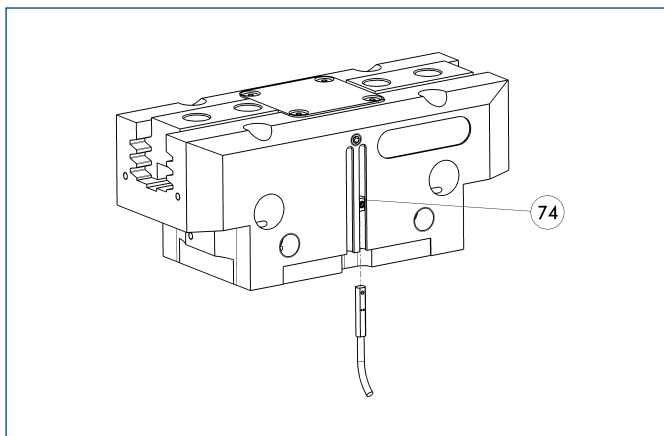
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 240	0300017	Aluminum	1
SBR-plus 240	0300027	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Programmable magnetic switch



74 Stop for MMS-P

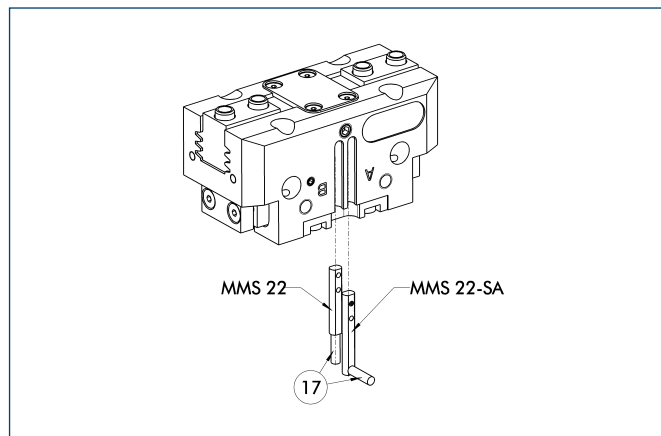
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

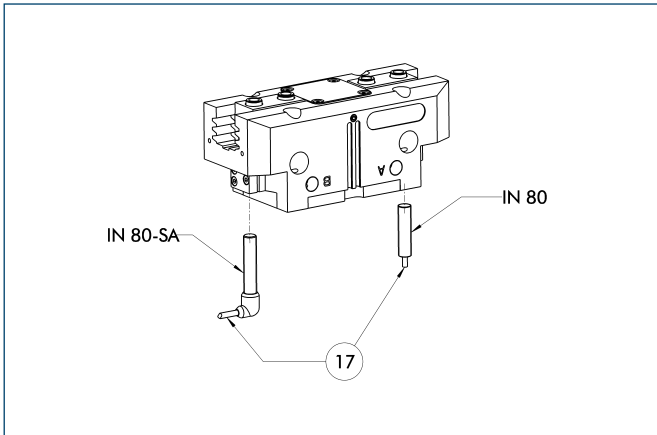
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

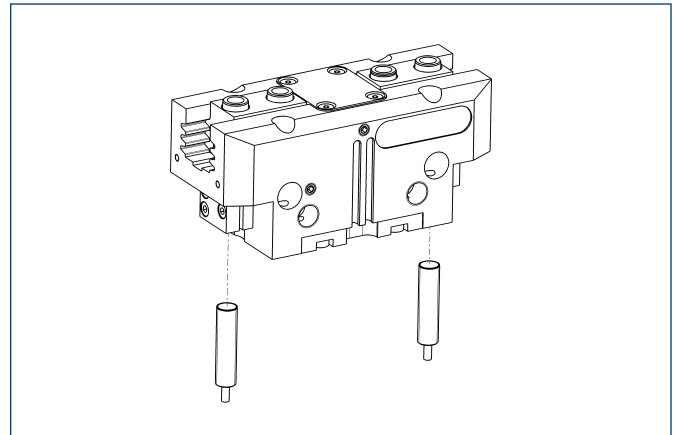
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

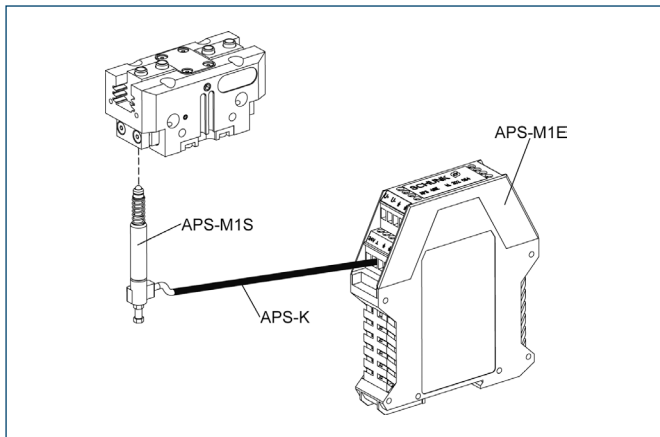
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Analog position sensor

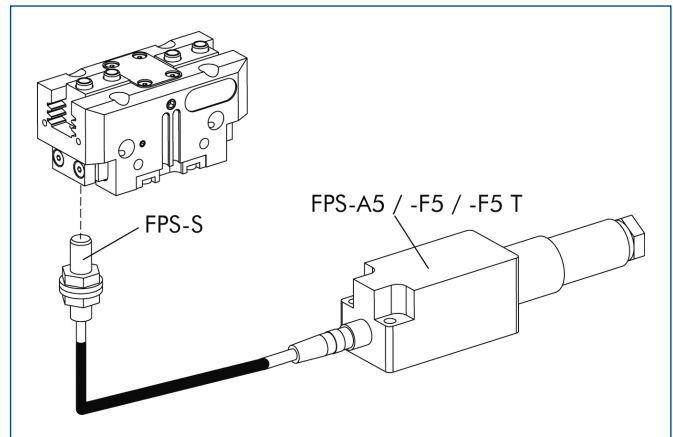


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-240/1	0302087
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

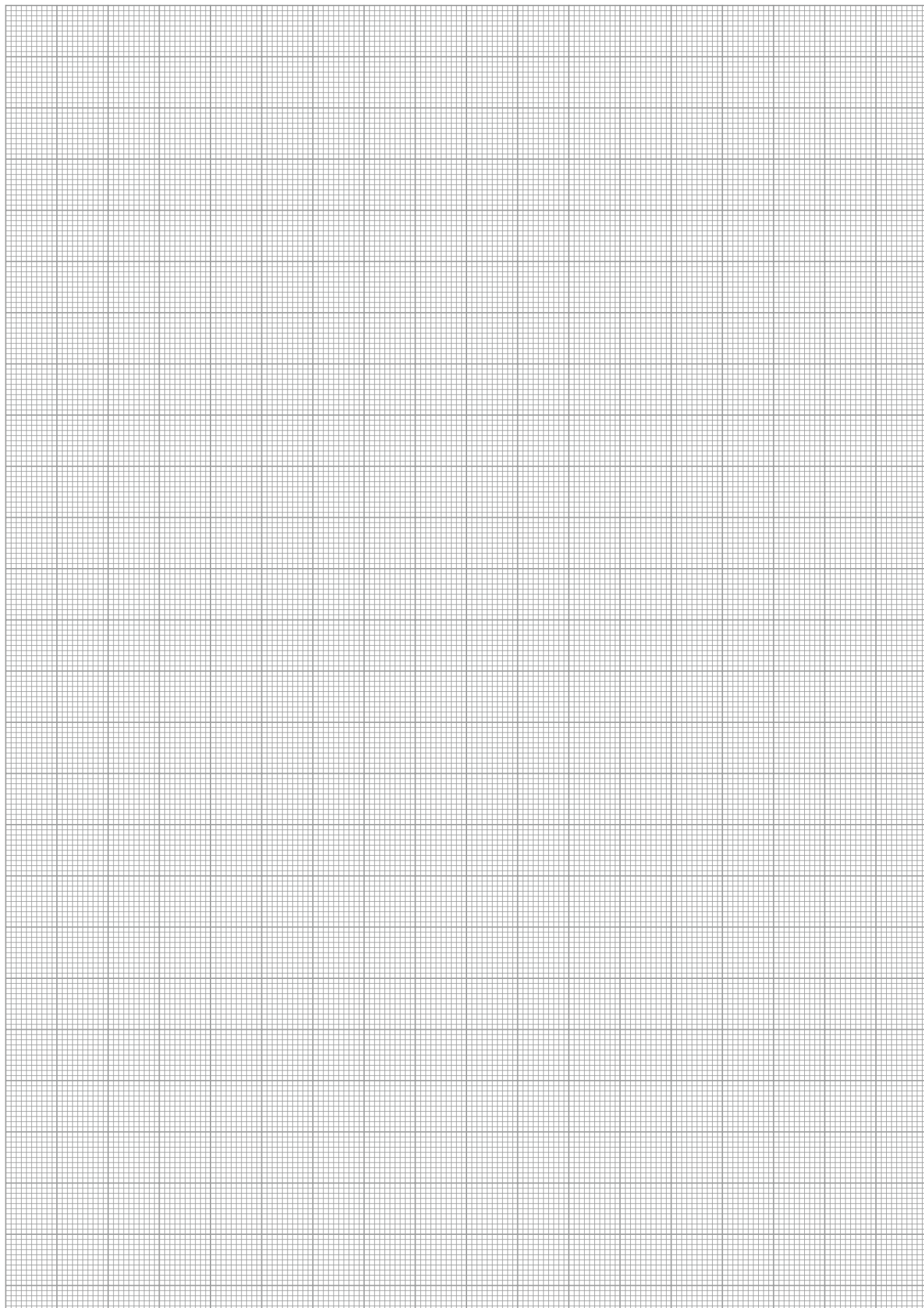
Flexible Position Sensor



Flexible position monitoring of up to five positions

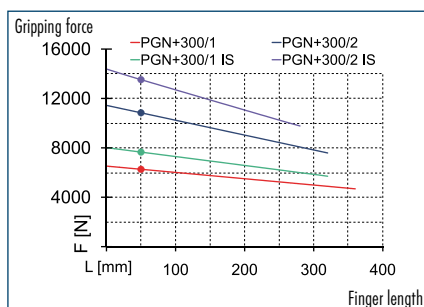
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 240/1	0301643
AS-PGN/PZN-plus 240/2	0301644
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

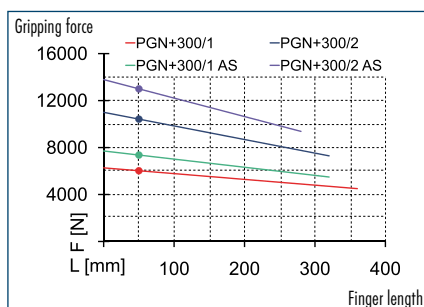




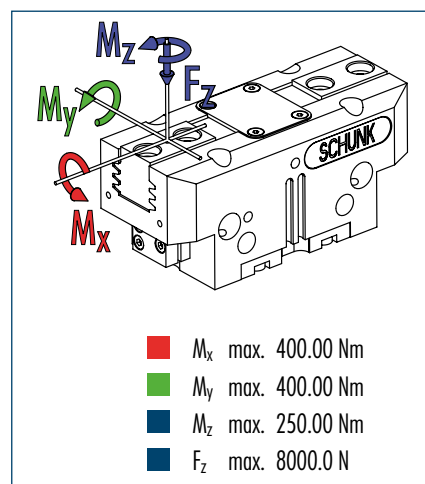
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

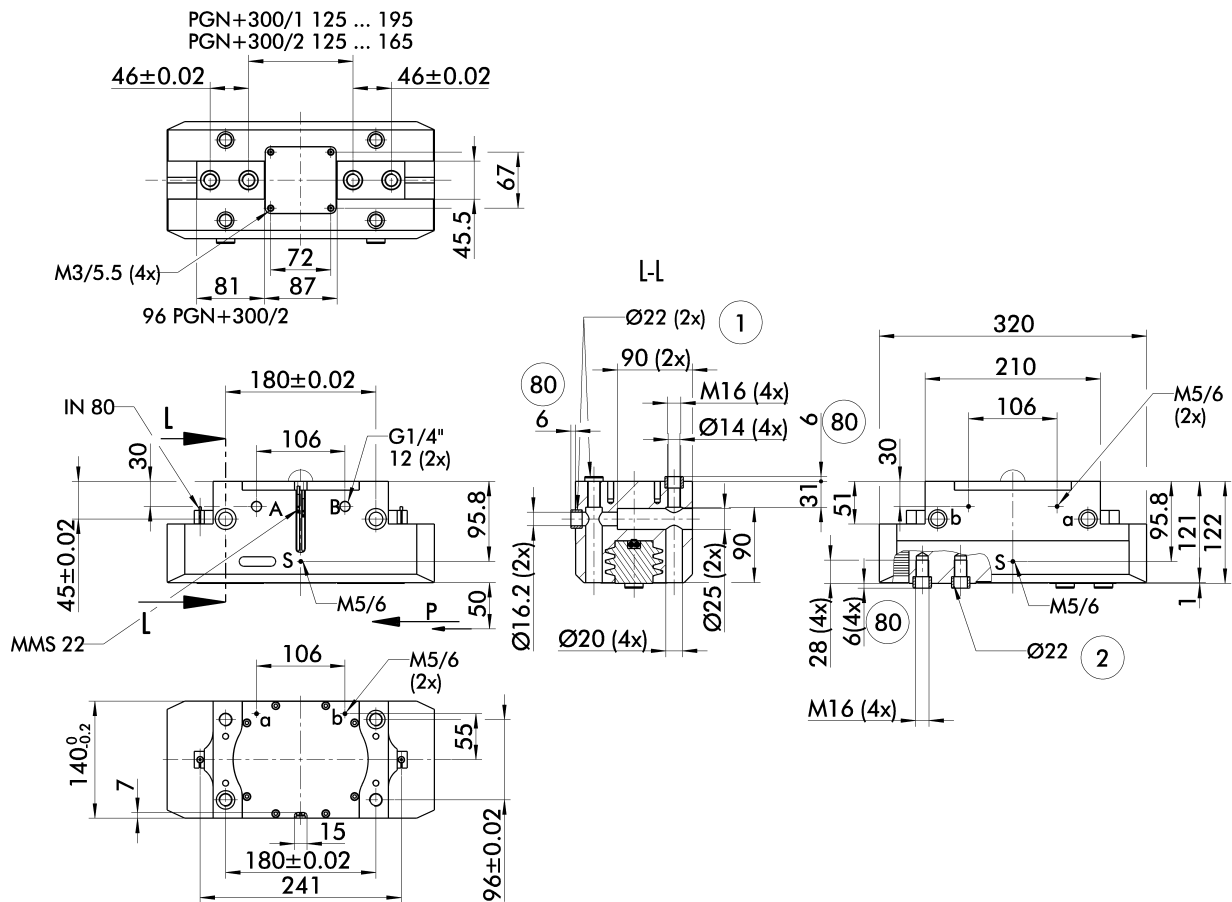
Technical data

Description		PGN-plus 300-1	PGN-plus 300-2	PGN-plus 300-1-AS	PGN-plus 300-2-AS	PGN-plus 300-1-IS	PGN-plus 300-2-IS
ID		0371106	0371156	0371406	0371456	0371466	0371476
Stroke per finger	[mm]	35	20	35	20	35	20
Closing force	[N]	6000	10300	7400	12500		
Opening force	[N]	6260	10800			7660	13000
Min. spring force	[N]			1400	2200	1400	2200
Weight	[kg]	13.9	13.9	17.2	17.2	17.2	17.2
Recommended workpiece weight	[kg]	30	51.5	30	51.5	30	51.5
Air consumption per double stroke	[cm³]	1030	1030	1585	1585	1585	1585
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.5/0.5	0.5/0.5	0.4/0.7	0.4/0.7	0.7/0.4	0.7/0.4
Max. permitted finger length	[mm]	350	300	300	250	300	250
Max. permitted weight per finger	[kg]	11.5	11.5	11.5	11.5	11.5	11.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371106	37371156	37371406	37371456	37371466	37371476
IP class		64	64	64	64	64	64
Weight	[kg]	17.6	17.6	21.3	21.3	21.3	21.3
Anti-corrosion version		38371106	38371156	38371406	38371456	38371466	38371476
High-temperature version		39371106	39371156	39371406	39371456	39371466	39371476
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version		0371129	0371179	0371429	0371444		

Main view

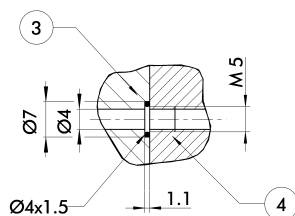


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

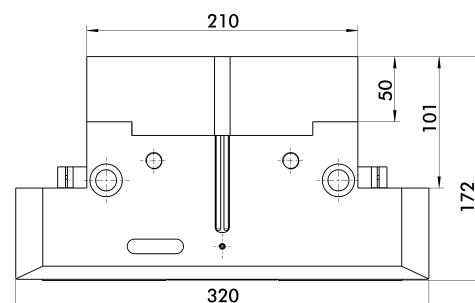
Hose-free direct connection



- ③ Adapter
- ④ Gripper

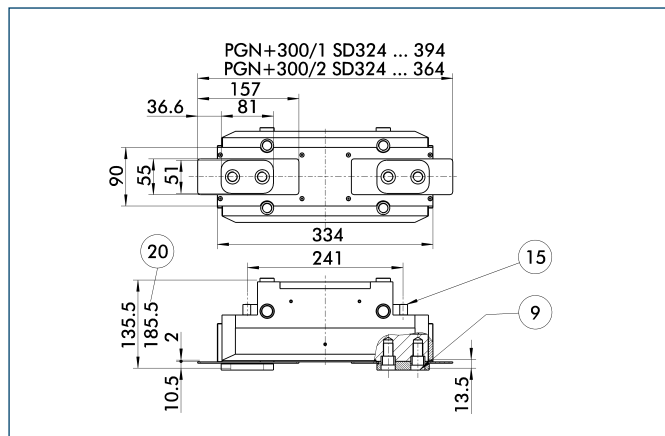
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

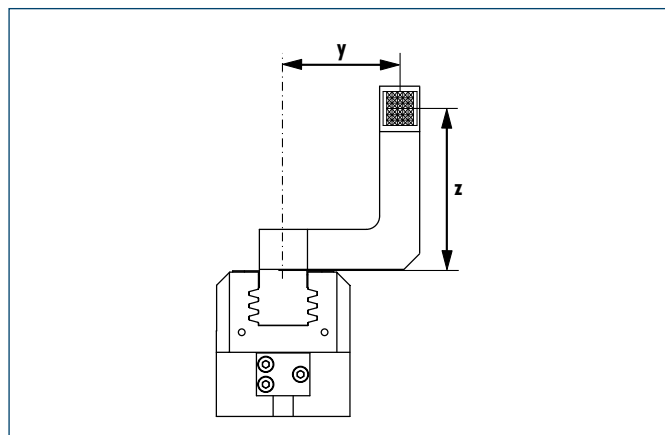
Dust-protection version



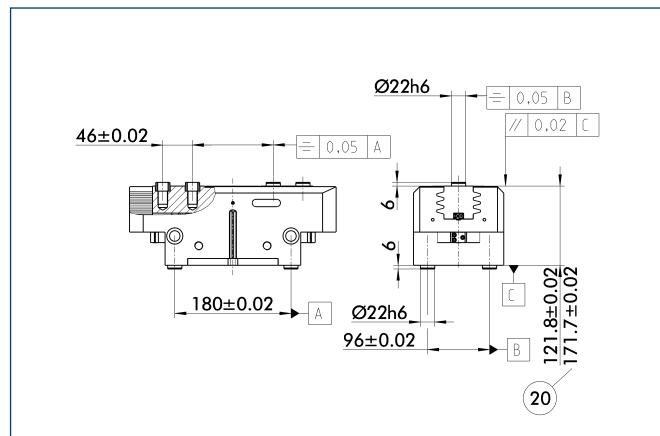
- ⑨ For mounting screw connection diagram, see basic version
 ⑮ Sealing bolt
 ⑳ For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Maximum permitted finger projection

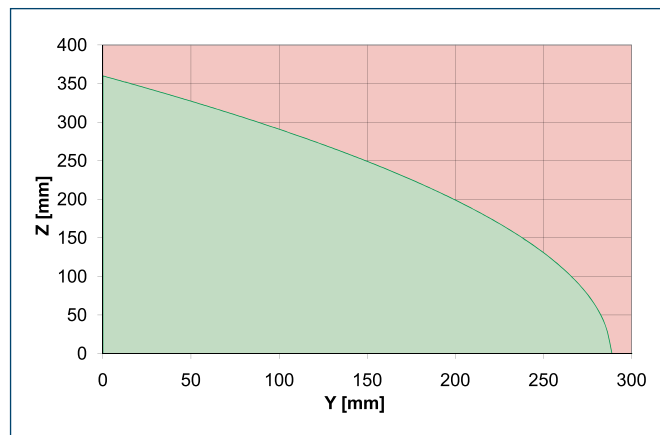


Precision version



- ⑳ For AS / IS version

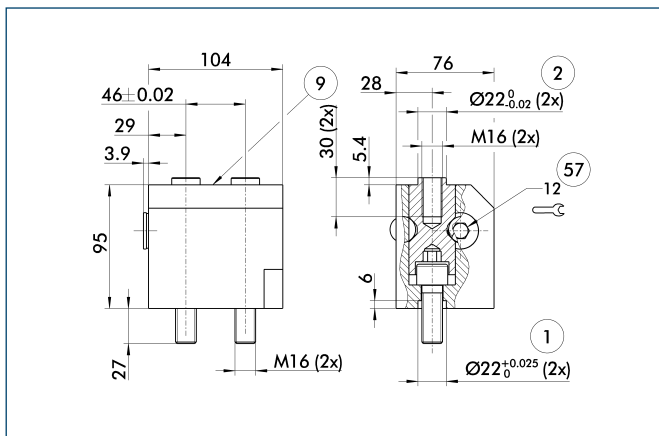
The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.



- Permitted range
 ■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



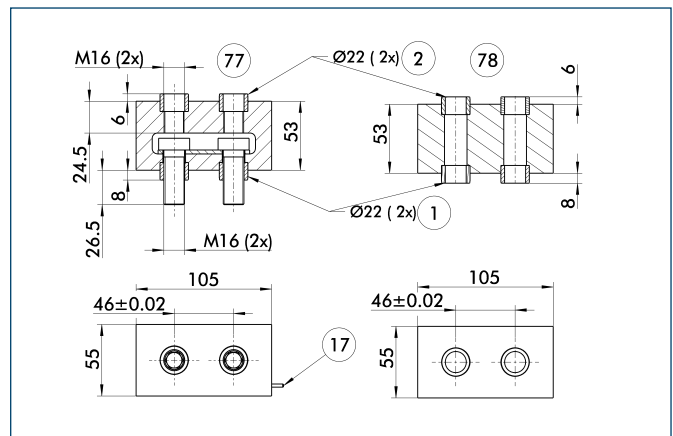
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U, is that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 300	0303036
Quick-change Jaw System base	
BSWS-B 300	0303037
Quick-change Jaw System reversed	
BSWS-U 300	0303048

Force measuring jaws

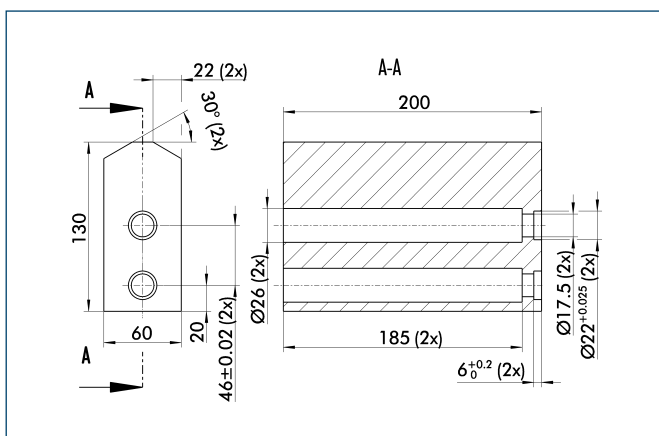


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 300	0301846
Passive intermediate jaws	
FMS-ZBP 300	0301847
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



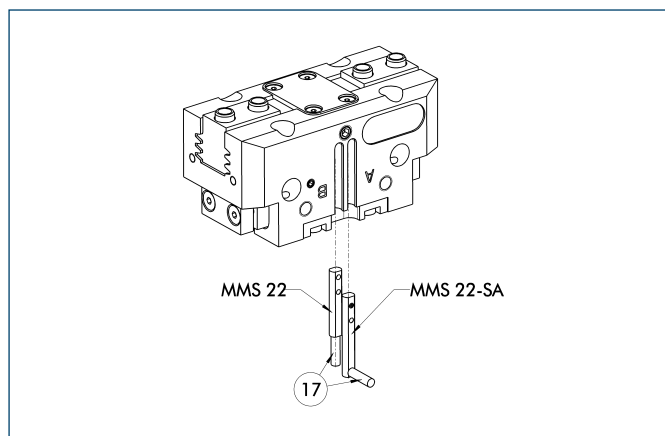
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 300	0300016	Aluminum	1
SBR-plus 300	0300026	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

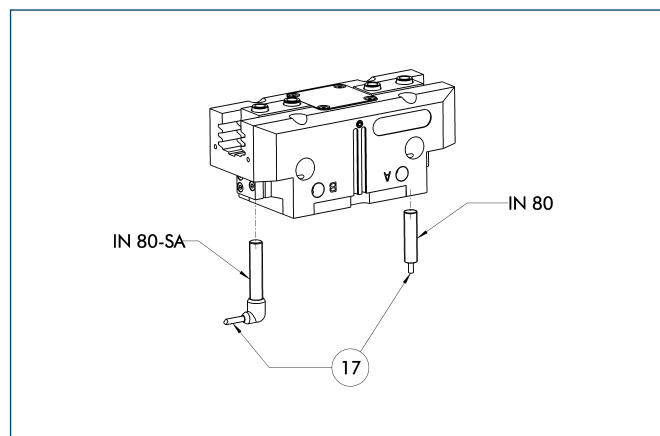
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

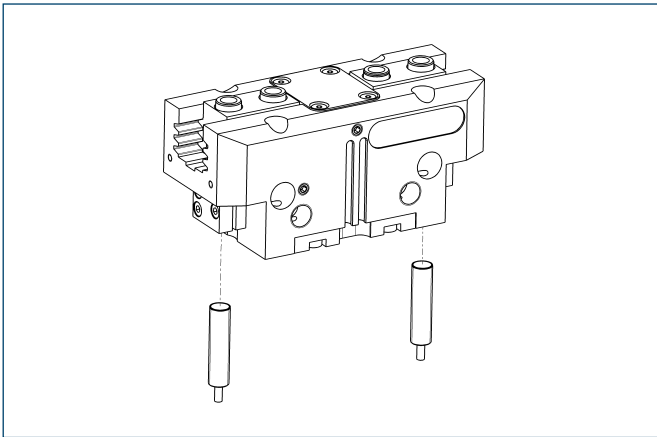
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

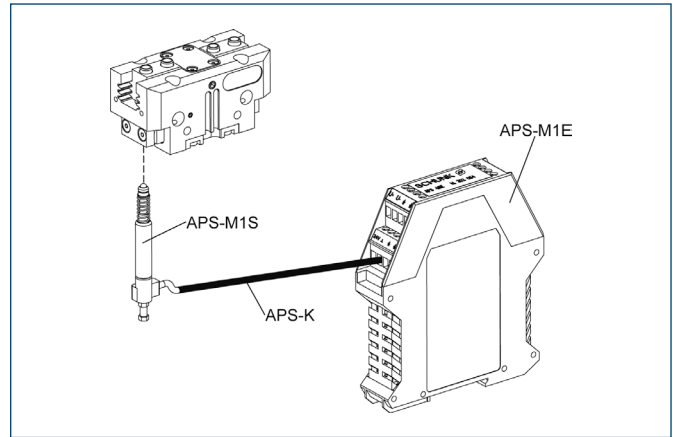


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

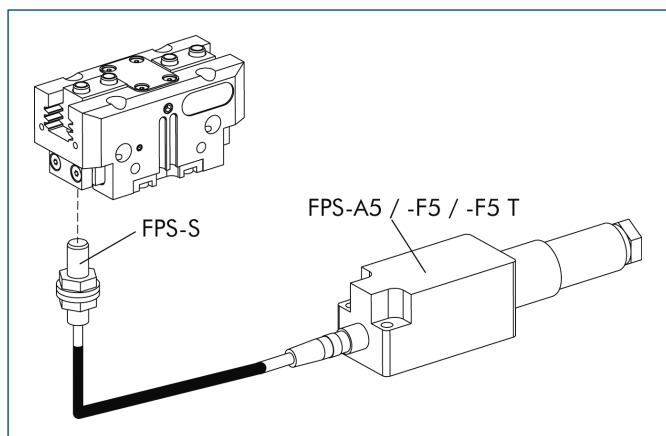
Description	ID
Mounting kit	
AS-APS-M1-300/1	0302088
AS-APS-M1-300/2	0302089
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

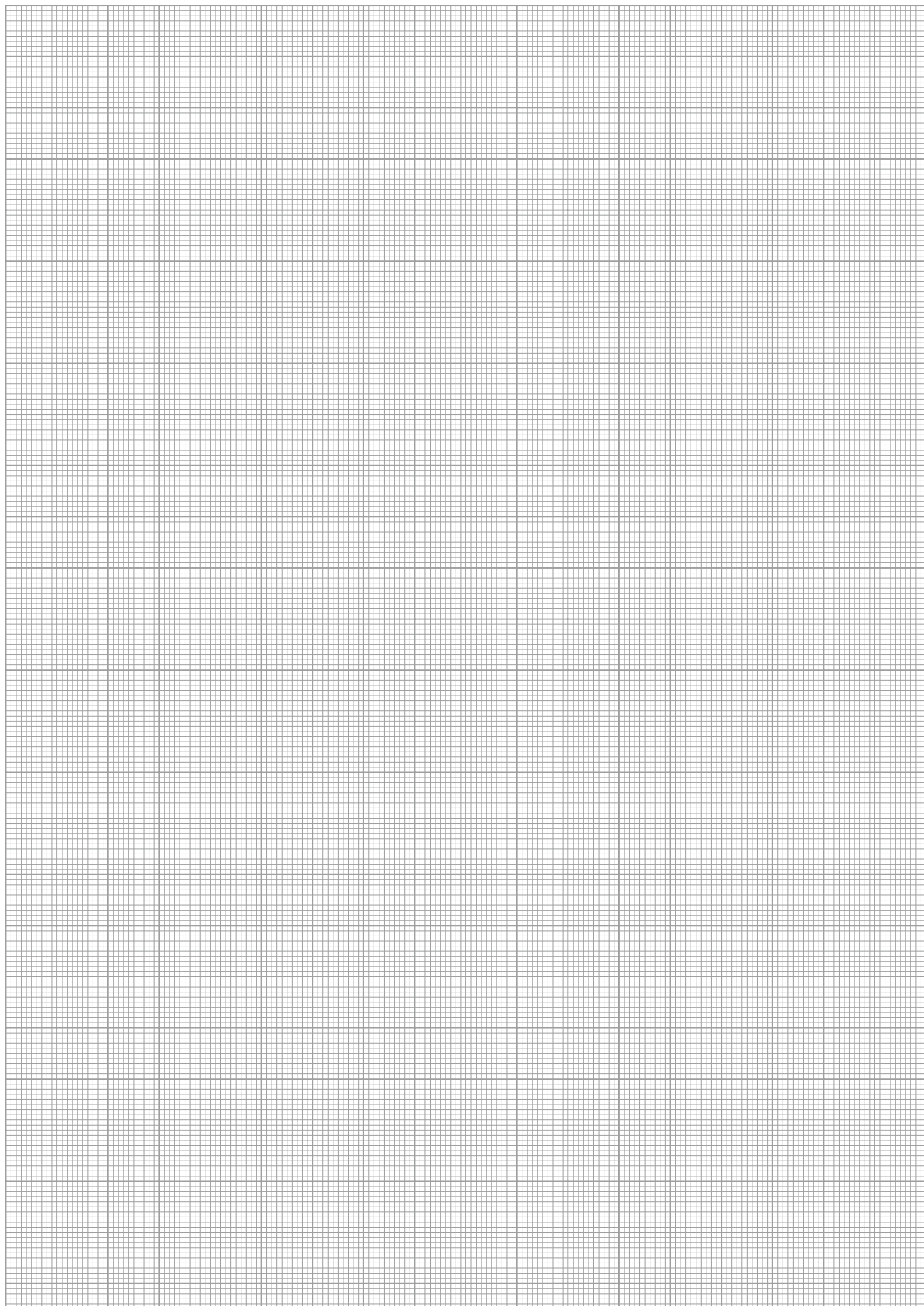
Flexible Position Sensor

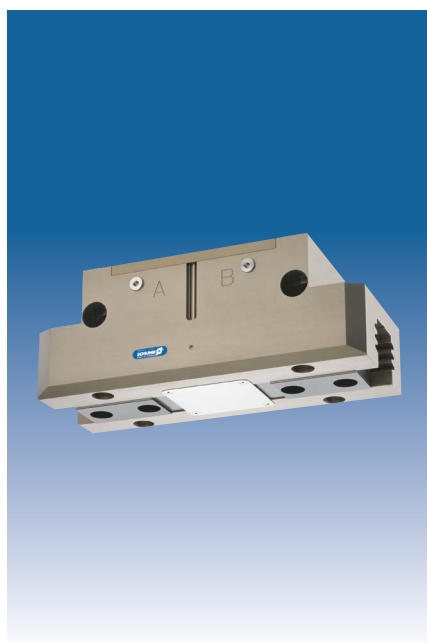


Flexible position monitoring of up to five positions

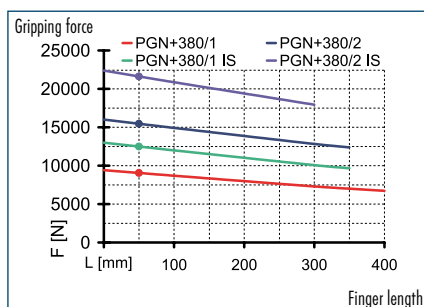
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 300-2	0301642
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

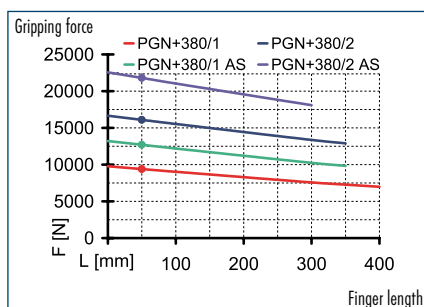




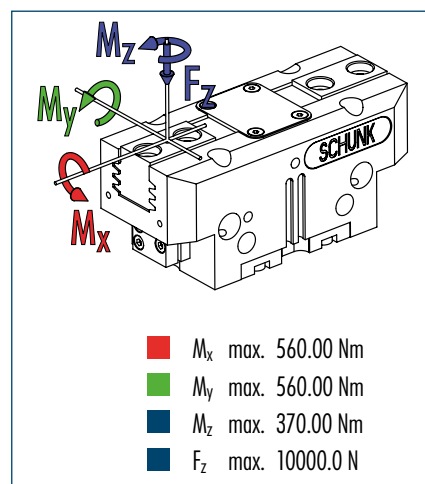
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

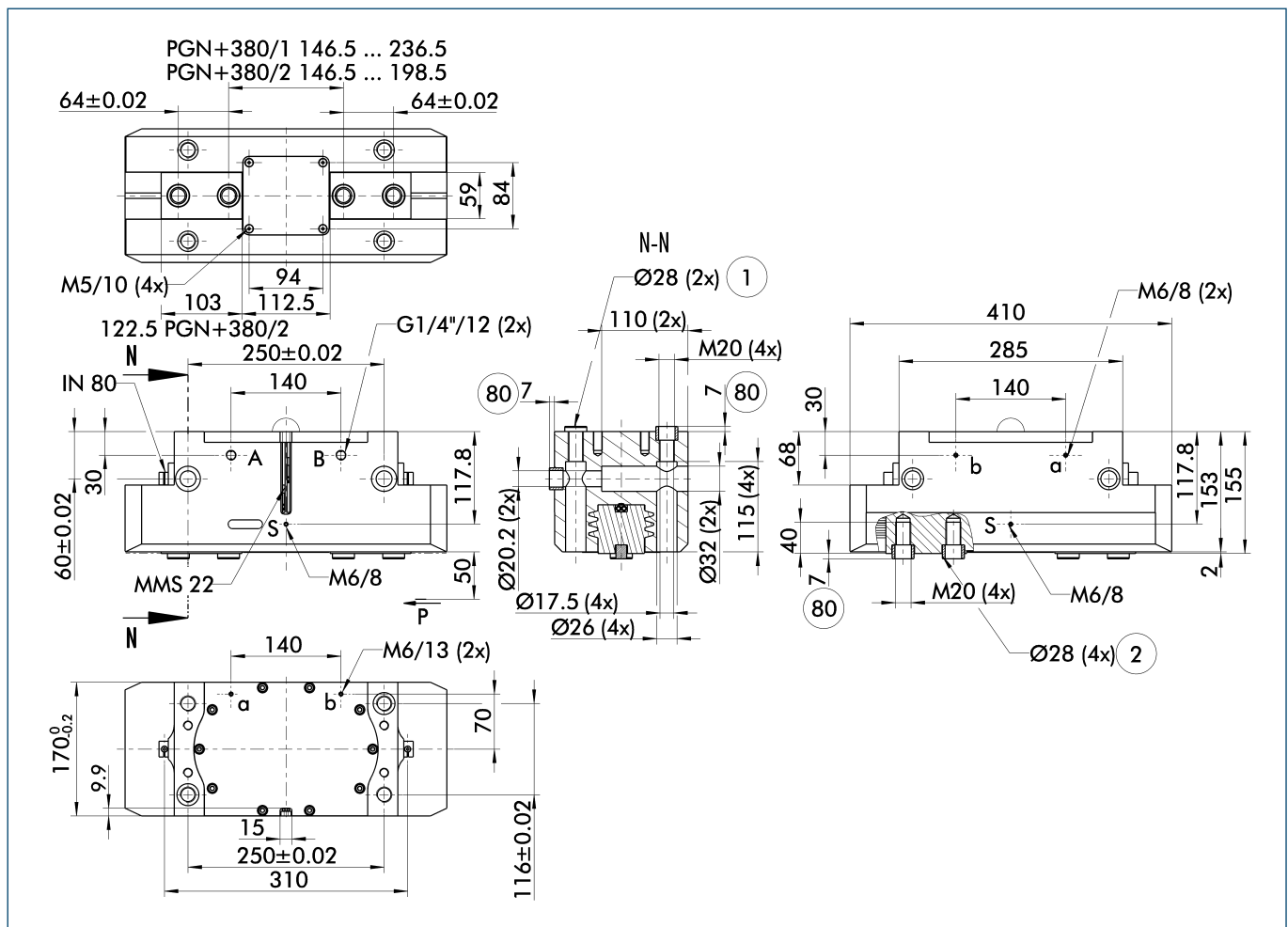
Technical data

Description		PGN-plus 380-1	PGN-plus 380-2	PGN-plus 380-1-AS	PGN-plus 380-2-AS	PGN-plus 380-1-IS	PGN-plus 380-2-IS
ID		0371107	0371157	0371407	0371457	0371467	0371477
Stroke per finger	[mm]	45	26	45	26	45	26
Closing force	[N]	9050	15450	12350	21150		
Opening force	[N]	9400	16100			12700	21800
Min. spring force	[N]			3300	5700	3300	5700
Weight	[kg]	28	29	36.5	37.5	36.5	37.5
Recommended workpiece weight	[kg]	47	80.5	47	80.5	47	80.5
Air consumption per double stroke	[cm ³]	1714	1714	1714	1714	1714	1714
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.6/0.6	0.6/0.6	0.5/0.8	0.5/0.8	0.8/0.5	0.8/0.5
Max. permitted finger length	[mm]	400	350	350	300	350	300
Max. permitted weight per finger	[kg]	17	17	17	17	17	17
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37371107	37371157	37371407	37371457	37371467	37371477
IP class		64	64	64	64	64	64
Weight	[kg]	30	31	38.5	39.5	38.5	39.5
Anti-corrosion version		38371107	38371157	38371407	38371457	38371467	38371477
High-temperature version		39371107	39371157	39371407	39371457	39371467	39371477
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version		0371130	0371180	0371430	0371445		

Main view

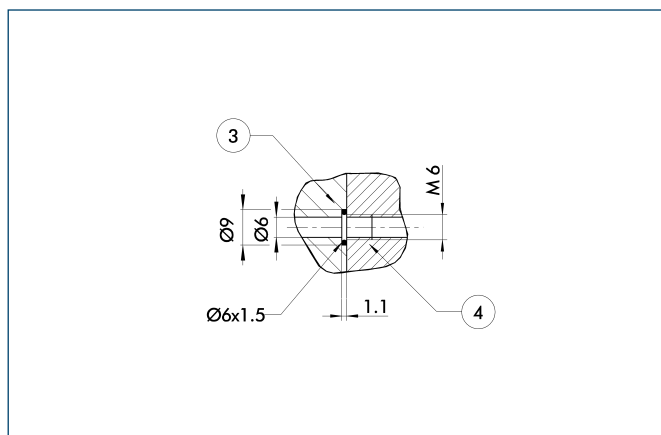


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

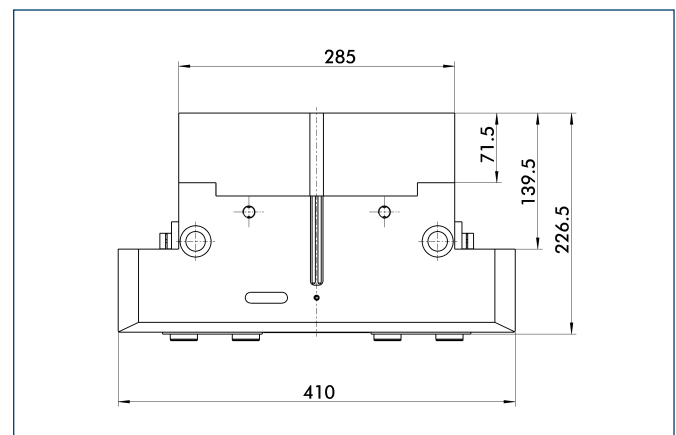
Hose-free direct connection



- ③ Adapter
- ④ Gripper

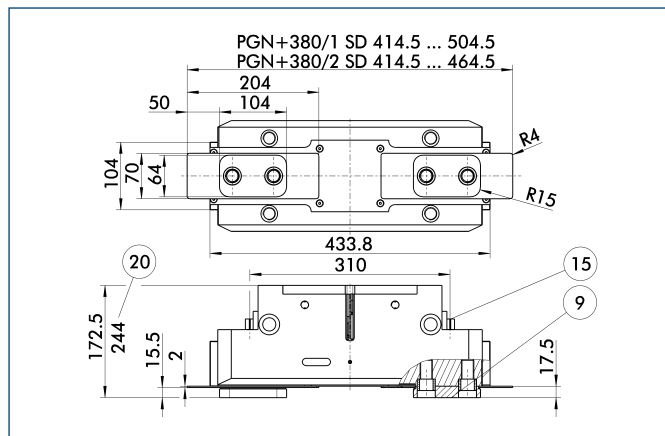
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

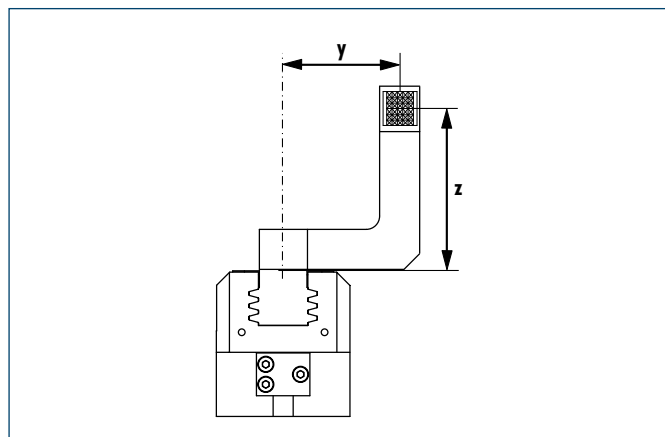
Dust-protection version



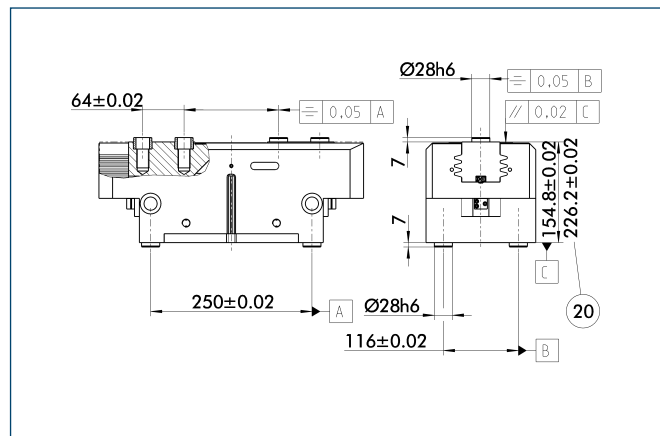
- 9 For mounting screw connection diagram, see basic version
15 Sealing bolt
20 For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Maximum permitted finger projection

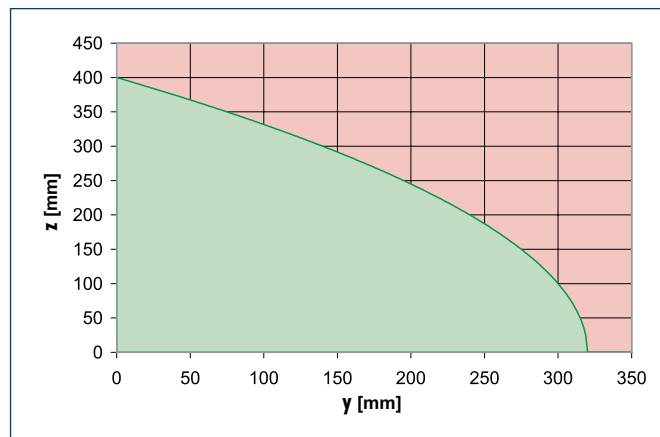


Precision version



- 20 For AS / IS version

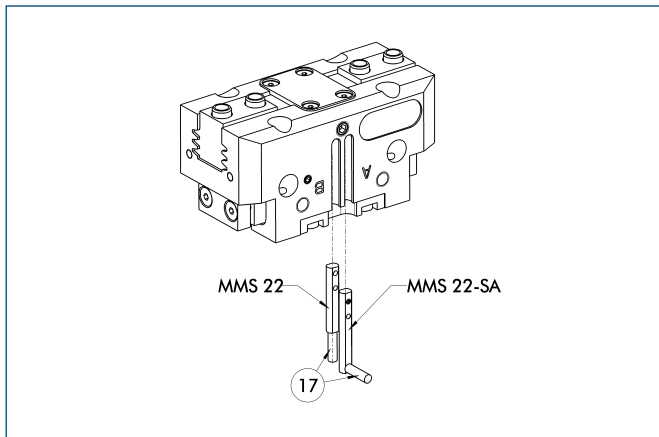
The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.



- Permitted range
Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Electronic magnetic switches



⑰ Cable outlet

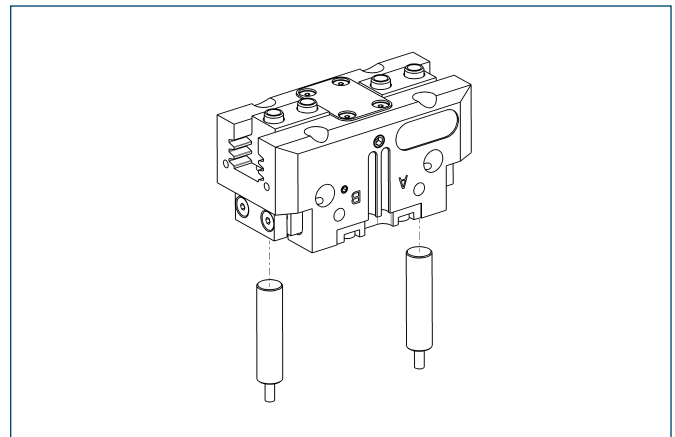
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

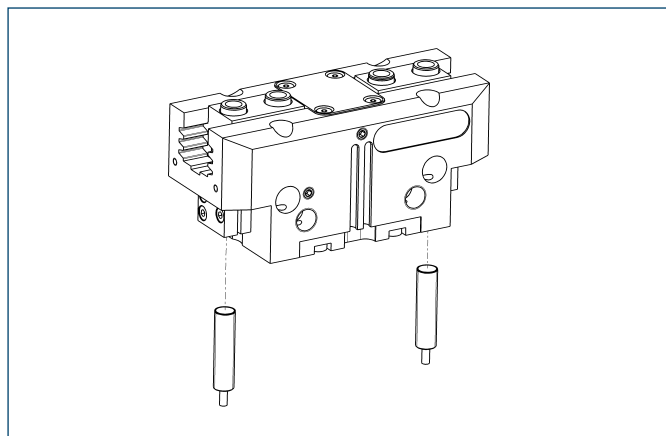
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

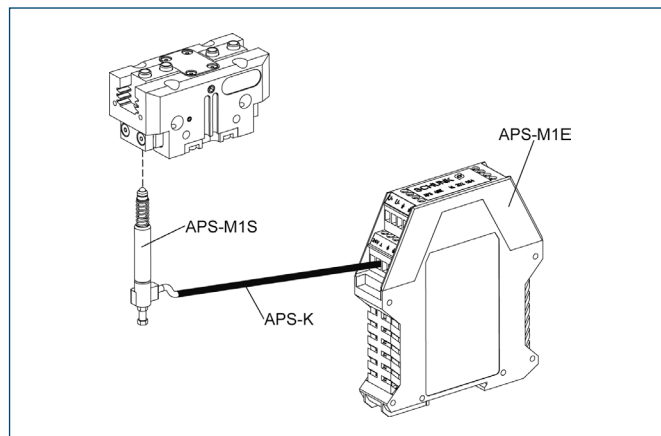


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

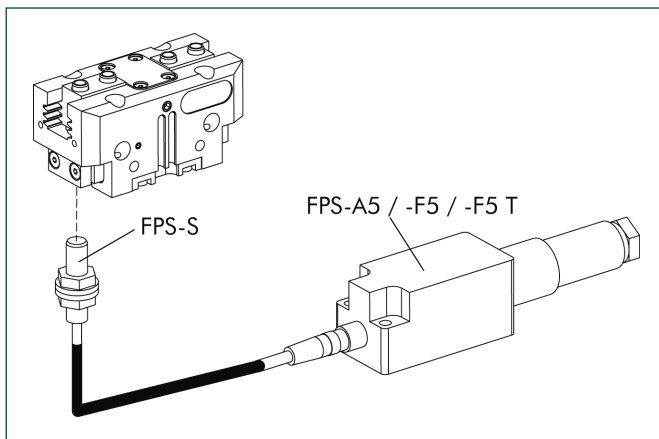


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-200/1 and 380/2	0302085
AS-APS-M1-380/1	0302090
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN-plus 380-2	0301645
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



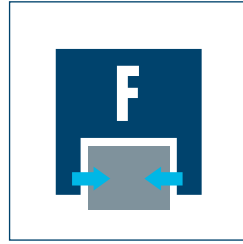
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



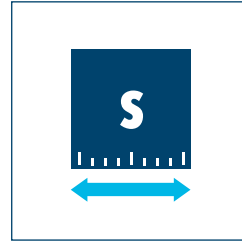
Sizes
40 ... 160



Weight
0.08 kg ... 3.3 kg



Gripping force
123 N ... 2210 N

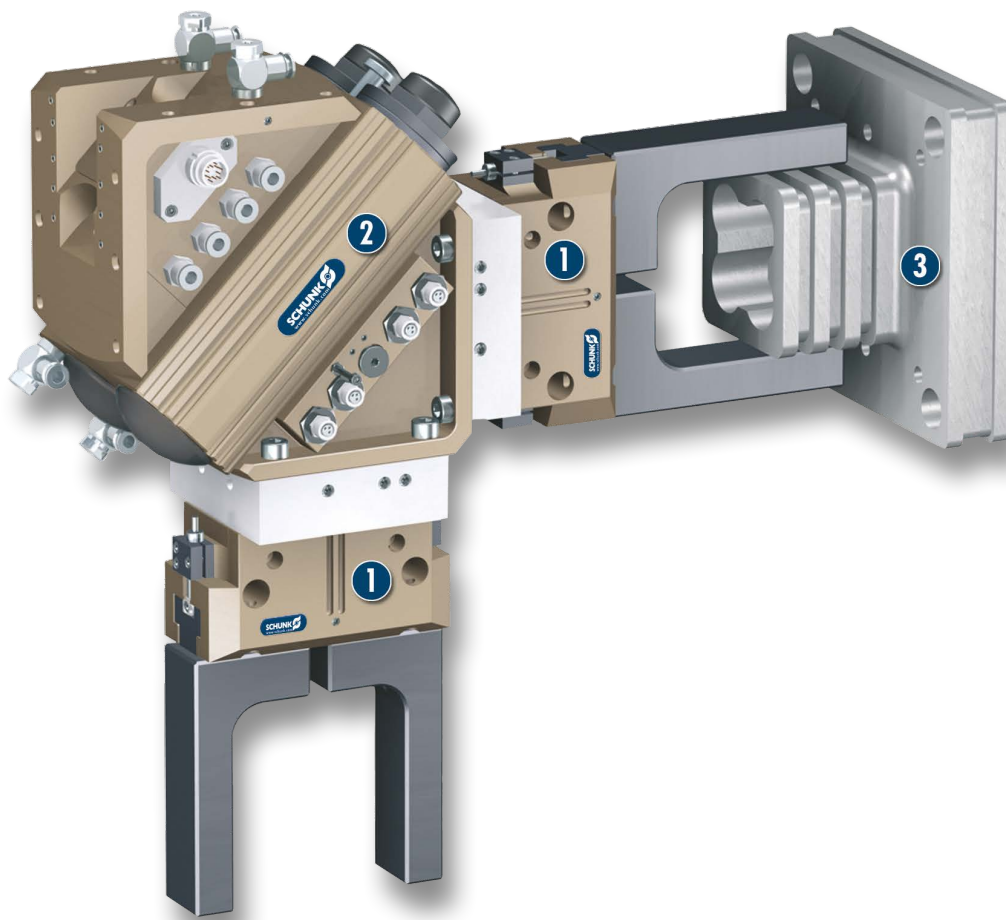


Stroke per finger
2.5 mm ... 16 mm



Workpiece weight
0.62 kg ... 8.2 kg

Application example



Supply and assembly devices

- 1** 2-Finger Parallel Gripper JGP with workpiece-specific gripper fingers
- 2** Swivel Head SRH-plus
- 3** Workpiece

Universal Gripper

universal 2-Finger Parallel Gripper of the compact class with T-slot guidance and best cost-performance ratio

Field of application

Optimum standard solution for many fields of application. Universal application in clean and slightly dirty surroundings in machine building and plant building industry, assembly and handling as well as automotive industry.

Your advantages and benefits

A firm focus on the essentials

for maximum profitability

Sturdy T-slot guidance

for the precise handling of all kinds of workpieces

Compact dimensions and low weight

for minimal interfering contours in handling

High maximum moments possible

suitable for using long gripper fingers

Wedge-hook design

for high power transmission and synchronized gripping

Comprehensive sensor accessories

for interrogation and control of the stroke position

Mounting from two gripper sides

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

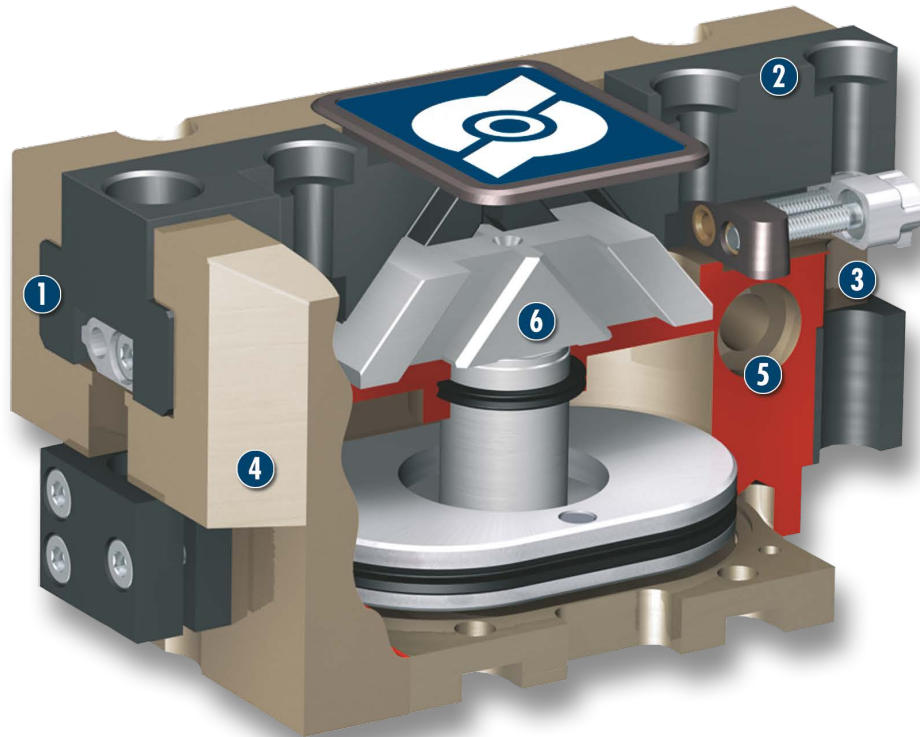
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1 T-slot guidance**
loadable, robust base jaw guidance for extremely long gripper fingers
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Sensor system**
Proximity switch can be assembled without mounting kit
- 4 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 5 Centering and mounting possibilities**
for universal assembly of the gripper
- 6 Wedge-hook design**
for high power transmission and centric gripping

Functional description

The oval piston is moved up or down by means of compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

The JGP series is especially suitable for economic handling solutions and distinguishes by its high cost-benefit ratio.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Tolerance compensation unit



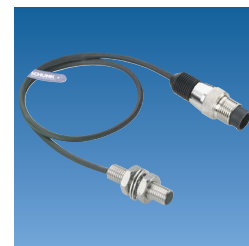
Compensation unit



Magnetic Switches



Inductive proximity switches



Universal intermediate jaw



Quick-change Jaw System



Switching valve



Sensor Distributor



Pressure maintenance valve



Finger blanks



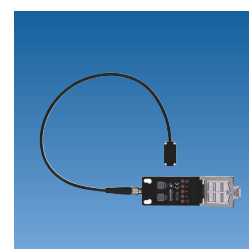
Force measuring jaws



Analog position sensor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

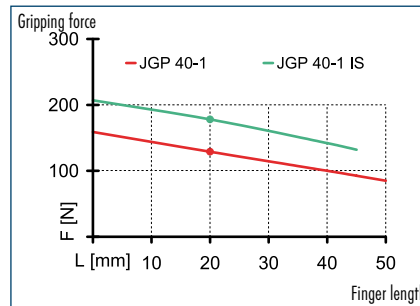
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

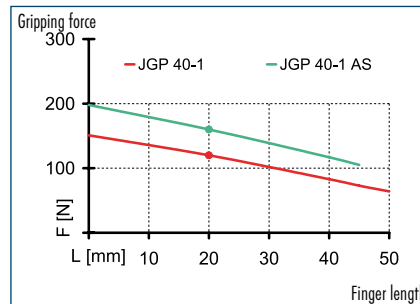
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



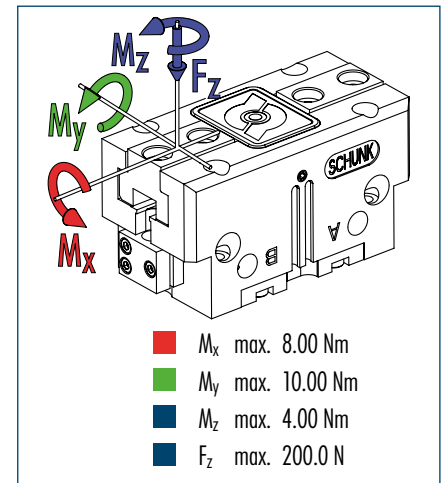
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 40	JGP 40-1-AS	JGP 40-1-IS
ID		0308600	0308601	0308602
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	123	163	
Opening force	[N]	132		182
Min. spring force	[N]		40	50
Weight	[kg]	0.08	0.09	0.09
Recommended workpiece weight	[kg]	0.62	0.62	0.62
Air consumption per double stroke	[cm ³]	2.5	5.5	5.5
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.03/0.02
Max. permitted finger length	[mm]	50	45	45
Max. permitted weight per finger	[kg]	0.1	0.1	0.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

⑧ Depth of the centering sleeve hole in the matching part

⑨ Thread below the cover for fastening external attachments

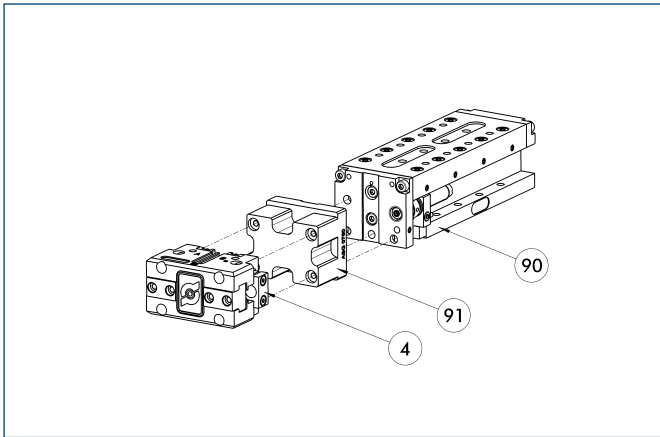
Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:

- Ø4**: Dimension for the outer diameter of the left section.
- Ø1.5**: Dimension for the inner diameter of the left section.
- Ø2x1**: Dimension for the outer diameter of the right section.
- 0.65**: Dimension for the length of the right section.
- M2**: Dimension for the length of the left section.
- 3**: Callout pointing to the left section.
- 4**: Callout pointing to the right section.

- [illegible]

- The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

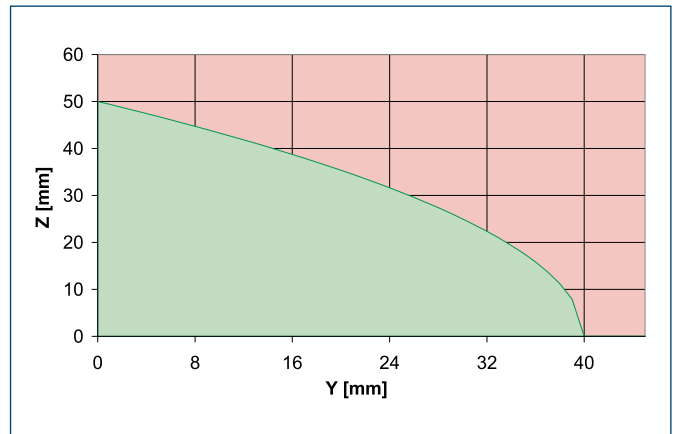
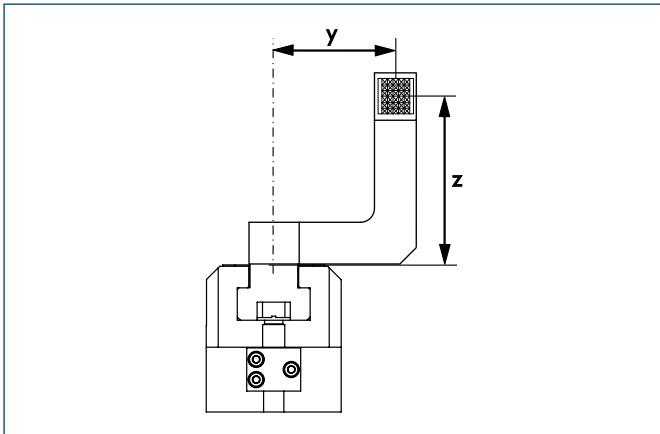


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

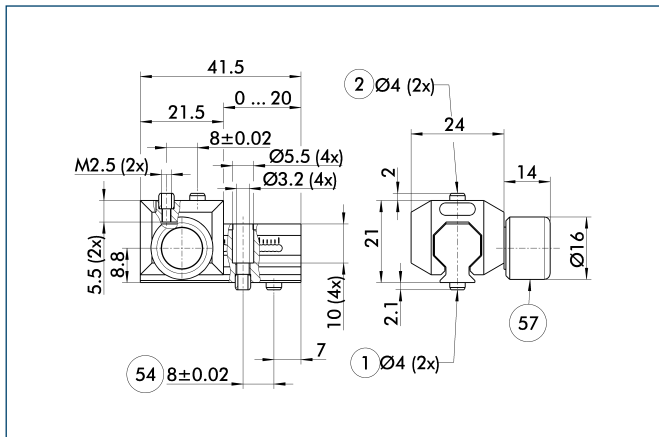
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Universal intermediate jaw



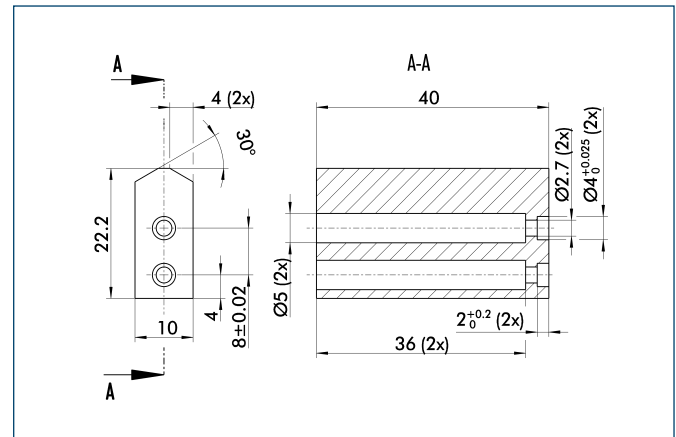
- ① Gripper connection
② Finger connection
⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 40	0300040	1 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

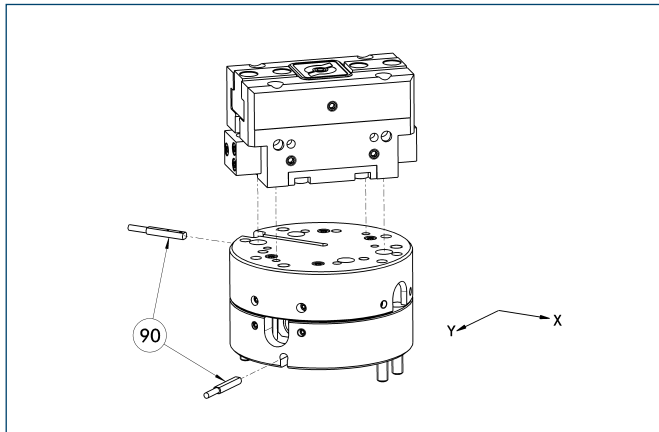
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 40	0300008	Aluminum	1
SBR-plus 40	0300018	16 MnCr 5	1

Compensation unit with spring reset

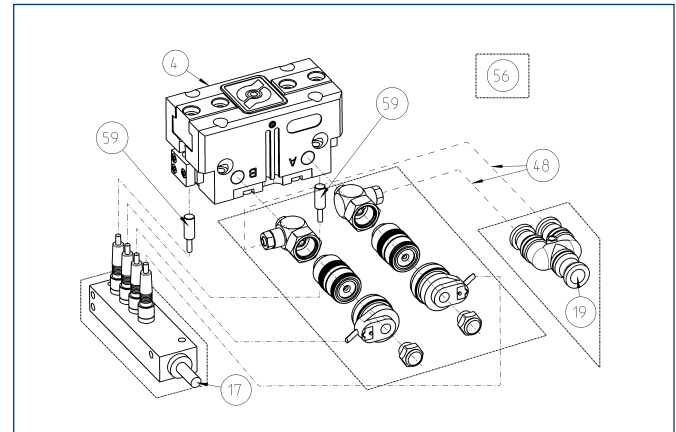


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Attachment valves



- ④ Gripper
①⑦ Cable outlet
①⑨ Air connection
④⑧ Hose
⑤⑥ Included in delivery
⑤⑨ Monitoring "gripping"

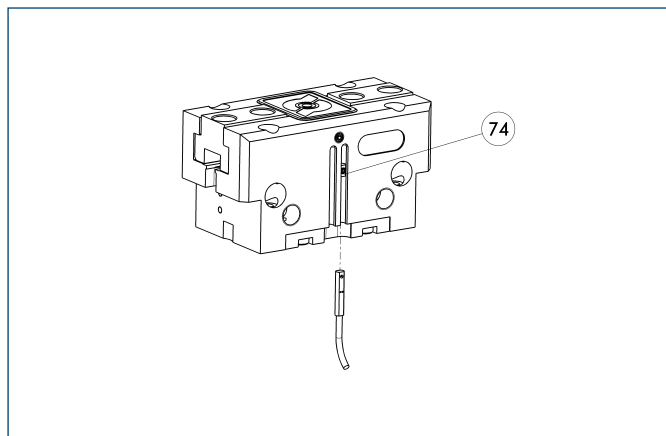
For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M3	0303322
ABV-MV15-M3-V2-M8	0303384
ABV-MV15-M3-V4-M8	0303354
ABV-MV15-M3-V8-M8	0303355



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Programmable magnetic switch



74 Stop for MMS-P

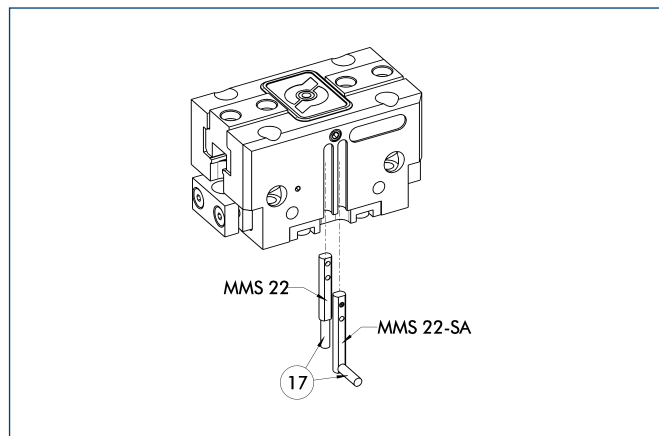
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



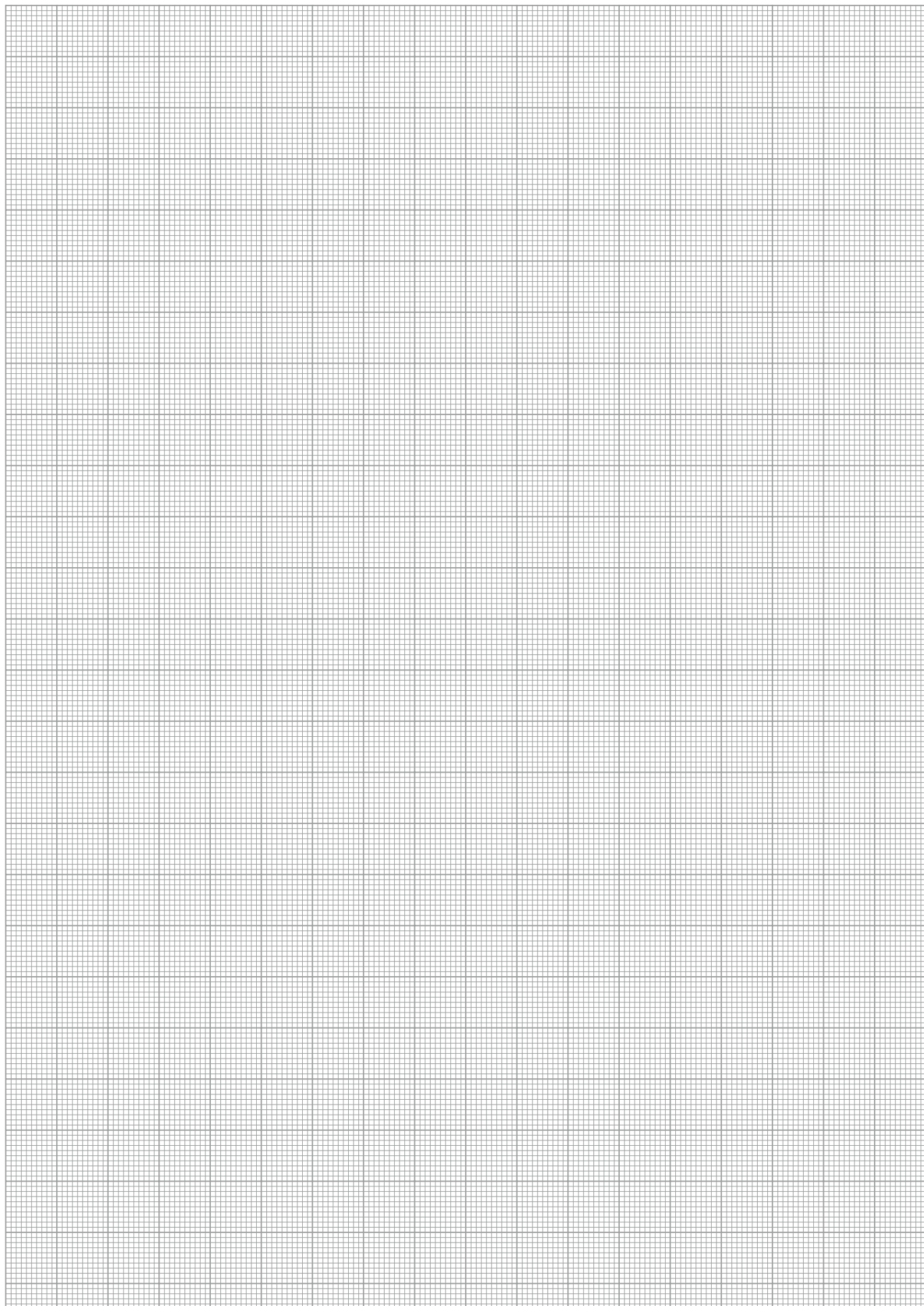
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

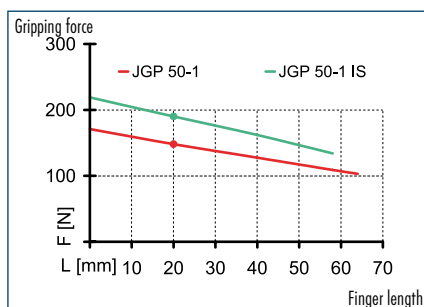
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

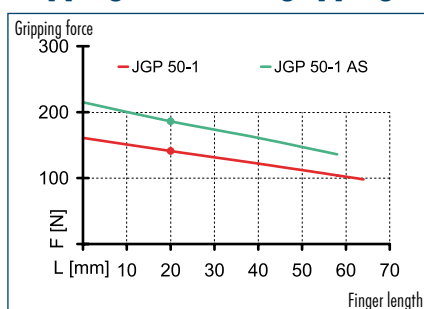




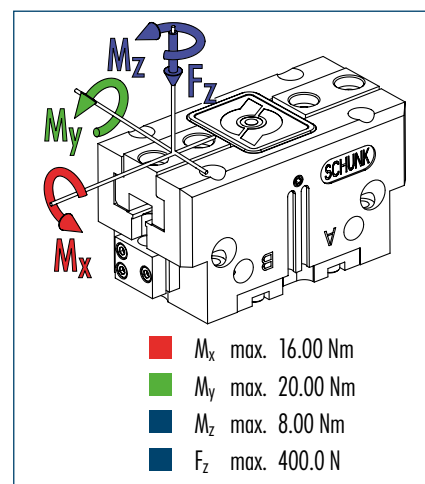
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

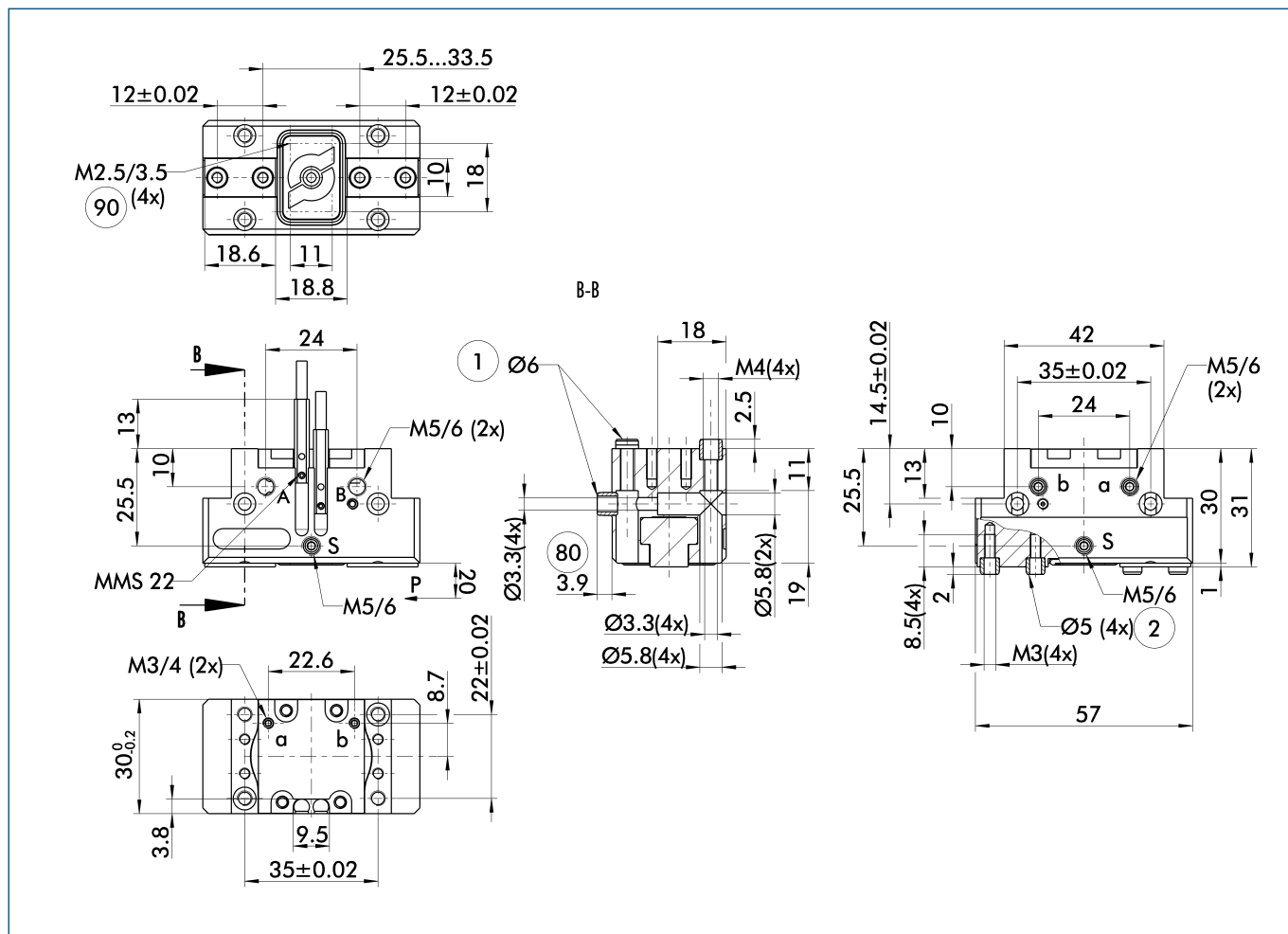


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 50-1	JGP 50-1-AS	JGP 50-1-IS
ID		0308610	0308611	0308612
Stroke per finger	[mm]	4	4	4
Closing force	[N]	140	185	
Opening force	[N]	145		190
Min. spring force	[N]		45	45
Weight	[kg]	0.15	0.2	0.2
Recommended workpiece weight	[kg]	0.7	0.7	0.7
Air consumption per double stroke	[cm ³]	5	12	12
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.02/0.03
Max. permitted finger length	[mm]	64	58	58
Max. permitted weight per finger	[kg]	0.18	0.18	0.18
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



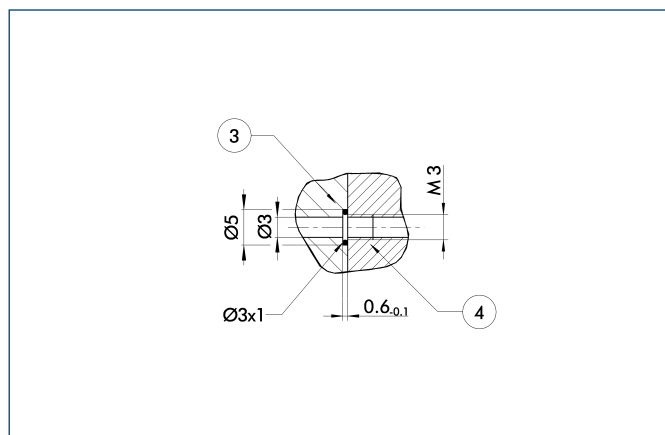
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part
90 Thread below the cover for fastening external attachments

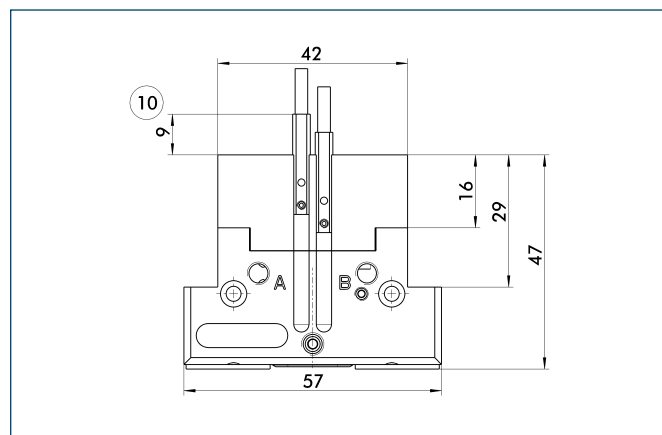
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

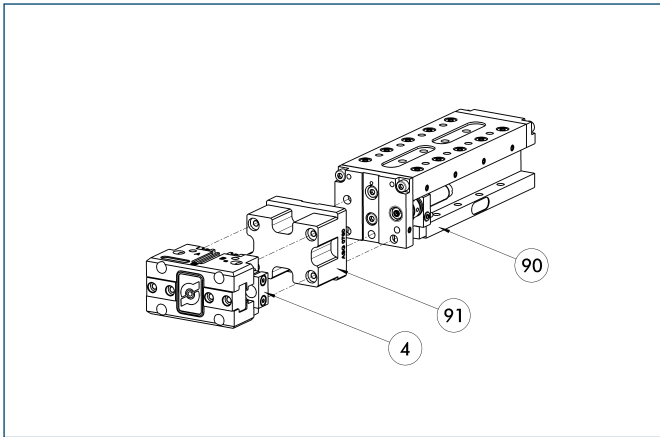
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

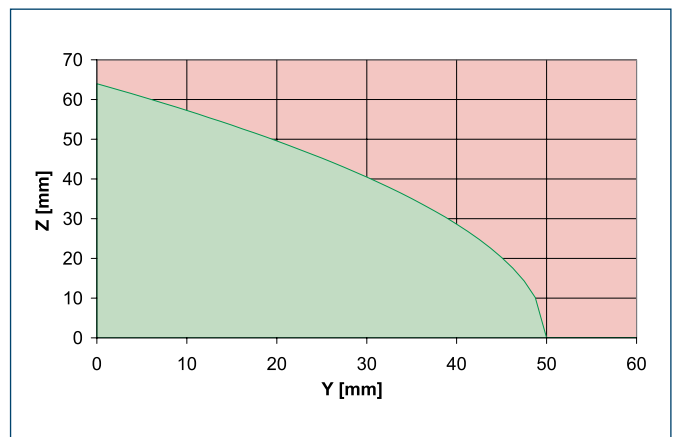
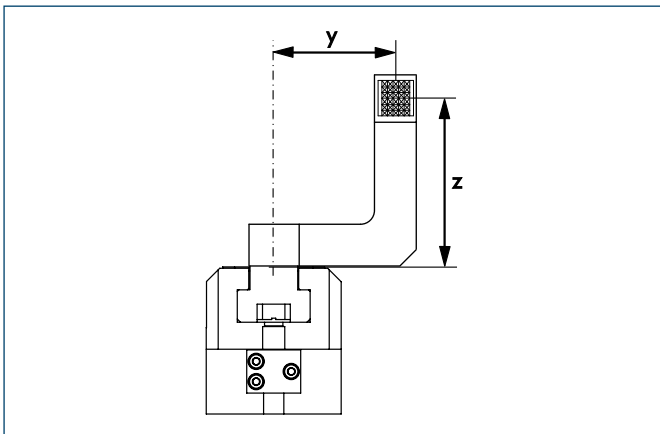


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

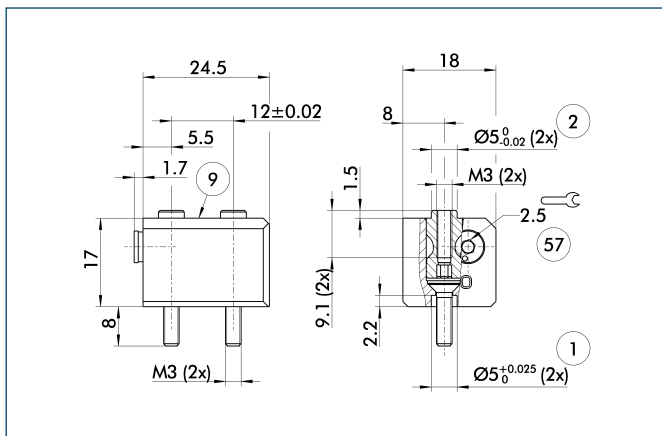
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



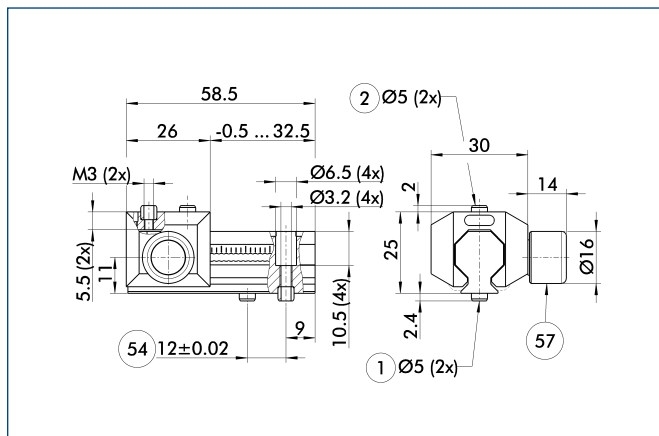
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

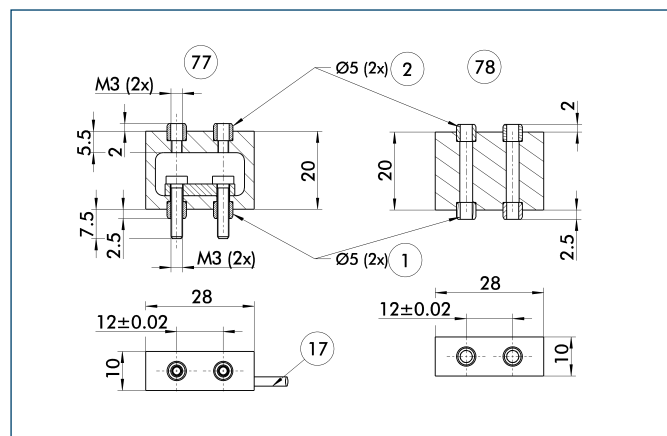
Description	ID	Grid dimension
Universal intermediate jaw		
UZH 50	0300041	1.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Force measuring jaws

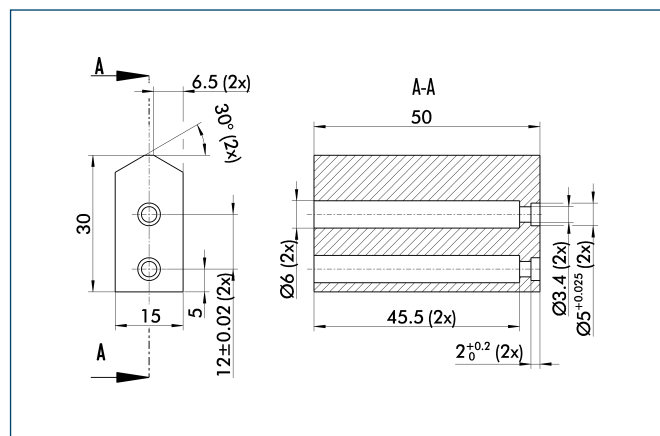


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

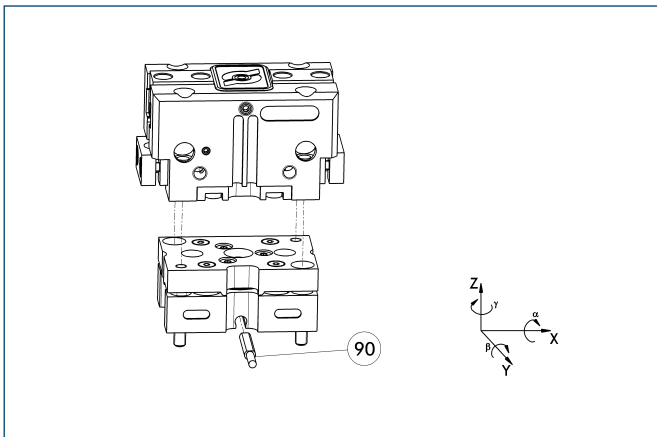
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1

Tolerance compensation unit

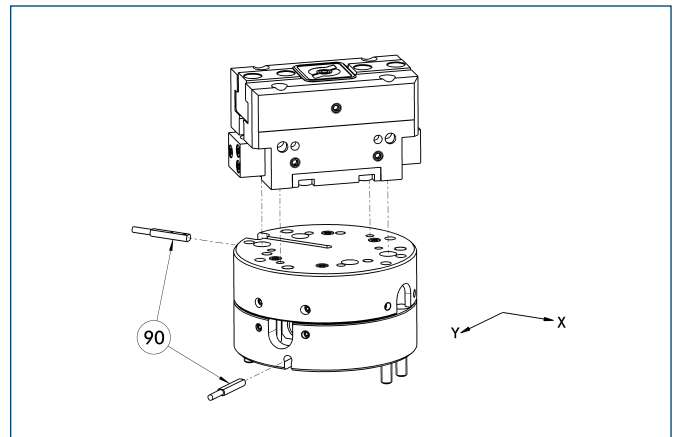


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-OV-P	0324757	No	$\pm 0^\circ / \pm 1^\circ / \pm 0^\circ$

Compensation unit with spring reset

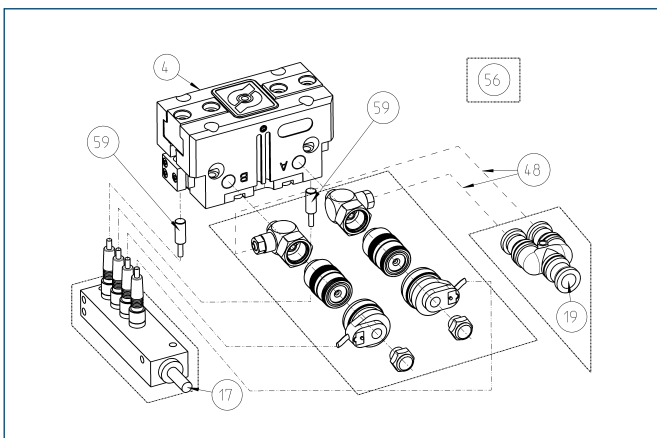


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	± 2 mm	1 N
AGE-F-XY-040-2	0324921	± 2 mm	2.5 N
AGE-F-XY-040-3	0324922	± 2 mm	3.3 N

Attachment valves

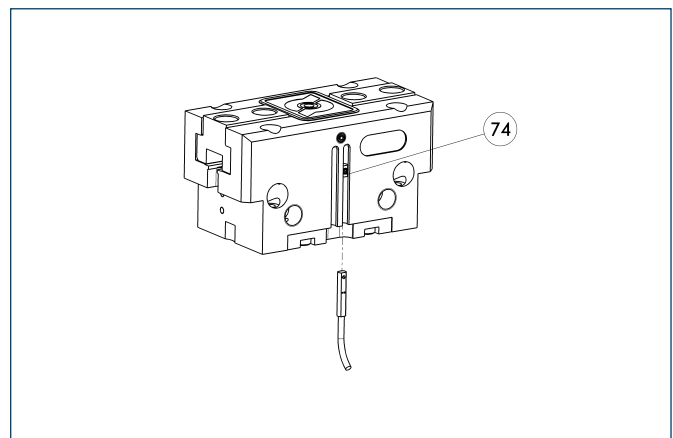


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M5	0303323
ABV-MV15-M5-V2-M8	0303386
ABV-MV15-M5-V4-M8	0303356
ABV-MV15-M5-V8-M8	0303357

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

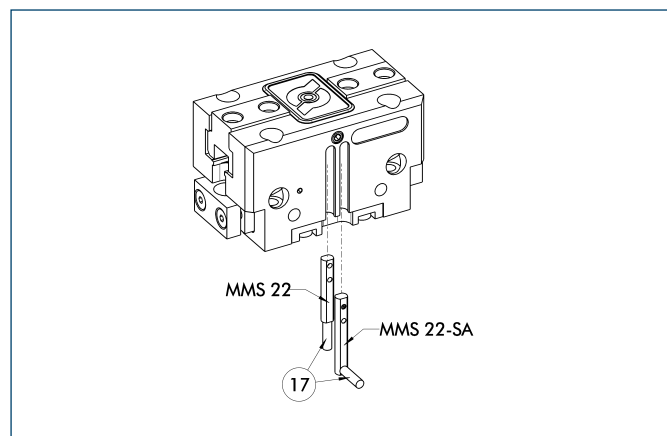
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



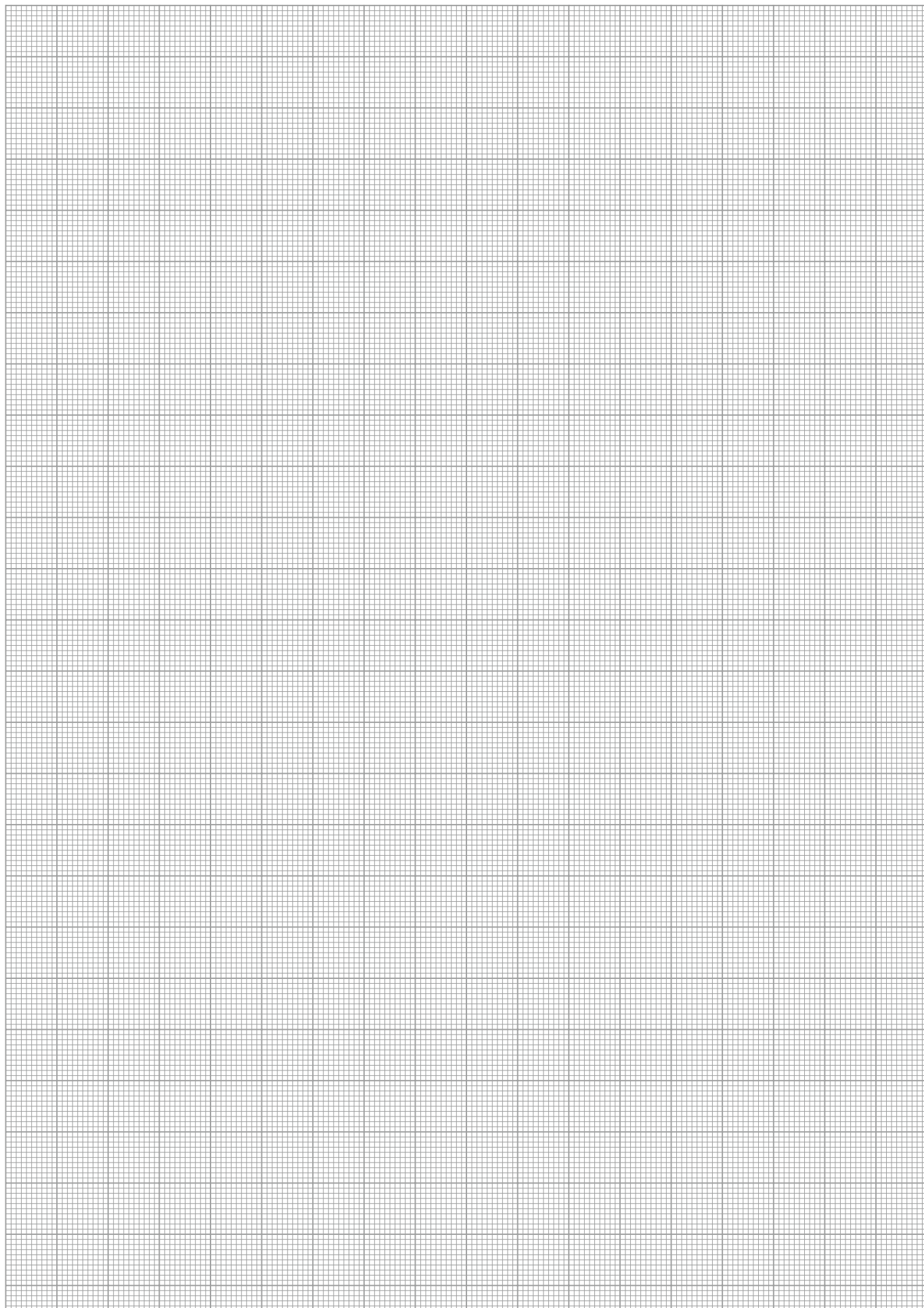
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

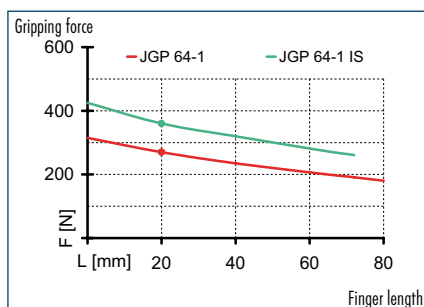
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

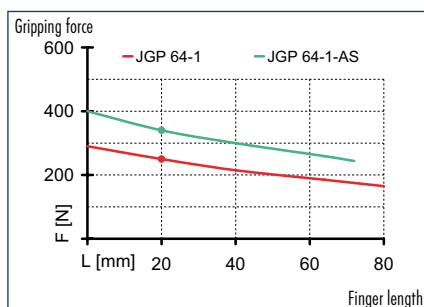




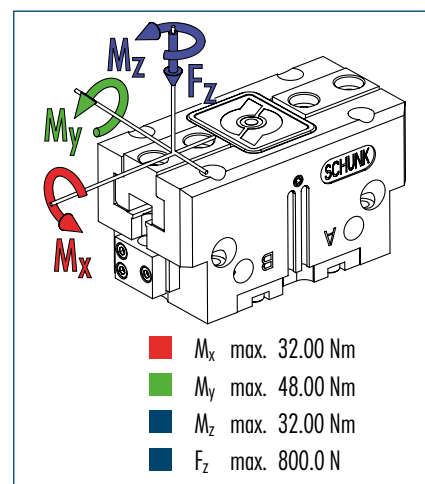
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

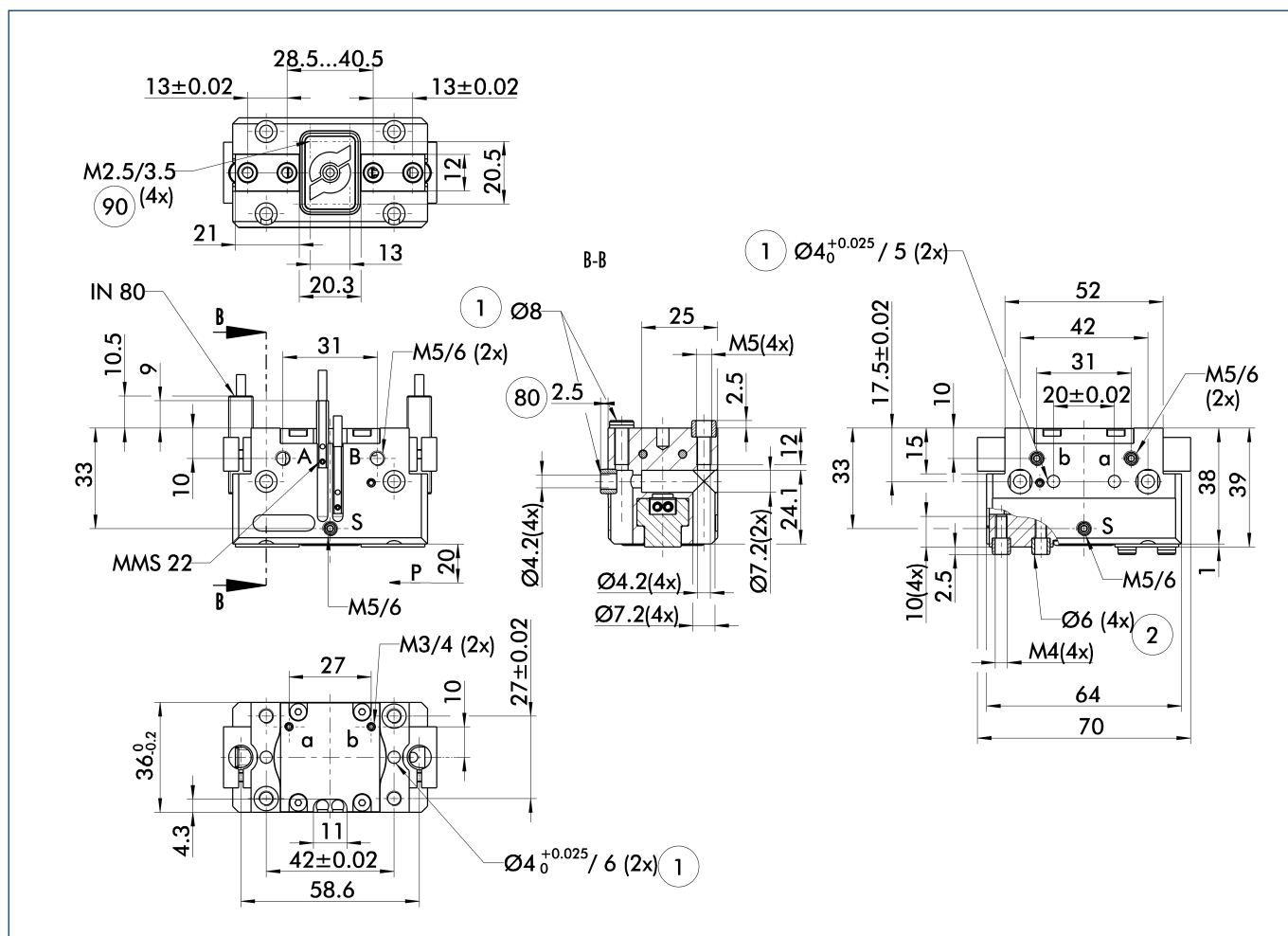


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 64-1	JGP 64-1-AS	JGP 64-1-IS
ID		0308620	0308621	0308622
Stroke per finger	[mm]	6	6	6
Closing force	[N]	250	340	
Opening force	[N]	270		360
Min. spring force	[N]		90	90
Weight	[kg]	0.28	0.37	0.37
Recommended workpiece weight	[kg]	1.25	1.25	1.25
Air consumption per double stroke	[cm ³]	9	9	9
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	80	72	72
Max. permitted weight per finger	[kg]	0.35	0.35	0.35
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



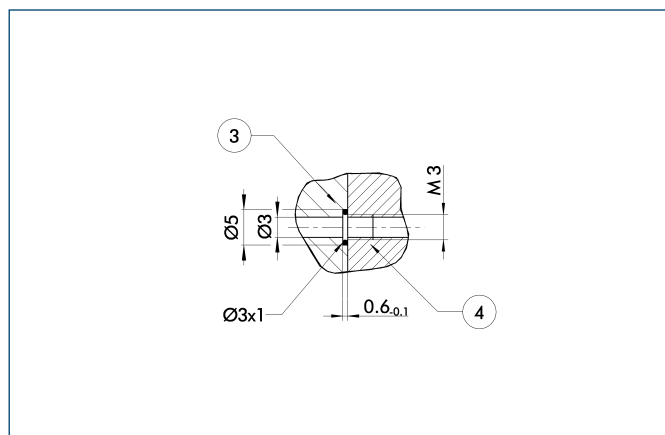
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part
90 Thread below the cover for fastening external attachments

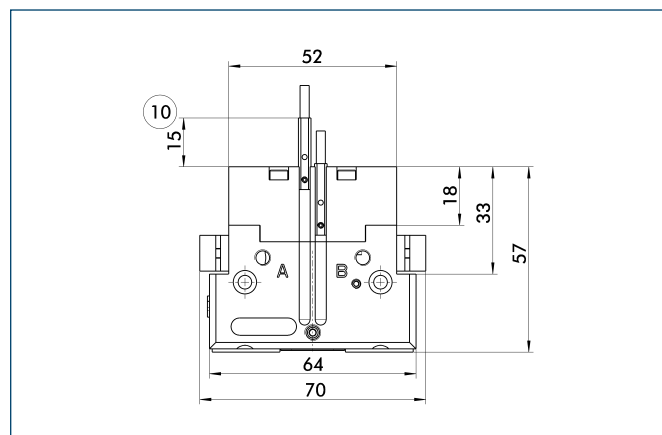
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

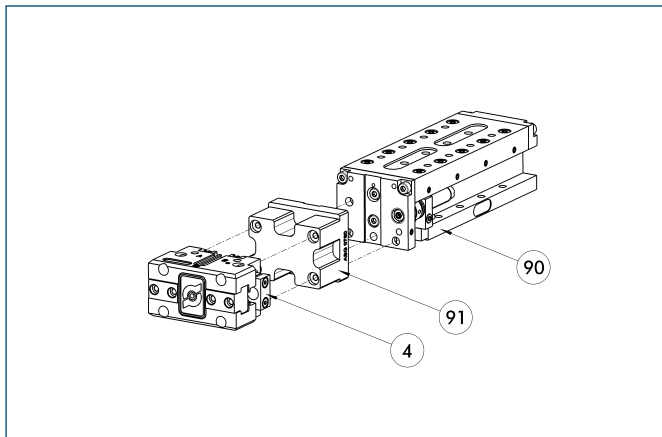
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

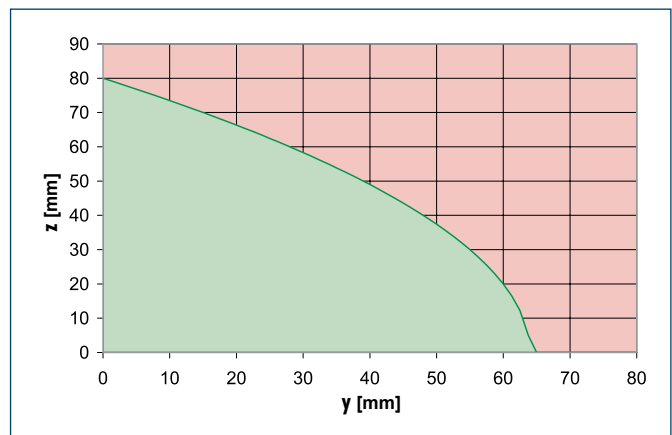
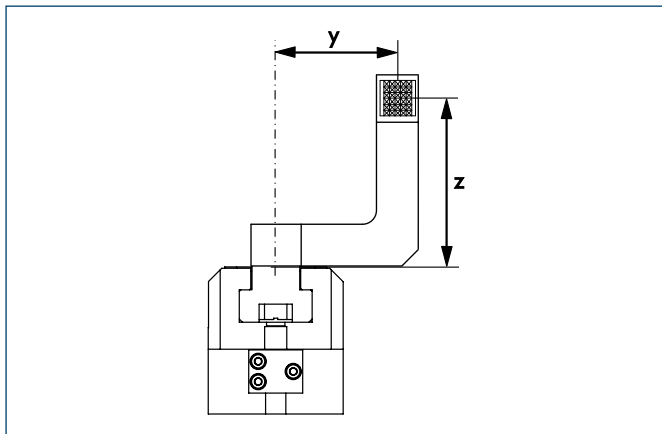


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

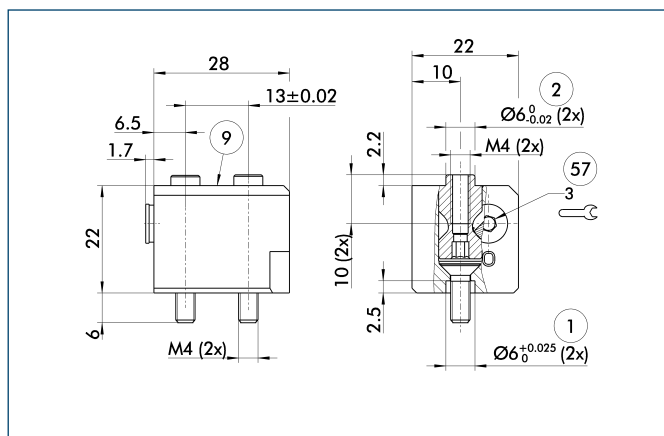
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



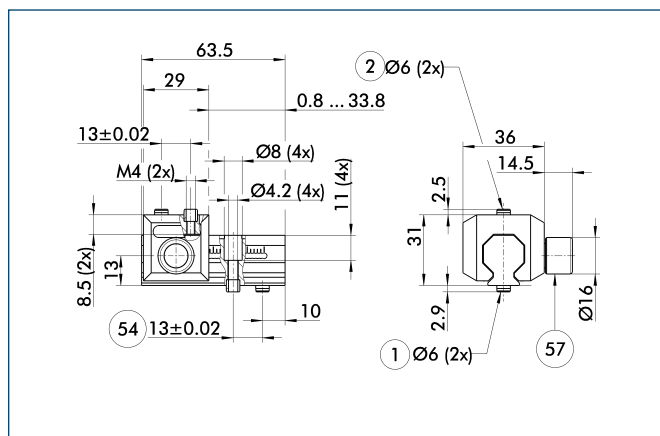
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041

Universal intermediate jaw



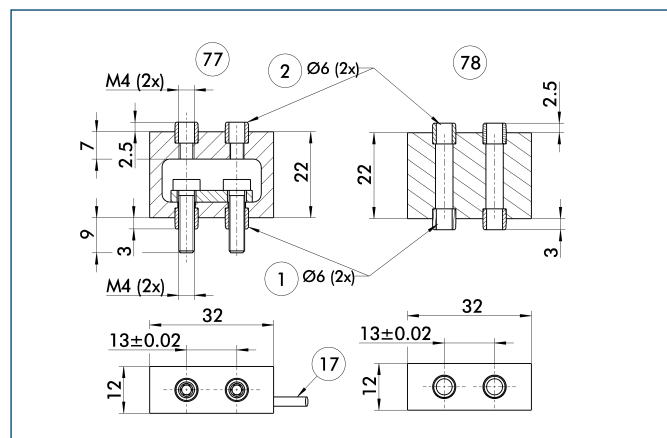
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
U7B 64	0300042	1.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

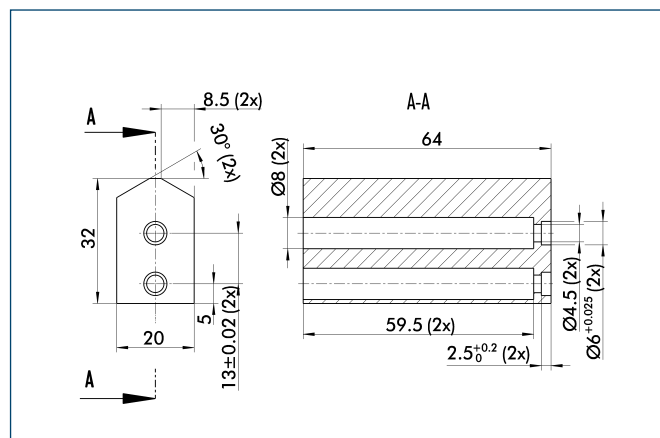


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

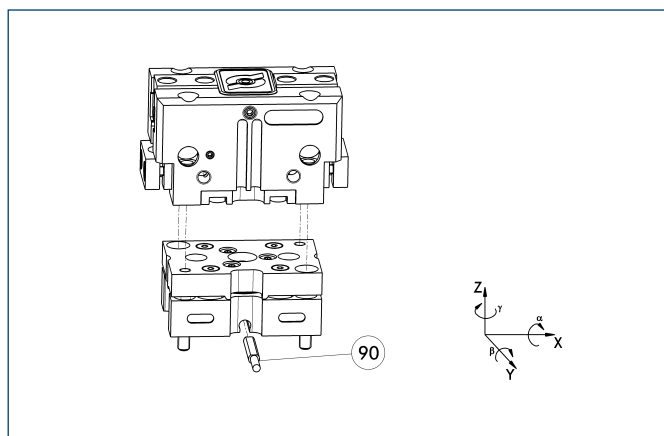
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1

Tolerance compensation unit

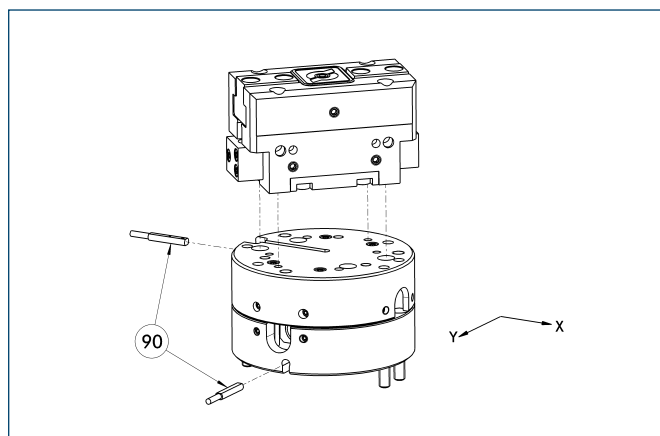


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-P	0324774	Yes	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-064-3-OV-P	0324775	No	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

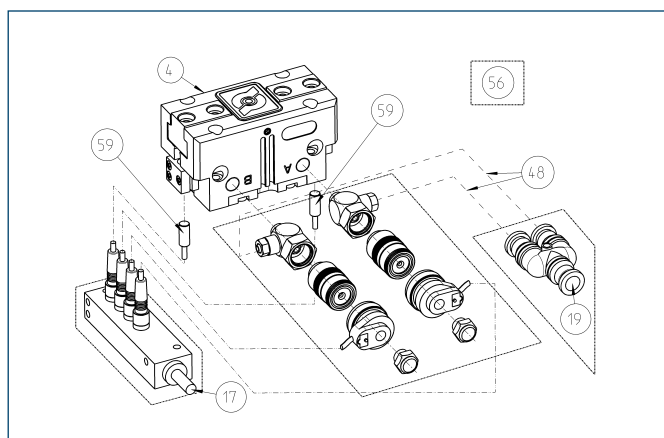


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Attachment valves

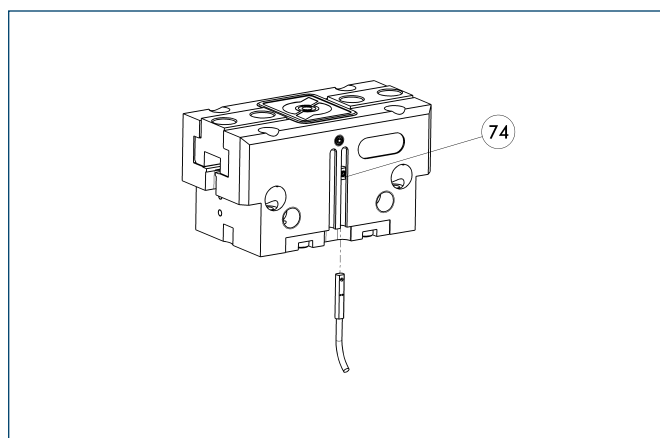


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV15-M5	0303323
ABV-MV15-M5-V2-M8	0303386
ABV-MV15-M5-V4-M8	0303356
ABV-MV15-M5-V8-M8	0303357

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

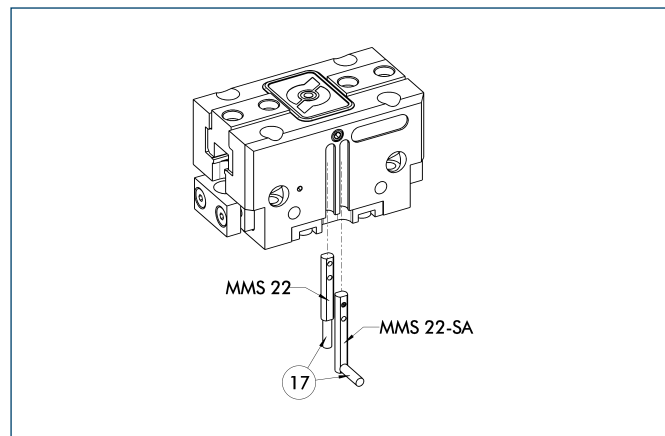
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

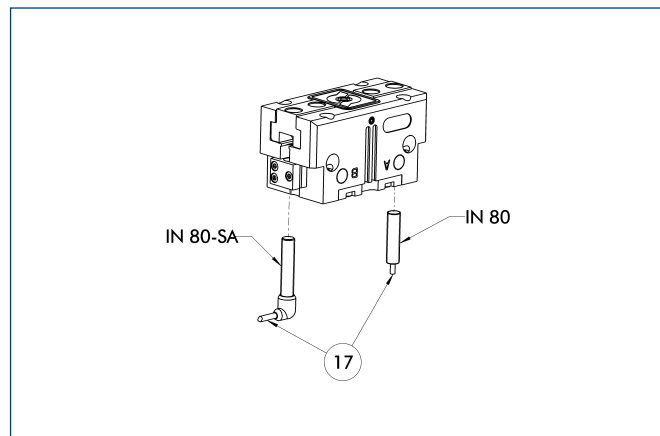
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

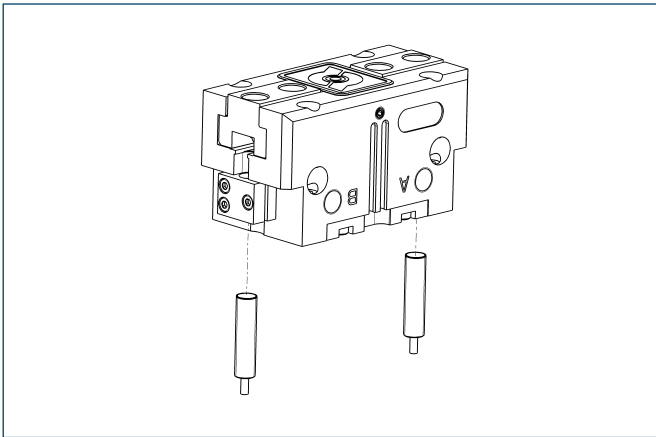
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

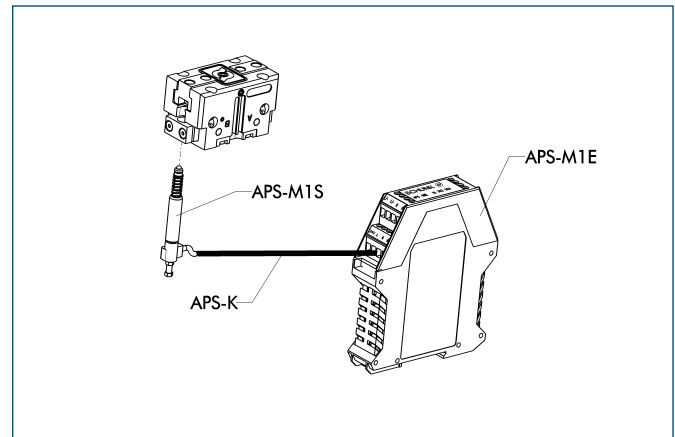


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

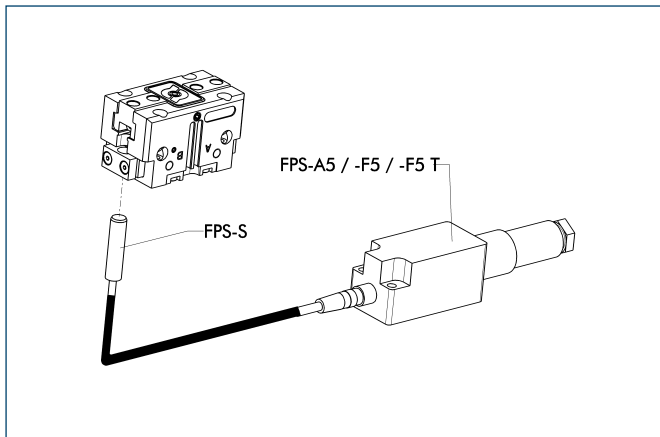
Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

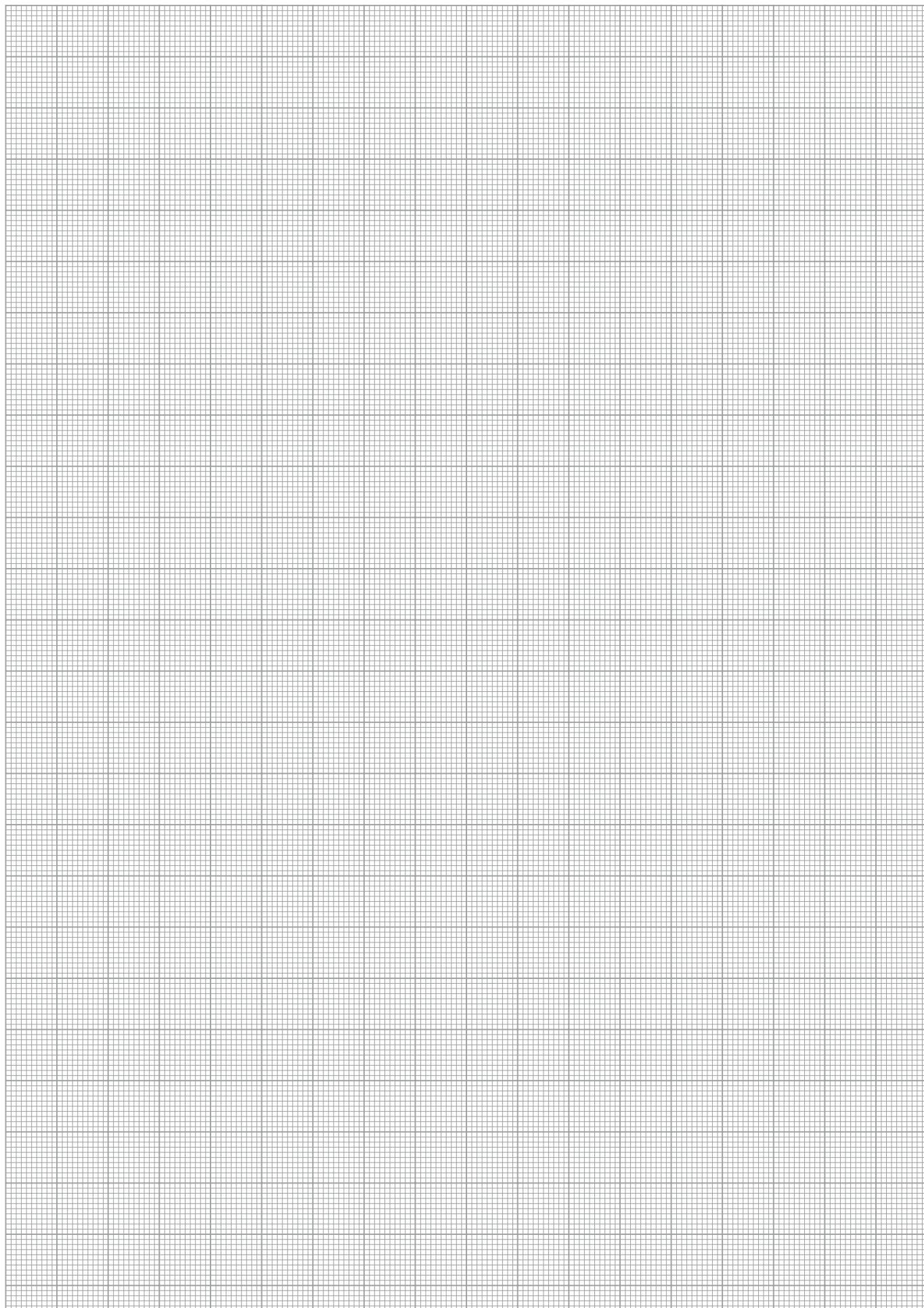
Flexible Position Sensor



Flexible position monitoring of up to five positions

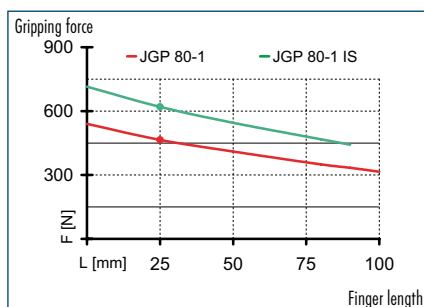
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

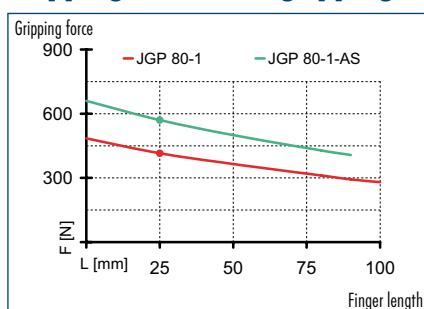




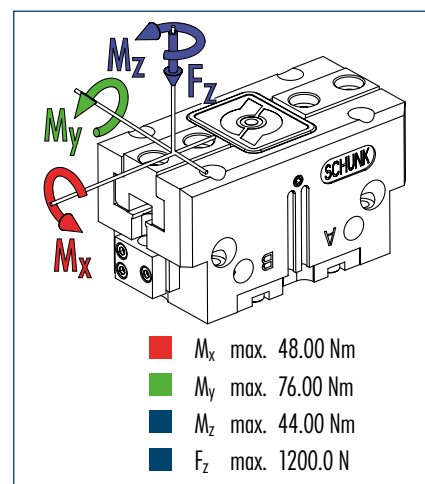
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

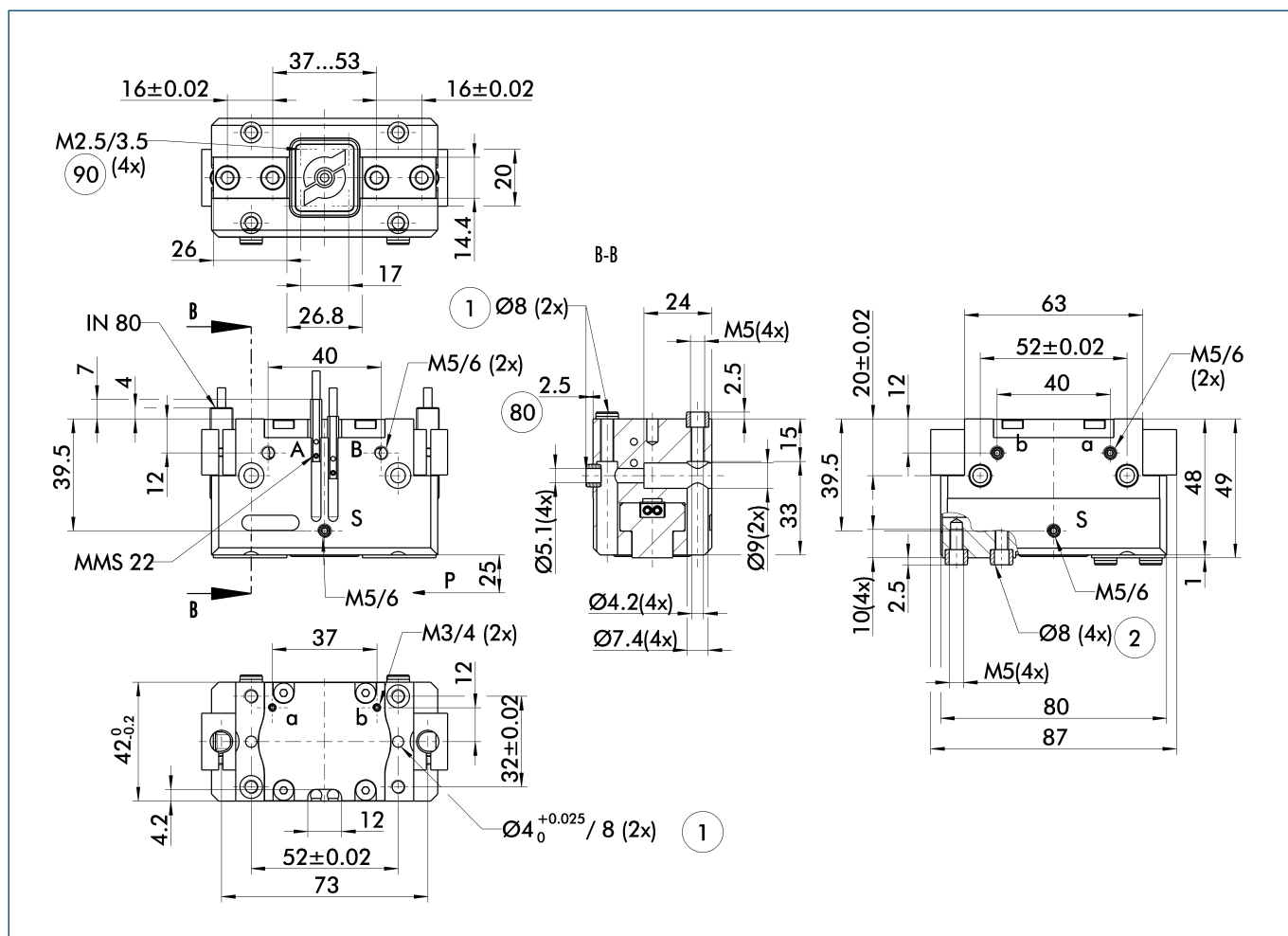


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 80-1	JGP 80-1-AS	JGP 80-1-IS
ID		0308800	0308801	0308802
Stroke per finger	[mm]	8	8	8
Closing force	[N]	415	570	
Opening force	[N]	465		620
Min. spring force	[N]		155	155
Weight	[kg]	0.5	0.6	0.6
Recommended workpiece weight	[kg]	2.1	2.1	2.1
Air consumption per double stroke	[cm ³]	21	21	21
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.04/0.04	0.03/0.05	0.05/0.03
Max. permitted finger length	[mm]	100	90	90
Max. permitted weight per finger	[kg]	0.6	0.6	0.6
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

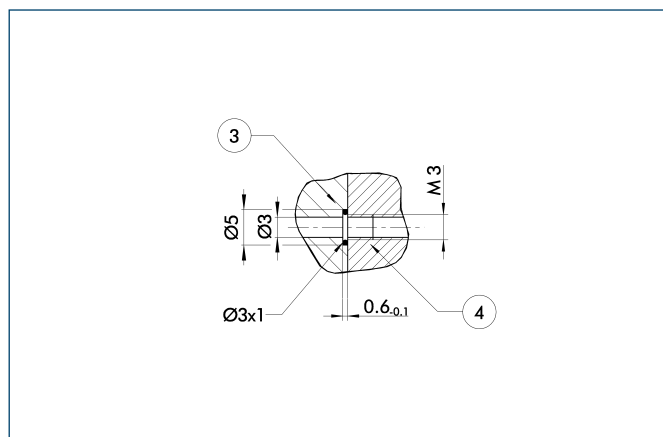
① Gripper connection

② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

⑨ Thread below the cover for fastening external attachments

Hose-free direct connection

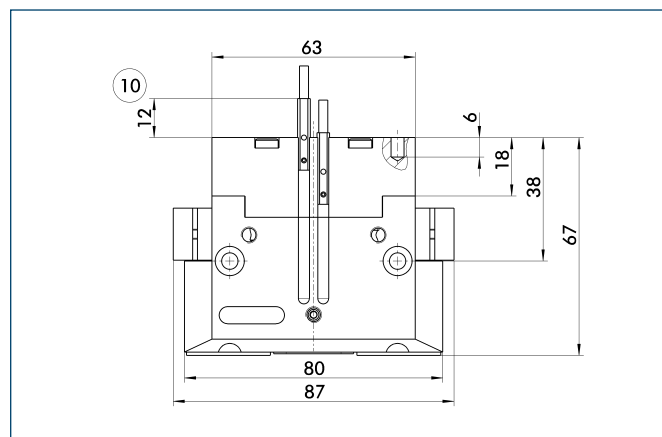


③ Adapter

④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

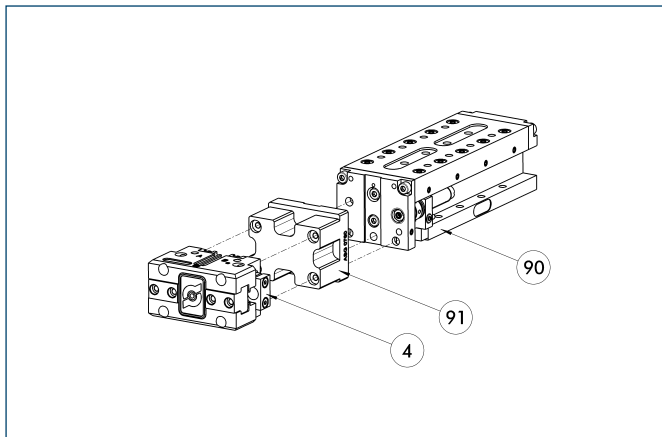
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

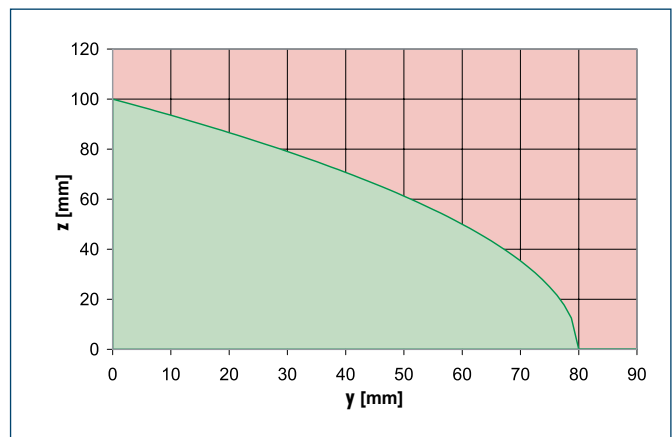
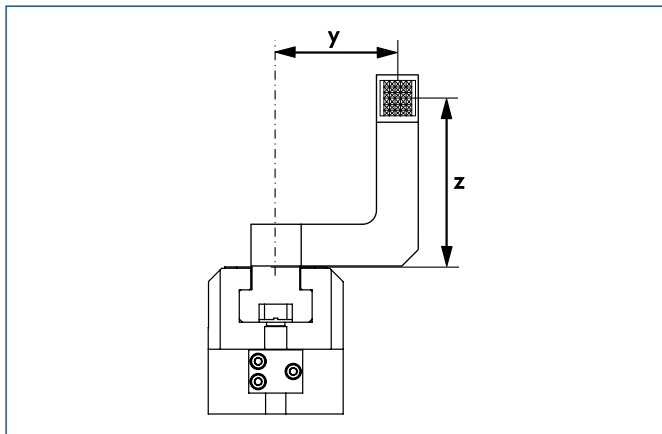


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

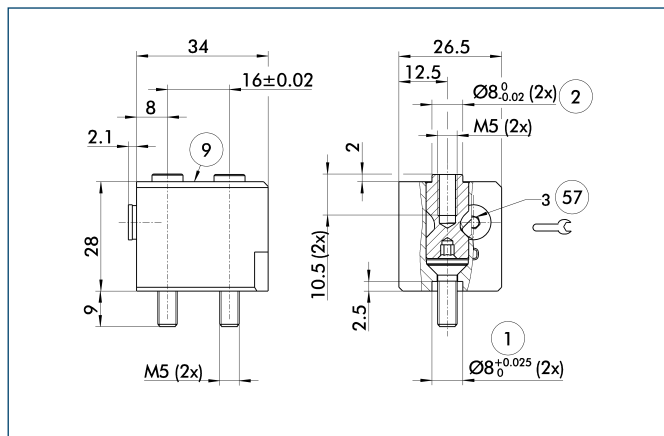
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



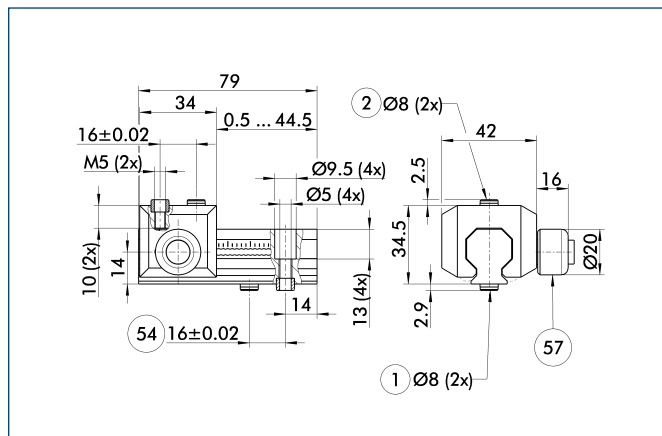
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

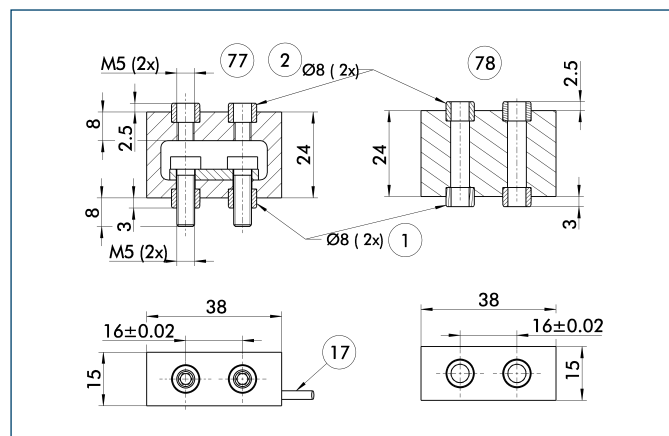
Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	0300043	2 mm
UZB-S 80	5518271	2 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Force measuring jaws

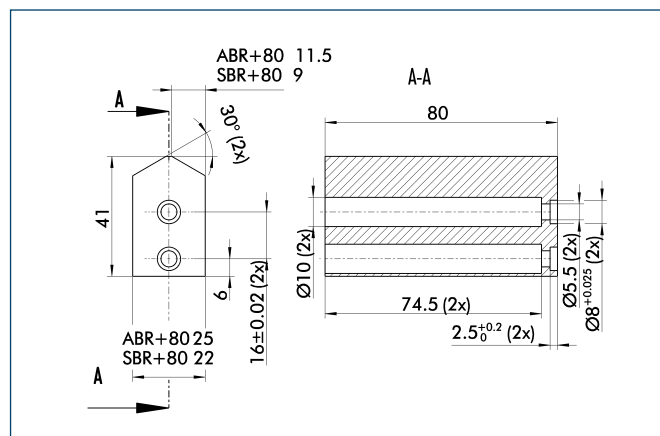


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

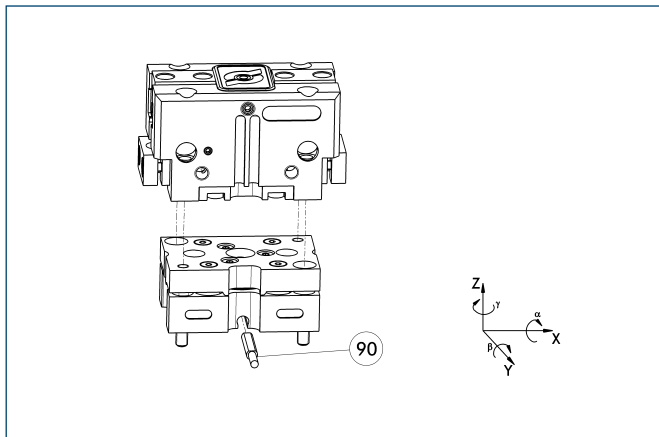
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1

Tolerance compensation unit

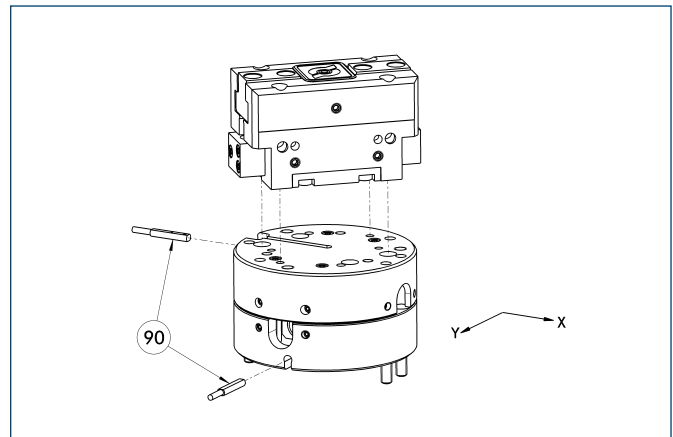


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-P	0324792	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-080-3-OV-P	0324793	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

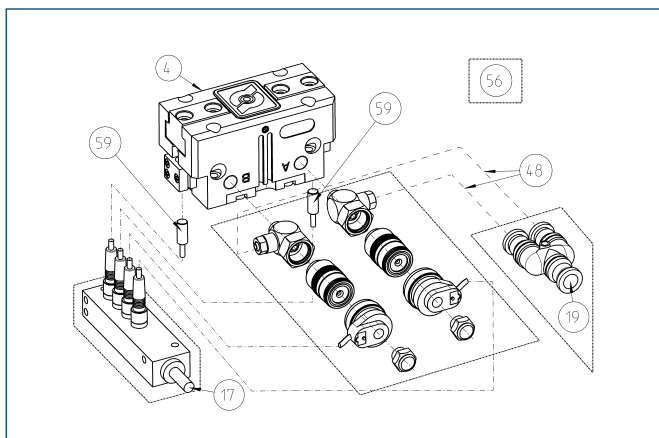


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Attachment valves

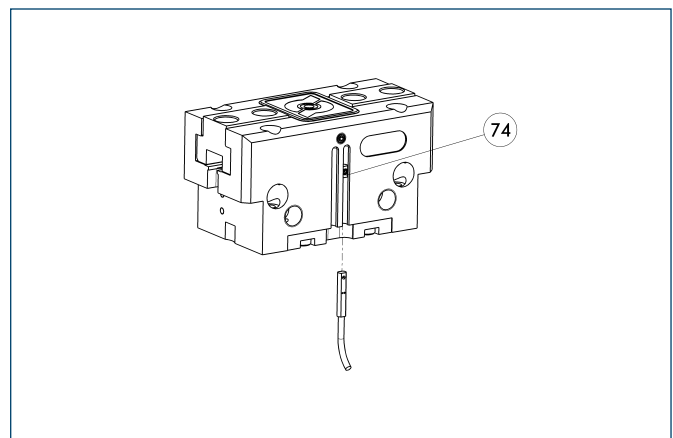


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV25-M5	0303326
ABV-MV25-M5-V2-M8	0303392
ABV-MV25-M5-V4-M8	0303362
ABV-MV25-M5-V8-M8	0303363

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

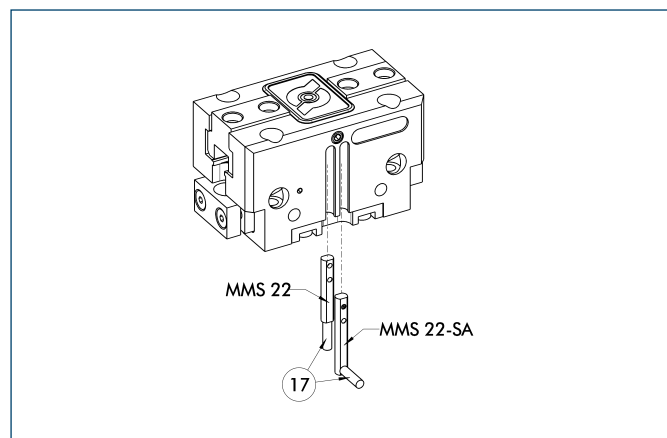
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

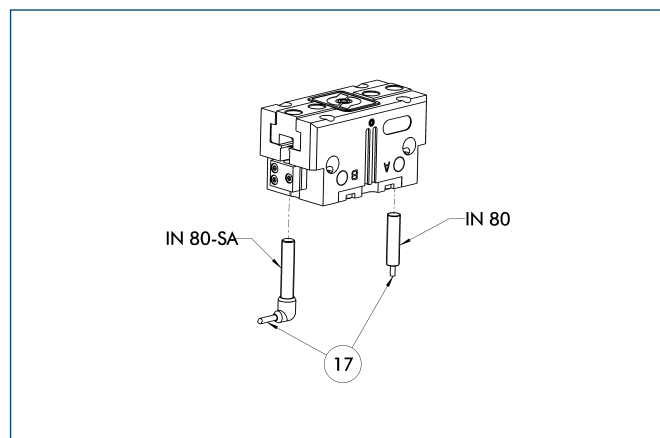
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

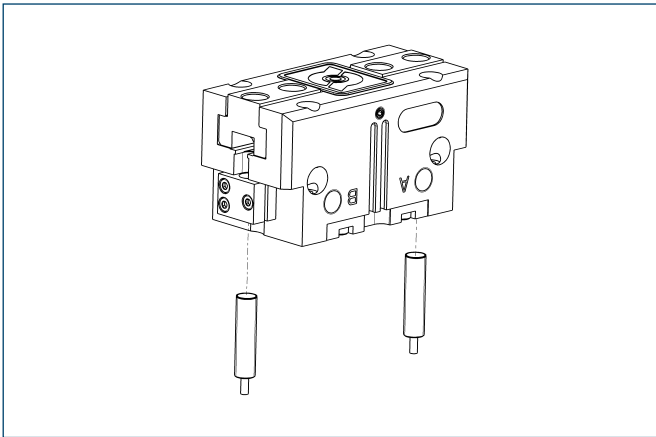
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

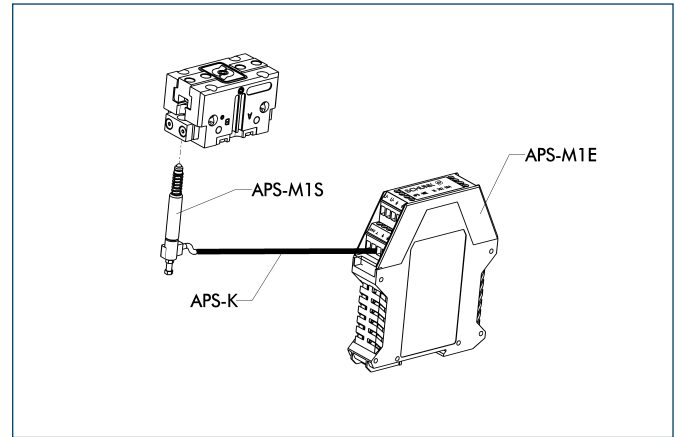


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

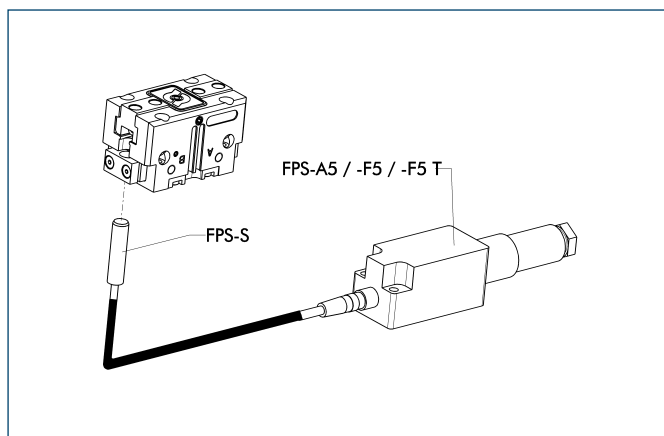
Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

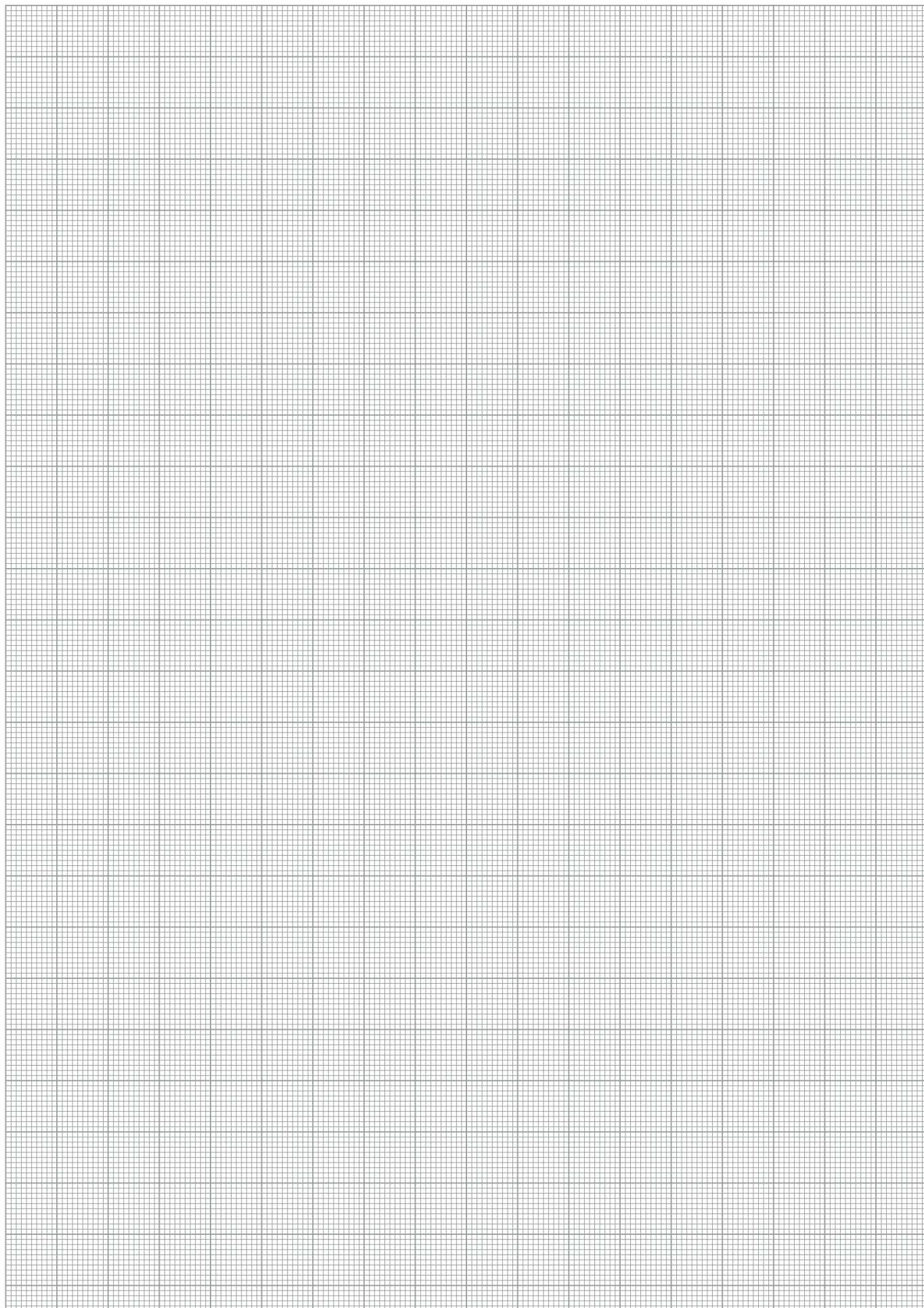
Flexible Position Sensor



Flexible position monitoring of up to five positions

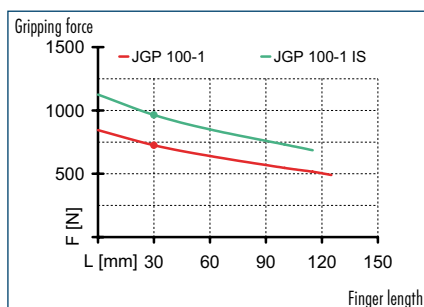
Description	ID
Mounting kit for FPS	
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

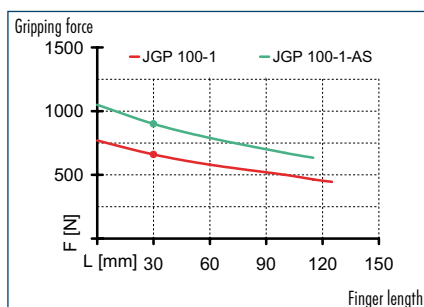




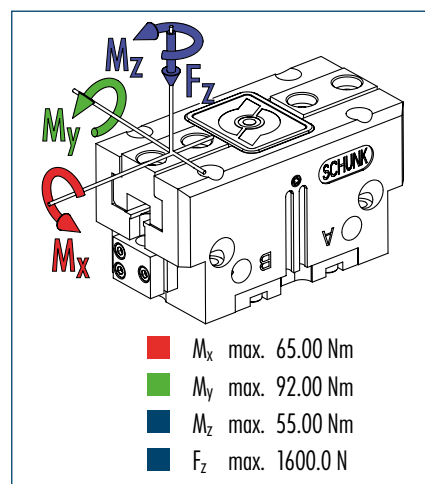
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

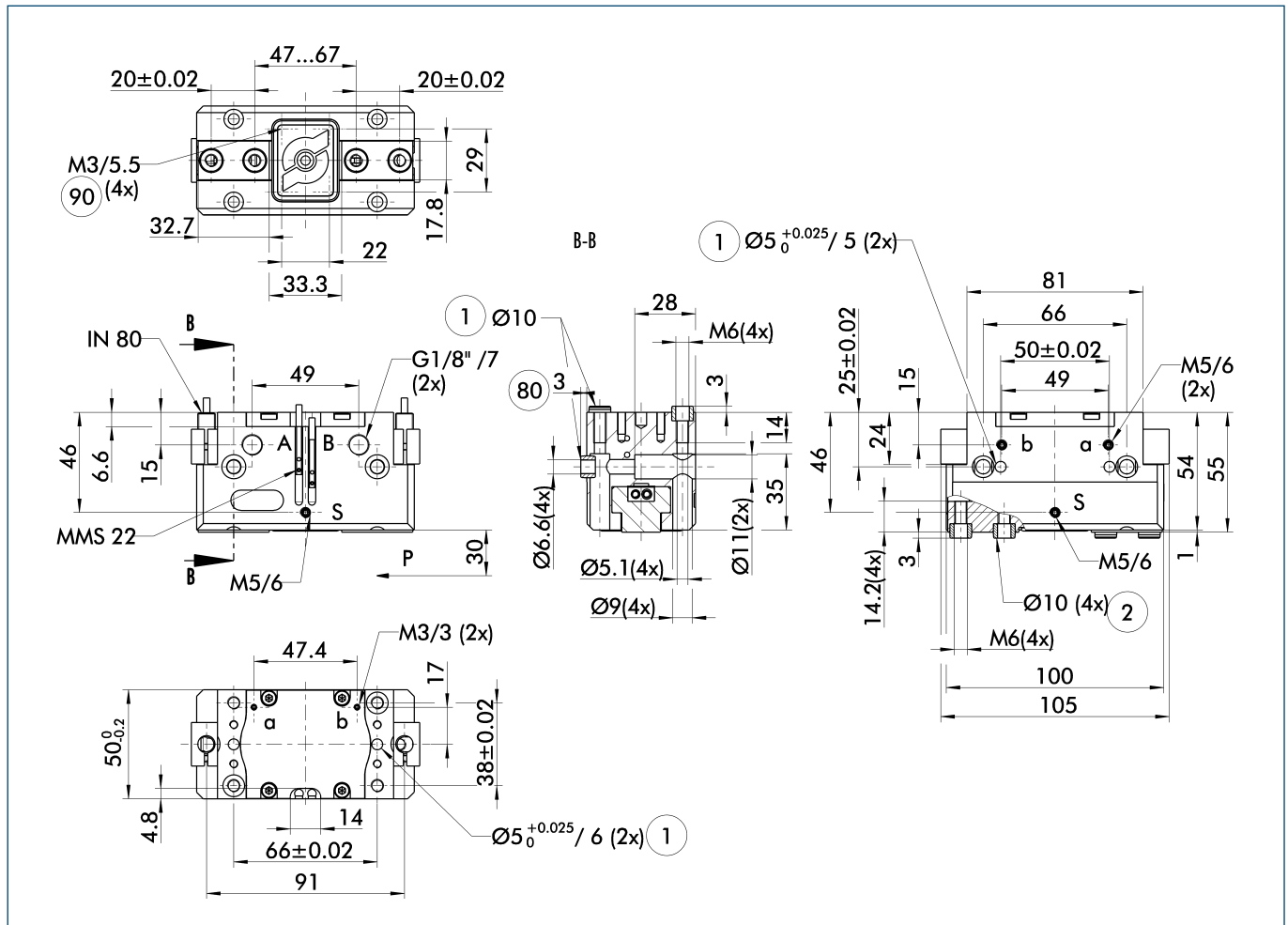


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 100-1	JGP 100-1-AS	JGP 100-1-IS
ID		0308640	0308641	0308642
Stroke per finger	[mm]	10	10	10
Closing force	[N]	660	900	
Opening force	[N]	725		965
Min. spring force	[N]		240	240
Weight	[kg]	0.81	1	1
Recommended workpiece weight	[kg]	3.3	3.3	3.3
Air consumption per double stroke	[cm ³]	40	40	40
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.07/0.07	0.05/0.09	0.09/0.05
Max. permitted finger length	[mm]	125	115	115
Max. permitted weight per finger	[kg]	1.1	1.1	1.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

S Air purge connection

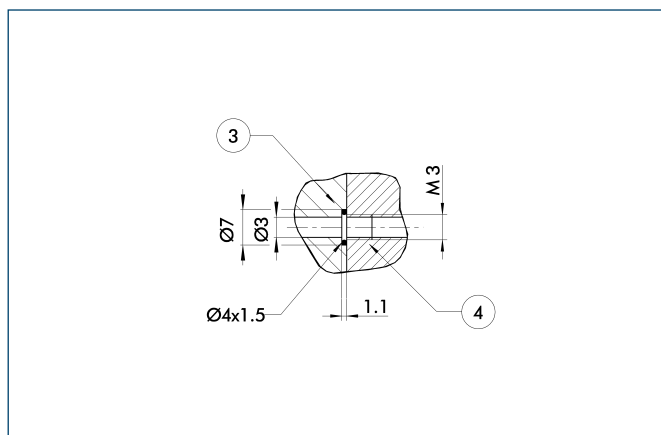
① Gripper connection

② Finger connection

Ø Depth of the centering sleeve hole in the matching part

Ø Thread below the cover for fastening external attachments

Hose-free direct connection

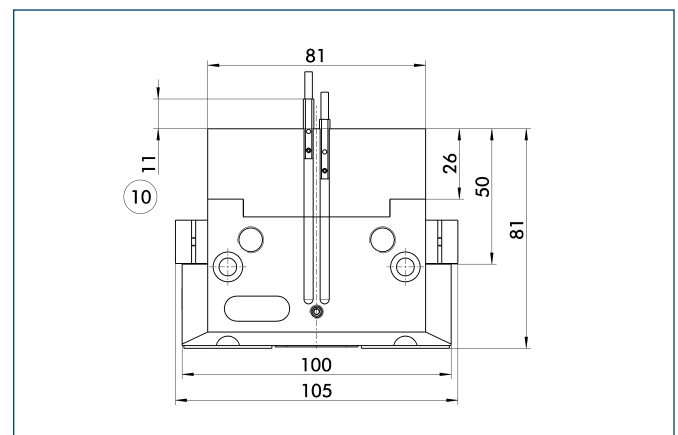


③ Adapter

④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

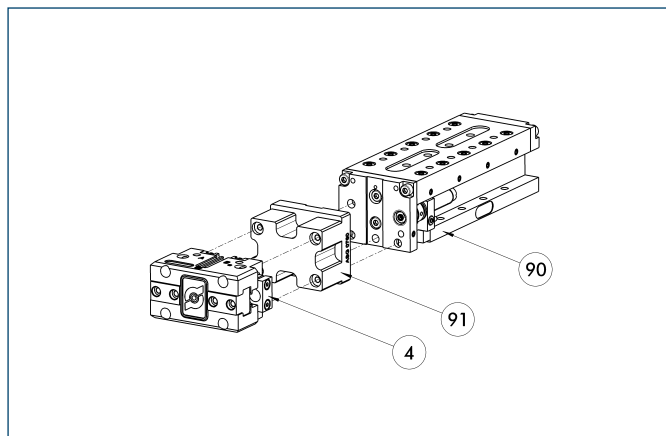
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

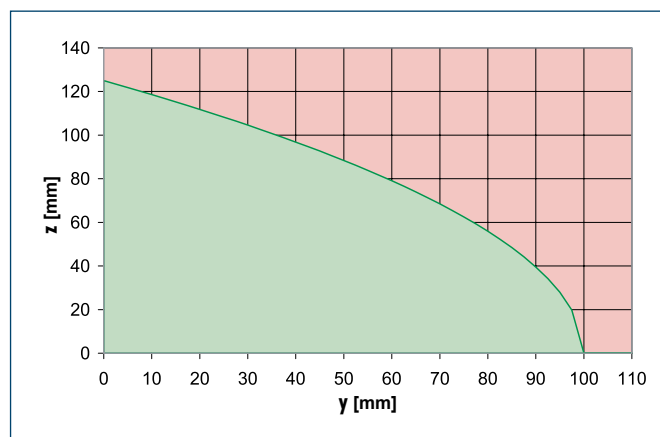
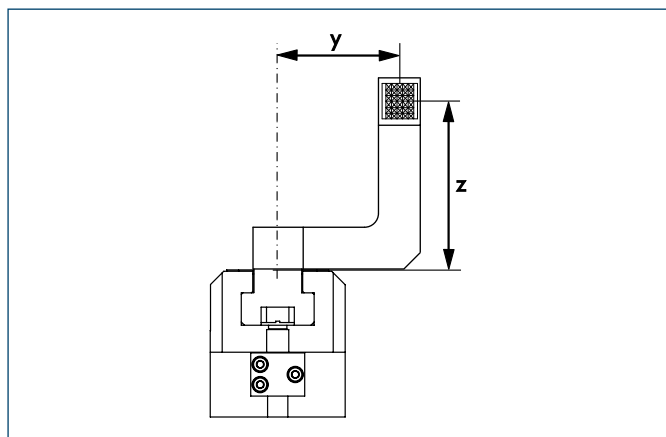


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

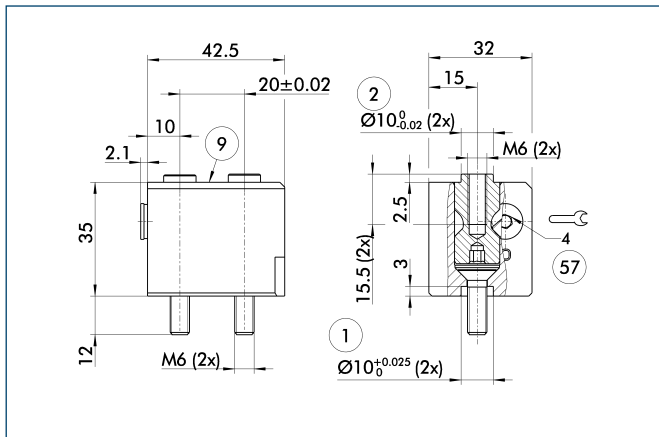
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



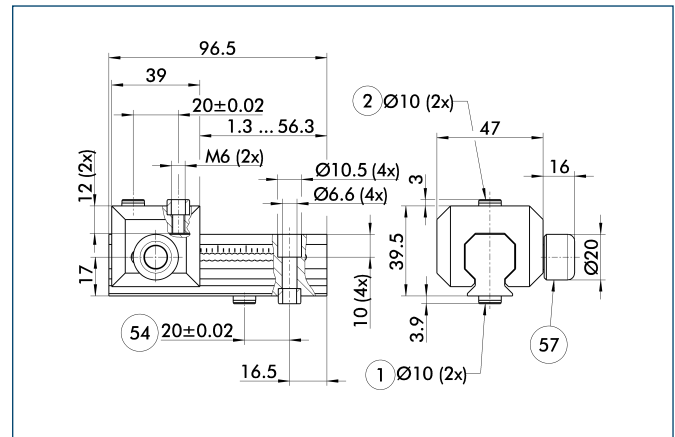
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043

Universal intermediate jaw



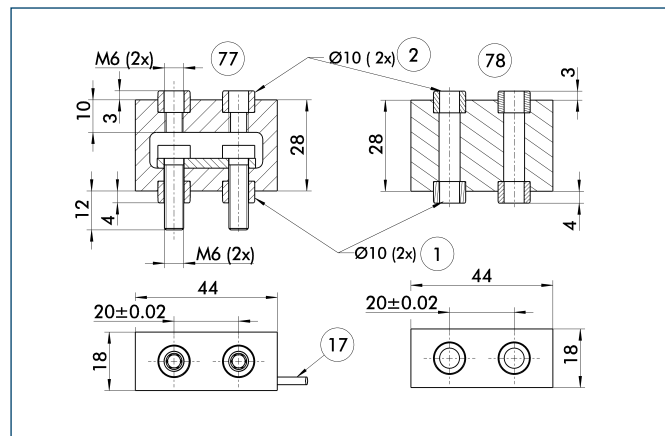
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	0300044	2.5 mm
UZB-S 100	5518272	2.5 mm

- ❶ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

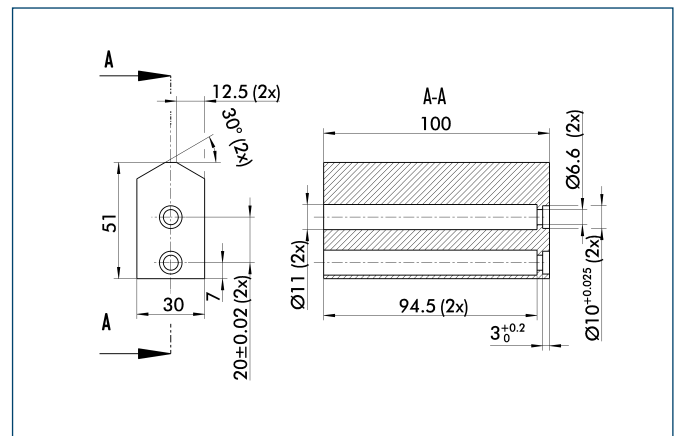


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

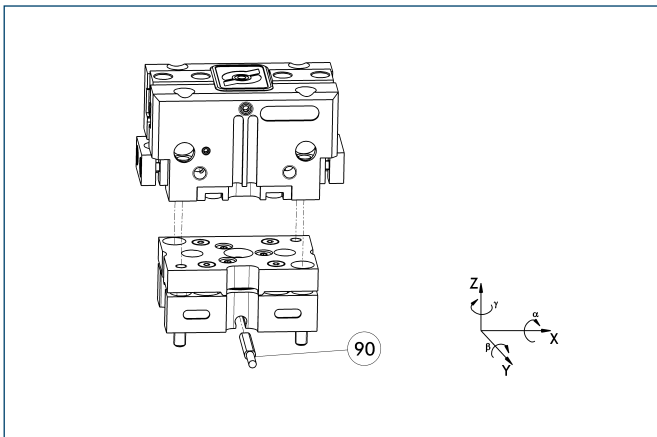
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1

Tolerance compensation unit

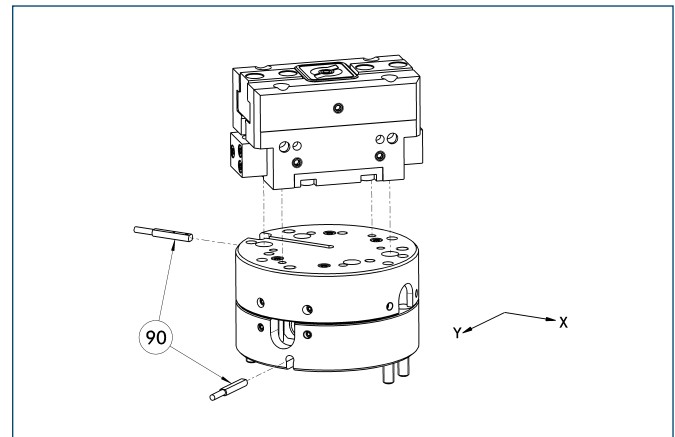


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-P	0324808	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$
TCU-100-3-OV-P	0324811	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$

Compensation unit with spring reset

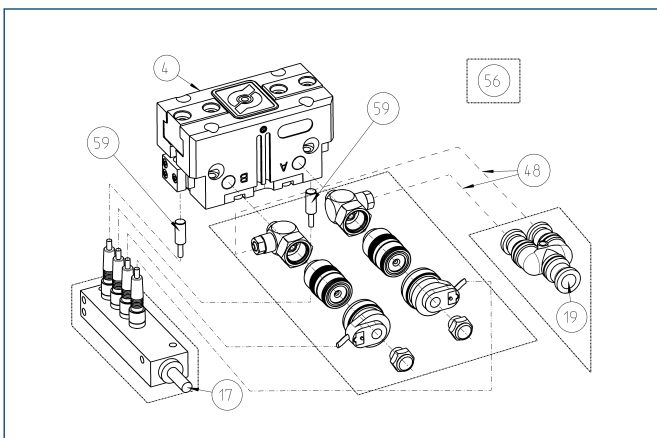


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Attachment valves

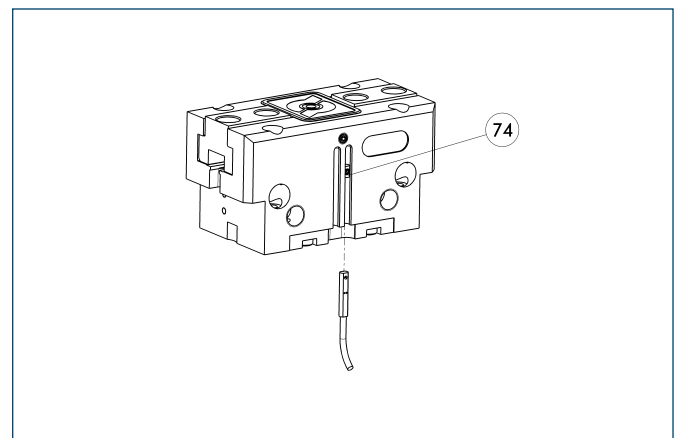


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

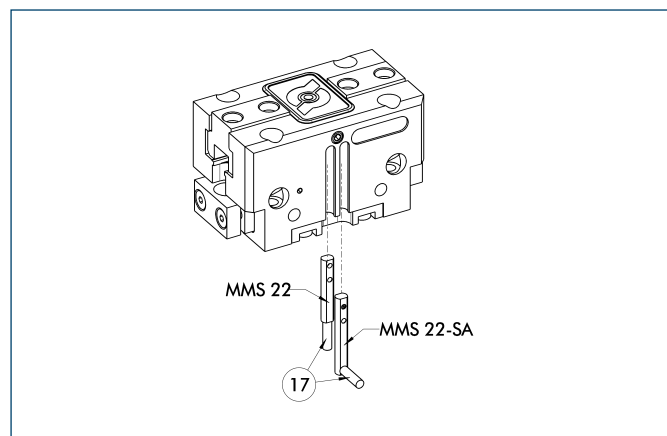
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Electronic magnetic switches



⑰ Cable outlet

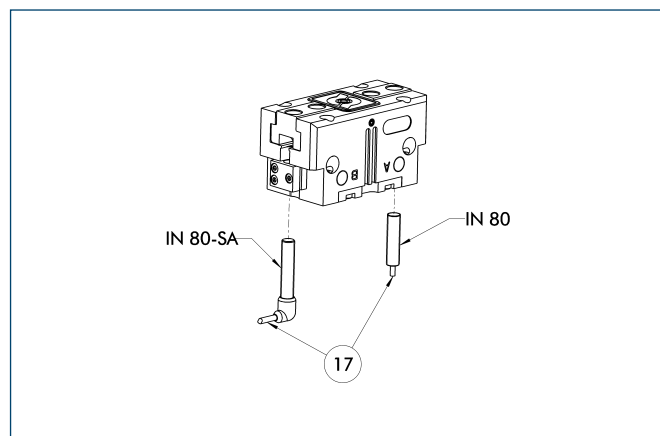
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

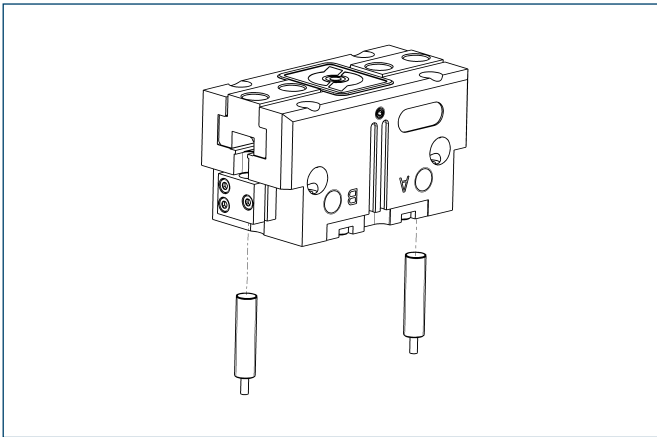
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

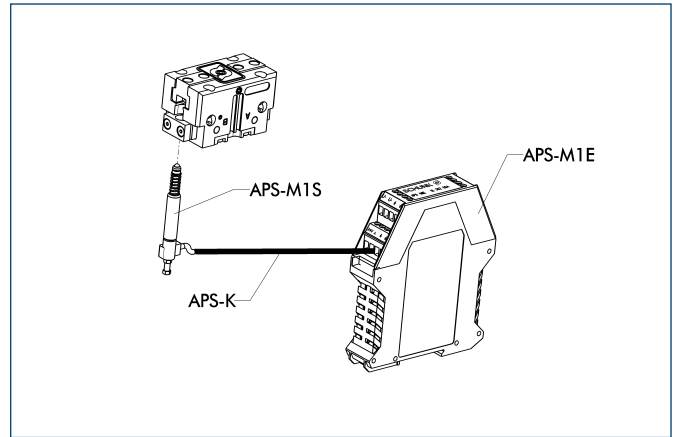


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

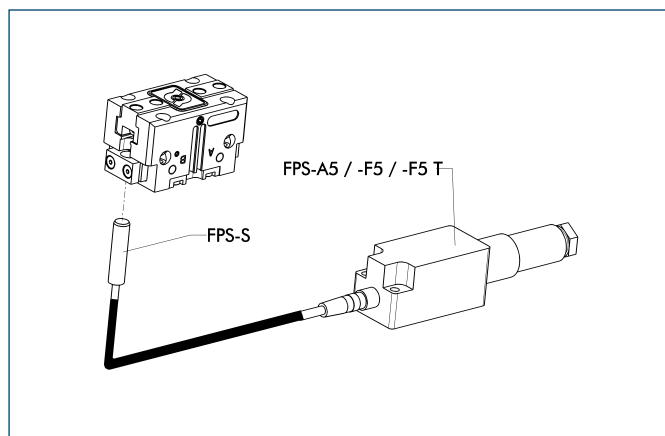
Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

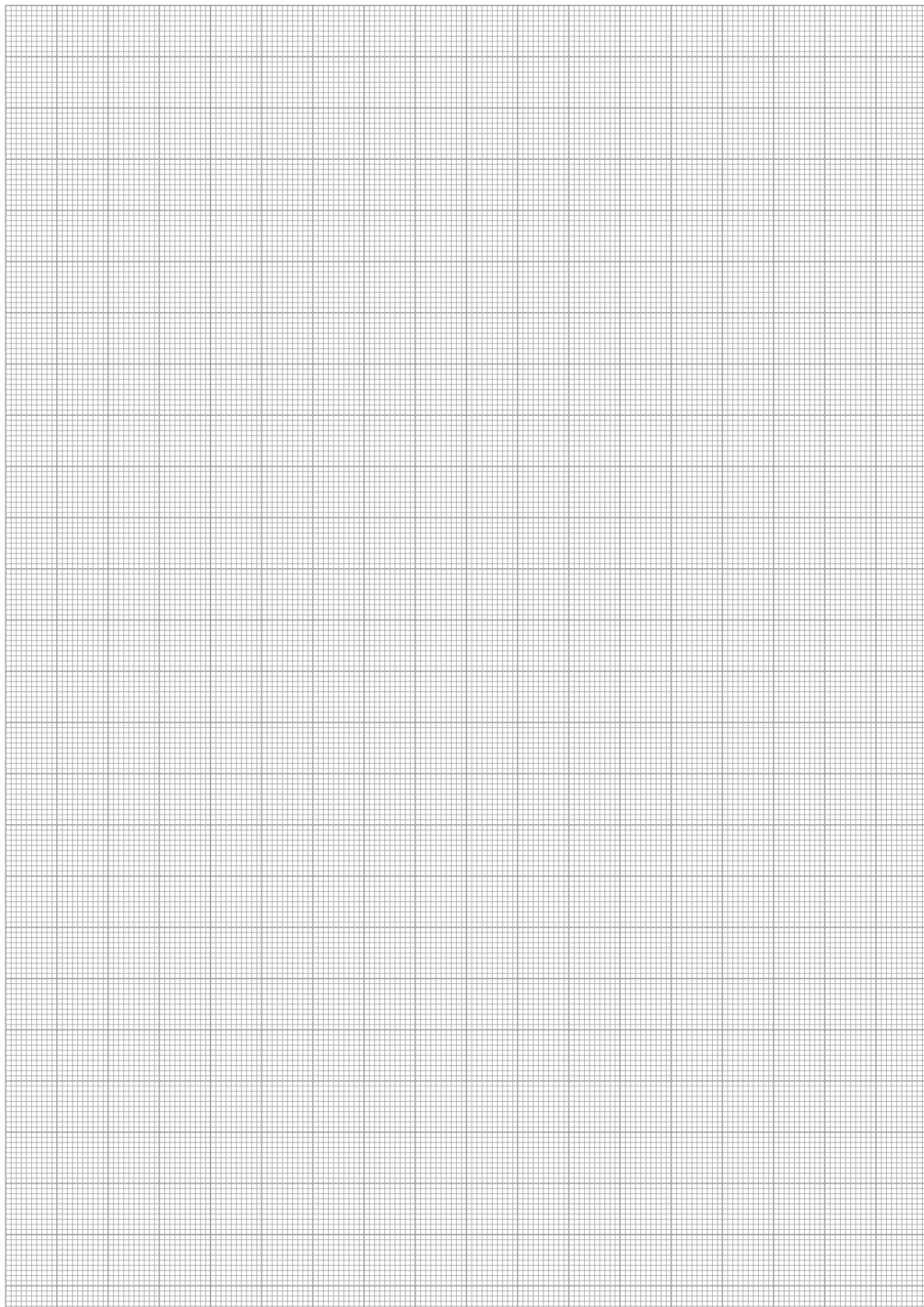
Flexible Position Sensor



Flexible position monitoring of up to five positions

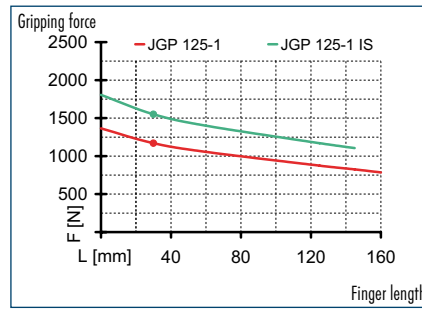
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

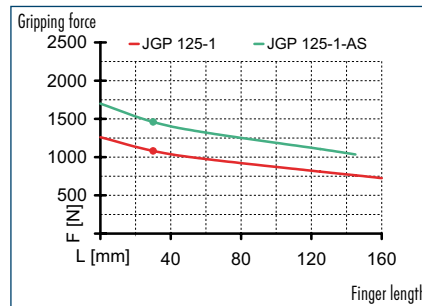




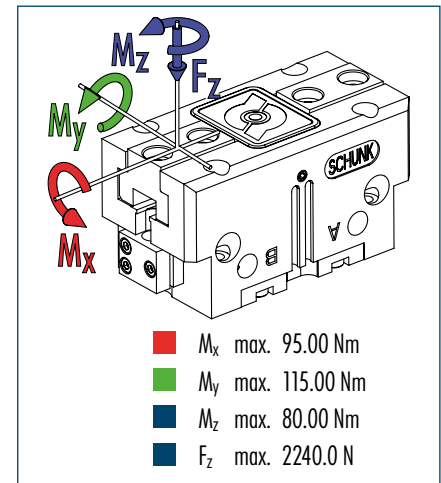
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

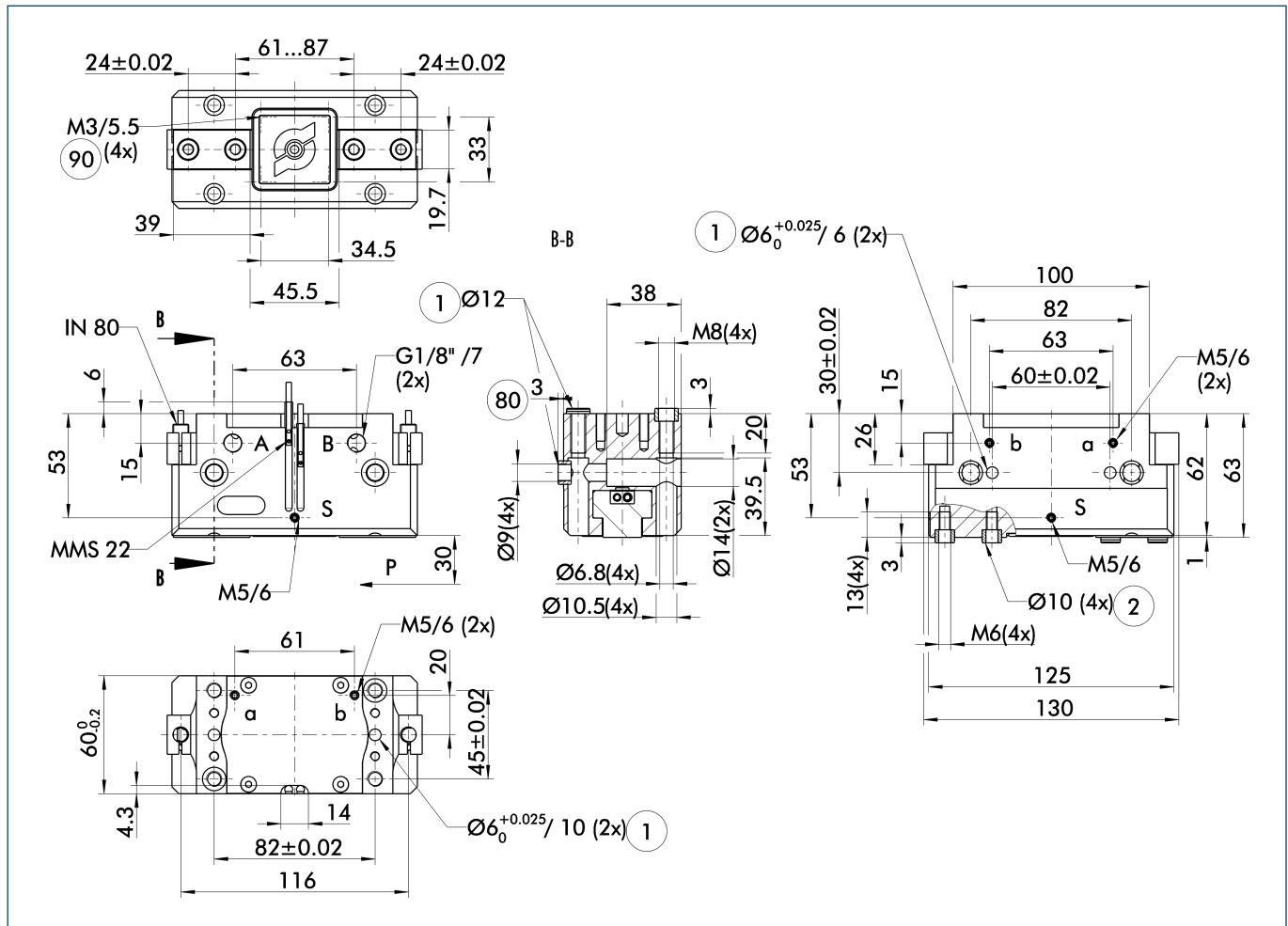


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 125-1	JGP 125-1-AS	JGP 125-1-IS
ID		0308650	0308651	0308652
Stroke per finger	[mm]	13	13	13
Closing force	[N]	1080	1470	
Opening force	[N]	1170		1560
Min. spring force	[N]		390	390
Weight	[kg]	1.35	1.85	1.85
Recommended workpiece weight	[kg]	5.4	5.4	5.4
Air consumption per double stroke	[cm ³]	81	81	81
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.1/0.1	0.08/0.12	0.12/0.08
Max. permitted finger length	[mm]	160	145	145
Max. permitted weight per finger	[kg]	2.1	2.1	2.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



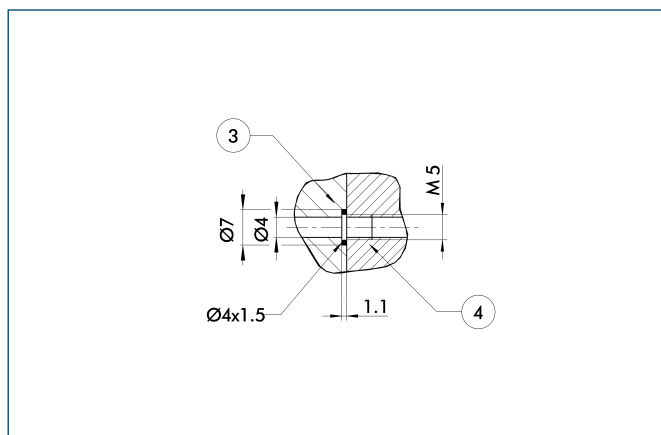
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part
90 Thread below the cover for fastening external attachments

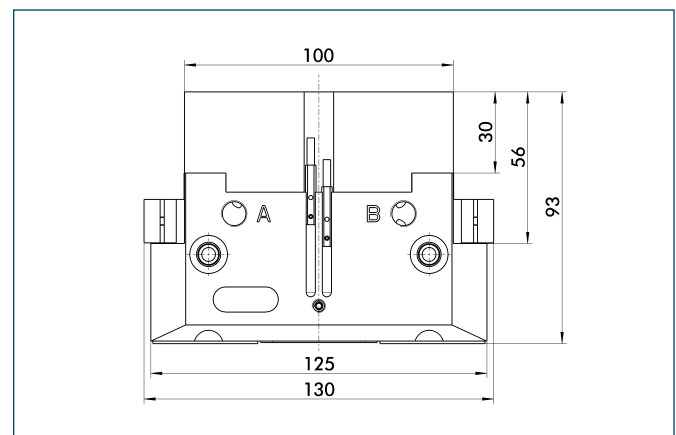
Hose-free direct connection



③ Adapter
④ Gripper

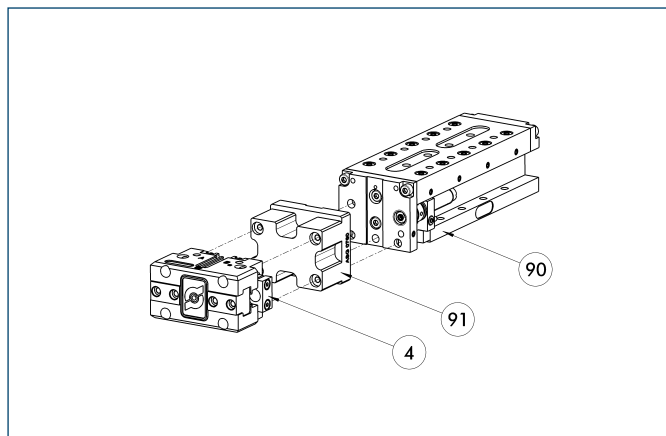
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

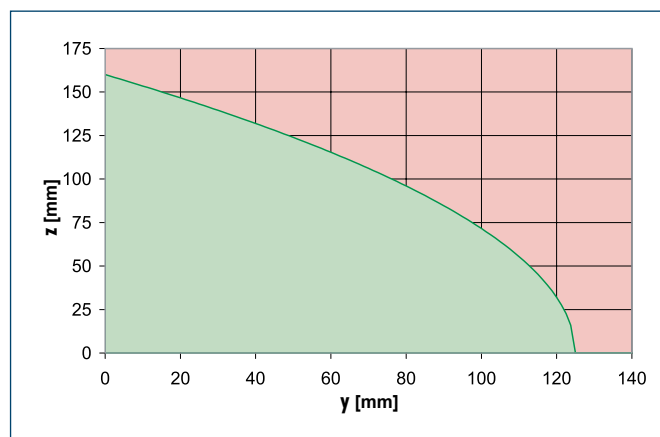
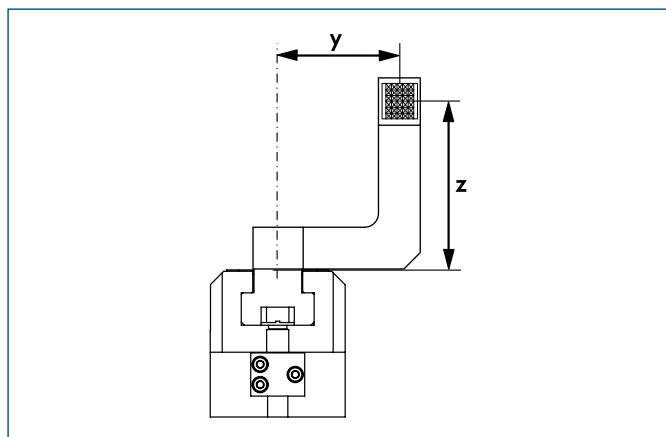


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

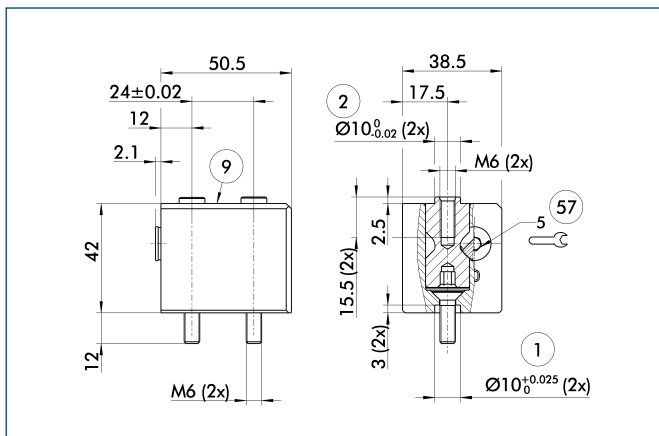
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



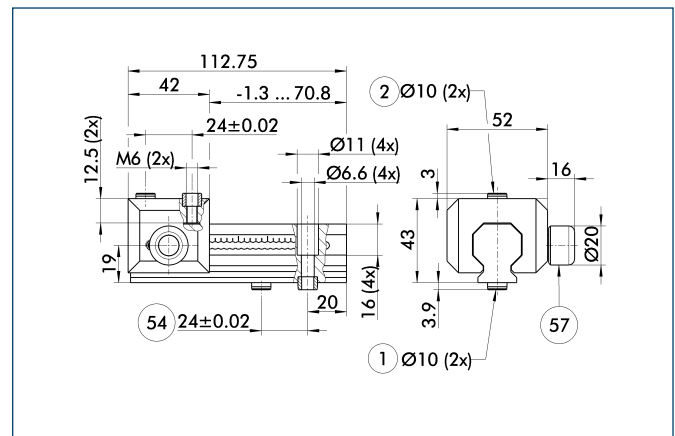
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 125	0303028
Quick-change Jaw System base	
BSWS-B 125	0303029
Quick-change Jaw System reversed	
BSWS-U 125	0303044

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

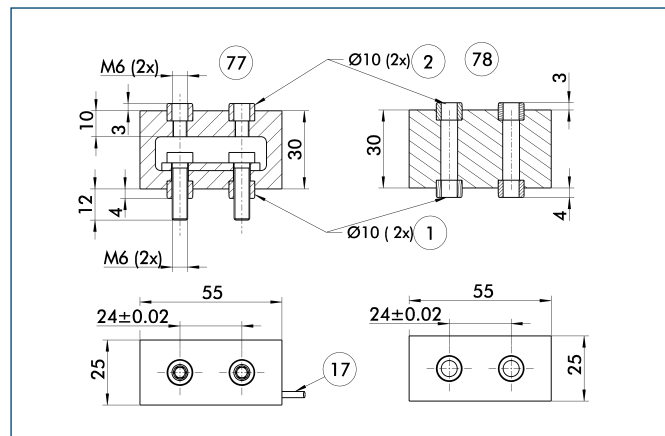
Description	ID	Grid dimension
Universal intermediate jaw		
UZB 125	0300045	3 mm
UZB-S 125	5518273	3 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Force measuring jaws

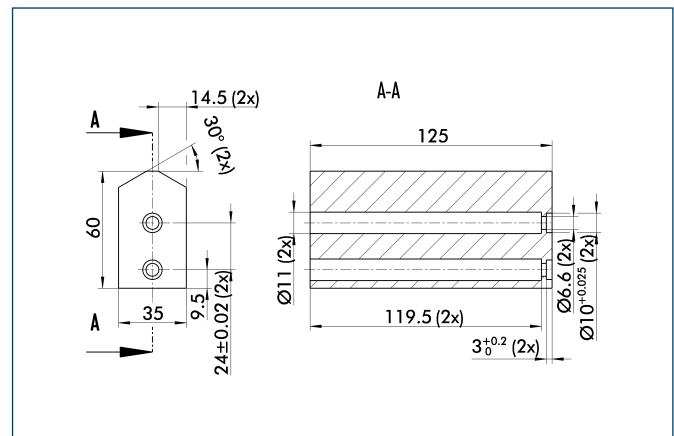


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

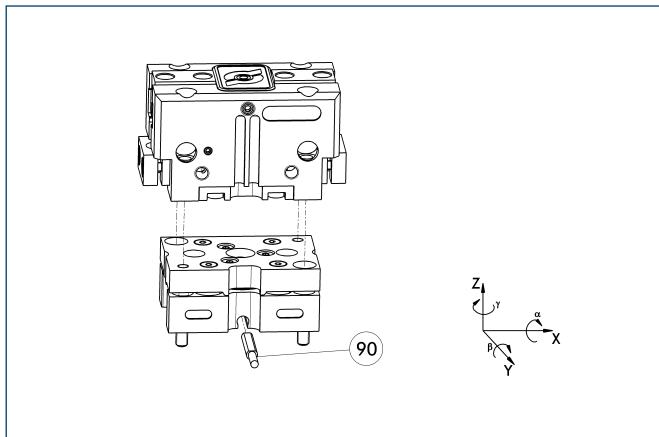
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 125	0300013	Aluminum	1
SBR-plus 125	0300023	16 MnCr 5	1

Tolerance compensation unit

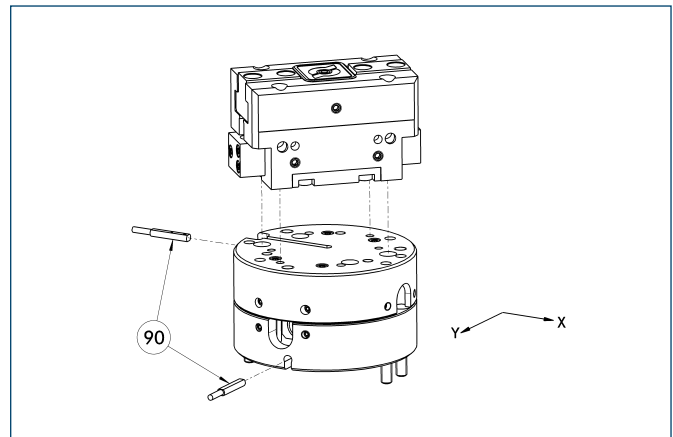


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-P	0324828	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-125-3-OV-P	0324829	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$

Compensation unit with spring reset

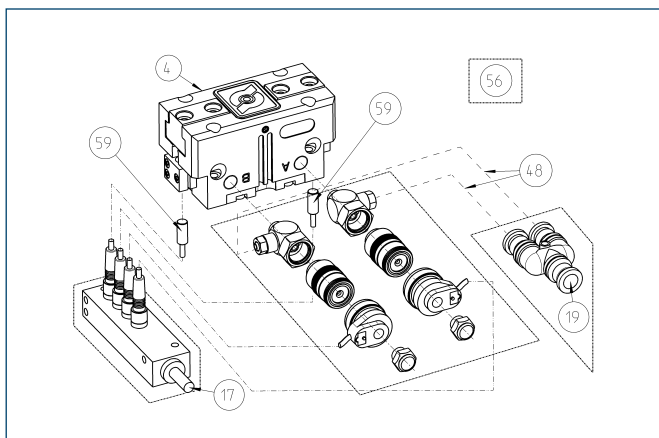


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Attachment valves

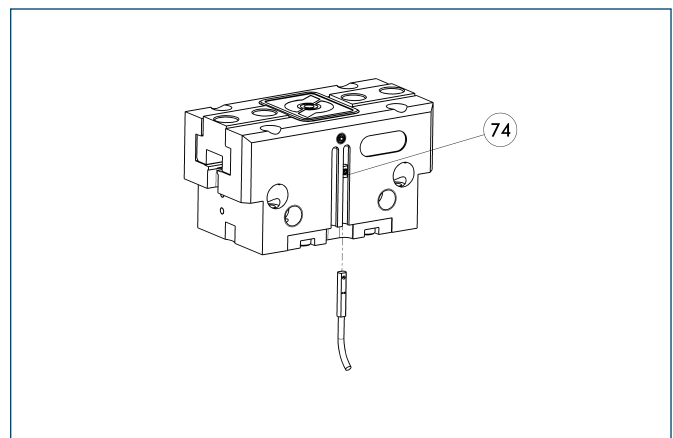


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

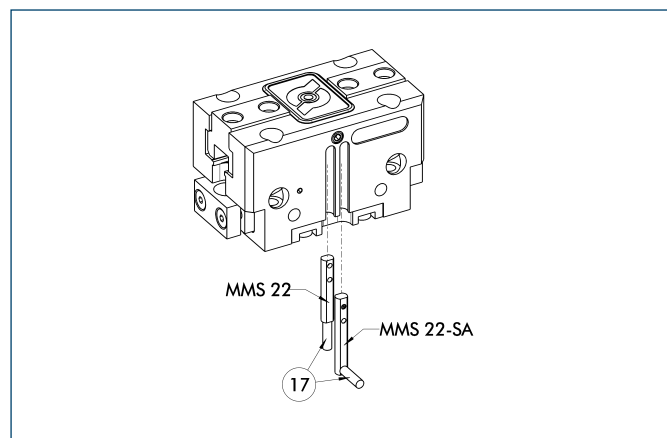
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

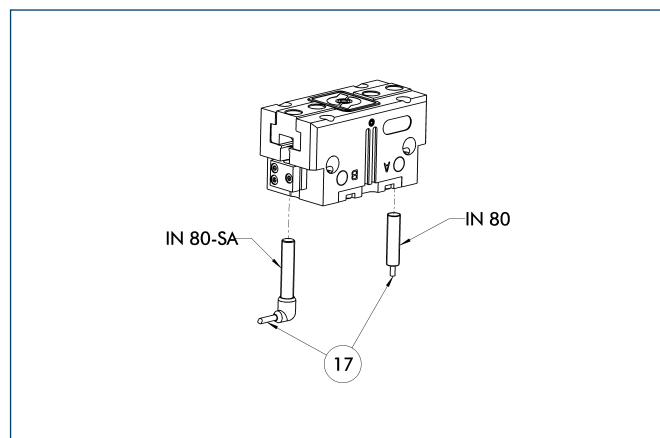
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

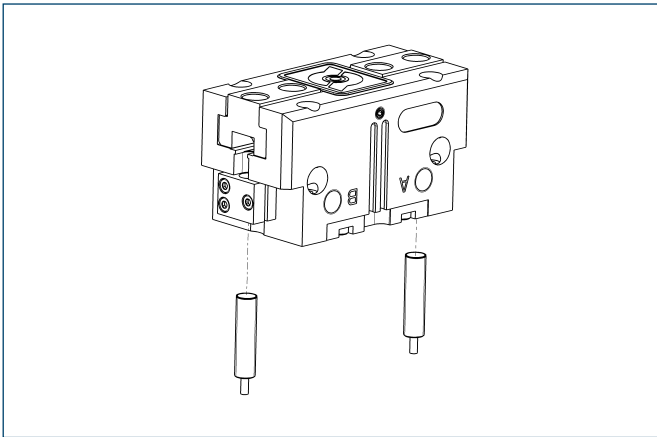
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

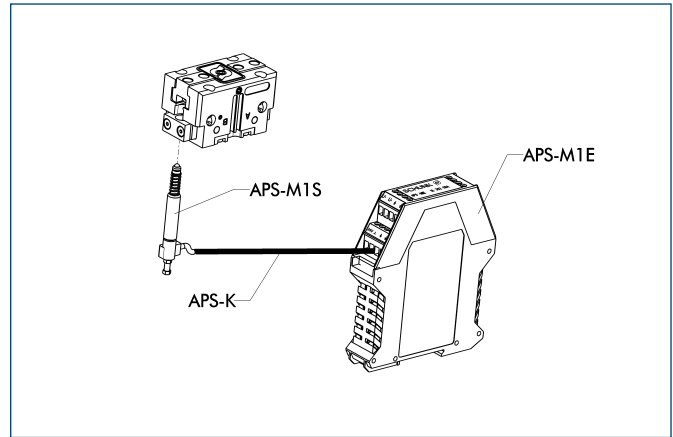


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

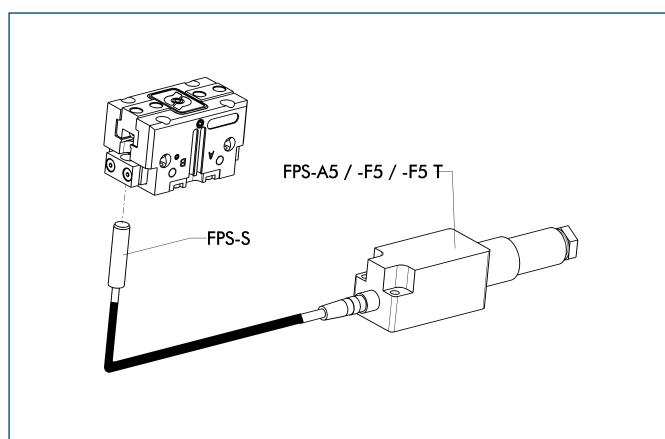
Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

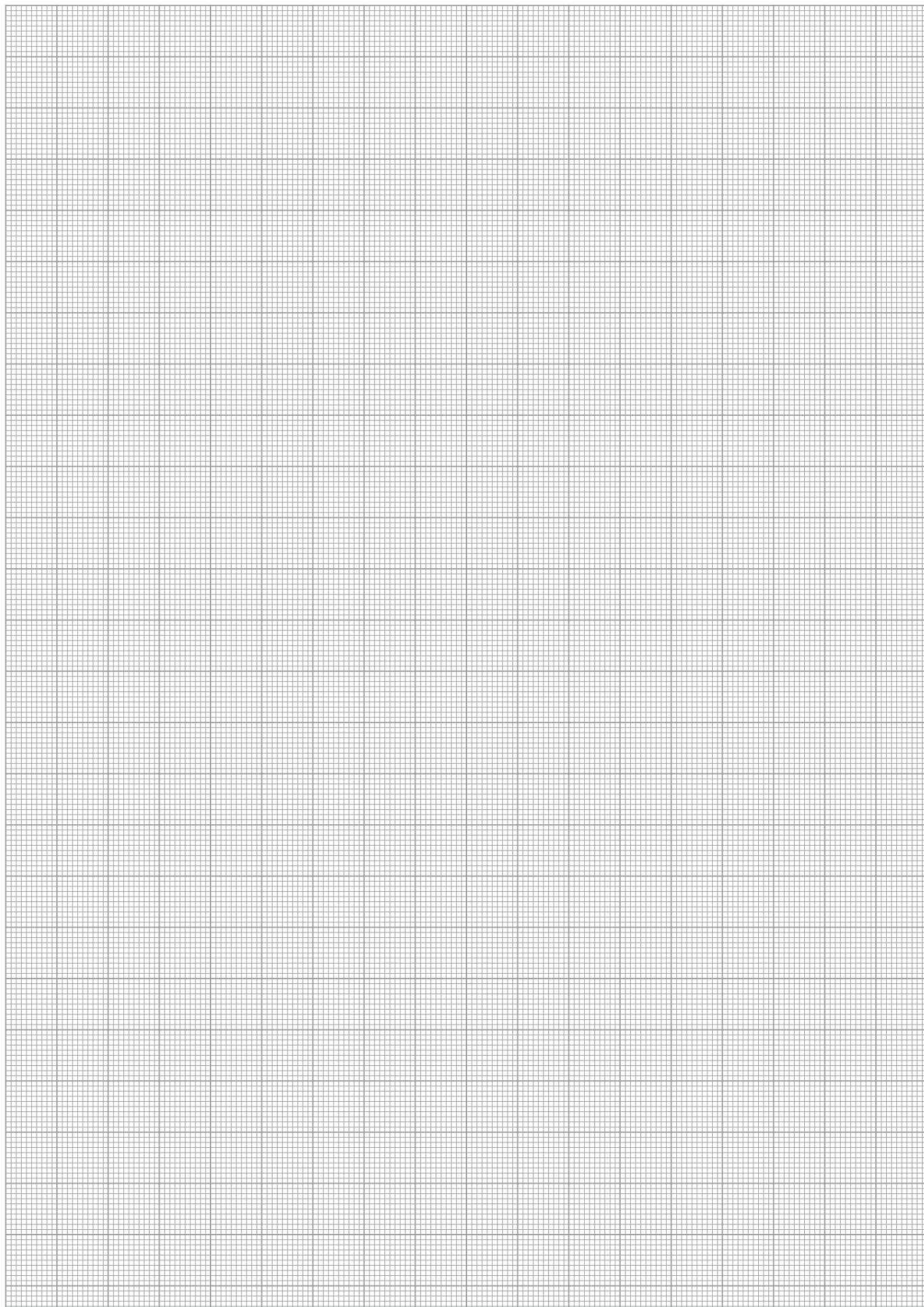
Flexible Position Sensor



Flexible position monitoring of up to five positions

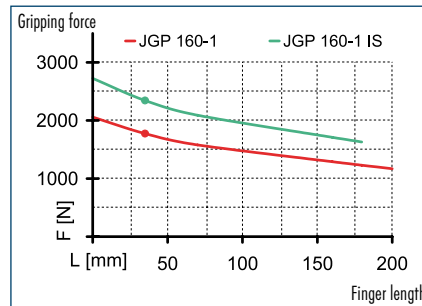
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

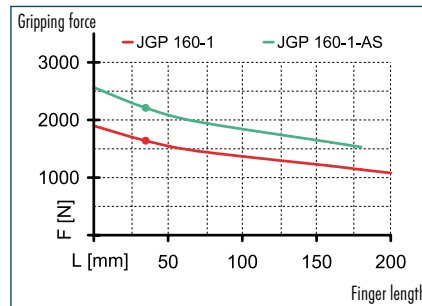




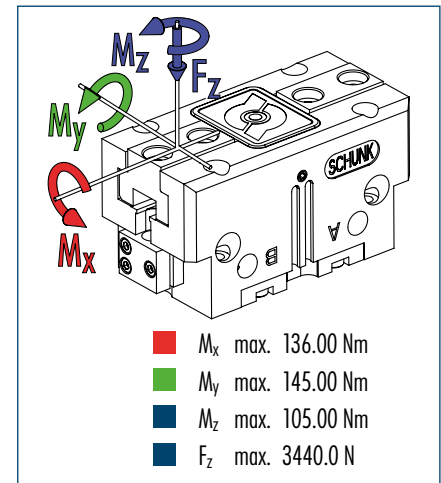
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

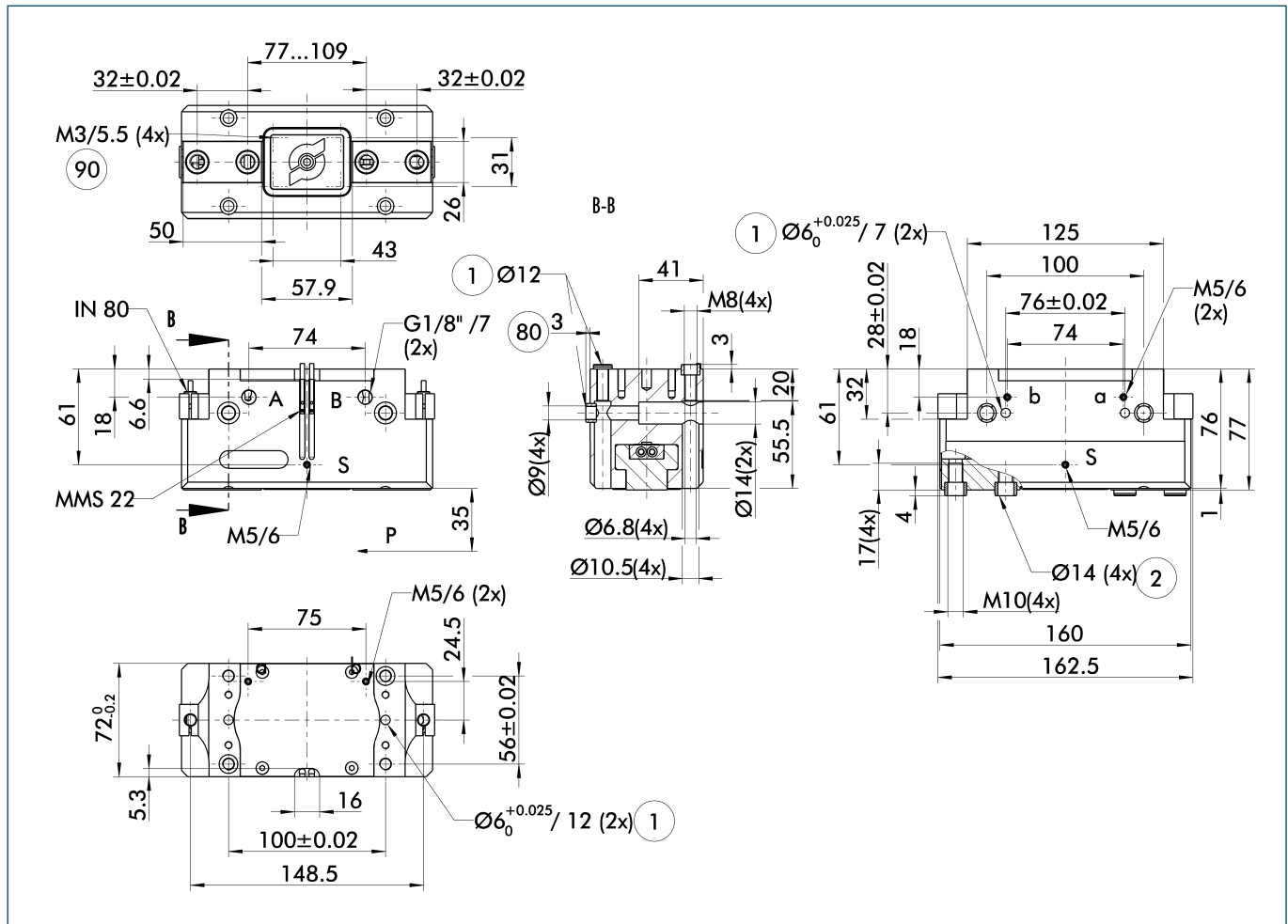


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGP 160-1	JGP 160-1-AS	JGP 160-1-IS
ID		0308660	0308661	0308662
Stroke per finger	[mm]	16	16	16
Closing force	[N]	1640	2210	
Opening force	[N]	1770		2340
Min. spring force	[N]		570	570
Weight	[kg]	2.6	3.3	3.3
Recommended workpiece weight	[kg]	8.2	8.2	8.2
Air consumption per double stroke	[cm ³]	157	157	157
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.15/0.15	0.12/0.25	0.25/0.12
Max. permitted finger length	[mm]	200	180	180
Max. permitted weight per finger	[kg]	3.5	3.5	3.5
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

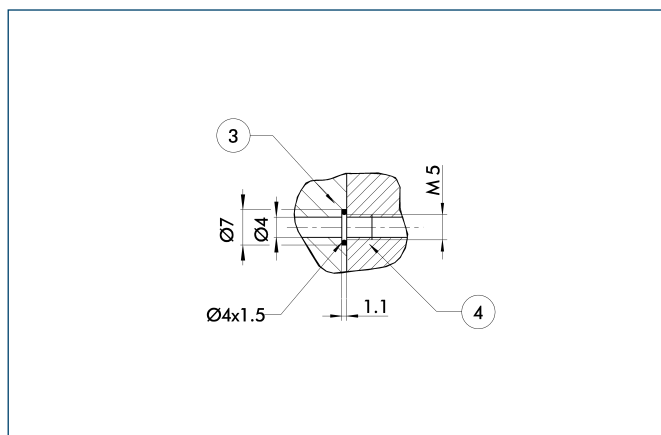
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection

① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part
90 Thread below the cover for fastening external attachments

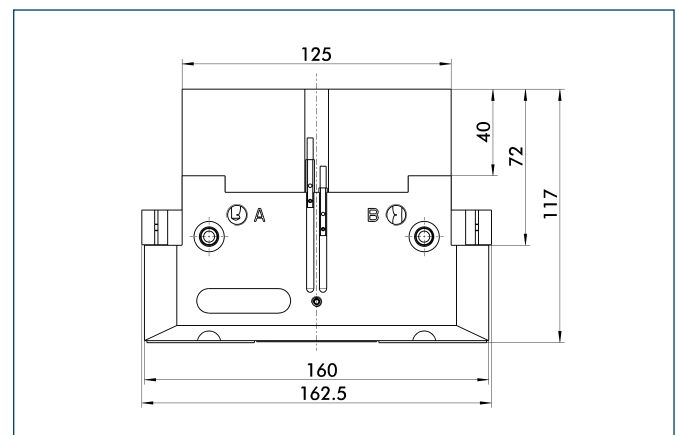
Hose-free direct connection



③ Adapter
④ Gripper

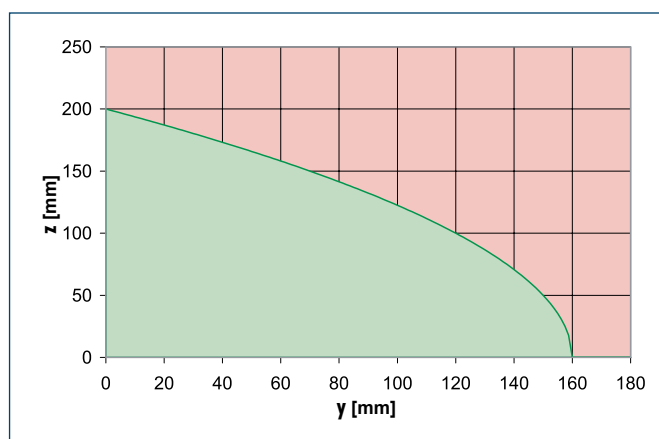
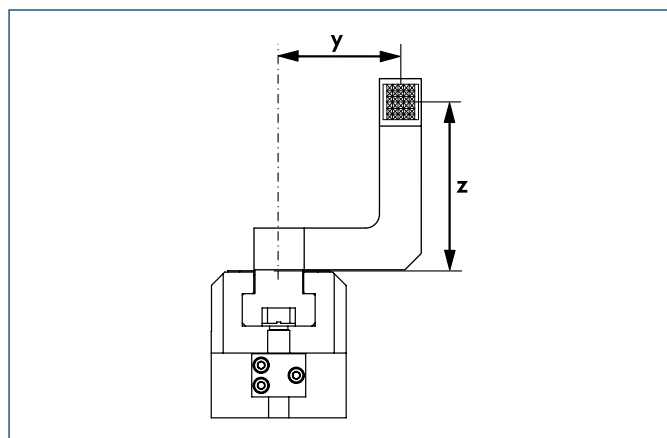
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

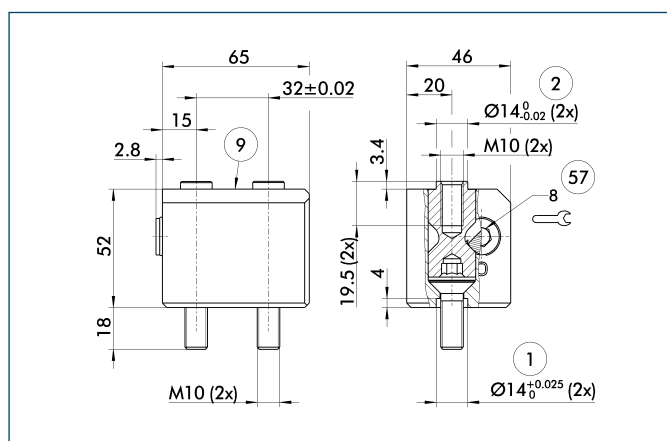
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



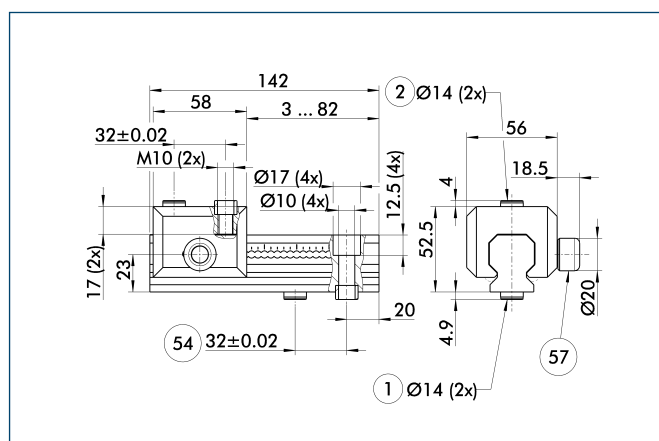
- ① Gripper connection
 - ② Finger connection
 - ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031
Quick-change Jaw System reversed	
BSWS-U 160	0303045

Universal intermediate jaw



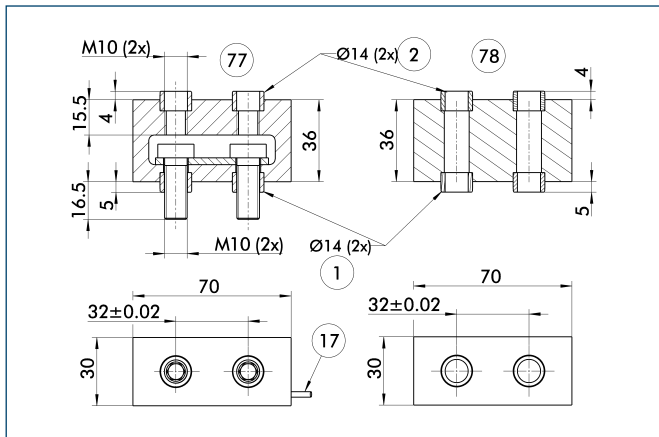
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 160	0300046	4 mm
UZF-S 160	5518274	4 mm

- ❶ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

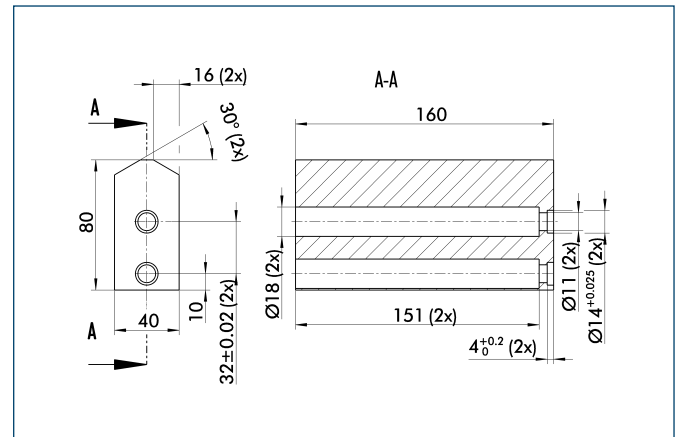


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



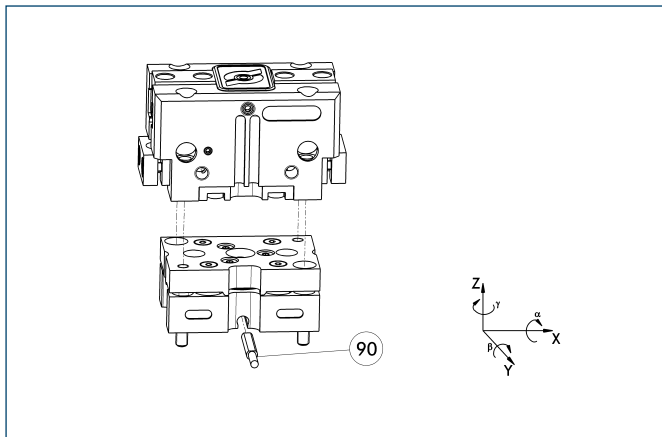
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

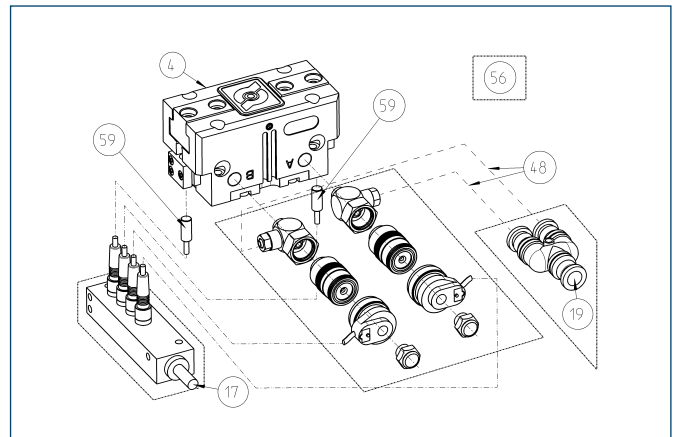


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-P	0324846	Yes	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-160-3-OV-P	0324847	No	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$

Attachment valves

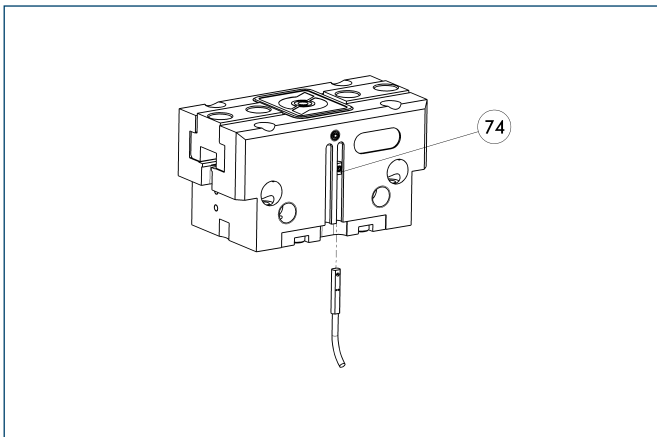


- ④ Gripper
- ①⑦ Cable outlet
- ①⑨ Air connection
- ④⑧ Hose
- ⑤⑥ Included in delivery
- ⑤⑨ Monitoring "gripping"

For each gripper one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

Description	ID
Attachment valves	
ABV-MV30-G1/8	0303328
ABV-MV30-G1/8-V2-M8	0303396
ABV-MV30-G1/8-V4-M8	0303366
ABV-MV30-G1/8-V8-M8	0303367

Programmable magnetic switch



74 Stop for MMS-P

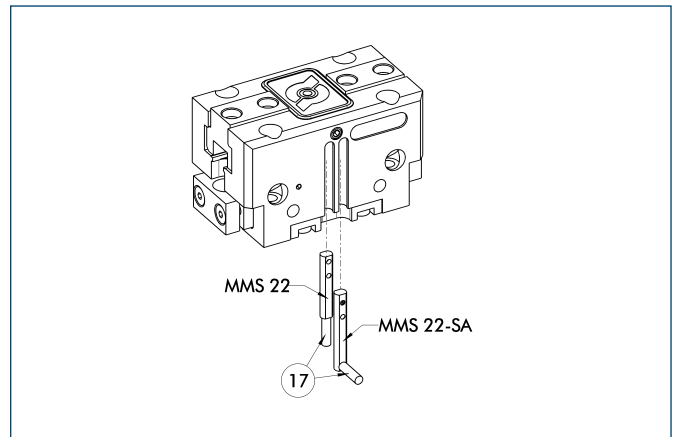
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

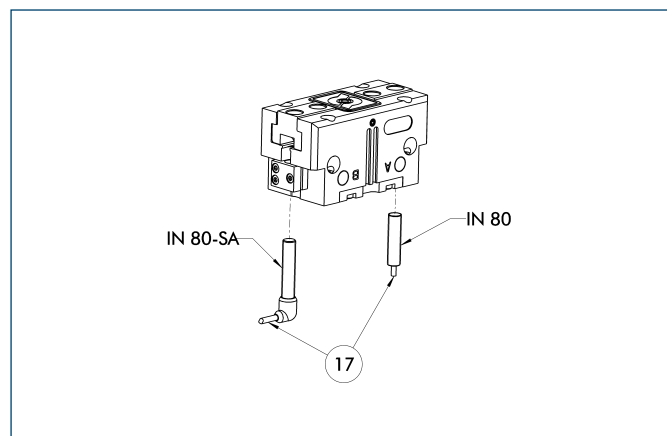
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches



⑰ Cable outlet

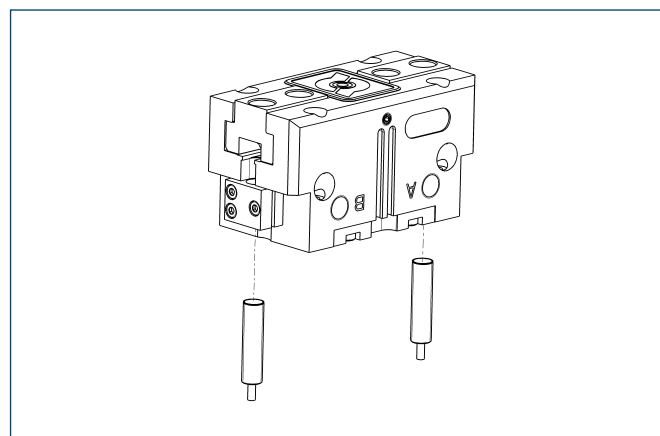
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

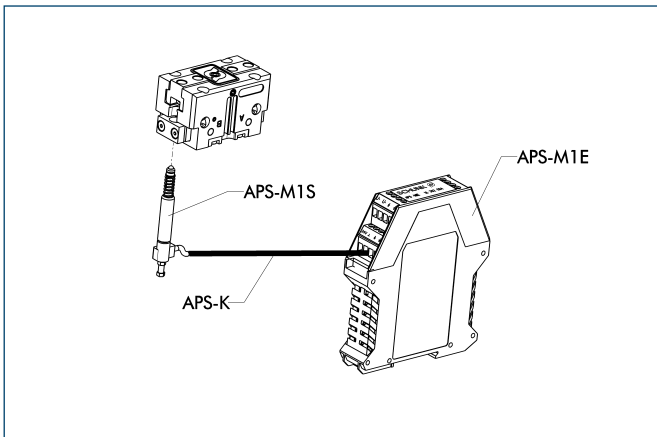
Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

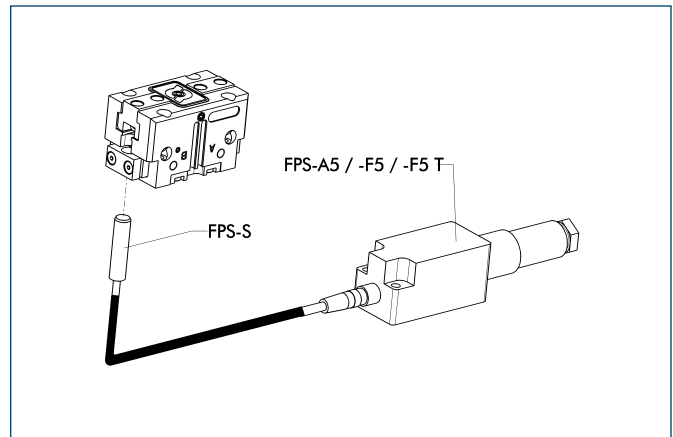


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 160/1	0301638
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



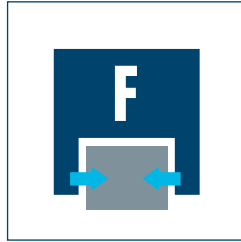
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
50 ... 125



Weight
0.3 kg ... 5.3 kg



Gripping force
240 N ... 1900 N



Stroke per finger
7.5 mm ... 31.5 mm



Workpiece weight
1.2 kg ... 7.1 kg



Application example



Assembly unit for mounting a pin in a bore with tolerances for the position. The compensation unit compensates for the planar offset without turning or tilting the workpiece.

1 2-Finger Parallel Gripper PGF top jaw and workpiece

2 AGE-XY Compensation Unit

Universal Gripper

universal Parallel Gripper with surface-guided base jaw

Field of application

suitable for clean working environments and high part diversity thanks to its long jaw stroke and high gripping forces

Your advantages and benefits

Precise flat guidance

for very good guidance characteristics

Large stroke at compact design

for minimal interfering contours

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

M5 connection on both sides of the guidances

for the use of lubricating nipples



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

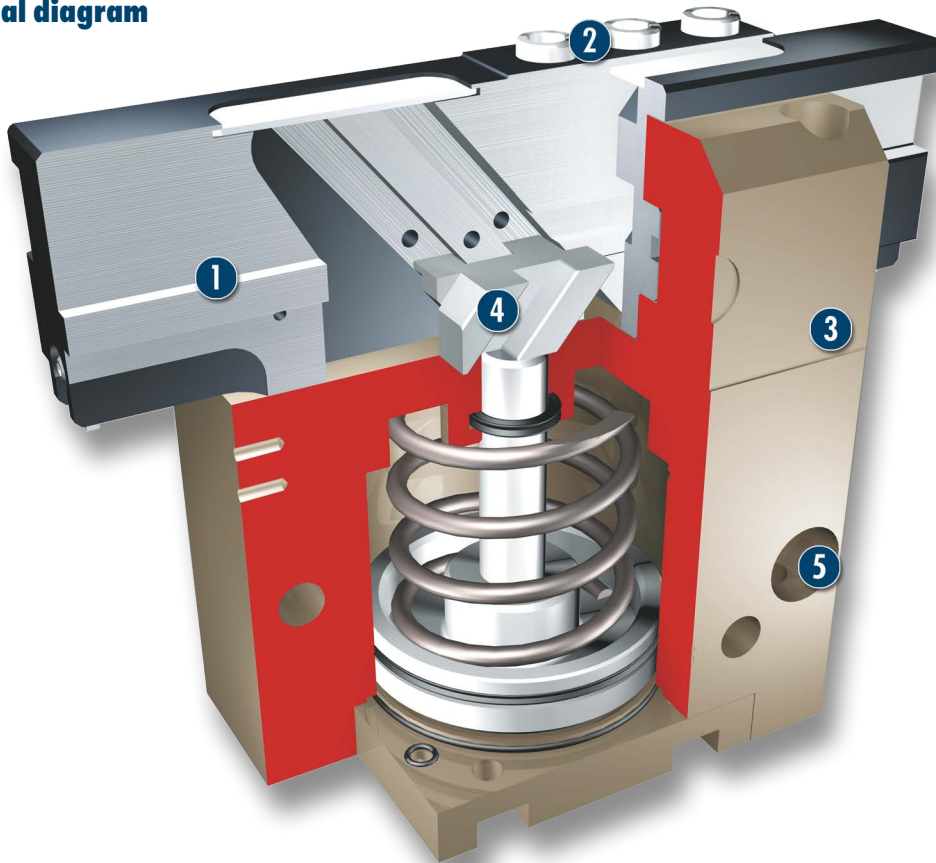
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Guidance**
precise gripping through flat, low-play precision ground guidance along the entire length of the housing
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Wedge-hook design**
for high power transmission and centric gripping
- 5 Centering and mounting possibilities**
for universal assembly of the gripper

Functional description

The round piston is moved up or down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Due to the long guidance, the gripper is highly resistant during gripping operations where the gripper fingers are exposed to high moment loads. Grippers with a higher exchange accuracy are available on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Inductive proximity switches



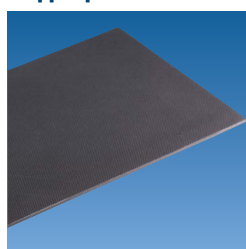
Sensor cables



Plastic inserts



Gripper pads



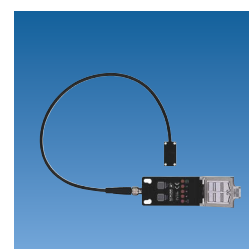
Pressure maintenance valve



Sensor Distributor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

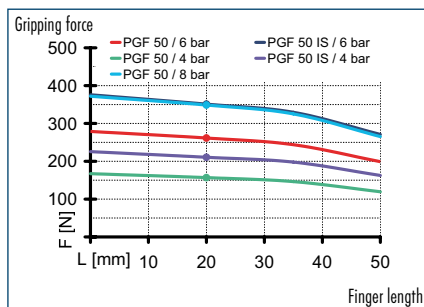
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

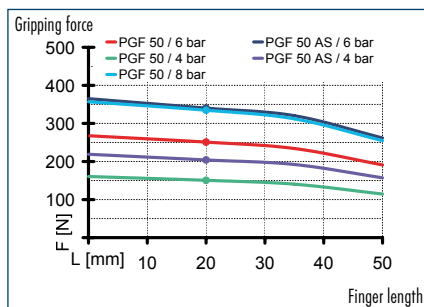
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



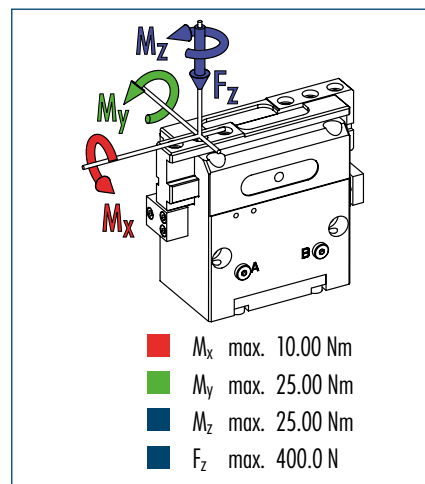
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

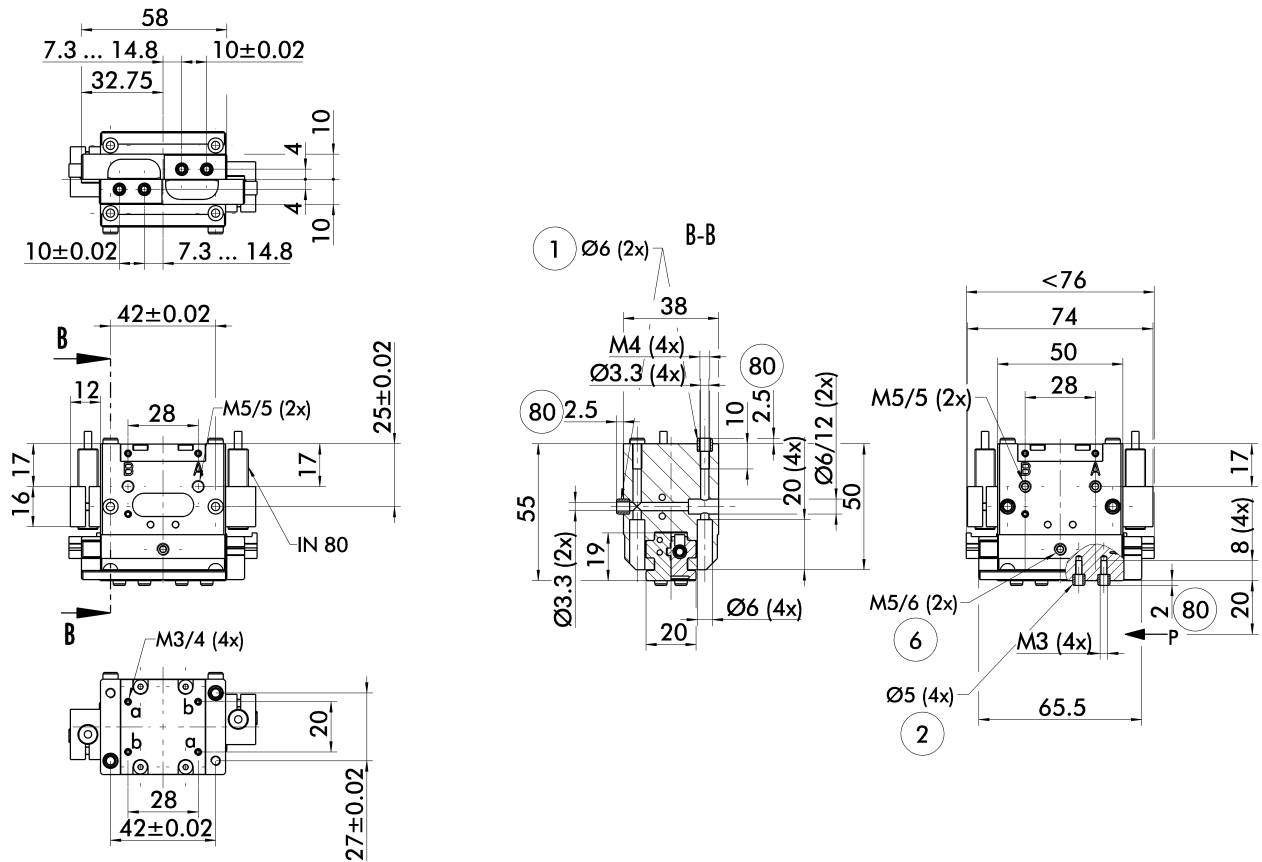


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGF 50	PGF 50-AS	PGF 50-IS
ID		0340360	0340361	0340362
Stroke per finger	[mm]	7.5	7.5	7.5
Closing force	[N]	240	340	
Opening force	[N]	260		360
Min. spring force	[N]		100	100
Weight	[kg]	0.3	0.35	0.35
Recommended workpiece weight	[kg]	1.2	1.2	1.2
Air consumption per double stroke	[cm ³]	14	14	14
Min./max. operating pressure	[bar]	3.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.07	0.07/0.03
Max. permitted finger length	[mm]	50	50	50
Max. permitted weight per finger	[kg]	0.25	0.25	0.25
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view



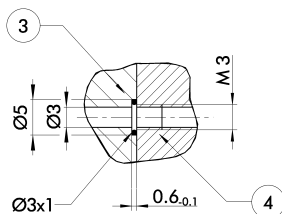
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑥ Lubricating nipple connection
80 Depth of the centering sleeve hole in the matching part

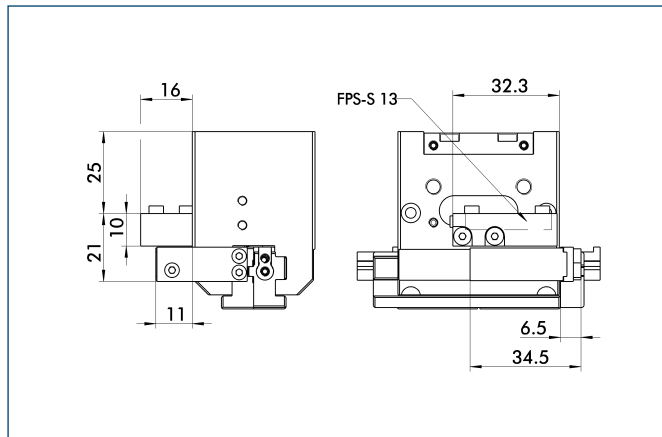
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for FPS

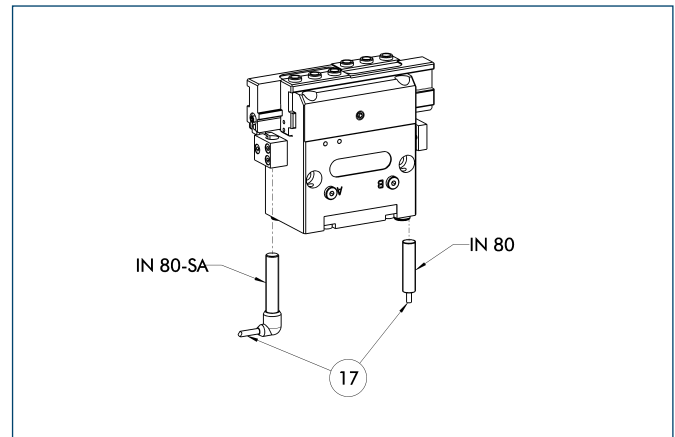


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PGF 50	0302731

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

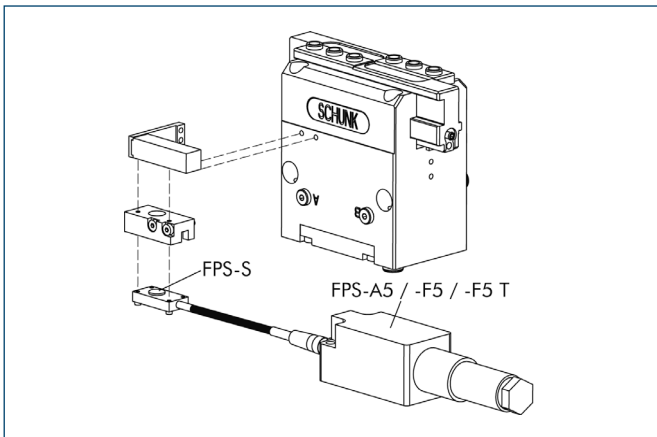
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGF 50	0302731
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

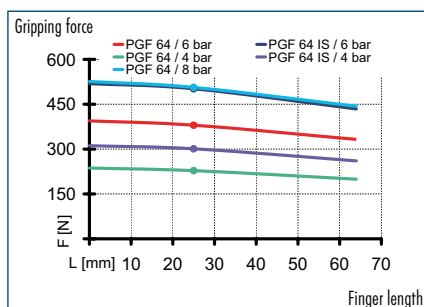
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



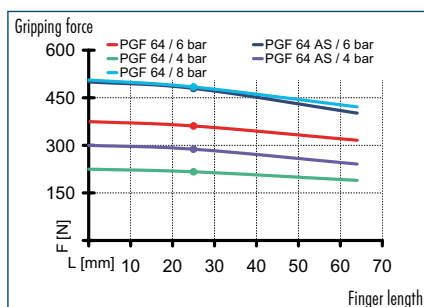
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



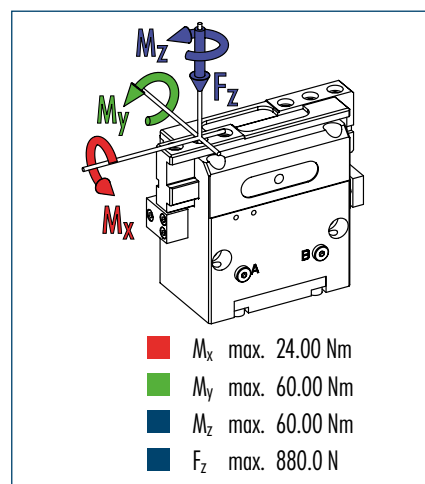
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

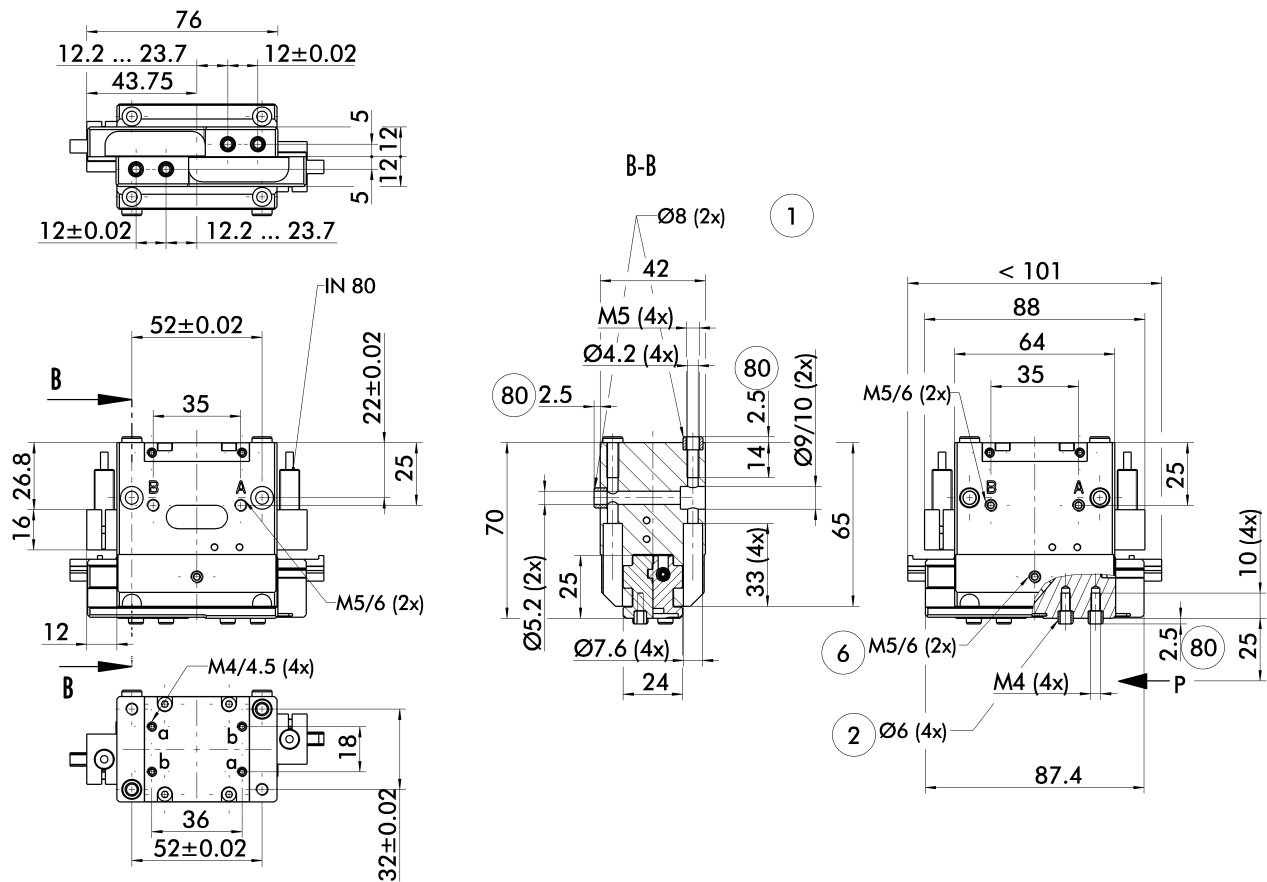


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGF 64	PGF 64-AS	PGF 64-IS
ID		0340365	0340366	0340367
Stroke per finger	[mm]	11.5	11.5	11.5
Closing force	[N]	360	480	
Opening force	[N]	380		500
Min. spring force	[N]		120	120
Weight	[kg]	0.6	0.7	0.7
Recommended workpiece weight	[kg]	1.8	1.8	1.8
Air consumption per double stroke	[cm ³]	30	30	30
Min./max. operating pressure	[bar]	3.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.06/0.06	0.05/0.1	0.1/0.05
Max. permitted finger length	[mm]	64	64	64
Max. permitted weight per finger	[kg]	0.4	0.4	0.4
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view



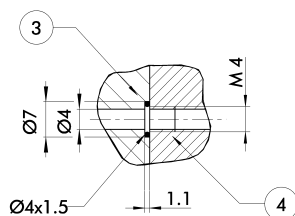
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

- ⑥ Lubricating nipple connection
⑧⑩ Depth of the centering sleeve hole in the matching part

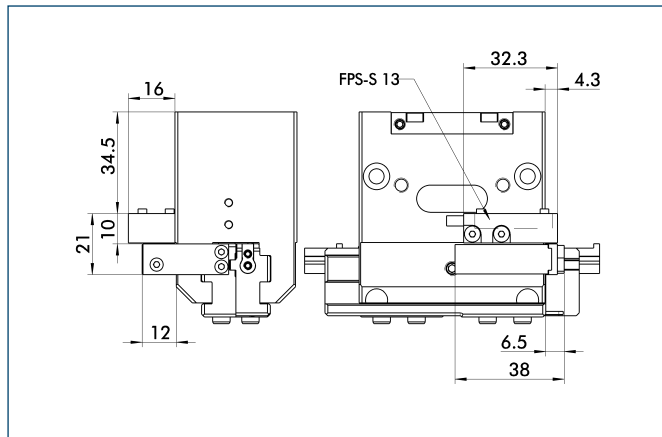
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for FPS

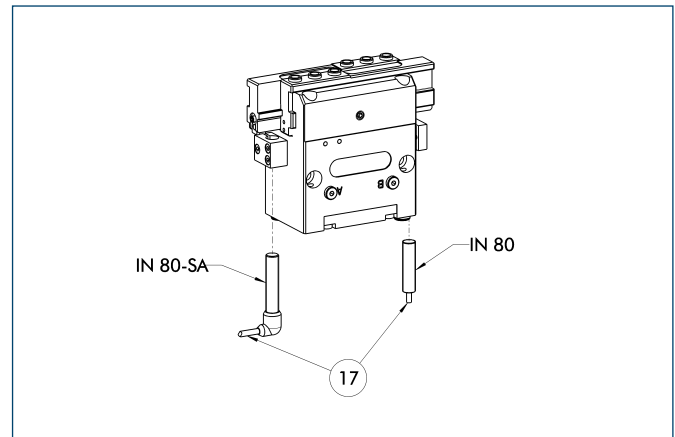


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PGF 64	0302732

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

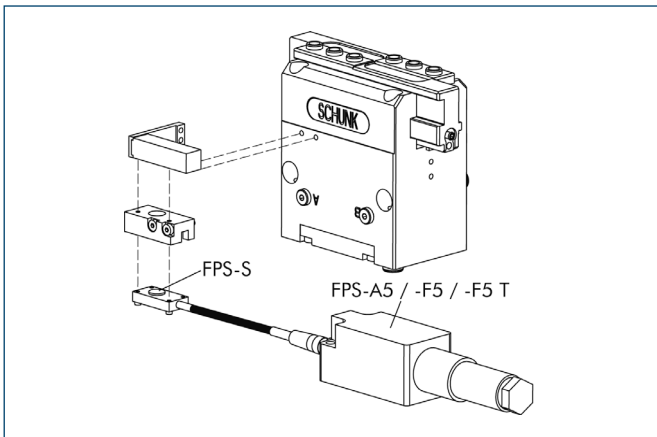
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGF 64	0302732
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

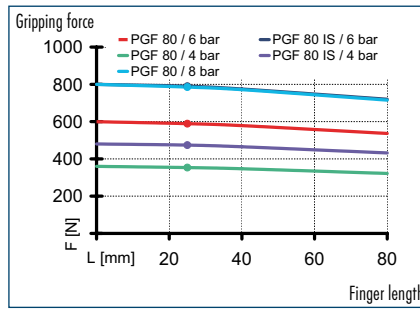
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



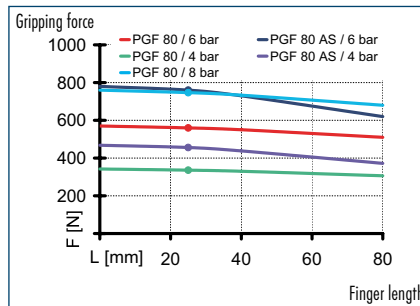
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



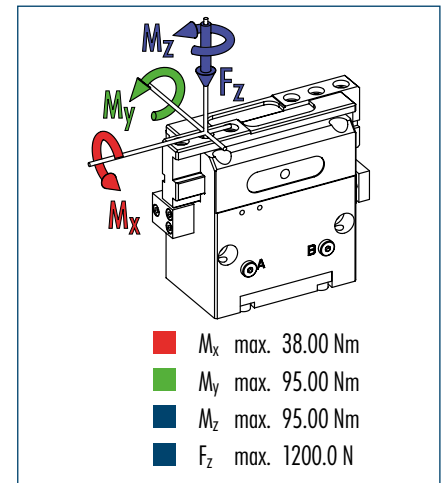
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

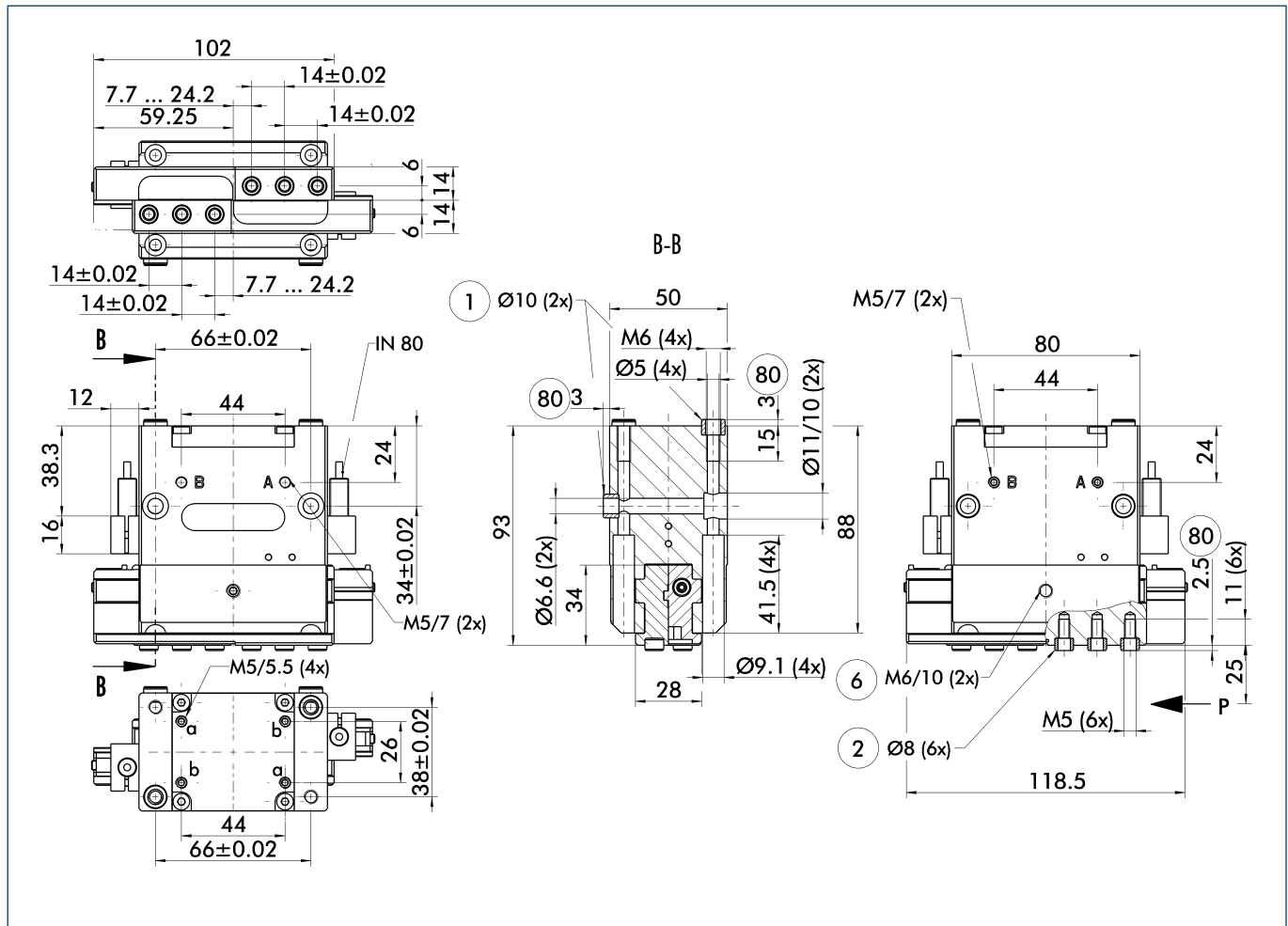


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGF 80	PGF 80-AS	PGF 80-IS
ID		0340370	0340371	0340372
Stroke per finger	[mm]	16.5	16.5	16.5
Closing force	[N]	560	760	
Opening force	[N]	590		790
Min. spring force	[N]		200	200
Weight	[kg]	1.15	1.25	1.25
Recommended workpiece weight	[kg]	2.8	2.8	2.8
Air consumption per double stroke	[cm ³]	77	77	77
Min./max. operating pressure	[bar]	3.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.1/0.1	0.08/0.14	0.14/0.08
Max. permitted finger length	[mm]	80	80	80
Max. permitted weight per finger	[kg]	0.75	0.75	0.75
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view



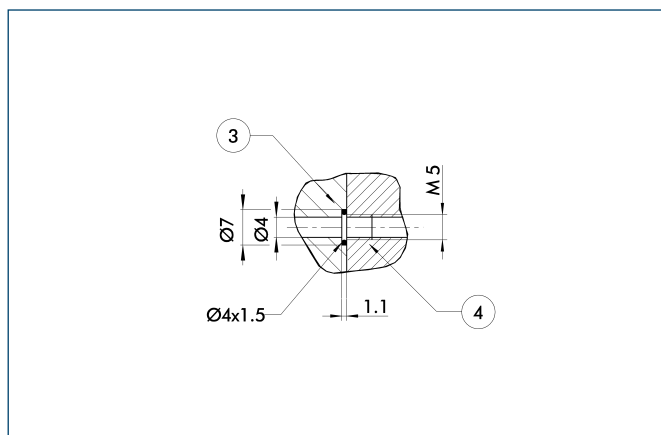
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑥ Lubricating nipple connection
⑧ Depth of the centering sleeve hole in the matching part

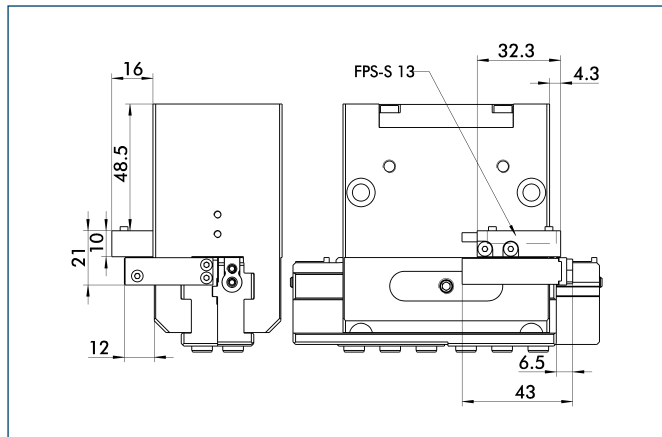
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for FPS

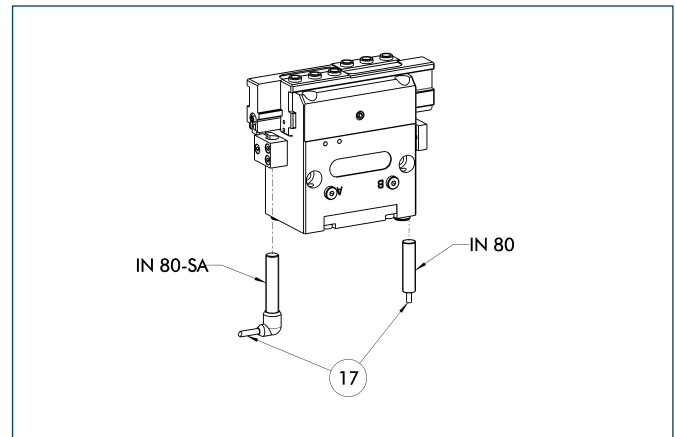


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PGF 80	0302733

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

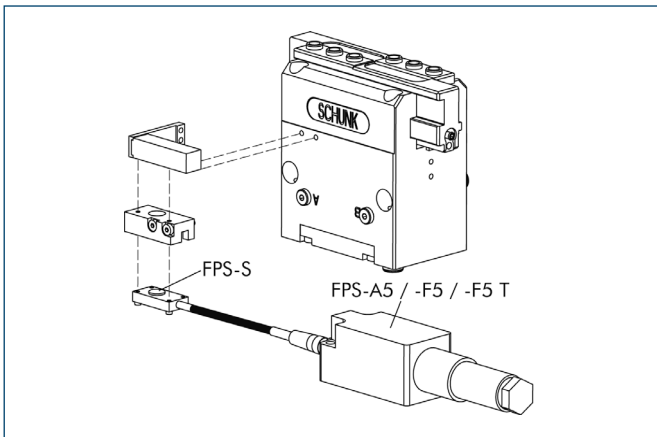
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGF 80	0302733
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

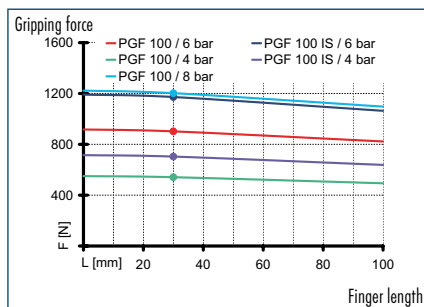
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



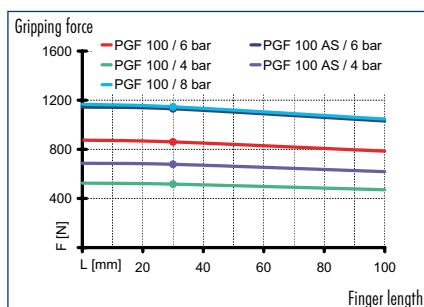
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



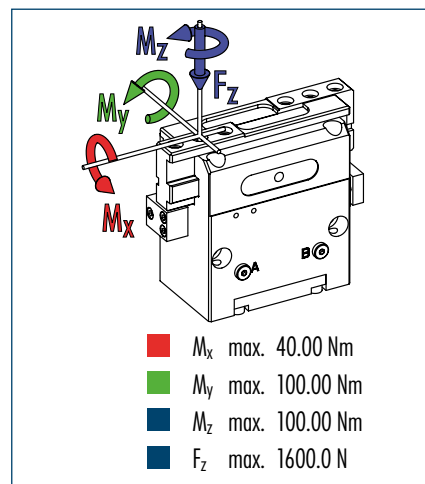
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



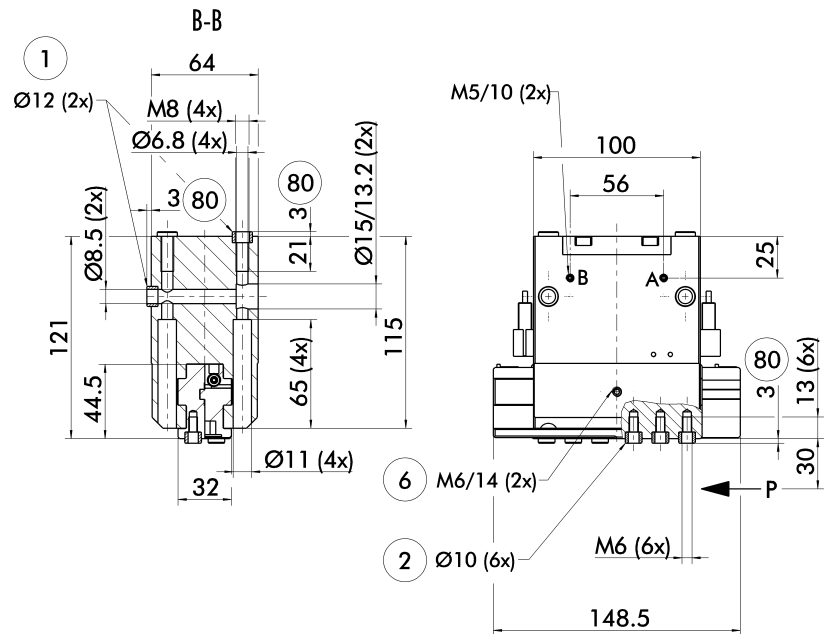
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGF 100	PGF 100-AS	PGF 100-IS
ID		0340380	0340381	0340382
Stroke per finger	[mm]	23.5	23.5	23.5
Closing force	[N]	880	1150	
Opening force	[N]	900		1170
Min. spring force	[N]		270	270
Weight	[kg]	2.35	2.85	2.85
Recommended workpiece weight	[kg]	4.4	4.4	4.4
Air consumption per double stroke	[cm ³]	154	154	154
Min./max. operating pressure	[bar]	3.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.15/0.15	0.16/0.25	0.25/0.16
Max. permitted finger length	[mm]	100	100	100
Max. permitted weight per finger	[kg]	1.4	1.4	1.4
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.03	0.03	0.03

Technical drawing of the 3D printed part showing three views: front, side, and top. The dimensions are as follows:

- Front View:**
 - Overall width: 125
 - Overall height: 36 ± 0.02
 - Top flange width: 10 ... 33.5
 - Top flange height: 16 ± 0.02
 - Central slot width: 74.25
 - Central slot height: 16 ± 0.02
 - Mounting hole diameter: 16 ± 0.02
 - Mounting hole spacing: 10 ... 33.5
- Side View:**
 - Overall width: 82 ± 0.02
 - Overall height: 55.75
 - Top flange width: 56
 - Top flange height: 12
 - Central slot width: 56
 - Central slot height: 25
 - Mounting hole diameter: 16
 - Mounting hole spacing: 10 ... 33.5
- Top View:**
 - Overall width: 82 ± 0.02
 - Overall height: 45 ± 0.02
 - Top flange width: 56
 - Top flange height: 28
 - Central slot width: 56
 - Central slot height: 25
 - Mounting hole diameter: 16
 - Mounting hole spacing: 10 ... 33.5

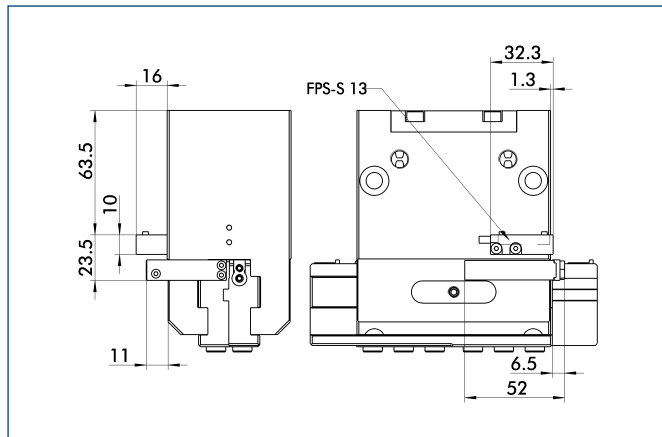


⑥ Lubricating nipple connection
⑧⑩ Depth of the centering sleeve hole in the matching part

Technical drawing of a mechanical part. The part is a cross-section of a cylindrical component. The outer diameter is labeled $\varnothing 7$. The inner diameter is labeled $\varnothing 4$. The length of the part is labeled $M 5$. The part is divided into two sections by a vertical line. The left section is labeled 3 and the right section is labeled 4. The part is shaded with diagonal lines. The dimensions are given in millimeters (mm).

- 363

Mounting kit for FPS

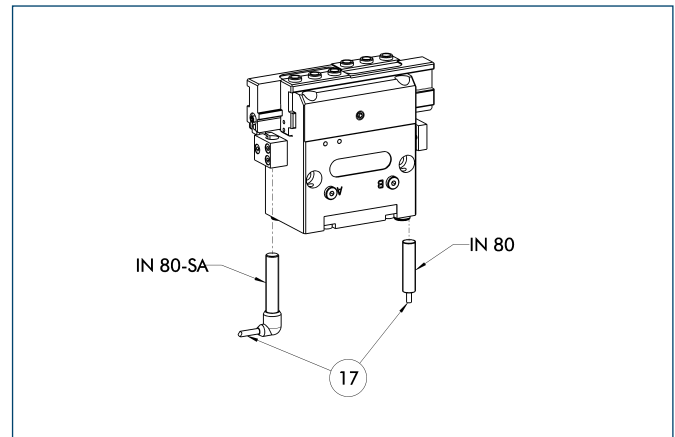


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PGF 100	0302734

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

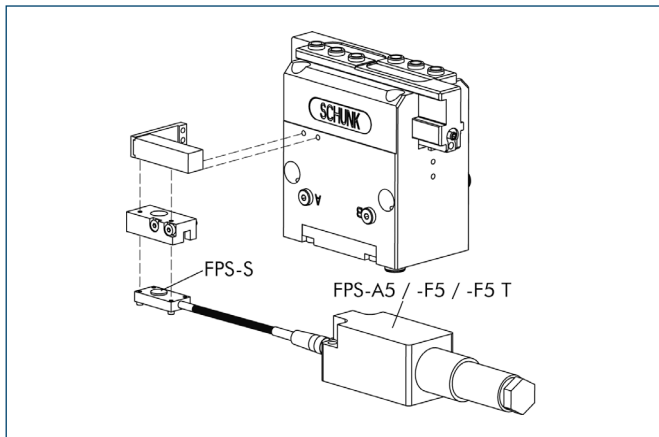
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGF 100	0302734
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

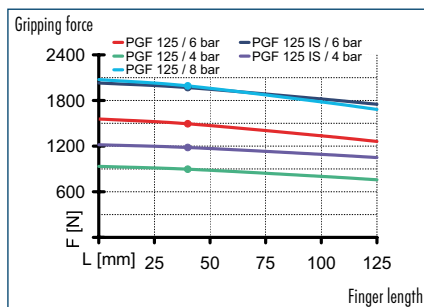
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



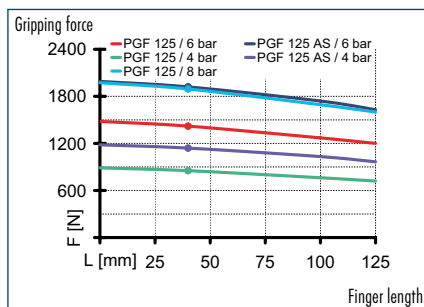
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



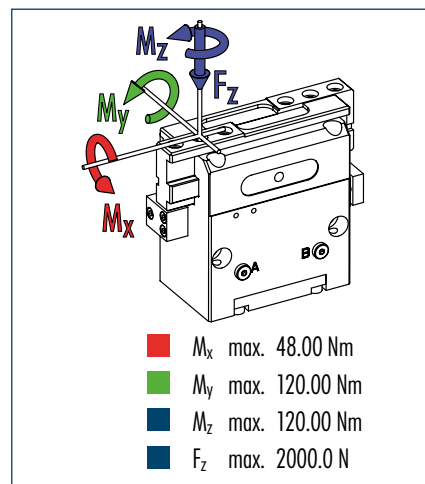
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

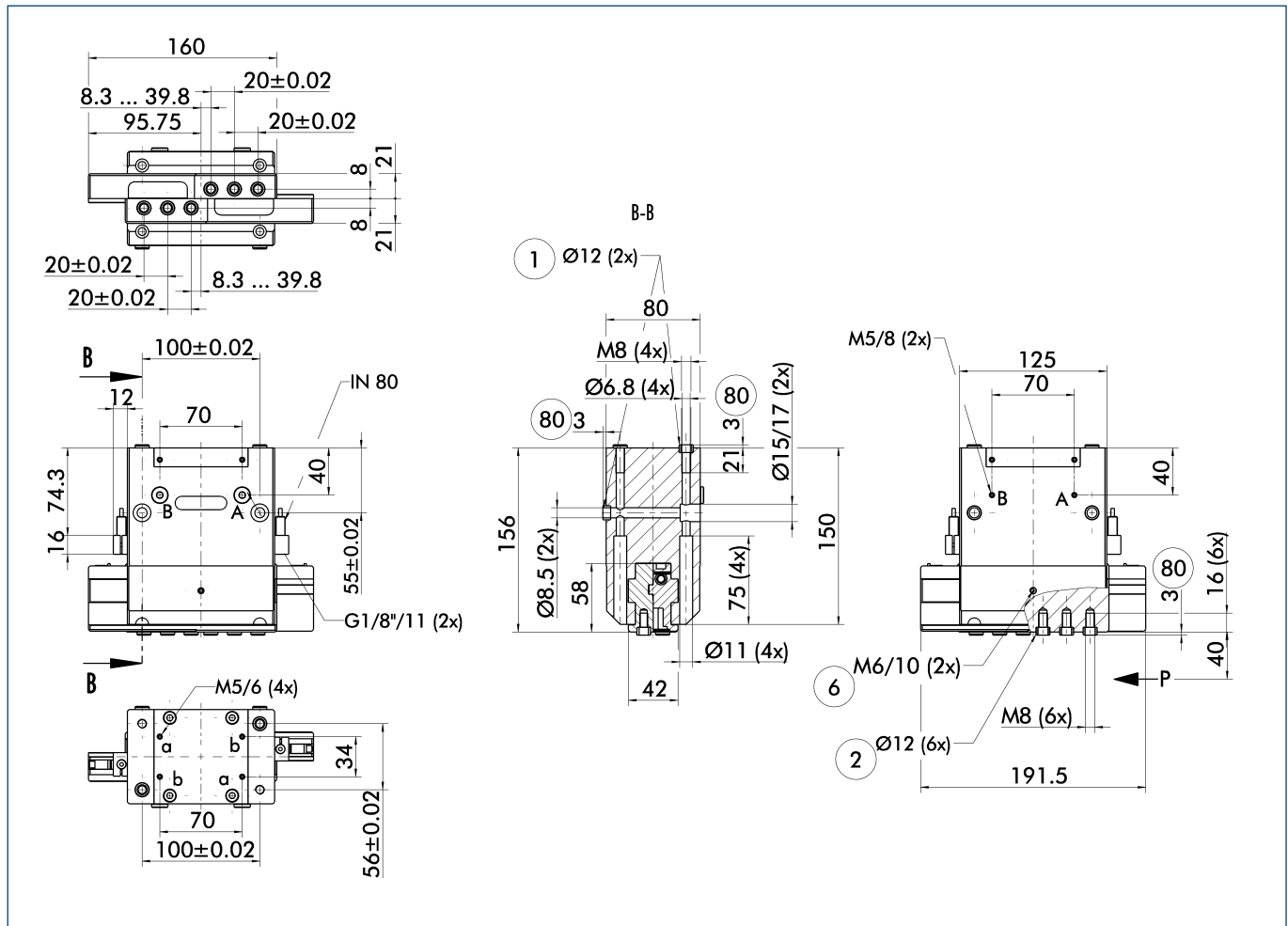


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGF 125	PGF 125-AS	PGF 125-IS
ID		0340390	0340391	0340392
Stroke per finger	[mm]	31.5	31.5	31.5
Closing force	[N]	1420	1900	
Opening force	[N]	1490		1970
Min. spring force	[N]		480	480
Weight	[kg]	5	5.3	5.3
Recommended workpiece weight	[kg]	7.1	7.1	7.1
Air consumption per double stroke	[cm ³]	300	300	300
Min./max. operating pressure	[bar]	3.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.25/0.25	0.22/0.4	0.4/0.22
Max. permitted finger length	[mm]	125	125	125
Max. permitted weight per finger	[kg]	2.4	2.4	2.4
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.03	0.03	0.03

Main view



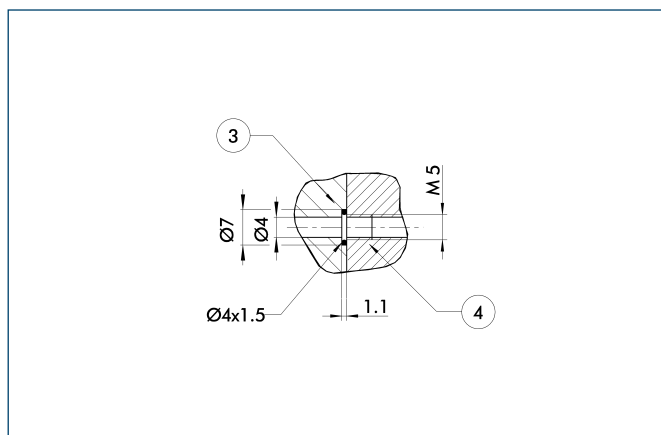
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑥ Lubricating nipple connection
⑧ Depth of the centering sleeve hole in the matching part

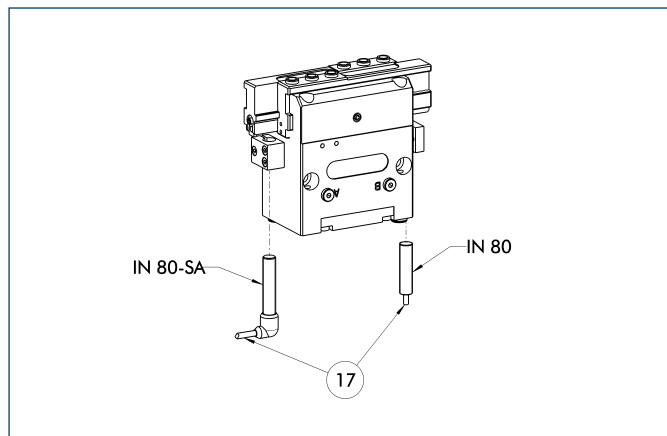
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Inductive proximity switches



⑰ Cable outlet

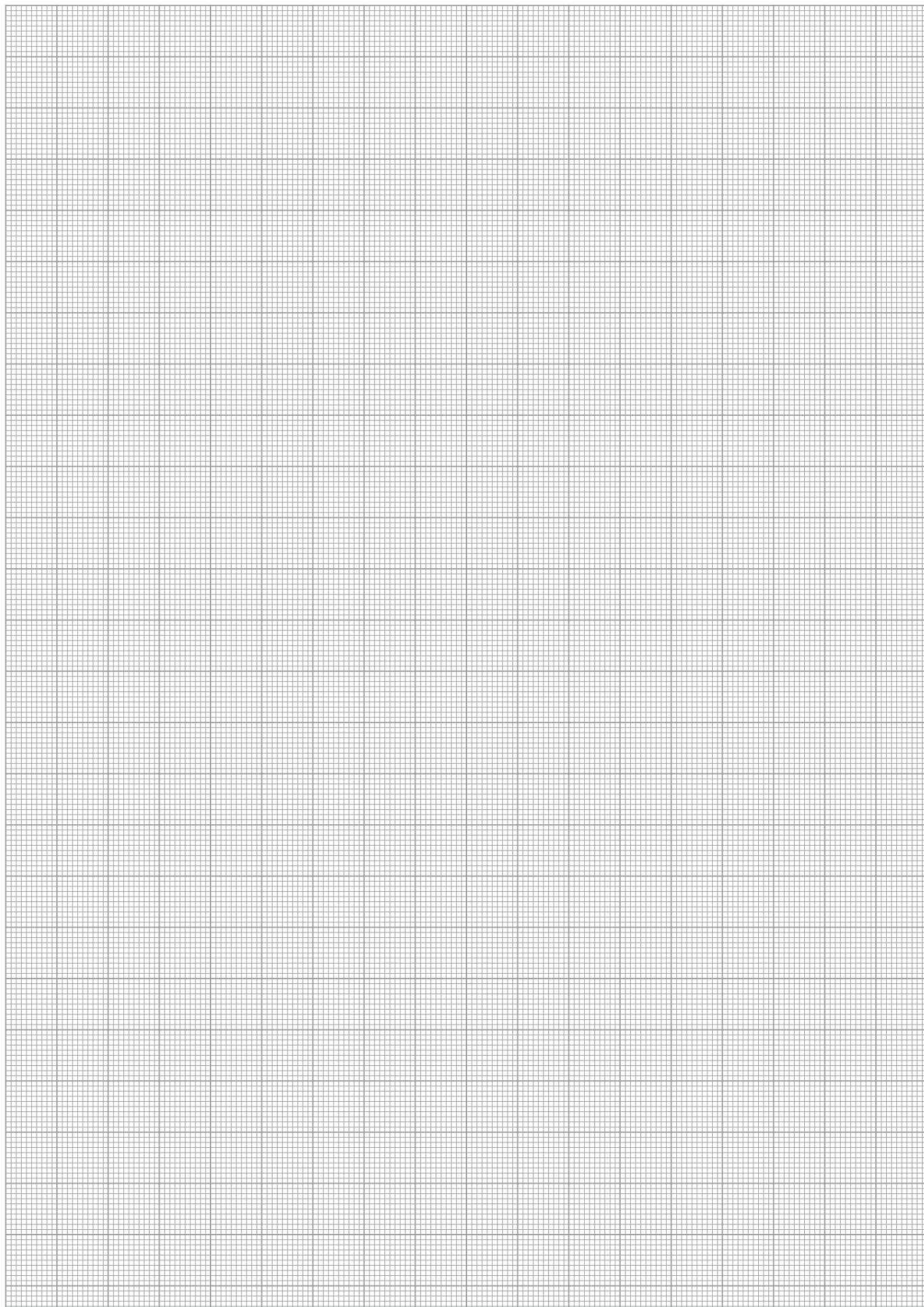
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

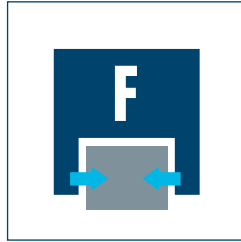




Sizes
29 ... 140



Weight
0.025 kg ... 2.55 kg



Gripping force
30 N ... 1180 N



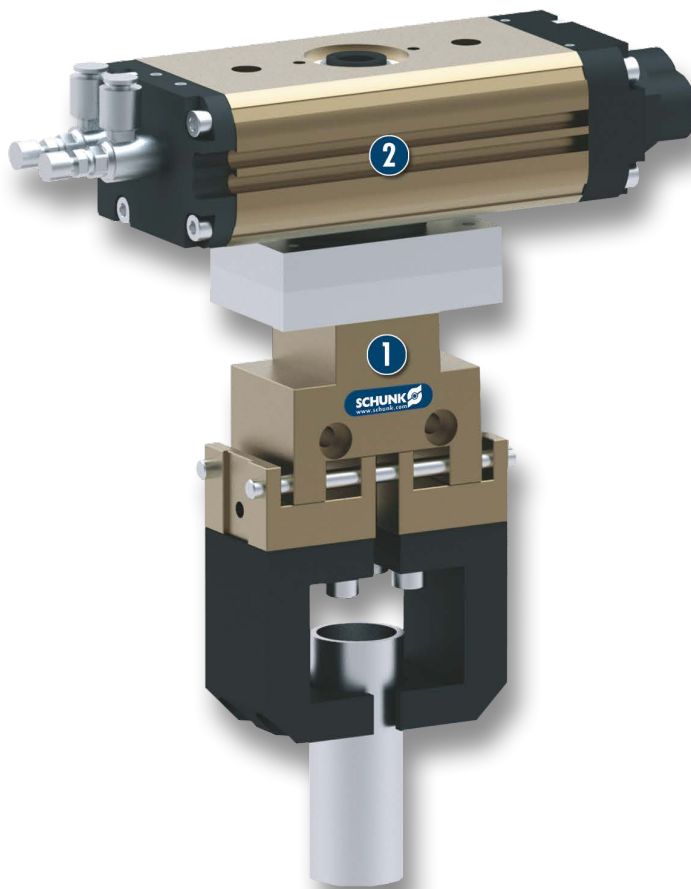
Stroke per finger
2 mm ... 15 mm



Workpiece weight
0.15 kg ... 5.9 kg



Application example



Reversing unit for the economical reorientation
of cylindrical bar material

- 1 2-Finger Parallel Gripper PGM
- 2 SRU-mini Miniature Rotary Unit

Universal Gripper

universal, economical 2-Finger Parallel Gripper

Field of application

for universal use in clean environments

Your advantages and benefits

Economical gripper series

for material handling

Rod guidance of the base jaws

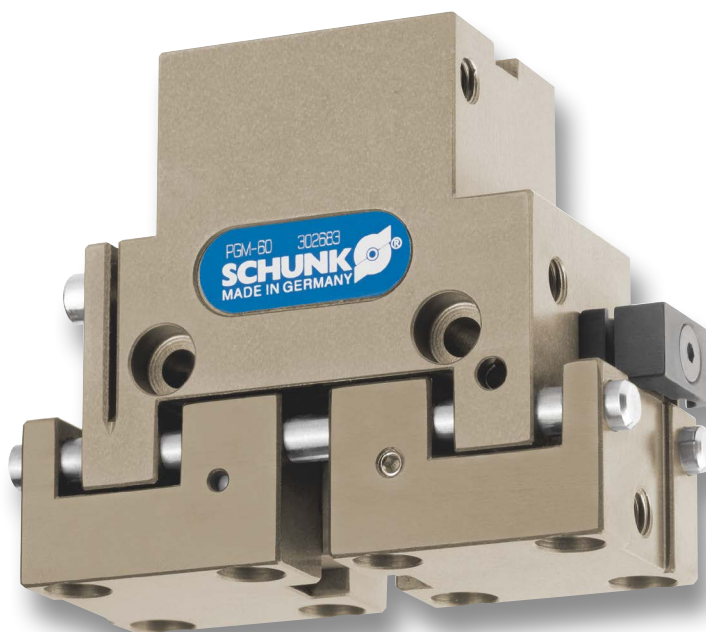
for excellent guidance characteristics

Cylinder rod guidance

for versatility and a long tool life

Compact design

for minimal interfering contours in the application



General note to the series

Principle of function

Interior wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

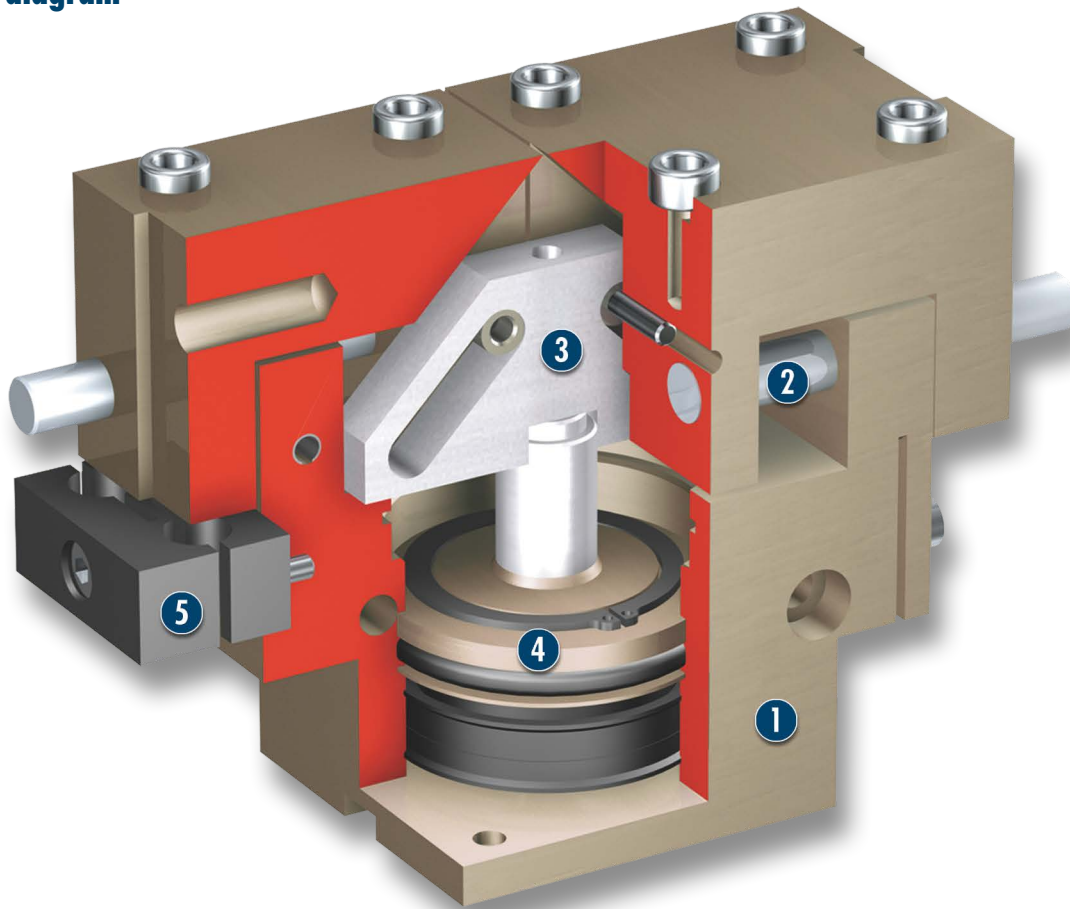
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Rod guidance**
simple yet resilient
- 3 Kinematics**
internal, power transmission via line contact
- 4 Drive**
using tried and tested pneumatic piston drive
- 5 Sensor system**
Brackets for inductive proximity switches

Functional description

The piston is moved up and down by compressed air. The wedge hook with the cross bar of the base jaws, transform the piston motion into synchronized opening and closing.

Options and special information

The PGM series is a product line with an important cost-benefit ratio.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



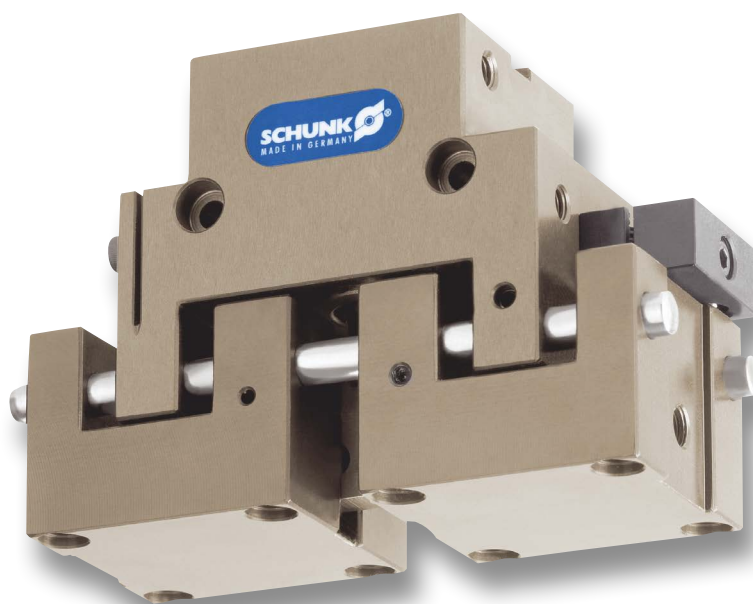
Magnetic Switches



Inductive proximity switches



Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

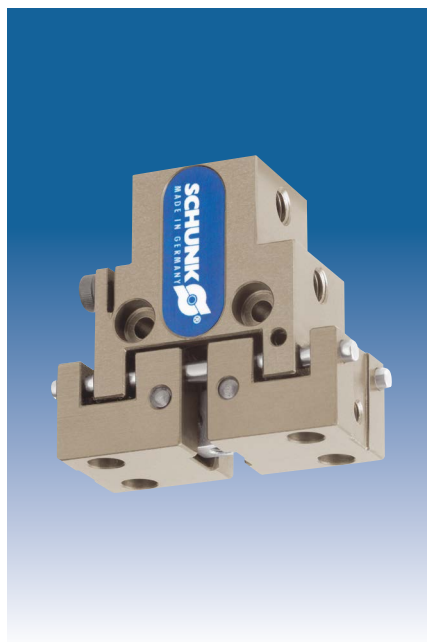
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

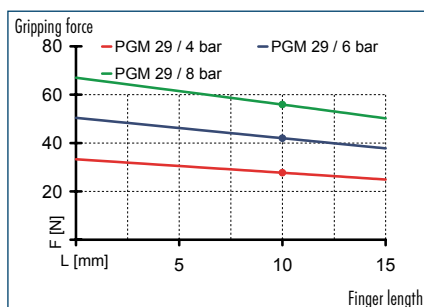
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

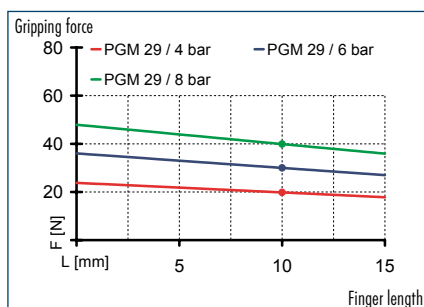
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



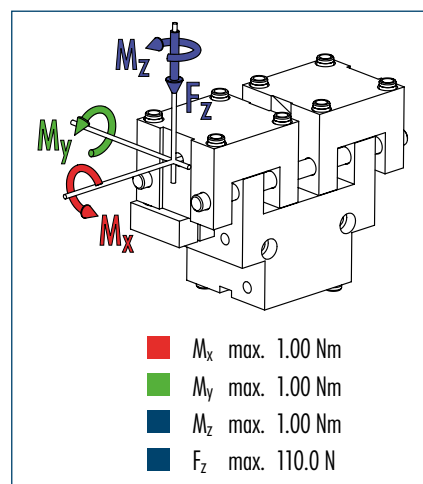
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

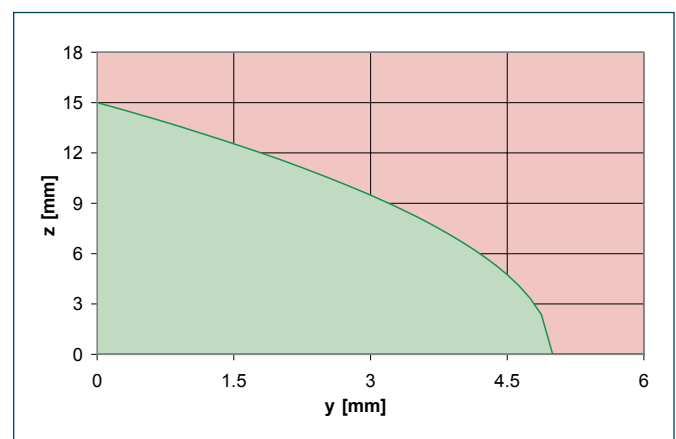
Technical data

Description		PGM 29
ID		0302680
Stroke per finger	[mm]	2
Closing force	[N]	30
Opening force	[N]	40
Weight	[kg]	0.025
Recommended workpiece weight	[kg]	0.15
Air consumption per double stroke	[cm ³]	0.16
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.03/0.03
Max. permitted finger length	[mm]	15
Max. permitted weight per finger	[kg]	0.01
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

Technical drawing of a 4x4 plate with dimensions and callouts:

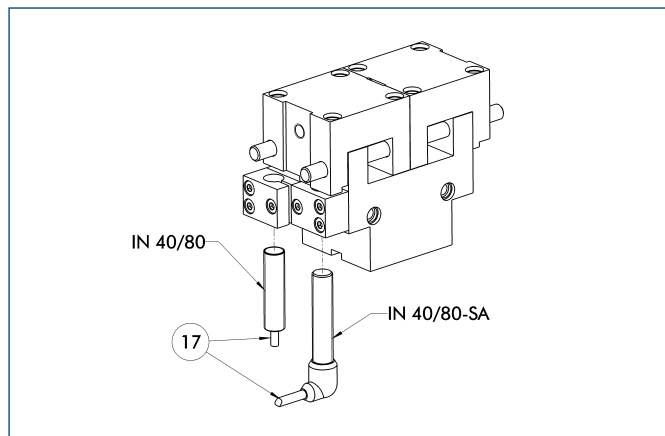
- Top View:**
 - Overall width: 24 ... 28
 - Overall height: 17
 - Distance between vertical centerlines: 14.5
 - Distance between horizontal centerlines: 10 ± 0.02
 - Distance from top edge to first horizontal centerline: 6.5 (4x)
 - Distance from top edge to second horizontal centerline: 2.5 (4x)
- Front View:**
 - Overall height: 29
 - Overall width: 29 ... 33
 - Distance between vertical centerlines: 23.5
 - Distance between horizontal centerlines: 11
 - Distance from top edge to first horizontal centerline: 16.1
 - Distance from top edge to second horizontal centerline: 11
 - Distance from top edge to third horizontal centerline: 8.5
 - Distance from bottom edge to first horizontal centerline: 10
 - Distance from bottom edge to second horizontal centerline: P
 - Distance from bottom edge to third horizontal centerline: 10 ± 0.02
 - Callouts: A, B, M3 (2x)
- Bottom View:**
 - Overall width: 11
 - Overall height: 11
 - Distance between vertical centerlines: 11
 - Distance between horizontal centerlines: 11
 - Distance from top edge to first horizontal centerline: 10 ± 0.02
 - Distance from top edge to second horizontal centerline: 10 ± 0.02
- Side View (Left):**
 - Overall width: 17.5
 - Overall height: 11
 - Distance between vertical centerlines: 11
 - Distance between horizontal centerlines: 4.5
 - Distance from top edge to first horizontal centerline: 80
 - Distance from top edge to second horizontal centerline: 2
 - Distance from top edge to third horizontal centerline: 5
 - Distance from bottom edge to first horizontal centerline: 15.1
 - Distance from bottom edge to second horizontal centerline: 6 H8
 - Distance from bottom edge to third horizontal centerline: 5.5
 - Distance from bottom edge to fourth horizontal centerline: 10
 - Callouts: M2.5 (4x), M3 (4x), Ø4 (2x), IN 40
- Side View (Right):**
 - Overall width: 29
 - Overall height: 17.5
 - Distance between vertical centerlines: 17.5
 - Distance between horizontal centerlines: 2 (2x)
 - Distance from top edge to first horizontal centerline: 80
 - Distance from top edge to second horizontal centerline: 2
 - Distance from top edge to third horizontal centerline: 4
 - Distance from bottom edge to first horizontal centerline: 0.5
 - Distance from bottom edge to second horizontal centerline: 3.5
 - Callouts: M3 (2x), M3 (4x), Ø4 (4x)

⑧⑩ Depth of the centering sleeve hole in the matching part



375

Inductive proximity switches



17 Cable outlet

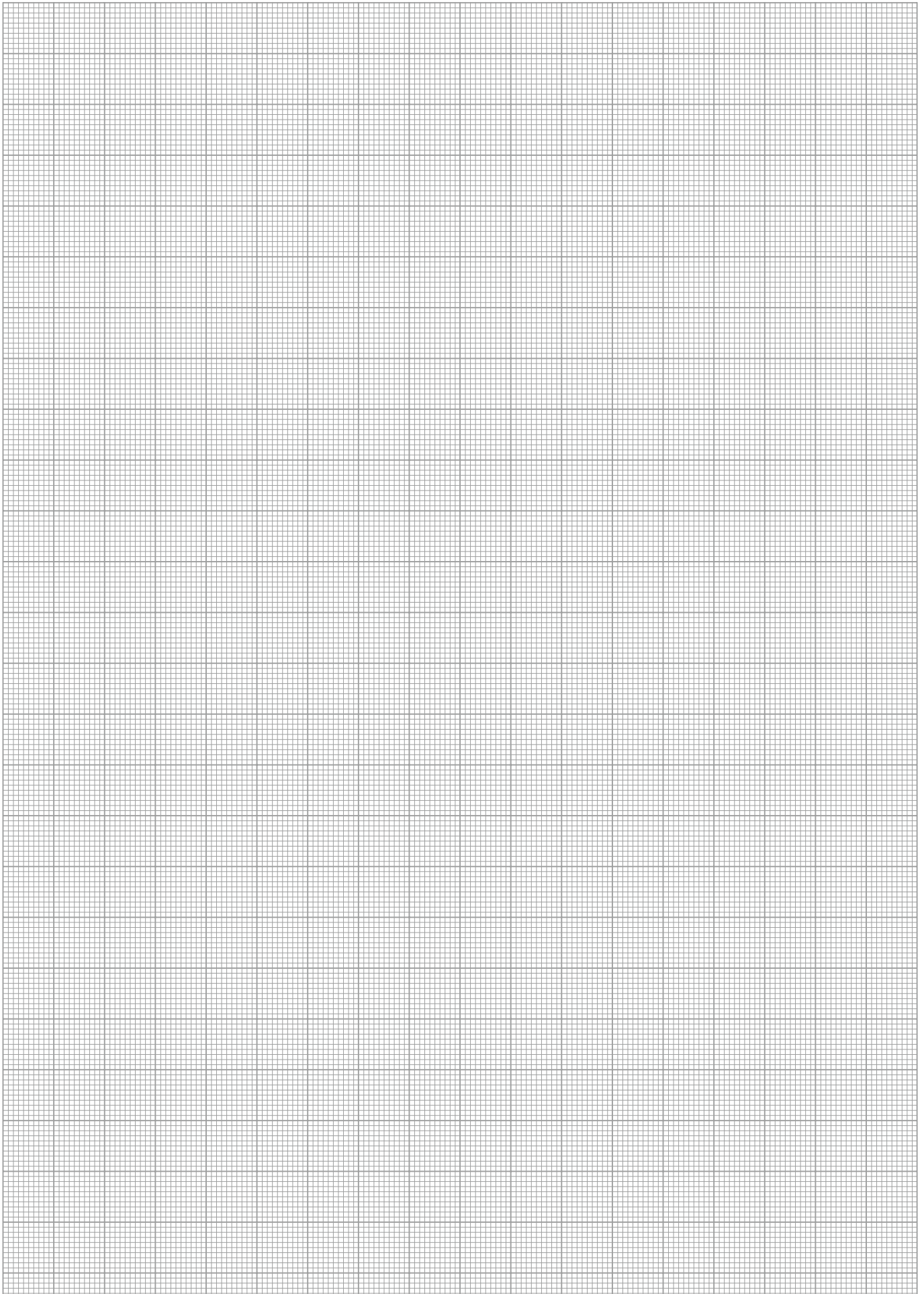
End position monitoring for direct mounting

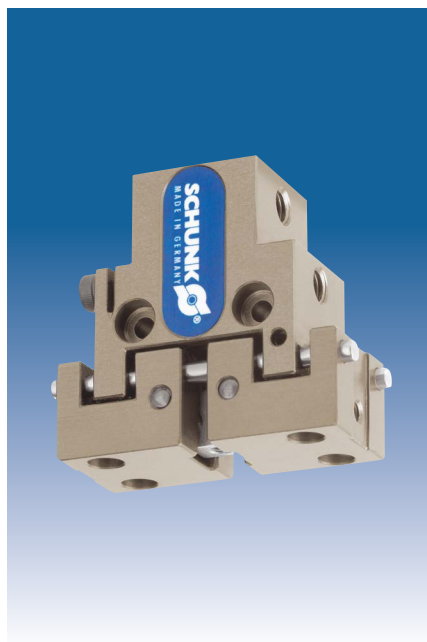
Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

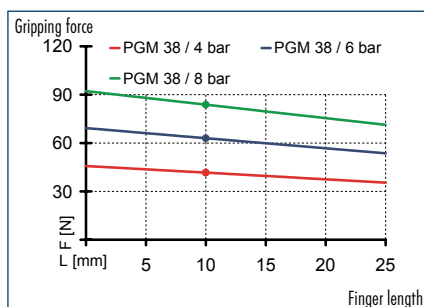
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

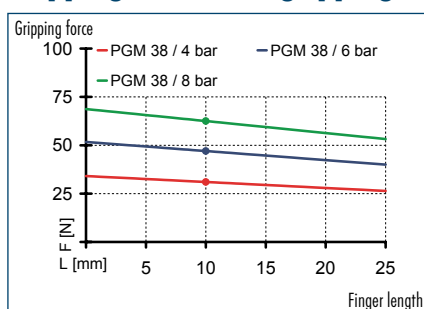




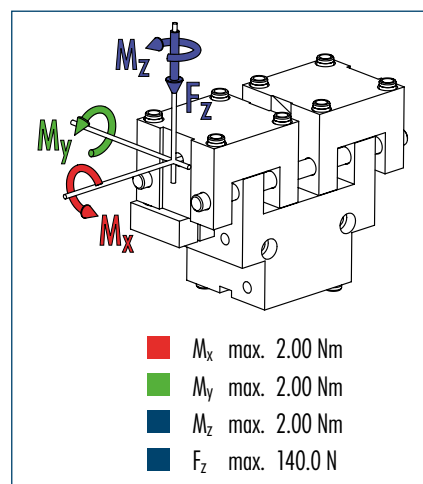
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

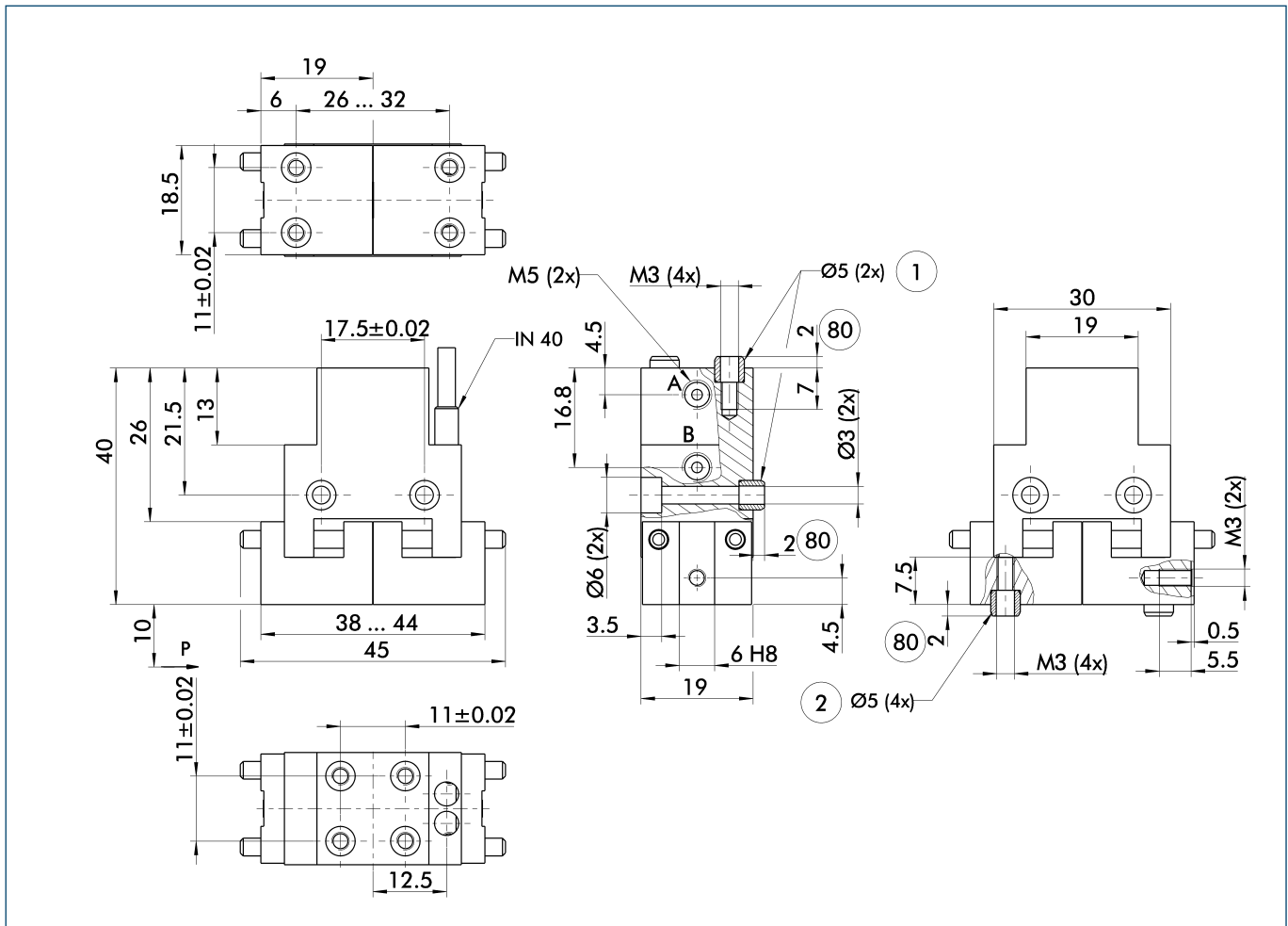


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 38
ID		0302681
Stroke per finger	[mm]	3
Closing force	[N]	47
Opening force	[N]	63
Weight	[kg]	0.05
Recommended workpiece weight	[kg]	0.235
Air consumption per double stroke	[cm³]	0.34
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.03/0.03
Max. permitted finger length	[mm]	25
Max. permitted weight per finger	[kg]	0.017
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

Main view



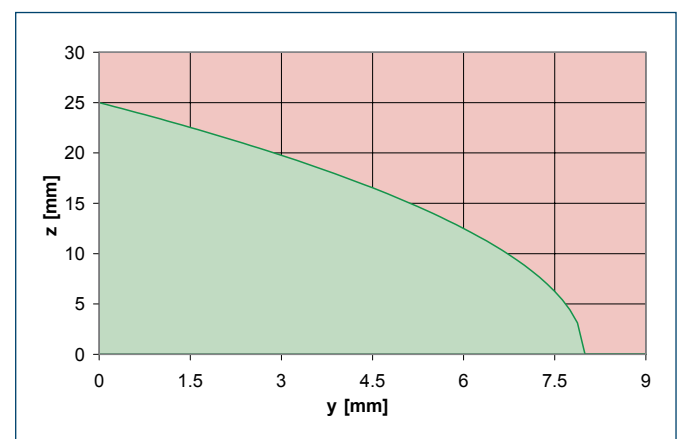
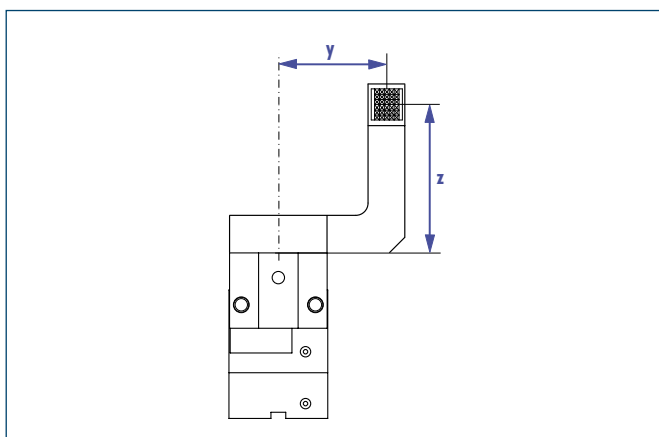
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

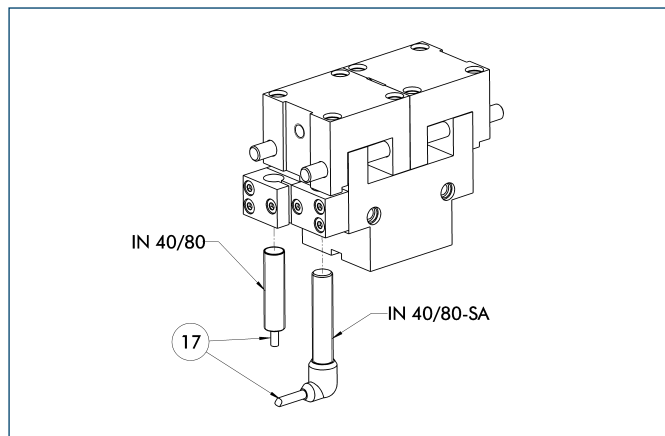
⌀ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

Inductive proximity switches



17 Cable outlet

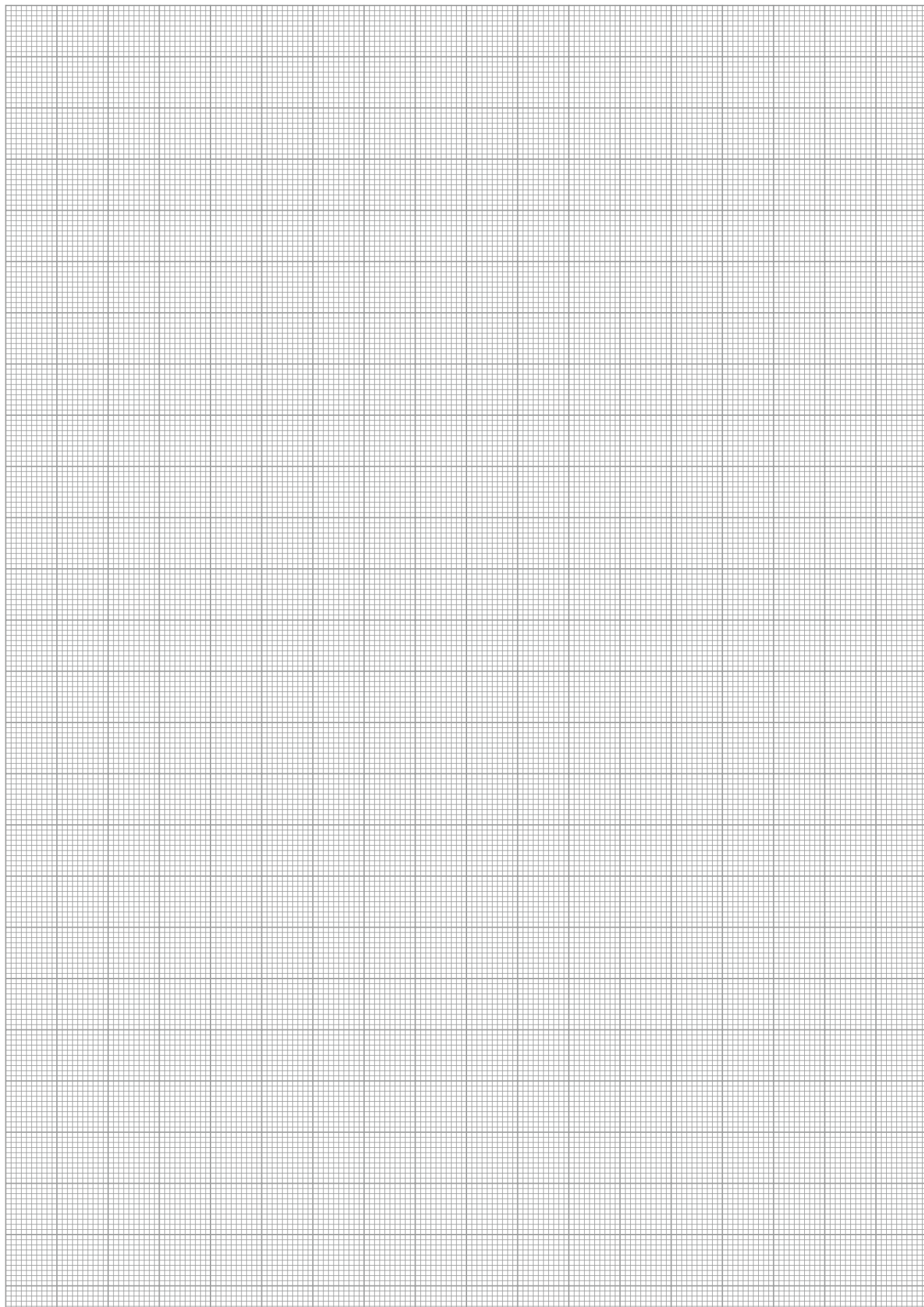
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

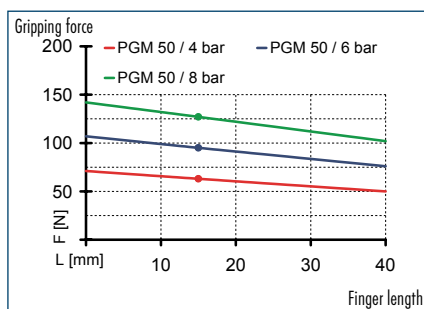
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

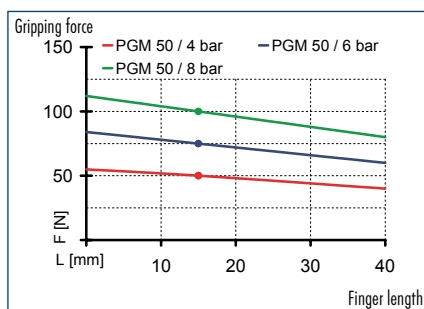




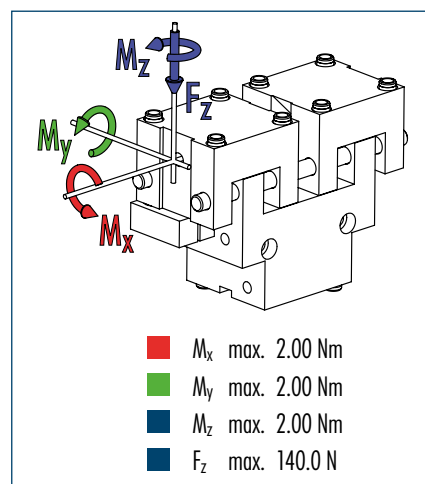
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

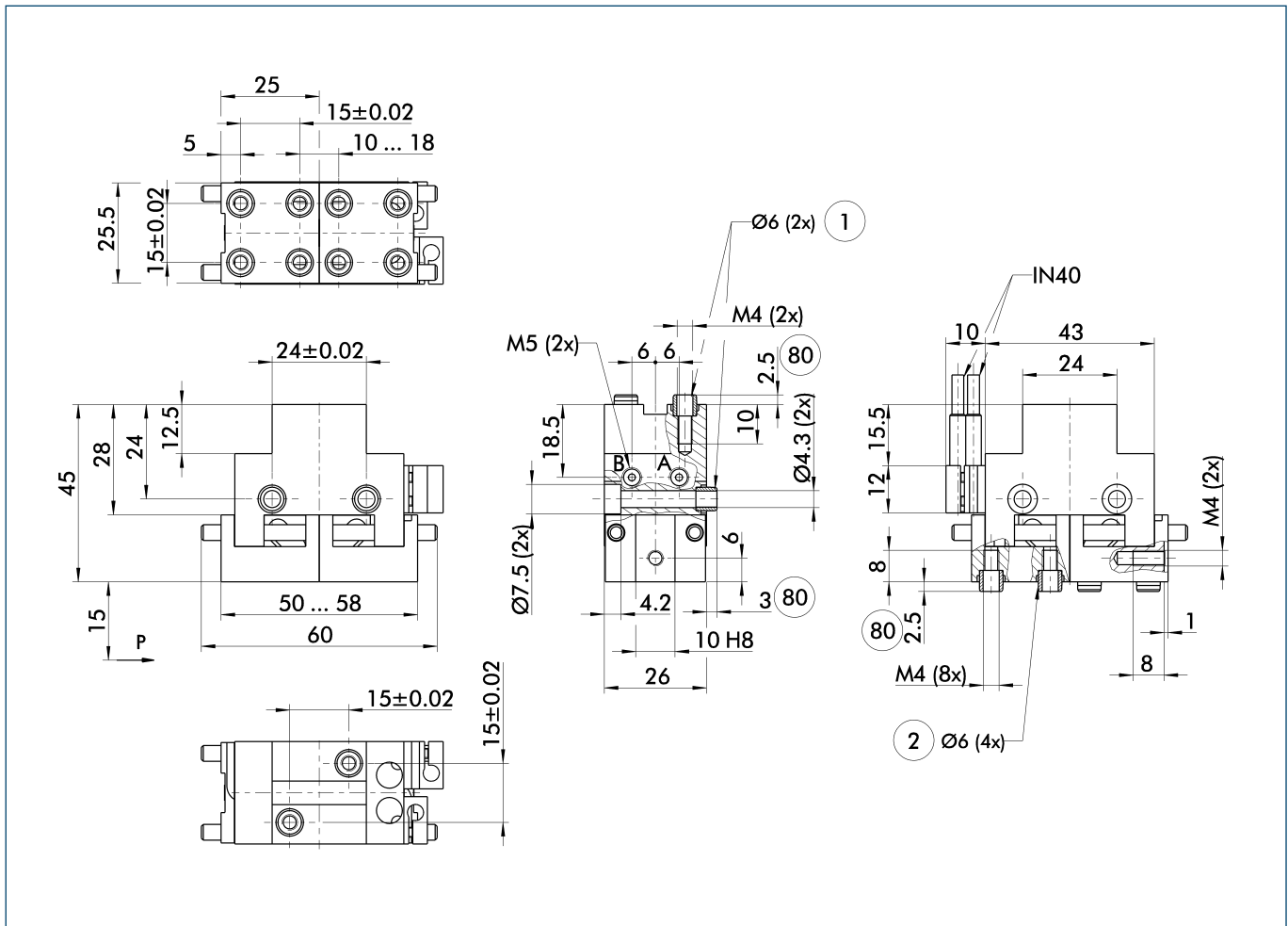


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	PGM 50
ID	0302682
Stroke per finger	[mm] 4
Closing force	[N] 75
Opening force	[N] 95
Weight	[kg] 0.105
Recommended workpiece weight	[kg] 0.375
Air consumption per double stroke	[cm ³] 0.8
Min./max. operating pressure	[bar] 2/8
Nominal operating pressure	[bar] 6
Closing/opening time	[s] 0.04/0.04
Max. permitted finger length	[mm] 40
Max. permitted weight per finger	[kg] 0.035
IP class	30
Min./max. ambient temperature	[°C] -10/90
Repeat accuracy	[mm] 0.02

Main view



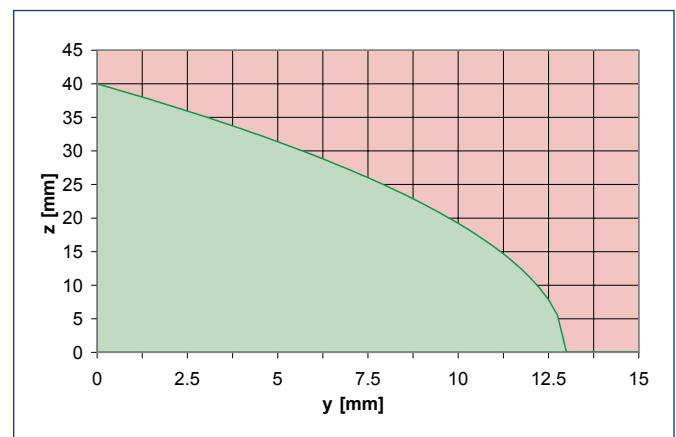
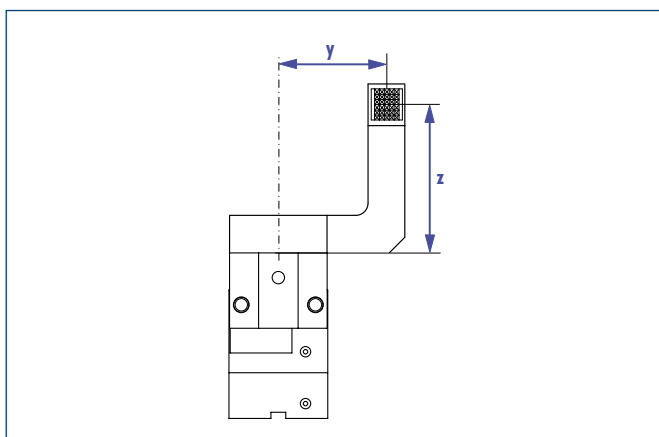
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

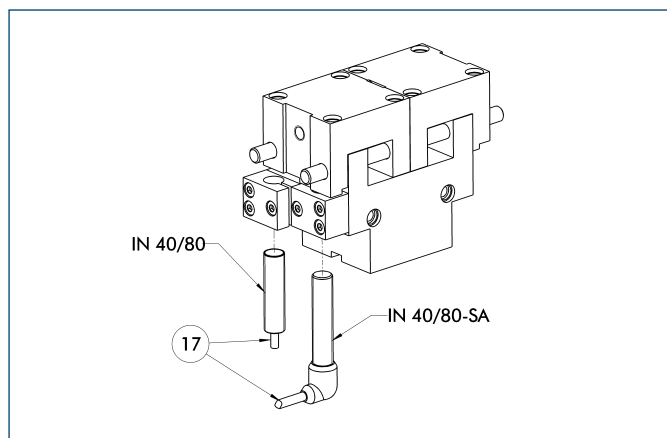
80 Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



Permitted range
Inadmissible range

Inductive proximity switches



17 Cable outlet

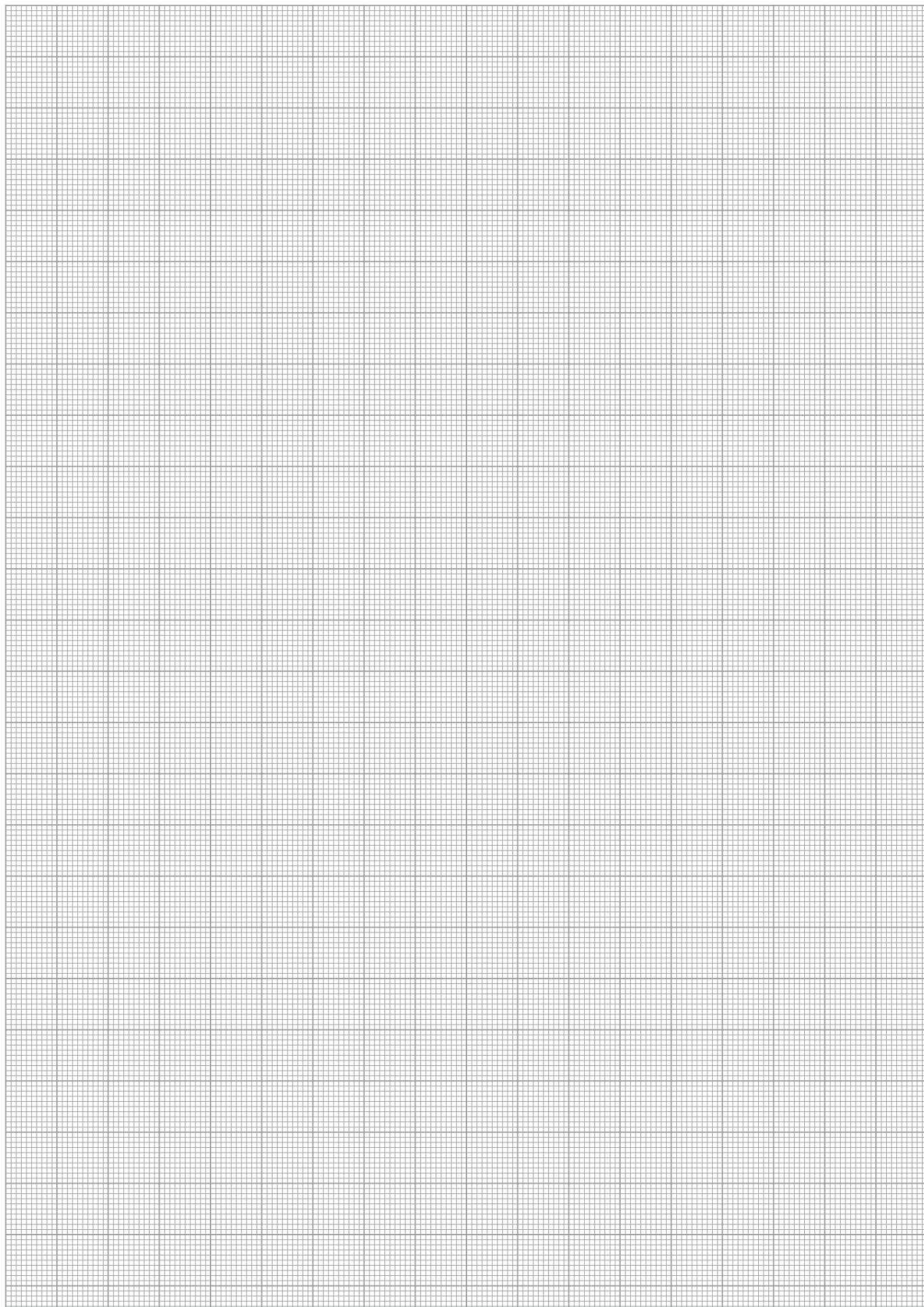
End position monitoring for direct mounting

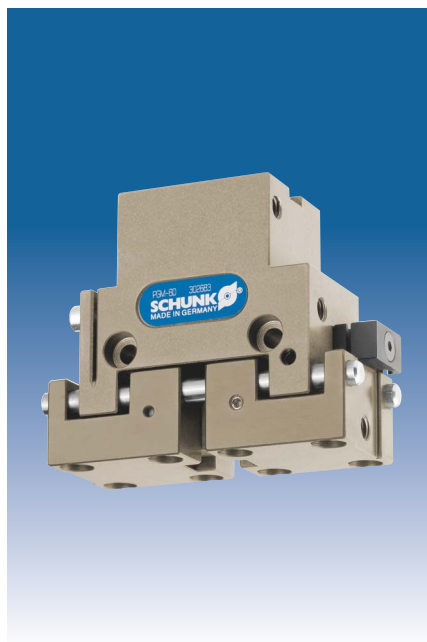
Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

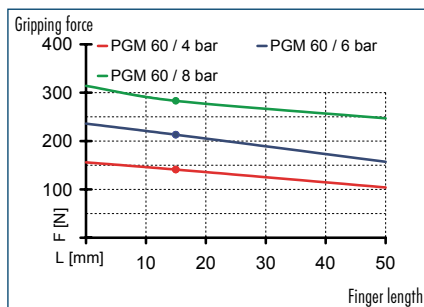
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

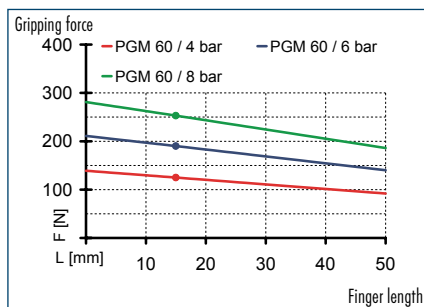




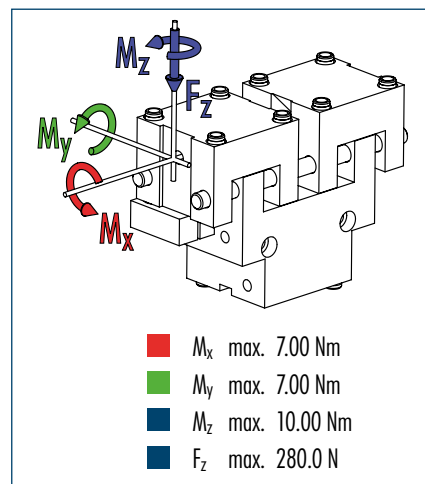
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

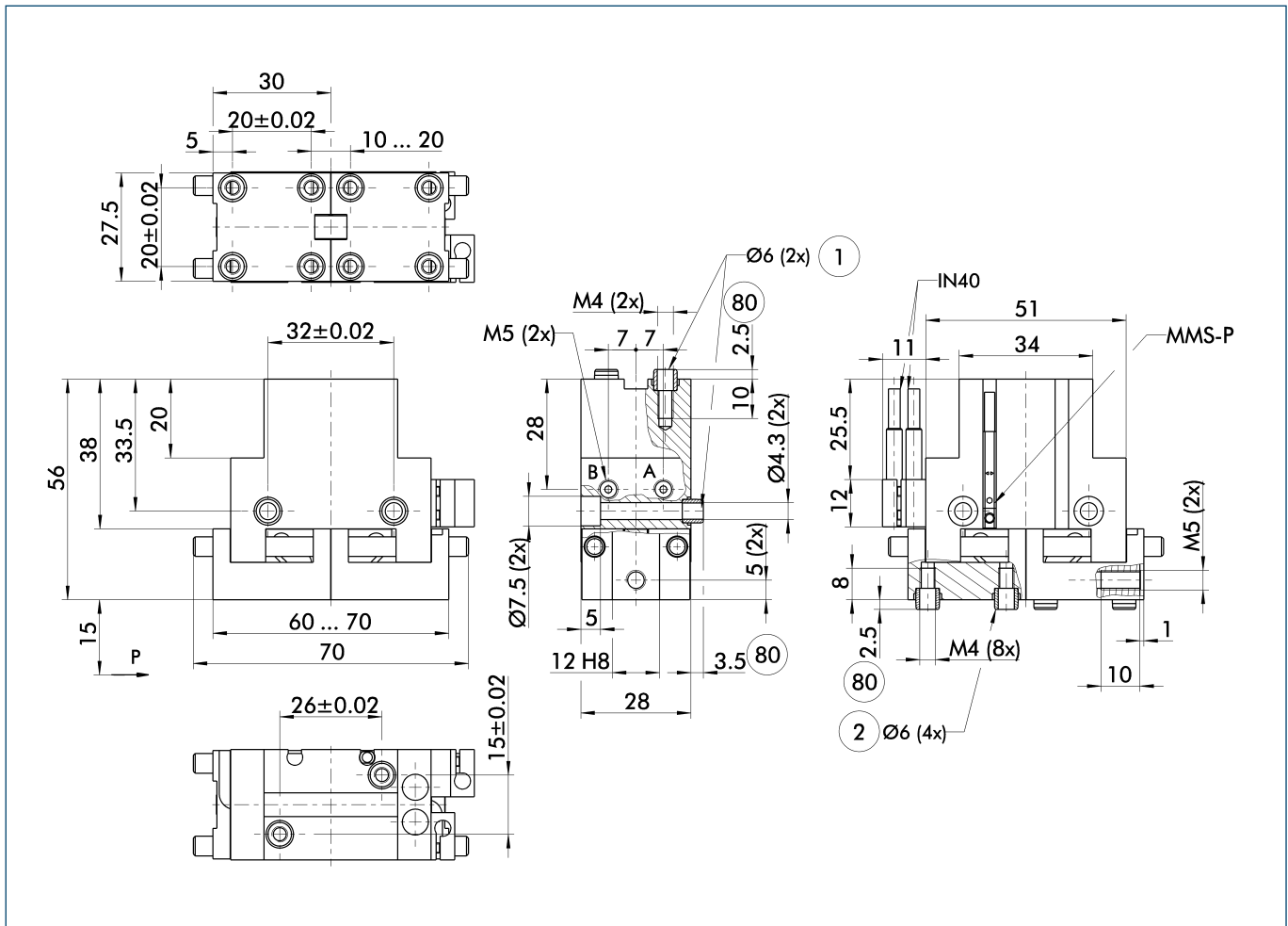


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 60
ID		0302683
Stroke per finger	[mm]	5
Closing force	[N]	190
Opening force	[N]	210
Weight	[kg]	0.21
Recommended workpiece weight	[kg]	0.95
Air consumption per double stroke	[cm ³]	2.5
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.05/0.05
Max. permitted finger length	[mm]	50
Max. permitted weight per finger	[kg]	0.07
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

Main view



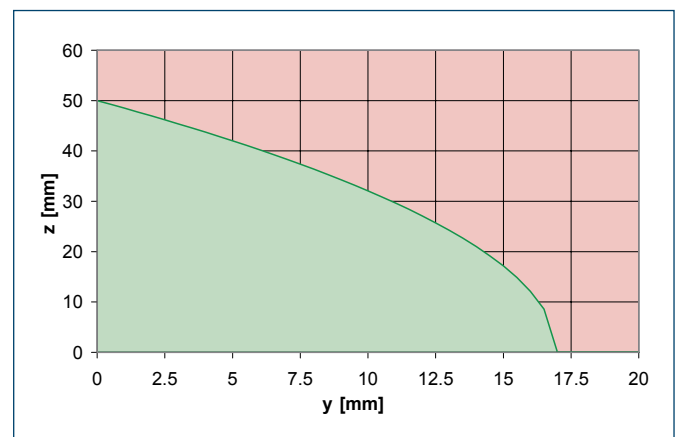
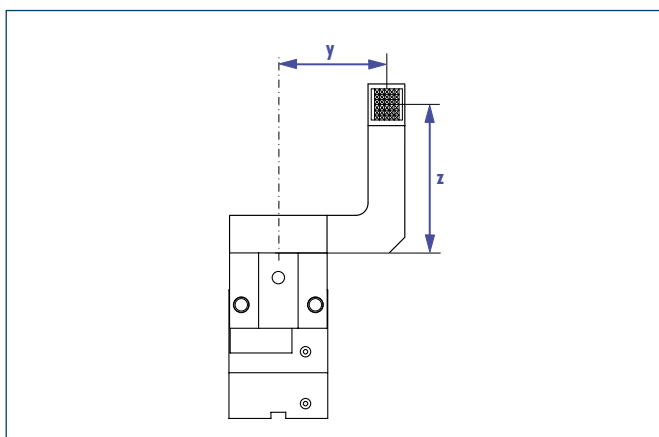
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

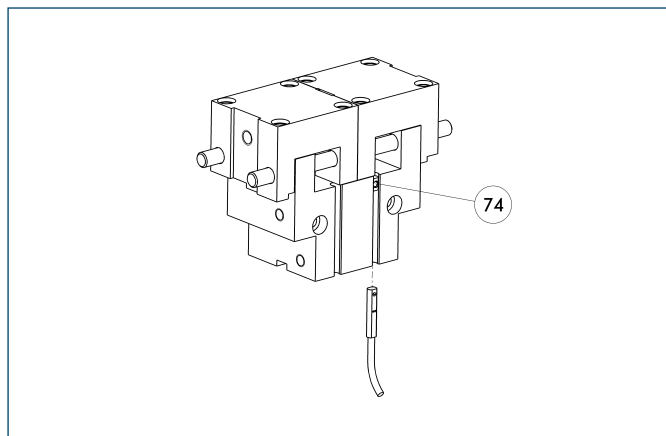
Ø6 Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



Permitted range
Inadmissible range

Programmable magnetic switch



74 Stop for MMS-P

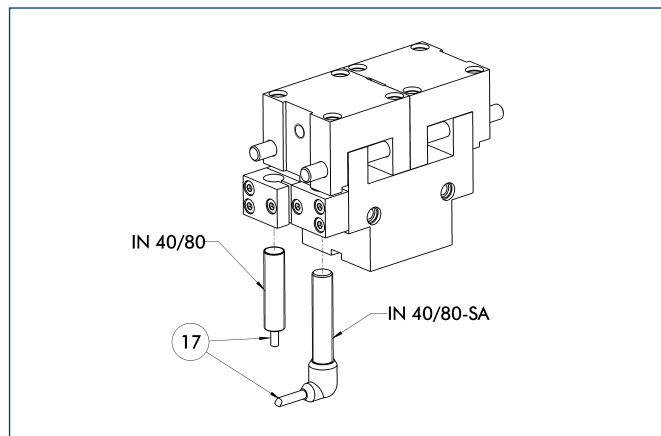
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Inductive proximity switches



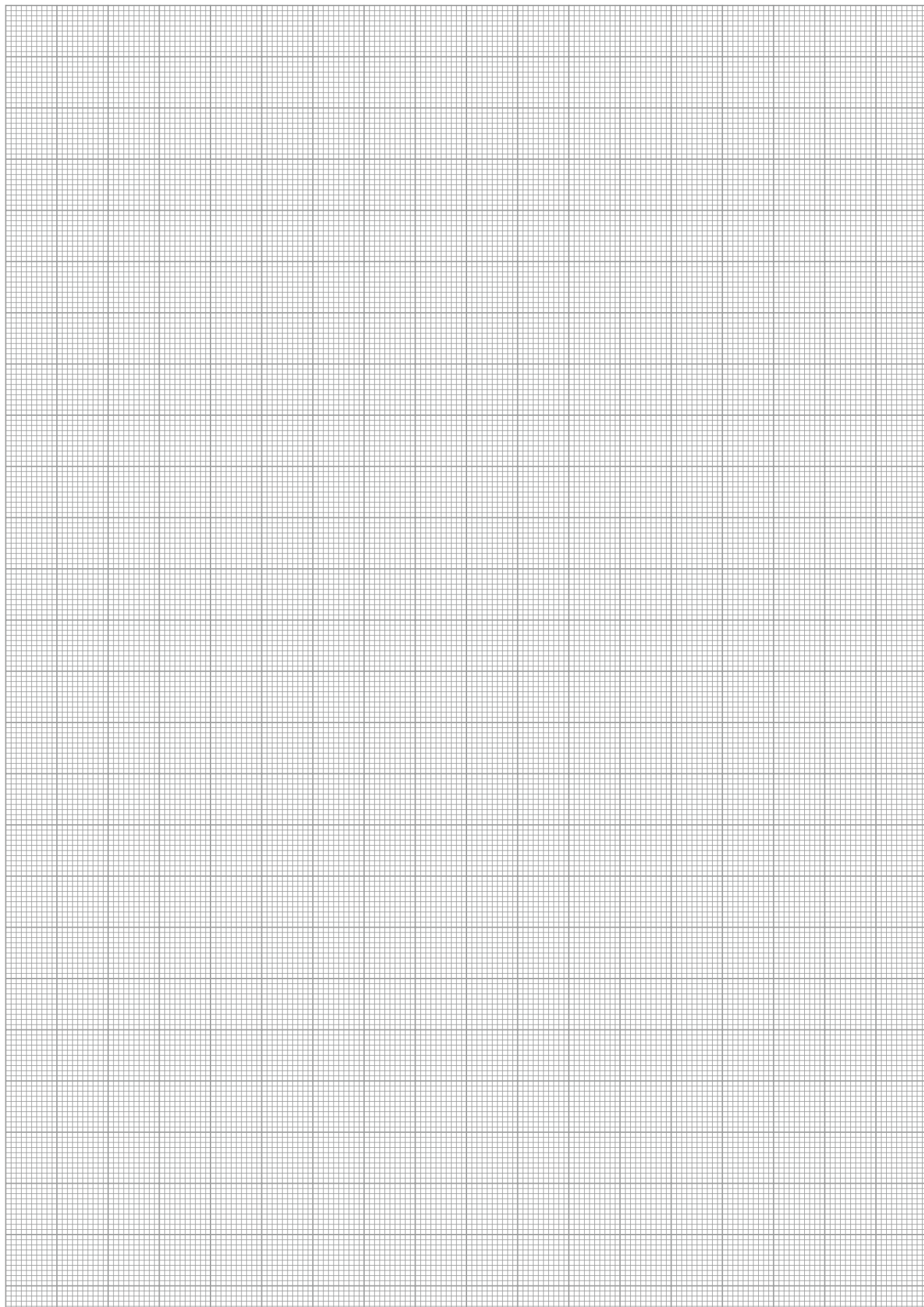
17 Cable outlet

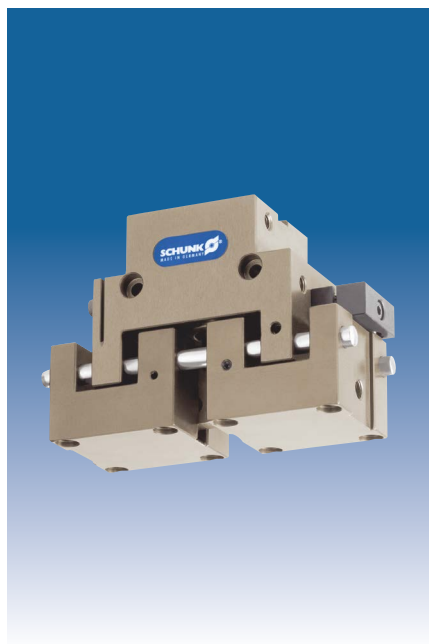
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

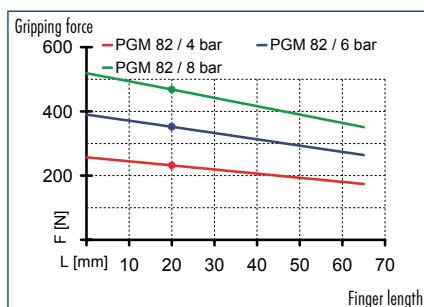
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

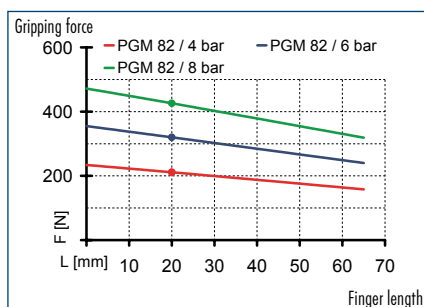




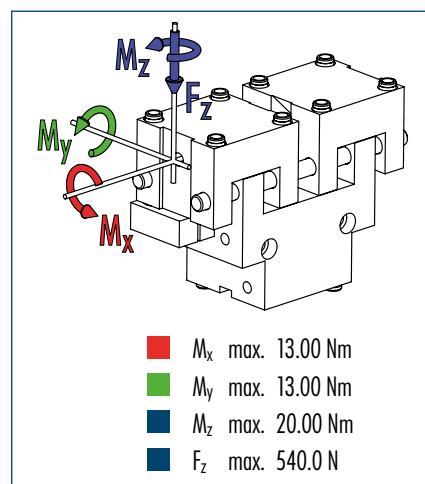
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



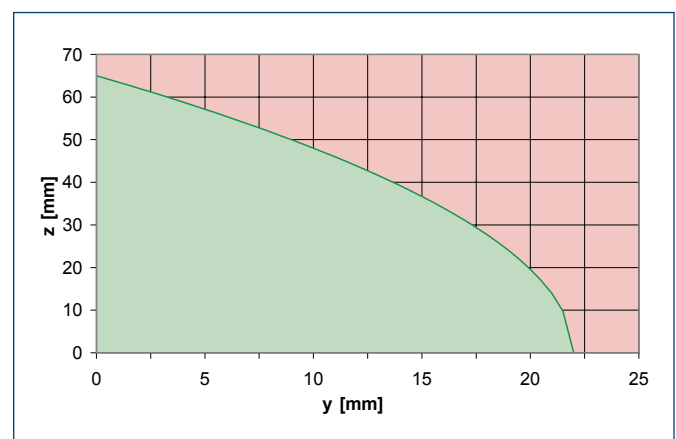
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 82
ID		0302684
Stroke per finger	[mm]	10
Closing force	[N]	320
Opening force	[N]	350
Weight	[kg]	0.6
Recommended workpiece weight	[kg]	1.6
Air consumption per double stroke	[cm ³]	8
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.07/0.07
Max. permitted finger length	[mm]	65
Max. permitted weight per finger	[kg]	0.17
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.03

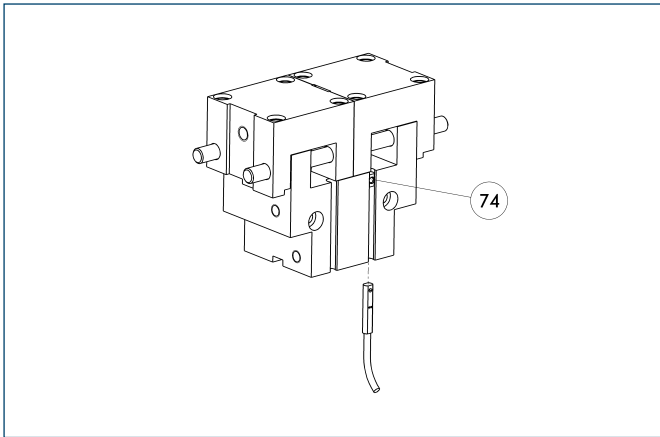
⑧⑩ Depth of the centering sleeve hole in the matching part

Technical drawing of a mechanical part. The part has a total width of 100 and a total height of 100. The top surface is flat. The front face features a central rectangular cutout with a width of 40 and a height of 20. The cutout is centered horizontally. The bottom edge of the part is notched, with a notch width of 20 and a notch depth of 10. The notch is centered horizontally. The part is shown in a perspective view.



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Programmable magnetic switch



74 Stop for MMS-P

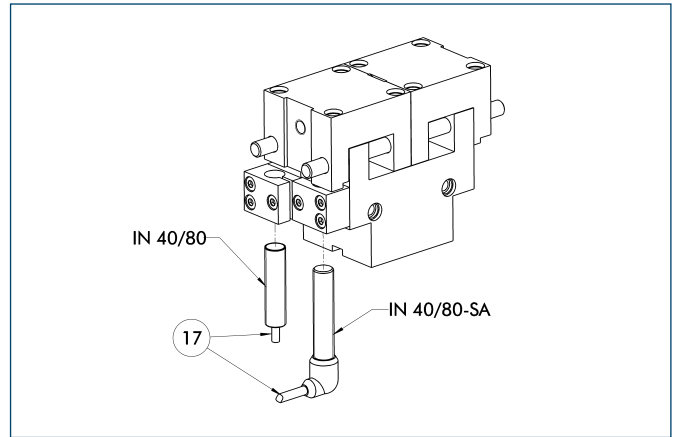
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Inductive proximity switches



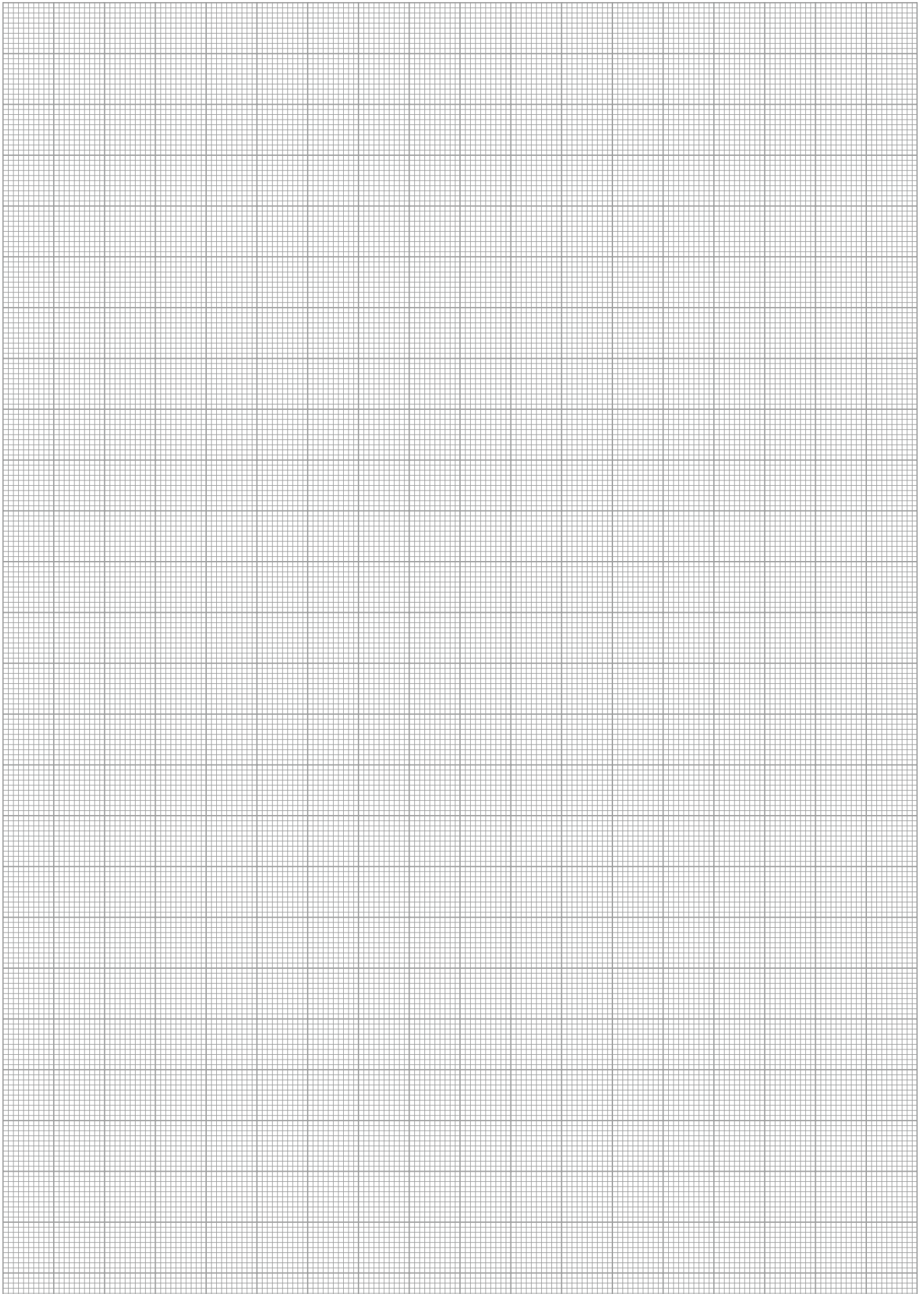
17 Cable outlet

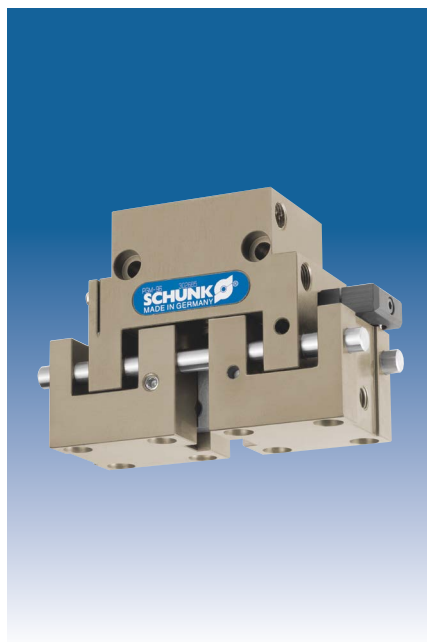
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

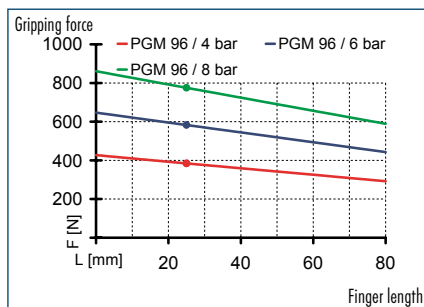
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

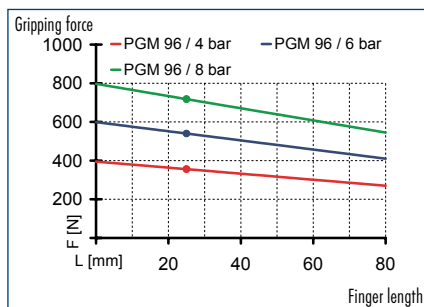




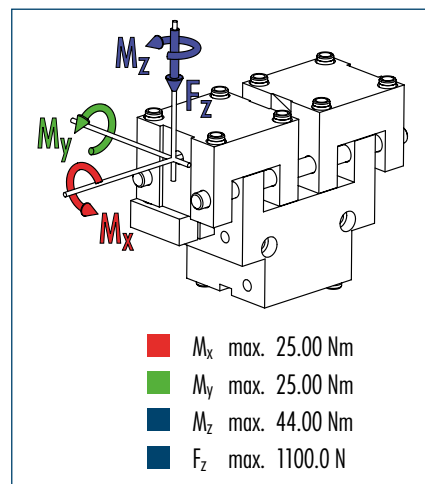
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

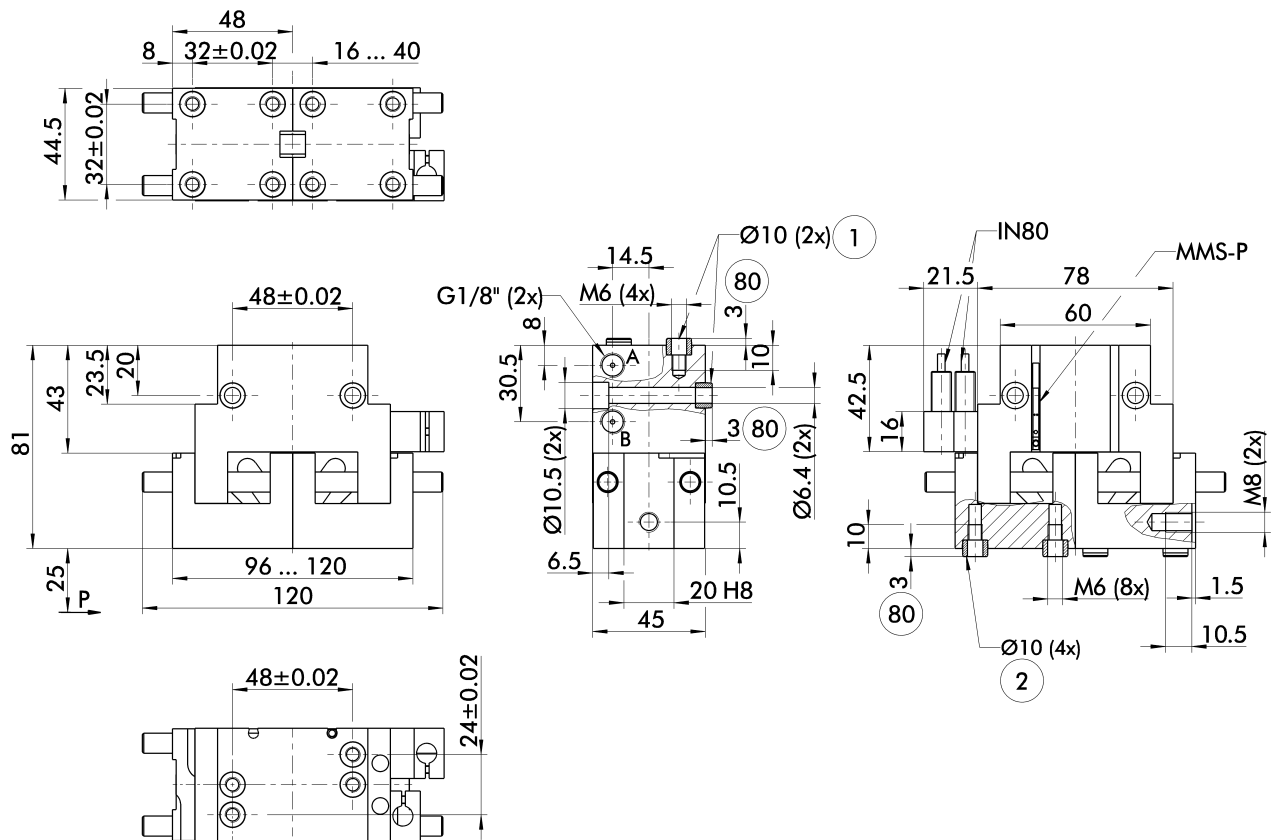


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 96
ID		0302685
Stroke per finger	[mm]	12
Closing force	[N]	540
Opening force	[N]	580
Weight	[kg]	0.84
Recommended workpiece weight	[kg]	2.7
Air consumption per double stroke	[cm ³]	15.1
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.08/0.08
Max. permitted finger length	[mm]	80
Max. permitted weight per finger	[kg]	0.28
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.03

Main view



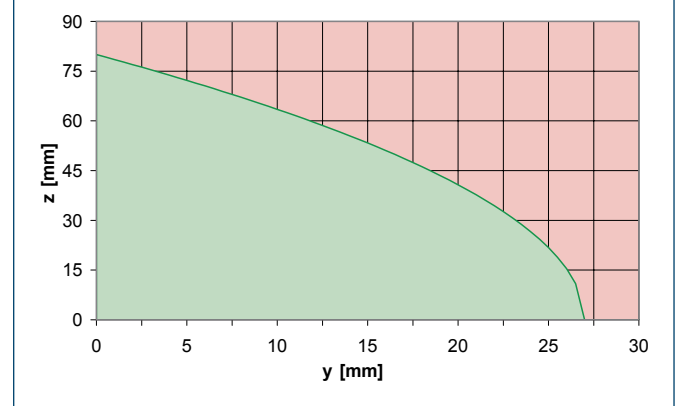
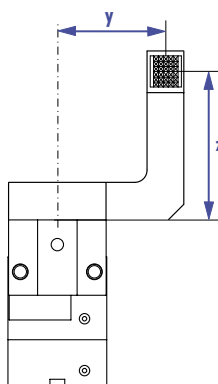
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

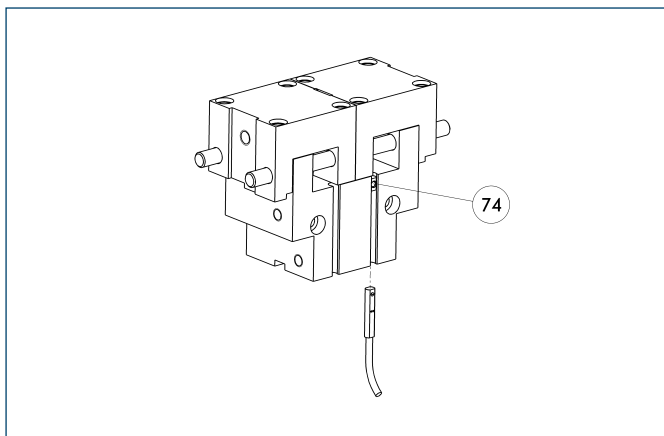
- ⑧⑩ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

Programmable magnetic switch



74 Stop for MMS-P

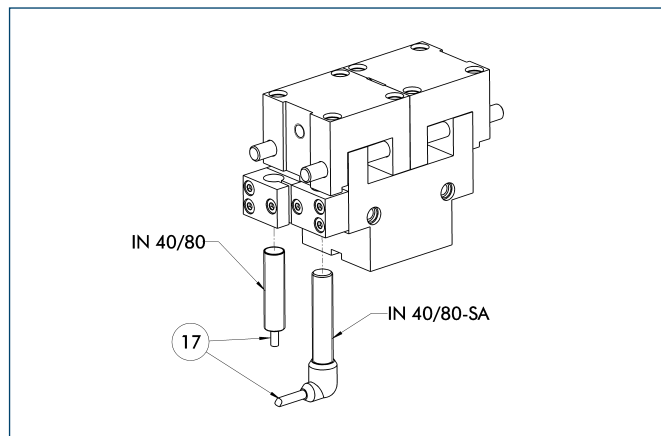
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Inductive proximity switches



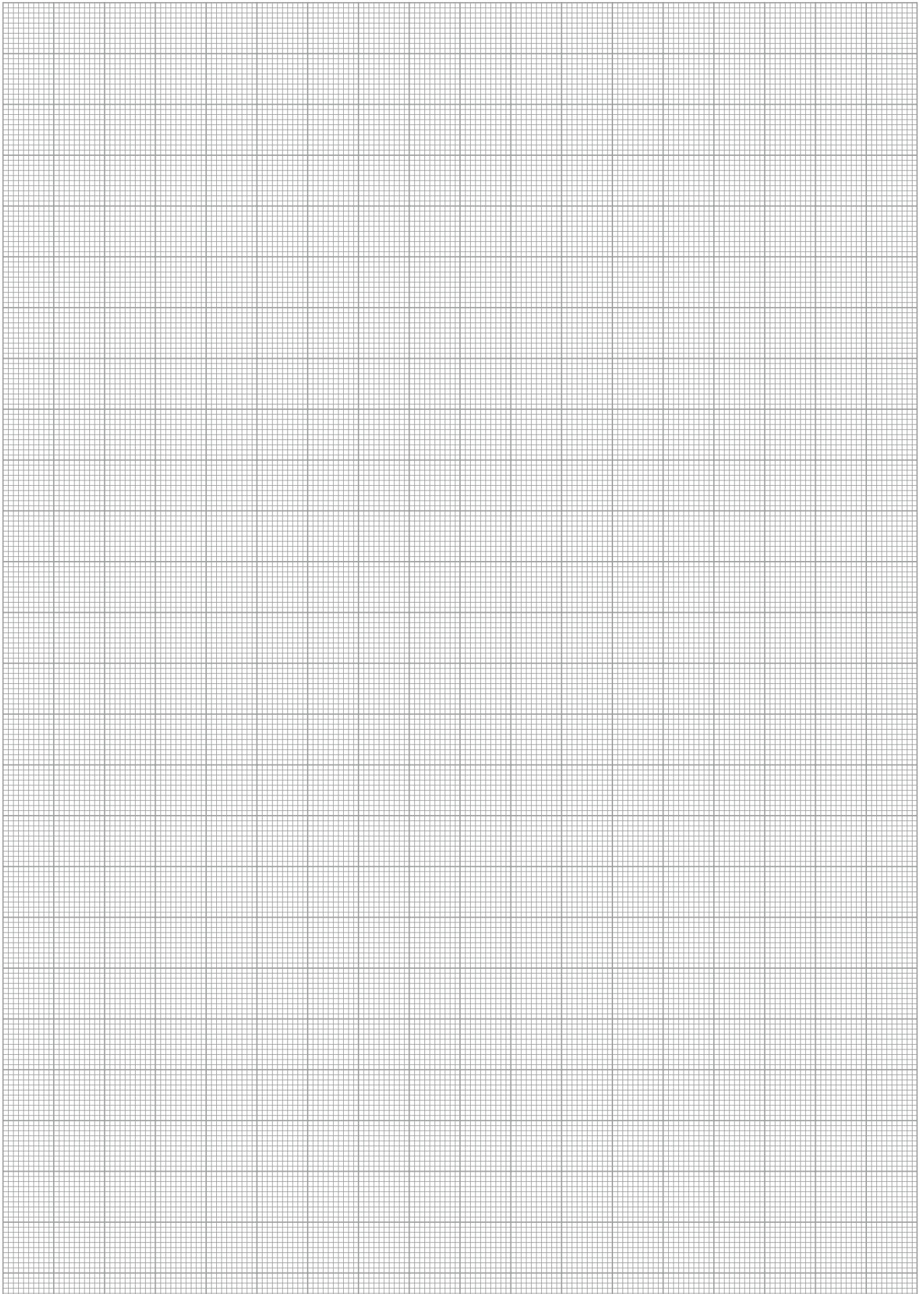
17 Cable outlet

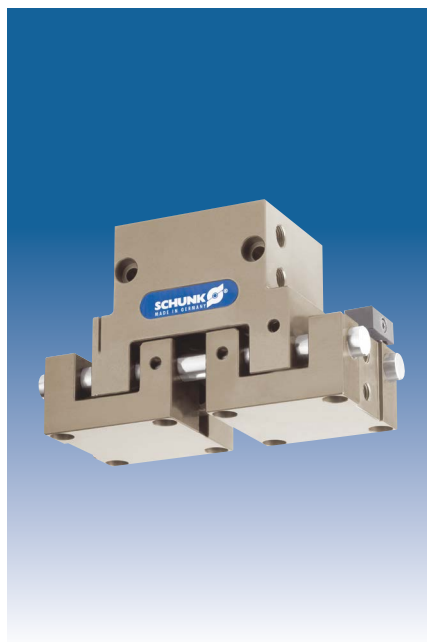
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

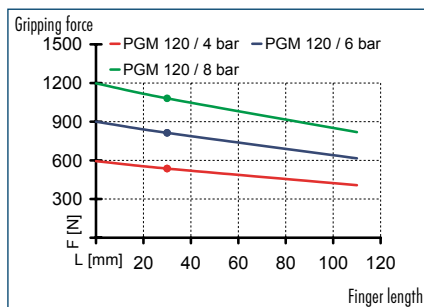
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

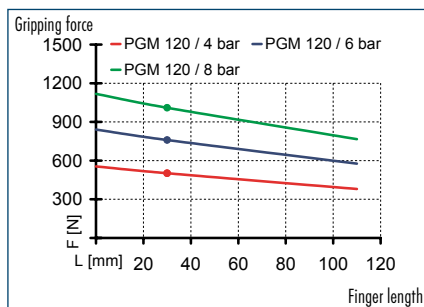




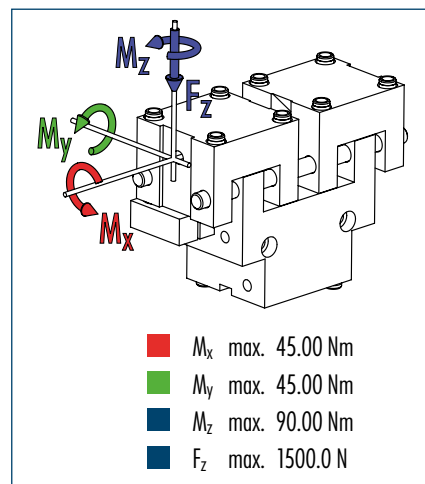
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

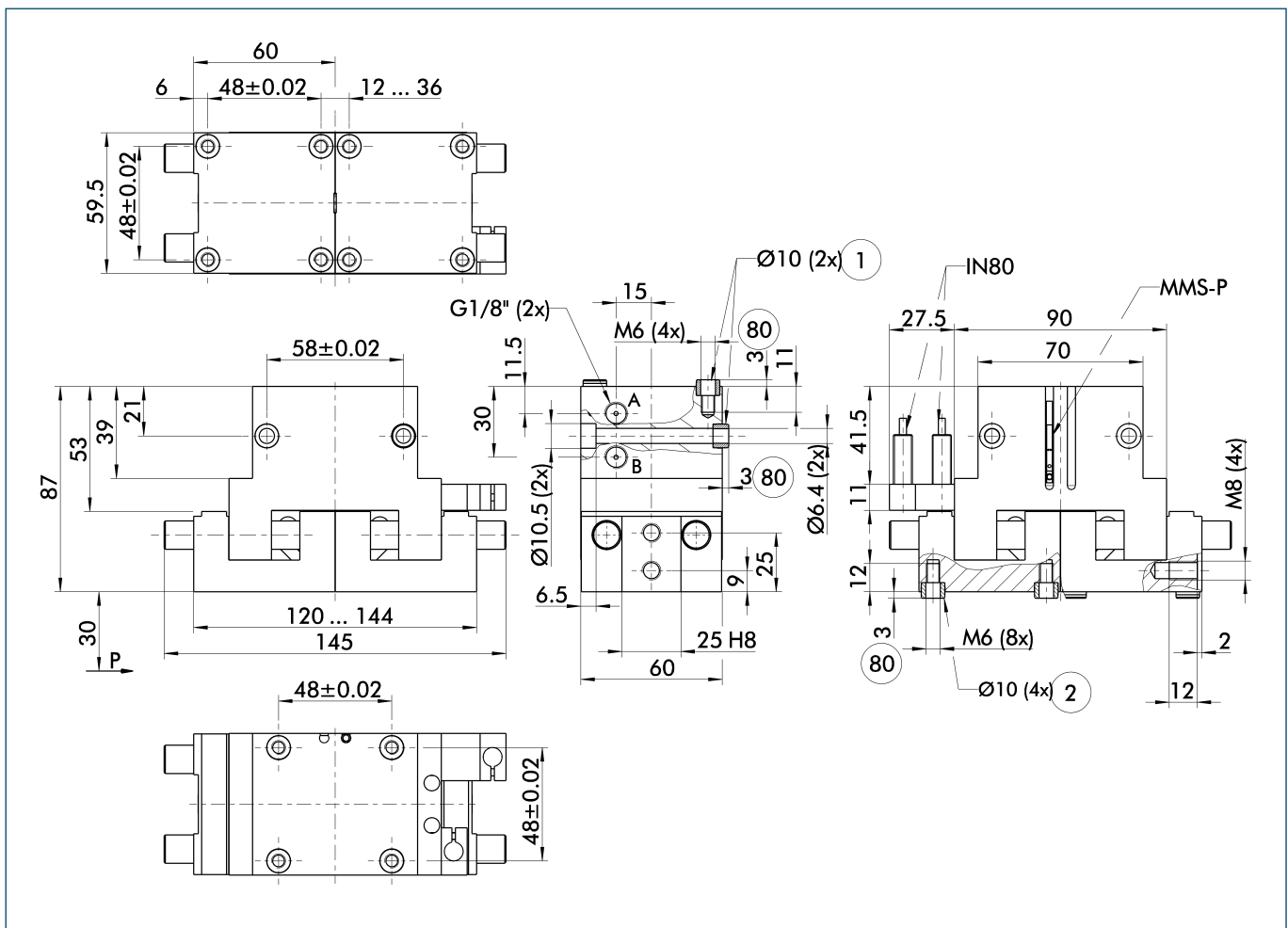


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 120
ID		0302686
Stroke per finger	[mm]	12
Closing force	[N]	760
Opening force	[N]	810
Weight	[kg]	1.26
Recommended workpiece weight	[kg]	3.8
Air consumption per double stroke	[cm³]	23.6
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.1/0.1
Max. permitted finger length	[mm]	110
Max. permitted weight per finger	[kg]	0.58
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.03

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

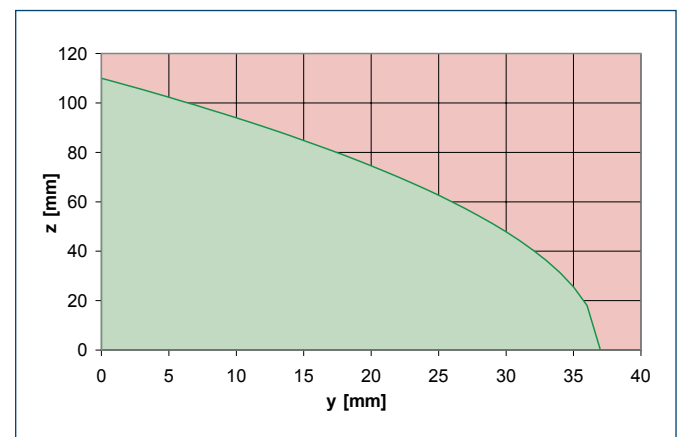
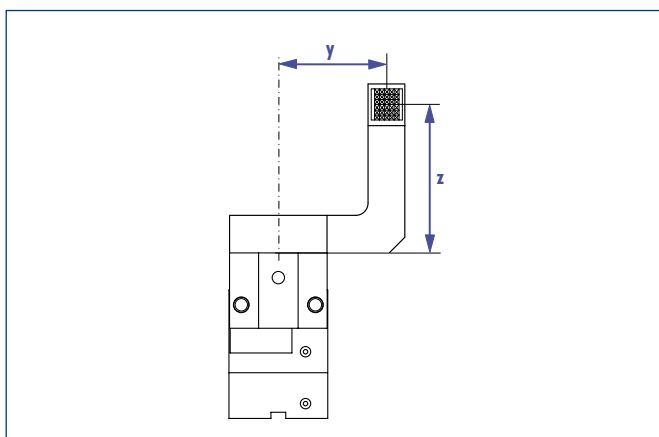
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

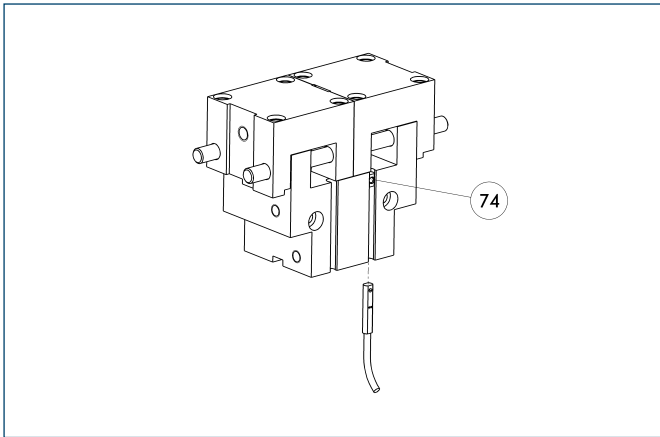
⌀ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

Programmable magnetic switch



74 Stop for MMS-P

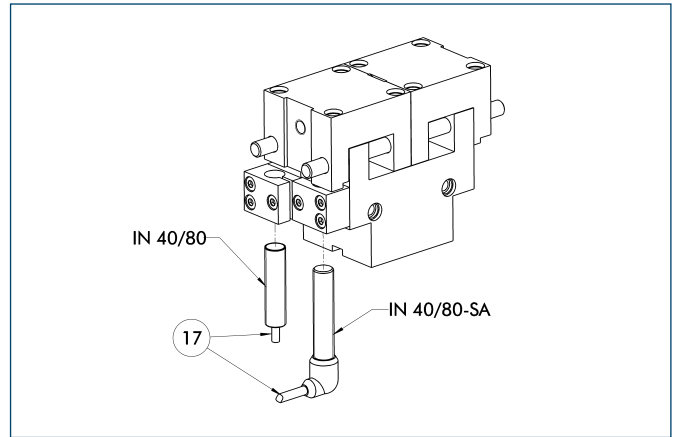
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Inductive proximity switches



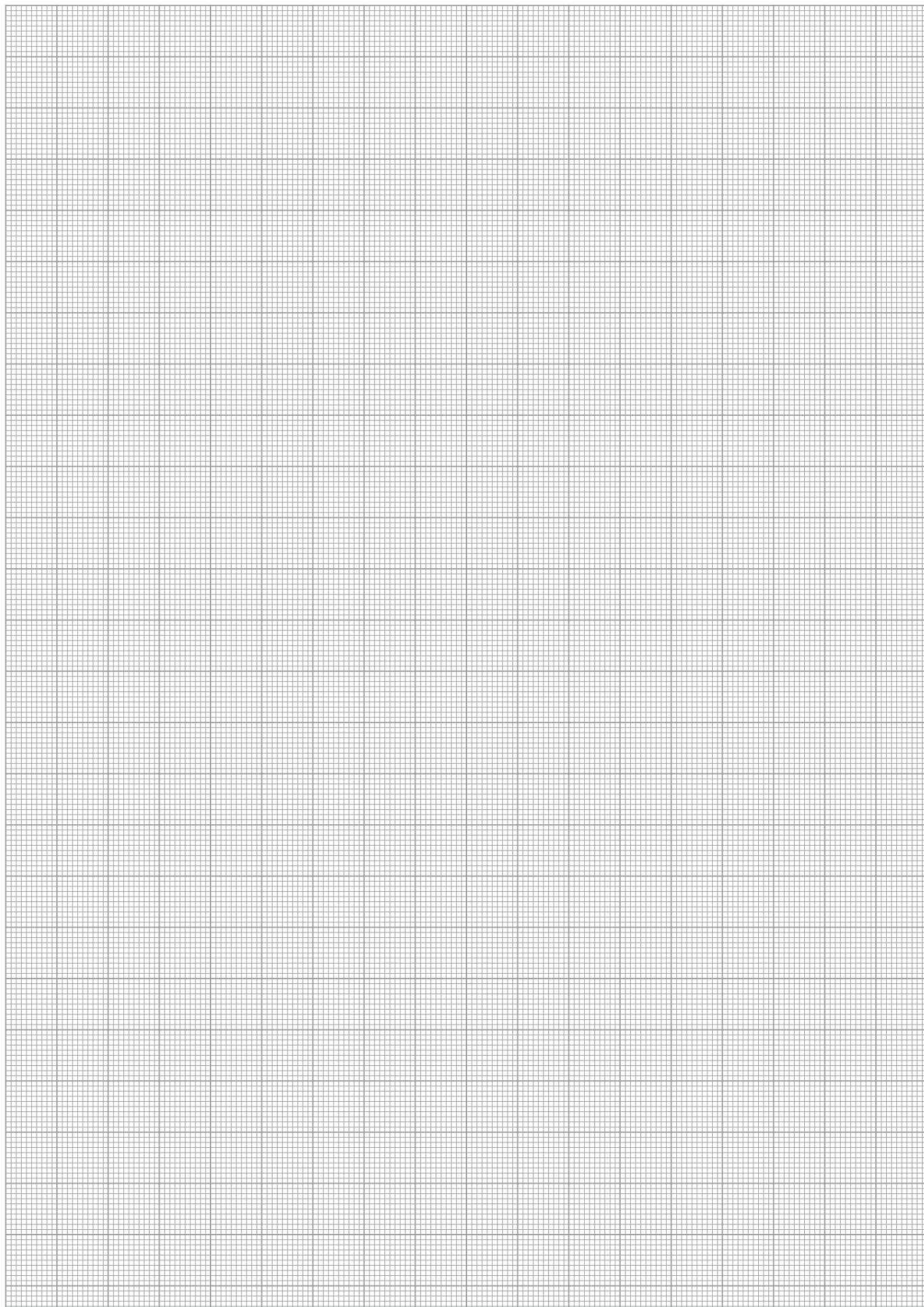
17 Cable outlet

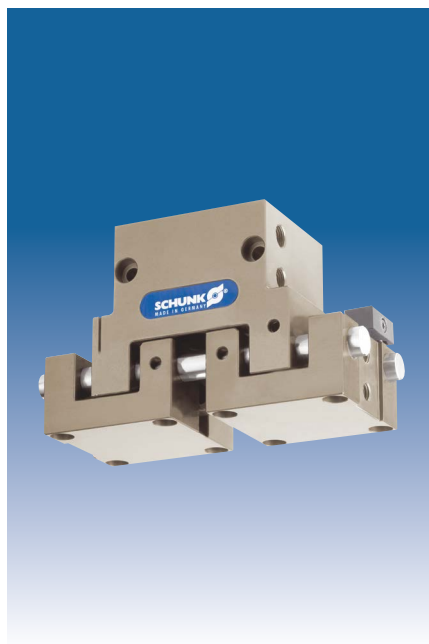
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

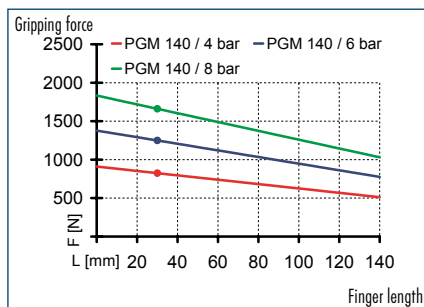
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

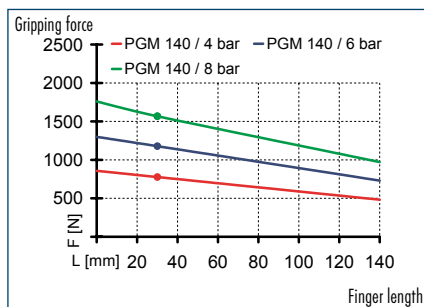




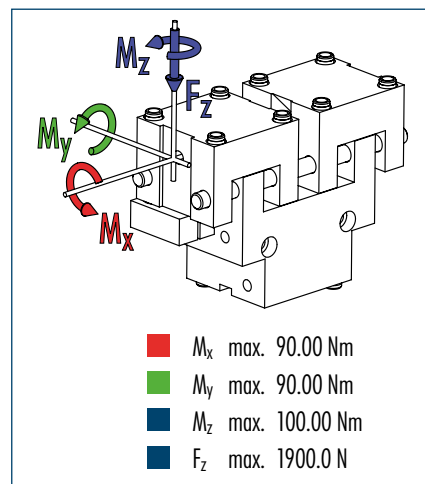
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

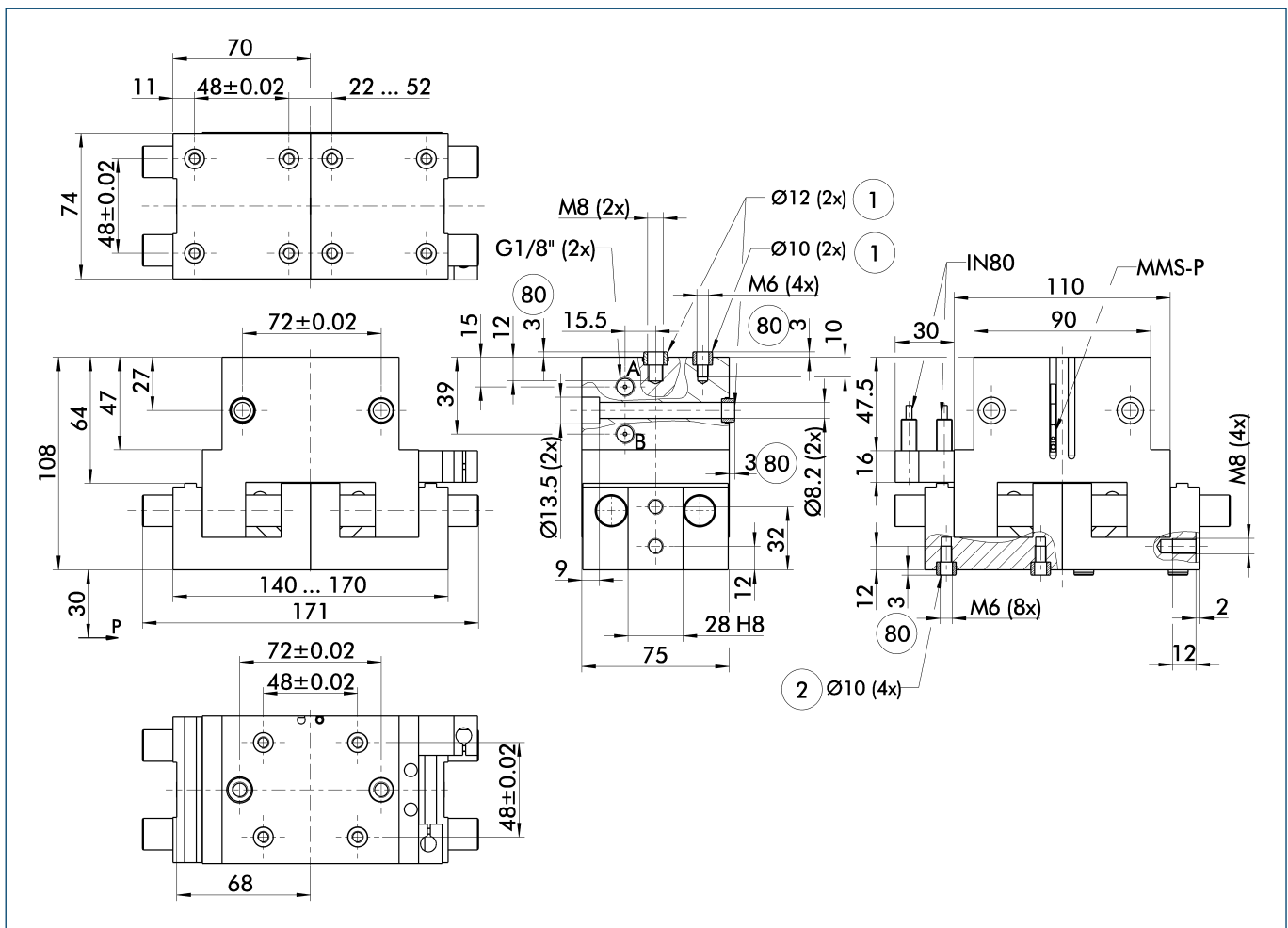


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGM 140
ID		0302687
Stroke per finger	[mm]	15
Closing force	[N]	1180
Opening force	[N]	1250
Weight	[kg]	2.55
Recommended workpiece weight	[kg]	5.9
Air consumption per double stroke	[cm ³]	46.8
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.12/0.12
Max. permitted finger length	[mm]	140
Max. permitted weight per finger	[kg]	1
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.03

Main view



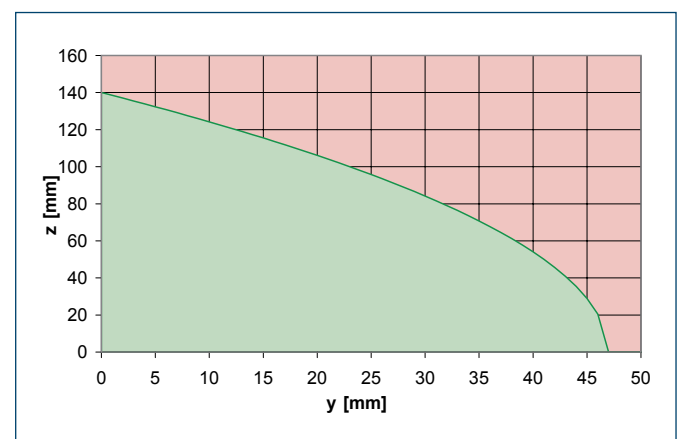
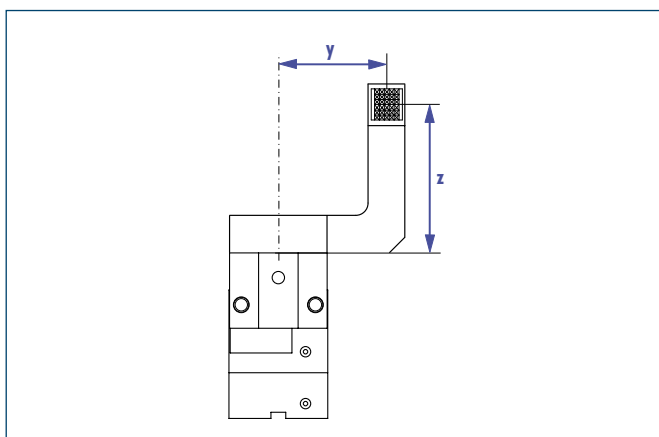
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

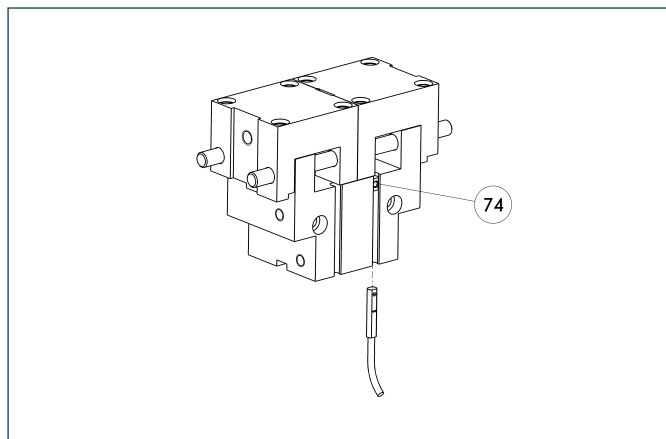
⌀ Depth of the centering sleeve hole in the matching part

Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

Programmable magnetic switch



74 Stop for MMS-P

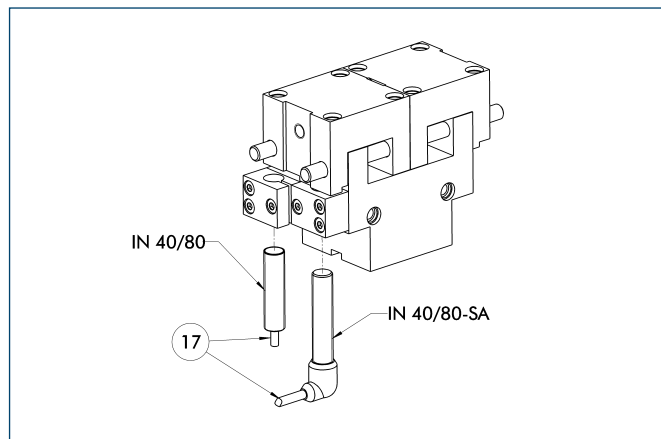
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Inductive proximity switches



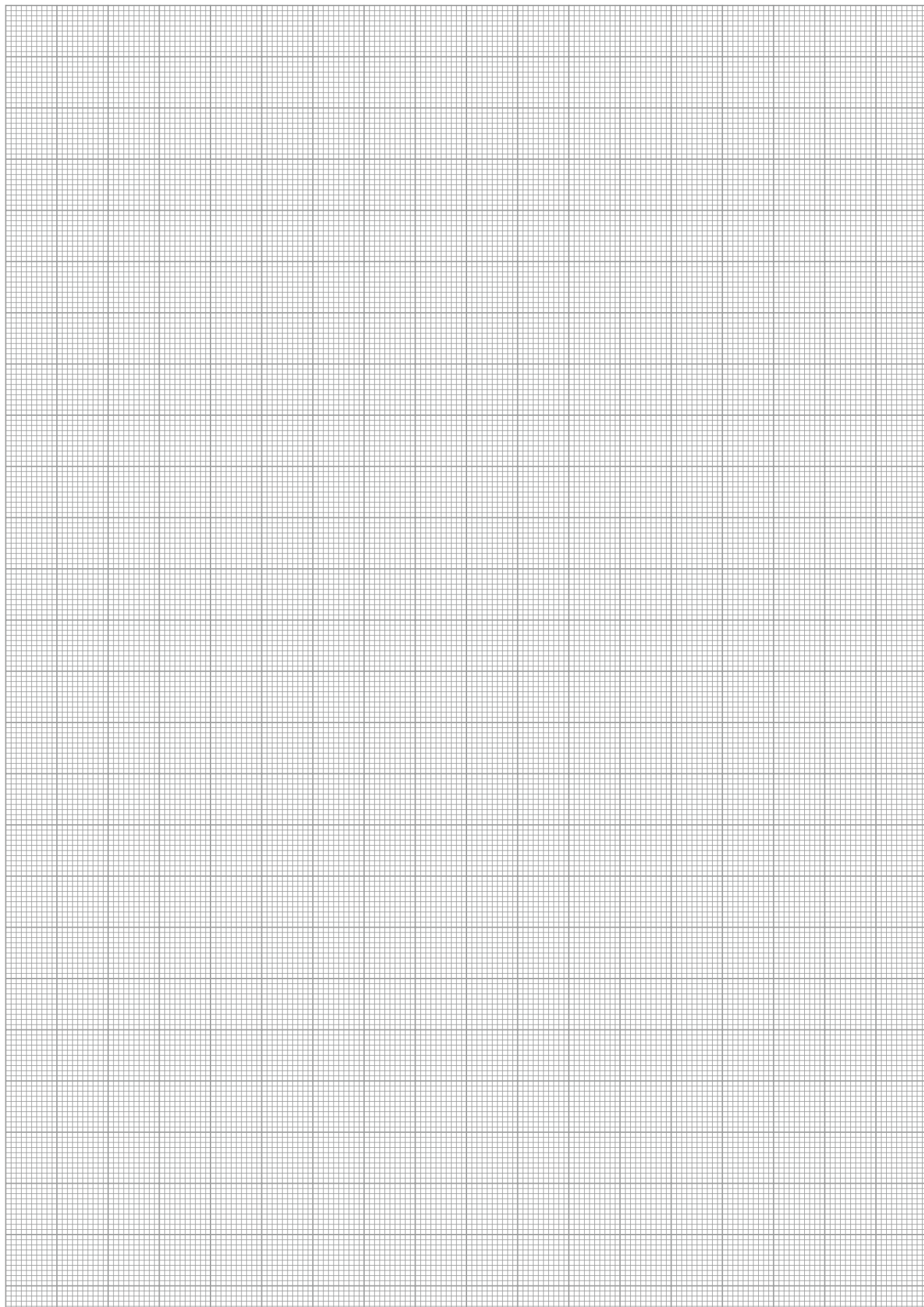
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

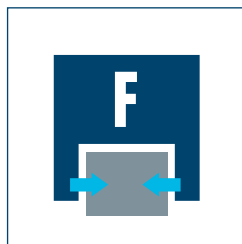




Sizes
64 ... 125



Weight
0.28 kg ... 1.32 kg



Gripping force
90 N ... 610 N



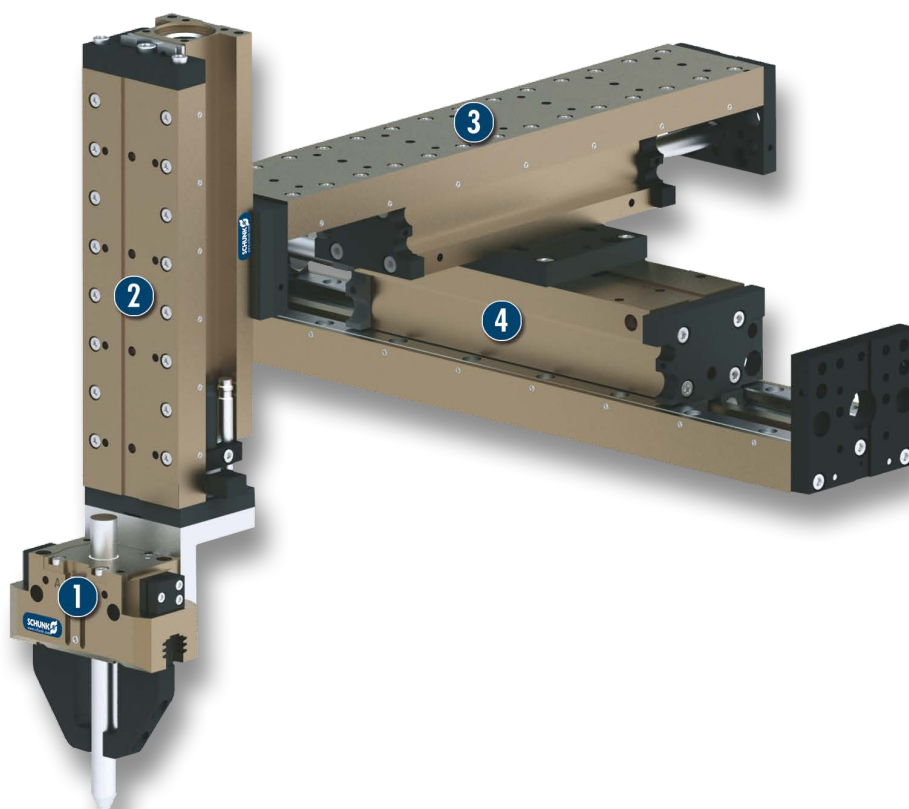
Stroke per finger
4 mm ... 10 mm



Workpiece weight
0.7 kg ... 3.3 kg



Application example



Assembly unit for long axes. Feeding is done space-saving via the center bore of the gripper.

1 2-Finger Parallel Gripper PGB

2 Linear module CLM

3 Linear module LM

4 Linear module LM

Universal Gripper

universal 2-Finger Parallel Gripper with high gripping force and high moment capacity due to the multi-tooth slideway as well as the center bore

Field of application

For universal use in clean and slightly dirty environments. Suitable for applications that require a center bore, e.g. for workpiece feed, special sensor systems or optical recognition systems

Your advantages and benefits

Robust multi-tooth guidance

for precise handling

Center through-hole

for workpiece feeding, supply hoses, sensors, optical workpiece recognition systems and others

High maximum moments possible

suitable for using long gripper fingers

Drive concept oval piston

for maximum gripping forces

Mounting from three sides in three screw directions possible

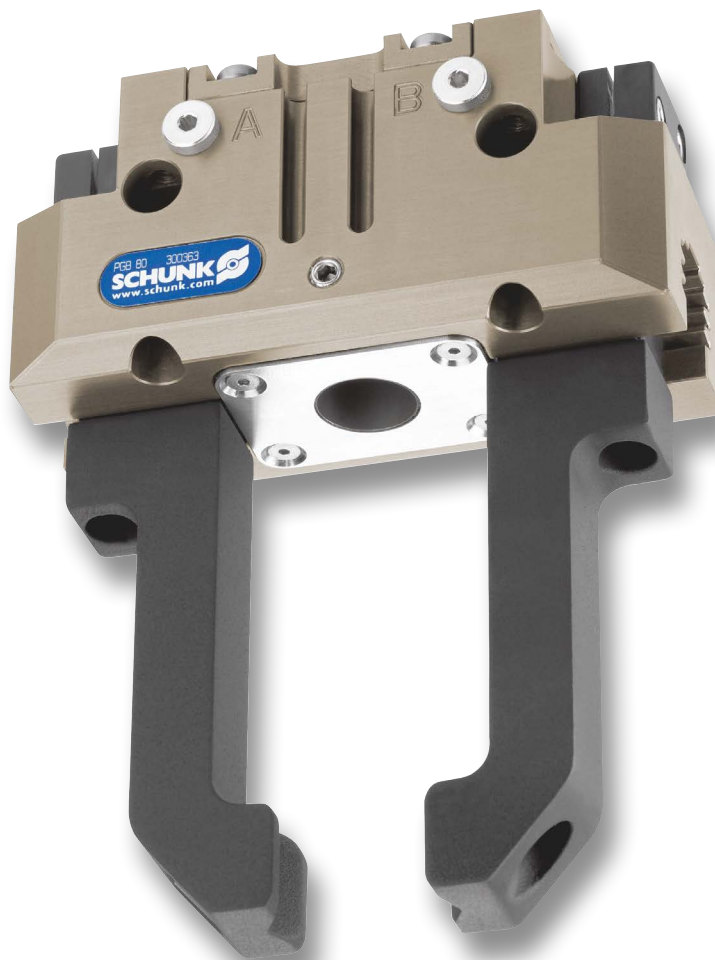
for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessory program

for versatile interrogation possibilities and control of stroke position



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

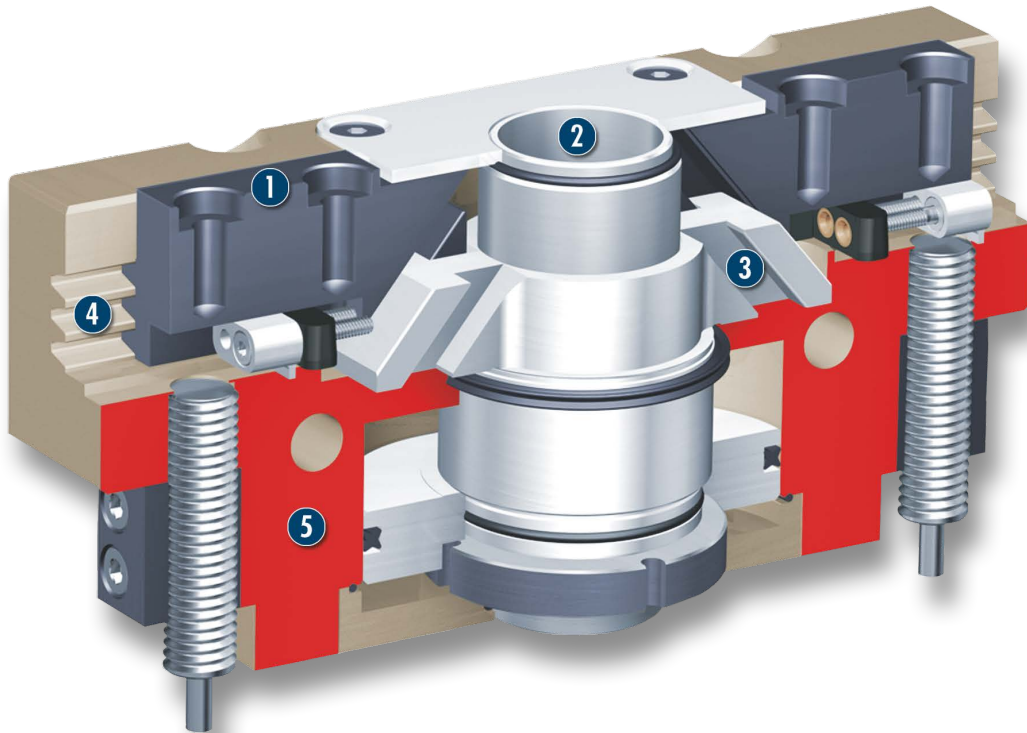
Scope of delivery

Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Center bore**
for workpiece feeding, for sensor systems, actuators (ejectors) or optical workpiece recognition
- 3 Wedge-hook design**
for high power transmission and centric gripping
- 4 Multiple-tooth guidance**
high-loadable base jaw guidance with minimum play for long fingers
- 5 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The oval piston is moved up or down by means of compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

With its center bore, the PGB series is the ideal standard solution for many areas of application.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



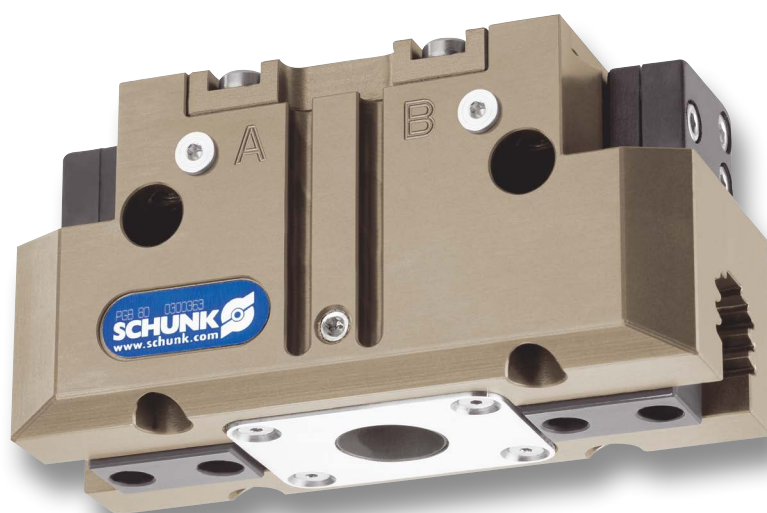
Magnetic Switches



Inductive proximity switches



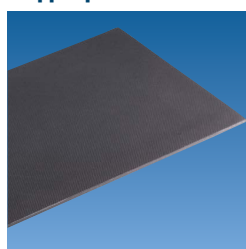
Universal intermediate jaw



Sensor cables



Gripper pads



Sensor Distributor



Pressure maintenance valve



Finger blanks



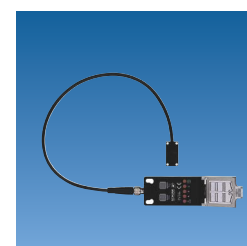
Force measuring jaws



Analog position sensor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

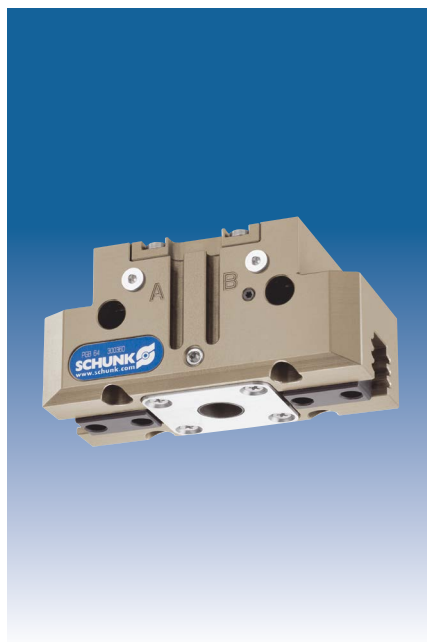
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

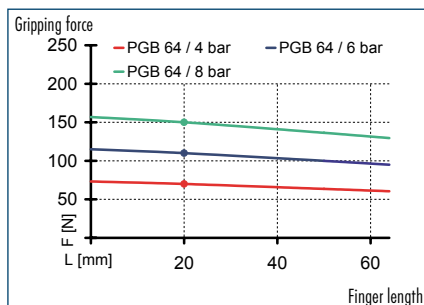
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

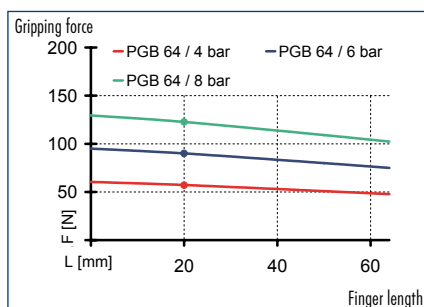
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



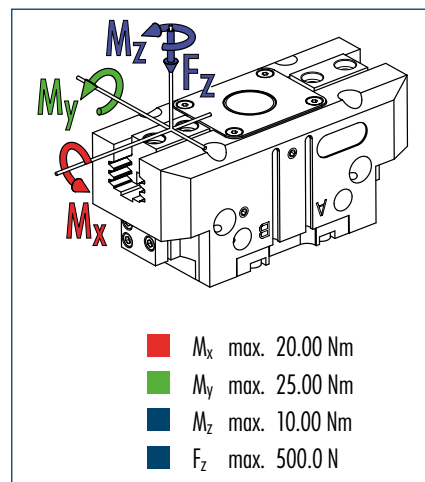
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

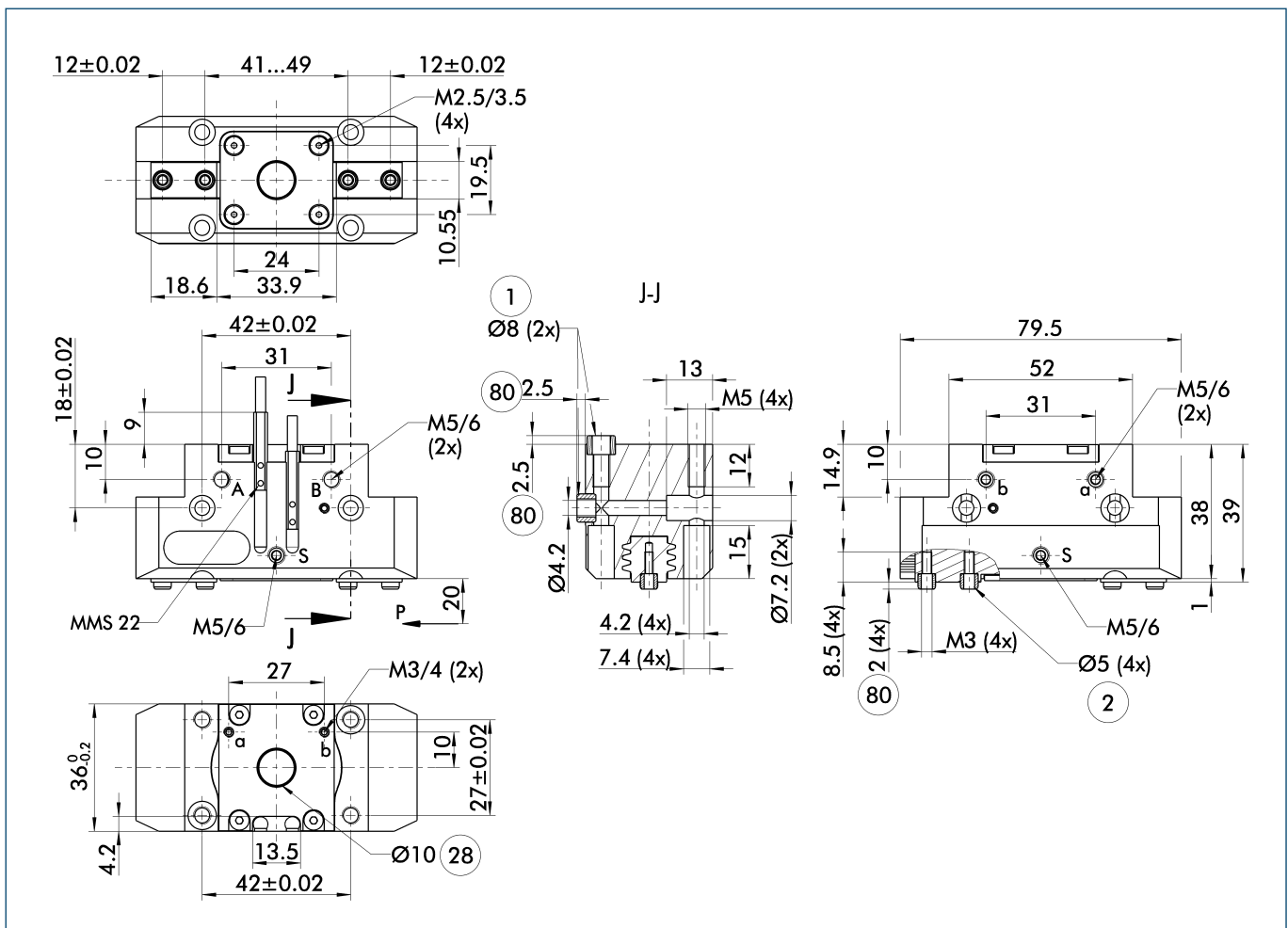


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGB 64
ID		0300360
Stroke per finger	[mm]	4
Closing force	[N]	90
Opening force	[N]	110
Weight	[kg]	0.28
Recommended workpiece weight	[kg]	0.7
Air consumption per double stroke	[cm ³]	5
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.02/0.02
Max. permitted finger length	[mm]	64
Max. permitted weight per finger	[kg]	0.18
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01
Diameter of center bore	[mm]	10

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

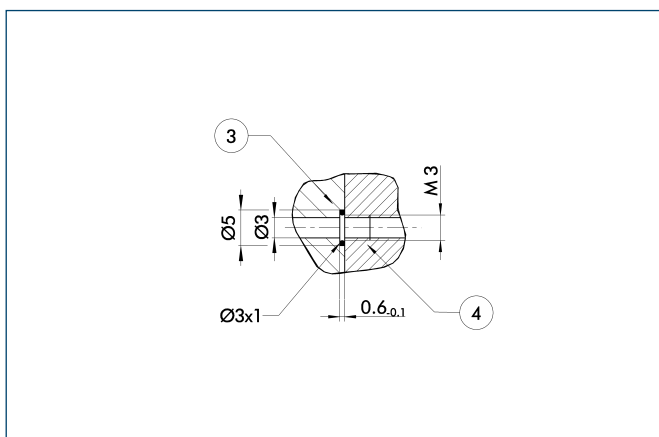
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection

① Gripper connection
② Finger connection

② Through-bore
②⑧ Depth of the centering sleeve hole in the matching part

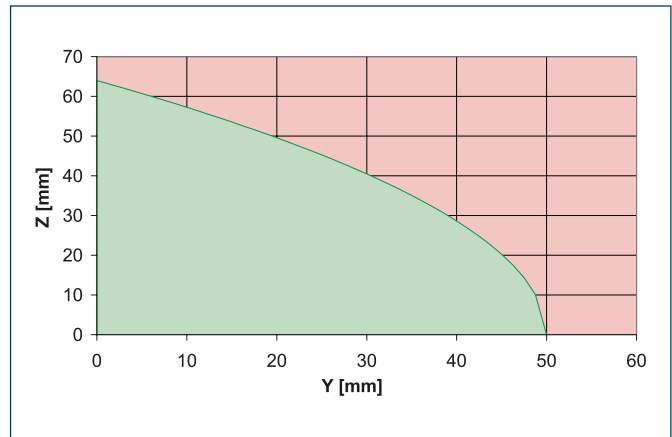
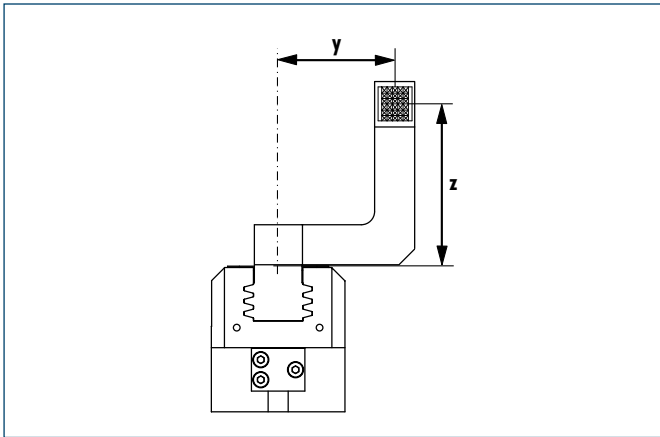
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

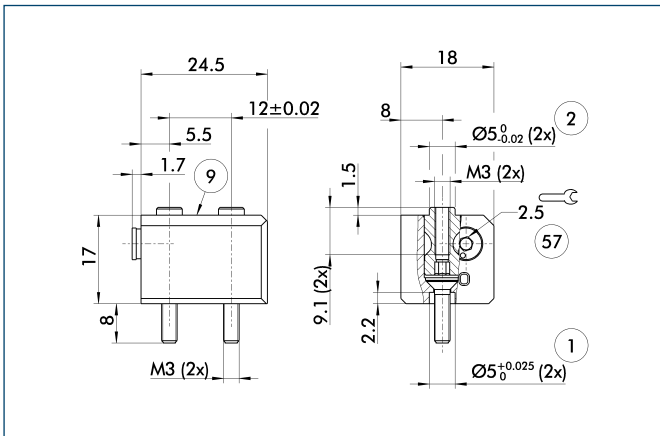
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

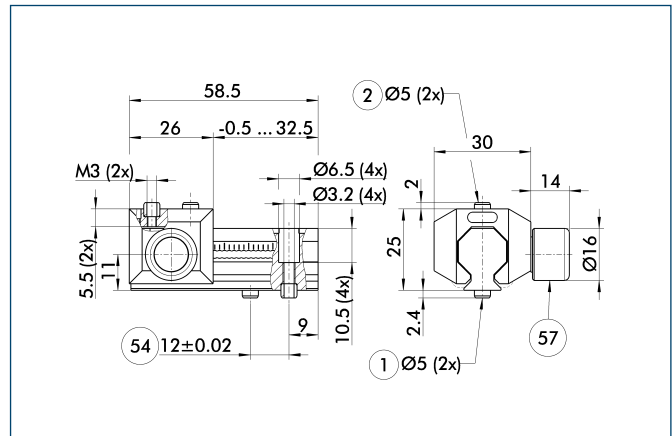
⑤7 Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection

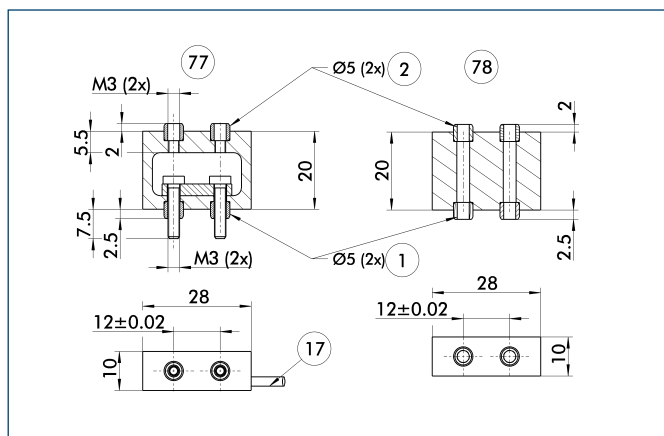
- ⑤4 Optional right or left connection
- ⑤7 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 50	0300041	1.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

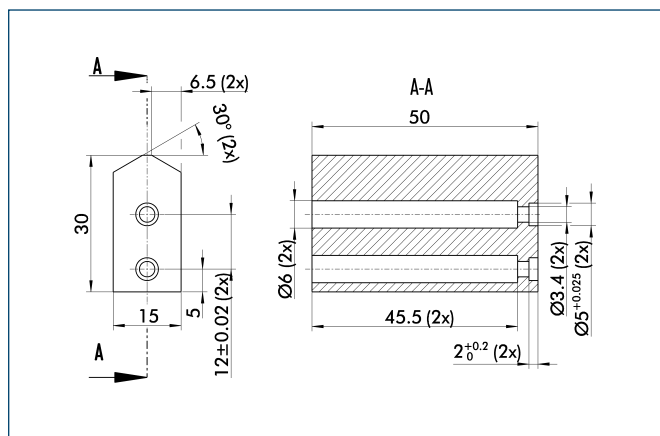


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



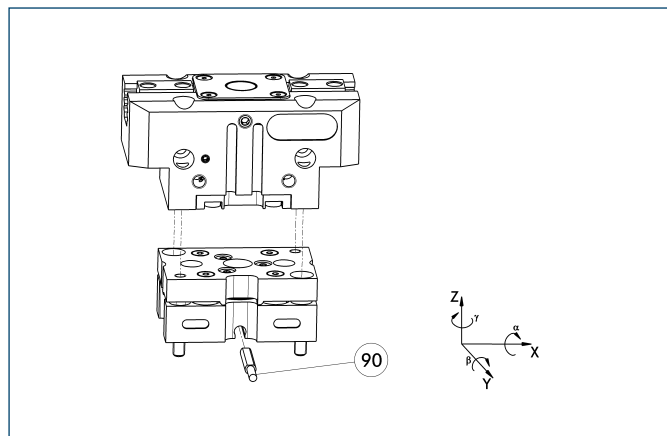
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

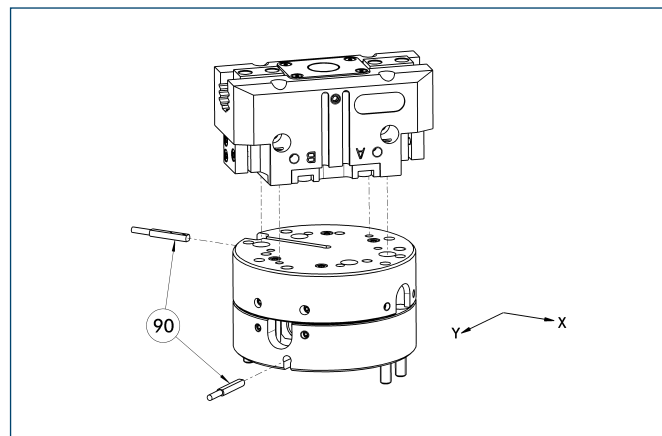


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-P	0324774	Yes	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-064-3-OV-P	0324775	No	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

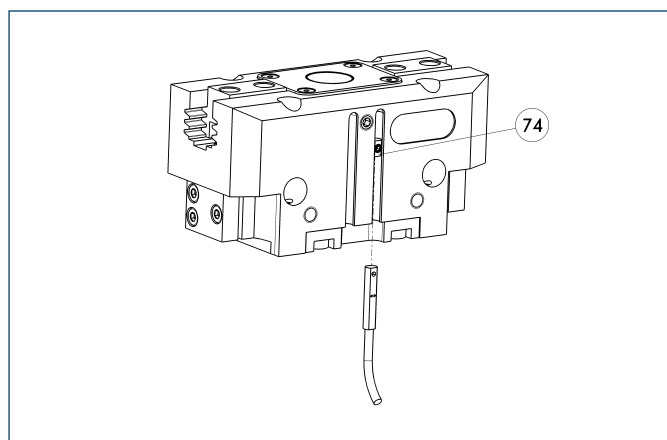


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Programmable magnetic switch



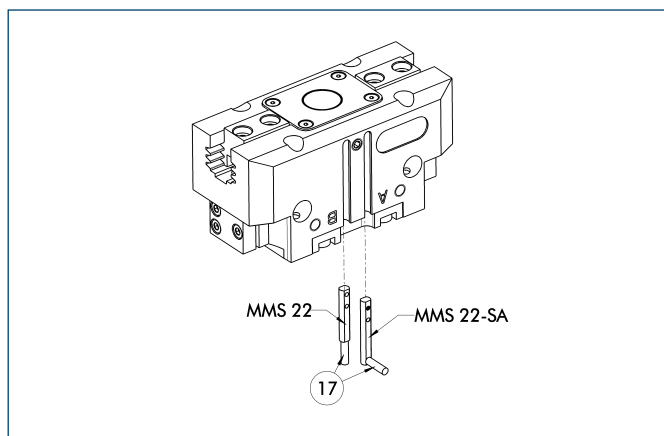
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

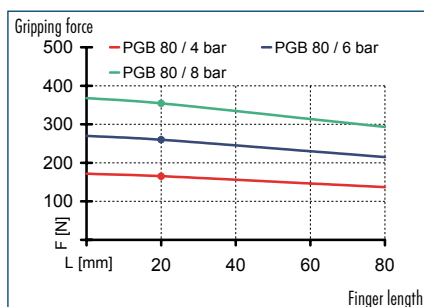
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



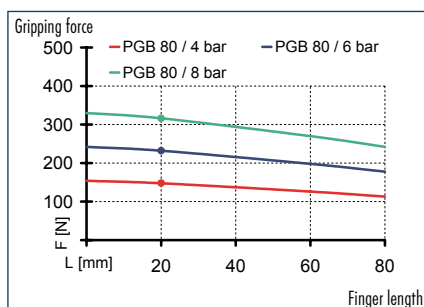
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



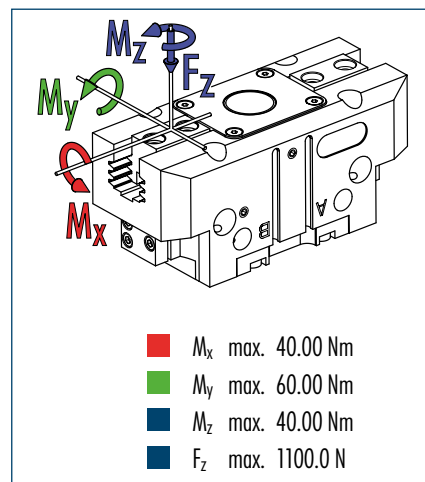
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

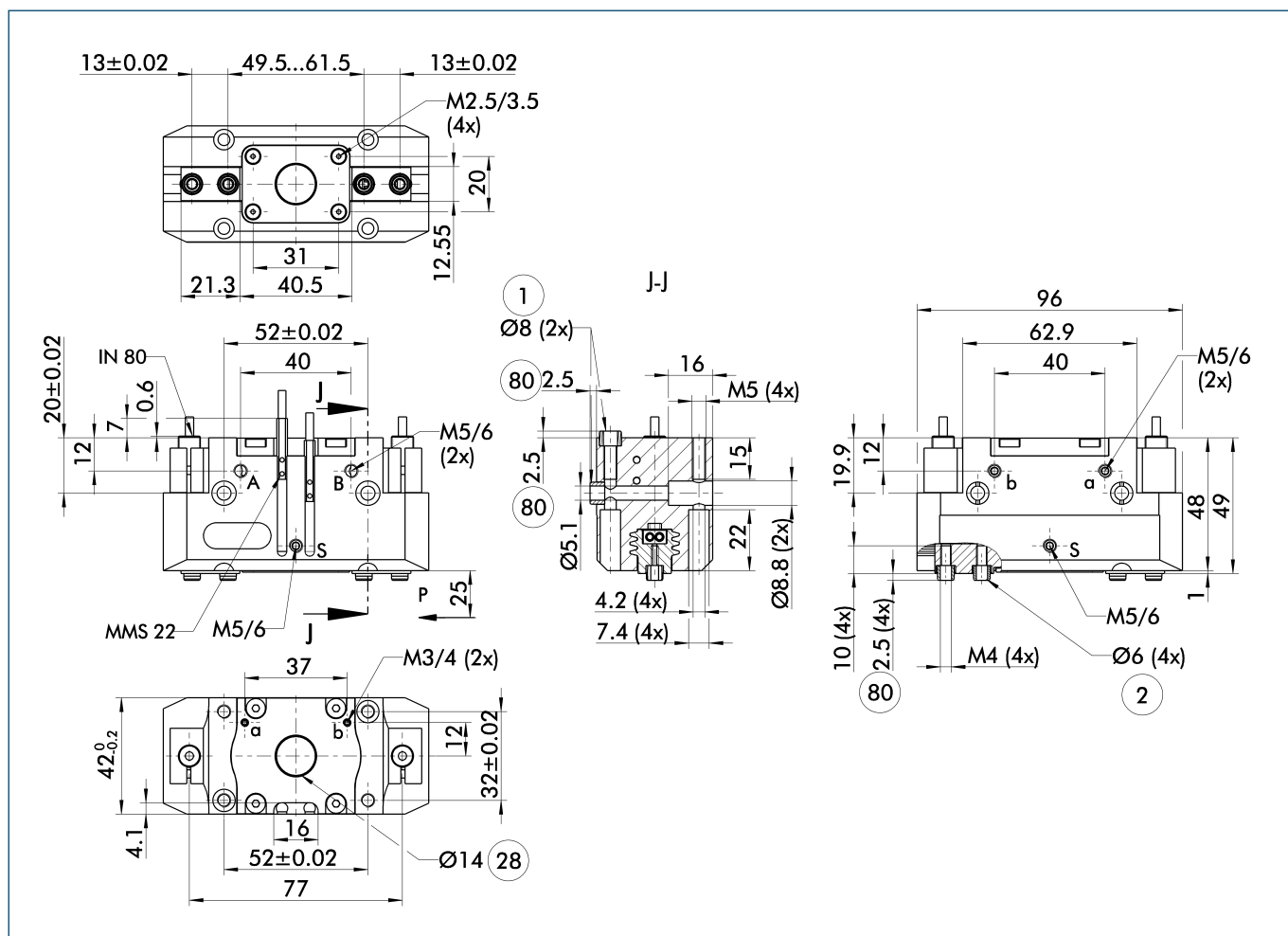


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGB 80
ID		0300363
Stroke per finger	[mm]	6
Closing force	[N]	240
Opening force	[N]	260
Weight	[kg]	0.47
Recommended workpiece weight	[kg]	1.25
Air consumption per double stroke	[cm ³]	11
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.03/0.03
Max. permitted finger length	[mm]	80
Max. permitted weight per finger	[kg]	0.35
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01
Diameter of center bore	[mm]	14

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

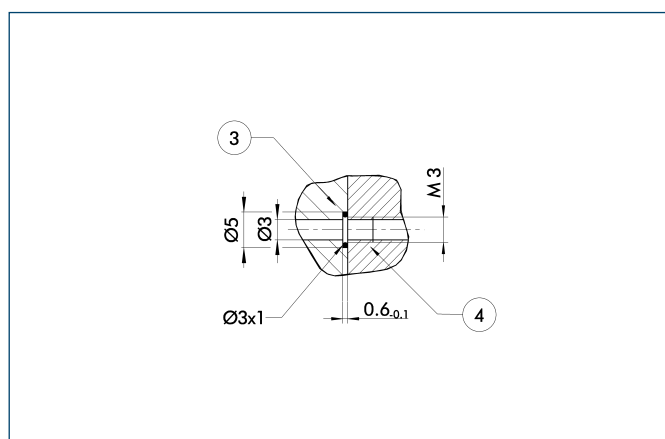
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection

① Gripper connection
② Finger connection

28 Through-bore
80 Depth of the centering sleeve hole in the matching part

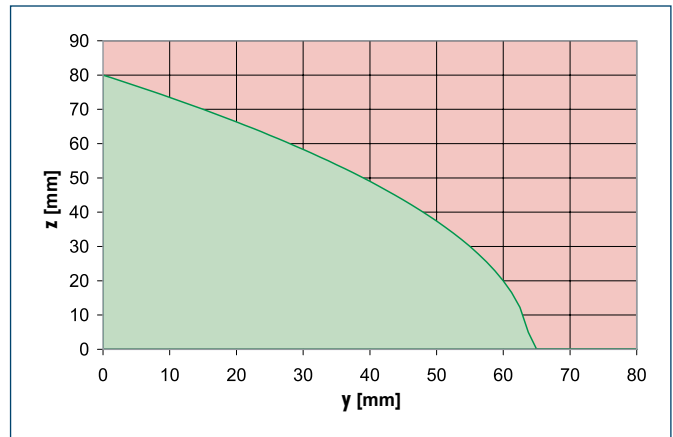
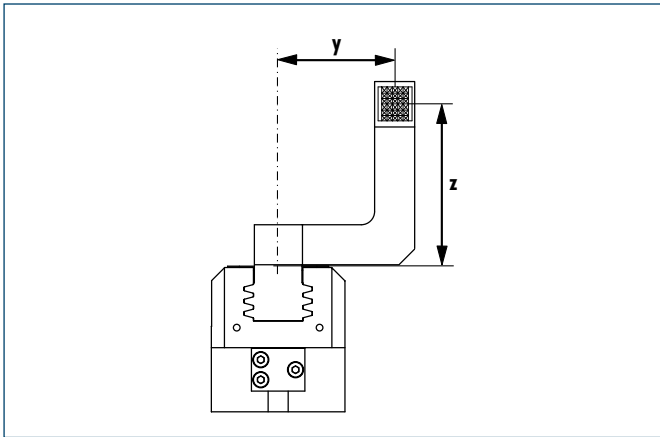
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

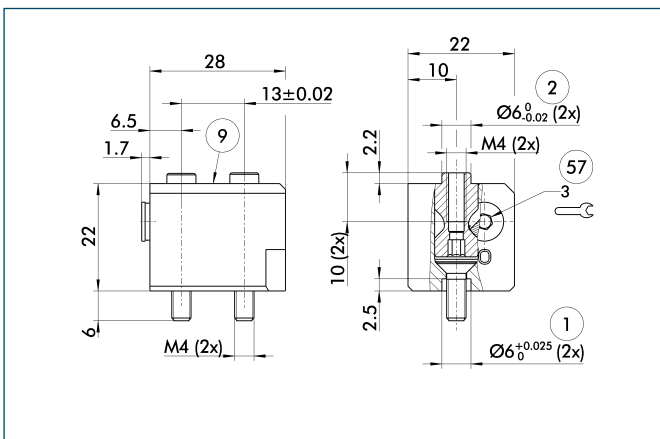
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



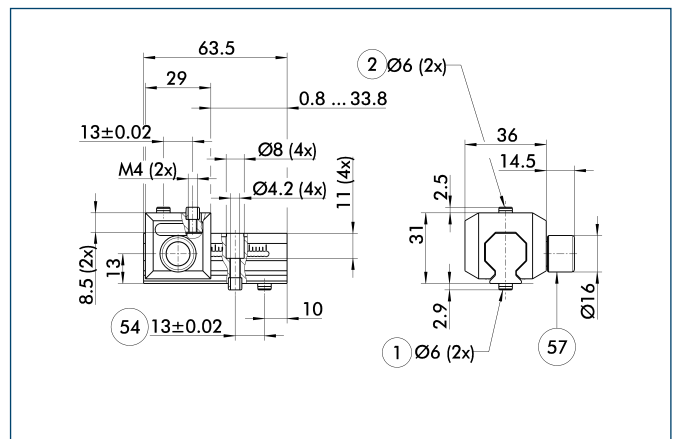
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041

Universal intermediate jaw



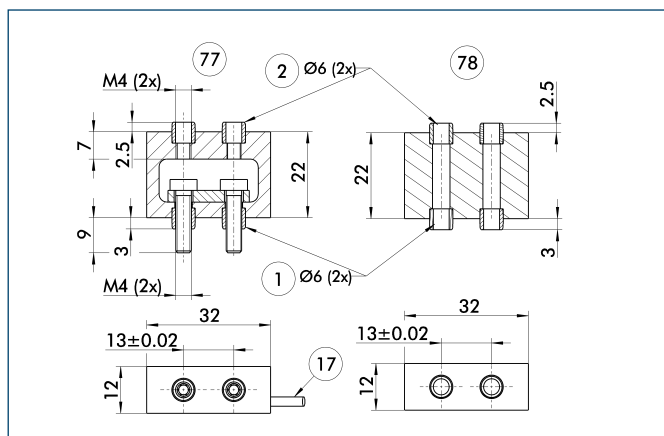
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 64	0300042	1.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

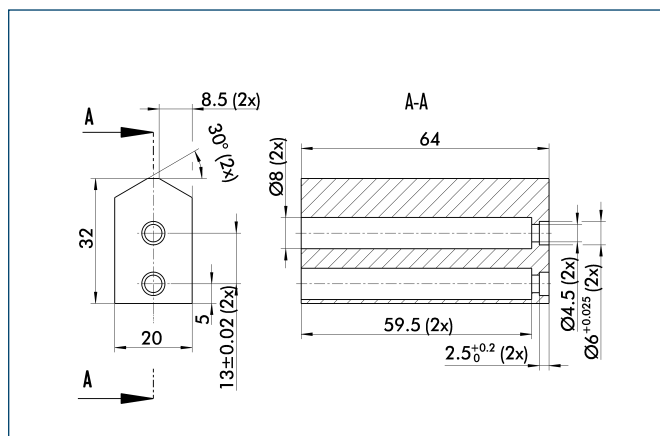


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



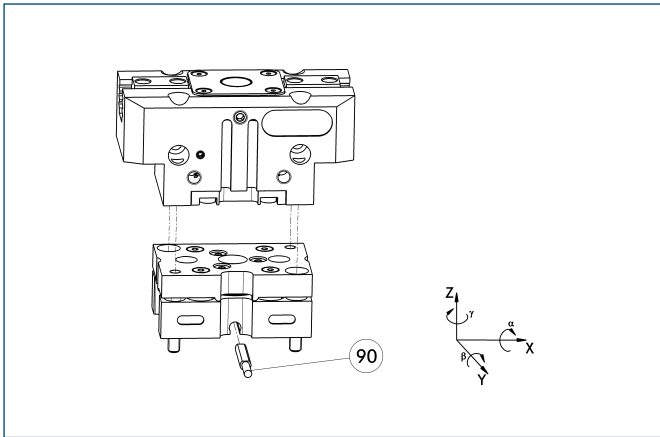
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

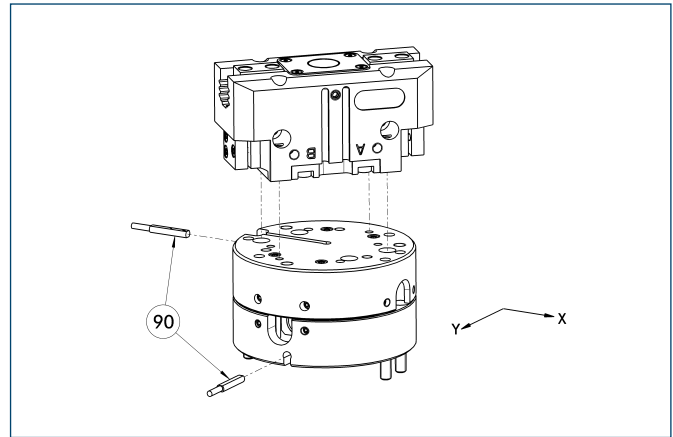


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-P	0324792	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-080-3-OV-P	0324793	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

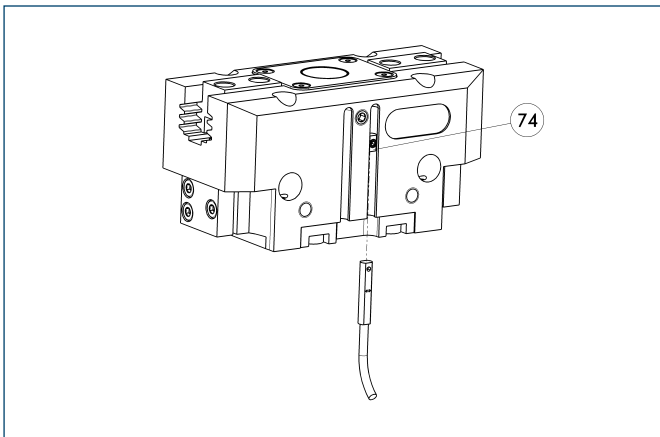


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Programmable magnetic switch



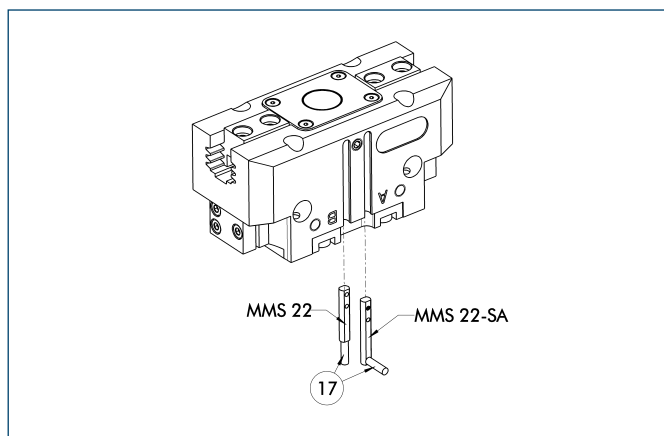
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

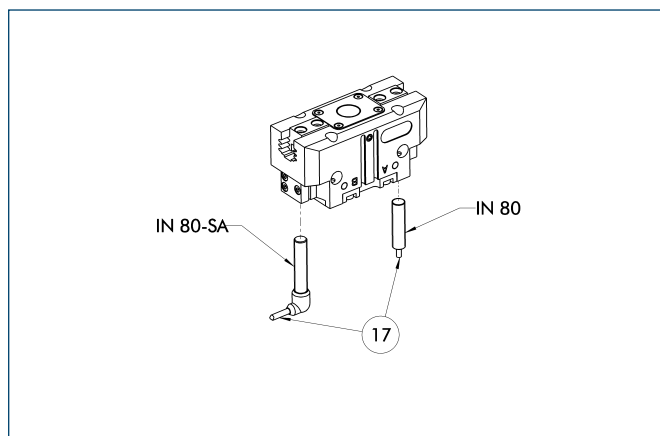
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring for direct mounting

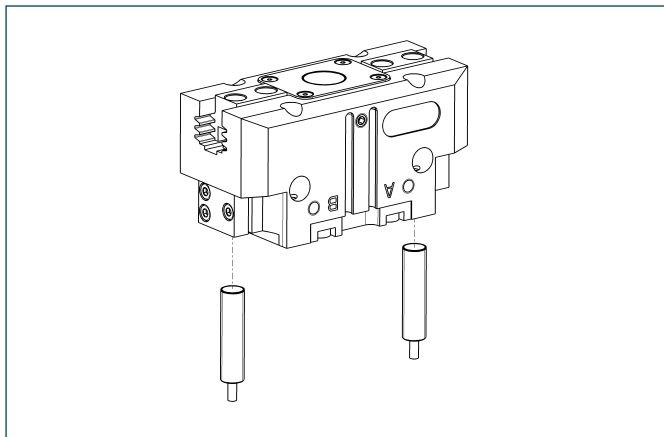
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Cylindrical Reed Switches

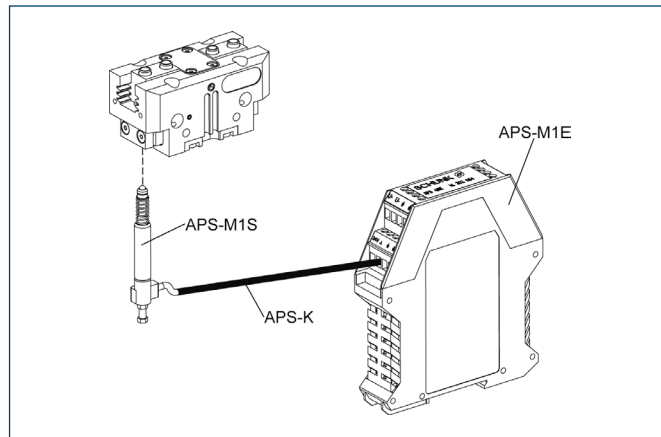


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

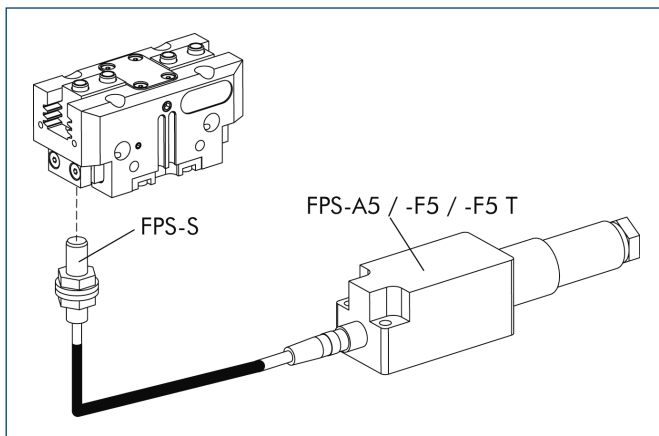


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

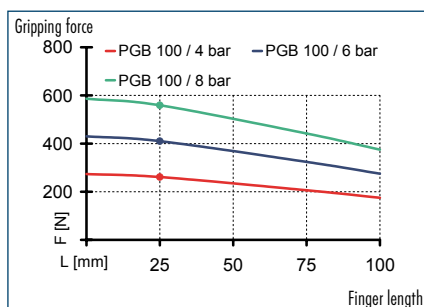
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



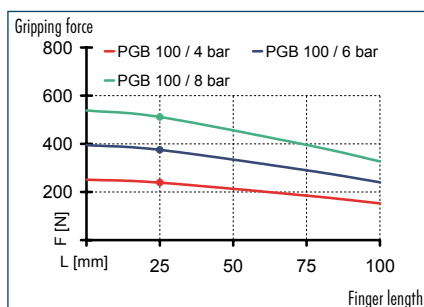
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



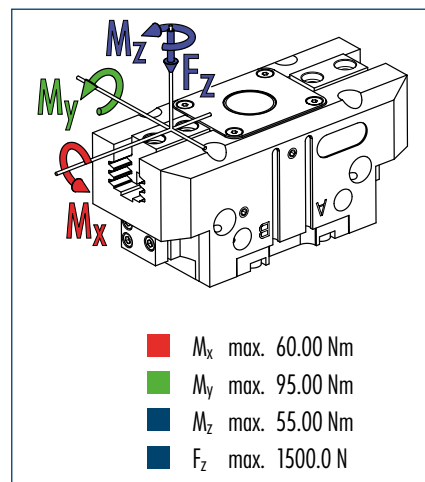
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

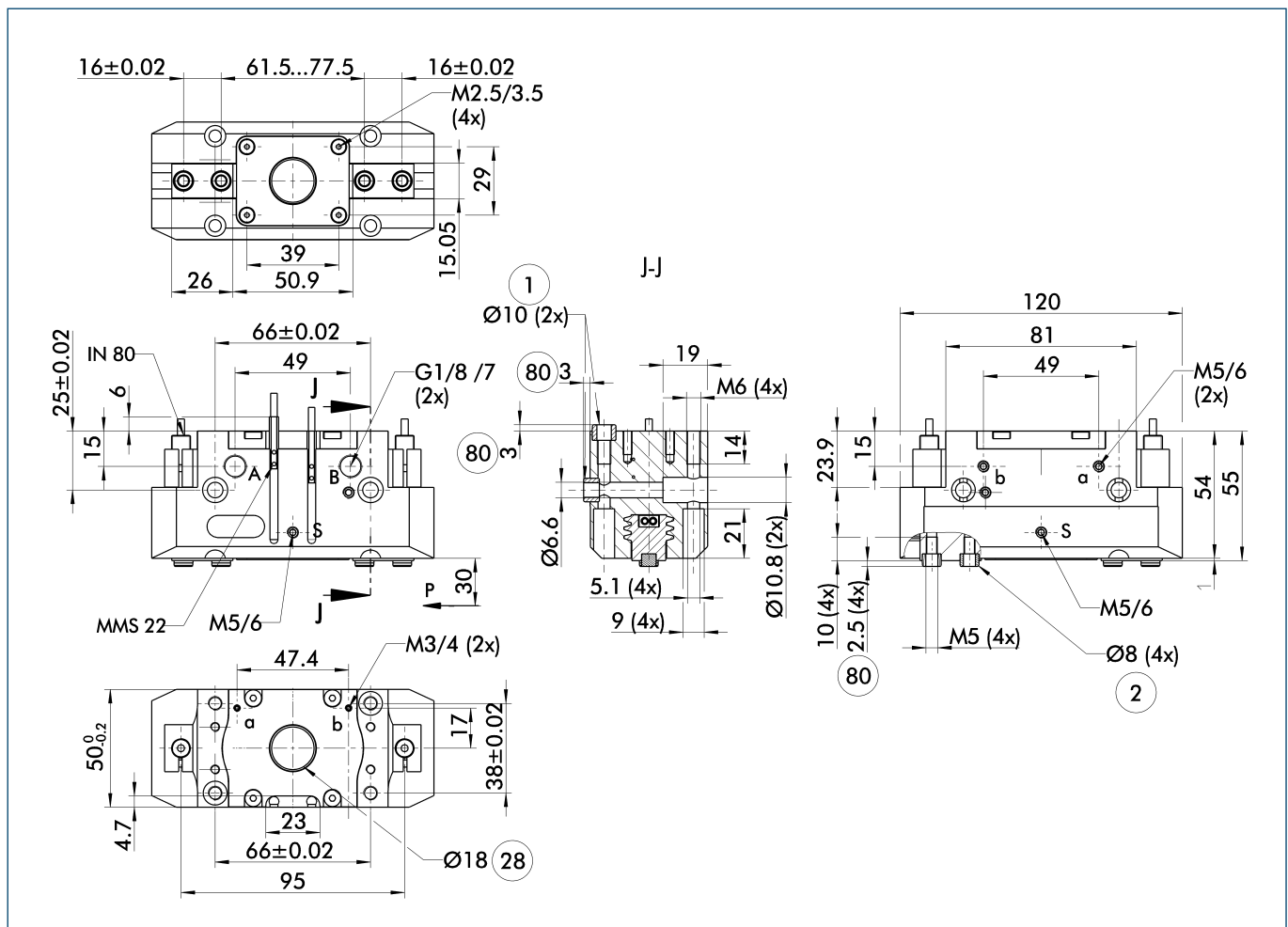


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGB 100
ID		0300366
Stroke per finger	[mm]	8
Closing force	[N]	380
Opening force	[N]	410
Weight	[kg]	0.78
Recommended workpiece weight	[kg]	2.1
Air consumption per double stroke	[cm ³]	22
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.07/0.07
Max. permitted finger length	[mm]	100
Max. permitted weight per finger	[kg]	0.6
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01
Diameter of center bore	[mm]	18

Main view



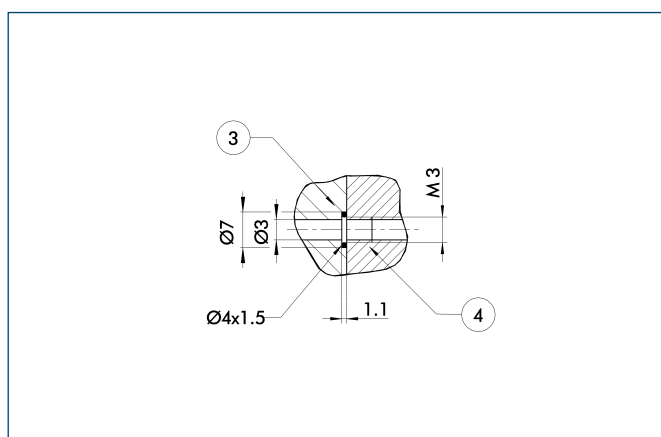
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection
② Finger connection

- ②⑧ Through-bore
⑧① Depth of the centering sleeve hole in the matching part

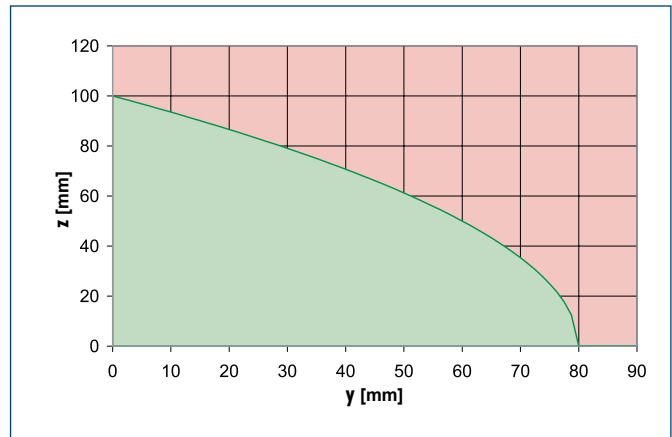
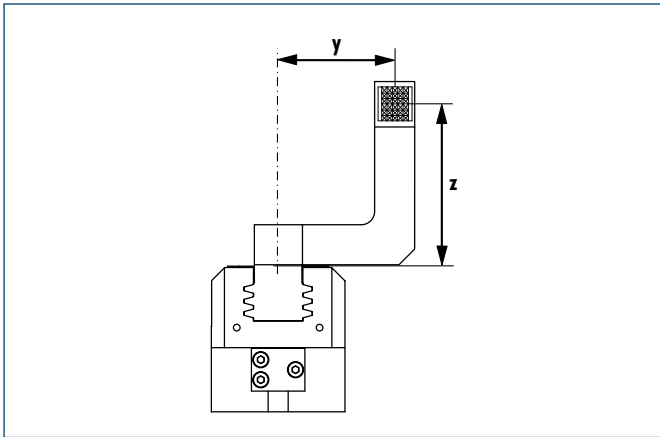
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

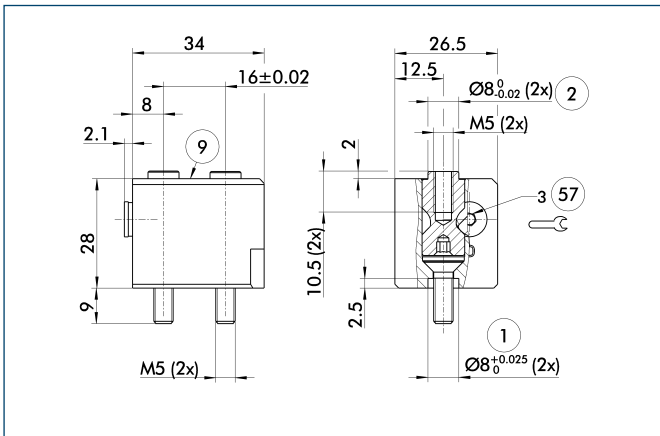
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



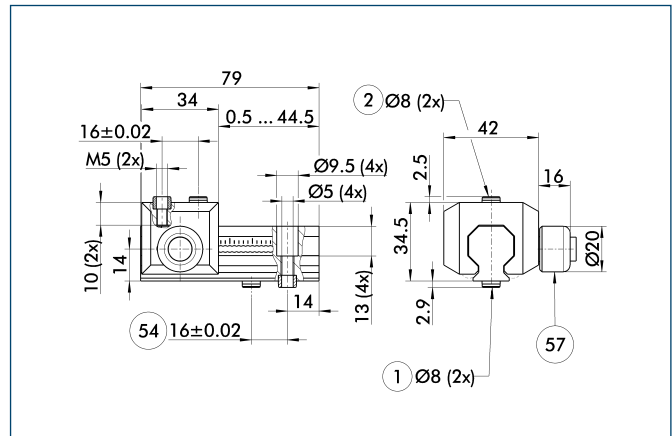
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSW quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042

Universal intermediate jaw



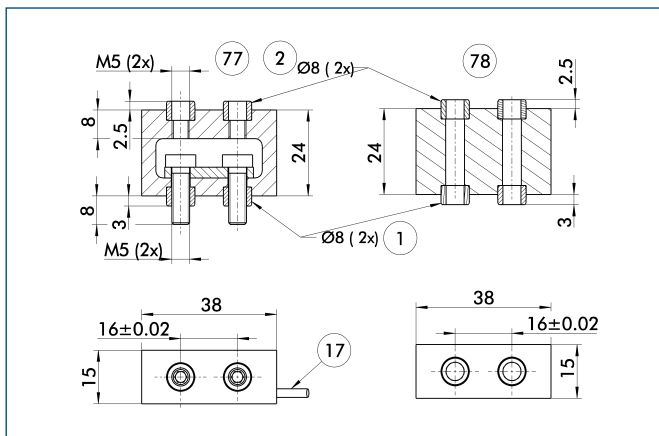
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	0300043	2 mm
UZB-S 80	5518271	2 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

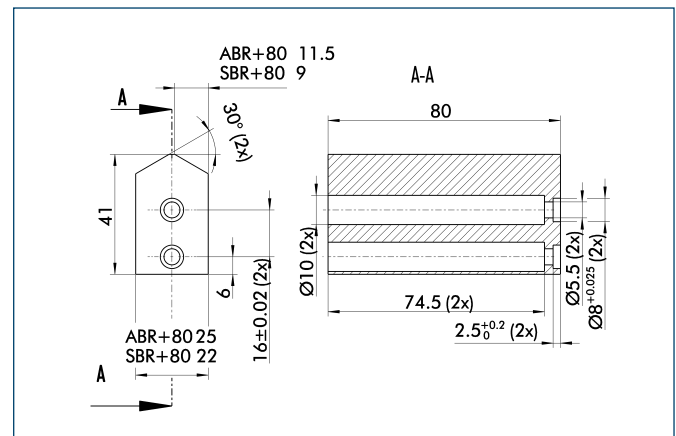


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



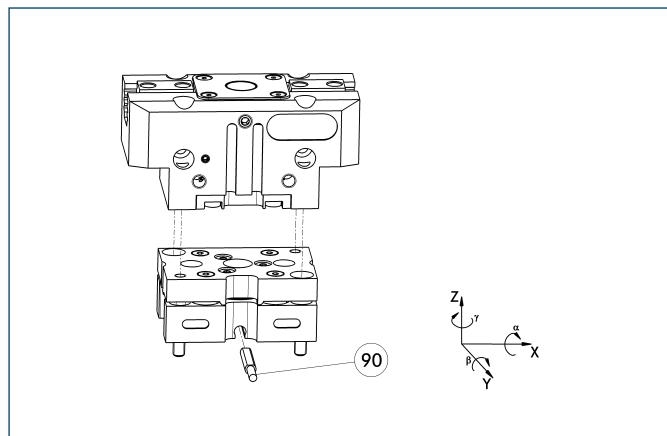
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

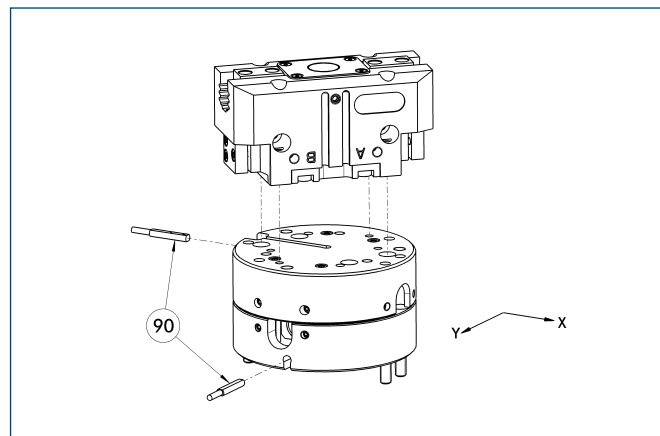


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-P	0324808	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$
TCU-100-3-OV-P	0324811	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$

Compensation unit with spring reset

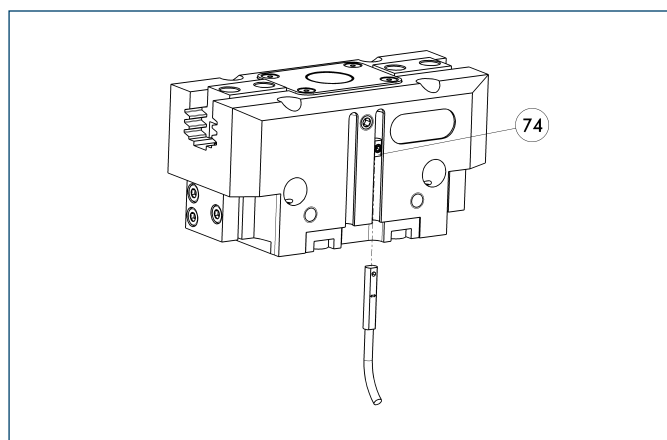


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Programmable magnetic switch



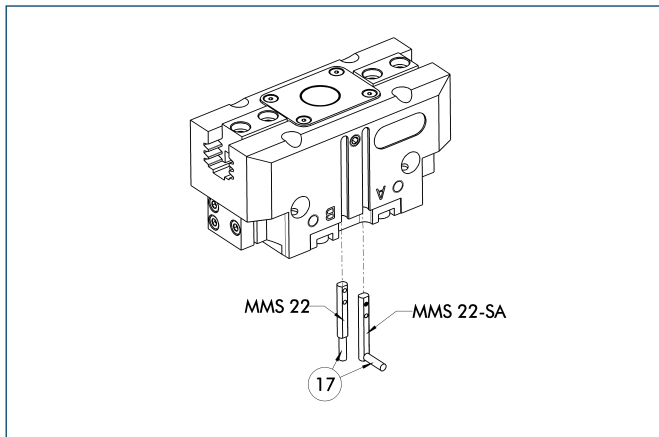
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

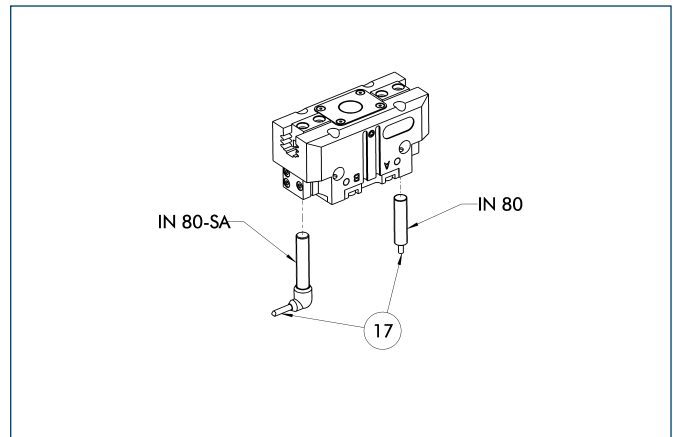
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring for direct mounting

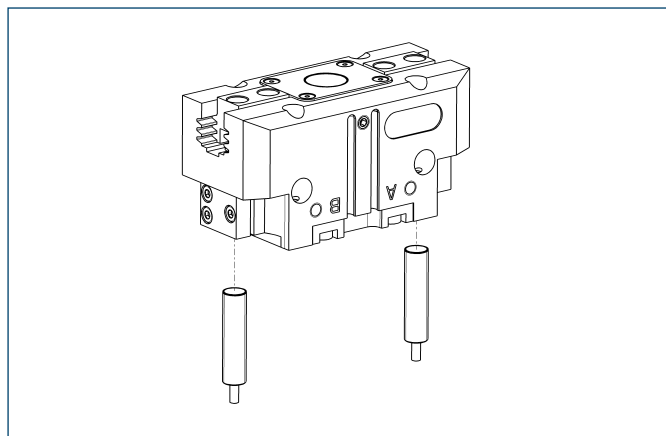
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Cylindrical Reed Switches

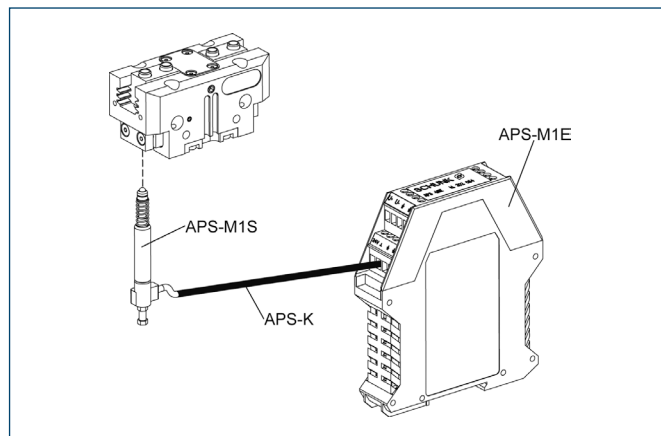


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

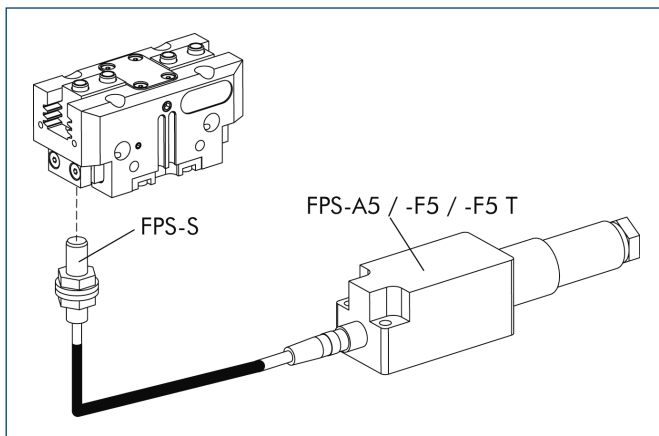


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

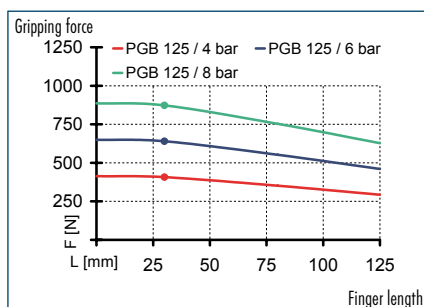
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



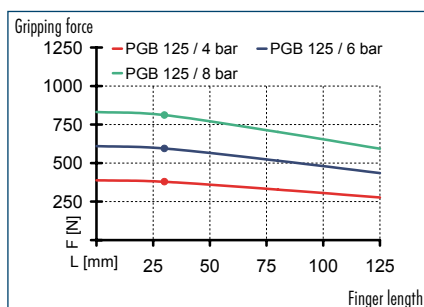
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



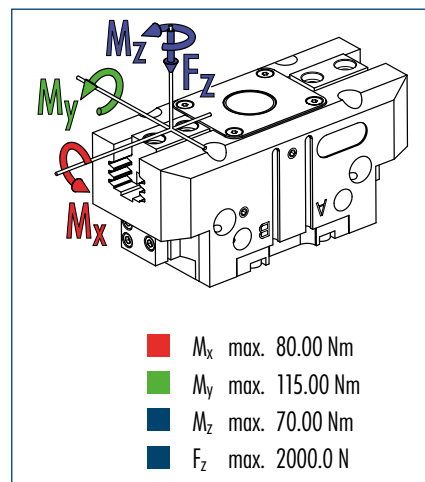
Gripping force, I.D. gripping



Gripping force, O.D. gripping



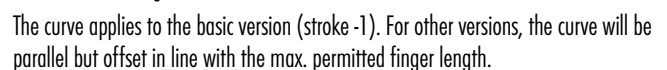
Finger load



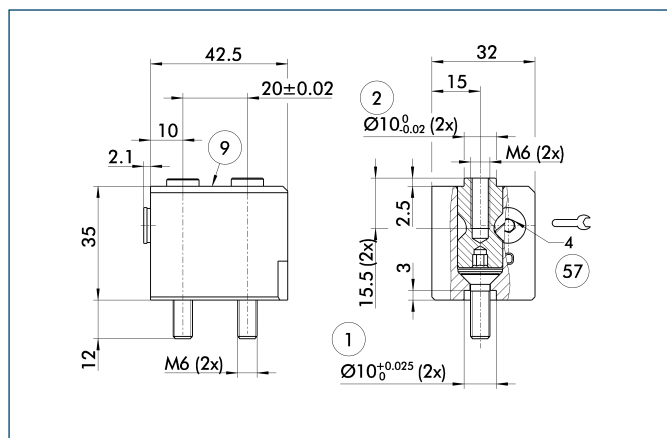
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGB 125
ID		0300369
Stroke per finger	[mm]	10
Closing force	[N]	610
Opening force	[N]	640
Weight	[kg]	1.32
Recommended workpiece weight	[kg]	3.3
Air consumption per double stroke	[cm ³]	32
Min./max. operating pressure	[bar]	2.5/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.08/0.08
Max. permitted finger length	[mm]	125
Max. permitted weight per finger	[kg]	1.1
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01
Diameter of center bore	[mm]	24



Quick-change Jaw System



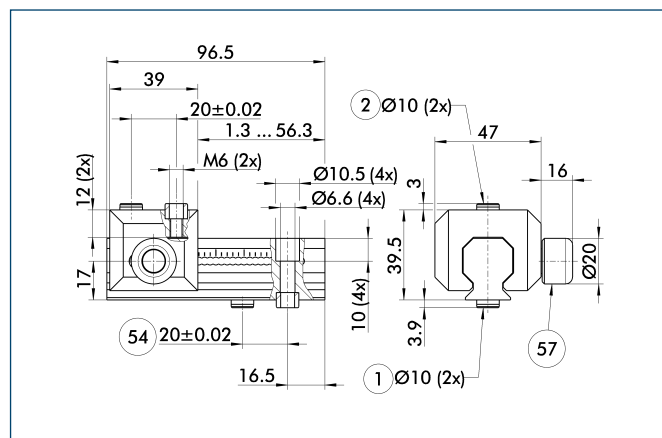
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043

Universal intermediate jaw



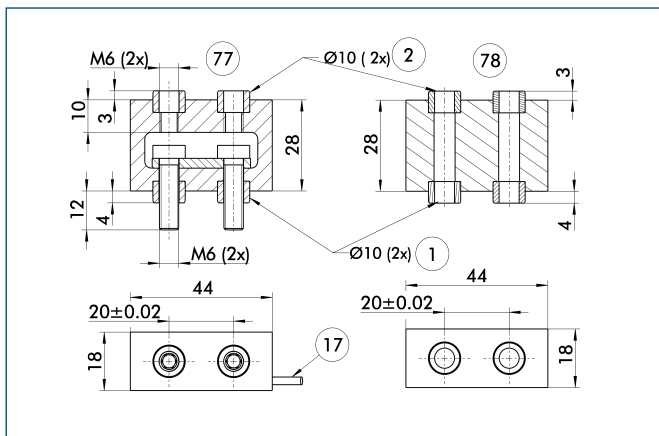
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 100	0300044	2.5 mm
UZF-S 100	5518272	2.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

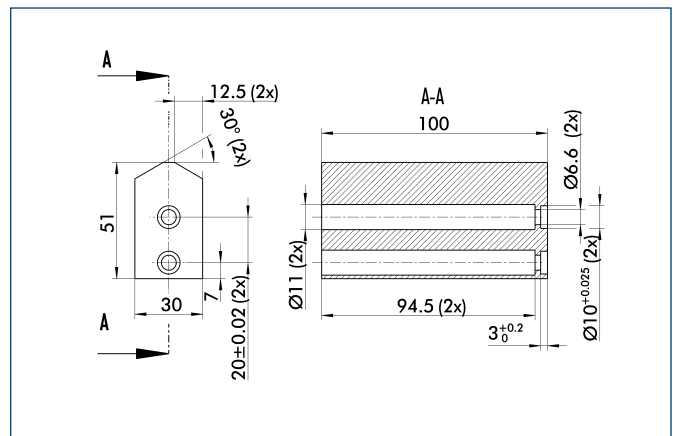


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



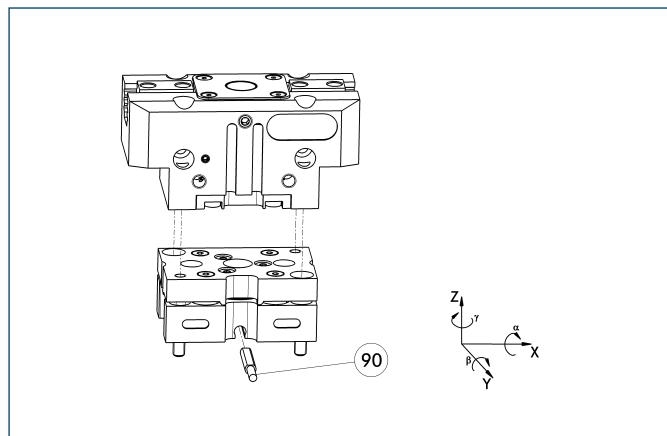
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

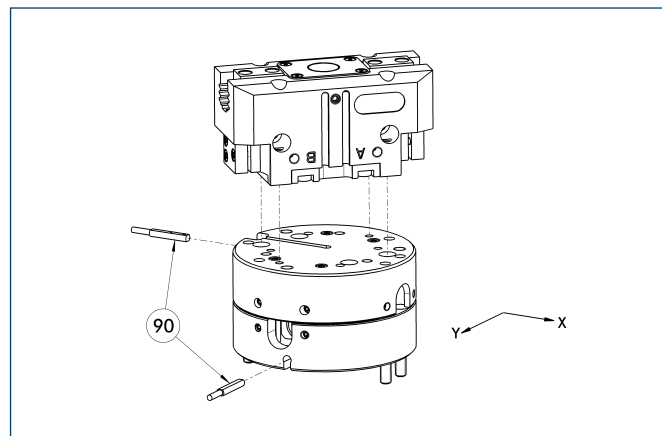


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-P	0324828	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-125-3-OV-P	0324829	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$

Compensation unit with spring reset

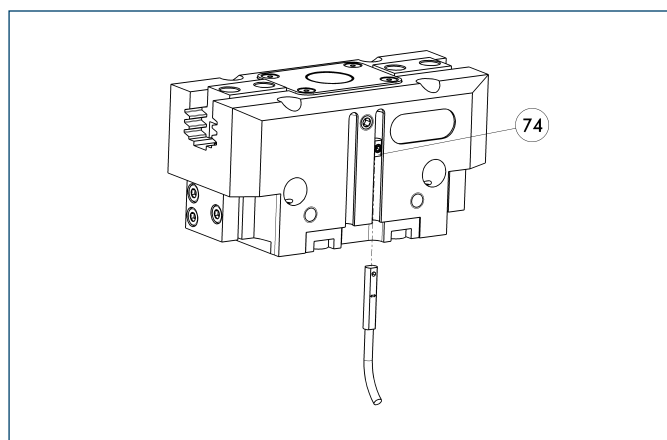


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Programmable magnetic switch



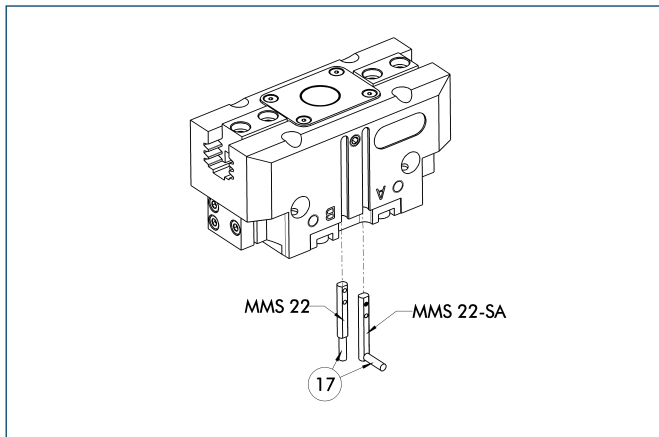
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

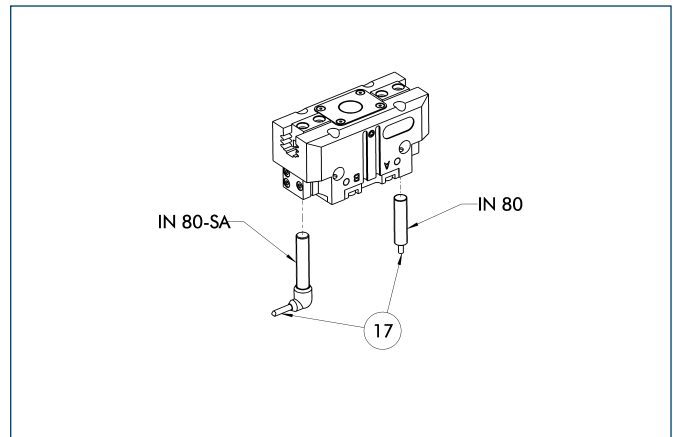
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring for direct mounting

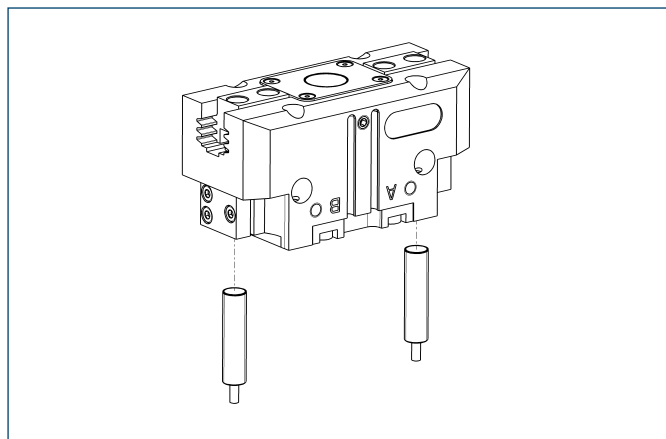
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Cylindrical Reed Switches

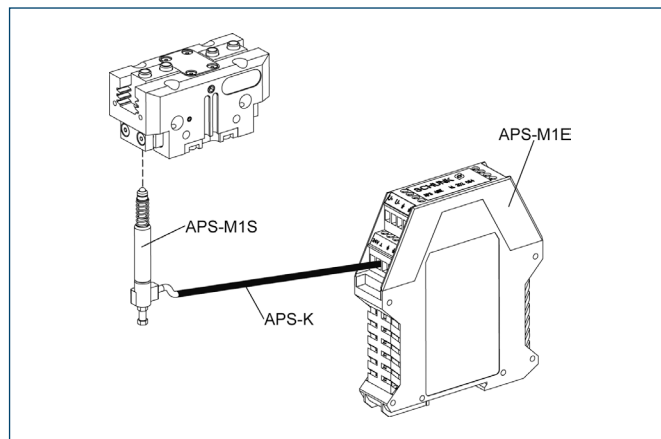


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80	
PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

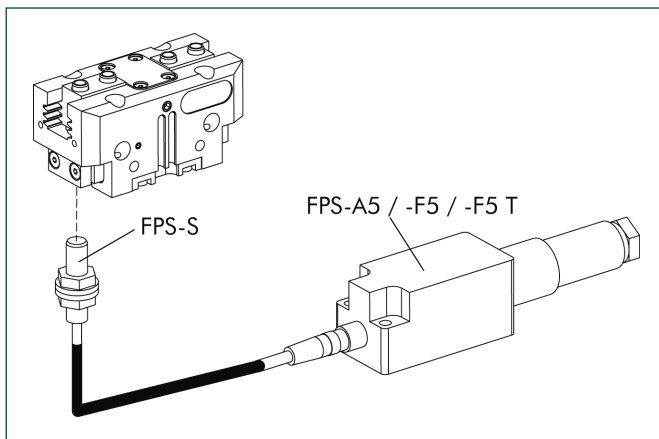


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



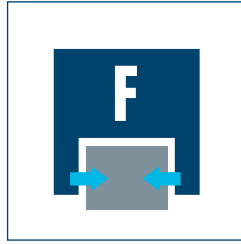
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
40 ... 200



Weight
0.12 kg ... 9.5 kg



Gripping force
110 N ... 5940 N



Stroke per finger
2 mm ... 25 mm



Workpiece weight
0.55 kg ... 27.3 kg

Application example



Sealed and extremely robust rotary gripping combination for use in harsh environments such as foundries, grinding shops or forges

1 DPG-plus 2-Finger Parallel Gripper with top fingers equipped with carbide clamping inserts

2 Swivel Unit SRU-plus in IP 67 tight standard version

Sealed Grippers

Despite the high moment load of the base jaws, this sealed 2-finger parallel gripper conforms to the IP 67 requirements and does not permit any substances from the working environment to penetrate the interior of the unit.

Field of application

The DPG-plus is ideally suitable for handling of rough or dirty workpieces. Its field of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing or underwater.

Your advantages and benefits

Robust interior multi-tooth guidance

for the precise handling of all kinds of workpieces

Lip seal at the outside round guidance

for permanent, secure gripper sealing

High maximum moments possible

suitable for using long gripper fingers

Sealed 2-finger parallel gripper

complies to IP67 requirements despite a high moment load

Drive concept oval piston

for maximum gripping forces

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Compact dimensions

for minimal interfering contours in handling



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

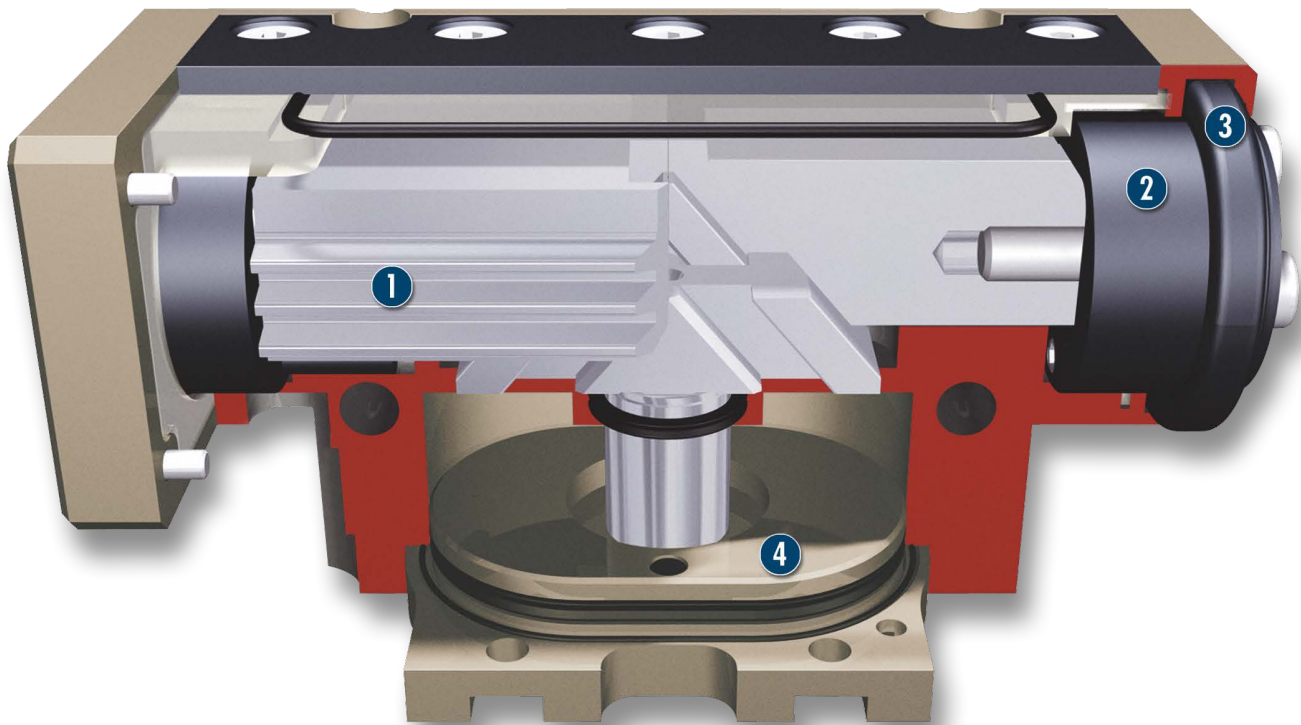
Scope of delivery

Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1** Inner base jaw with multi-tooth guidance for high moment loads
- 2** External round base jaw providing a sealable, round surface
- 3** Lip seal for permanent, secure gripper sealing
- 4** Oval piston with rod and wedge hook for power generation and transmission

Functional description

The piston is moved up and down by compressed air. The angled active surfaces of the wedge hook produce a synchronized, parallel jaw motion.

Options and special information

Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Force intensified version

if higher gripping forces are required

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



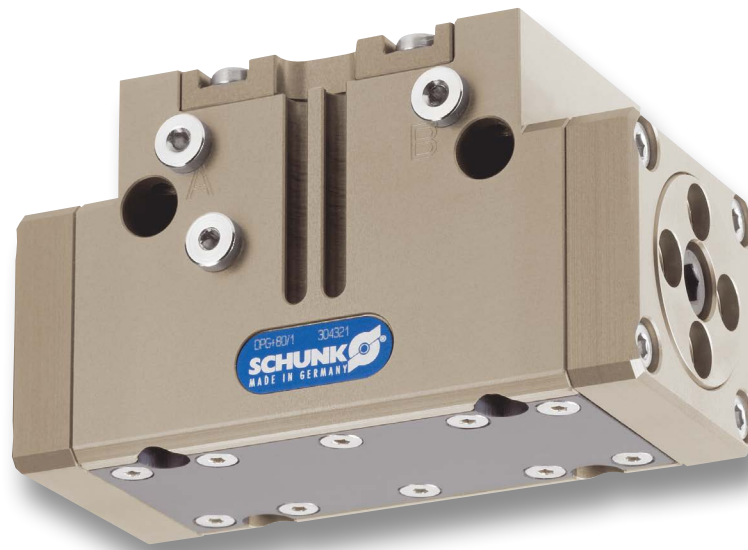
Sensor system



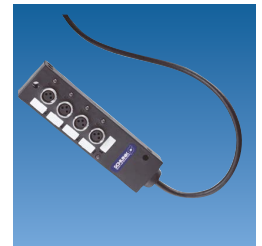
Sensor cables



Quick-change Jaw System



Sensor Distributor



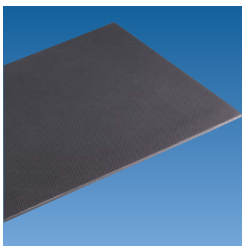
Plastic inserts



Pressure maintenance valve



Gripper pads



Finger blanks



Universal intermediate jaw



Compensation unit



Tolerance compensation unit



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

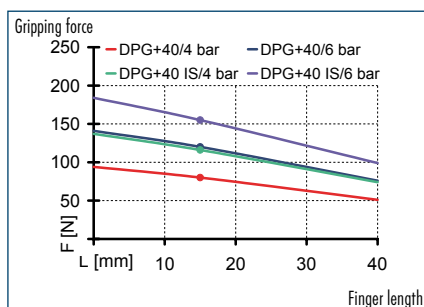
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

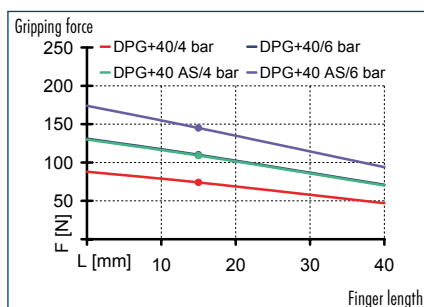
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



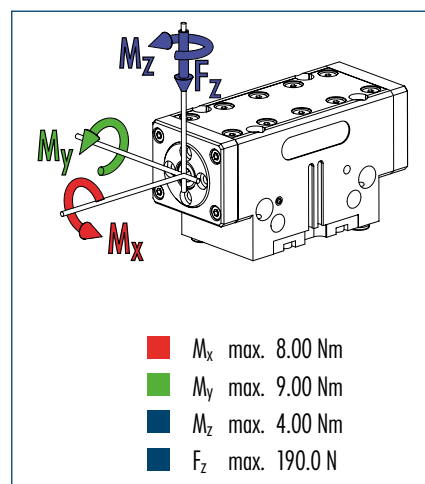
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



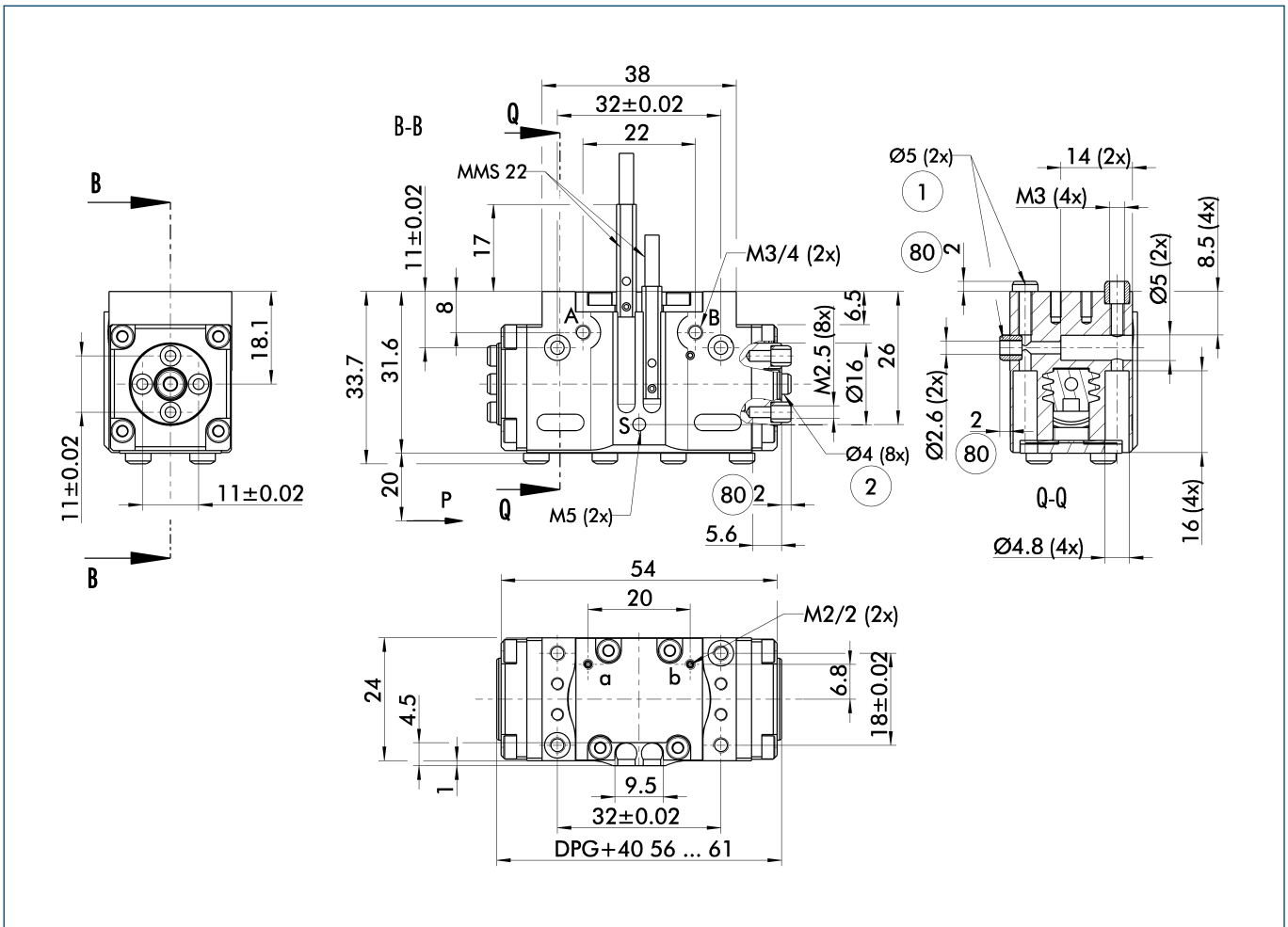
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPG-plus 40	DPG-plus 40-AS	DPG-plus 40-IS
ID		0304291	0304293	0304295
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	110	145	
Opening force	[N]	120		165
Min. spring force	[N]		35	45
Weight	[kg]	0.12	0.14	0.14
Recommended workpiece weight	[kg]	0.55	0.55	0.55
Air consumption per double stroke	[cm ³]	2.5	5.5	5.5
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.05	0.03/0.05
Max. permitted finger length	[mm]	40	40	40
Max. permitted weight per finger	[kg]	0.01	0.01	0.01
IP class		67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



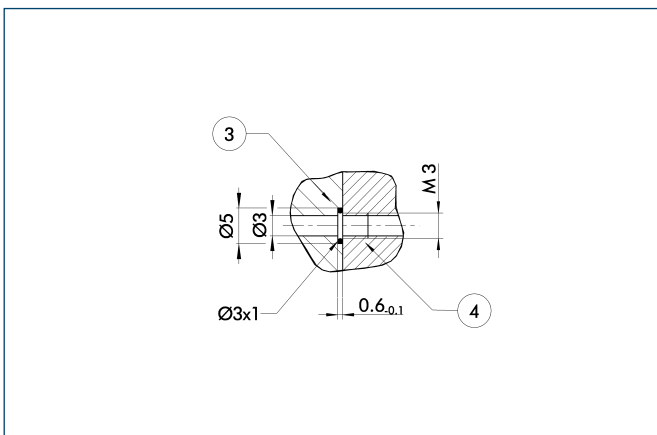
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

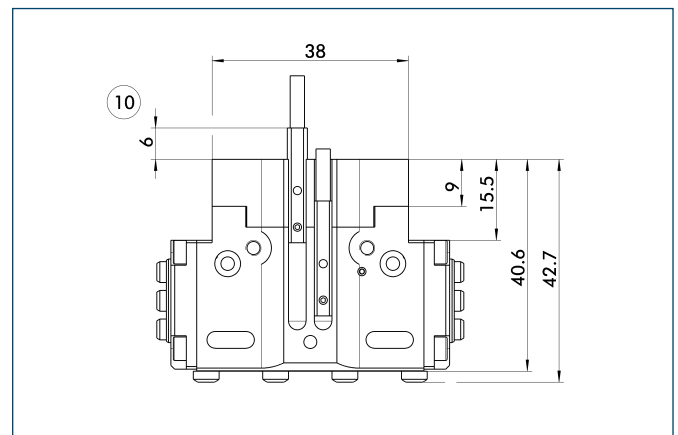
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

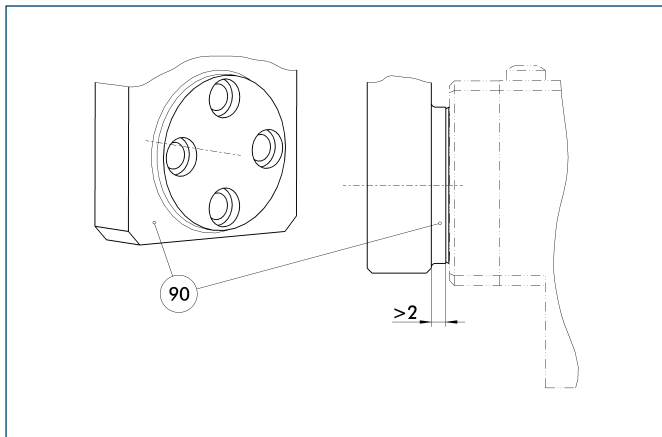
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

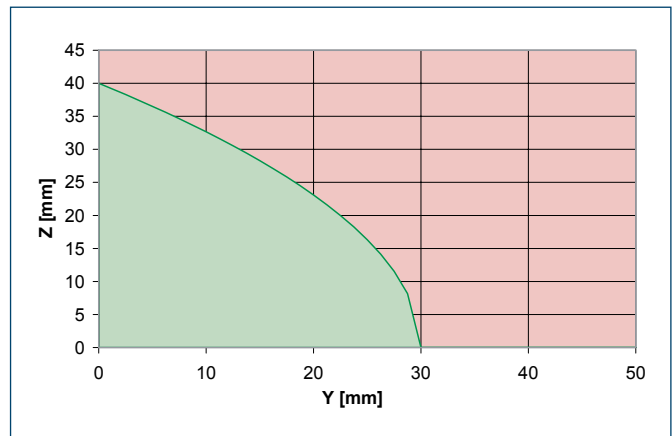
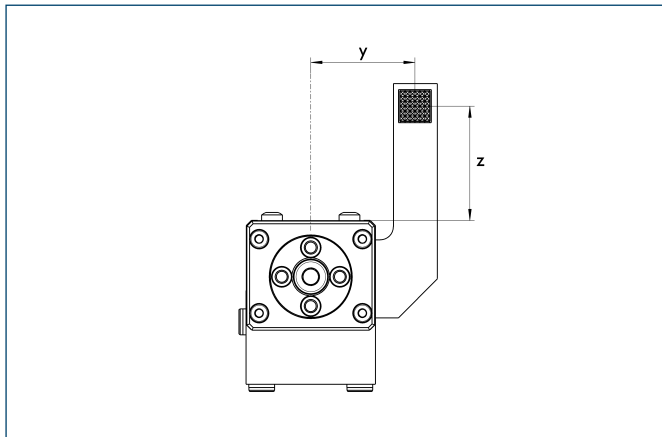
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

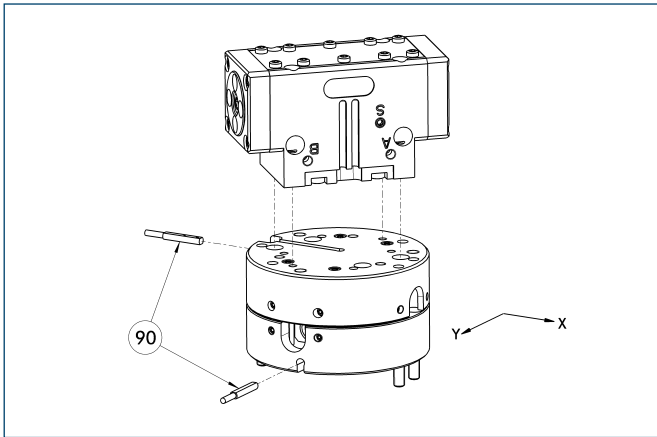
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Compensation unit with spring reset

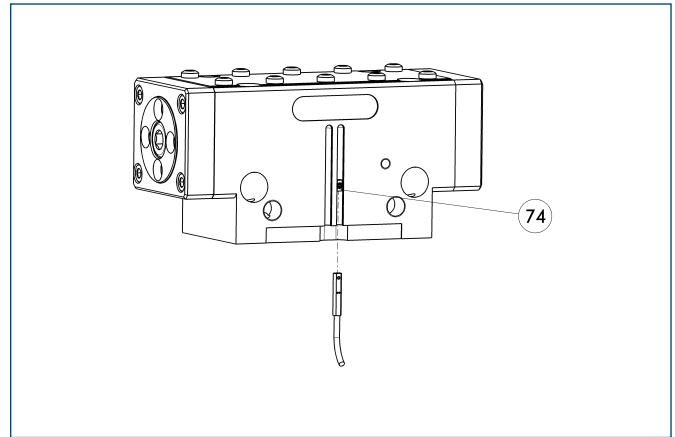


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

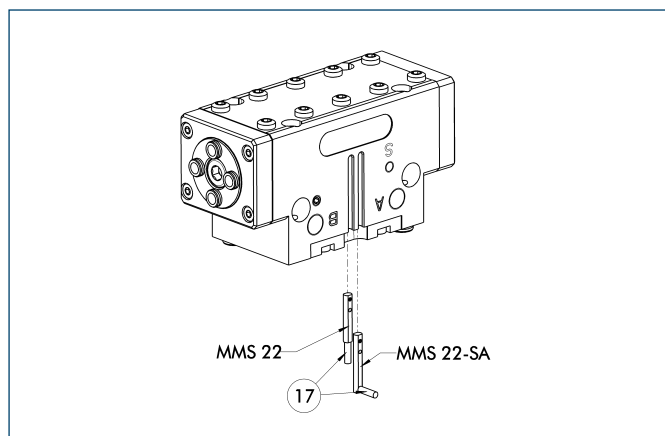
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

② Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



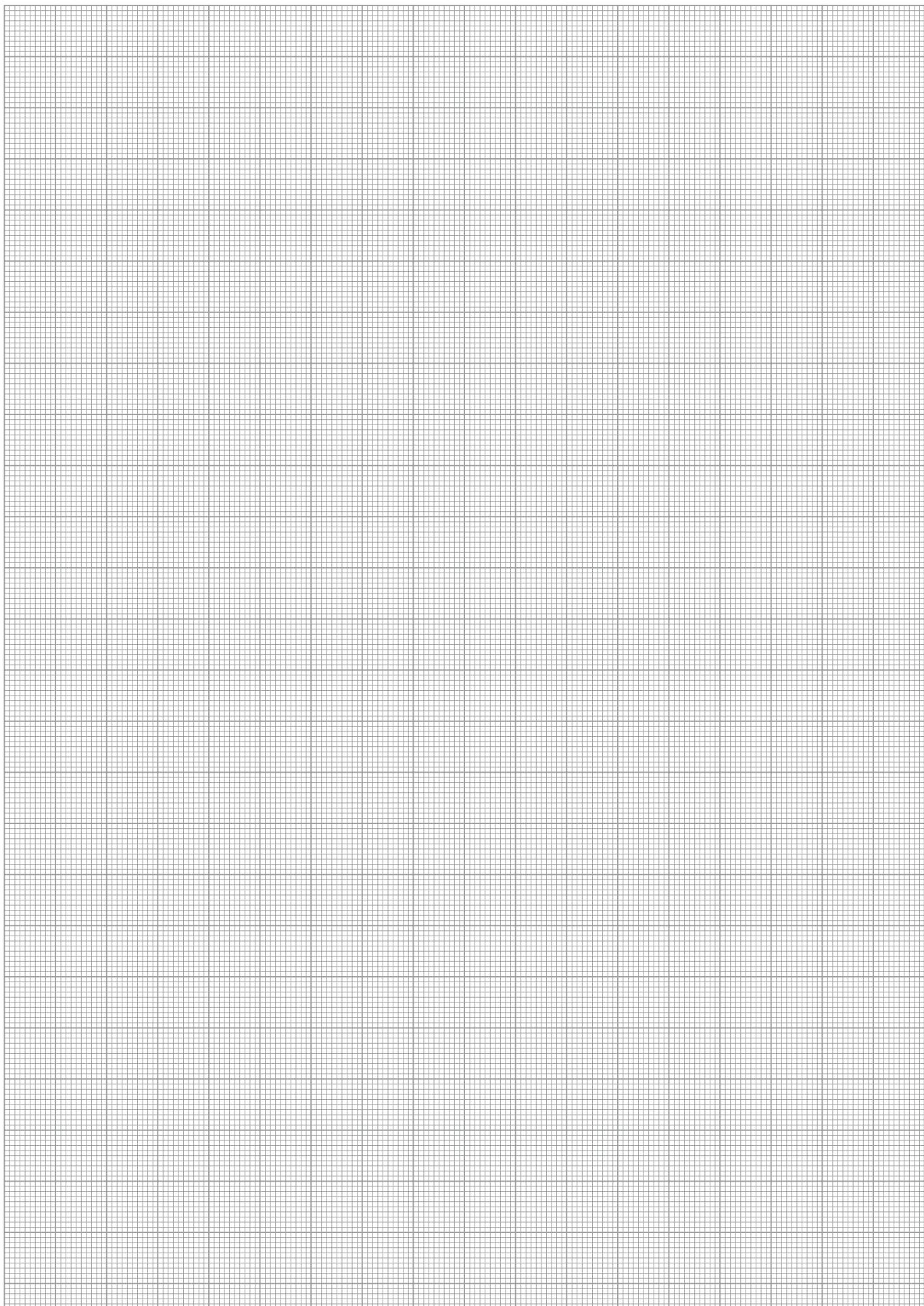
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

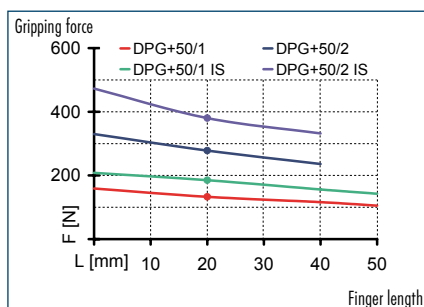
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

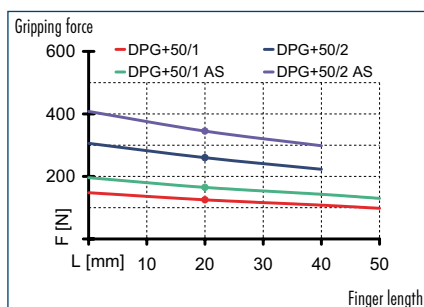




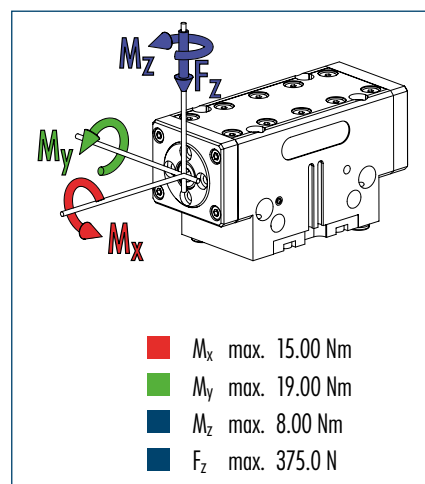
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

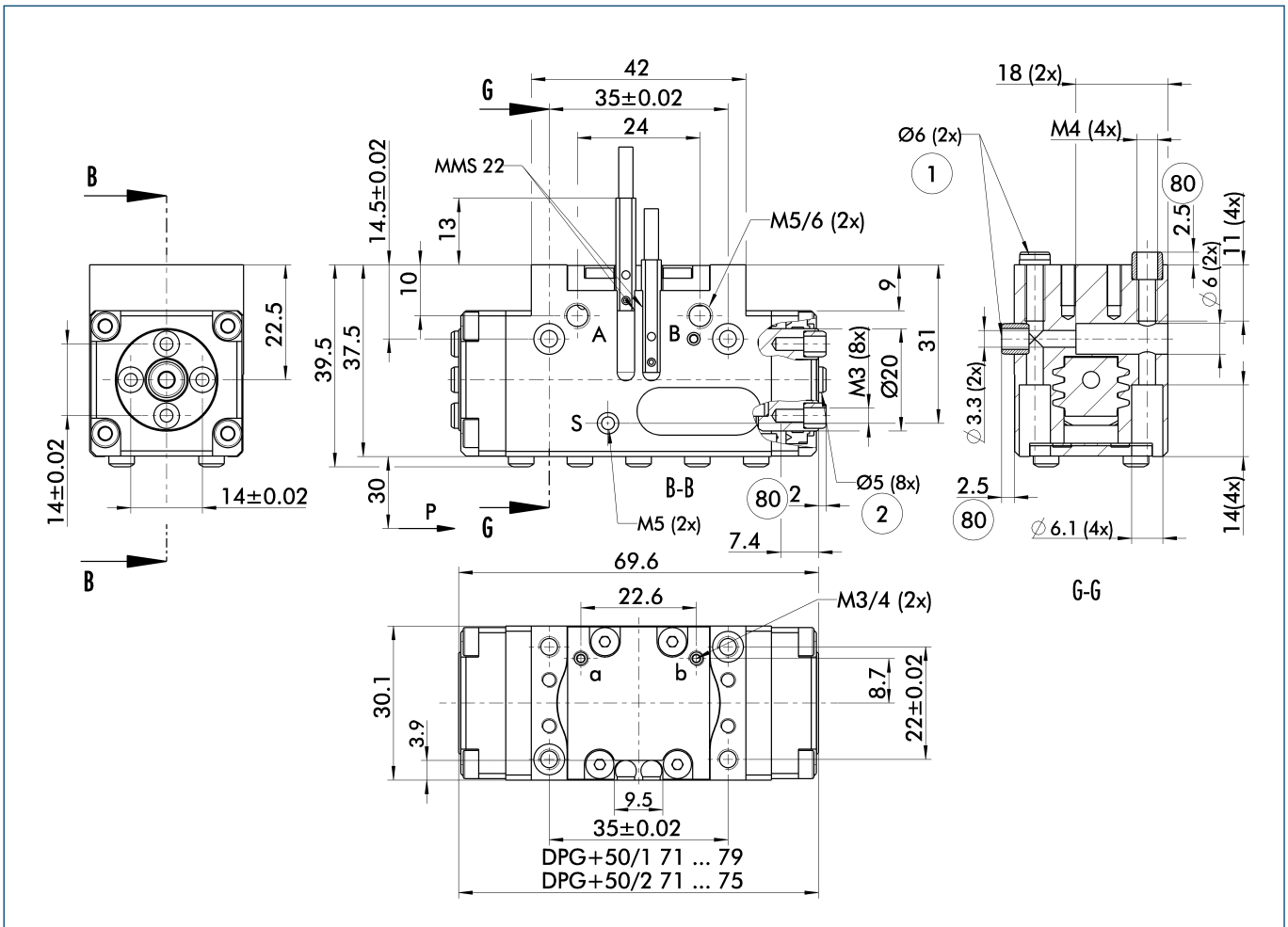
Description		DPG-plus 50-1	DPG-plus 50-2	DPG-plus 50-1-AS	DPG-plus 50-2-AS	DPG-plus 50-1-IS	DPG-plus 50-2-IS
ID		0304301	0304302	0304303	0304304	0304305	0304306
Stroke per finger	[mm]	4	2	4	2	4	2
Closing force	[N]	125	260	165	345		
Opening force	[N]	130	275			170	360
Min. spring force	[N]			40	85	40	85
Weight	[kg]	0.25	0.25	0.3	0.3	0.3	0.3
Recommended workpiece weight	[kg]	0.6	1.3	0.6	1.3	0.6	1.3
Air consumption per double stroke	[cm³]	5	5	12	12	12	12
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Max. permitted finger length	[mm]	50	40	50	40	50	40
Max. permitted weight per finger	[kg]	0.15	0.15	0.15	0.15	0.15	0.15
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

OPTIONS and their characteristics

Force intensified version		DPG-plus 50-1-KVZ	DPG-plus 50-2-KVZ	DPG-plus 50-1-AS-KVZ	DPG-plus 50-1-IS-KVZ
ID		0304307	0304308	0304309	0304300
Closing force	[N]	225	470	265	
Opening force	[N]	235	505		275
Weight	[kg]	0.29	0.29	0.34	0.34
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	40	30	30	30

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



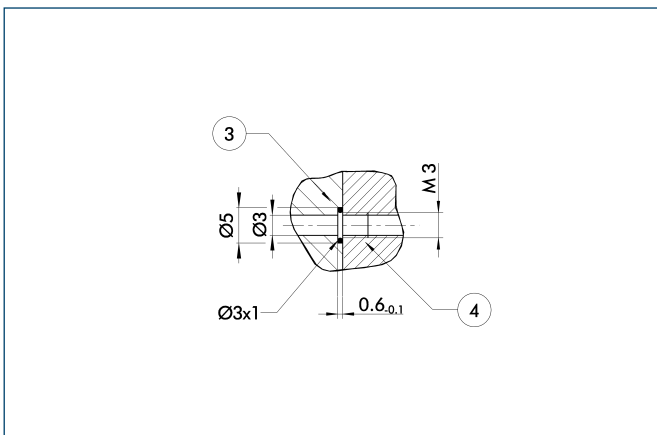
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

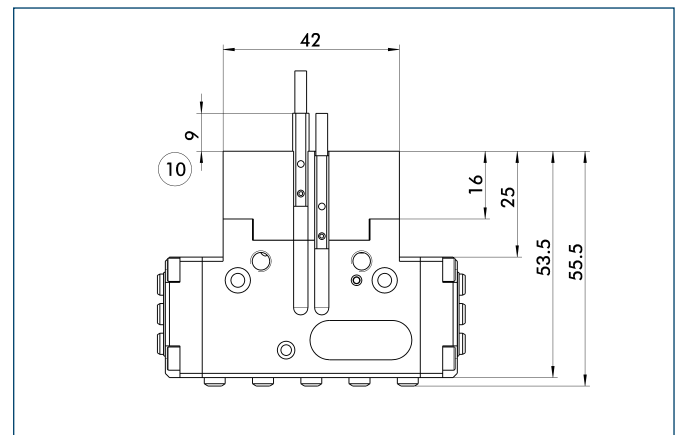
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

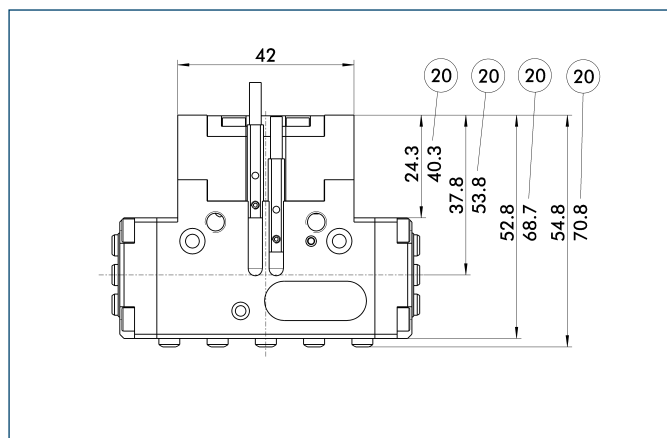
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

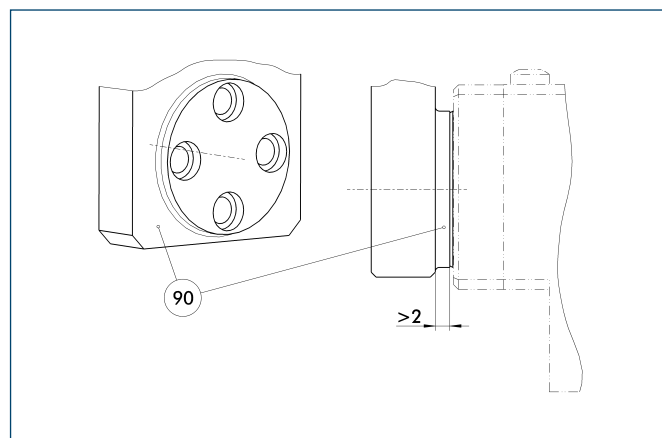
Force intensified version



20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

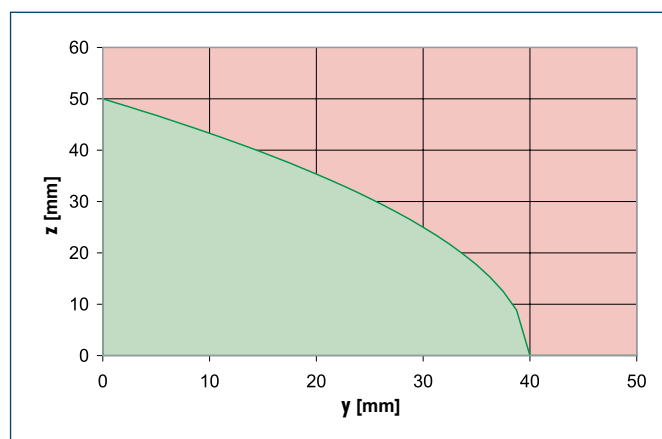
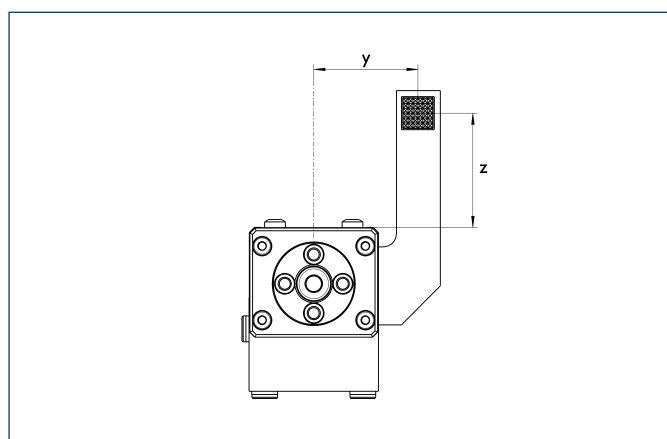
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

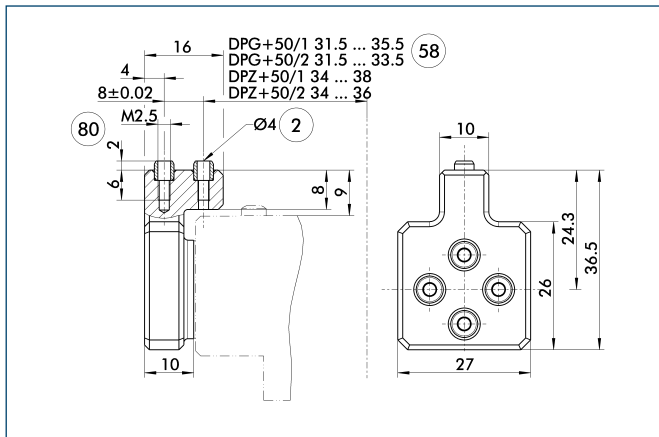
Maximum permitted finger projection



Permitted range
Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



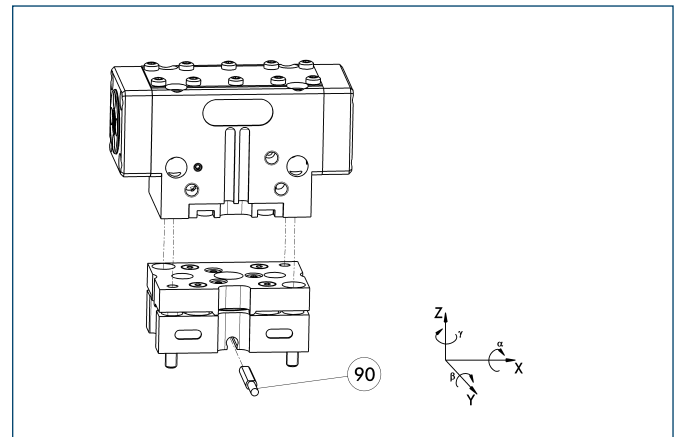
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑩ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+50	0300191	Aluminum	1

Tolerance compensation unit

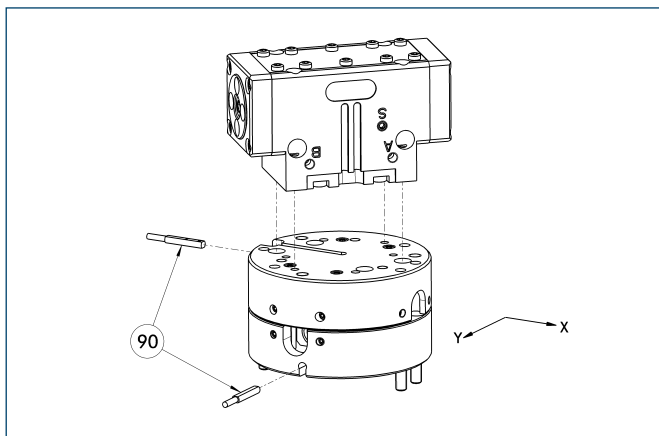


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-OV-P	0324757	No	±0°/±1°/±0°

Compensation unit with spring reset

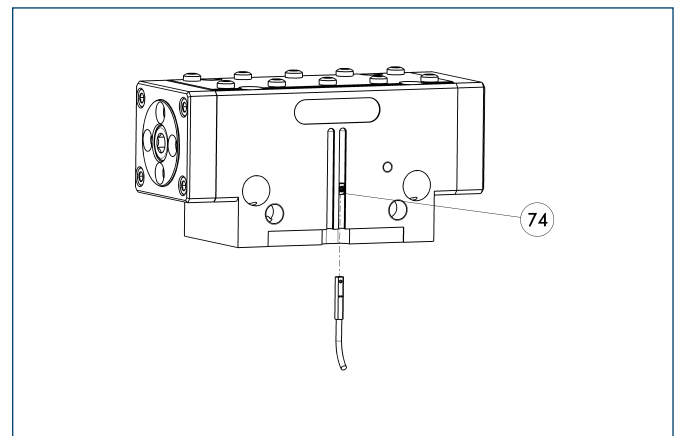


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	±2 mm	1 N
AGE-F-XY-040-2	0324921	±2 mm	2.5 N
AGE-F-XY-040-3	0324922	±2 mm	3.3 N

Programmable magnetic switch



- ⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

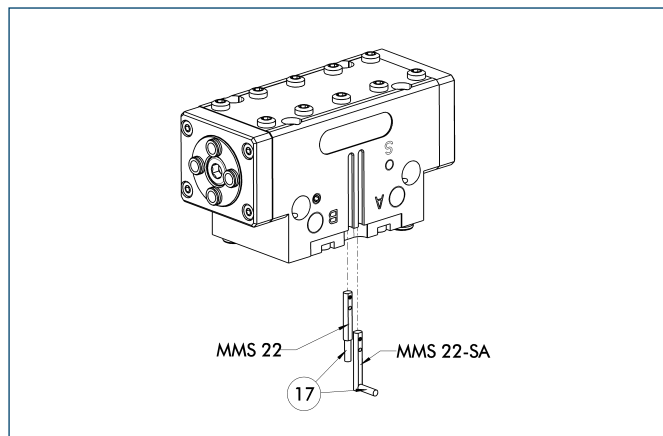
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

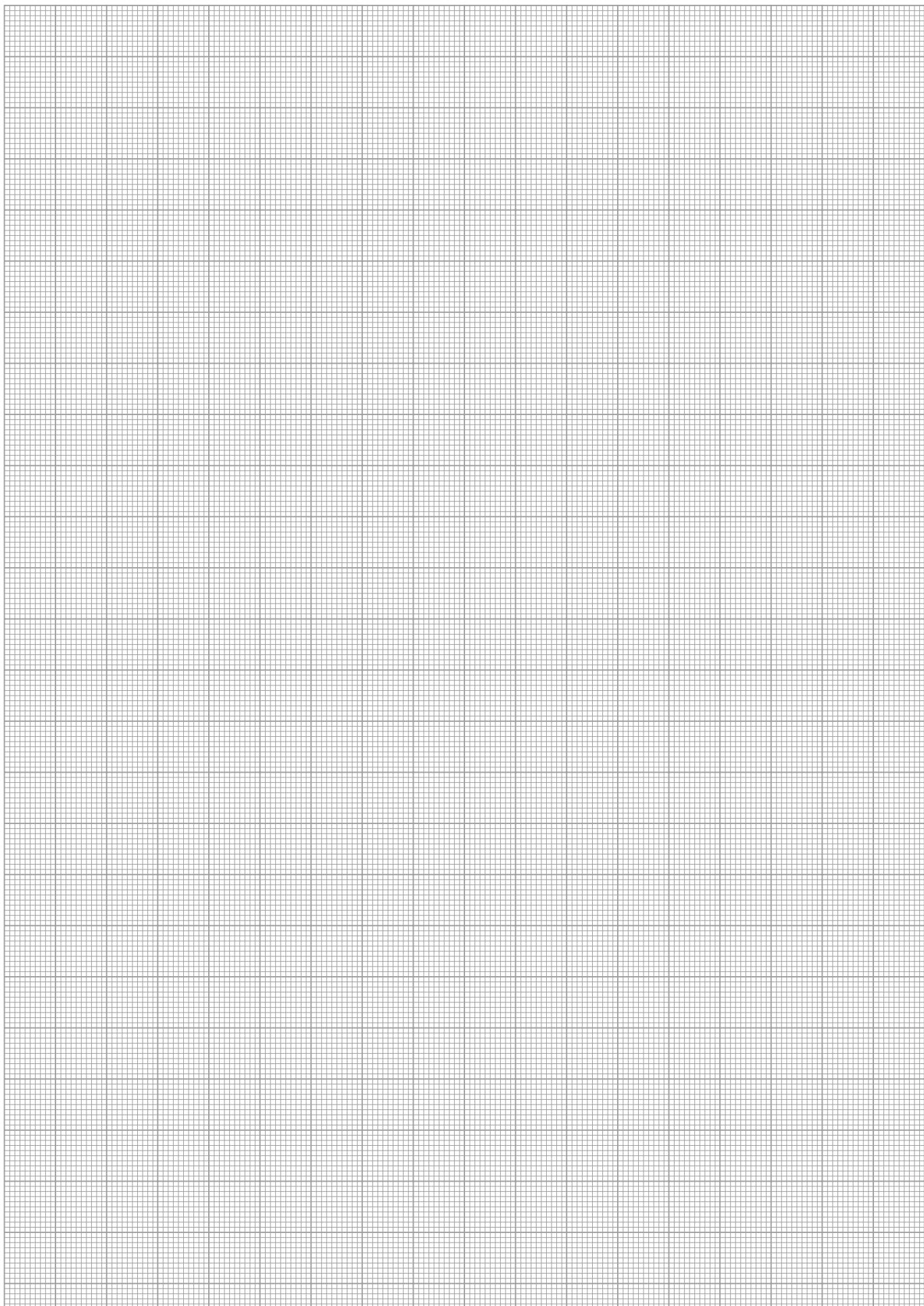
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

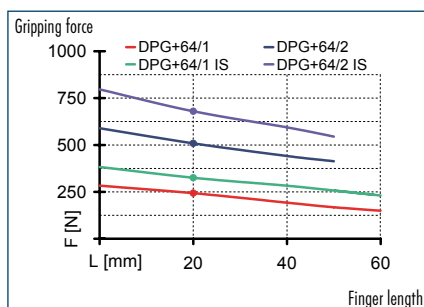


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

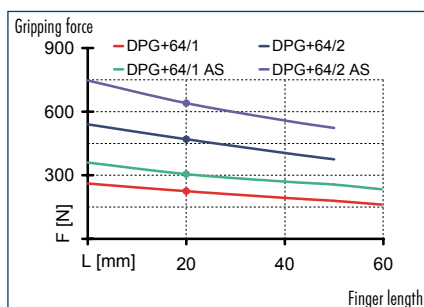




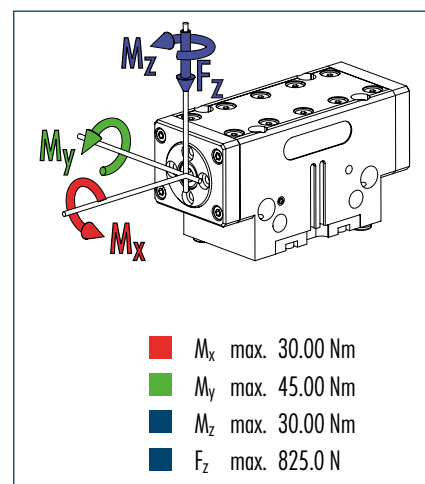
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

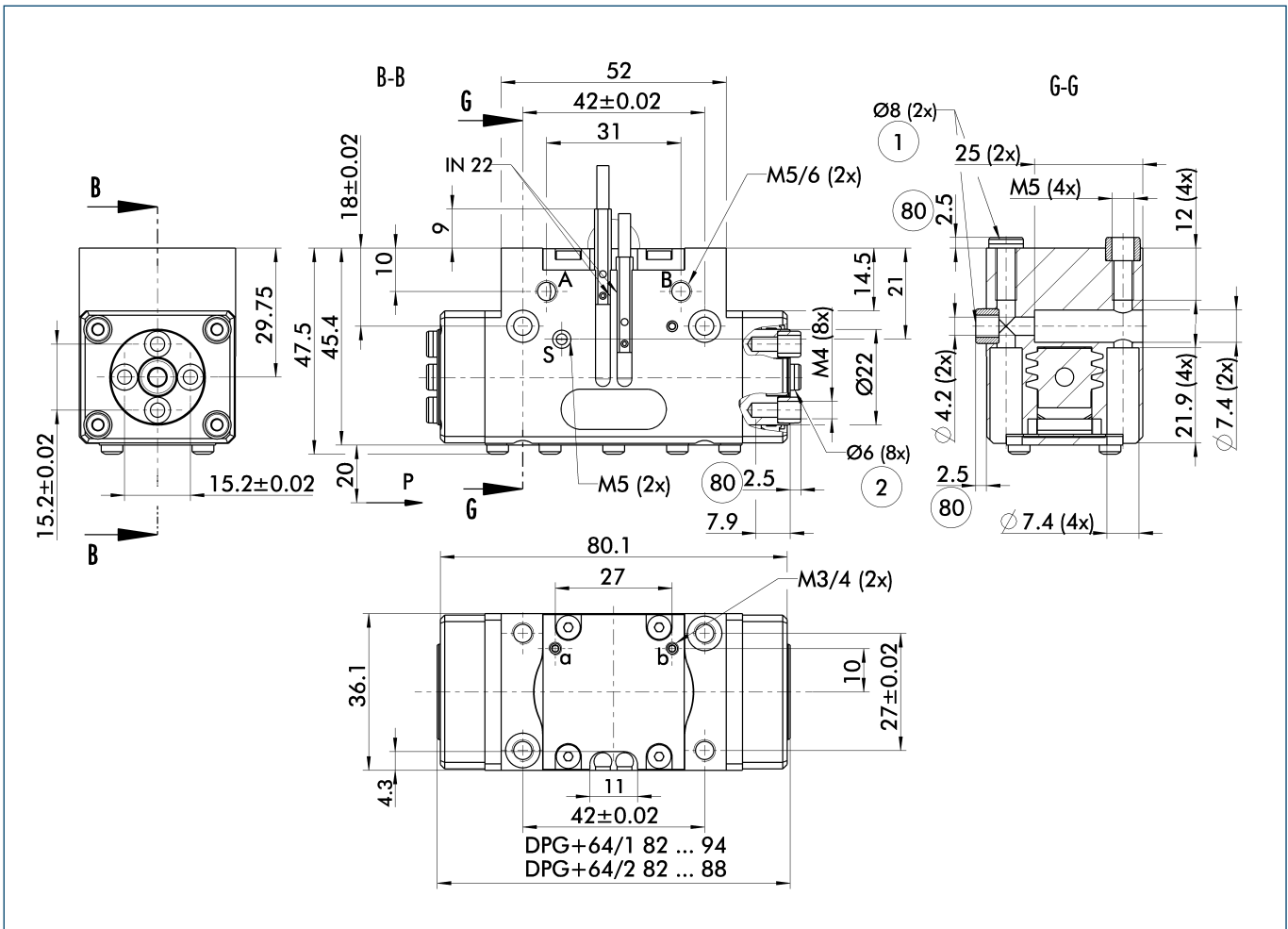
Description		DPG-plus 64-1	DPG-plus 64-2	DPG-plus 64-1-AS	DPG-plus 64-2-AS	DPG-plus 64-1-IS	DPG-plus 64-2-IS
ID		0304311	0304312	0304313	0304314	0304315	0304316
Stroke per finger	[mm]	6	3	6	3	6	3
Closing force	[N]	225	470	305	640		
Opening force	[N]	240	500			320	670
Min. spring force	[N]			80	170	80	170
Weight	[kg]	0.39	0.39	0.46	0.46	0.46	0.46
Recommended workpiece weight	[kg]	1.1	2.3	1.1	2.3	1.1	2.3
Air consumption per double stroke	[cm ³]	9	9	24	24	24	24
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.06	0.03/0.06	0.06/0.03	0.06/0.03
Max. permitted finger length	[mm]	64	50	64	50	64	50
Max. permitted weight per finger	[kg]	0.3	0.3	0.3	0.3	0.3	0.3
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Force intensified version		DPG-plus 64-1-KVZ	DPG-plus 64-2-KVZ	DPG-plus 64-1-AS-KVZ	DPG-plus 64-1-IS-KVZ
ID		0304317	0304318	0304319	0304310
Closing force	[N]	405	850	485	
Opening force	[N]	440	915		520
Weight	[kg]	0.47	0.47	0.55	0.55
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	50	40	40	40

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



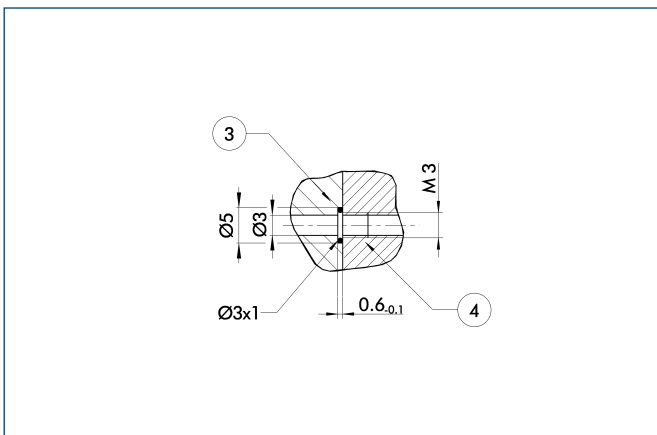
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
⑧ Depth of the centering sleeve hole in the matching part

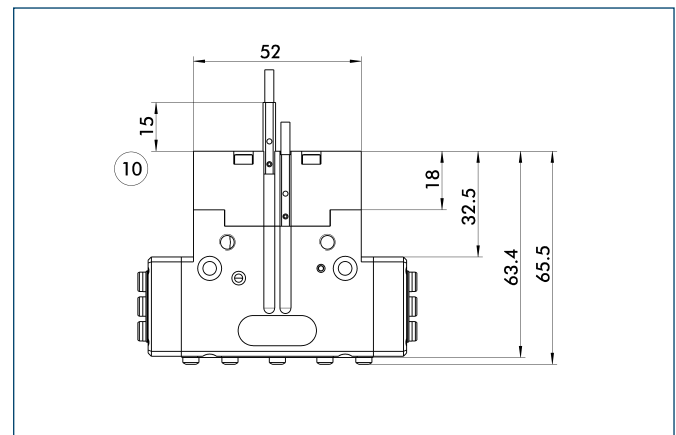
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

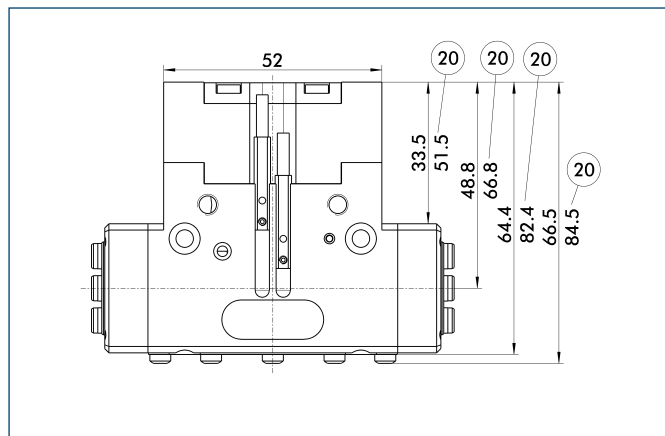
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

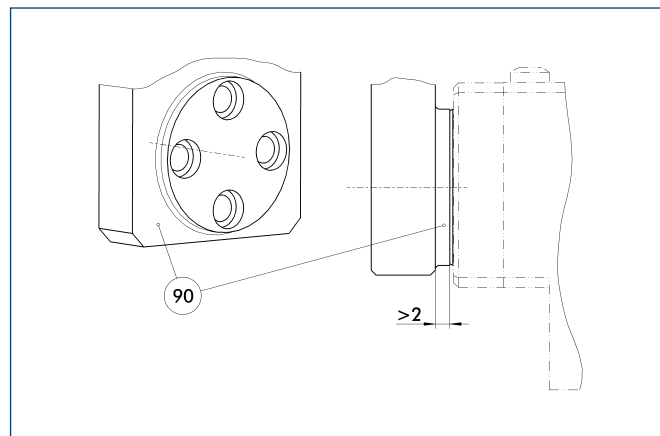
Force intensified version



20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

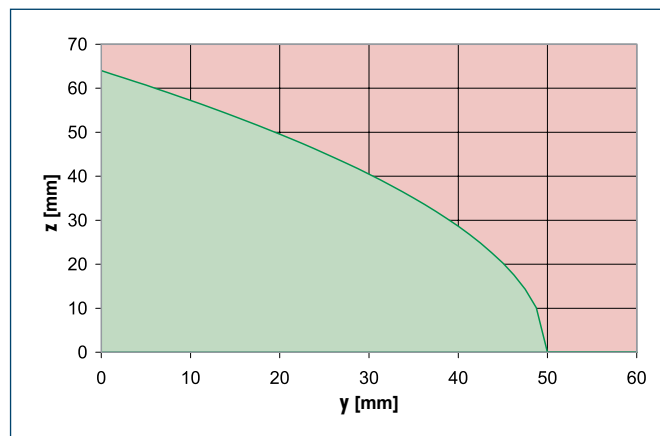
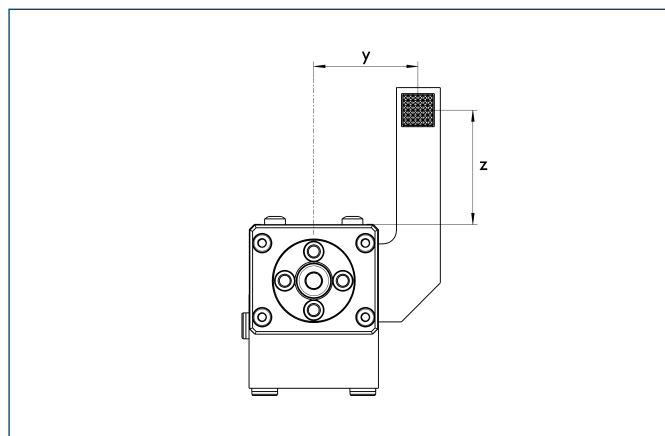
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

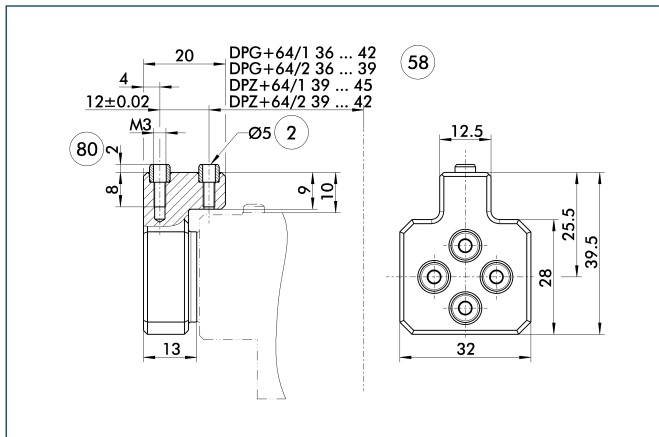
Maximum permitted finger projection



Permitted range
Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



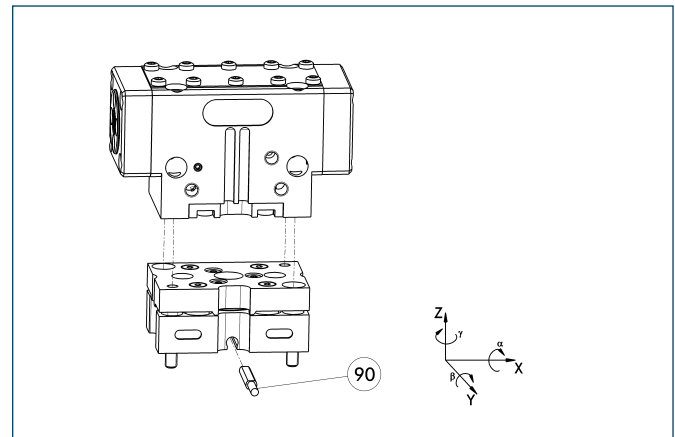
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑨ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+64	0300192	Aluminum	1

Tolerance compensation unit

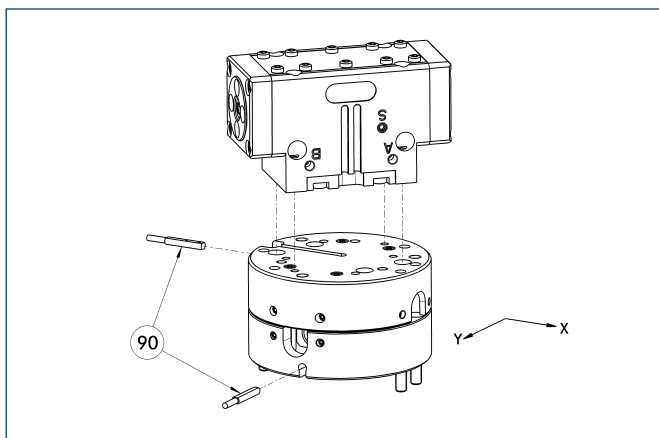


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-P	0324774	Yes	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-064-3-OV-P	0324775	No	$\pm 3^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

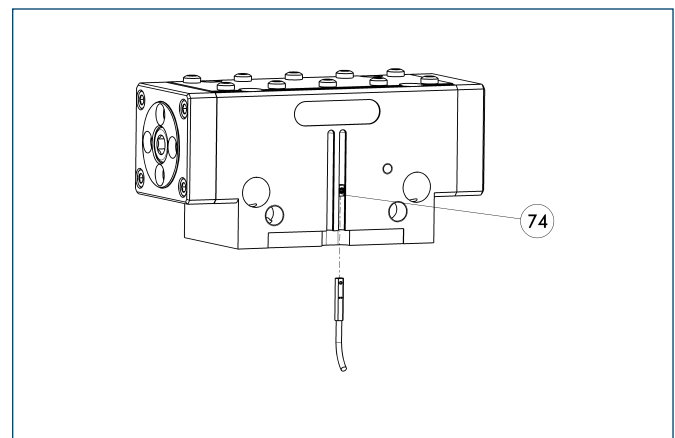


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Programmable magnetic switch



- ⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

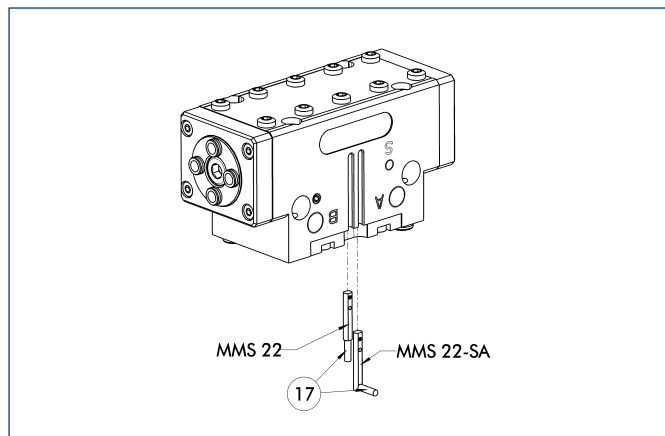
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



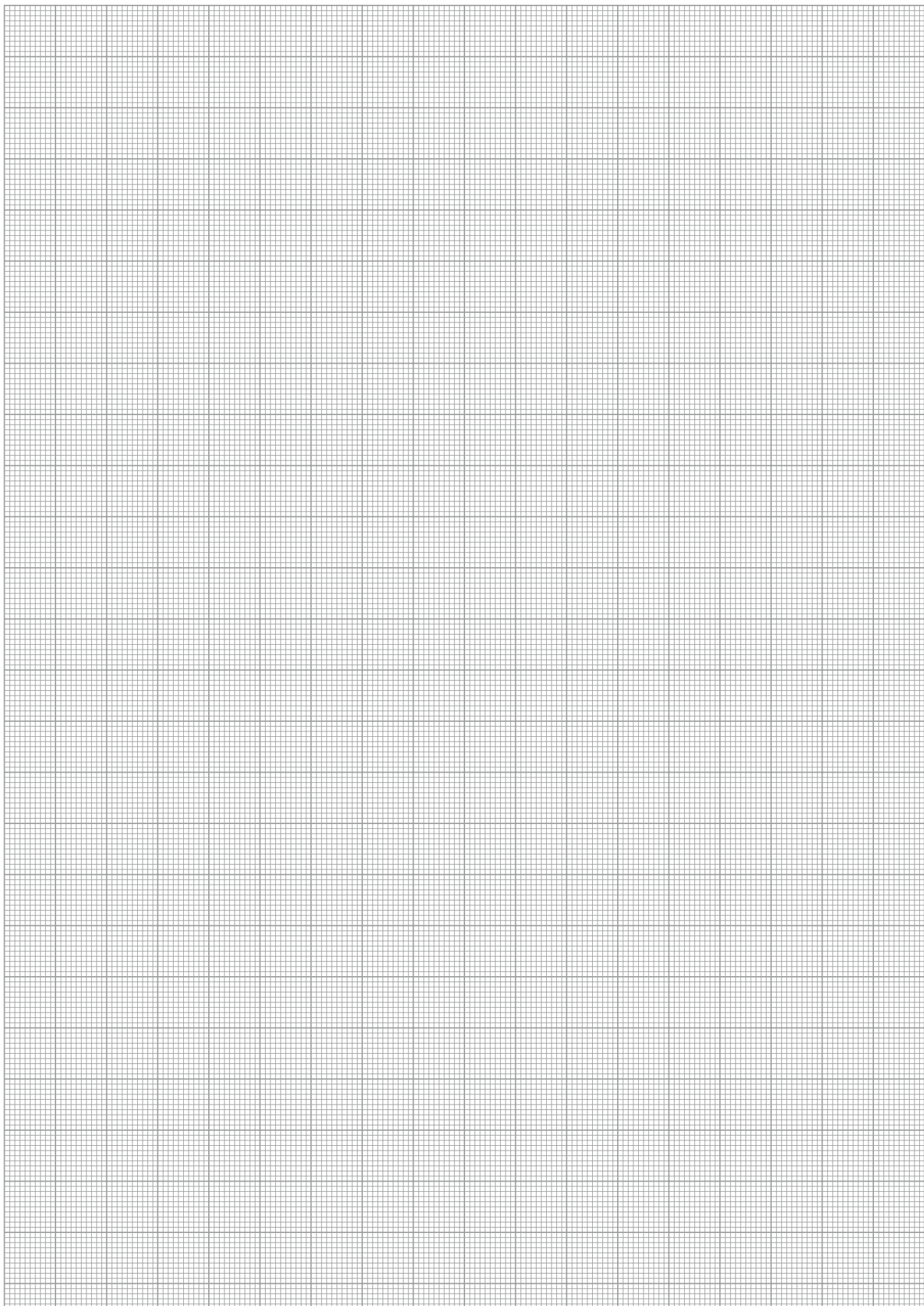
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

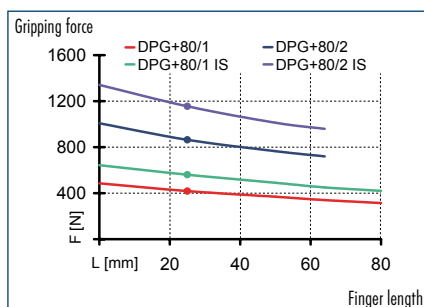
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

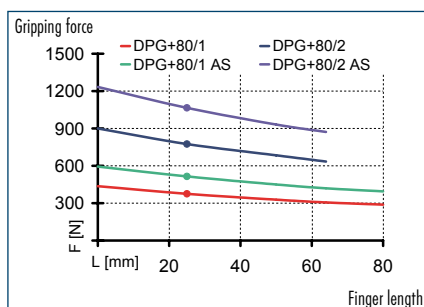




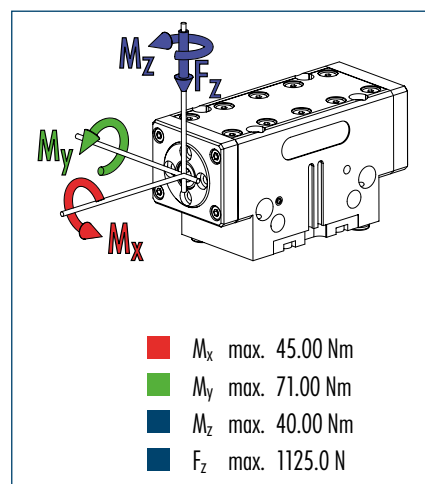
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

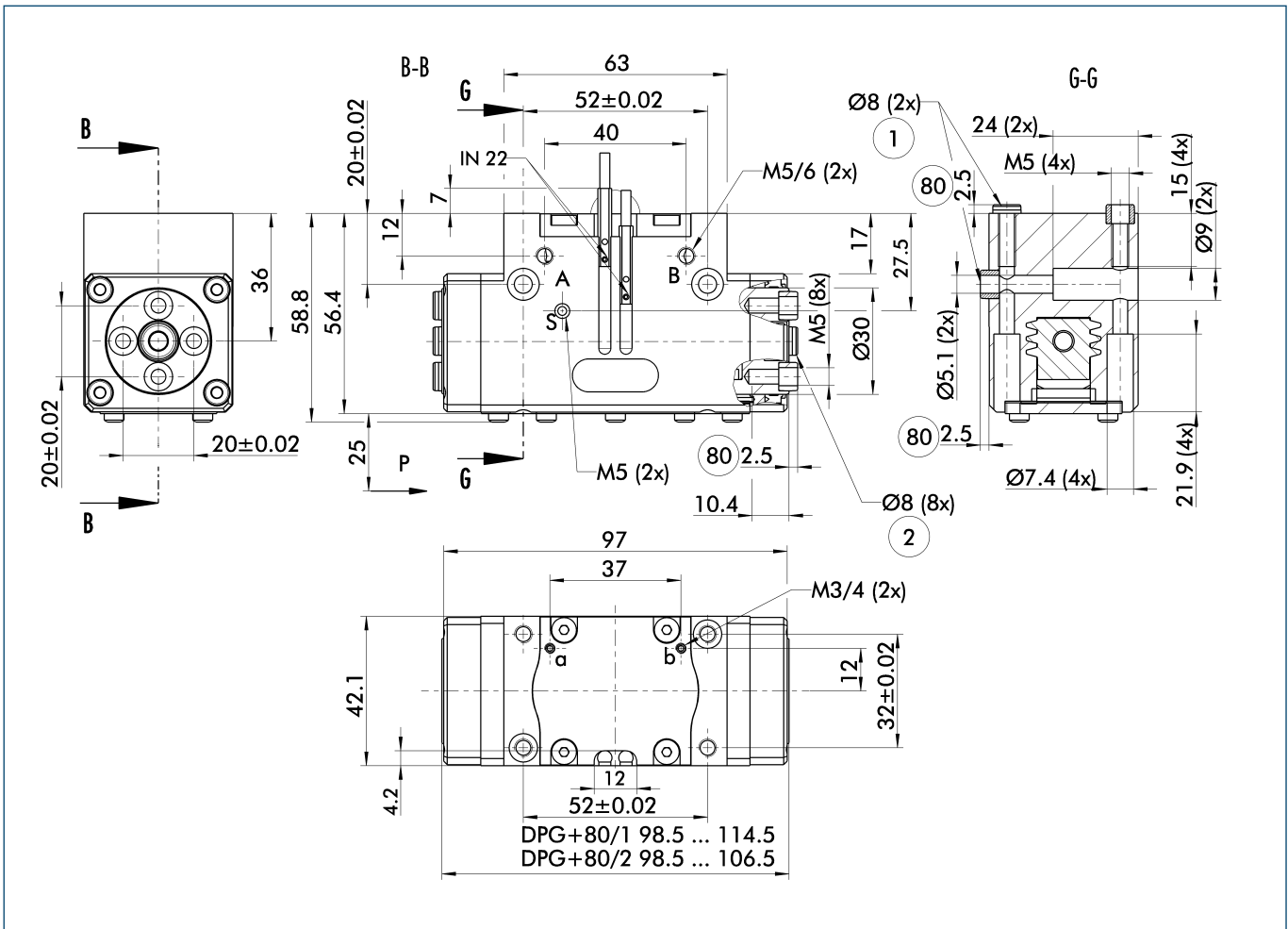
Description		DPG-plus 80-1	DPG-plus 80-2	DPG-plus 80-1-AS	DPG-plus 80-2-AS	DPG-plus 80-1-IS	DPG-plus 80-2-IS
ID		0304321	0304322	0304323	0304324	0304325	0304326
Stroke per finger	[mm]	8	4	8	4	8	4
Closing force	[N]	375	775	515	1065		
Opening force	[N]	415	860			555	1150
Min. spring force	[N]			140	290	140	290
Weight	[kg]	0.68	0.68	0.8	0.8	0.8	0.8
Recommended workpiece weight	[kg]	1.8	3.8	1.8	3.8	1.8	3.8
Air consumption per double stroke	[cm ³]	21	21	45	45	45	45
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.04/0.07	0.04/0.07	0.07/0.04	0.07/0.04
Max. permitted finger length	[mm]	80	64	80	64	80	64
Max. permitted weight per finger	[kg]	0.5	0.5	0.5	0.5	0.5	0.5
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Force intensified version		DPG-plus 80-1-KVZ	DPG-plus 80-2-KVZ	DPG-plus 80-1-AS-KVZ	DPG-plus 80-1-IS-KVZ
ID		0304327	0304328	0304329	0304320
Closing force	[N]	675	1395	815	
Opening force	[N]	755	1550		895
Weight	[kg]	0.85	0.85	0.95	0.95
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	64	50	50	50

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view

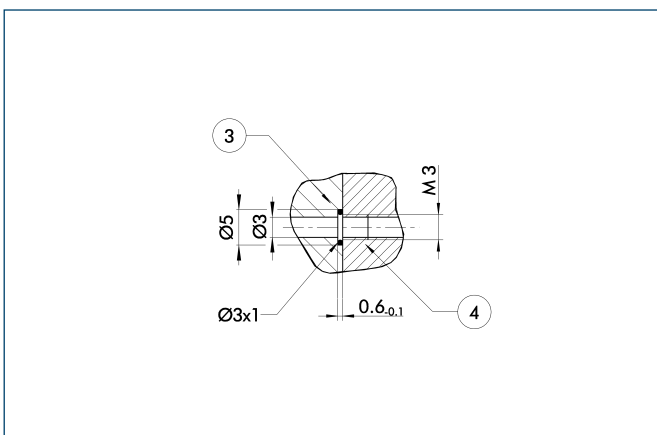


For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | ⑧0 | Depth of the centering sleeve hole in the matching part |
| S | Air purge connection | | |
| ① | Gripper connection | | |

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

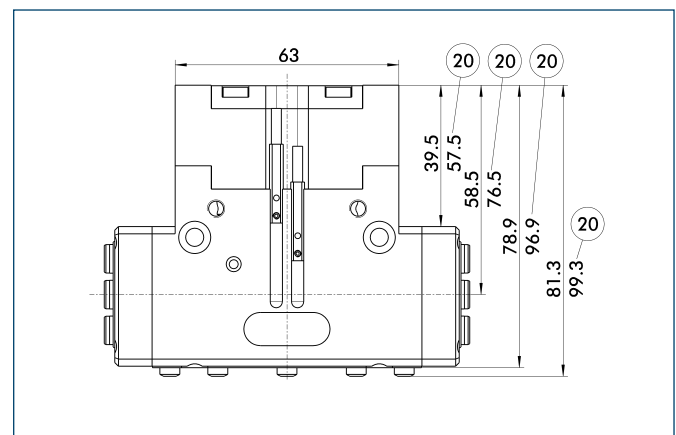
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

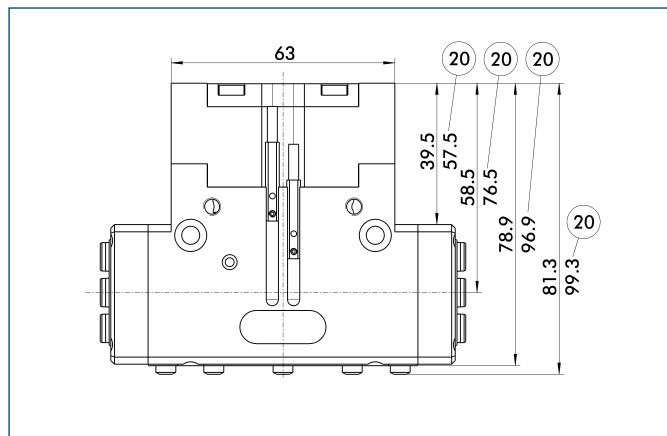
AS/IS gripping force maintenance device



- ② For AS / IS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

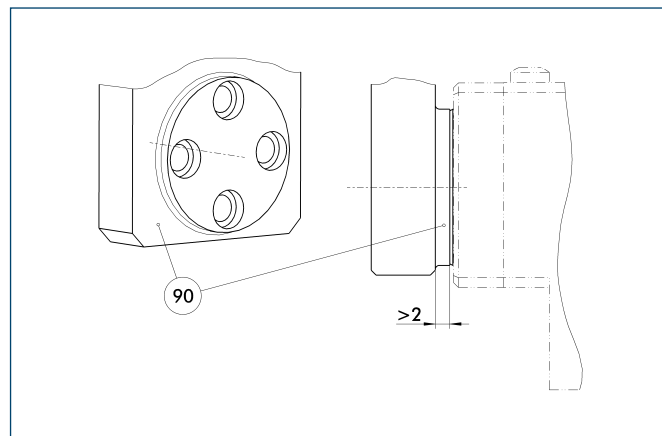
Force intensified version



②① For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

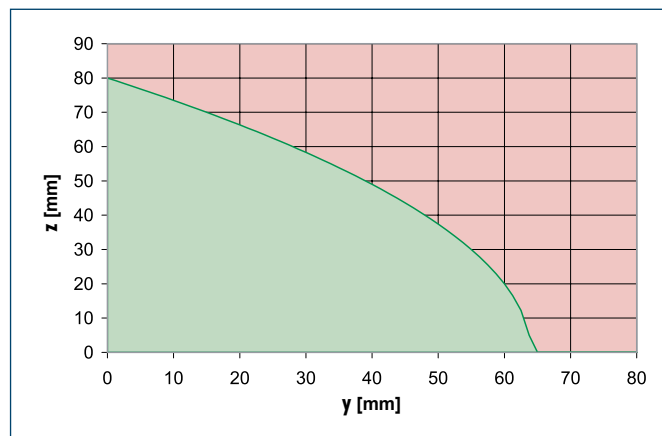
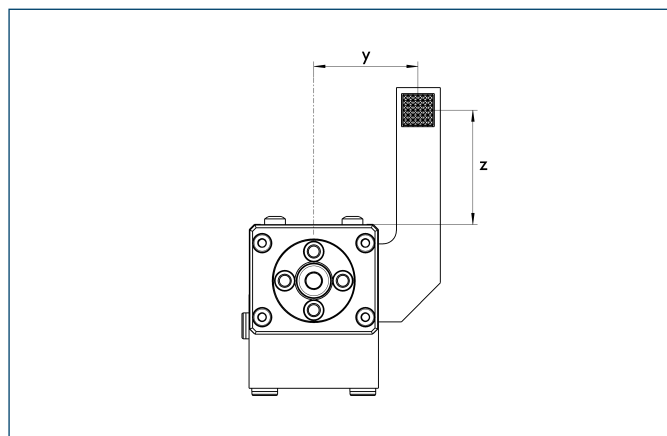
Proposed jaw design



⑨⑨ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

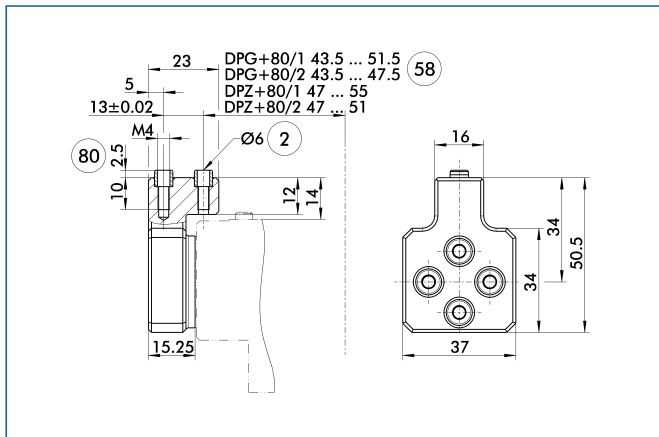
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



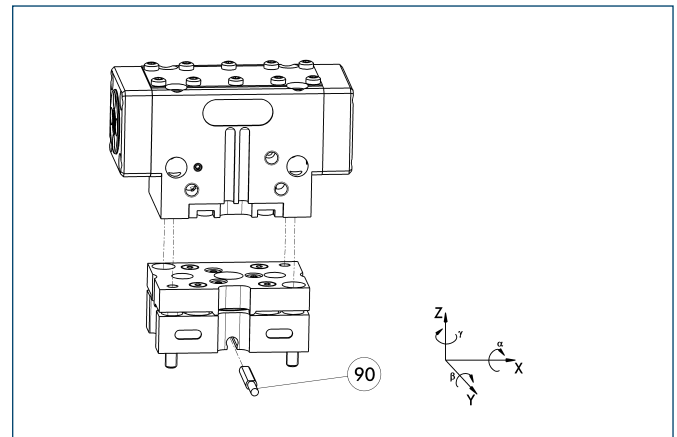
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑩ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+80	0300193	Aluminum	1

Tolerance compensation unit

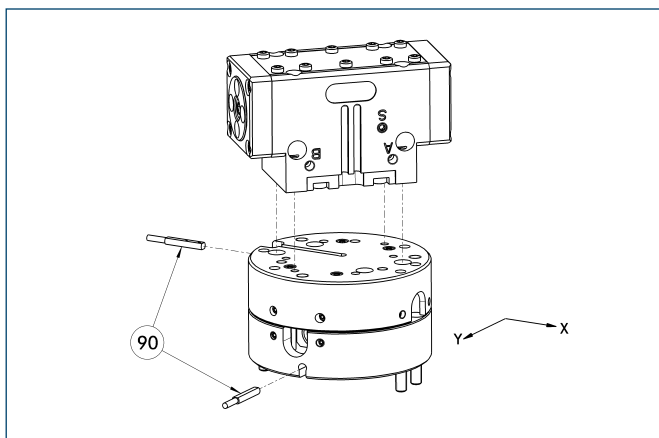


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-P	0324792	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$
TCU-080-3-OV-P	0324793	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 2^\circ$

Compensation unit with spring reset

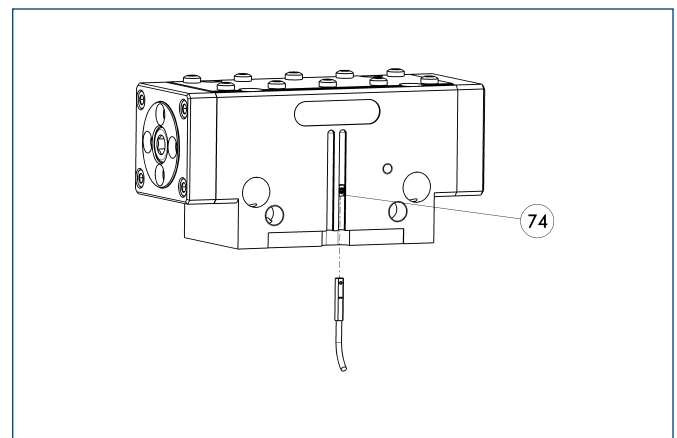


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	± 4 mm	9 N
AGE-F-XY-063-2	0324941	± 4 mm	10 N
AGE-F-XY-063-3	0324942	± 4 mm	19.3 N

Programmable magnetic switch



- ⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

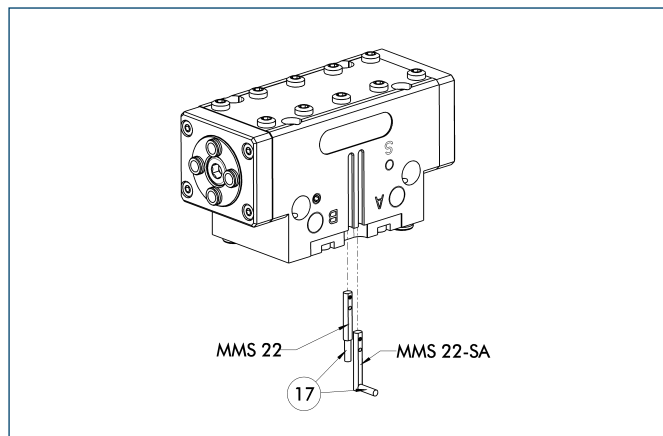
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

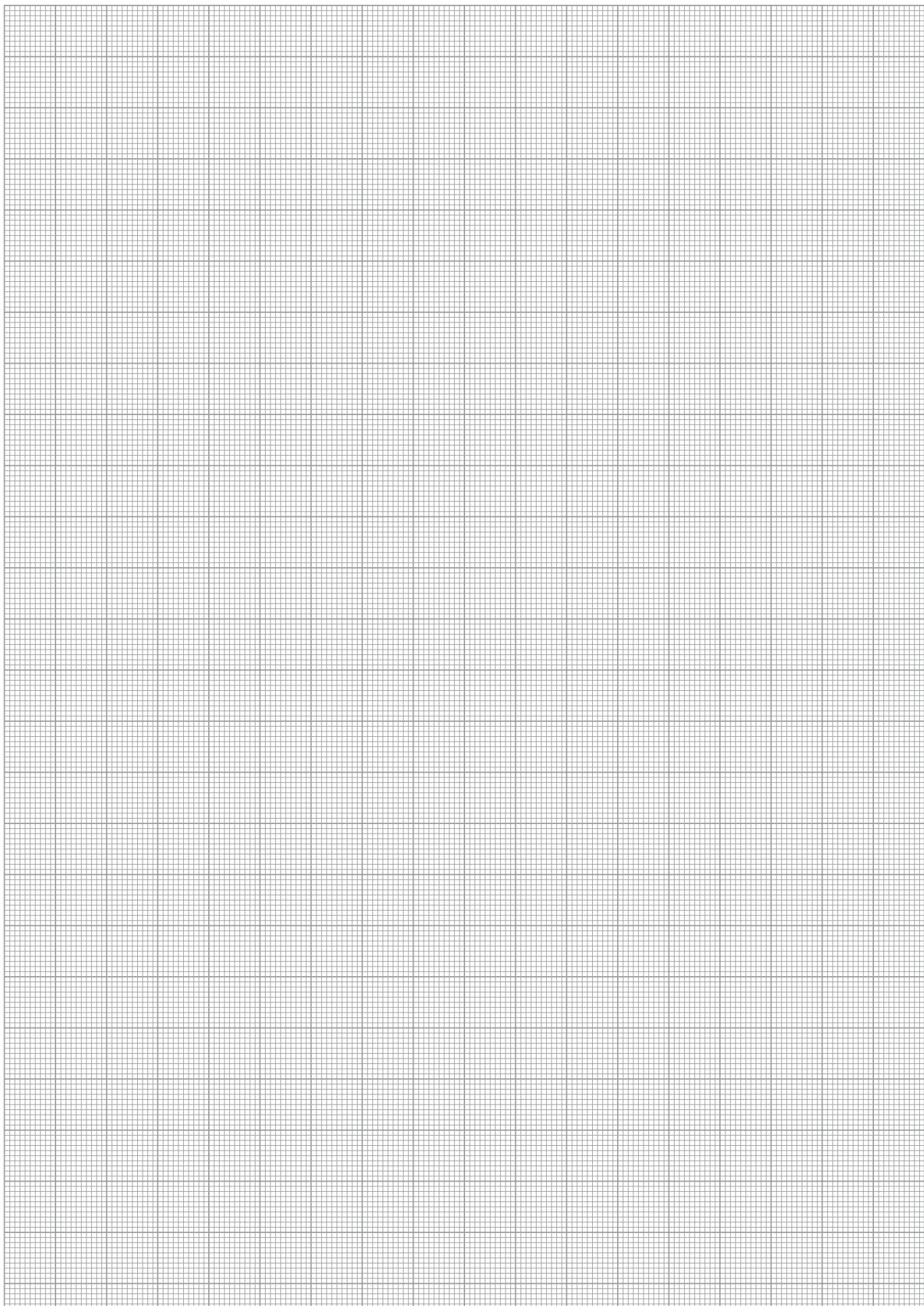
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

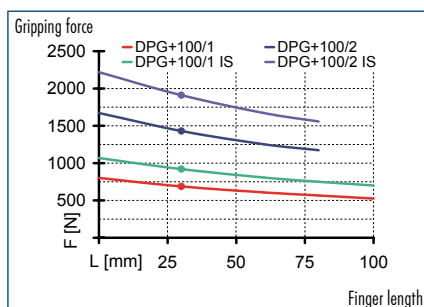


DPG-plus 100

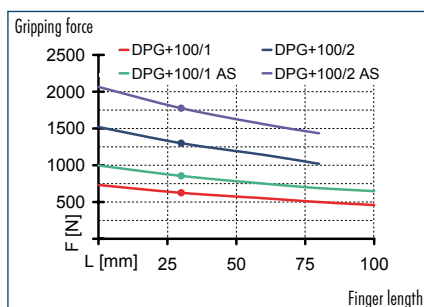
Pneumatic • 2-Finger Parallel Gripper • Sealed Gripper



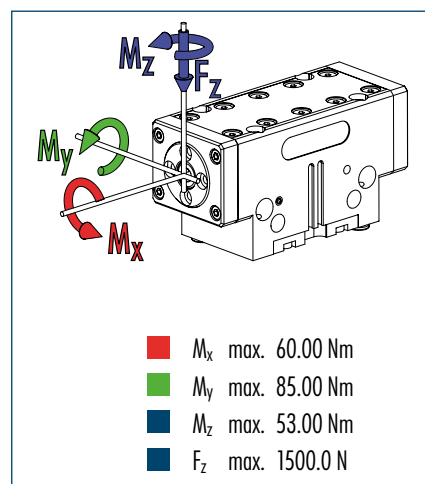
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

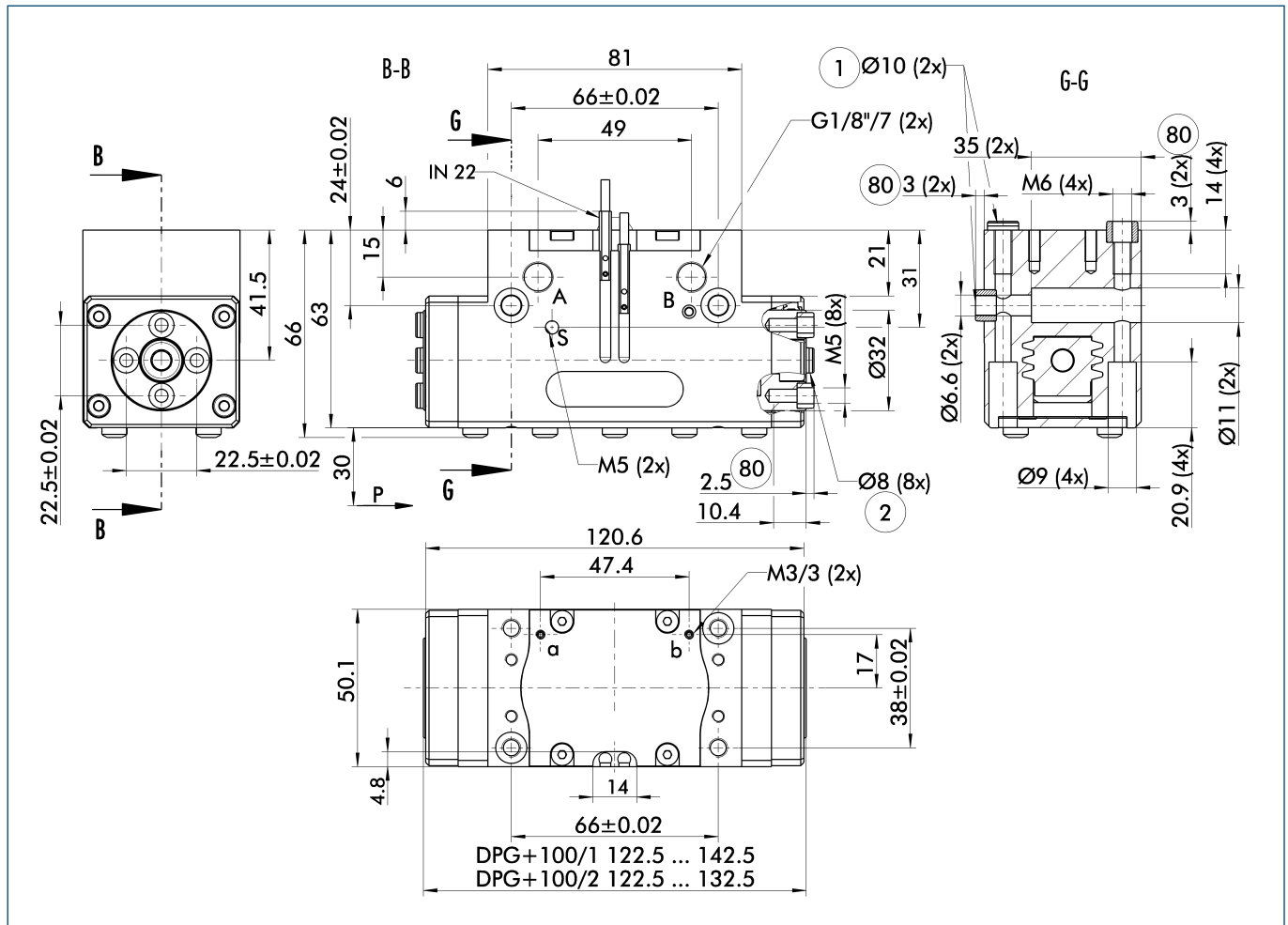
Description		DPG-plus 100-1	DPG-plus 100-2	DPG-plus 100-1-AS	DPG-plus 100-2-AS	DPG-plus 100-1-IS	DPG-plus 100-2-IS
ID		0304331	0304332	0304333	0304334	0304335	0304336
Stroke per finger	[mm]	10	5	10	5	10	5
Closing force	[N]	625	1300	855	1775		
Opening force	[N]	685	1430			915	1905
Min. spring force	[N]			230	475	230	475
Weight	[kg]	1.1	1.1	1.35	1.35	1.35	1.35
Recommended workpiece weight	[kg]	3.1	6.5	3.1	6.5	3.1	6.5
Air consumption per double stroke	[cm ³]	40	40	85	85	85	85
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.09/0.09	0.09/0.09	0.07/0.12	0.07/0.12	0.12/0.07	0.12/0.07
Max. permitted finger length	[mm]	100	80	100	80	80	80
Max. permitted weight per finger	[kg]	0.95	0.95	0.95	0.95	0.95	0.95
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

		DPG-plus 100-1-KVZ	DPG-plus 100-2-KVZ	DPG-plus 100-1-AS-KVZ	DPG-plus 100-1-IS-KVZ
Force intensified version					
ID		0304337	0304338	0304339	0304330
Closing force	[N]	1125	2340	1355	
Opening force	[N]	1240	2560		1470
Weight	[kg]	1.38	1.38	1.61	1.61
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	80	64	64	64

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



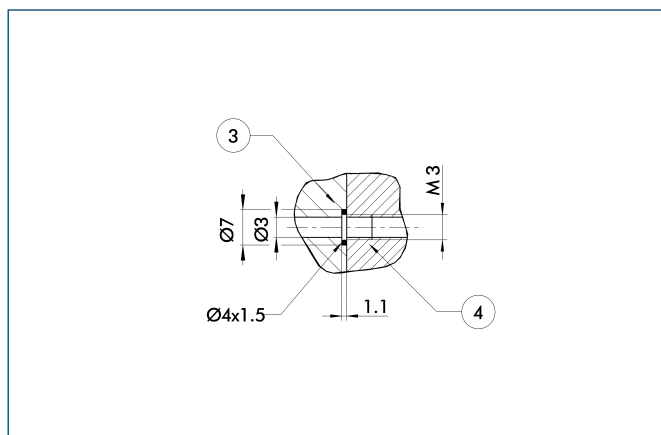
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

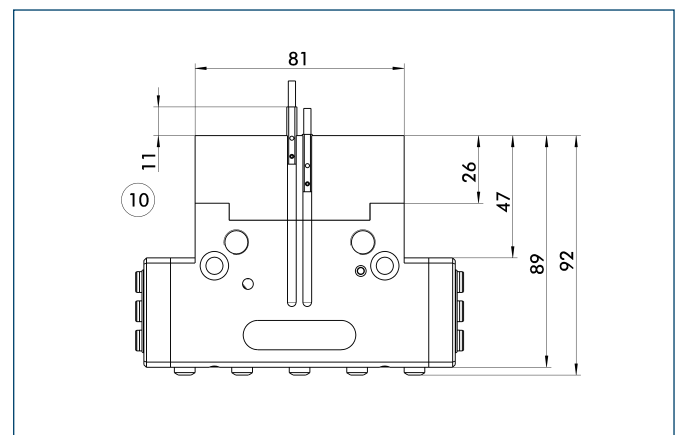
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

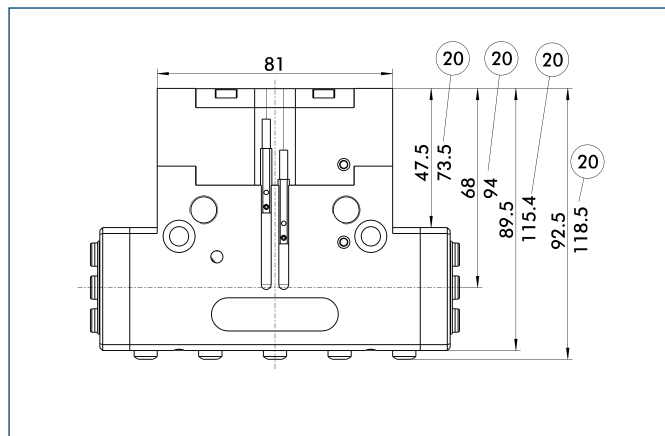
AS/IS gripping force maintenance device



⑩ Projection applies only for AS version

The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

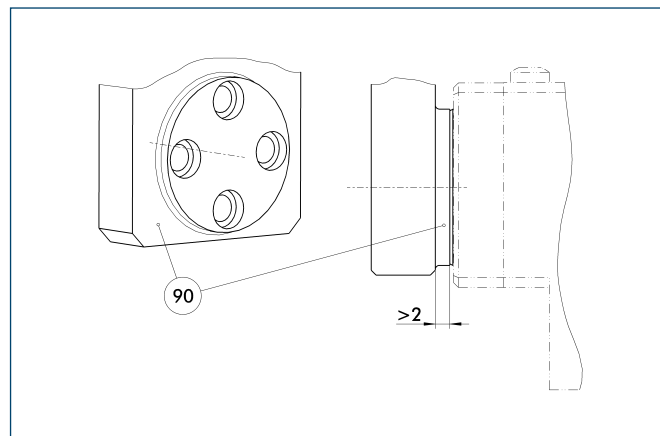
Force intensified version



20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

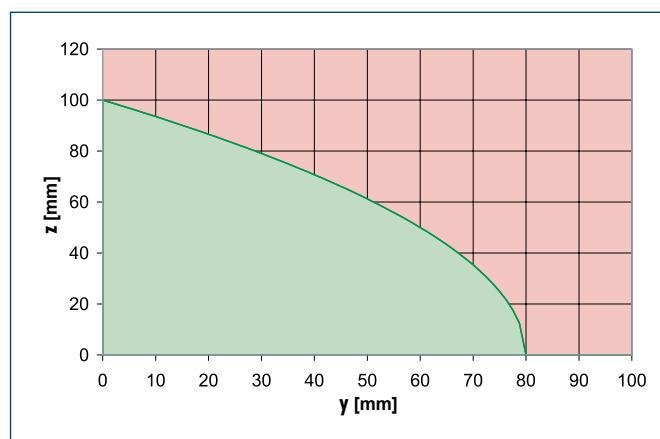
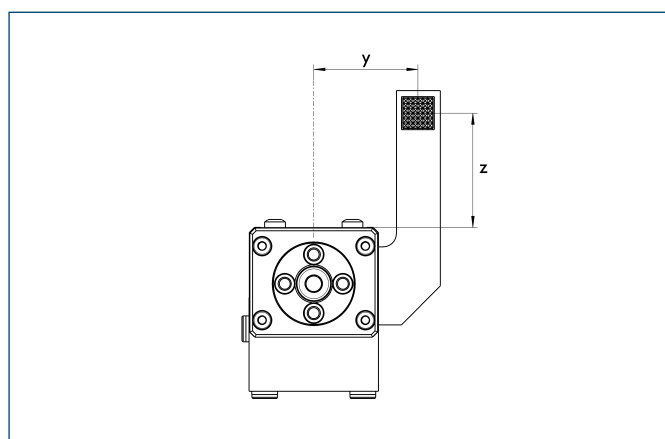
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

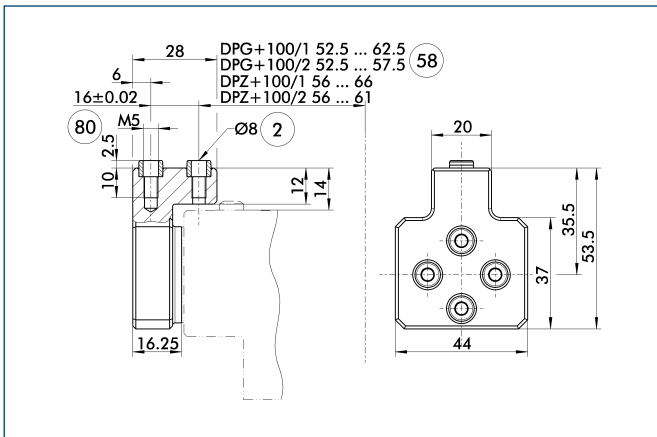
Maximum permitted finger projection



Permitted range
Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



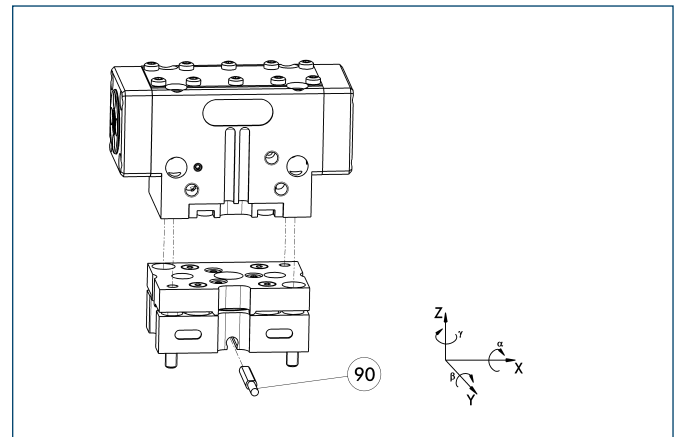
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑩ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+100	0300194	Aluminum	1

Tolerance compensation unit

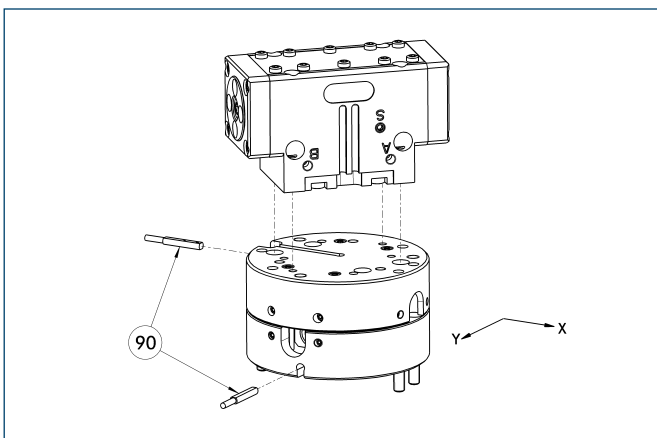


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-P	0324808	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$
TCU-100-3-OV-P	0324811	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.2^\circ$

Compensation unit with spring reset

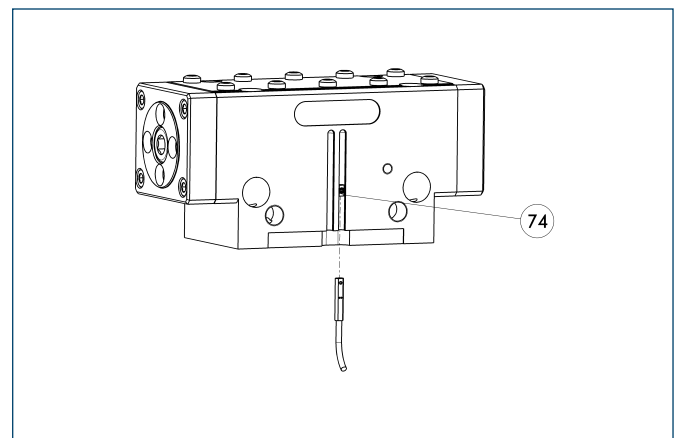


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Programmable magnetic switch



- ⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

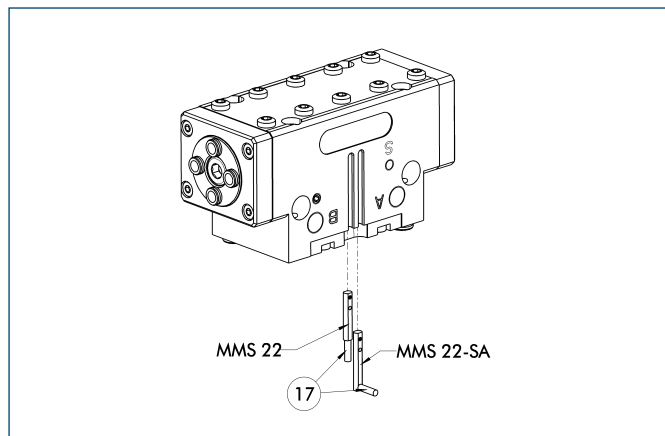
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



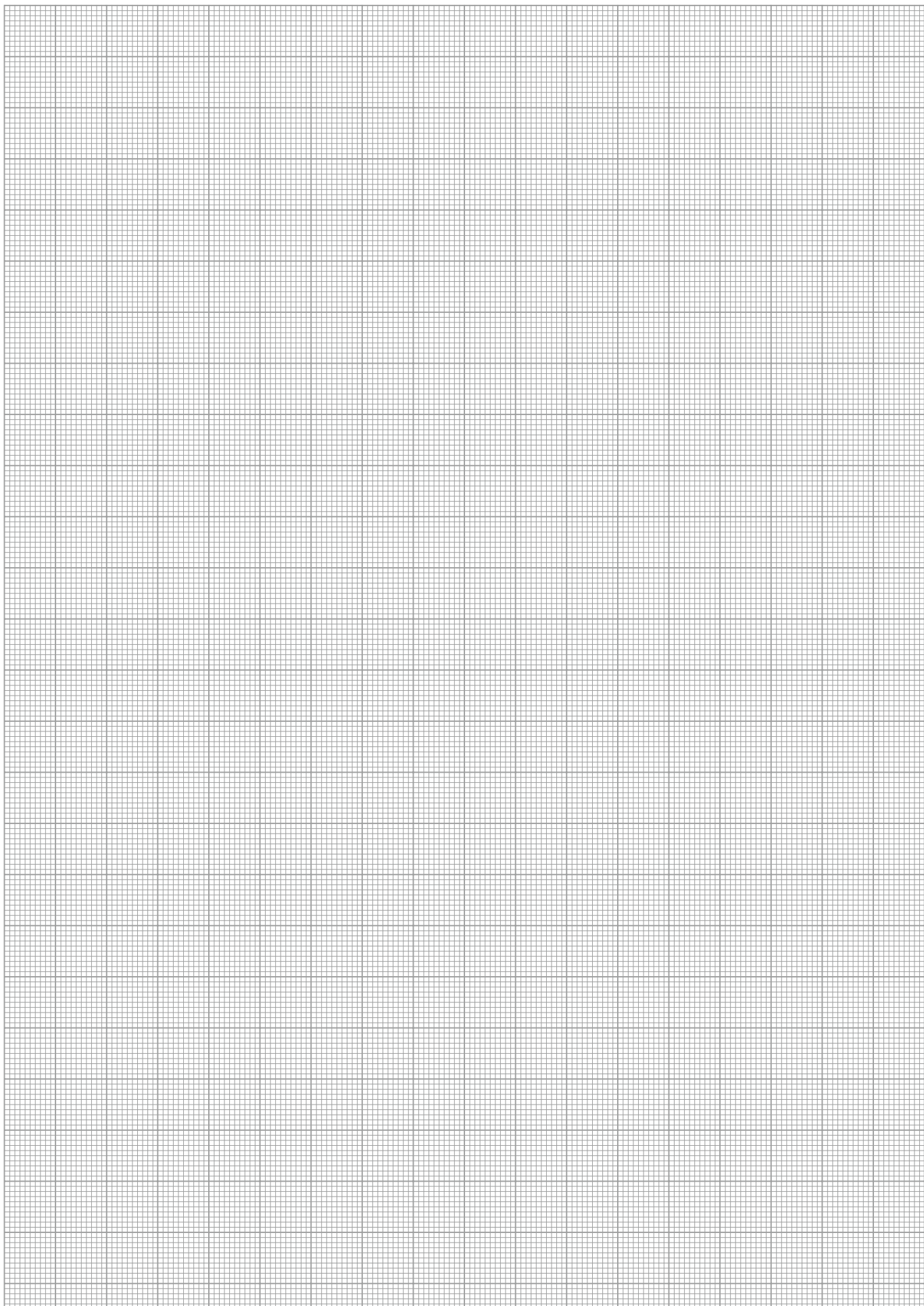
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

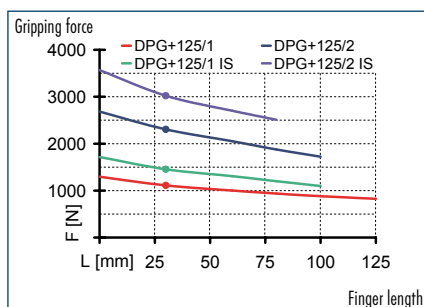


DPG-plus 125

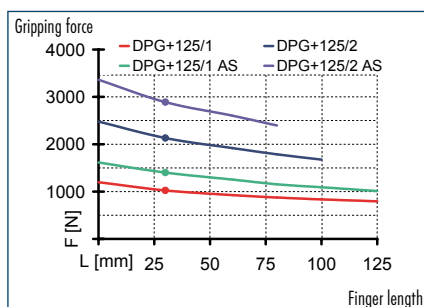
Pneumatic • 2-Finger Parallel Gripper • Sealed Gripper



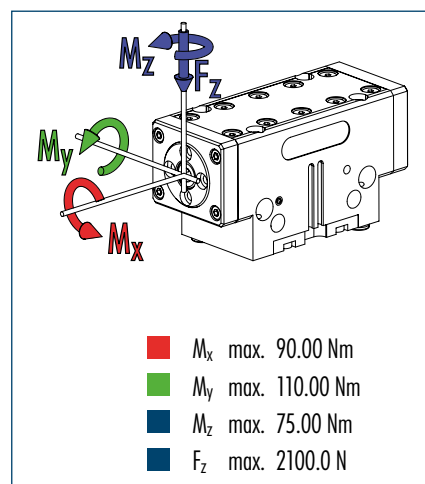
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

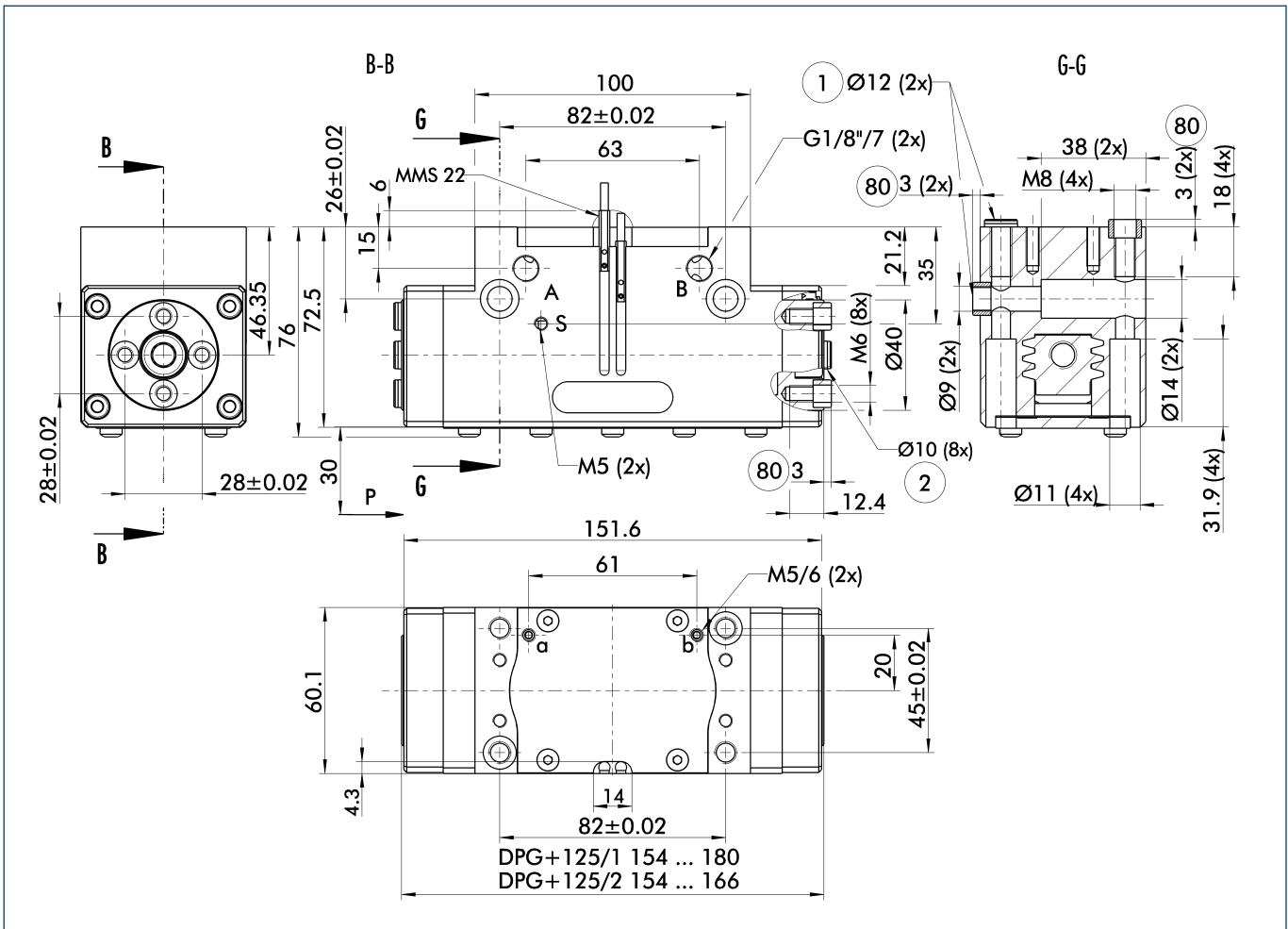
Description		DPG-plus 125-1	DPG-plus 125-2	DPG-plus 125-1-AS	DPG-plus 125-2-AS	DPG-plus 125-1-IS	DPG-plus 125-2-IS
ID		0304341	0304342	0304343	0304344	0304345	0304346
Stroke per finger	[mm]	13	6	13	6	13	6
Closing force	[N]	1025	2130	1400	2890		
Opening force	[N]	1110	2300			1485	3060
Min. spring force	[N]			375	760	375	760
Weight	[kg]	1.9	1.9	2.35	2.35	2.35	2.35
Recommended workpiece weight	[kg]	5.1	10.6	5.1	10.6	5.1	10.6
Air consumption per double stroke	[cm³]	81	81	158	158	158	158
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.13/0.13	0.13/0.13	0.11/0.16	0.11/0.16	0.16/0.11	0.16/0.11
Max. permitted finger length	[mm]	125	100	125	80	100	80
Max. permitted weight per finger	[kg]	1.75	1.75	1.75	1.75	1.75	1.75
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

		DPG-plus 125-1-KVZ	DPG-plus 125-2-KVZ	DPG-plus 125-1-AS-KVZ	DPG-plus 125-1-IS-KVZ
Force intensified version					
ID		0304347	0304348	0304349	0304340
Closing force	[N]	1845	3835	2220	
Opening force	[N]	2000	4140		2375
Weight	[kg]	2.4	2.4	2.9	2.9
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	80	64	64	64

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



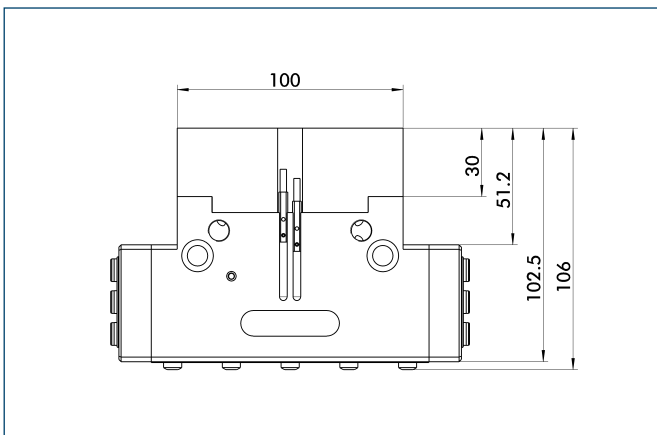
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

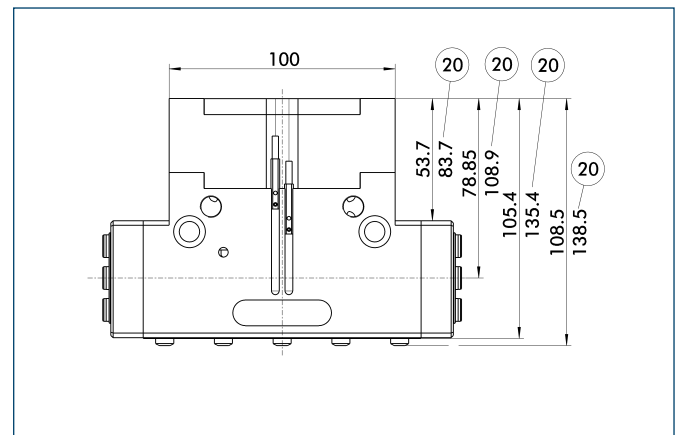
② Finger connection
Ø80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

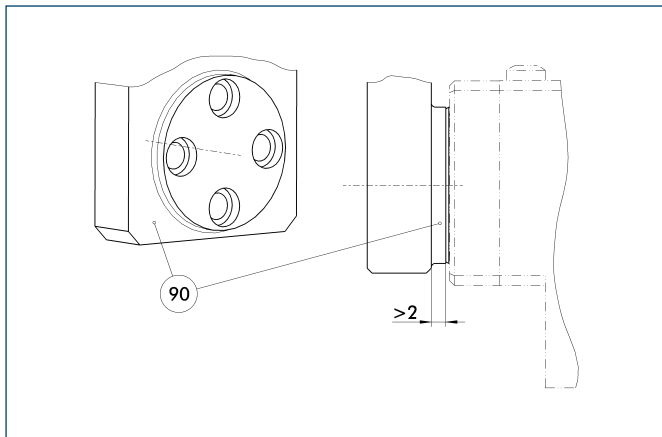
Force intensified version



②0 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

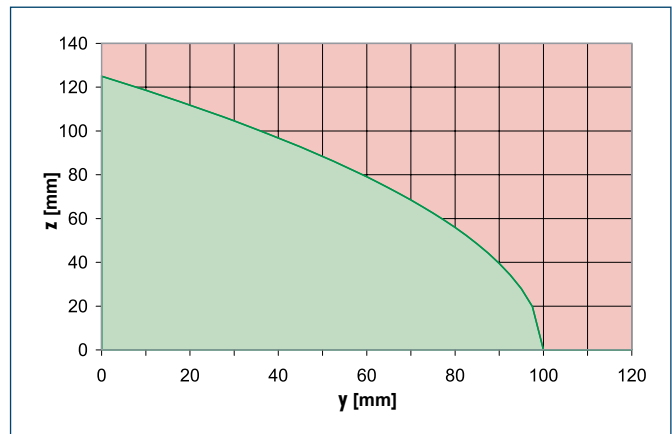
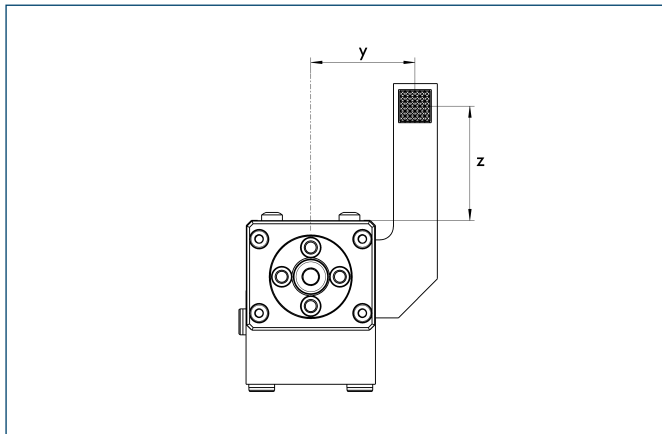
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

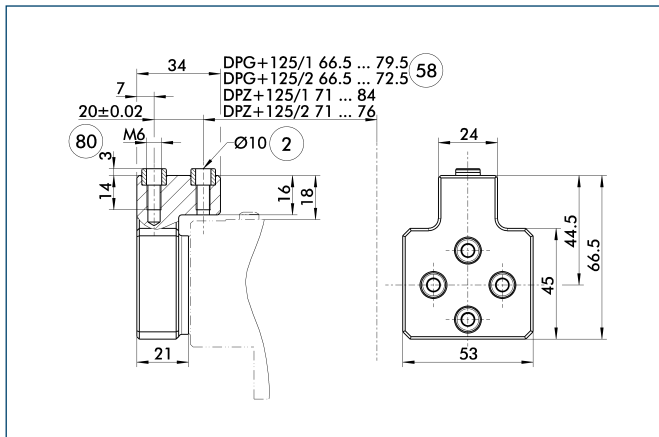
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



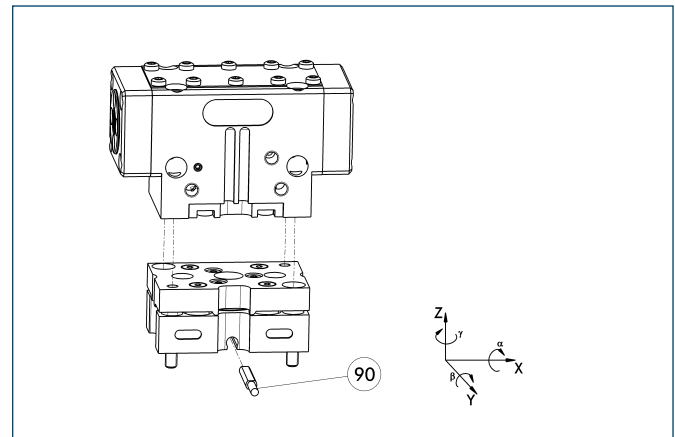
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑨ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+125	0300195	Aluminum	1

Tolerance compensation unit

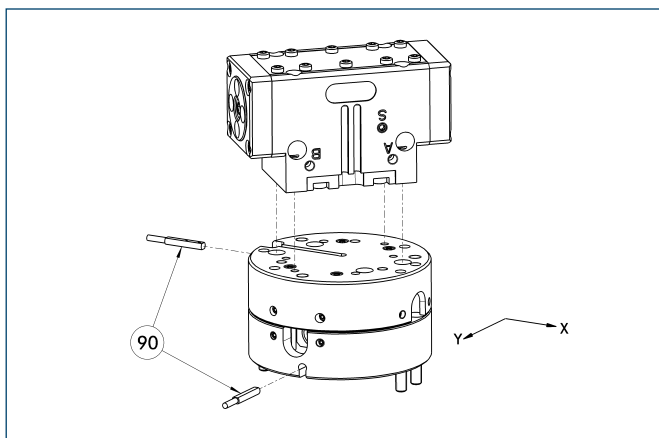


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-P	0324828	Yes	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-125-3-OV-P	0324829	No	$\pm 1.5^\circ / \pm 1^\circ / \pm 1.5^\circ$

Compensation unit with spring reset

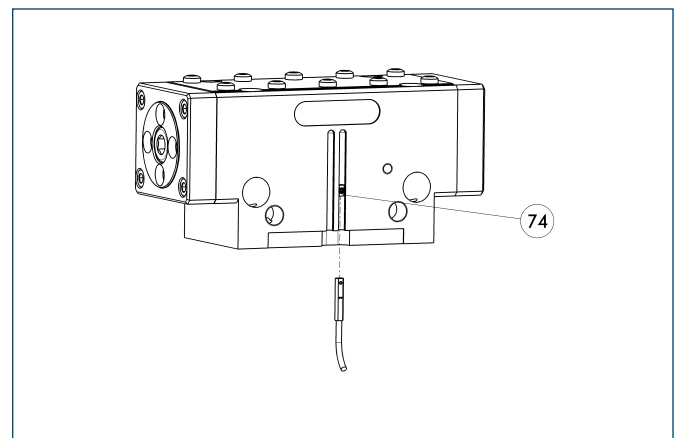


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	± 5 mm	28.3 N
AGE-F-XY-080-2	0324961	± 5 mm	42.5 N
AGE-F-XY-080-3	0324962	± 5 mm	47.6 N

Programmable magnetic switch



- ⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

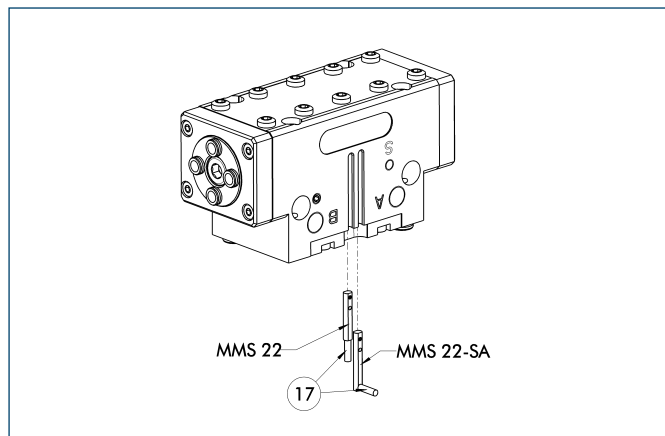
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



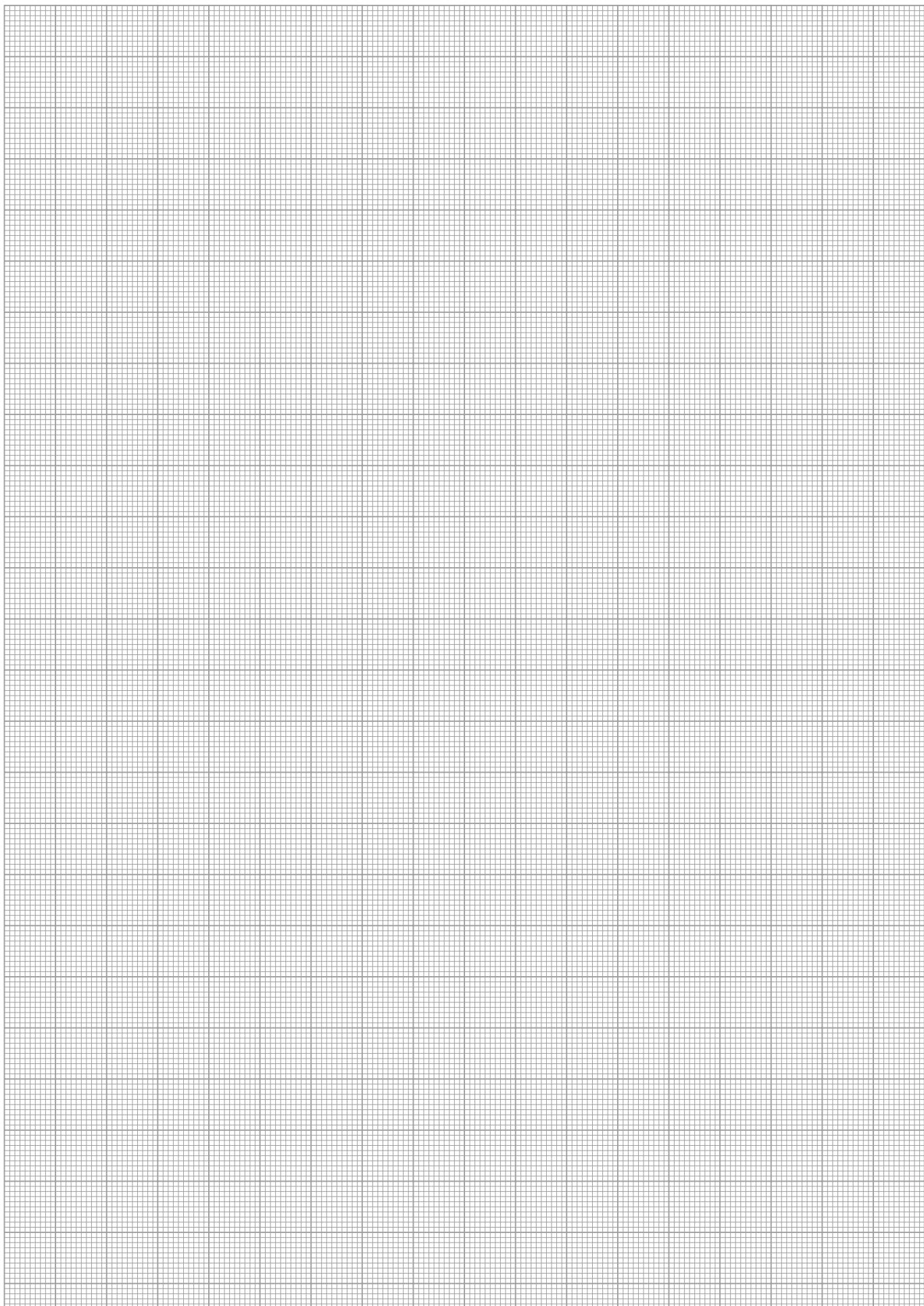
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

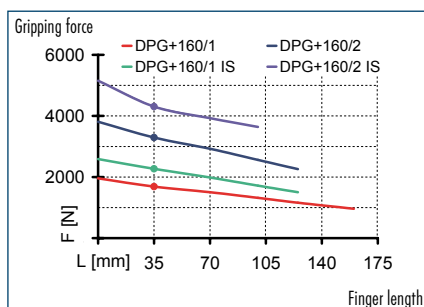


DPG-plus 160

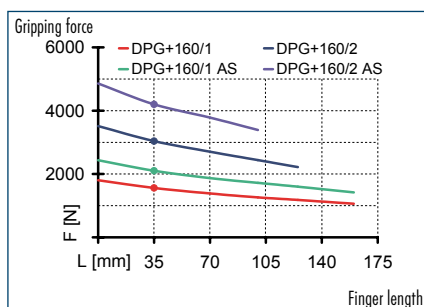
Pneumatic • 2-Finger Parallel Gripper • Sealed Gripper



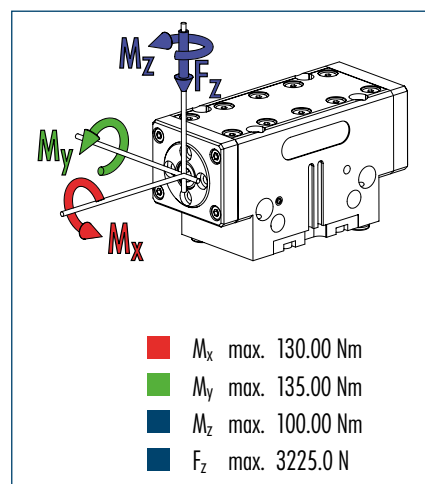
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

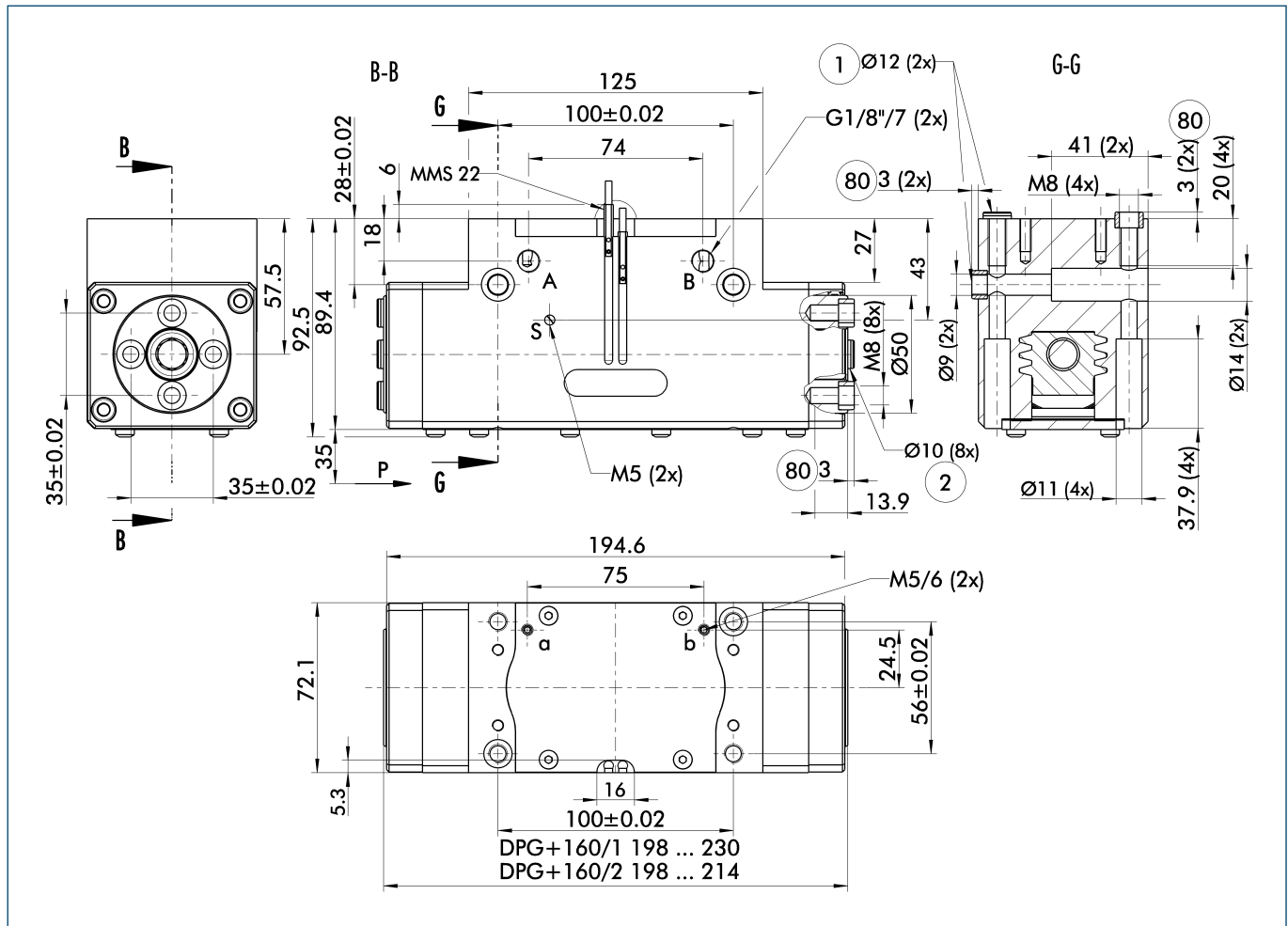
Description		DPG-plus 160-1	DPG-plus 160-2	DPG-plus 160-1-AS	DPG-plus 160-2-AS	DPG-plus 160-1-IS	DPG-plus 160-2-IS
ID		0304351	0304352	0304353	0304354	0304355	0304356
Stroke per finger	[mm]	16	8	16	8	16	8
Closing force	[N]	1560	3040	2100	4200		
Opening force	[N]	1680	3290			2220	4450
Min. spring force	[N]			540	1160	540	1160
Weight	[kg]	3.65	3.65	4.65	4.65	4.65	4.65
Recommended workpiece weight	[kg]	7.8	15.2	7.8	15.2	7.8	15.2
Air consumption per double stroke	[cm ³]	157	157	265	265	265	265
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.19/0.19	0.19/0.19	0.16/0.33	0.16/0.33	0.33/0.16	0.33/0.16
Max. permitted finger length	[mm]	160	125	160	100	125	100
Max. permitted weight per finger	[kg]	3	3	3	3	3	3
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

		DPG-plus 160-1-KVZ	DPG-plus 160-2-KVZ	DPG-plus 160-1-AS-KVZ	DPG-plus 160-1-IS-KVZ
Force intensified version					
ID		0304357	0304358	0304359	0304350
Closing force	[N]	2810	5470	3350	
Opening force	[N]	3025	5920		3520
Weight	[kg]	5.8	5.8	8	8
Maximum pressure	[bar]	6	6	6	6
Max. permitted finger length	[mm]	100	80	80	80

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



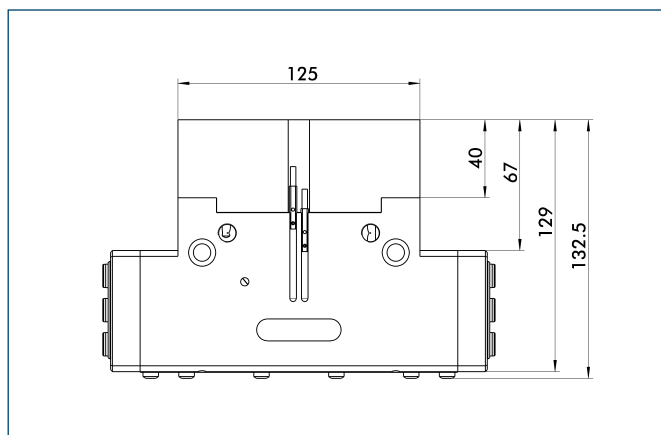
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

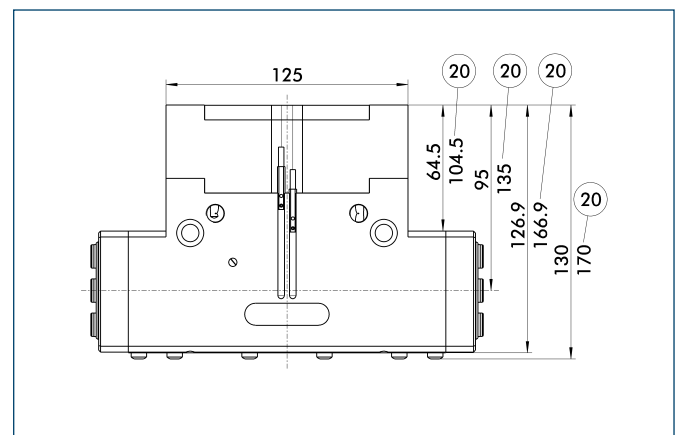
② Finger connection
80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

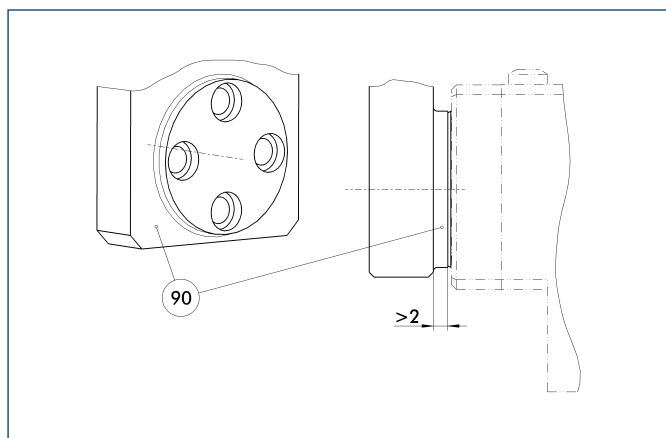
Force intensified version



20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

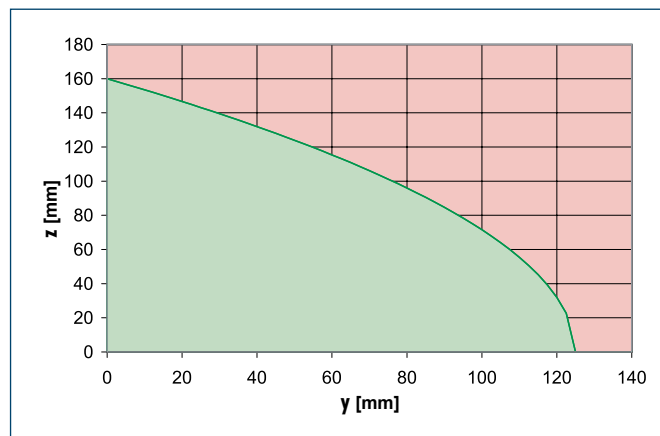
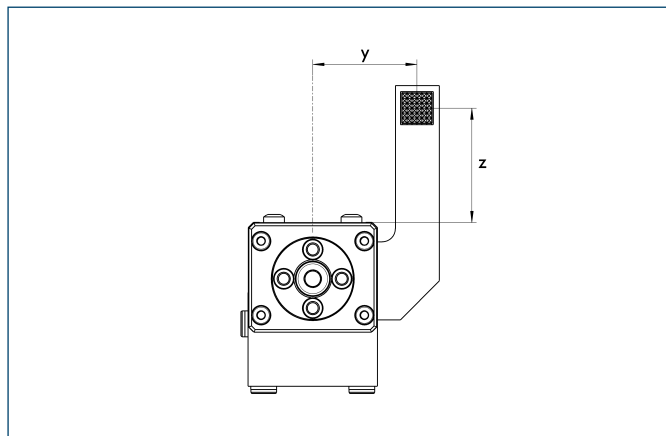
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

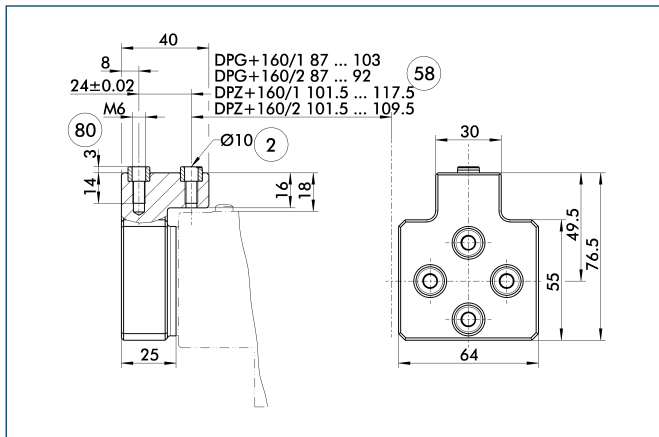
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Intermediate Jaws



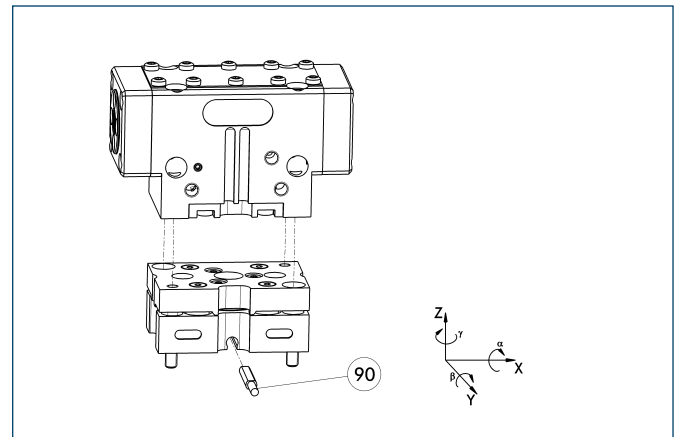
- ② Finger connection
58 Distance from center of gripper

- 80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+160	0300196	Aluminum	1

Tolerance compensation unit

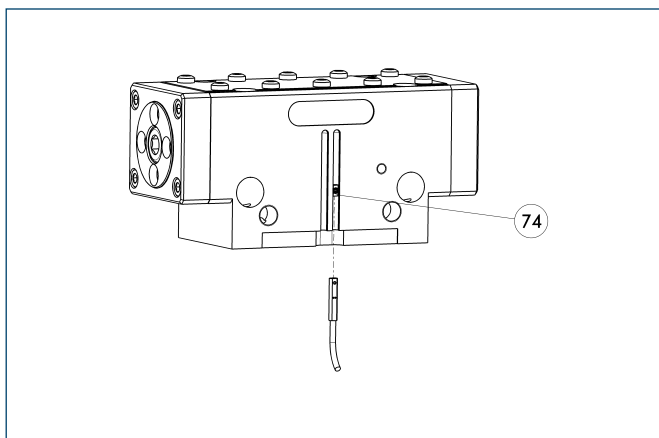


- 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-P	0324846	Yes	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-160-3-OV-P	0324847	No	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$

Programmable magnetic switch



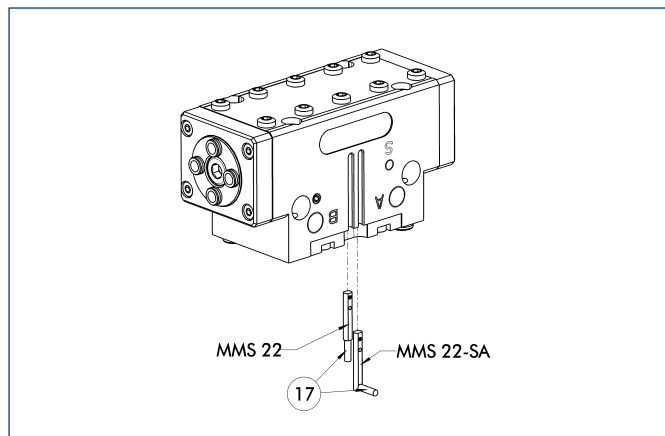
- 74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

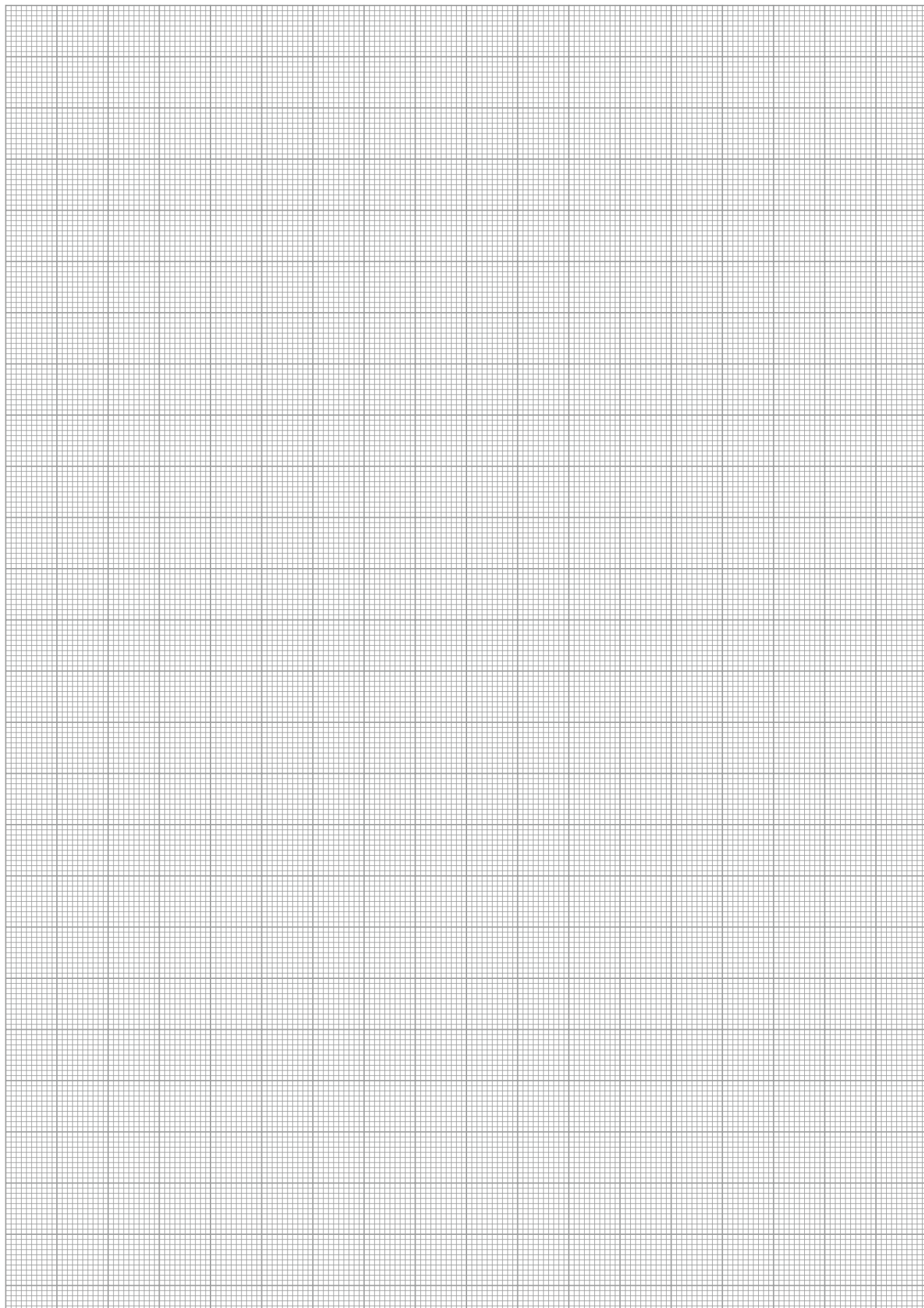
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

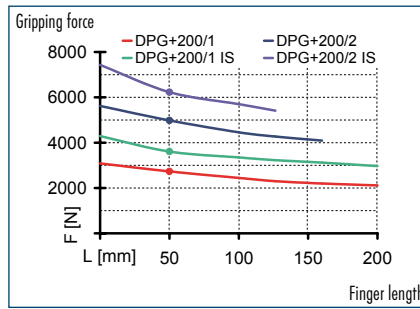


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

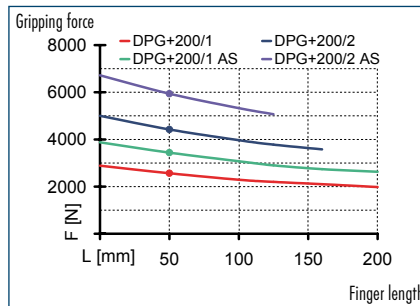




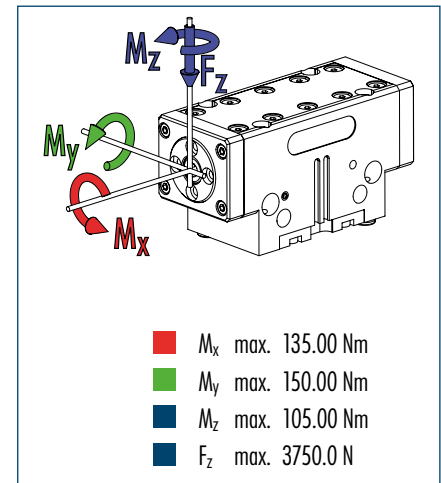
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



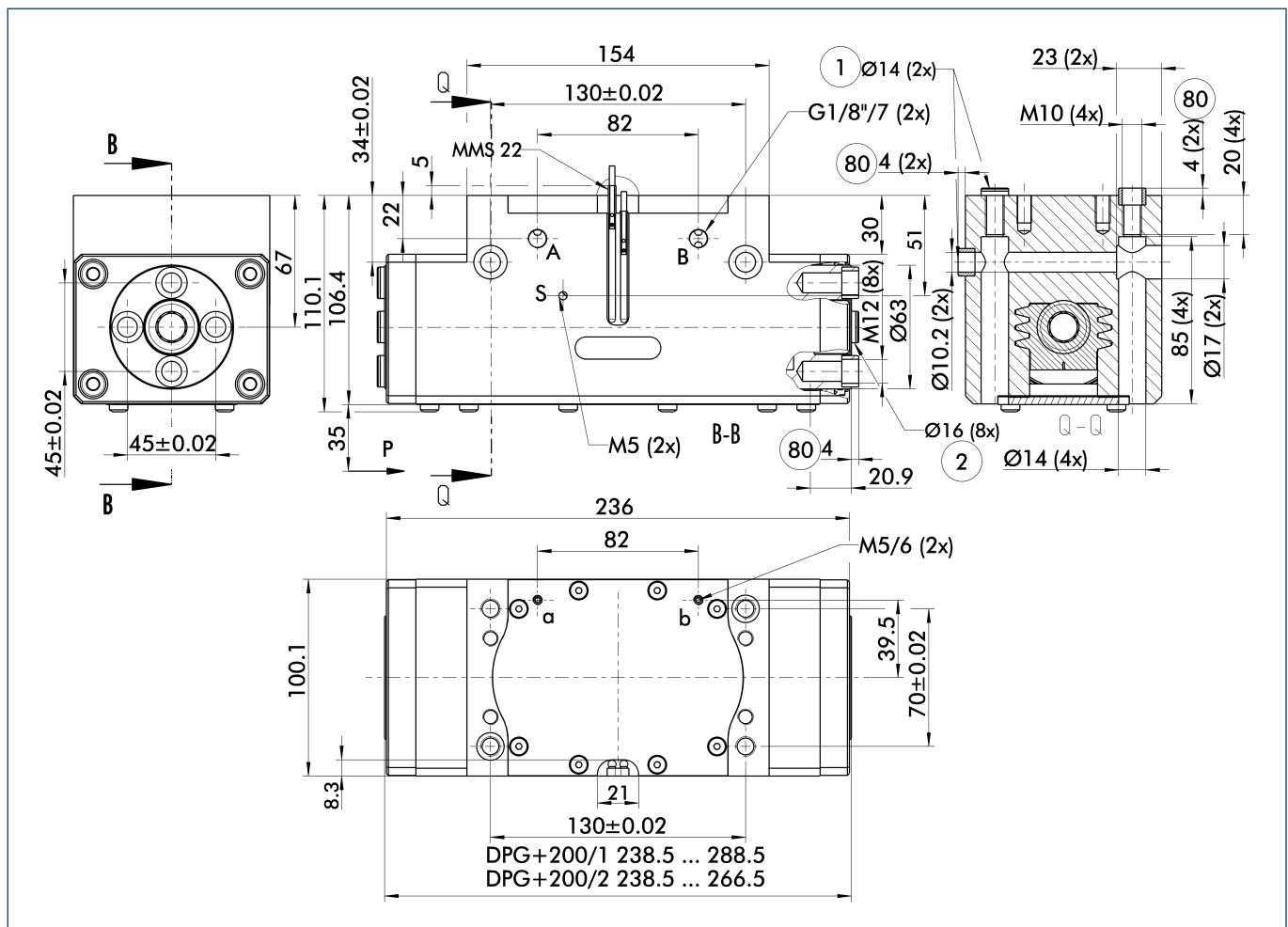
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPG-plus 200-1	DPG-plus 200-2	DPG-plus 200-1-AS	DPG-plus 200-2-AS	DPG-plus 200-1-IS	DPG-plus 200-2-IS
ID		0304361	0304362	0304363	0304364	0304365	0304366
Stroke per finger	[mm]	25	14	25	14	25	14
Closing force	[N]	2565	4420	3440	5940		
Opening force	[N]	2730	4970			3605	6490
Min. spring force	[N]			875	1520	875	1520
Weight	[kg]	7.3	7.3	9.5	9.5	9.5	9.5
Recommended workpiece weight	[kg]	12.8	22.1	12.8	22.1	12.8	22.1
Air consumption per double stroke	[cm³]	390	390	635	635	635	635
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.45/0.45	0.45/0.45	0.4/0.8	0.4/0.8	0.8/0.4	0.8/0.4
Max. permitted finger length	[mm]	200	160	200	125	160	125
Max. permitted weight per finger	[kg]	5.5	5.5	5.5	5.5	5.5	5.5
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

① Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Main view



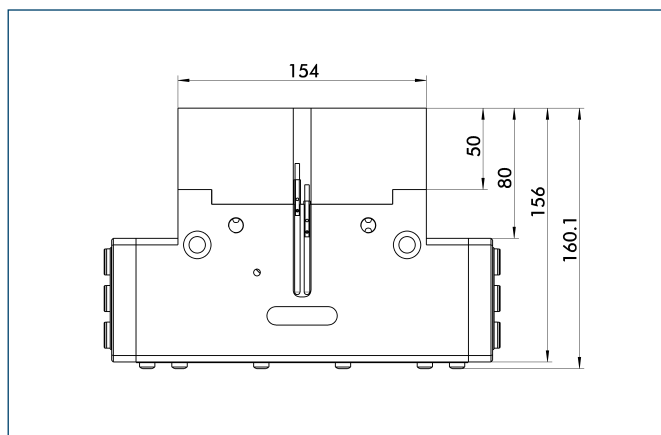
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 S Air purge connection
 ① Gripper connection

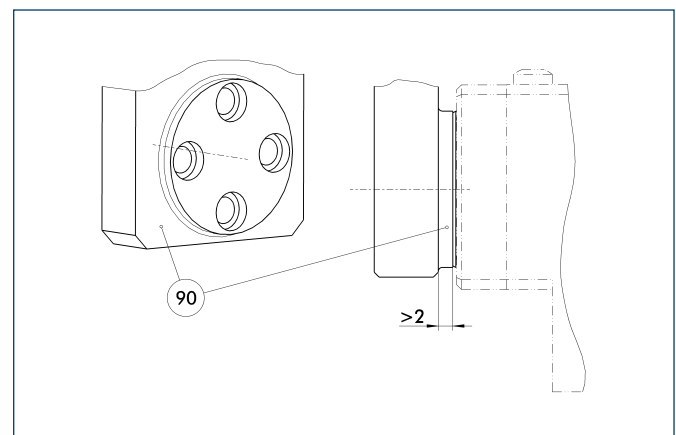
② Finger connection
 ⑧0 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

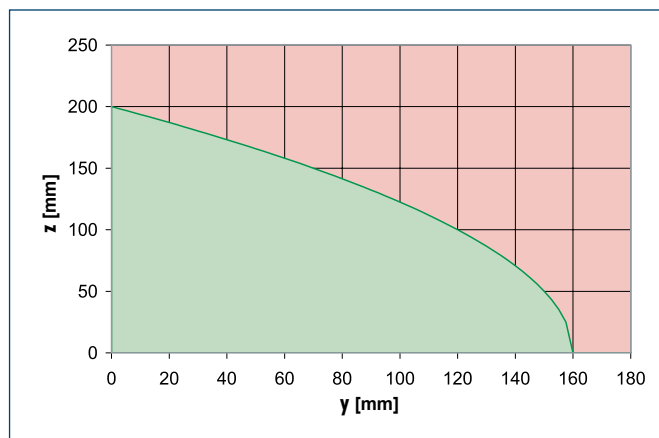
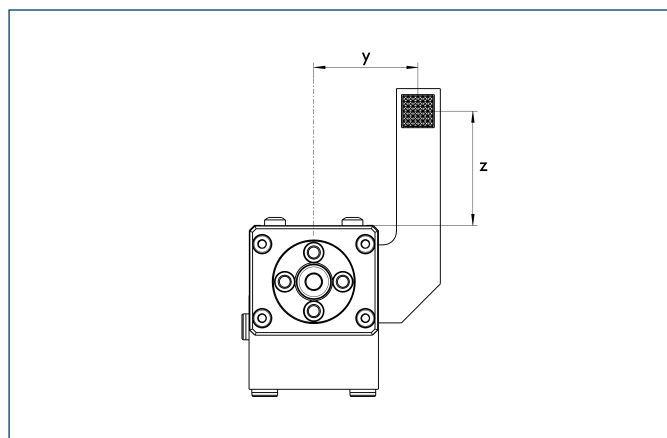
Proposed jaw design



⑨0 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

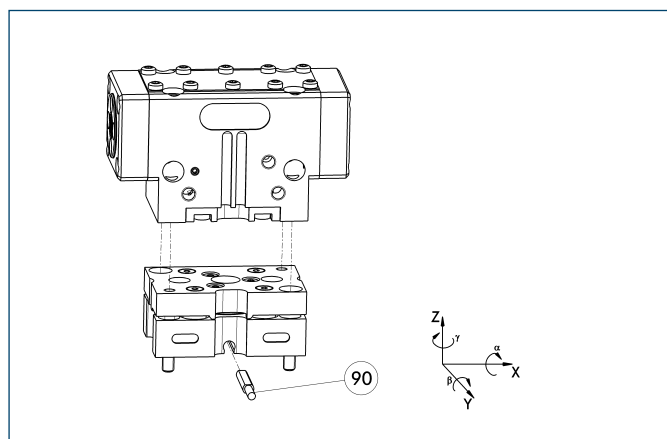
Maximum permitted finger projection



■ Permitted range
■ Inadmissible range

The curve applies to the basic version (stroke-1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Tolerance compensation unit

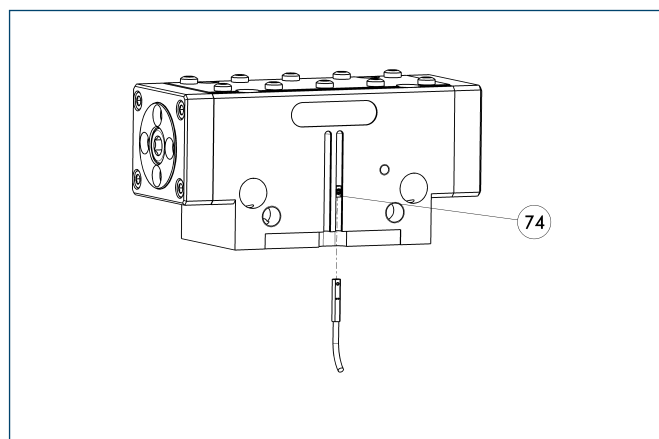


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-200-3-MV-P	0324864	Yes	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$
TCU-200-3-OV-P	0324865	No	$\pm 2^\circ / \pm 1^\circ / \pm 1.5^\circ$

Programmable magnetic switch



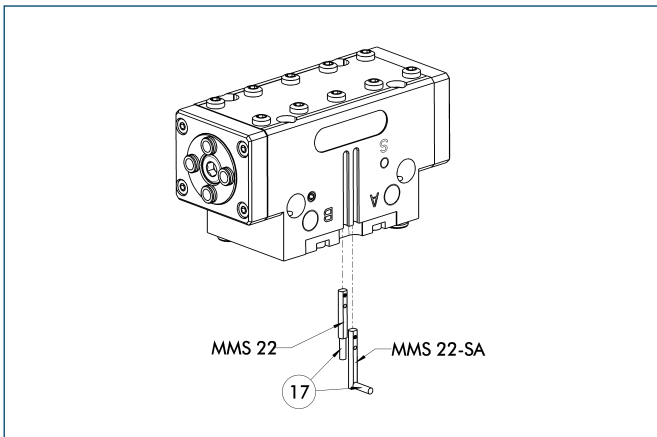
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



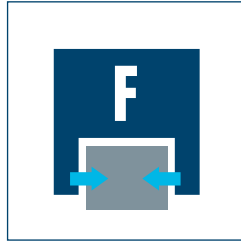
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
30 ... 50



Weight
2.65 kg ... 12.6 kg



Gripping force
630 N ... 2950 N



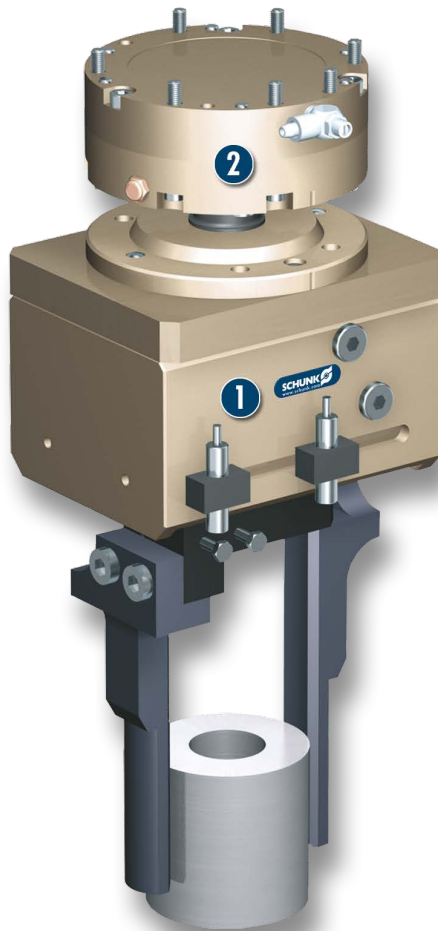
Stroke per finger
30 mm ... 100 mm



Workpiece weight
3.15 kg ... 13 kg



Application example



Assembly unit for intermediate sleeves with various diameters. The unit is equipped with a collision protection device to prevent damages.

1 PFH 2-Finger Parallel Gripper with workpiece-specific gripper fingers

2 OPS collision and overload protection device

Long-stroke Gripper

2-Finger Parallel Gripper with large jaw stroke for large parts and/or a broad range of parts

Field of application

clean to slightly dirty environments

Your advantages and benefits

Robust guidance

for the precise handling of all kinds of workpieces

High maximum moments possible

suitable for using long gripper fingers

Double piston-rack-pinion principle

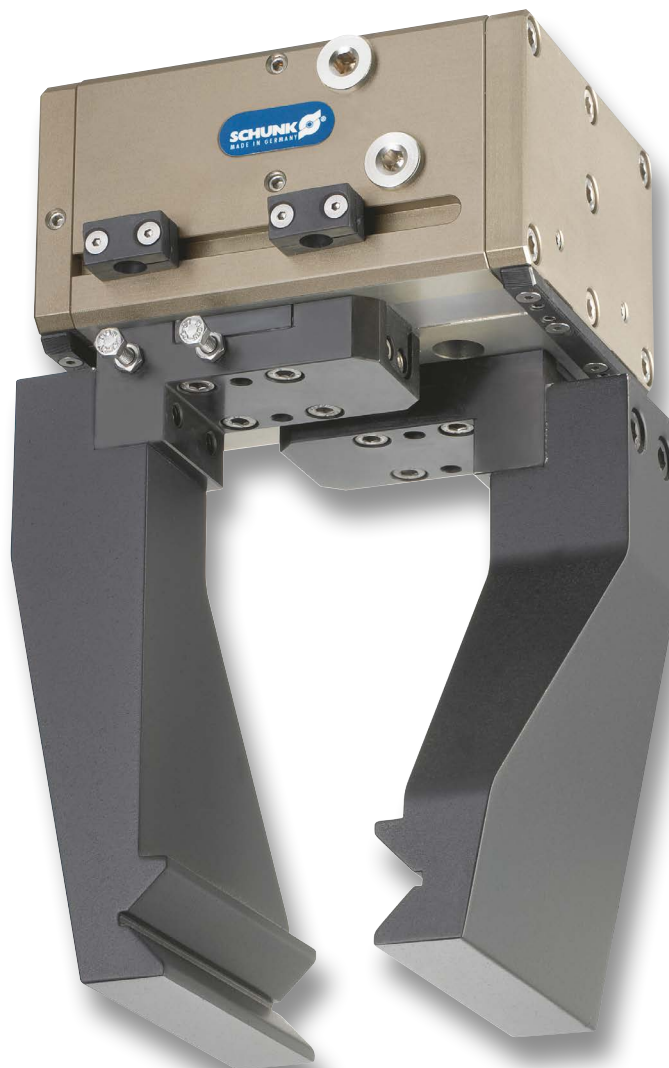
for centric clamping

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Double piston-rack-pinion principle

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

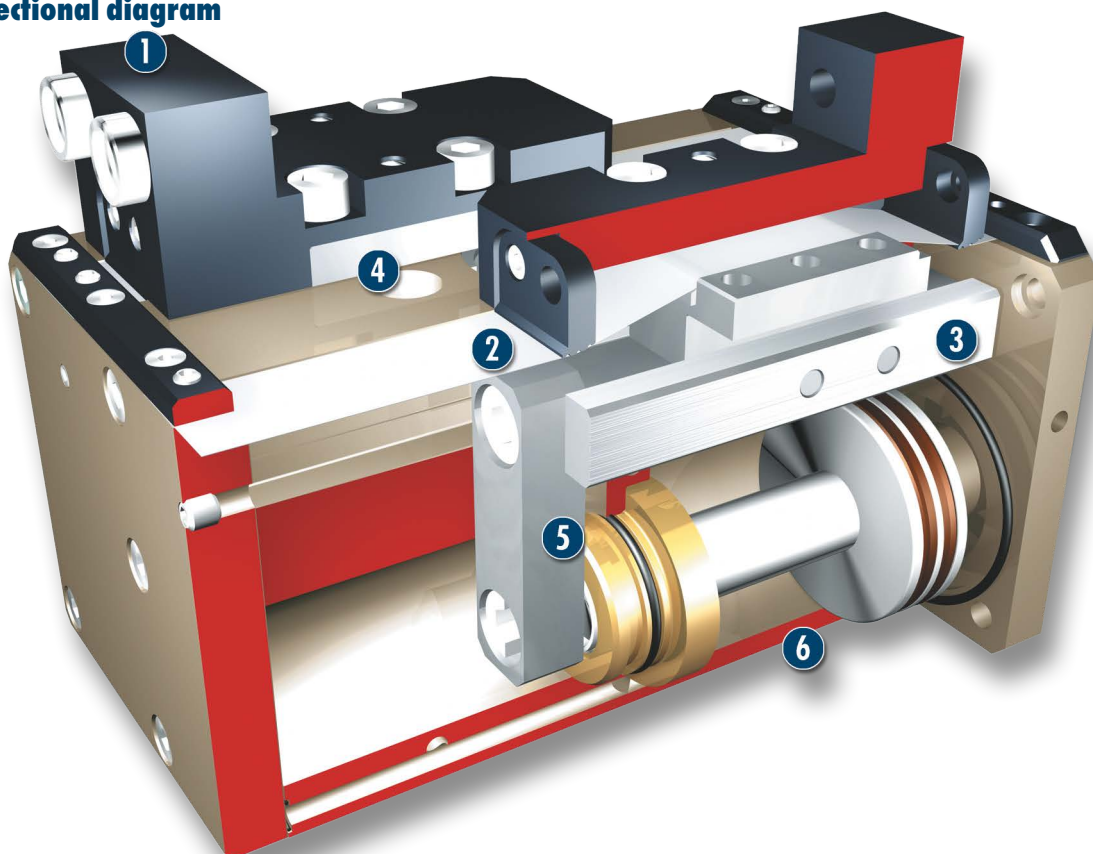
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Dirt-cover**
along the whole guidance length against coarse dirt
- 3 Guidance**
for precise gripping with minimal play at a high load capacity
- 4 Centering and mounting possibilities**
for universal assembly of the gripper
- 5 Kinematics**
Double piston-rack-pinion principle for centric spanning
- 6 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

By pressure actuation of the opposing piston, the base jaws, everyone is guided by a carrier on the piston, are set in motion. The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

Gripper with guide cover

to protect against rough contamination. Gripper with double stroke is available as a special unit, however with the same gripping forces.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



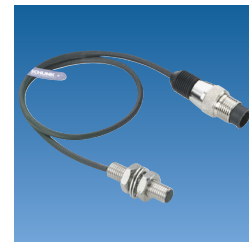
Fittings



Magnetic Switches



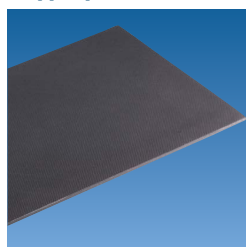
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



Finger blanks



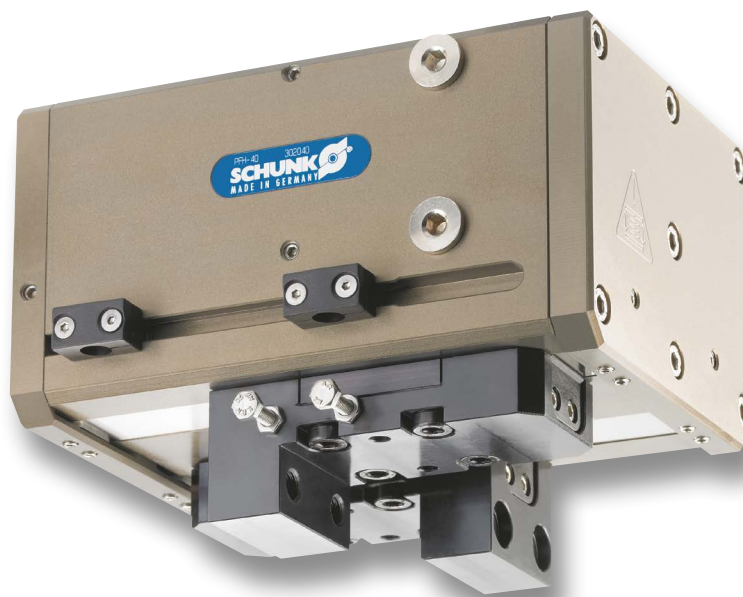
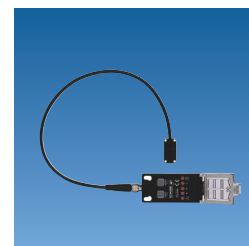
Sensor cables



Sensor Distributor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

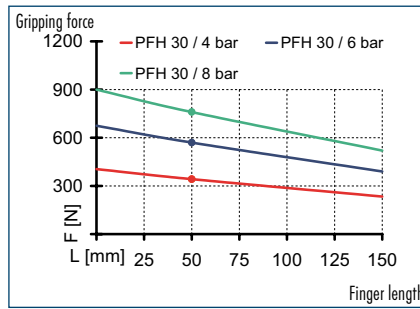
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

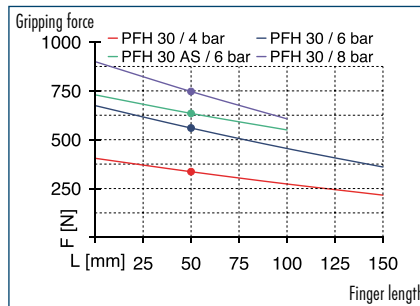
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



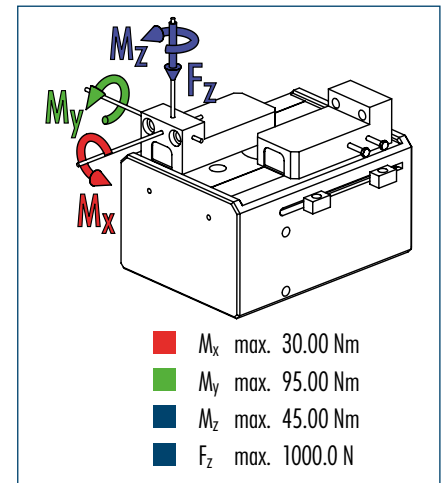
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



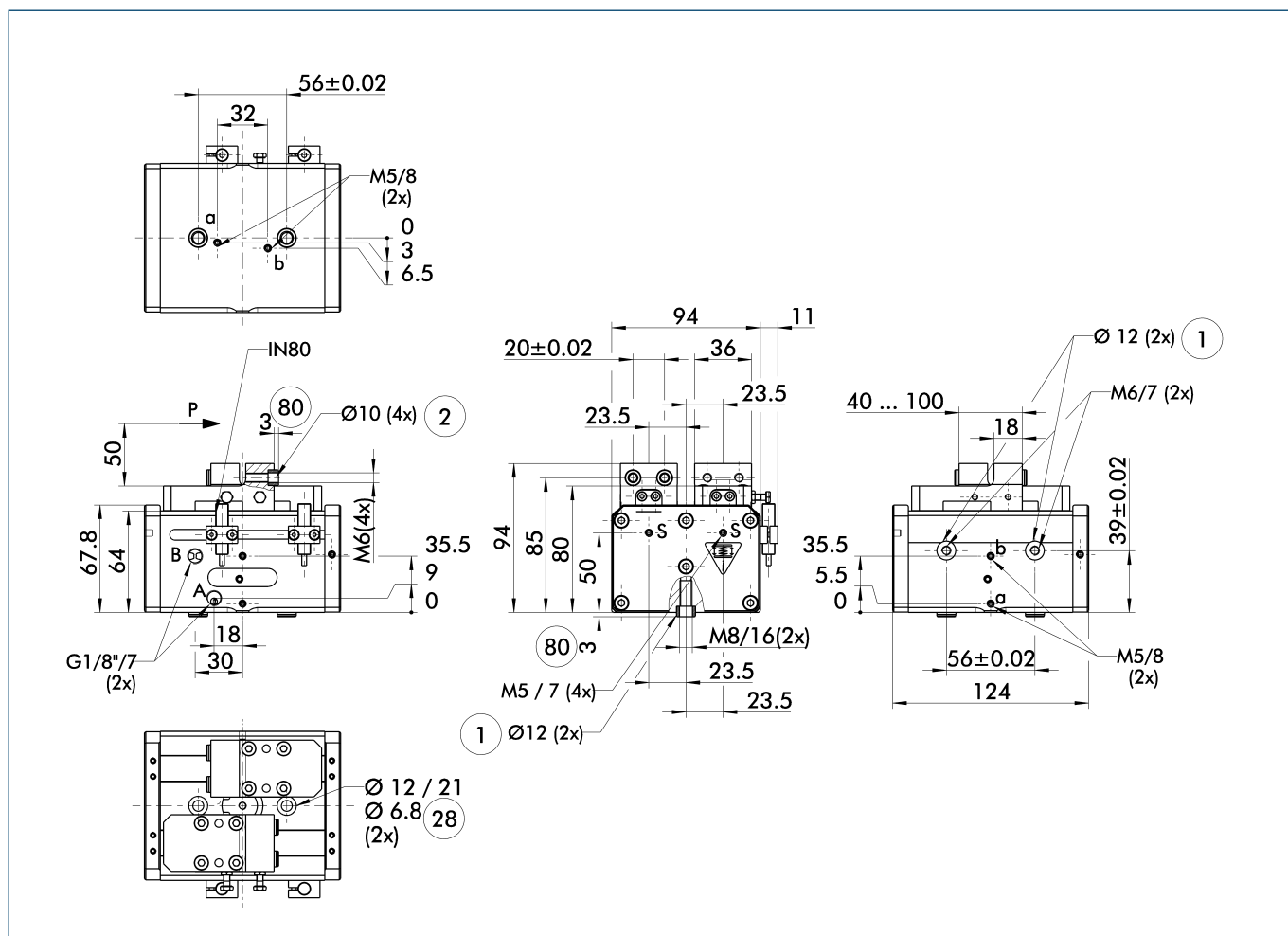
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 30	PFH 30-60	PFH 30-AS
ID		0302030	0302033	0302031
Stroke per finger	[mm]	30	60	30
Closing force	[N]	630	630	720
Opening force	[N]	570	570	
Min. spring force	[N]			90
Weight	[kg]	2.65	3.5	2.7
Recommended workpiece weight	[kg]	3.15	3.15	3.15
Air consumption per double stroke	[cm ³]	95	187	95
Min./max. operating pressure	[bar]	2/8	2/8	5/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.3/0.3	0.4/0.5	0.35/0.35
Max. permitted finger length	[mm]	150	150	100
Max. permitted weight per finger	[kg]	2	2	2
IP class		41	41	41
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

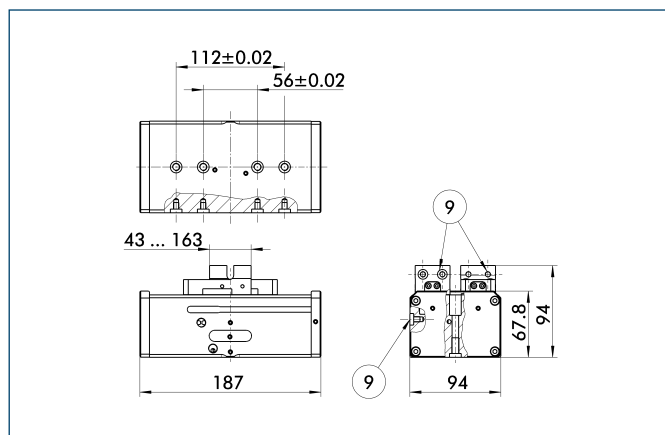
① Gripper connection

② Finger connection

②⑧ Through-bore

⑧⑧ Depth of the centering sleeve hole in the matching part

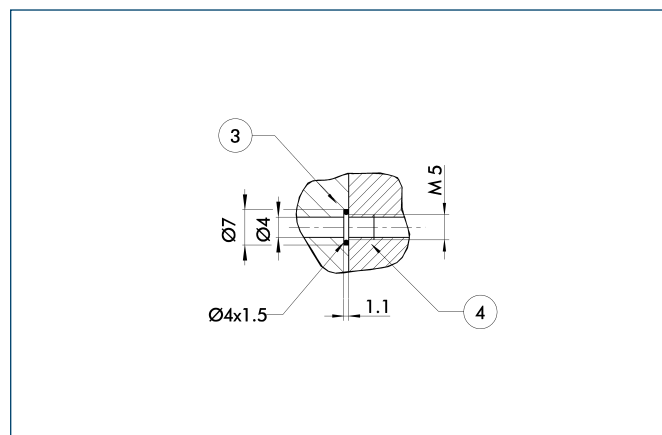
Stroke versions



⑨ For mounting screw connection diagram, see basic version

The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Hose-free direct connection

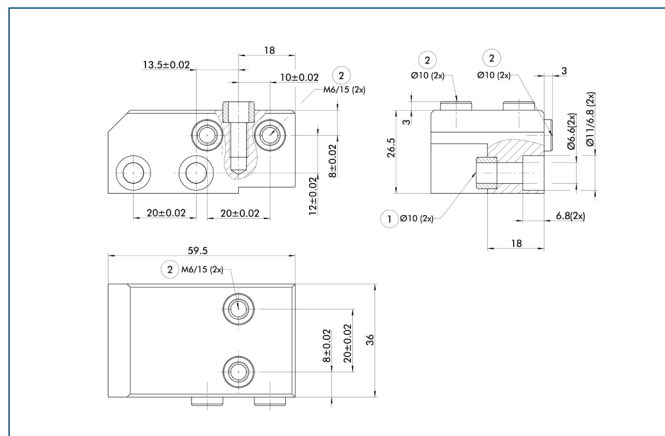


③ Adapter

④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Intermediate Jaws

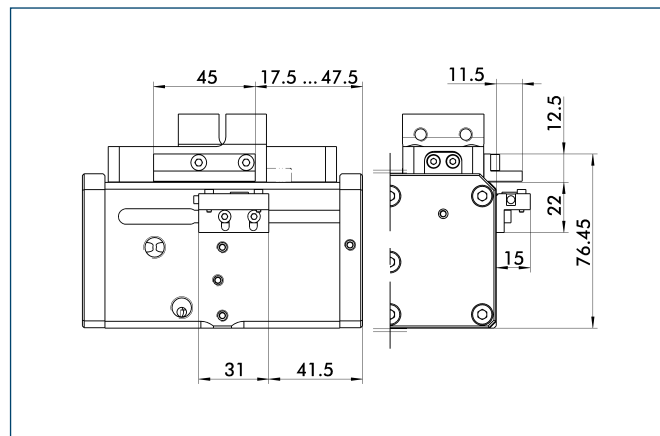


- ① Gripper connection
- ② Finger connection

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PFH 30	0300220	16 MnCr 5	2

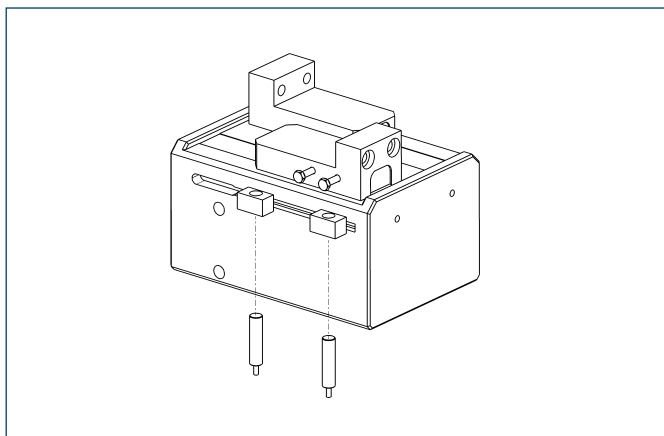
Mounting kit for FPS



The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PFH 30	0301733

Inductive proximity switches



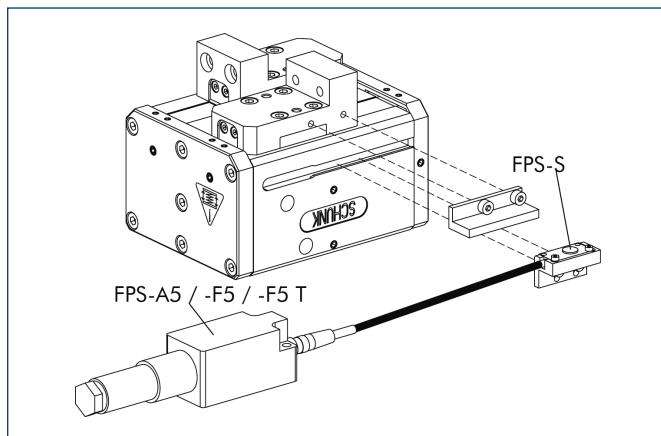
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PFH 30	0301733
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

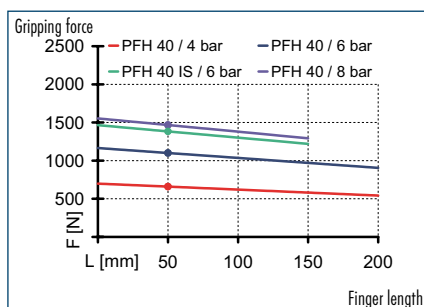
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



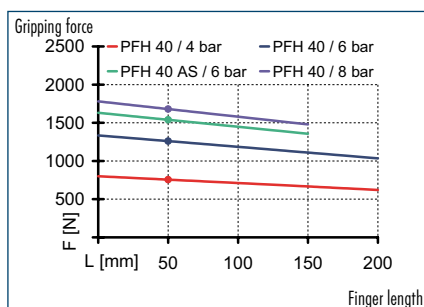
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



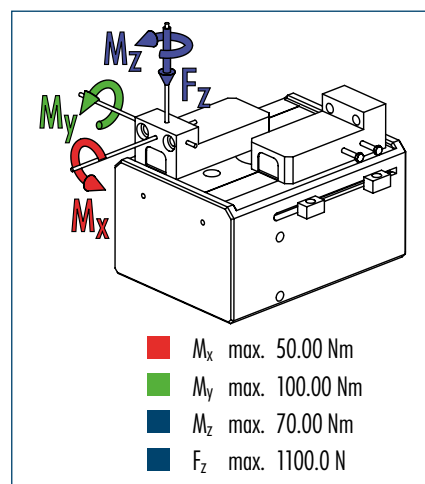
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



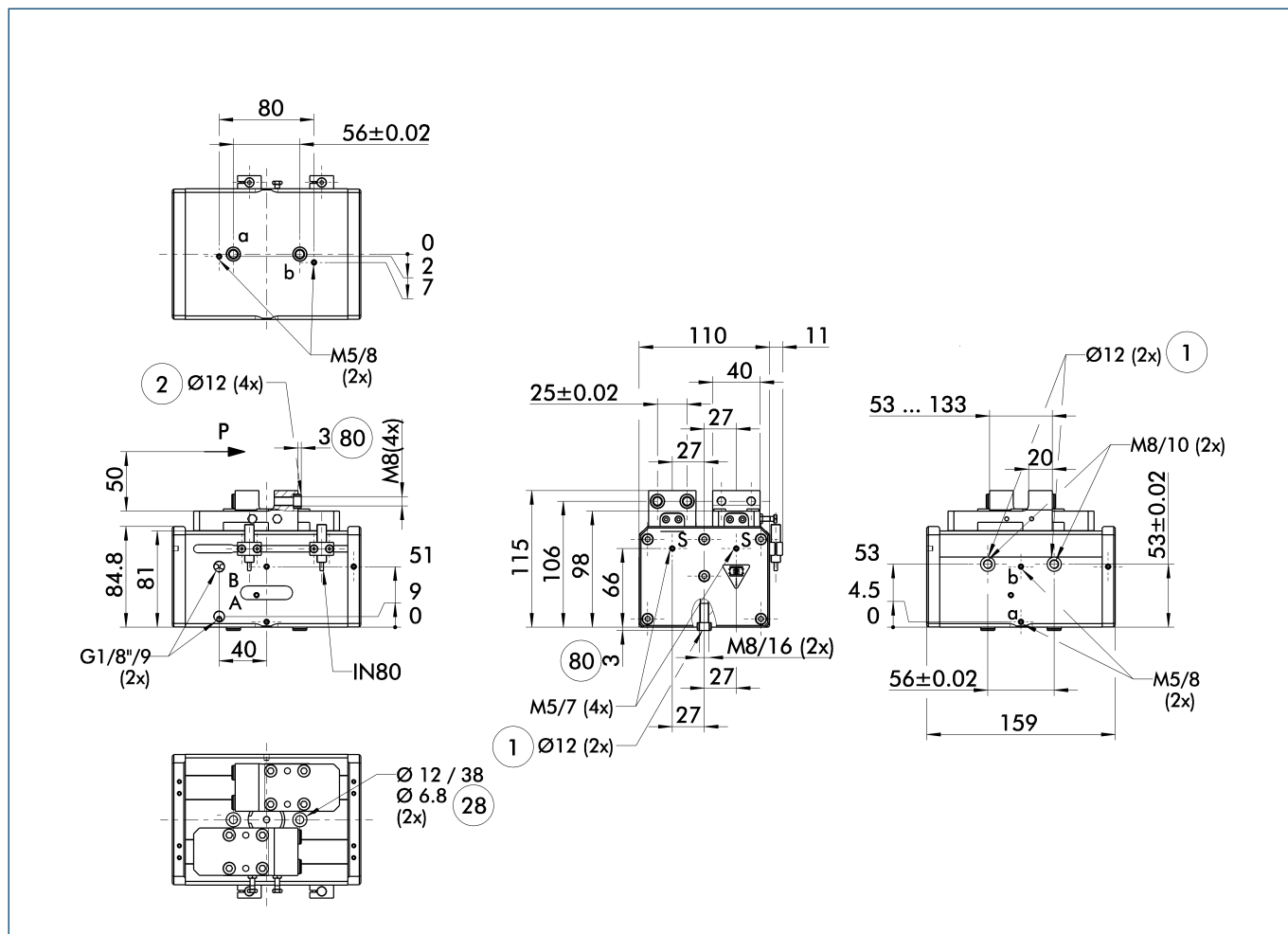
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 40	PFH 40-80	PFH 40-AS	PFH 40-IS
ID		0302040	0302043	0302041	0302042
Stroke per finger	[mm]	40	80	40	40
Closing force	[N]	1260	1260	1540	
Opening force	[N]	1100	1100		1540
Min. spring force	[N]			280	280
Weight	[kg]	4.6	6.2	4.7	4.7
Recommended workpiece weight	[kg]	6.3	6.3	6.3	5.5
Air consumption per double stroke	[cm ³]	245	487	245	245
Min./max. operating pressure	[bar]	2/8	2/8	5/6.5	5/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.3/0.3	0.5/0.6	0.25/0.4	0.4/0.25
Max. permitted finger length	[mm]	200	200	150	150
Max. permitted weight per finger	[kg]	3	3	3	3
IP class		41	41	41	41
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

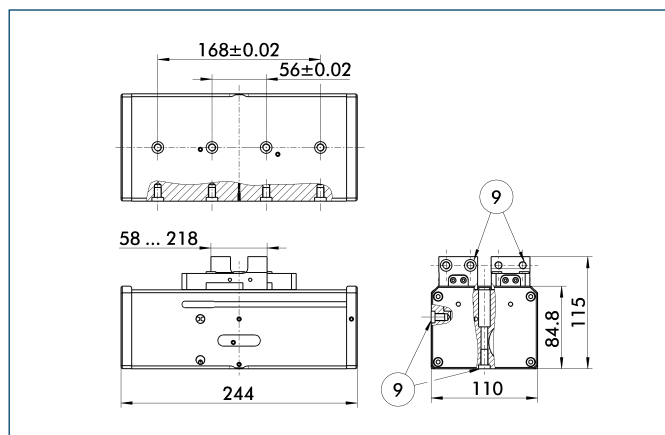
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection

① Gripper connection
② Finger connection

② Through-bore
⑧ Depth of the centering sleeve hole in the matching part

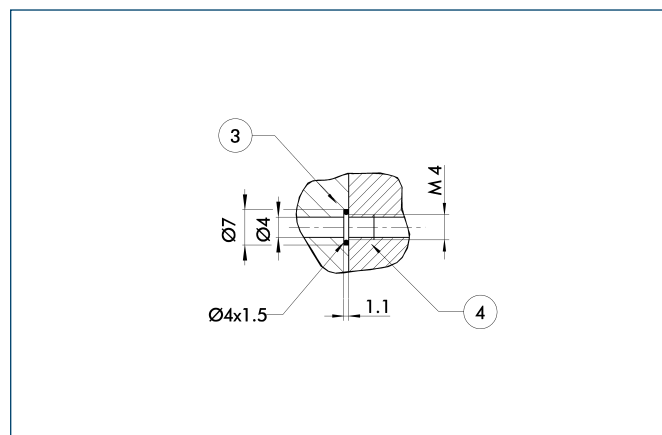
Stroke versions



⑨ For mounting screw connection diagram, see basic version

The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

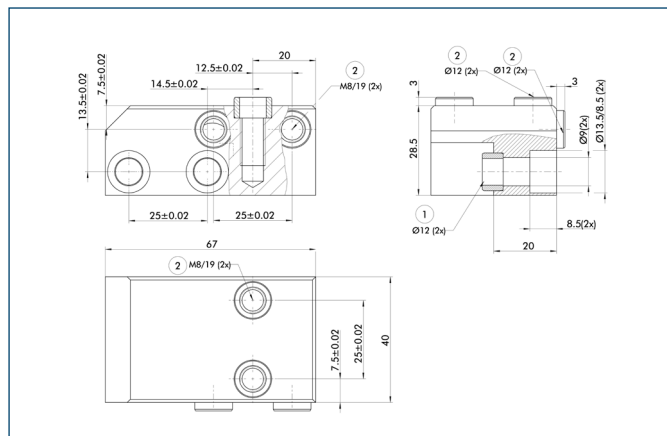
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Intermediate Jaws

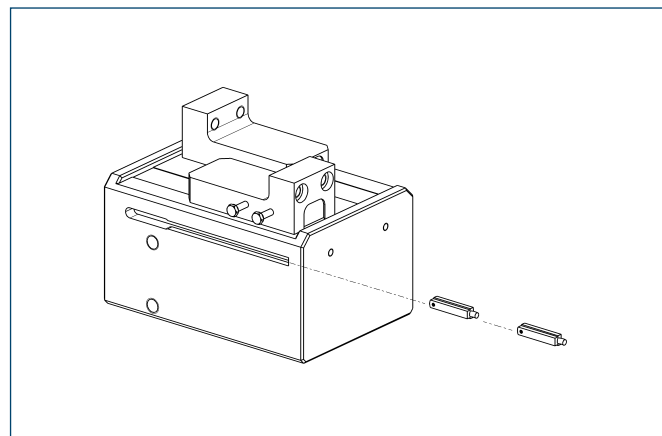


- ① Gripper connection
- ② Finger connection

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PFH 40	0300221	16 MnCr 5	2

Electronic magnetic switches

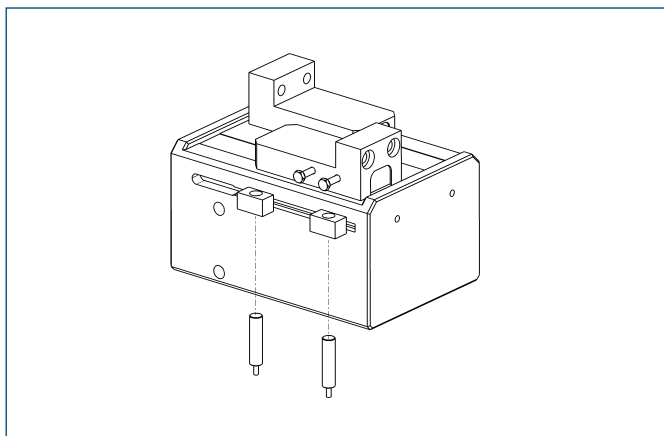


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

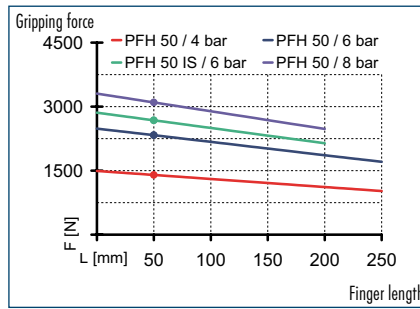
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



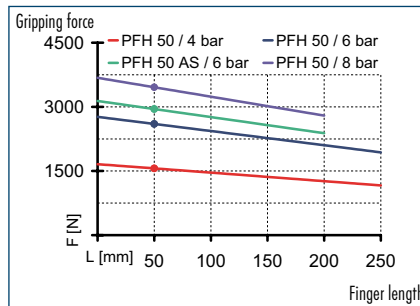
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



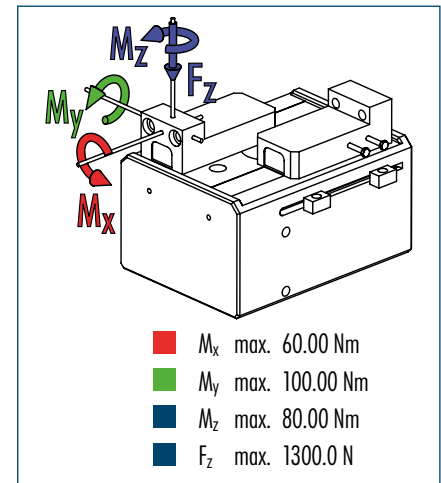
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



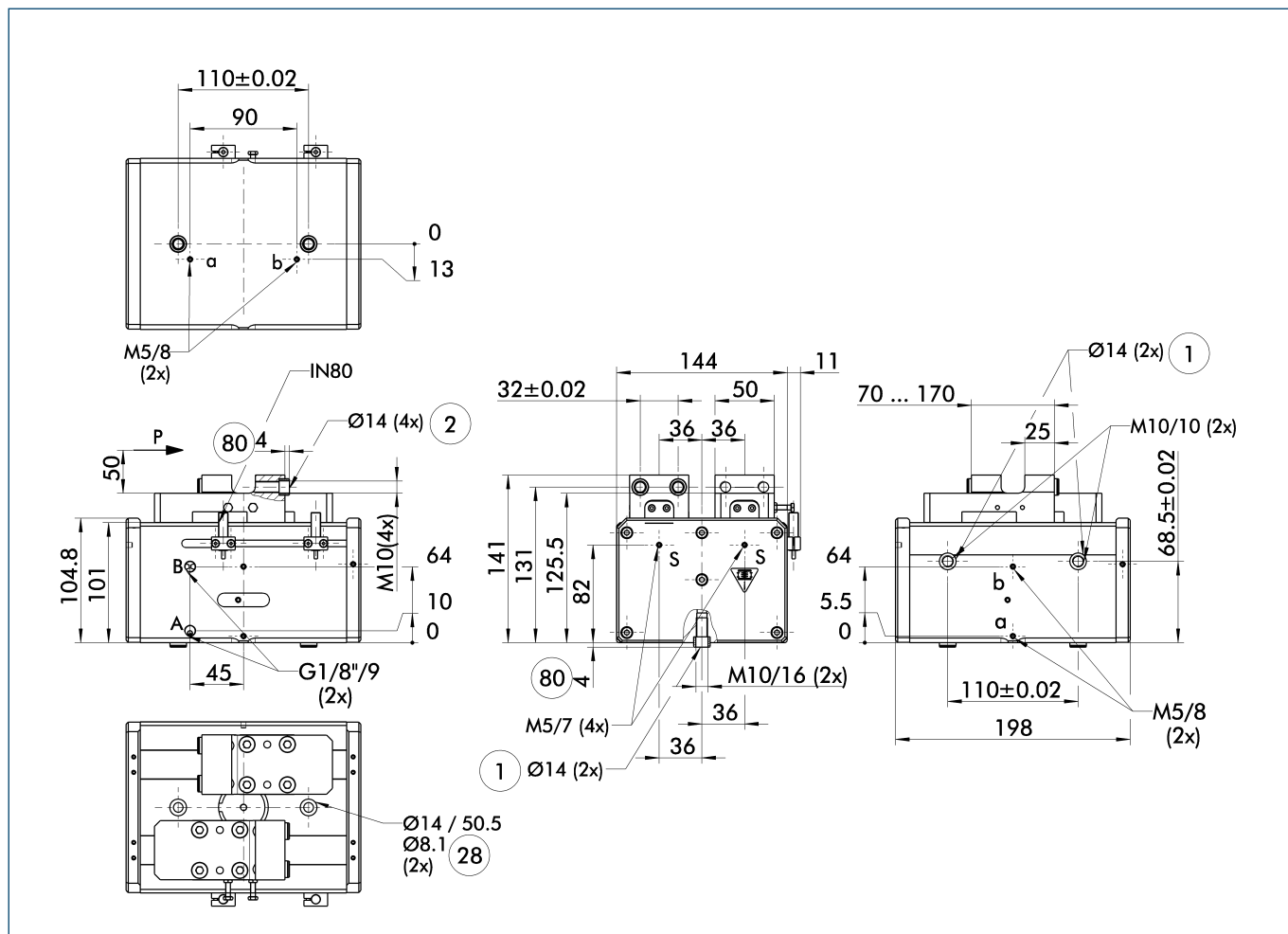
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 50	PFH 50-100	PFH 50-AS	PFH 50-IS
ID		0302050	0302053	0302051	0302052
Stroke per finger	[mm]	50	100	50	50
Closing force	[N]	2600	2600	2950	
Opening force	[N]	2330	2330		2950
Min. spring force	[N]			350	350
Weight	[kg]	9.6	12.6	9.7	9.7
Recommended workpiece weight	[kg]	13	13	13	11.65
Air consumption per double stroke	[cm ³]	603	1205	603	603
Min./max. operating pressure	[bar]	2/8	2/8	5/6.5	5/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.6/0.7	1/1.2	0.5/0.8	0.7/0.6
Max. permitted finger length	[mm]	250	250	200	200
Max. permitted weight per finger	[kg]	4	4	4	4
IP class		41	41	41	41
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

S Air purge connection

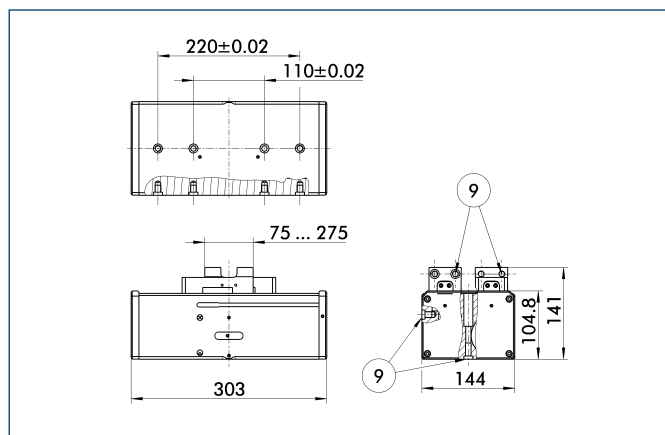
① Gripper connection

② Finger connection

②⑧ Through-bore

⑧① Depth of the centering sleeve hole in the matching part

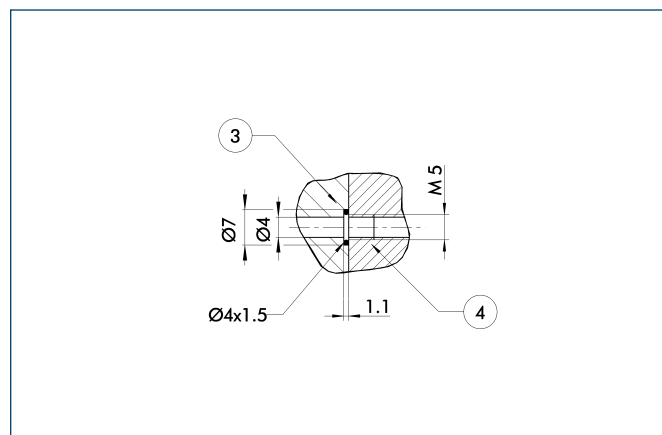
Stroke versions



⑨ For mounting screw connection diagram, see basic version

The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Hose-free direct connection

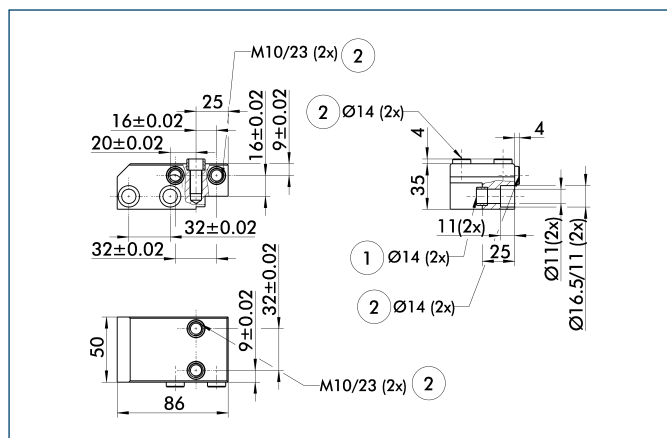


③ Adapter

④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Intermediate Jaws

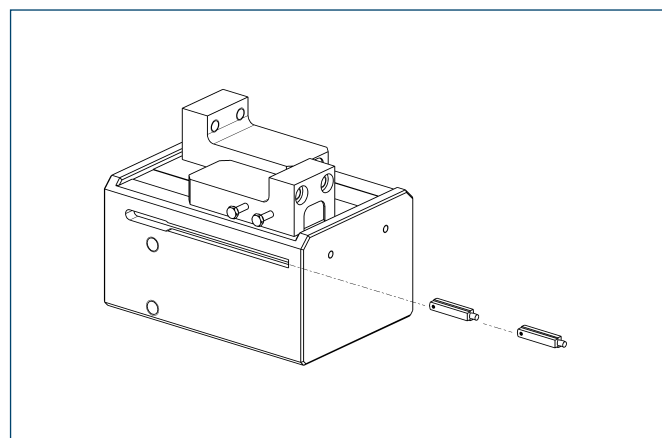


- ① Gripper connection
- ② Finger connection

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PFH 50	0300222	16 MnCr 5	2

Electronic magnetic switches

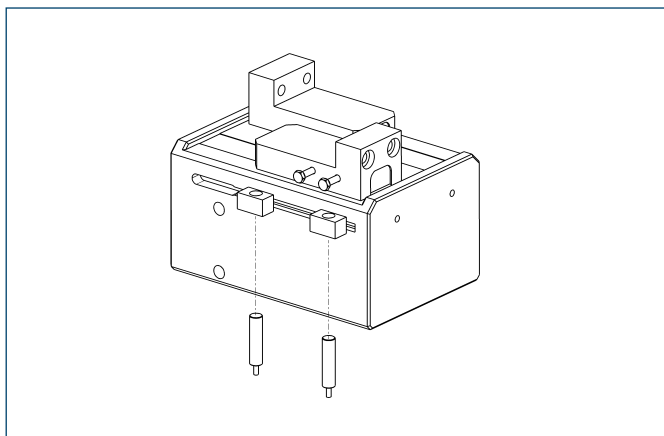


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
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KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
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- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



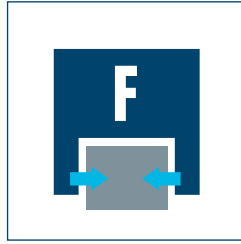
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Sizes
150 ... 300



Weight
18.9 kg ... 33.6 kg



Gripping force
2200 N

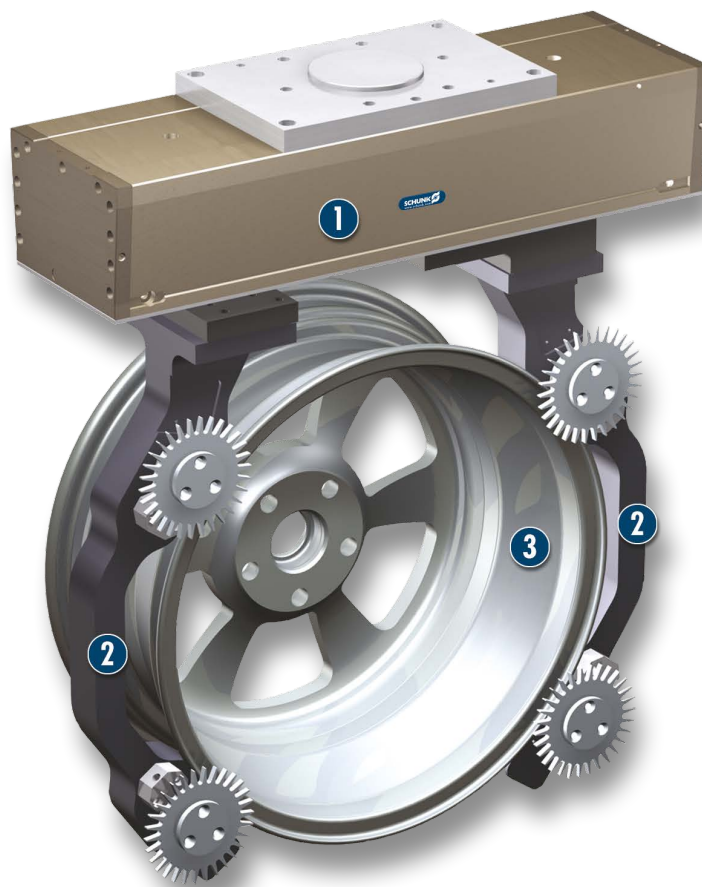


Stroke per finger
150 mm ... 300 mm



Workpiece weight
14.7 kg

Application example



Gripper unit for handling car and truck rims. Special fingers enable process reliable gripping of pre-machined and finished parts.

1

2-Finger Long-stroke Gripper PFH

2

Special fingers for wheel rim handling

3

Workpiece: 19 inch wheel rim

Long-stroke Gripper

2-Finger Parallel Gripper with large jaw stroke for large parts and/or a broad range of parts

Field of application

clean to slightly dirty working environments, especially suitable for the handling of car rims

Your advantages and benefits

Robust guidance

for the precise handling of all kinds of workpieces

High maximum moments possible

suitable for using long gripper fingers

Double piston-rack-pinion principle

for centric clamping

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Double piston-rack-pinion principle

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

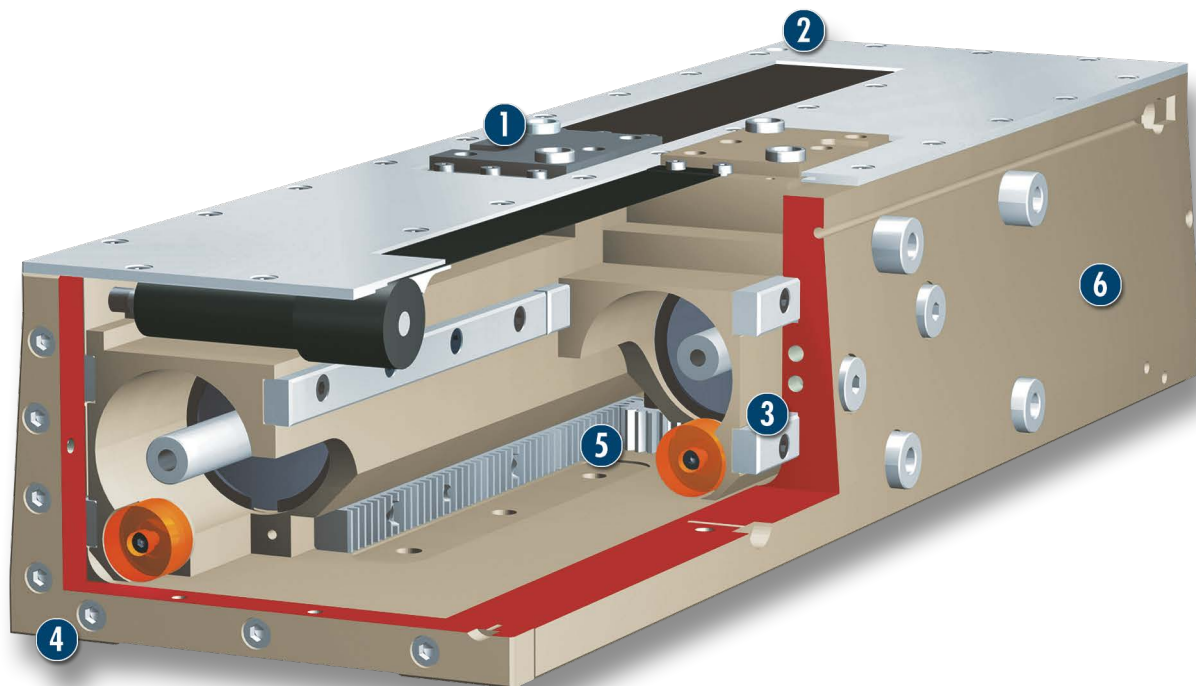
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Base jaw
for the connection of workpiece-specific gripper fingers</p> | <p>3 Guidance
for precise gripping with minimal play at a high load capacity</p> | <p>5 Kinematics
Double piston-rack-pinion principle for centric spanning</p> |
| <p>2 Dirt-cover
along the whole guidance length against coarse dirt</p> | <p>4 Centering and mounting possibilities
for universal assembly of the gripper</p> | <p>6 Housing
sturdy, one-piece U-section</p> |

Functional description

The base jaws form the piston areas, while the pistons themselves are fixed. By pressure actuating each opposing piston area, the base jaws set in motion. The end of the stroke is dampened with an elastomer pad.

Options and special information

The gripper was specially developed for handling car rims. It is capable of gripping rims from 13" bis 21", but can also be used for handling other large workpieces. Units with manual stroke adjustment and versions with shorter and longer strokes are available on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



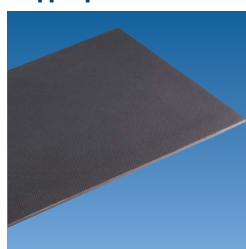
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

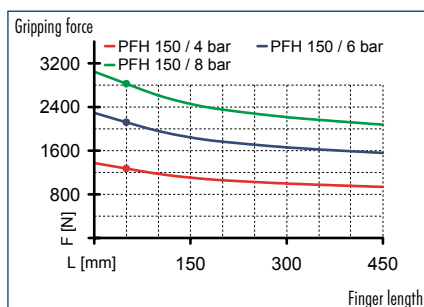
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

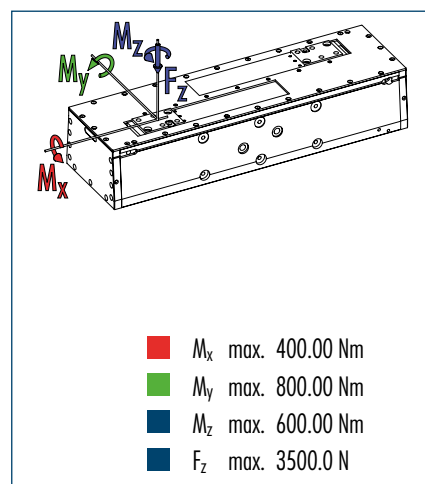
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force



Finger load



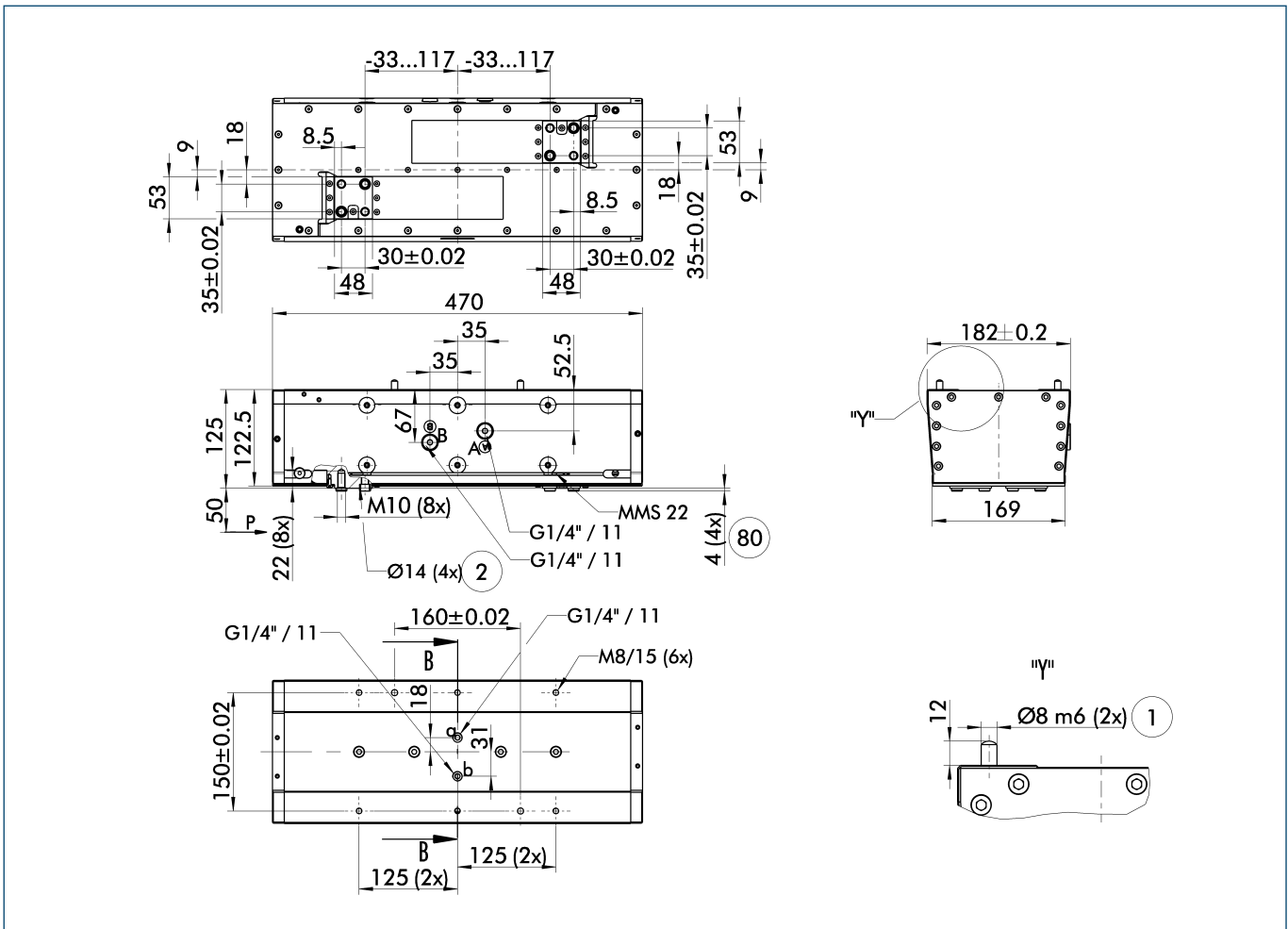
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 150
ID		0302000
Stroke per finger	[mm]	150
Closing force	[N]	2200
Opening force	[N]	2200
Weight	[kg]	18.9
Recommended workpiece weight	[kg]	14.7
Air consumption per double stroke	[cm ³]	1510
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.7/0.7
Max. permitted finger length	[mm]	450
Max. permitted weight per finger	[kg]	7
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



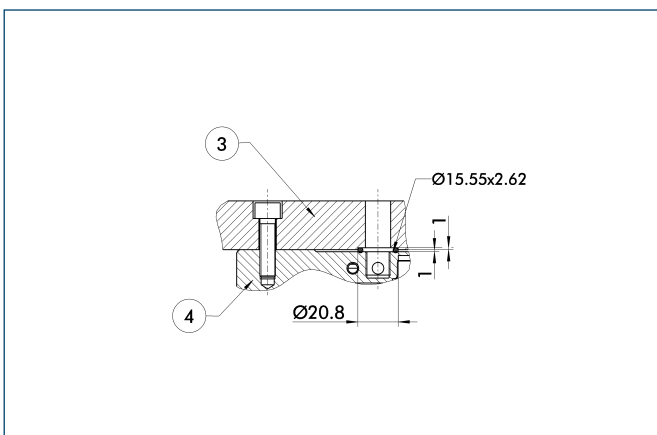
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

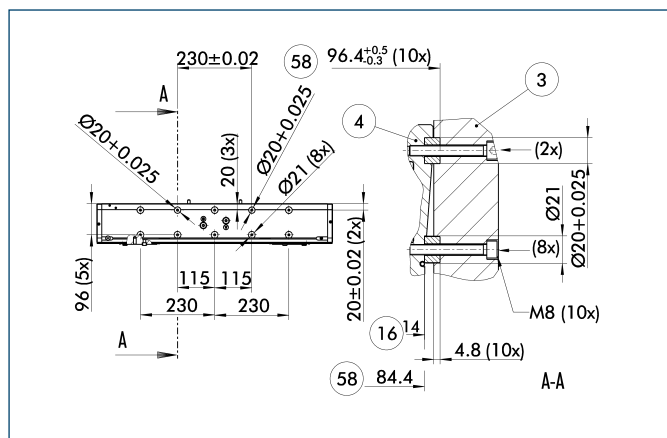
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for side mount

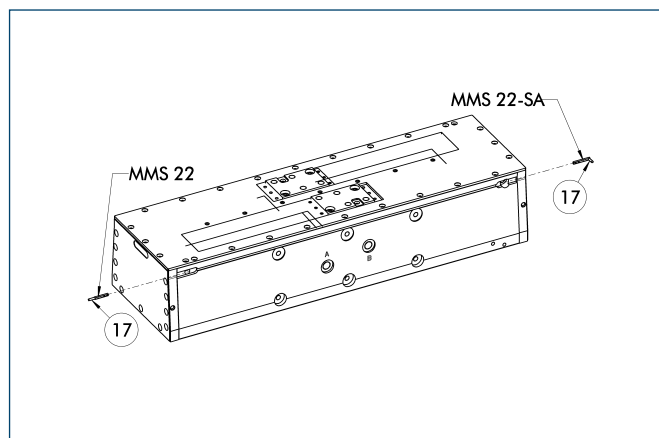


- | | |
|-----------|------------------------------------|
| ③ Adapter | ①6 Max. depth of engagement |
| ④ Gripper | ⑤8 Distance from center of gripper |

The mounting kit for side mount enables parallel and centric fastening at the side surface.

Description	ID
Mounting kit for side mount	
AS-S PFH 150-200	0302024

Electronic magnetic switches



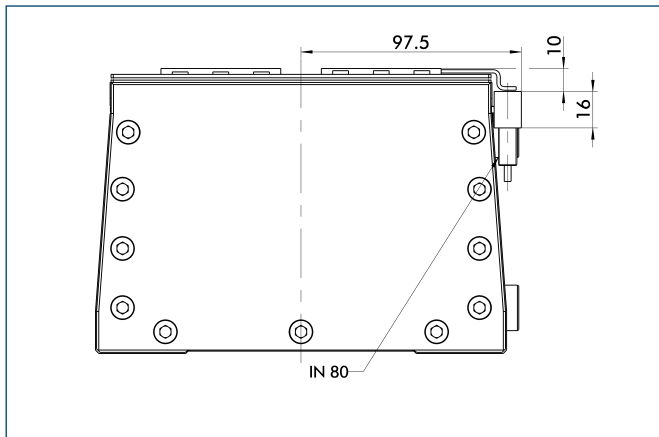
- ⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ❗ Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

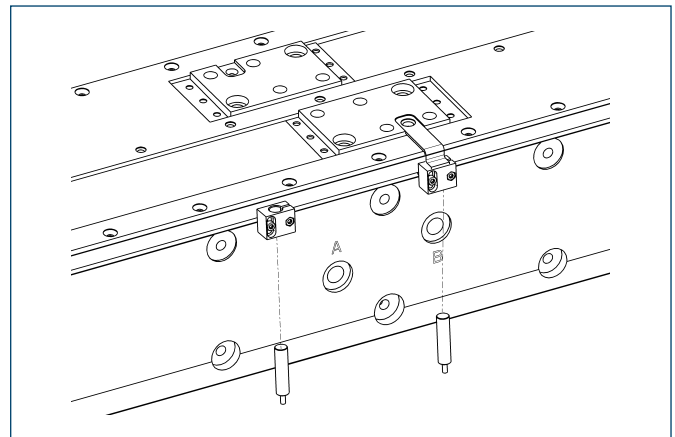


The mounting kit enables assembly of two inductive proximity switches. The kit is fitted in the sensor slot of the slotted switch.

Description	ID
Mounting kit for proximity switch	
HG-PFH 150-300	0300770

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PFH 150-300	0300770	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
INK 80-SL	0301579	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

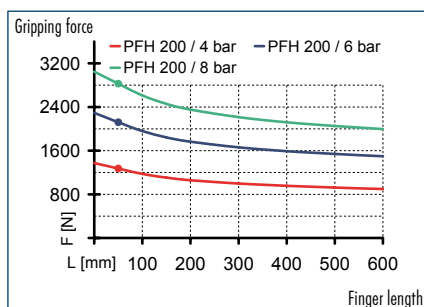
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



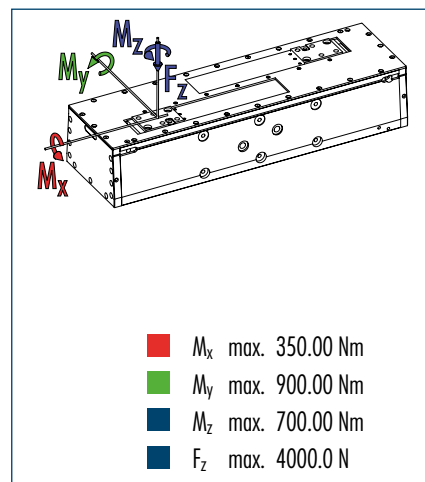
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Gripping force



Finger load



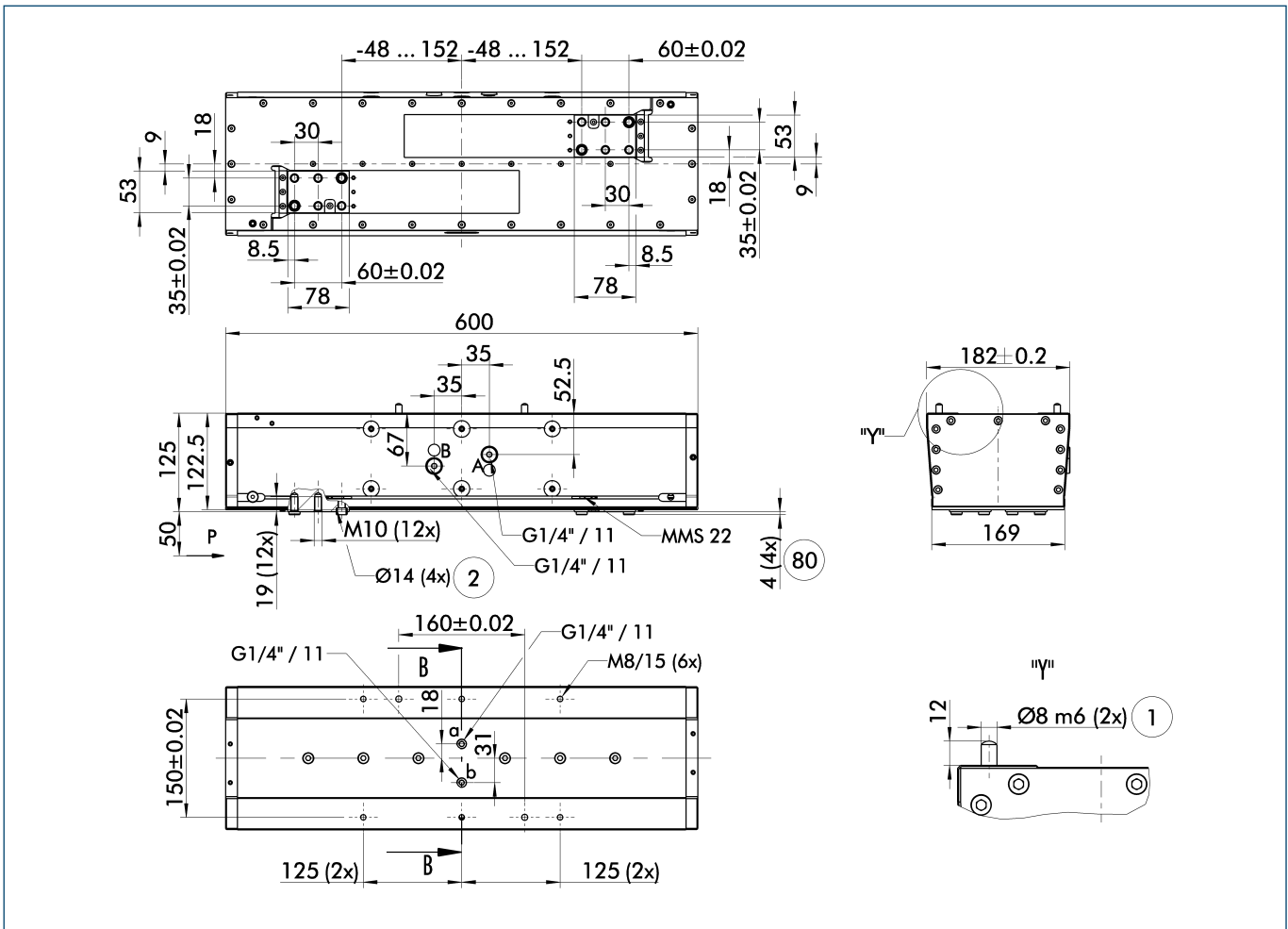
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 200
ID		0302020
Stroke per finger	[mm]	200
Closing force	[N]	2200
Opening force	[N]	2200
Weight	[kg]	23.5
Recommended workpiece weight	[kg]	14.7
Air consumption per double stroke	[cm ³]	1990
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.9/0.9
Max. permitted finger length	[mm]	600
Max. permitted weight per finger	[kg]	8
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



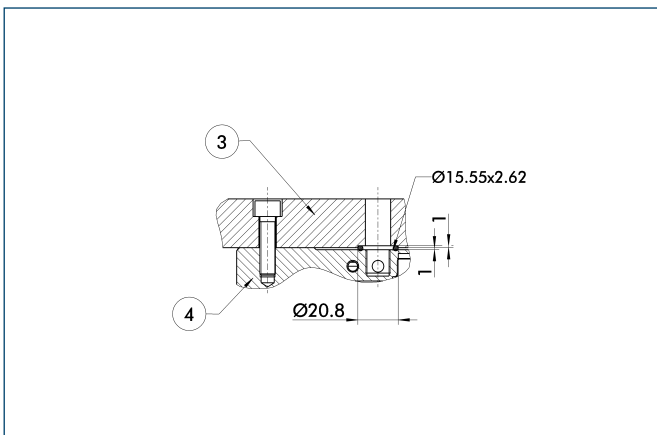
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 ① Gripper connection
 ② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

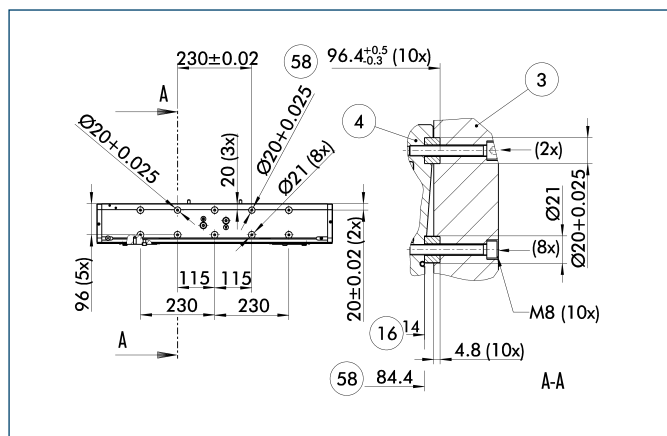
Hose-free direct connection



③ Adapter
 ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for side mount

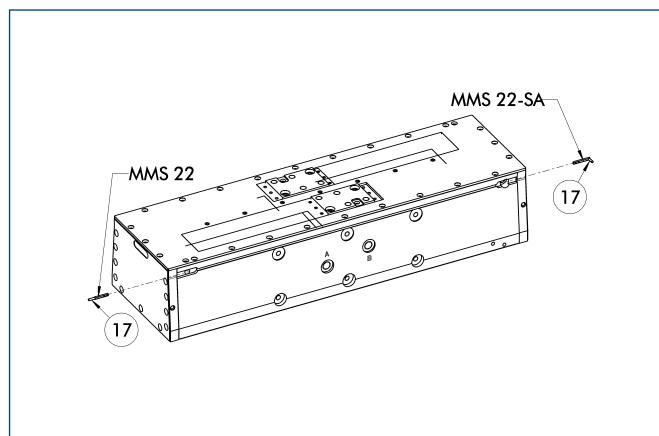


- | | |
|-----------|------------------------------------|
| ③ Adapter | ①6 Max. depth of engagement |
| ④ Gripper | ⑤8 Distance from center of gripper |

The mounting kit for side mount enables parallel and centric fastening at the side surface.

Description	ID
Mounting kit for side mount	
AS-S PFH 150-200	0302024

Electronic magnetic switches



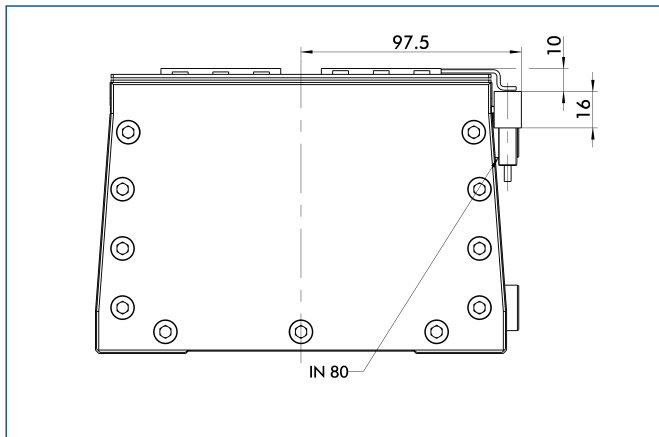
- ⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ❗ Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

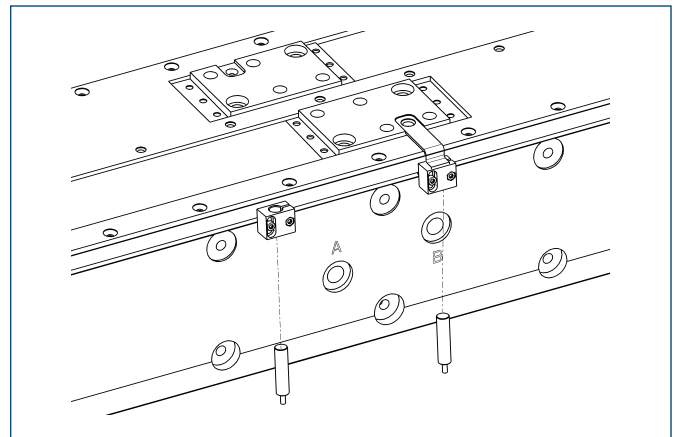


The mounting kit enables assembly of two inductive proximity switches. The kit is fitted in the sensor slot of the slotted switch.

Description	ID
Mounting kit for proximity switch	
HG-PFH 150-300	0300770

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PFH 150-300	0300770	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
INK 80-SL	0301579	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

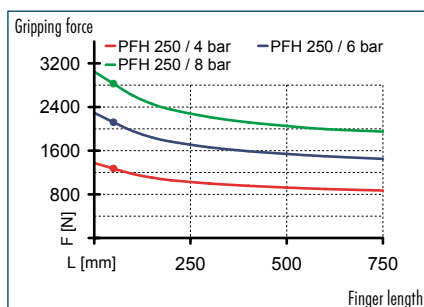
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



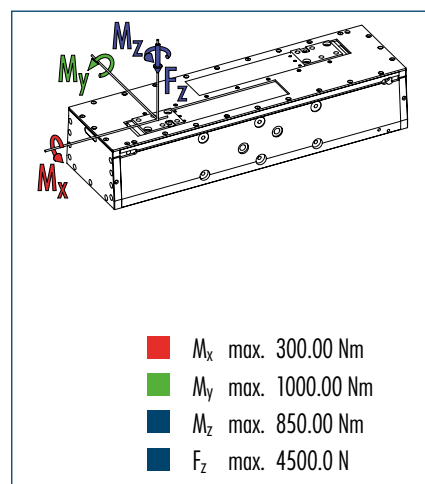
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Gripping force



Finger load



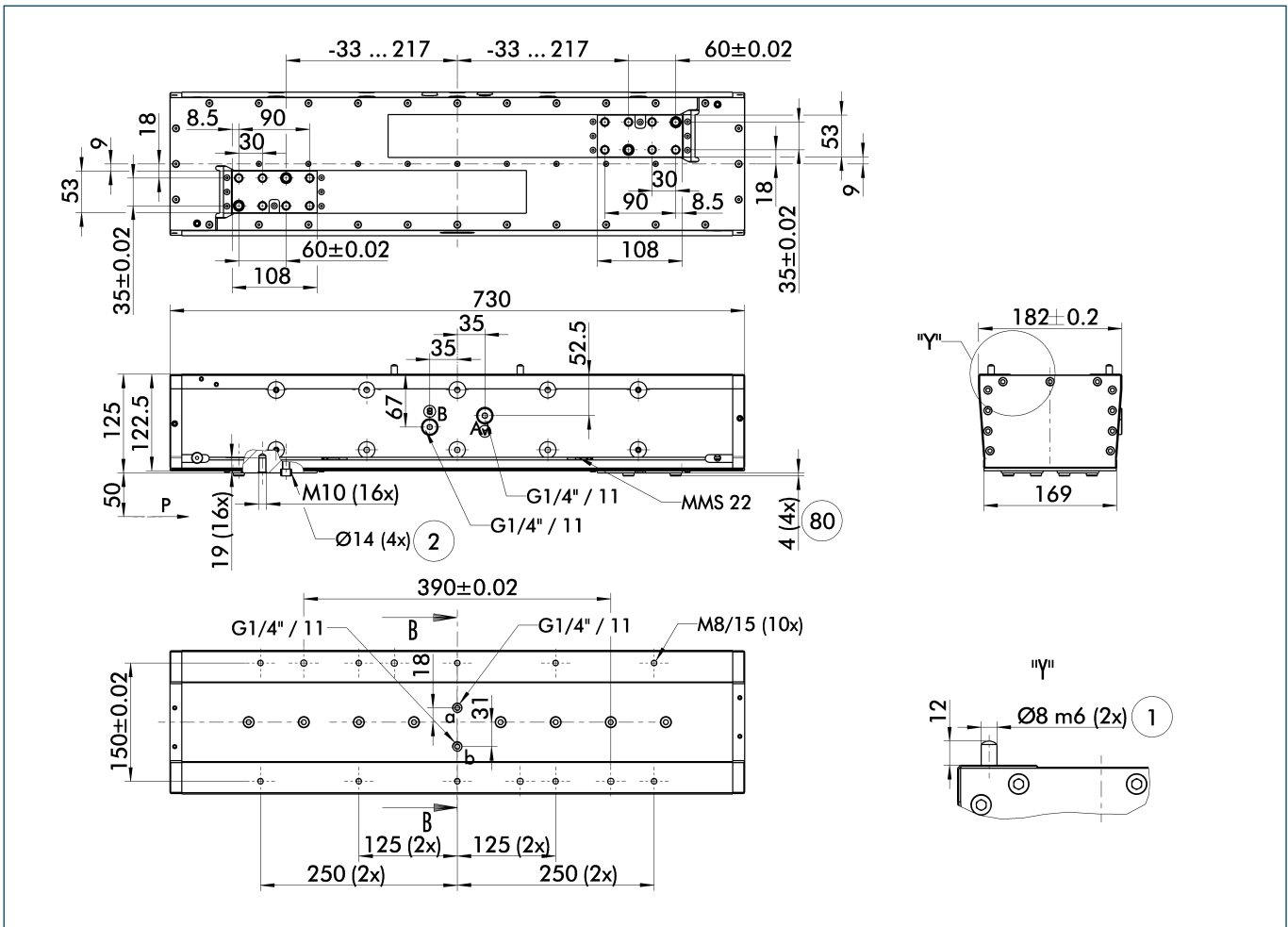
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 250
ID		0302005
Stroke per finger	[mm]	250
Closing force	[N]	2200
Opening force	[N]	2200
Weight	[kg]	28.6
Recommended workpiece weight	[kg]	14.7
Air consumption per double stroke	[cm ³]	2510
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	1.1/1.1
Max. permitted finger length	[mm]	750
Max. permitted weight per finger	[kg]	9
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



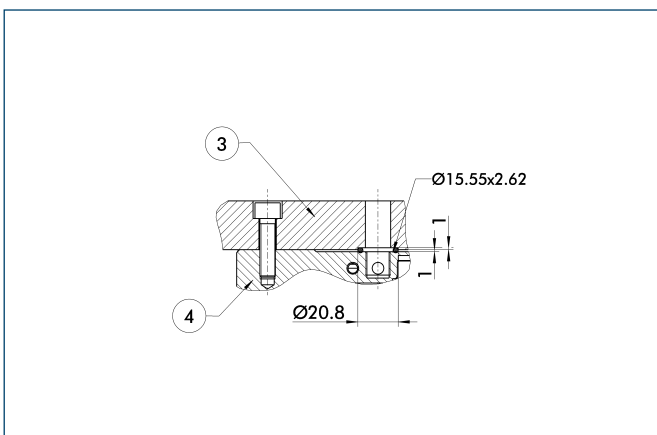
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

- ⑧⑩ Depth of the centering sleeve hole in the matching part

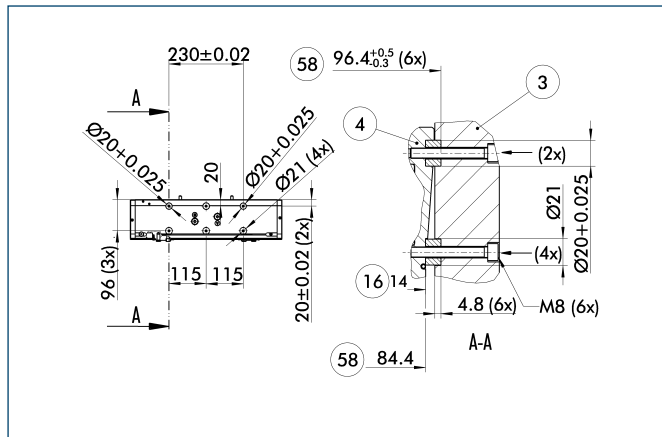
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for side mount

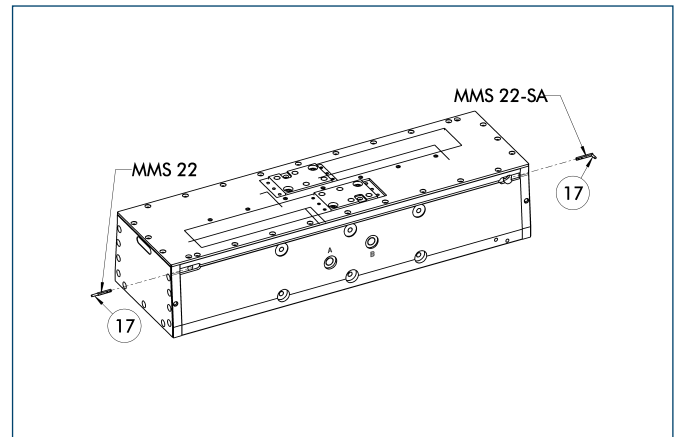


- ③ Adapter
 ④ Gripper
 ①⑥ Max. depth of engagement
 ⑤⑧ Distance from center of gripper

The mounting kit for side mount enables parallel and centric fastening at the side surface.

Description	ID
Mounting kit for side mount	
AS-S PFH 250-300	0302026

Electronic magnetic switches



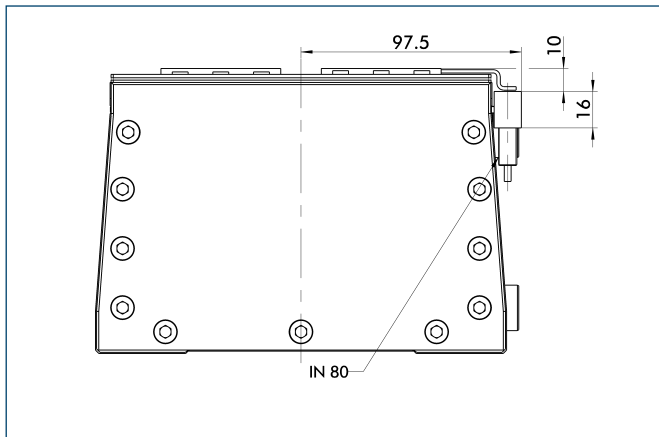
- ①⑦ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
 ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

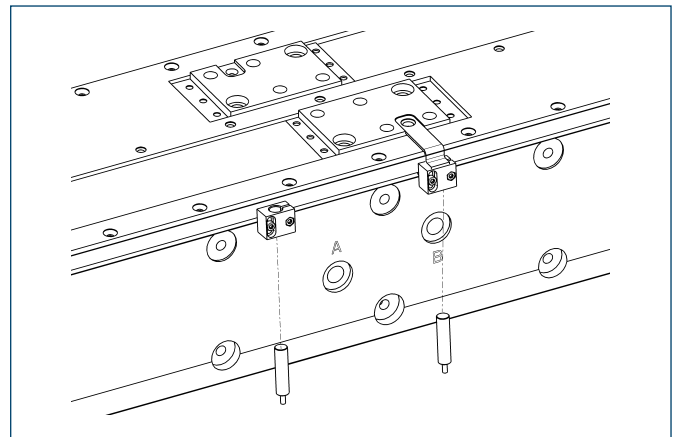


The mounting kit enables assembly of two inductive proximity switches. The kit is fitted in the sensor slot of the slotted switch.

Description	ID
Mounting kit for proximity switch	
HG-PFH 150-300	0300770

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PFH 150-300	0300770	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
INK 80-SL	0301579	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

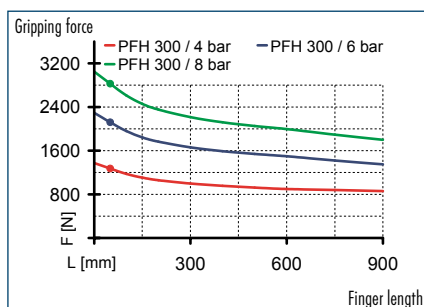
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



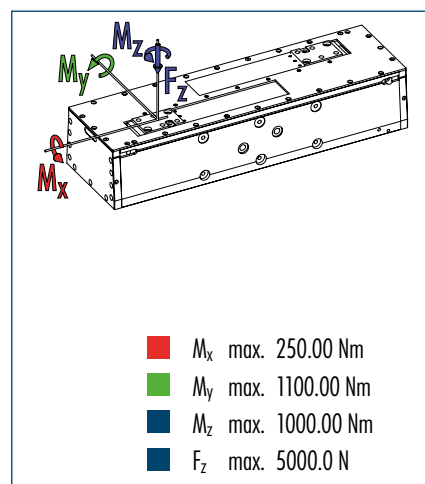
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Gripping force



Finger load



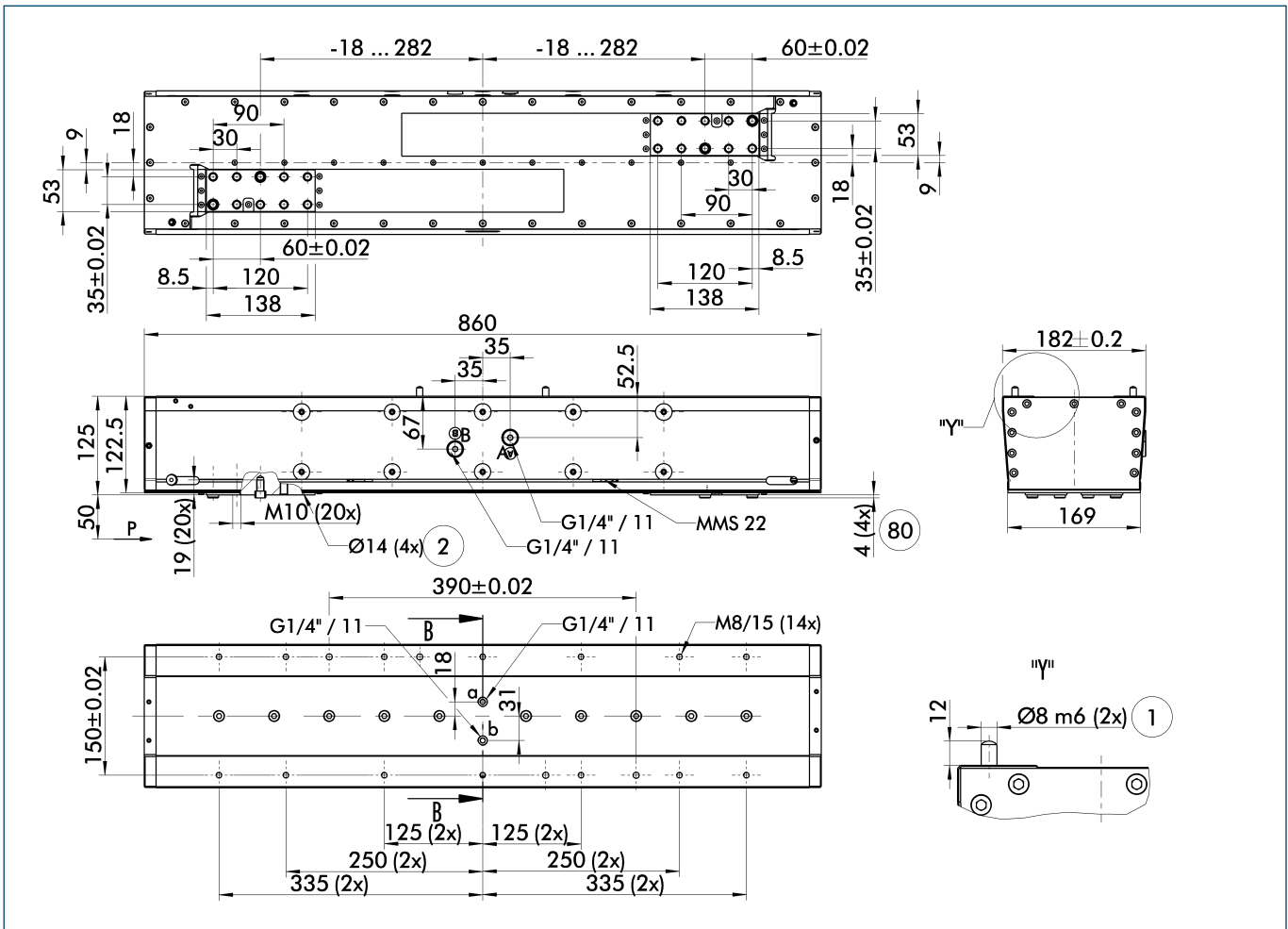
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PFH 300
ID		0302010
Stroke per finger	[mm]	300
Closing force	[N]	2200
Opening force	[N]	2200
Weight	[kg]	33.6
Recommended workpiece weight	[kg]	14.7
Air consumption per double stroke	[cm ³]	3010
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	1.25/1.25
Max. permitted finger length	[mm]	900
Max. permitted weight per finger	[kg]	10
IP class		30
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



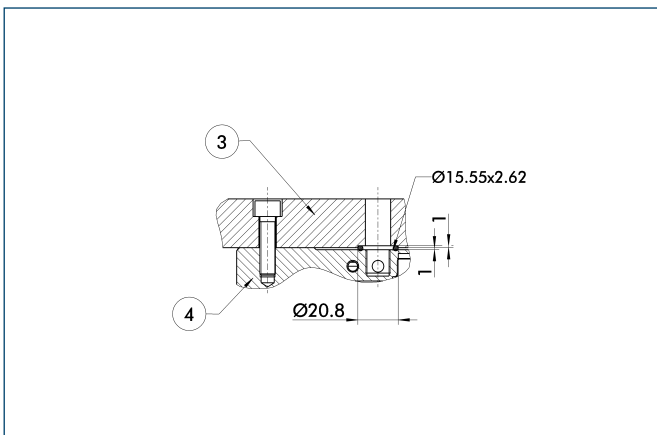
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

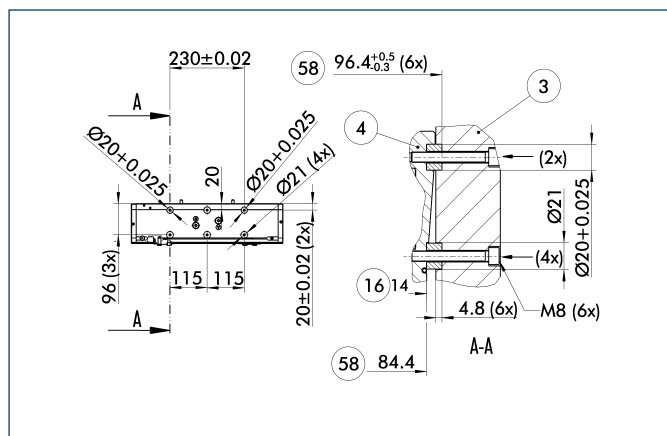
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Mounting kit for side mount

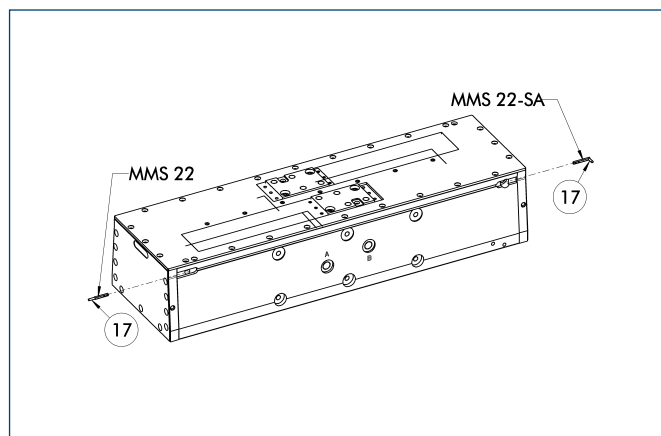


- | | |
|-----------|------------------------------------|
| ③ Adapter | ①6 Max. depth of engagement |
| ④ Gripper | ⑤8 Distance from center of gripper |

The mounting kit for side mount enables parallel and centric fastening at the side surface.

Description	ID
Mounting kit for side mount	
AS-S PFH 250-300	0302026

Electronic magnetic switches



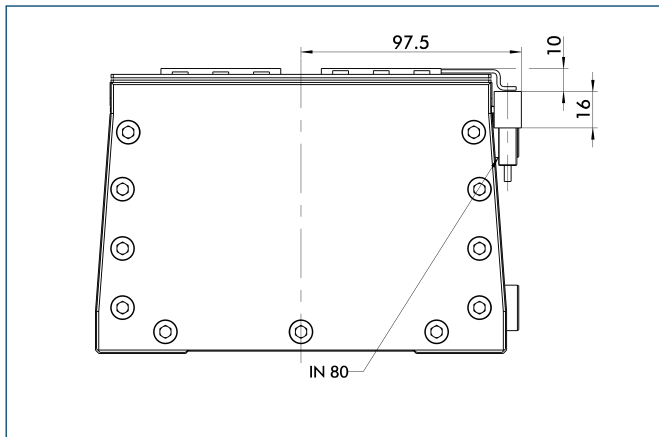
- ⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ❗ Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

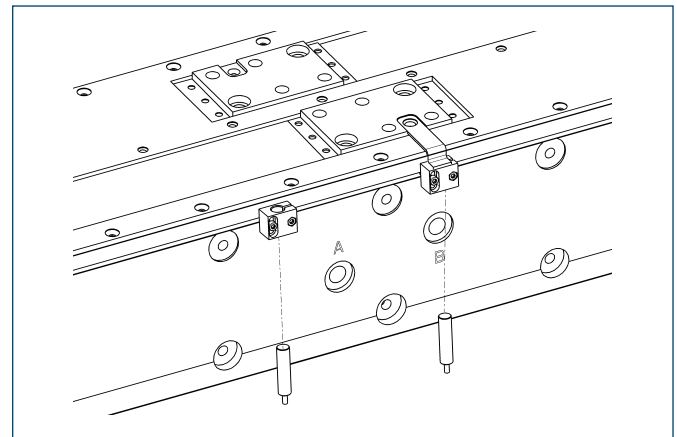


The mounting kit enables assembly of two inductive proximity switches. The kit is fitted in the sensor slot of the slotted switch.

Description	ID
Mounting kit for proximity switch	
HG-PFH 150-300	0300770

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PFH 150-300	0300770	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
INK 80-SL	0301579	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



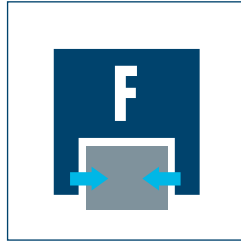
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Sizes
22 ... 52



Weight
0.77 kg ... 8.05 kg



Gripping force
320 N ... 1760 N



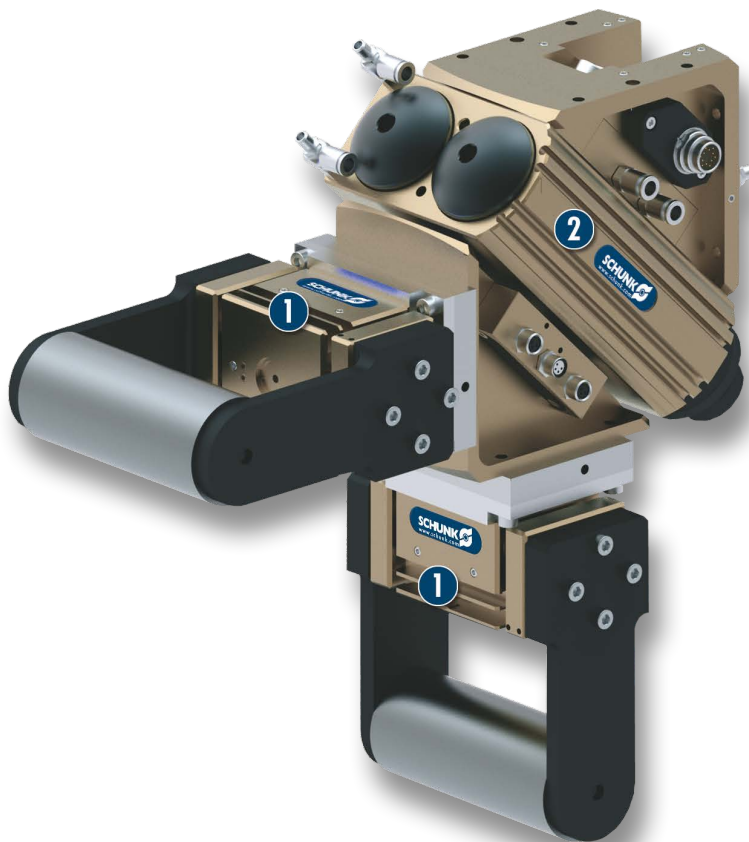
Stroke per finger
14 mm ... 100 mm



Workpiece weight
1.6 kg ... 8.8 kg



Application example



Rapid loading and unloading unit on a swivel head base. Due to the sturdiness of this unit, it is particularly suitable for use in machine tools.

- 1 2-Finger Parallel Gripper PSH
- 2 Swivel Head SRH-plus

Long-stroke Gripper

2-Finger Parallel Gripper with long jaw stroke and dirt-resistant round guidances

Field of application

for slightly dirty working environments and a broad range of parts

Your advantages and benefits

High maximum moments possible

suitable for using long gripper fingers

Dirt-protected round guidances

sealed, for long strokes

Fastening at two gripper sides with centering

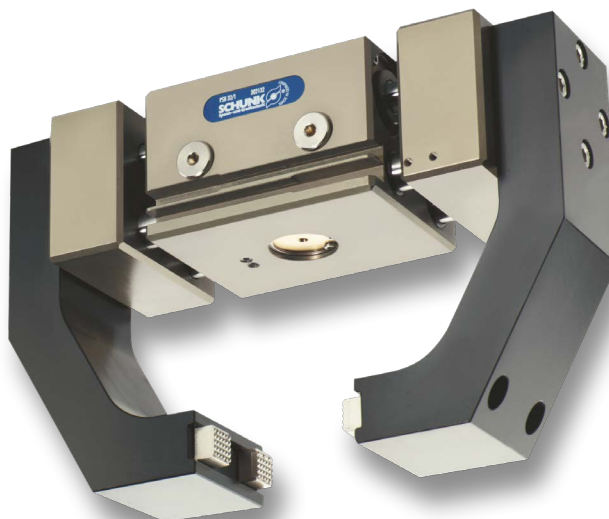
for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessory program

for versatile interrogation possibilities and control of stroke position



General note to the series

Principle of function

Rock and pinion principle

Housing material

Aluminum

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

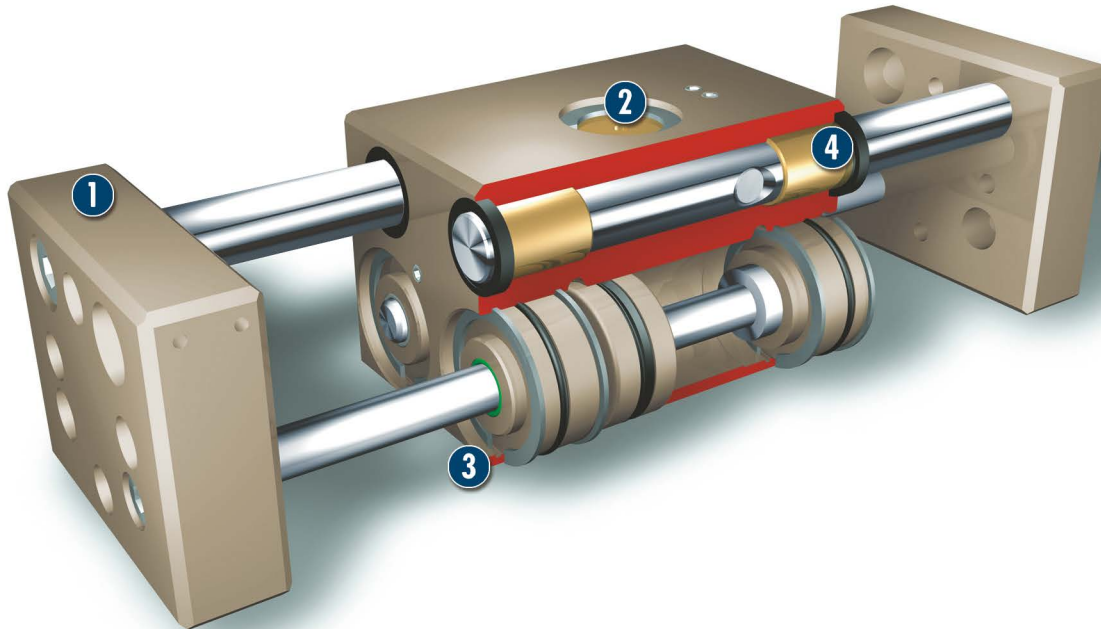
Scope of delivery

Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Kinematics**
Rack and pinion principle for centric gripping
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Round guidances**
sealed, for long strokes

Functional description

By actuating the pistons with compressed air, the base jaws, which are located at the piston and the rack, are moved.
The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

Finger position

can be monitored by magnetic and/or inductive proximity switches. Unsynchronized version available on request in special design.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



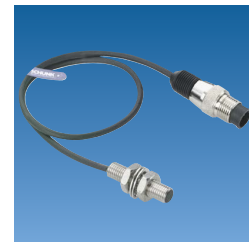
Fittings



Magnetic Switches



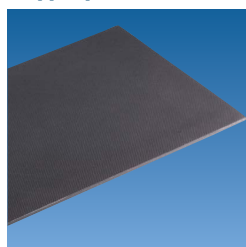
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



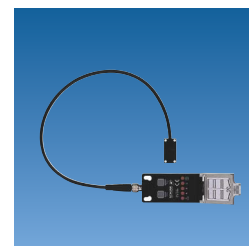
Quick-change Jaw System



Finger blanks



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

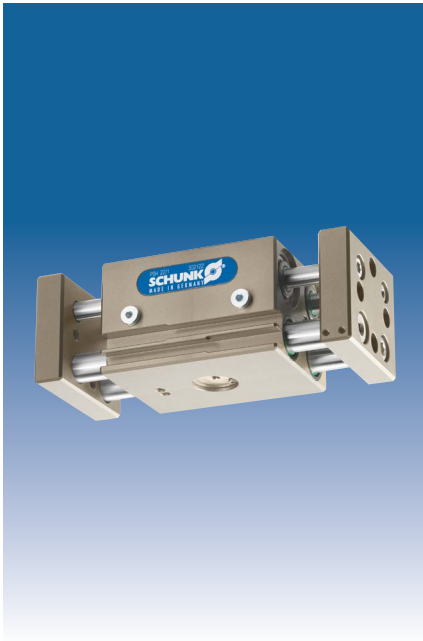
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

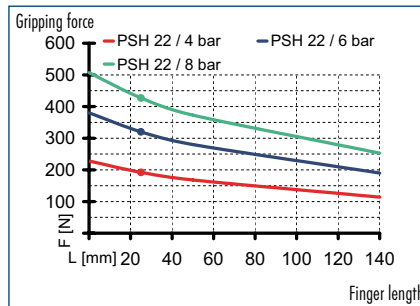
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

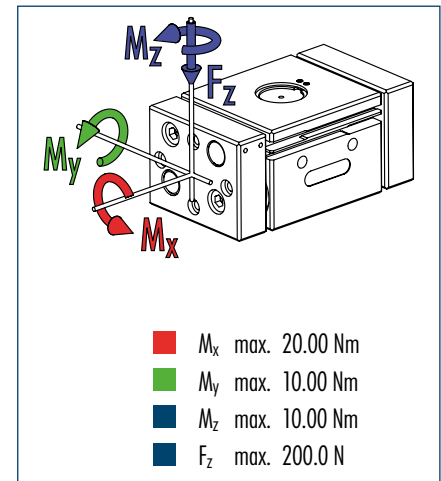
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force



Finger load



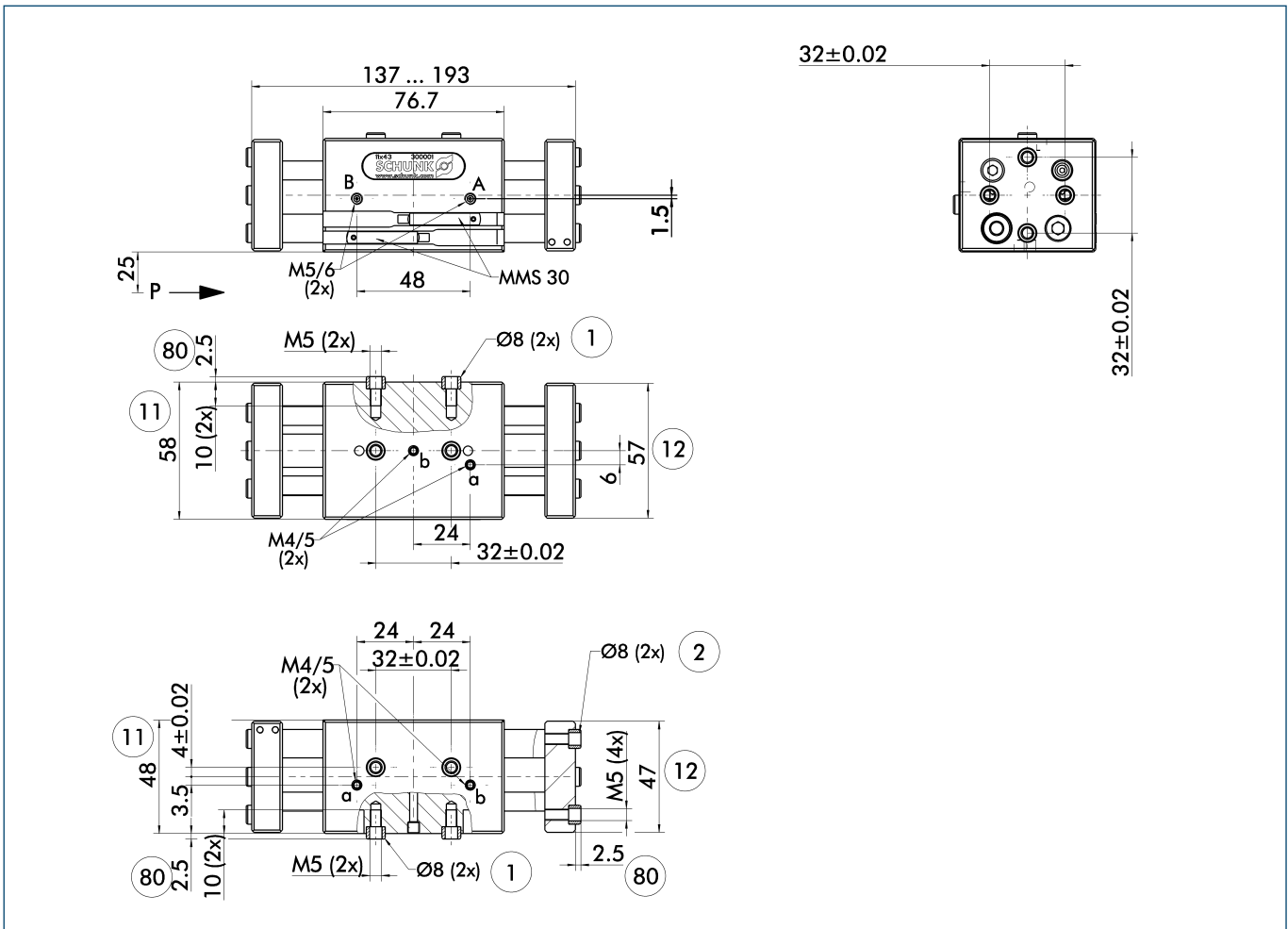
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PSH 22-1	PSH 22-2
ID		0302122	0302123
Stroke per finger	[mm]	28	14
Closing force	[N]	320	320
Opening force	[N]	320	320
Weight	[kg]	0.95	0.77
Recommended workpiece weight	[kg]	1.6	1.6
Air consumption per double stroke	[cm³]	36	18
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.1/0.1	0.08/0.08
Max. permitted finger length	[mm]	140	140
Max. permitted weight per finger	[kg]	0.8	0.8
IP class		67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.1	0.1
OPTIONS and their characteristics			
High-temperature version		39302122	39302123
Min./max. ambient temperature	[°C]	-10/130	-10/130

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



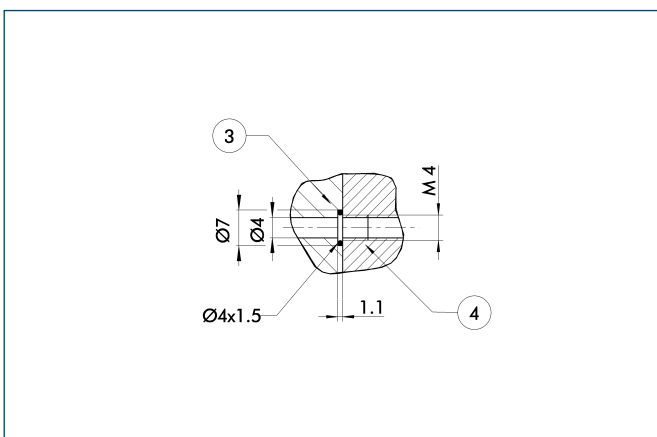
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection
- ⑪ Housing

- ⑫ Jaw
- ⑧⑩ Depth of the centering sleeve hole in the matching part

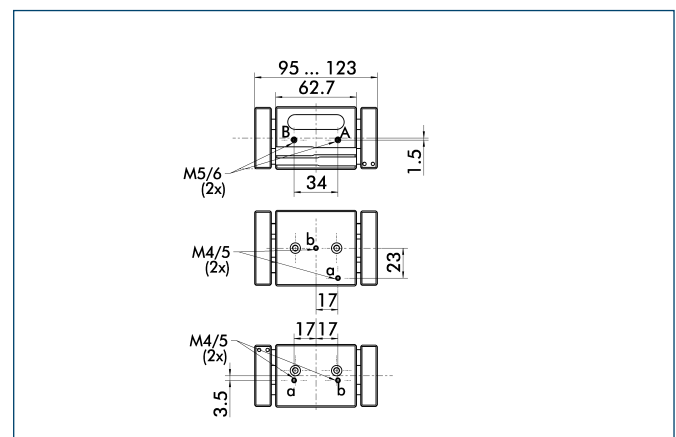
Hose-free direct connection



- ③ Adapter
- ④ Gripper

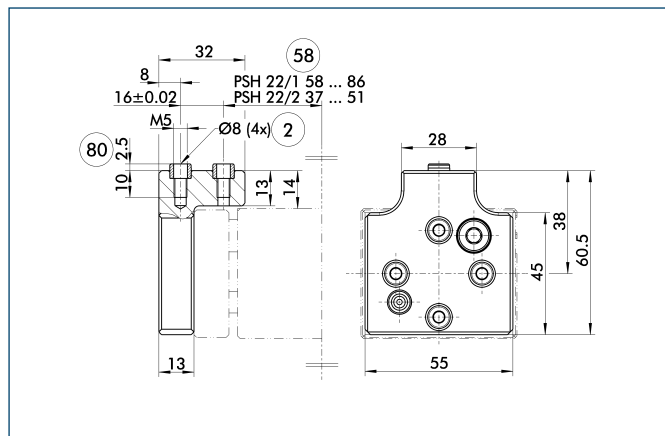
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Intermediate Jaws



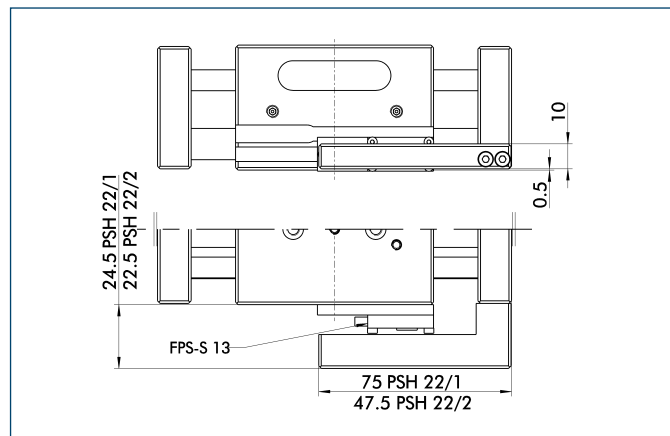
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑨ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PSH-22	0300225	Aluminum	1

Mounting kit for FPS

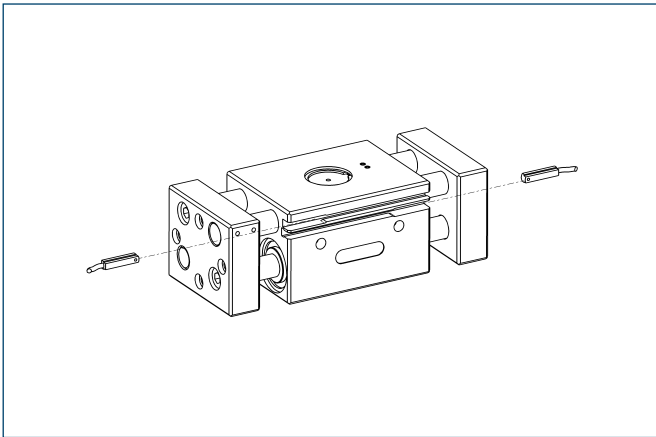


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PSH 22-1	0301736
AS-PSH 22-2	0301737

- ① This mounting kit needs to be ordered optionally as an accessory.

Electronic magnetic switches



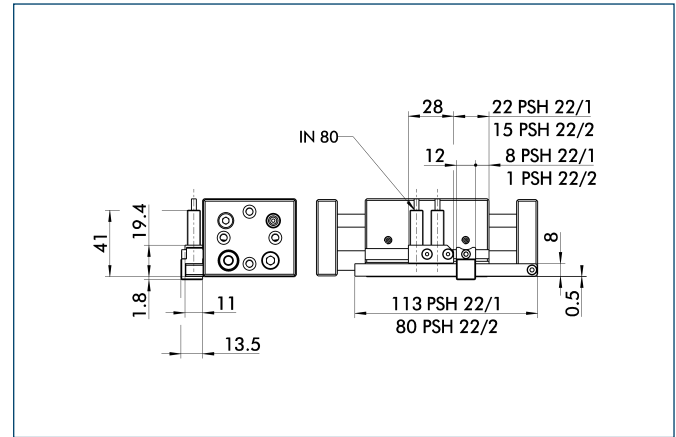
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

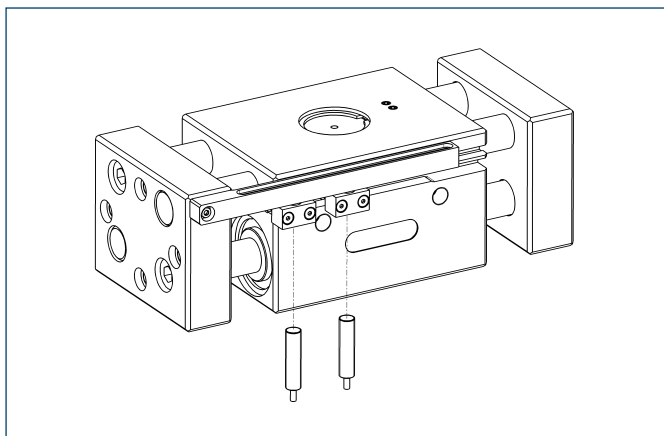
Description	ID
Mounting kit for proximity switch	
HG-PSH 22-1	0300754
HG-PSH 22-2	0300755

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches

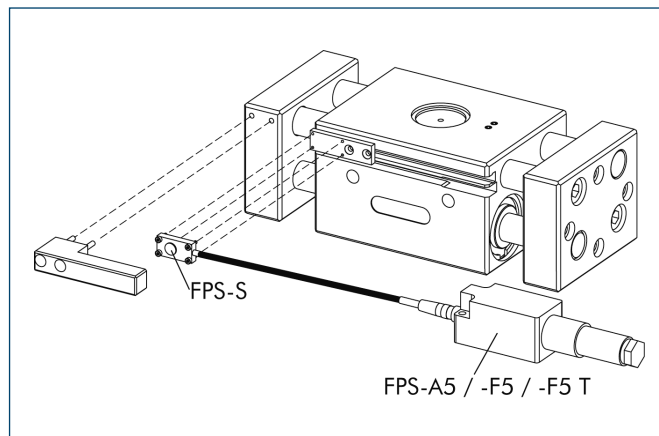


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PSH 22-1	0300754	
HG-PSH 22-2	0300755	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

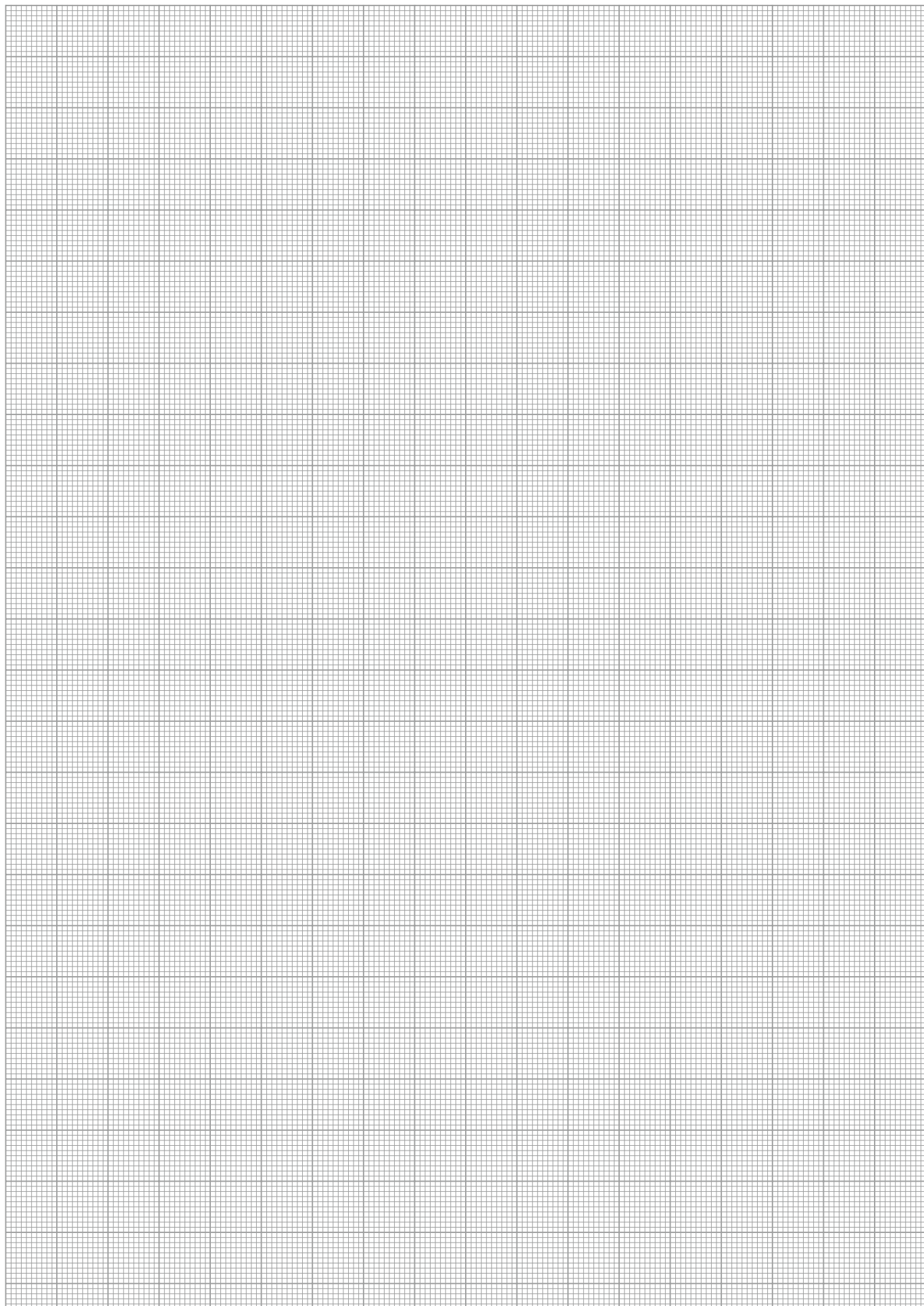
Flexible Position Sensor



Flexible position monitoring of up to five positions

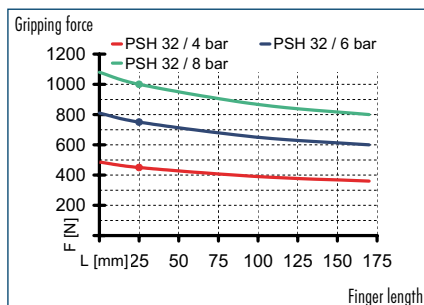
Description	ID
Mounting kit for FPS	
AS-PSH 22-1	0301736
AS-PSH 22-2	0301737
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

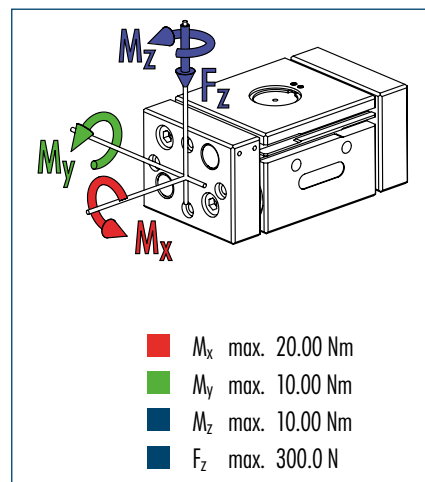




Gripping force



Finger load



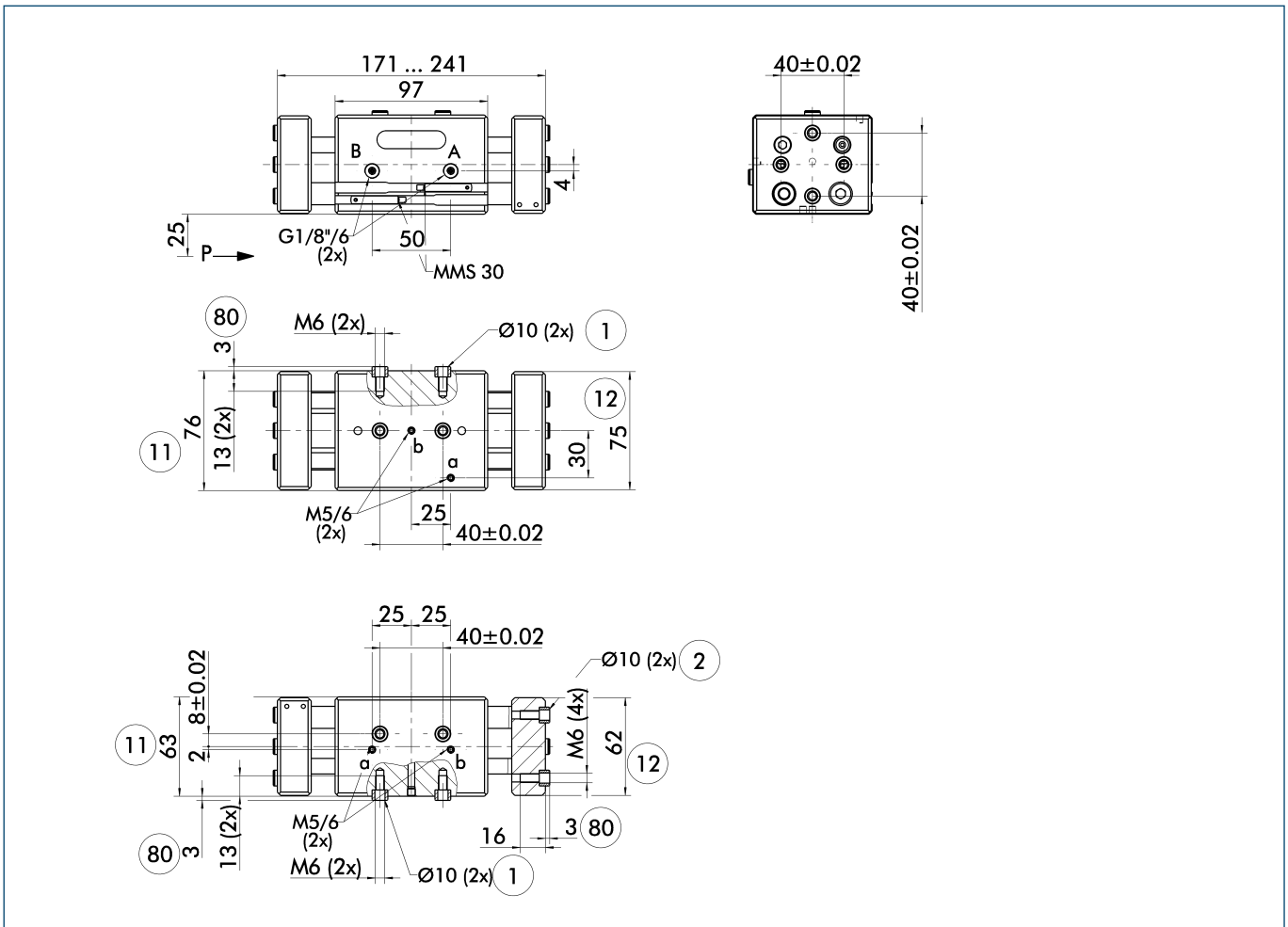
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PSH 32-1	PSH 32-2
ID		0302132	0302133
Stroke per finger	[mm]	35	22.5
Closing force	[N]	750	750
Opening force	[N]	750	750
Weight	[kg]	2.05	1.8
Recommended workpiece weight	[kg]	3.75	3.75
Air consumption per double stroke	[cm ³]	101	65
Min./max. operating pressure	[bar]	3/8	3/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.2/0.2	0.12/0.12
Max. permitted finger length	[mm]	170	170
Max. permitted weight per finger	[kg]	1.5	1.5
IP class		67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.1	0.1
OPTIONS and their characteristics			
High-temperature version		39302132	39302133
Min./max. ambient temperature	[°C]	-10/130	-10/130

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



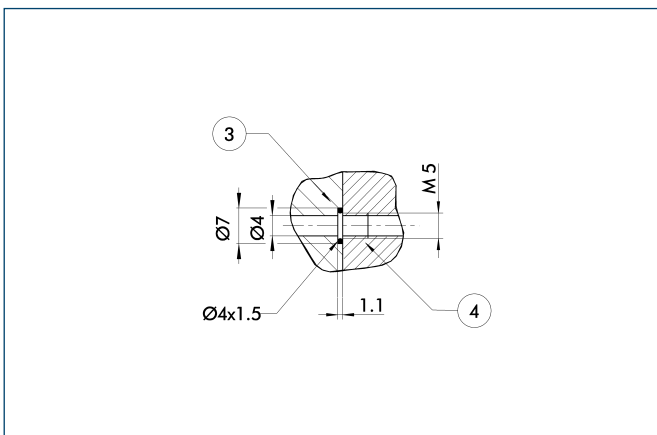
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection
- ⑪ Housing

- ⑫ Jaw
- ⑧⑩ Depth of the centering sleeve hole in the matching part

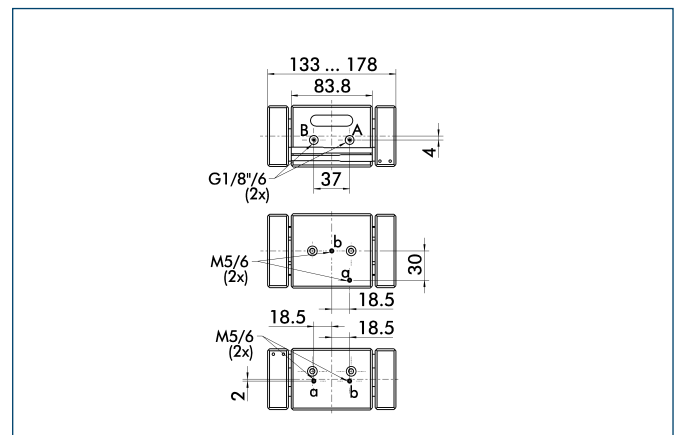
Hose-free direct connection



- ③ Adapter
- ④ Gripper

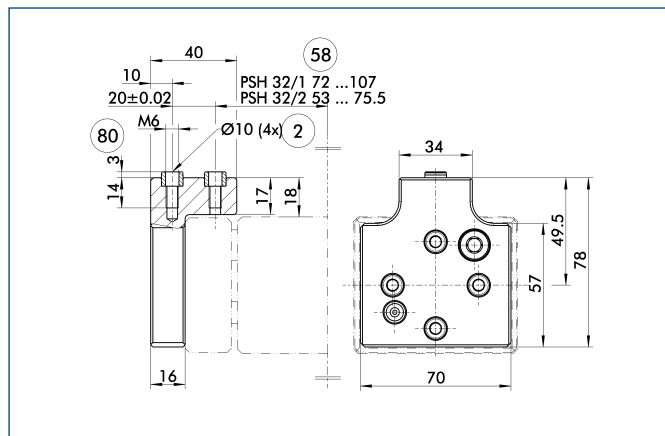
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Stroke versions



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Intermediate Jaws



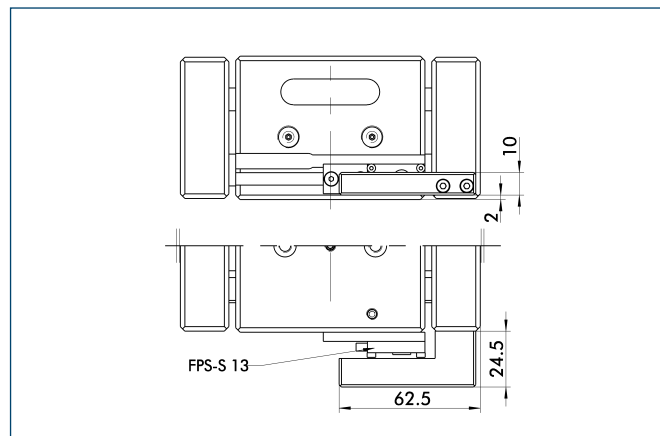
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑨ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PSH-32	0300226	Aluminum	1

Mounting kit for FPS

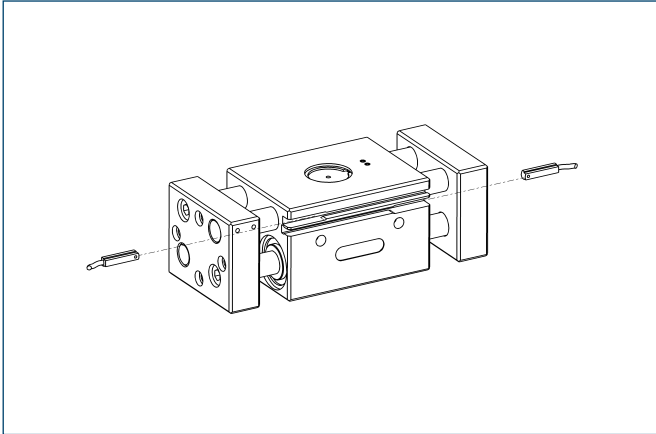


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PSH 32-2	0301738

- ① This mounting kit needs to be ordered optionally as an accessory.

Electronic magnetic switches



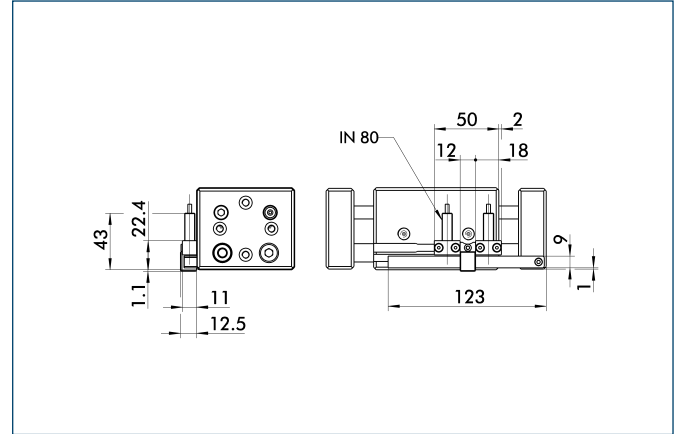
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

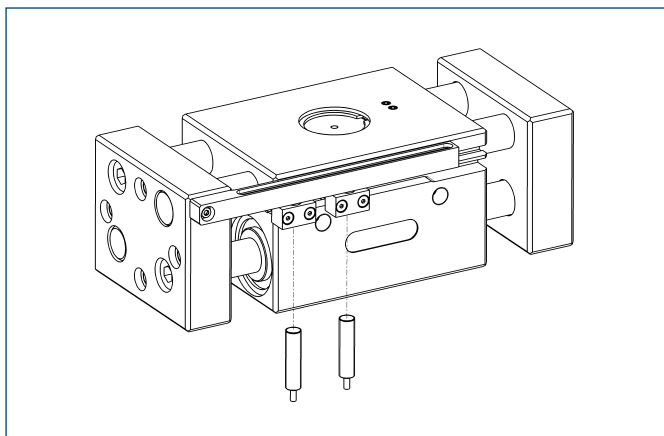
Description	ID
Mounting kit for proximity switch	
HG-PSH 32	0300756

① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

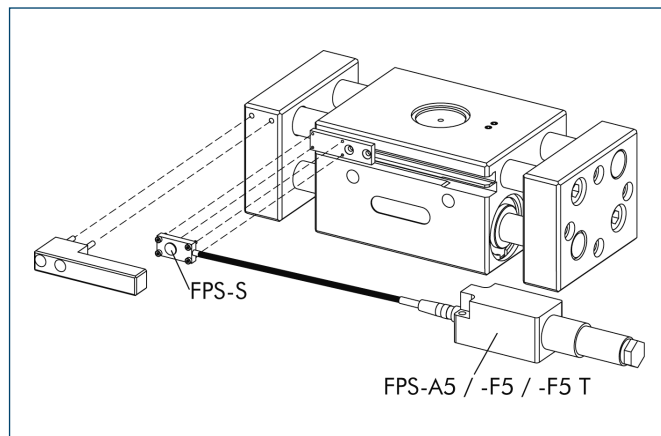


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PSH 32	0300756	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

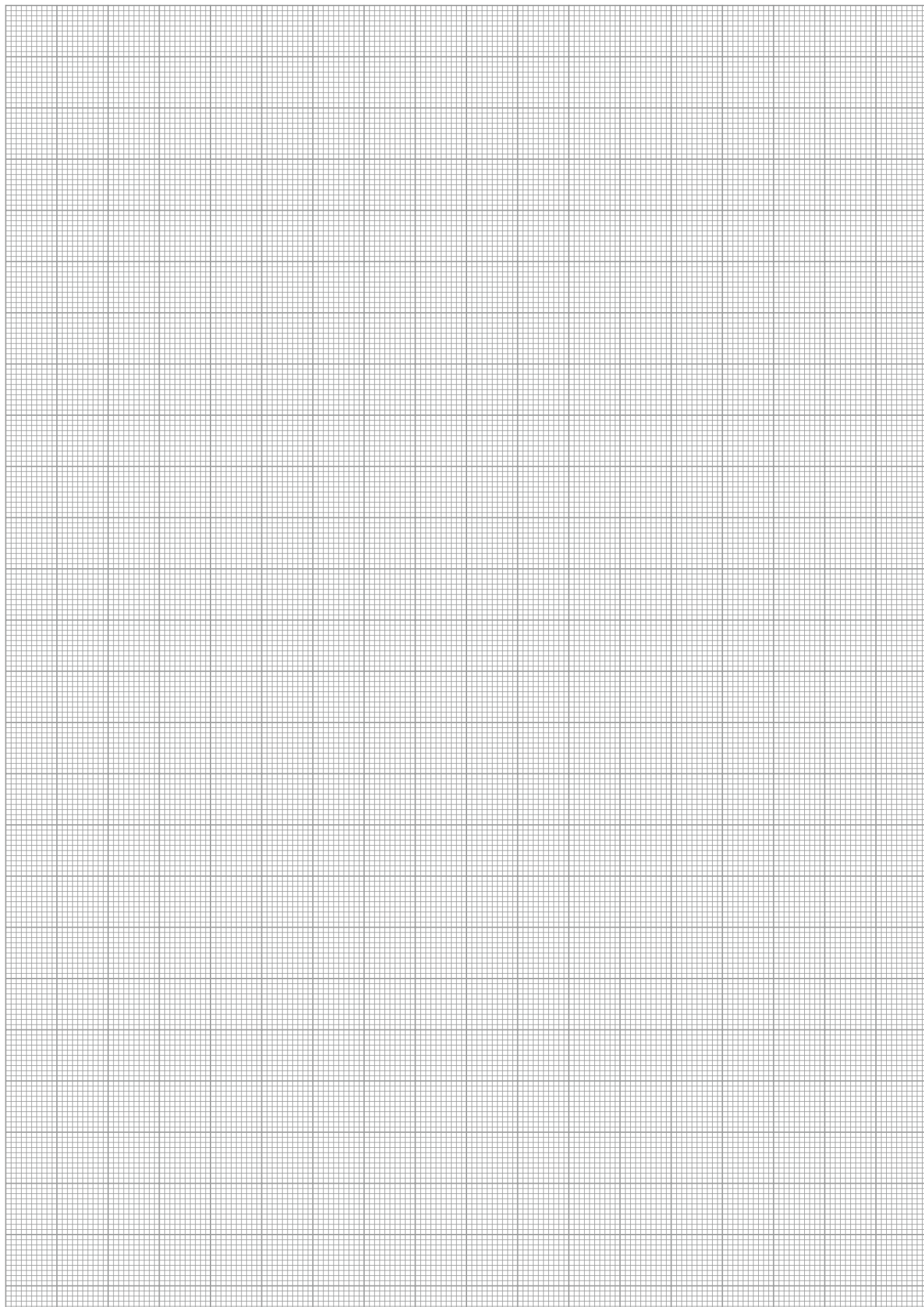
Flexible Position Sensor

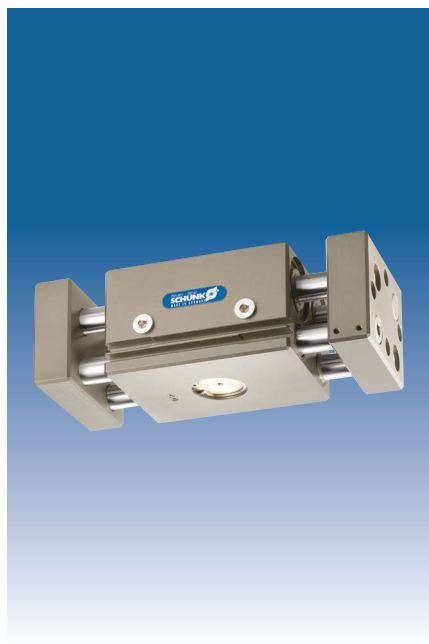


Flexible position monitoring of up to five positions

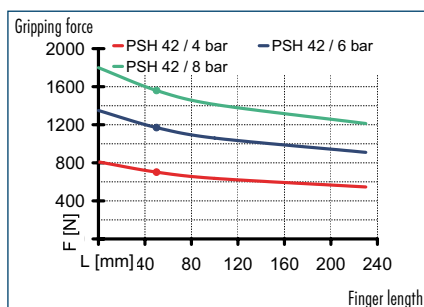
Description	ID
Mounting kit for FPS	
AS-PSH 32-2	0301738
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

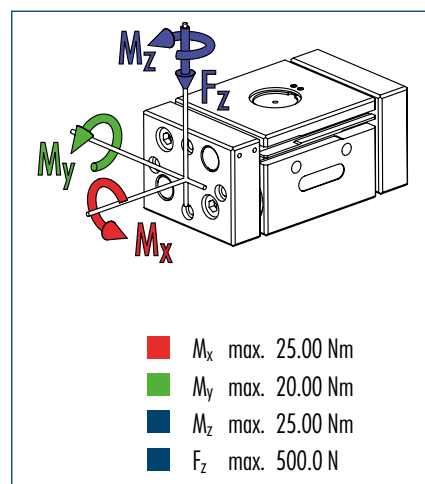




Gripping force



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

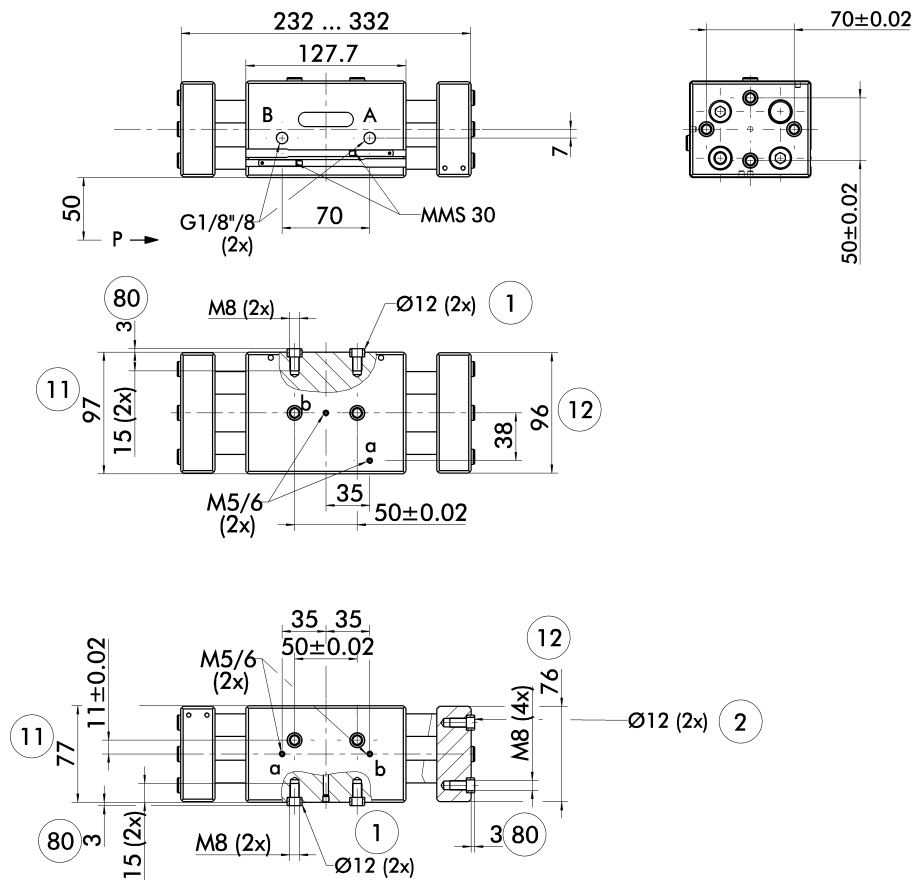
Description		PSH 42-100	PSH 42-1	PSH 42-2
ID		0302146	0302142	0302143
Stroke per finger	[mm]	100	50	29
Closing force	[N]	1170	1170	1170
Opening force	[N]	1170	1170	1170
Weight	[kg]	6.7	4.65	3.9
Recommended workpiece weight	[kg]	6	6	6
Air consumption per double stroke	[cm³]	510	255	148
Min./max. operating pressure	[bar]	3/8	3/8	3/8
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.5/0.5	0.25/0.25	0.15/0.15
Max. permitted finger length	[mm]	230	230	230
Max. permitted weight per finger	[kg]	2.5	2.5	2.5
IP class		67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version		39302146	39302142	39302143
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view

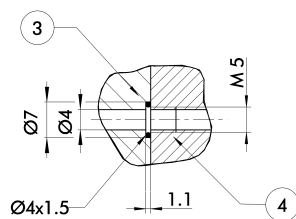


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 12 | Jaw |
| B, b | Main/direct connection, gripper closing | 80 | Depth of the centering sleeve hole in the matching part |
| ① | Gripper connection | | |
| ② | Finger connection | | |
| (11) | Housing | | |

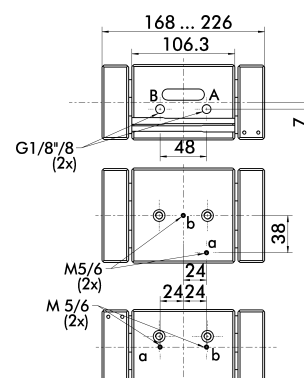
Hose-free direct connection



- 3 Adapter
- 4 Gripper

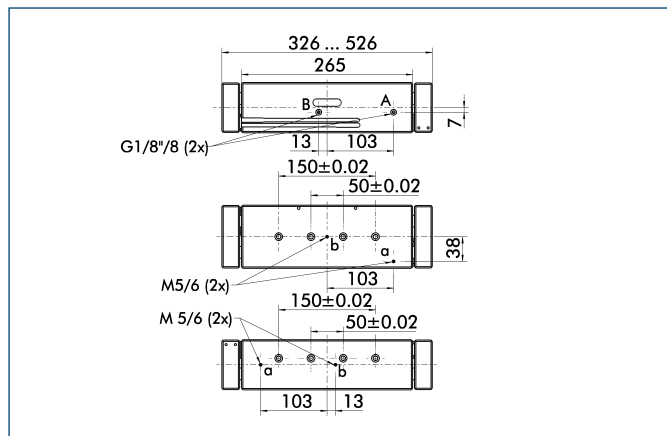
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Stroke versions



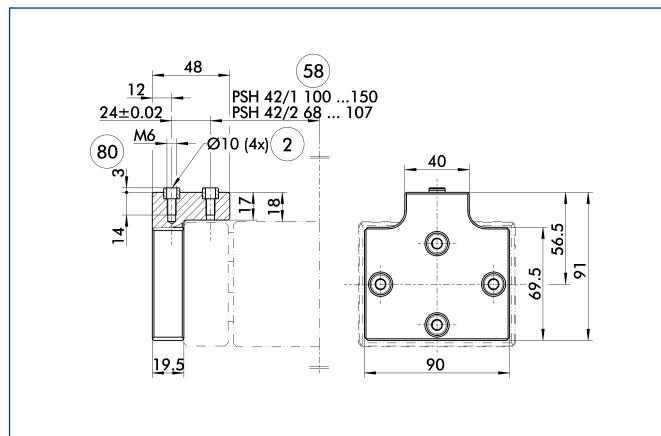
The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Stroke version PSH 42-100



The drawing shows changes in dimensions of the versions with a differing stroke compared to the main view of the shown version.

Intermediate Jaws

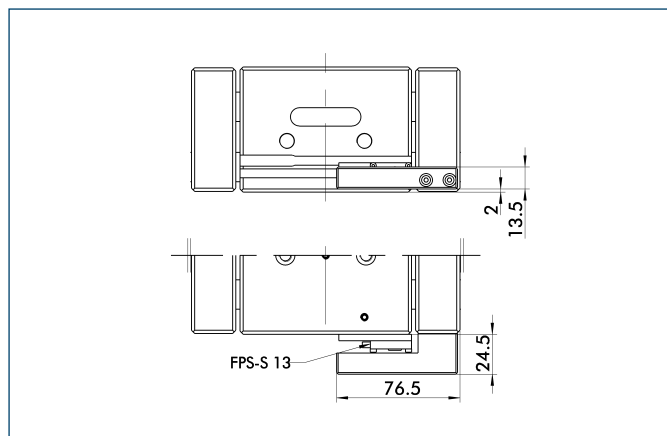


- ② Finger connection
- ⑤⑧ Distance from center of gripper
- ⑧⑩ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PSH-42	0300227	Aluminum	1

Mounting kit for FPS

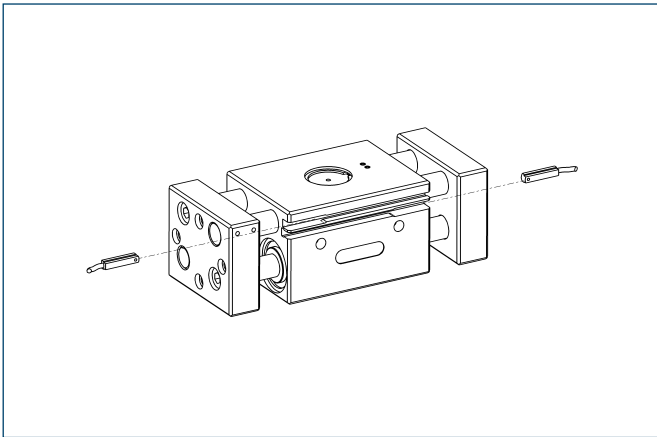


The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Description	ID
Mounting kit for FPS	
AS-PSH 42-2	0301739

- ① This mounting kit needs to be ordered optionally as an accessory.

Electronic magnetic switches

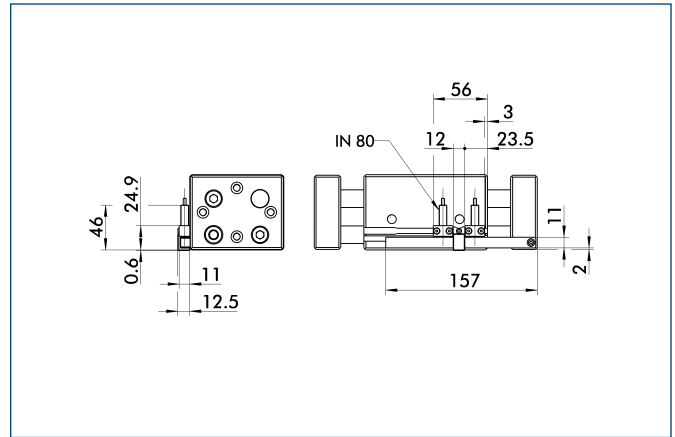


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



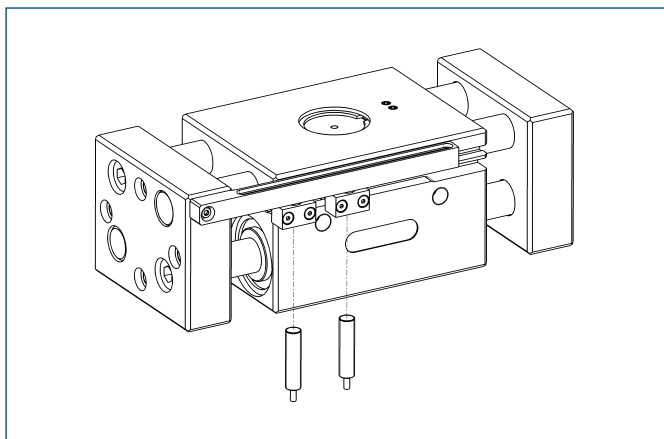
Description	ID
Mounting kit for proximity switch	
HG-PSH 42	0300757

- ① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches

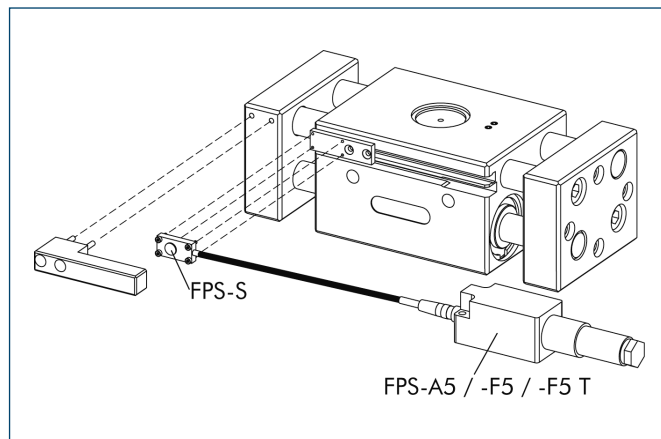


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PSH 42	0300757	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

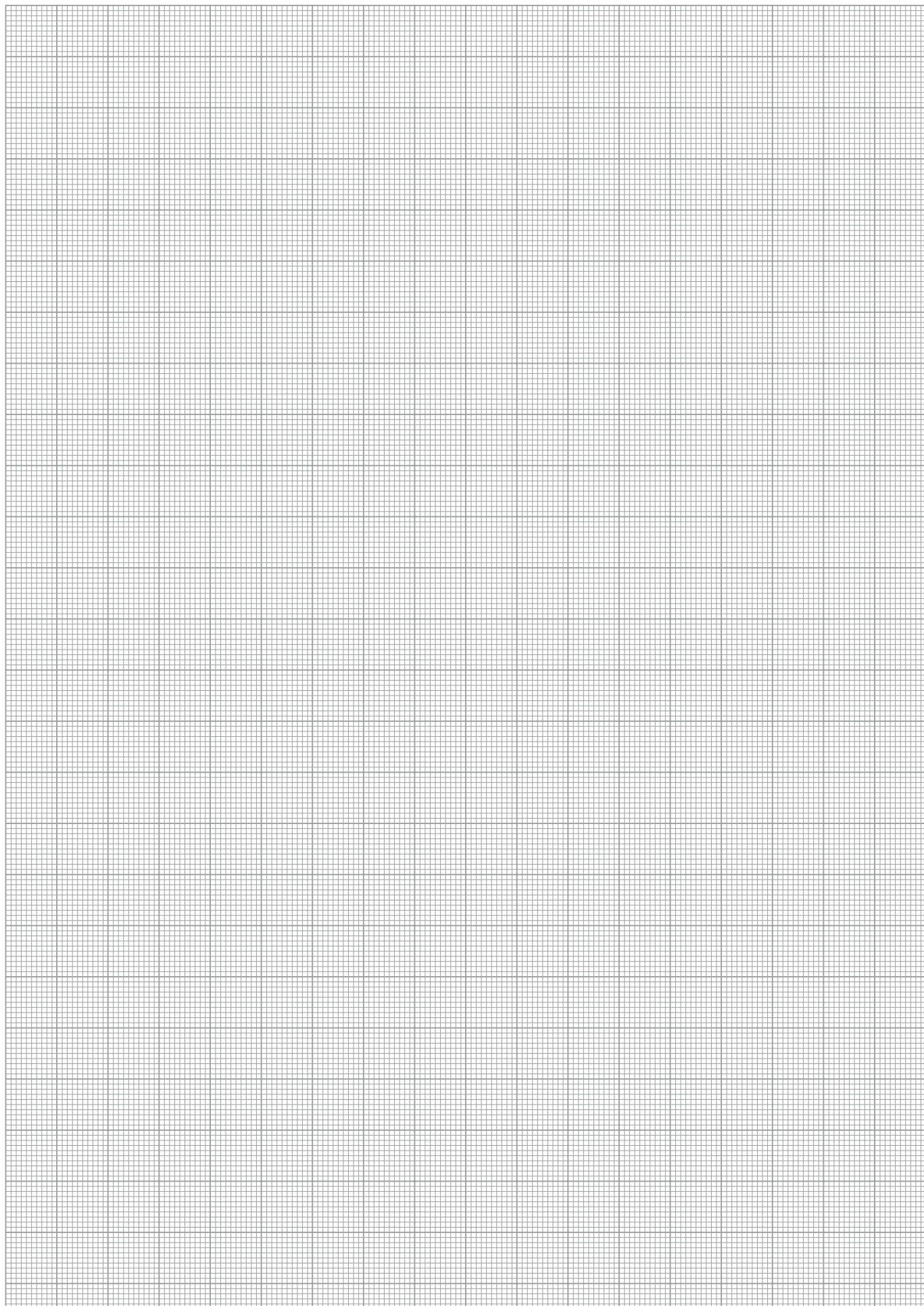
Flexible Position Sensor



Flexible position monitoring of up to five positions

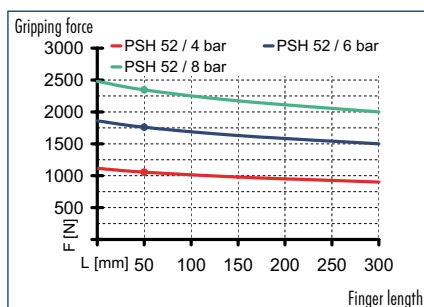
Description	ID
Mounting kit for FPS	
AS-PSH 42-2	0301739
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

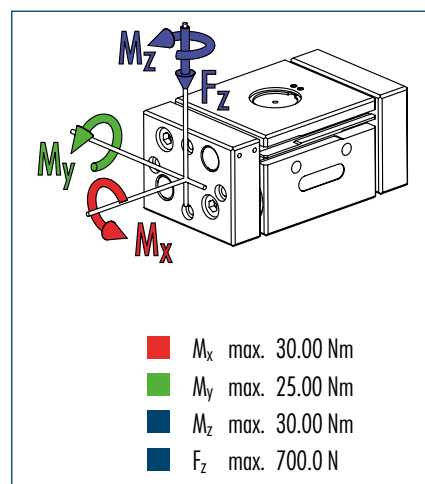




Gripping force



Finger load



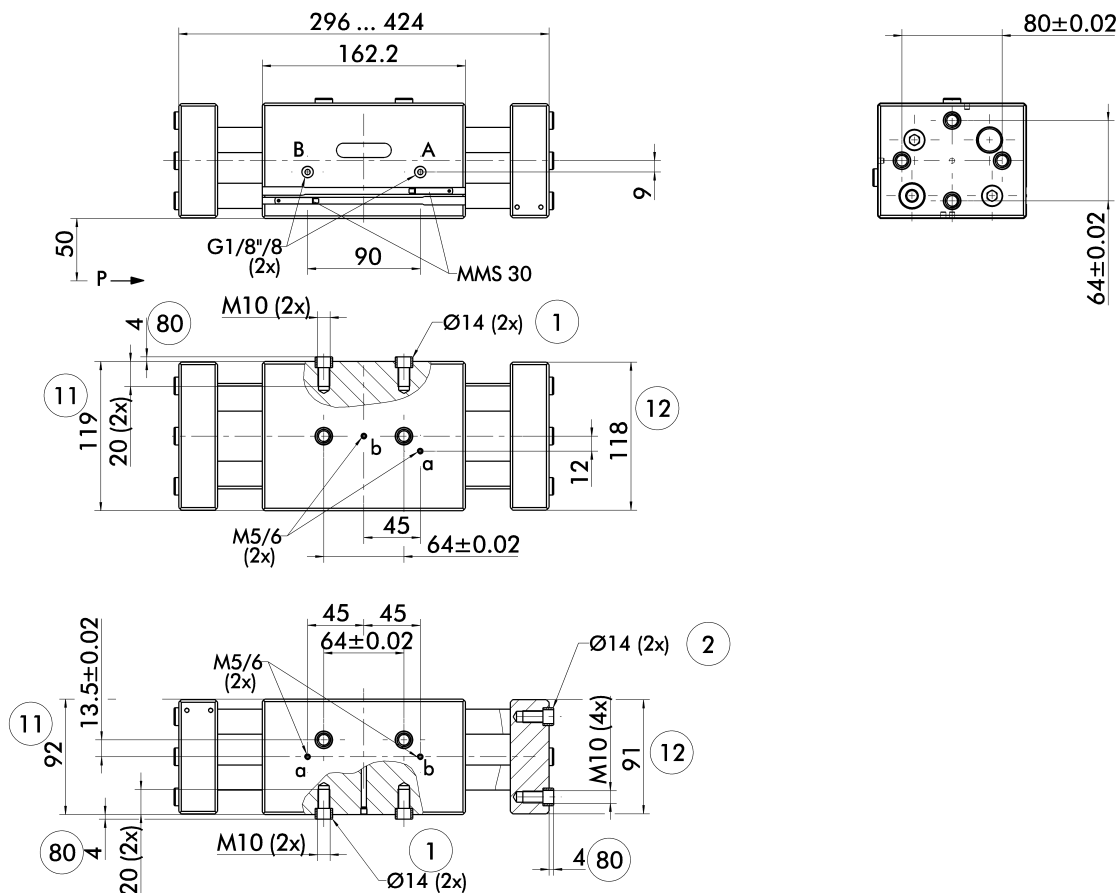
① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PSH 52-1
ID		0302152
Stroke per finger	[mm]	64
Closing force	[N]	1760
Opening force	[N]	1760
Weight	[kg]	8.05
Recommended workpiece weight	[kg]	8.8
Air consumption per double stroke	[cm ³]	504
Min./max. operating pressure	[bar]	3/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.4/0.4
Max. permitted finger length	[mm]	300
Max. permitted weight per finger	[kg]	3.5
IP class		67
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.05
OPTIONS and their characteristics		
High-temperature version		39302152
Min./max. ambient temperature	[°C]	-10/130

① Requirements to the evenness of the mounting face (relating to the total gripper connection surface) less than 0.02 mm at an edge length of up to 100 mm / more than 0.05 mm at an edge length of more than 100 mm.

Main view



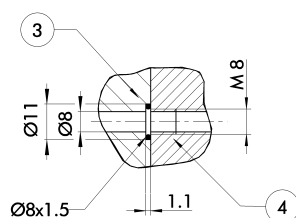
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑪ Housing

- ⑫ Jaw
⑧⑩ Depth of the centering sleeve hole in the matching part

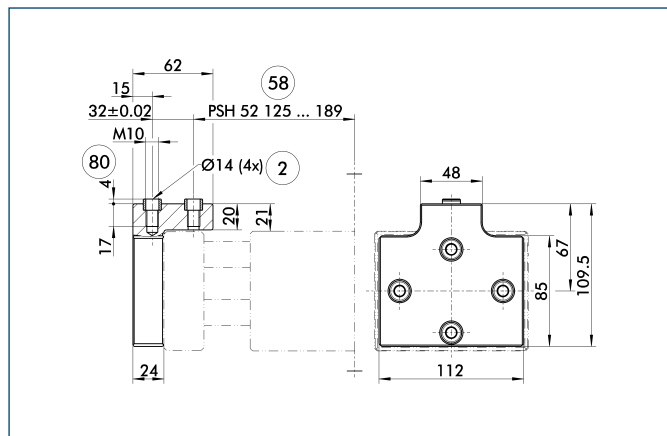
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Intermediate Jaws



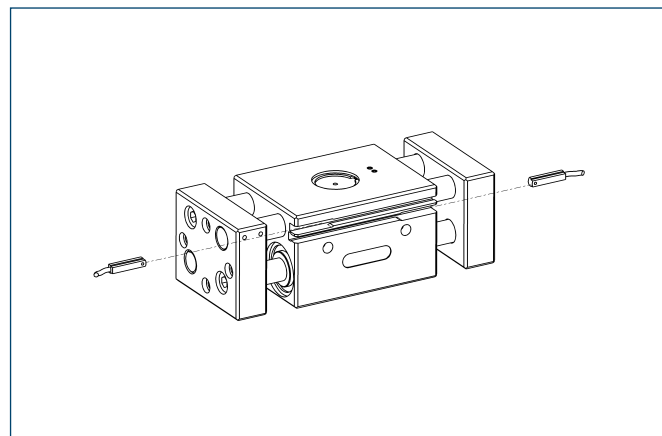
- ② Finger connection
⑤⑧ Distance from center of gripper

- ⑧⑨ Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-PSH-52	0300228	Aluminum	1

Electronic magnetic switches

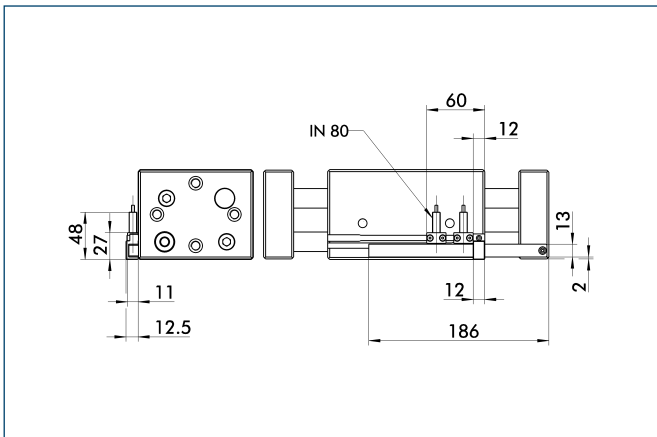


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

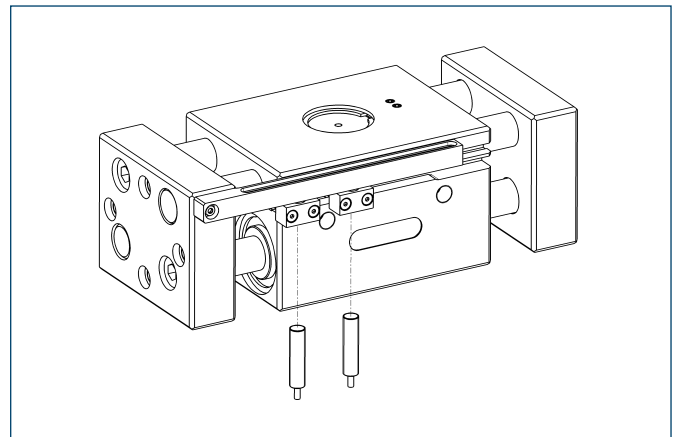


The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
HG-PSH 52	0300759

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PSH 52	0300759	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



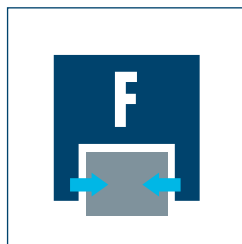
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Size
100



Weight
35 kg



Gripping force
10000 N



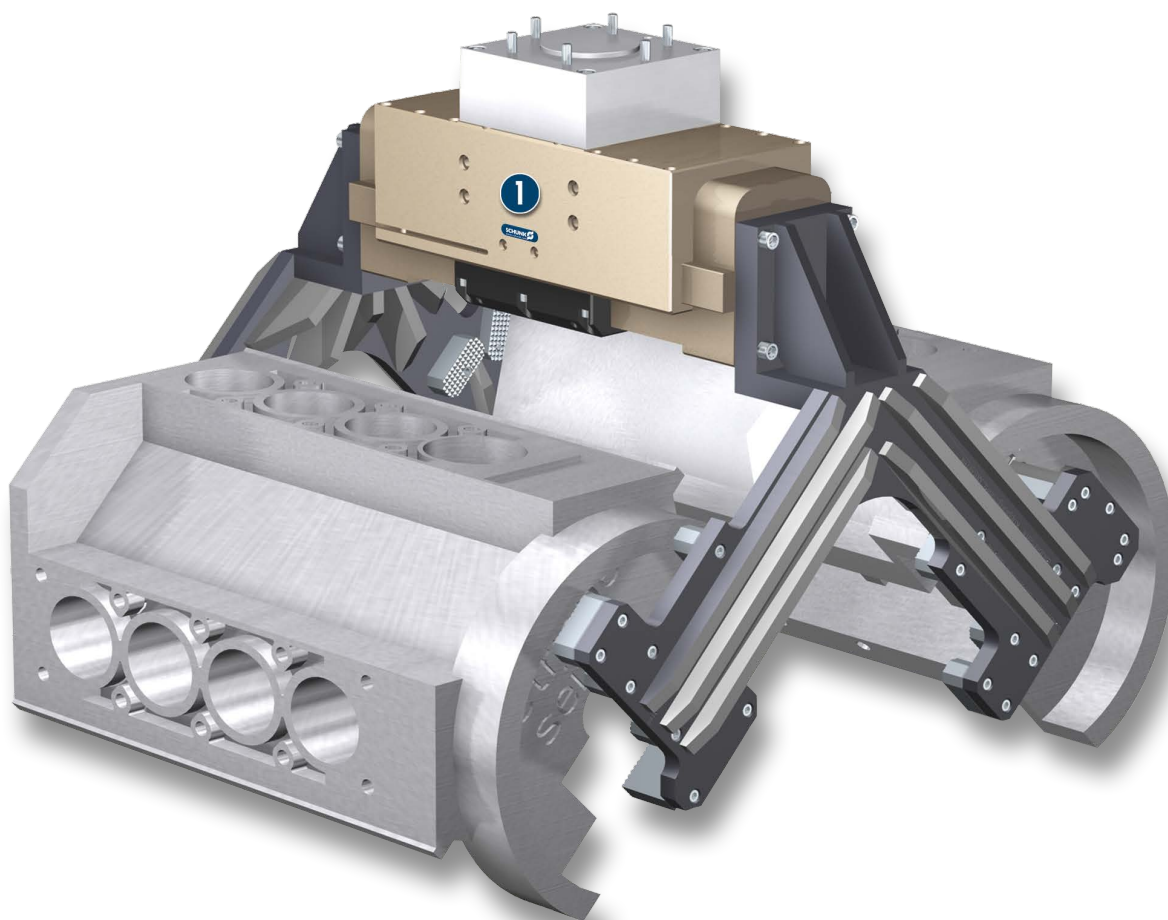
Stroke per finger
100 mm



Workpiece weight
50 kg



Application example



Gripper unit for heavy V8 motors

1 2-Finger Heavy-load Gripper SPG

Heavy-load Gripper

Sturdy 2-finger parallel gripper for heavy components and a broad part range, equipped with robust guidances and therefore suitable for high gripping forces and maximum moment loads.

Field of application

suitable for clean working environments, covers a broad range of parts thanks to its long jaw stroke and high gripping forces for heavy workpieces

Your advantages and benefits

Robust guidance

for precise handling

High maximum moments possible

suitable for using long gripper fingers

High efficiency

through direct drive

Mounting from three sides in three screw directions possible

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

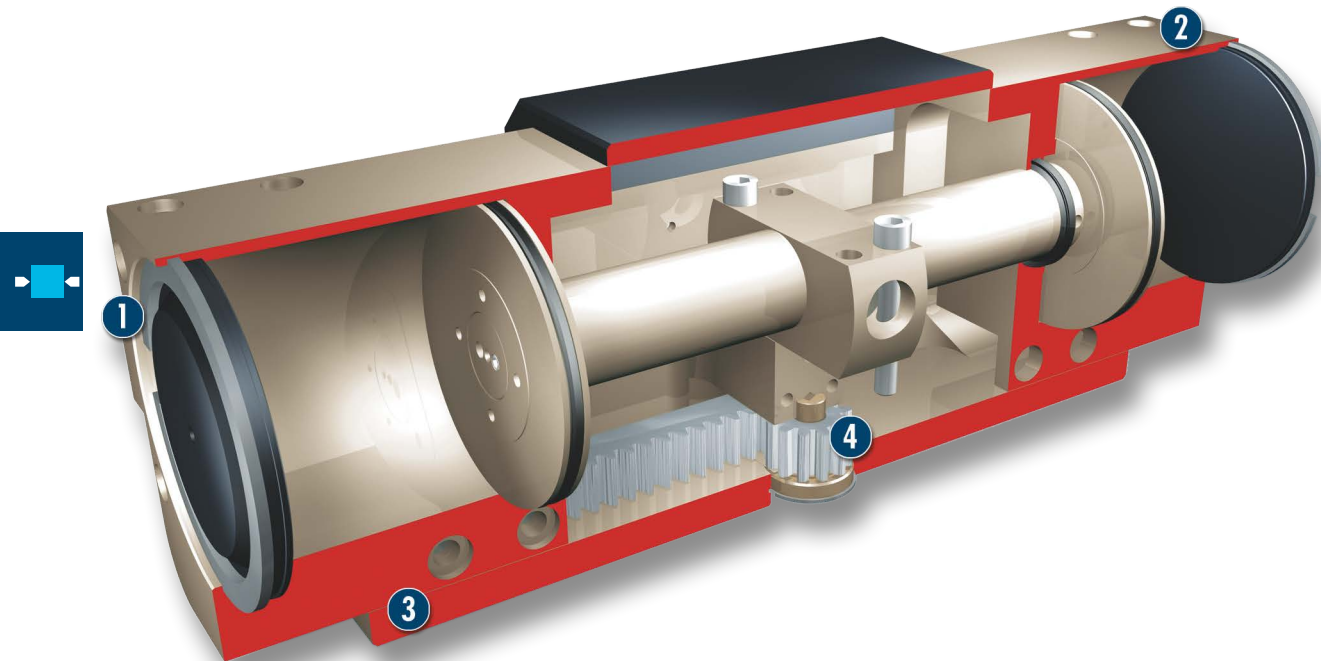
Scope of delivery

Centering sleeves, cupped-type lubricating nipples, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with integrated pressure maintenance valve for version with ID 0302120, external pressure maintenance valve can be retrofitted in the version with ID 0302121

Sectional diagram



- 1 Guidance**
precise gripping due to the use of a highly loadable guidance with minimum play
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Kinematics**
pinion and rack principle for centric clamping, even at large strokes

Functional description

The aligned base jaws are actuated with compressed air directly by the fixed piston, which opens and closes them.

The base jaws are synchronized by the rack and pinion kinematics.

The direct flow of force enables a high degree of efficiency and therefore very high gripping forces.

Options and special information

Two TM6 lubricating nipples on either side for relubricating the base jaws and purge air connections are already provided.

Gripping force maintenance device

The SPG 100 (ID 0302121) with reduced opening and closing times of 1.5 s does not feature an integrated pressure maintenance valve as a gripping force safety device.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



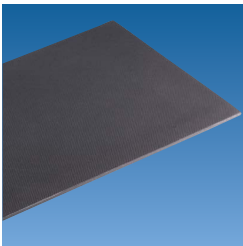
Inductive proximity switches



Plastic inserts



Gripper pads



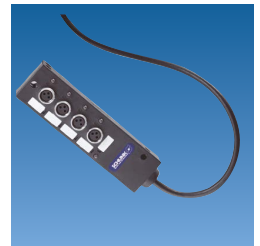
Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

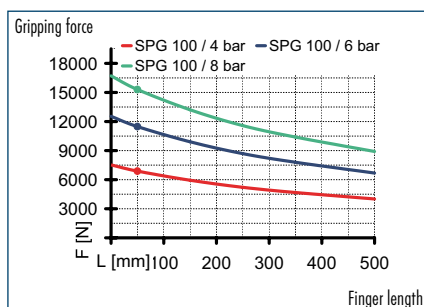
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

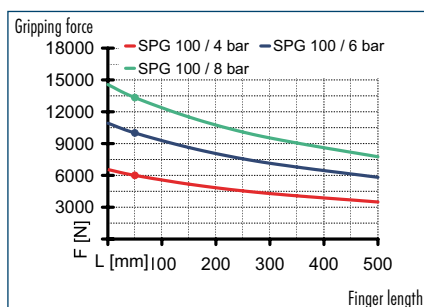
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



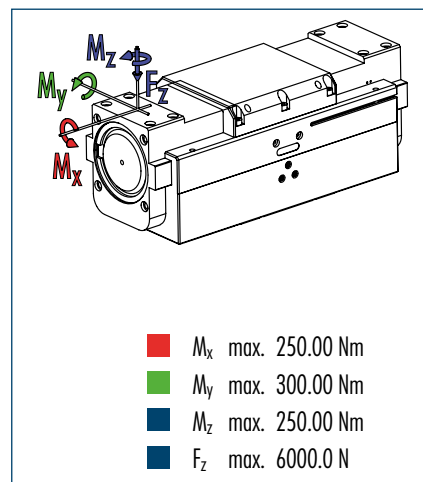
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		SPG 100	SPG 100-SDV-P
ID		0302121	0302120
Stroke per finger	[mm]	100	100
Closing force	[N]	10000	10000
Opening force	[N]	11480	11480
Weight	[kg]	35	35
Recommended workpiece weight	[kg]	50	50
Air consumption per double stroke	[cm ³]	4600	4600
Min./max. operating pressure	[bar]	2/8	2/8
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	1.5/1.5	3/3
Max. permitted finger length	[mm]	500	500
Max. permitted weight per finger	[kg]	15	15
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.1	0.1

① The closing and opening times can be further reduced by fitting rapid deaeration valves to the air connections. However, care must be taken to ensure that the jaw motion occurs without any hitting or bouncing.

[illegible]

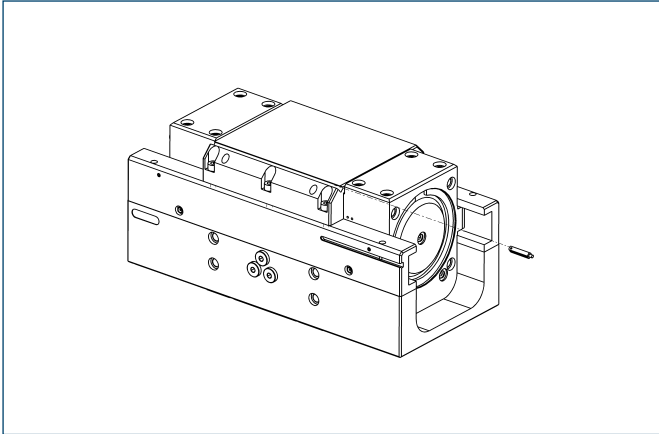
⑥ Lubricating nipple connection
⑧⑩ Depth of the centering sleeve hole in the matching part

Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:

- Callout 3:** Points to the outer profile of the part.
- Callout 4:** Points to the central hole.
- Dimensions:**
 - $\varnothing 11$: Overall outer diameter.
 - $\varnothing 8$: Diameter of the central hole.
 - $\varnothing 8 \times 1.5$: Dimension of the central hole, indicating a diameter of 8 mm and a length of 1.5 mm.
 - $M 8$: Thread specification for the central hole.
 - 1.1 : Dimension of the central hole, indicating a length of 1.1 mm.

- 557

Electronic magnetic switches



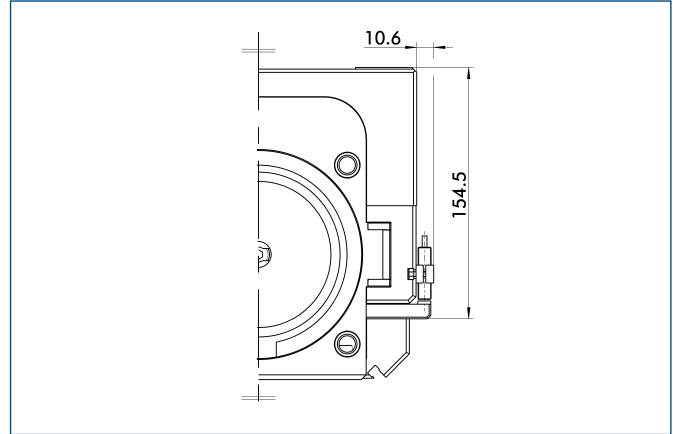
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 30-S-M8-PNP	0301471	•
MMS 30-S-M12-PNP	0301571	
MMSK 30-S-PNP	0301563	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

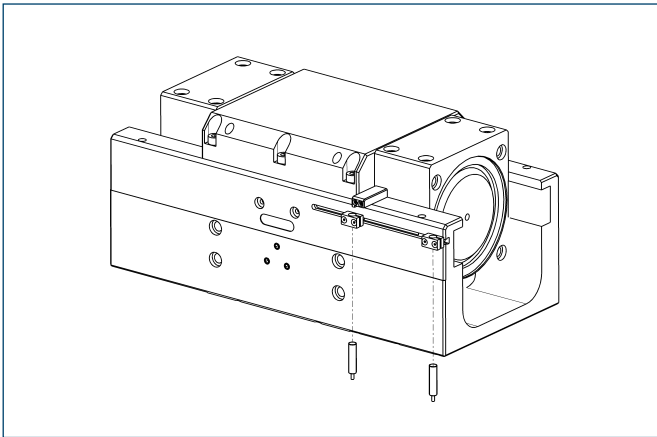


The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
HG-SPG 100	0300765

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-SPG 100	0300765	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Pneumatic Gripping Modules

Pneumatic • 3-Finger Centric Gripper



3-FINGER CENTRIC GRIPPER

Series	Size	Page
Gripper for small components		
MPZ		562
MPZ	16	566
MPZ	20	570
MPZ	25	574
MPZ	30	578
MPZ	38	582
MPZ	45	586
Universal Gripper		
LGZ		590
LGZ	16	594
LGZ	32	596
LGZ	50	598
PZN-plus		600
PZN-plus	40	604
PZN-plus	50	610
PZN-plus	64	618
PZN-plus	80	628
PZN-plus	100	638
PZN-plus	125	648
PZN-plus	160	658
PZN-plus	200	668
PZN-plus	240	676
PZN-plus	300	684
JGZ		690
JGZ	40	694
JGZ	50	700
JGZ	64	706
JGZ	80	714
JGZ	100	722
JGZ	125	730
JGZ	160	738
PZB-plus		746
PZB-plus	50	750
PZB-plus	64	754
PZB-plus	80	760
PZB-plus	100	768
PZB-plus	125	776
PZB-plus	160	784

Series	Size	Page
Sealed Gripper		
DPZ-plus		792
DPZ-plus	40	796
DPZ-plus	50	800
DPZ-plus	64	806
DPZ-plus	80	812
DPZ-plus	100	818
DPZ-plus	125	824
DPZ-plus	160	830
DPZ-plus	200	834

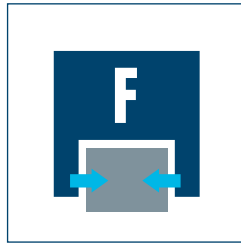




Sizes
16 ... 45



Weight
0.01 kg ... 0.29 kg



Gripping force
20 N ... 310 N



Stroke per finger
1 mm ... 5 mm



Workpiece weight
0.05 kg ... 1.15 kg

Application example



Handling device for direct mounting to a robot
for screwing in sealing plugs

- 1 3-Finger Centric Gripper MPZ
- 2 Rotary feed-through DDF

Gripper for small components

small 3-Finger Centric Gripper with base jaws guided on T-slots

Field of application

for universal use in clean to slightly dirty working environments, especially suitable for gripping small workpieces

Your advantages and benefits

T-slot guidance

for precise gripping at high moment loads

Finger position monitoring

also possible via FPS

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

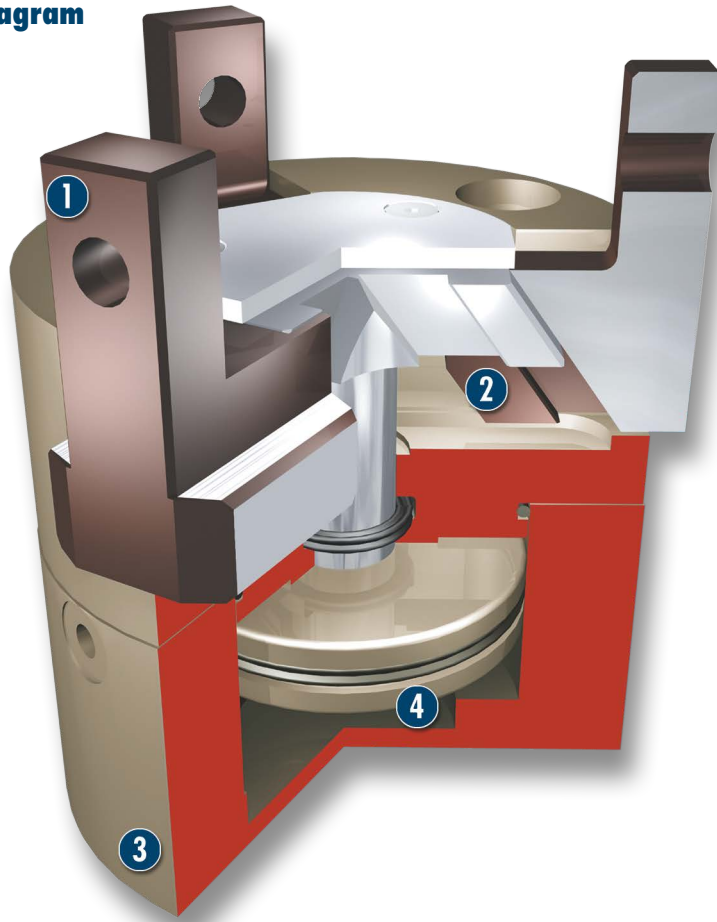
Scope of delivery

Centering sleeves, centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1 T-slot guidance**
for precise gripping with high moment loads
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Drive**
pneumatic, powerful and easy to handle

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Small and compact 3-Finger Centric Gripper for fast gripping applications. Monitoring of the smallest differences in stroke possible via FPS system.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



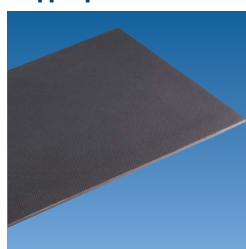
Sensor cables



Plastic inserts



Gripper pads



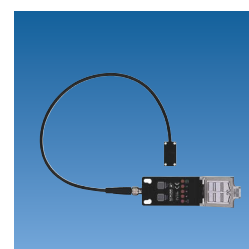
Pressure maintenance valve



Sensor Distributor



Flexible Position Sensor



Finger blanks



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

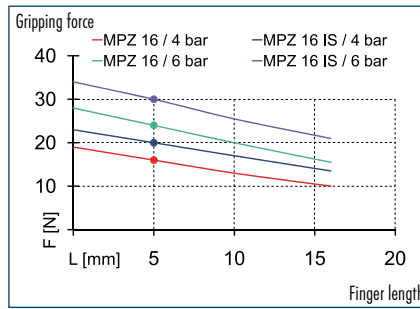
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

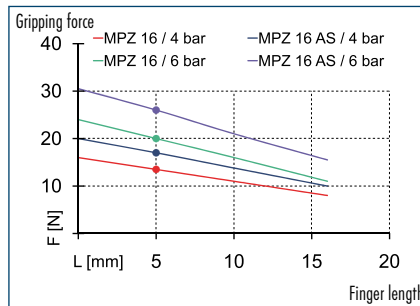
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



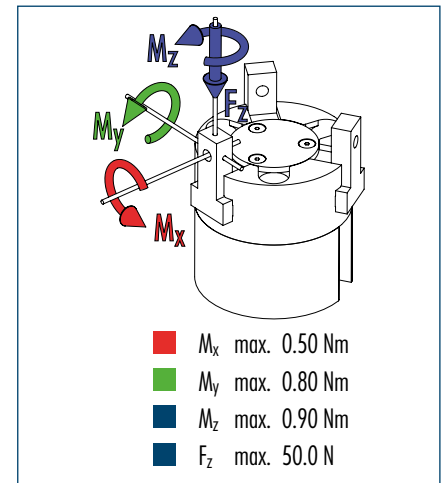
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 16	MPZ 16-AS	MPZ 16-IS
ID		0340480	0340481	0340482
Stroke per finger	[mm]	1	1	1
Closing force	[N]	20	26	
Opening force	[N]	24		30
Min. spring force	[N]		6	6
Weight	[kg]	0.01	0.02	0.02
Recommended workpiece weight	[kg]	0.05	0.05	0.05
Air consumption per double stroke	[cm ³]	0.15	0.4	0.4
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	16	16	16
Max. permitted weight per finger	[kg]	0.02	0.02	0.02
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

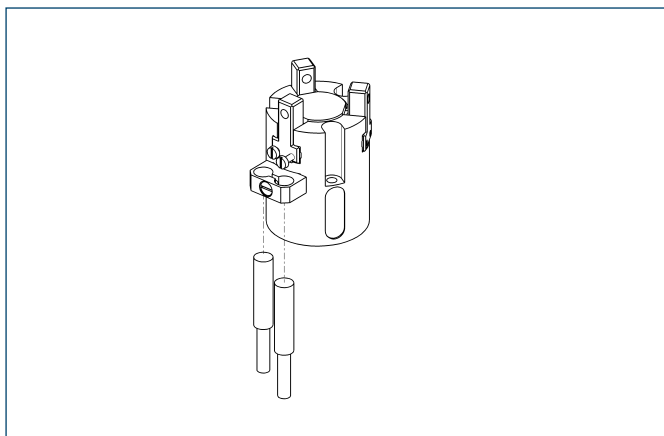
[illegible]

19 Air connection
 90 Polyurethane hoses with an I.D. of 1.6 mm.
 Source: AC Aircontrols GmbH, Kempen,
 Germany

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions in millimeters. The drawing includes a side view and a top view. The side view shows a total width of 18.5 mm, a mounting flange width of 2.8 mm, and a central section width of 9.5 mm. The top view shows a total length of 26 mm, with a distance of 15.5 mm from the right edge to the center of the mounting hole (A), and a distance of 5 mm from the center of the mounting hole (A) to the center of the mounting hole (B). The mounting holes are labeled A and B.

567

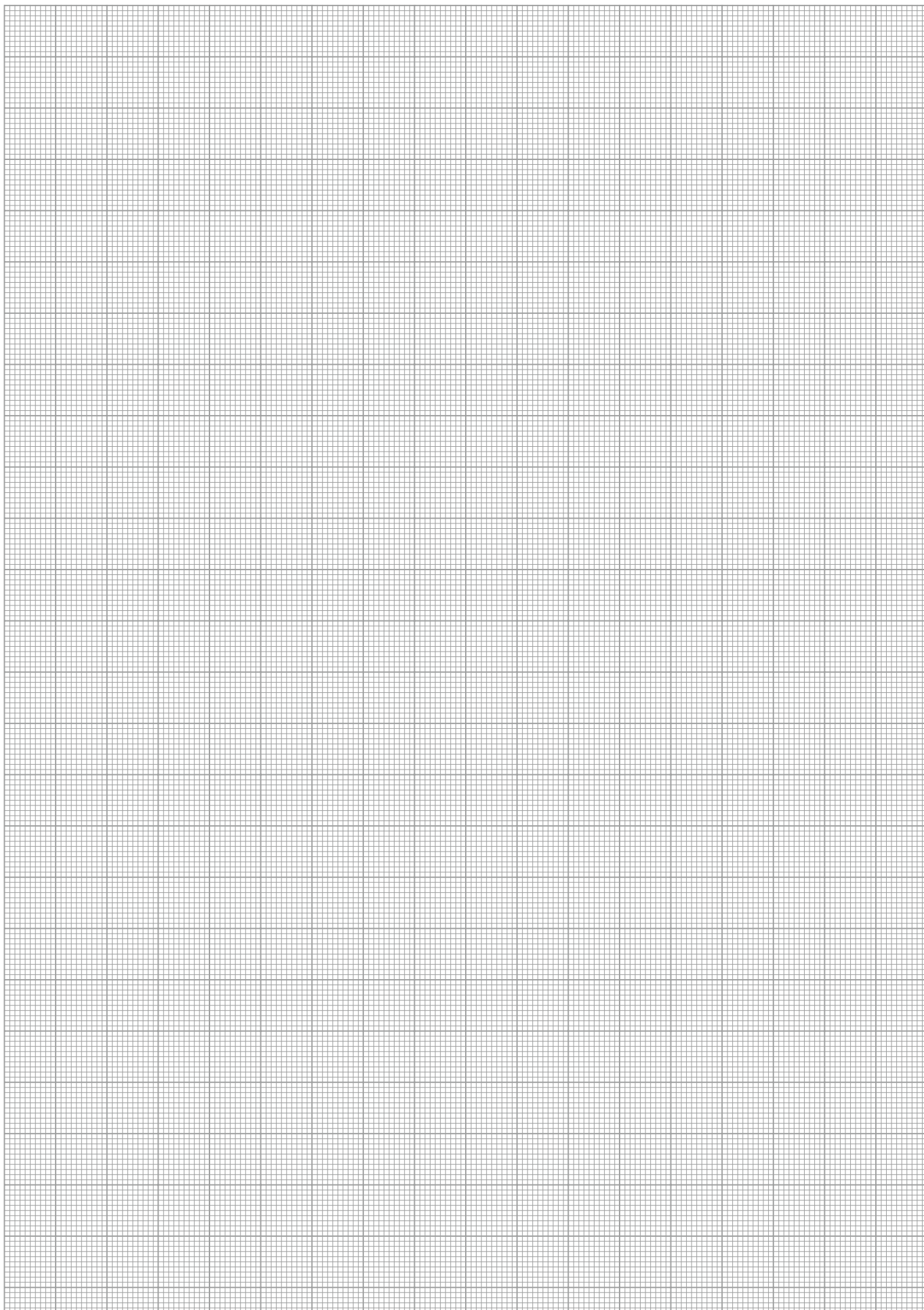
Inductive proximity switches



End position monitoring for direct mounting

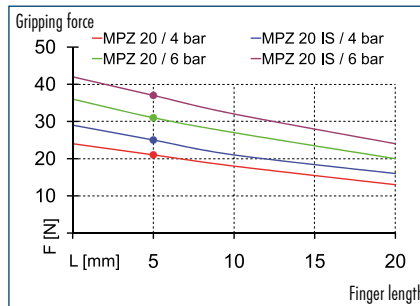
Description	ID
Inductive proximity switches	
IN 3-S-M8-PNP	0301466
Connection cables	
KA BG08-L 3P-0300-PNP	0301622
KA BG08-L 3P-0500-PNP	0301623
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
Cable extensions	
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

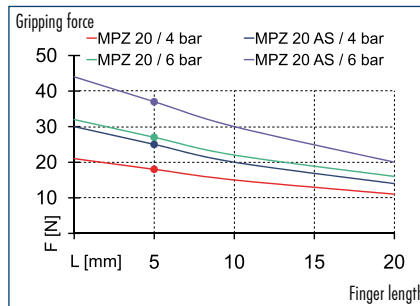




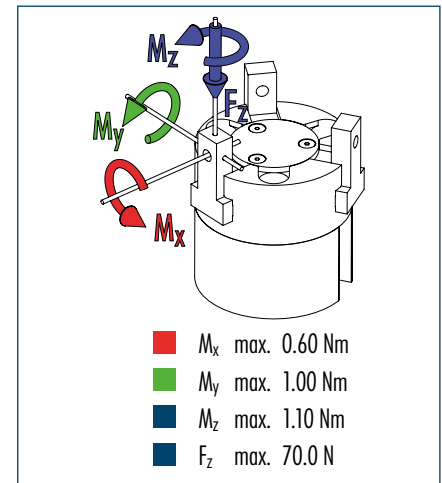
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

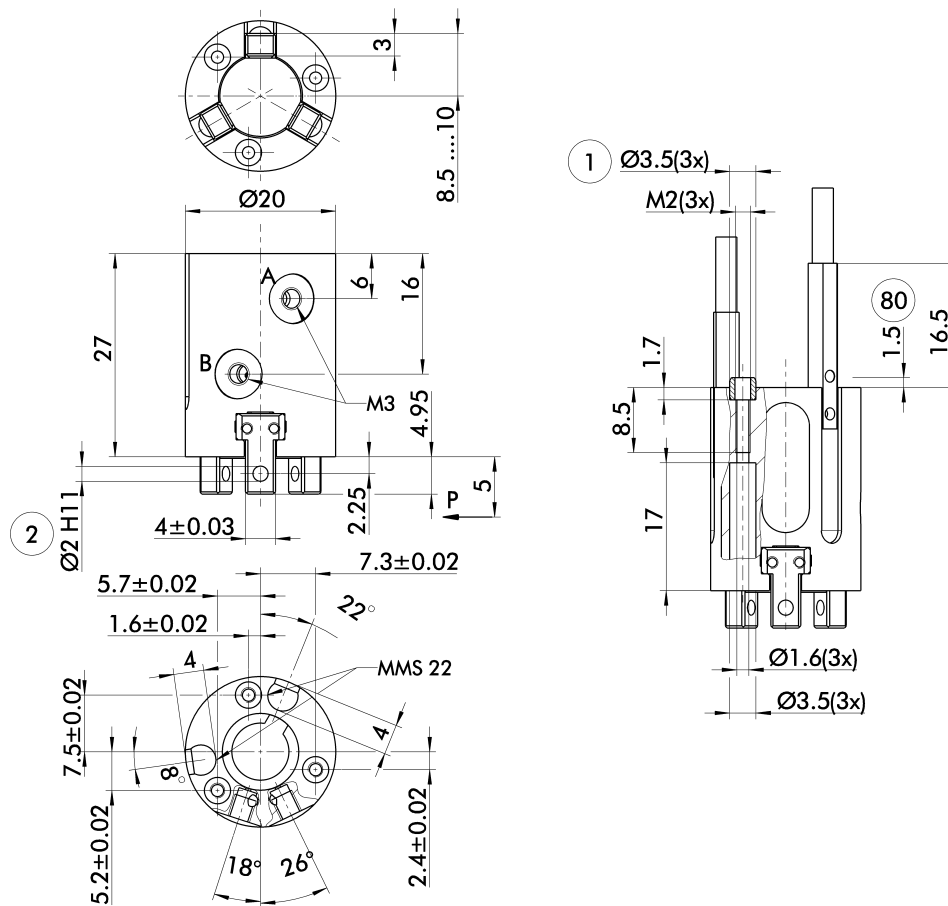


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 20	MPZ 20-AS	MPZ 20-IS
ID		0340490	0340491	0340492
Stroke per finger	[mm]	1.5	1.5	1.5
Closing force	[N]	26	34	
Opening force	[N]	30		38
Min. spring force	[N]		8	8
Weight	[kg]	0.02	0.03	0.03
Recommended workpiece weight	[kg]	0.1	0.1	0.1
Air consumption per double stroke	[cm ³]	0.3	0.7	0.7
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	20	20	20
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



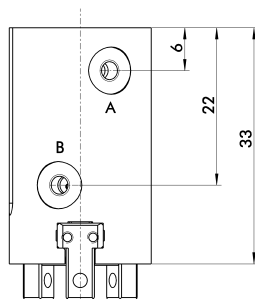
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

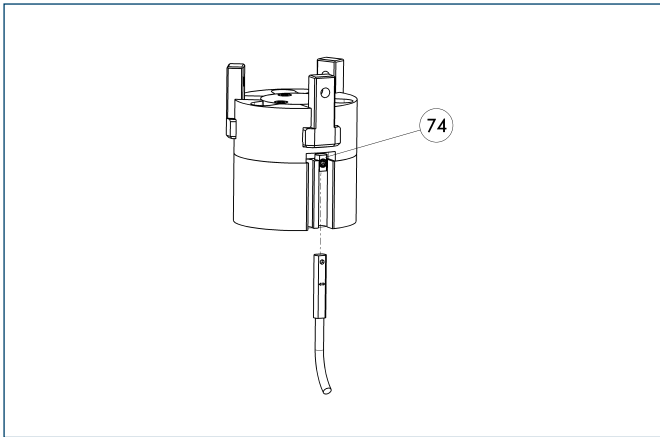
80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Programmable magnetic switch



74 Stop for MMS-P

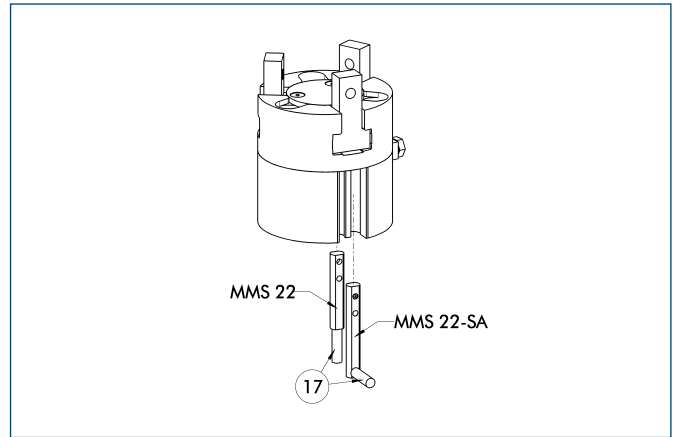
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

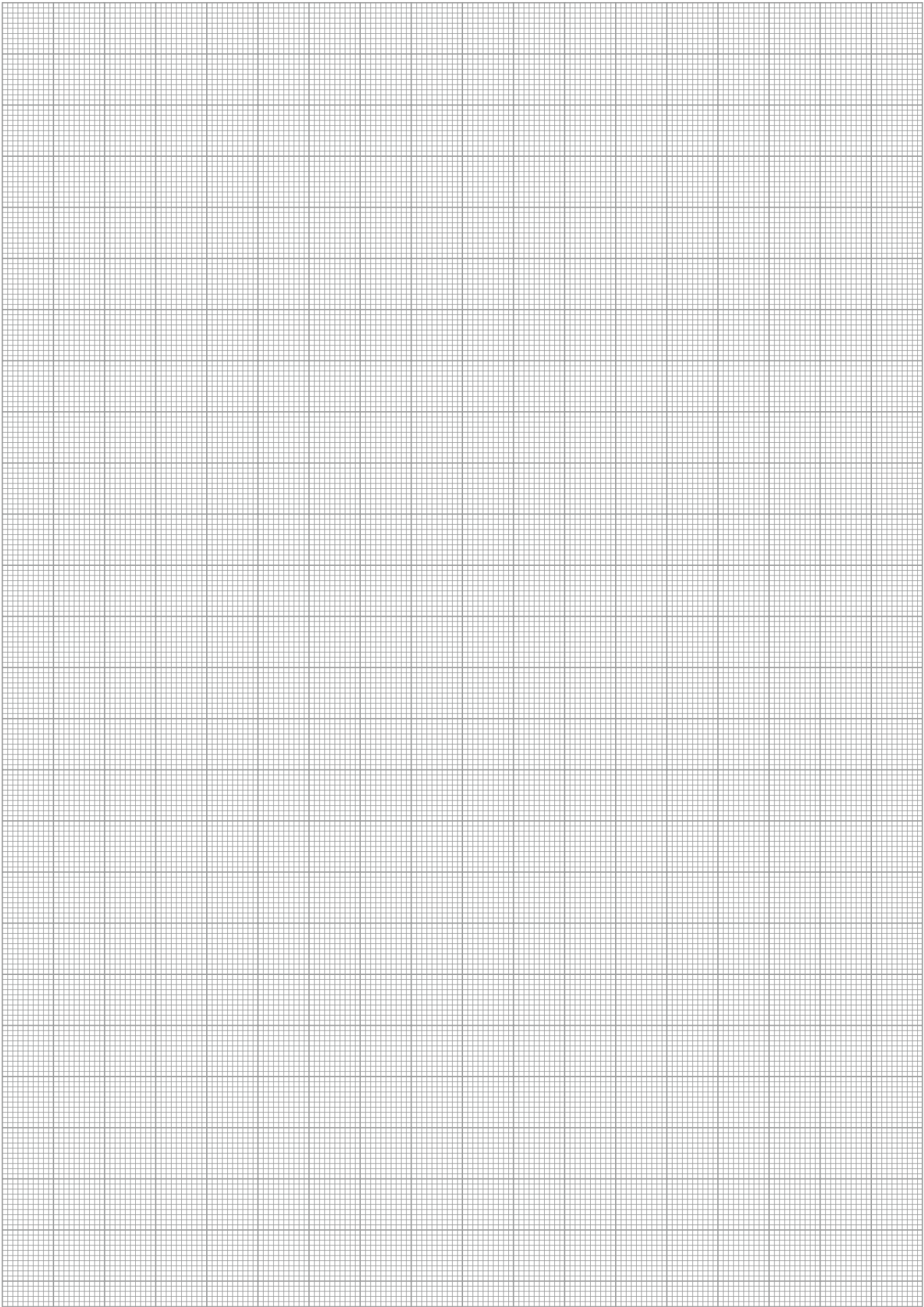


17 Cable outlet

End position monitoring for mounting in the C-slot

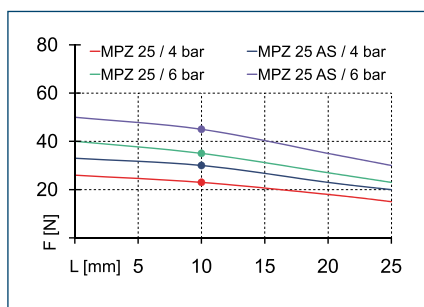
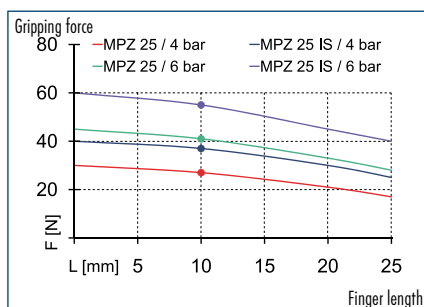
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

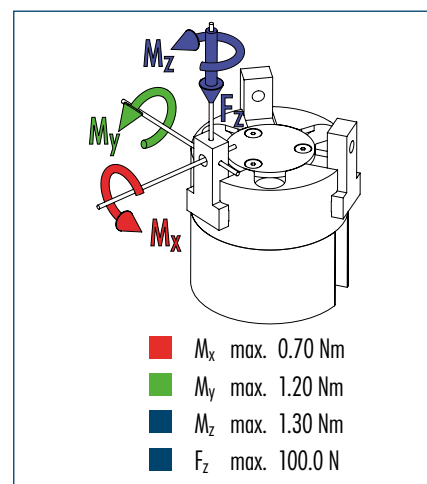




Gripping force, O.D. gripping



Finger load

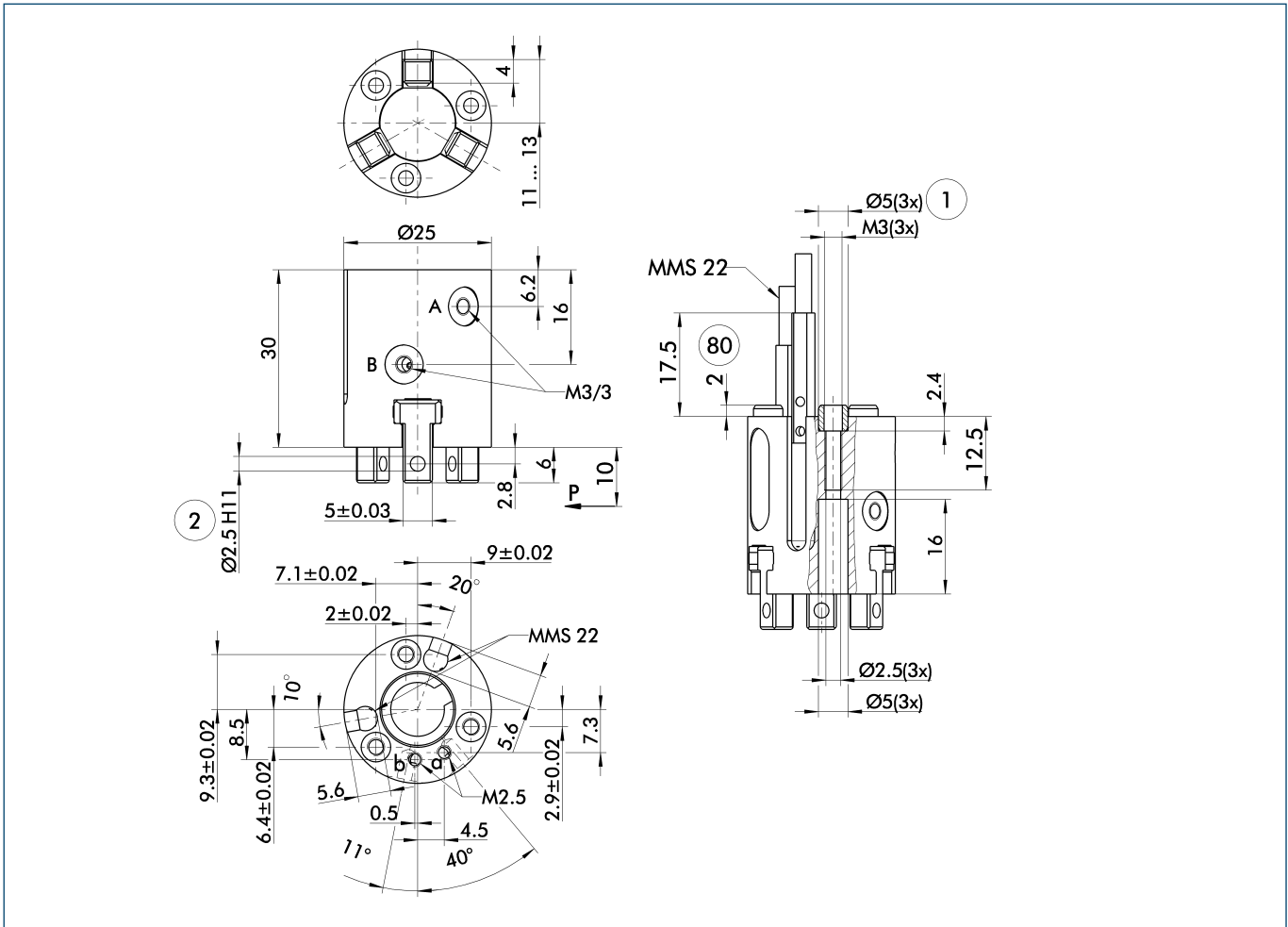


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 25	MPZ 25-AS	MPZ 25-IS
ID		0340500	0340501	0340502
Stroke per finger	[mm]	2	2	2
Closing force	[N]	35	47	
Opening force	[N]	40		55
Min. spring force	[N]		12	15
Weight	[kg]	0.04	0.06	0.06
Recommended workpiece weight	[kg]	0.2	0.2	0.2
Air consumption per double stroke	[cm ³]	0.6	1.8	1.8
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	25	25	25
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



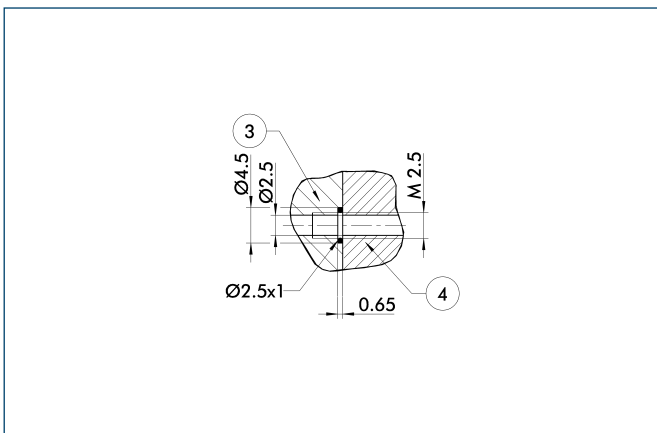
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

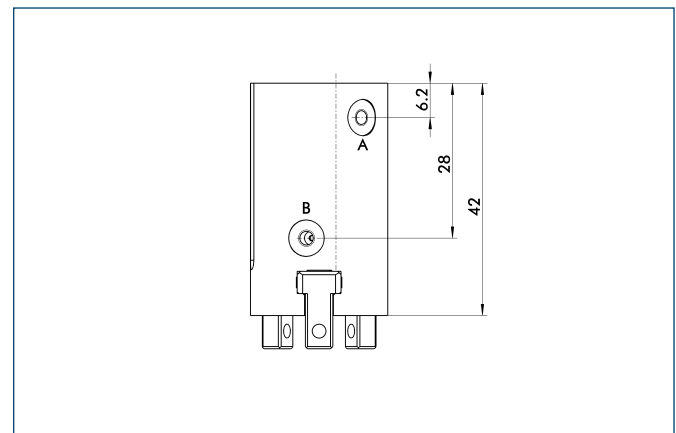
Hose-free direct connection



③ Adapter
④ Gripper

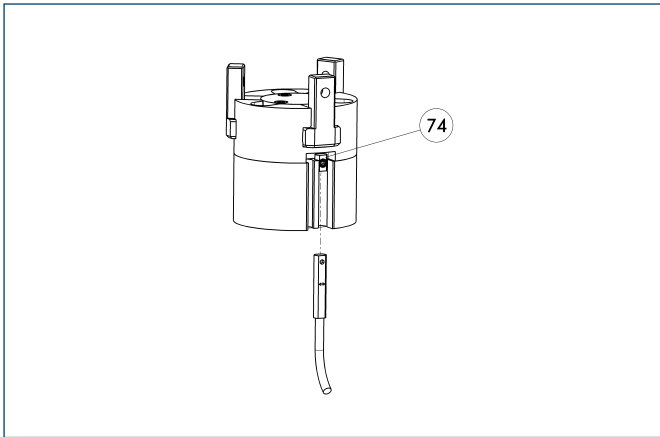
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Programmable magnetic switch



74 Stop for MMS-P

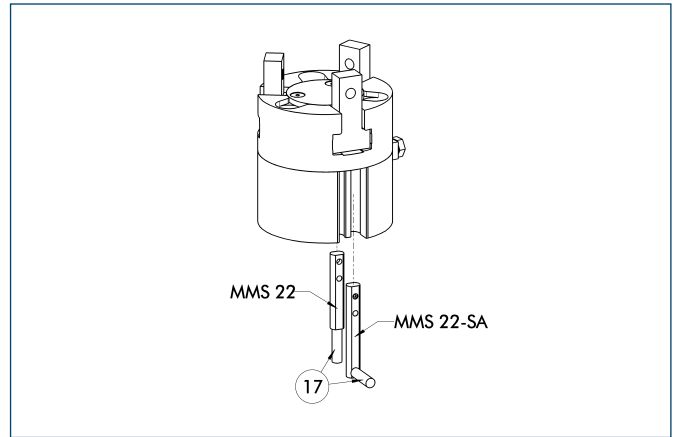
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

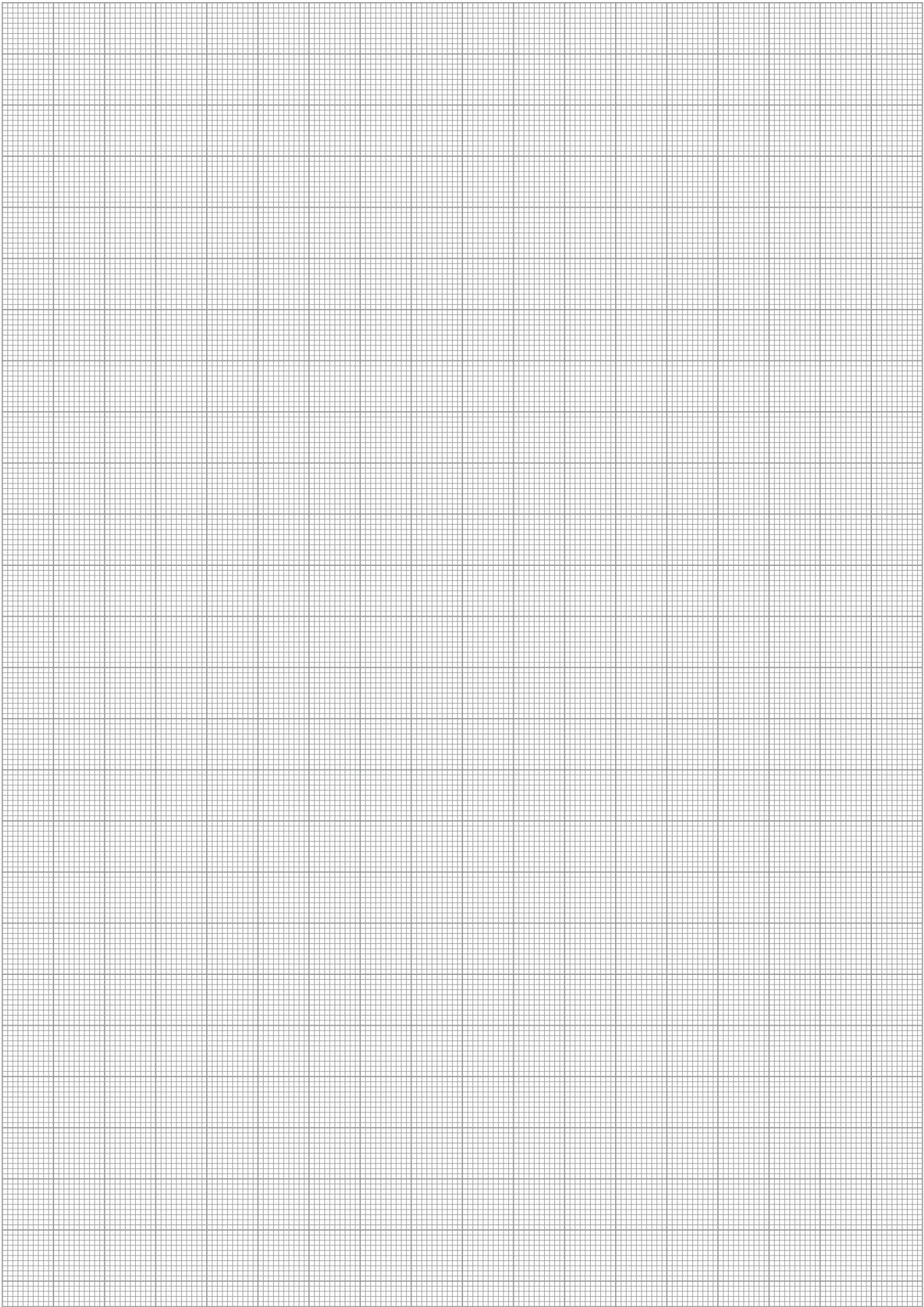


17 Cable outlet

End position monitoring for mounting in the C-slot

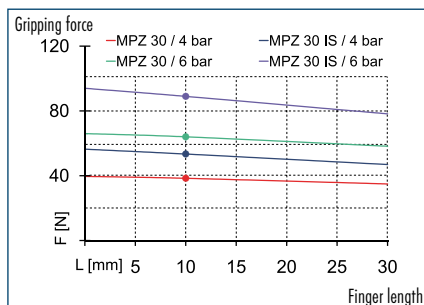
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

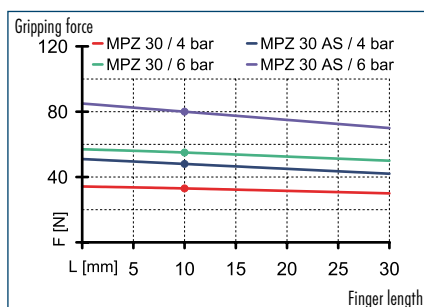




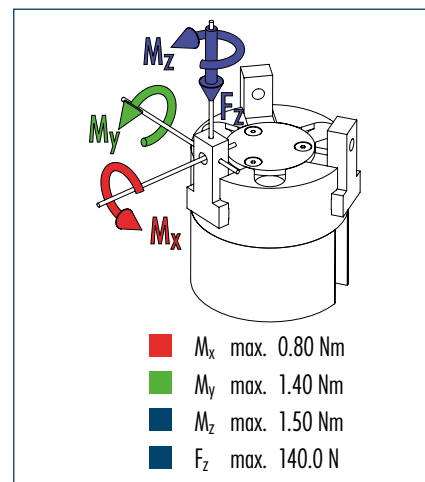
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

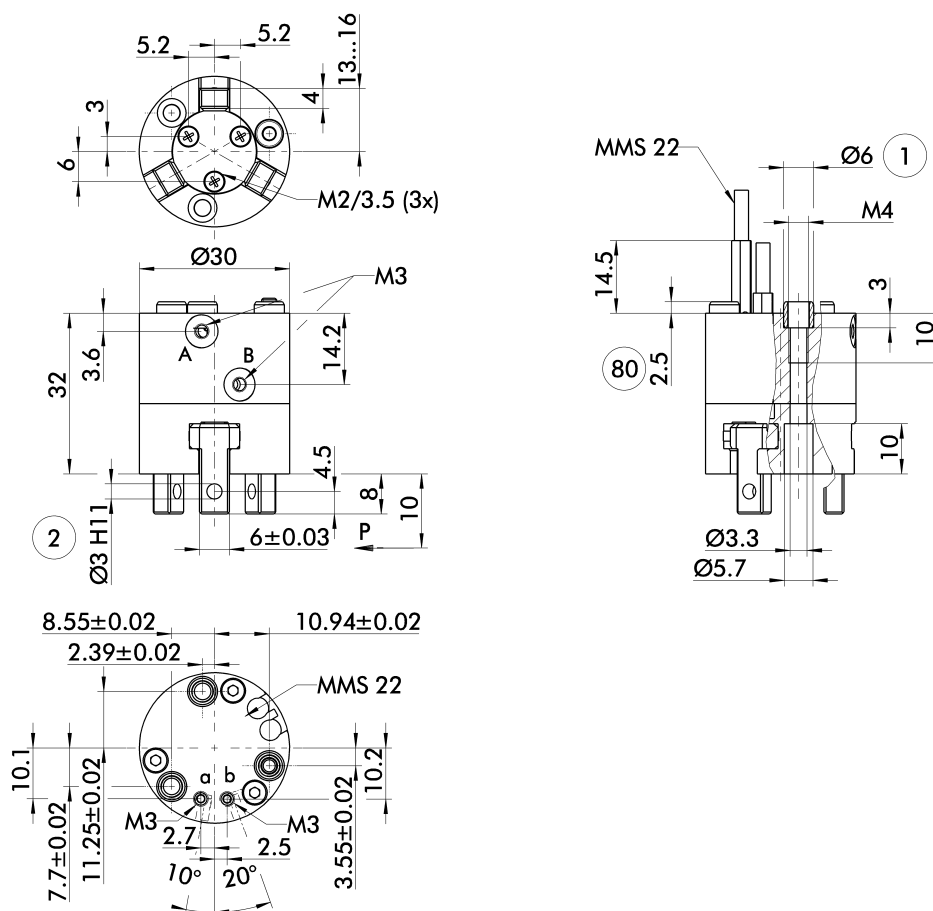


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 30	MPZ 30 FPS	MPZ 30-AS	MPZ 30-IS
ID		0340510	0340513	0340511	0340512
Stroke per finger	[mm]	3	3	3	3
Closing force	[N]	55	55	80	
Opening force	[N]	65	65		90
Min. spring force	[N]			25	25
Weight	[kg]	0.08	0.1	0.09	0.09
Recommended workpiece weight	[kg]	0.28	0.28	0.28	0.28
Air consumption per double stroke	[cm ³]	2.01	2.01	2.01	2.01
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	30	30	30	30
Max. permitted weight per finger	[kg]	0.03	0.03	0.03	0.03
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Main view



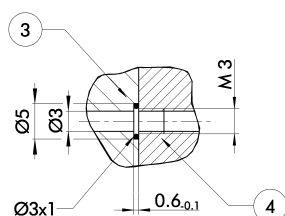
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

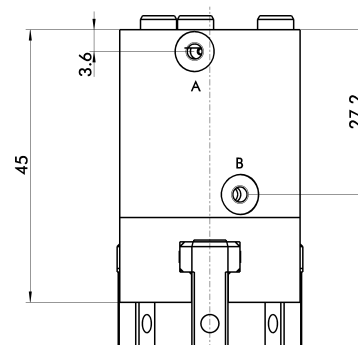
Hose-free direct connection



③ Adapter
④ Gripper

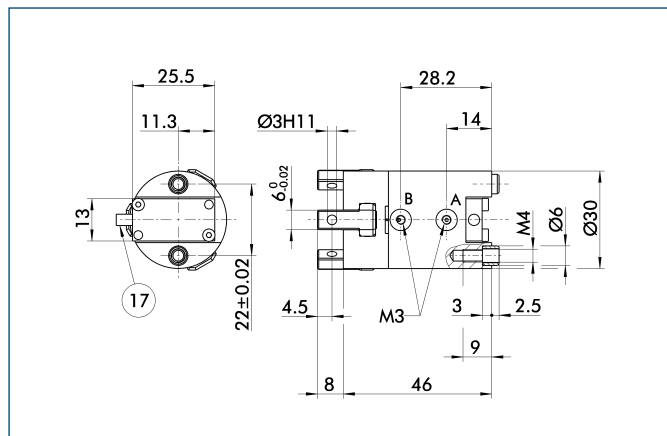
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

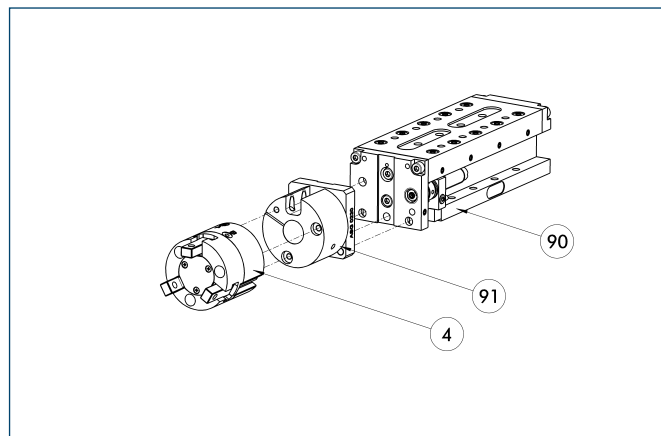
Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Modular Assembly Automation



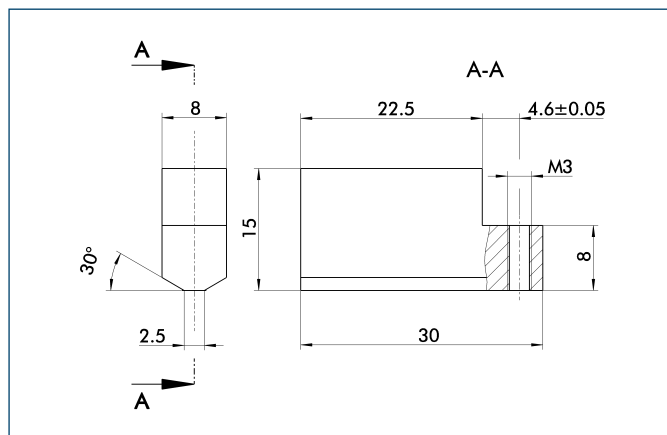
4 Gripper

90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

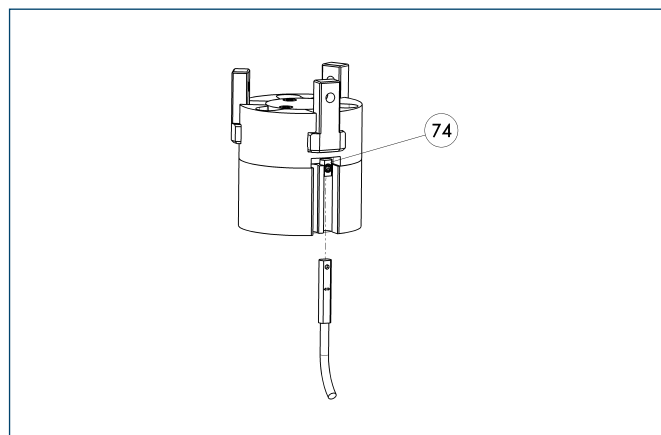
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 30	0340519	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

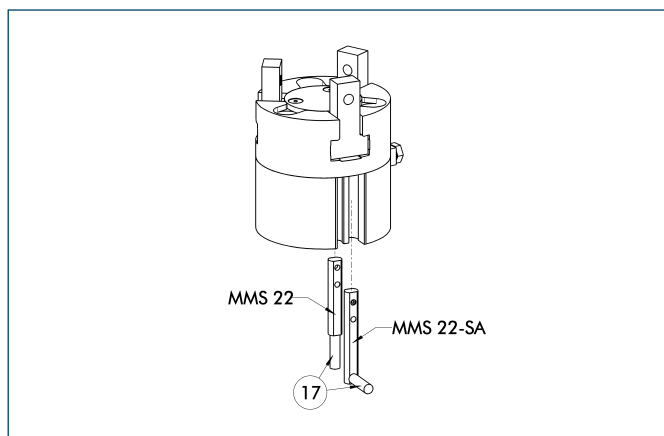
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



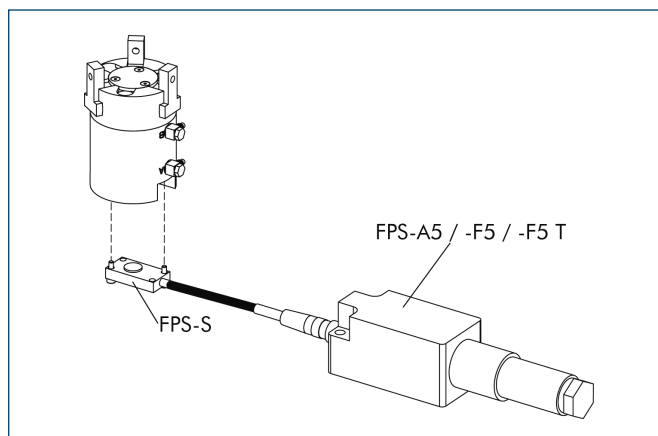
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

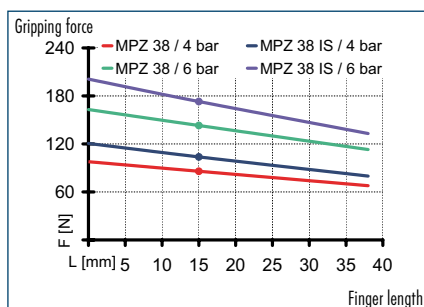
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



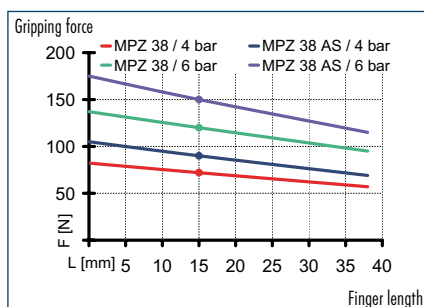
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



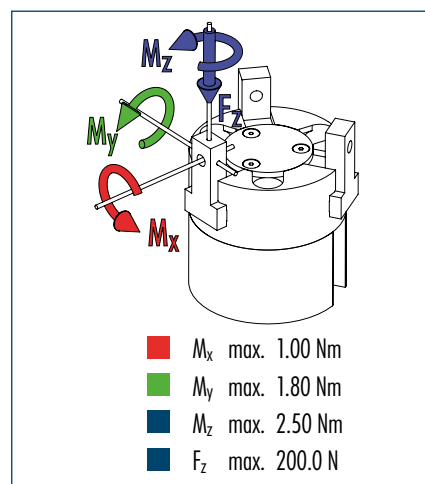
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

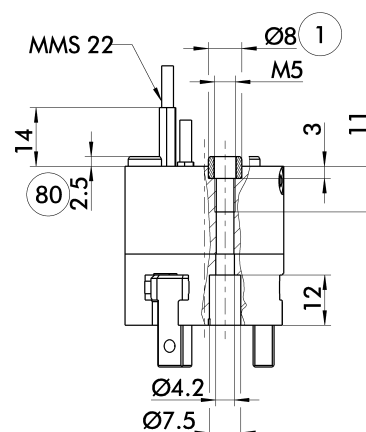
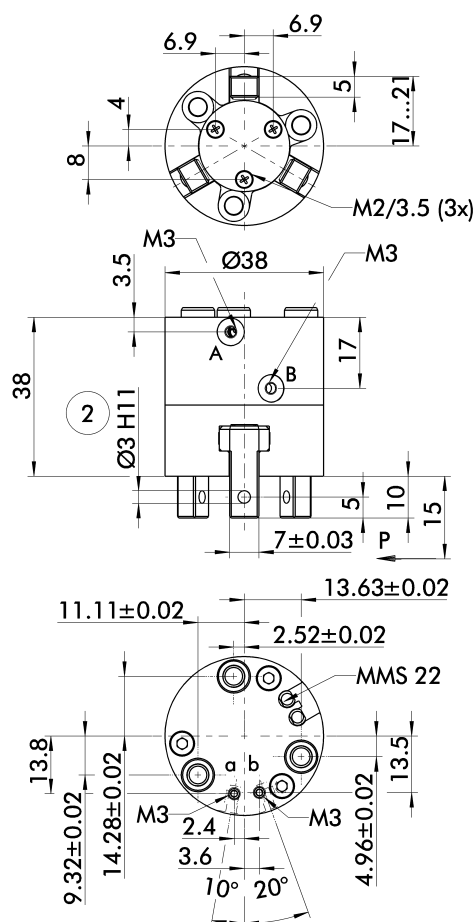


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 38	MPZ 38 FPS	MPZ 38-AS	MPZ 38-IS
ID		0340520	0340523	0340521	0340522
Stroke per finger	[mm]	4	4	4	4
Closing force	[N]	120	120	150	
Opening force	[N]	140	140		180
Min. spring force	[N]			30	40
Weight	[kg]	0.14	0.19	0.19	0.19
Recommended workpiece weight	[kg]	0.6	0.6	0.6	0.6
Air consumption per double stroke	[cm ³]	4.08	4.08	4.08	4.08
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	38	38	38	38
Max. permitted weight per finger	[kg]	0.05	0.05	0.05	0.05
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Main view



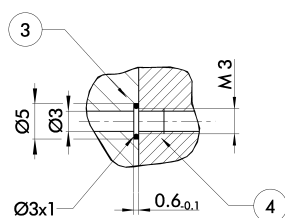
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

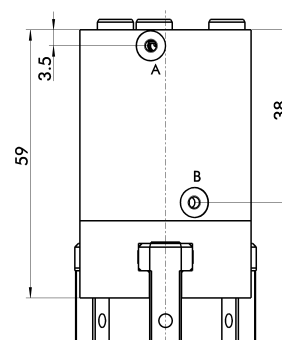
Hose-free direct connection



③ Adapter
④ Gripper

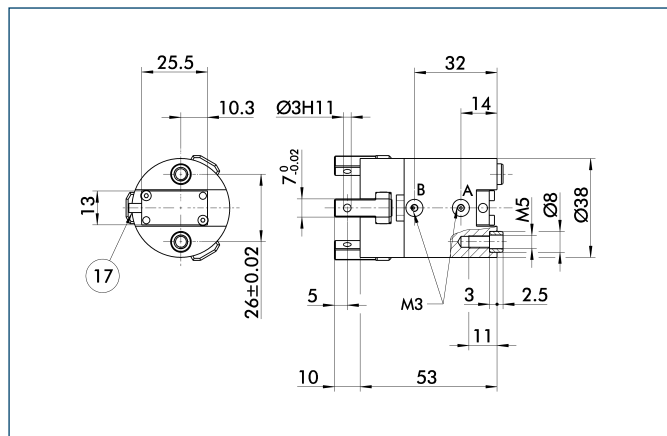
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

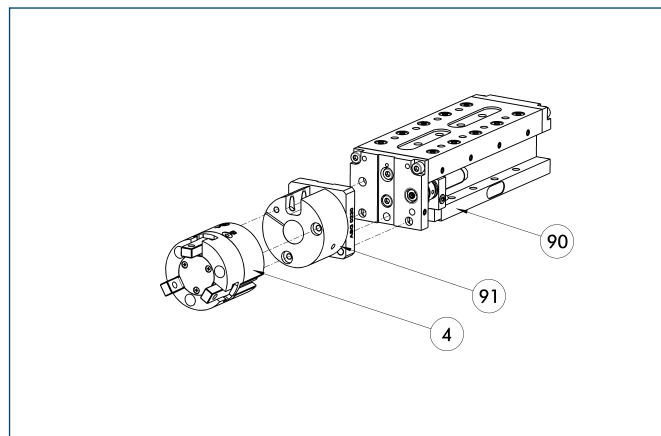
Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Modular Assembly Automation

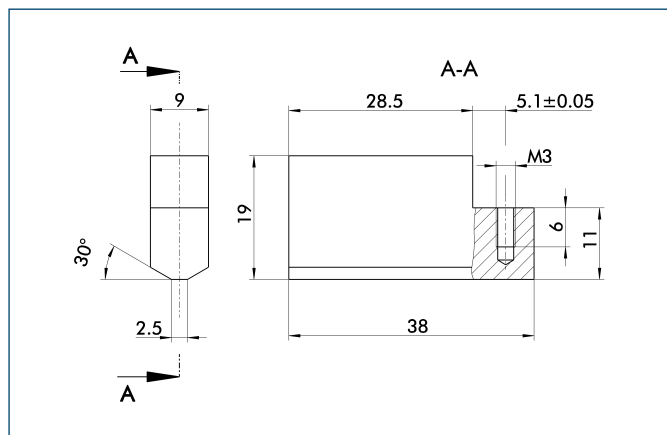


4 Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

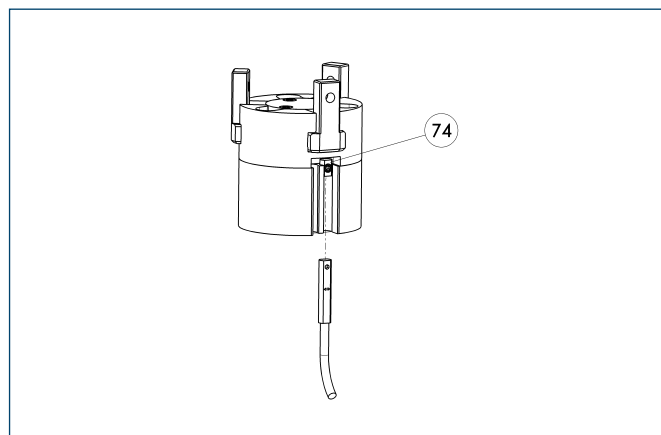
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 38	0340529	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

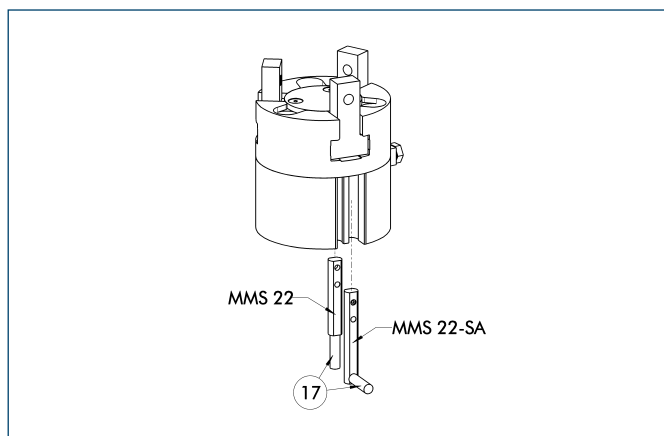
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



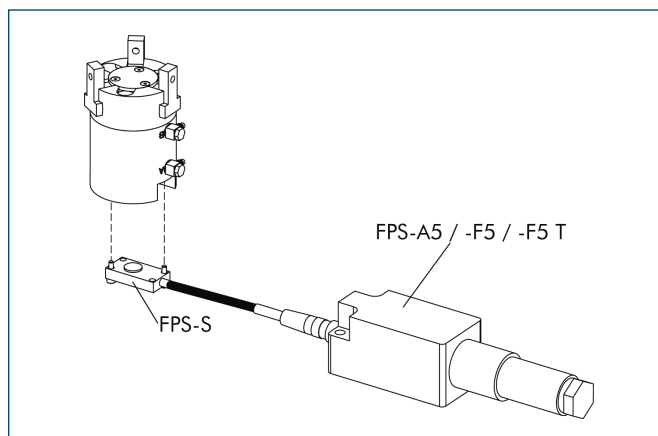
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

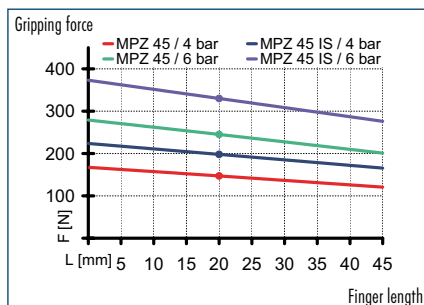
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



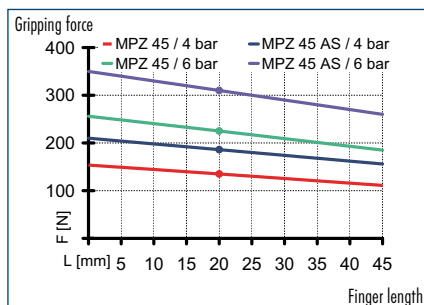
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



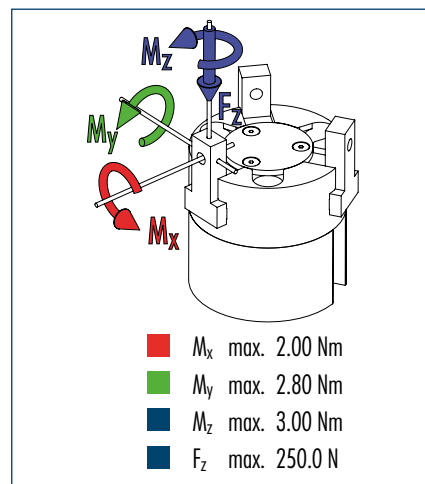
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

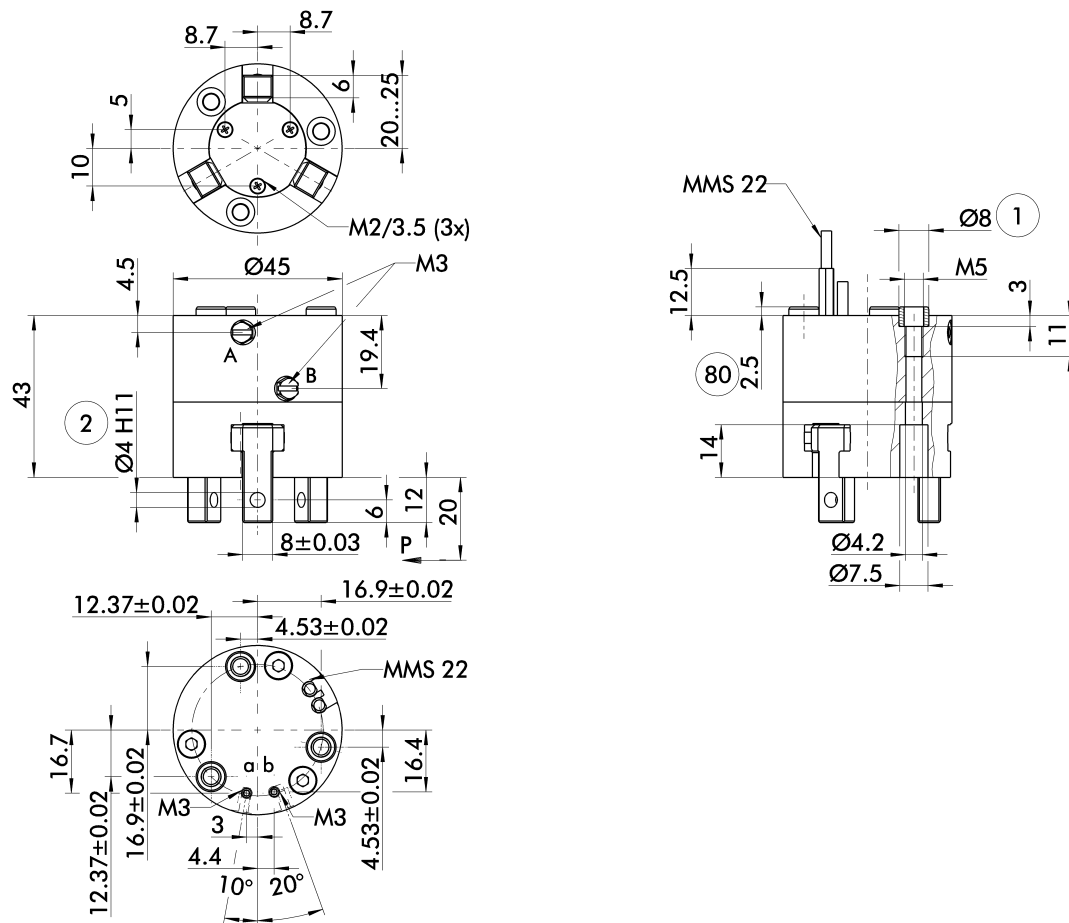


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		MPZ 45	MPZ 45 FPS	MPZ 45-AS	MPZ 45-IS
ID		0340530	0340533	0340531	0340532
Stroke per finger	[mm]	5	5	5	5
Closing force	[N]	225	225	310	
Opening force	[N]	245	245		340
Min. spring force	[N]			85	95
Weight	[kg]	0.22	0.29	0.28	0.28
Recommended workpiece weight	[kg]	1.15	1.15	1.15	1.15
Air consumption per double stroke	[cm ³]	9.85	9.85	9.85	9.85
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.04/0.05	0.05/0.04
Max. permitted finger length	[mm]	45	45	45	45
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5
ISO-classification 14644-1		5	5	5	5

Main view



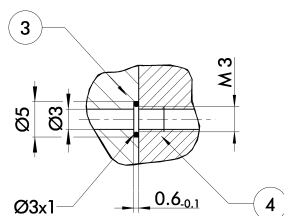
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

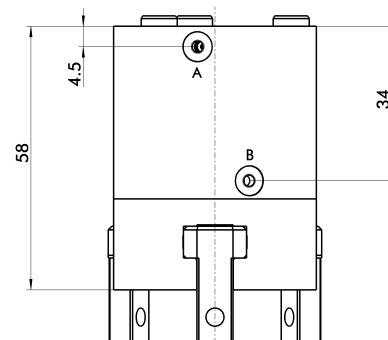
Hose-free direct connection



③ Adapter
④ Gripper

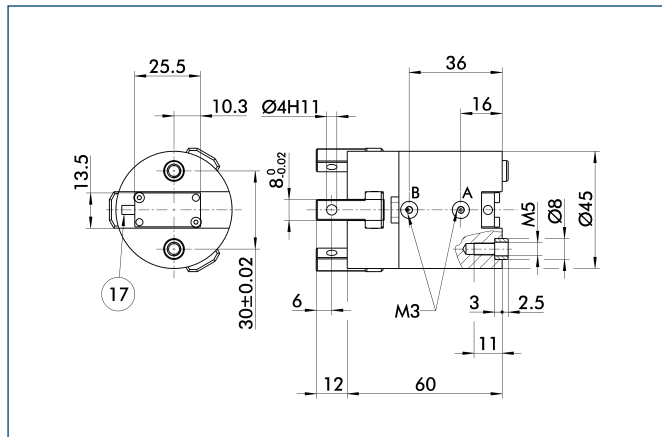
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

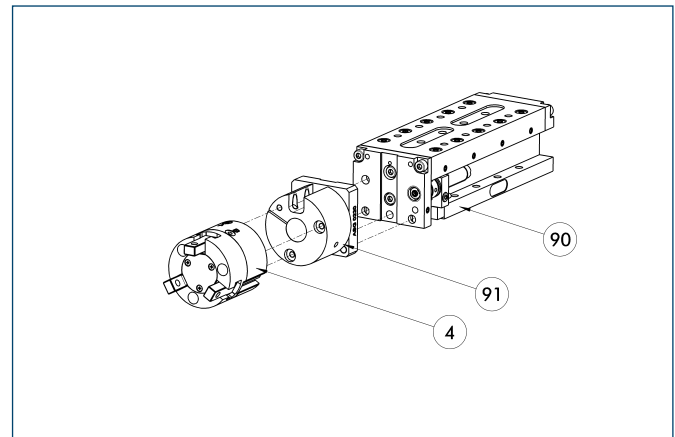
Flexible Position Sensor



17 Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

Modular Assembly Automation

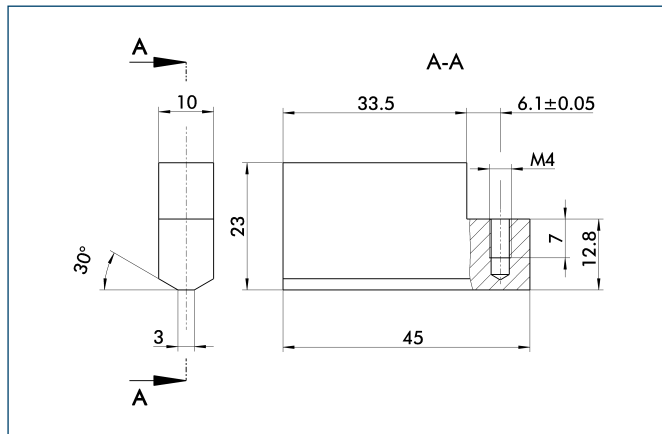


4 Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

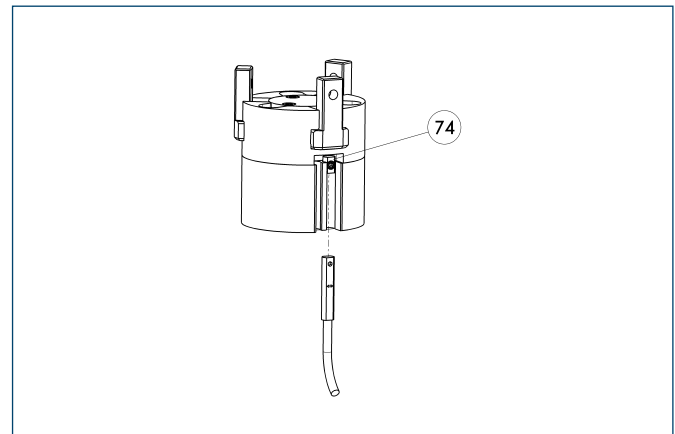
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 45	0340539	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

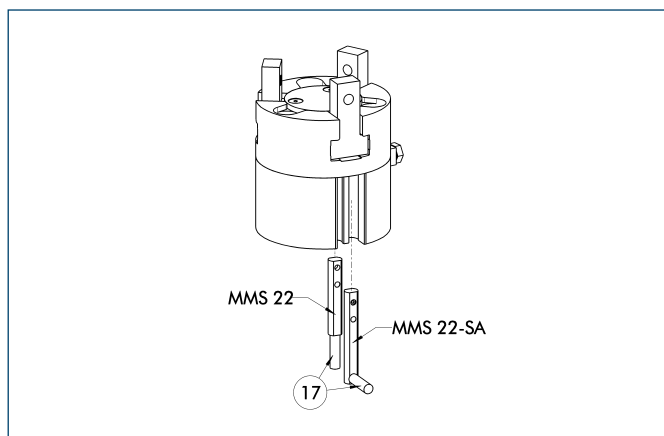
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



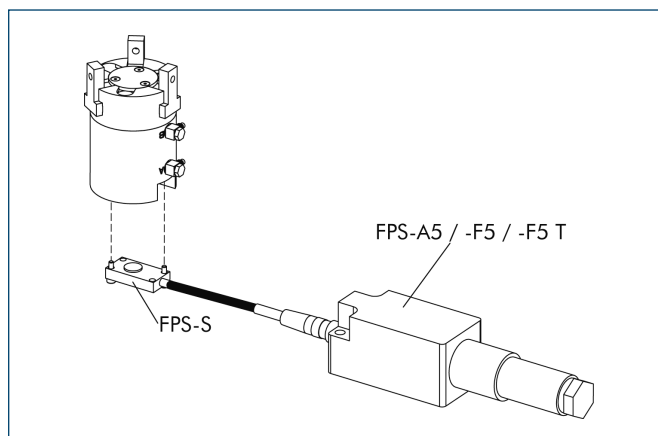
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S 13	0301705

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



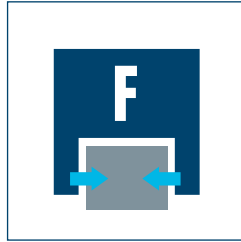
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
16 ... 50



Weight
0.1 kg ... 0.99 kg



Gripping force
120 N ... 1470 N

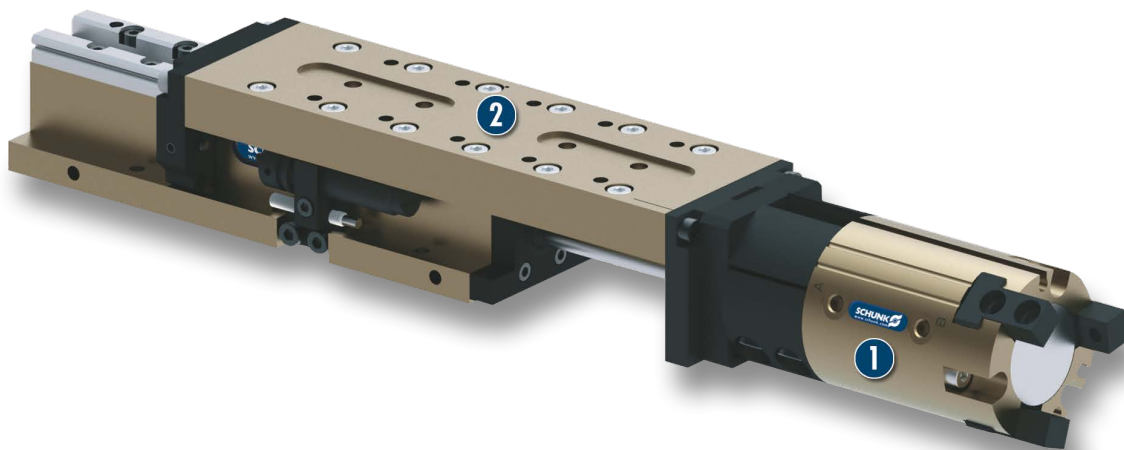


Stroke per finger
3 mm ... 7 mm



Workpiece weight
0.6 kg ... 5.7 kg

Application example



Pneumatic transfer unit for round components

- 1 3-Finger Centric Gripper LGZ
- 2 Linear module CLM

Universal Gripper

universal 3-Finger Centric Gripper with T-slot slideway and excellent cost-performance ratio

Field of application

for universal use in clean and slightly dirty environments

Your advantages and benefits

Function optimized gripper type

for maximum cost effectiveness

Stable, ground T-groove slideway

for highest precision in handling

Matching SCHUNK C-slot switch

for process reliable position interrogation

Hard-anodized or hardened functional components

for long lifetime

Centering sleeves

for a repeat accurate exchange of grippers and fingers

Compact dimensions

for minimized interfering contours



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

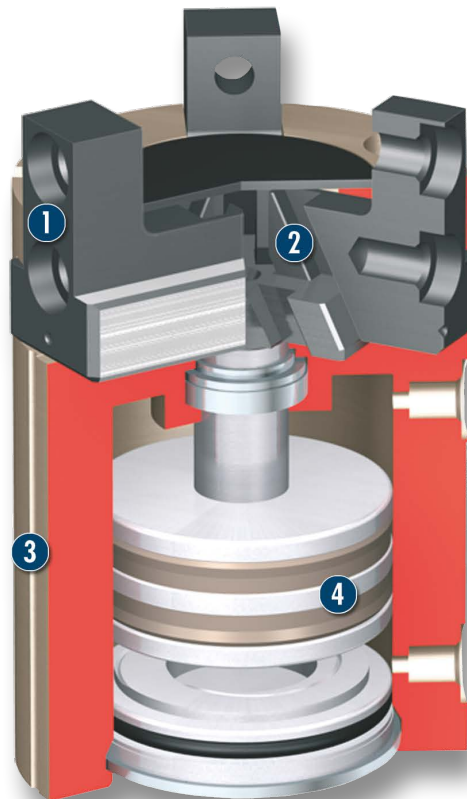
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering elements, assembly and operating instruction with manufacturer's declaration

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Drive**
pneumatic, powerful and easy to handle

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Monitoring with a SCHUNK MMS 22 or RMS 22 sensor is not possible. The use of the recommended sensors MZN and RZN is not compulsory.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



Sensor cables



Pressure maintenance valve



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

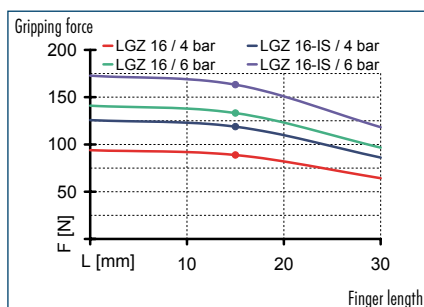
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

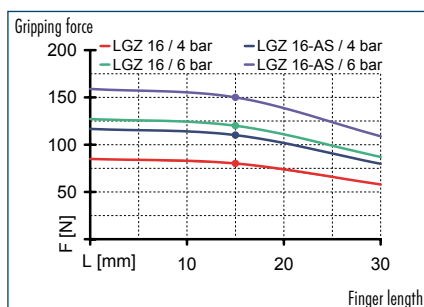
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



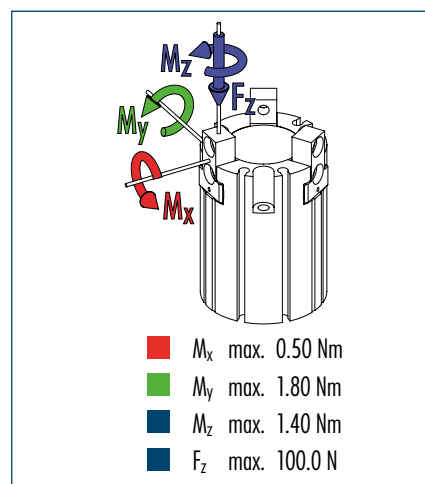
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

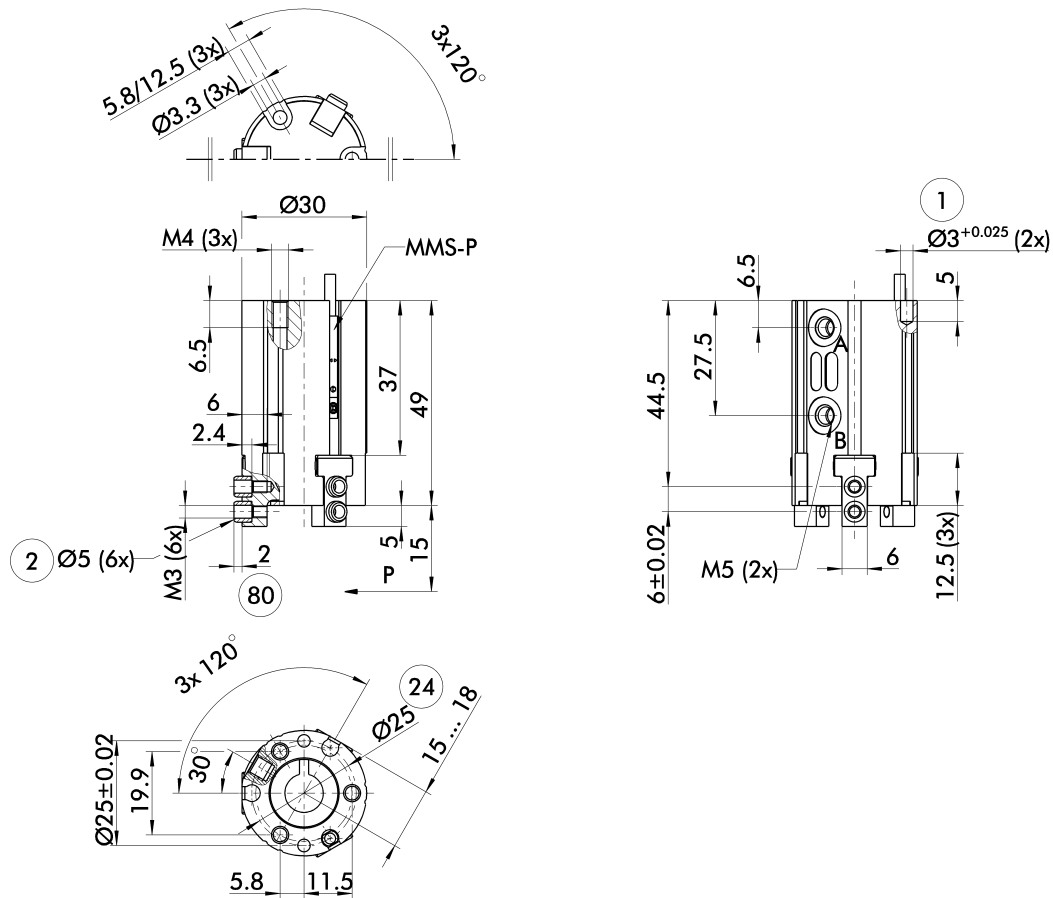


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGZ 16	LGZ 16-AS	LGZ 16-IS
ID		0312930	0312931	0312932
Stroke per finger	[mm]	3	3	3
Closing force	[N]	120	150	
Opening force	[N]	144		174
Min. spring force	[N]		30	30
Weight	[kg]	0.1	0.1	0.1
Recommended workpiece weight	[kg]	0.6	0.6	0.6
Air consumption per double stroke	[cm ³]	4	4	4
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.01/0.04	0.04/0.01
Max. permitted finger length	[mm]	30	30	30
Max. permitted weight per finger	[kg]	0.03	0.03	0.03
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view



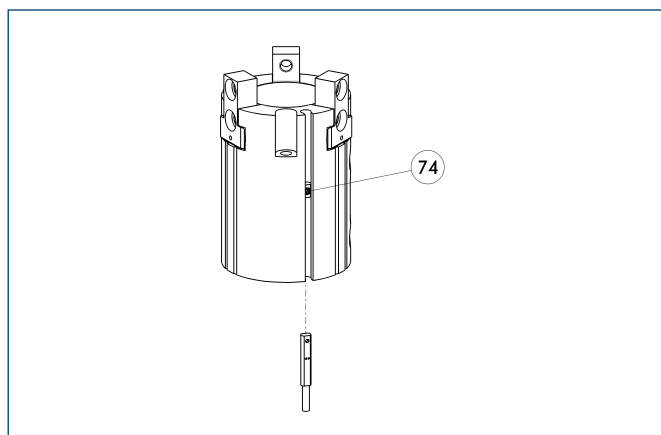
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

②4 Bolt circle
⑧0 Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

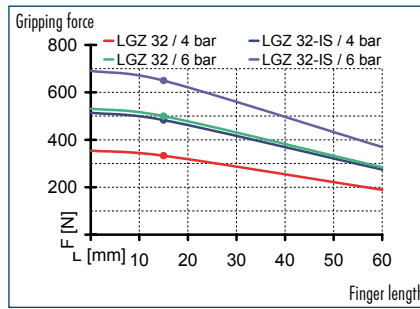
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

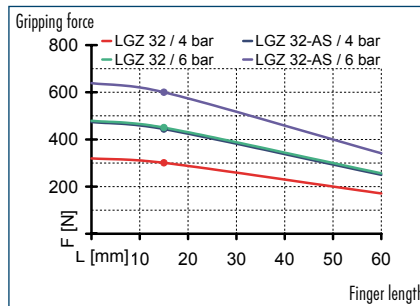




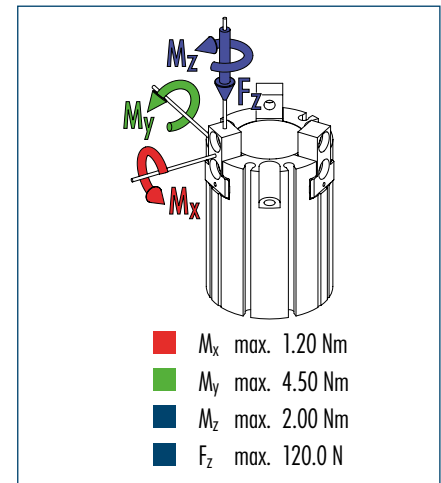
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

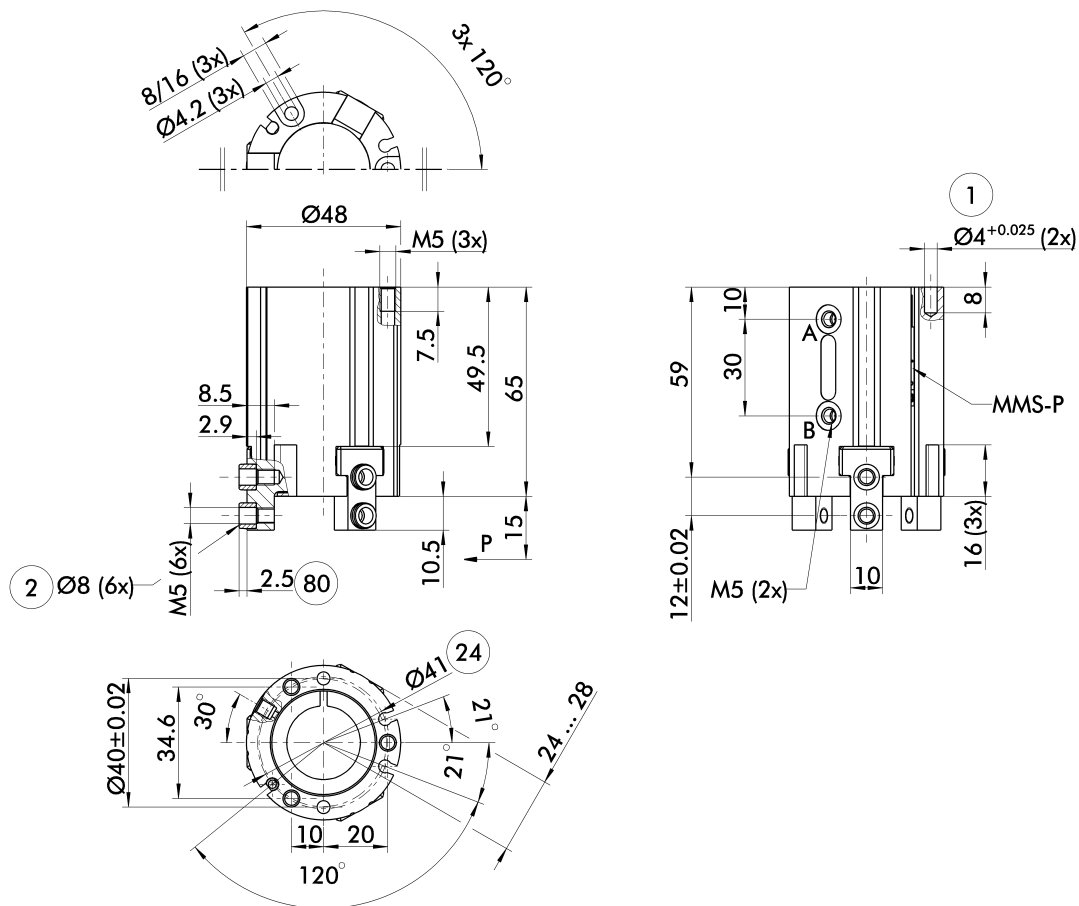


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGZ 32	LGZ 32-AS	LGZ 32-IS
ID		0312933	0312934	0312935
Stroke per finger	[mm]	4	4	4
Closing force	[N]	450	600	
Opening force	[N]	540		590
Min. spring force	[N]		150	150
Weight	[kg]	0.32	0.35	0.35
Recommended workpiece weight	[kg]	2.25	2.25	2.25
Air consumption per double stroke	[cm ³]	21	21	21
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.02/0.02	0.01/0.03	0.03/0.01
Max. permitted finger length	[mm]	60	60	60
Max. permitted weight per finger	[kg]	0.08	0.08	0.08
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view

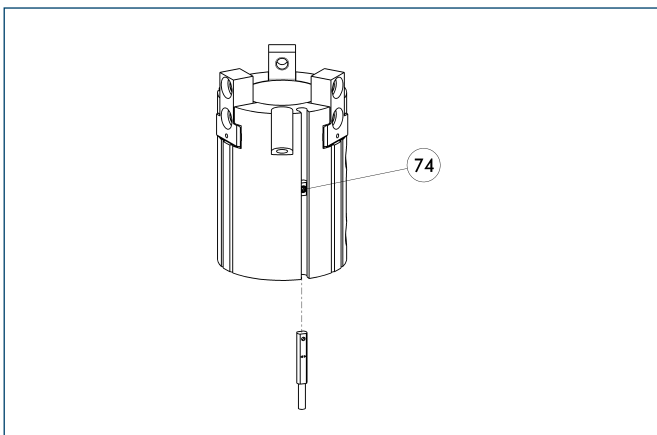


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | 24 Bolt circle |
| B, b Main/direct connection, gripper closing | 80 Depth of the centering sleeve hole in the matching part |
| ① Gripper connection | |
| ② Finger connection | |

Programmable magnetic switch



74 Stop for MMS-P

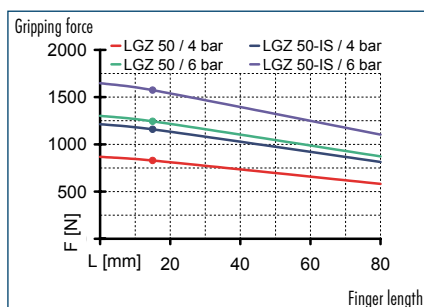
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMS-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

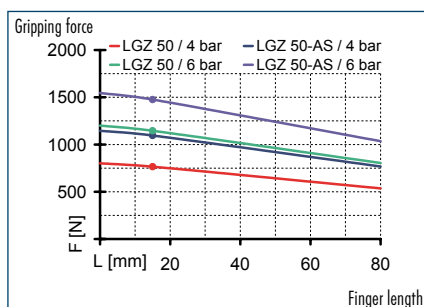
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



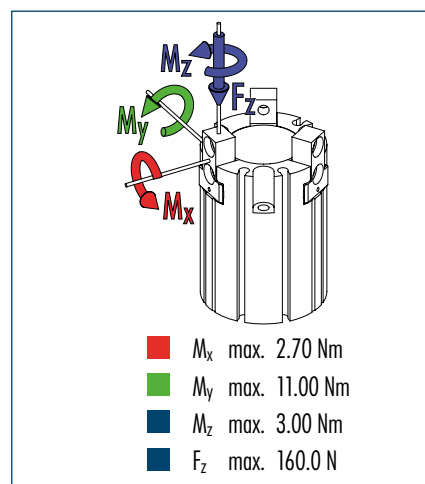
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

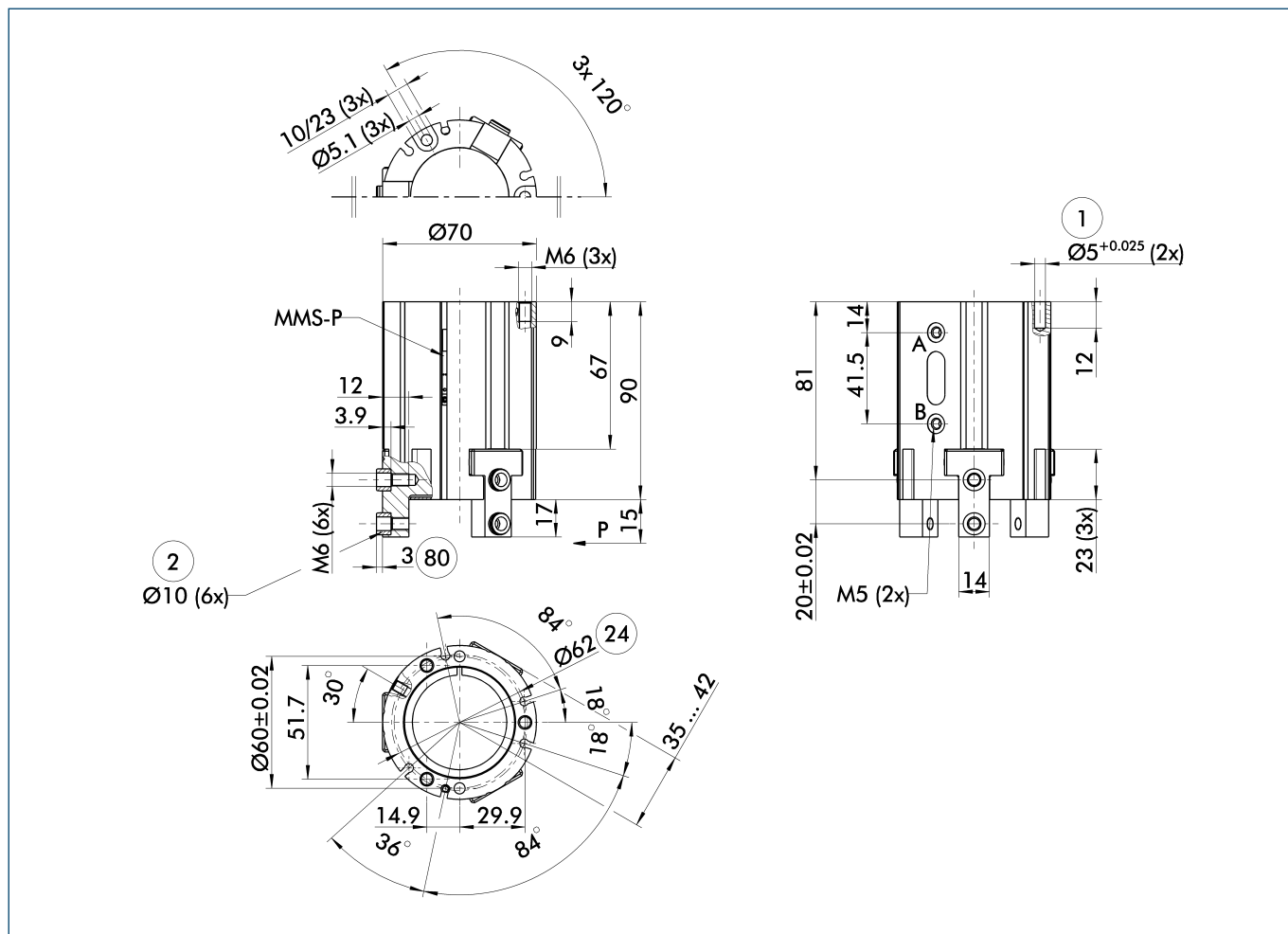


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		LGZ 50	LGZ 50-AS	LGZ 50-IS
ID		0312936	0312937	0312938
Stroke per finger	[mm]	7	7	7
Closing force	[N]	1140	1470	
Opening force	[N]	1320		1650
Min. spring force	[N]		330	330
Weight	[kg]	0.95	0.99	0.99
Recommended workpiece weight	[kg]	5.7	5.7	5.7
Air consumption per double stroke	[cm ³]	93	93	93
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.05/0.05	0.04/0.07	0.07/0.04
Max. permitted finger length	[mm]	80	80	80
Max. permitted weight per finger	[kg]	0.25	0.25	0.25
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02

Main view



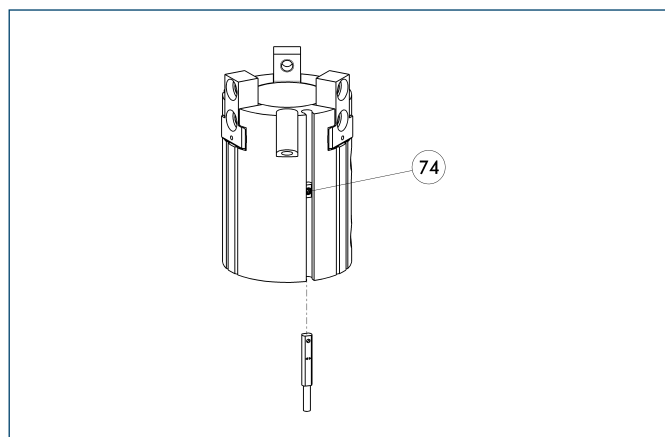
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 ① Gripper connection
 ② Finger connection

24 Bolt circle
 80 Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

② Per gripper one sensor (closer/NO) is required, optionally a cable extension.

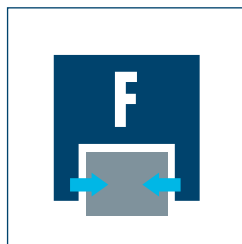




Sizes
40 ... 300



Weight
0.13 kg ... 46 kg



Gripping force
255 N ... 35500 N

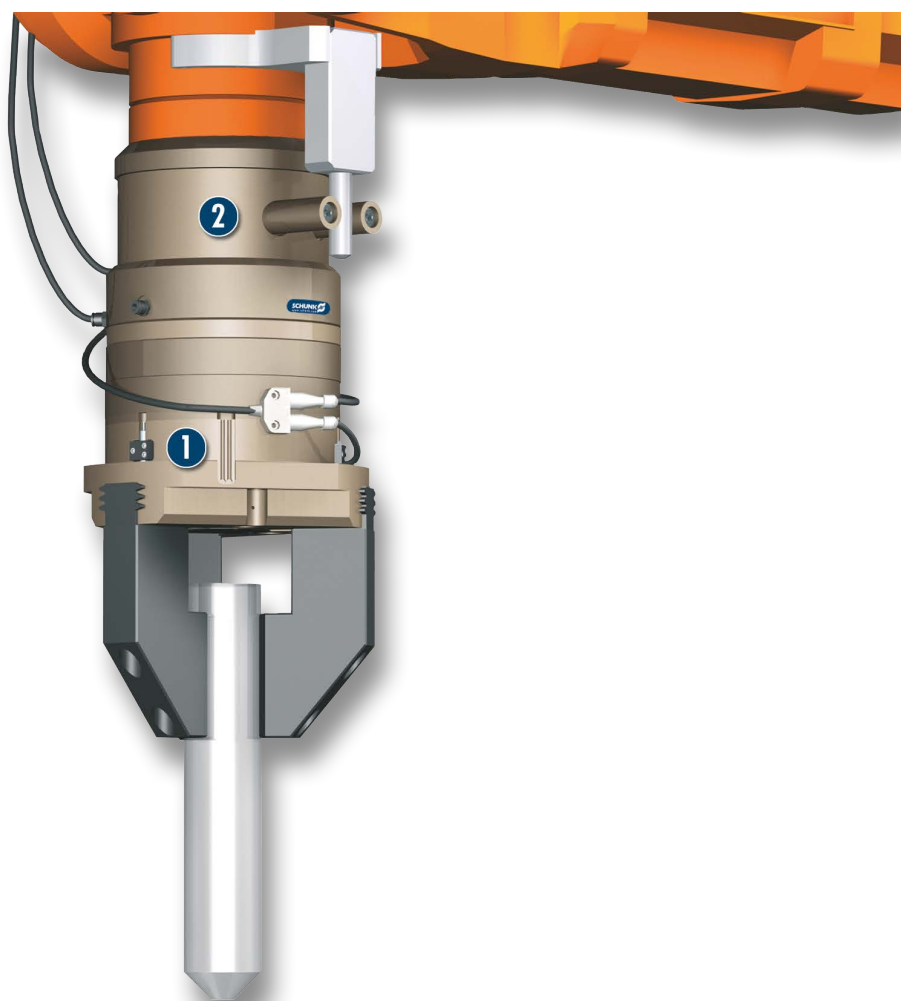


Stroke per finger
2 mm ... 35 mm



Workpiece weight
1.3 kg ... 127.5 kg

Application example



Insertion tool for assembling small to medium-sized axles. Thanks to the rotary feed-through, the axles can be turned several times to an unlimited extent ($> 360^\circ$). Slip ring contacts integrated in the rotary feed-through reliably supply the gripper with power.

- 1 3-Finger Centric Gripper PZN-plus
- 2 Rotary feed-through DDF

Universal Gripper

universal Concentric Gripper with high gripping force and maximum moments thanks to multi-tooth guidance

Field of application

Multi-purpose thanks to the diverse range of accessories. Can also be used in fields of application with special requirements to the gripper (temperature, chemical resistance, dirt, and many more).

Your advantages and benefits

Robust multi-tooth guidance

for precise handling

High maximum moments possible

suitable for using long gripper fingers

Wedge-hook design

for high power transmission and synchronized gripping

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessory program

for versatile interrogation possibilities and control of stroke position

Manifold options

for perfect adaption to your case of application (dust protection, high temperature, anti-corrosion and many more)



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

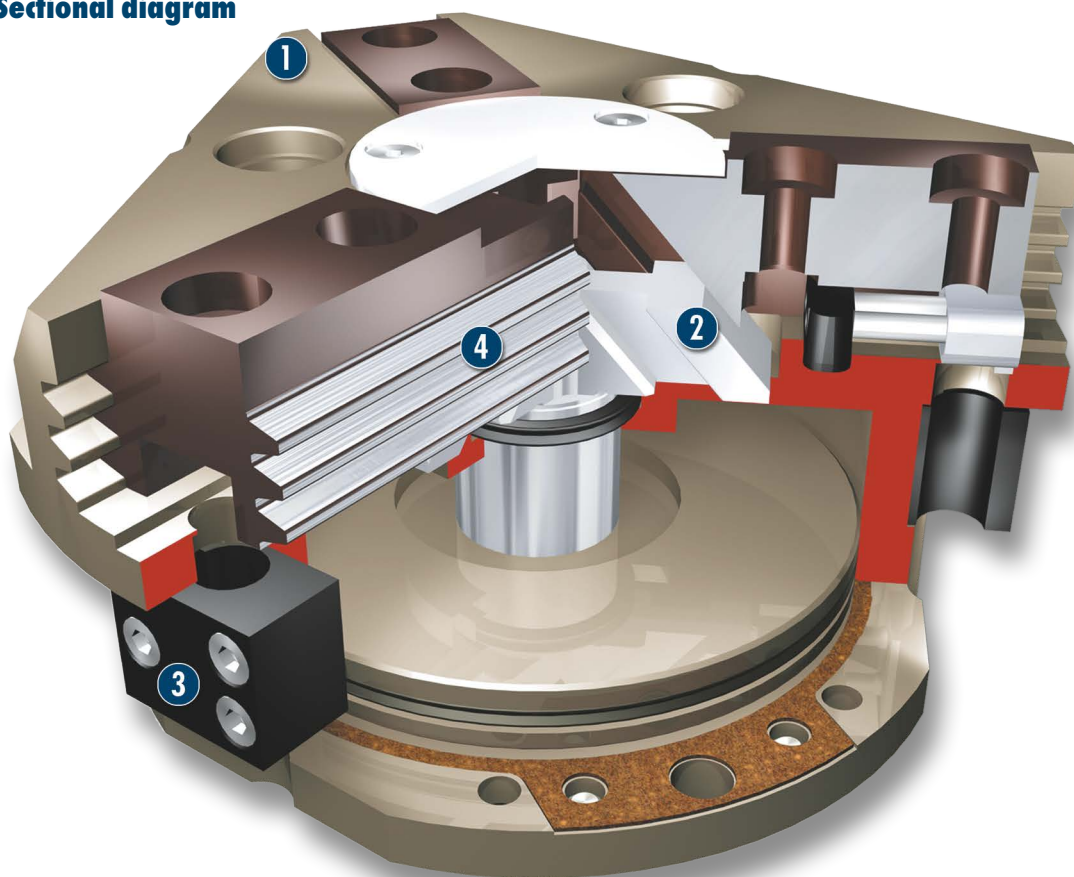
Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Sensor system**
Brackets for proximity switches and adjustable control cams in the housing
- 4 Multiple-tooth guidance**
precise gripping through base jaw guidance with a high load capacity and a minimum play

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Dust-protection version

Absolutely sealed, increased degree of protection against the ingress of materials, for use in dusty environments

Anti-corrosion version

for use in corrosion-inducing atmospheres

High-temperature version

for use in hot environments

Force intensified version

if higher gripping forces are required

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Sensor system



Fittings



Universal intermediate jaw



Compensation unit



Protection cover



Quick-change Jaw System



Pressure maintenance valve



Finger blanks



Force measuring jaws



Analog position sensor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

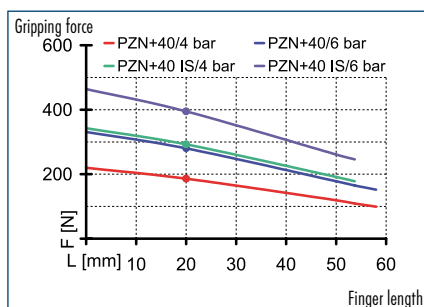
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

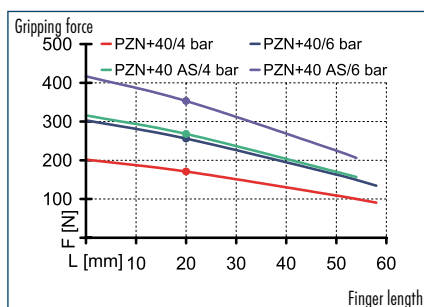
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



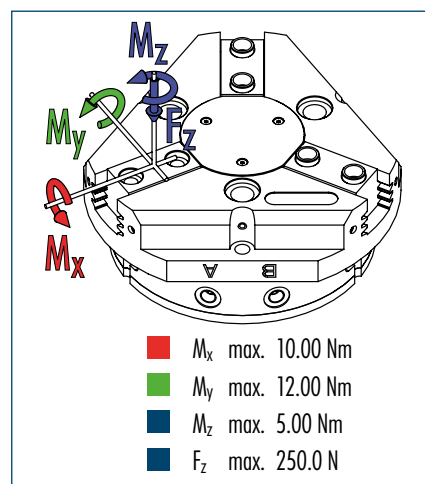
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

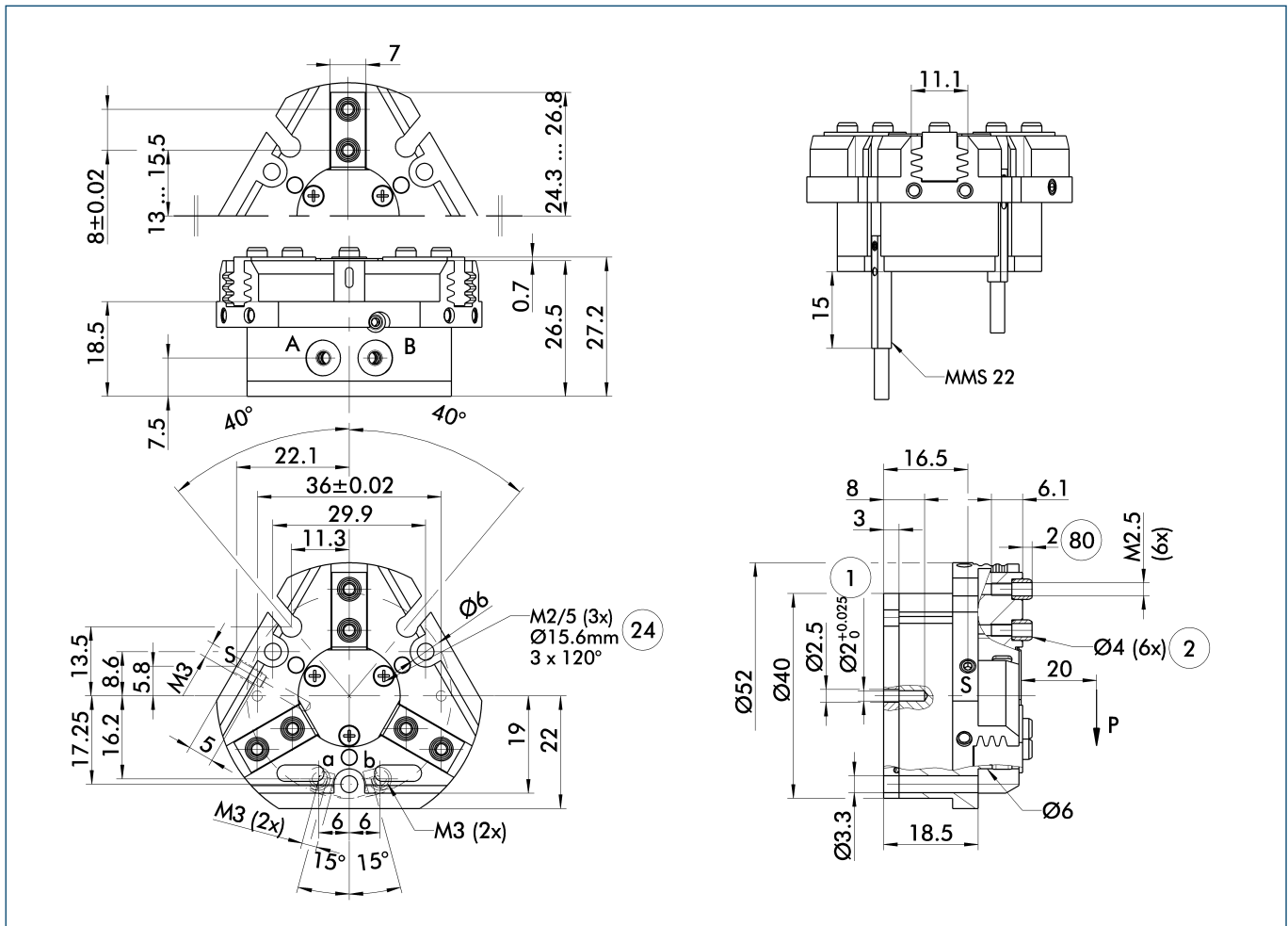
Technical data

Description		PZN-plus 40	PZN-plus 40-AS	PZN-plus 40-IS
ID		0303308	0303508	0303538
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	255	355	
Opening force	[N]	270		370
Min. spring force	[N]		100	100
Weight	[kg]	0.13	0.15	0.15
Recommended workpiece weight	[kg]	1.3	1.3	1.3
Air consumption per double stroke	[cm ³]	5	9	9
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	58	54	54
Max. permitted weight per finger	[kg]	0.1	0.1	0.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

OPTIONS and their characteristics

Dust-protection version		37303308	37303508	37303538
IP class		64	64	64
Weight	[kg]	0.16	0.18	0.18
Anti-corrosion version		38303308	38303508	38303538
High-temperature version		39303308	39303508	39303538
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 40-KVZ	PZN-plus 40-AS-KVZ	PZN-plus 40-IS-KVZ
ID		0372199	0372219	0372239
Closing force	[N]	410	510	
Opening force	[N]	432		532
Weight	[kg]	0.19	0.21	0.21
Maximum pressure	[bar]	8	6	6
Max. permitted finger length	[mm]	50	40	40
Precision version		0303338	0303488	

Main view

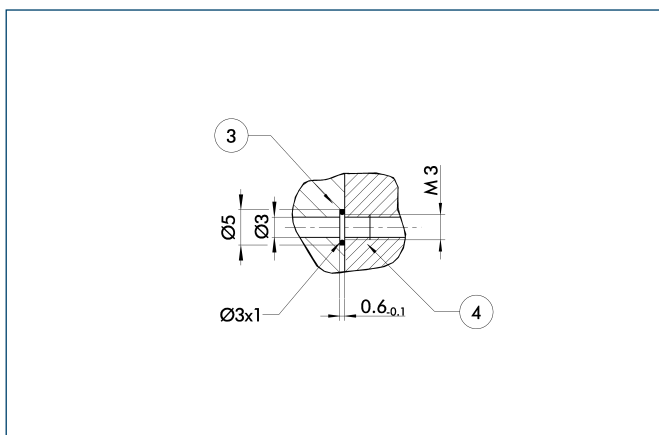


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 24 | Bolt circle |
| B, b | Main/direct connection, gripper closing | 80 | Depth of the centering sleeve hole in the matching part |
| S | Air purge connection | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

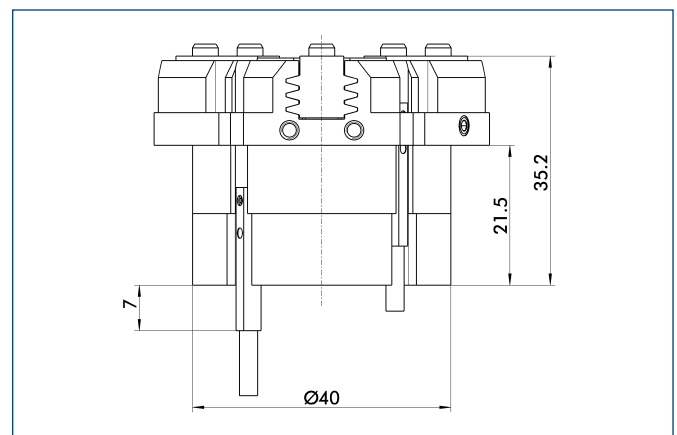
Hose-free direct connection



- ③ Adapter
- ④ Gripper

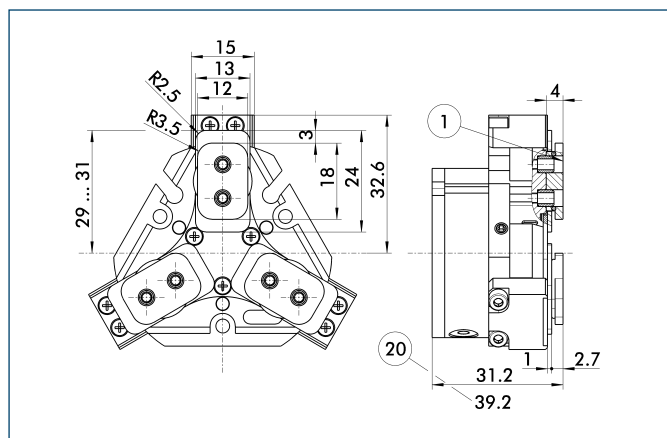
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

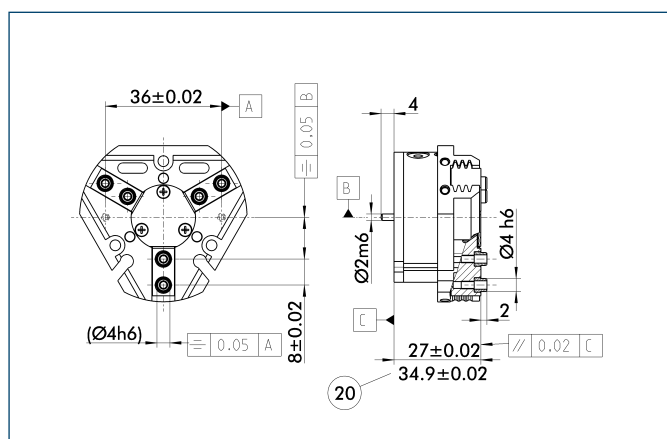
Dust-protection version



- ① Gripper connection
- ②⑩ For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

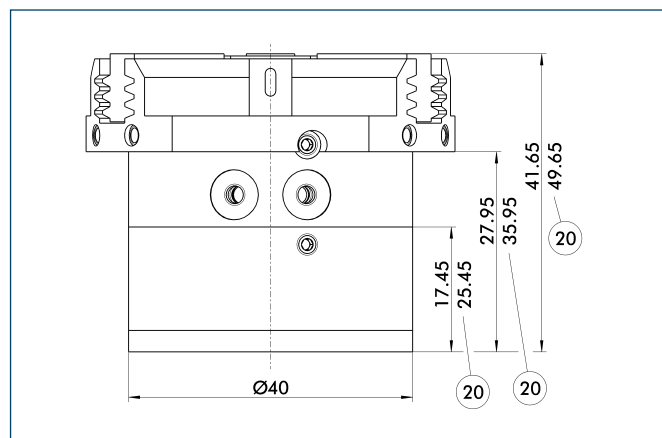
Precision version



- ②⑩ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

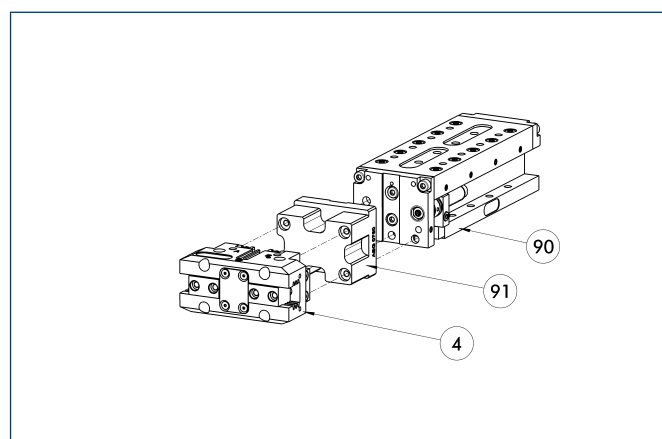
Force intensified version



- ②⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

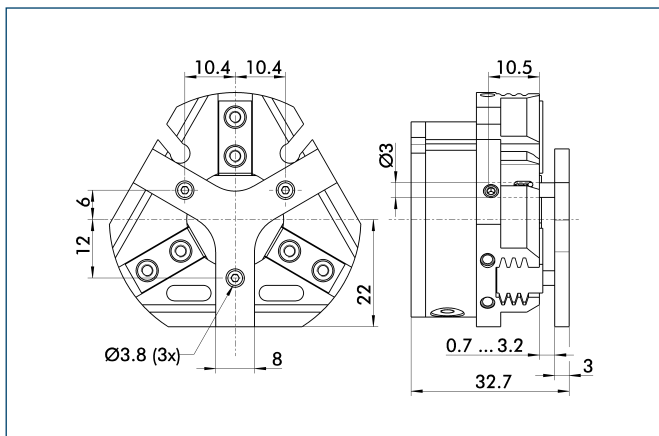
Modular Assembly Automation



- ④ Gripper
- ⑨① CLM
- ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

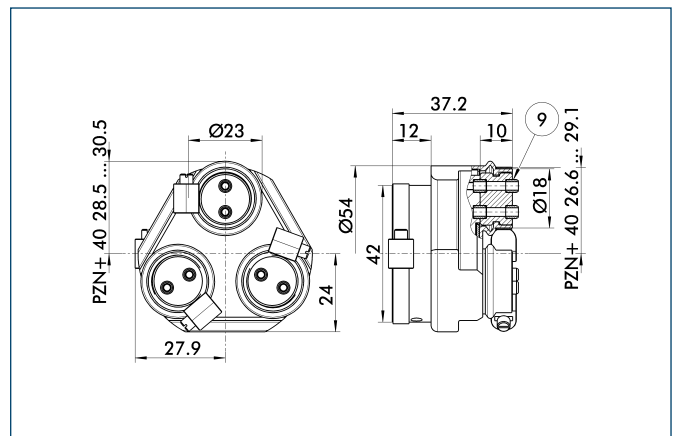
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus 40	0303718	2.5 mm	5 N

Protection cover

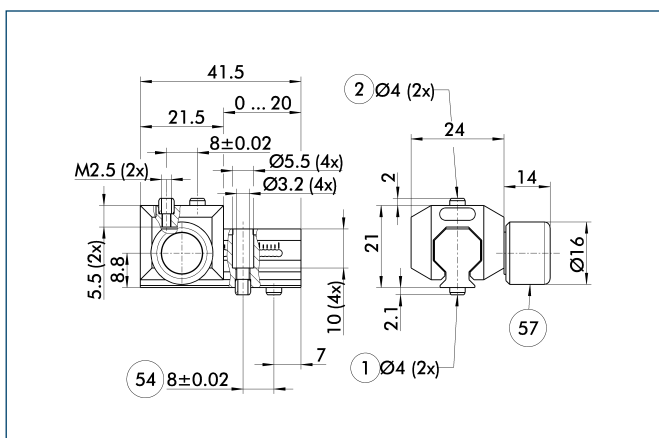


⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 40	0303478	2

Universal intermediate jaw



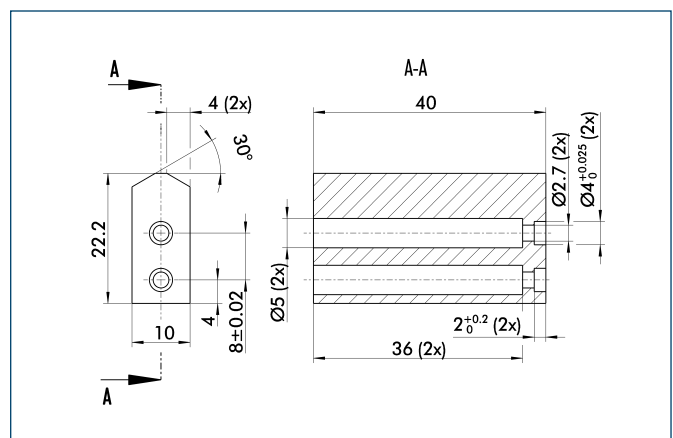
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 40	0300040	1 mm

① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Finger blanks

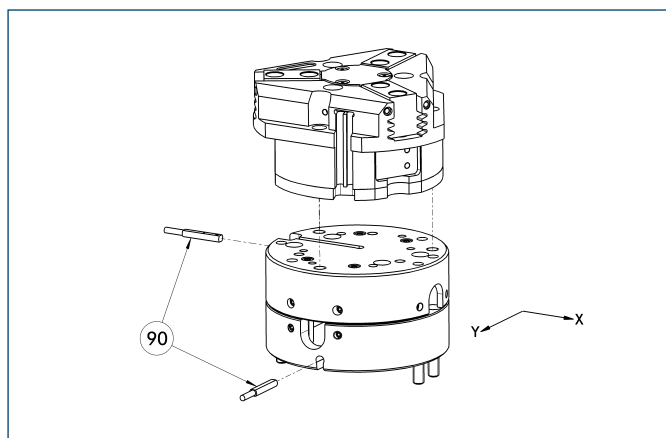


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 40	0300008	Aluminum	1
SBR-plus 40	0300018	16 MnCr 5	1



Compensation unit with spring reset

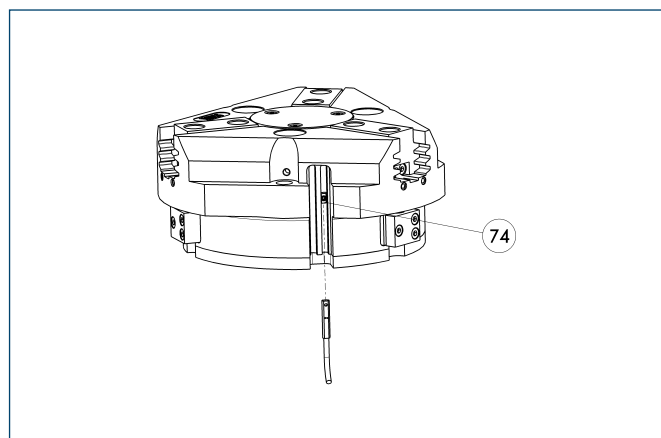


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Programmable magnetic switch



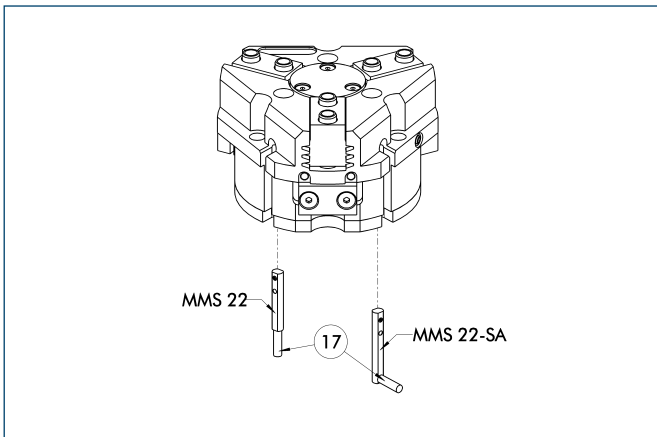
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

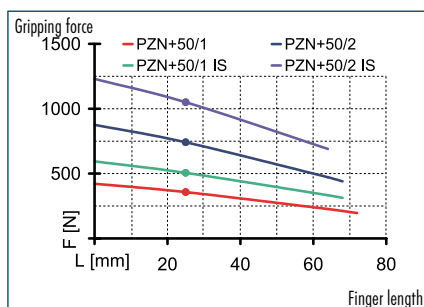
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



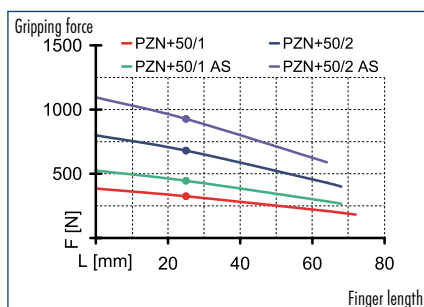
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



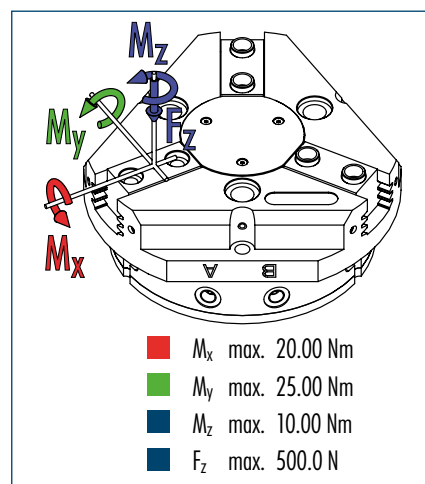
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

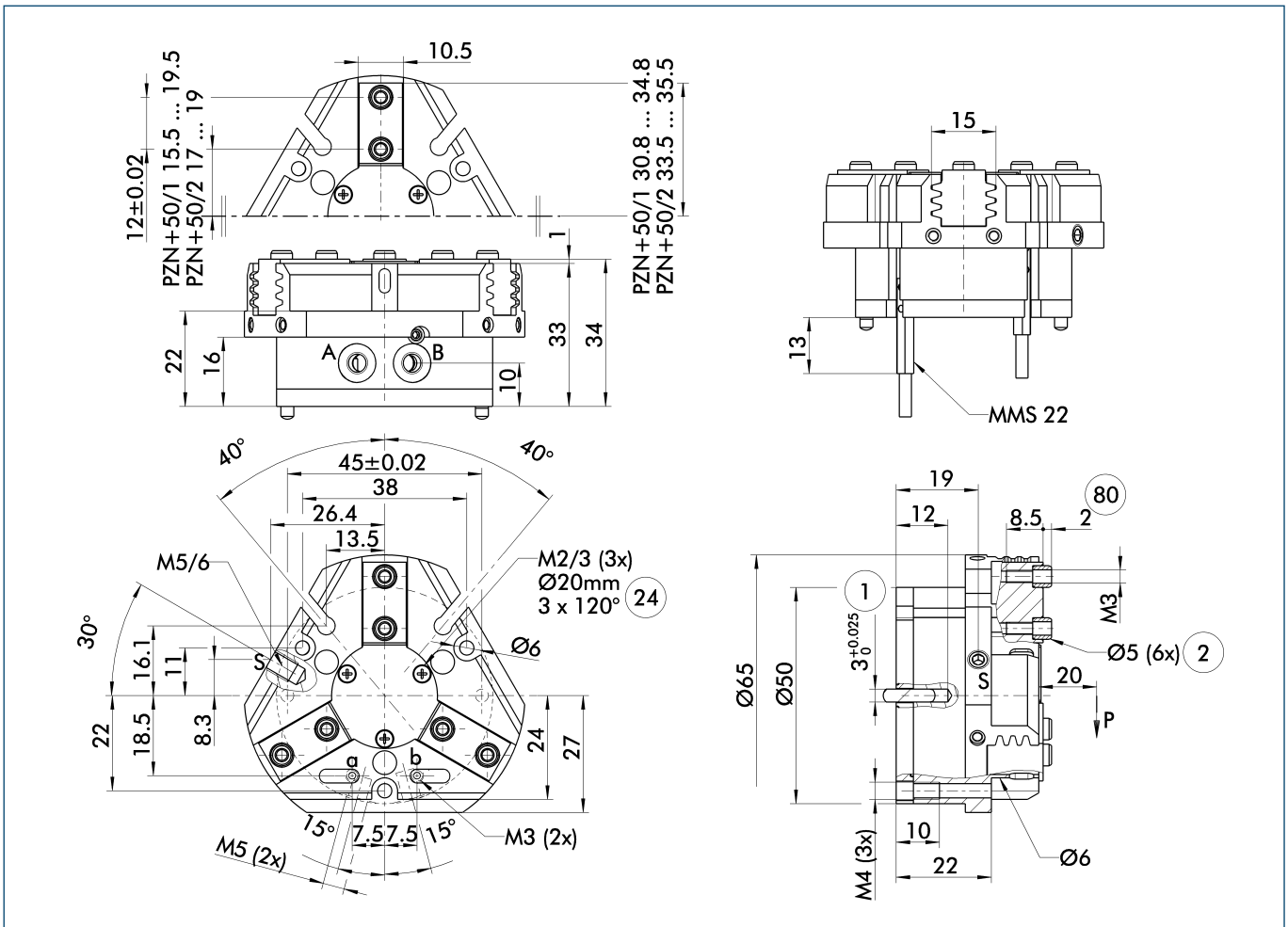
Technical data

Description		PZN-plus 50-1	PZN-plus 50-2	PZN-plus 50-1-AS	PZN-plus 50-2-AS	PZN-plus 50-1-IS	PZN-plus 50-2-IS
ID		0303309	0303409	0303509	0303609	0303539	0303639
Stroke per finger	[mm]	4	2	4	2	4	2
Closing force	[N]	325	680	445	925		
Opening force	[N]	355	740			505	1050
Min. spring force	[N]			120	245	150	310
Weight	[kg]	0.27	0.27	0.35	0.35	0.35	0.35
Recommended workpiece weight	[kg]	1.65	3.4	1.65	3.4	1.65	3.4
Air consumption per double stroke	[cm³]	9	9	18	18	18	18
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Max. permitted finger length	[mm]	72	68	68	68	64	64
Max. permitted weight per finger	[kg]	0.18	0.18	0.18	0.18	0.18	0.18
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version	37303309	37303409	37303509	37303609	37303539	37303639
IP class	64	64	64	64	64	64
Weight	[kg]	0.33	0.33	0.41	0.41	0.41
Anti-corrosion version	38303309	38303409	38303509	38303609	38303539	38303639
High-temperature version	39303309	39303409	39303509	39303609	39303539	39303639
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version	PZN-plus 50-1-KVZ	PZN-plus 50-2-KVZ	PZN-plus 50-1-AS-KVZ		PZN-plus 50-1-IS-KVZ	
ID	0372200	0372210	0372220		0372240	
Closing force	[N]	520	1090	640		
Opening force	[N]	570	1185		720	
Weight	[kg]	0.38	0.38	0.46	0.46	
Maximum pressure	[bar]	8	8	6	6	
Max. permitted finger length	[mm]	64	50	50	50	
Precision version	0303339	0303439	0303489	0303589		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

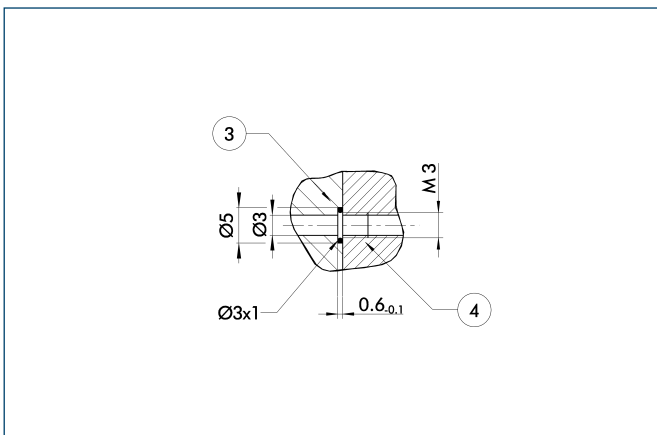
S Air purge connection

① Gripper connection

② Finger connection

②④ Bolt circle
⑧⑩ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

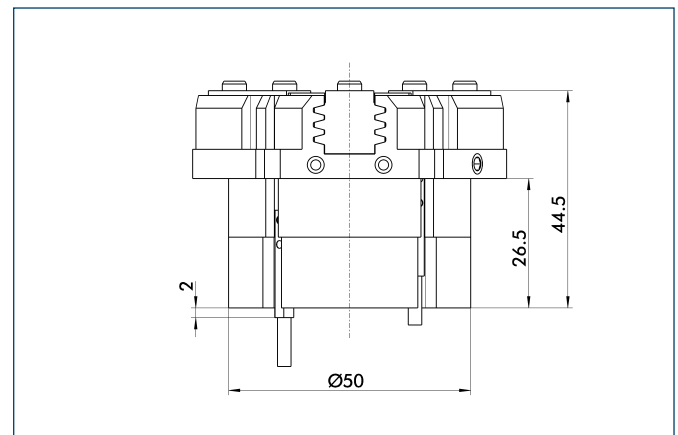


③ Adapter

④ Gripper

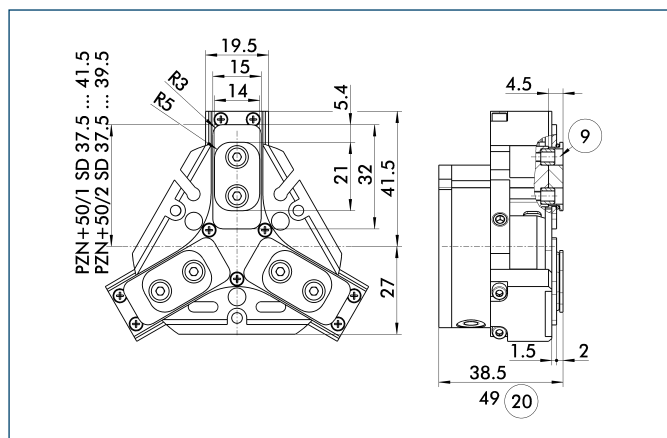
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

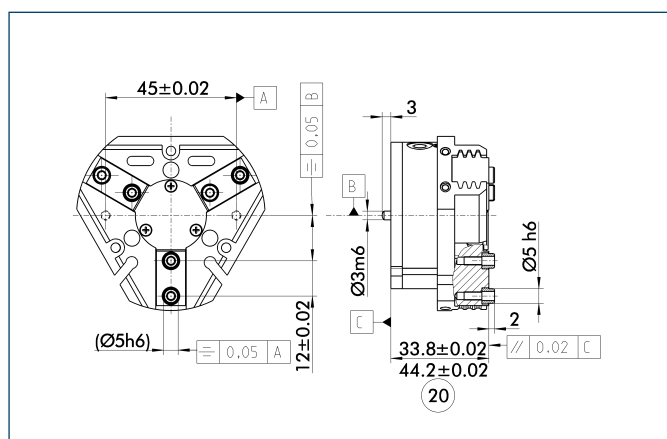
Dust-protection version



⑨ For mounting screw connection diagram, see basic version ②① For AS / IS version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

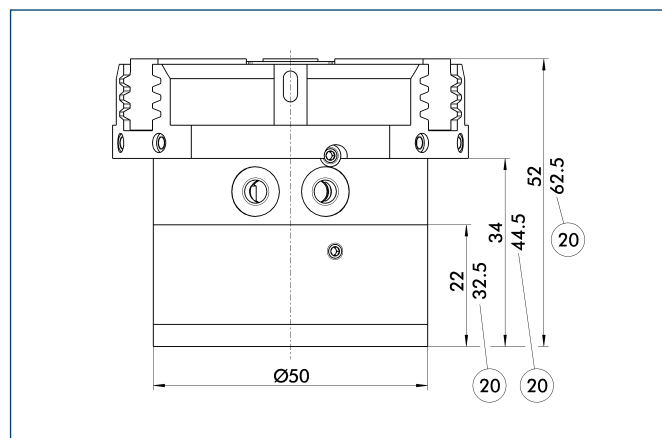
Precision version



②① For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

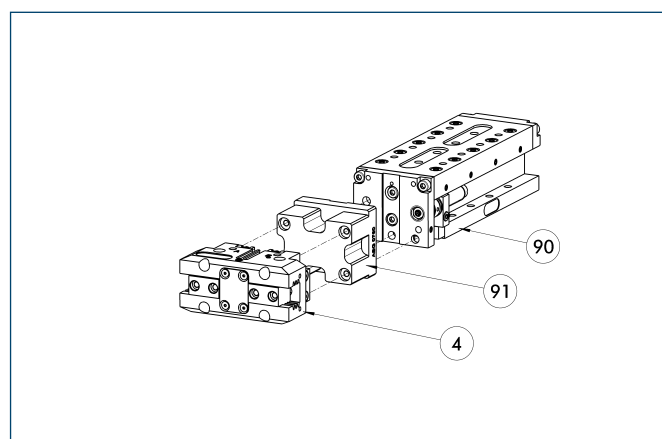
Force intensified version



②① For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

Modular Assembly Automation

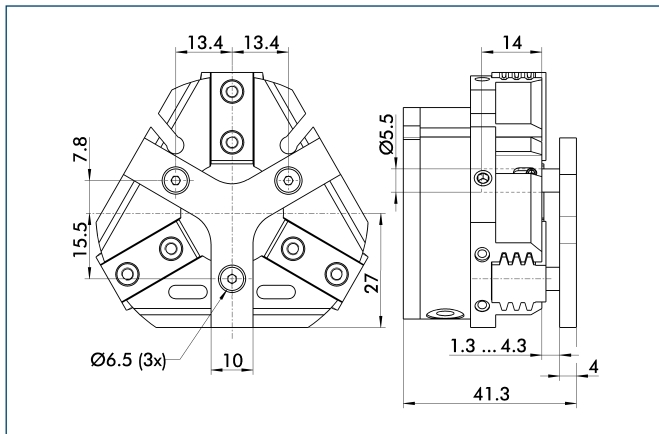


④ Gripper
⑨① CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Spring-loaded pressure piece

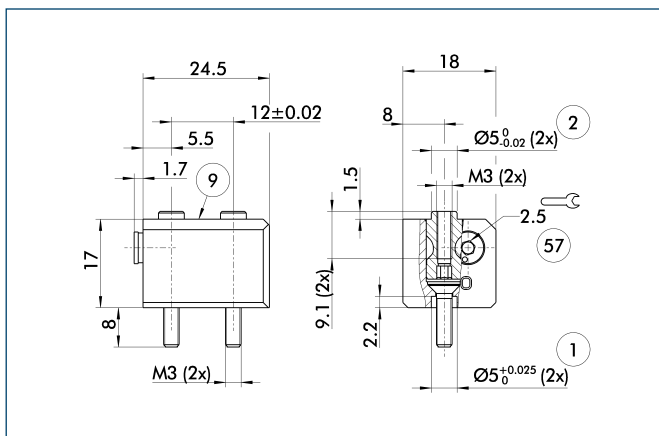


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus 50	0303719	3 mm	12 N

- ① The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Quick-change Jaw System



- ① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
⑤⑦ Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

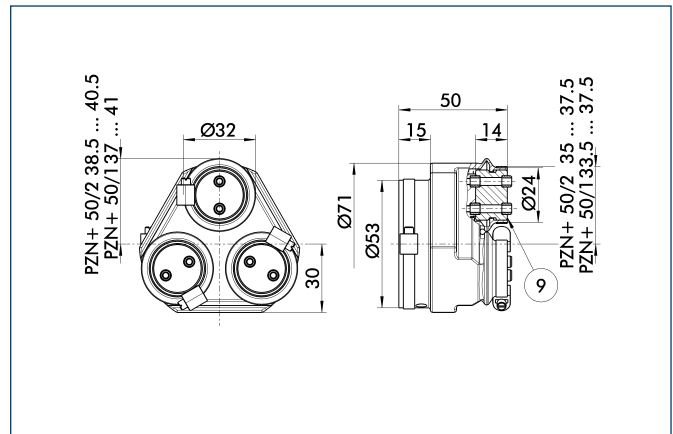
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWs-U, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Protection cover

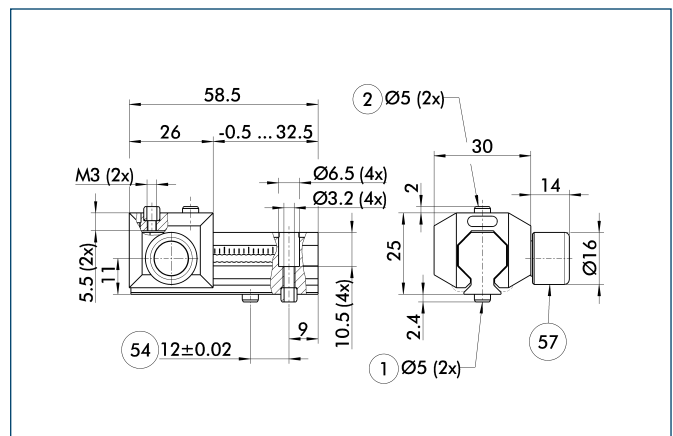


- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 50	0303479	2

Universal intermediate jaw



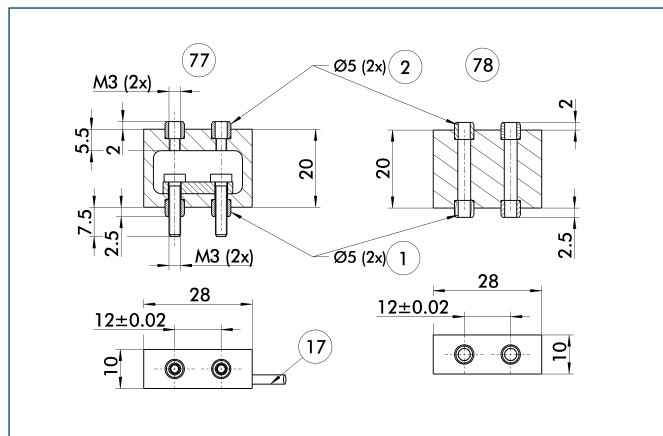
- ① Gripper connection
② Finger connection
⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 50	0300041	1.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

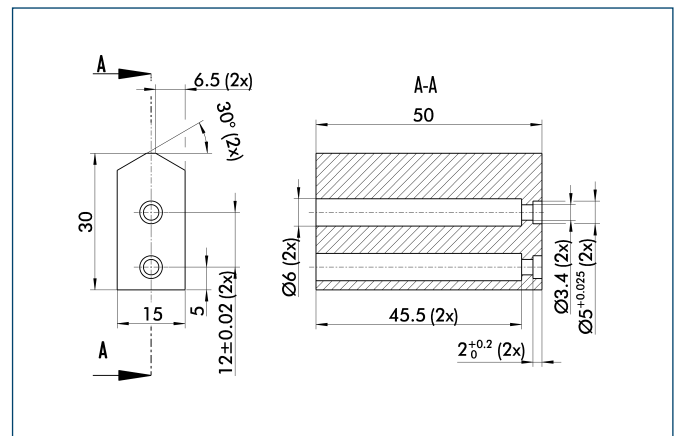


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

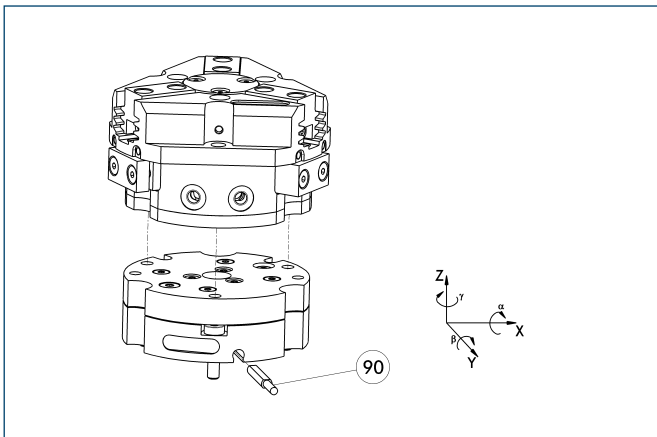
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1

Tolerance compensation unit

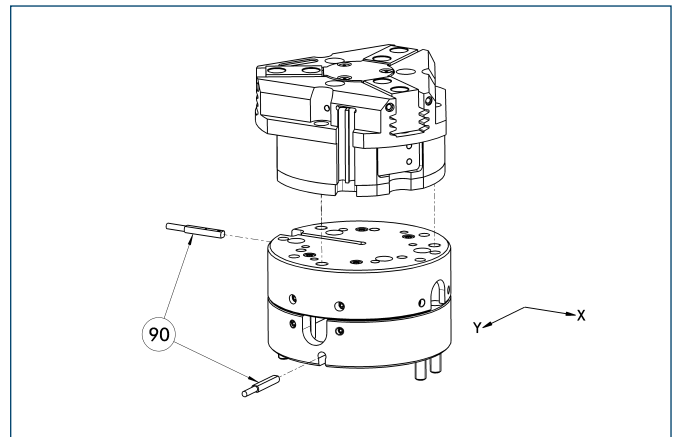


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-0V-Z	0324749	No	

Compensation unit with spring reset

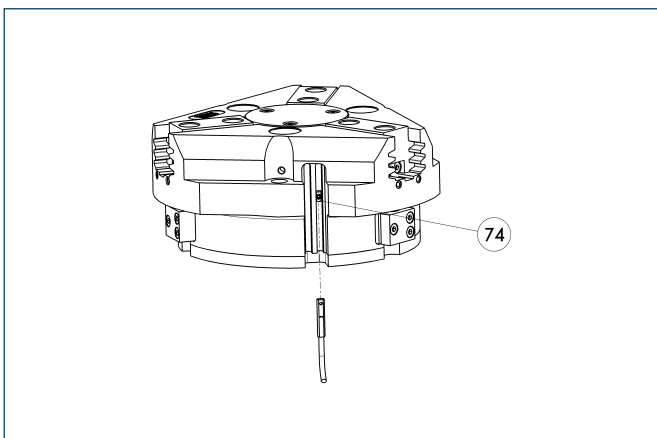


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	±2 mm	1 N
AGE-F-XY-040-2	0324921	±2 mm	2.5 N
AGE-F-XY-040-3	0324922	±2 mm	3.3 N

Programmable magnetic switch



74 Stop for MMS-P

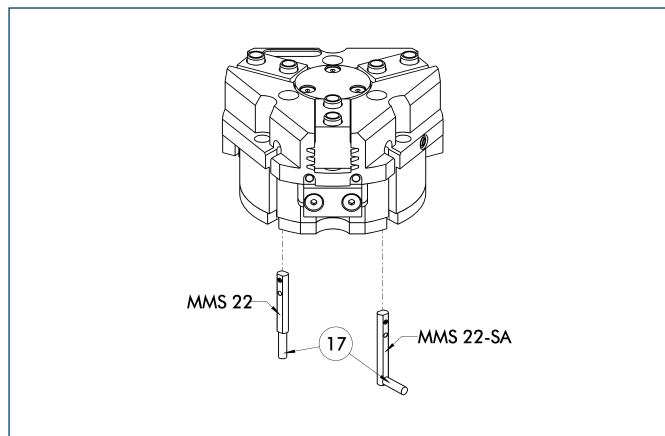
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



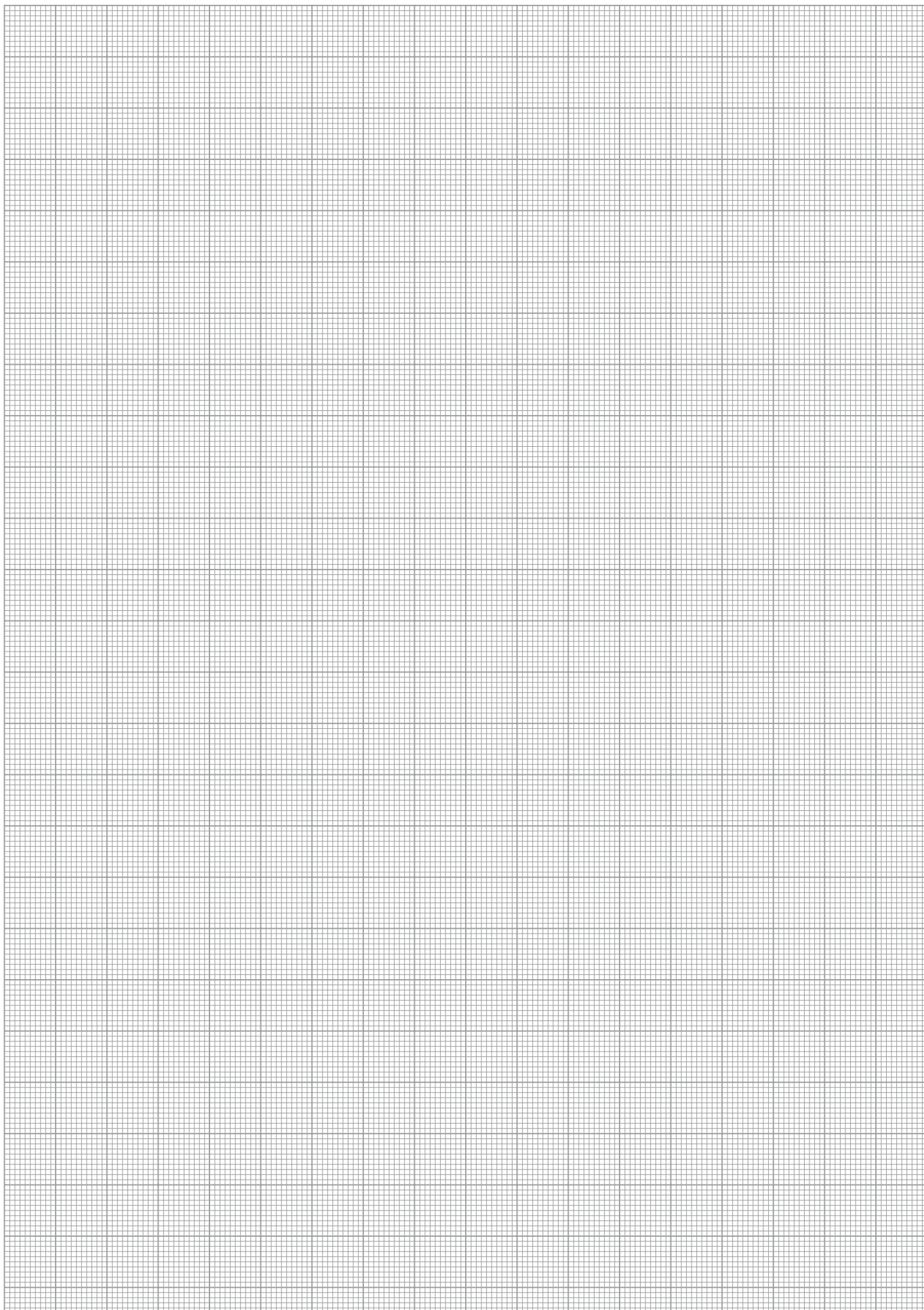
17 Cable outlet

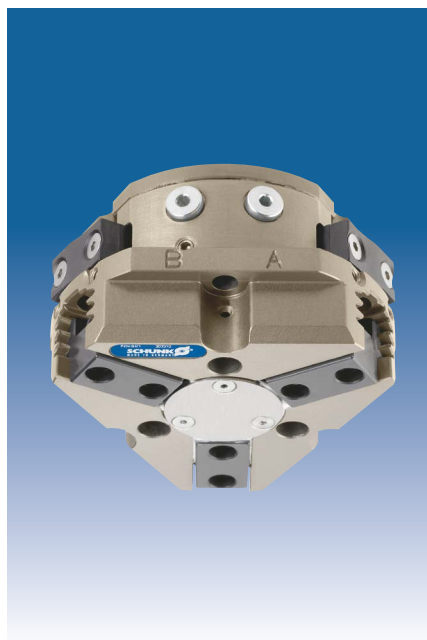
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

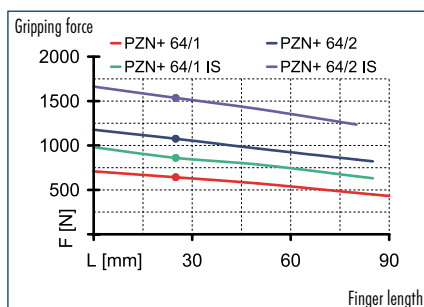
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

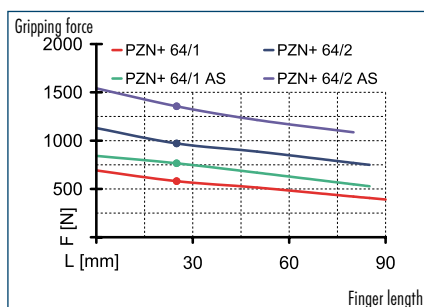




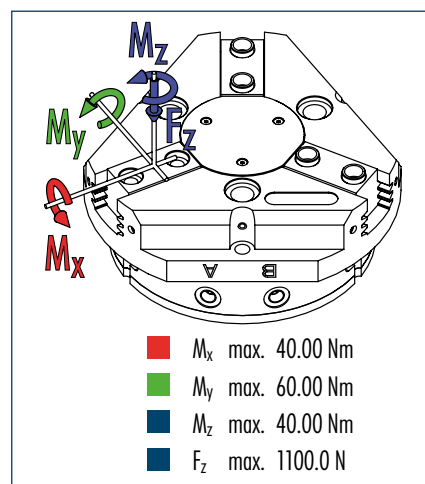
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

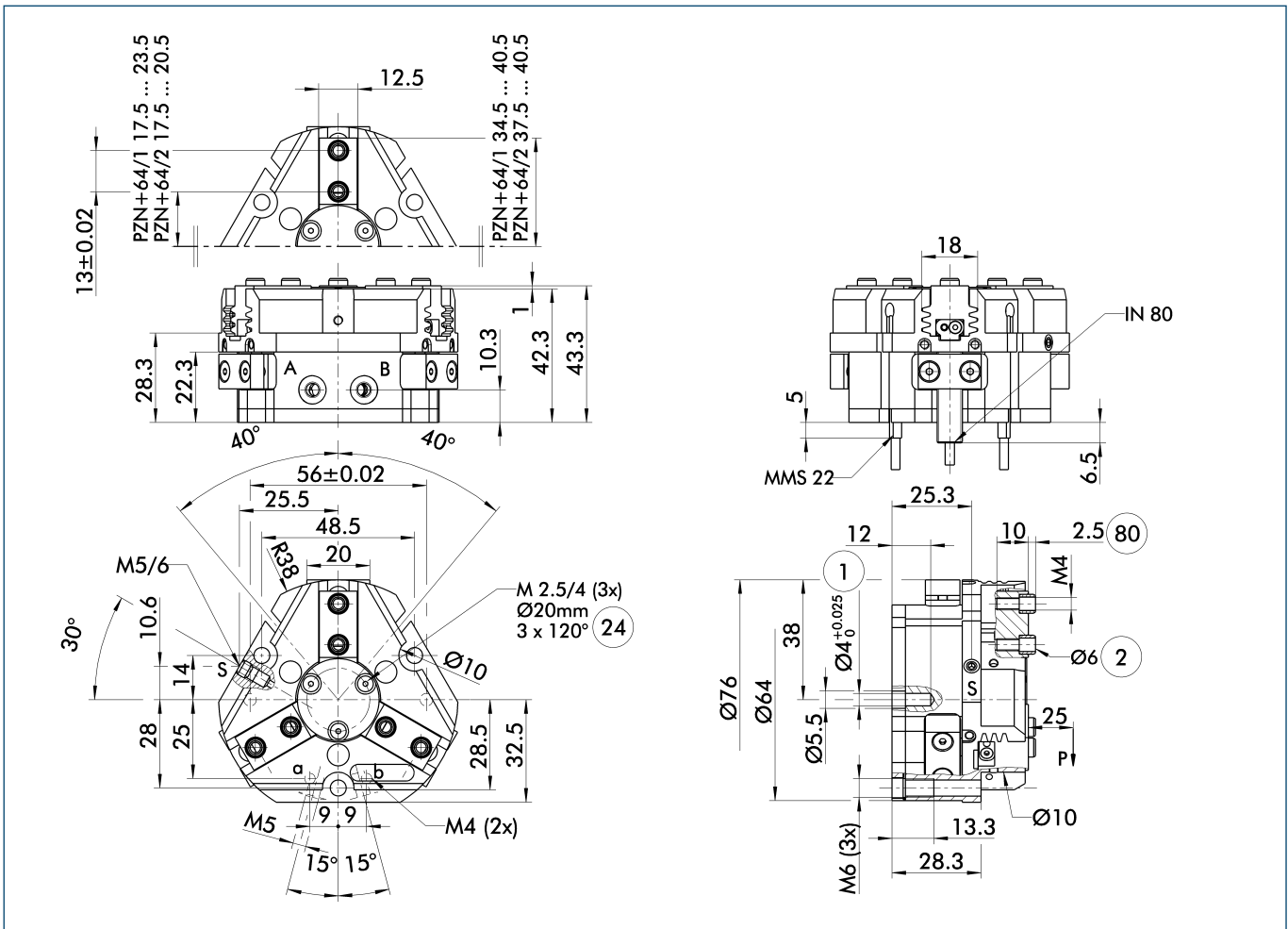
Technical data

Description		PZN-plus 64-1	PZN-plus 64-2	PZN-plus 64-1-AS	PZN-plus 64-2-AS	PZN-plus 64-1-IS	PZN-plus 64-2-IS
ID		0303310	0303410	0303510	0303610	0303540	0303640
Stroke per finger	[mm]	6	3	6	3	6	3
Closing force	[N]	580	970	765	1285		
Opening force	[N]	640	1075			860	1535
Min. spring force	[N]			185	315	220	460
Weight	[kg]	0.43	0.43	0.54	0.54	0.54	0.54
Recommended workpiece weight	[kg]	2.9	4.85	2.9	4.85	2.9	4.85
Air consumption per double stroke	[cm ³]	25	25	48	48	48	25
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Max. permitted finger length	[mm]	90	85	85	80	85	80
Max. permitted weight per finger	[kg]	0.35	0.35	0.35	0.35	0.35	0.35
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303310	37303410	37303510	37303610	37303540	37303640
IP class		64	64	64	64	64	64
Weight	[kg]	0.6	0.6	0.71	0.71	0.71	0.71
Anti-corrosion version		38303310	38303410	38303510	38303610	38303540	38303640
High-temperature version		39303310	39303410	39303510	39303610	39303540	39303640
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 64-1-KVZ	PZN-plus 64-2-KVZ	PZN-plus 64-1-AS-KVZ		PZN-plus 64-1-IS-KVZ	
ID		0372201	0372211	0372221		0372241	
Closing force	[N]	1045	1745	1230			
Opening force	[N]	1150	1935			1370	
Weight	[kg]	0.7	0.7	0.8		0.8	
Maximum pressure	[bar]	8	8	6		6	
Max. permitted finger length	[mm]	80	64	64		64	
Precision version		0303340	0303440	0303490	0303590		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

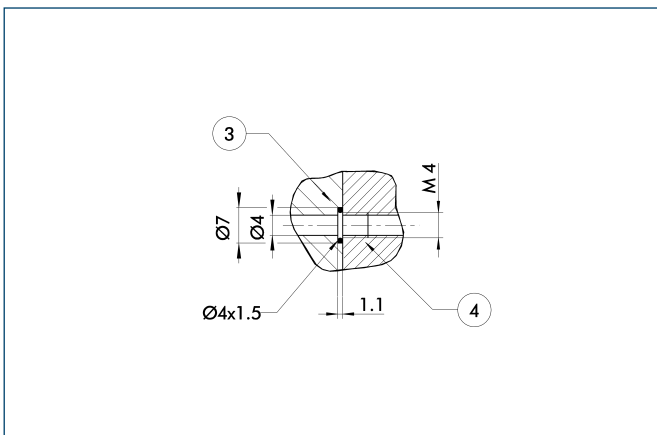
① Gripper connection

② Finger connection

24 Bolt circle

80 Depth of the centering sleeve hole in the matching part

Hose-free direct connection

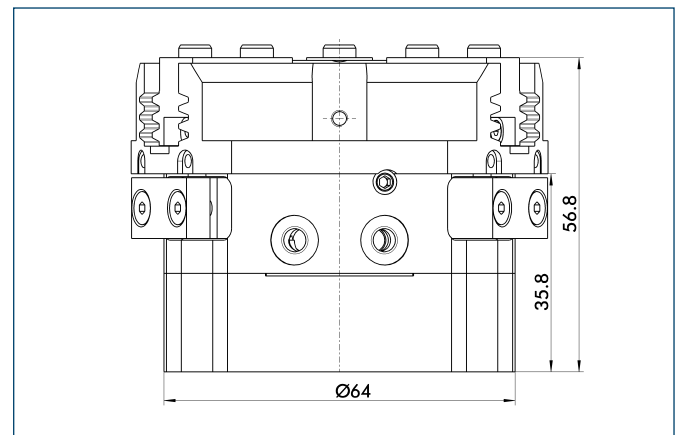


③ Adapter

④ Gripper

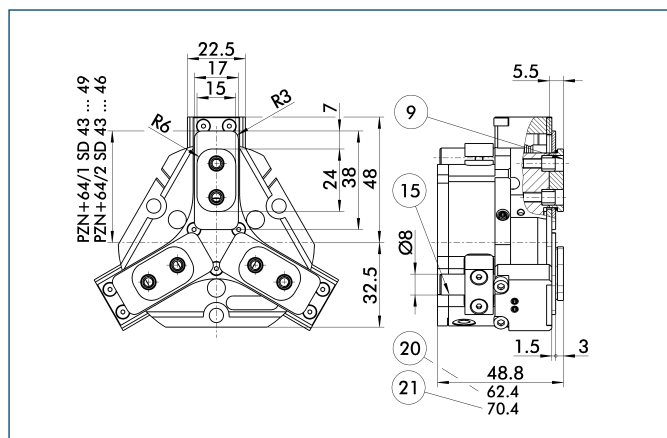
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

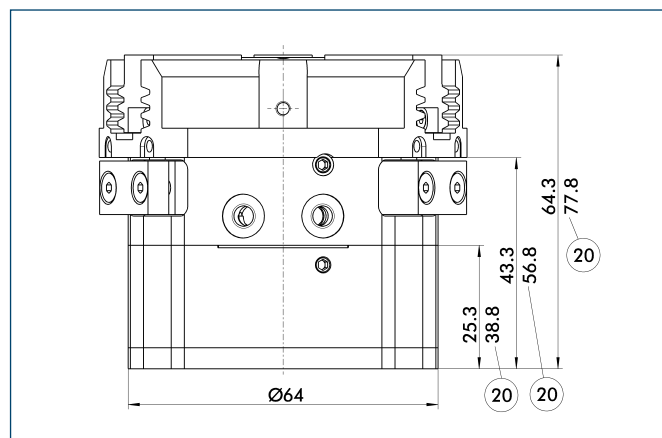
Dust-protection version



- 9 For mounting screw connection diagram, see basic version
 15 Sealing bolt
 20 For AS / IS version
 21 Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

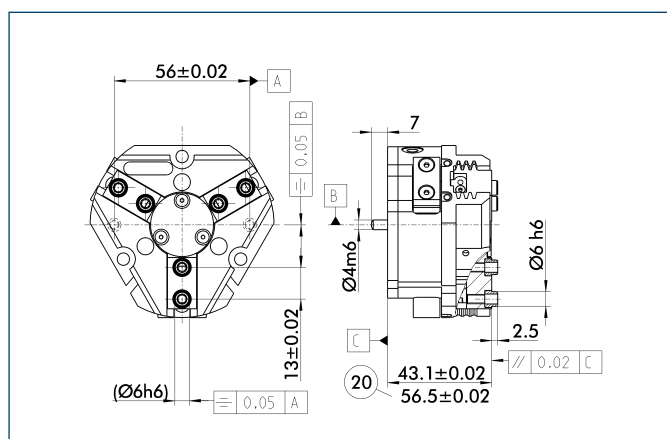
Force intensified version



- 20 For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

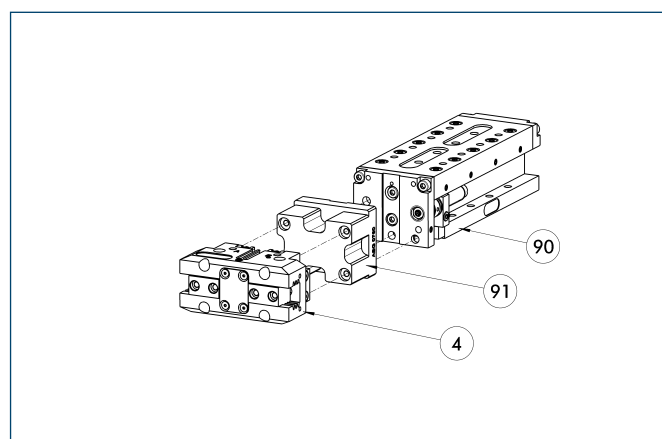
Precision version



- 20 For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

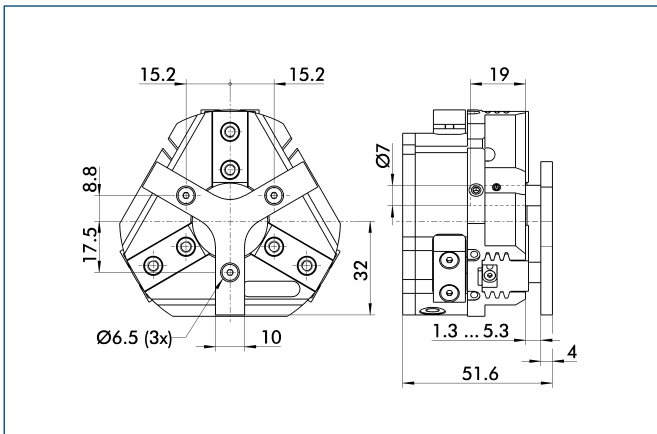
Modular Assembly Automation



- 4 Gripper
 90 CLM
 91 ASG


This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Spring-loaded pressure piece

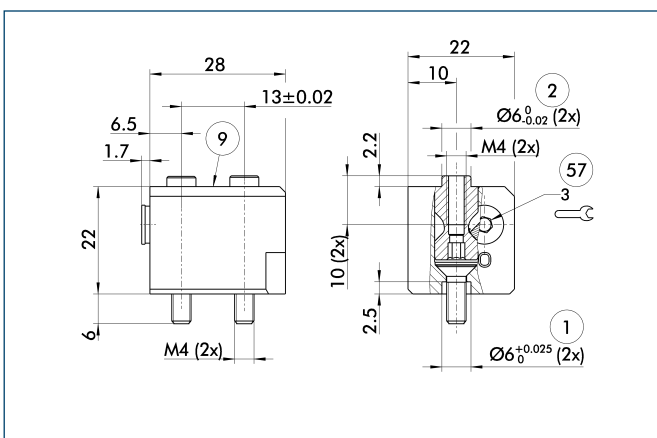


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 64	0303720	4 mm	11 N

-  The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Quick-change Jaw System



- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

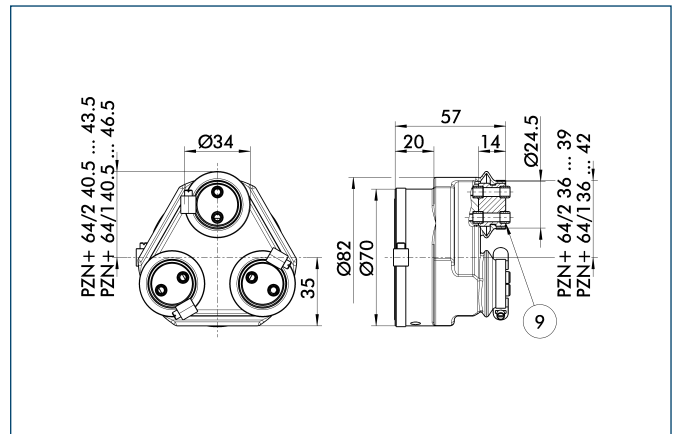
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Protection cover

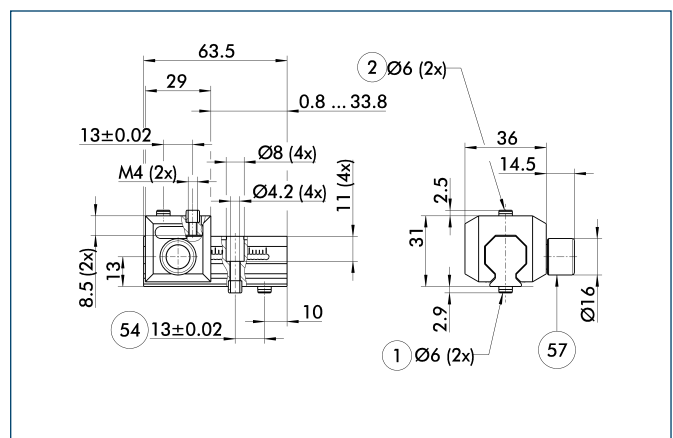


- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 64	0303480	2

Universal intermediate jaw



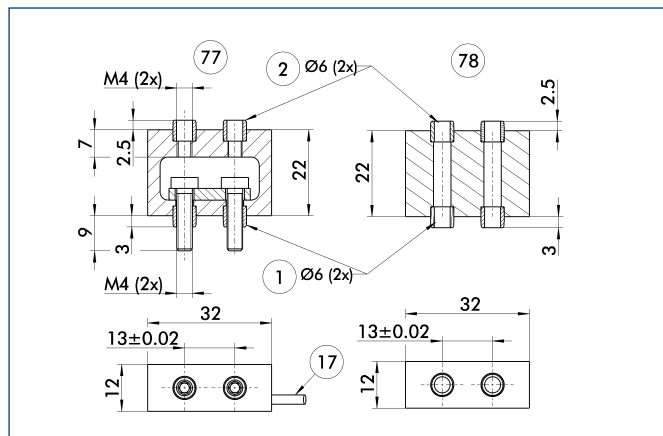
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 64	0300042	1.5 mm

- i** The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

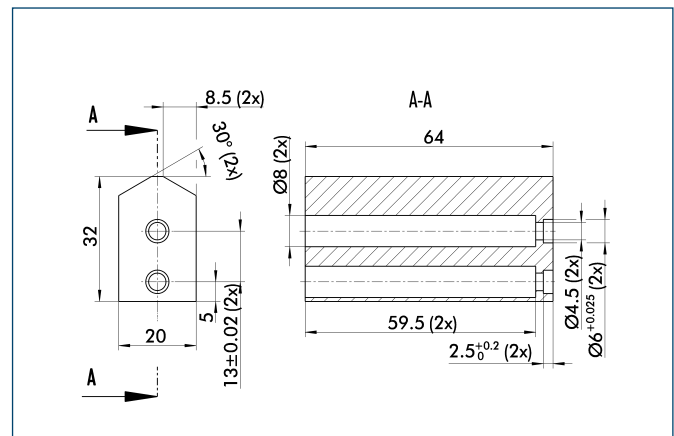


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

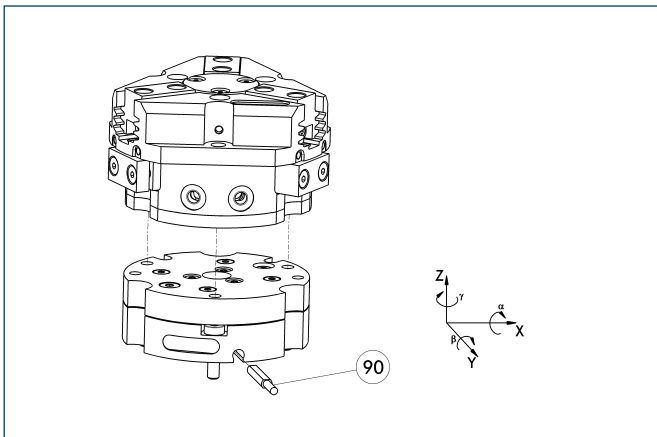
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1

Tolerance compensation unit

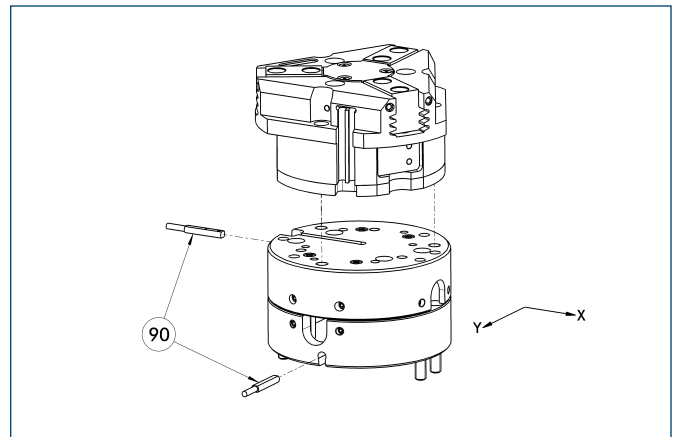


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-Z	0324766	Yes	
TCU-064-3-OV-Z	0324767	No	

Compensation unit with spring reset

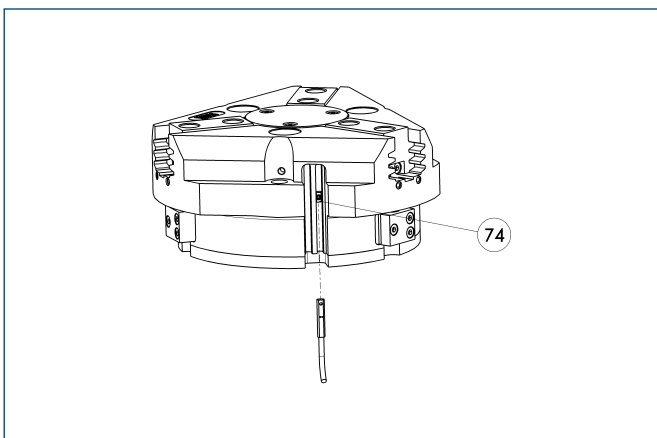


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

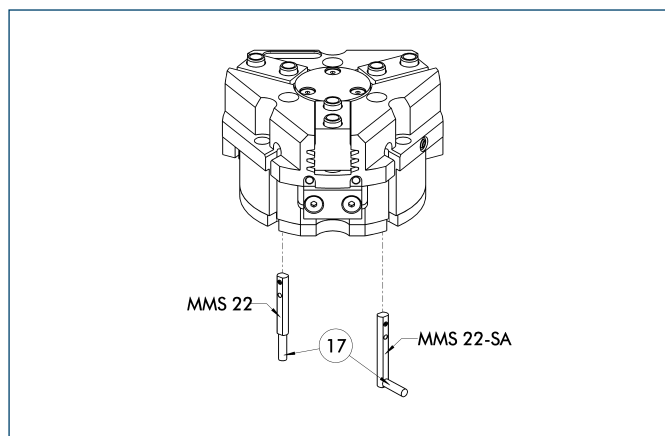
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

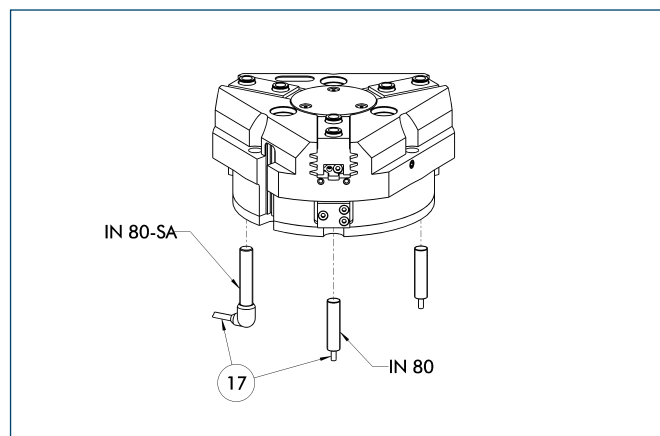
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



17 Cable outlet

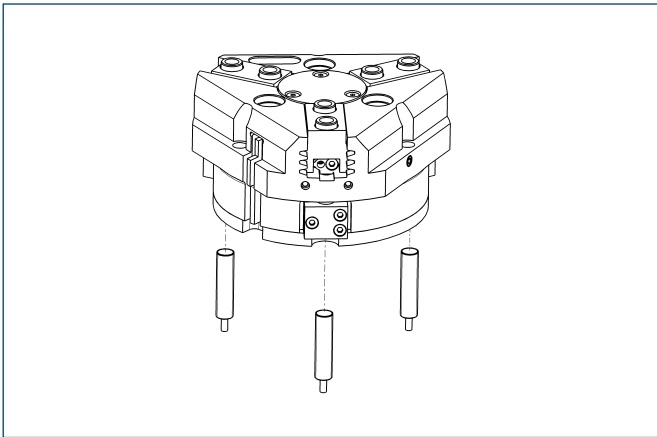
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

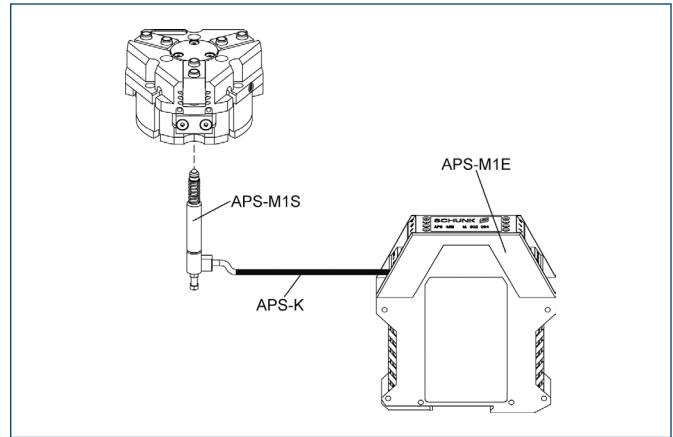


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

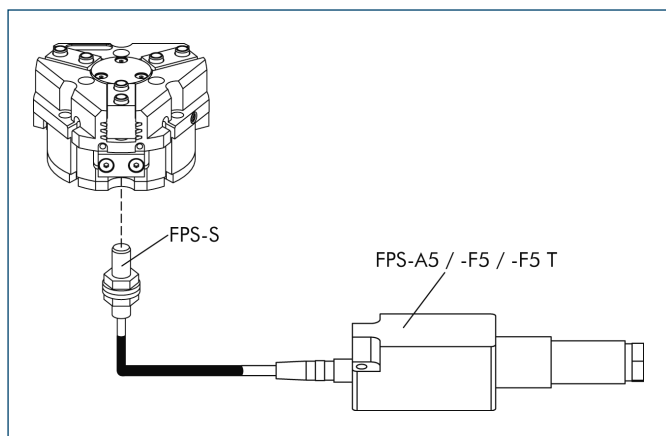


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
AS-APS-M1-64/2	0302076
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

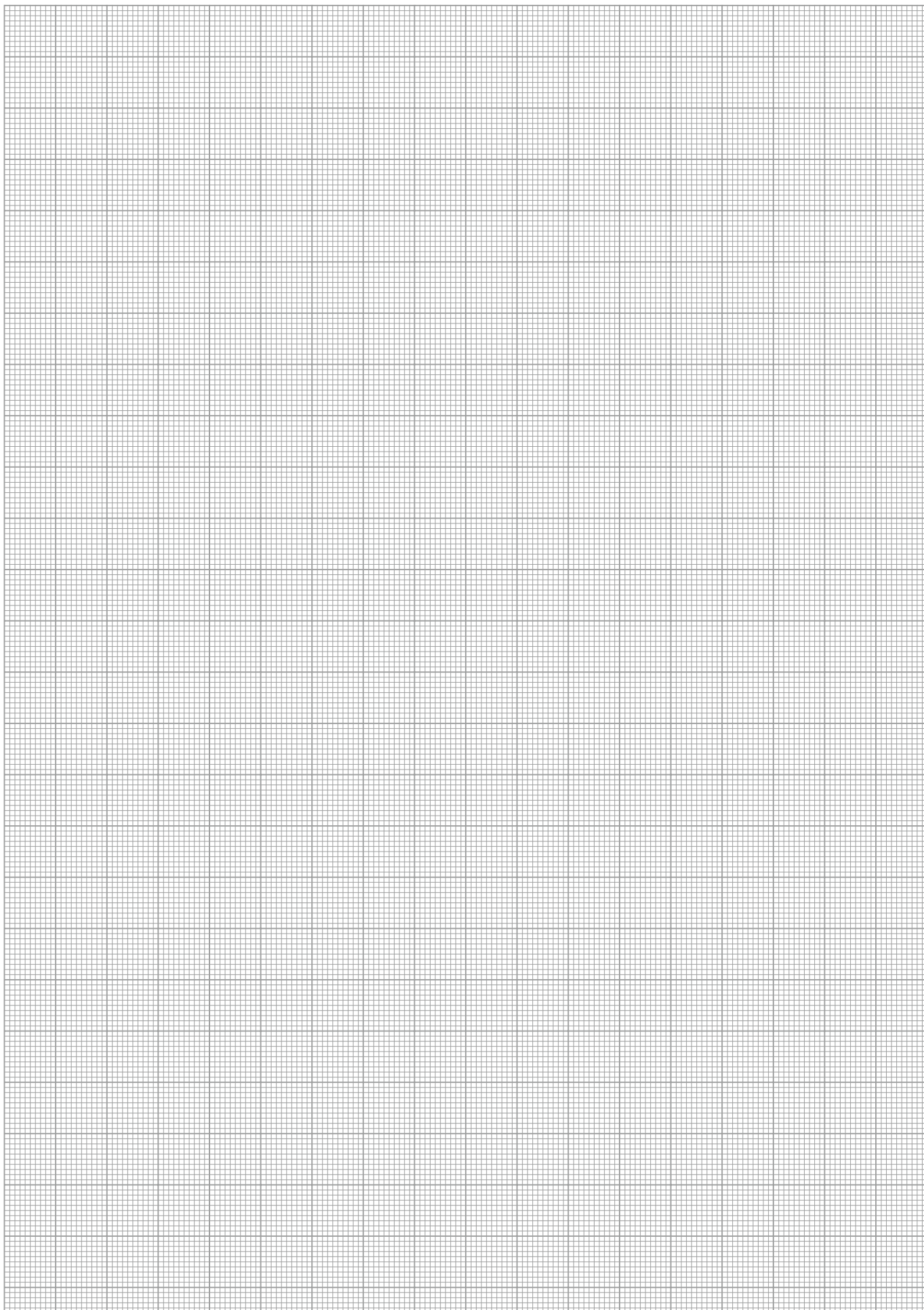
Flexible Position Sensor

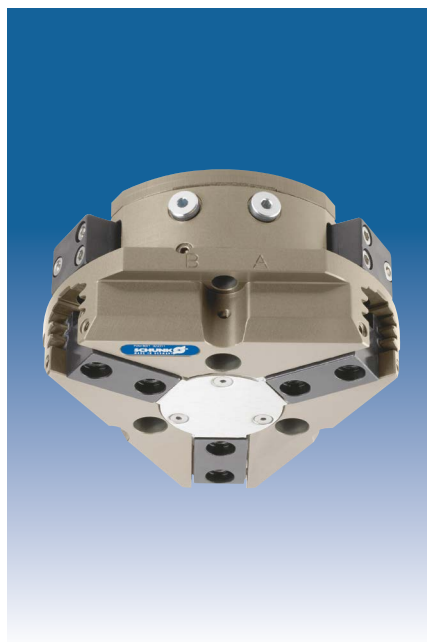


Flexible position monitoring of up to five positions

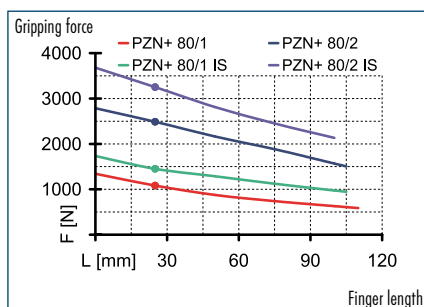
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

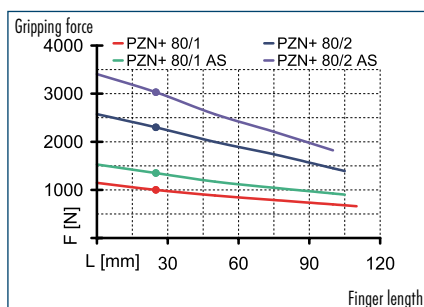




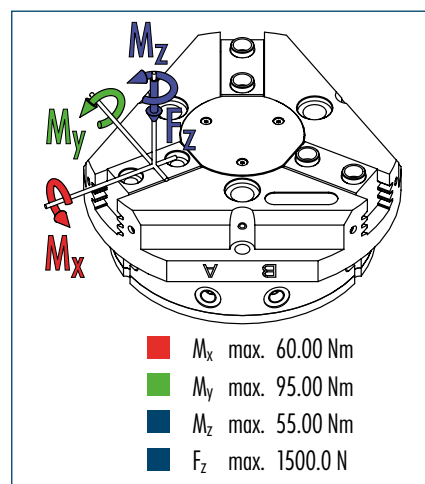
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

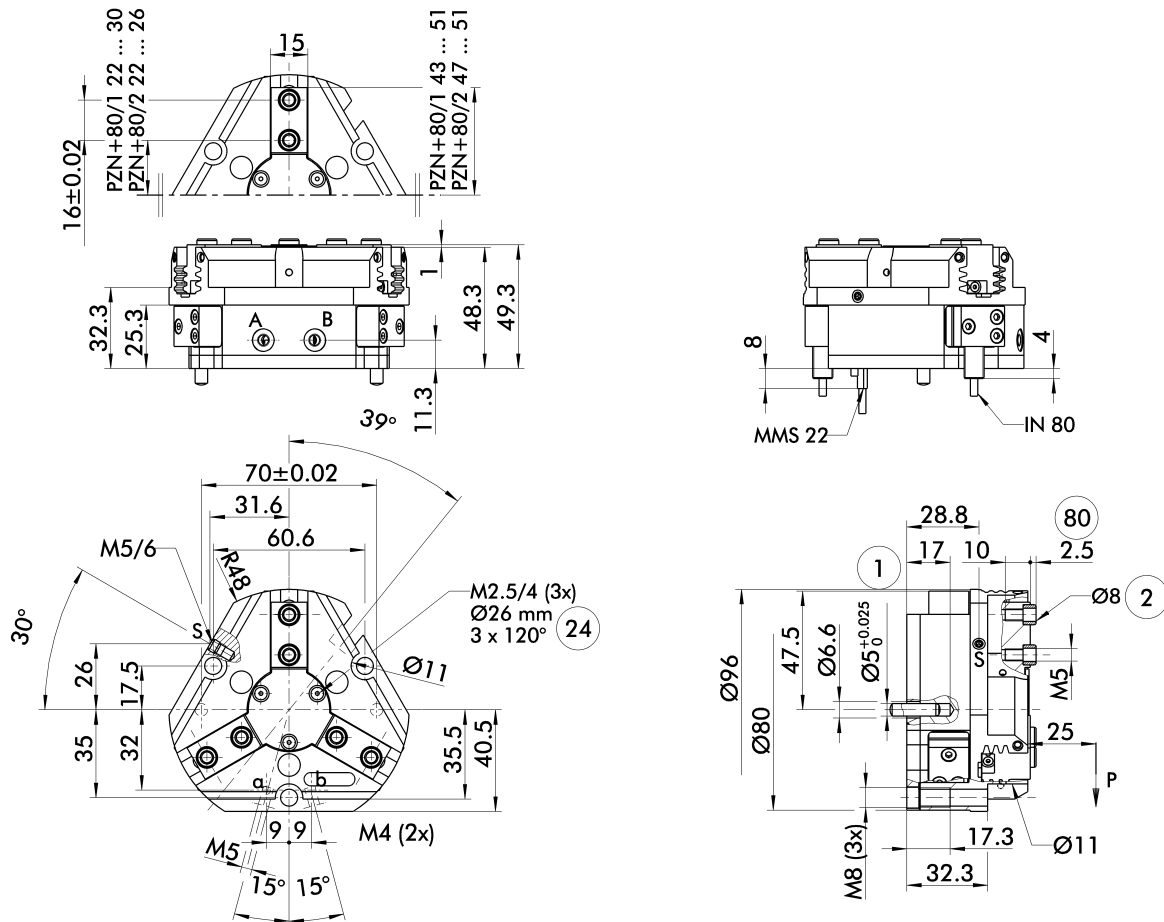
Technical data

Description		PZN-plus 80-1	PZN-plus 80-2	PZN-plus 80-1-AS	PZN-plus 80-2-AS	PZN-plus 80-1-IS	PZN-plus 80-2-IS
ID		0303311	0303411	0303511	0303611	0303541	0303641
Stroke per finger	[mm]	8	4	8	4	8	4
Closing force	[N]	1000	2300	1350	3030		
Opening force	[N]	1080	2490			1450	3250
Min. spring force	[N]			350	730	370	760
Weight	[kg]	0.79	0.79	0.96	0.96	0.96	0.96
Recommended workpiece weight	[kg]	5	11.5	5	11.5	5	11.5
Air consumption per double stroke	[cm³]	60	60	108	108	108	108
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.06/0.04	0.06/0.04
Max. permitted finger length	[mm]	110	105	105	100	105	100
Max. permitted weight per finger	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303311	37303411	37303511	37303611	37303541	37303641
IP class		64	64	64	64	64	64
Weight	[kg]	1	1	1.17	1.17	1.17	1.17
Anti-corrosion version		38303311	38303411	38303511	38303611	38303541	38303641
High-temperature version		39303311	39303411	39303511	39303611	39303541	39303641
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 80-1-KVZ	PZN-plus 80-2-KVZ	PZN-plus 80-1-AS-KVZ		PZN-plus 80-1-IS-KVZ	
ID		0372202	0372212	0372222		0372242	
Closing force	[N]	1000	4140	2150			
Opening force	[N]	1945	4480			2315	
Weight	[kg]	1.2	1.2	1.4		1.4	
Maximum pressure	[bar]	8	8	6		6	
Max. permitted finger length	[mm]	100	80	80		80	
Precision version		0303341	0303441	0303491	0303591		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

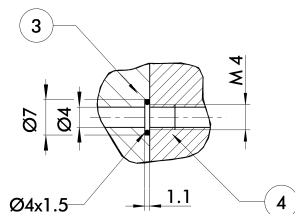
① Gripper connection

② Finger connection

② Bolt circle

⑧ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

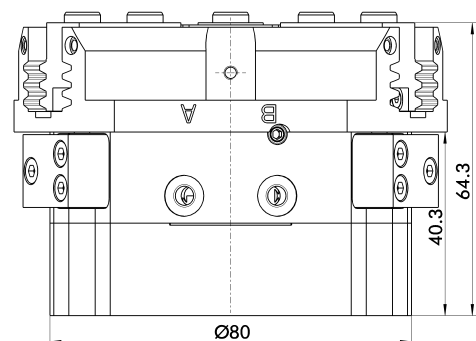


③ Adapter

④ Gripper

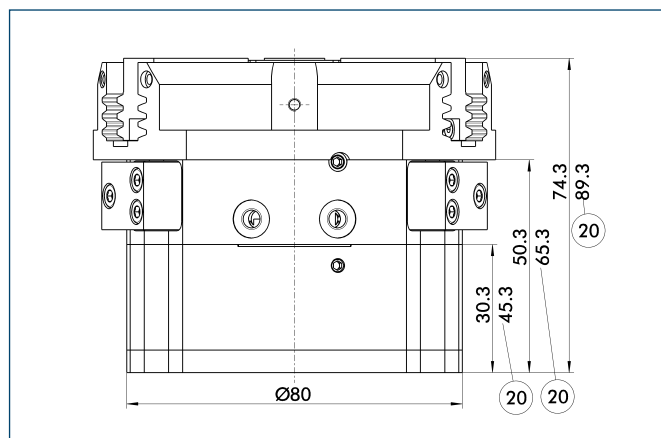
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

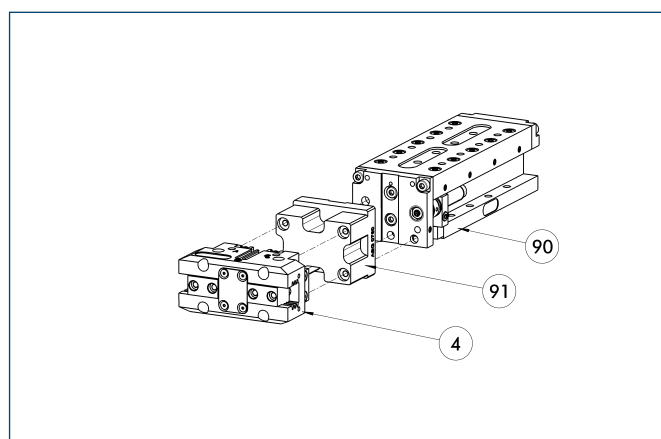
Force intensified version



- ②⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

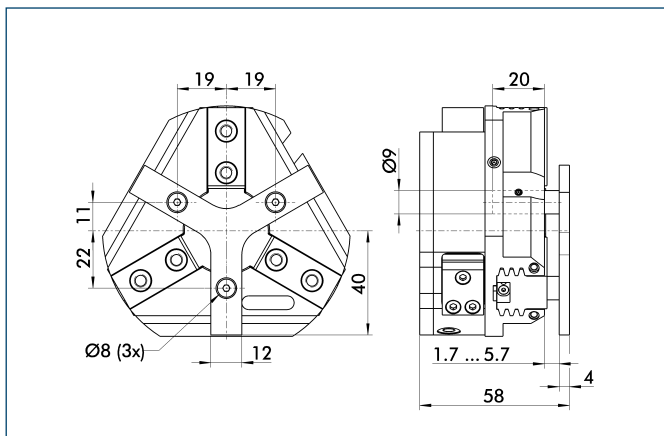
Modular Assembly Automation



- ④ Gripper ⑨① ASG
⑨① CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Spring-loaded pressure piece

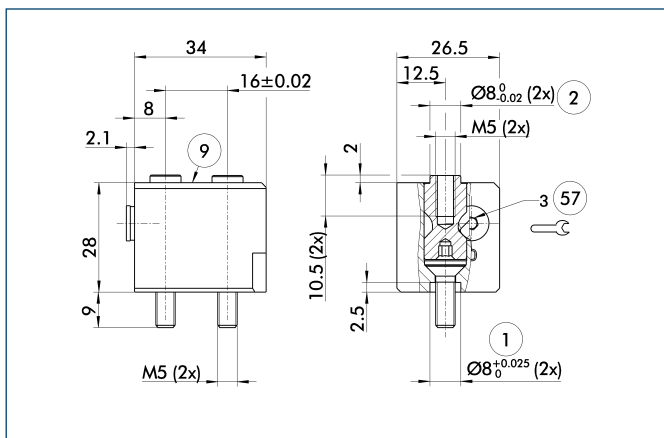


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 80	0303721	4 mm	18 N

- ① The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Quick-change Jaw System



- ① Gripper connection
② Finger connection
③ For mounting screw connection diagram, see basic version
⑤ Locking

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

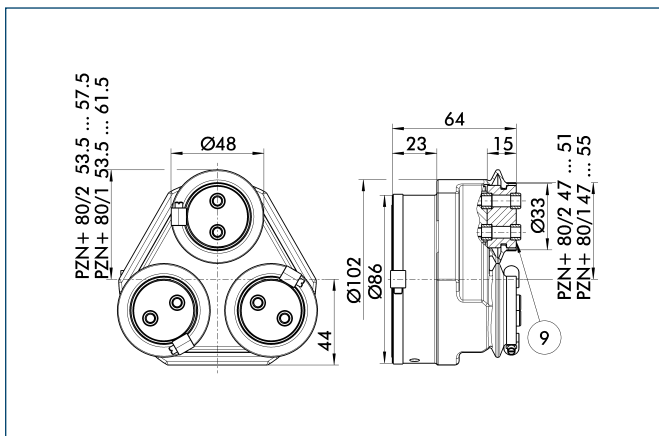
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWs-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Protection cover

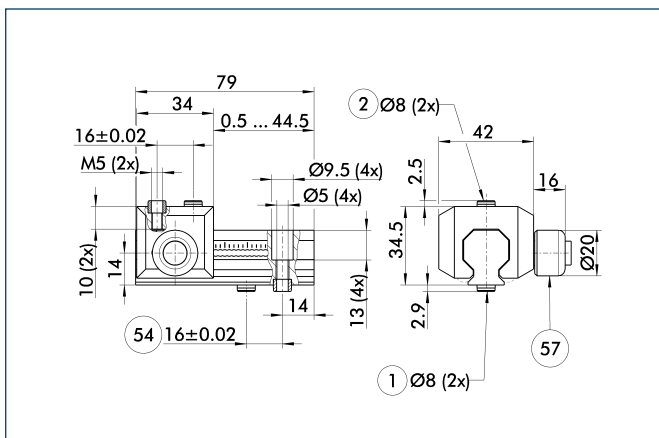


- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 80	0303481	2

Universal intermediate jaw



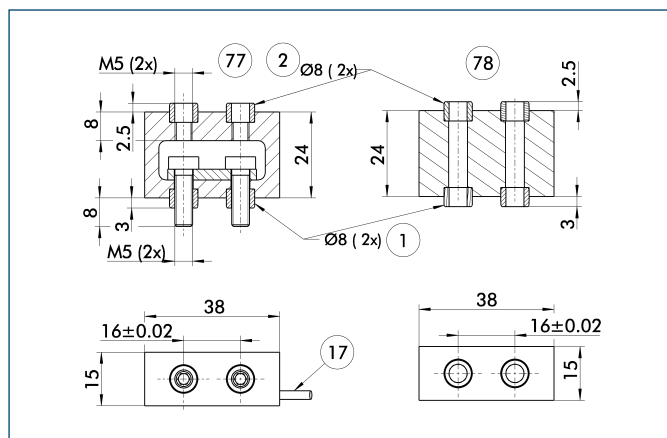
- ① Gripper connection
② Finger connection
④ Optional right or left connection
⑤ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	0300043	2 mm
UZB-S 80	5518271	2 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

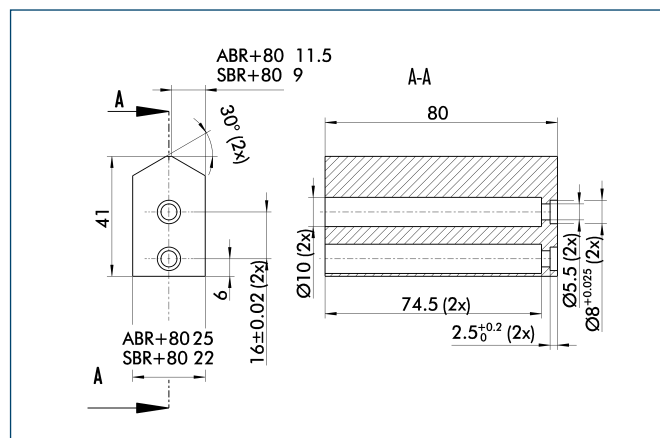


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

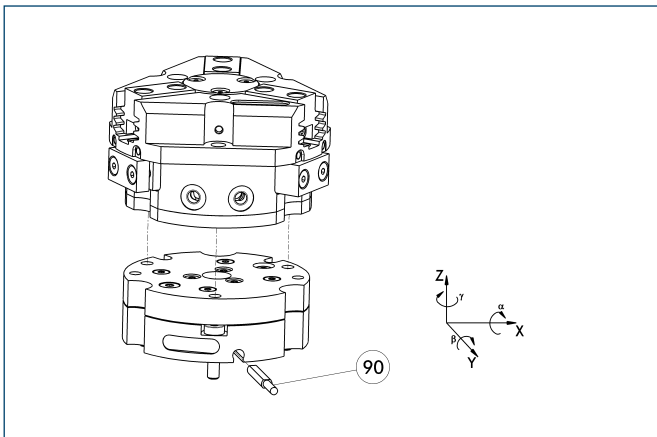
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1

Tolerance compensation unit

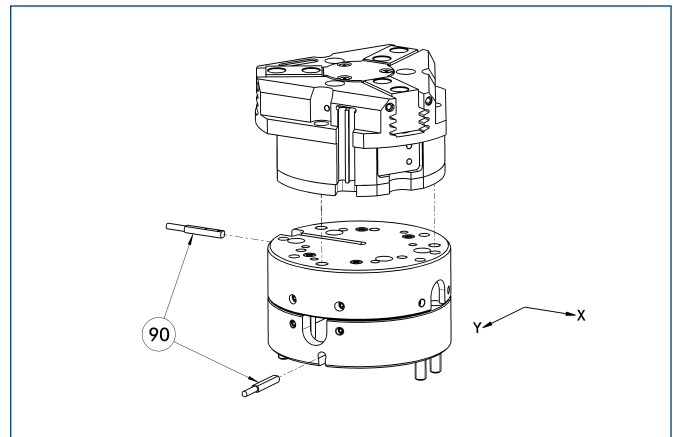


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-Z	0324784	Yes	
TCU-080-3-OV-Z	0324785	No	

Compensation unit with spring reset

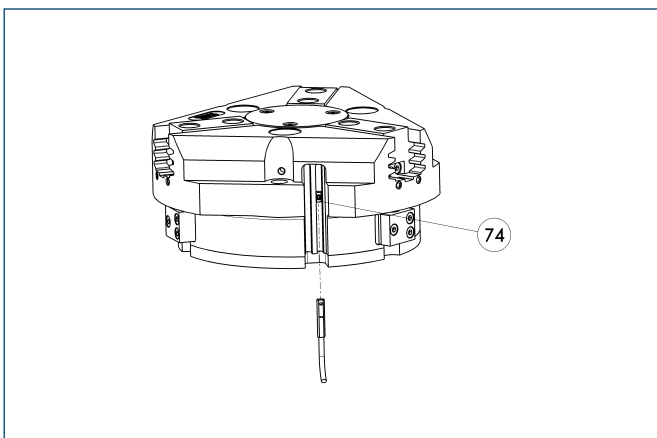


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

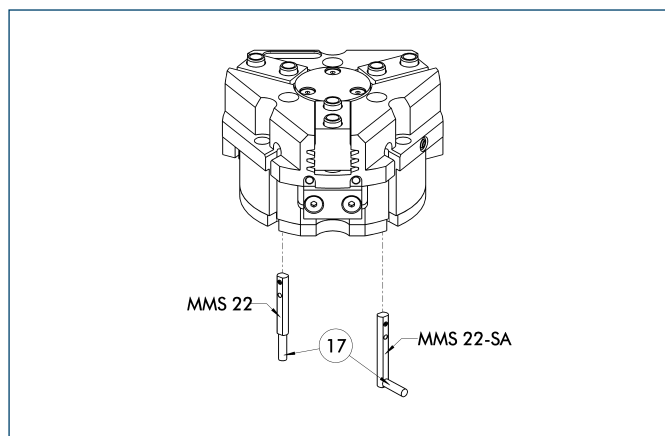
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

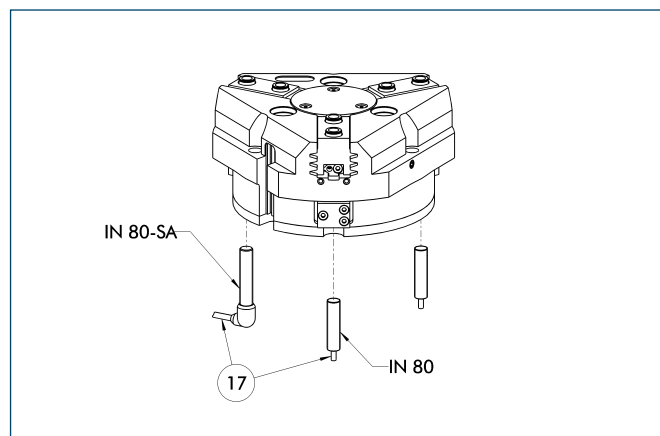
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

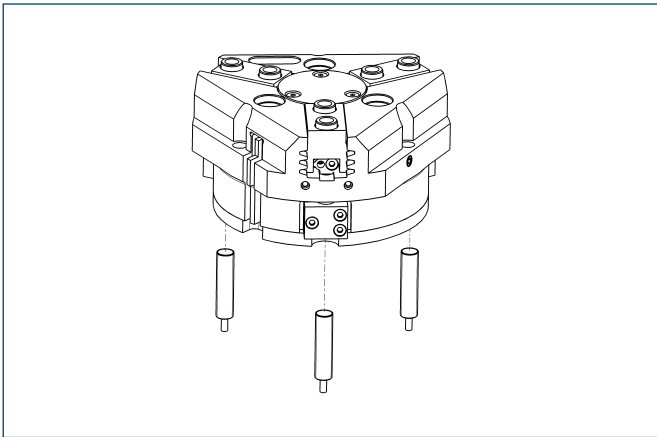
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

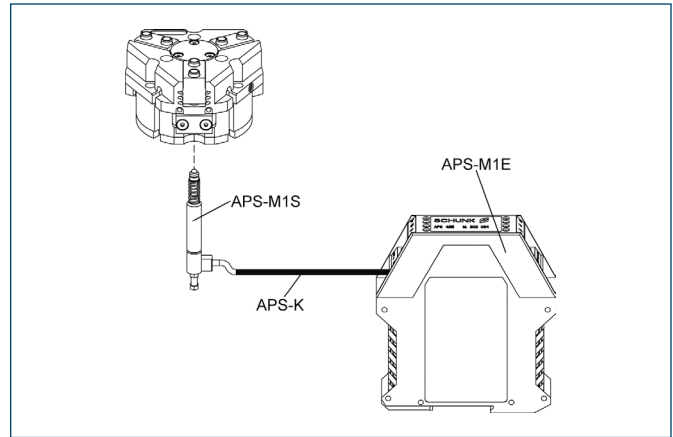


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

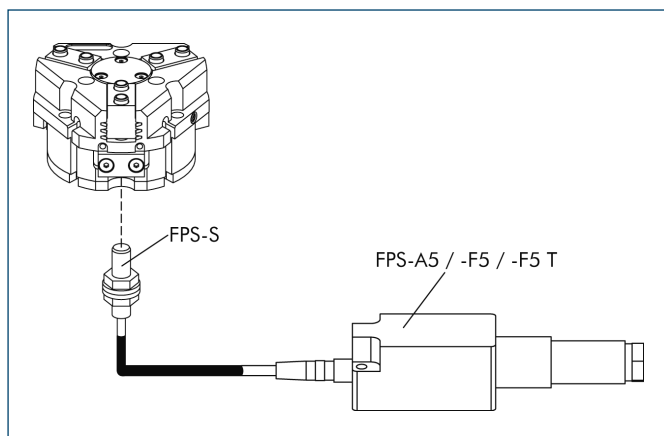
Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
AS-APS-M1-80/2	0302078
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

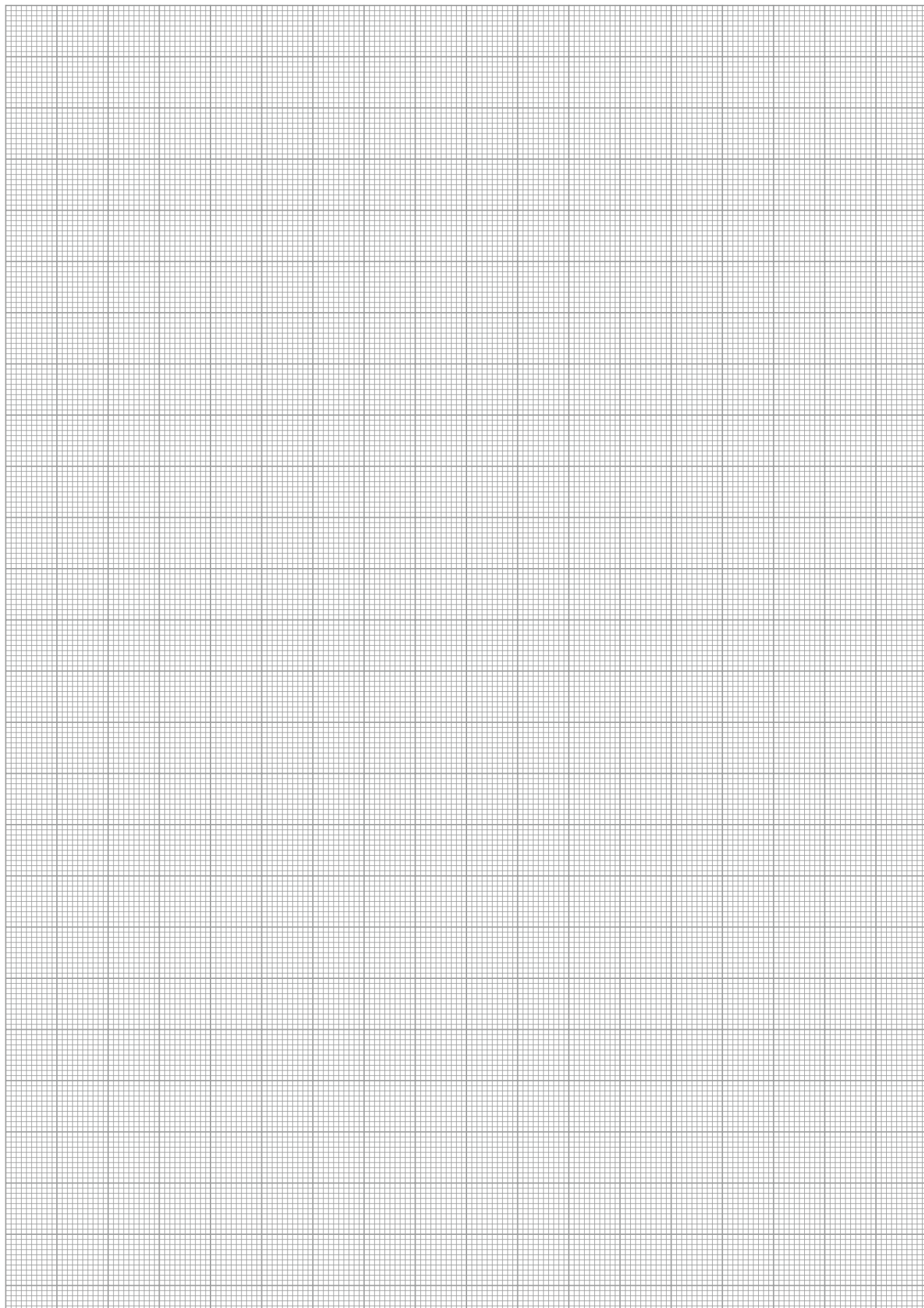
Flexible Position Sensor



Flexible position monitoring of up to five positions

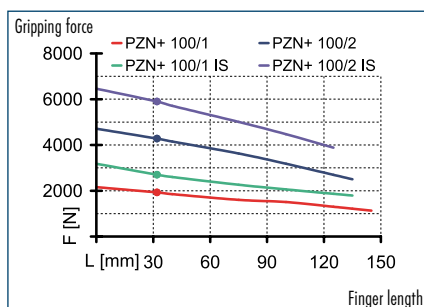
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

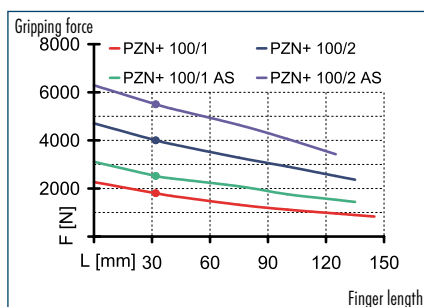




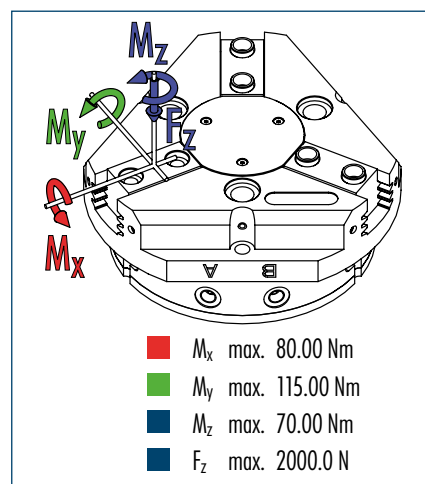
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

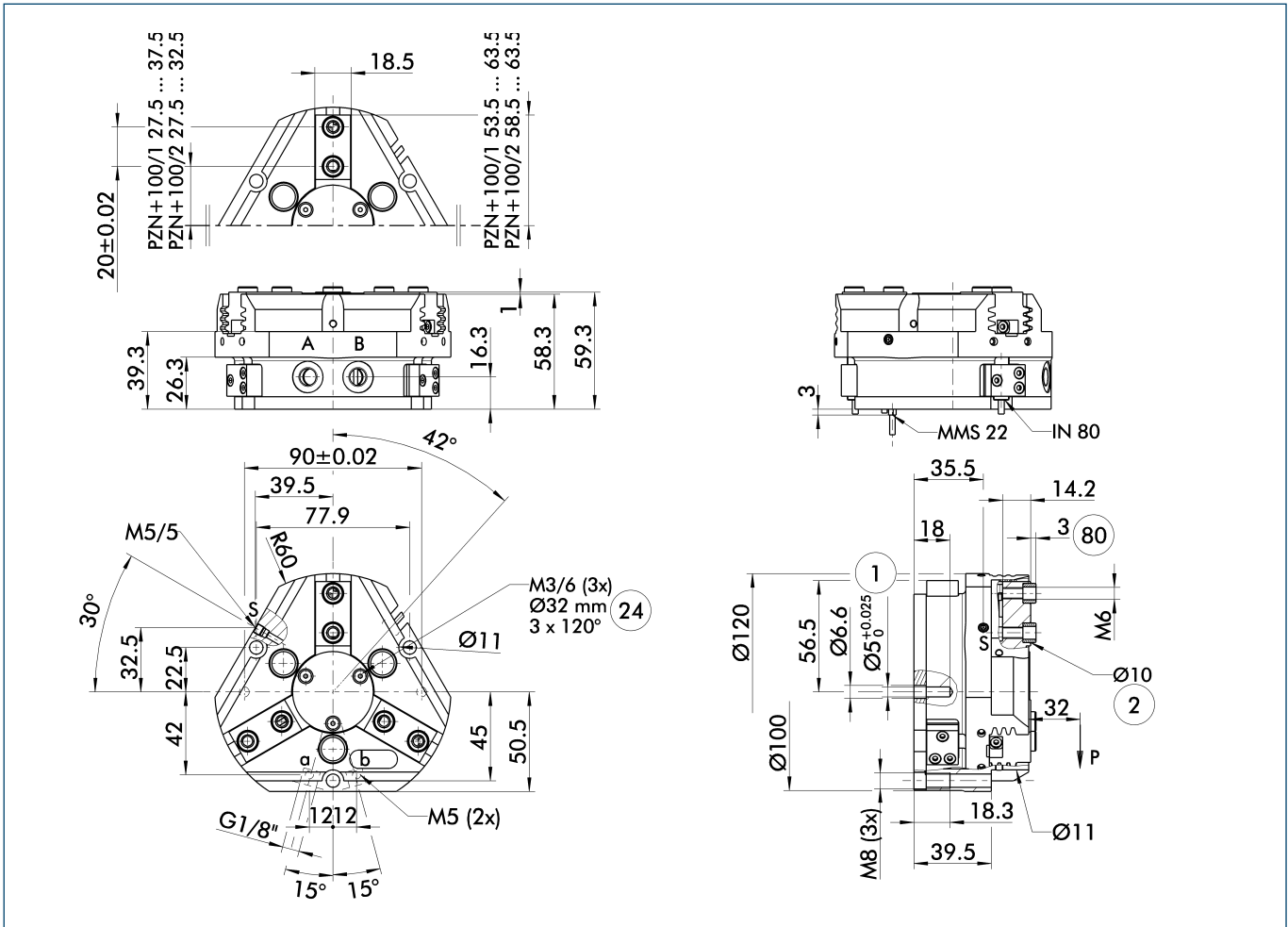
Technical data

Description		PZN-plus 100-1	PZN-plus 100-2	PZN-plus 100-1-AS	PZN-plus 100-2-AS	PZN-plus 100-1-IS	PZN-plus 100-2-IS
ID		0303312	0303412	0303512	0303612	0303542	0303642
Stroke per finger	[mm]	10	5	10	5	10	5
Closing force	[N]	1800	4000	2520	5500		
Opening force	[N]	1920	4280			2700	5900
Min. spring force	[N]			720	1500	780	1620
Weight	[kg]	1.41	1.41	1.95	1.95	1.95	1.95
Recommended workpiece weight	[kg]	9	20	9	20	9	20
Air consumption per double stroke	[cm ³]	120	120	210	210	210	210
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.1/0.1	0.1/0.1	0.1/0.2	0.1/0.2	0.2/0.1	0.2/0.1
Max. permitted finger length	[mm]	145	135	135	125	135	125
Max. permitted weight per finger	[kg]	1.1	1.1	1.1	1.1	1.1	1.1
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303312	37303412	37303512	37303612	37303542	37303642
IP class		64	64	64	64	64	64
Weight	[kg]	1.9	1.9	2.44	2.44	2.44	2.44
Anti-corrosion version		38303312	38303412	38303512	38303612	38303542	38303642
High-temperature version		39303312	39303412	39303512	39303612	39303542	39303642
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 100-1-KVZ	PZN-plus 100-2-KVZ	PZN-plus 100-1-AS-KVZ		PZN-plus 100-1-IS-KVZ	
ID		0372203	0372213	0372223		0372243	
Closing force	[N]	3240	7200	3960			
Opening force	[N]	3455	7705			4235	
Weight	[kg]	2.3	2.3	2.7		2.7	
Maximum pressure	[bar]	8	8	6		6	
Max. permitted finger length	[mm]	100	80	80		80	
Precision version		0303342	0303442	0303492	0303592		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

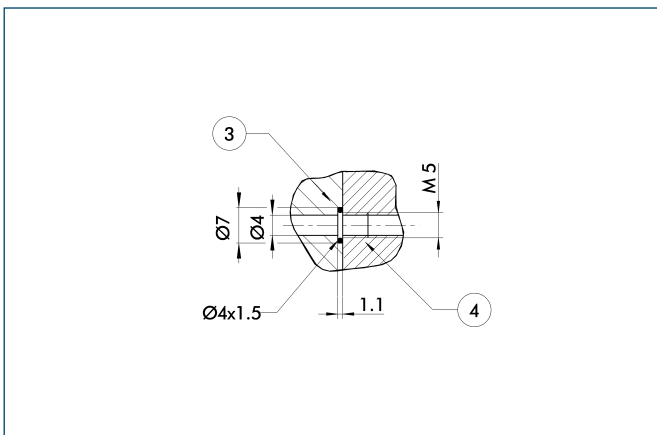
① Gripper connection

② Finger connection

②④ Bolt circle

⑧⑩ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

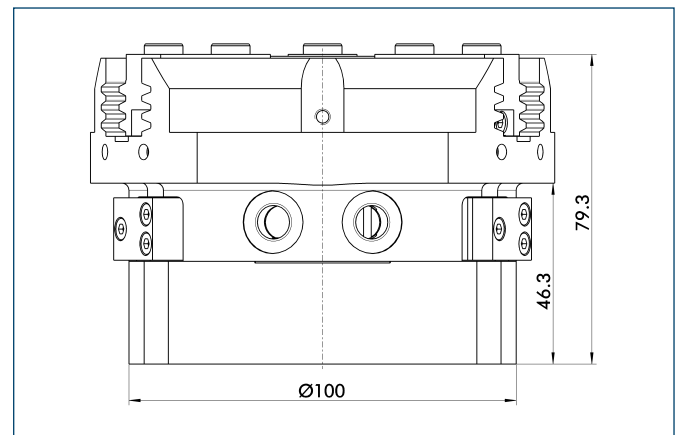


③ Adapter

④ Gripper

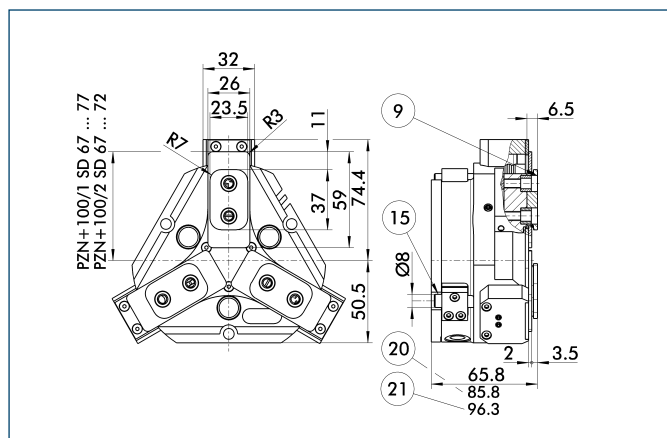
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

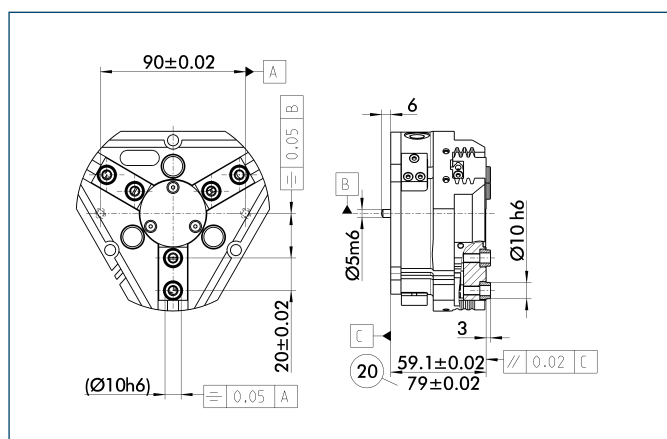
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version
- ㉑ Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

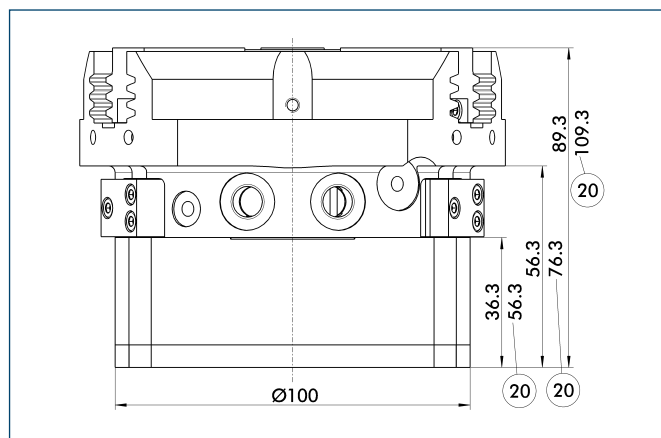
Precision version



- ㉑ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

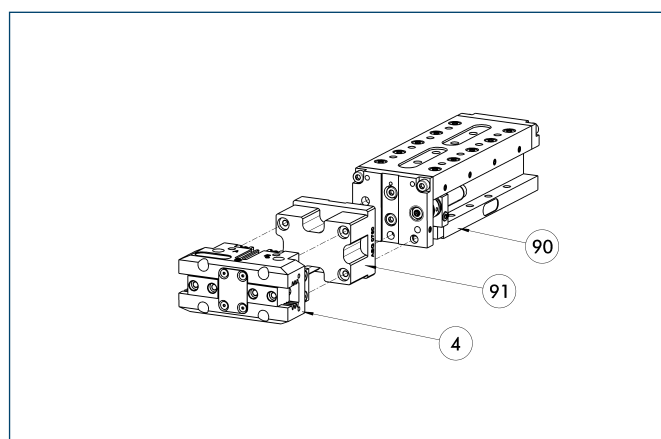
Force intensified version



- ㉑ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

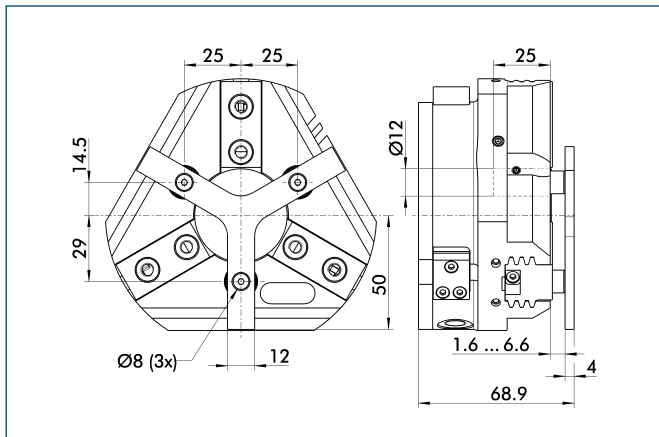
Modular Assembly Automation



- ④ Gripper
- ⑨① CLM
- ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Spring-loaded pressure piece

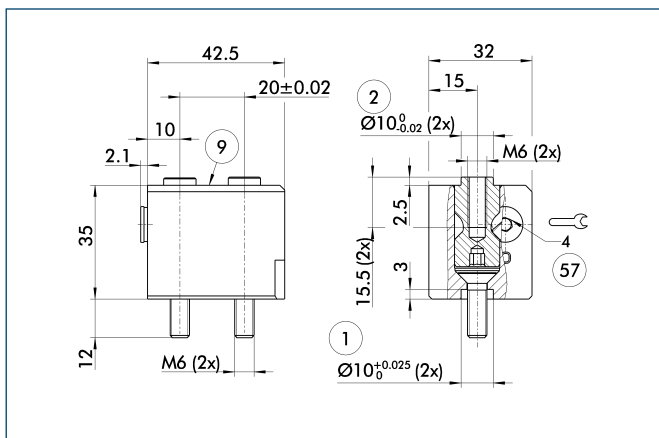


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	5 mm	35 N

- ① The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Quick-change Jaw System



- ① Gripper connection
② Finger connection
③ For mounting screw connection diagram, see basic version
④ Locking

The BSW quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

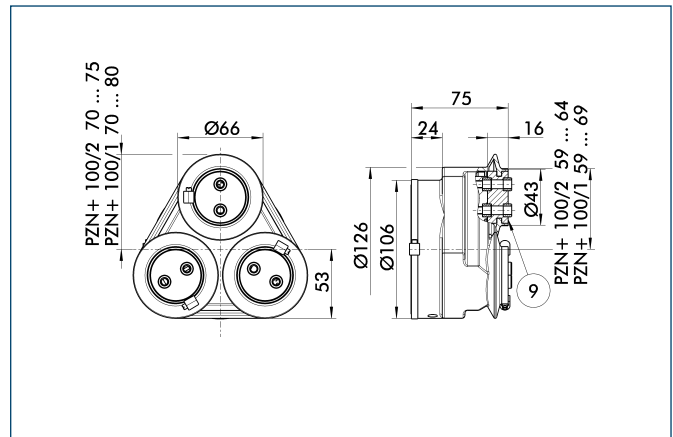
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Protection cover

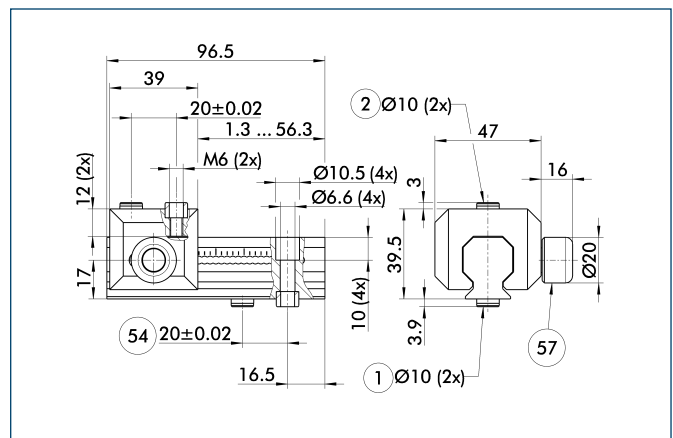


- ① For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 100	0303482	2

Universal intermediate jaw



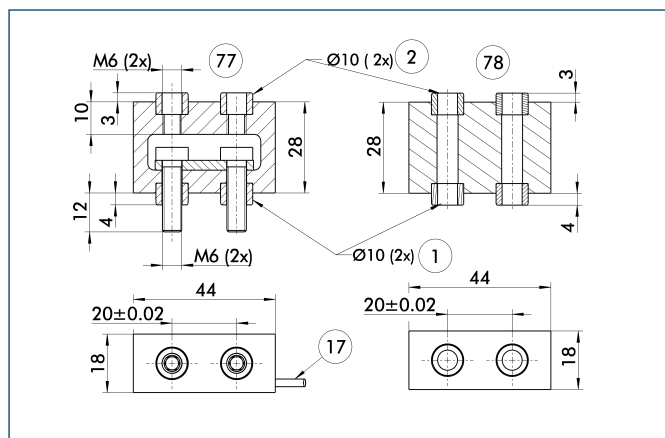
- ① Gripper connection
② Finger connection
③ Optional right or left connection
④ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	0300044	2.5 mm
UZB-S 100	5518272	2.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

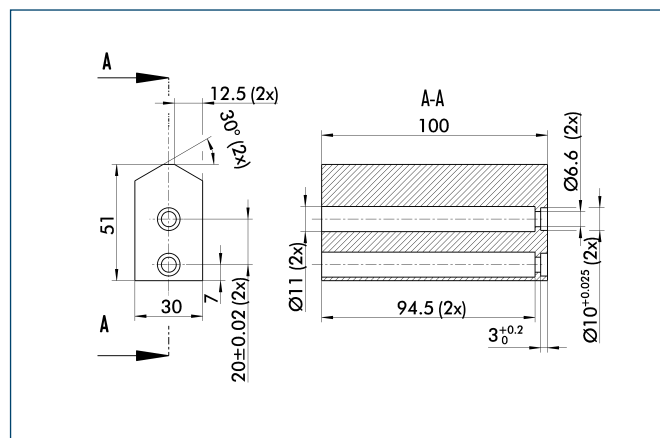


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

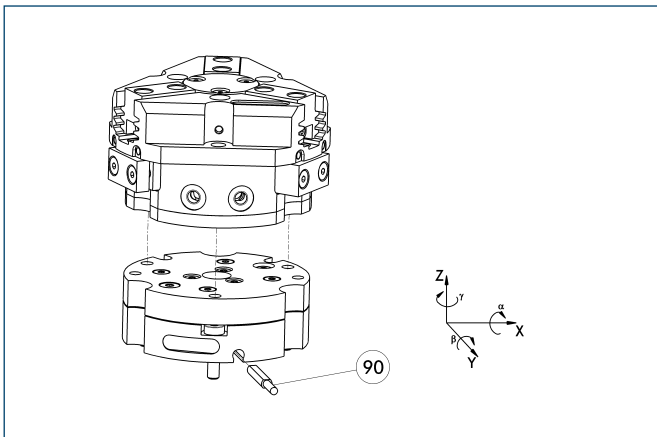
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1

Tolerance compensation unit

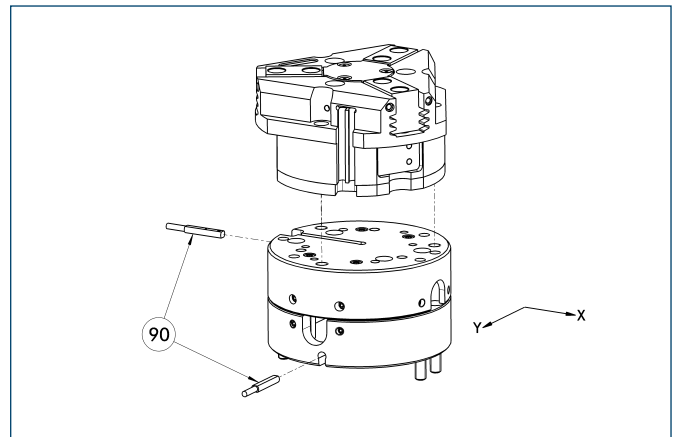


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-Z	0324794	Yes	
TCU-100-2-OV-Z	0324799	No	

Compensation unit with spring reset

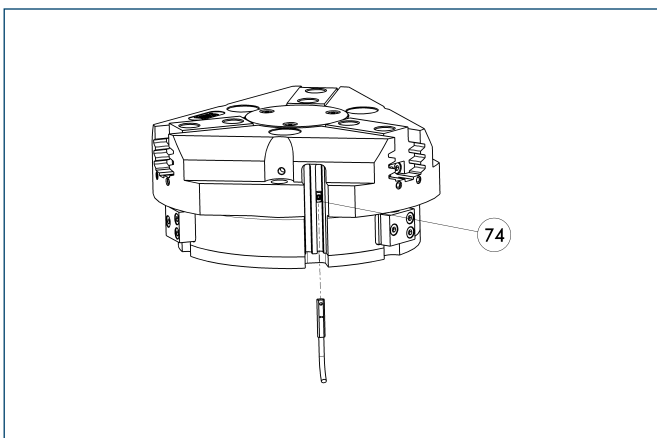


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

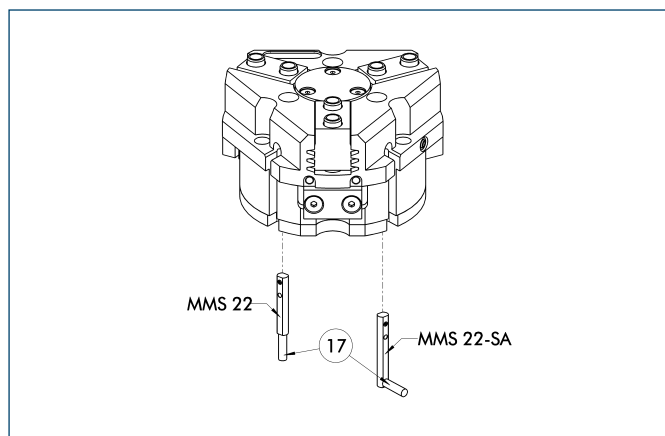
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

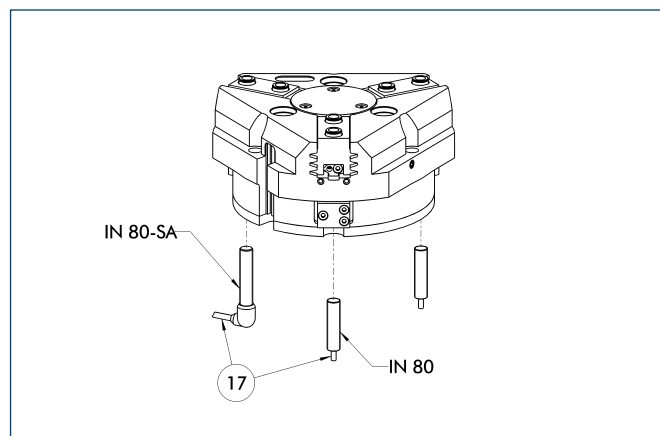
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

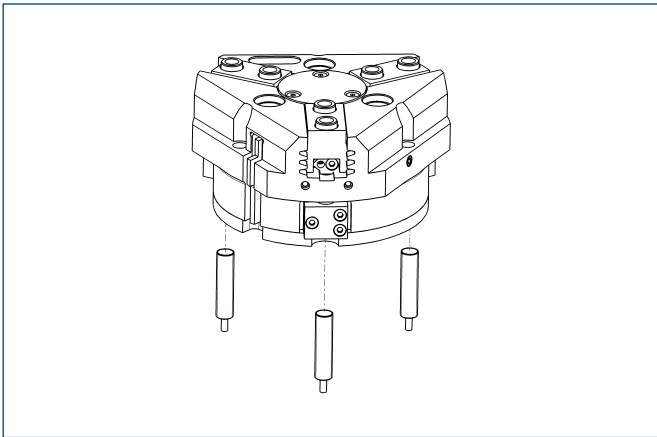
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

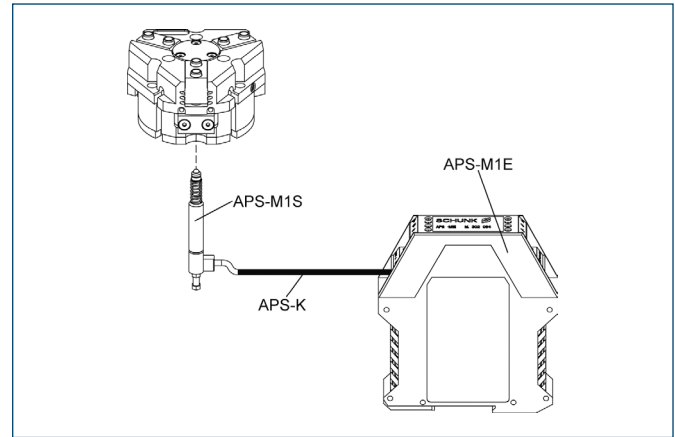


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

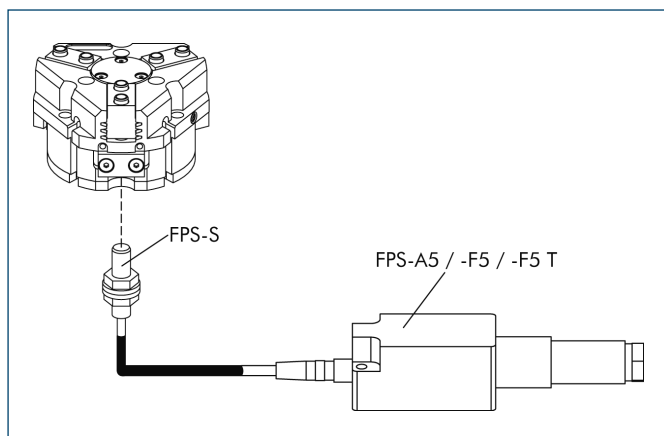
Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
AS-APS-M1-100/2	0302080
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

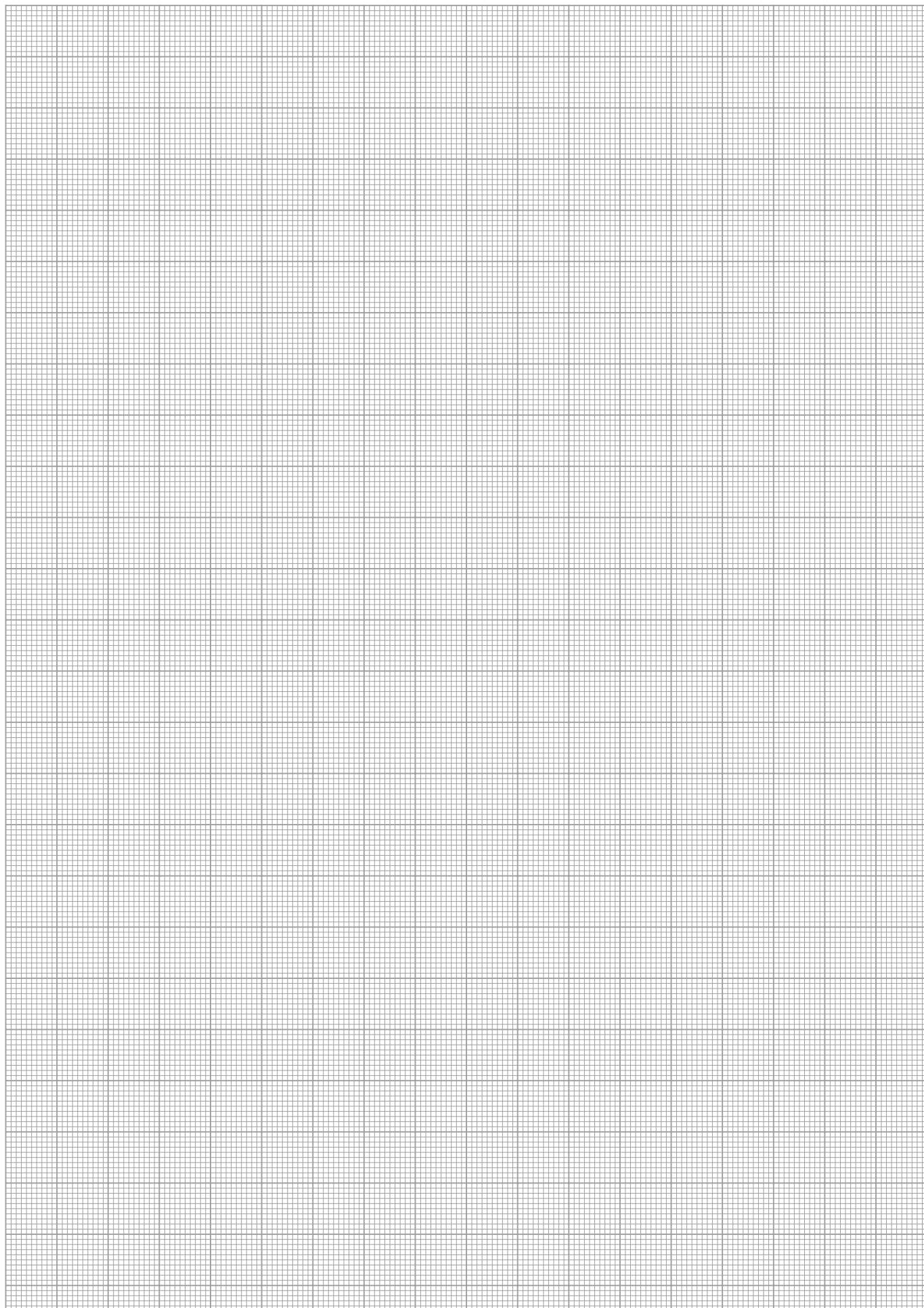
Flexible Position Sensor



Flexible position monitoring of up to five positions

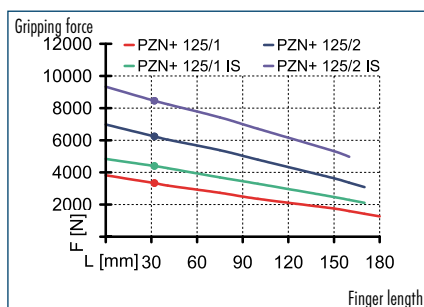
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
AS-PGN/PZN-plus 100/2, PZB 125	0301635
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

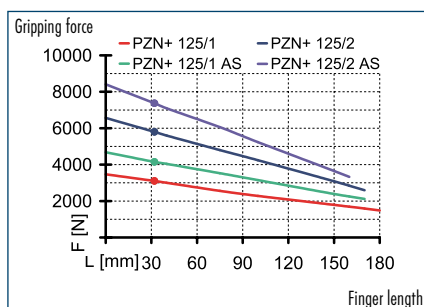




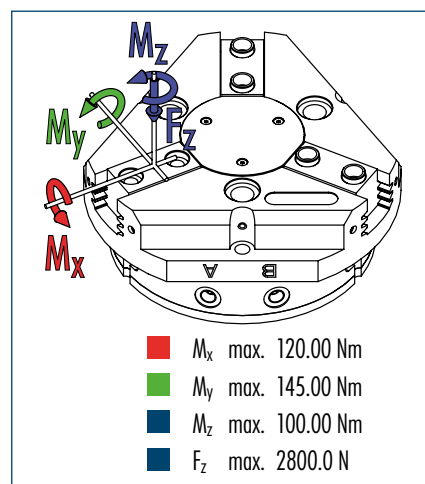
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

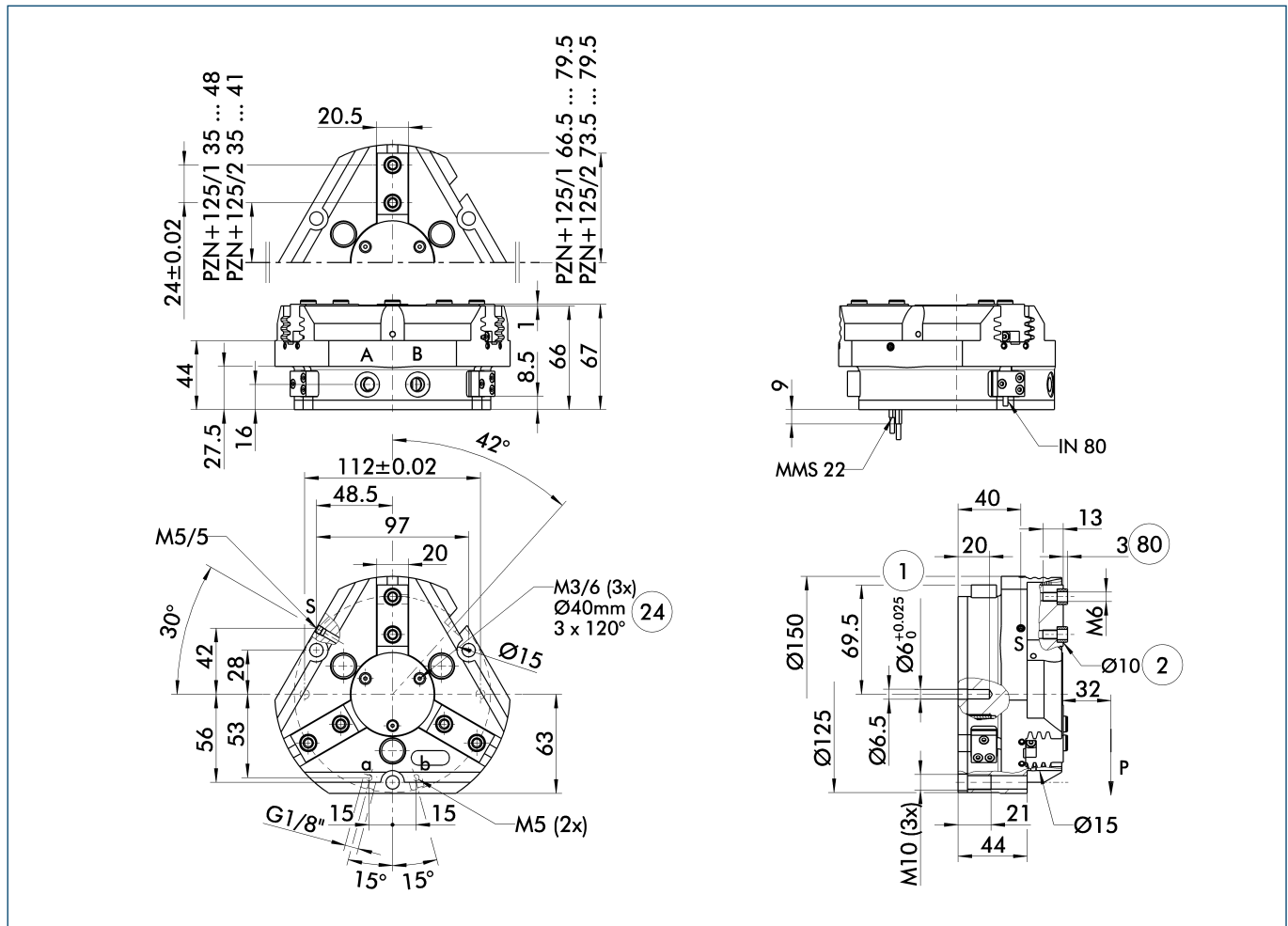
Technical data

Description		PZN-plus 125-1	PZN-plus 125-2	PZN-plus 125-1-AS	PZN-plus 125-2-AS	PZN-plus 125-1-IS	PZN-plus 125-2-IS
ID		0303313	0303413	0303513	0303613	0303543	0303643
Stroke per finger	[mm]	13	6	13	6	13	6
Closing force	[N]	3100	5800	4150	7970		
Opening force	[N]	3330	6240			4400	8450
Min. spring force	[N]			1050	2170	1070	2210
Weight	[kg]	2.47	2.47	3.34	3.34	3.34	3.34
Recommended workpiece weight	[kg]	15.5	29	15.5	29	15.5	29
Air consumption per double stroke	[cm ³]	230	230	383	383	383	383
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.2/0.2	0.2/0.2	0.17/0.35	0.17/0.35	0.35/0.17	0.35/0.17
Max. permitted finger length	[mm]	180	170	170	160	170	160
Max. permitted weight per finger	[kg]	2.1	2.1	2.1	2.1	2.1	2.1
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303313	37303413	37303513	37303613	37303543	37303643
IP class		64	64	64	64	64	64
Weight	[kg]	2.9	2.9	3.7	3.7	3.7	3.7
Anti-corrosion version		38303313	38303413	38303513	38303613	38303543	38303643
High-temperature version		39303313	39303413	39303513	39303613	39303543	39303643
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 125-1-KVZ	PZN-plus 125-2-KVZ	PZN-plus 125-1-AS-KVZ		PZN-plus 125-1-IS-KVZ	
ID		0372204	0372214	0372224		0372244	
Closing force	[N]	5580	10440	6630			
Opening force	[N]	5935	11230			7005	
Weight	[kg]	3.7	3.7	4.5		4.5	
Maximum pressure	[bar]	8	8	6		6	
Max. permitted finger length	[mm]	125	100	100		100	
Precision version		0303343	0303443	0303493	0303593		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

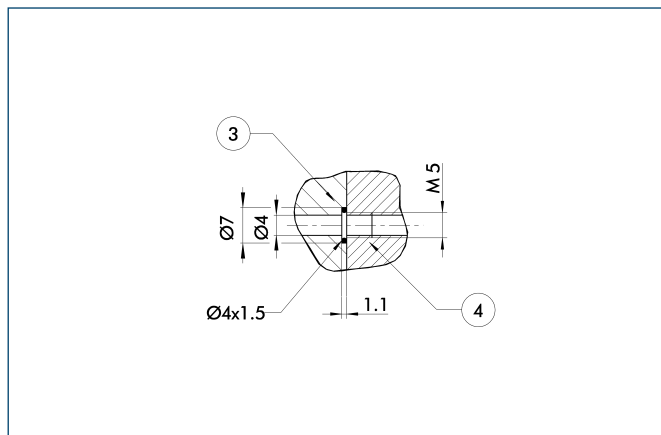
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection

① Gripper connection
② Finger connection

②④ Bolt circle
⑧⑩ Depth of the centering sleeve hole in the matching part

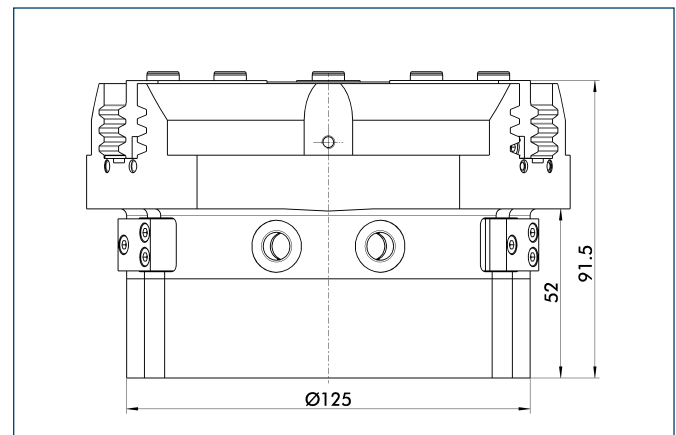
Hose-free direct connection



③ Adapter
④ Gripper

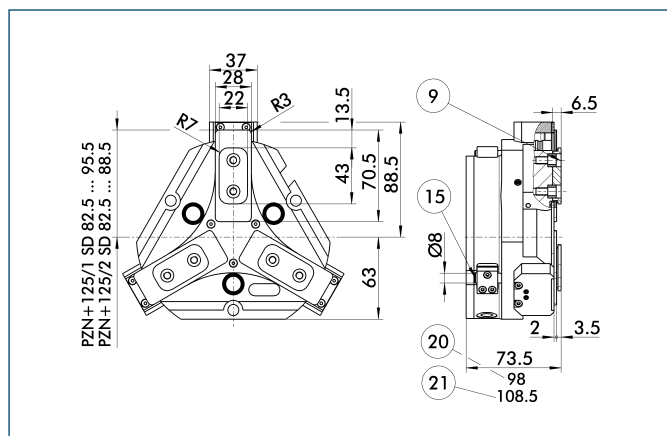
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

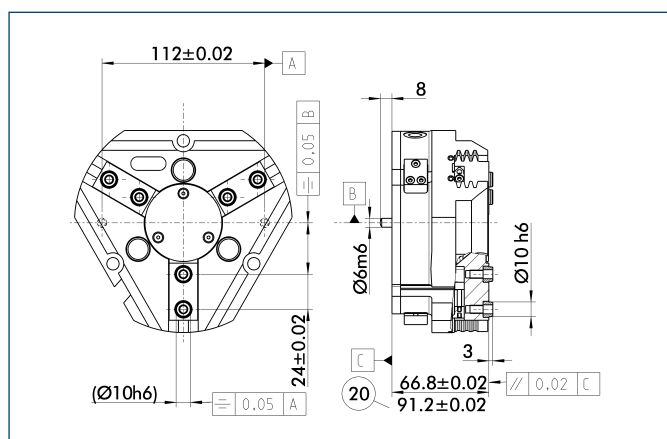
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
 ⑩ For AS / IS version
 ⑪ Sealing bolt
 ⑫ Applies for KVZ version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

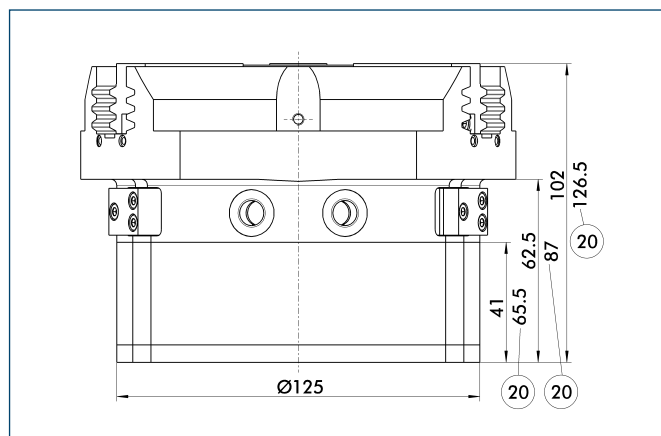
Precision version



- ②② For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

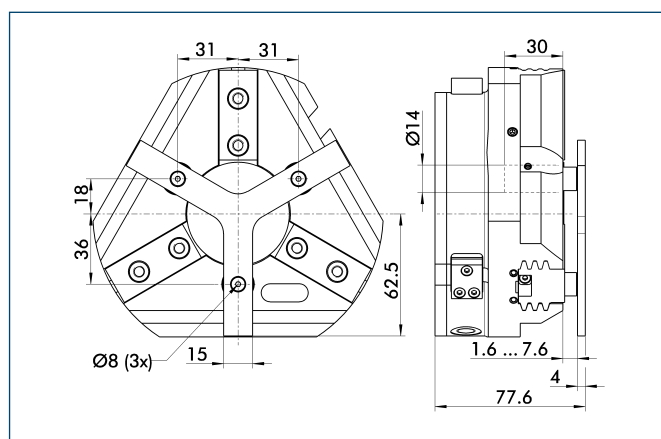
Force intensified version



- ②⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

Spring-loaded pressure piece

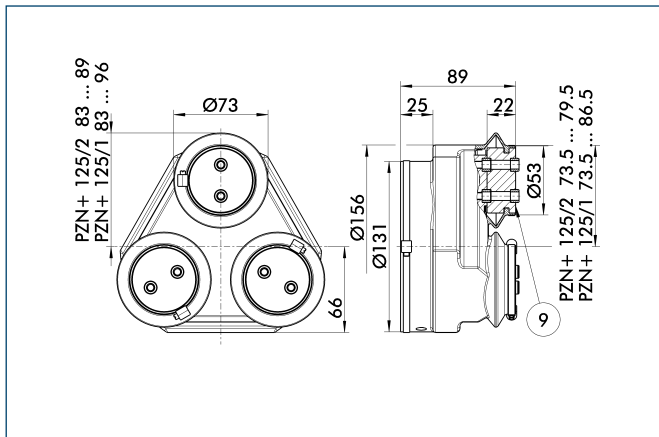


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 125	0303723	6 mm	105 N

- ❶ The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Protection cover

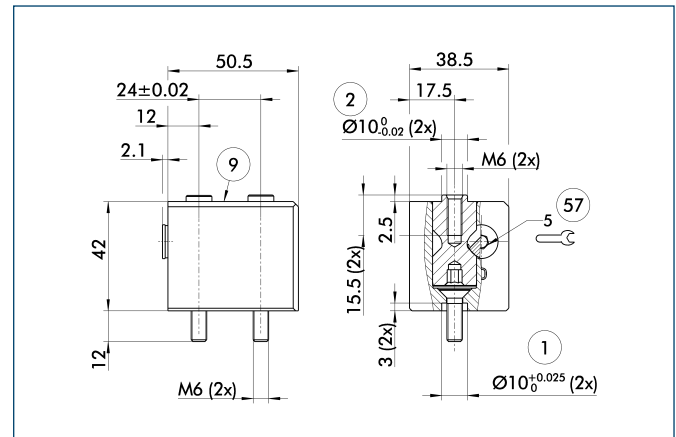


- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
Protection cover		
HUE PZN-plus 125	0303483	2

Quick-change Jaw System



- ① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

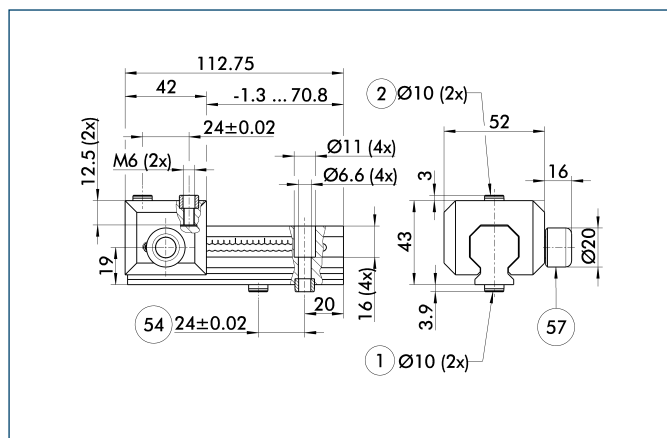
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 125	0303028
Quick-change Jaw System base	
BSWS-B 125	0303029
Quick-change Jaw System reversed	
BSWS-U 125	0303044



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



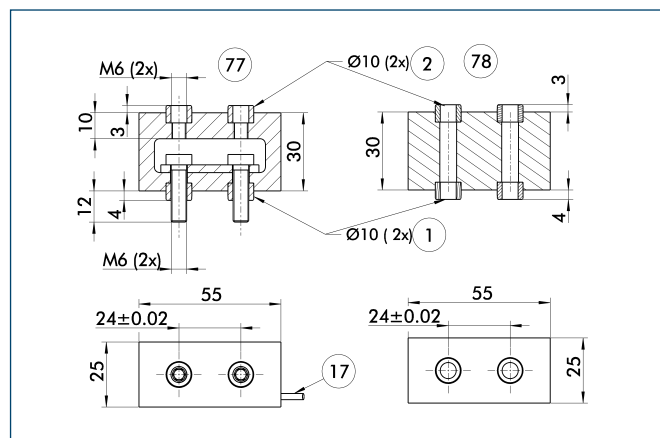
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 125	0300045	3 mm
UZH-S 125	5518273	3 mm

-  The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

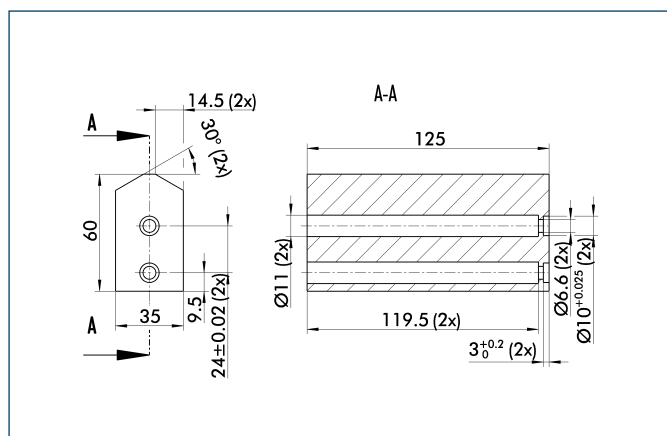


- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

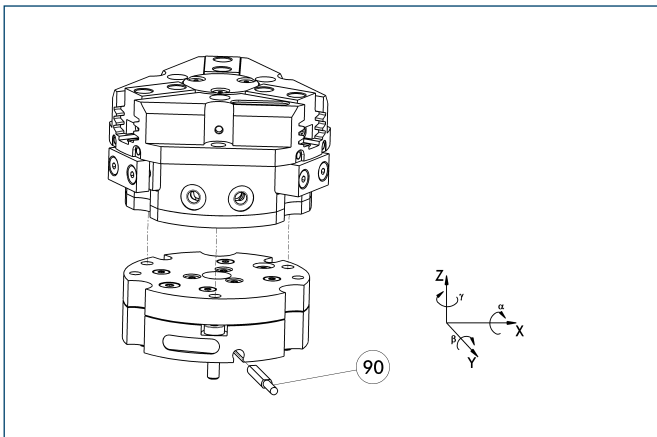
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 125	0300013	Aluminum	1
SBR-plus 125	0300023	16 MnCr 5	1

Tolerance compensation unit

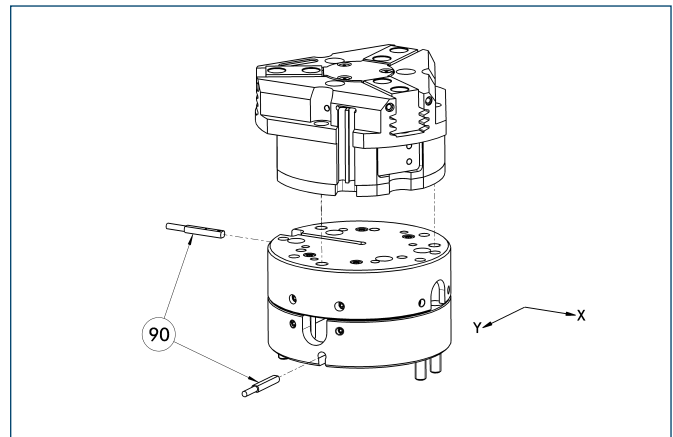


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-Z	0324820	Yes	
TCU-125-3-OV-Z	0324821	No	

Compensation unit with spring reset

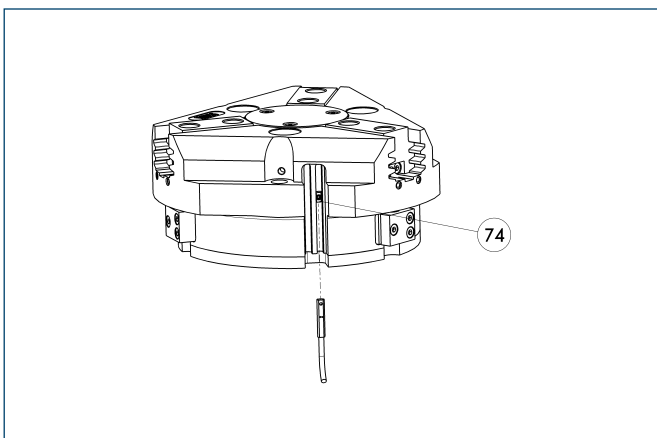


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

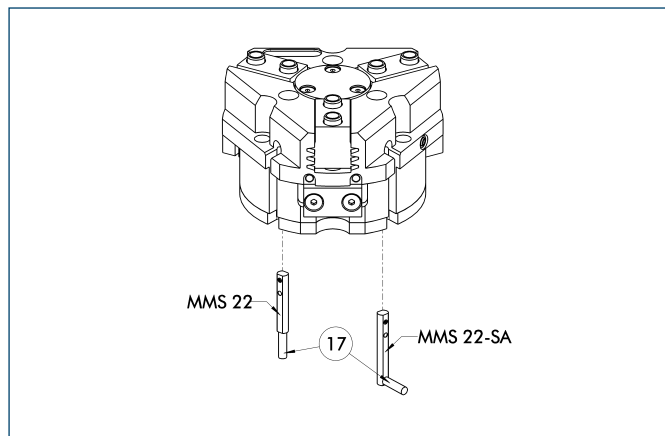
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

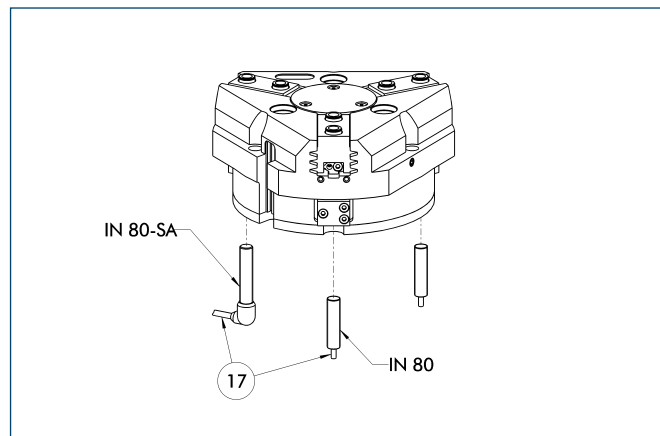
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



17 Cable outlet

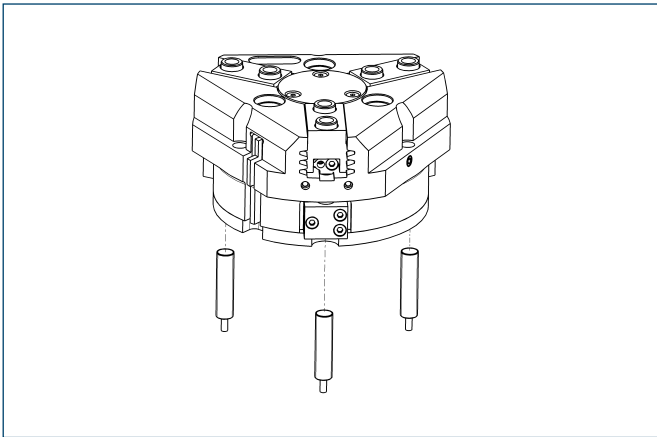
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

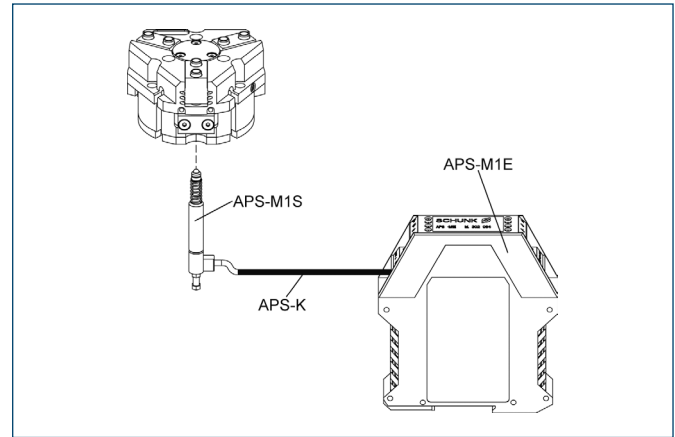


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

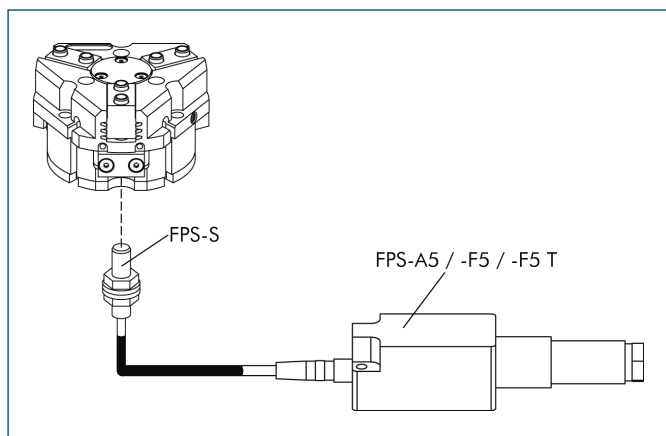
Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
AS-APS-M1-125/2	0302082
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

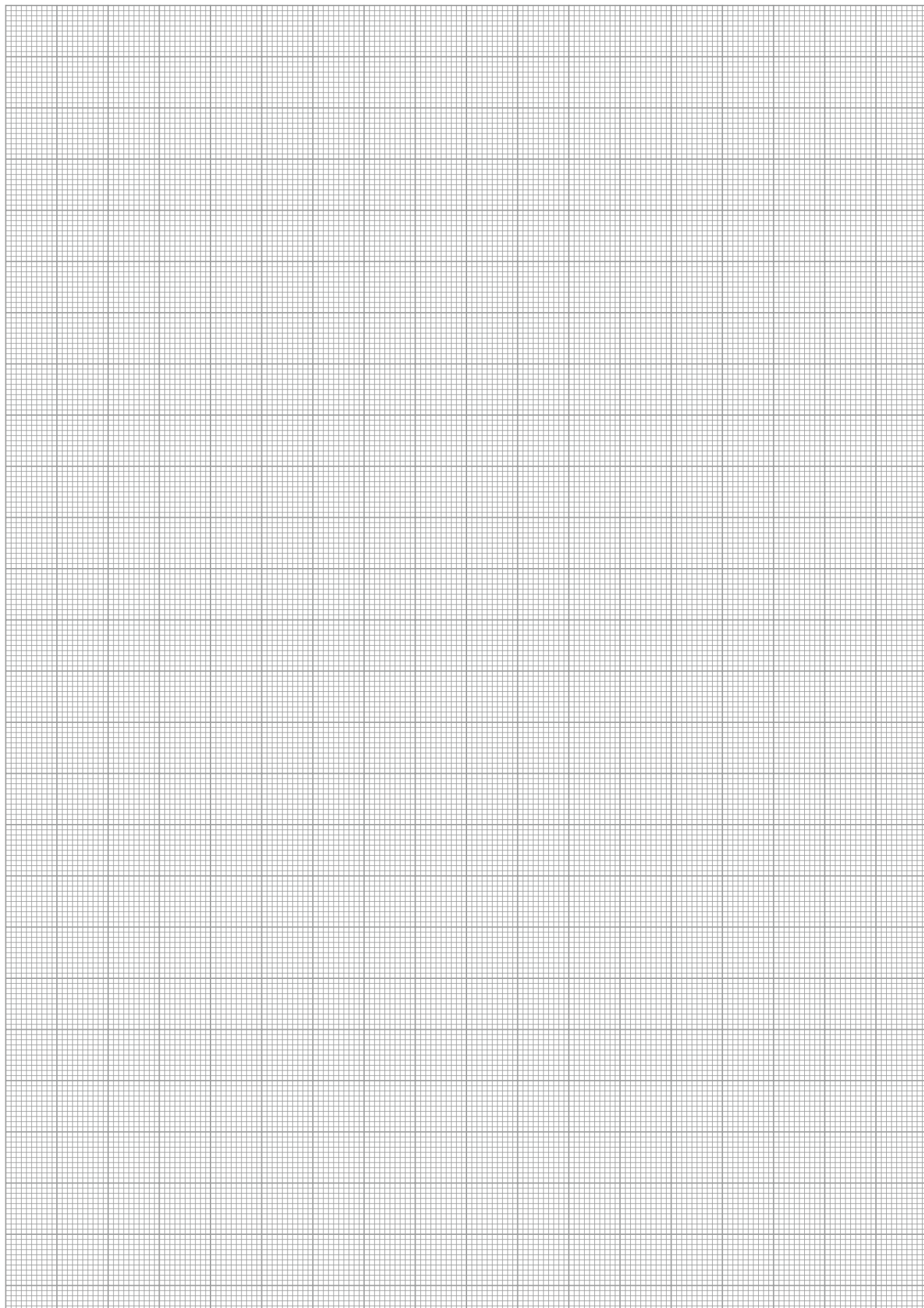
Flexible Position Sensor

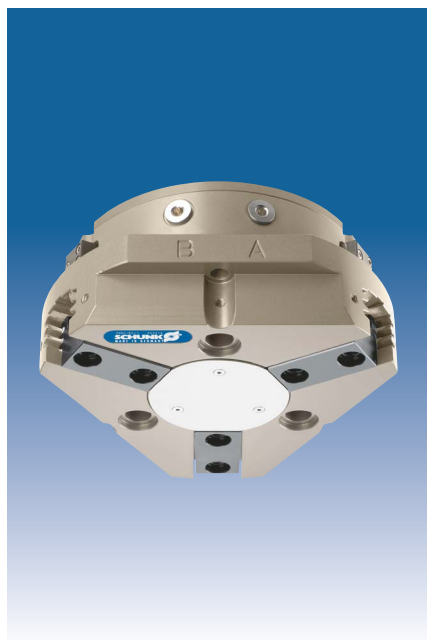


Flexible position monitoring of up to five positions

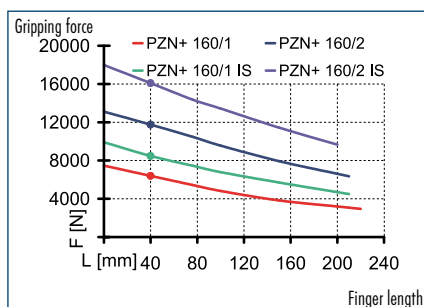
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
AS-PGN/PZN-plus 125/2	0301637
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

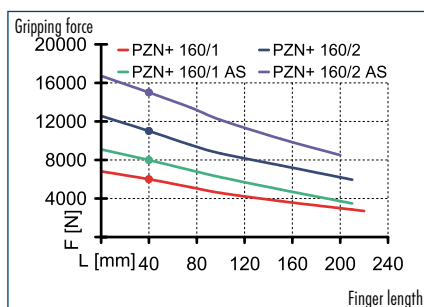




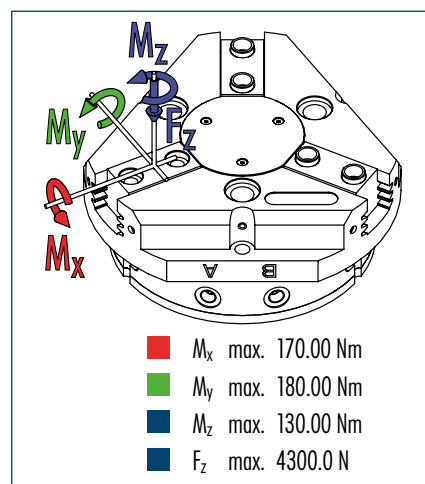
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

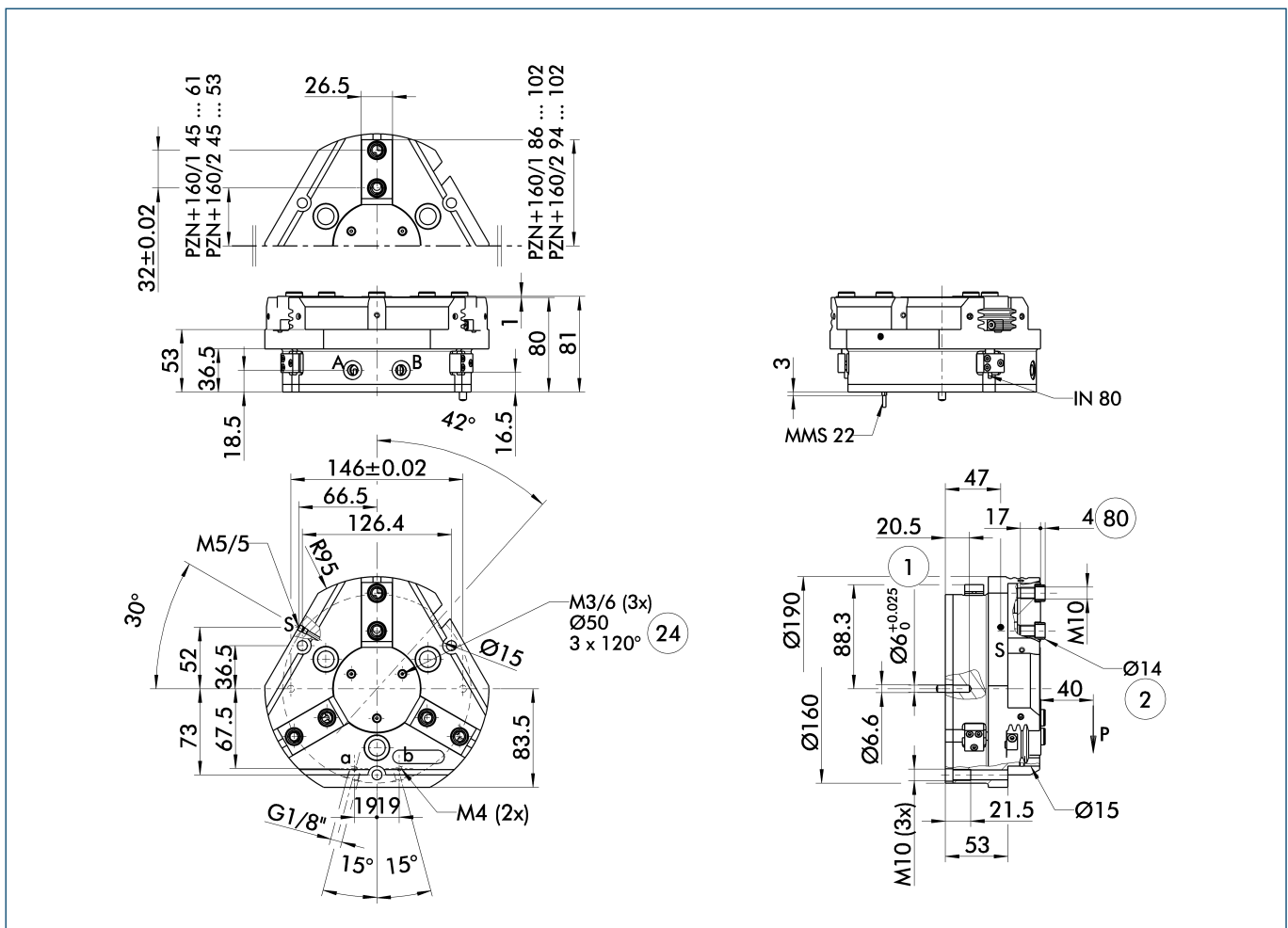
Technical data

Description		PZN-plus 160-1	PZN-plus 160-2	PZN-plus 160-1-AS	PZN-plus 160-2-AS	PZN-plus 160-1-IS	PZN-plus 160-2-IS
ID		0303314	0303414	0303514	0303614	0303544	0303644
Stroke per finger	[mm]	16	8	16	8	16	8
Closing force	[N]	6000	11000	7990	15010		
Opening force	[N]	6390	11750			8480	16090
Min. spring force	[N]			1990	4010	2090	4340
Weight	[kg]	5.6	5.6	8	8	8	8
Recommended workpiece weight	[kg]	30	55	30	55	30	55
Air consumption per double stroke	[cm³]	520	520	875	875	875	875
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.5/0.5	0.5/0.5	0.4/0.8	0.4/0.8	0.8/0.4	0.8/0.4
Max. permitted finger length	[mm]	220	210	210	200	210	200
Max. permitted weight per finger	[kg]	3.5	3.5	3.5	3.5	3.5	3.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303314	37303414	37303514	37303614	37303544	37303644
IP class		64	64	64	64	64	64
Weight	[kg]	6.5	6.5	8.9	8.9	8.9	8.9
Anti-corrosion version		38303314	38303414	38303514	38303614	38303544	38303644
High-temperature version		39303314	39303414	39303514	39303614	39303544	39303644
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Force intensified version		PZN-plus 160-1-KVZ	PZN-plus 160-2-KVZ	PZN-plus 160-1-AS-KVZ		PZN-plus 160-1-IS-KVZ	
ID		0372205	0372215	0372225		0372245	
Closing force	[N]	10800	19800	12730			
Opening force	[N]	11500	21150			13590	
Weight	[kg]	7.8	7.8	9.6		9.6	
Maximum pressure	[bar]	8	8	6		6	
Max. permitted finger length	[mm]	125	100	100		100	
Precision version		0303344	0303444	0303494	0303594		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

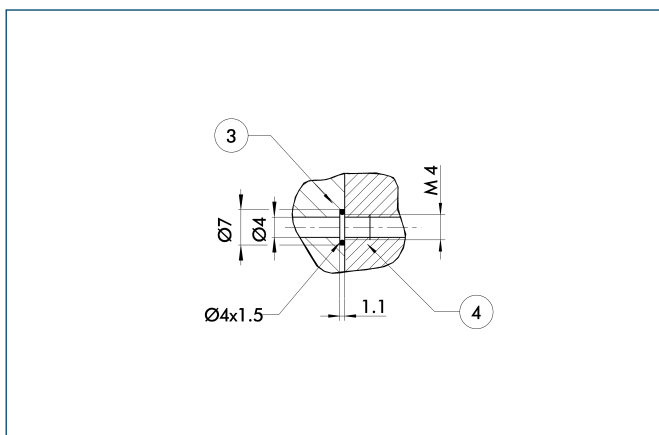
① Gripper connection

② Finger connection

②④ Bolt circle

⑧⑩ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

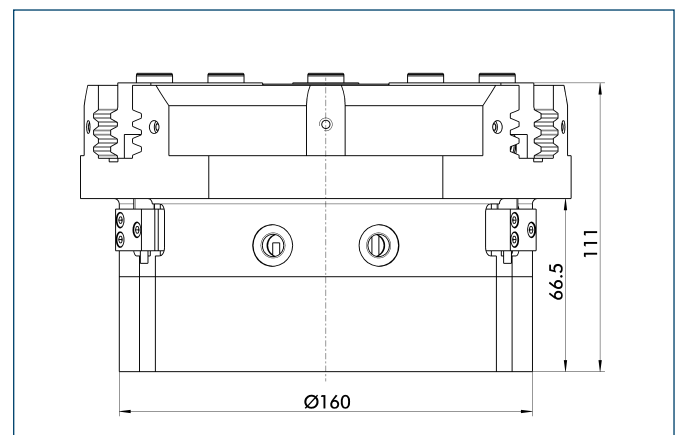


③ Adapter

④ Gripper

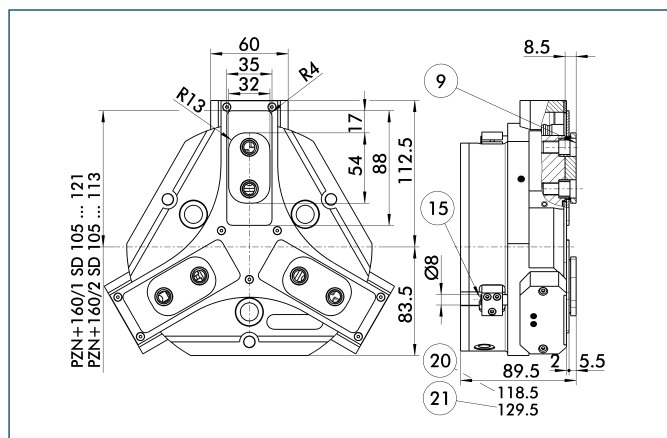
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

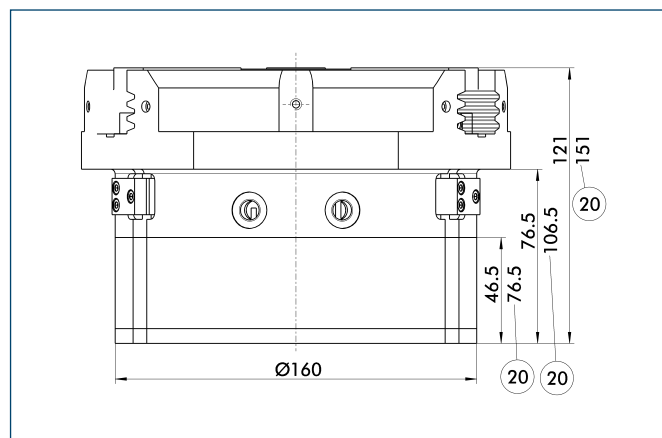
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
 ⑮ Sealing bolt
 ⑳ For AS / IS version
 ㉑ Applies for KVZ version

The "dust-protection" option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

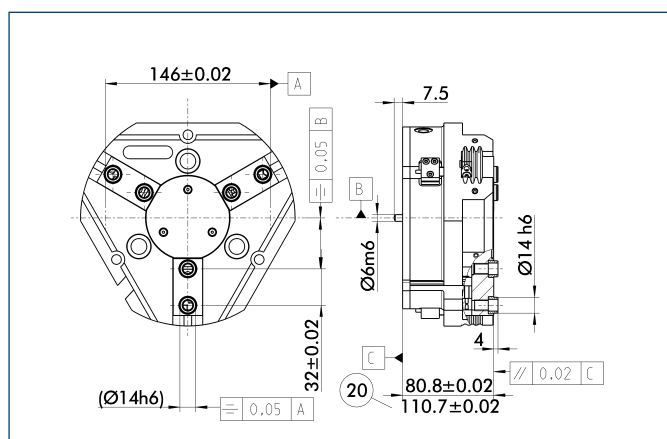
Force intensified version



- ㉑ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

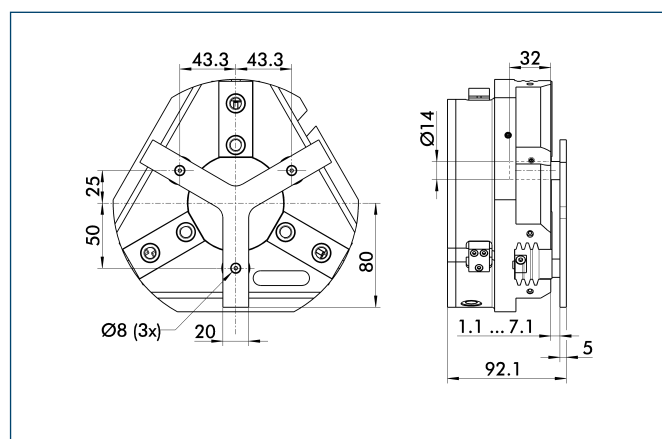
Precision version



- ㉑ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

Spring-loaded pressure piece

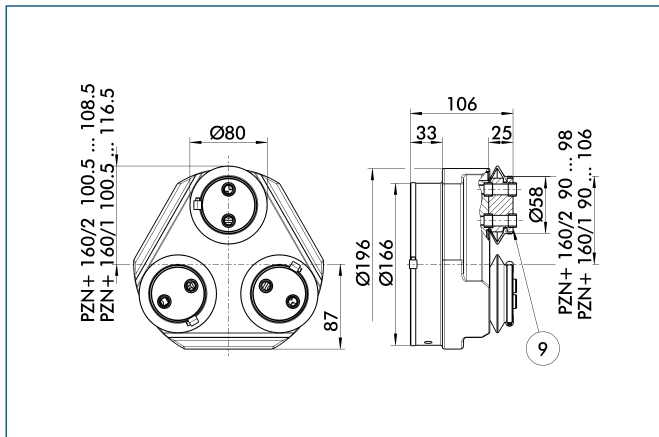


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6 mm	205 N

- ① The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

Protection cover



- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO-classification 14644-1
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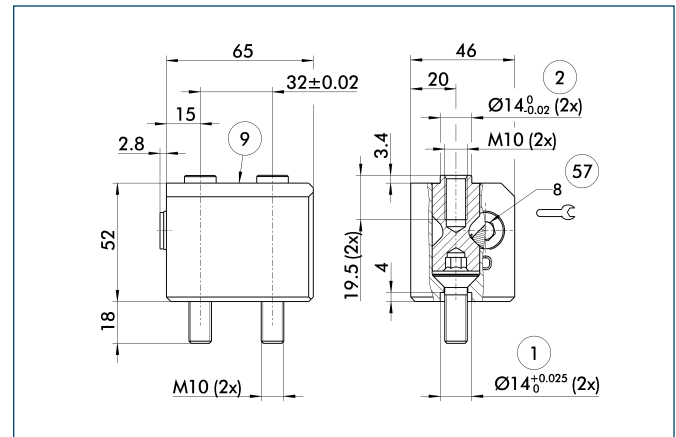
Protection cover

HUE PZN-plus 160

0303484

2

Quick-change Jaw System



- ① Gripper connection
② Finger connection
⑨ For mounting screw connection diagram, see basic version
⑤⑦ Locking
⑧

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

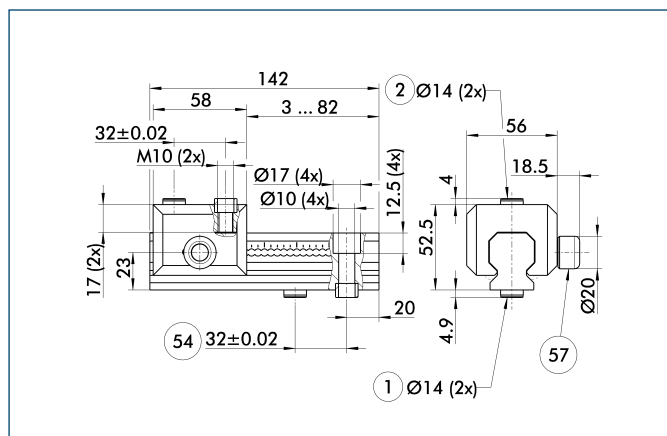
For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031
Quick-change Jaw System reversed	
BSWS-U 160	0303045



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



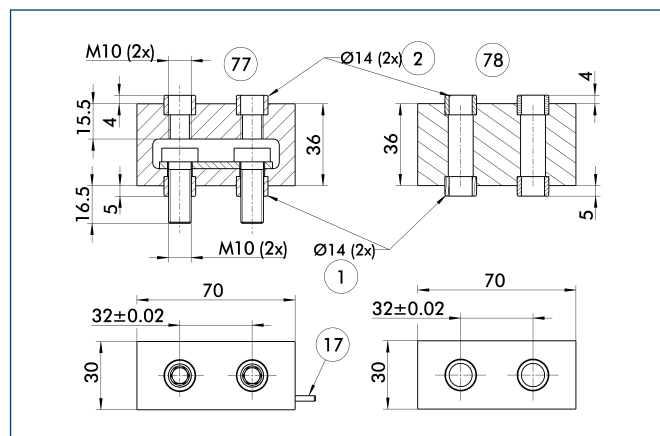
- 1 Gripper connection
- 2 Finger connection
- 54 Optional right or left connection
- 57 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 160	0300046	4 mm
UZH-S 160	5518274	4 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

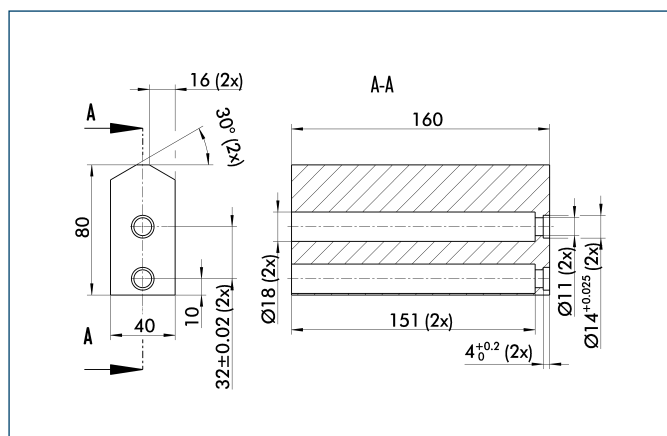


- 1 Gripper connection
- 2 Finger connection
- 17 Cable outlet
- 77 Active intermediate jaws
- 78 Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

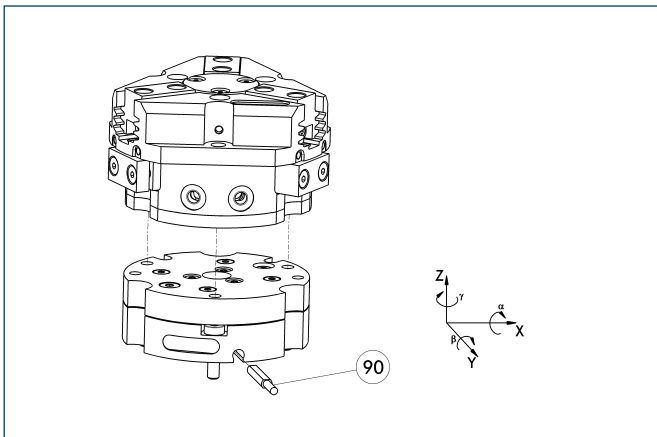


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

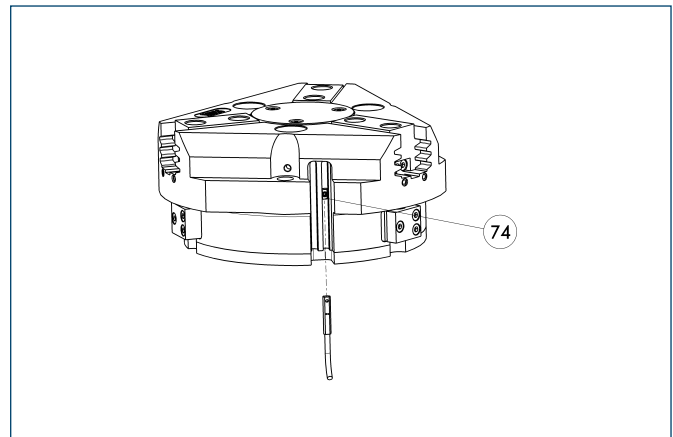


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-Z	0324838	Yes	
TCU-160-3-OV-Z	0324839	No	

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

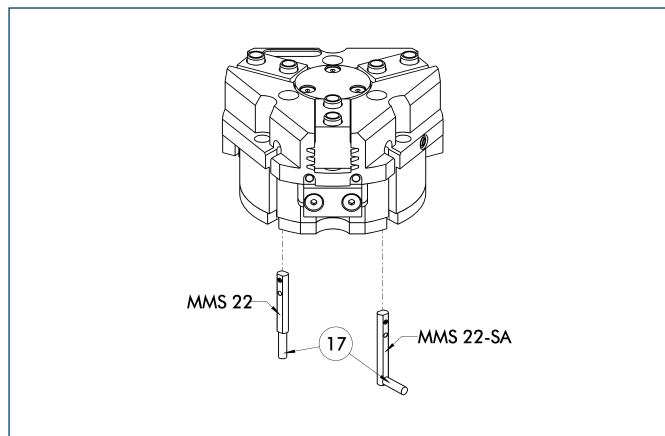
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

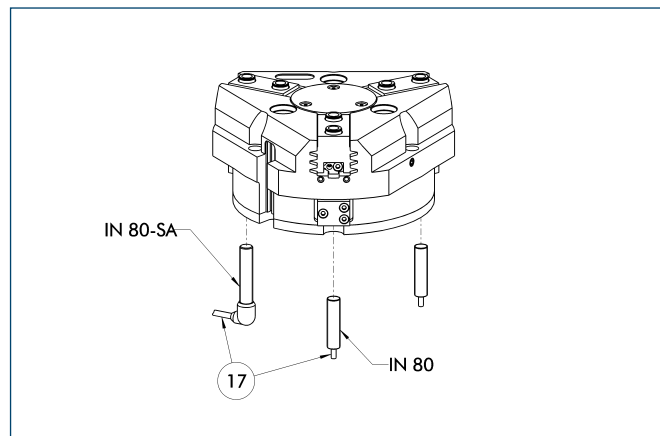
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

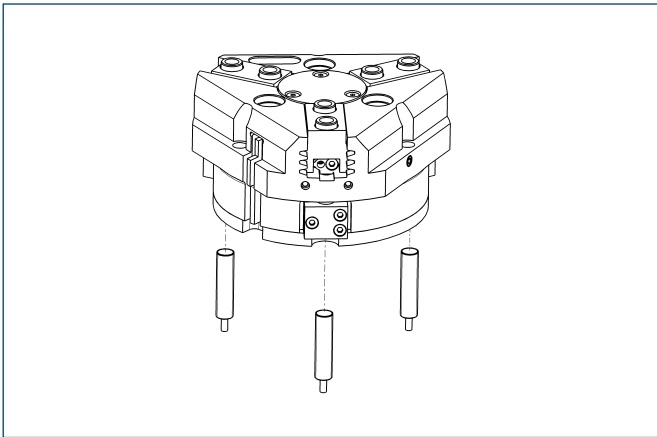
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

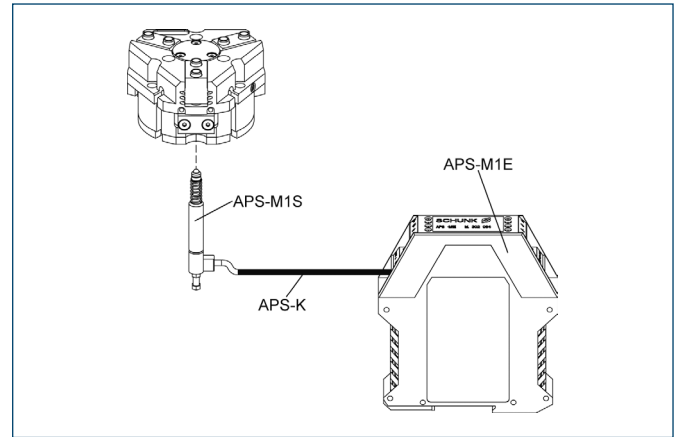


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

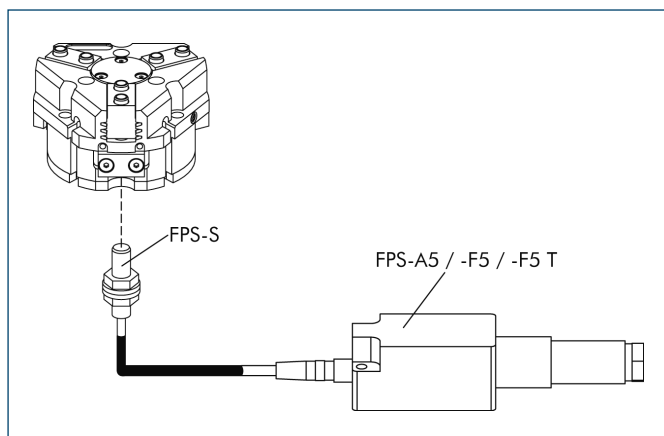
Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-160/2	0302084
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

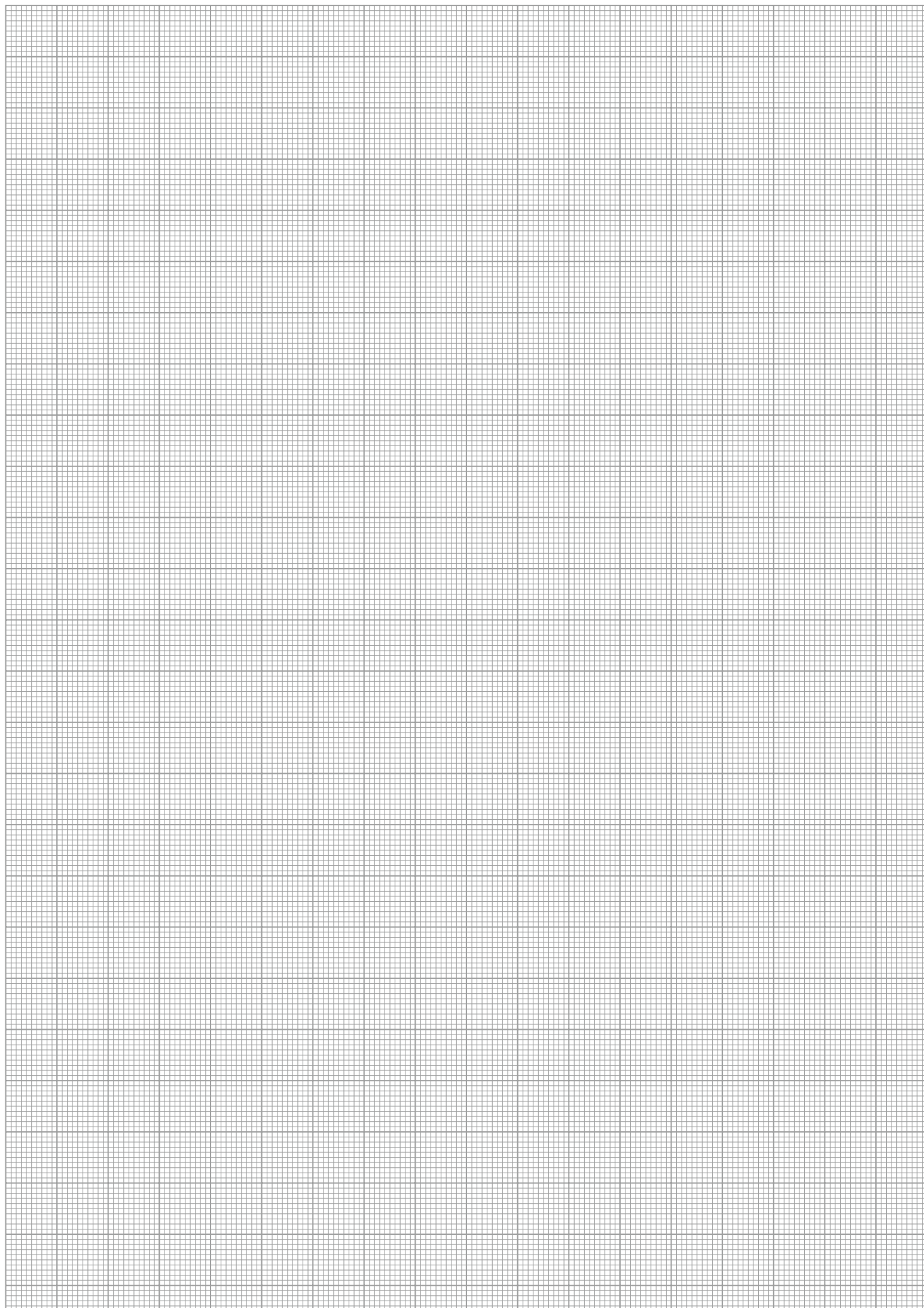
Flexible Position Sensor

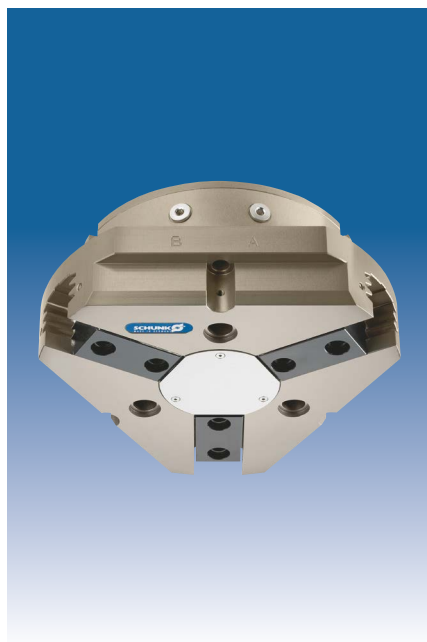


Flexible position monitoring of up to five positions

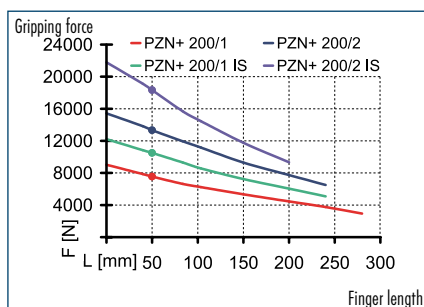
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 160/1	0301638
AS-PGN/PZN-plus 160/2	0301639
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

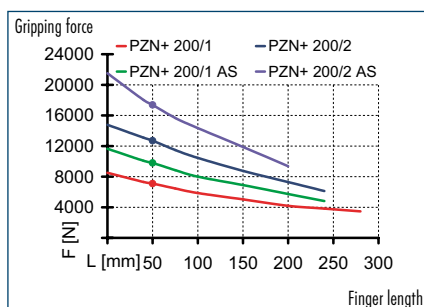




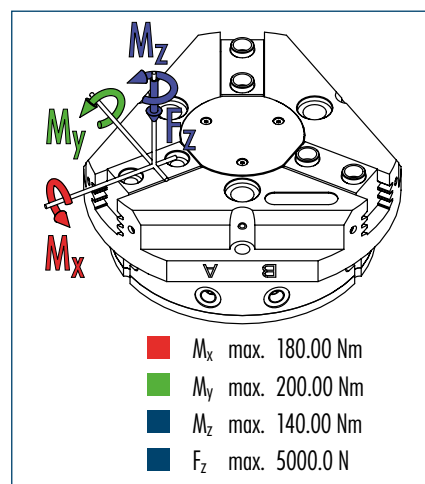
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

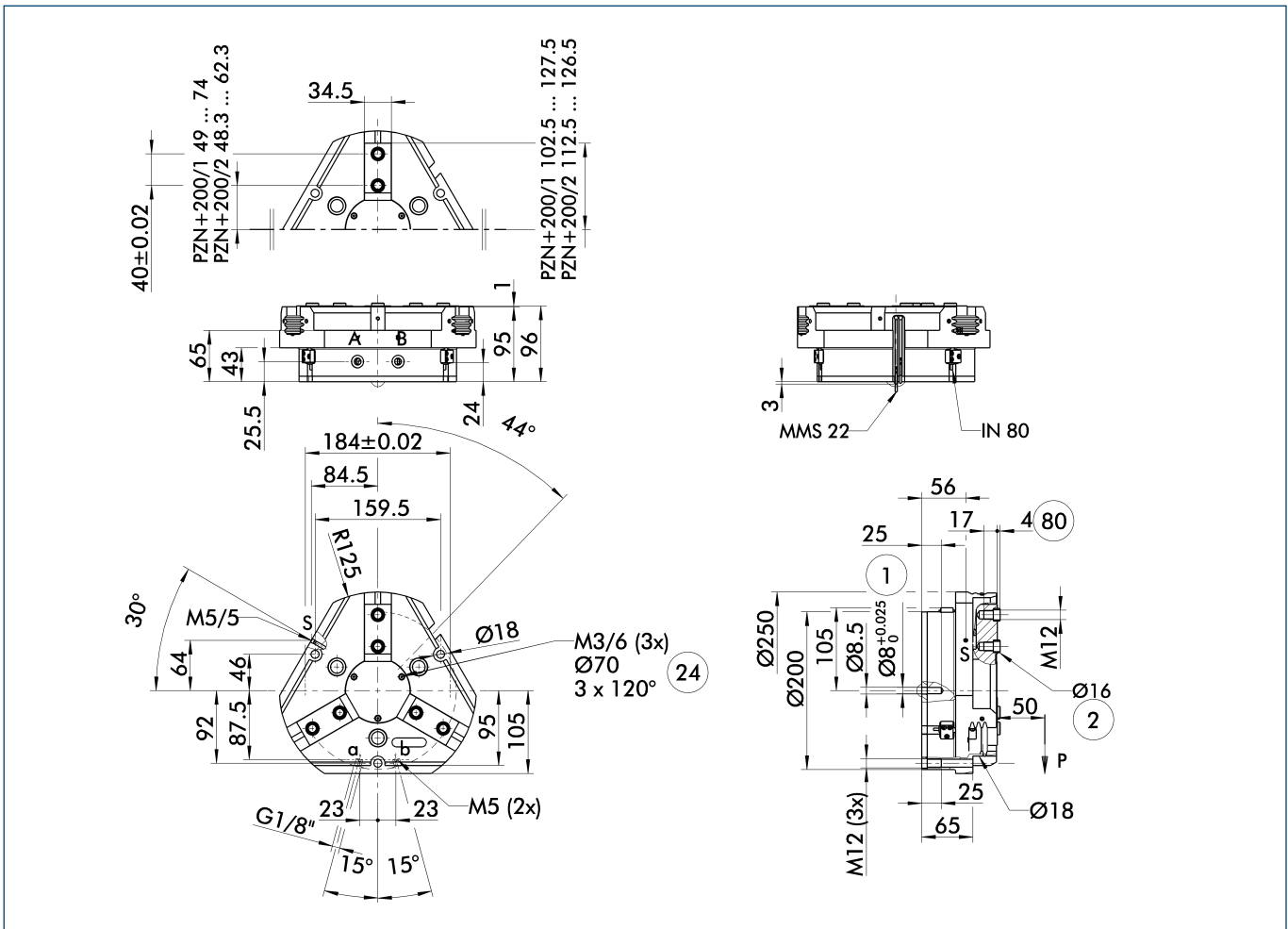
Technical data

Description		PZN-plus 200-1	PZN-plus 200-2	PZN-plus 200-1-AS	PZN-plus 200-2-AS	PZN-plus 200-1-IS	PZN-plus 200-2-IS
ID		0303315	0303415	0303515	0303615	0303545	0303645
Stroke per finger	[mm]	25	14	25	14	25	14
Closing force	[N]	7100	12700	9800	17380		
Opening force	[N]	7540	13330			10500	18330
Min. spring force	[N]			2700	4680	2960	5000
Weight	[kg]	11	11	15.7	15.7	15.7	15.7
Recommended workpiece weight	[kg]	35.5	63.5	35.5	63.5	35.5	63.5
Air consumption per double stroke	[cm ³]	1040	1040	1725	1725	1725	1725
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	1.2/1.2	1.2/1.2	1/1.5	1/1.5	1.5/1	1.5/1
Max. permitted finger length	[mm]	280	240	240	200	240	200
Max. permitted weight per finger	[kg]	6.5	6.5	6.5	6.5	6.5	6.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version	37303315	37303415	37303515	37303615	37303545	37303645
IP class	64	64	64	64	64	64
Weight [kg]	12	12	16.7	16.7	16.7	16.7
Anti-corrosion version	38303315	38303415	38303515	38303615	38303545	38303645
High-temperature version	39303315	39303415	39303515	39303615	39303545	39303645
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version	0303345	0303445	0303495	0303595		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

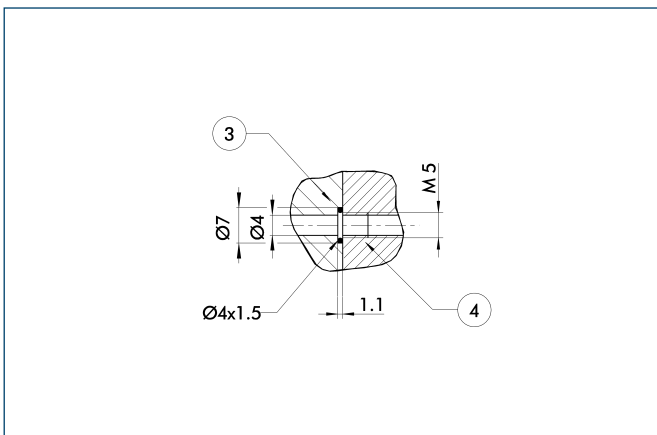
① Gripper connection

② Finger connection

②4 Bolt circle

⑧0 Depth of the centering sleeve hole in the matching part

Hose-free direct connection

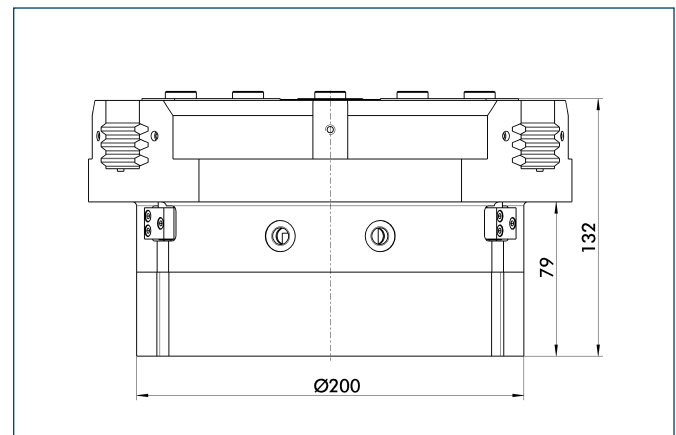


③ Adapter

④ Gripper

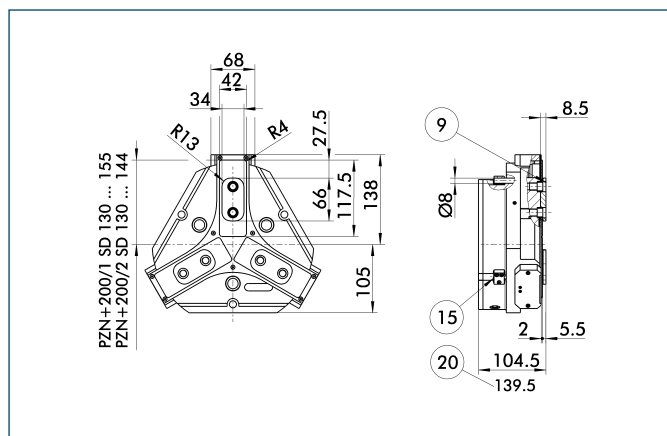
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

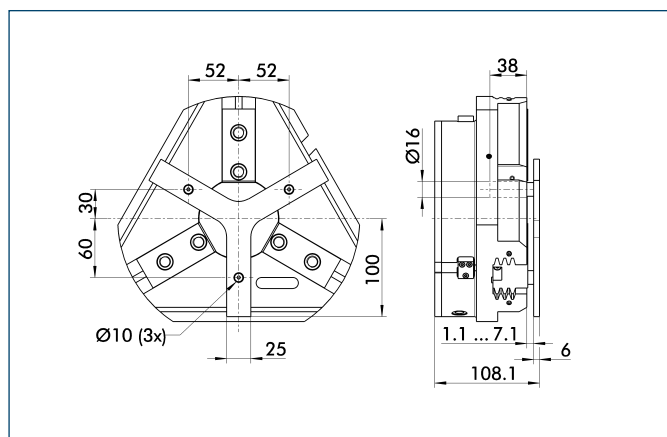
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version
 ⑮ Sealing bolt
 ⑳ For AS / IS version

The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Spring-loaded pressure piece

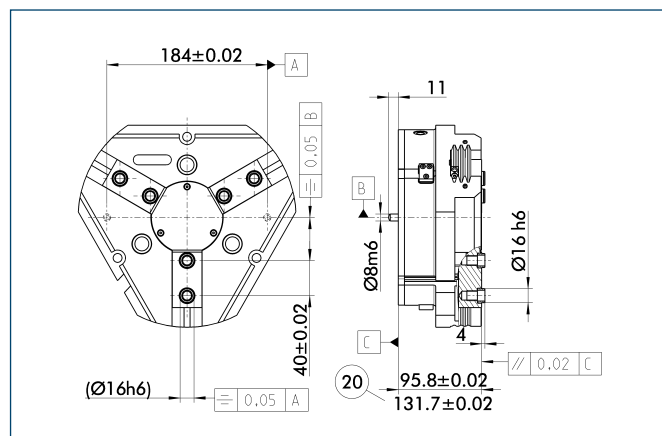


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 200	0303725	6 mm	247 N

- ① The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

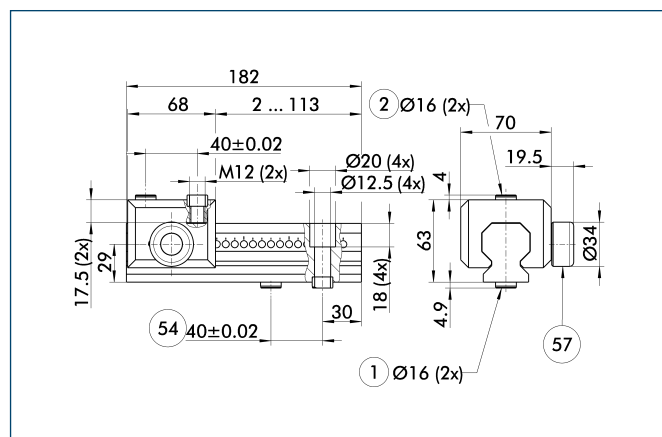
Precision version



- ⑳ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

Universal intermediate jaw



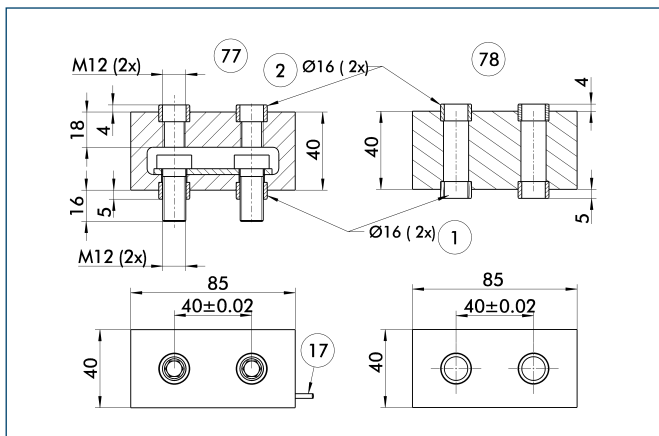
- ① Gripper connection
 ② Finger connection
 ⑤④ Optional right or left connection
 ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZZ 200	0300047	7 mm
UZZ-S 200	5518275	7 mm

- ① The slide UZZ-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

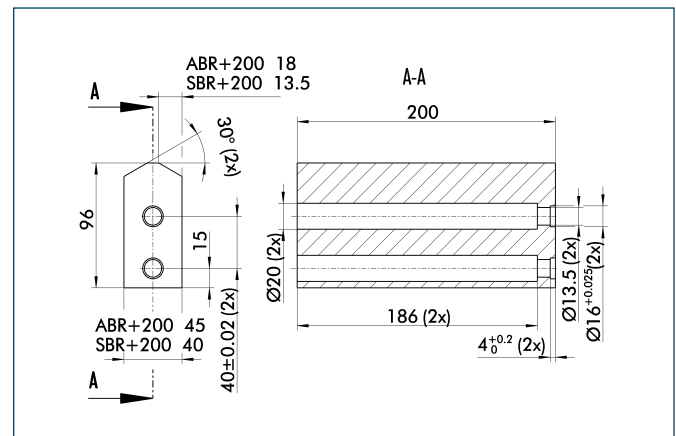


- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 200	0301842
Passive intermediate jaws	
FMS-ZBP 200	0301843
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

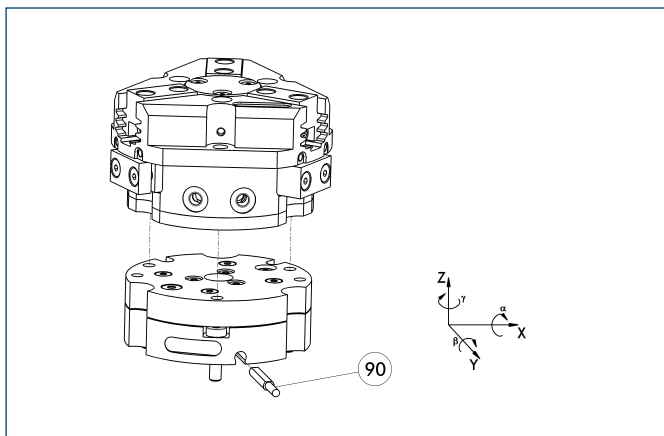


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 200	0300015	Aluminum	1
SBR-plus 200	0300025	16 MnCr 5	1



Tolerance compensation unit

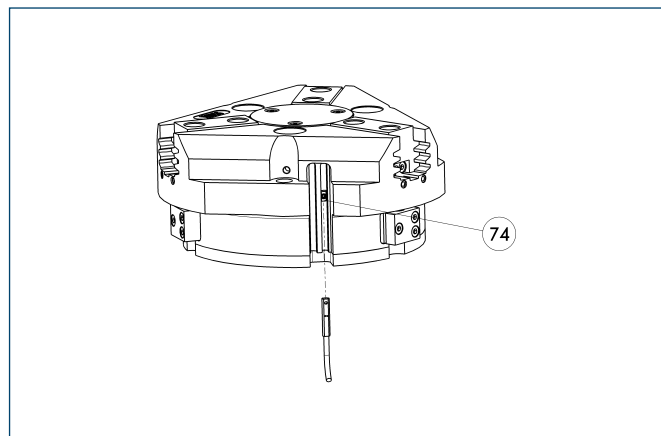


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-200-3-MV-Z	0324856	Yes	
TCU-200-3-OV-Z	0324857	No	

Programmable magnetic switch



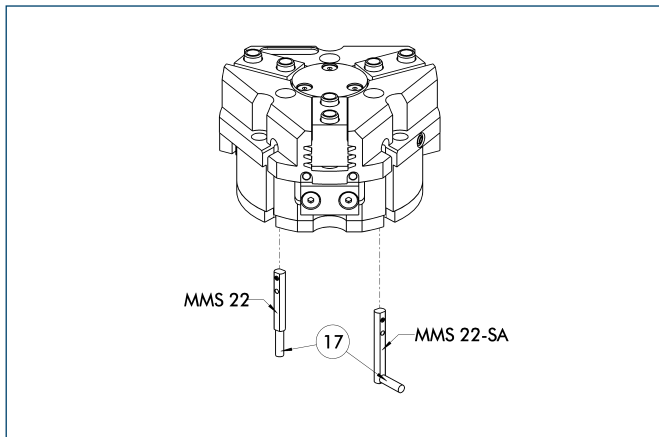
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

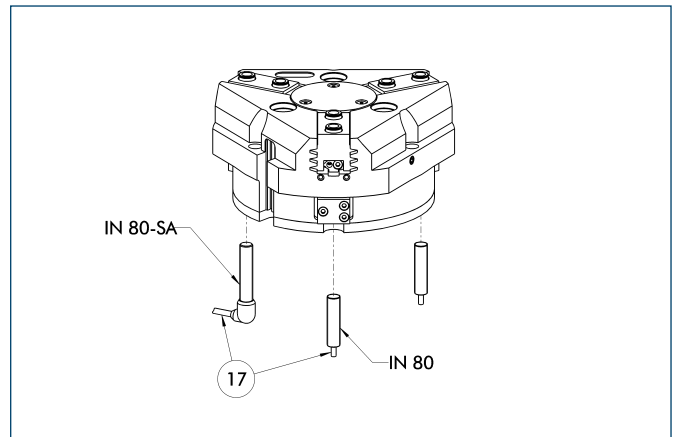
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring for direct mounting

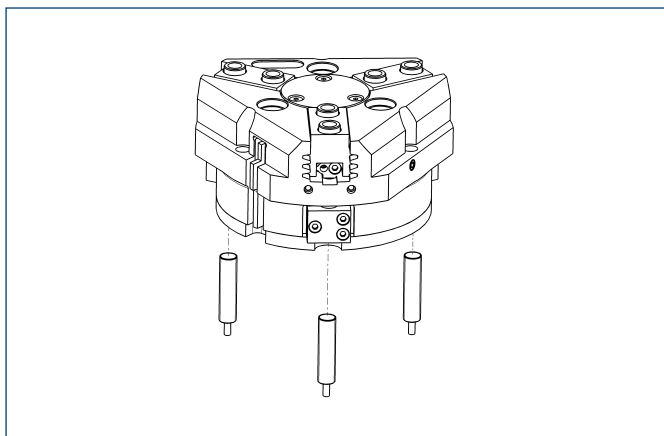
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Cylindrical Reed Switches

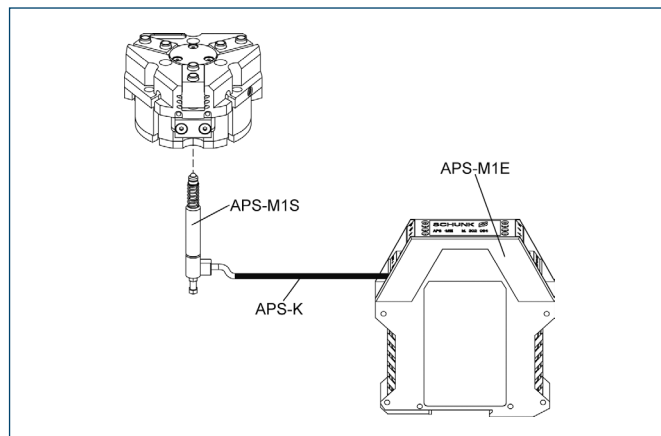


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

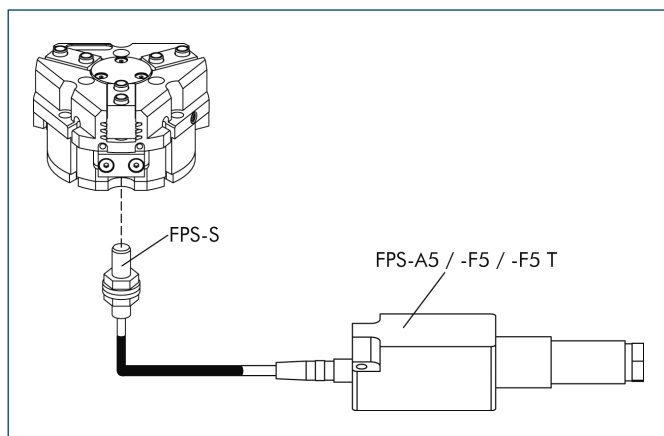


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-200/1 and 380/2	0302085
AS-APS-M1-200/2	0302086
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 200/1	0301640
AS-PGN/PZN-plus 200/2	0301641
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



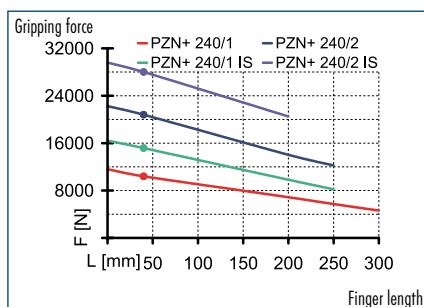
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

PZN-plus 240

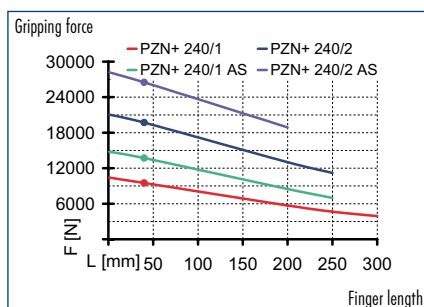
Pneumatic • 3-Finger Centric Gripper • Universal Gripper



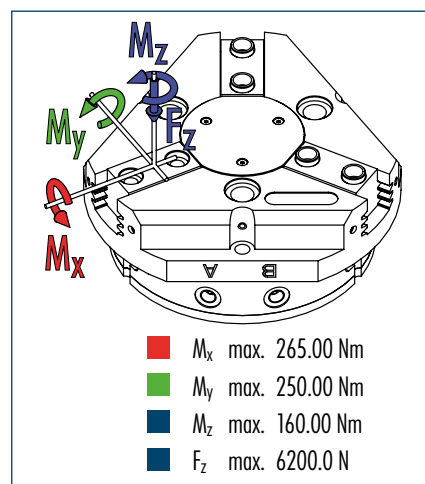
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

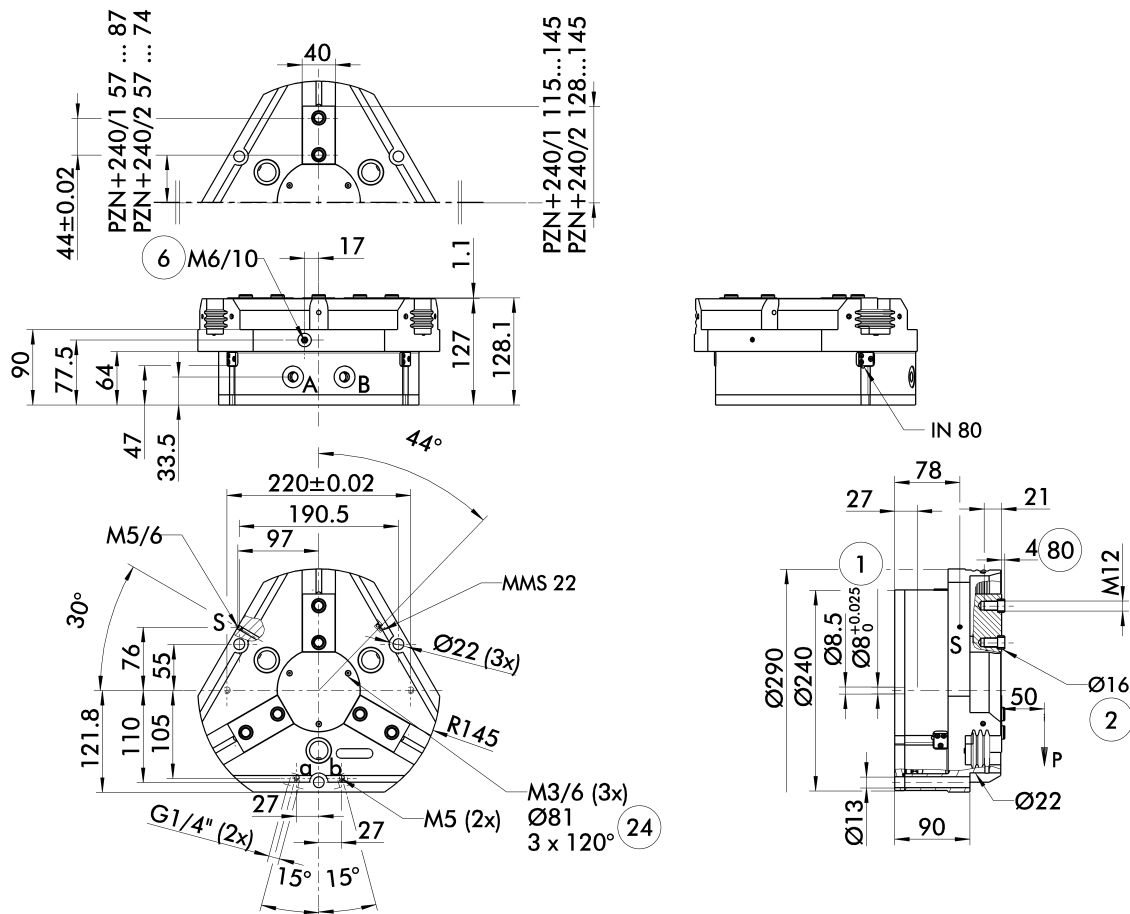
Technical data

Description		PZN-plus 240-1	PZN-plus 240-2	PZN-plus 240-1-AS	PZN-plus 240-2-AS	PZN-plus 240-1-IS	PZN-plus 240-2-IS
ID		0303316	0303416	0303516	0303616	0303546	0303646
Stroke per finger	[mm]	30	17	30	17	30	17
Closing force	[N]	9500	19700	13720	26500		
Opening force	[N]	10400	20800			15170	28000
Min. spring force	[N]			4220	6800	4770	7200
Weight	[kg]	20	20	24	24	24	24
Recommended workpiece weight	[kg]	50	100.5	50	100.5	50	100.5
Air consumption per double stroke	[cm ³]	1780	1780	3090	3090	3090	3090
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	1.25/1.25	1.25/1.25	1.1/2.1	1.1/2.1	1.7/1.1	1.7/1.1
Max. permitted finger length	[mm]	300	250	250	200	250	200
Max. permitted weight per finger	[kg]	8.5	8.5	8.5	8.5	8.5	8.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version	37303316	37303416	37303516	37303616	37303546	37303646
IP class	64	64	64	64	64	64
Weight [kg]	21.5	21.5	25.5	25.5	25.5	25.5
Anti-corrosion version	38303316	38303416	38303516	38303616	38303546	38303646
High-temperature version	39303316	39303416	39303516	39303616	39303546	39303646
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version	0303346	0303446	0303496	0303596		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

S Air purge connection

① Gripper connection

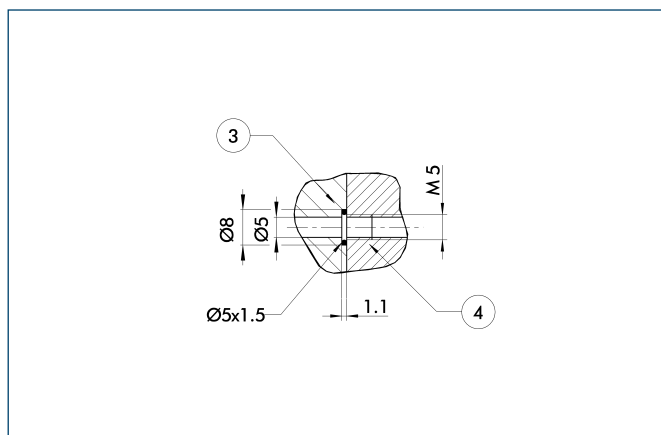
② Finger connection

⑥ Lubricating nipple connection

②④ Bolt circle

⑧⑩ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

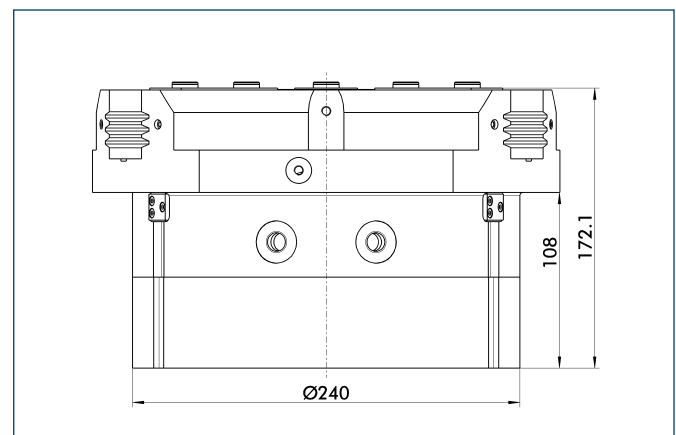


③ Adapter

④ Gripper

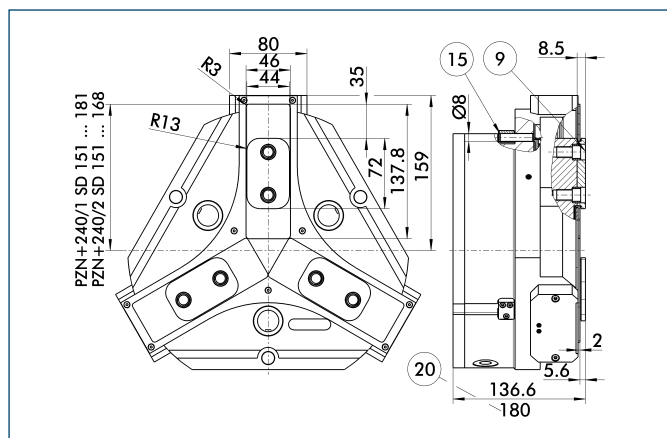
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

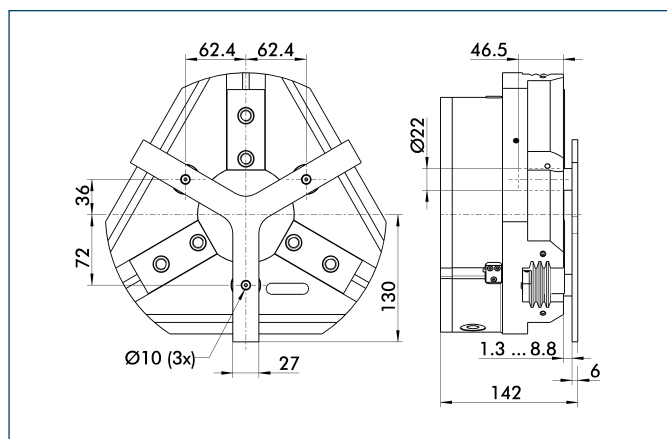
Dust-protection version



- ⑨ For mounting screw connection diagram, see basic version


The “dust-protection” option increases the degree of protection against penetrating substances. The screw connection diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Spring-loaded pressure piece

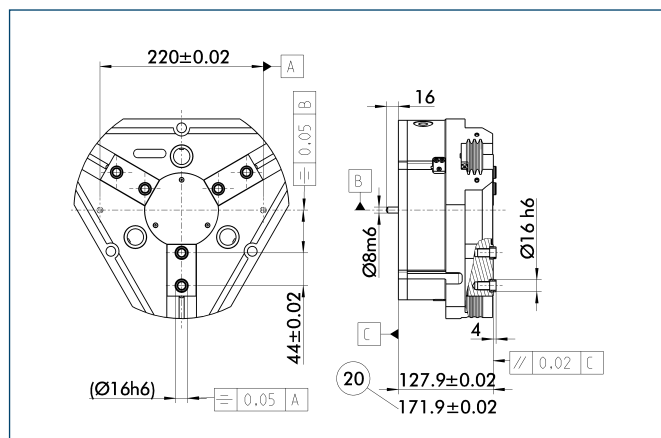


For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZn-plus/DPZ-plus 240	0303726	7.5 mm	240 N

-  The pressure piece cannot be combined with the dust-protection version. Please contact us if you require a special pressure piece.

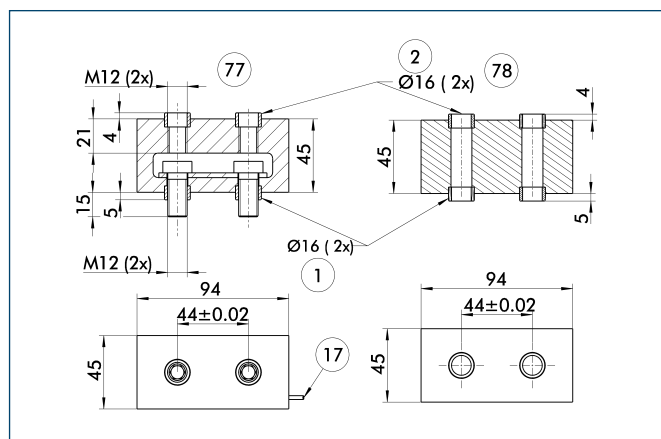
Precision version



- ② For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

Force measuring jaws

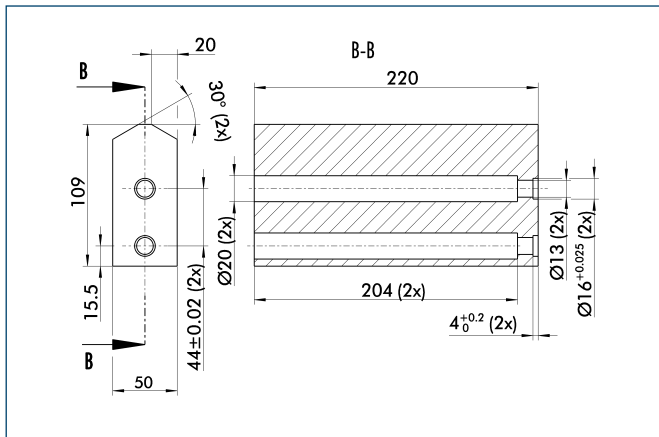


- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 240	0301844
Passive intermediate jaws	
FMS-ZBP 240	0301845
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

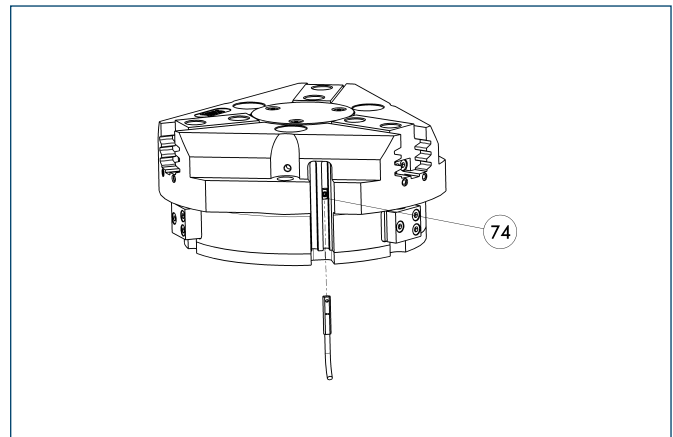
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 240	0300017	Aluminum	1
SBR-plus 240	0300027	16 MnCr 5	1

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

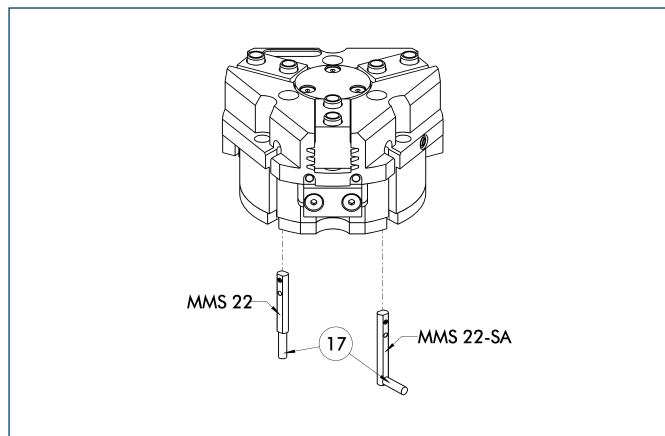
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



⑰ Cable outlet

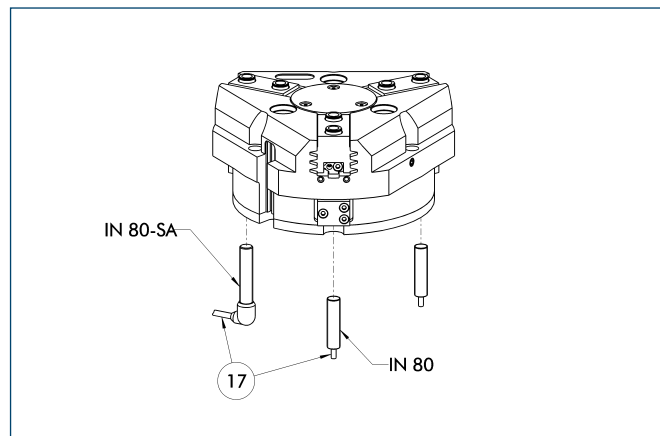
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

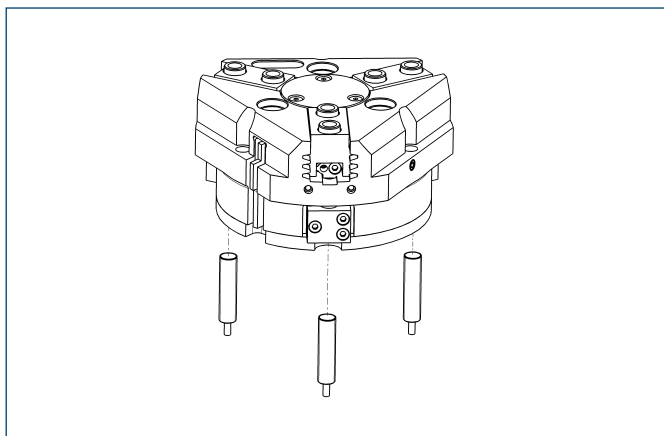
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

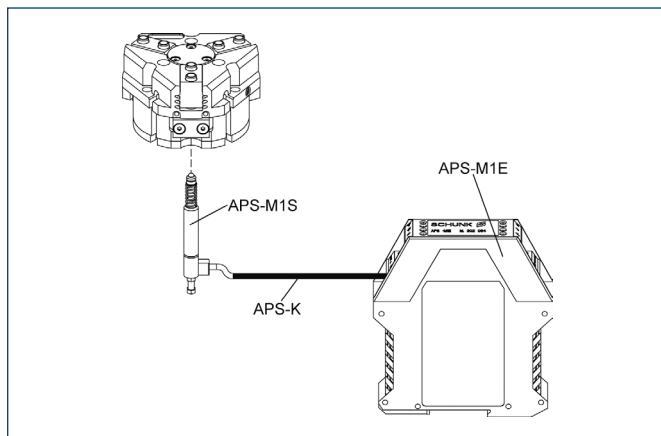


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor



Analog multi position monitoring for any desired positions

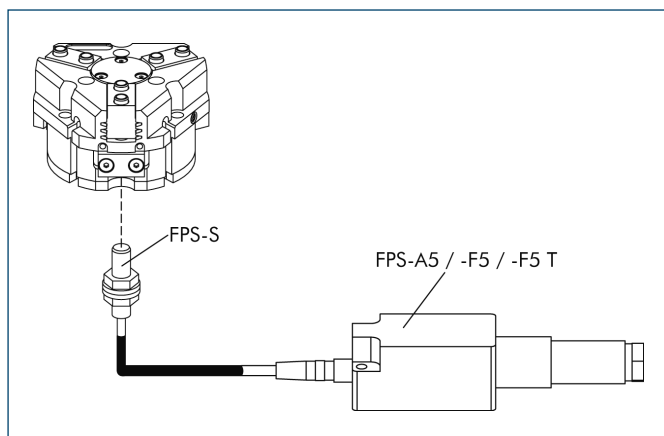
Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
AS-APS-M1-240/1	0302087
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

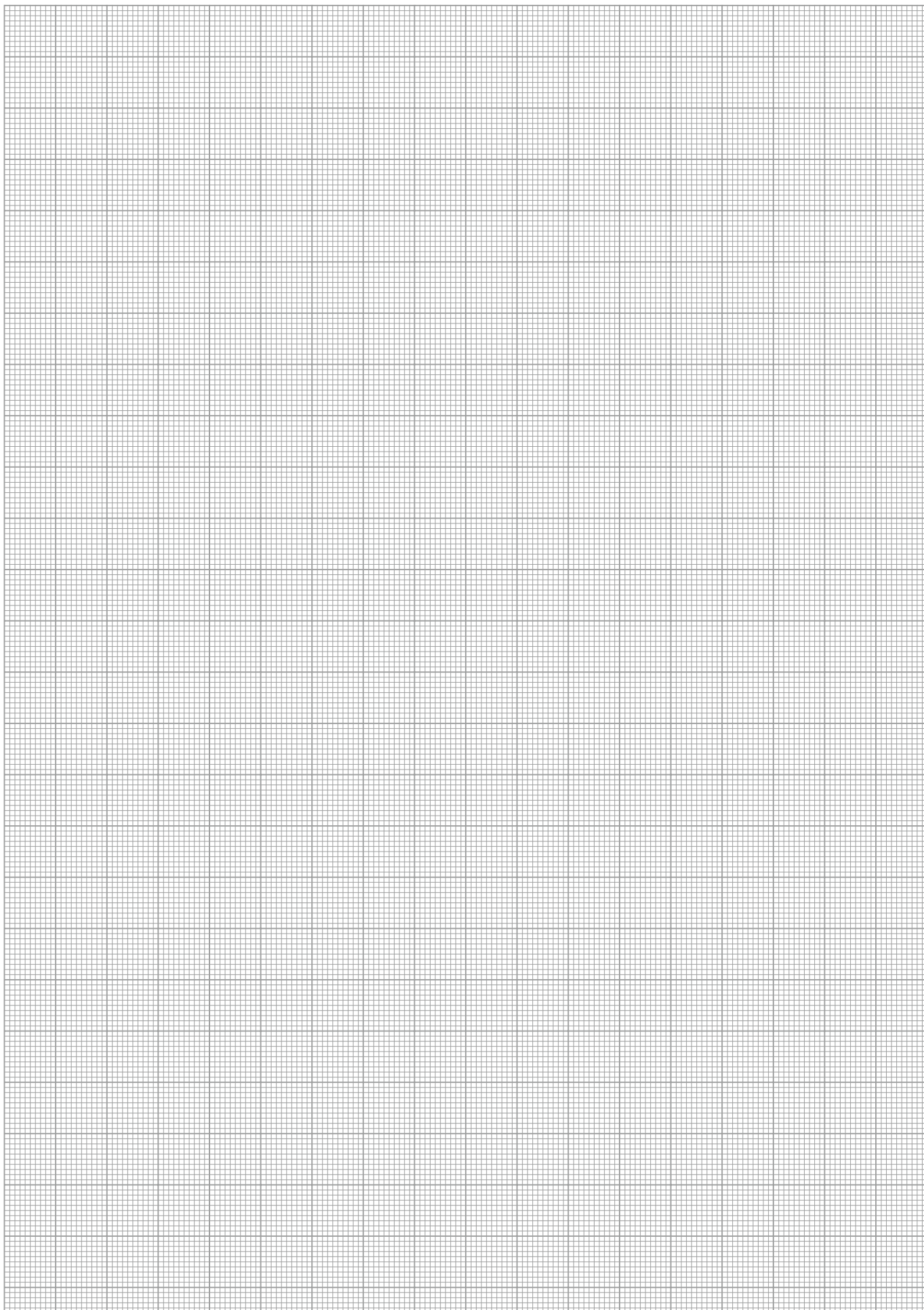
Flexible Position Sensor



Flexible position monitoring of up to five positions

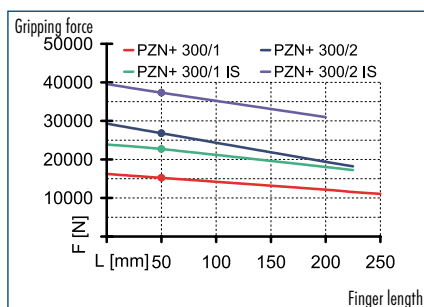
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 240/1	0301643
AS-PGN/PZN-plus 240/2	0301644
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

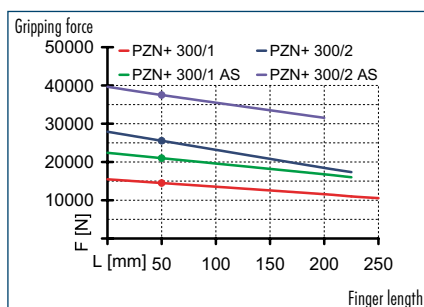




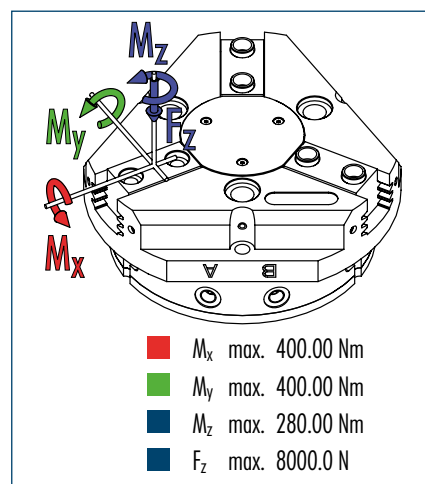
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

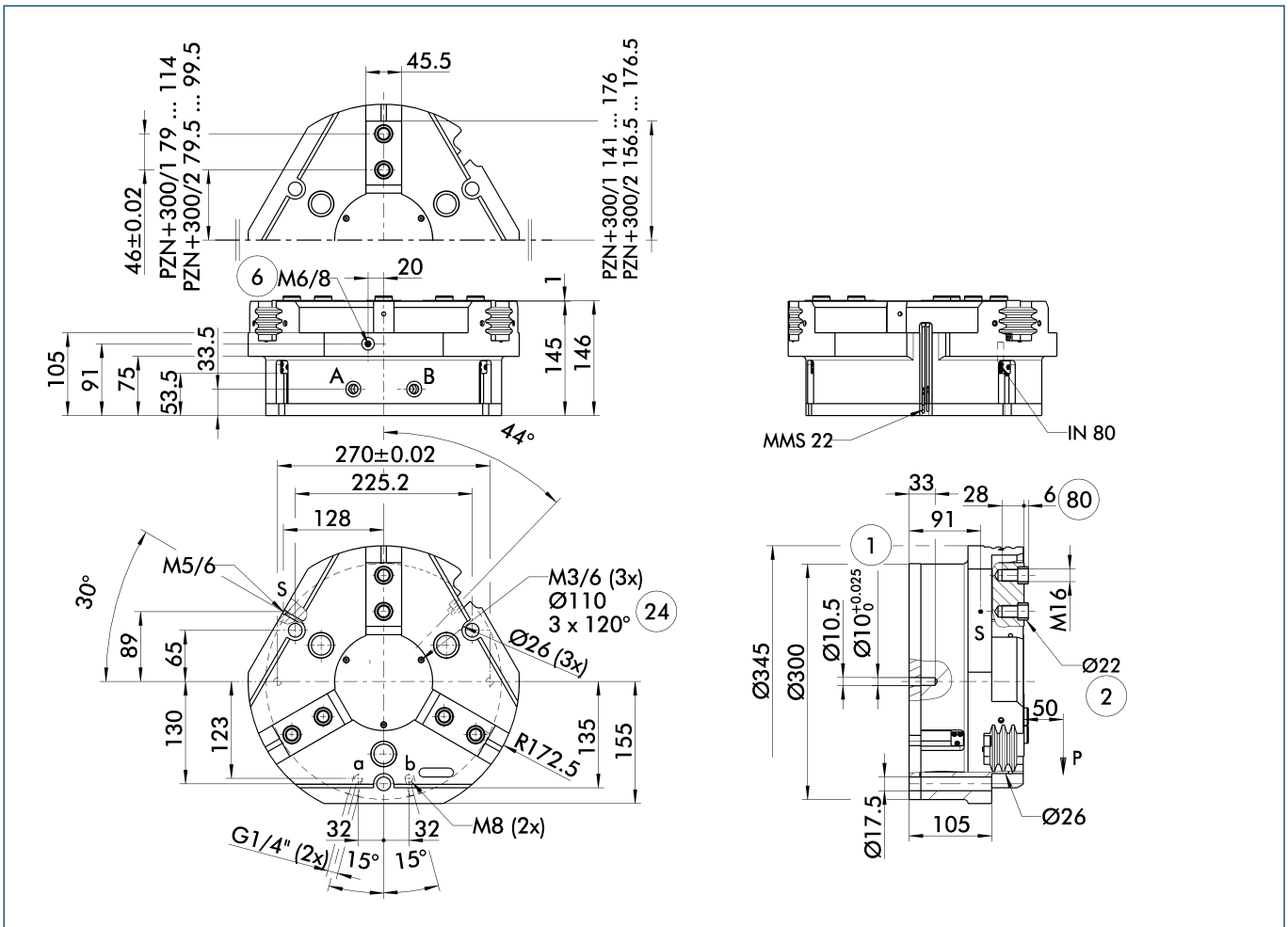
Technical data

Description		PZN-plus 300-1	PZN-plus 300-2	PZN-plus 300-1-AS	PZN-plus 300-2-AS	PZN-plus 300-1-IS	PZN-plus 300-2-IS
ID		0303317	0303417	0303517	0303617	0303547	0303647
Stroke per finger	[mm]	35	20	35	20	35	20
Closing force	[N]	14500	25500	21000	35500		
Opening force	[N]	15200	16800			22700	37300
Min. spring force	[N]			6500	10000	7500	10500
Weight	[kg]	33	33	43.5	43.5	43.5	43.5
Recommended workpiece weight	[kg]	72.5	127.5	72.5	127.5	72.5	127.5
Air consumption per double stroke	[cm³]	2850	2850	5050	5050	5050	5050
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	1.3/1.3	1.3/1.3	1.2/2.5	1.2/2.5	2/1.2	2/1.2
Max. permitted finger length	[mm]	250	225	225	200	225	200
Max. permitted weight per finger	[kg]	11.5	11.5	11.5	11.5	11.5	11.5
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Dust-protection version		37303317	37303417	37303517	37303617	37303547	37303647
IP class		64	64	64	64	64	64
Weight	[kg]	35.5	35.5	46	46	46	46
Anti-corrosion version		38303317	38303417	38303517	38303617	38303547	38303647
High-temperature version		39303317	39303417	39303517	39303617	39303547	39303647
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130
Precision version		0303347	0303447	0303497	0303597		

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

① Gripper connection

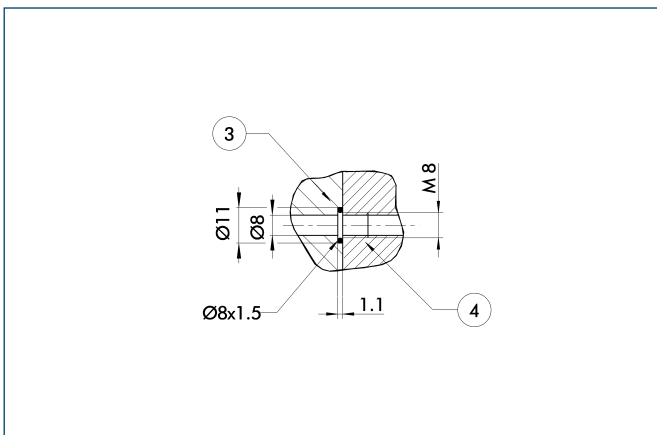
② Finger connection

⑥ Lubricating nipple connection

②④ Bolt circle

⑧⑩ Depth of the centering sleeve hole in the matching part

Hose-free direct connection

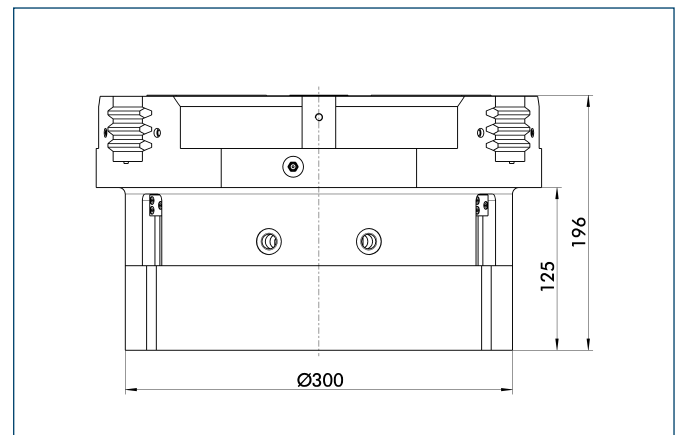


③ Adapter

④ Gripper

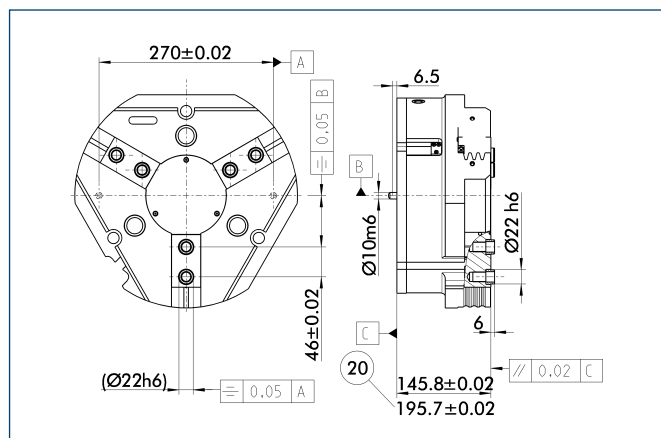
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

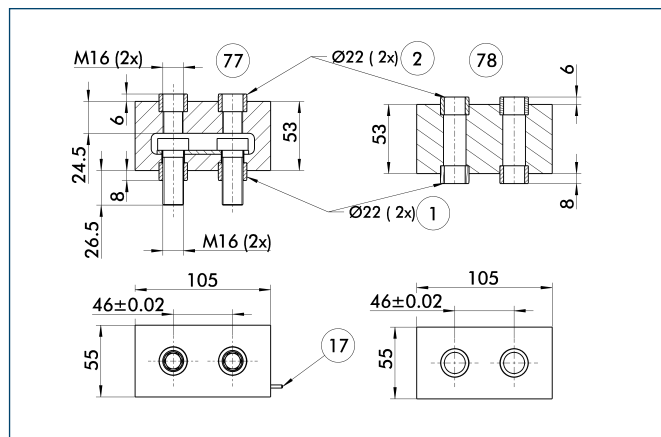
Precision version



- ②⑩ For AS / IS version

The indicated tolerances just refer to the types of precision versions shown in the chart of technical specifications. All other types of precision versions are available on request.

Force measuring jaws

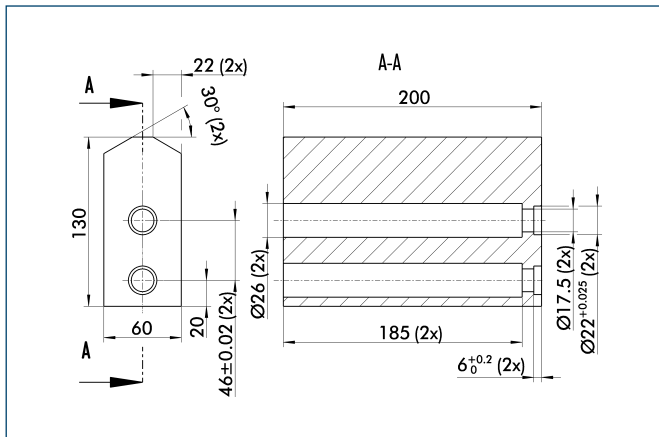


① Gripper connection	⑦⑦ Active intermediate jaws
② Finger connection	⑦⑧ Passive intermediate jaws
①⑦ Cable outlet	

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

- | Description | ID |
|---------------------------|---------|
| Active intermediate jaws | |
| FMS-ZBA 300 | 0301846 |
| Passive intermediate jaws | |
| FMS-ZBP 300 | 0301847 |
| Electronic Processor | |
| FMS-A2 | 0301811 |
| Connection cables | |
| FMS-AK0200 | 0301820 |
| FMS-AK0500 | 0301821 |
| FMS-AK1000 | 0301822 |
| FMS-AK2000 | 0301823 |

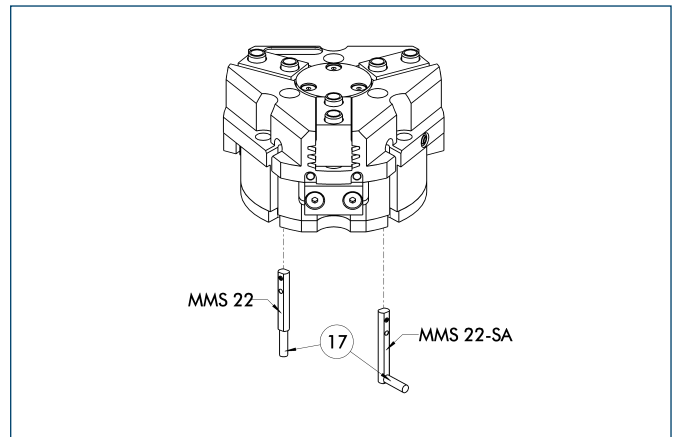
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 300	0300016	Aluminum	1
SBR-plus 300	0300026	16 MnCr 5	1

Electronic magnetic switches



⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

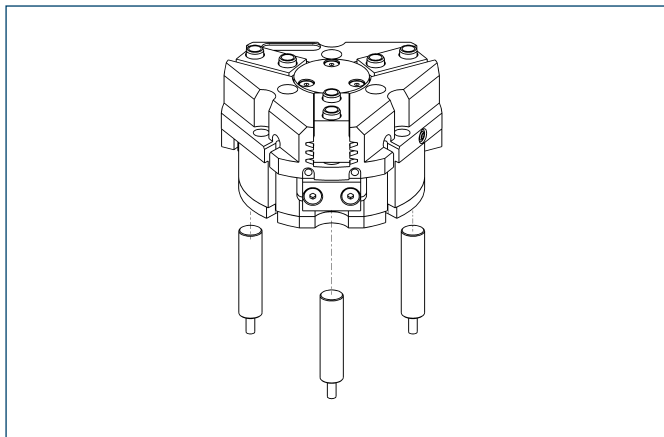
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches

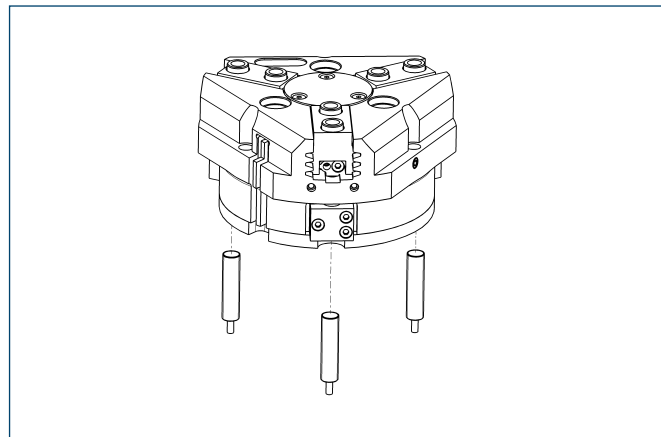


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches

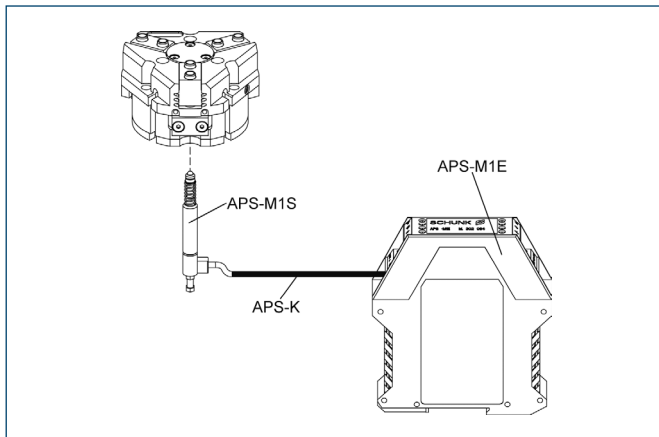


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 160-380	0377727
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

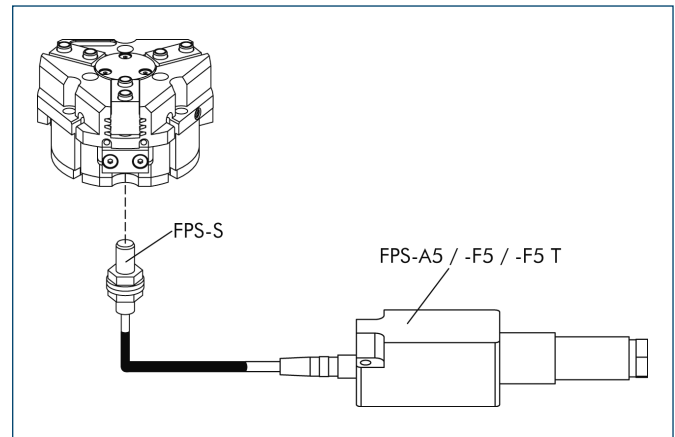


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-300/1	0302088
AS-APS-M1-300/2	0302089
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 300-2	0301642
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



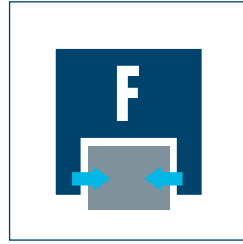
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
40 ... 160



Weight
0.12 kg ... 8 kg



Gripping force
255 N ... 8480 N

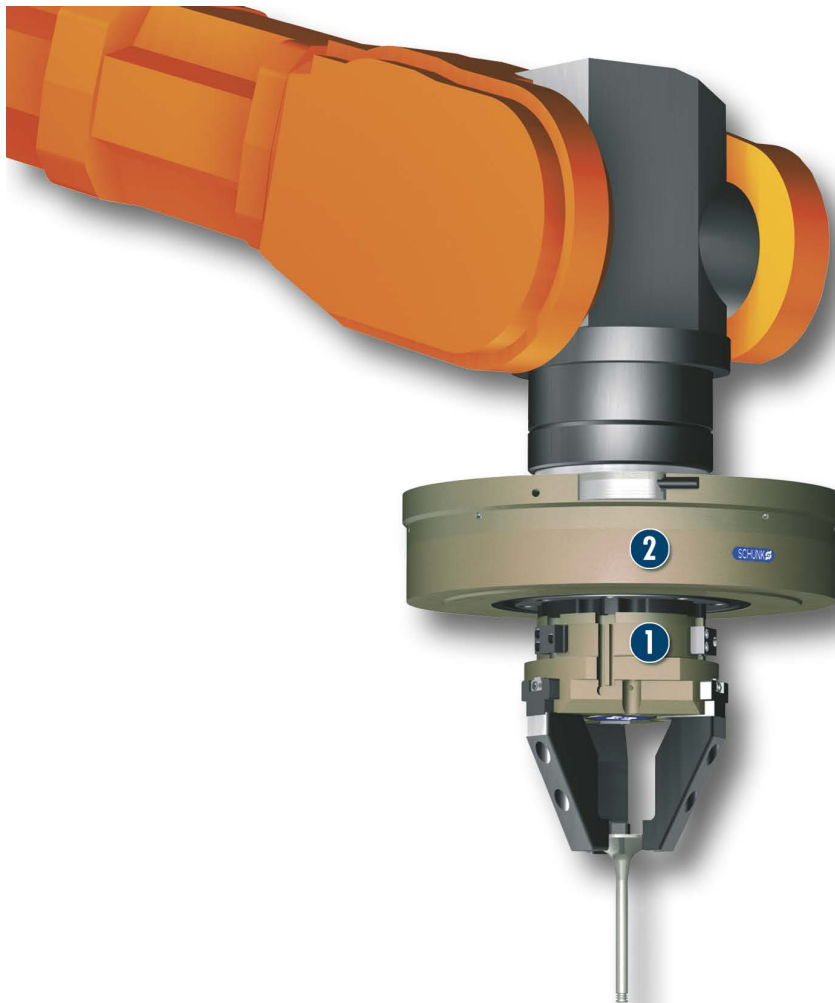


Stroke per finger
2.5 mm ... 16 mm



Workpiece weight
1.25 kg ... 30 kg

Application example



Tactile assembly of insertion aids in cylinder heads

1 3-Finger Centric Gripper JGZ with workpiece-specific gripper fingers

2 6-Axis Force/Torque Sensor FTC-050-80

Universal Gripper

universal 3-Finger Concentric Gripper of the compact class with T-slot guidance and best cost-performance ratio

Field of application

Optimum standard solution for many fields of application. Universal application in clean and slightly dirty surroundings in machine building and plant building industry, assembly and handling as well as automotive industry.

Your advantages and benefits

A firm focus on the essentials

for maximum profitability

Sturdy T-slot guidance

for the precise handling of all kinds of workpieces

Compact dimensions and low weight

for minimal interfering contours in handling

High maximum moments possible

suitable for using long gripper fingers

Wedge-hook design

for high power transmission and synchronized gripping

Comprehensive sensor accessories

for interrogation and control of the stroke position

Fastening at one gripper side in two screw directions

for universal and flexible gripper assembly

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

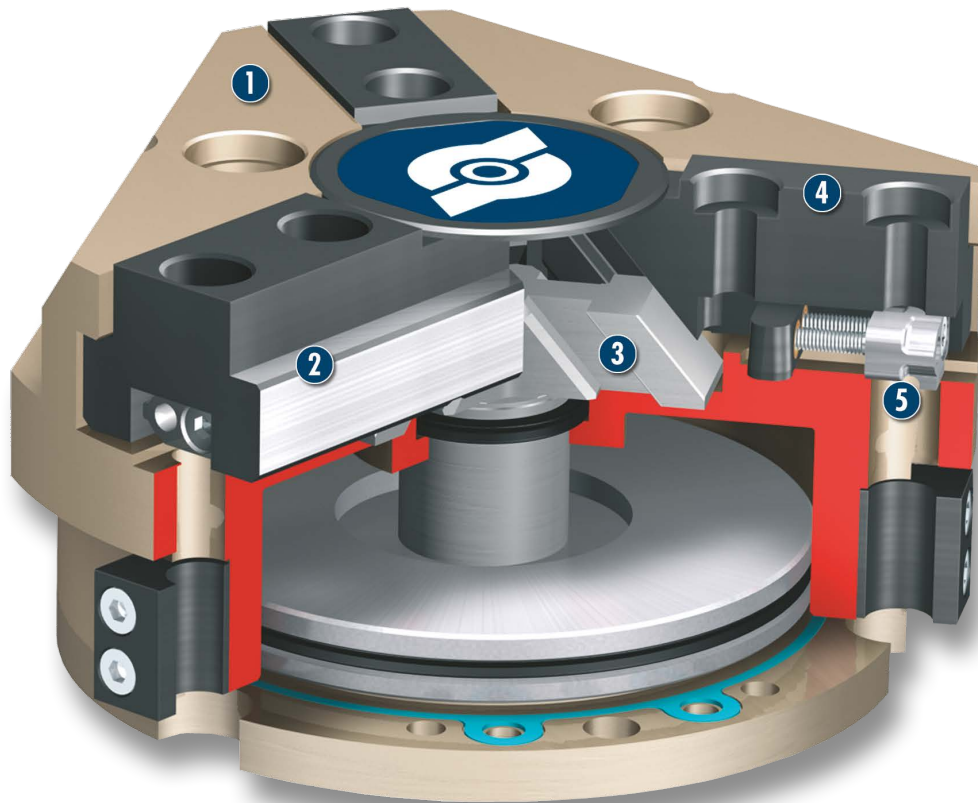
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 T-slot guidance**
loadable, robust base jaw guidance for extremely long gripper fingers
- 3 Wedge-hook design**
for high power transmission and centric gripping
- 4 Base jaw**
for the connection of workpiece-specific gripper fingers
- 5 Sensor system**
Proximity switch can be assembled without mounting kit

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

The JGZ series is especially suitable for economic handling solutions and distinguishes by its high cost-benefit ratio.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Tolerance compensation unit



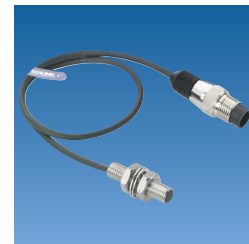
Compensation unit



Magnetic Switches



Inductive proximity switches



Universal intermediate jaw



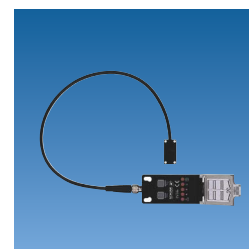
Quick-change Jaw System



Sensor Distributor



Flexible Position Sensor



Pressure maintenance valve



Finger blanks



Force measuring jaws



Analog position sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

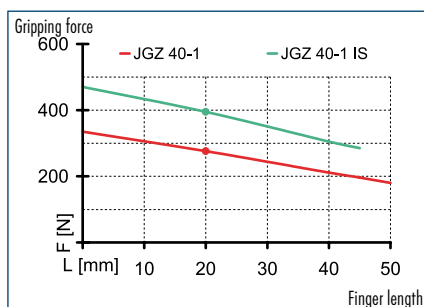
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

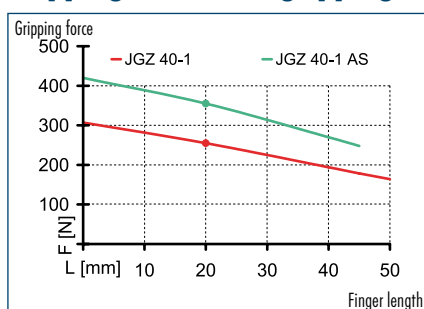
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



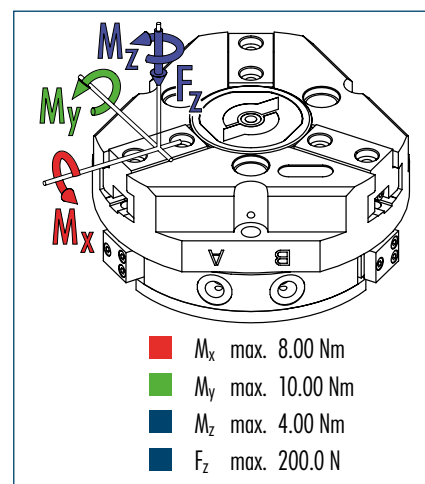
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

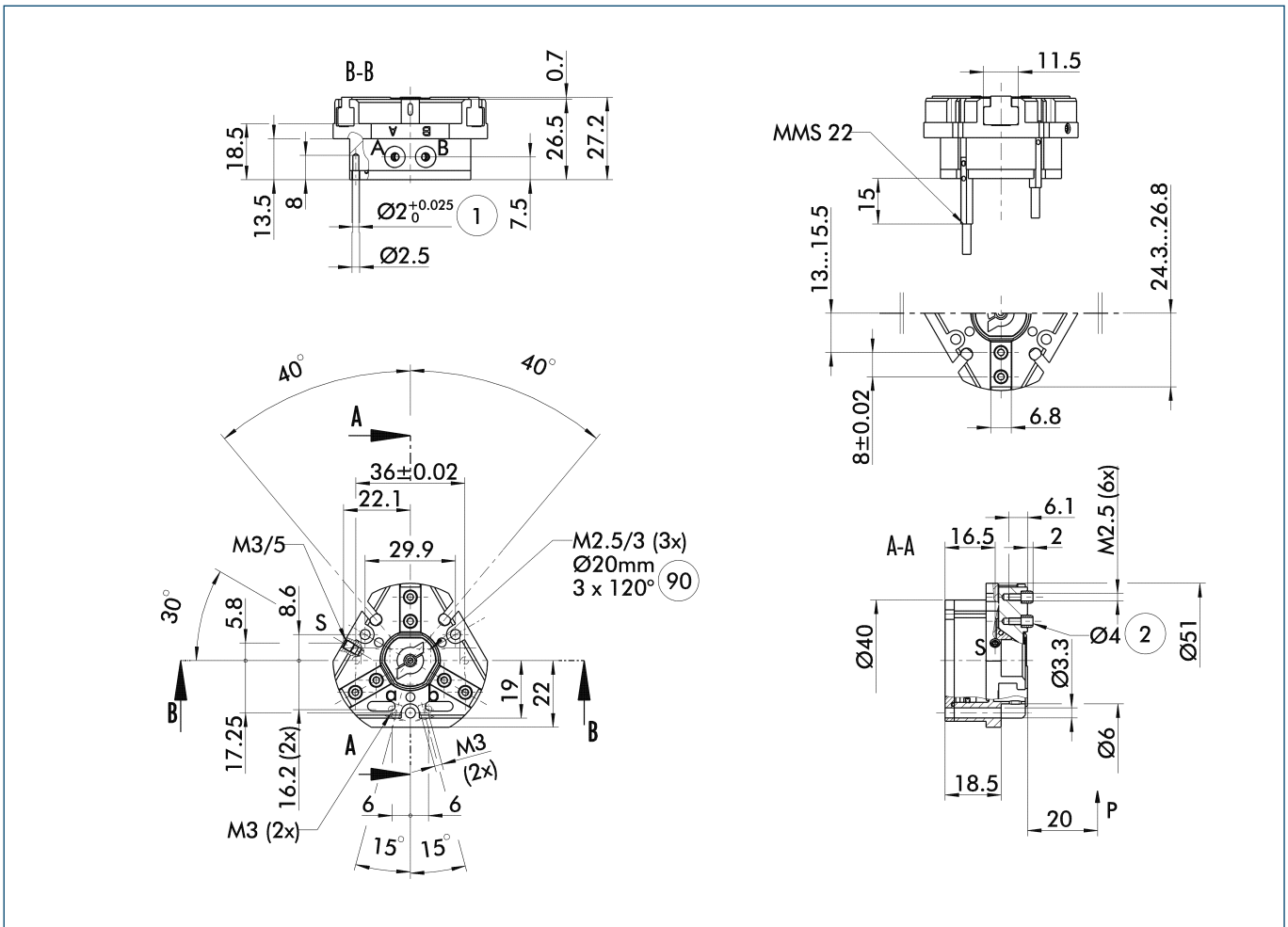


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	JGZ 40-1	JGZ 40-1 AS	JGZ 40-1 IS
ID	0308900	0308901	0308902
Stroke per finger	[mm]	2.5	2.5
Closing force	[N]	255	355
Opening force	[N]	270	370
Min. spring force	[N]	100	100
Weight	[kg]	0.12	0.15
Recommended workpiece weight	[kg]	1.25	1.25
Air consumption per double stroke	[cm ³]	5	9
Min./max. operating pressure	[bar]	2/8	4/6.5
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.02/0.03	0.02/0.02
Max. permitted finger length	[mm]	50	45
Max. permitted weight per finger	[kg]	0.1	0.1
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01
Cleanroom class		5	5
ISO-classification 14644-1		5	5

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

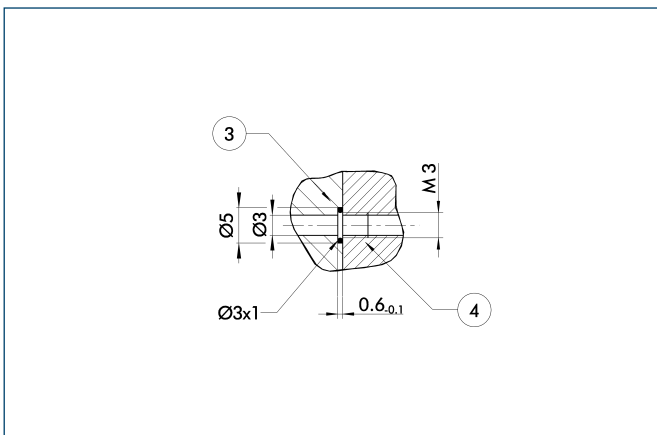
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

90 Thread below the cover for fastening external attachments

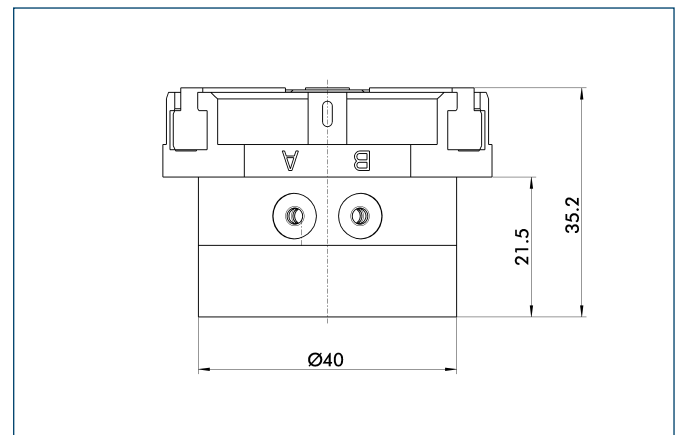
Hose-free direct connection



③ Adapter
④ Gripper

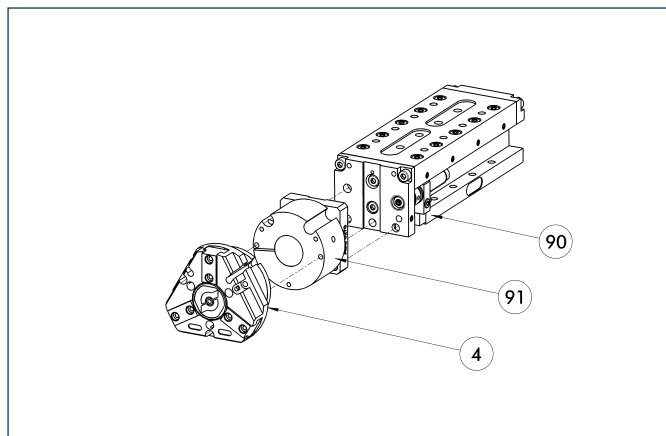
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

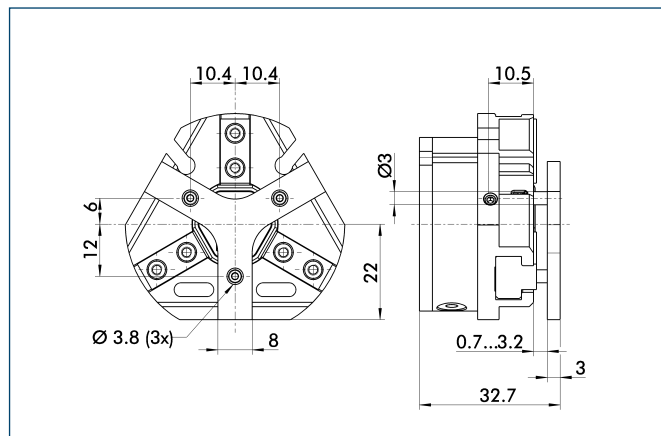


④ Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

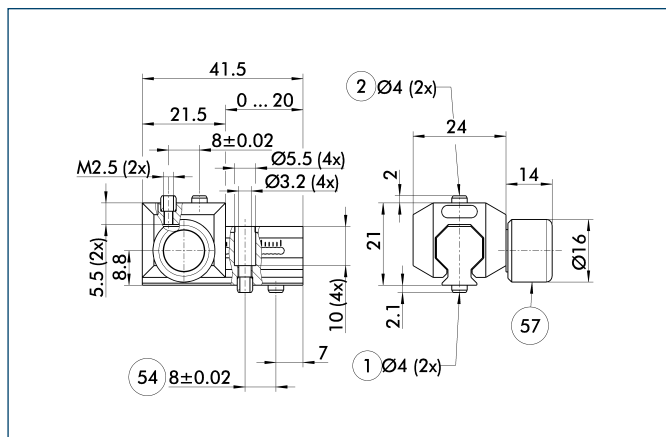
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus 40	0303718	2.5 mm	5 N

Universal intermediate jaw



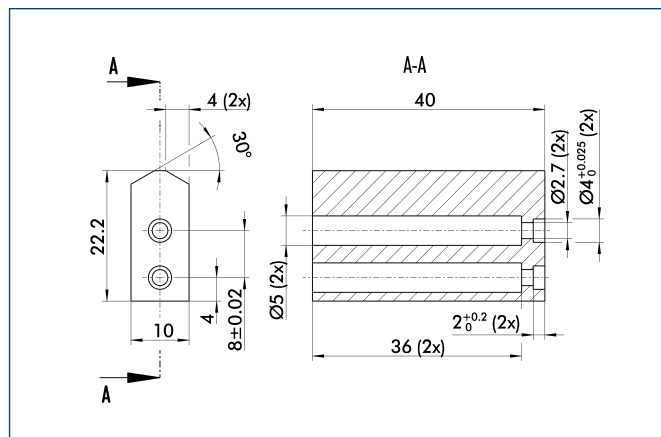
① Gripper connection
② Finger connection

54 Optional right or left connection
57 Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 40	0300040	1 mm

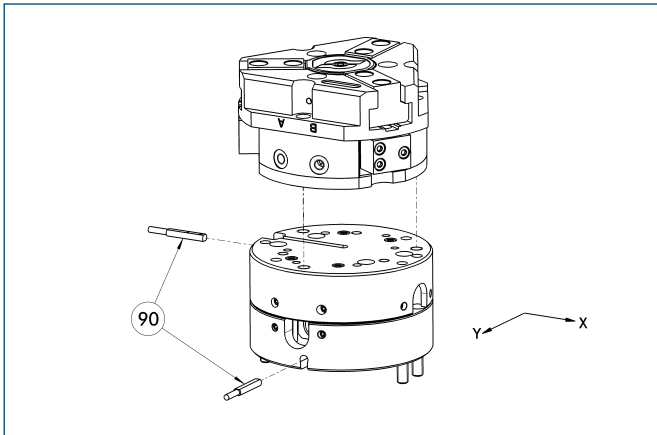
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 40	0300008	Aluminum	1
SBR-plus 40	0300018	16 MnCr 5	1

Compensation unit with spring reset

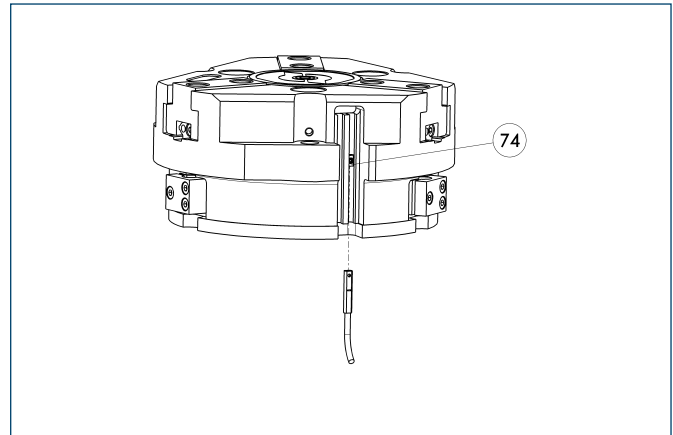


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

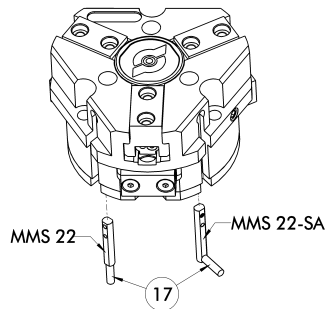
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



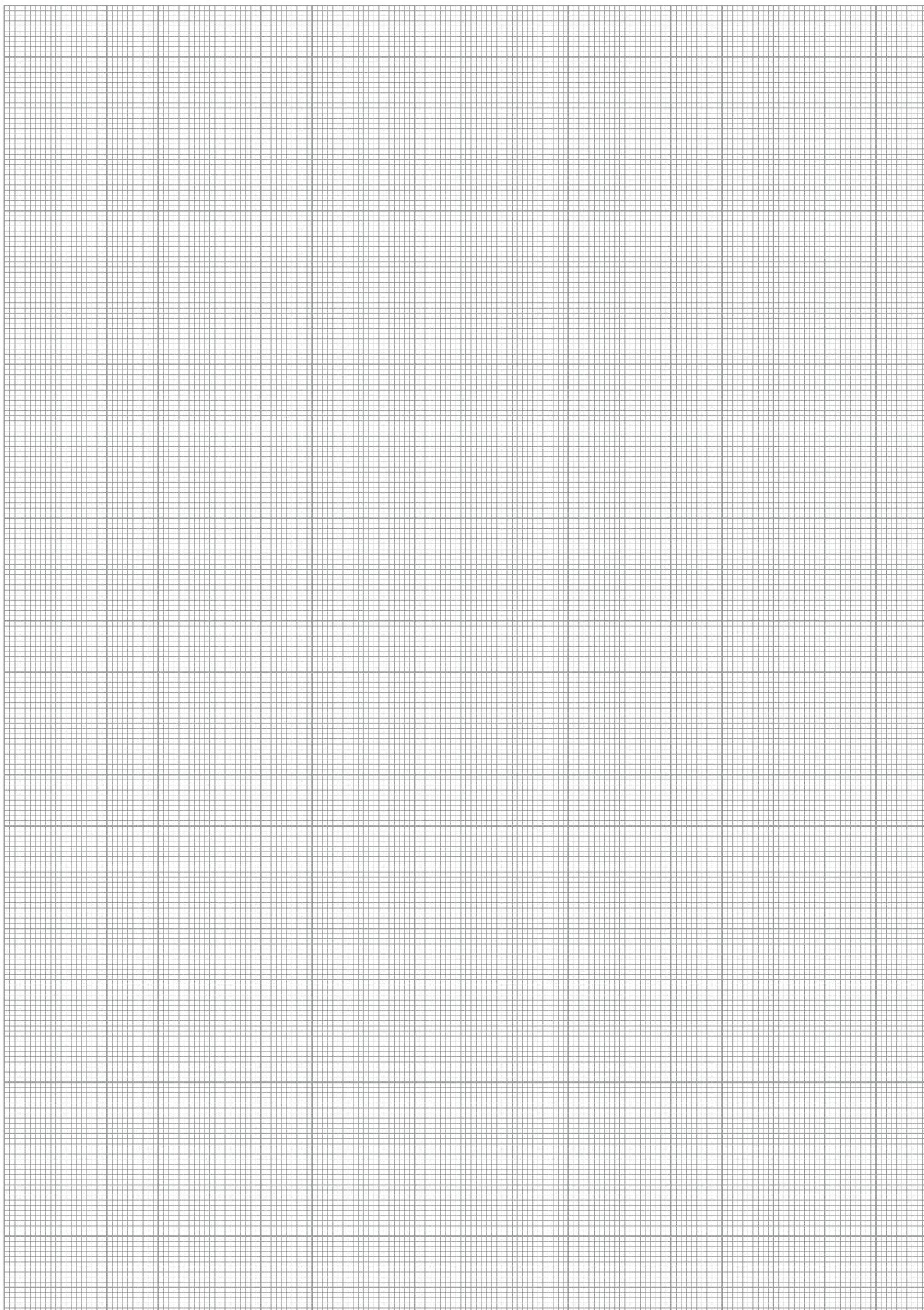
17 Cable outlet

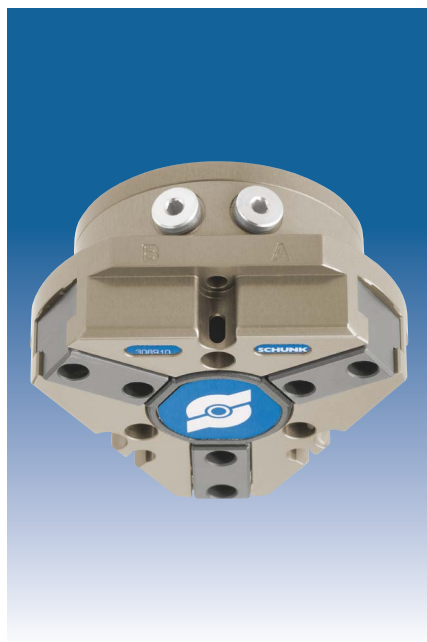
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

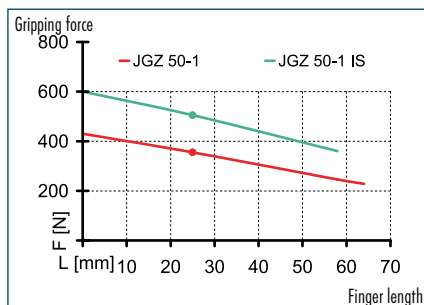
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

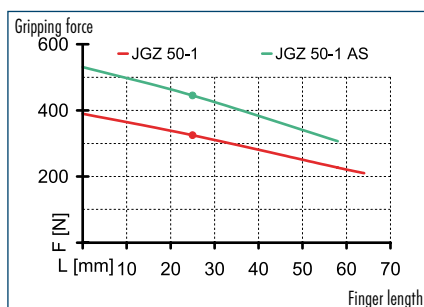




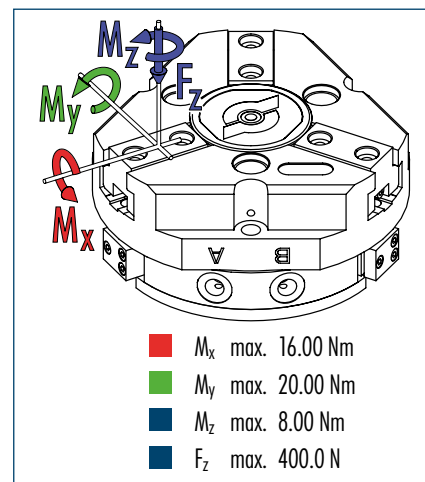
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 50-1	JGZ 50-1 AS	JGZ 50-1 IS
ID		0308910	0308911	0308912
Stroke per finger	[mm]	4	4	4
Closing force	[N]	325	445	
Opening force	[N]	355		505
Min. spring force	[N]		120	150
Weight	[kg]	0.25	0.3	0.3
Recommended workpiece weight	[kg]	1.6	1.6	1.6
Air consumption per double stroke	[cm ³]	9	18	18
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	64	58	58
Max. permitted weight per finger	[kg]	0.18	0.18	0.18
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

Technical drawing of the MMS 22 hydraulic cylinder, showing three views: a side view (top left), a front view (bottom left), and a cross-section view (right).

Side View (Top Left): Shows the cylinder with a diameter of $\varnothing 33$ and a length of 34. The mounting bracket has a width of 22 and a height of 16. The cylinder is labeled B-B.

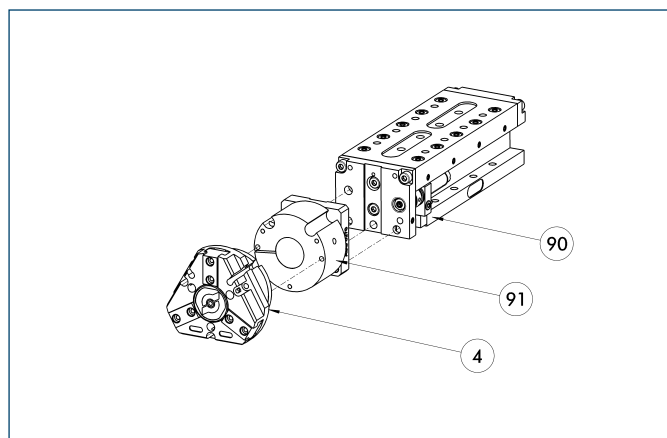
Front View (Bottom Left): Shows the hexagonal base with 12 mounting holes (Ø20mm) and 6 M5/6 screws. The base has a diameter of 45 ± 0.02. The mounting holes are spaced 26.4 apart. The base is labeled A-A.

Cross-section View (Right): Shows the internal piston and rod assembly. The rod diameter is Ø5, and the cylinder bore is Ø64. The piston is labeled 2. The rod is labeled 1. The cross-section is labeled A-A.

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701

Modular Assembly Automation

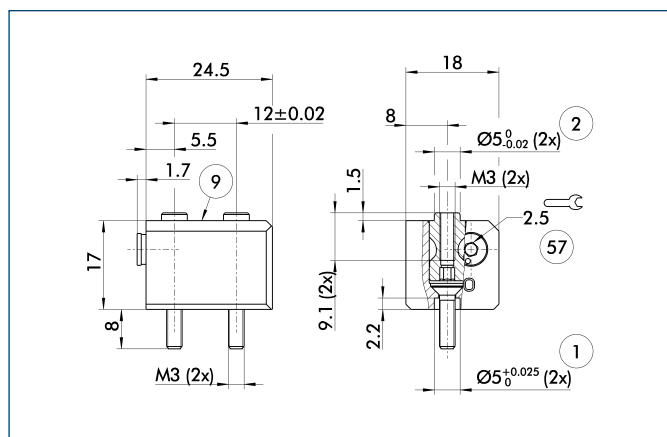


- ④ Gripper
⑨ CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Quick-change Jaw System



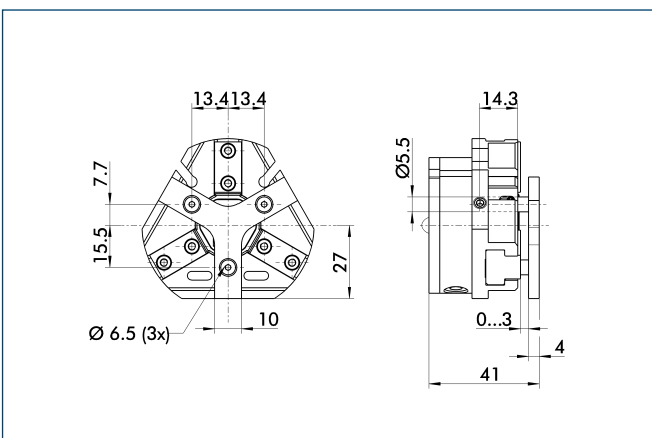
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040

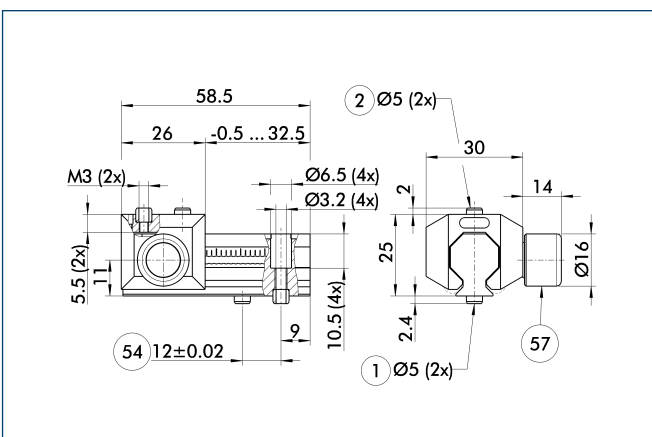
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus 50	0303719	3 mm	12 N

Universal intermediate jaw

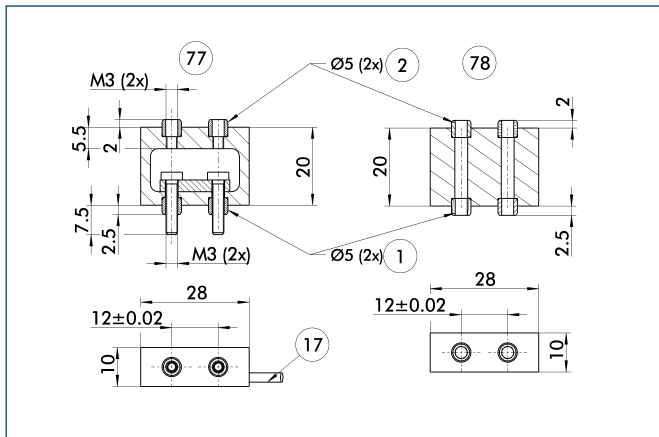


- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 50	0300041	1.5 mm

Force measuring jaws

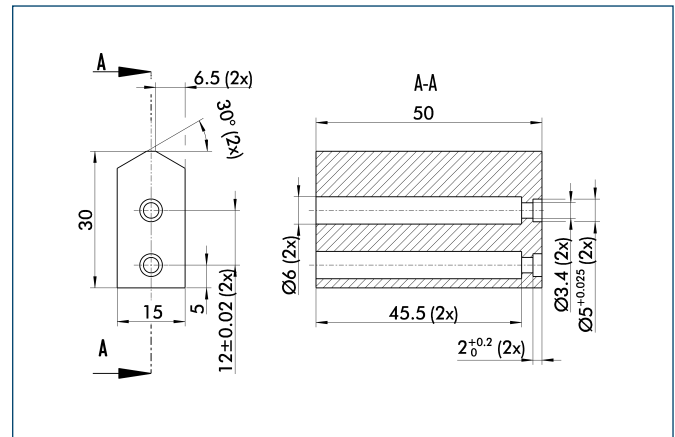


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



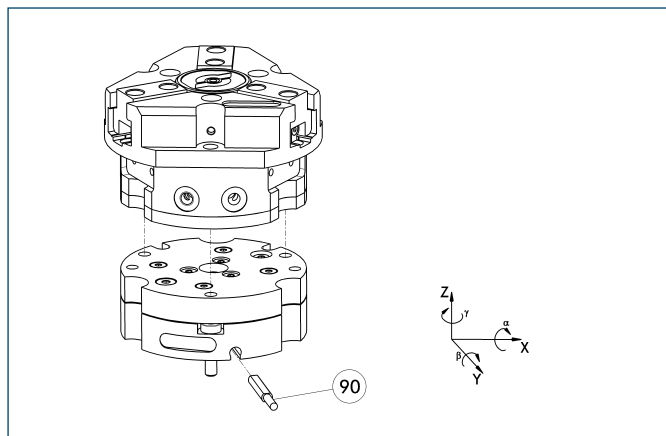
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

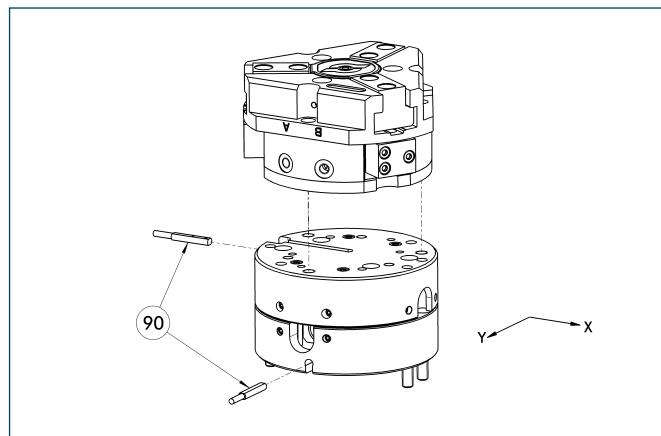


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-OV-Z	0324749	No	

Compensation unit with spring reset

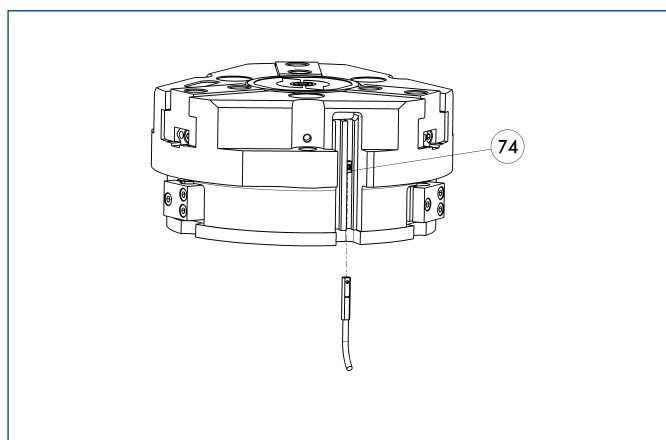


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	±2 mm	1 N
AGE-F-XY-040-2	0324921	±2 mm	2.5 N
AGE-F-XY-040-3	0324922	±2 mm	3.3 N

Programmable magnetic switch



74 Stop for MMS-P

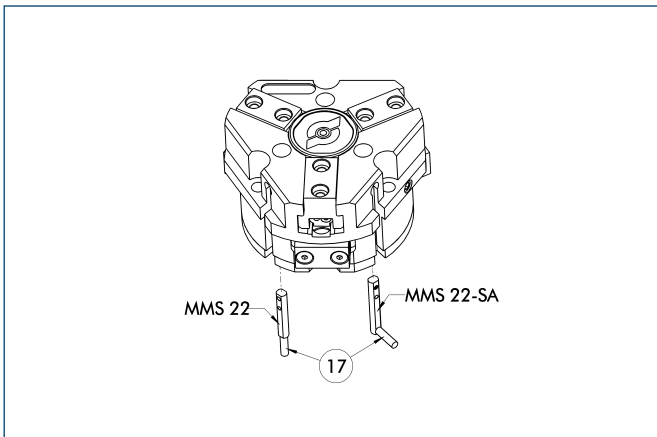
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

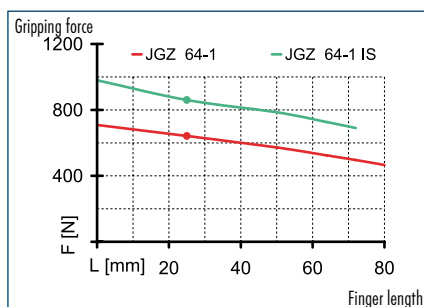
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



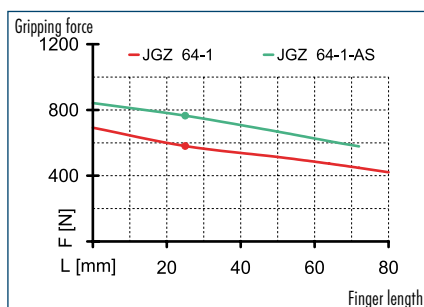
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



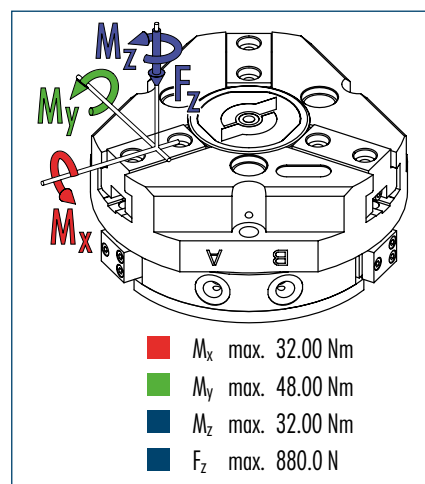
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

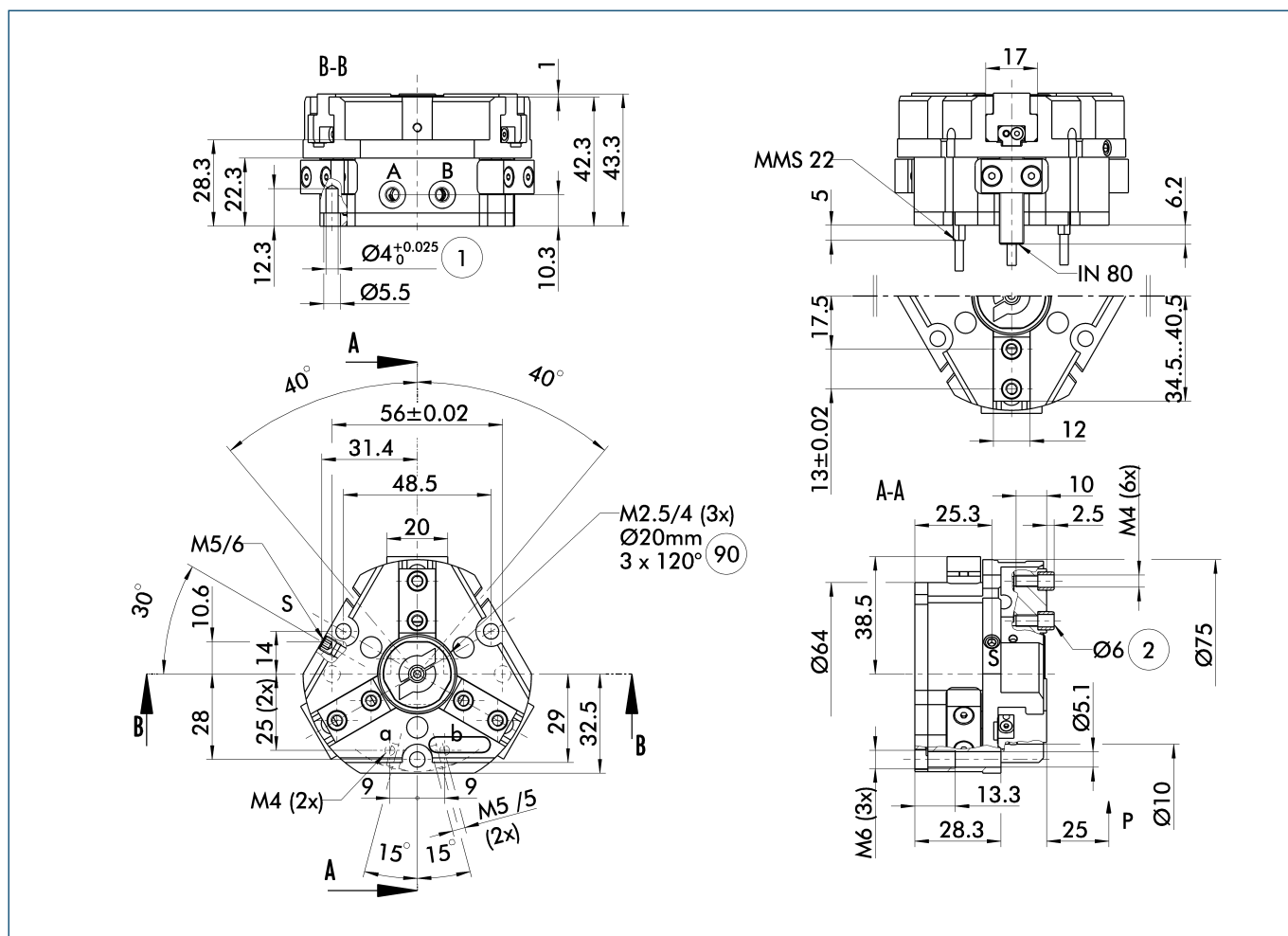


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 64-1	JGZ 64-1-AS	JGZ 64-1-IS
ID		0308920	0308921	0308922
Stroke per finger	[mm]	6	6	6
Closing force	[N]	580	765	
Opening force	[N]	640		860
Min. spring force	[N]		185	220
Weight	[kg]	0.43	0.54	0.54
Recommended workpiece weight	[kg]	2.9	2.9	2.9
Air consumption per double stroke	[cm ³]	25	25	25
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	80	72	72
Max. permitted weight per finger	[kg]	0.35	0.35	0.35
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view

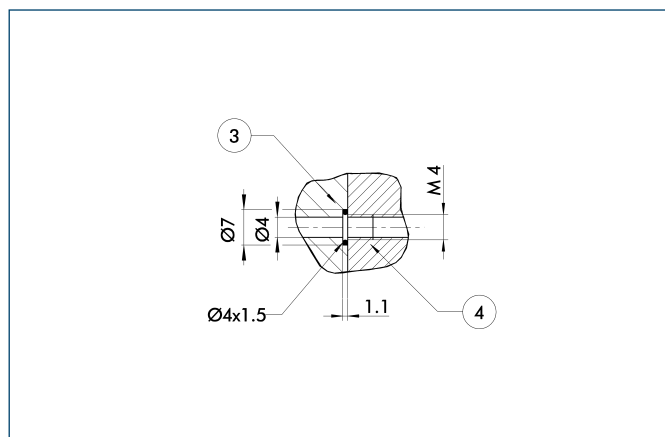


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see “Accessories” catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | 90 | Thread below the cover for fastening external attachments |
| S | Air purge connection | | |
| ① | Gripper connection | | |

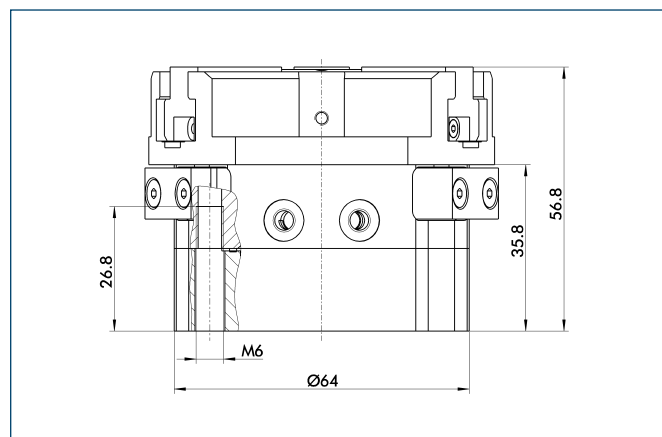
Hose-free direct connection



- 3 Adapter
- 4 Gripper

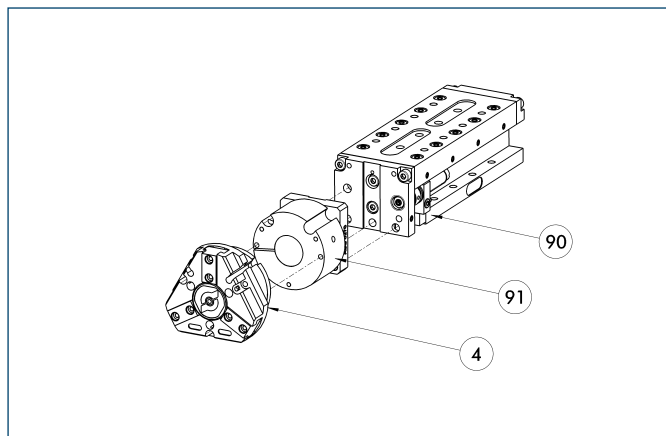
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

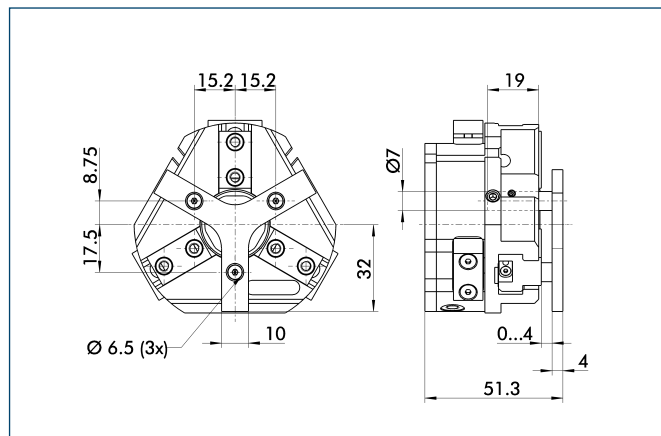


④ Gripper
⑨⑩ CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

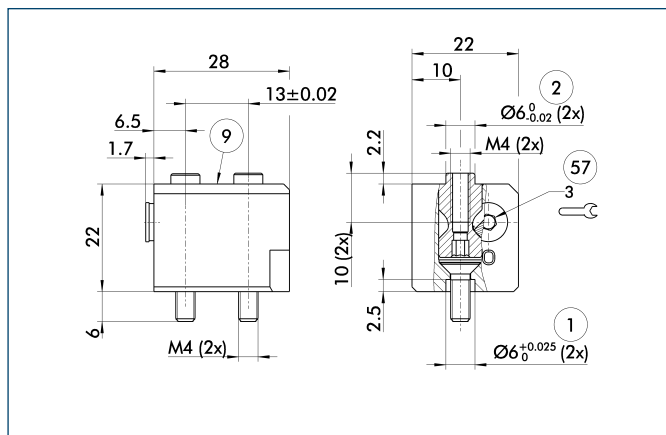
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 64	0303720	4 mm	11 N

Quick-change Jaw System



① Gripper connection
② Finger connection

⑤⑦ Locking

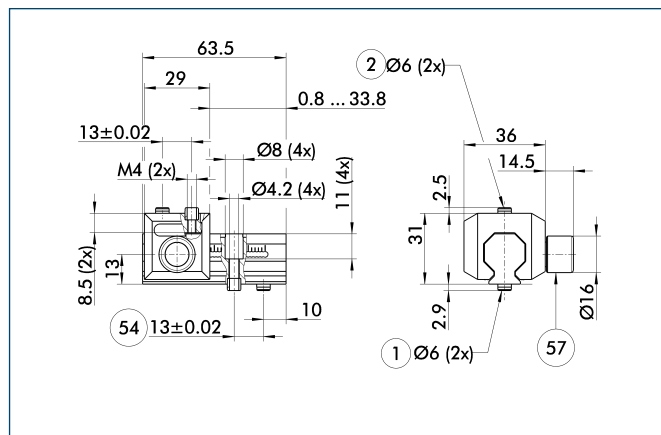
⑨ For mounting screw connection diagram, see basic version

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041

Universal intermediate jaw



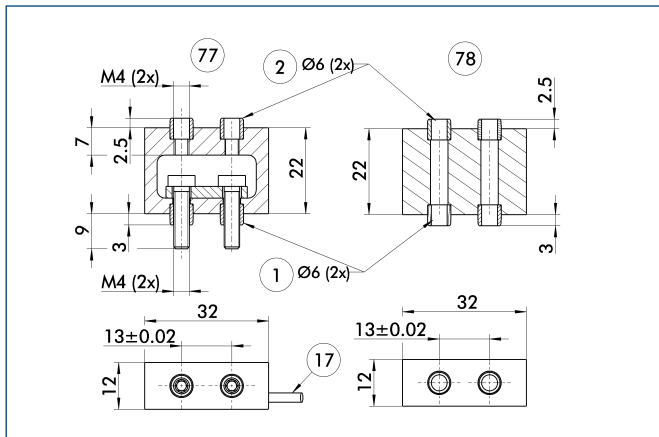
① Gripper connection
② Finger connection

⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZZ 64	0300042	1.5 mm

Force measuring jaws

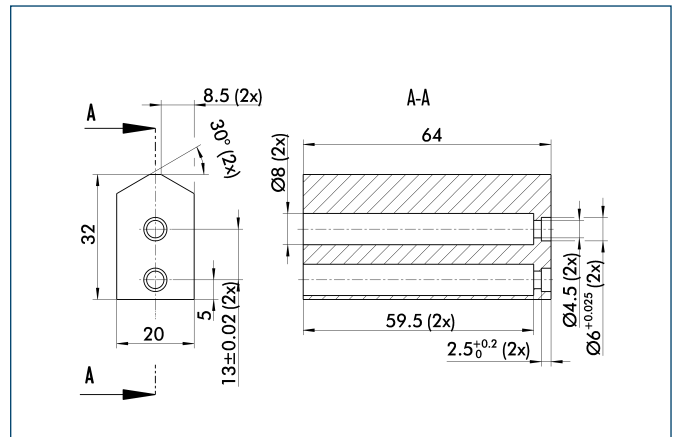


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

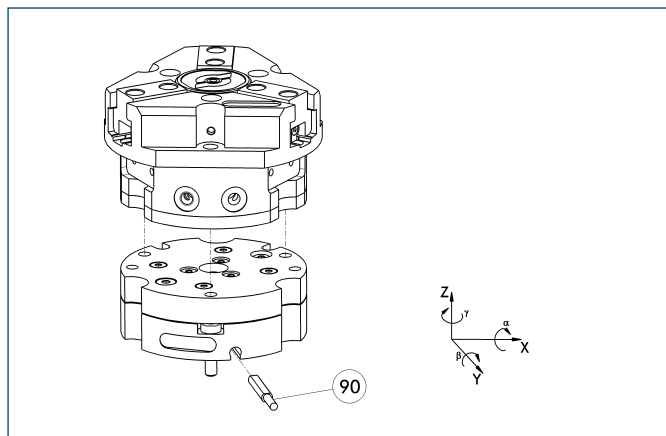
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1

Tolerance compensation unit

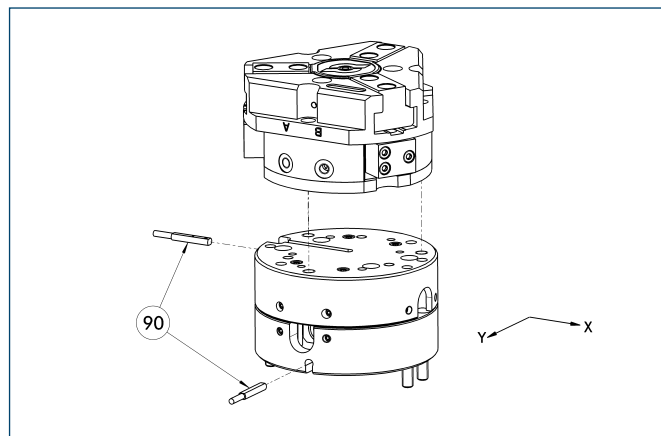


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-Z	0324766	Yes	
TCU-064-3-OV-Z	0324767	No	

Compensation unit with spring reset

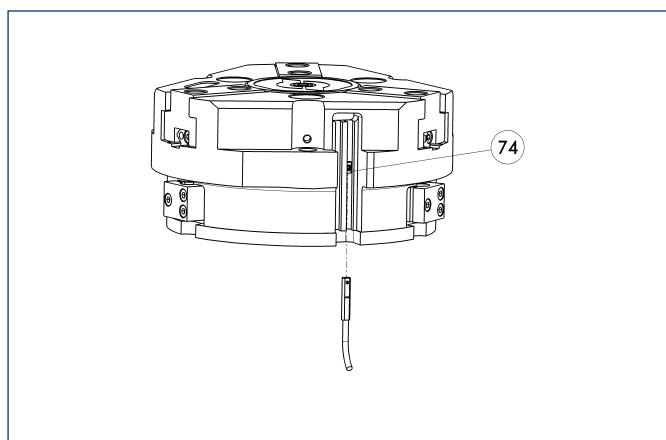


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

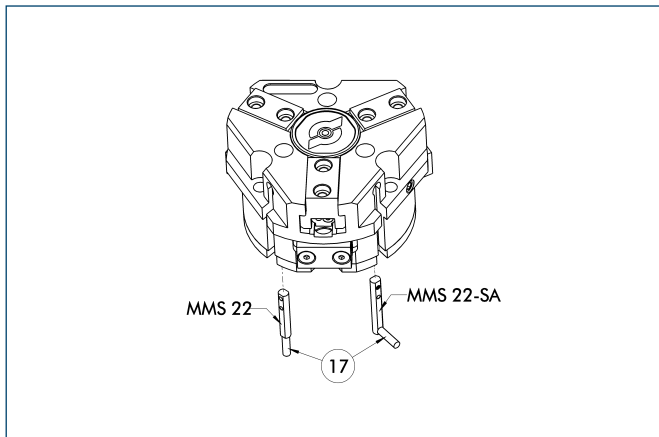
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

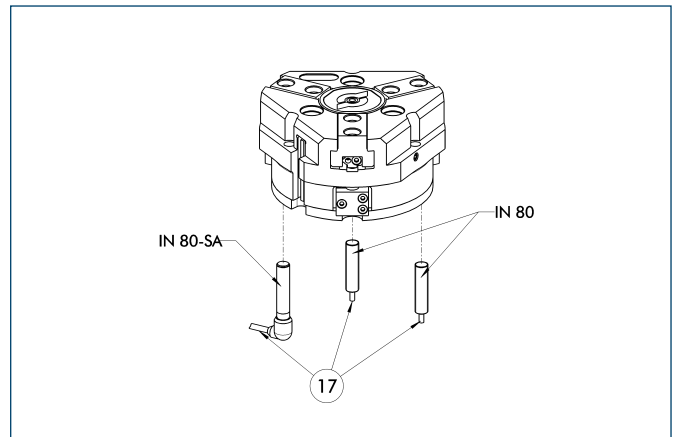
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

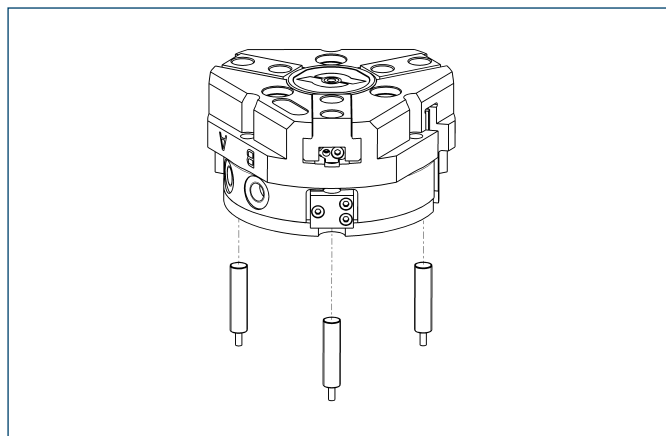
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Cylindrical Reed Switches

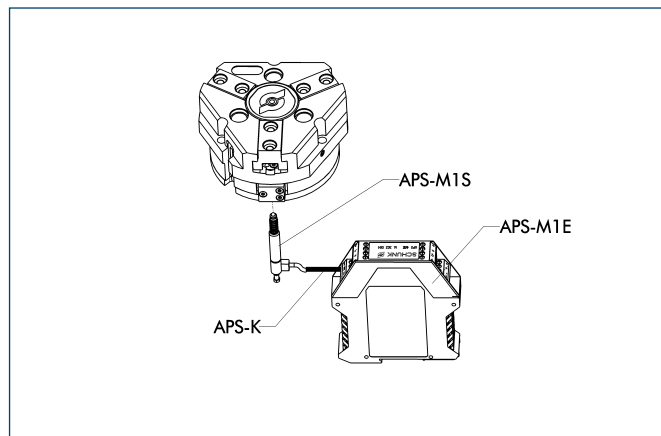


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

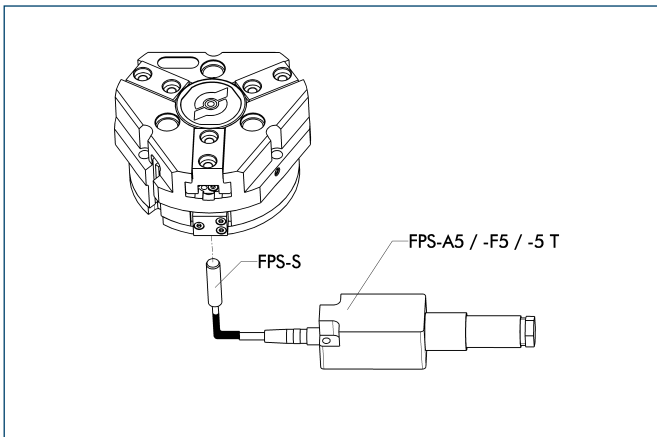


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

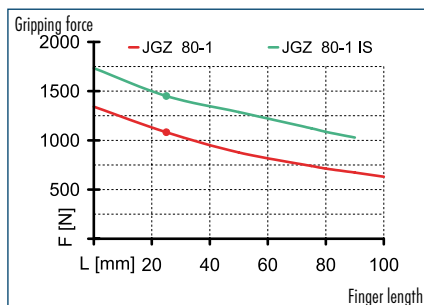
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



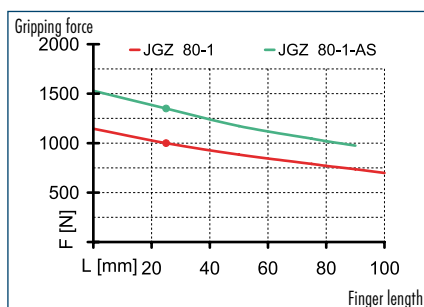
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



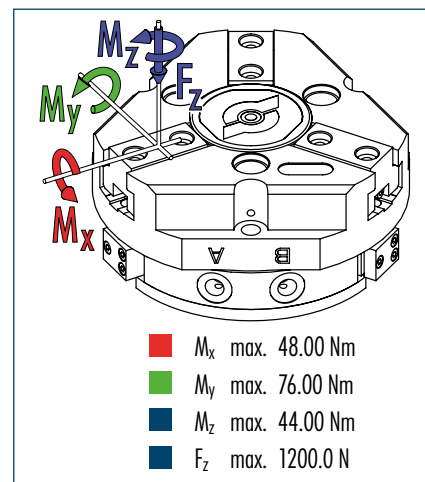
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

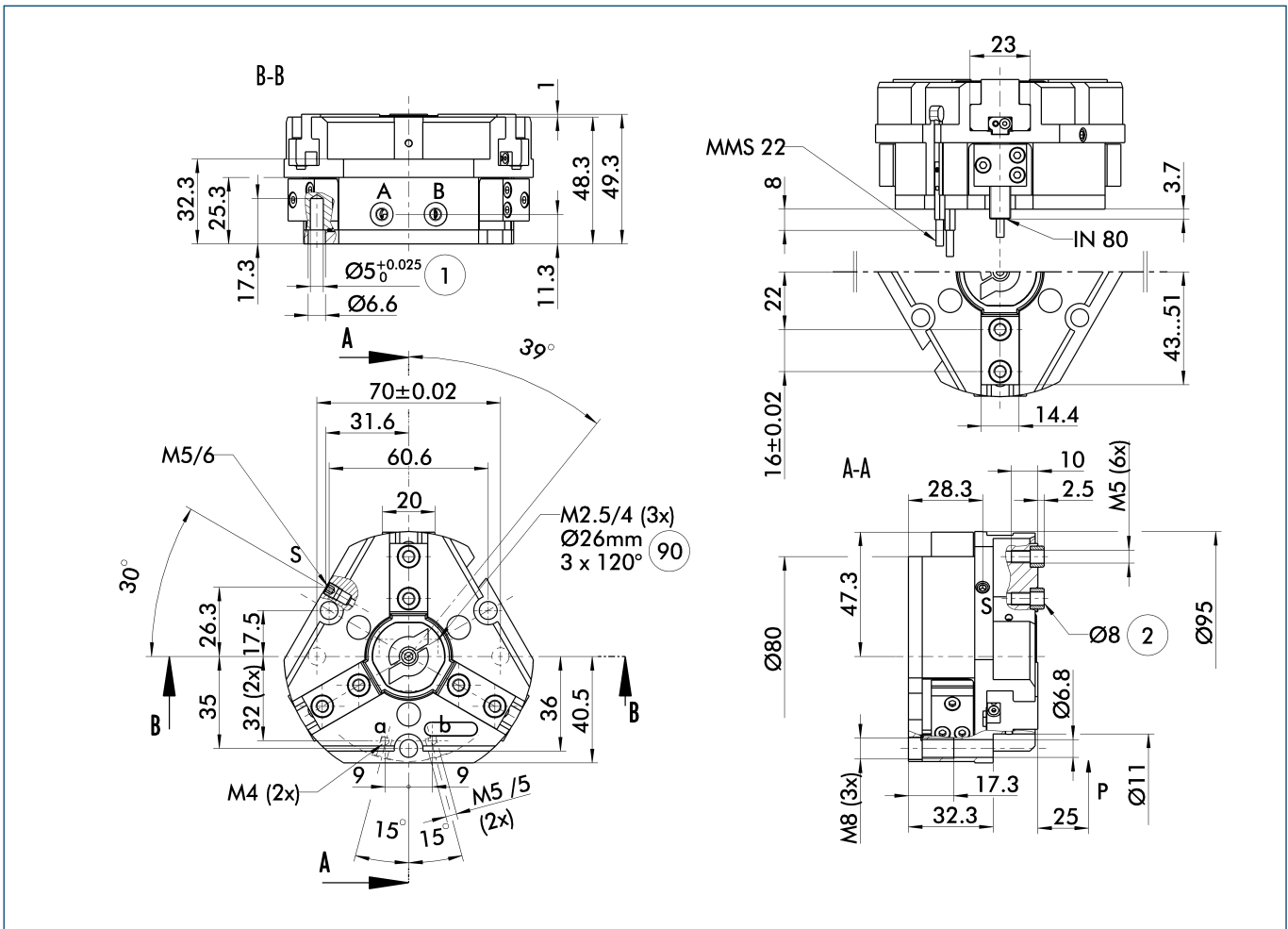


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 80-1	JGZ 80-1-AS	JGZ 80-1-IS
ID		0308930	0308931	0308932
Stroke per finger	[mm]	8	8	8
Closing force	[N]	1000	1350	
Opening force	[N]	1080		1450
Min. spring force	[N]		350	370
Weight	[kg]	0.79	0.96	0.96
Recommended workpiece weight	[kg]	5	5	5
Air consumption per double stroke	[cm ³]	60	60	60
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.05/0.05	0.03/0.05	0.06/0.04
Max. permitted finger length	[mm]	100	90	90
Max. permitted weight per finger	[kg]	0.6	0.6	0.6
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

Main view

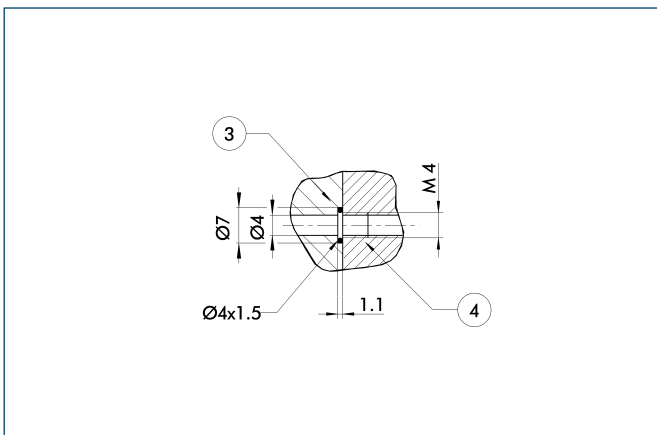


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | ⑨0 | Thread below the cover for fastening external attachments |
| S | Air purge connection | | |
| ① | Gripper connection | | |

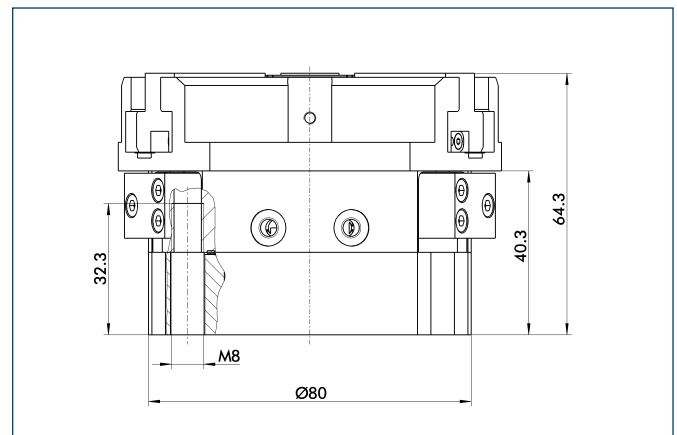
Hose-free direct connection



- 3 Adapter
- 4 Gripper

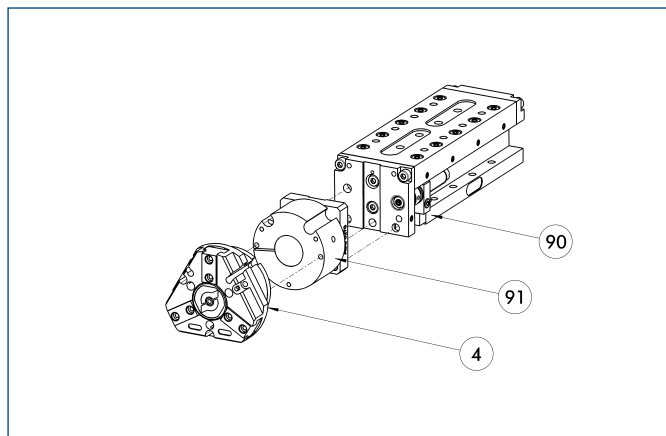
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

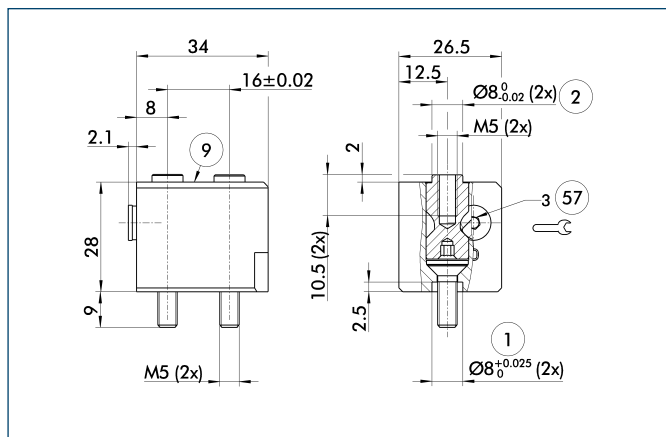


④ Gripper
⑨⑩ CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Quick-change Jaw System



① Gripper connection

⑤⑦ Locking

② Finger connection

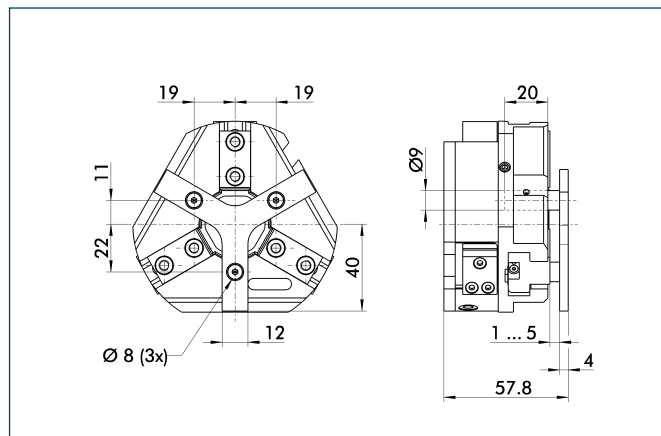
⑨ For mounting screw connection diagram, see basic version

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042

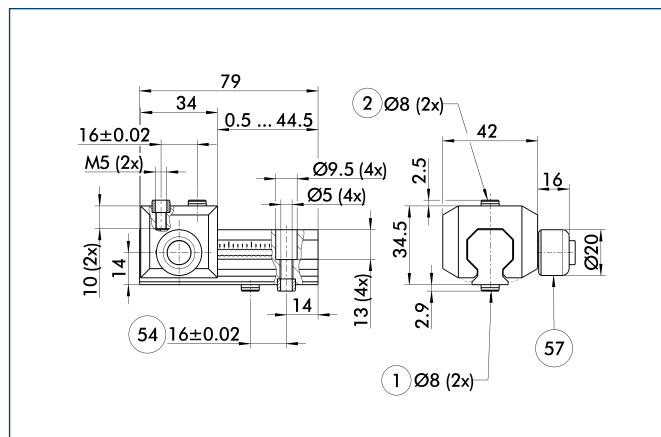
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 80	0303721	4 mm	18 N

Universal intermediate jaw



① Gripper connection

② Finger connection

⑤④ Optional right or left connection

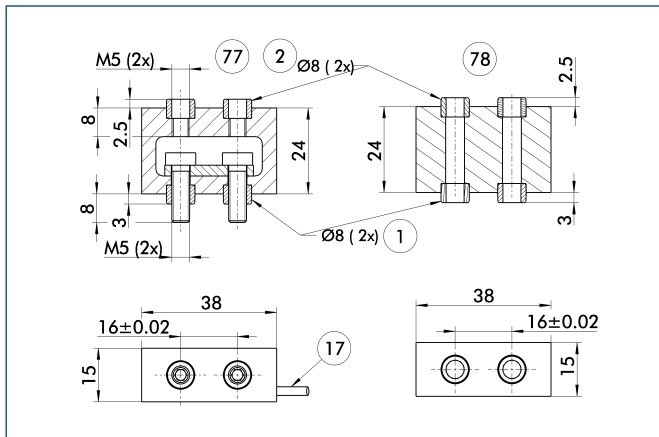
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 80	0300043	2 mm
UZB-S 80	5518271	2 mm

① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

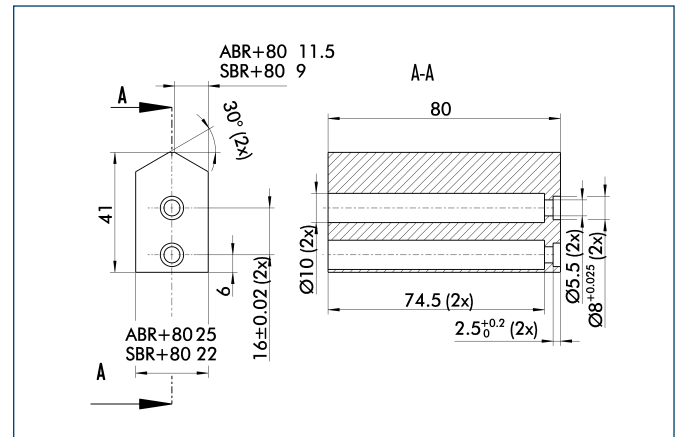


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



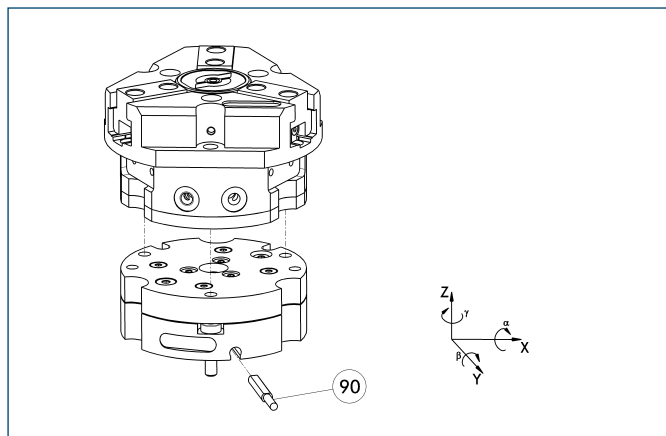
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

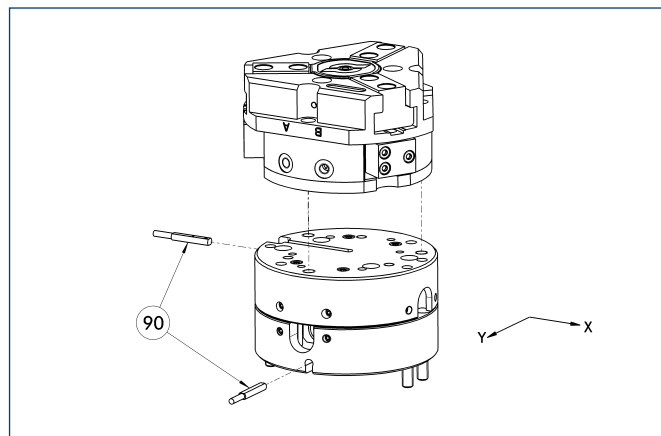


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-Z	0324784	Yes	
TCU-080-3-OV-Z	0324785	No	

Compensation unit with spring reset

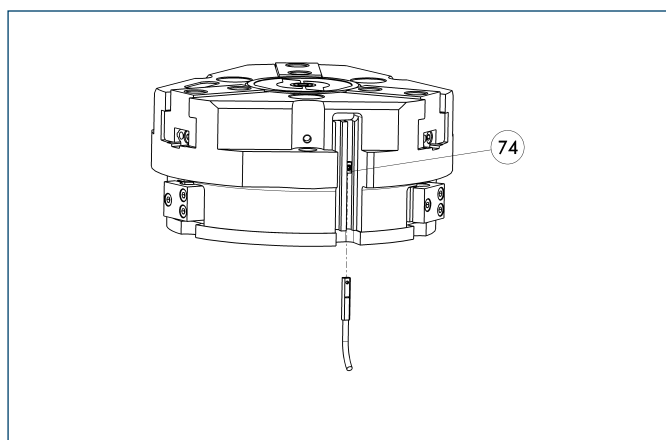


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

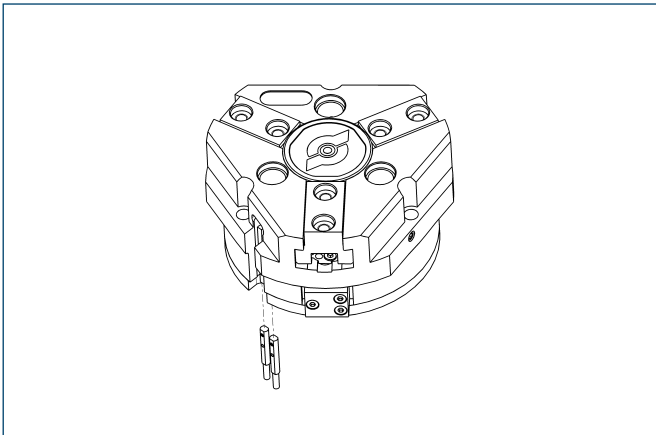
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

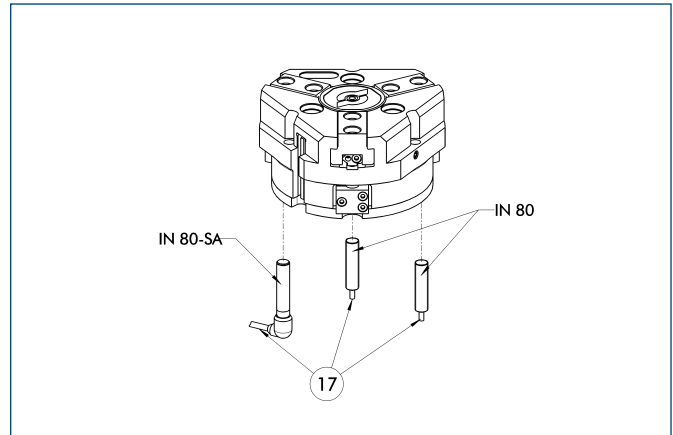


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring for direct mounting

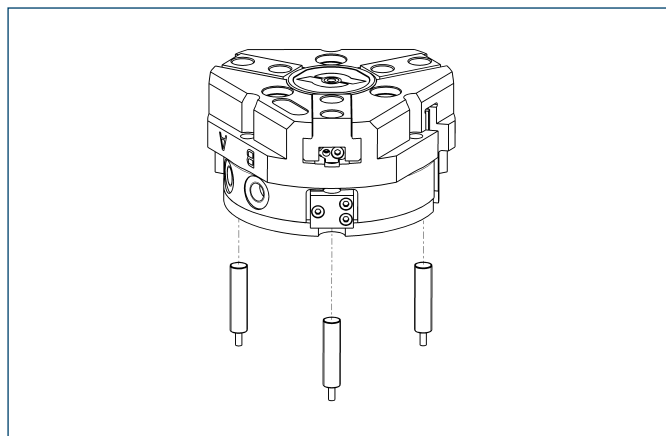
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

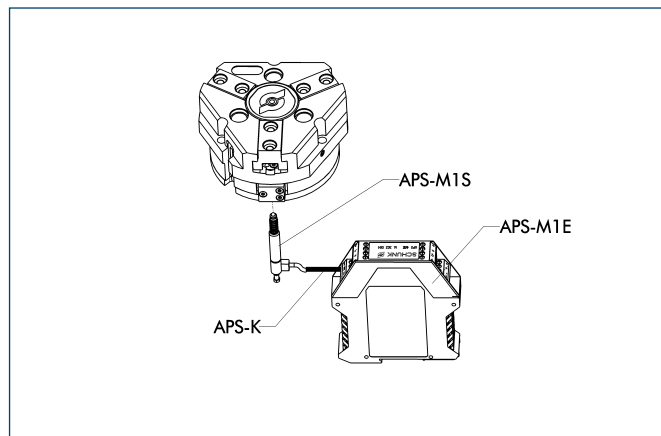


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

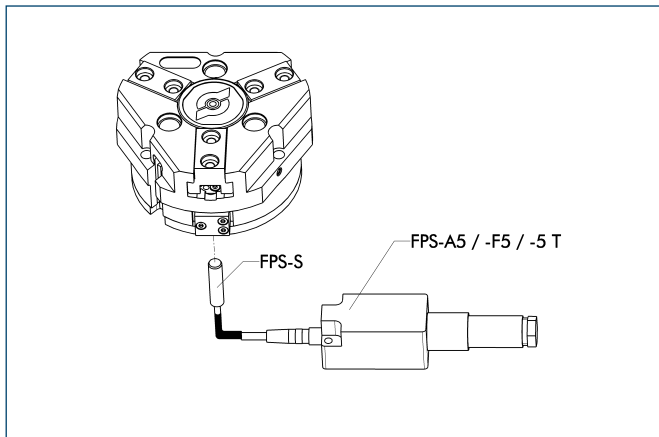


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

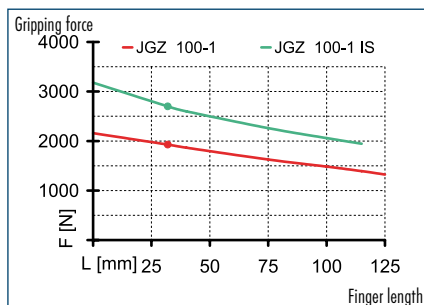
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



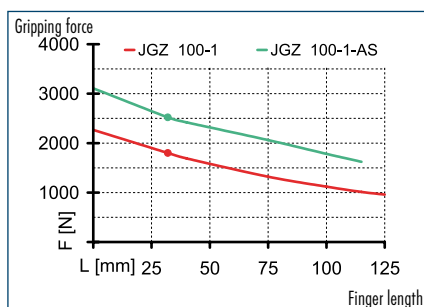
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



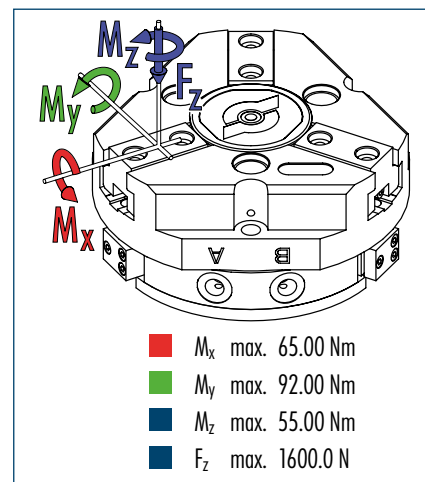
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

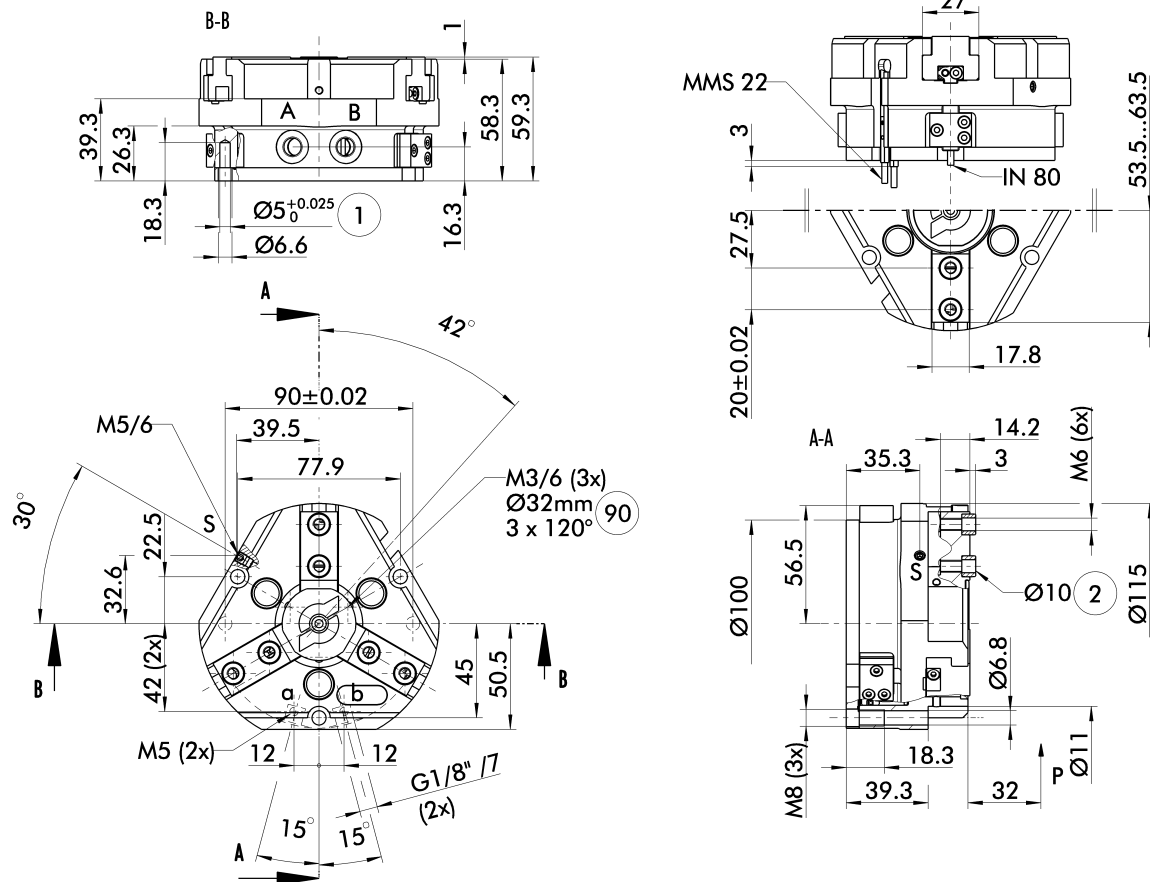


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 100-1	JGZ 100-1-AS	JGZ 100-1-IS
ID		0308940	0308941	0308942
Stroke per finger	[mm]	10	10	10
Closing force	[N]	1800	2520	
Opening force	[N]	1920		2700
Min. spring force	[N]		720	780
Weight	[kg]	1.41	1.95	1.95
Recommended workpiece weight	[kg]	9	9	9
Air consumption per double stroke	[cm ³]	120	120	120
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.1/0.1	0.1/0.2	0.2/0.1
Max. permitted finger length	[mm]	125	115	115
Max. permitted weight per finger	[kg]	1.1	1.1	1.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view

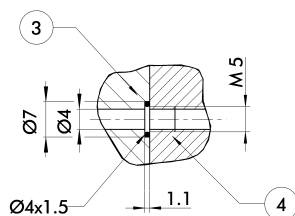


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | 90 | Thread below the cover for fastening external attachments |
| S | Air purge connection | | |
| ① | Gripper connection | | |

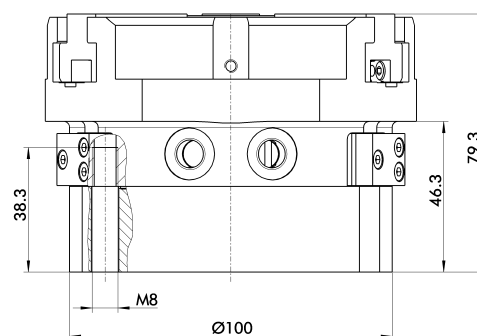
Hose-free direct connection



- ③ Adapter
- ④ Gripper

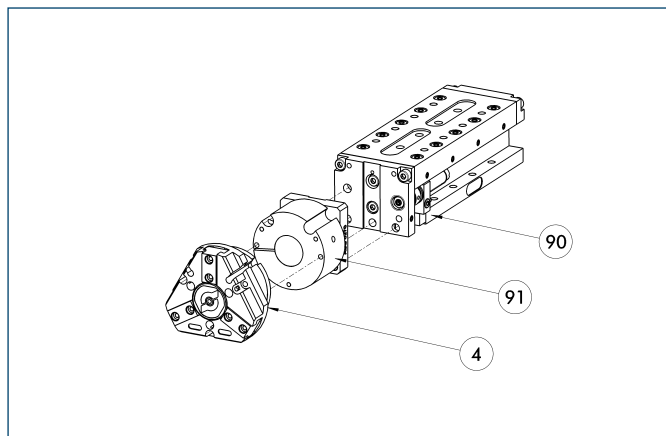
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Modular Assembly Automation

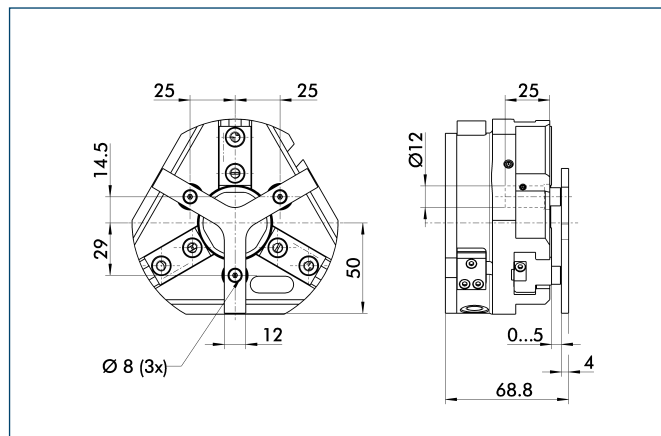


④ Gripper
⑨⑩ CLM

⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

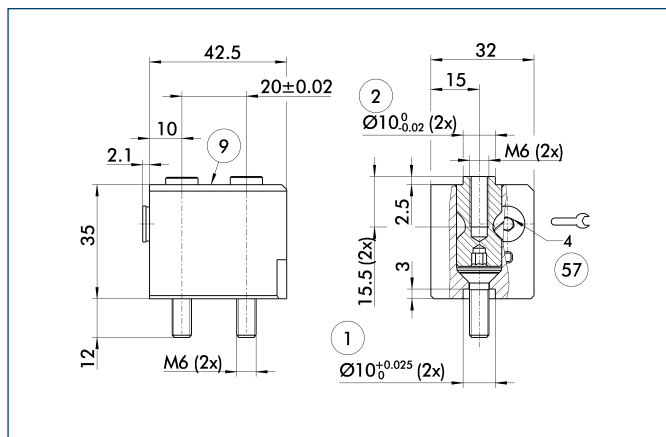
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	5 mm	35 N

Quick-change Jaw System



① Gripper connection
② Finger connection

⑤⑦ Locking

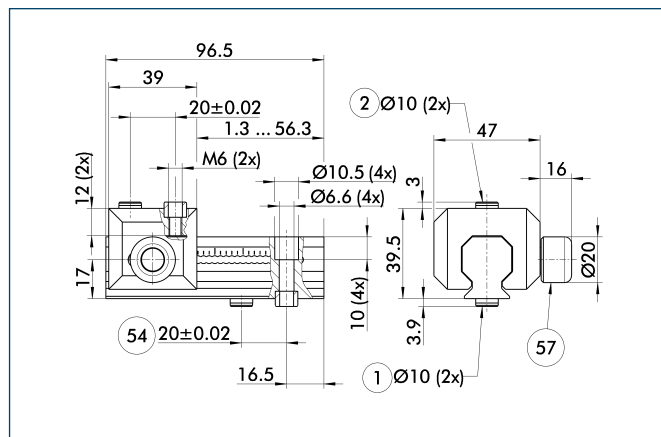
⑨ For mounting screw connection diagram, see basic version

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043

Universal intermediate jaw



① Gripper connection
② Finger connection

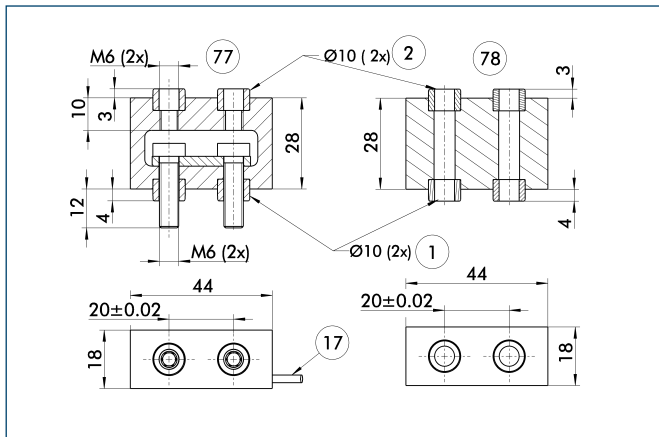
⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	0300044	2.5 mm
UZB-S 100	5518272	2.5 mm

① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

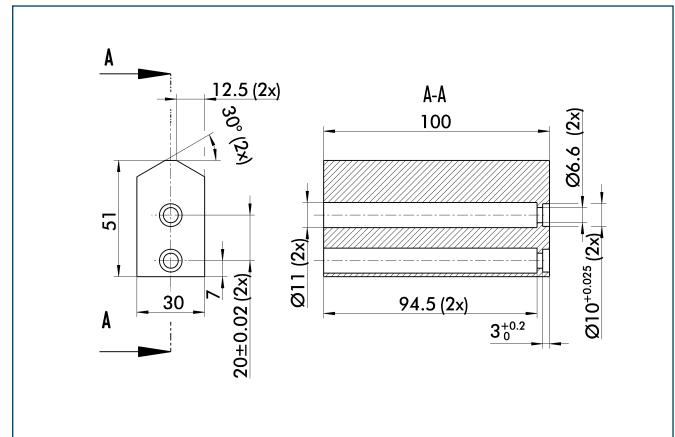


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



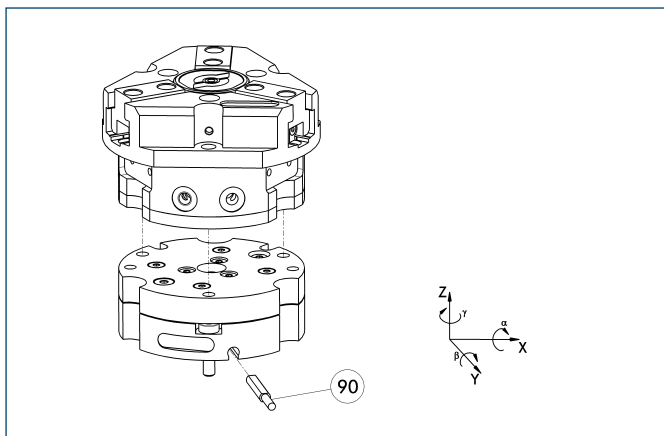
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

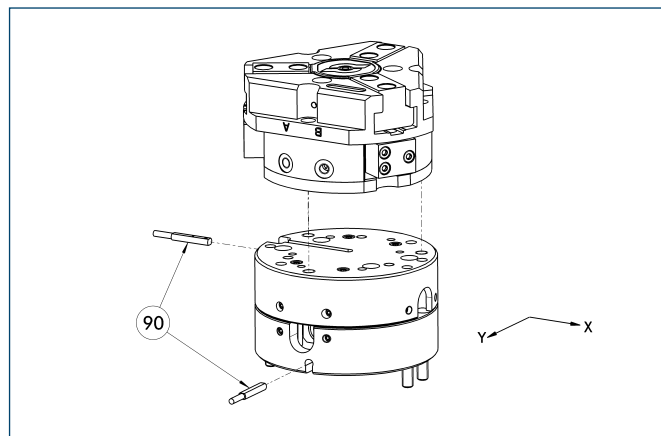


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-Z	0324794	Yes	
TCU-100-2-OV-Z	0324799	No	

Compensation unit with spring reset

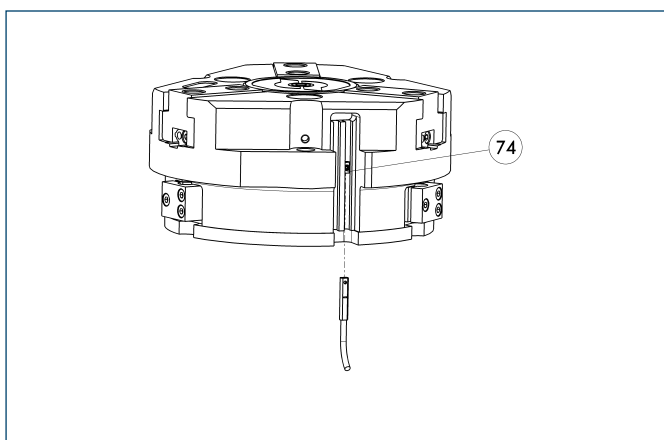


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



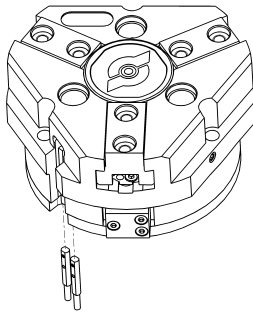
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

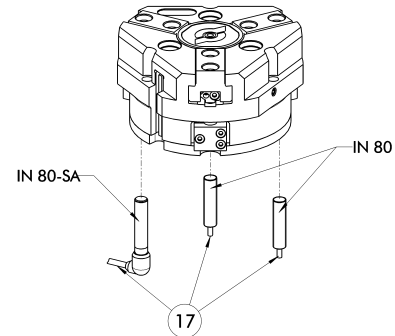


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring for direct mounting

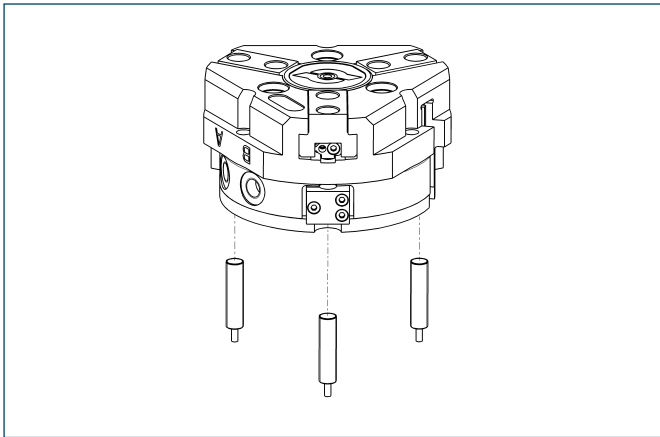
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

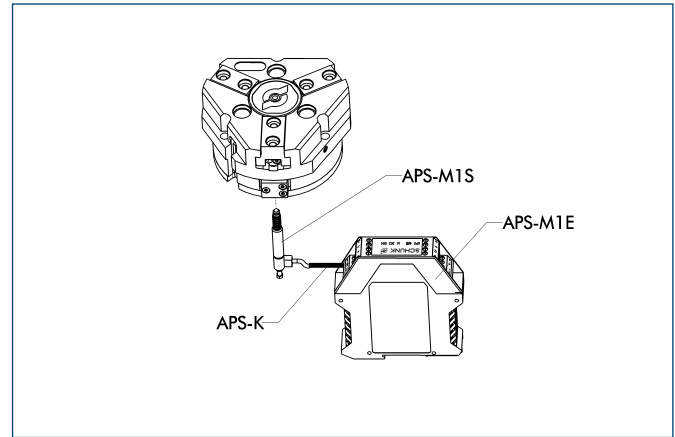


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/ PZN-plus 100/125	0377726
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

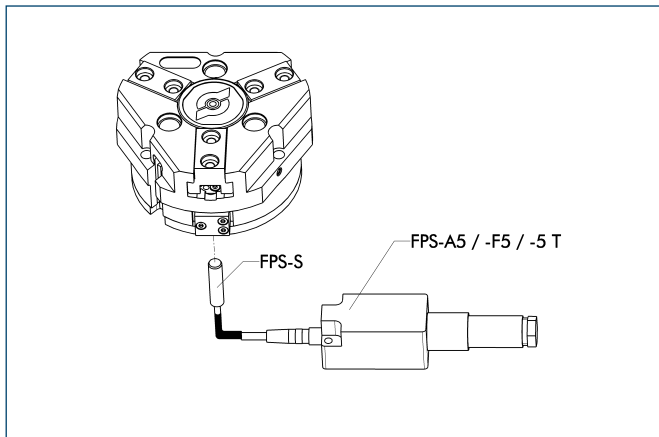


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

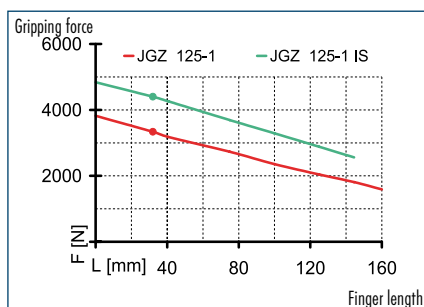
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



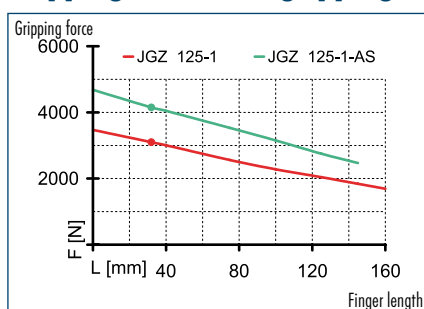
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



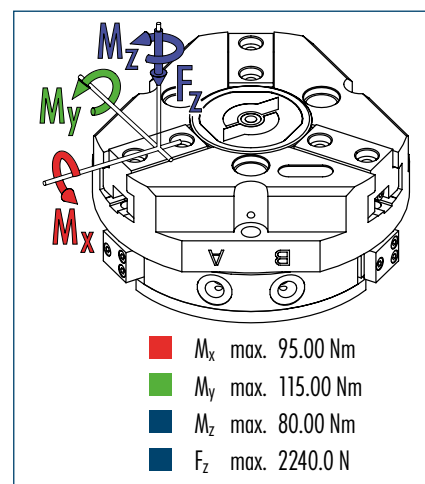
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

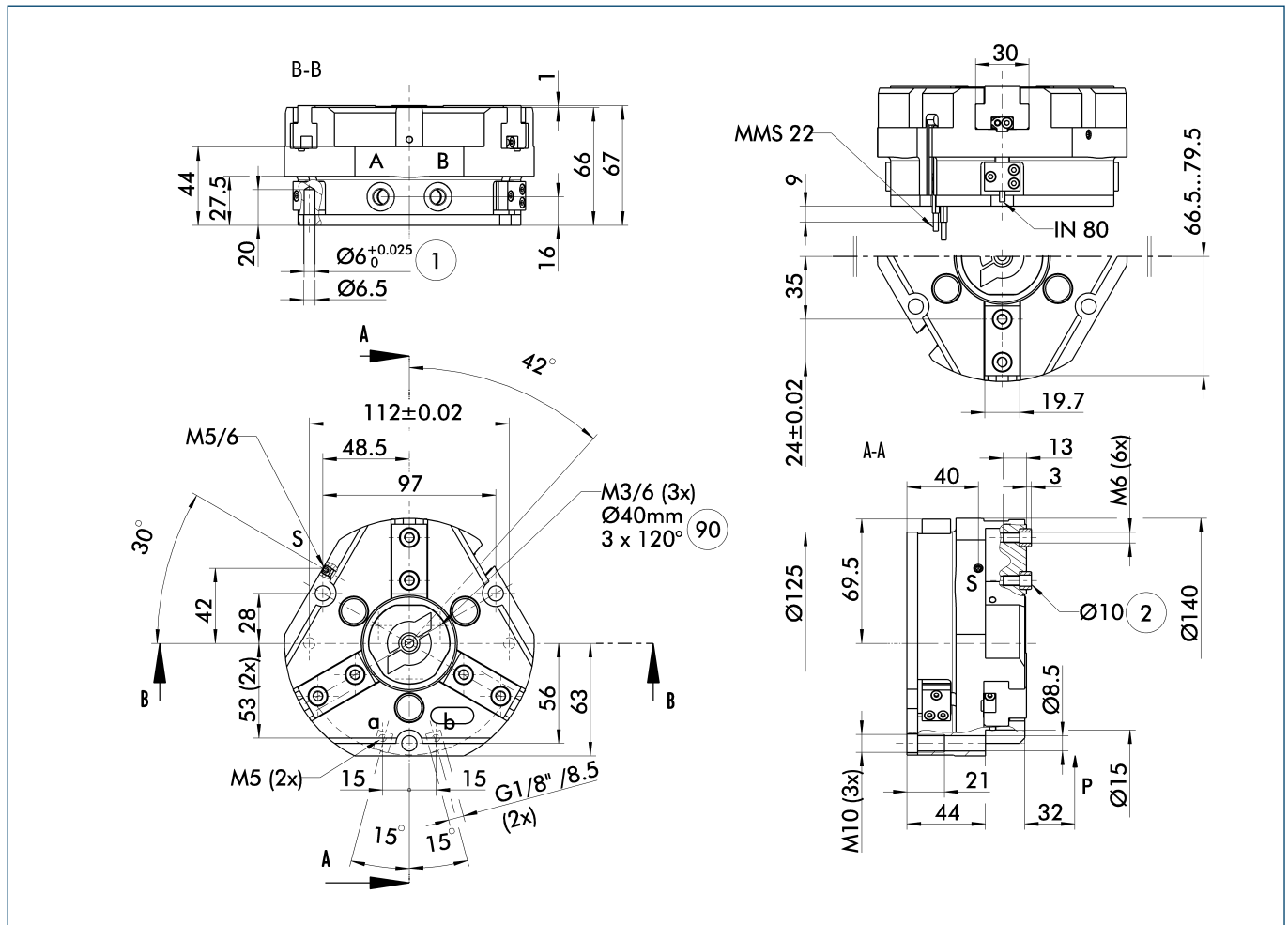


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 125-1	JGZ 125-1-AS	JGZ 125-1-IS
ID		0308950	0308951	0308952
Stroke per finger	[mm]	13	13	13
Closing force	[N]	3100	4150	
Opening force	[N]	3330		4400
Min. spring force	[N]		1050	1070
Weight	[kg]	2.8	3.6	3.6
Recommended workpiece weight	[kg]	15.5	15.5	15.5
Air consumption per double stroke	[cm ³]	230	230	230
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.2/0.2	0.17/0.35	0.35/0.17
Max. permitted finger length	[mm]	160	145	145
Max. permitted weight per finger	[kg]	2.1	2.1	2.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view



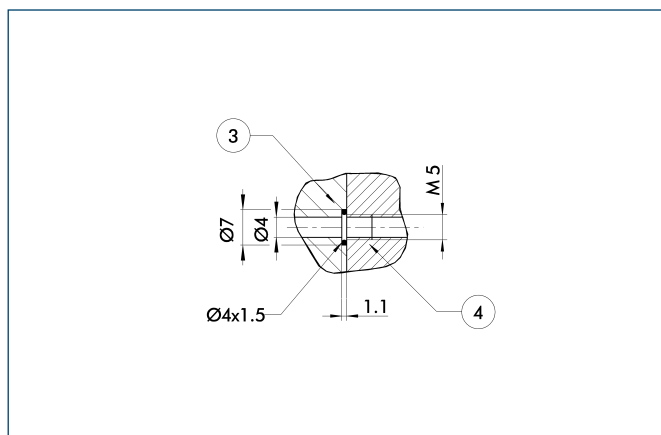
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
90 Thread below the cover for fastening external attachments

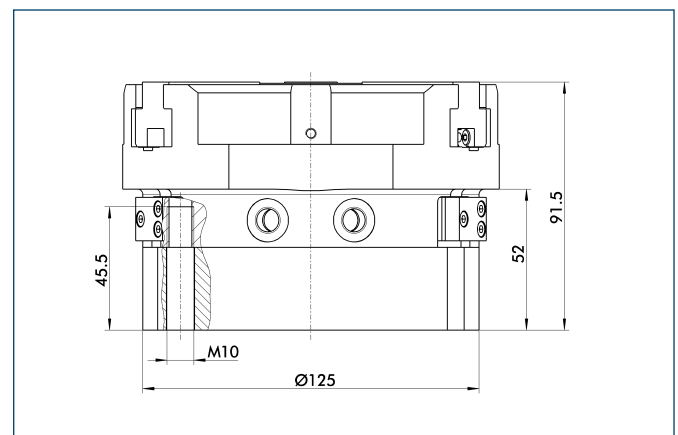
Hose-free direct connection



③ Adapter
④ Gripper

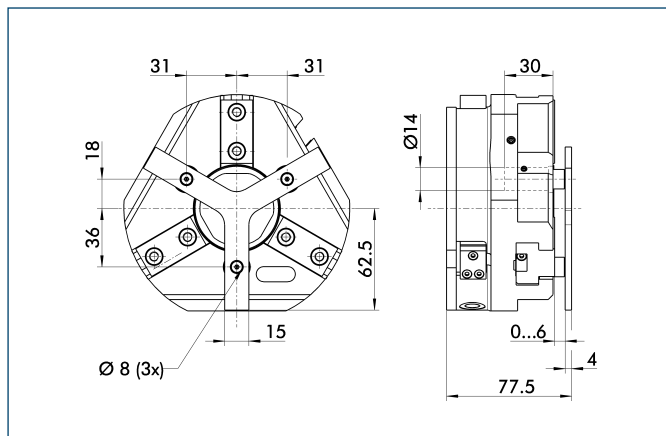
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

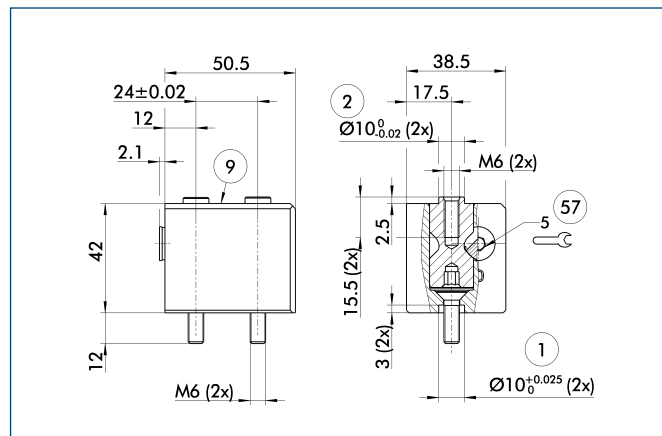
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 125	0303723	6 mm	105 N

Quick-change Jaw System



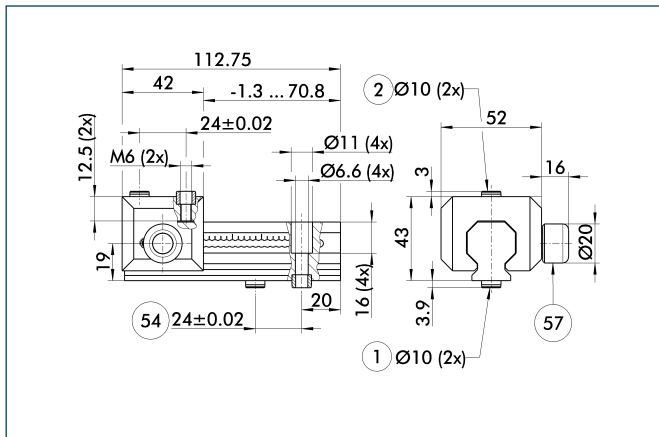
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 125	0303028
Quick-change Jaw System base	
BSWS-B 125	0303029
Quick-change Jaw System reversed	
BSWS-U 125	0303044

Universal intermediate jaw



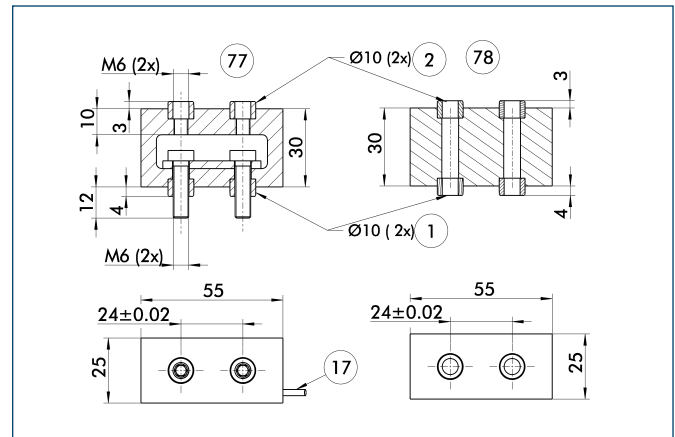
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 125	0300045	3 mm
UZB-S 125	5518273	3 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

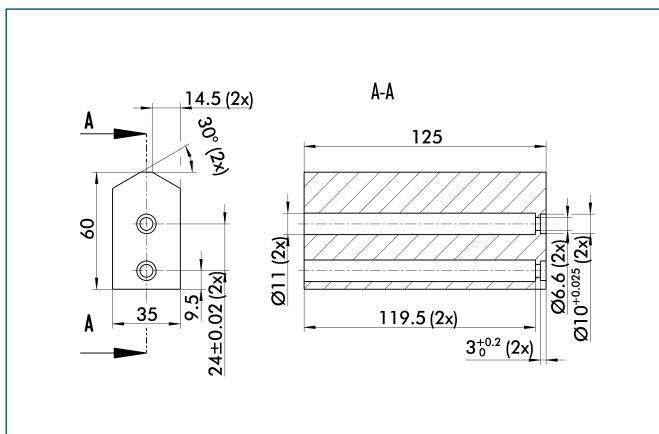


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



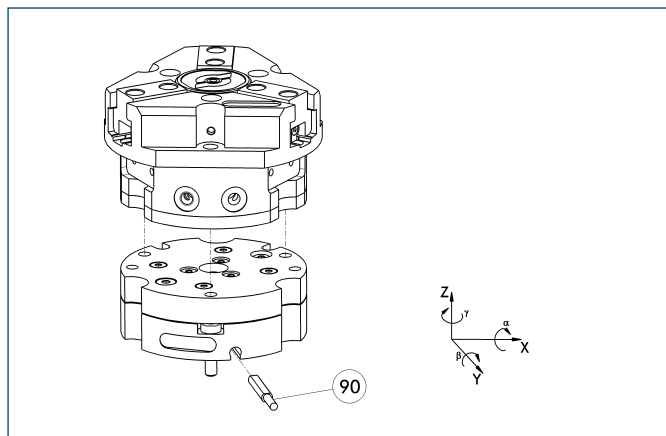
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 125	0300013	Aluminum	1
SBR-plus 125	0300023	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

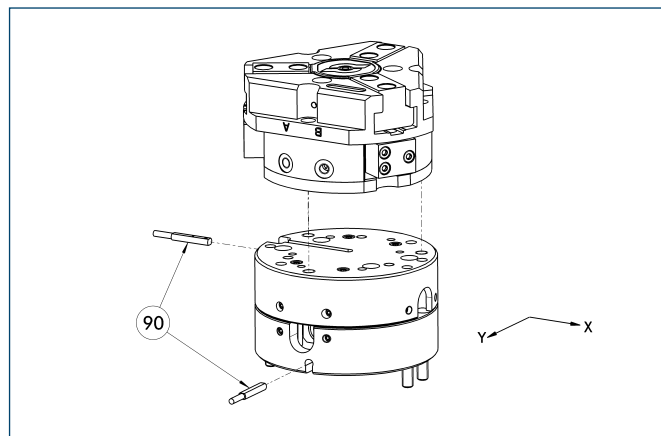


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-Z	0324820	Yes	
TCU-125-3-OV-Z	0324821	No	

Compensation unit with spring reset

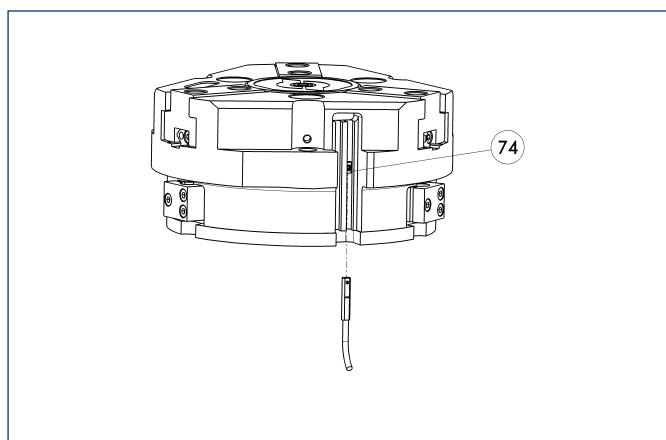


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

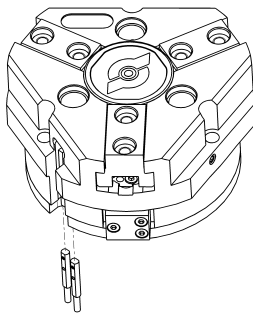
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

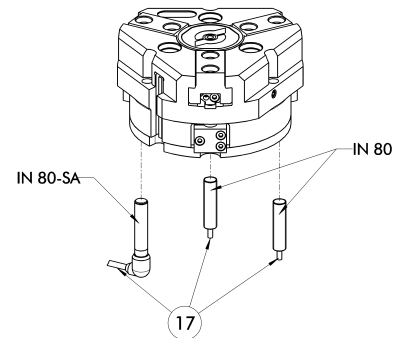


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring for direct mounting

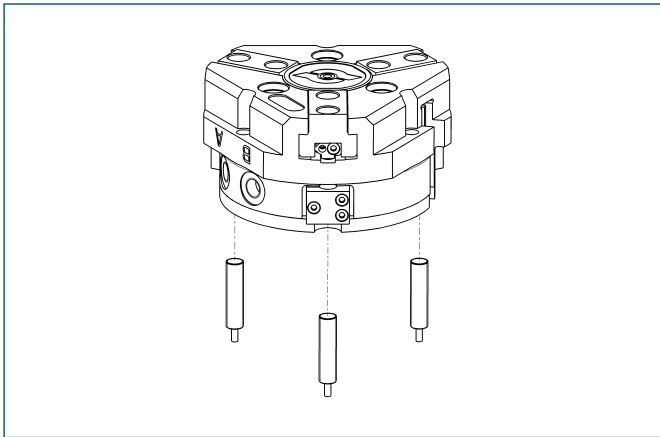
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

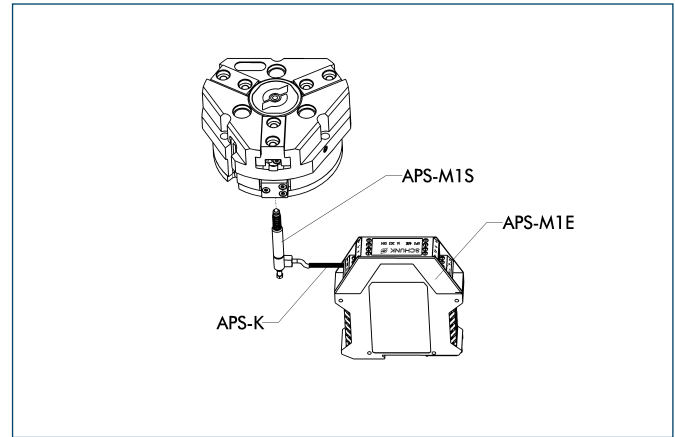


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377726
PGN/PZN-plus 100/125	
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

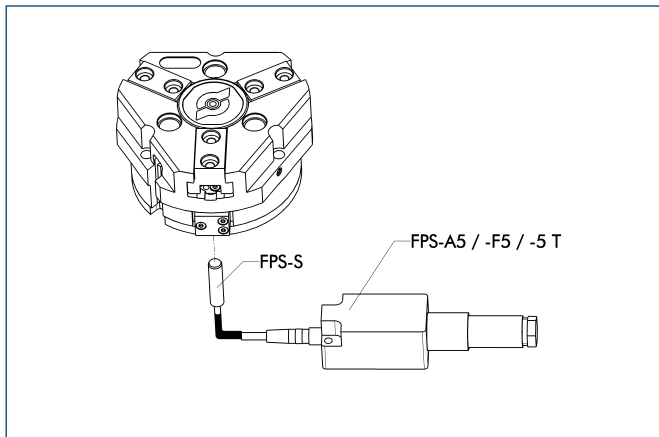


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

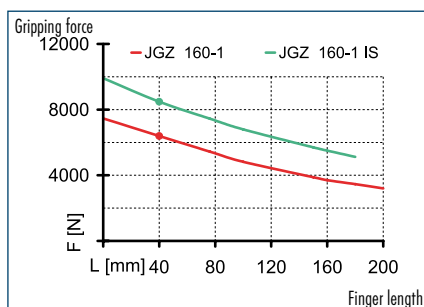
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



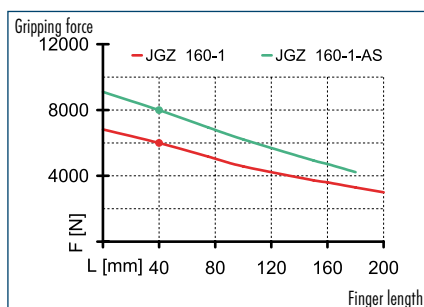
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



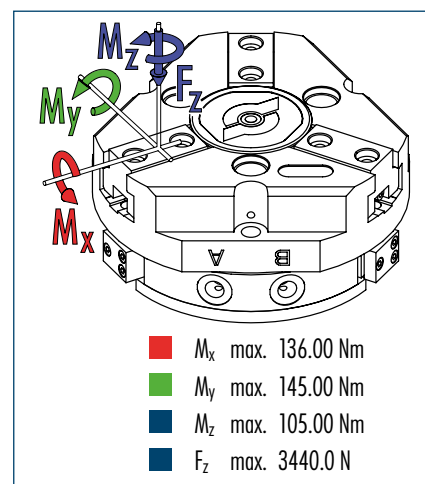
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

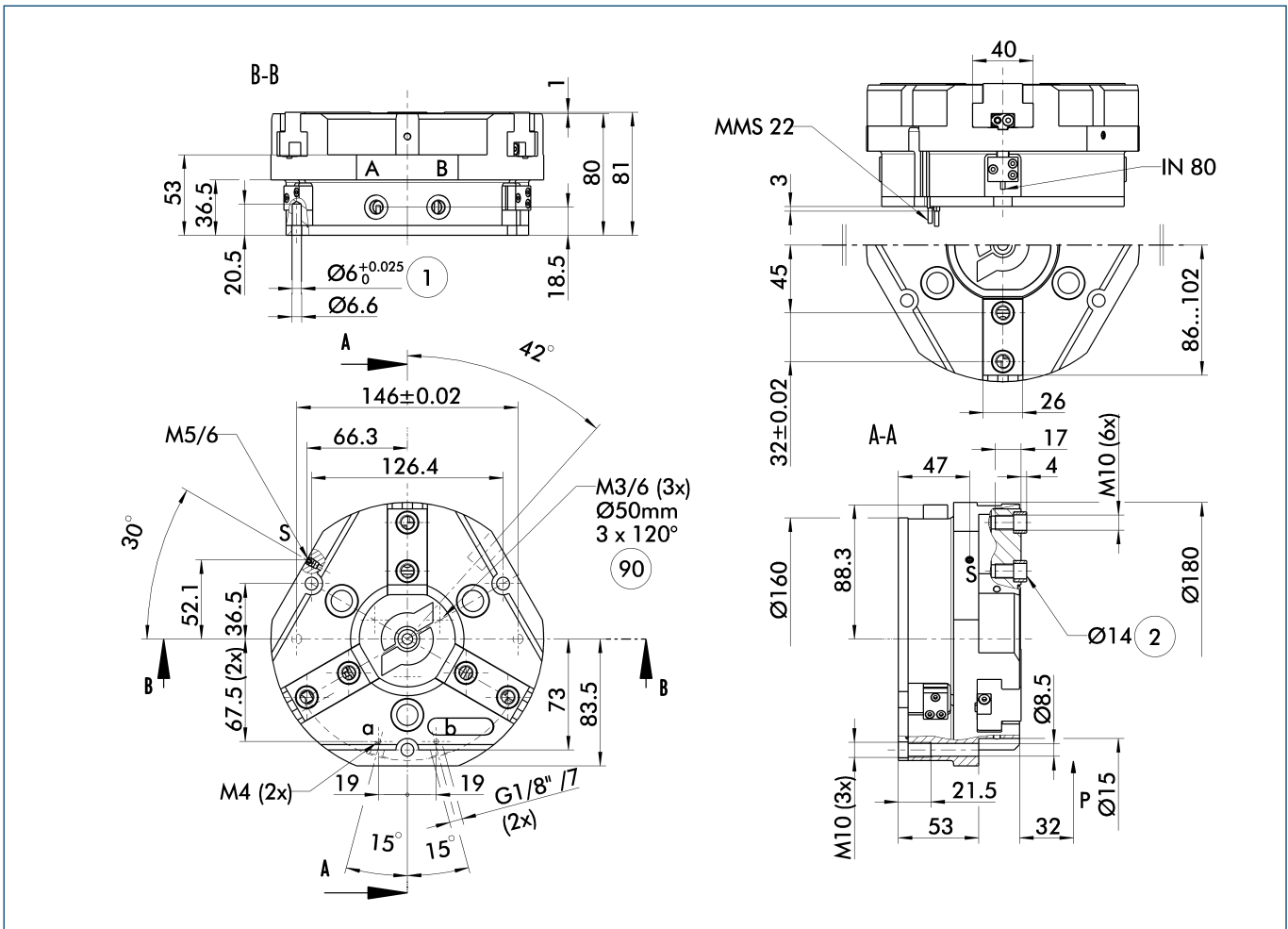


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		JGZ 160-1	JGZ 160-1-AS	JGZ 160-1-IS
ID		0308960	0308961	0308962
Stroke per finger	[mm]	16	16	16
Closing force	[N]	6000	7990	
Opening force	[N]	6390		8480
Min. spring force	[N]		1990	2090
Weight	[kg]	5.6	8	8
Recommended workpiece weight	[kg]	30	30	30
Air consumption per double stroke	[cm ³]	520	520	520
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.5/0.5	0.4/0.8	0.8/0.4
Max. permitted finger length	[mm]	200	180	180
Max. permitted weight per finger	[kg]	3.5	3.5	3.5
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class		5	5	5
ISO-classification 14644-1				

Main view

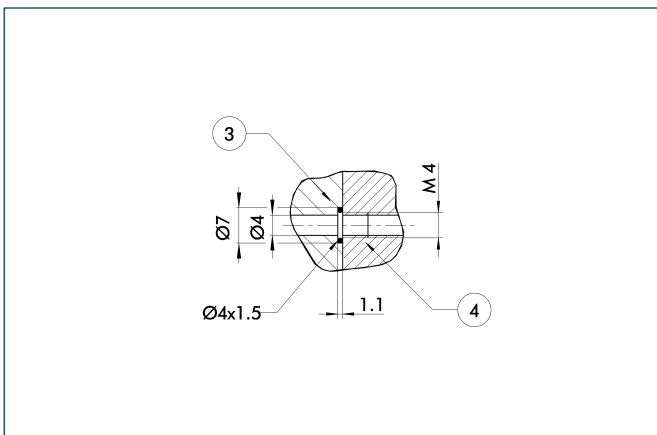


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ② | Finger connection |
| B, b | Main/direct connection, gripper closing | ⑨⑩ | Thread below the cover for fastening external attachments |
| S | Air purge connection | | |
| ① | Gripper connection | | |

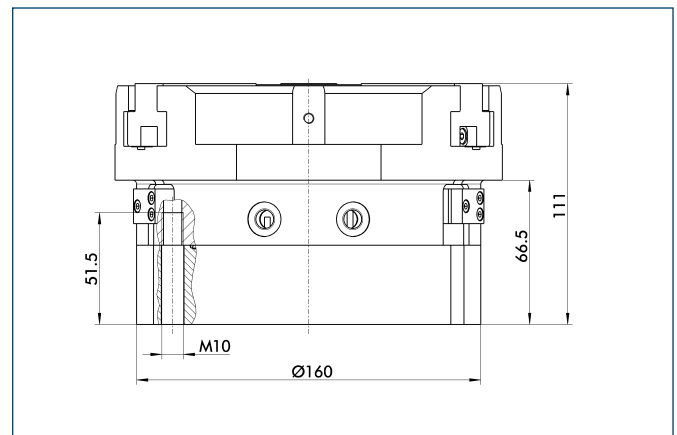
Hose-free direct connection



- ③ Adapter
- ④ Gripper

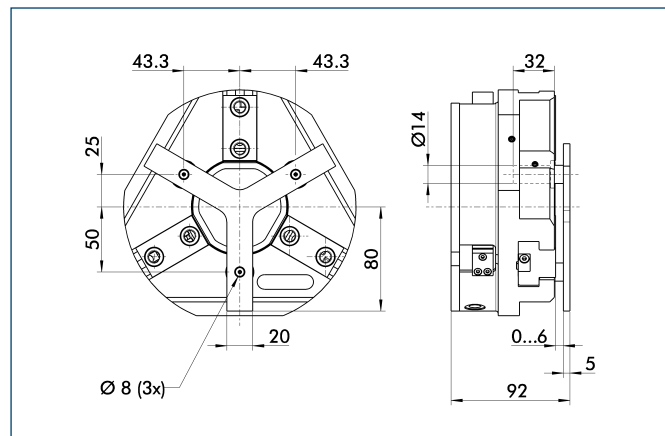
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

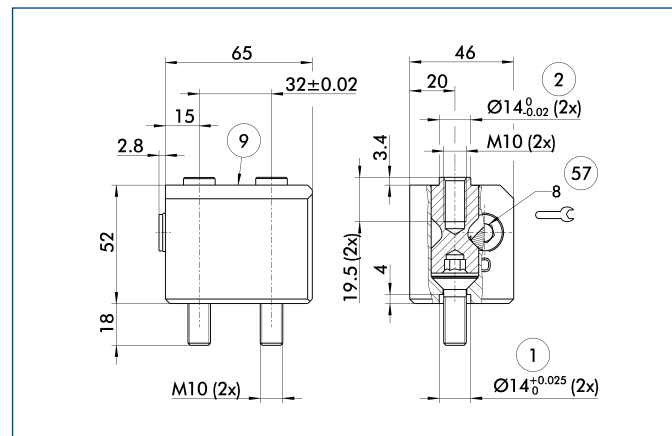
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6 mm	205 N

Quick-change Jaw System



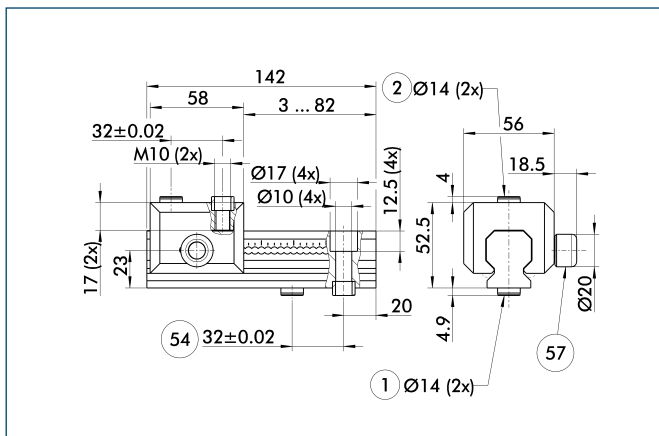
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤7 Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031
Quick-change Jaw System reversed	
BSWS-U 160	0303045

Universal intermediate jaw



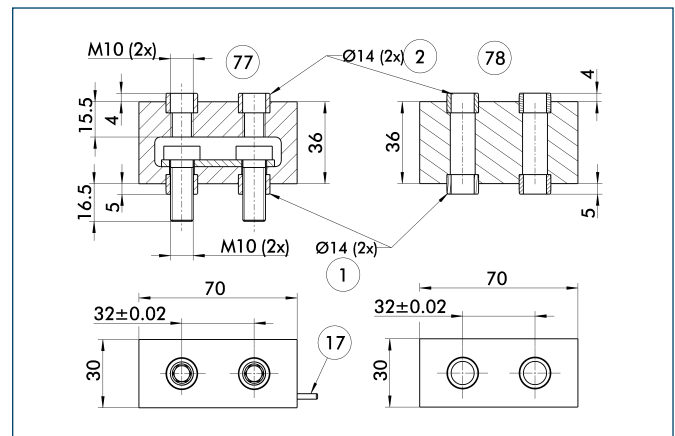
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 160	0300046	4 mm
UZF-S 160	5518274	4 mm

- ❗ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

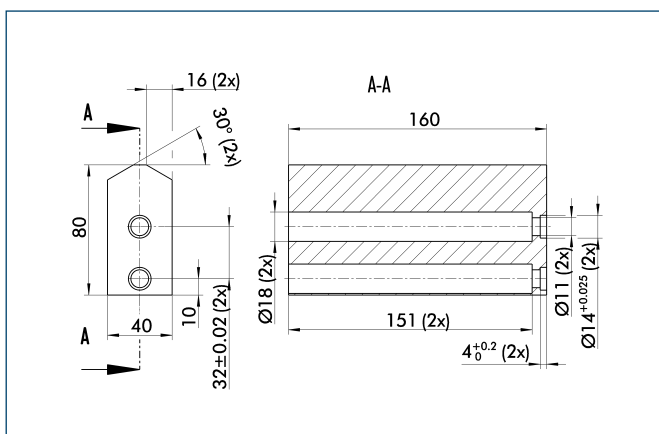


- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

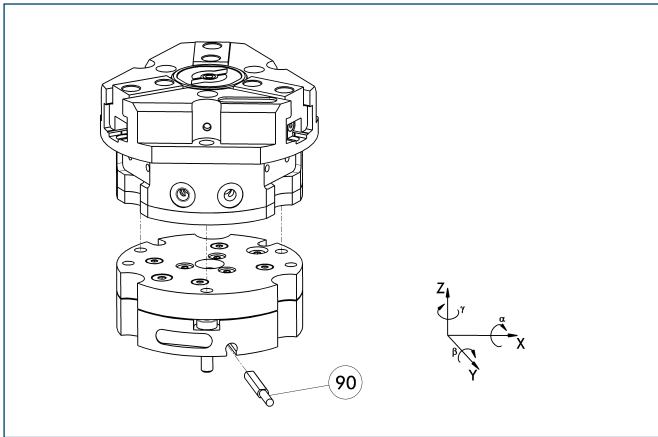
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1

Tolerance compensation unit

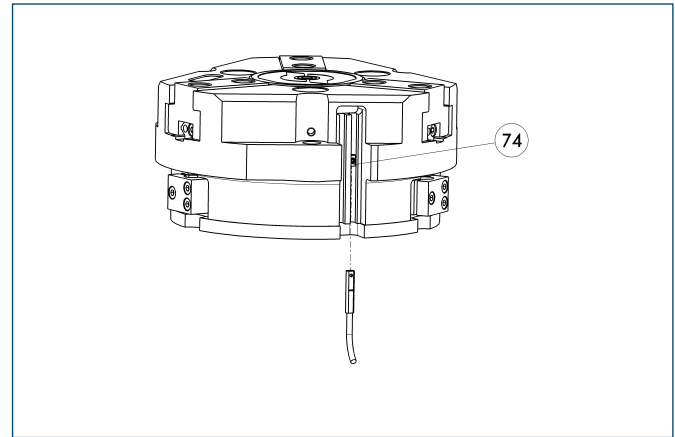


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-Z	0324838	Yes	
TCU-160-3-OV-Z	0324839	No	

Programmable magnetic switch



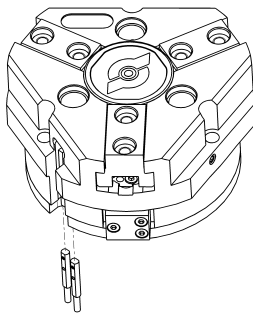
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

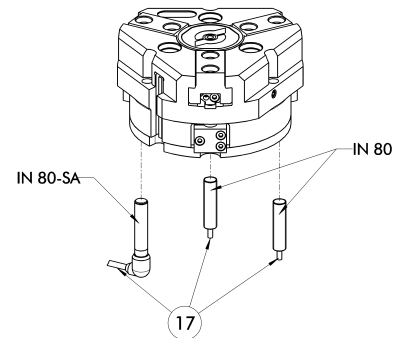


End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring for direct mounting

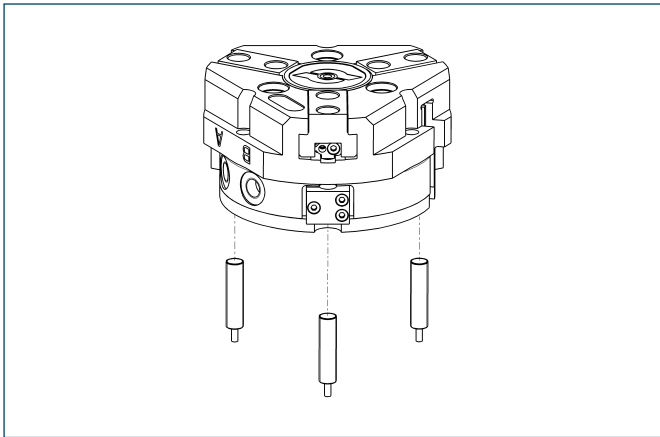
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

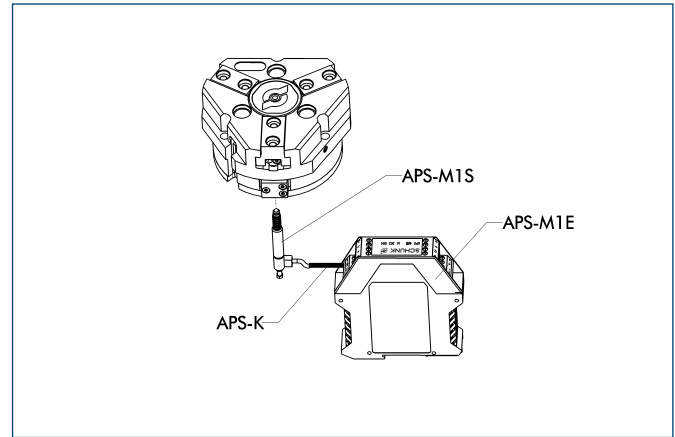


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377727
PGN/PZN-plus 160-380	
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

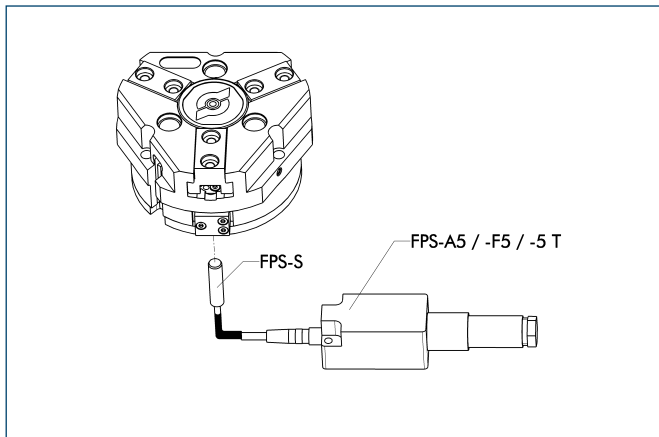


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 160/1	0301638
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



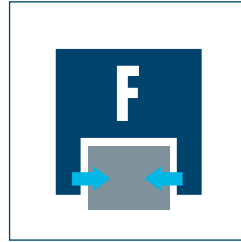
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
50 ... 160



Weight
0.26 kg ... 7.3 kg



Gripping force
340 N ... 5400 N



Stroke per finger
2 mm ... 13 mm



Workpiece weight
1.25 kg ... 20 kg

Application example



Assembly aid for long shafts. Feeding is done space-saving via the center bores of gripper and rotary feed through.

- 1 3-Finger Centric Gripper PZB-plus
- 2 Modified DDF Rotary feed-through with center bore

Universal Gripper

universal 3-Finger Concentric Gripper with large gripping force and high maximum moments per finger, plus center bore

Field of application

For universal use in clean and slightly dirty environments. Suitable for applications that require a center bore, e.g. for workpiece feed, special sensor systems or optical recognition systems.

Your advantages and benefits

Robust multi-tooth guidance

for precise handling

High maximum moments possible

suitable for using long gripper fingers

High gripping forces achievable

for a wide range of applications

Center through-hole

Available with fitting and female thread, which facilitates assembly of customer attachments. Moreover, the center bore is used for feed through of supply hoses and others.

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Manifold options

optional with mechanic gripping force maintenance



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

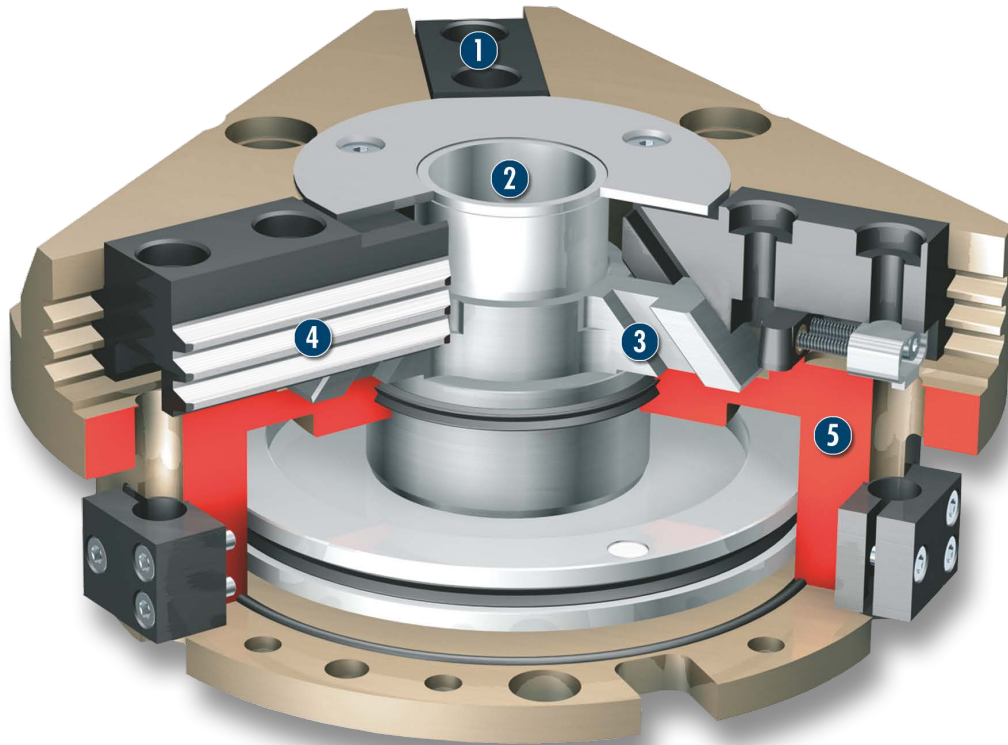
Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Center bore**
for workpiece feeding, for sensor systems, actuators (ejectors) or optical workpiece recognition
- 3 Wedge-hook design**
for high power transmission and centric gripping
- 4 Multiple-tooth guidance**
precise gripping through base jaw guidance with a high load capacity and a minimum play
- 5 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The piston is moved up or down by compressed air. Through its angled active surfaces, the wedge hook transforms this motion into the centric, synchronous gripping motion of the three base jaws.

Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Thanks to the center bore, the PZB-plus series is an ideal standard solution for many fields of application.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Sensor system



Fittings



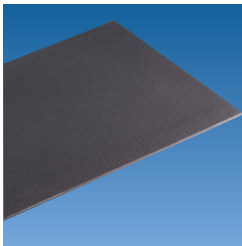
Universal intermediate jaw



Compensation unit



Gripper pads



Quick-change Jaw System



Pressure maintenance valve



Finger blanks



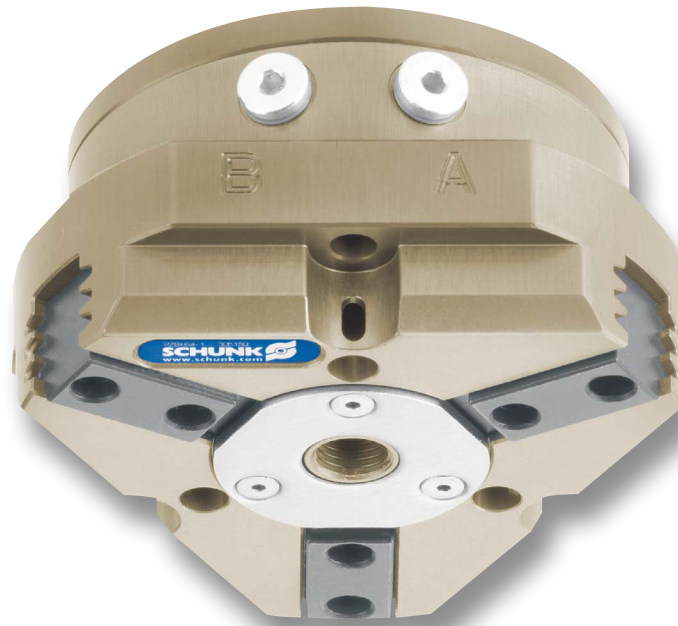
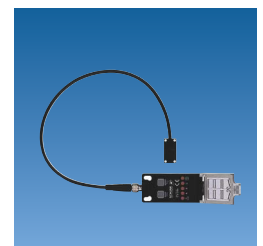
Force measuring jaws



Analog position sensor



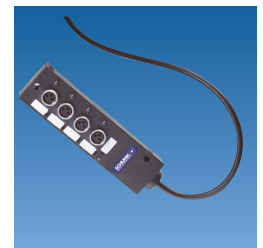
Flexible Position Sensor



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

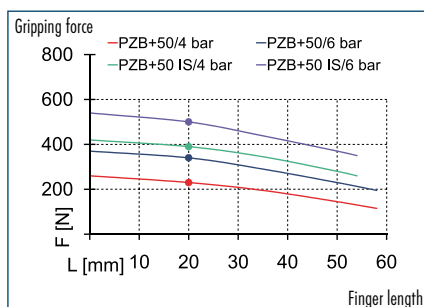
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

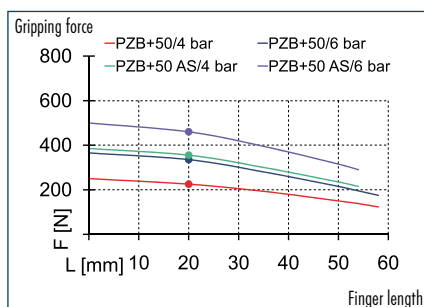
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



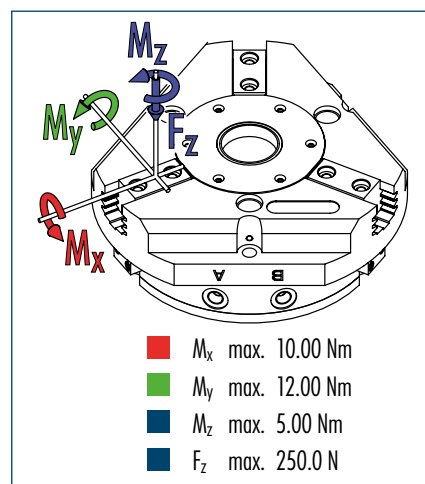
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

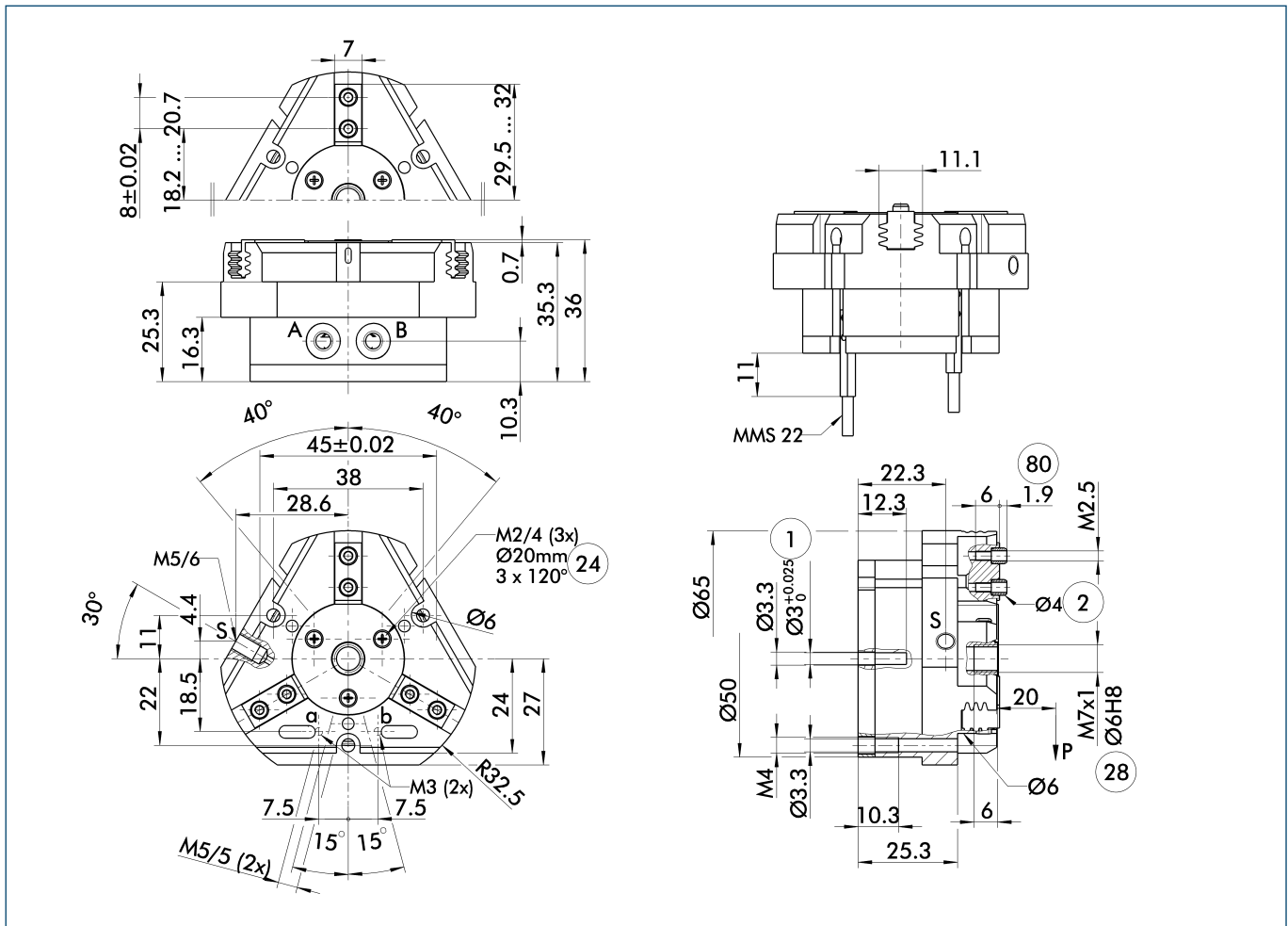


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 50-1	PZB-plus 50-1-AS	PZB-plus 50-1-IS
ID		0305140	0305142	0305144
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	340	460	
Opening force	[N]	360		500
Min. spring force	[N]		120	140
Weight	[kg]	0.26	0.36	0.36
Recommended workpiece weight	[kg]	1.25	1.25	1.25
Air consumption per double stroke	[cm ³]	10.5	15	15
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02
Max. permitted finger length	[mm]	58	54	54
Max. permitted weight per finger	[kg]	0.1	0.1	0.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Diameter of center bore	[mm]	6	6	6

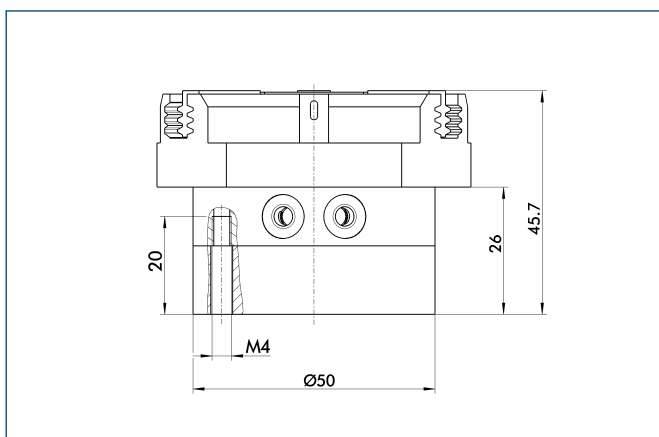
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

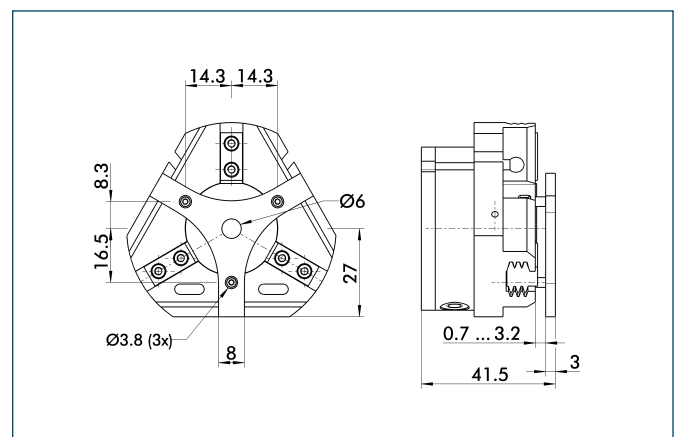
- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ②④ Bolt circle
- ②⑧ Through-bore
- ⑧① Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Spring-loaded pressure piece



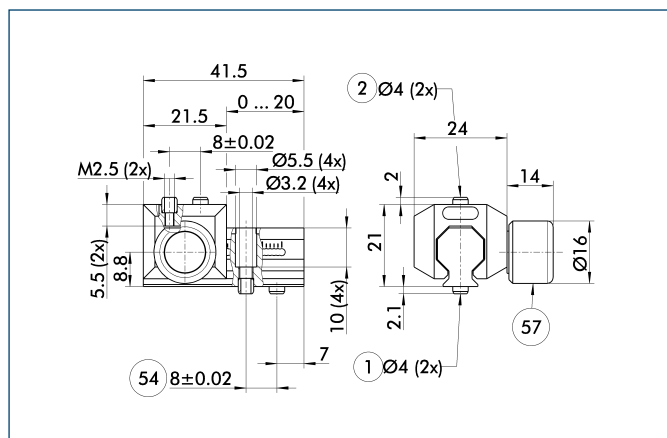
For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZB-plus 50	0305146	2.5 mm	5 N



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw

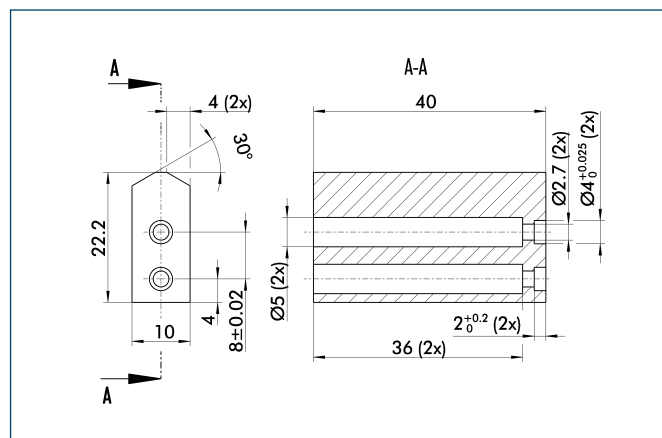


- ① Gripper connection
② Finger connection
⑤④ Optional right or left connection
⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 40	0300040	1 mm

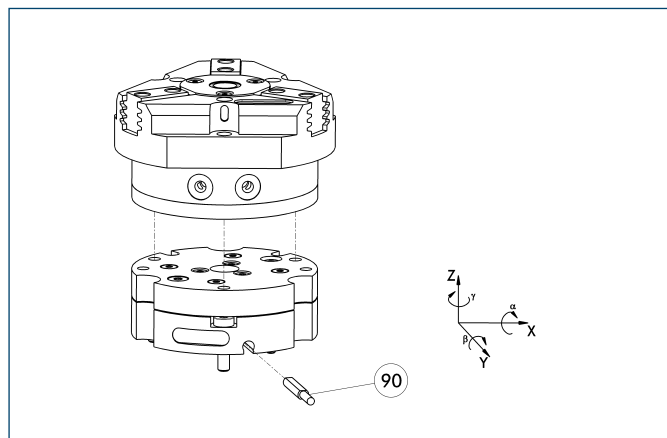
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 40	0300008	Aluminum	1
SBR-plus 40	0300018	16 MnCr 5	1

Tolerance compensation unit

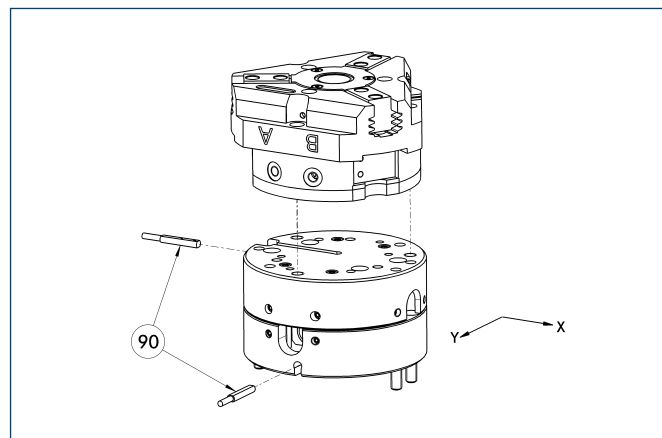


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-0V-Z	0324749	No	

Compensation unit with spring reset

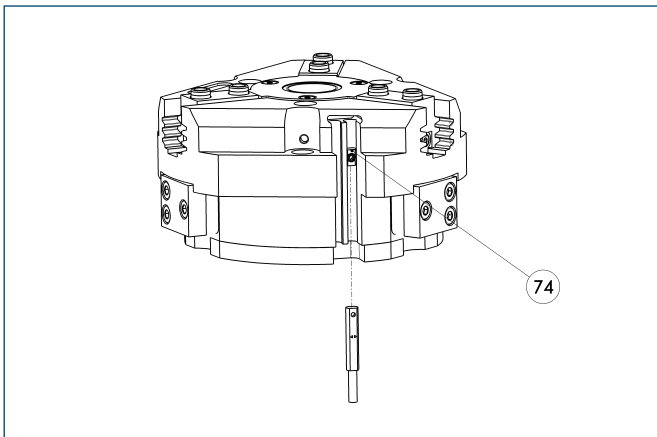


- ⑨⑩ Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	±2 mm	1 N
AGE-F-XY-040-2	0324921	±2 mm	2.5 N
AGE-F-XY-040-3	0324922	±2 mm	3.3 N

Programmable magnetic switch



74 Stop for MMS-P

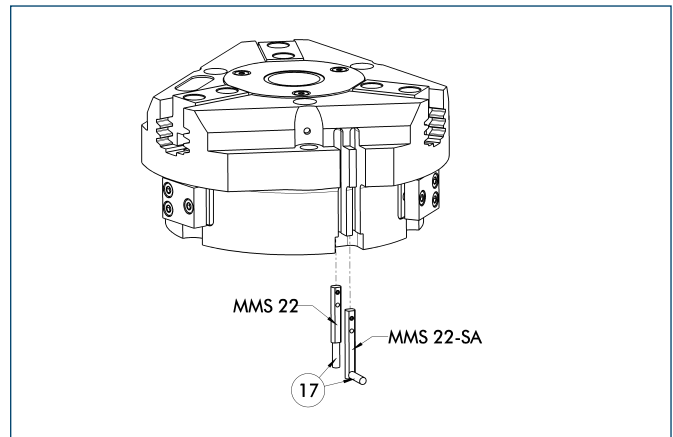
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

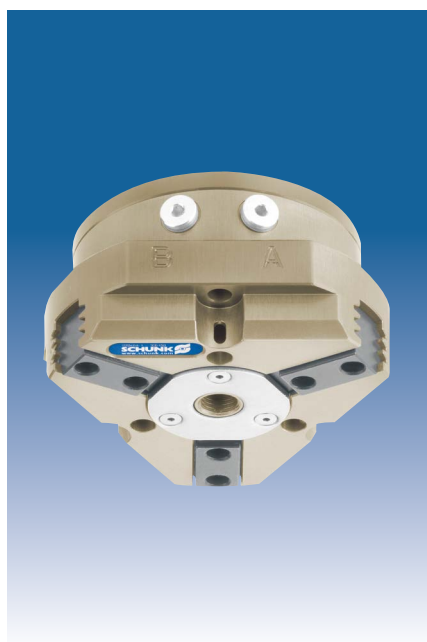
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

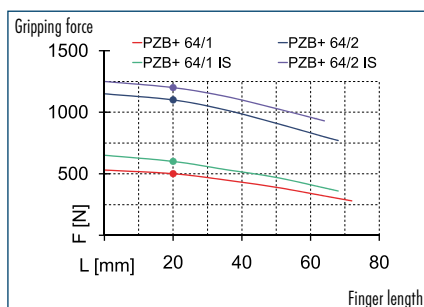
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



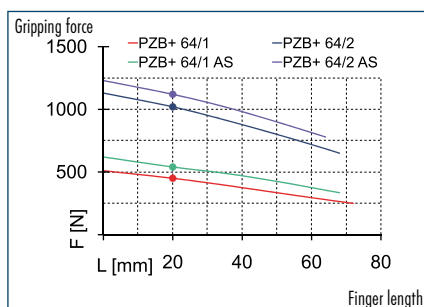
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



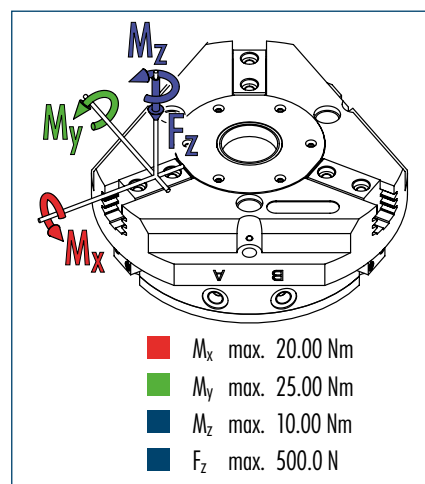
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

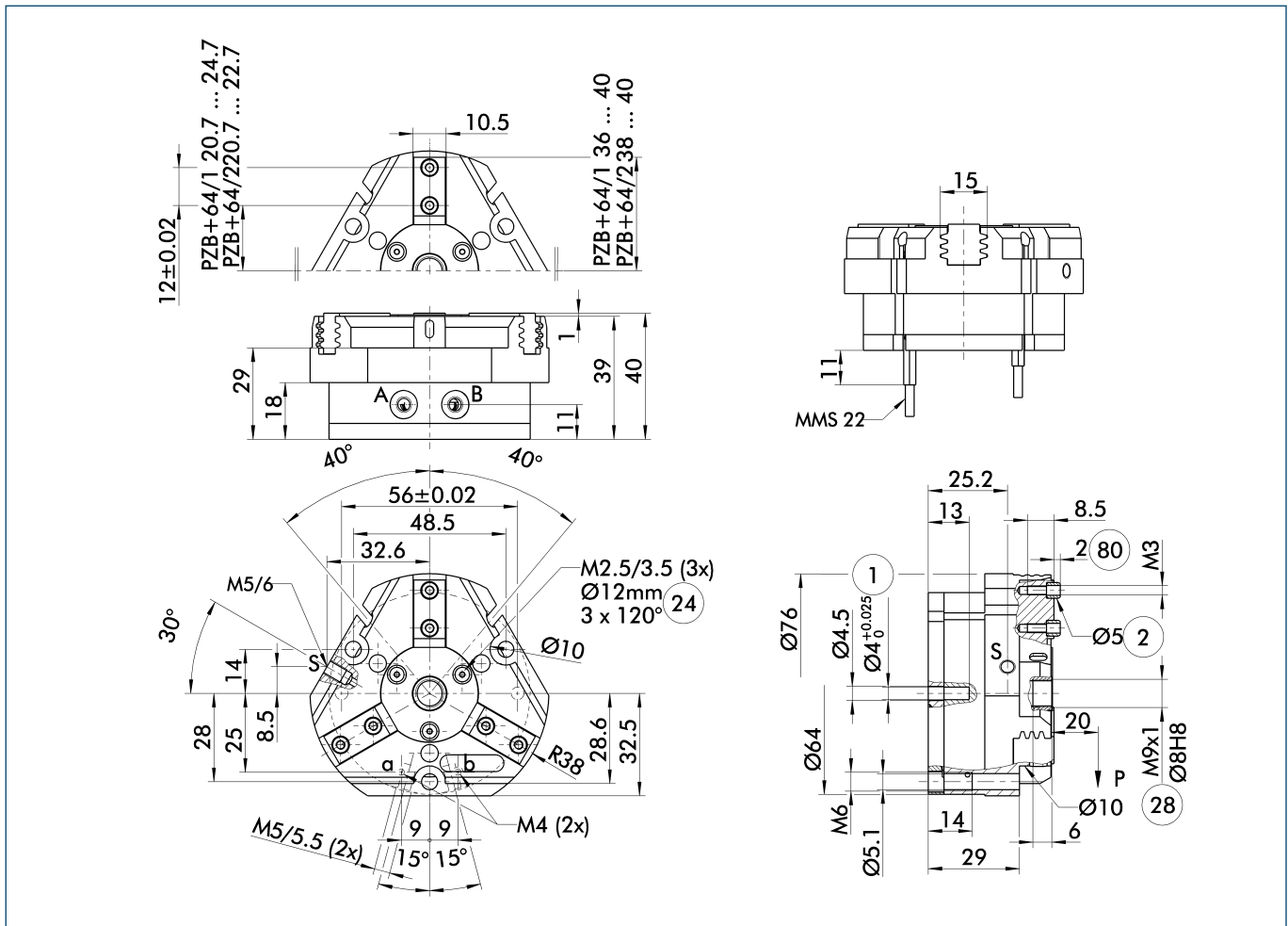


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 64-1	PZB-plus 64-2	PZB-plus 64-1-AS	PZB-plus 64-2-AS	PZB-plus 64-1-IS	PZB-plus 64-2-IS
ID		0305150	0305151	0305152	0305153	0305154	0305155
Stroke per finger	[mm]	4	2	4	2	4	2
Closing force	[N]	450	1000	540	1180		
Opening force	[N]	500	1100			600	1300
Min. spring force	[N]			90	180	100	200
Weight	[kg]	0.51	0.51	0.63	0.63	0.63	0.63
Recommended workpiece weight	[kg]	1.6	3.4	1.6	3.4	1.6	3.4
Air consumption per double stroke	[cm ³]	19.5	19.5	35	35	35	35
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Max. permitted finger length	[mm]	72	68	68	64	68	64
Max. permitted weight per finger	[kg]	0.18	0.18	0.18	0.18	0.18	0.18
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Diameter of center bore	[mm]	8	8	8	8	8	8

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening

B, b Main/direct connection, gripper closing

S Air purge connection

① Gripper connection

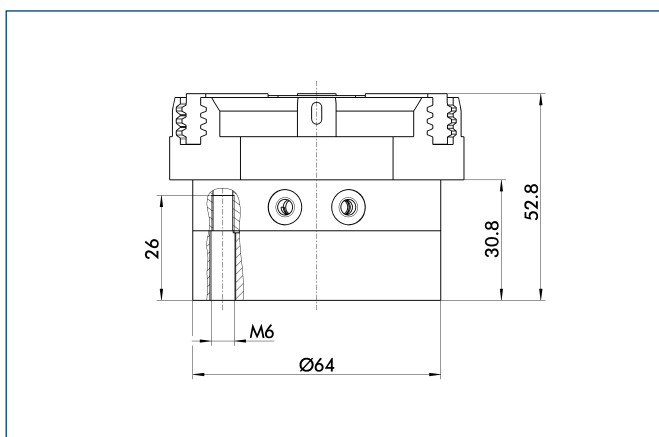
② Finger connection

①

②⑧ Through-bore

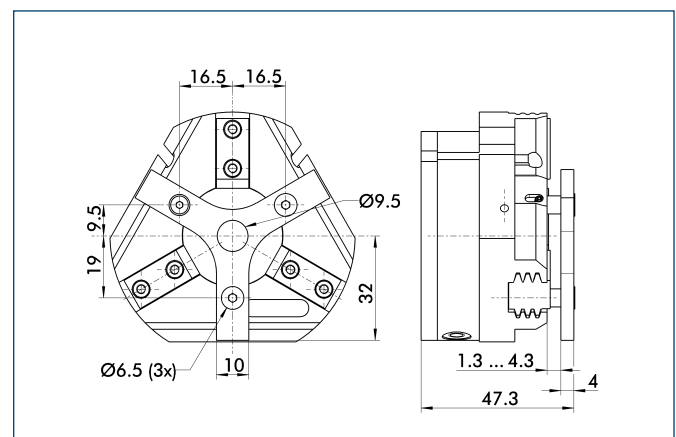
⑧⑩ Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

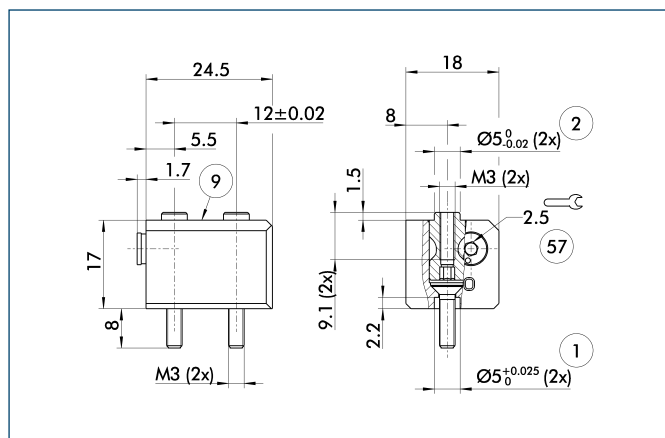
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PTB-plus 64	0305156	3 mm	12 N

Quick-change Jaw System



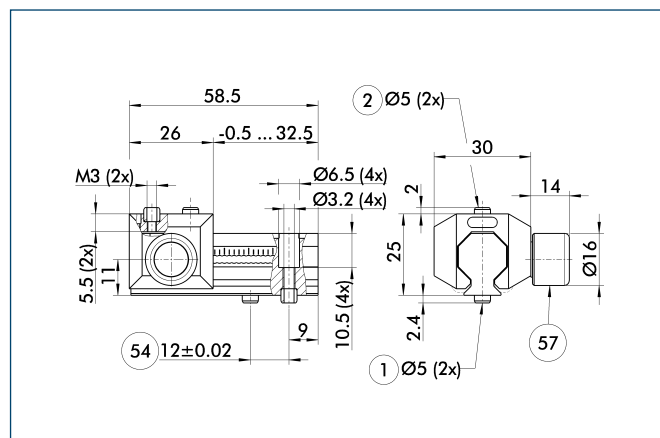
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040

Universal intermediate jaw



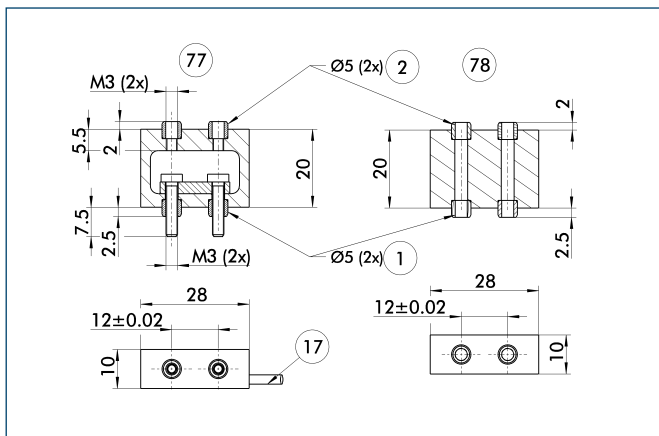
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 50	0300041	1.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

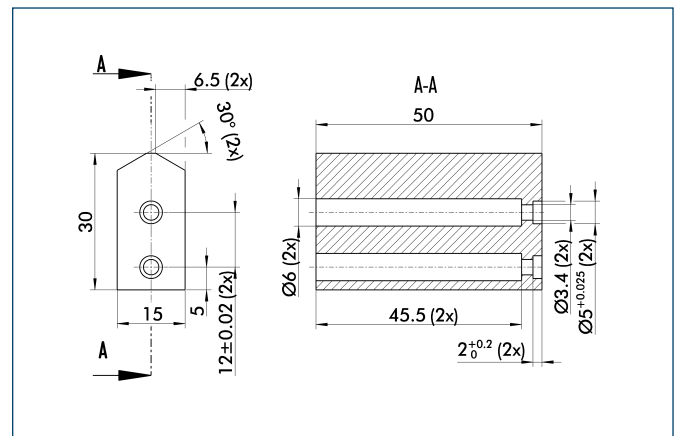


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

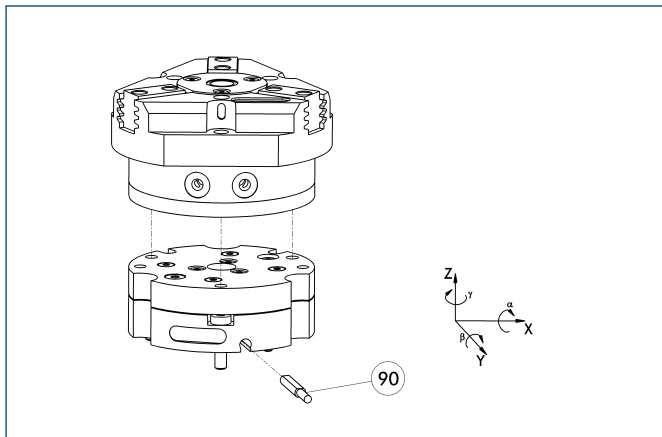
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1

Tolerance compensation unit

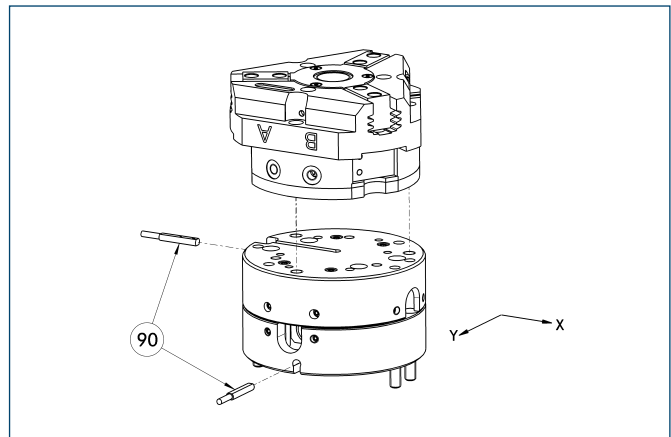


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-Z	0324766	Yes	
TCU-064-3-OV-Z	0324767	No	

Compensation unit with spring reset

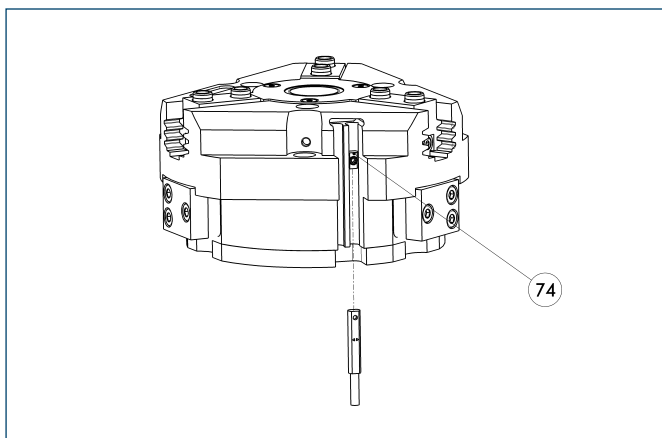


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

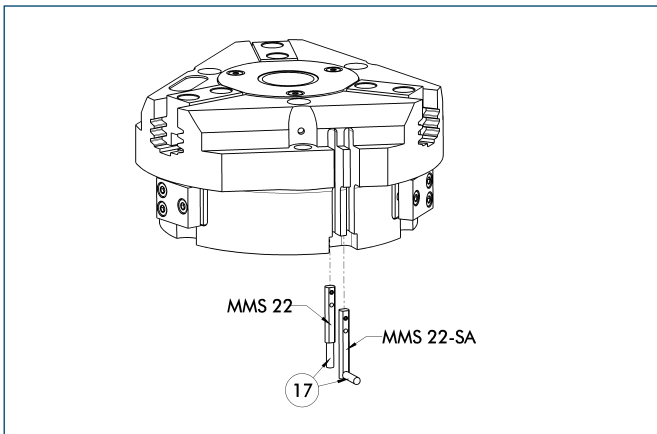
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

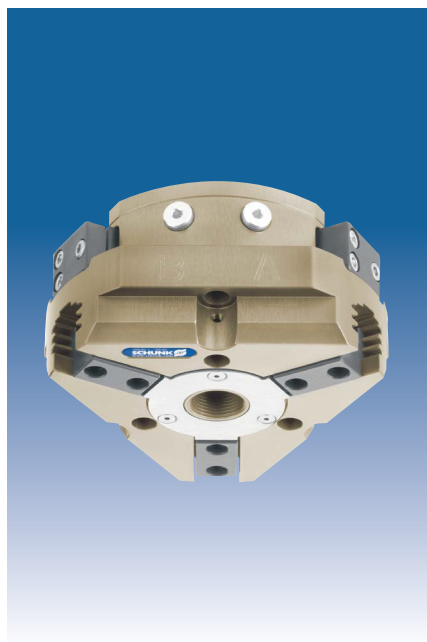
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

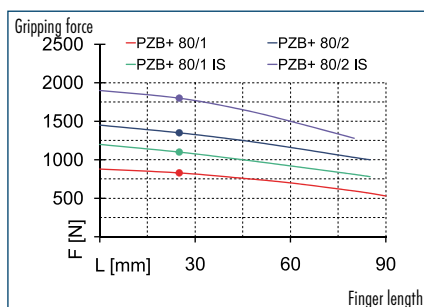
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



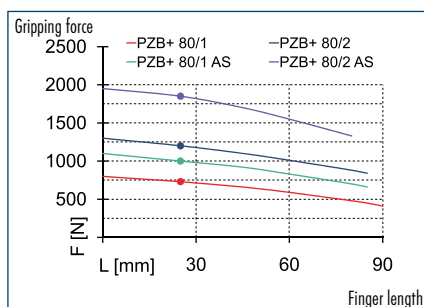
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



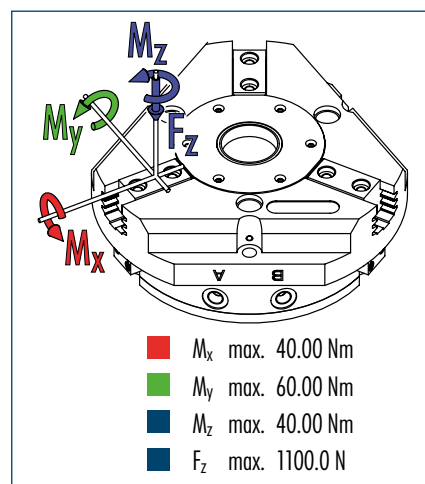
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

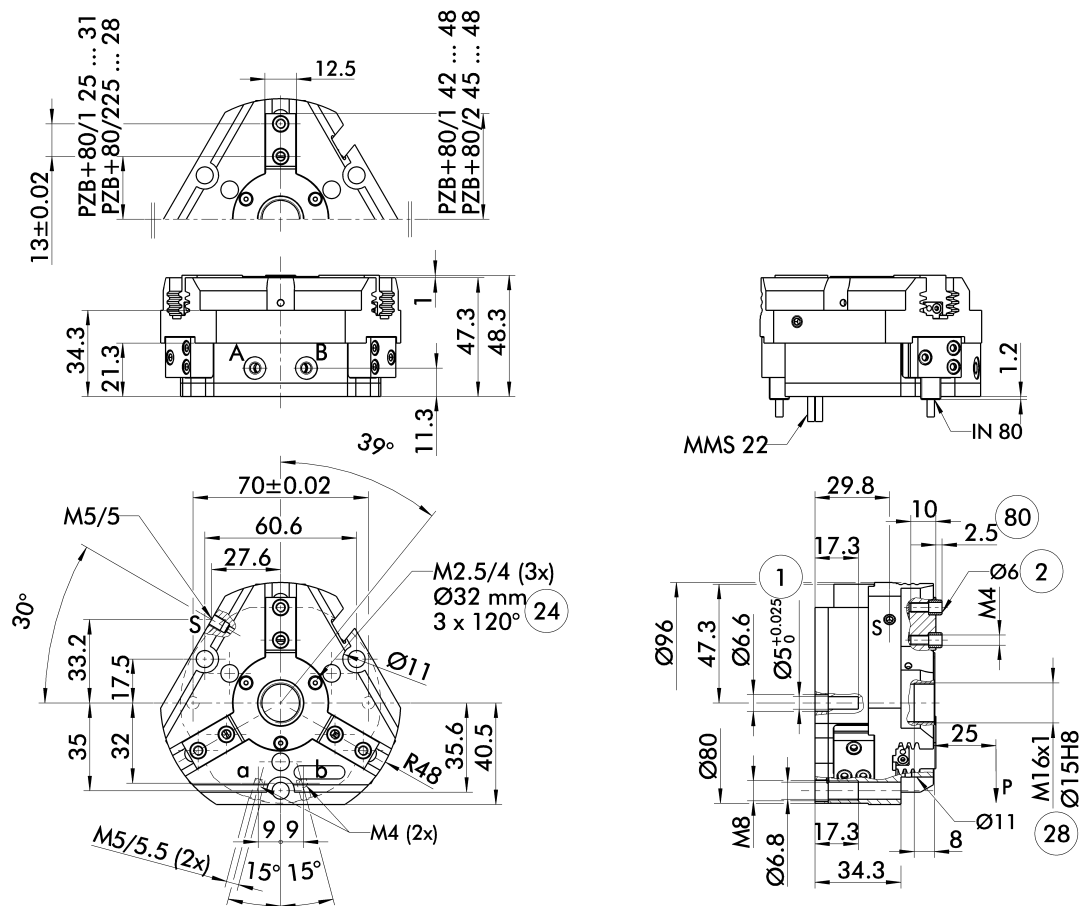


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 80-1	PZB-plus 80-2	PZB-plus 80-1-AS	PZB-plus 80-2-AS	PZB-plus 80-1-IS	PZB-plus 80-2-IS
ID		0305160	0305161	0305162	0305163	0305164	0305165
Stroke per finger	[mm]	6	3	6	3	6	3
Closing force	[N]	730	1200	950	1810		
Opening force	[N]	830	1350			1030	1750
Min. spring force	[N]			220	360	200	400
Weight	[kg]	0.8	0.8	1.1	1.1	1.1	1.1
Recommended workpiece weight	[kg]	2.9	4.85	2.9	4.85	2.9	4.85
Air consumption per double stroke	[cm ³]	42	42	75	75	75	75
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.06/0.04	0.06/0.04
Max. permitted finger length	[mm]	90	85	85	80	85	80
Max. permitted weight per finger	[kg]	0.35	0.35	0.35	0.35	0.35	0.35
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Diameter of center bore	[mm]	15	15	15	15	15	15

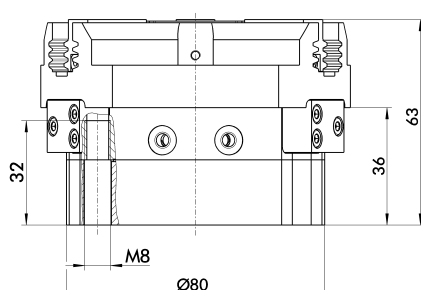
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

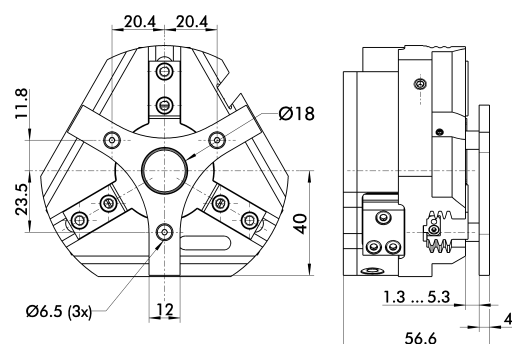
- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 24 | Bolt circle |
| B, b | Main/direct connection, gripper closing | 28 | Through-bore |
| S | Air purge connection | 80 | Depth of the centering sleeve hole in the matching part |
| ① | Gripper connection | | |
| ② | Finger connection | | |

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

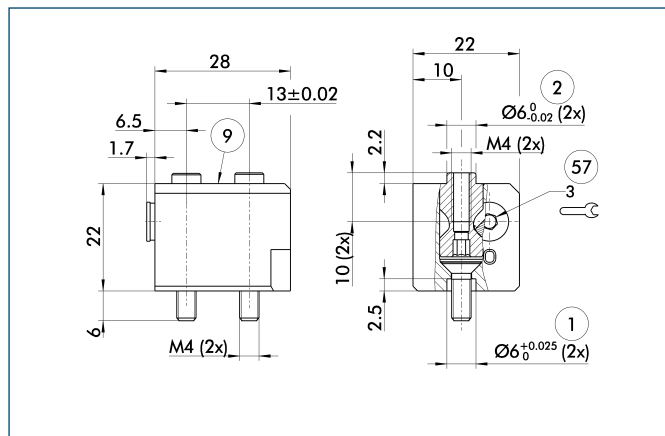
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-P7B-plus 80	0305166	4 mm	11 N

Quick-change Jaw System



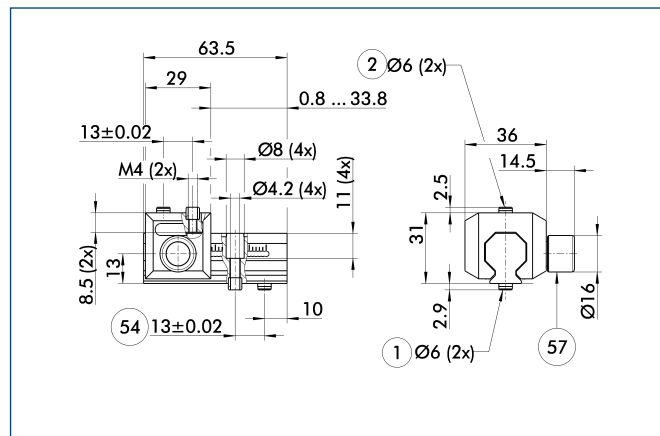
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023
Quick-change Jaw System reversed	
BSWS-U 64	0303041

Universal intermediate jaw



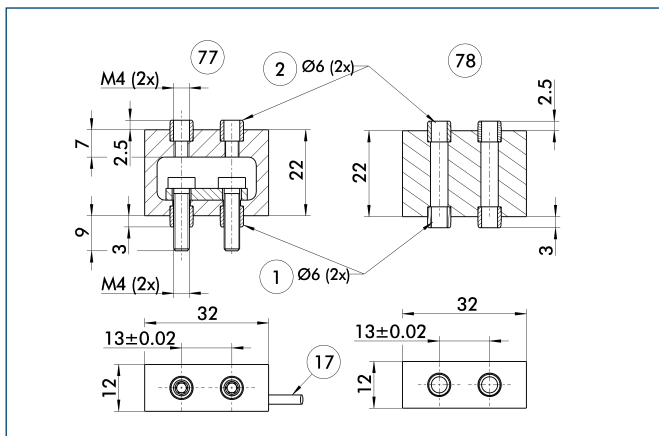
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 64	0300042	1.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

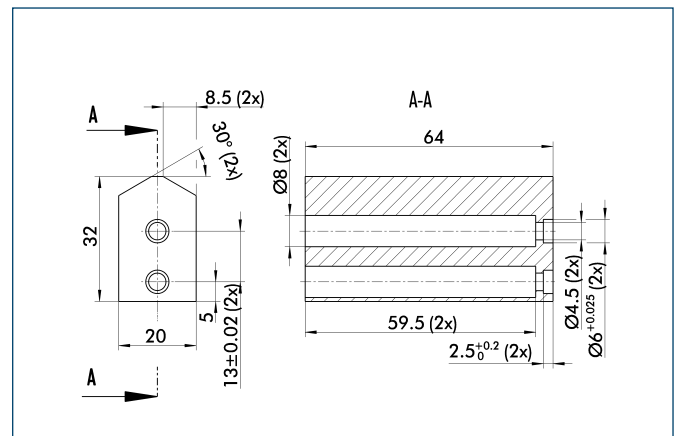


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 64	0301832
Passive intermediate jaws	
FMS-ZBP 64	0301833
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



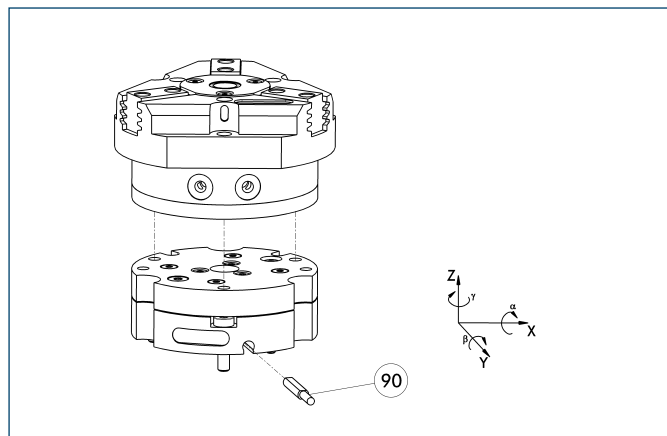
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

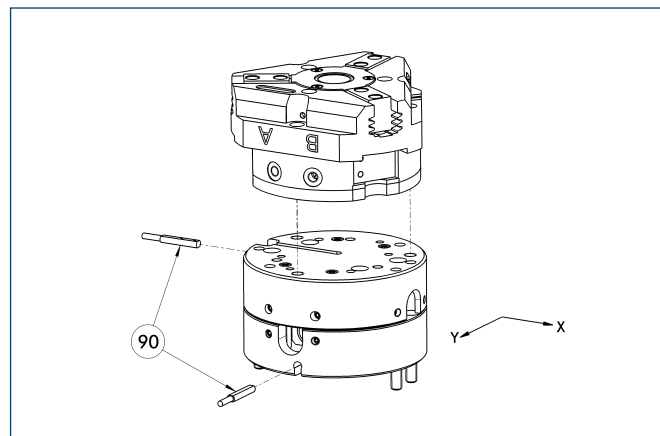


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-Z	0324784	Yes	
TCU-080-3-OV-Z	0324785	No	

Compensation unit with spring reset

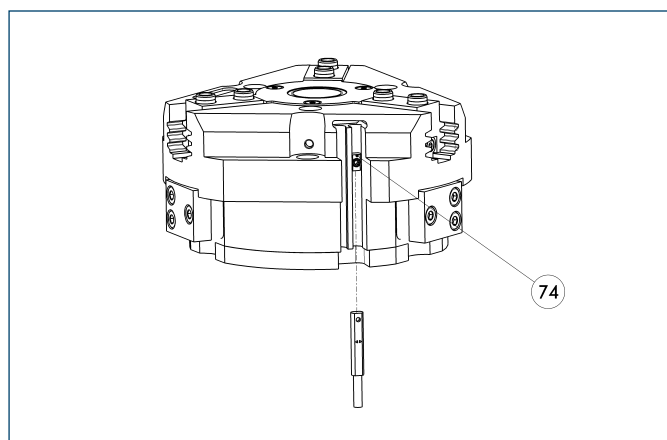


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



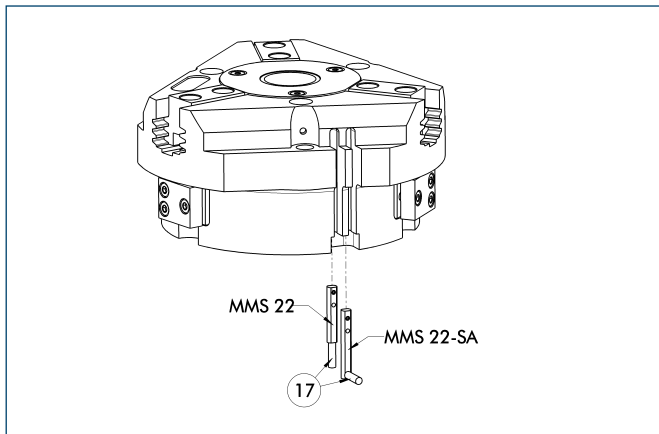
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



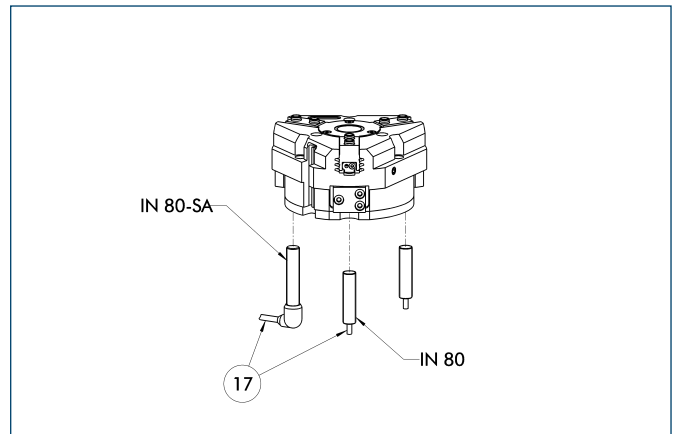
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

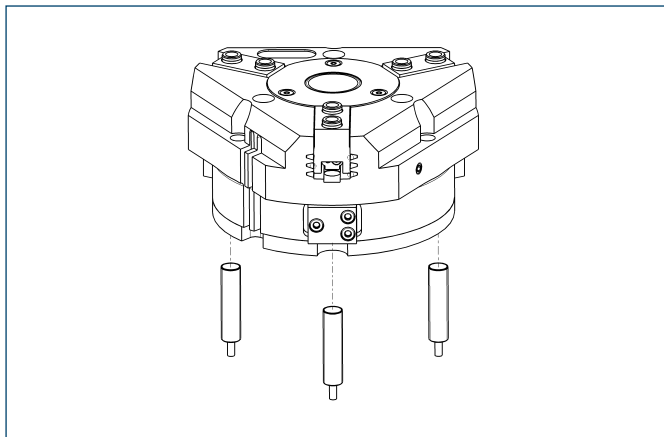
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

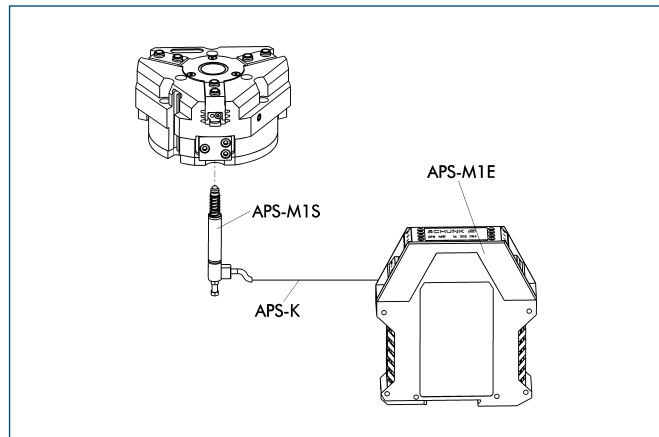


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

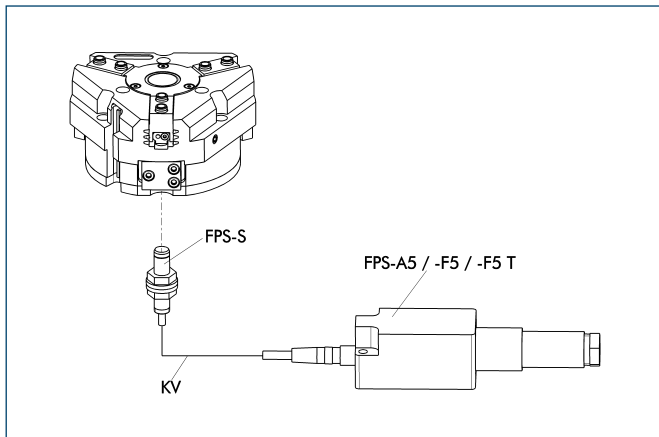


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-64/1	0302075
AS-APS-M1-64/2	0302076
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

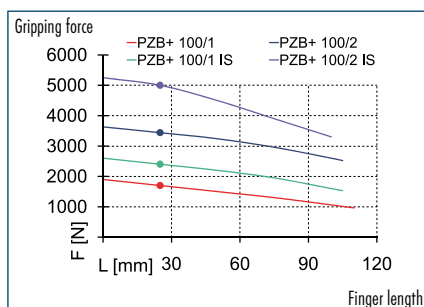
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



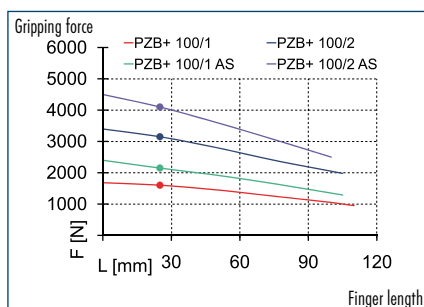
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



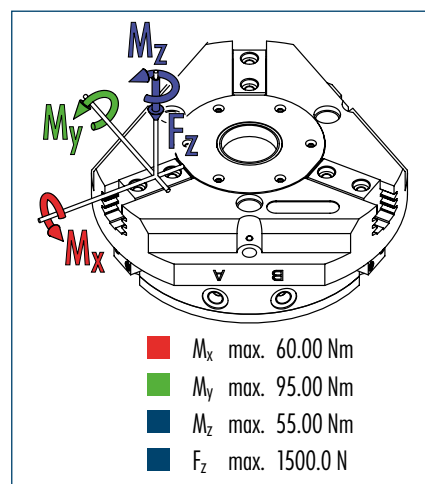
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

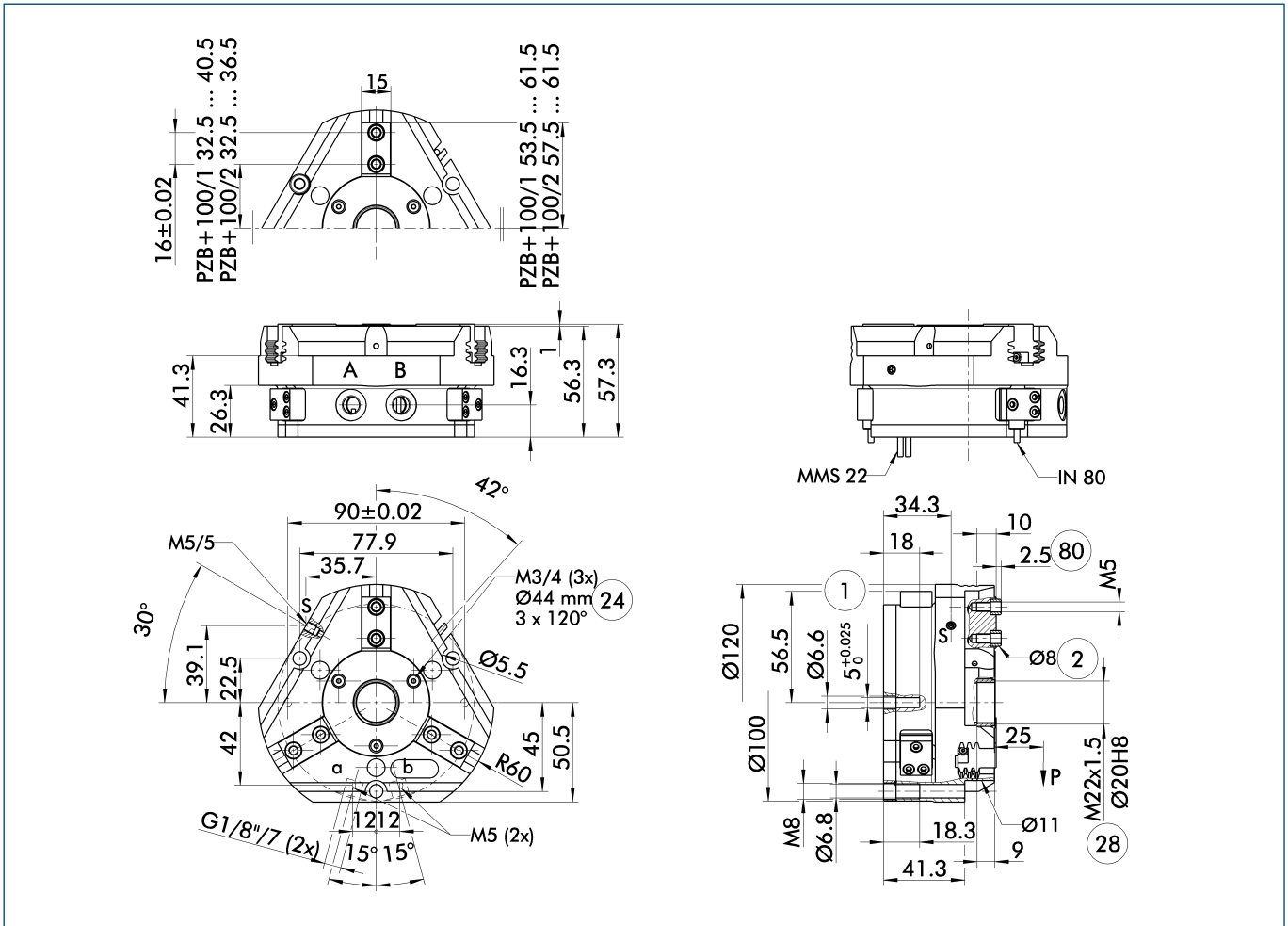


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 100-1	PZB-plus 100-2	PZB-plus 100-1-AS	PZB-plus 100-2-AS	PZB-plus 100-1-IS	PZB-plus 100-2-IS
ID		0305170	0305171	0305172	0305173	0305174	0305175
Stroke per finger	[mm]	8	4	8	4	8	4
Closing force	[N]	1600	3150	2100	4050		
Opening force	[N]	1700	3400			2380	4900
Min. spring force	[N]			500	900	680	1500
Weight	[kg]	1.5	1.5	2.3	2.3	2.3	2.3
Recommended workpiece weight	[kg]	5	11.5	5	11.5	5	11.5
Air consumption per double stroke	[cm ³]	92	92	185	185	185	185
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.1/0.1	0.1/0.1	0.1/0.2	0.1/0.2	0.2/0.1	0.2/0.1
Max. permitted finger length	[mm]	110	105	105	100	105	100
Max. permitted weight per finger	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Diameter of center bore	[mm]	20	20	20	20	20	20

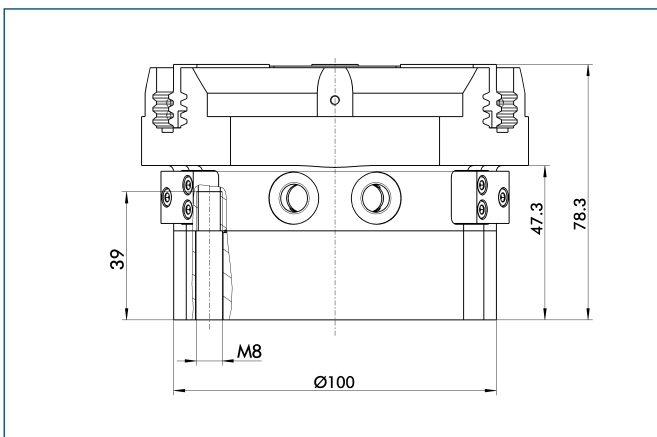
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

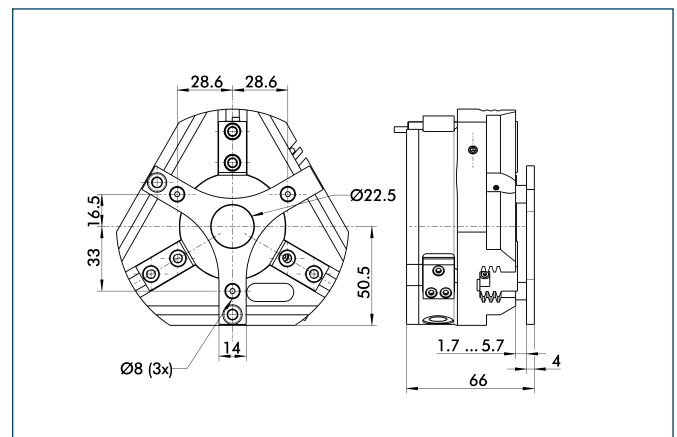
- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- S Air purge connection
- 1 Gripper connection
- 2 Finger connection
- 24 Bolt circle
- 28 Through-bore
- 80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Spring-loaded pressure piece



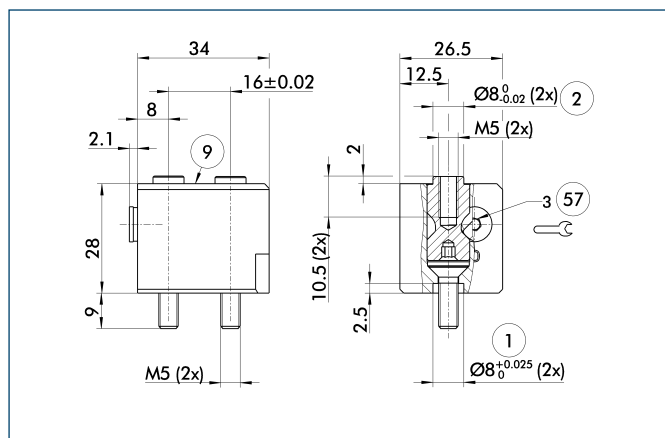
For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZB-plus 100	0305176	4 mm	18 N



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Quick-change Jaw System



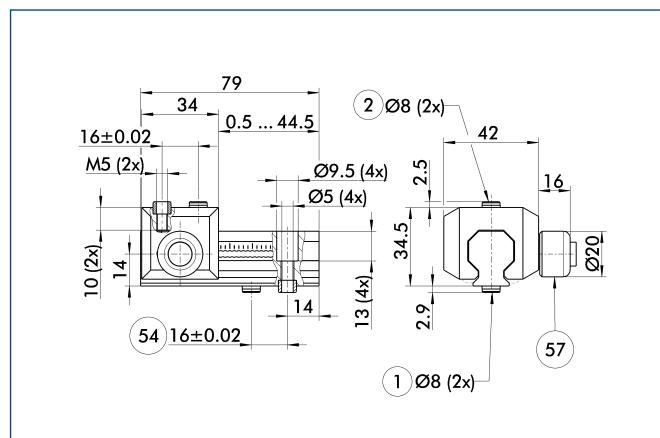
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042

Universal intermediate jaw



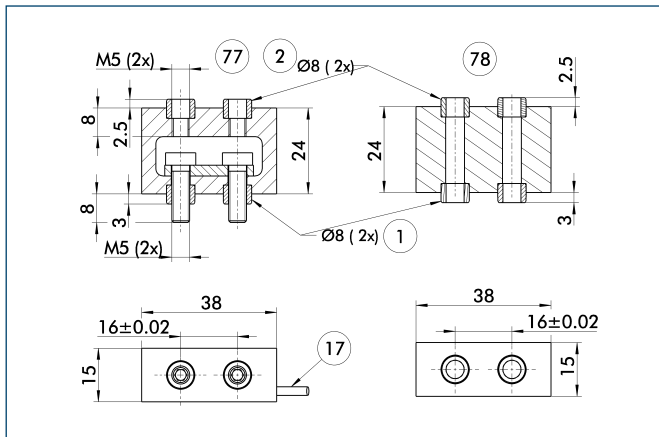
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 80	0300043	2 mm
UZH-S 80	5518271	2 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

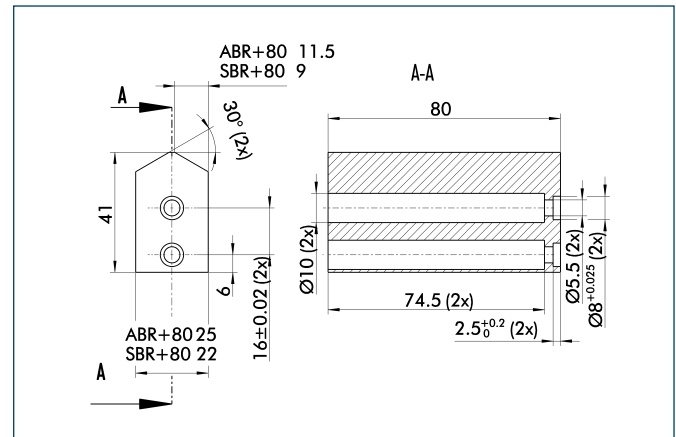


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



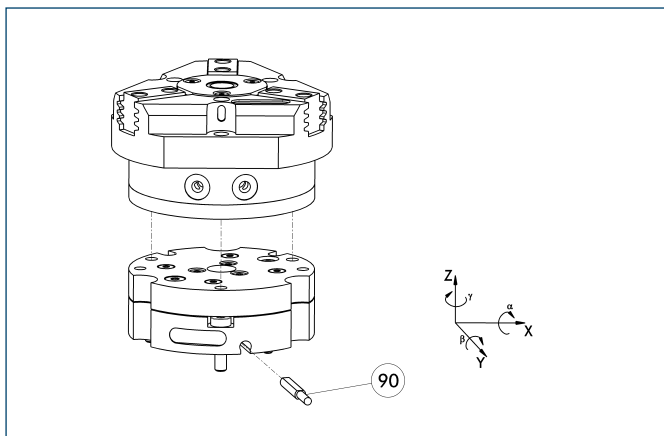
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

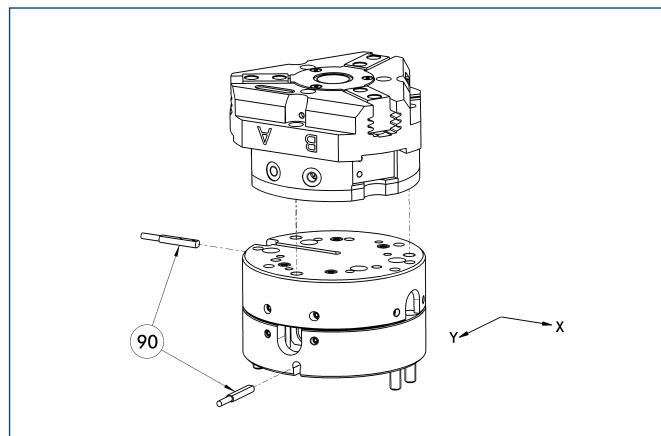


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-Z	0324794	Yes	
TCU-100-2-OV-Z	0324799	No	

Compensation unit with spring reset

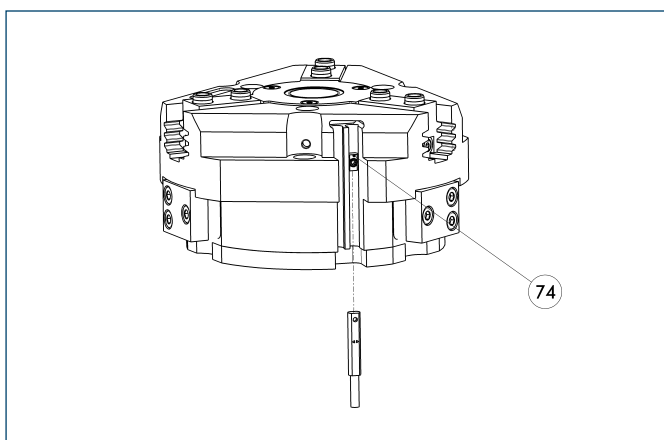


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

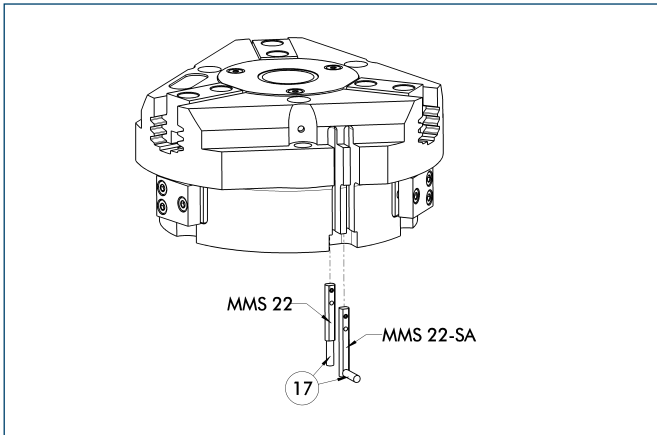
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



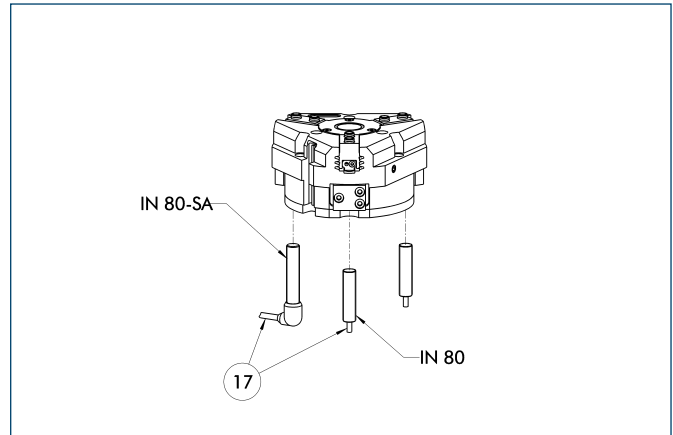
⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

⑰ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

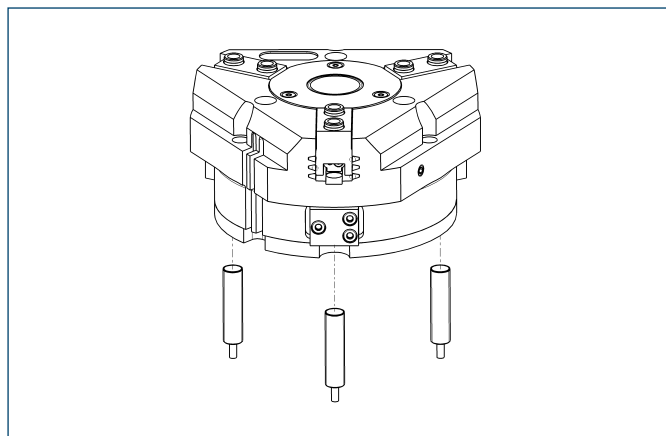
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

⑰ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

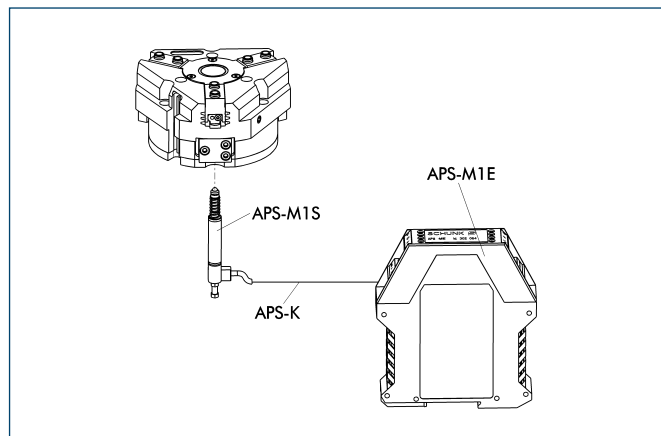


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

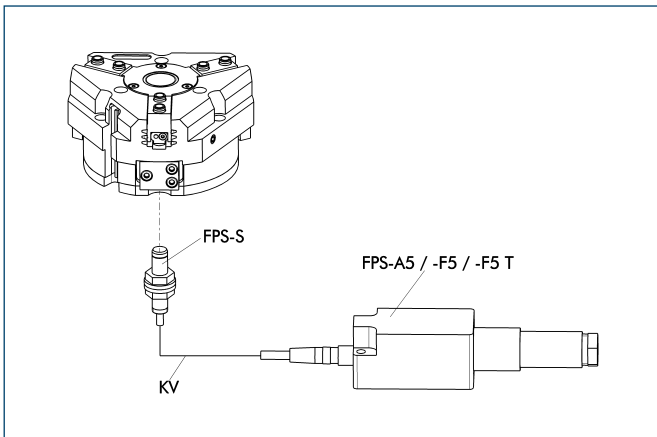


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
AS-APS-M1-80/2	0302078
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 64/1, PGN/PZN-plus 80/2	0301630
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

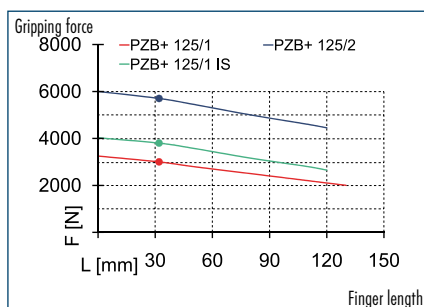
- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.



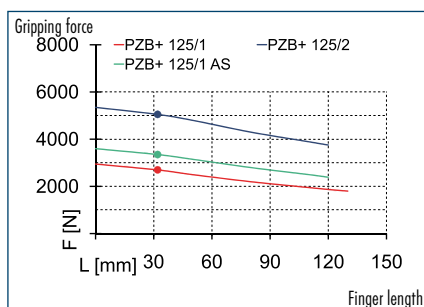
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



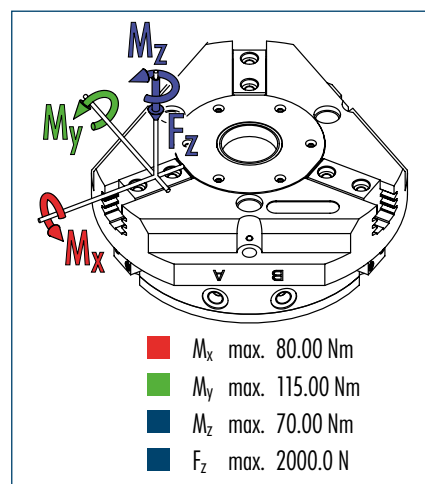
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

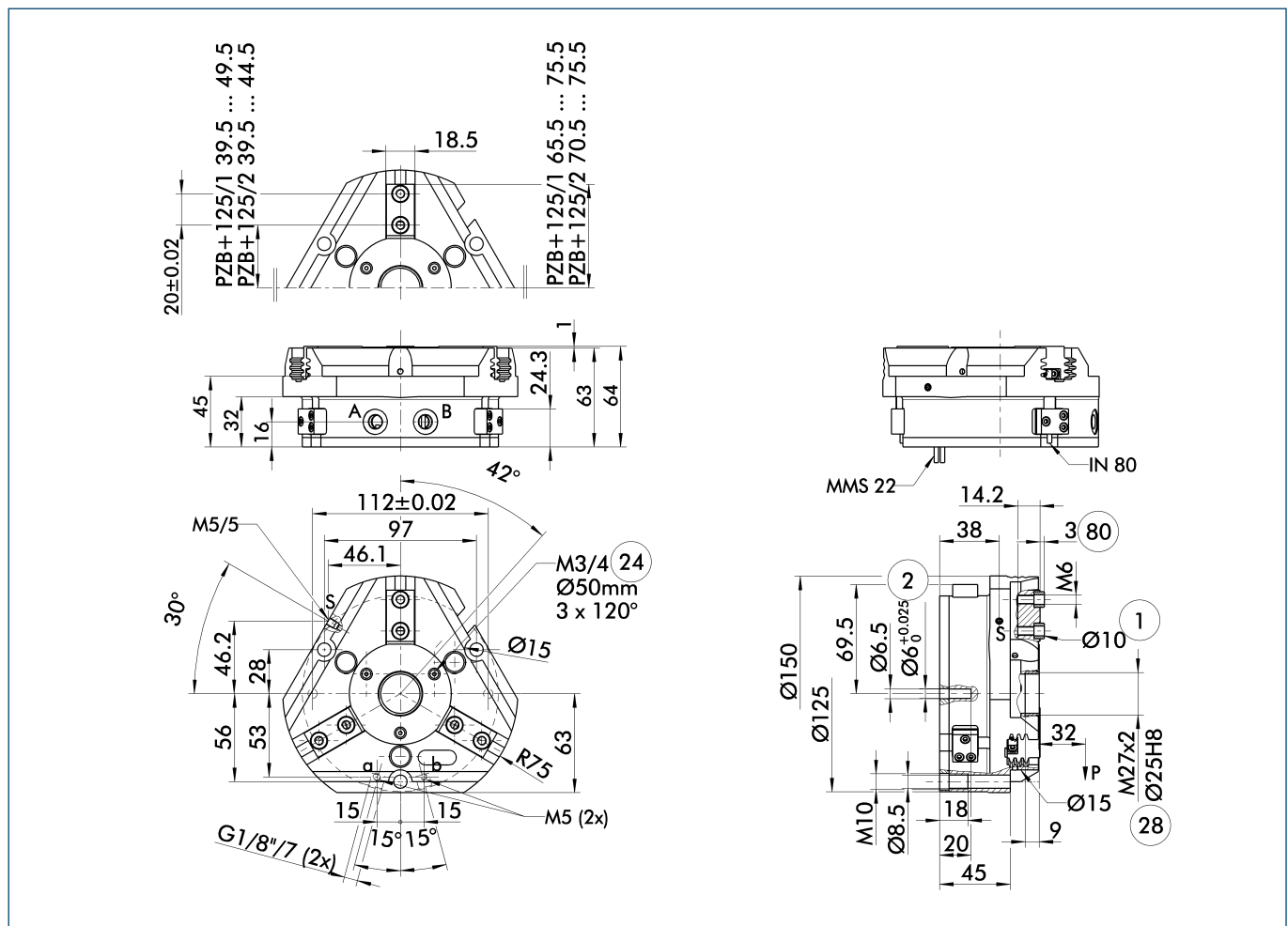


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 125-1	PZB-plus 125-2	PZB-plus 125-1-AS	PZB-plus 125-1-IS
ID		0305180	0305181	0305182	0305184
Stroke per finger	[mm]	10	5	10	10
Closing force	[N]	2700	5050	3350	
Opening force	[N]	3000	5700		3750
Min. spring force	[N]			650	750
Weight	[kg]	2.5	2.5	4	4
Recommended workpiece weight	[kg]	9	20	9	9
Air consumption per double stroke	[cm ³]	65	65	300	300
Min./max. operating pressure	[bar]	2/8	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6
Closing/opening time	[s]	0.2/0.2	0.2/0.2	0.17/0.35	0.35/0.17
Max. permitted finger length	[mm]	130	120	120	120
Max. permitted weight per finger	[kg]	1.1	1.1	1.1	1.1
IP class		40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Diameter of center bore	[mm]	25	25	25	25

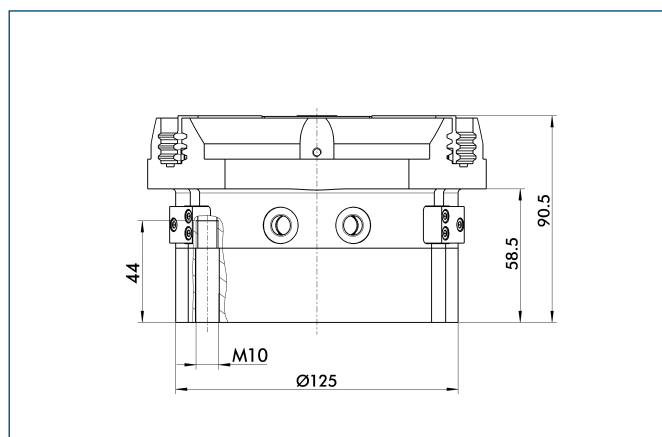
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

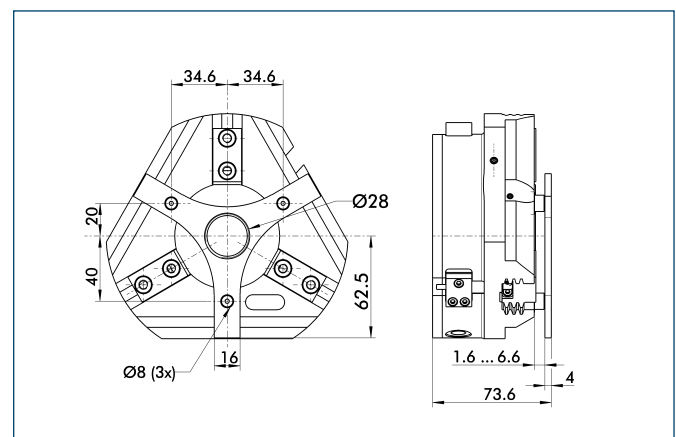
- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- S Air purge connection, or deaeration bore
- ① Gripper connection
- ② Finger connection
- 24 Bolt circle
- 28 Through-bore
- 80 Depth of the centering sleeve hole in the matching part

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Spring-loaded pressure piece



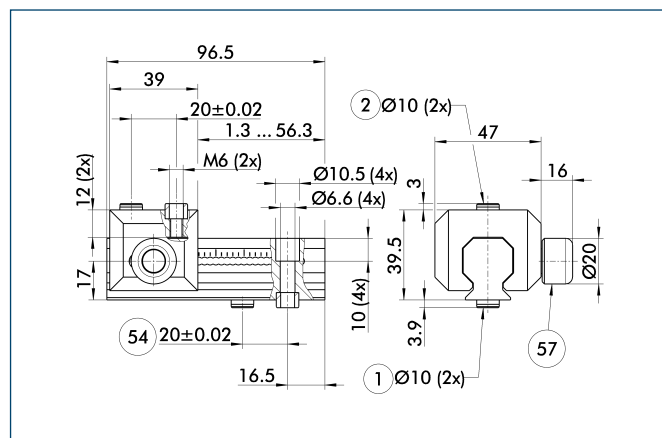
For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZB-plus 125	0305186	5 mm	35 N



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Universal intermediate jaw



- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

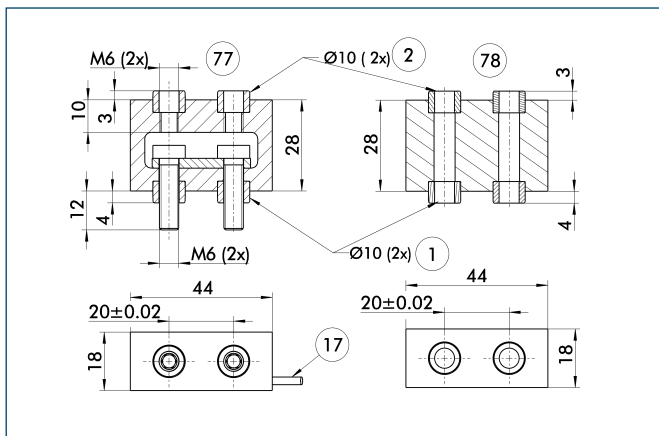
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 100	0300044	2.5 mm
UZF-S 100	5518272	2.5 mm

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

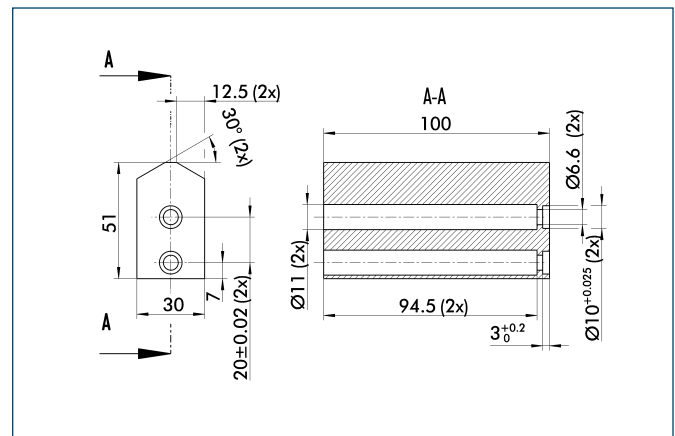


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



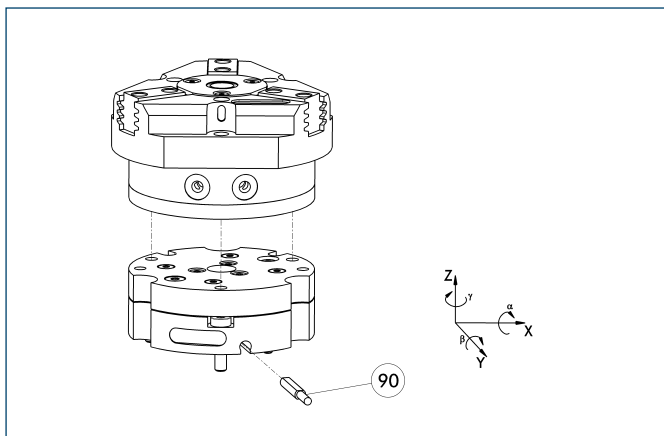
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

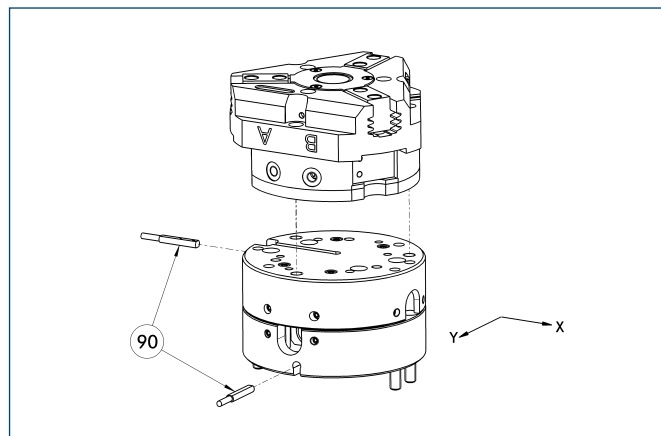


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-Z	0324820	Yes	
TCU-125-3-OV-Z	0324821	No	

Compensation unit with spring reset

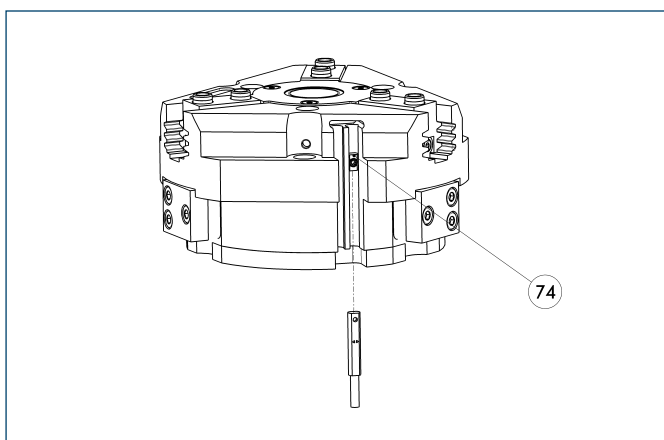


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

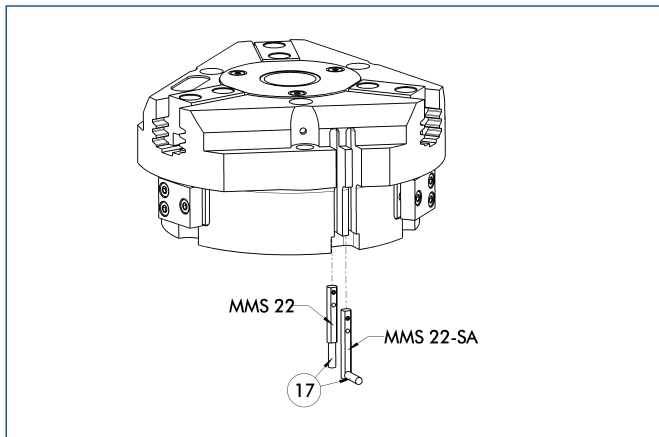
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



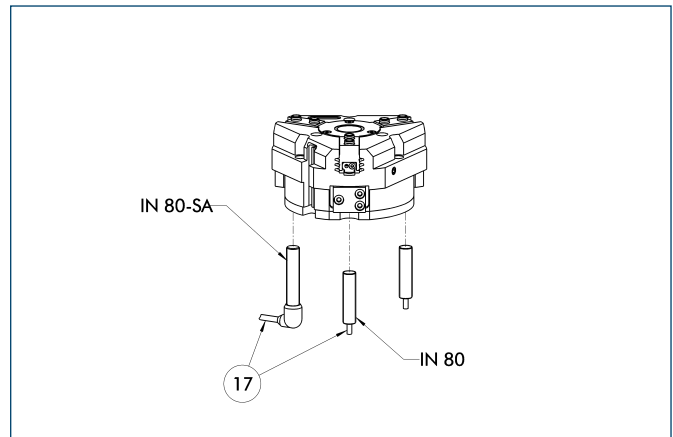
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



17 Cable outlet

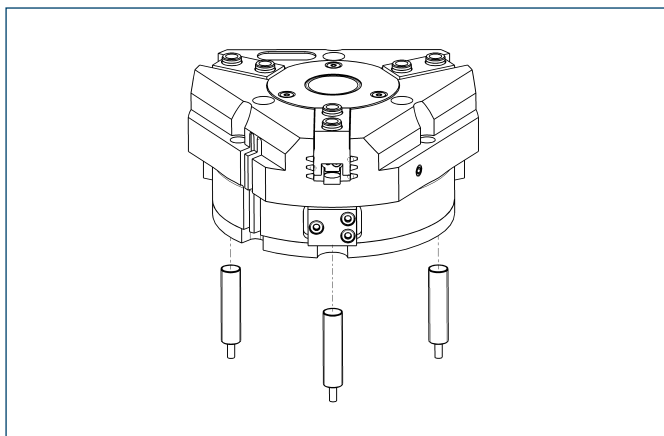
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Cylindrical Reed Switches

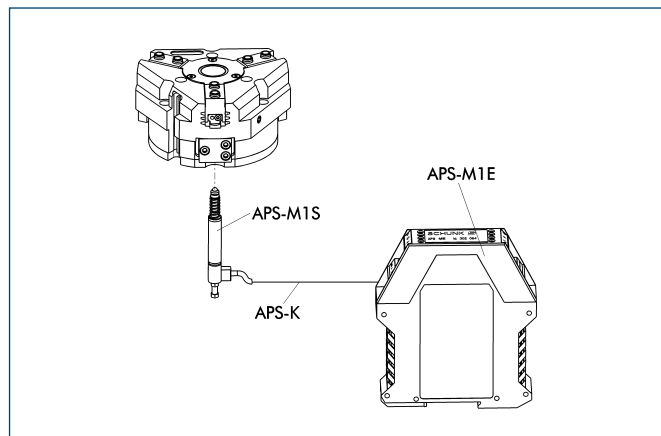


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377726
PGN/PZN-plus 100/125	
Reed Switches	
RMS 80-S-M8	0377721

- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

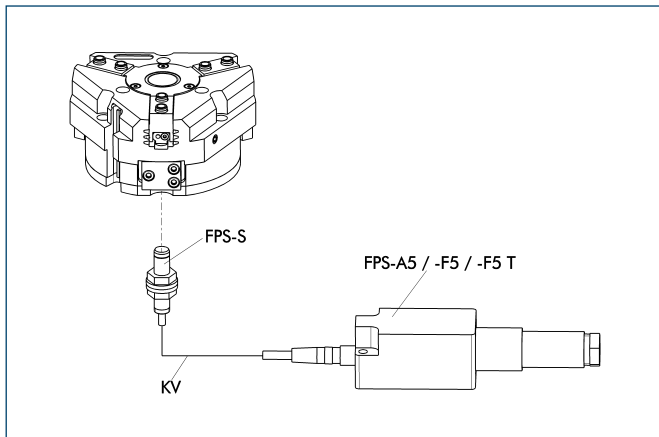


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
AS-APS-M1-100/2	0302080
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1E) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
AS-PGN/PZN-plus 100/2, PZB 125	0301635
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.



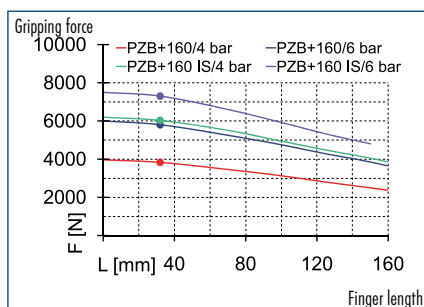
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

PZB-plus 160

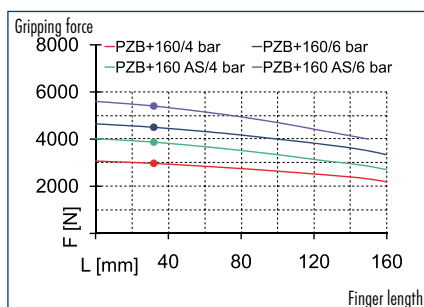
Pneumatic • 3-Finger Centric Gripper • Universal Gripper



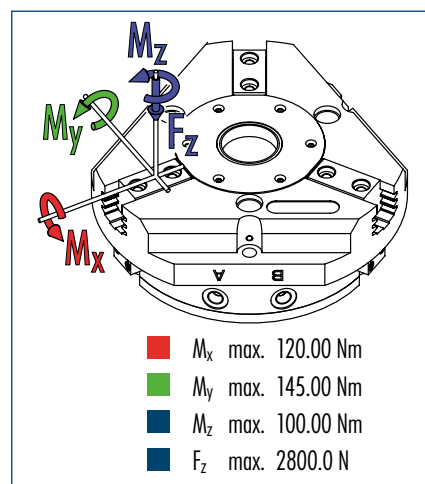
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

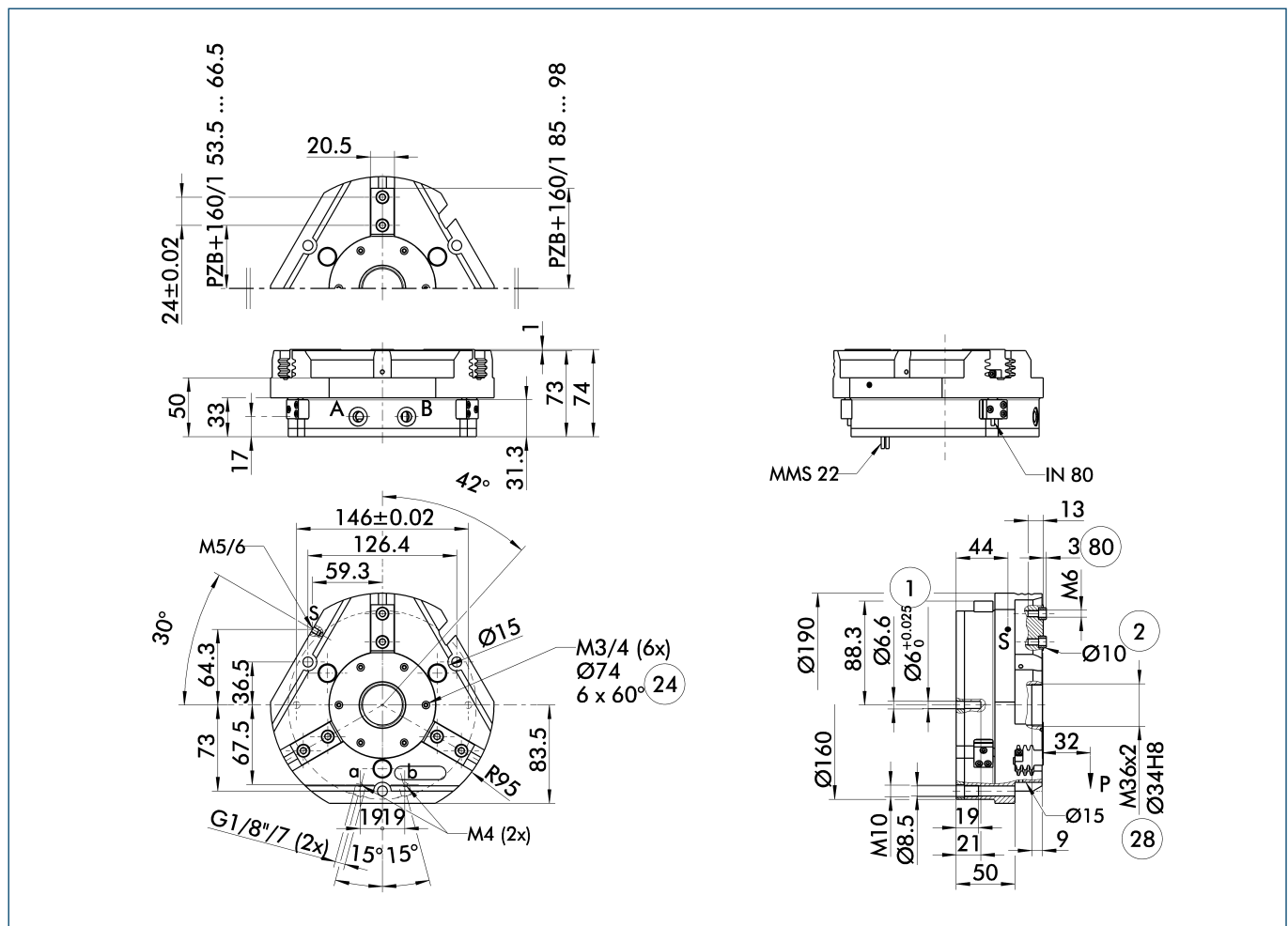


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZB-plus 160-1	PZB-plus 160-1-AS	PZB-plus 160-1-IS
ID		0305190	0305192	0305194
Stroke per finger	[mm]	13	13	13
Closing force	[N]	4500	5400	
Opening force	[N]	5800		7300
Min. spring force	[N]		900	1500
Weight	[kg]	4.8	7.3	7.3
Recommended workpiece weight	[kg]	15.5	15.5	15.5
Air consumption per double stroke	[cm ³]	360	620	620
Min./max. operating pressure	[bar]	2/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.5/0.5	0.4/0.8	0.8/0.4
Max. permitted finger length	[mm]	160	135	135
Max. permitted weight per finger	[kg]	2.1	2.1	2.1
IP class		40	40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Diameter of center bore	[mm]	34	34	34

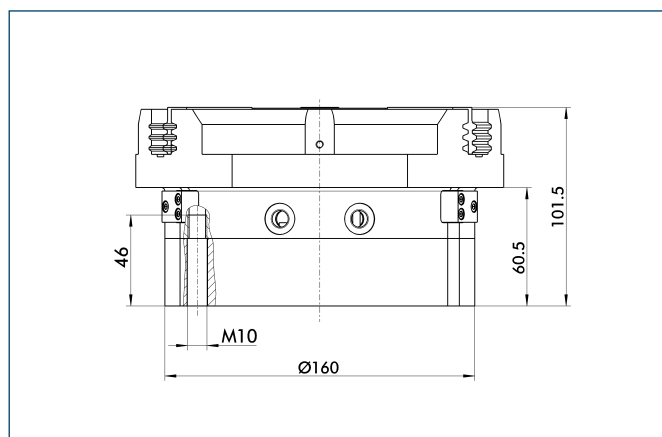
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

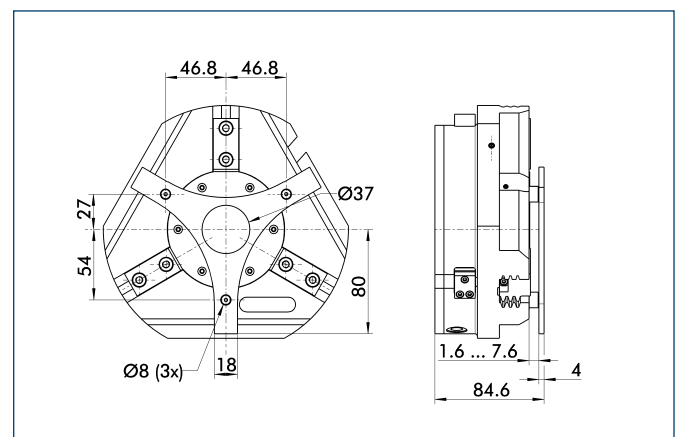
- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ②4 | Bolt circle |
| B, b | Main/direct connection, gripper closing | ②8 | Through-bore |
| S | Air purge connection | ③0 | Depth of the centering sleeve hole in the matching part |
| ① | Gripper connection | | |
| ② | Finger connection | | |

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

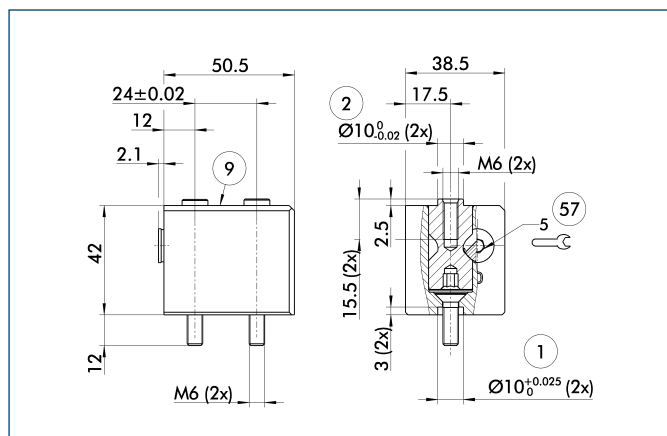
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-P7B-plus 160	0305196	6 mm	105 N

Quick-change Jaw System



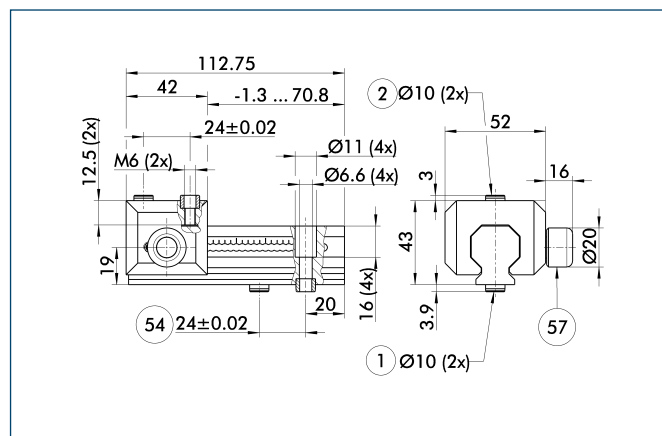
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 125	0303028
Quick-change Jaw System base	
BSWS-B 125	0303029
Quick-change Jaw System reversed	
BSWS-U 125	0303044

Universal intermediate jaw



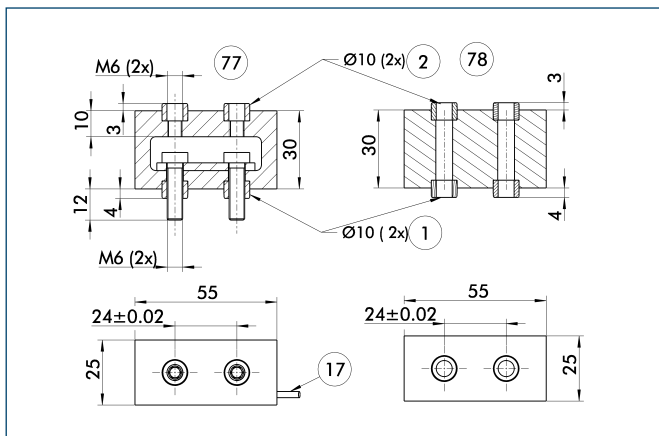
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 125	0300045	3 mm
UZB-S 125	5518273	3 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

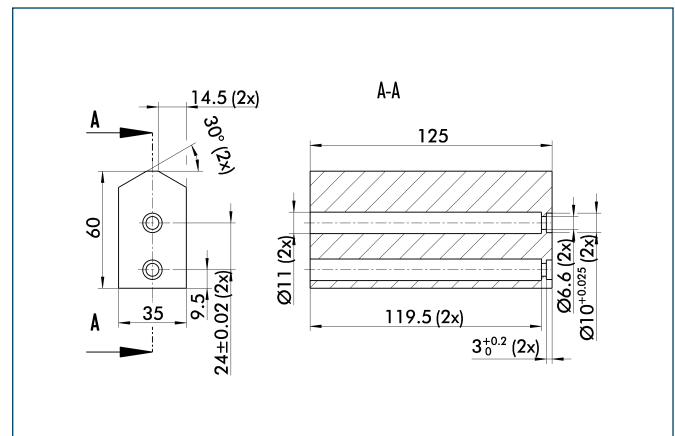


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



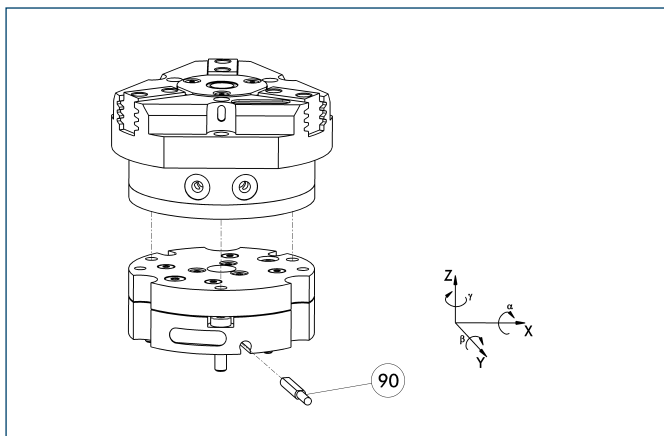
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 125	0300013	Aluminum	1
SBR-plus 125	0300023	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Tolerance compensation unit

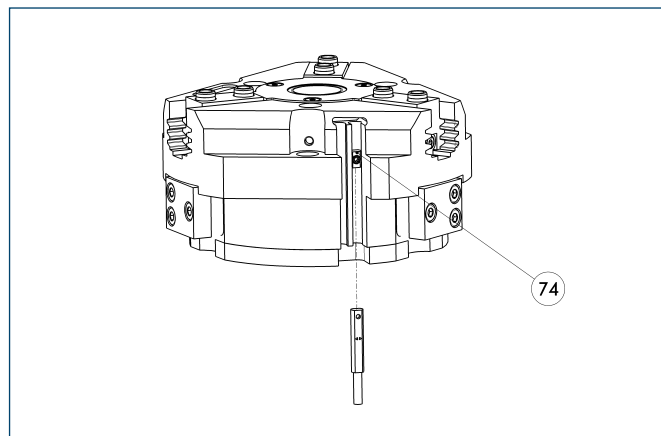


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-Z	0324838	Yes	
TCU-160-3-OV-Z	0324839	No	

Programmable magnetic switch



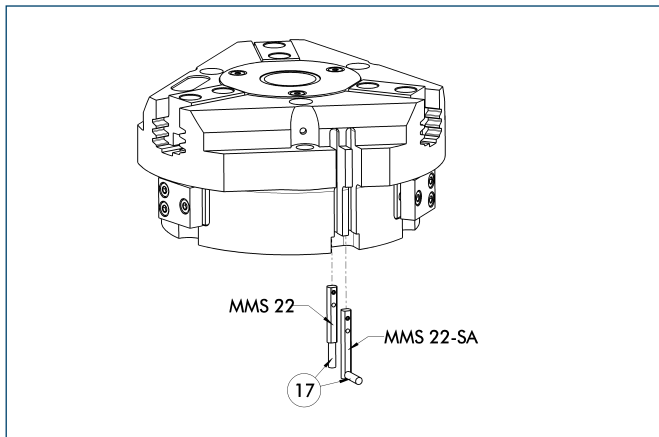
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



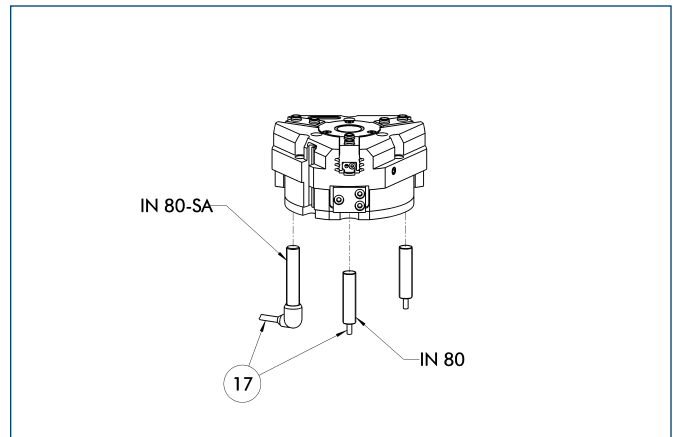
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



17 Cable outlet

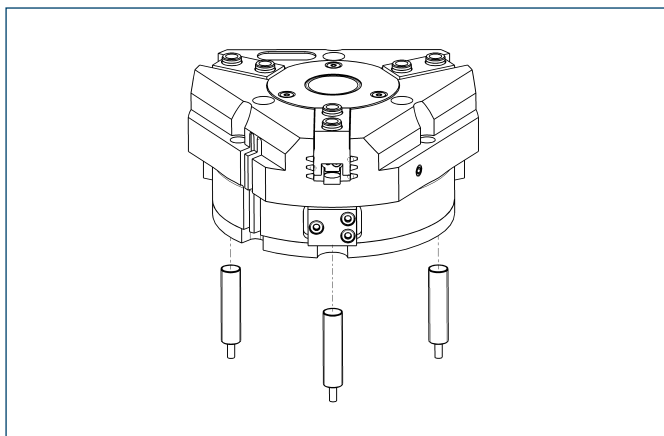
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Cylindrical Reed Switches

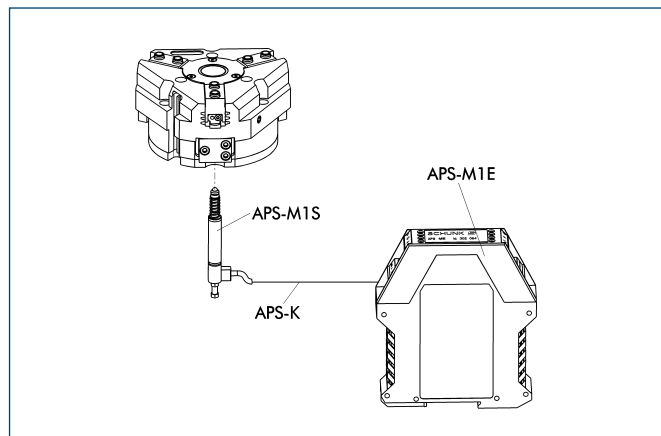


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377726
PGN/PZN-plus 100/125	
Reed Switches	
RMS 80-S-M8	0377721

- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Analog position sensor

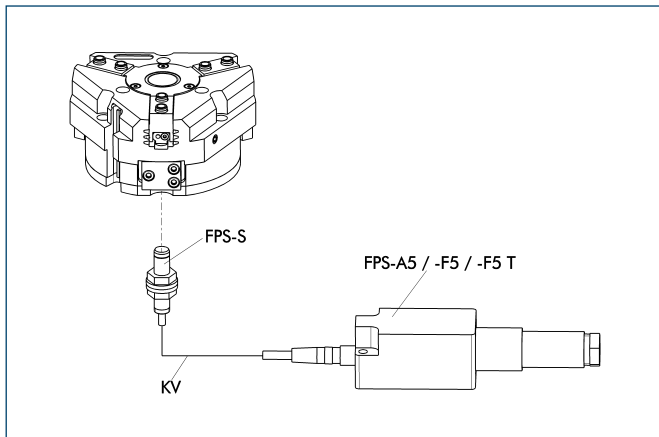


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M 1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



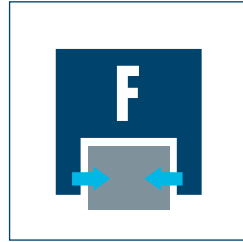
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Sizes
40 ... 200



Weight
0.2 kg ... 20.1 kg



Gripping force
230 N ... 16500 N

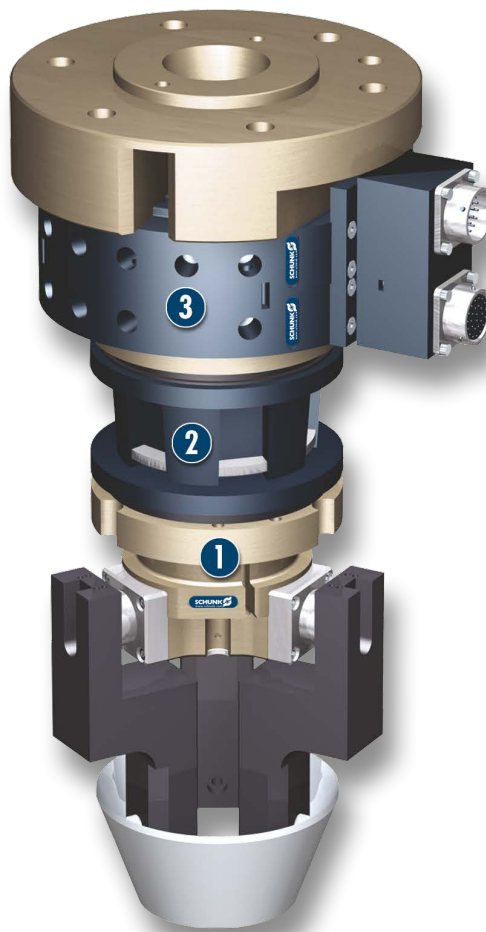


Stroke per finger
2 mm ... 25 mm



Workpiece weight
1.15 kg ... 60 kg

Application example



Insertion tool for assembly of small to medium-sized workpieces. The tool can be used in both clean and dirty environments. Thanks to its quick-change system, other tools can alternately be fixed to the robot flange.

- 1 3-Finger Centric Gripper DPZ-plus
- 2 Insertion Unit FUS

- 3 SWS Quick-change System

Sealed Gripper

Despite the high moment load of the base jaws, this sealed 3-finger concentric gripper satisfies the requirements of IP67 and does not permit any substances from the working environment to penetrate the interior of the component.

Field of application

The DPZ-plus is ideally suitable for handling of rough or dirty workpieces. Its field of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing or underwater.

Your advantages and benefits

Robust interior multi-tooth guidance

for the precise handling of all kinds of workpieces

Lip seal at the outside round guidance

for permanent, secure gripper sealing

High maximum moments possible

suitable for using long gripper fingers

Sealed 3-Finger Concentric Gripper

complies to IP67 requirements despite a high moment load

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly

Maximum gripping forces despite a compact design

for a wide range of applications

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Compact dimensions

for minimal interfering contours in handling



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

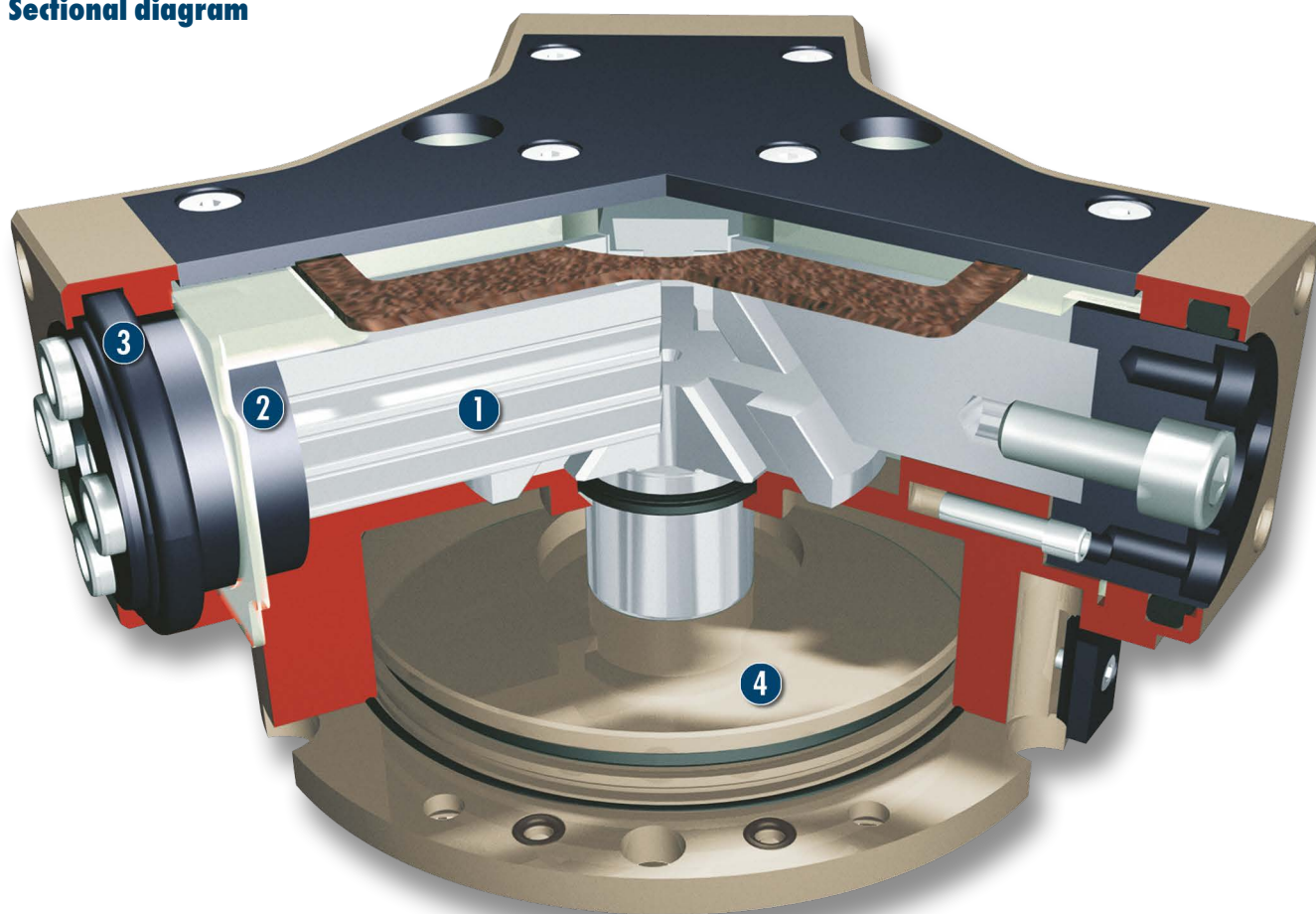
Scope of delivery

Centering sleeves, centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



1 Inner base jaw with multi-tooth guidance
for high moment loads

2 External round base jaw
providing a sealable, round surface

3 Lip seal
for permanent, secure gripper sealing

4 Round piston with rod and wedge hook
for power generation

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Please note that an additional hose for deaeration or air purge is essential for the gripper, i.e. it requires three hoses in total. See the assembly and operating manual for detailed information.

Force intensified version
if higher gripping forces are required

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Sensor system



Sensor cables



Quick-change Jaw System



Sensor Distributor



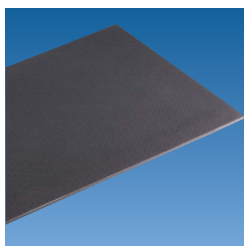
Plastic inserts



Pressure maintenance valve



Gripper pads



Finger blanks



Universal intermediate jaw



Compensation unit



Tolerance compensation unit



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

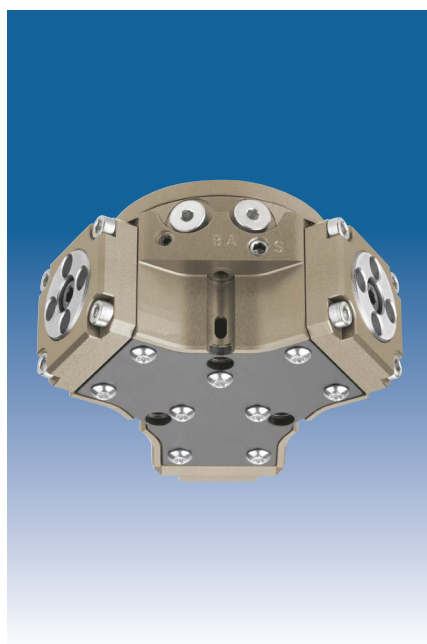
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

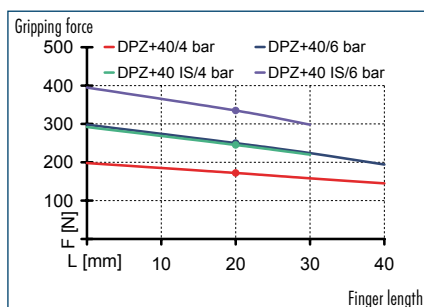
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

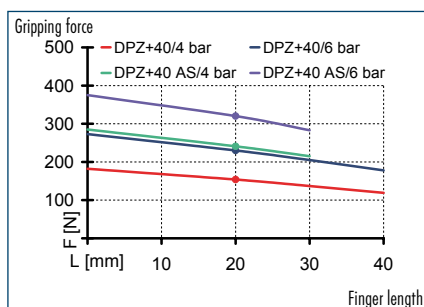
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



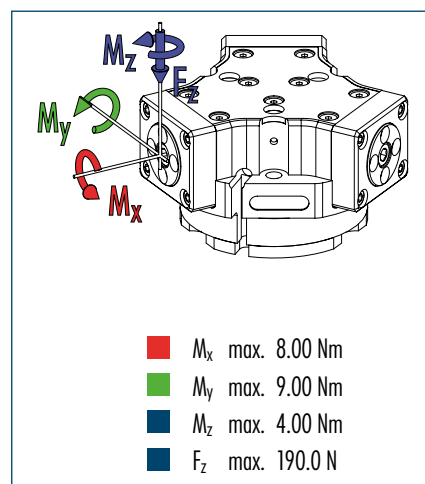
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

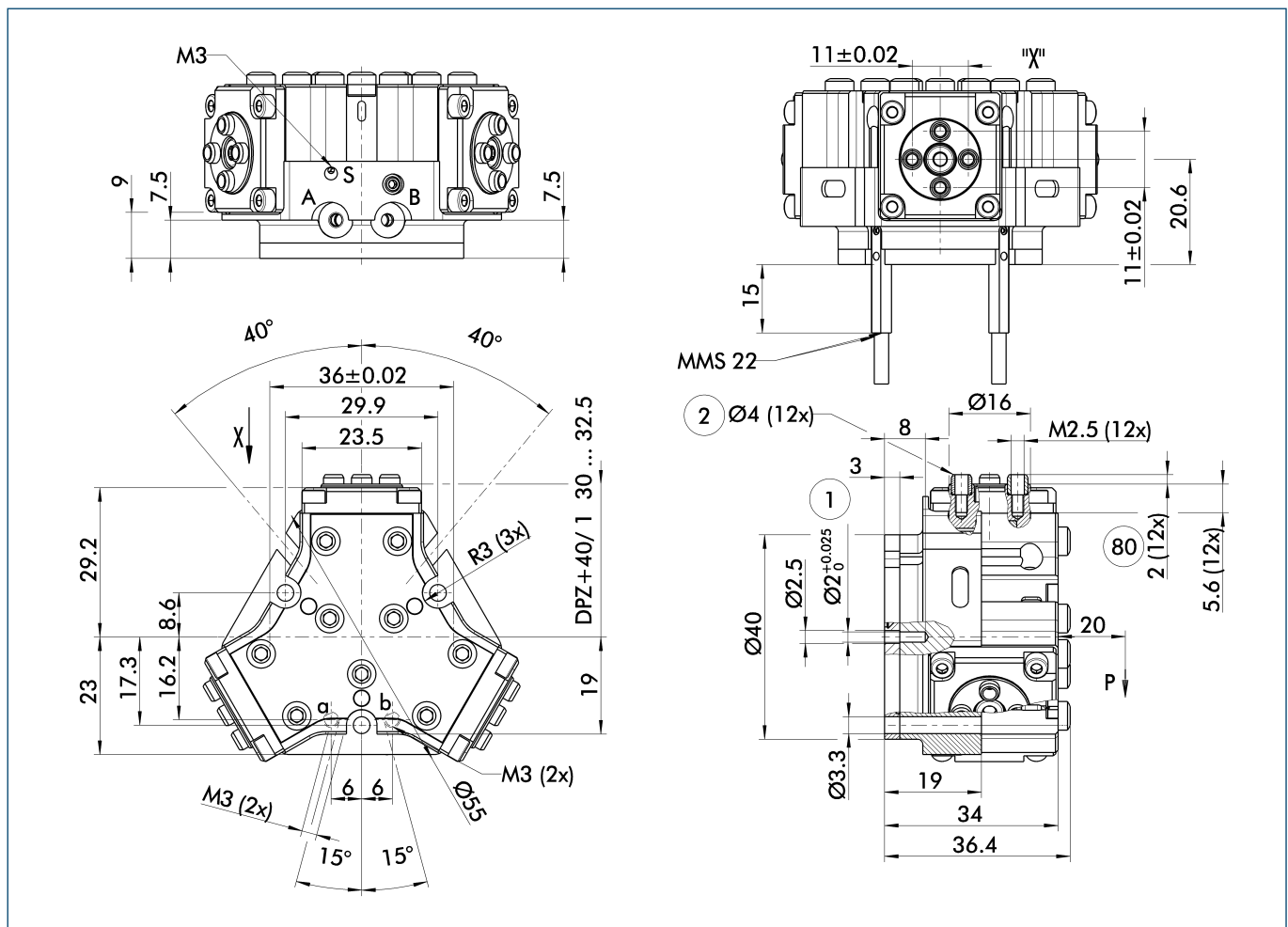


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPZ-plus 40	DPZ-plus 40-AS	DPZ-plus 40-IS
ID		0304501	0304503	0304505
Stroke per finger	[mm]	2.5	2.5	2.5
Closing force	[N]	230	320	
Opening force	[N]	250		355
Min. spring force	[N]		90	105
Weight	[kg]	0.2	0.25	0.25
Recommended workpiece weight	[kg]	1.15	1.15	1.15
Air consumption per double stroke	[cm ³]	5	9	9
Min./max. operating pressure	[bar]	2.5/8	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.05	0.03/0.05
Max. permitted finger length	[mm]	40	30	30
Max. permitted weight per finger	[kg]	0.1	0.1	0.1
IP class		67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class		5	5	5
ISO-classification 14644-1		5	5	5

Main view



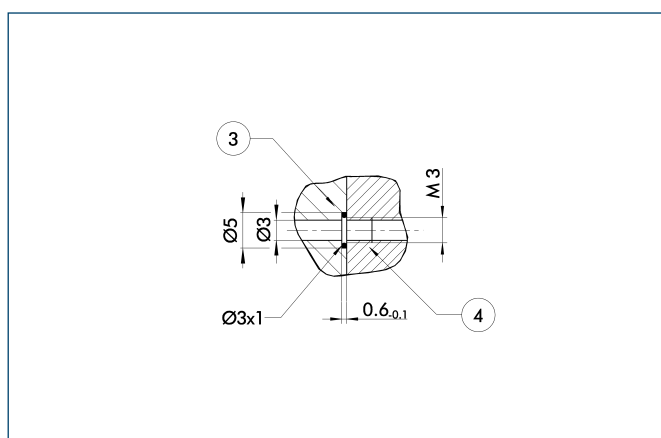
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

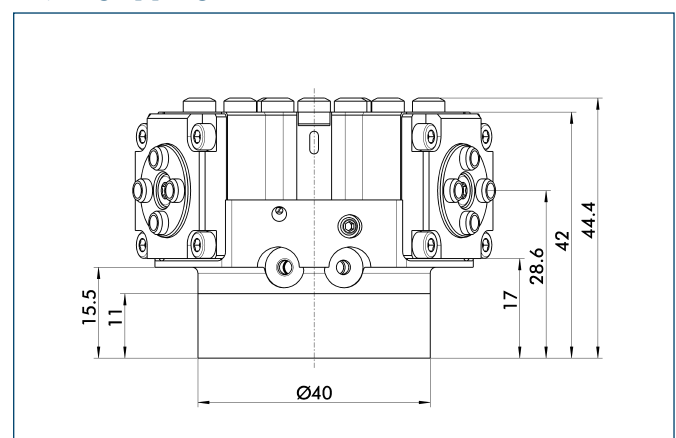
Hose-free direct connection



③ Adapter
④ Gripper

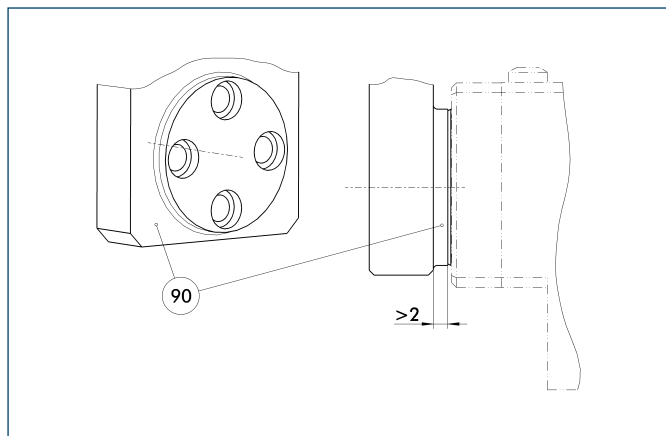
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

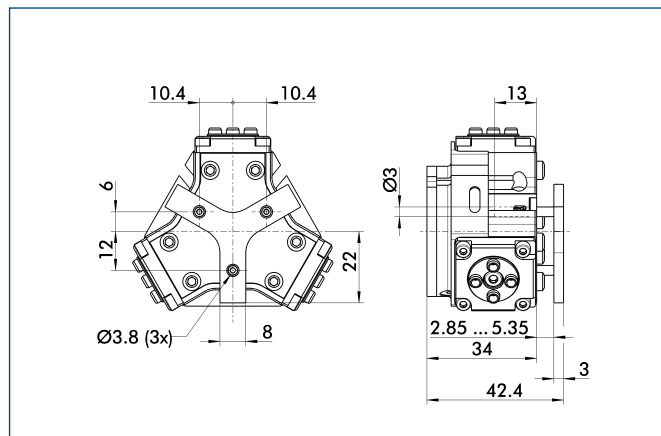
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

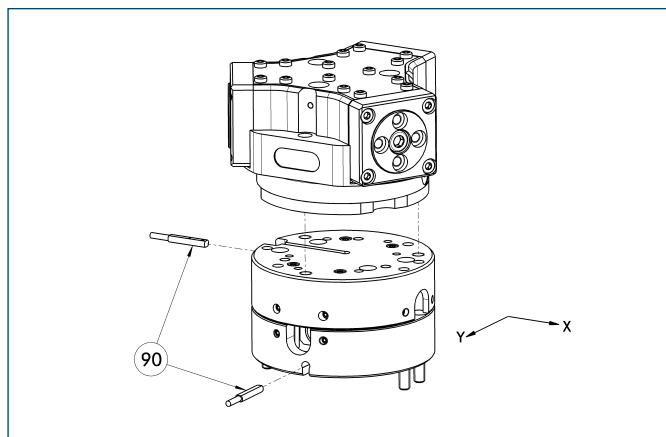
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-DPZ-plus 40	0303730	2.5 mm	11 N

Compensation unit with spring reset

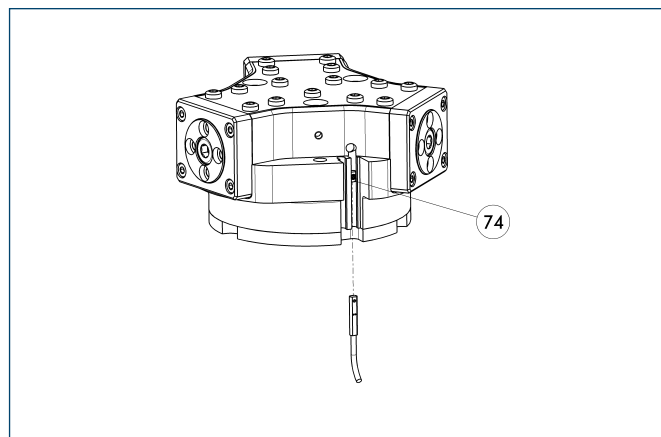


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-031-1	0324900	±1.5 mm	1 N
AGE-F-XY-031-2	0324901	±1.5 mm	2.5 N
AGE-F-XY-031-3	0324902	±1.5 mm	3.3 kN

Programmable magnetic switch



74 Stop for MMS-P

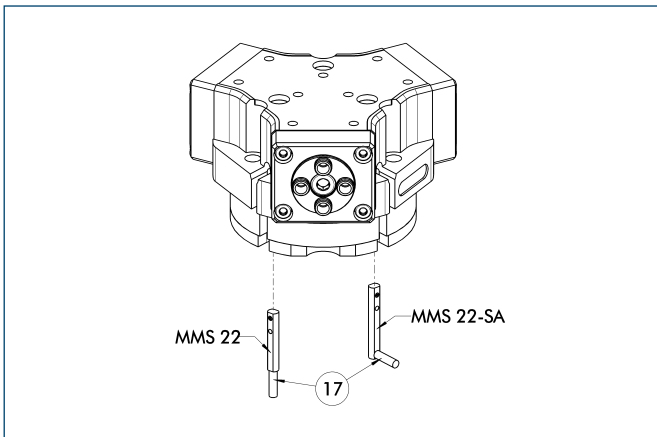
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

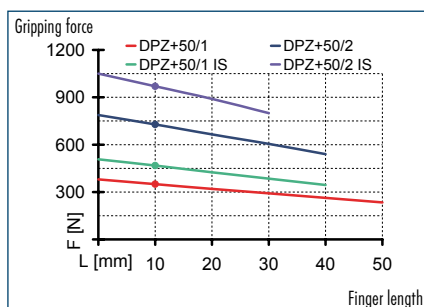
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



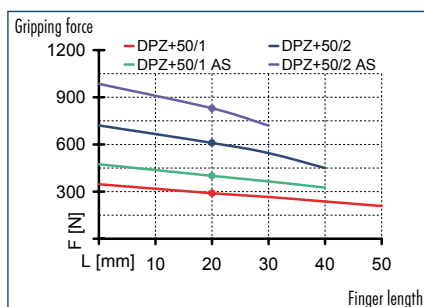
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



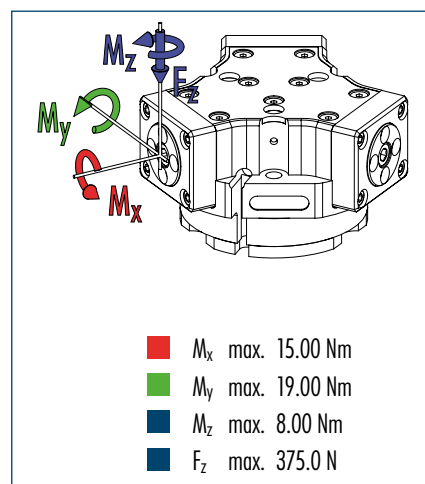
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

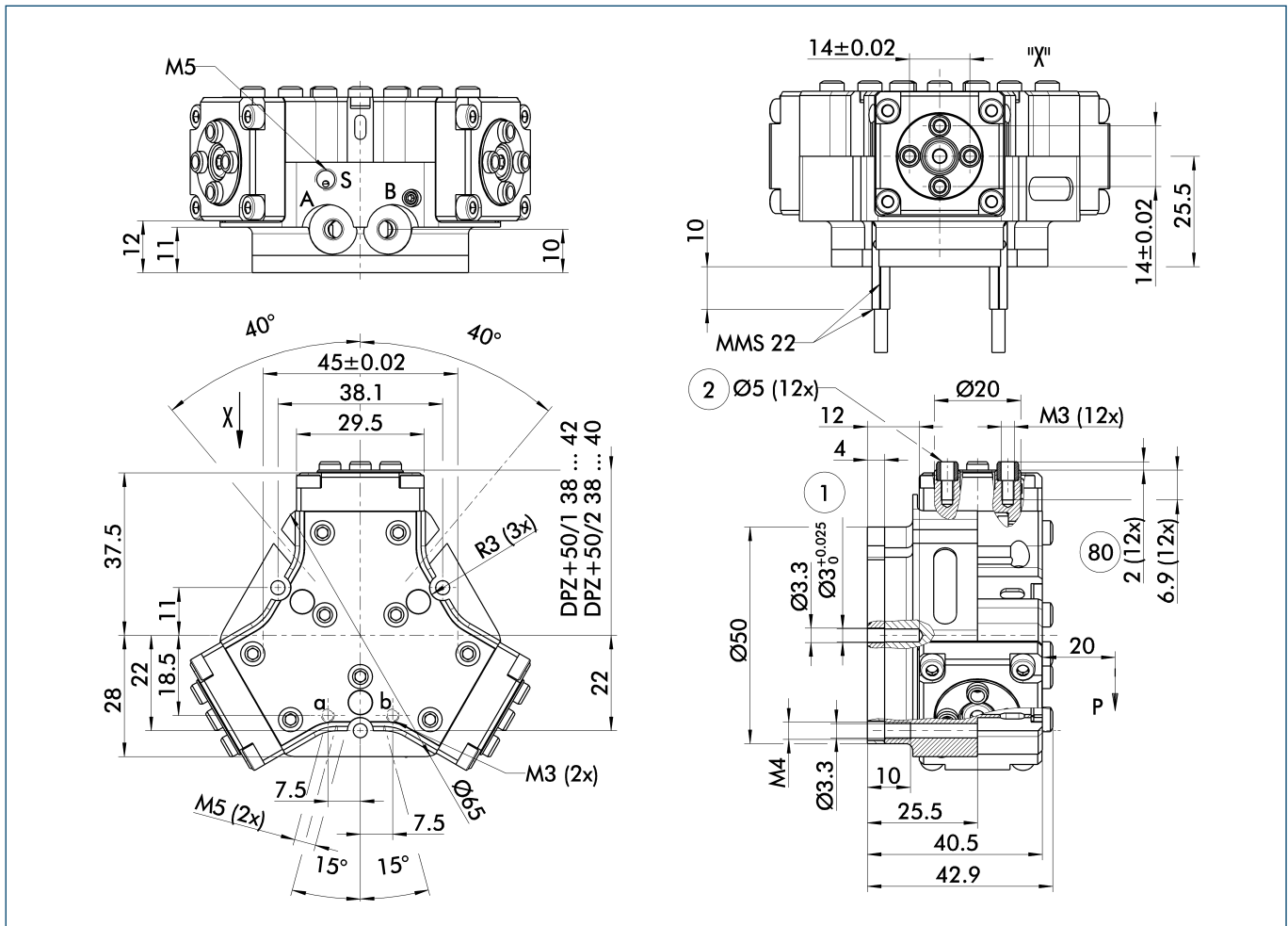


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPZ-plus 50-1	DPZ-plus 50-2	DPZ-plus 50-1-AS	DPZ-plus 50-2-AS	DPZ-plus 50-1-IS	DPZ-plus 50-2-IS
ID		0304401	0304402	0304403	0304404	0304405	0304406
Stroke per finger	[mm]	4	2	4	2	4	2
Closing force	[N]	290	610	400	830		
Opening force	[N]	320	665			455	945
Min. spring force	[N]			110	220	135	280
Weight	[kg]	0.37	0.37	0.45	0.45	0.45	0.45
Recommended workpiece weight	[kg]	1.45	3.06	1.45	3.06	1.45	3.06
Air consumption per double stroke	[cm ³]	9	9	18	18	18	18
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Max. permitted finger length	[mm]	50	40	40	30	40	30
Max. permitted weight per finger	[kg]	0.15	0.15	0.15	0.15	0.15	0.15
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

Main view

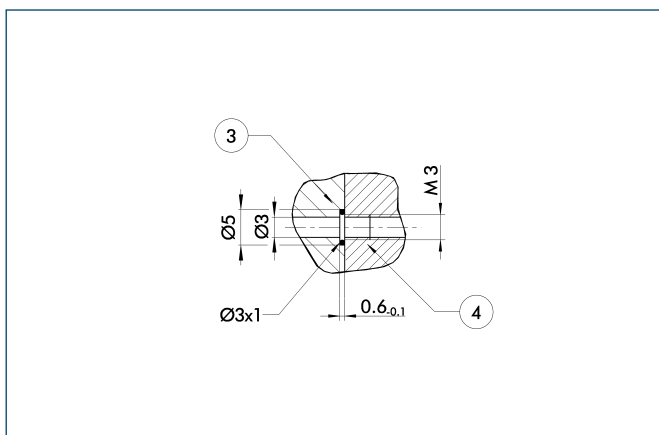


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see “Accessories” catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

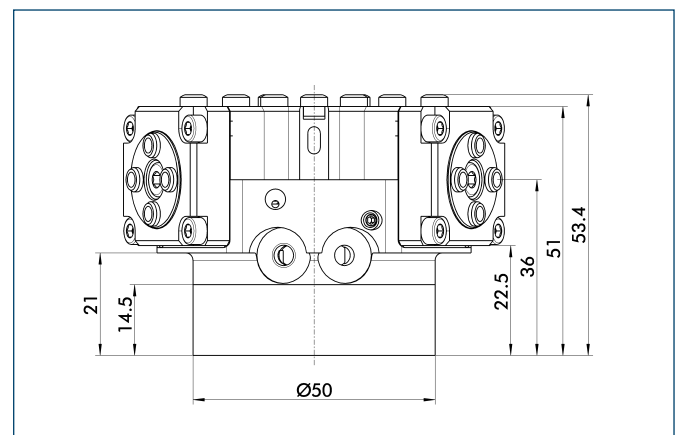
Hose-free direct connection



- ③ Adapter
- ④ Gripper

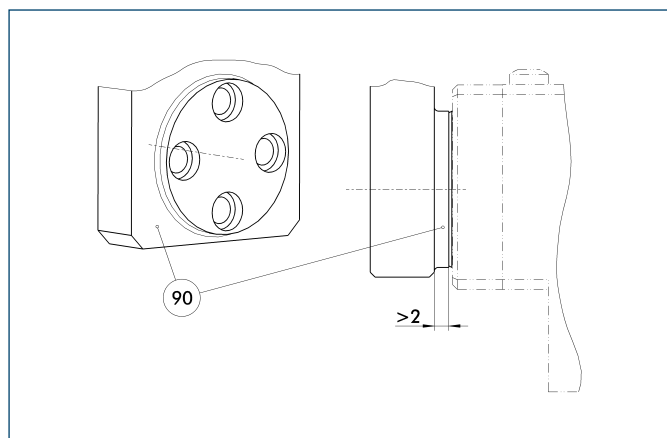
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

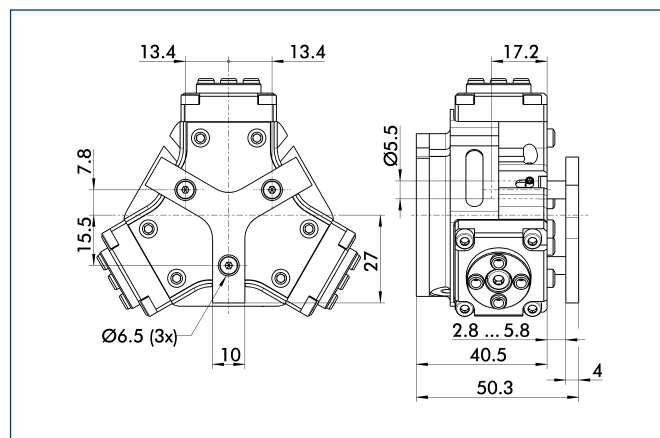
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

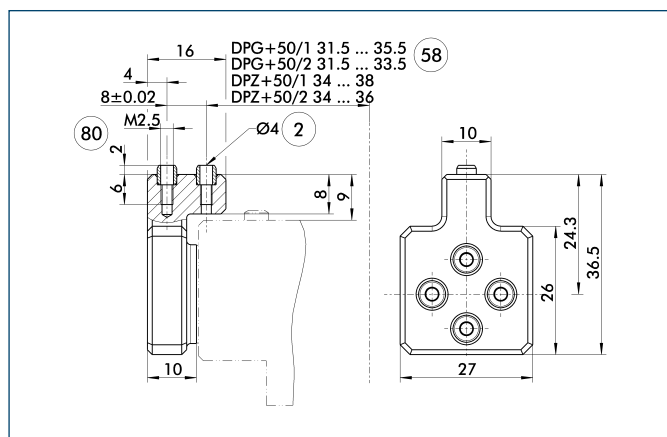
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-DPZ-plus 50	0303731	3 mm	18 N

Intermediate Jaws



2 Finger connection

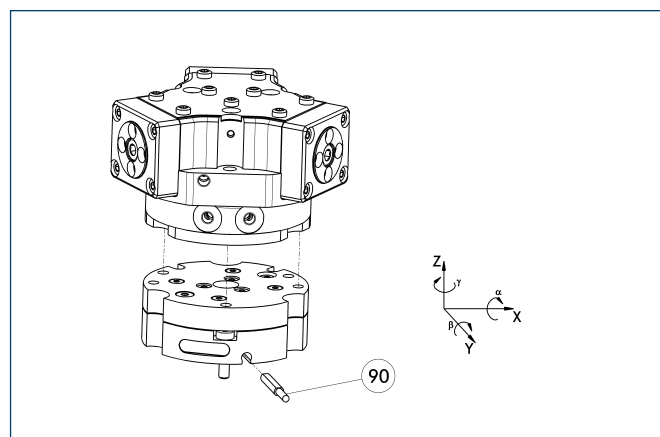
58 Distance from center of gripper

80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+50	0300191	Aluminum	1

Tolerance compensation unit

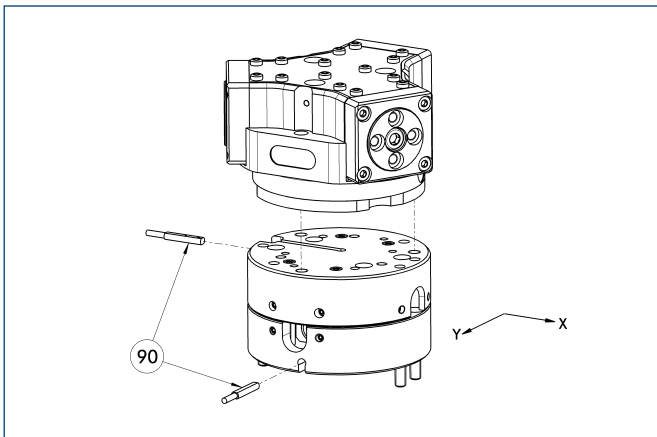


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-050-3-0V-Z	0324749	No	

Compensation unit with spring reset

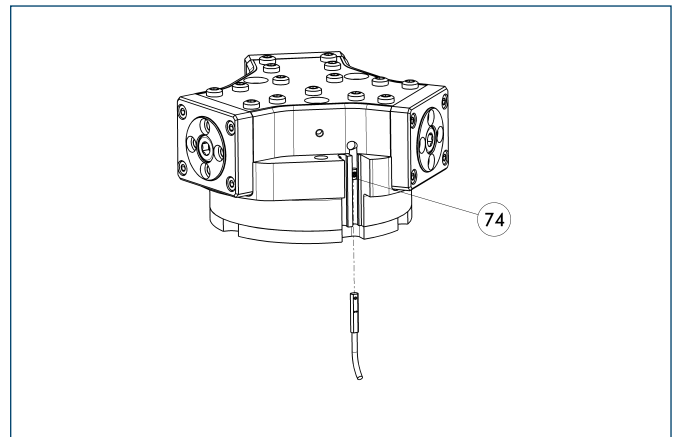


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-040-1	0324920	±2 mm	1 N
AGE-F-XY-040-2	0324921	±2 mm	2.5 N
AGE-F-XY-040-3	0324922	±2 mm	3.3 N

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

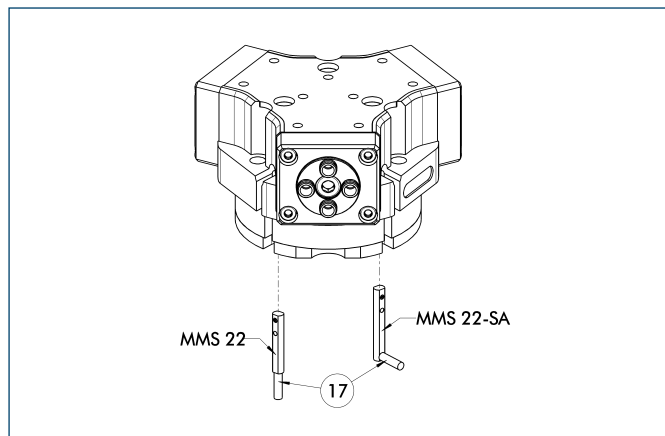
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

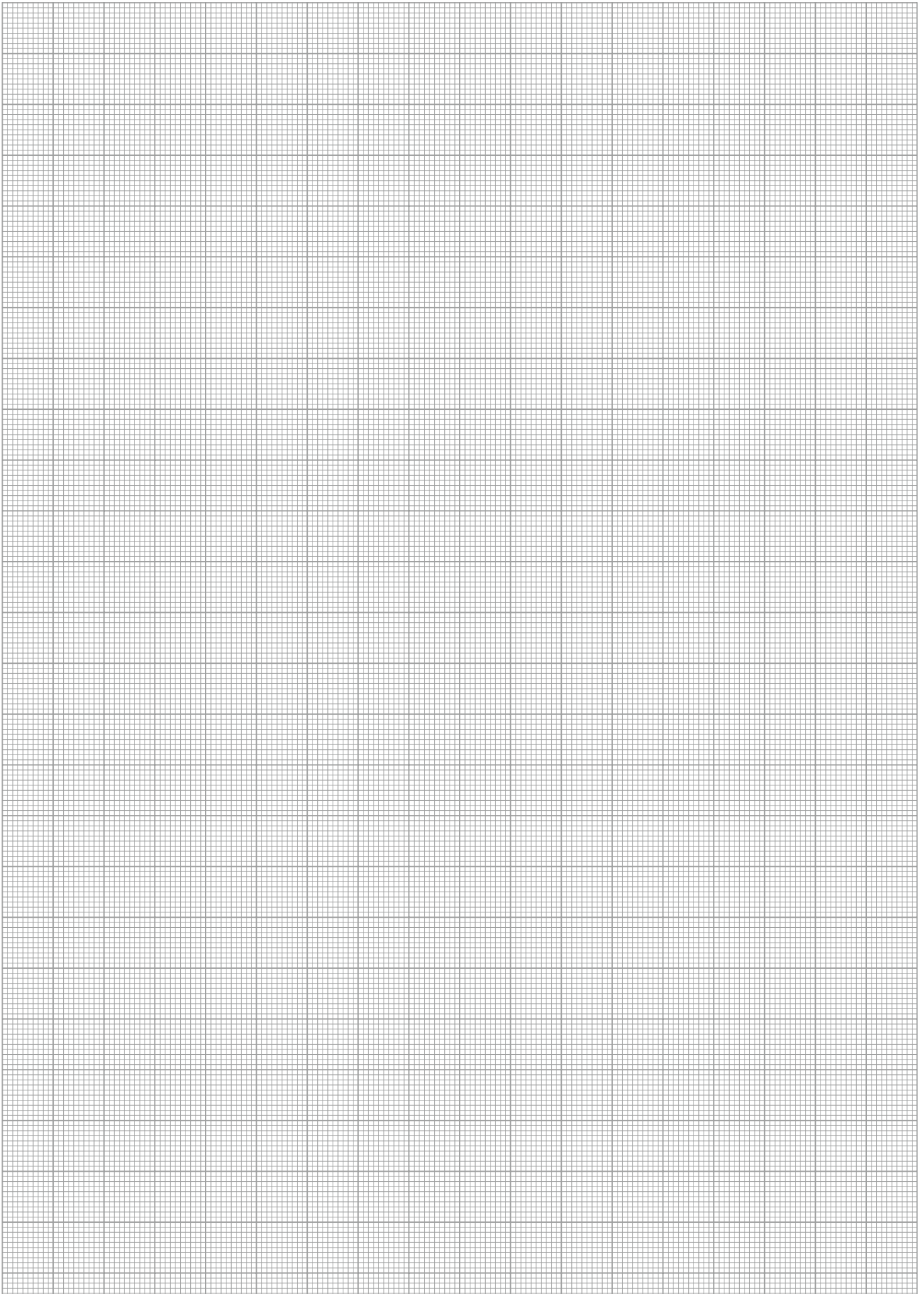
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

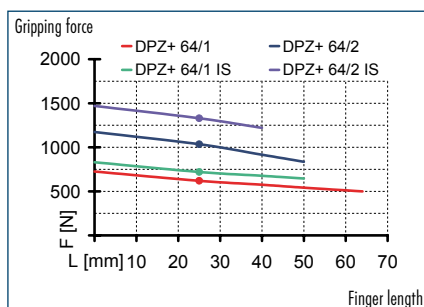


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

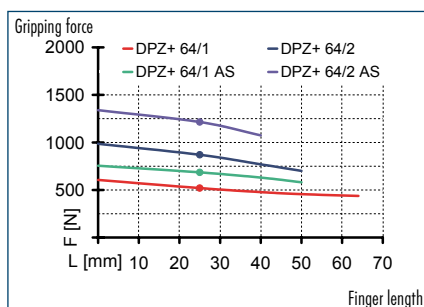




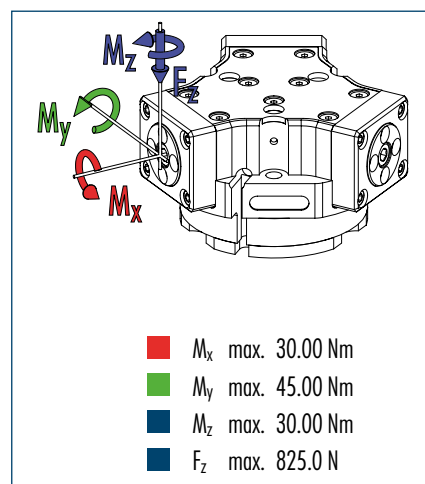
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

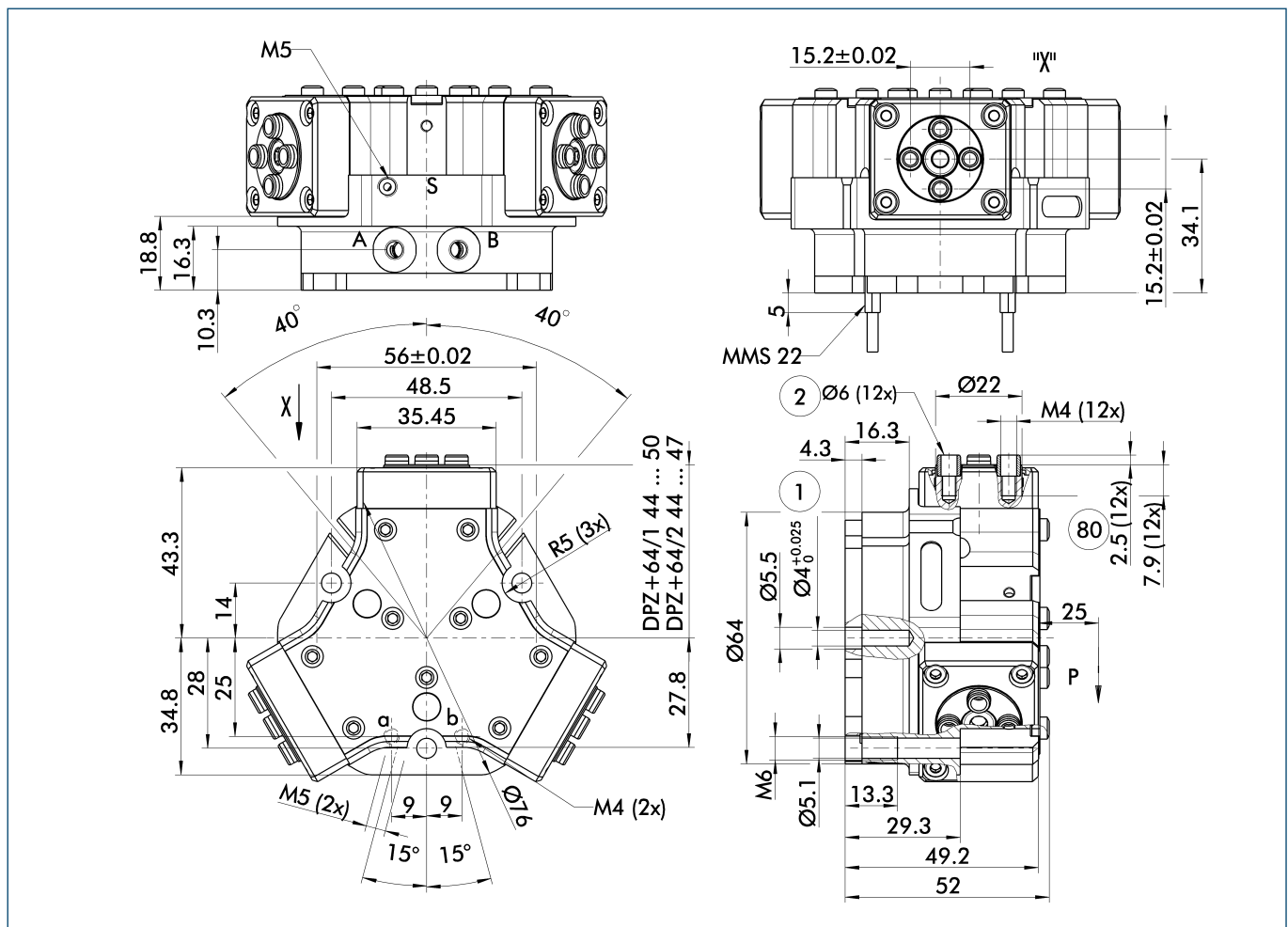
Technical data

Description		DPZ-plus 64-1	DPZ-plus 64-2	DPZ-plus 64-1-AS	DPZ-plus 64-2-AS	DPZ-plus 64-1-IS	DPZ-plus 64-2-IS
ID		0304411	0304412	0304413	0304414	0304415	0304416
Stroke per finger	[mm]	6	3	6	3	6	3
Closing force	[N]	520	870	685	1215		
Opening force	[N]	620	1030			820	1490
Min. spring force	[N]			165	345	200	460
Weight	[kg]	0.62	0.62	0.75	0.75	0.75	0.75
Recommended workpiece weight	[kg]	2.6	4.35	2.6	4.35	2.6	4.35
Air consumption per double stroke	[cm ³]	25	25	48	48	48	48
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Max. permitted finger length	[mm]	64	50	50	40	50	40
Max. permitted weight per finger	[kg]	0.3	0.3	0.3	0.3	0.3	0.3
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

OPTIONS and their characteristics

Force intensified version		DPZ-plus 64-1-KVZ
ID		0304417
Closing force	[N]	935
Opening force	[N]	1040
Weight	[kg]	0.92
Maximum pressure	[bar]	6
Max. permitted finger length	[mm]	40

Main view

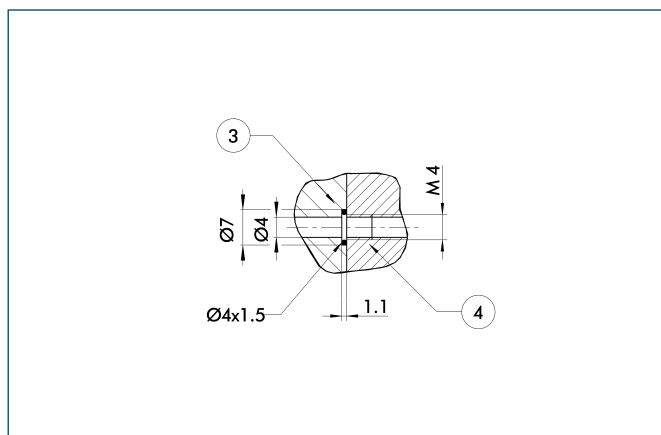


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

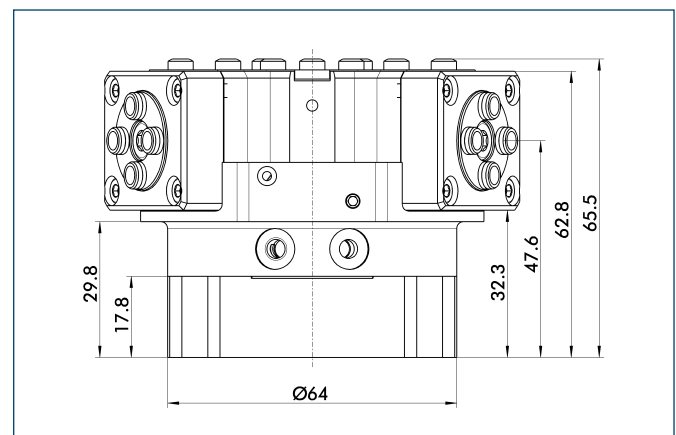
Hose-free direct connection



- ③ Adapter
- ④ Gripper

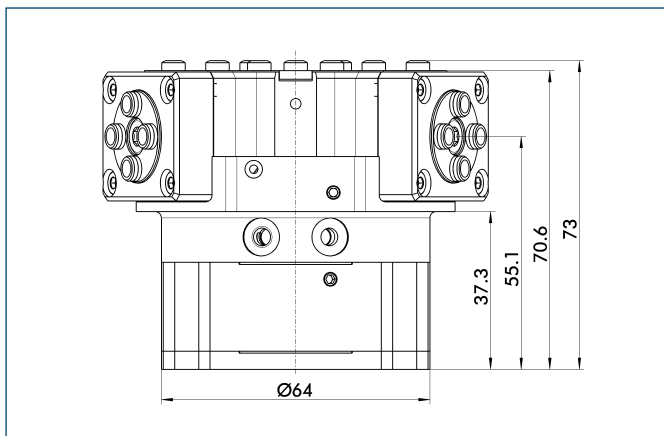
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



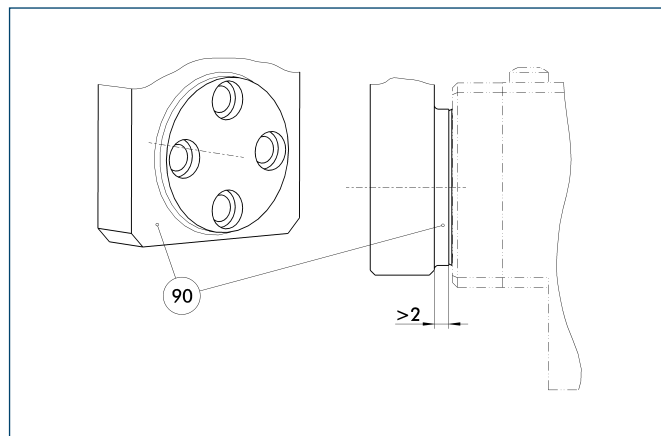
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Force intensified version



The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

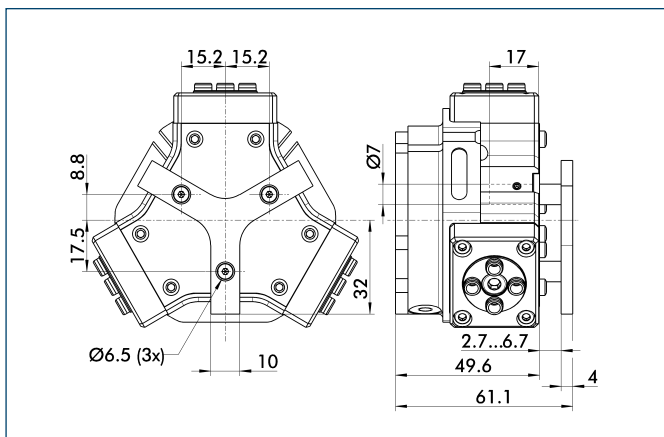
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

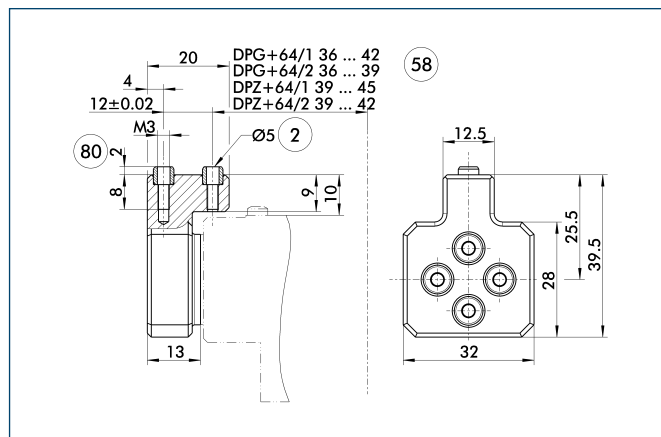
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 64	0303720	4 mm	11 N

Intermediate Jaws



2 Finger connection

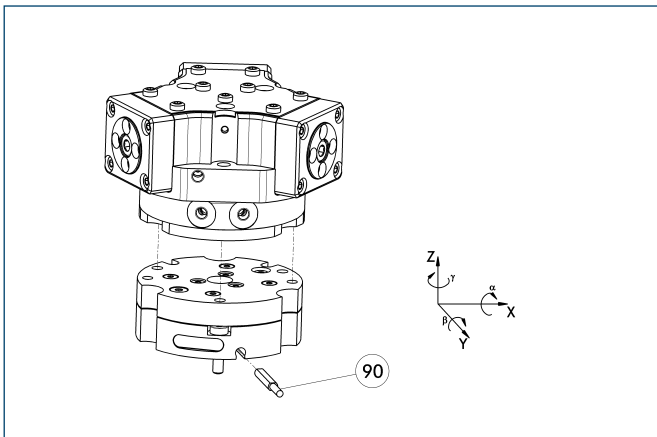
58 Distance from center of gripper

80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+64	0300192	Aluminum	1

Tolerance compensation unit

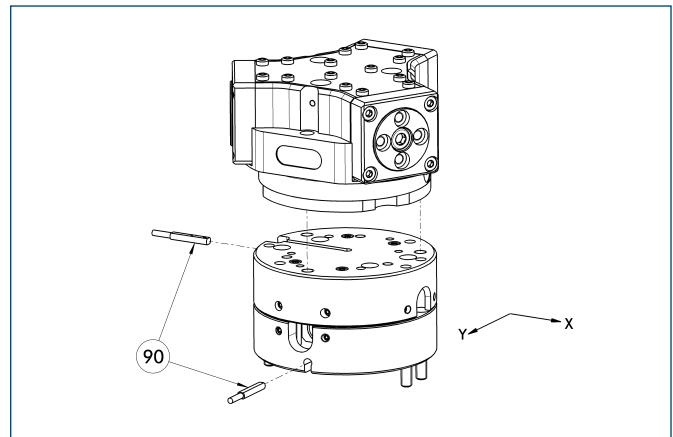


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-064-3-MV-Z	0324766	Yes	
TCU-064-3-OV-Z	0324767	No	

Compensation unit with spring reset

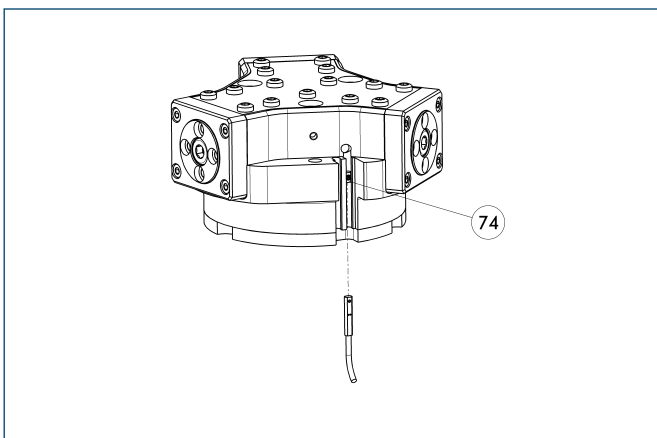


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

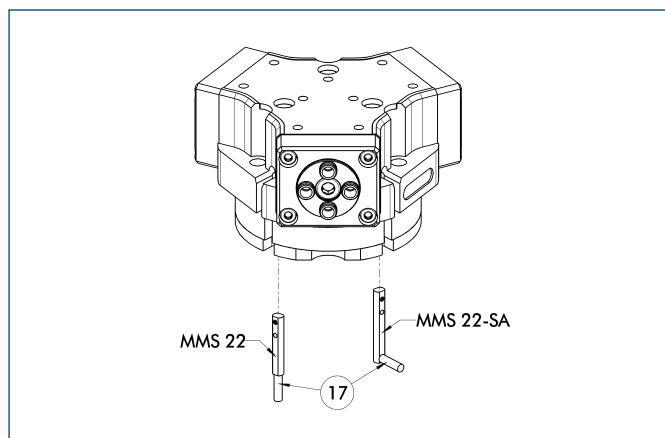
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



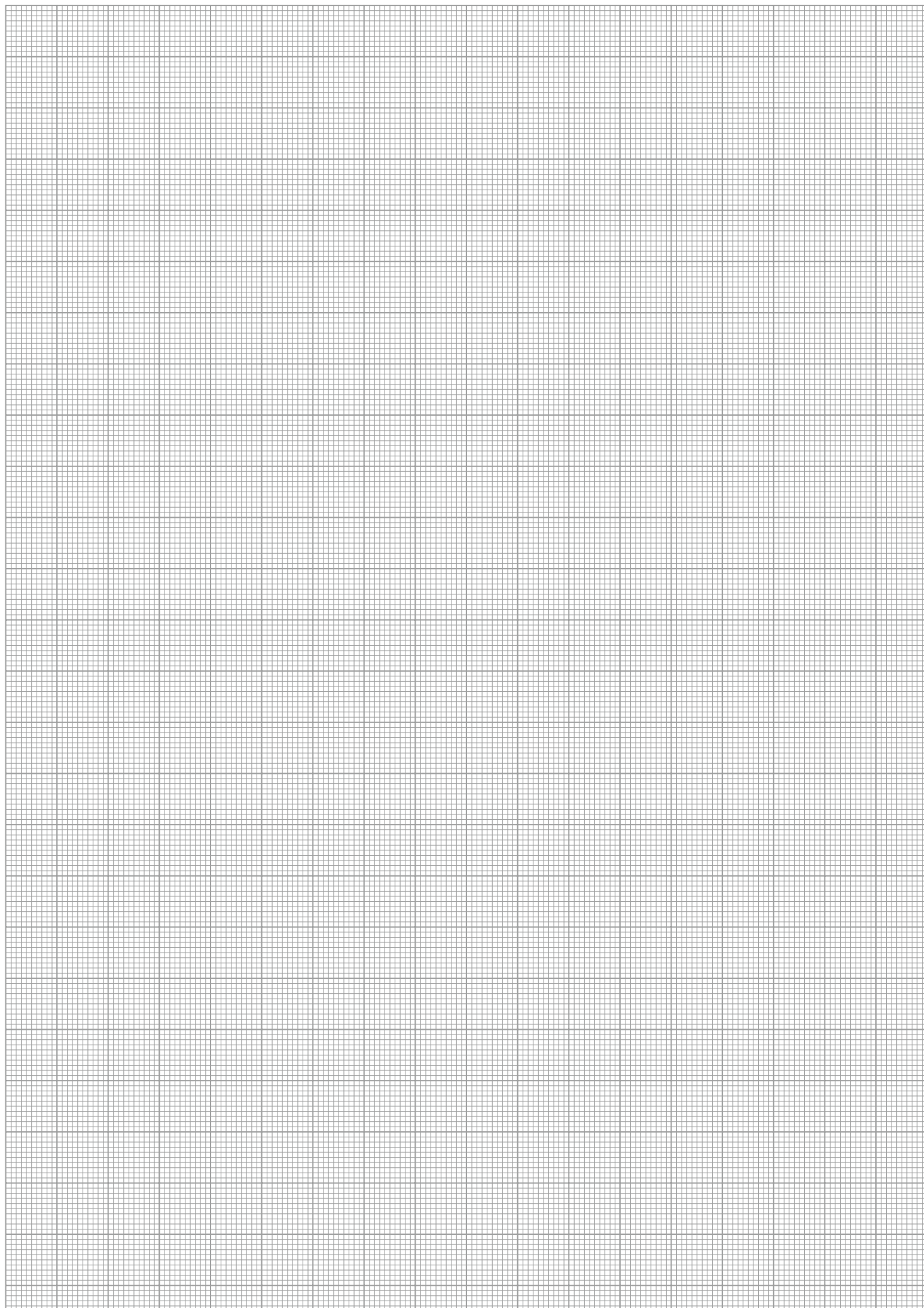
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

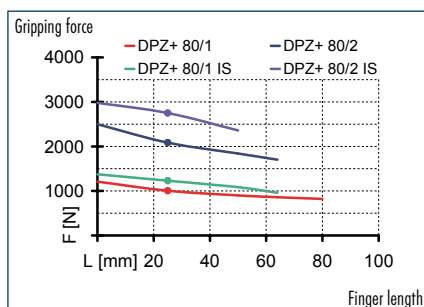
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

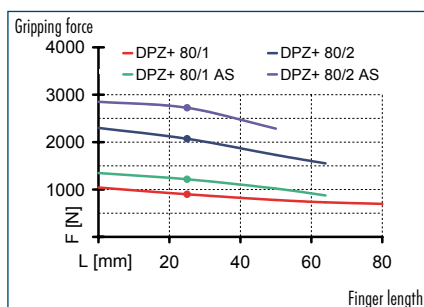




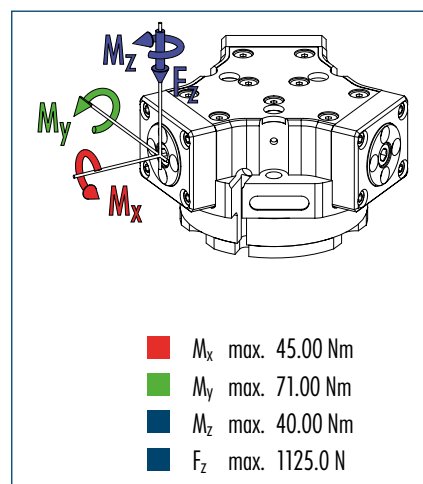
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

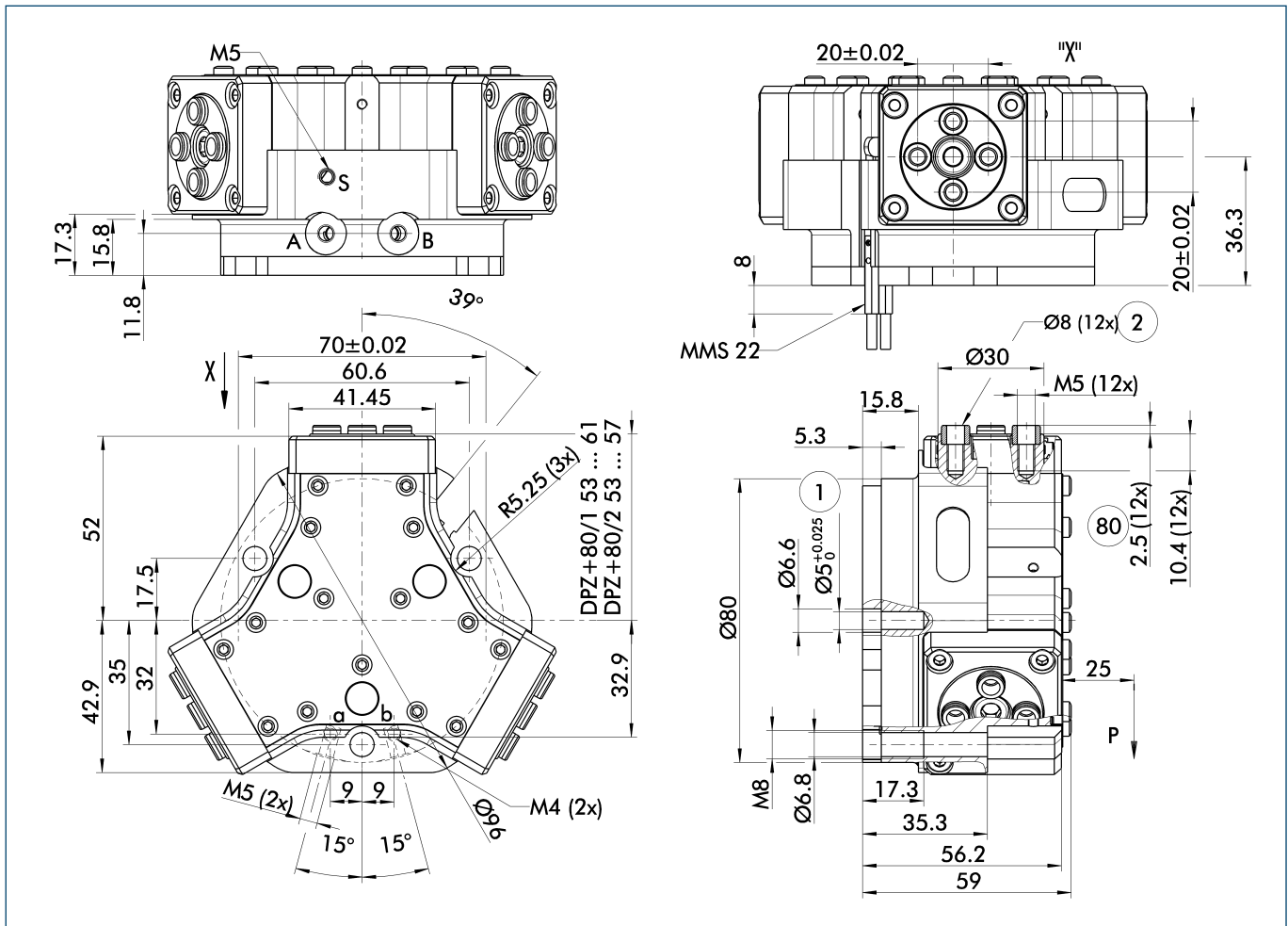
Technical data

Description		DPZ-plus 80-1	DPZ-plus 80-2	DPZ-plus 80-1-AS	DPZ-plus 80-2-AS	DPZ-plus 80-1-IS	DPZ-plus 80-2-IS
ID		0304421	0304422	0304423	0304424	0304425	0304426
Stroke per finger	[mm]	8	4	8	4	8	4
Closing force	[N]	900	2070	1215	2725		
Opening force	[N]	1000	2085			1330	2765
Min. spring force	[N]			315	655	330	680
Weight	[kg]	1.3	1.3	1.45	1.45	1.45	1.45
Recommended workpiece weight	[kg]	4.5	10.35	4.5	10.35	4.5	10.35
Air consumption per double stroke	[cm³]	60	60	108	108	108	108
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.07/0.07	0.07/0.07	0.05/0.08	0.05/0.08	0.08/0.05	0.08/0.05
Max. permitted finger length	[mm]	80	64	64	50	64	50
Max. permitted weight per finger	[kg]	0.5	0.5	0.5	0.5	0.5	0.5
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

OPTIONS and their characteristics

Force intensified version		DPZ-plus 80-1-KVZ
ID		0304427
Closing force	[N]	1620
Opening force	[N]	1750
Weight	[kg]	1.6
Maximum pressure	[bar]	6
Max. permitted finger length	[mm]	50

Main view

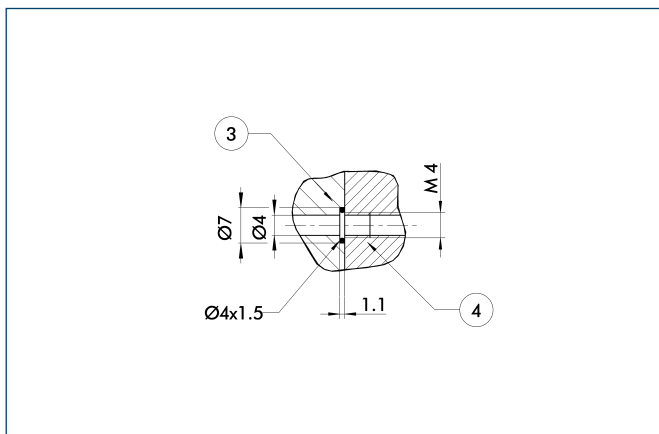


For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

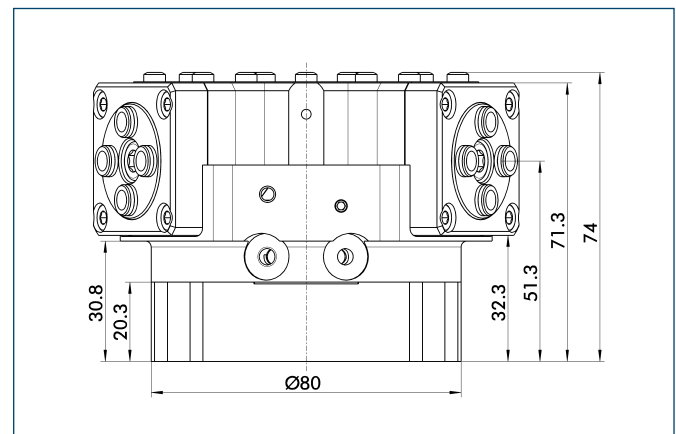
Hose-free direct connection



- ③ Adapter
- ④ Gripper

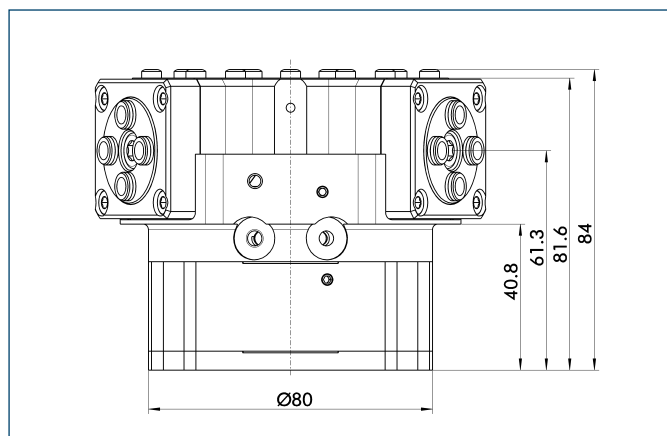
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



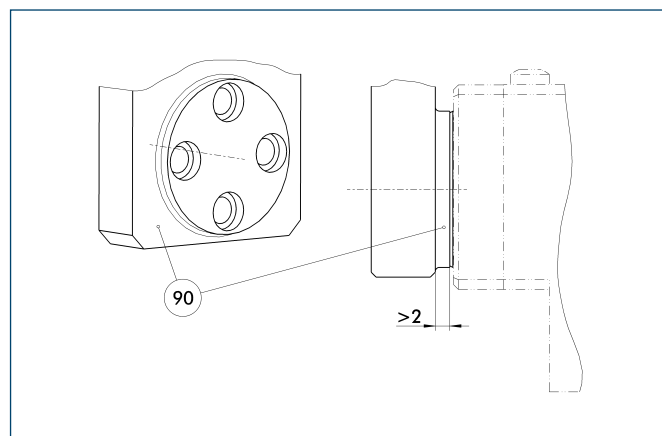
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Force intensified version



The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. The full gripping force shown in the data table is sometimes only reached after a few hundred gripping cycles. Please consider that grippers which are equipped with a gripping force maintenance device (AS / IS) are higher.

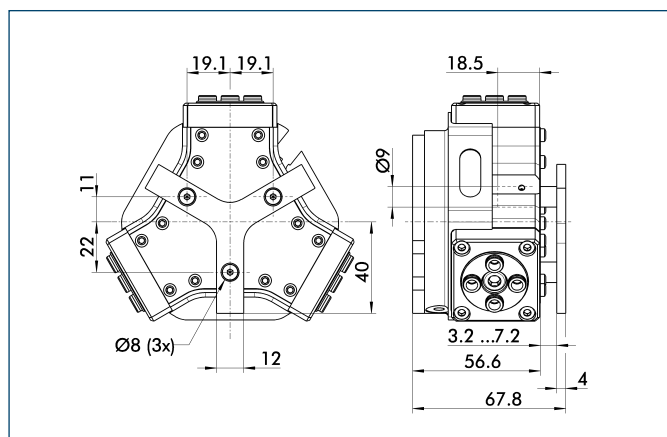
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

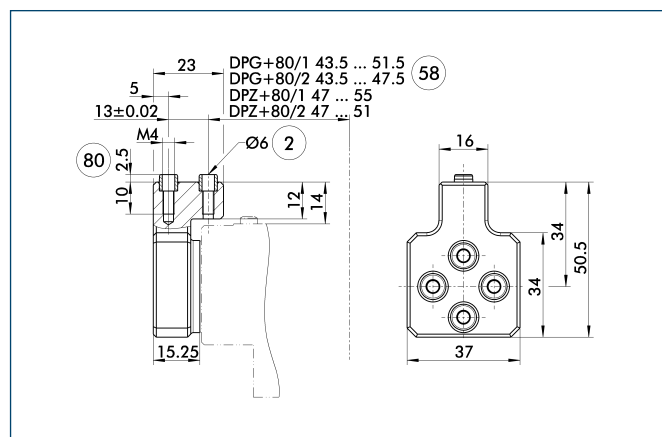
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 80	0303721	4 mm	18 N

Intermediate Jaws



2 Finger connection

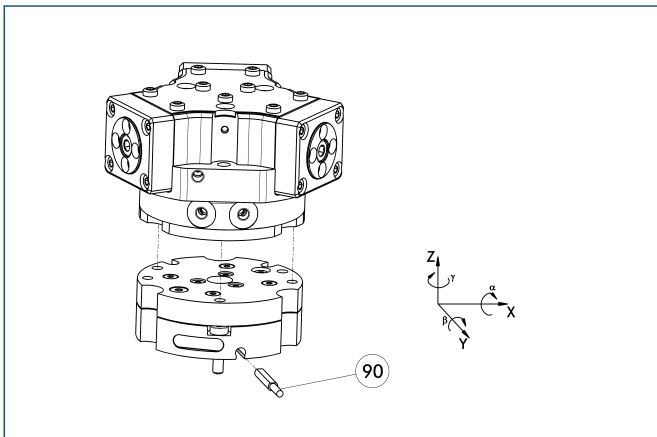
58 Distance from center of gripper

58 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+80	0300193	Aluminum	1

Tolerance compensation unit

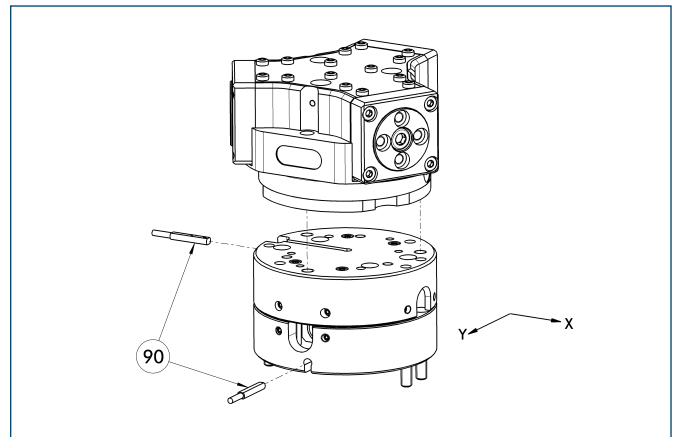


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-080-3-MV-Z	0324784	Yes	
TCU-080-3-OV-Z	0324785	No	

Compensation unit with spring reset

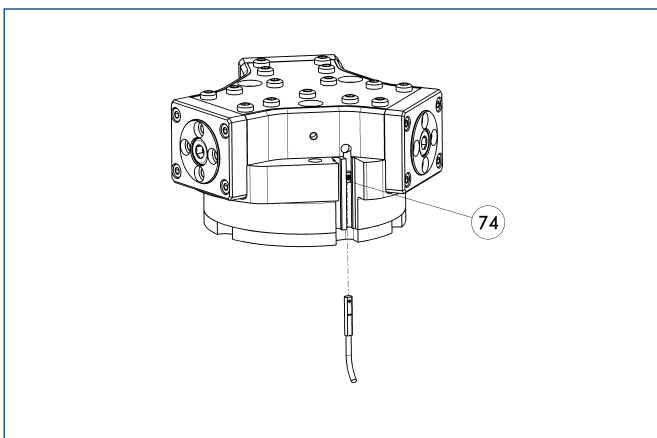


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-063-1	0324940	±4 mm	9 N
AGE-F-XY-063-2	0324941	±4 mm	10 N
AGE-F-XY-063-3	0324942	±4 mm	19.3 N

Programmable magnetic switch



74 Stop for MMS-P

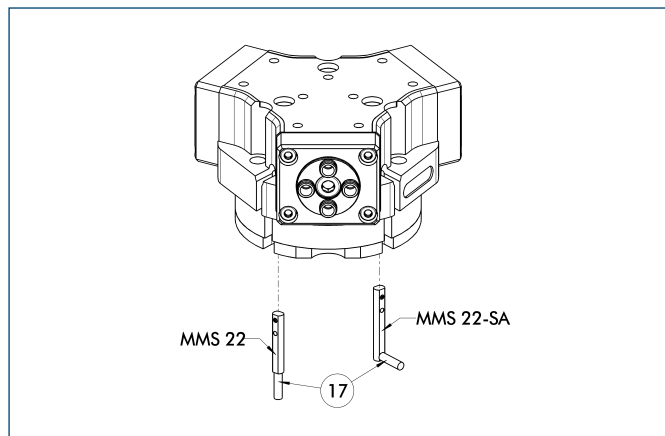
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



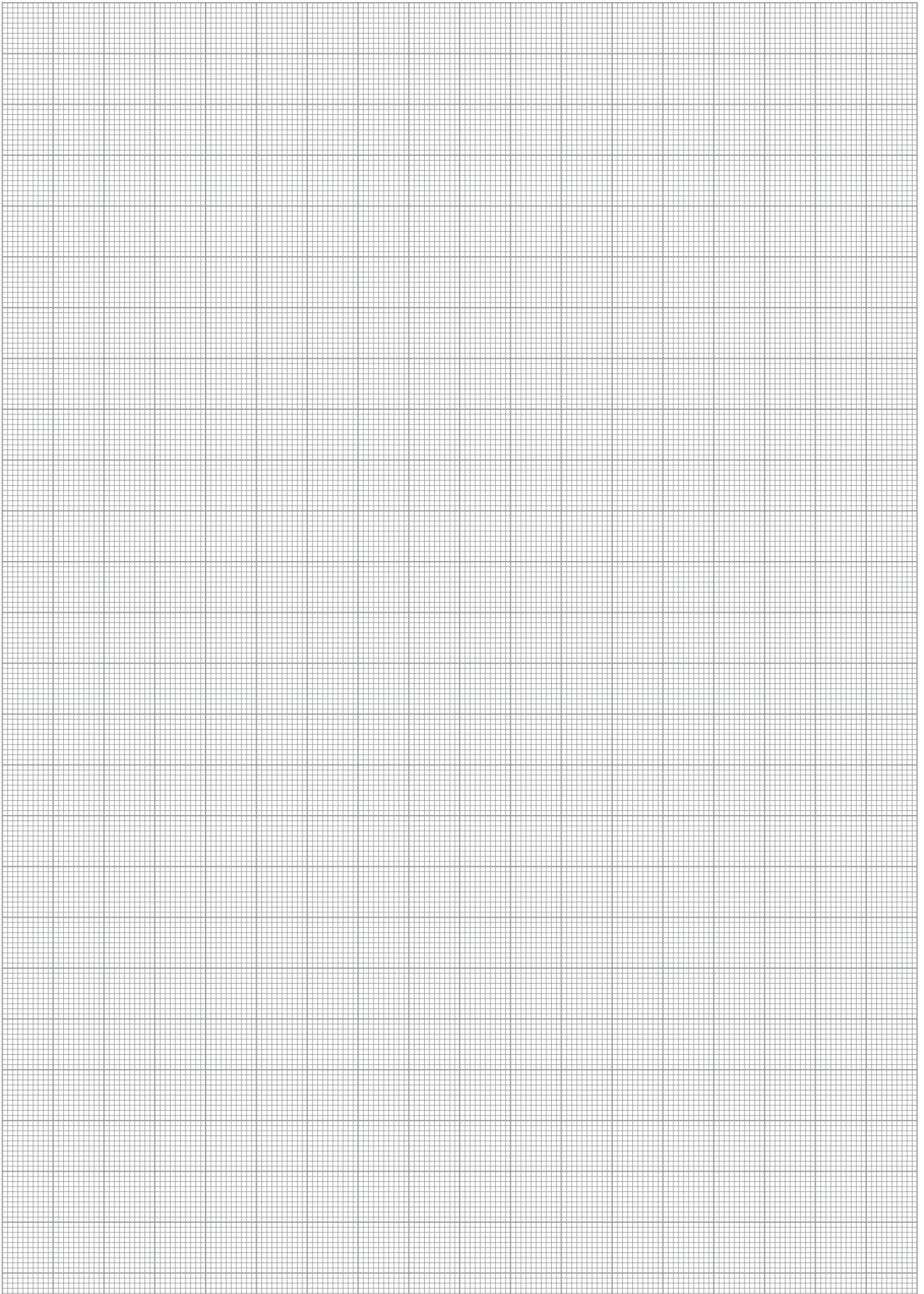
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

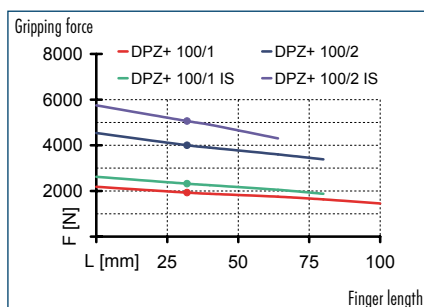
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

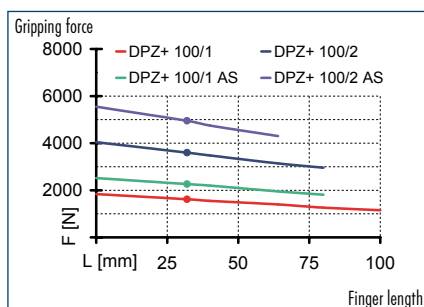




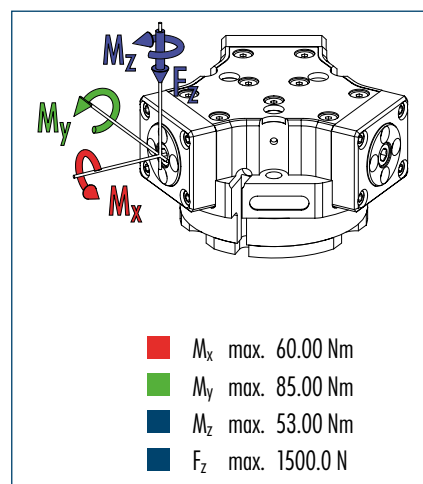
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

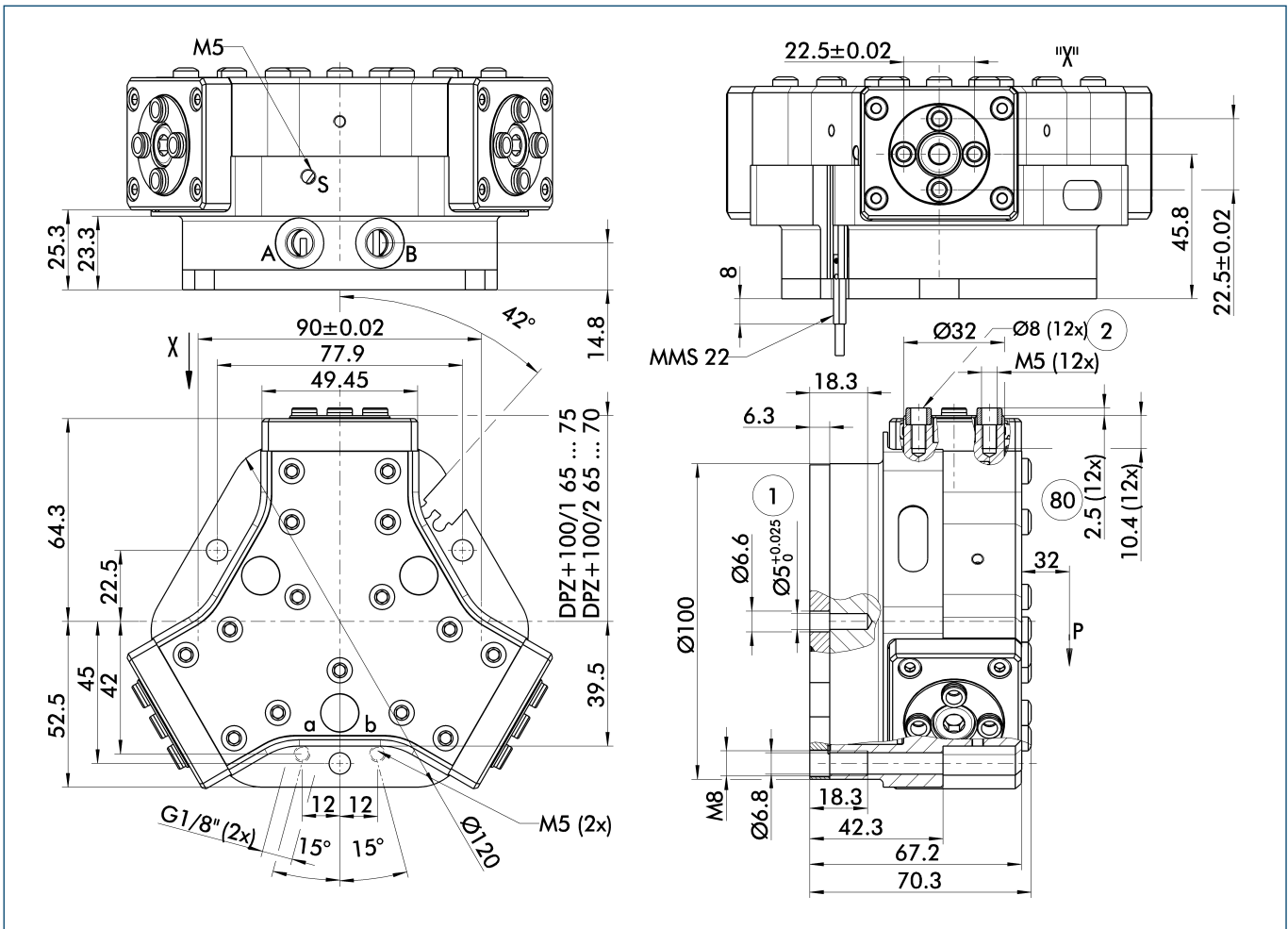


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

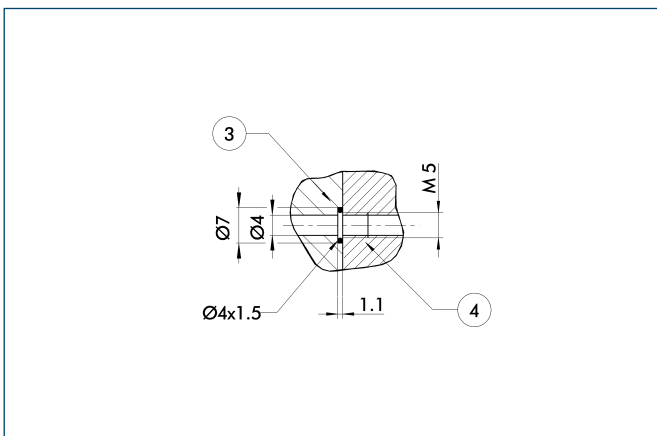
Technical data

Description		DPZ-plus 100-1	DPZ-plus 100-2	DPZ-plus 100-1-AS	DPZ-plus 100-2-AS	DPZ-plus 100-1-IS	DPZ-plus 100-2-IS
ID		0304431	0304432	0304433	0304434	0304435	0304436
Stroke per finger	[mm]	10	5	10	5	10	5
Closing force	[N]	1620	3600	2265	4950		
Opening force	[N]	1920	4000			2620	5460
Min. spring force	[N]			645	1350	700	1460
Weight	[kg]	1.9	1.9	2.3	2.3	2.3	2.3
Recommended workpiece weight	[kg]	8.1	18	8.1	18	8.1	18
Air consumption per double stroke	[cm ³]	120	120	210	210	210	210
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.13/0.13	0.13/0.13	0.13/0.25	0.13/0.25	0.25/0.13	0.25/0.13
Max. permitted finger length	[mm]	100	80	80	64	80	64
Max. permitted weight per finger	[kg]	0.95	0.95	0.95	0.95	0.95	0.95
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

Main view



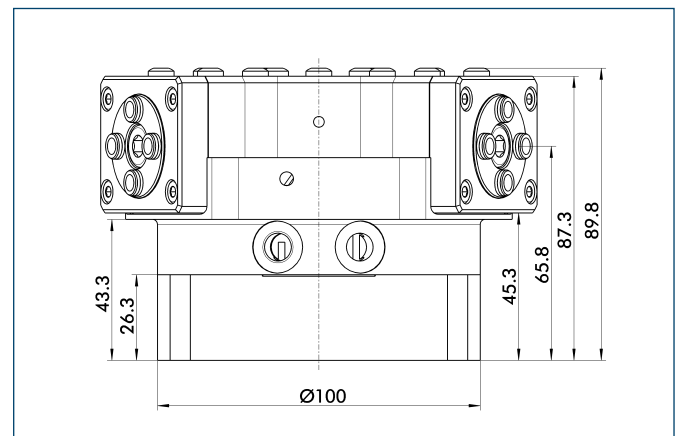
Hose-free direct connection



- ③ Adapter
- ④ Gripper

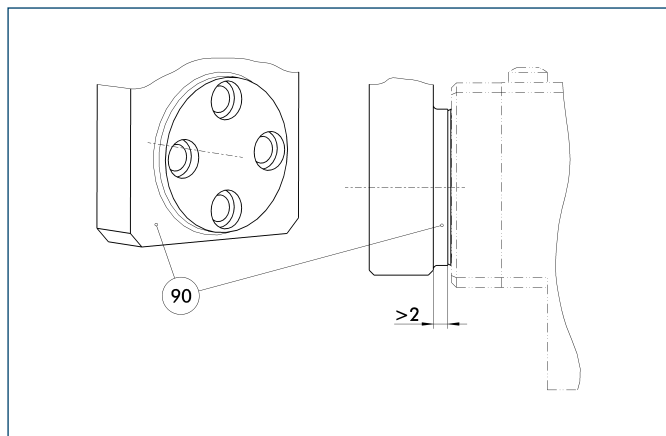
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

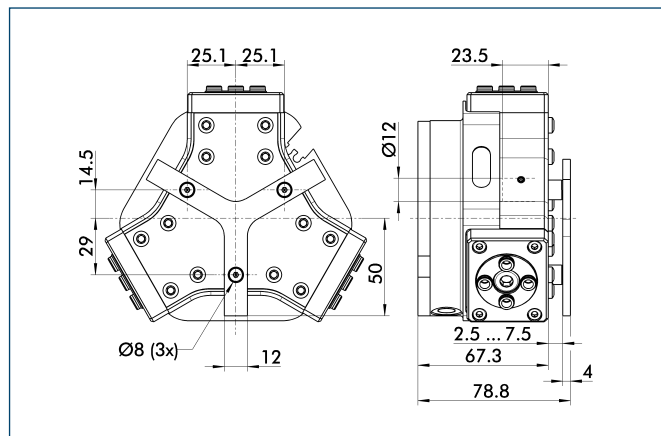
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

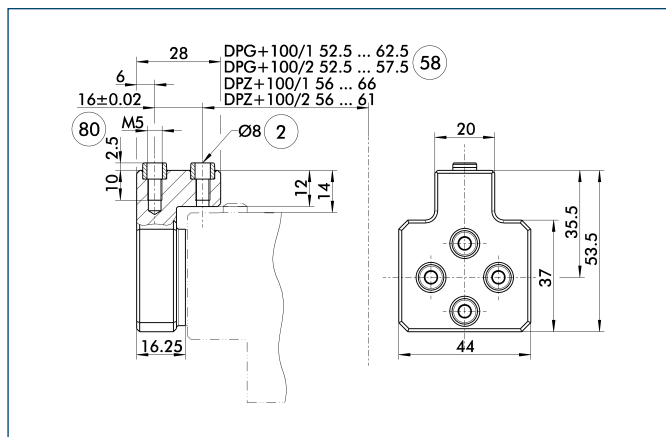
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	5 mm	35 N

Intermediate Jaws



2 Finger connection

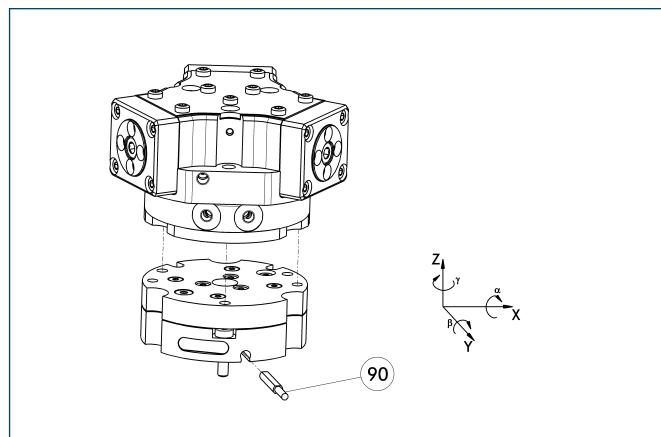
58 Distance from center of gripper

80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+100	0300194	Aluminum	1

Tolerance compensation unit

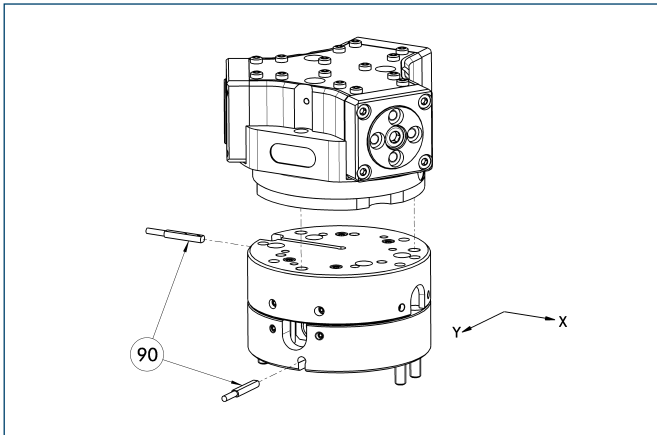


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-100-2-MV-Z	0324794	Yes	
TCU-100-2-OV-Z	0324799	No	

Compensation unit with spring reset

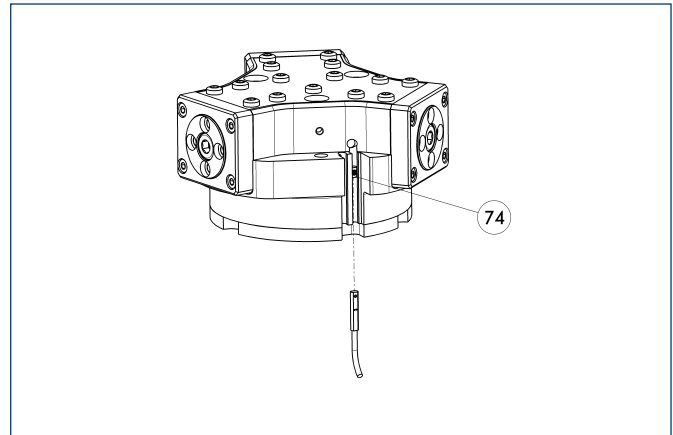


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

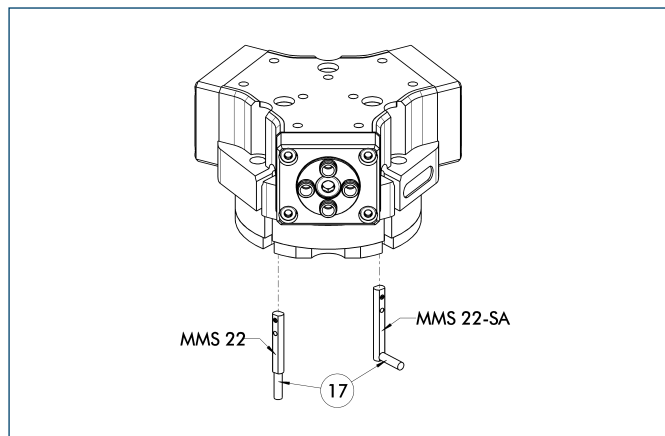
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



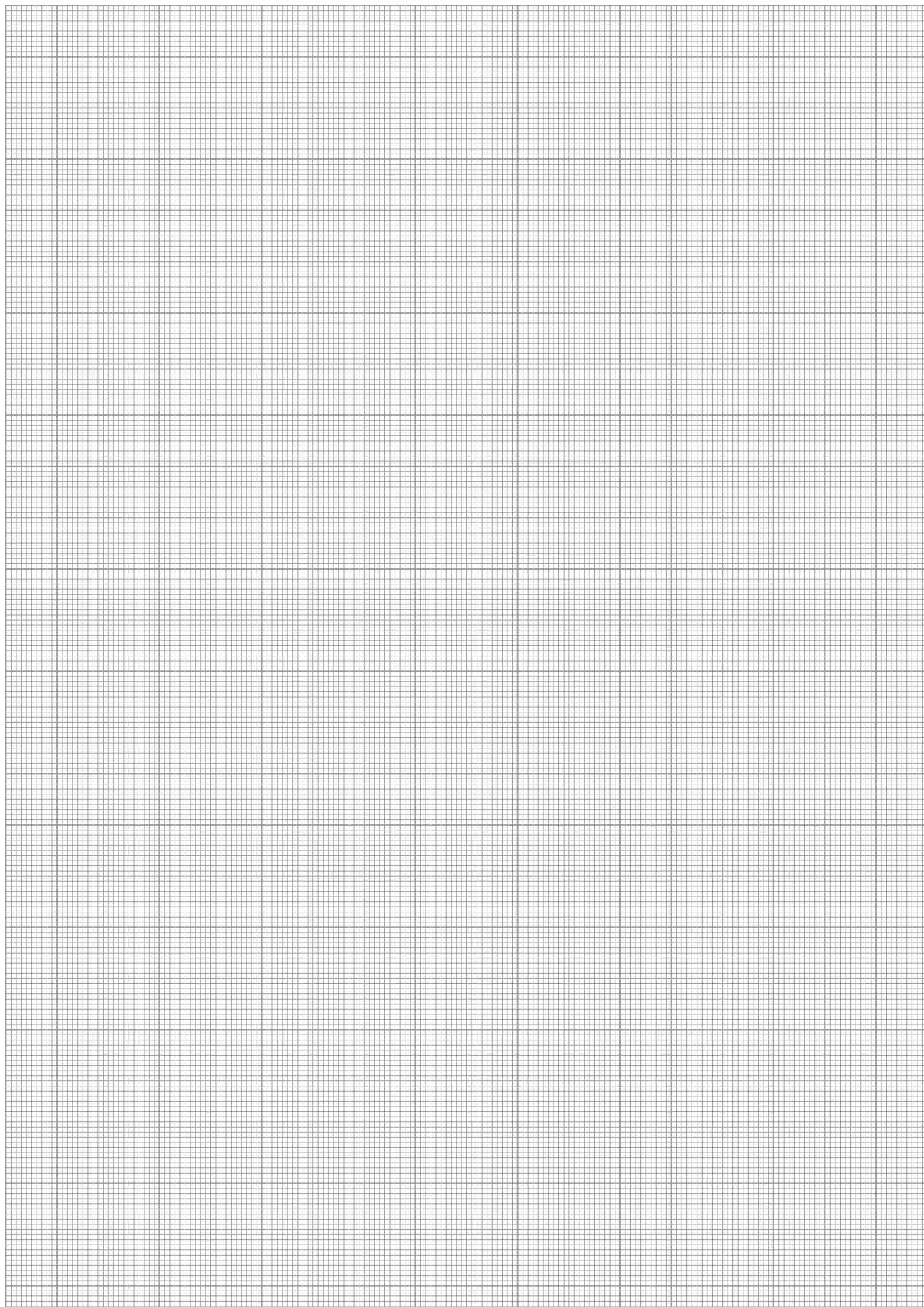
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

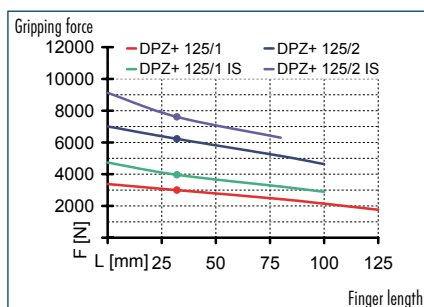
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

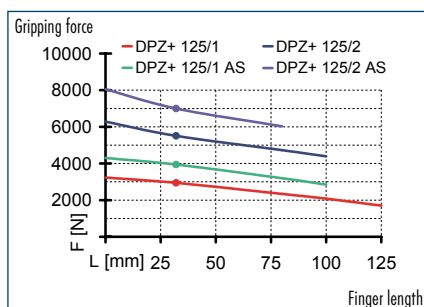




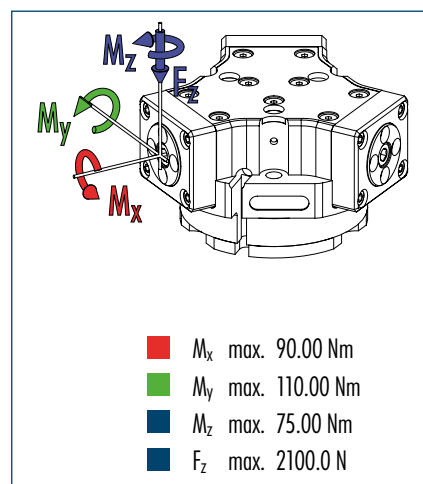
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

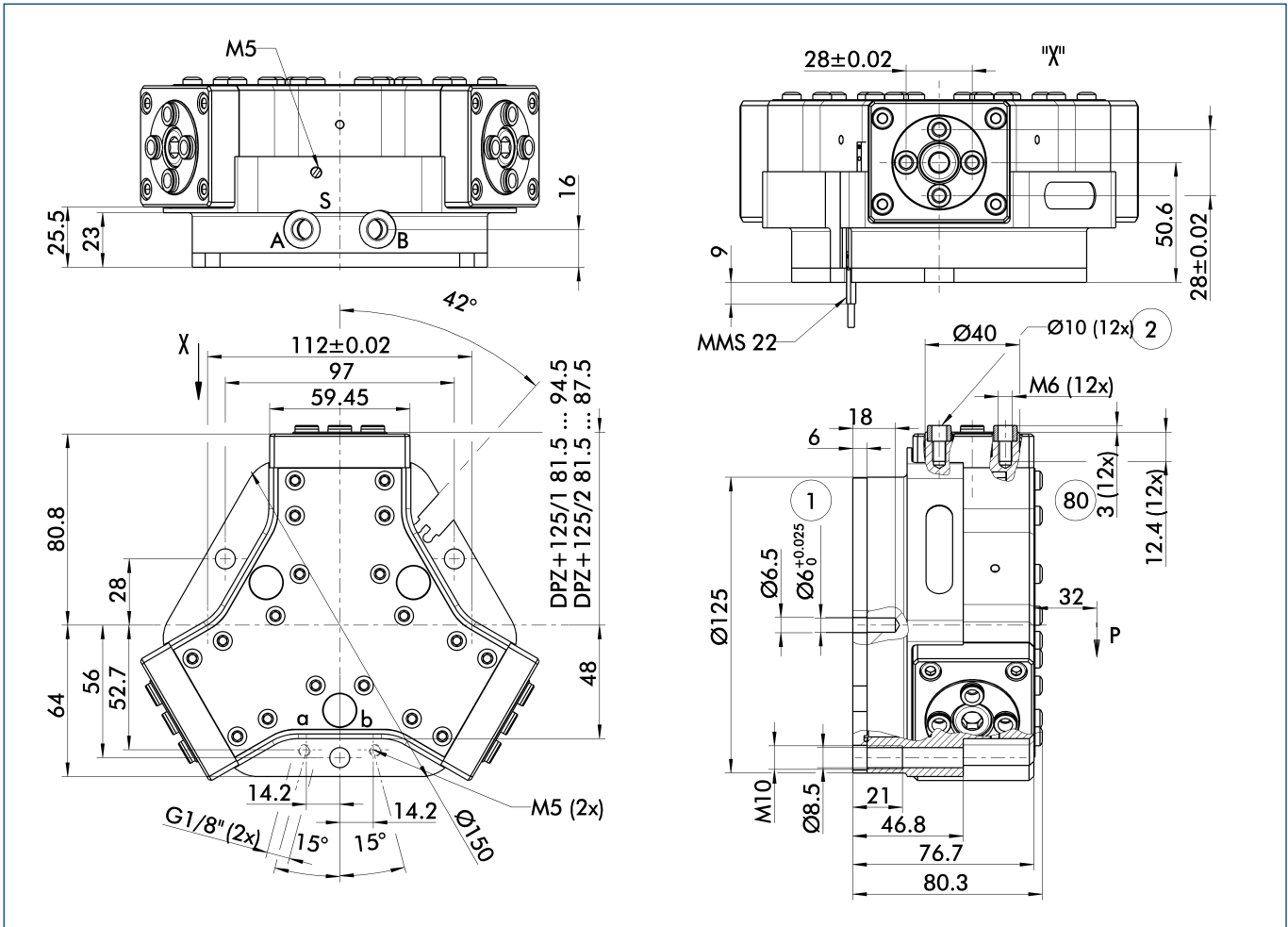


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPZ-plus 125-1	DPZ-plus 125-2	DPZ-plus 125-1-AS	DPZ-plus 125-2-AS	DPZ-plus 125-1-IS	DPZ-plus 125-2-IS
ID		0304441	0304442	0304443	0304444	0304445	0304446
Stroke per finger	[mm]	13	6	13	6	13	6
Closing force	[N]	2945	5510	3940	7000		
Opening force	[N]	3000	6200			4015	8300
Min. spring force	[N]			995	1490	1015	2100
Weight	[kg]	3.5	3.5	4.7	4.7	4.7	4.7
Recommended workpiece weight	[kg]	14.7	27.5	14.7	27.5	14.7	27.5
Air consumption per double stroke	[cm³]	230	230	383	383	383	383
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.25/0.25	0.25/0.25	0.22/0.45	0.22/0.45	0.45/0.22	0.45/0.22
Max. permitted finger length	[mm]	125	100	100	80	100	80
Max. permitted weight per finger	[kg]	1.75	1.75	1.75	1.75	1.75	1.75
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

Main view



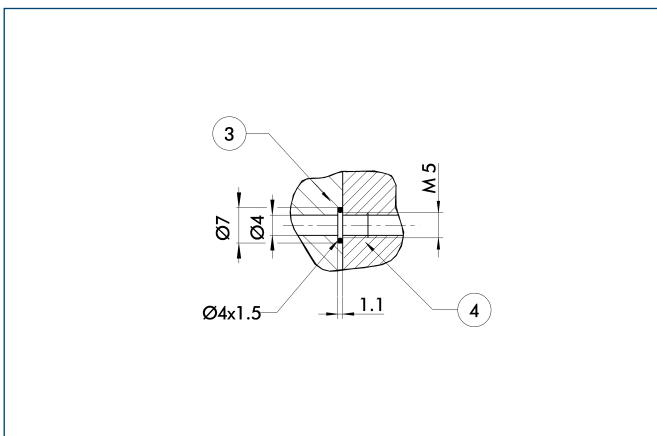
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

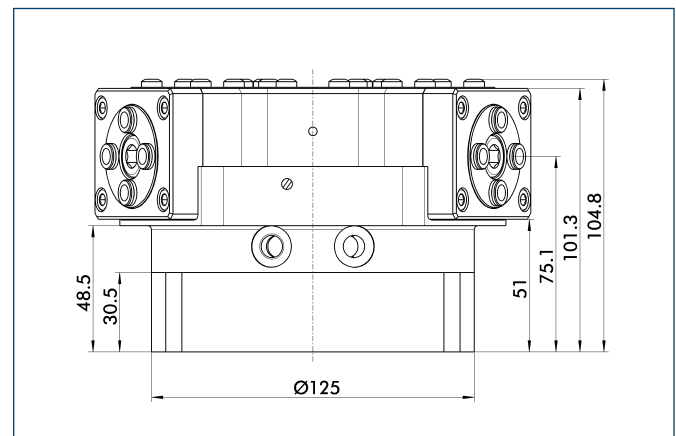
Hose-free direct connection



③ Adapter
④ Gripper

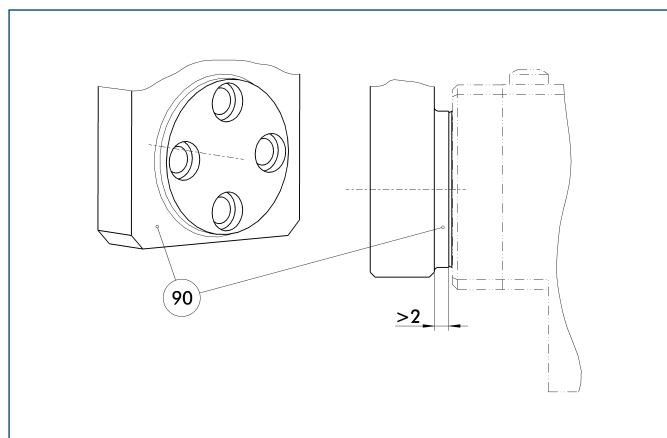
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

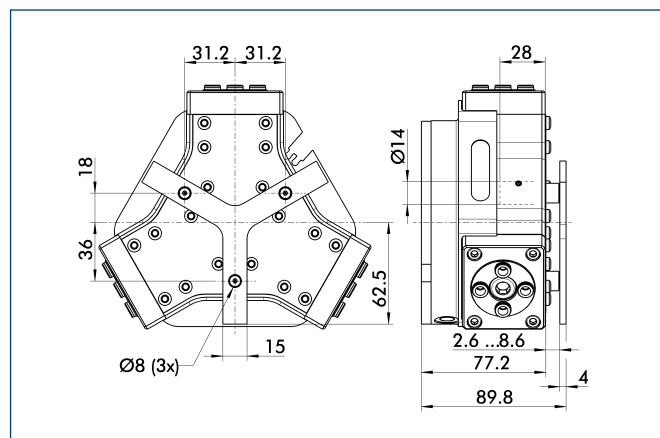
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

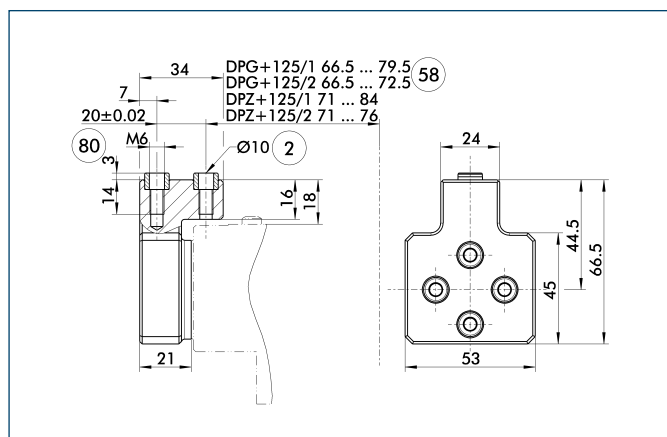
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
APZN-plus/DPZ-plus 125	0303723	6 mm	105 N

Intermediate Jaws



2 Finger connection

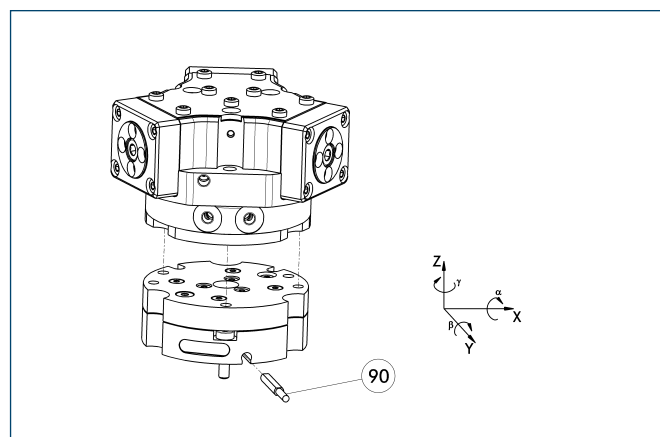
80 Distance from center of gripper

80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+125	0300195	Aluminum	1

Tolerance compensation unit

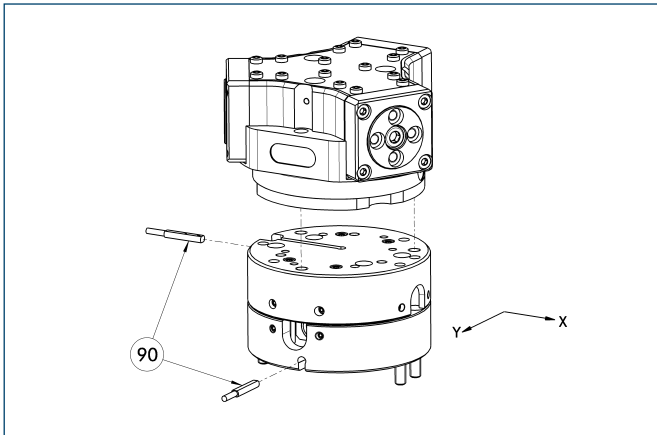


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-125-3-MV-Z	0324820	Yes	
TCU-125-3-OV-Z	0324821	No	

Compensation unit with spring reset

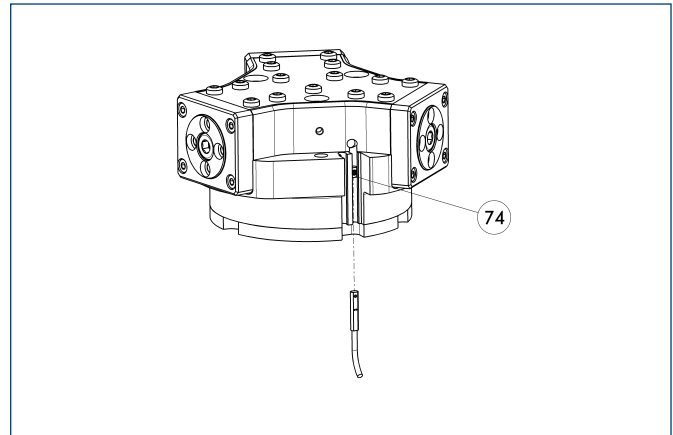


90 Monitoring

Grippers can be directly mounted without using an adapter plate. For details see our catalog "Robot Accessories".

Description	ID	Compensation travel	Reset force
Compensation unit			
AGE-F-XY-080-1	0324960	±5 mm	28.3 N
AGE-F-XY-080-2	0324961	±5 mm	42.5 N
AGE-F-XY-080-3	0324962	±5 mm	47.6 N

Programmable magnetic switch



74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

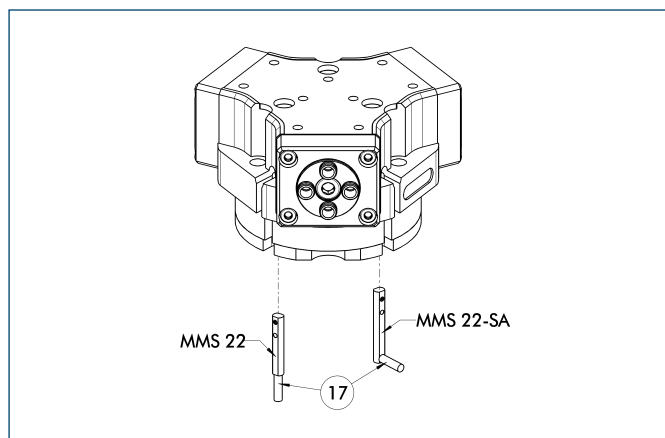
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

② Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

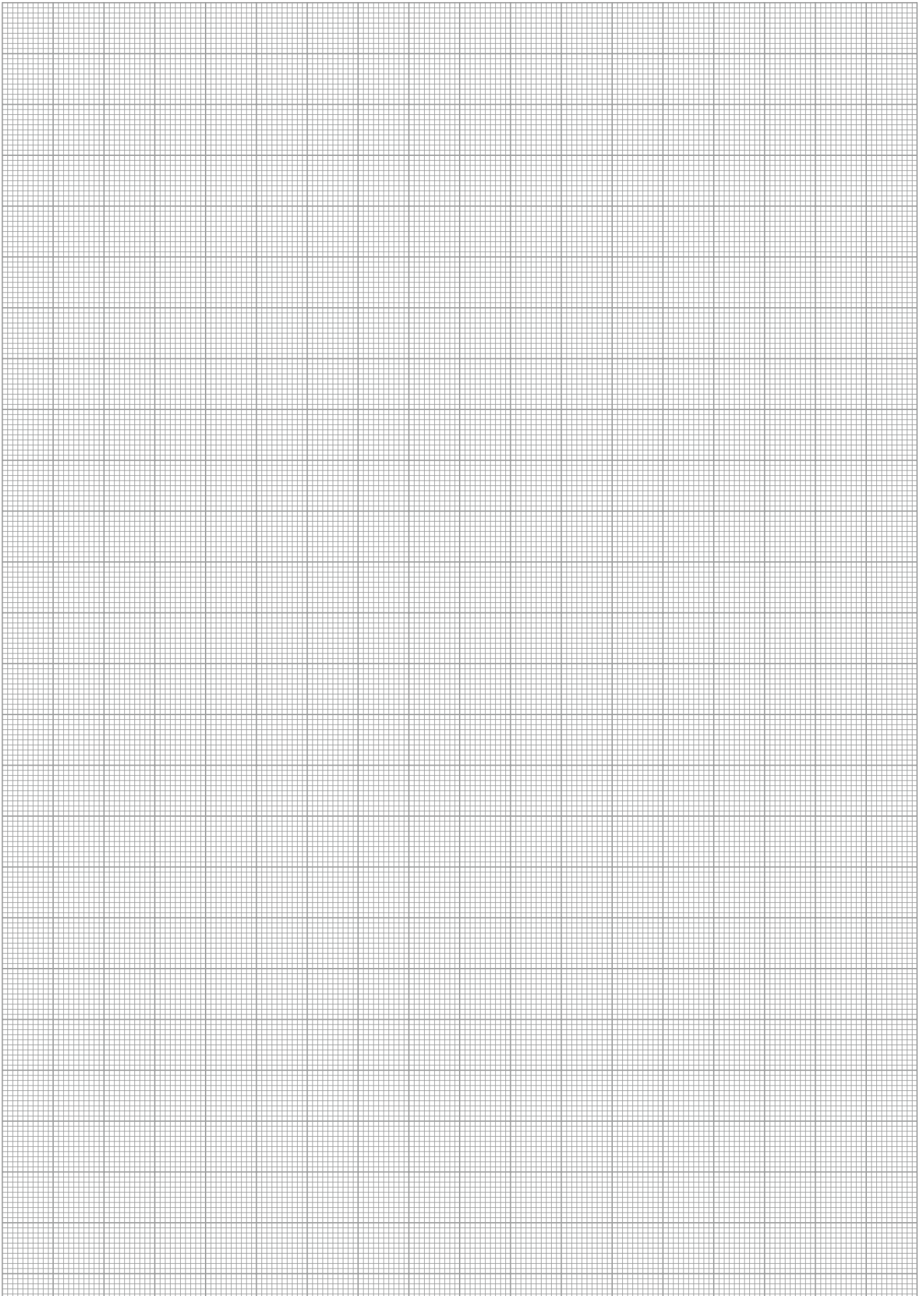
Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

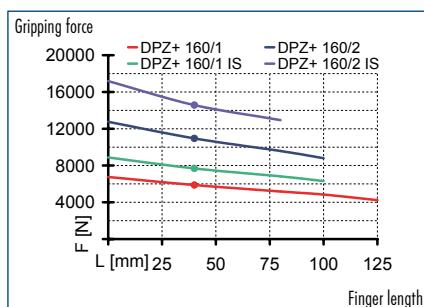


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

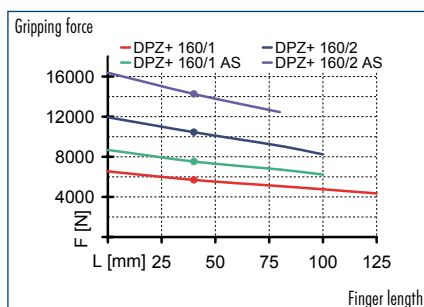




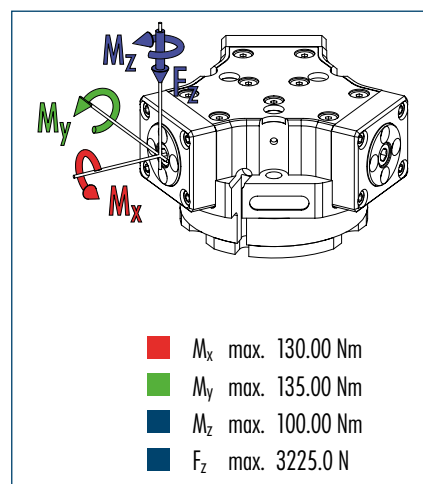
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

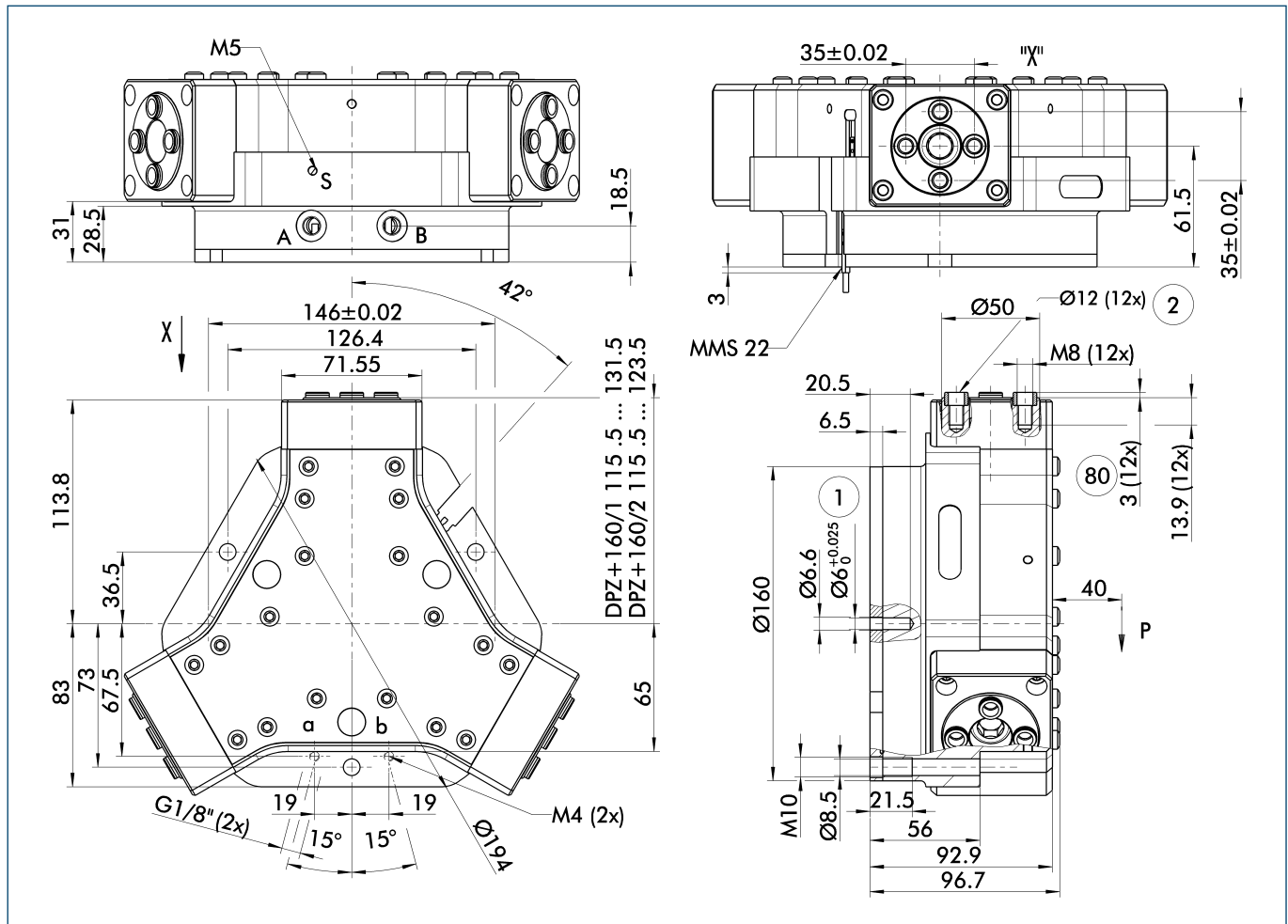


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPZ-plus 160-1	DPZ-plus 160-2	DPZ-plus 160-1-AS	DPZ-plus 160-2-AS	DPZ-plus 160-1-IS	DPZ-plus 160-2-IS
ID		0304451	0304452	0304453	0304454	0304455	0304456
Stroke per finger	[mm]	16	8	16	8	16	8
Closing force	[N]	5700	10450	7530	14260		
Opening force	[N]	5880	10950			7865	15070
Min. spring force	[N]			1830	3810	1985	4120
Weight	[kg]	7.9	7.9	9.7	9.7	9.7	9.7
Recommended workpiece weight	[kg]	28.5	52	28.5	52	28.5	52
Air consumption per double stroke	[cm ³]	520	520	875	875	875	875
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	0.6/0.6	0.6/0.6	0.5/1	0.5/1	1/0.5	1/0.5
Max. permitted finger length	[mm]	125	100	100	80	100	80
Max. permitted weight per finger	[kg]	3	3	3	3	3	3
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1		5	5	5	5	5	5

Main view



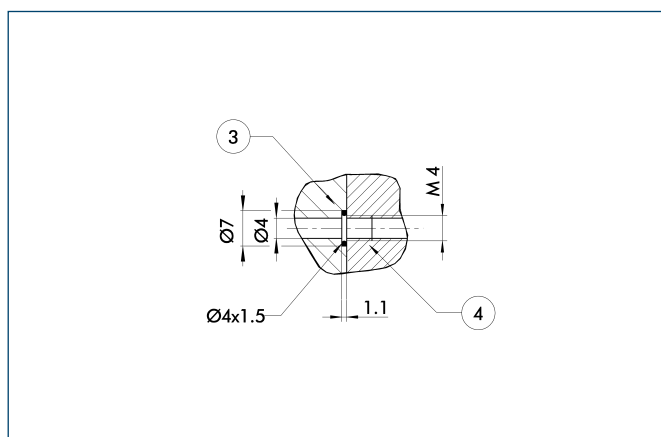
For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
80 Depth of the centering sleeve hole in the matching part

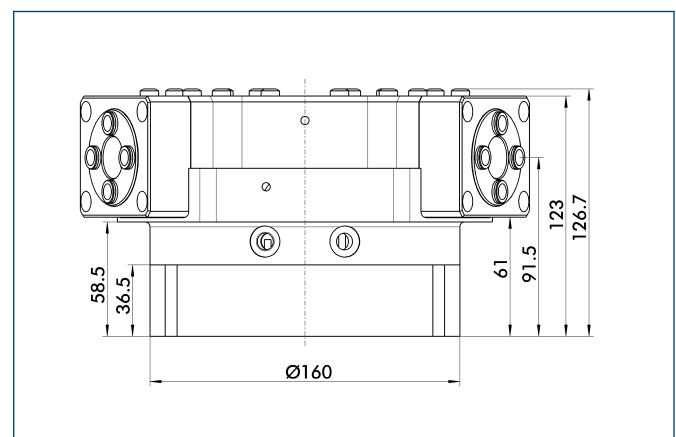
Hose-free direct connection



③ Adapter
④ Gripper

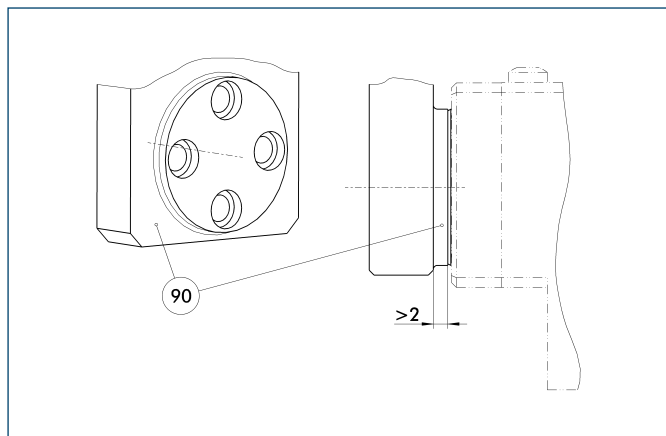
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

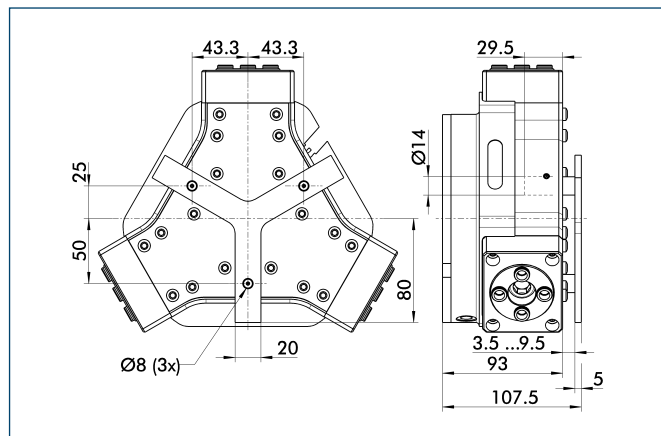
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

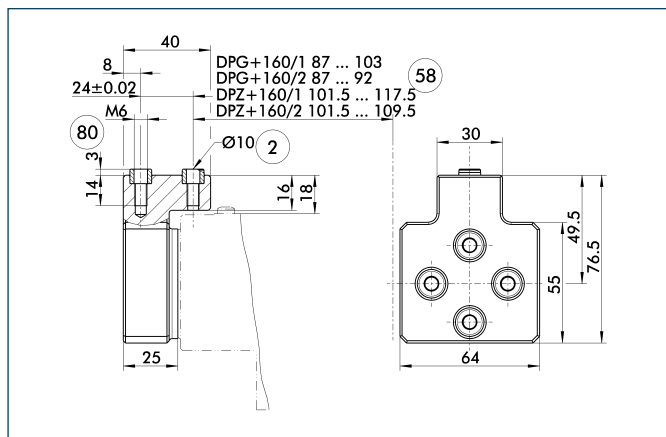
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6 mm	205 N

Intermediate Jaws



2 Finger connection

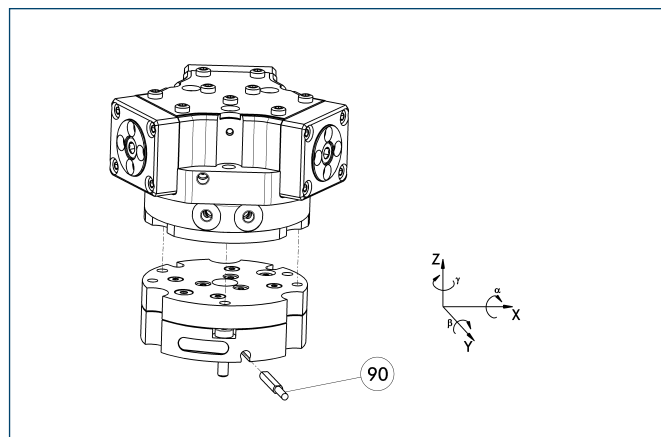
58 Distance from center of gripper

80 Depth of the centering sleeve hole in the matching part

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Scope of delivery
Intermediate Jaws			
ZBA-DPG-DPZ+160	0300196	Aluminum	1

Tolerance compensation unit

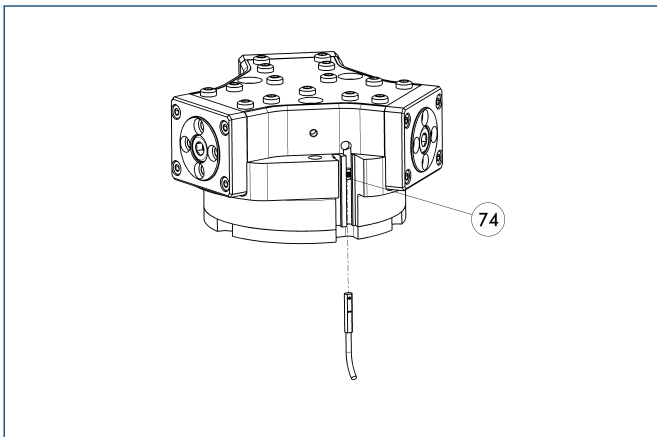


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-160-3-MV-Z	0324838	Yes	
TCU-160-3-OV-Z	0324839	No	

Programmable magnetic switch



74 Stop for MMS-P

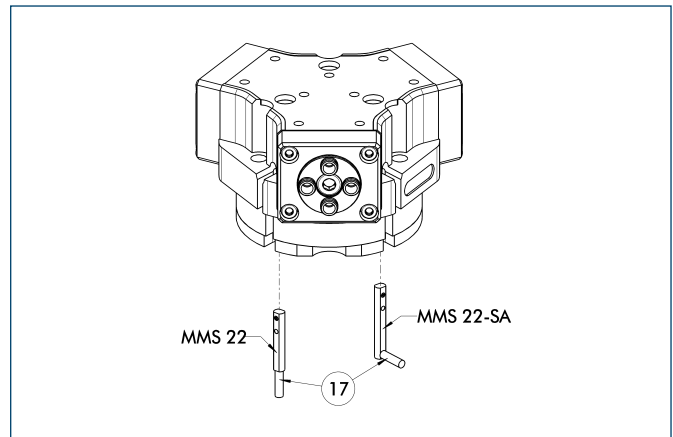
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

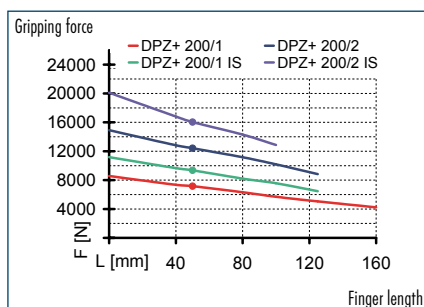
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



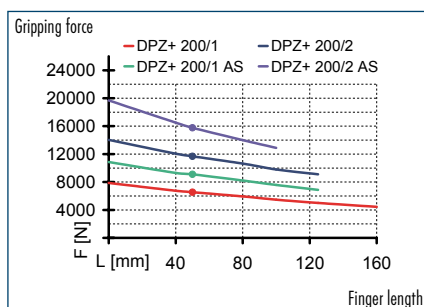
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



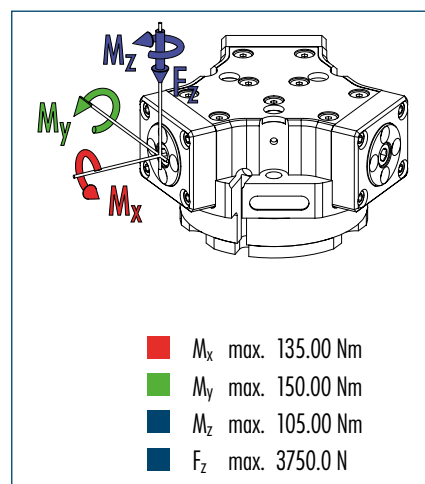
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

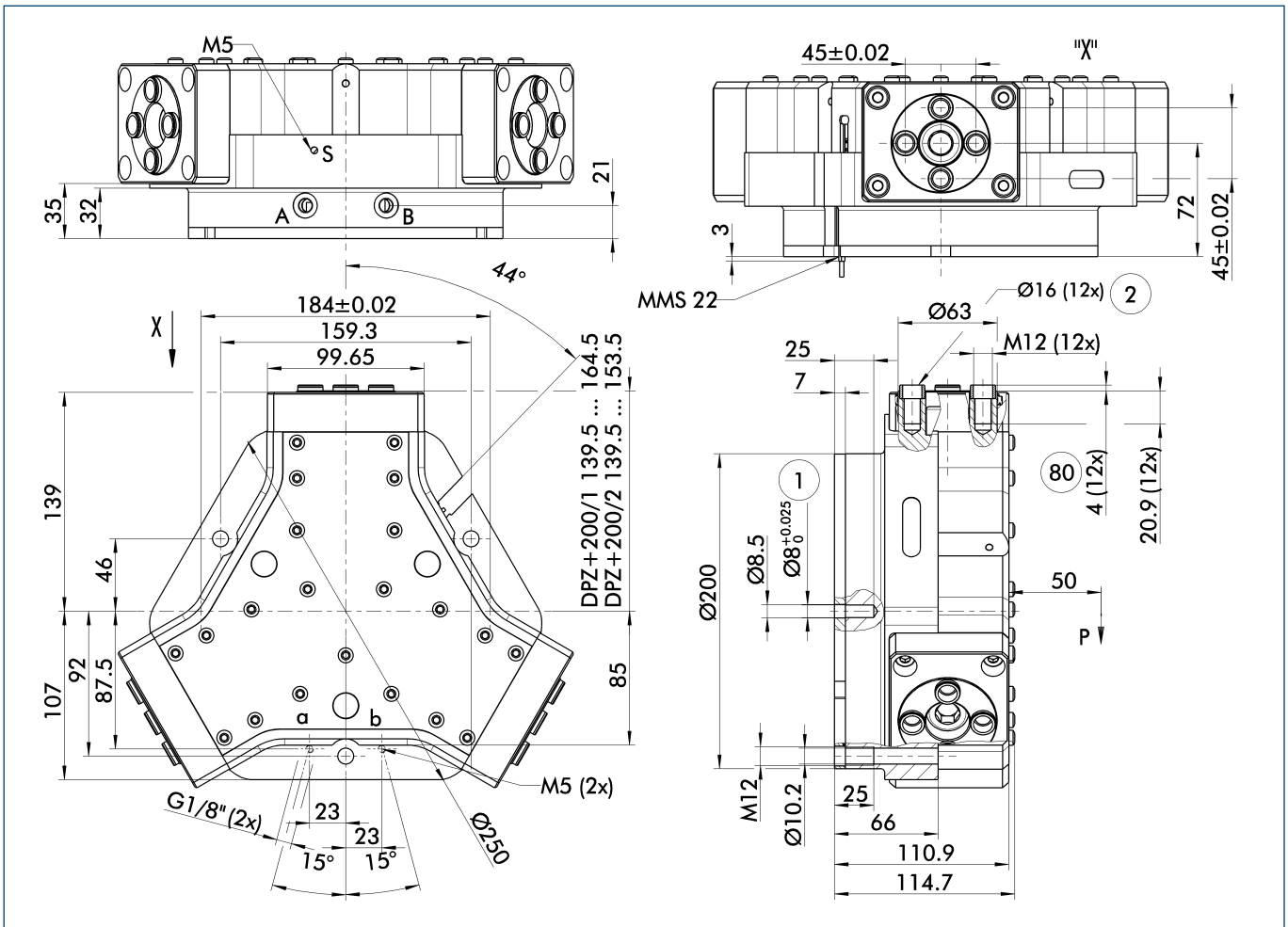


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		DPZ-plus 200-1	DPZ-plus 200-2	DPZ-plus 200-1-AS	DPZ-plus 200-2-AS	DPZ-plus 200-1-IS	DPZ-plus 200-2-IS
ID		0304461	0304462	0304463	0304464	0304465	0304466
Stroke per finger	[mm]	25	14	25	14	25	14
Closing force	[N]	6750	12060	9300	16500		
Opening force	[N]	7160	12410			9910	17150
Min. spring force	[N]			2550	4440	2750	4740
Weight	[kg]	15.6	15.6	20.1	20.1	20.1	20.1
Recommended workpiece weight	[kg]	33.5	60	33.5	60	33.5	60
Air consumption per double stroke	[cm ³]	1040	1040	1725	1725	1725	1725
Min./max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing/opening time	[s]	1.5/1.5	1.5/1.5	1.2/1.8	1.2/1.8	1.8/1.2	1.8/1.2
Max. permitted finger length	[mm]	160	125	125	100	125	100
Max. permitted weight per finger	[kg]	5.5	5.5	5.5	5.5	5.5	5.5
IP class		67	67	67	67	67	67
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Cleanroom class		5	5	5	5	5	5
ISO-classification 14644-1							

Main view

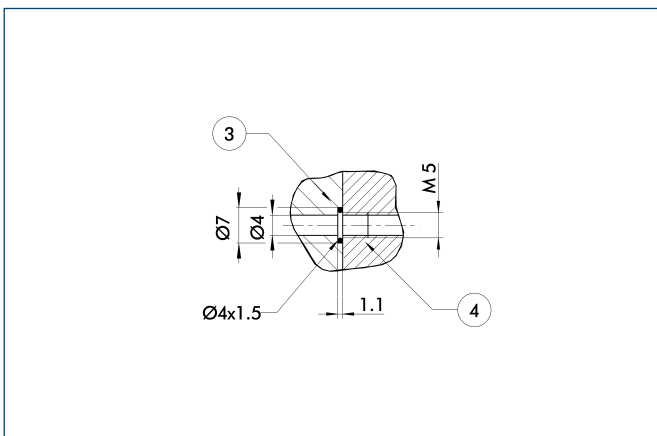


For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

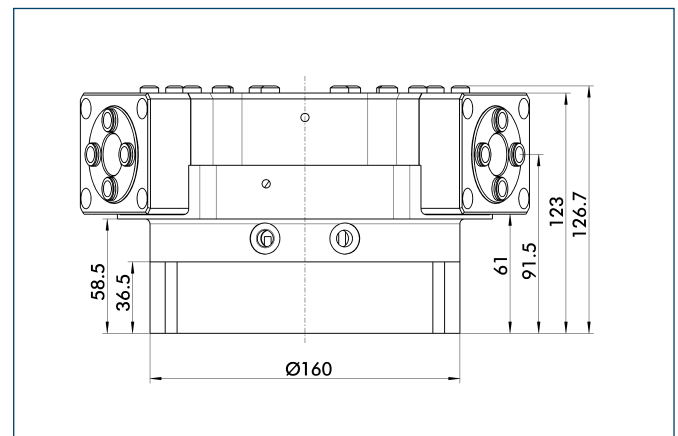
Hose-free direct connection



- ③ Adapter
- ④ Gripper

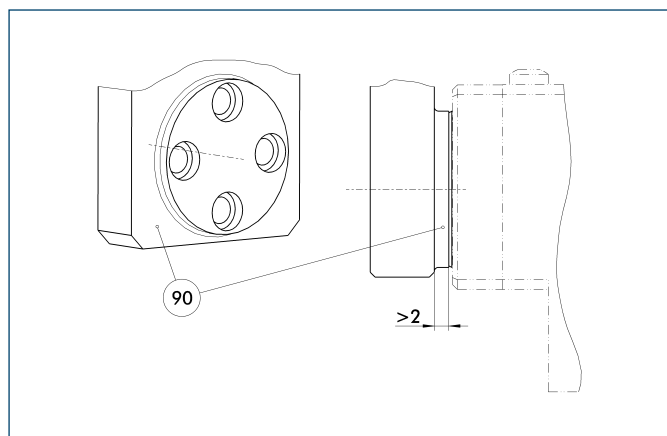
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

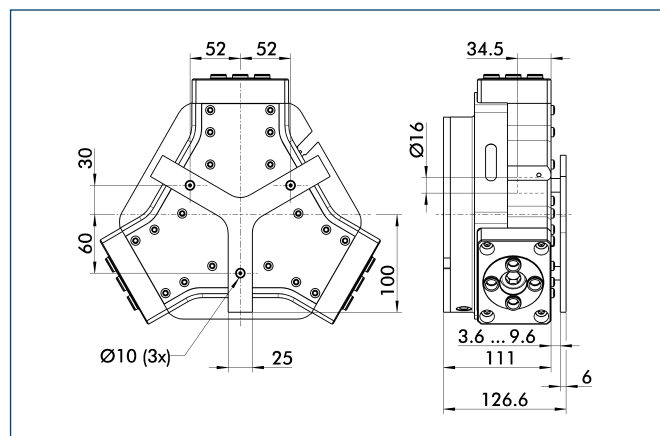
Proposed jaw design



90 Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

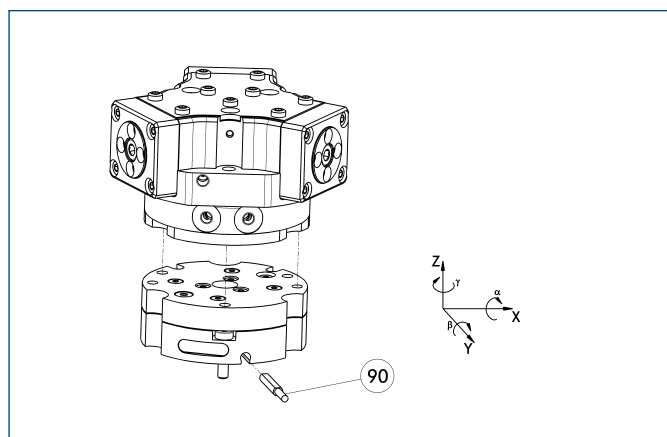
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 200	0303725	6 mm	247 N

Tolerance compensation unit

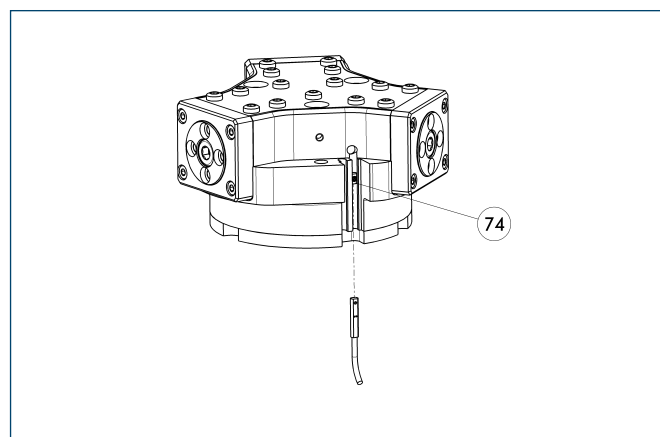


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details see catalog "Robot Accessories".

Description	ID	Locking	Deflection
Compensation unit			
TCU-200-3-MV-Z	0324856	Yes	
TCU-200-3-OV-Z	0324857	No	

Programmable magnetic switch



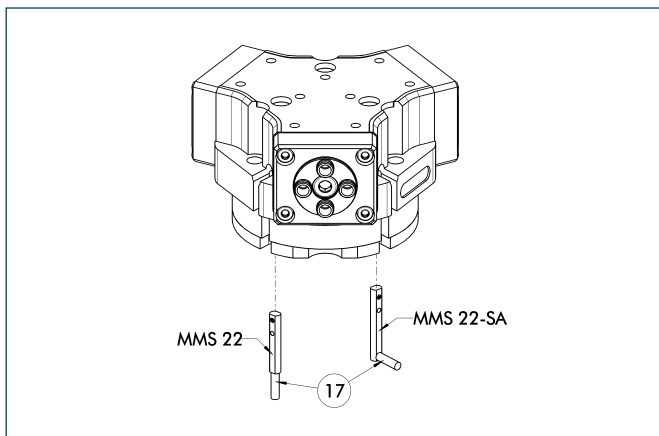
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



⑰ Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

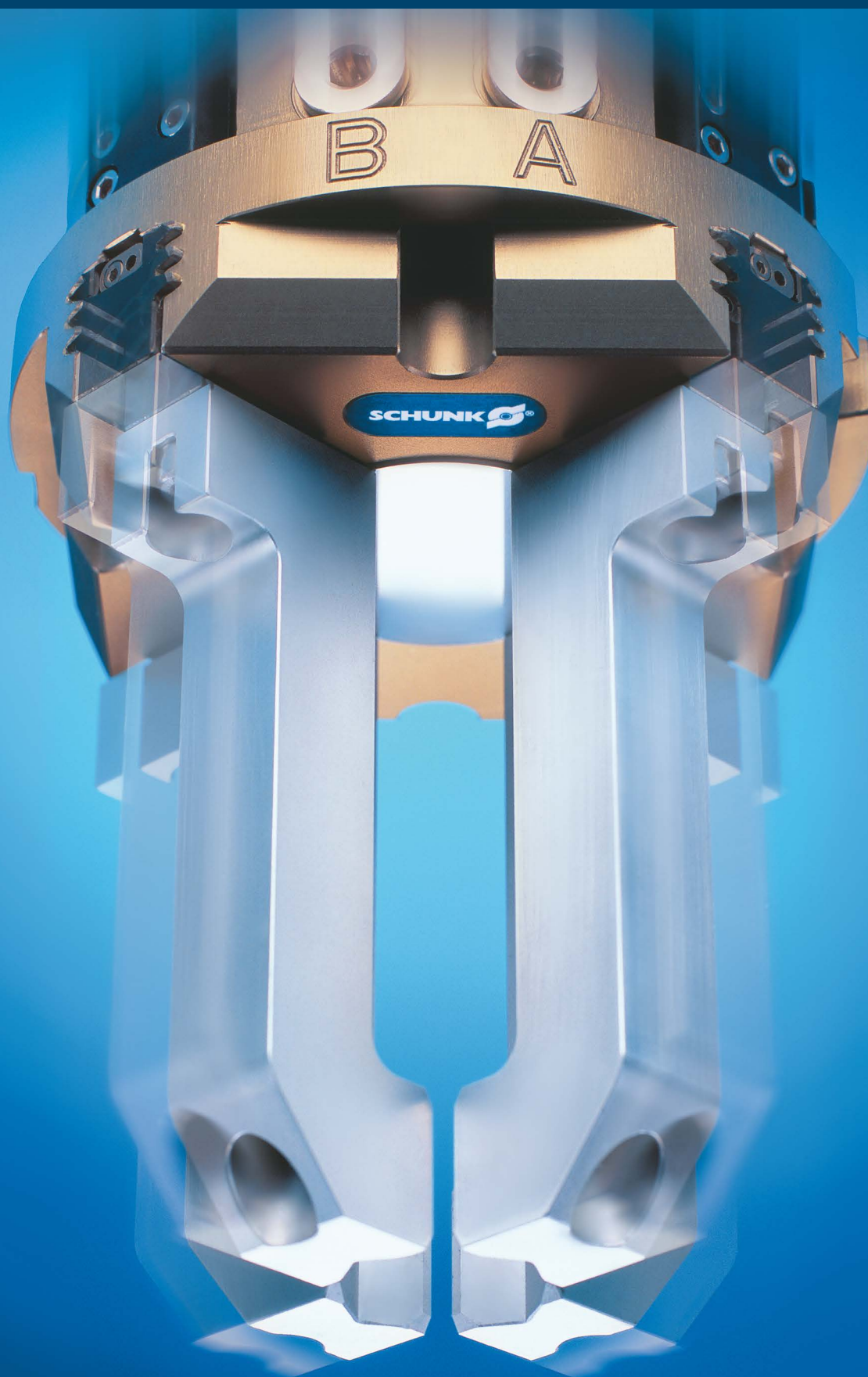
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Pneumatic Gripping Modules

Pneumatic • Multi-Finger Concentric Gripper



MULTI-FINGER CONCENTRIC GRIPPER

Series	Size	Page
Multi-Finger Concentric Gripper		
PZV		840
PZV	64	844
PZV	100	850
PZV	125	858
PZV	160	866
PZV	200	874

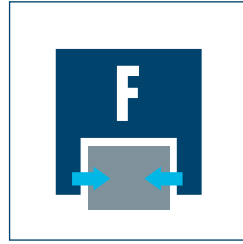




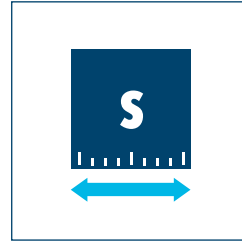
Sizes
64 ... 200



Weight
0.5 kg ... 10 kg



Gripping force
570 N ... 6900 N

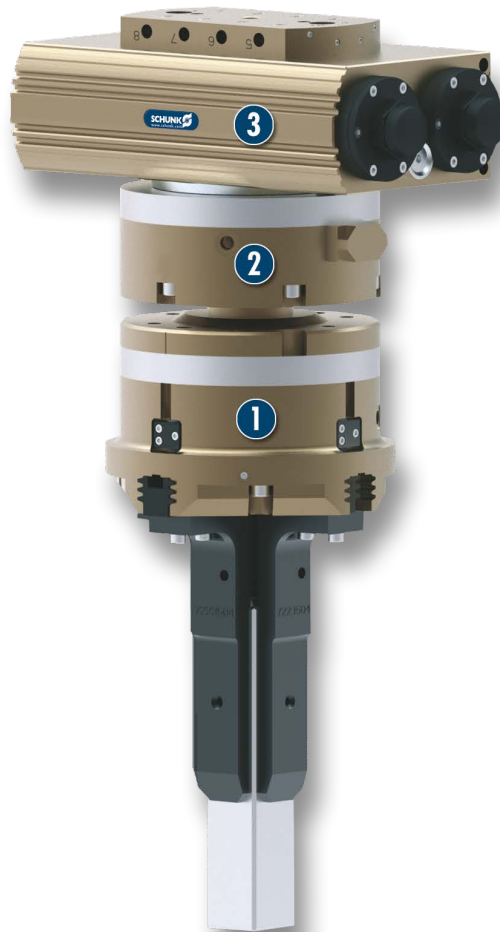


Stroke per finger
4 mm ... 16 mm



Workpiece weight
2.8 kg ... 34.5 kg

Application example



Centering and rotating unit for the precise picking up, orientation and subsequent joining of square materials

- 1 Multi-Finger Gripper PZV
- 2 OPS collision and overload protection device

- 3 Rotary Actuator SRU-plus

4-Finger Concentric Gripper

The multi-finger gripper for applications in which two or three fingers are insufficient.

Field of application

4-finger concentric grippers have advantages over the usual concentric grippers, for example when cylindrical workpieces are being magazined in tablets. The PZV handles the workpieces in a controlled, process reliable manner despite the interfering contours.

Your advantages and benefits

Robust multi-tooth guidance

for precise handling

Wedge-hook design

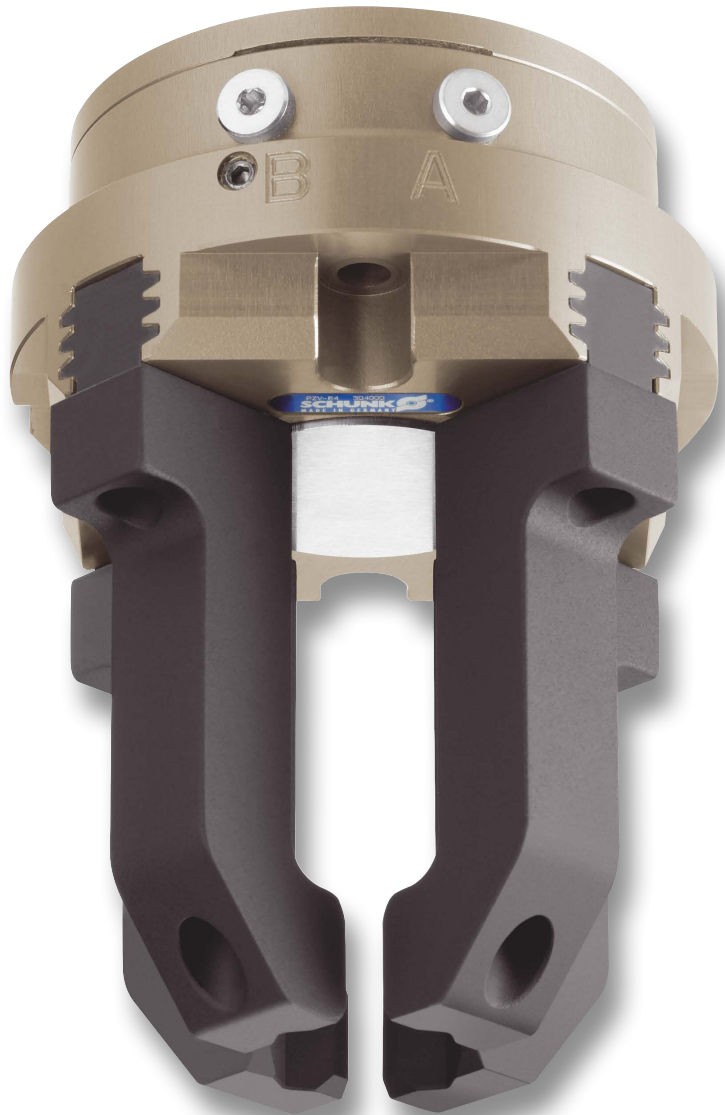
for high power transmission and synchronized gripping

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Comprehensive sensor accessory program

for versatile interrogation possibilities and control of stroke position



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

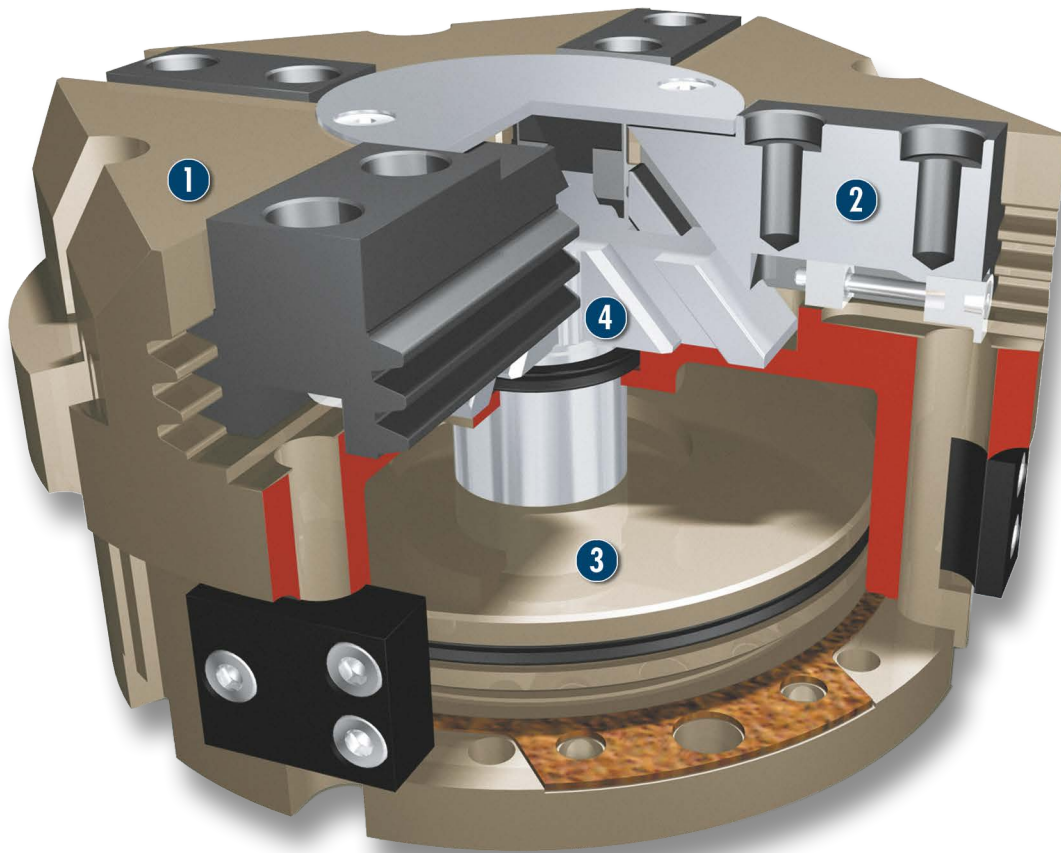
Warranty

36 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Multiple-tooth guidance**
for mounting high loads onto the base jaw
- 3 Drive**
through pneumatic double piston system
- 4 Wedge-hook design**
for high power transmission and centric gripping

Functional description

The piston is moved up and down by compressed air. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

Intermediate sizes are available on request. Please note that the four-finger grip is an umbrella term, and may constitute a two or three-finger grip in certain cases.

Pressure reduction by using two fingers

If the PZV is used as a double 2-finger parallel gripper (gripping with only 2 of the 4 fingers), in sizes PZV 160 and PZV 200 the pressure must be reduced to max. 5 bar.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



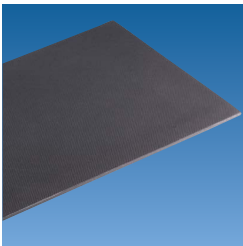
Inductive proximity switches



Quick-change Jaw System



Gripper pads



Pressure maintenance valve



Finger blanks



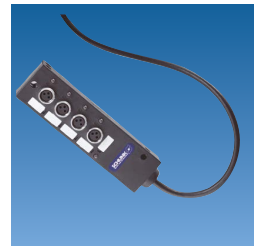
Force measuring jaws



Sensor cables



Sensor Distributor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

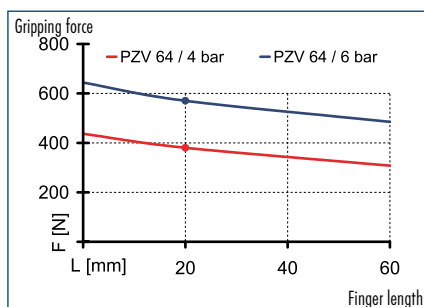
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

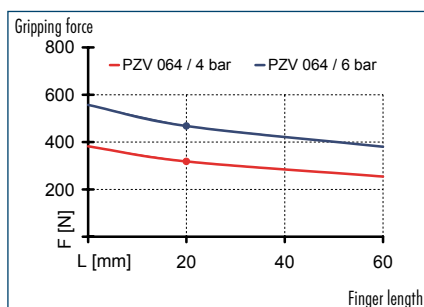
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



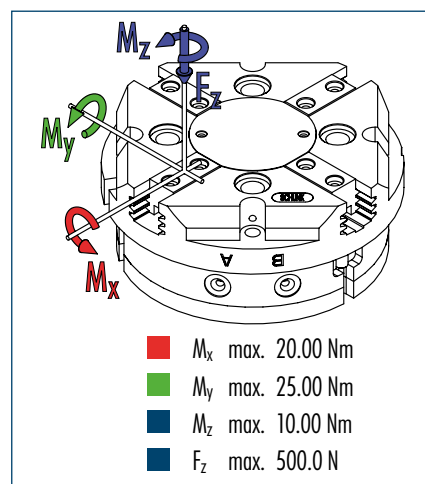
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZV 64
ID		0304000
Stroke per finger	[mm]	4
Closing force	[N]	570
Opening force	[N]	630
Weight	[kg]	0.5
Recommended workpiece weight	[kg]	2.8
Air consumption per double stroke	[cm ³]	25
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.02/0.02
Max. permitted finger length	[mm]	64
Max. permitted weight per finger	[kg]	0.18
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01

Technical drawing of a mechanical component, showing multiple views: front, top, side, and cross-sections. The drawing includes dimensions in millimeters and degrees, as well as material specifications like MMS 22 and M5. Key features include a central hole, a circular base, and a flange with mounting holes. The drawing is labeled with 'A', 'B', 'S', and 'P' to indicate specific features or sections.

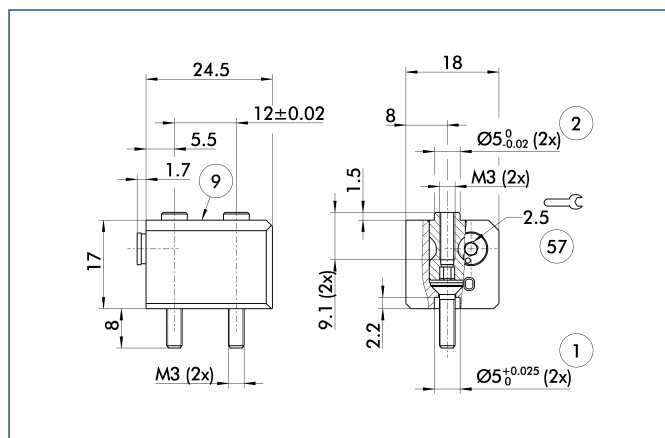
② Finger connection
⑧⑩ Depth of the centering sleeve hole in the matching part

Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:

- Callout 3:** Points to the outer boundary of the part.
- Callout 4:** Points to the inner boundary of the part.
- Dimensions:**
 - $\varnothing 7$: Outer diameter.
 - $\varnothing 4$: Inner diameter.
 - $M 4$: Thread specification for the inner hole.
 - 1.1 : Radial distance from the centerline to the inner hole.
 - $\varnothing 4 \times 1.5$: Dimension for the inner hole, possibly indicating a diameter of 4 mm and a length of 1.5 mm.

- 845

Quick-change Jaw System



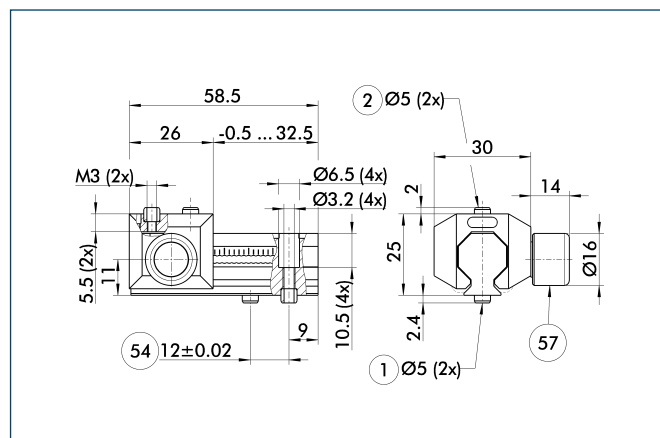
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 50	0303020
Quick-change Jaw System base	
BSWS-B 50	0303021
Quick-change Jaw System reversed	
BSWS-U 50	0303040

Universal intermediate jaw



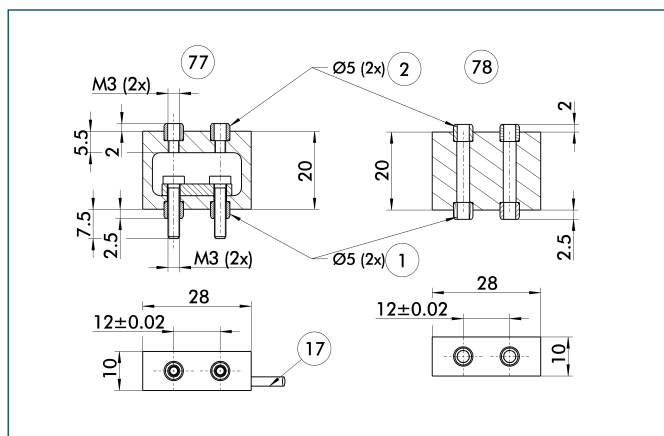
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 50	0300041	1.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

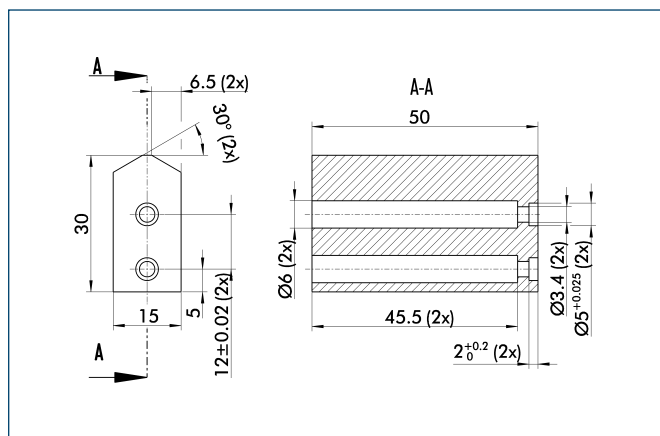


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 50	0301830
Passive intermediate jaws	
FMS-ZBP 50	0301831
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

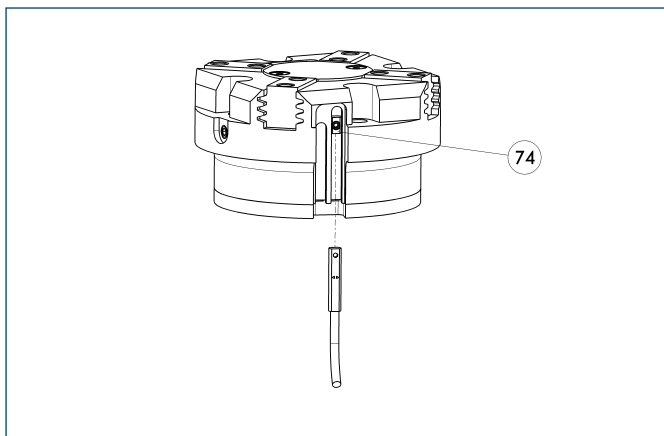
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 50	0300009	Aluminum	1
SBR-plus 50	0300019	16 MnCr 5	1

Programmable magnetic switch



74 Stop for MMS-P

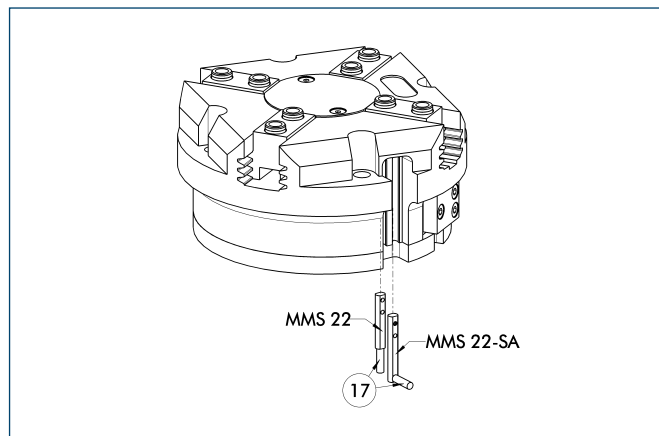
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches

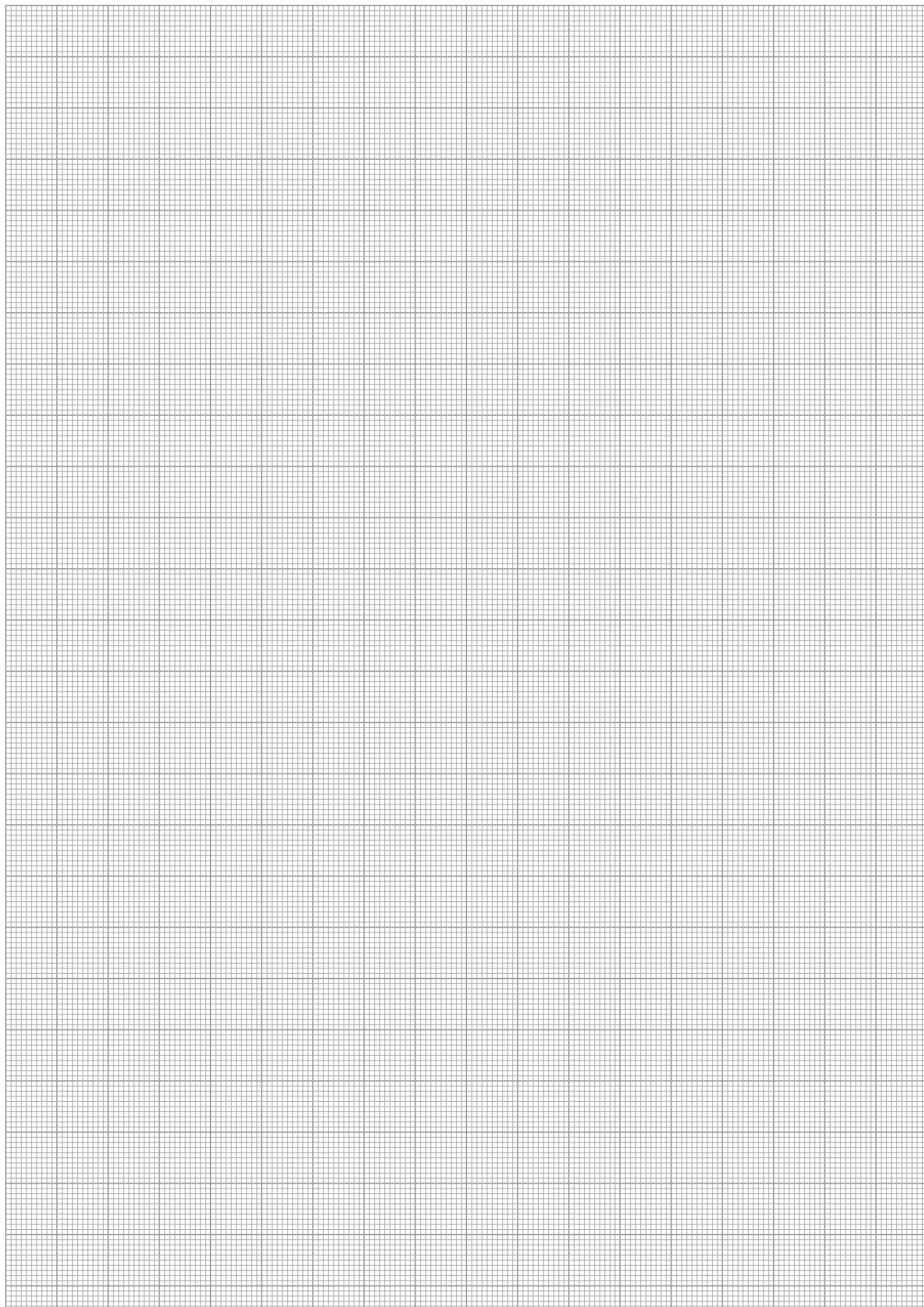


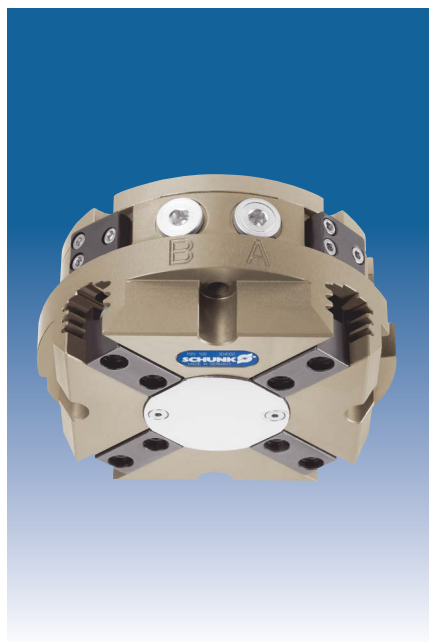
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

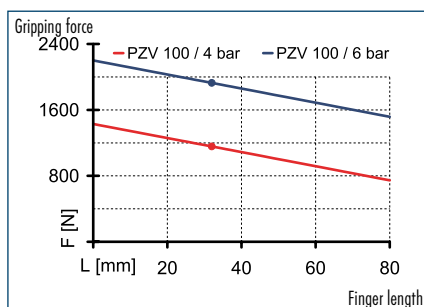
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

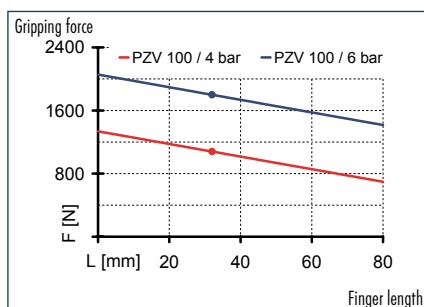




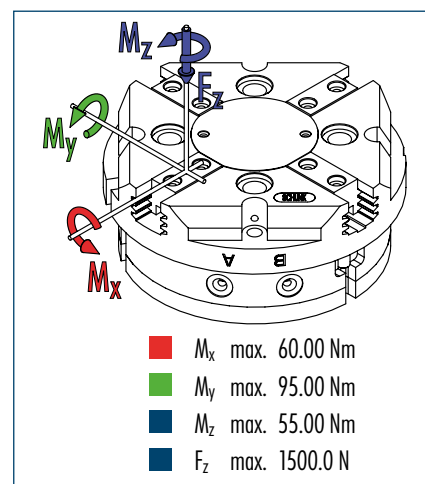
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

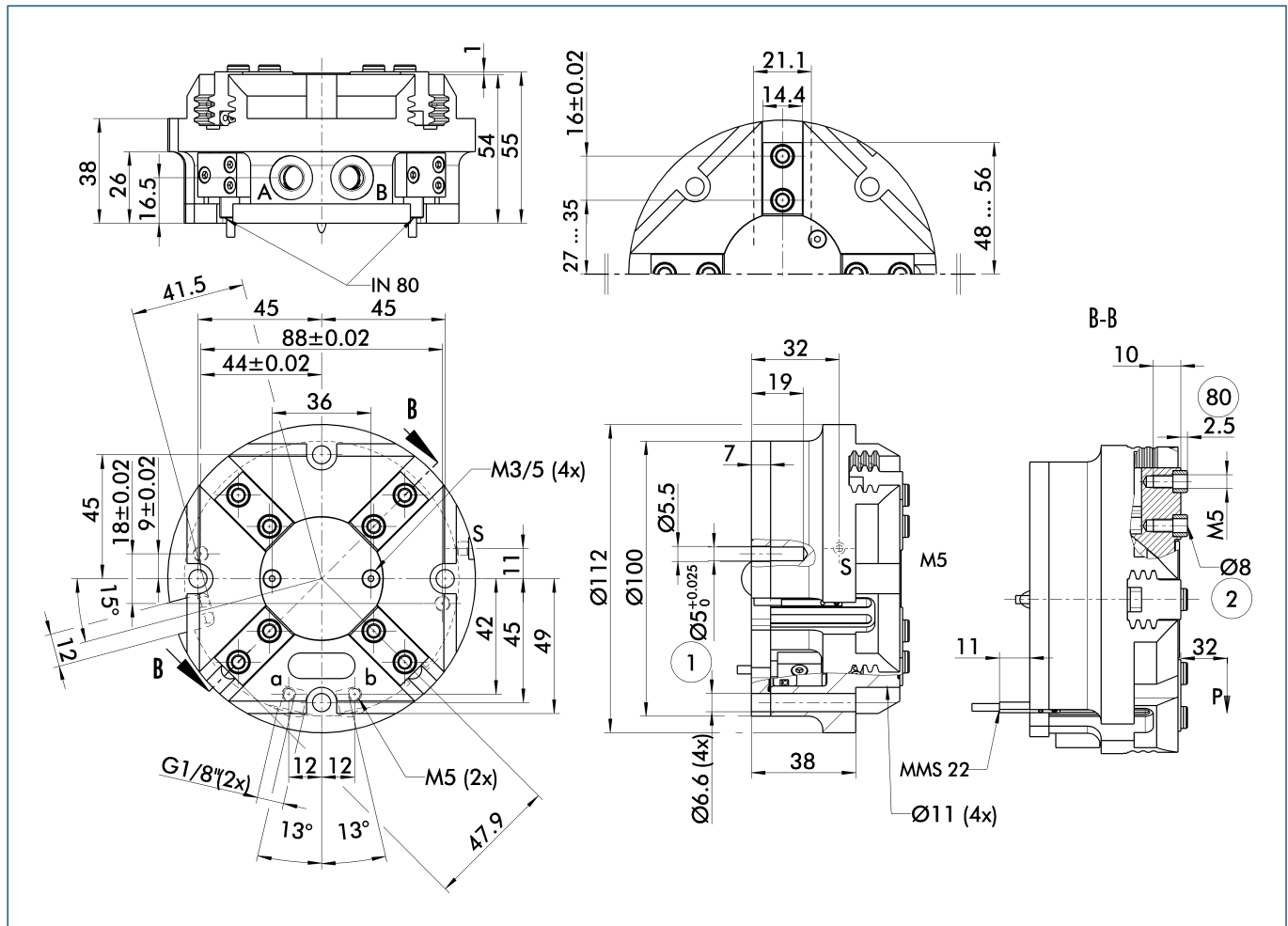


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZV 100
ID		0304002
Stroke per finger	[mm]	8
Closing force	[N]	1800
Opening force	[N]	1900
Weight	[kg]	1.6
Recommended workpiece weight	[kg]	9
Air consumption per double stroke	[cm ³]	120
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.04/0.04
Max. permitted finger length	[mm]	80
Max. permitted weight per finger	[kg]	0.6
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01

Main view



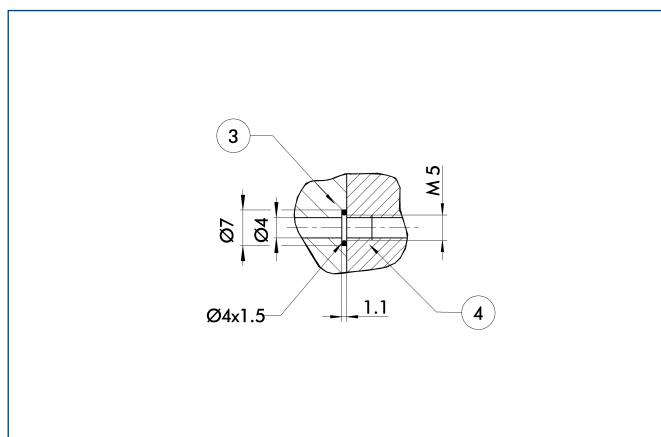
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 S Air purge connection
 ① Gripper connection

② Finger connection
 ⑧ Depth of the centering sleeve hole in the matching part

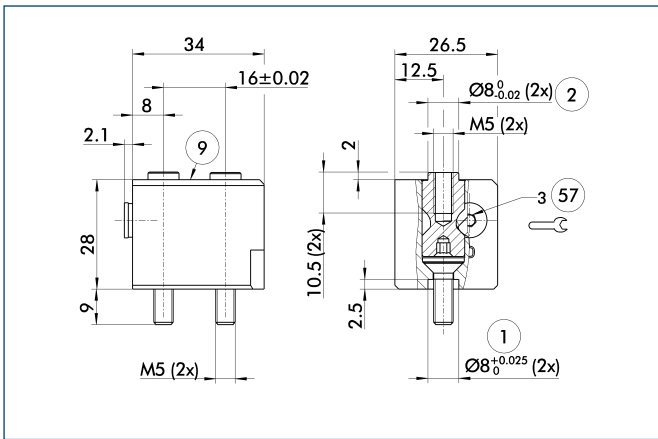
Hose-free direct connection



③ Adapter
 ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Quick-change Jaw System



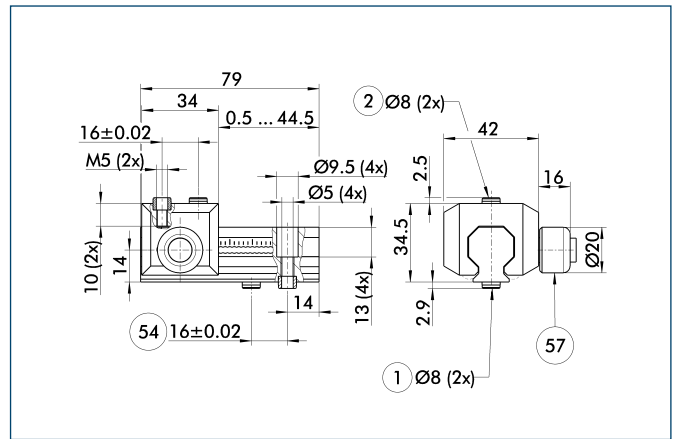
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025
Quick-change Jaw System reversed	
BSWS-U 80	0303042

Universal intermediate jaw



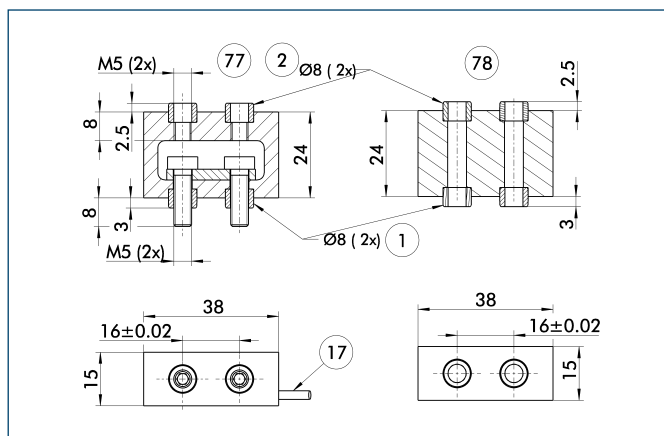
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 80	0300043	2 mm
UZH-S 80	5518271	2 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

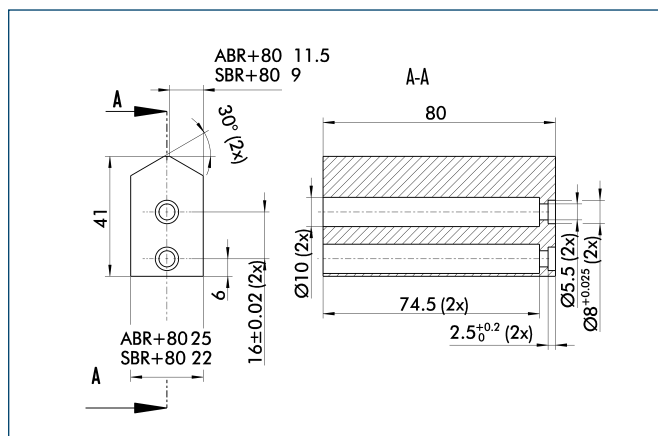


- | | |
|----------------------|------------------------------|
| ① Gripper connection | ⑦⑦ Active intermediate jaws |
| ② Finger connection | ⑦⑧ Passive intermediate jaws |
| ①⑦ Cable outlet | |

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks

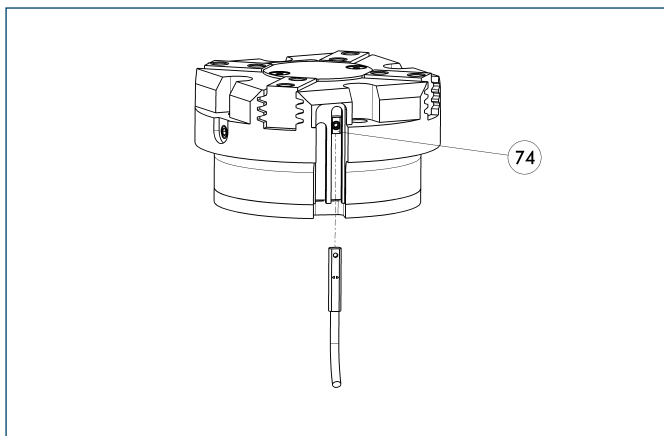


Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1



Programmable magnetic switch



74 Stop for MMS-P

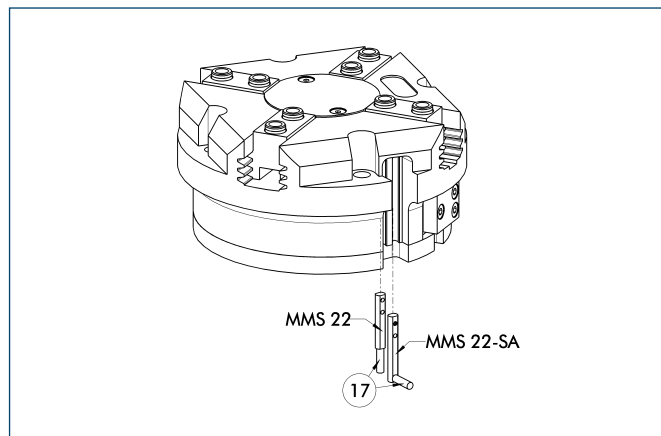
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



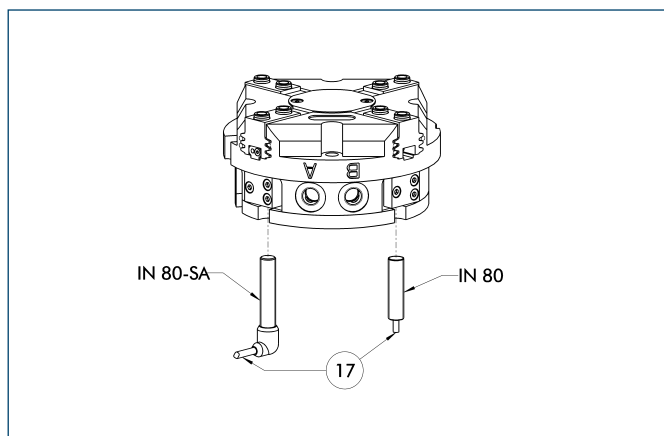
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

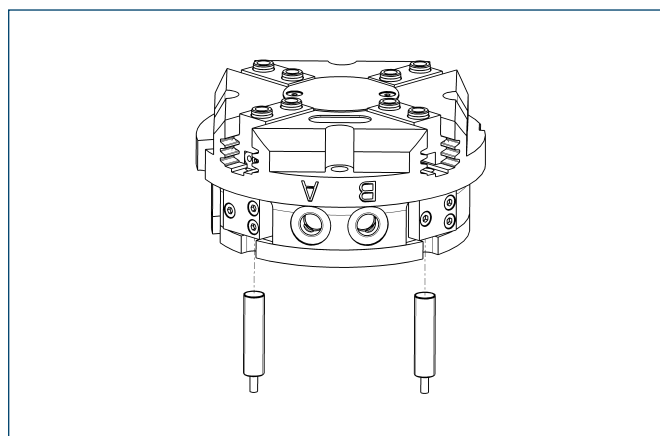
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
Reed Switches	
RMS 80-S-M8	0377721

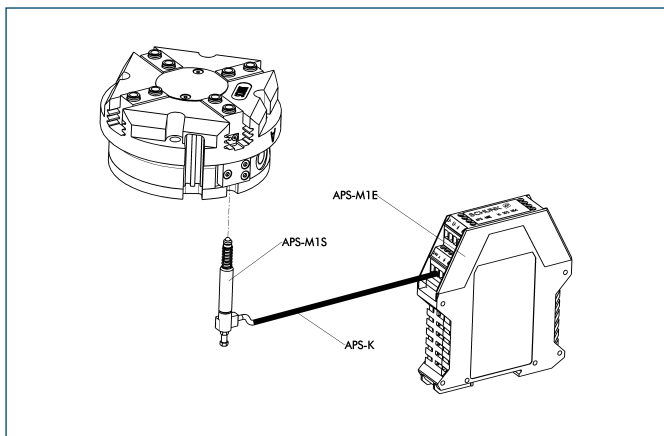
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Analog position sensor

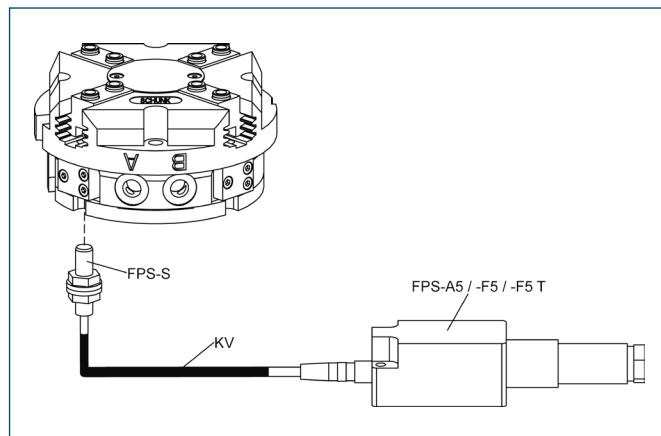


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-80/1	0302077
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

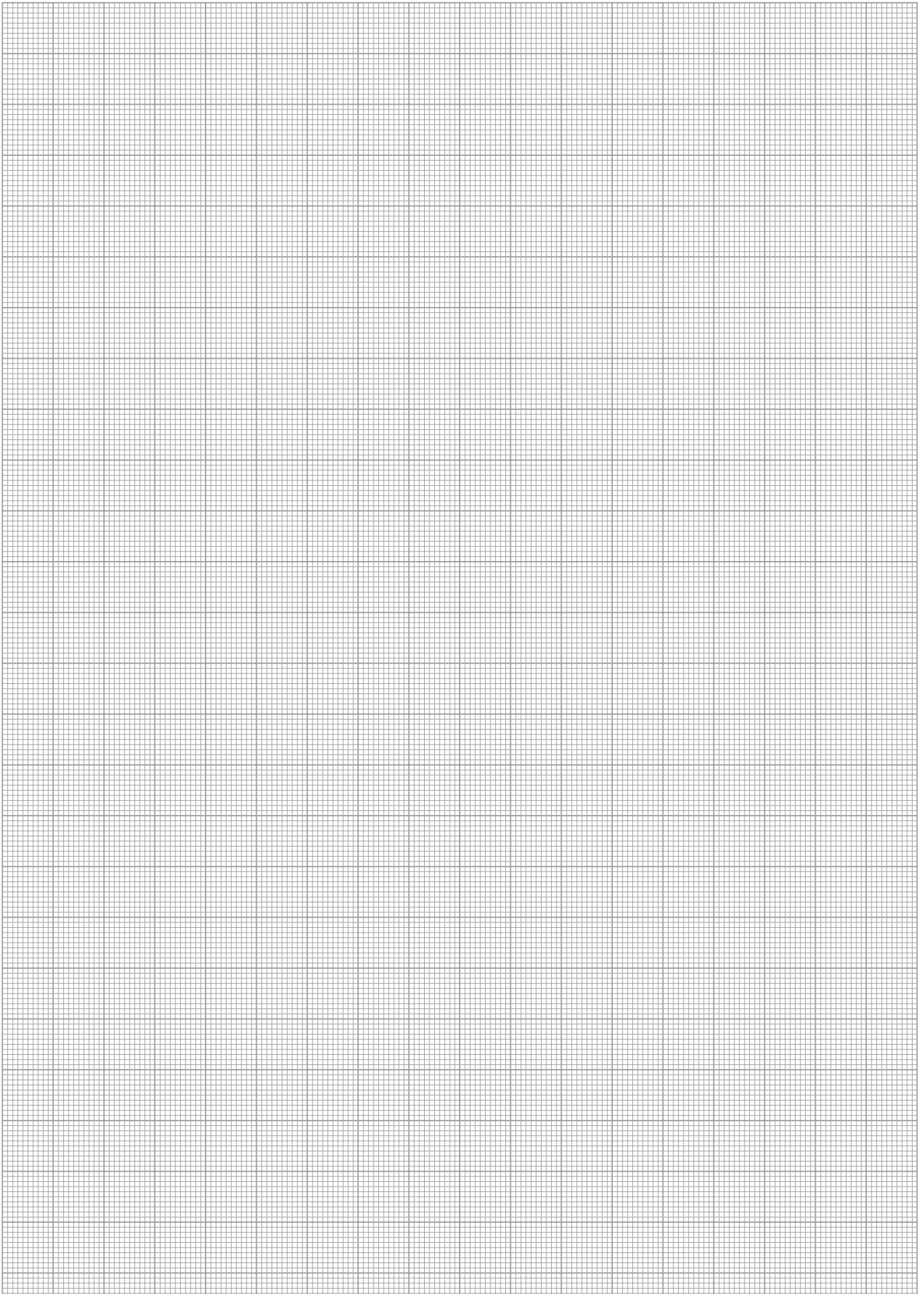
Flexible Position Sensor

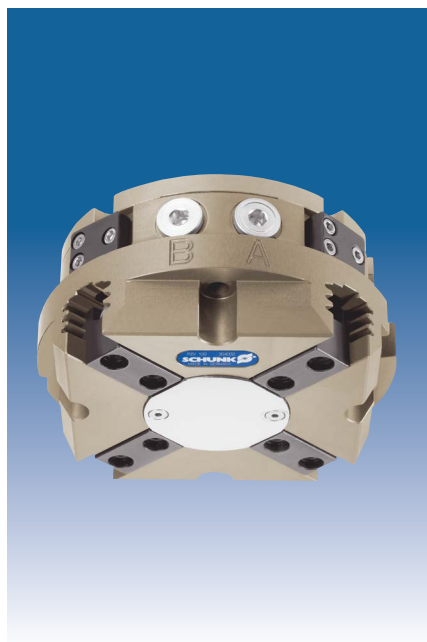


Flexible position monitoring of up to five positions

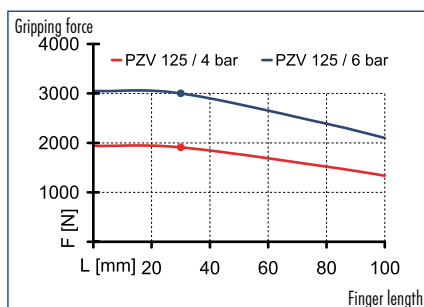
Description	ID
Mounting kit for FPS	
AS-PGN-plus/PZN-plus 80/1, PZB 80/100	0301632
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

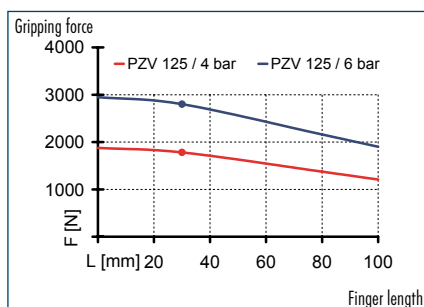




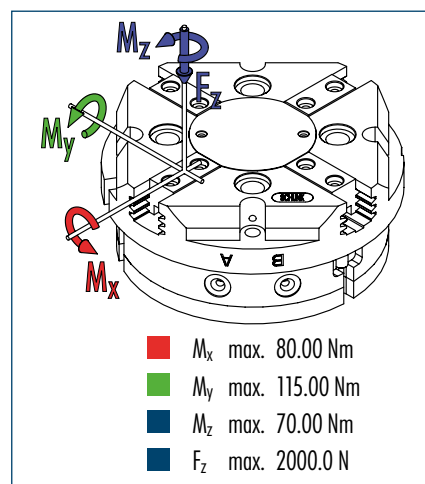
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

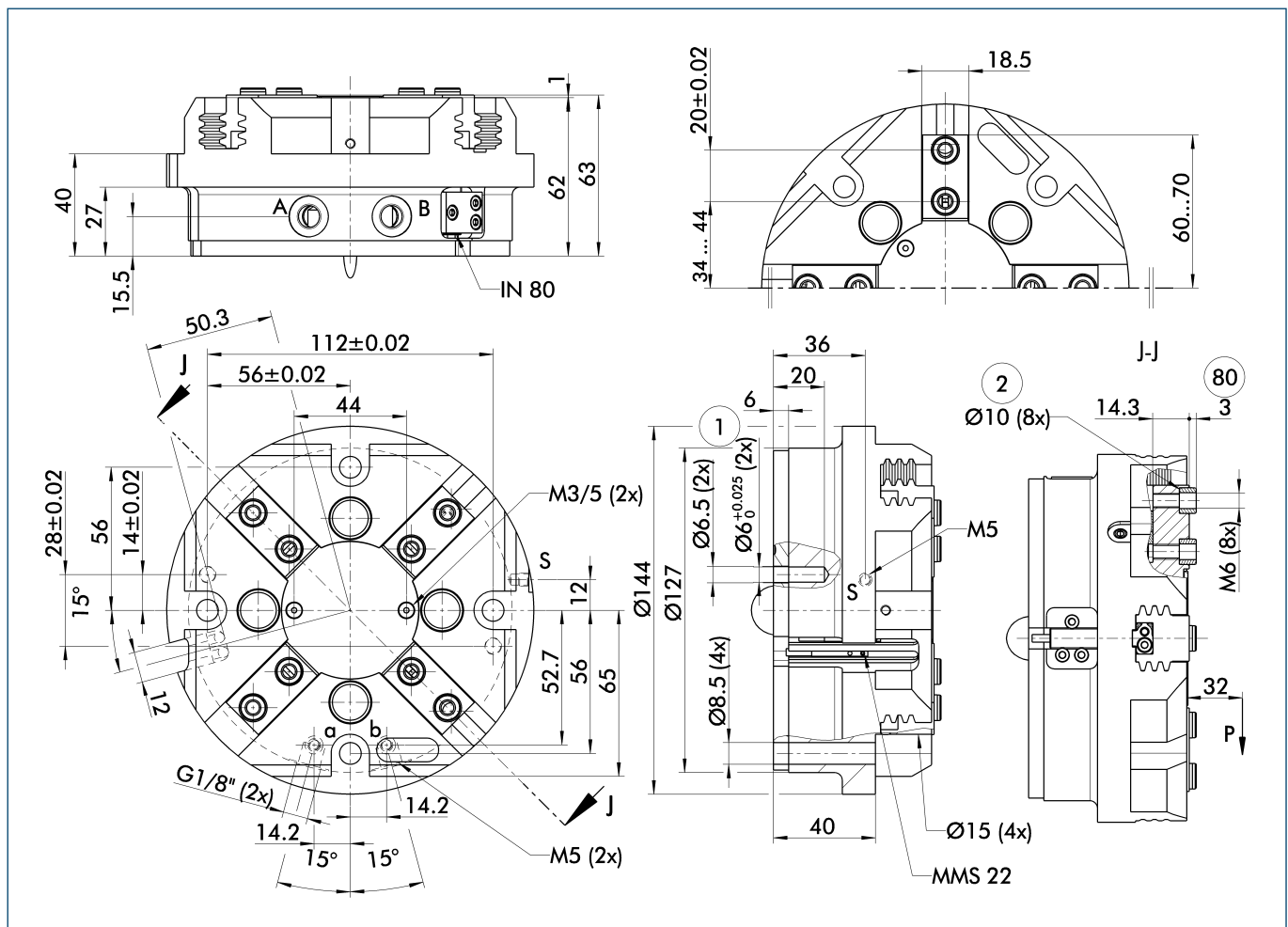


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZV 125
ID		0304003
Stroke per finger	[mm]	10
Closing force	[N]	3000
Opening force	[N]	3230
Weight	[kg]	2.3
Recommended workpiece weight	[kg]	15
Air consumption per double stroke	[cm ³]	230
Min./max. operating pressure	[bar]	2/8
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.1/0.1
Max. permitted finger length	[mm]	100
Max. permitted weight per finger	[kg]	1.1
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01

Main view

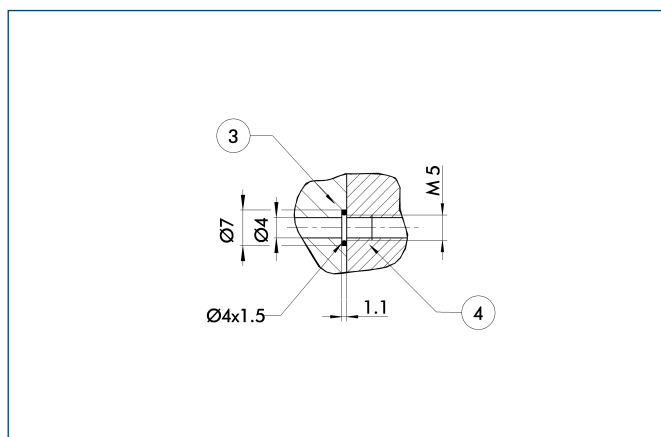


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

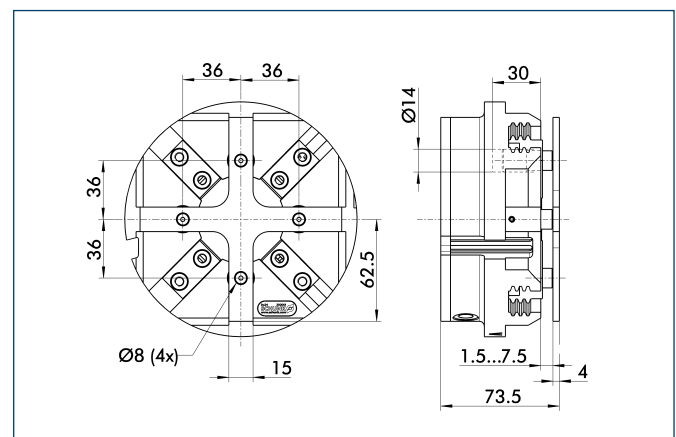
Hose-free direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

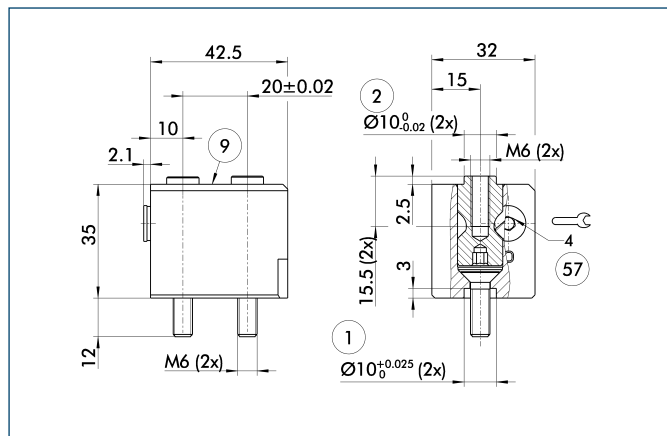
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PTV 125	0304013	6 mm	173 N

Quick-change Jaw System



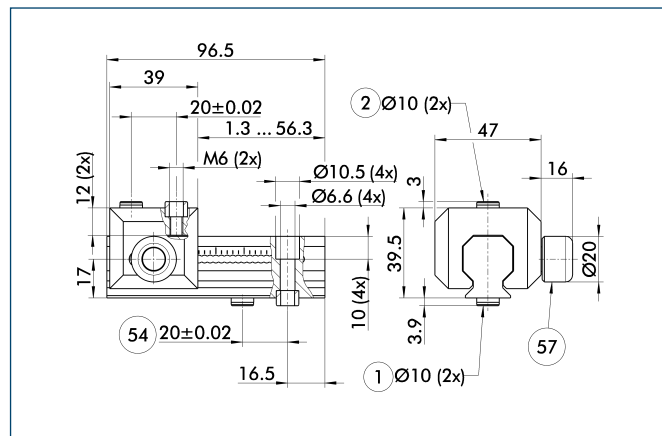
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027
Quick-change Jaw System reversed	
BSWS-U 100	0303043

Universal intermediate jaw



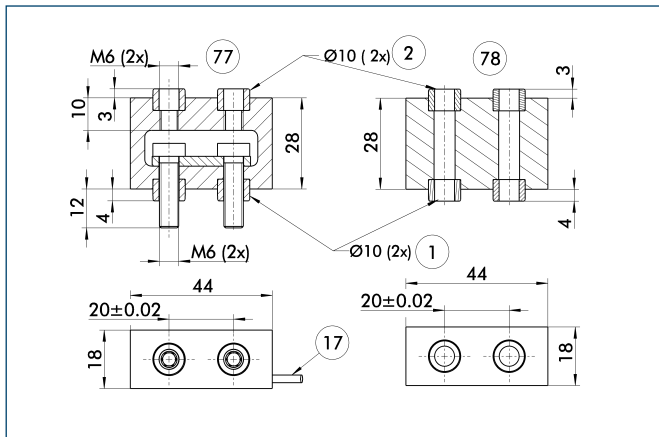
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	0300044	2.5 mm
UZB-S 100	5518272	2.5 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

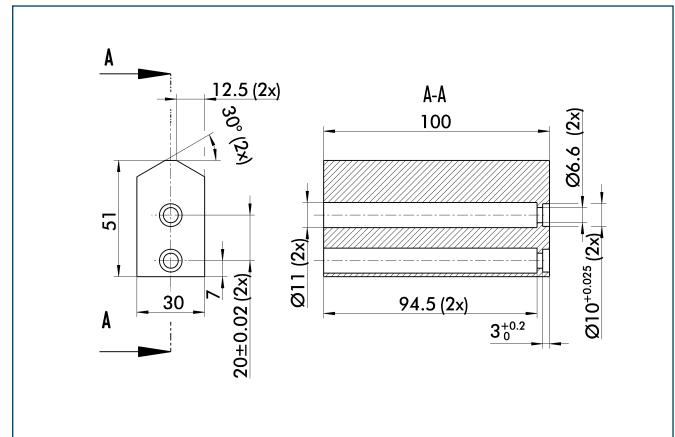


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

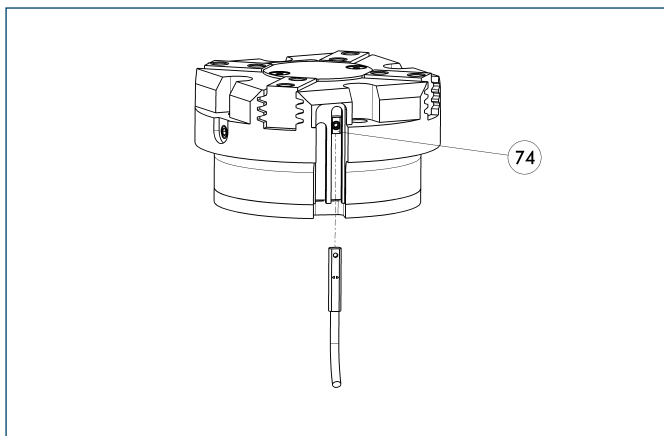
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1

Programmable magnetic switch



74 Stop for MMS-P

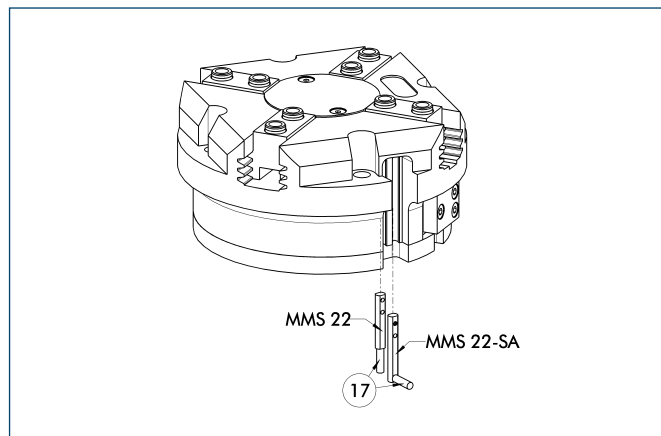
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



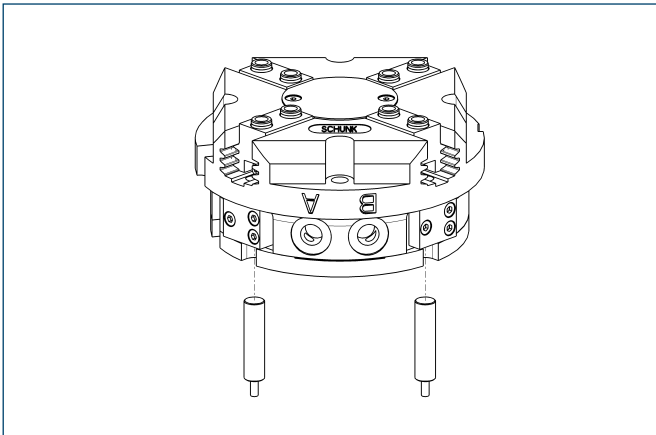
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches

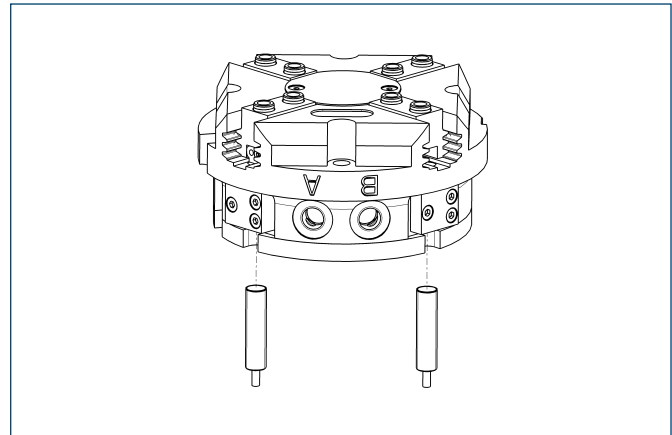


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

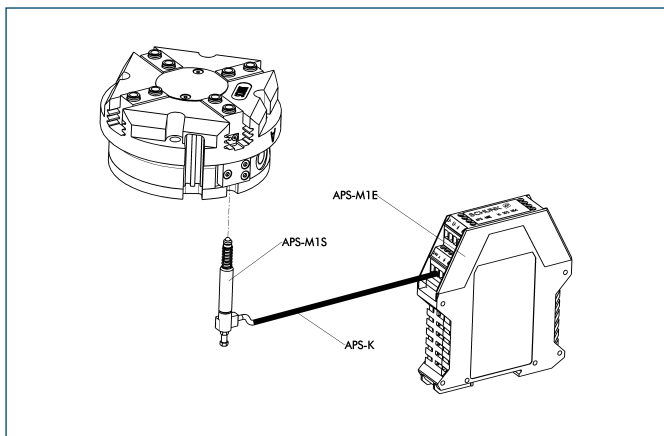
Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377726
PGN/PZN-plus 100/125	
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Analog position sensor

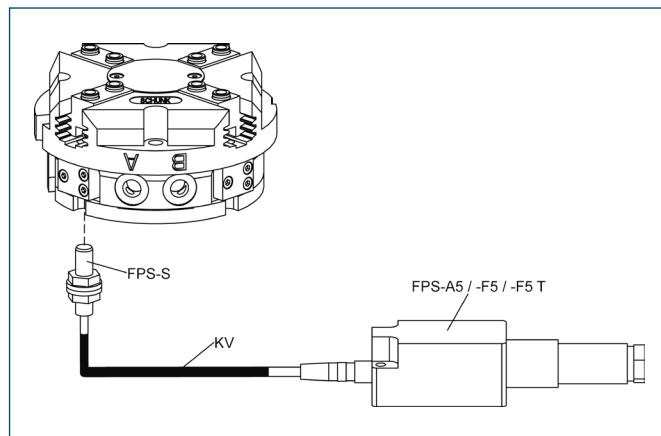


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-100/1	0302079
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

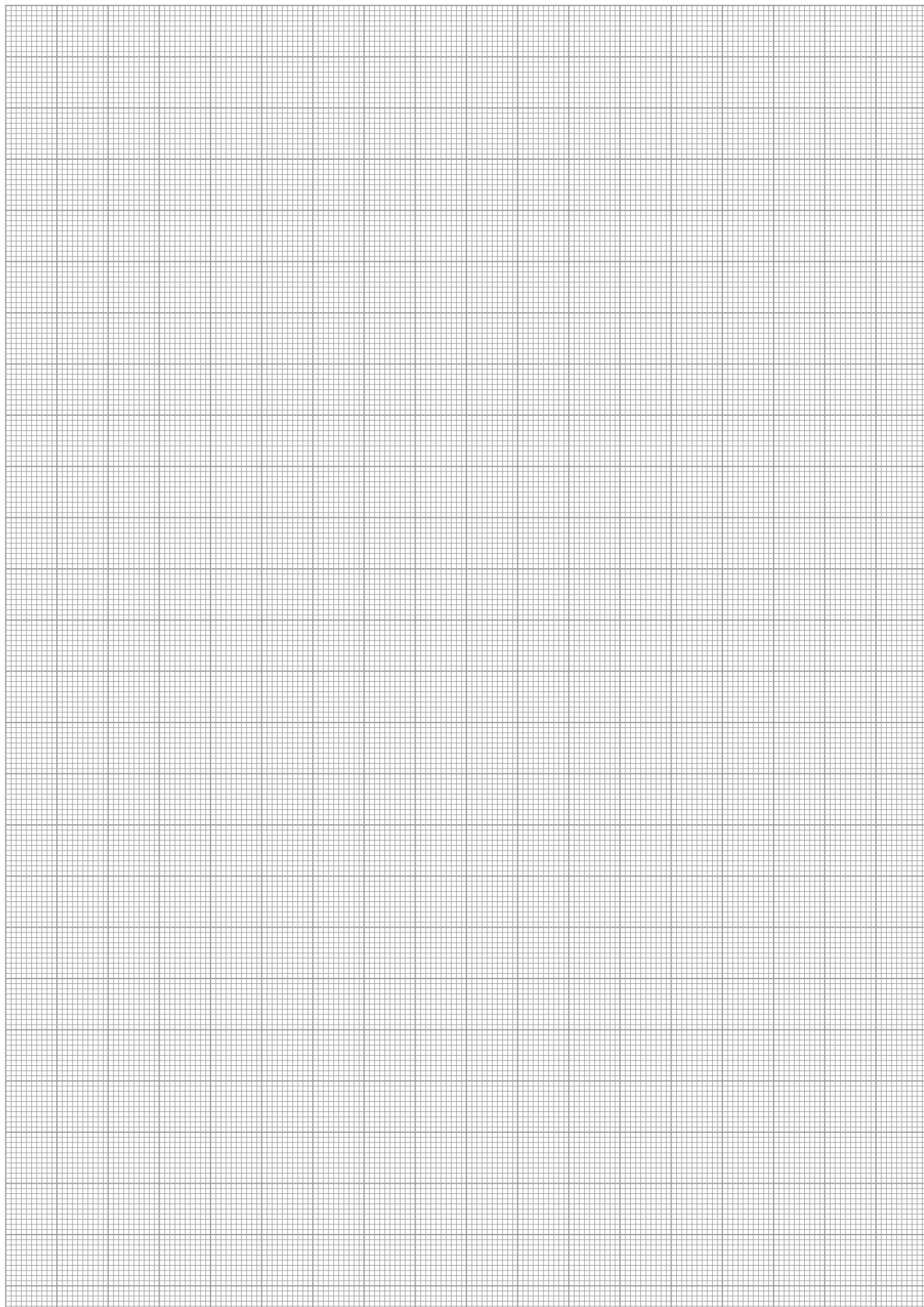
Flexible Position Sensor



Flexible position monitoring of up to five positions

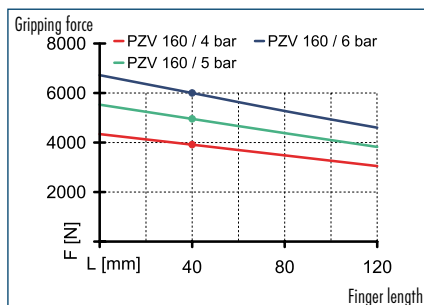
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 100/1	0301634
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

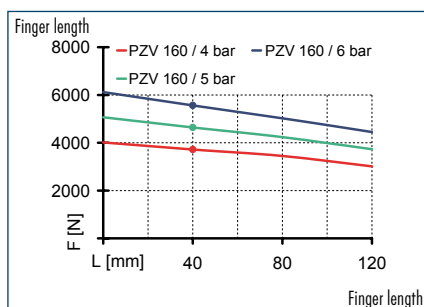




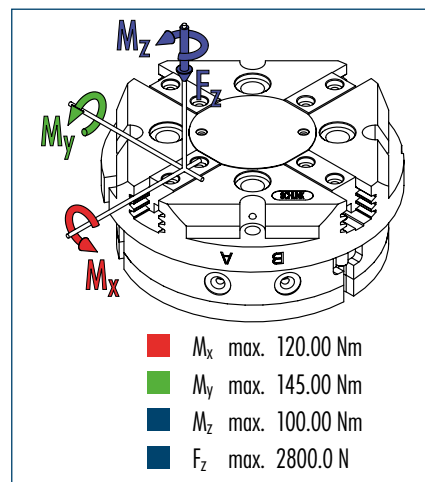
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

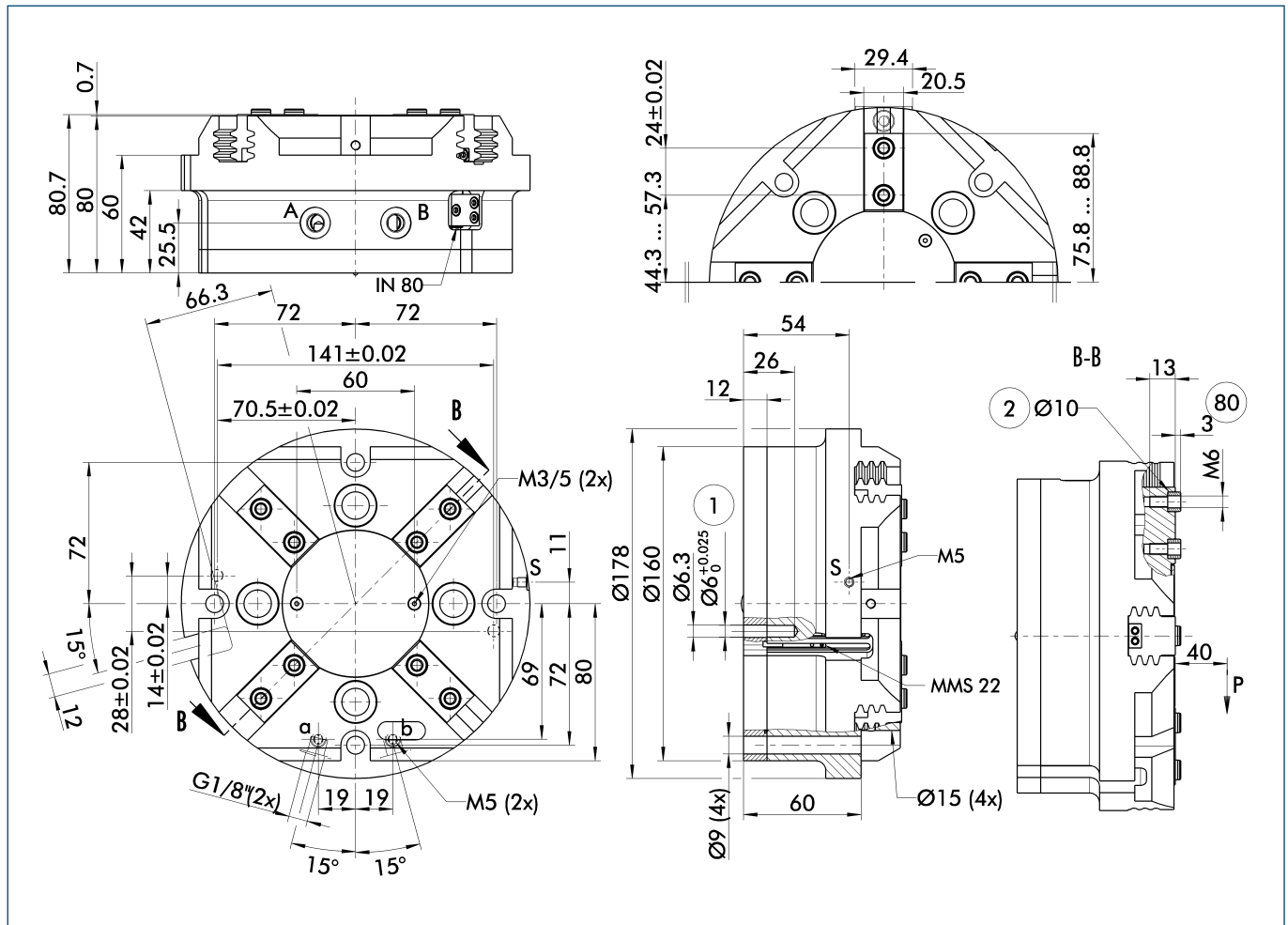


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZV 160
ID		0304004
Stroke per finger	[mm]	13
Closing force	[N]	5200
Opening force	[N]	5600
Weight	[kg]	5.5
Recommended workpiece weight	[kg]	26
Air consumption per double stroke	[cm ³]	520
Min./max. operating pressure	[bar]	2/6
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.1/0.1
Max. permitted finger length	[mm]	120
Max. permitted weight per finger	[kg]	2.1
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.01

Main view

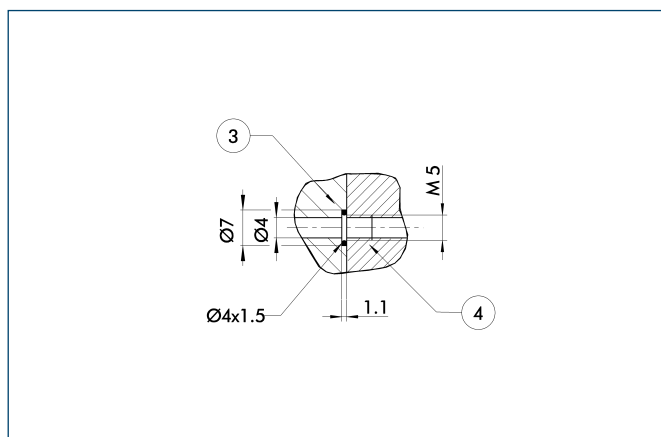


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

- | | |
|--|--|
| A, a Main/direct connection, gripper opening | ② Finger connection |
| B, b Main/direct connection, gripper closing | ⑧⑩ Depth of the centering sleeve hole in the matching part |
| S Air purge connection | |
| ① Gripper connection | |

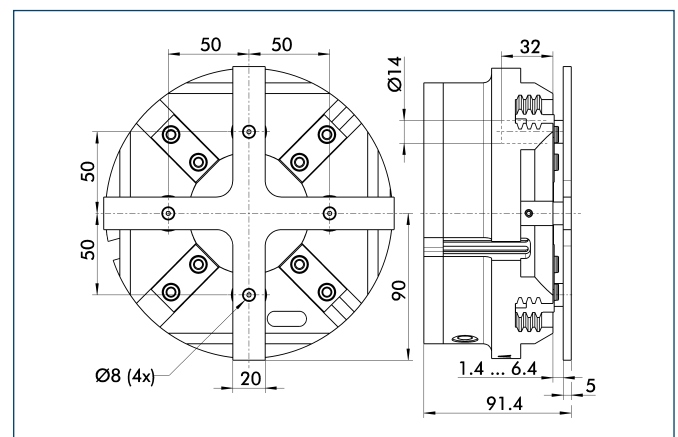
Hose-free direct connection



- 3 Adapter
- 4 Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

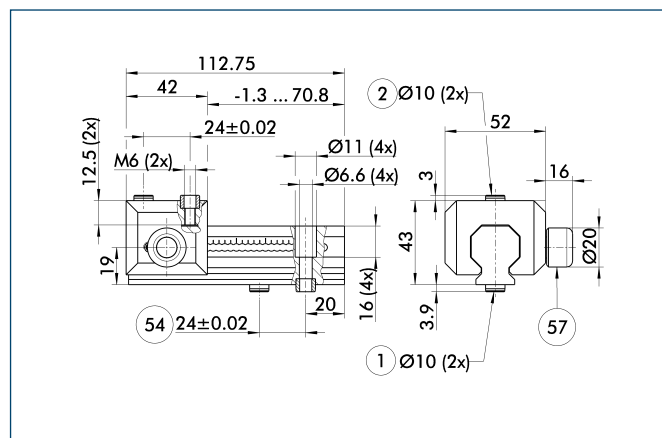
Spring-loaded pressure piece



For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PTV 160	0304014	5 mm	272 N

Universal intermediate jaw



- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤④ Optional right or left connection |
| ② Finger connection | ⑤⑦ Locking |

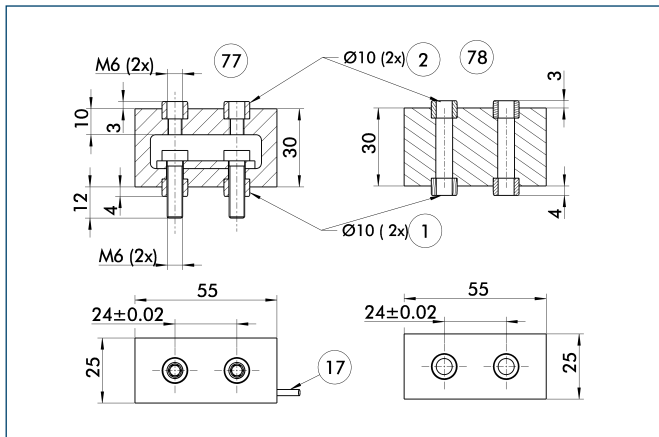
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID	Grid dimension
Universal intermediate jaw		
UZF 125	0300045	3 mm
UZF-S 125	5518273	3 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

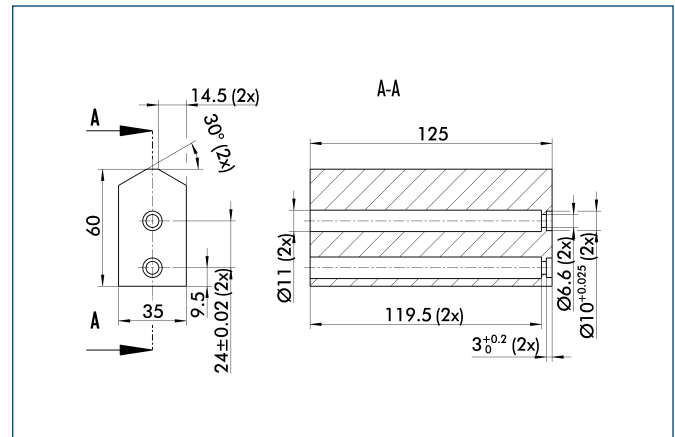


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 125	0301838
Passive intermediate jaws	
FMS-ZBP 125	0301839
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



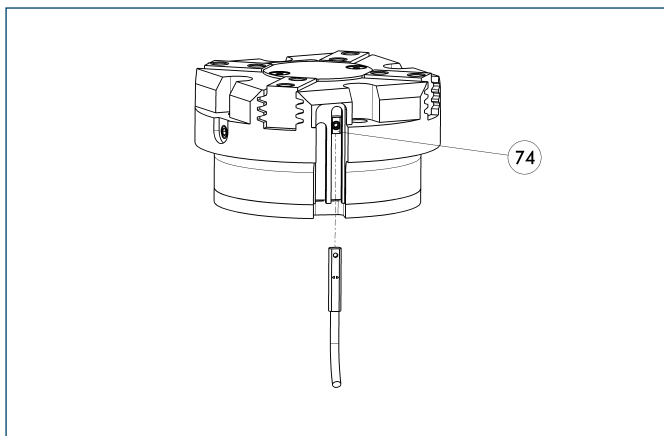
Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 125	0300013	Aluminum	1
SBR-plus 125	0300023	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Programmable magnetic switch



74 Stop for MMS-P

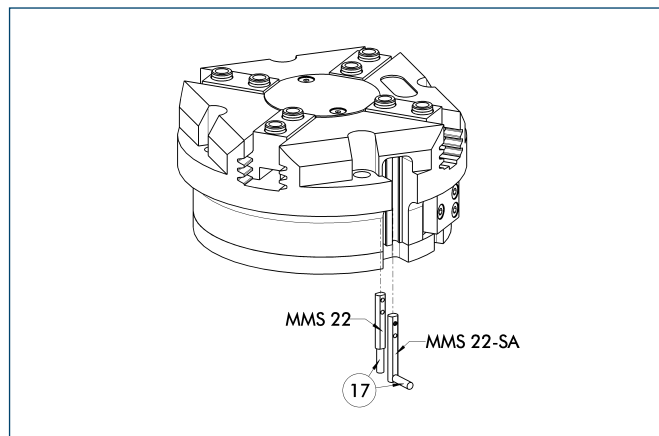
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



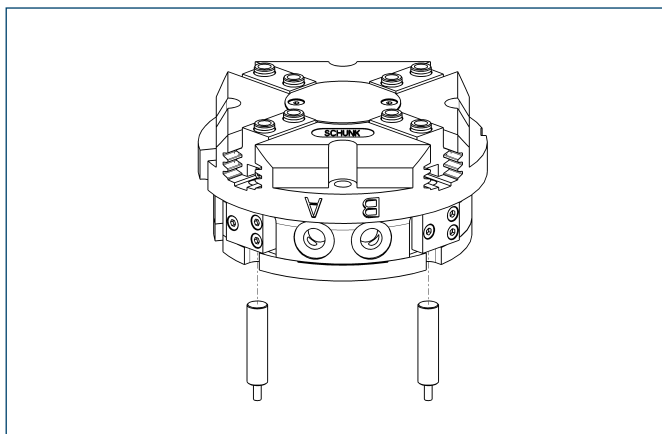
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches

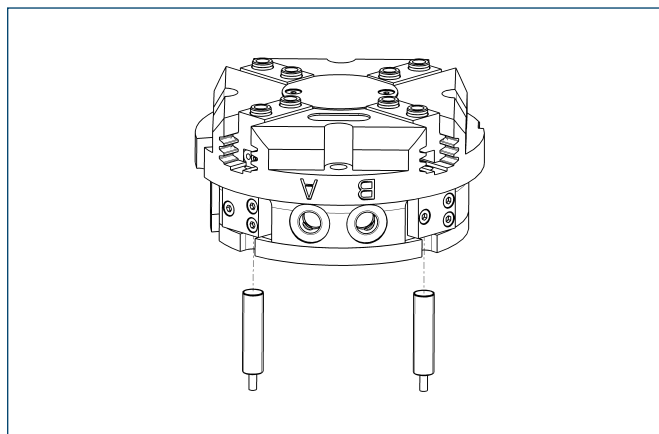


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

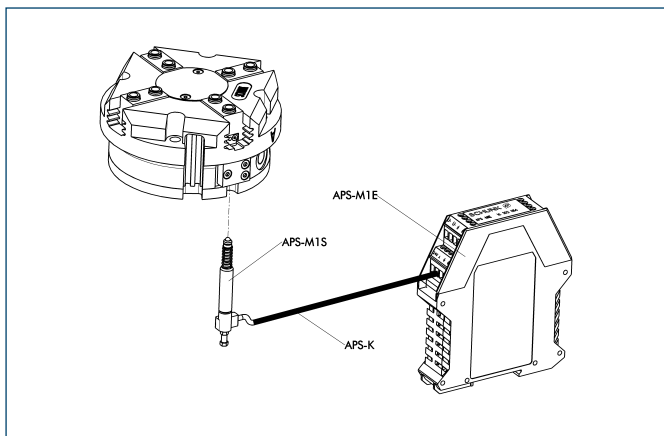
Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377726
PGN/PZN-plus 100/125	
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Analog position sensor

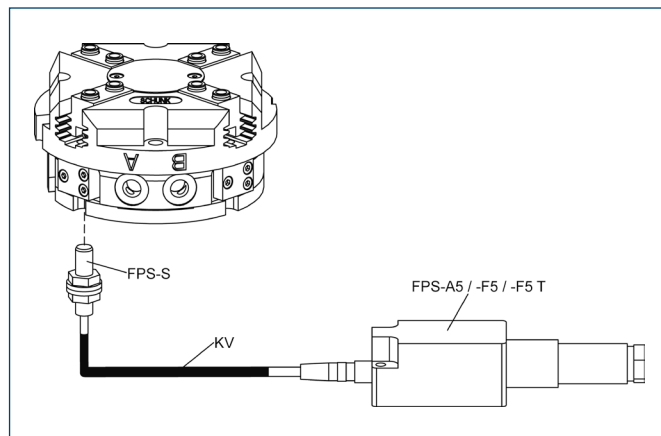


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-125/1	0302081
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

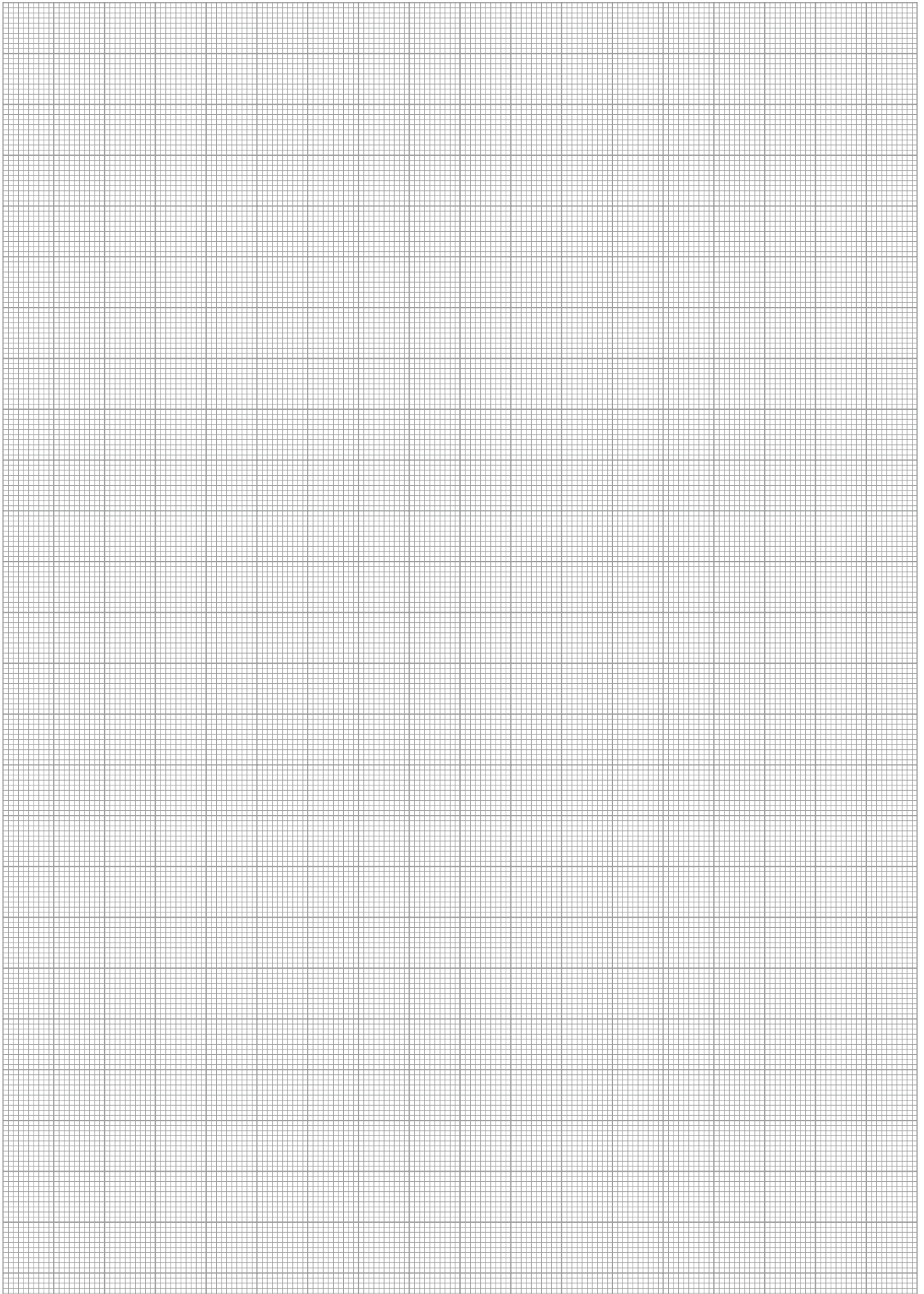
Flexible Position Sensor



Flexible position monitoring of up to five positions

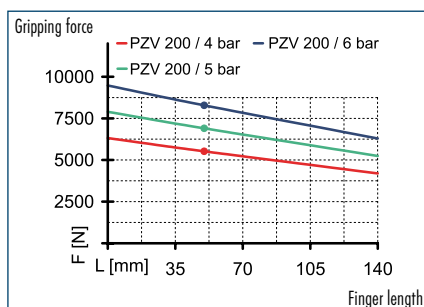
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 125/1, PZB 160	0301636
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

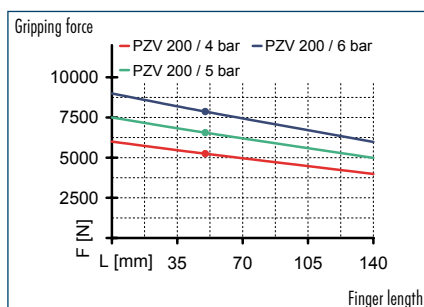




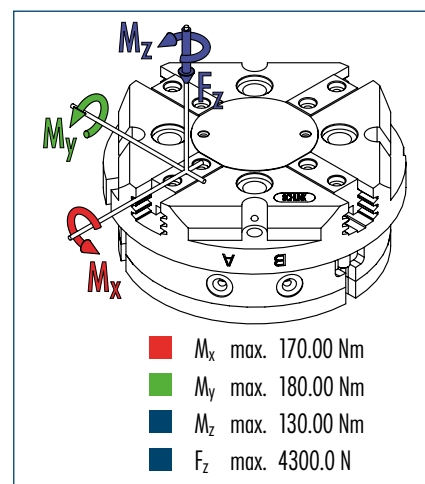
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

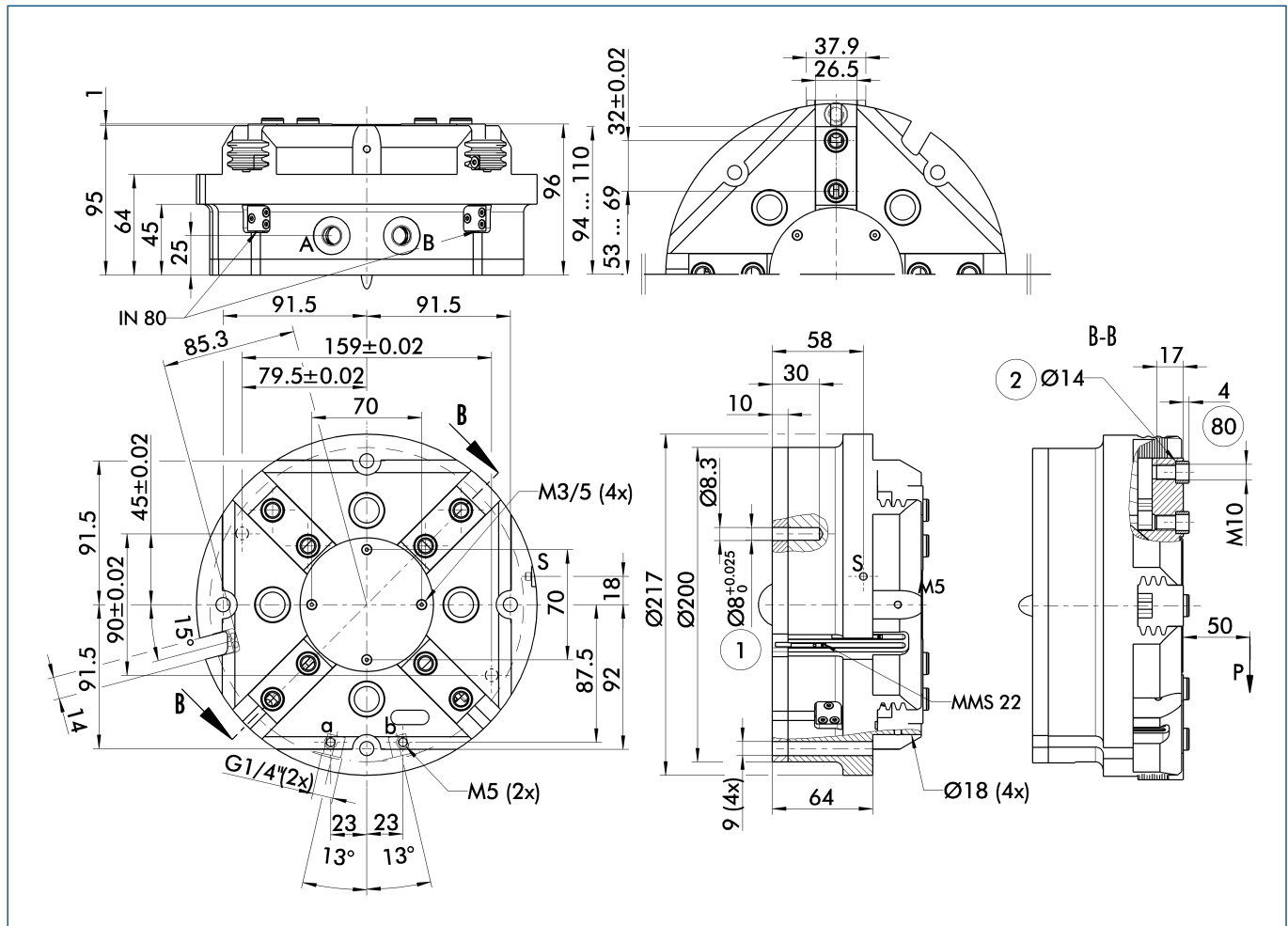


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PZV 200
ID		0304005
Stroke per finger	[mm]	16
Closing force	[N]	6900
Opening force	[N]	7300
Weight	[kg]	10
Recommended workpiece weight	[kg]	34.5
Air consumption per double stroke	[cm ³]	1040
Min./max. operating pressure	[bar]	2/6
Nominal operating pressure	[bar]	6
Closing/opening time	[s]	0.15/0.15
Max. permitted finger length	[mm]	140
Max. permitted weight per finger	[kg]	3.5
IP class		40
Min./max. ambient temperature	[°C]	-10/90
Repeat accuracy	[mm]	0.02

Main view



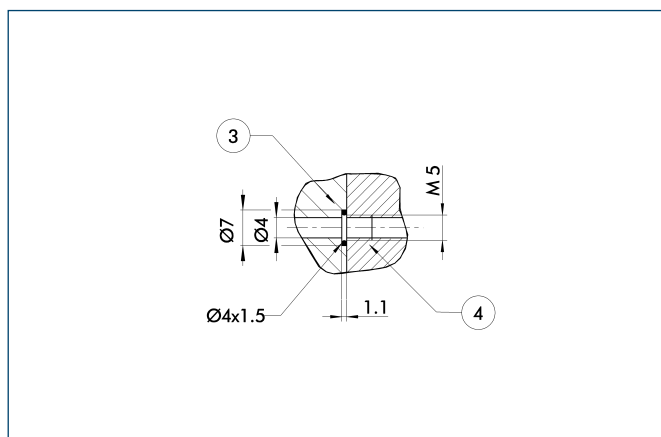
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
S Air purge connection
① Gripper connection

② Finger connection
⑧ Depth of the centering sleeve hole in the matching part

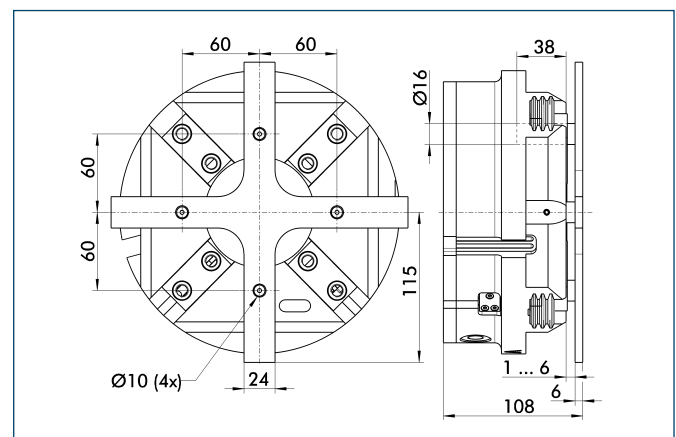
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Spring-loaded pressure piece



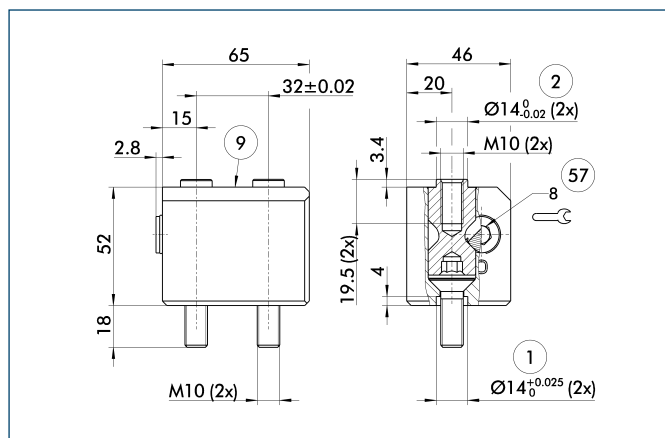
For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

Description	ID	Stroke	Min. force
Spring-loaded pressure piece			
A-PZV 200	0304015	5 mm	328 N



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Quick-change Jaw System



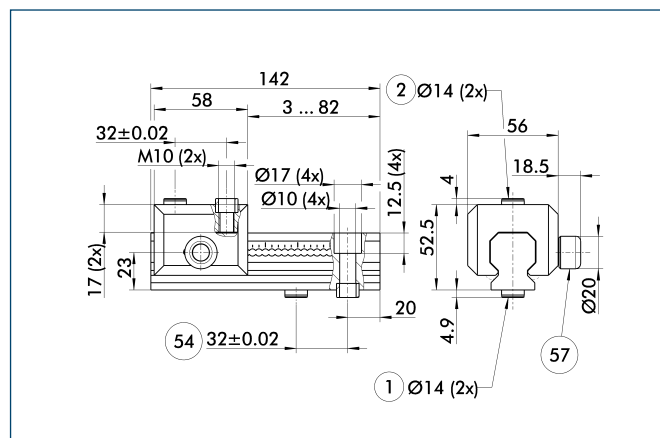
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031
Quick-change Jaw System reversed	
BSWS-U 160	0303045

Universal intermediate jaw



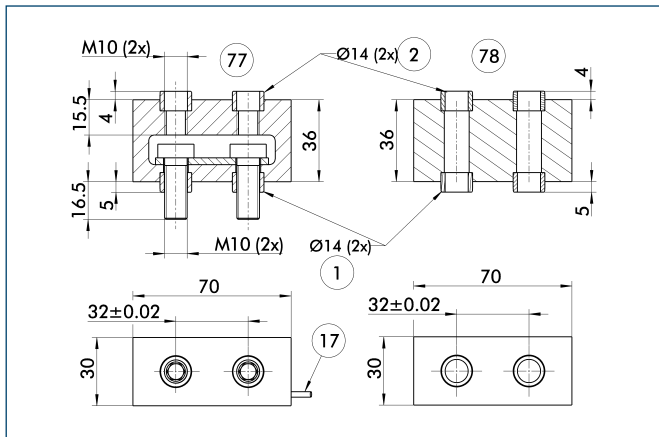
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 160	0300046	4 mm
UZB-S 160	5518274	4 mm

- ① The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

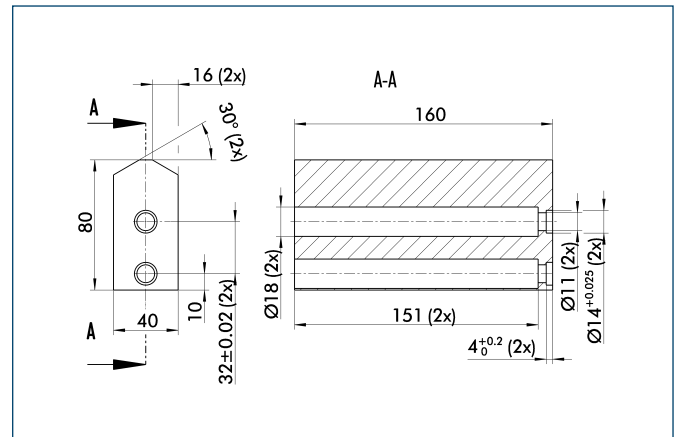


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

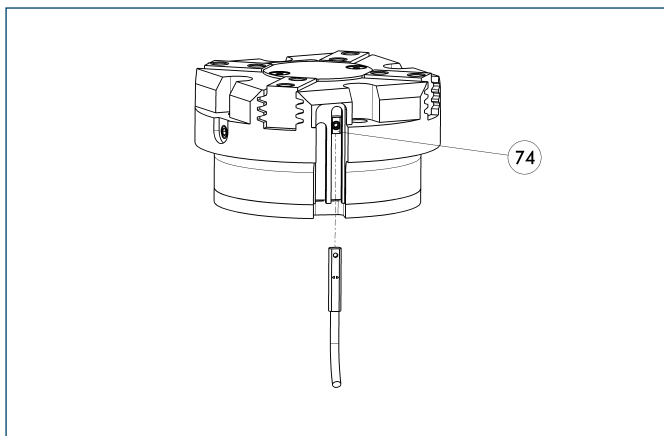
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1

Programmable magnetic switch



74 Stop for MMS-P

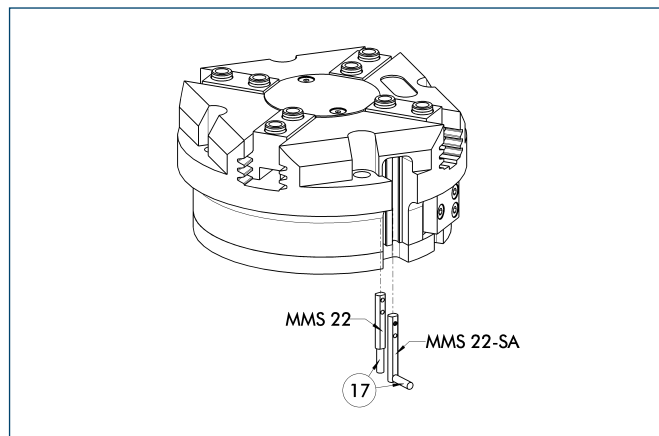
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



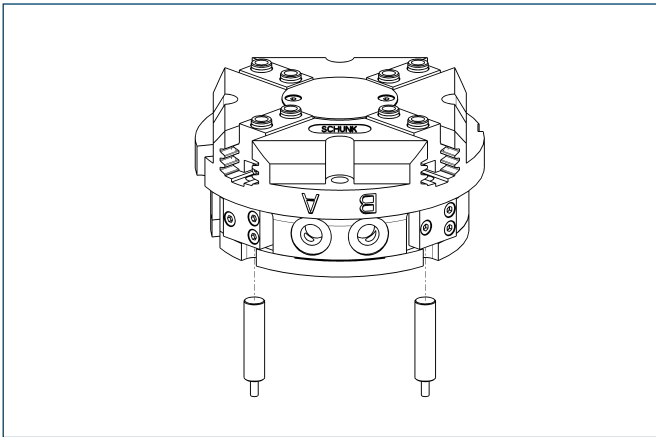
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches

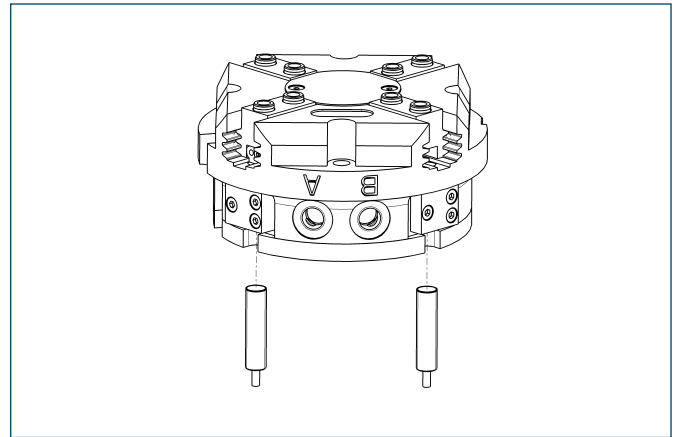


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Cylindrical Reed Switches



End position monitoring mounted with mounting kit

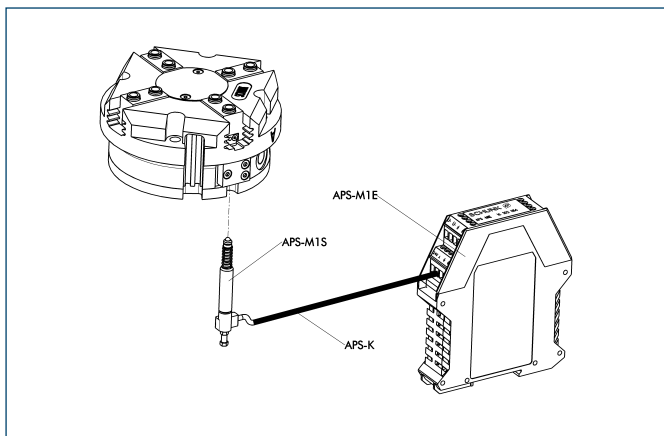
Description	ID
Mounting kit for proximity switch	
AS-RMS 80	0377727
PGN/PZN-plus 160-380	
Reed Switches	
RMS 80-S-M8	0377721

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Analog position sensor

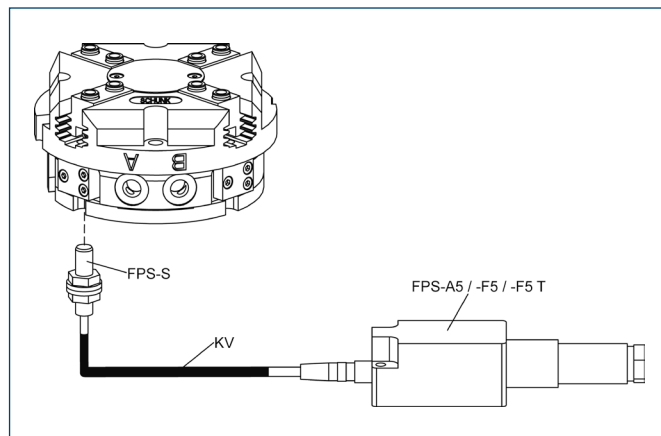


Analog multi position monitoring for any desired positions

Description	ID
Mounting kit	
AS-APS-M1-160/1 and 240/2	0302083
Connection cables	
APS-K0200	0302066
APS-K0700	0302068
Electronic Processor	
APS-M1E	0302064
Sensor	
APS-M1S	0302062

- ① When using an APS system, for each gripper a mounting kit (AS-APS), an APS sensor (APS-M1S, incl. 3 m cable) as well as an electronics (APS-M1e) are required.
- ① An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

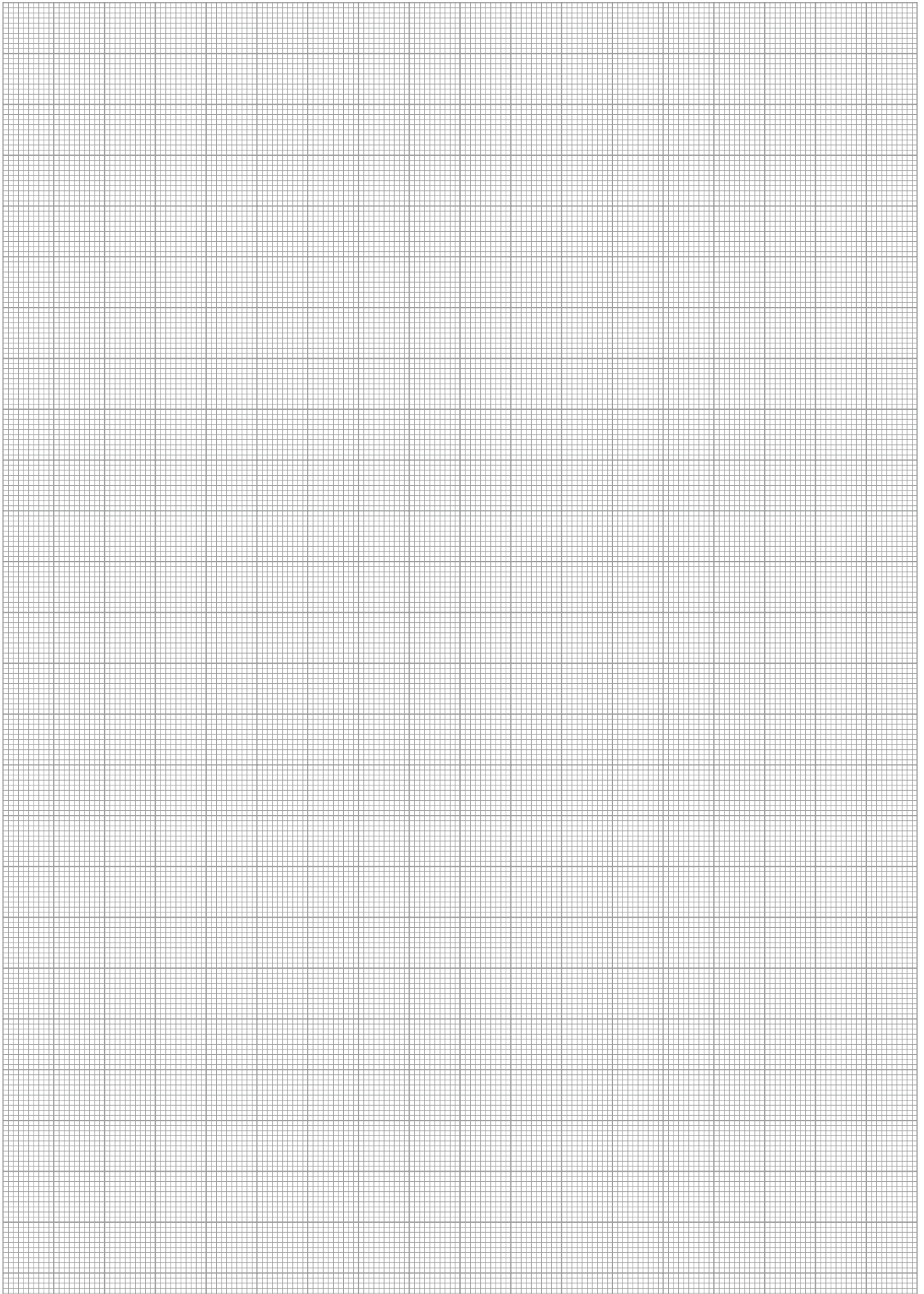
Flexible Position Sensor



Flexible position monitoring of up to five positions

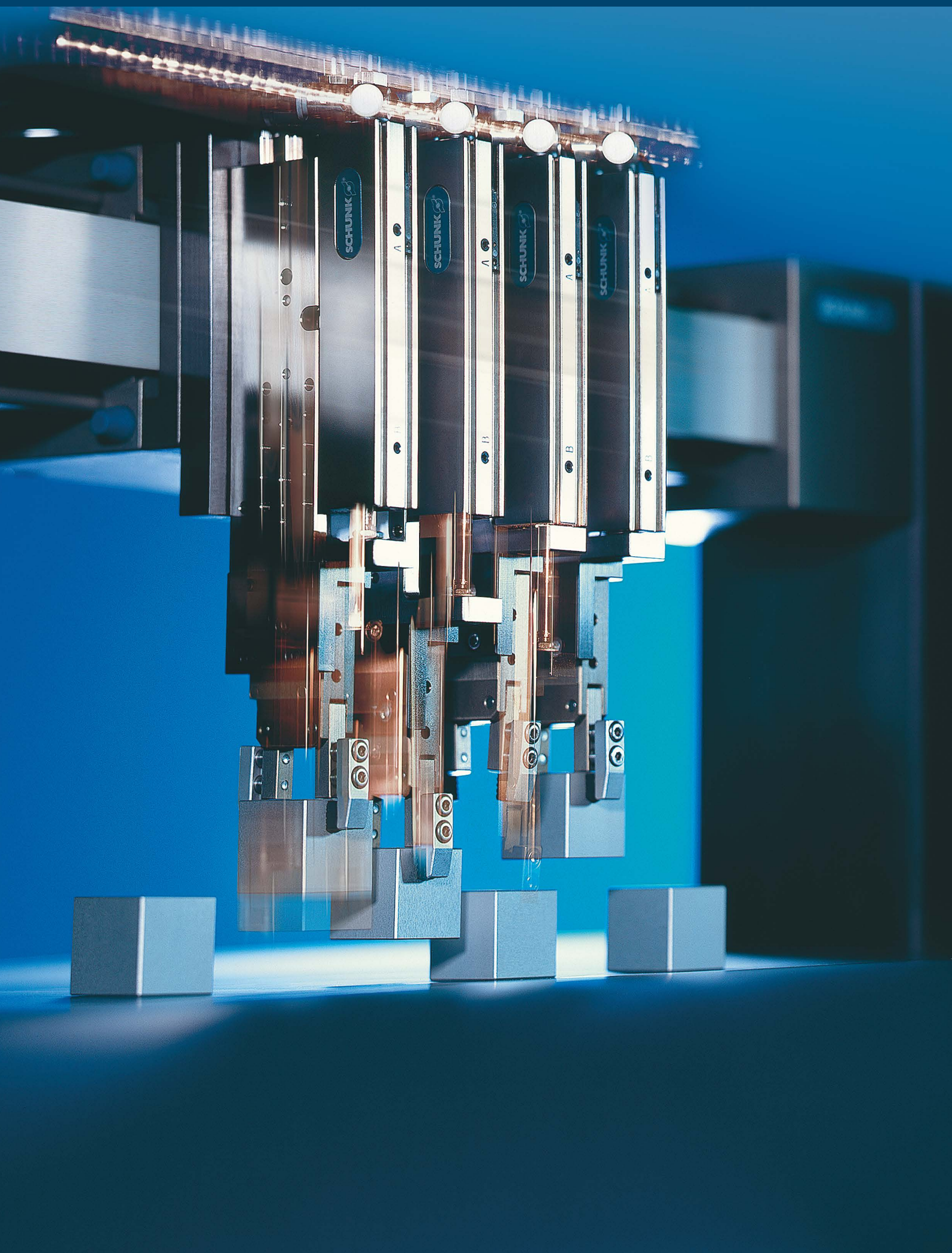
Description	ID
Mounting kit for FPS	
AS-PGN/PZN-plus 160/1	0301638
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807
Sensor	
FPS-S M8	0301704

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



Pneumatic Gripping Modules

Pneumatic • 2-Finger Angular Gripper



2-FINGER ANGULAR GRIPPER

Series	Size	Page
Angular Gripper for small components		
SGB		884
SGB	32	888
SGB	40	892
SGB	50	896
SWG		900
SWG	10	904
SWG	12	906
SWG	16	908
SWG	20	912
SWG	25	916
SWG	32	920
SWG	40	924
SWG	50	928
Universal Angular Gripper		
LGW		932
LGW	10	936
LGW	16	938
LGW	25	940
LGW	32	942
LGW	40	944
PWG-S		946
PWG-S	40	950
PWG-S	60	954
PWG-S	80	958
PWG		962
PWG	65	966
PWG	90	972
PWG	130	976
PWG	170	982
PWG	230	988





Sizes
32 ... 50



Weight
0.04 kg ... 0.06 kg



Gripping moment
0.9 Nm ... 4.95 Nm



Angle per jaw
8°



Workpiece weight
0.2 kg ... 0.8 kg

Application example



Rotary unit for simultaneous rotation of two small components by 90°

- 1 2-Finger Angular Gripper SGB
- 2 SRU-mini Miniature Rotary Unit

Angular Gripper for small components

small, plastic angular gripper with spring return and single-acting piston

Field of application

for universal use in clean and slightly dirty environments, with special requirements for the corrosion resistance and antistatic properties of the gripper unit

Your advantages and benefits

Housing of carbon-fiber-reinforced plastic

making the gripper extremely light and free from corrosion

Single-acting double piston drive with lever gear drive

for high power transmission and synchronized gripping

Basic version generally equipped with a pressure piece

for the spring-assisted pressing of workpieces

favorable in price

especially suitable for low-budget applications



General note to the series

Principle of function

single-acting cylinder piston with lever gear drive and spring reset

Housing material

carbon-fiber-reinforced plastic with metal functional parts

Base jaw material

carbon-fiber-reinforced plastic

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

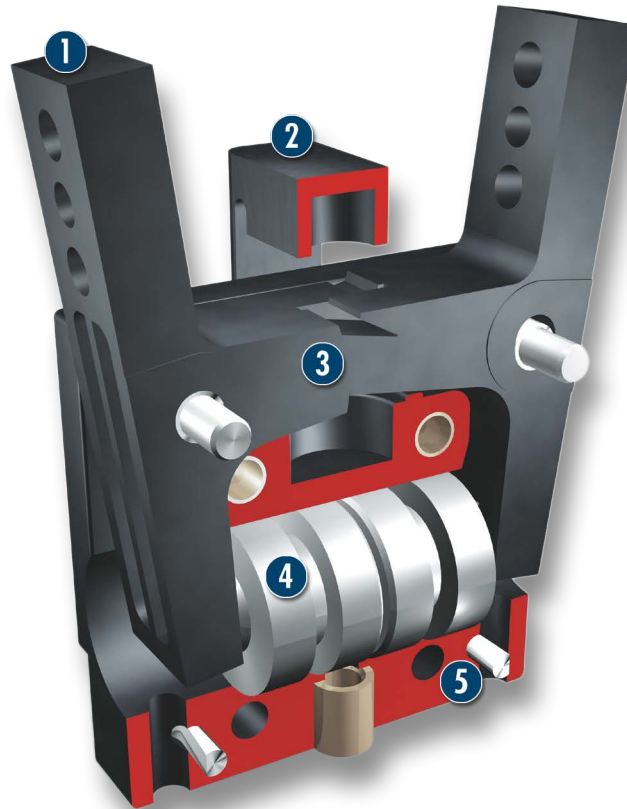
Scope of delivery

integrated, spring-loaded locating plate, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Pressure piece**
spring-loaded, for pressing workpieces into place
- 3 Lever mechanism**
for precise and synchronized gripping
- 4 Drive**
single-acting double piston system with spring return
- 5 Housing**
weight-reduced due to the use of plastics

Functional description

The two horizontally arranged pistons are pressed away from each other by compressed air.
The base jaws are opened at an angle and in a synchronized fashion by the bearing-mounted lever mechanism.
Reset is done by compression spring.

Options and special information

The use of carbon-fiber-reinforced plastics endows this gripper with a very low weight and a disproportionately high gripping force.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Pressure maintenance valve



Fittings



Inductive proximity switches



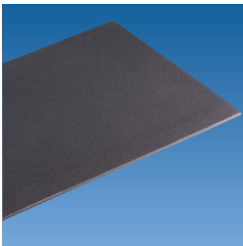
Sensor cables



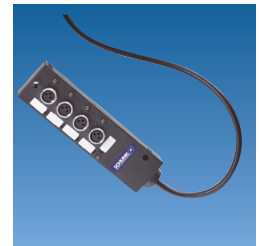
Plastic inserts



Gripper pads



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

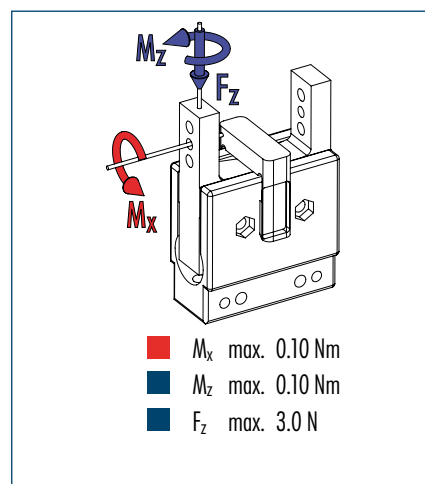
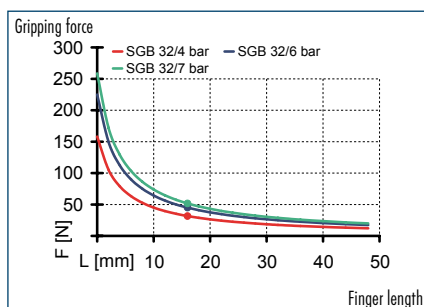
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping

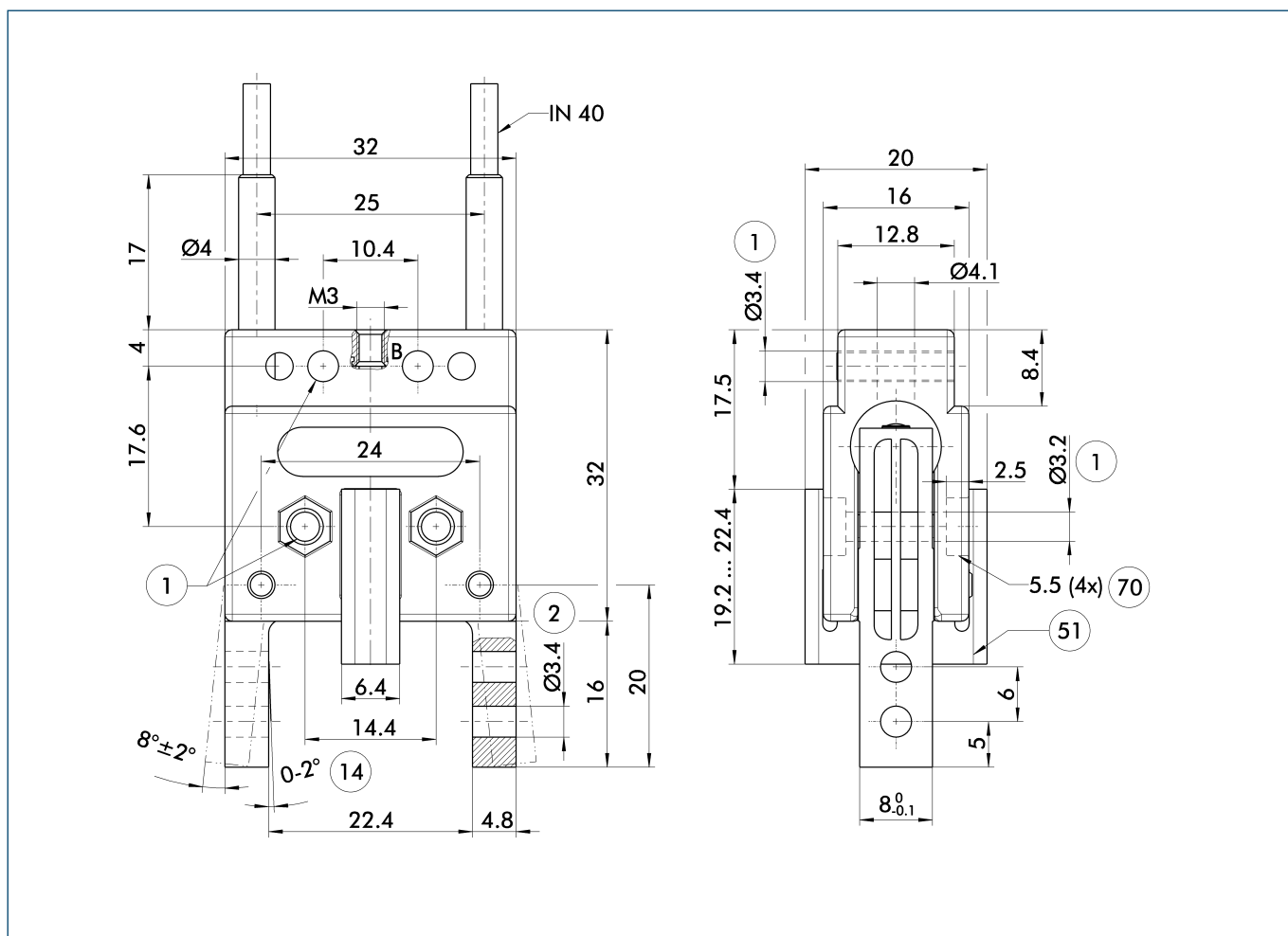


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGB 32
ID	0305199
Opening angle per jaw	[°] 8
Closed angle per jaw up to	[°] 2
Closing moment	[Nm] 0.9
Weight	[kg] 0.04
Recommended workpiece weight	[kg] 0.2
Air consumption per double stroke	[cm³] 0.5
Min./max. operating pressure	[bar] 4/7
Nominal operating pressure	[bar] 6
Closing/opening time	[s] 0.06/0.04
Max. permitted finger length	[mm] 32
Max. permitted weight per finger	[kg] 0.03
IP class	20
Min./max. ambient temperature	[°C] -10/90
Repeat accuracy	[mm] 0.1
Min. pressure force	[N] 2
Pressure stroke	[mm] 3.2

Main view



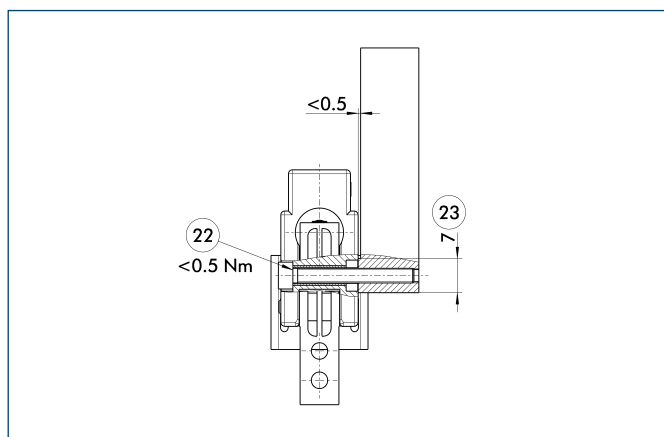
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

- ① Gripper connection
- ② Finger connection
- ⑭ Clamping reserve per finger

- ⑤① Pressure piece
- ⑦⑦ Wrench size

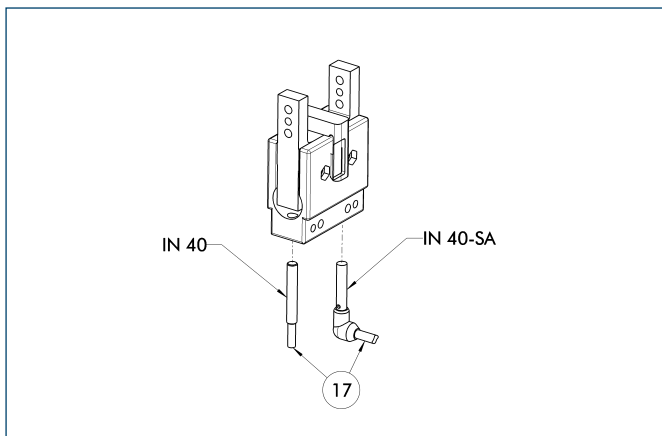
Mounting



- ②② Tightening torque
- ②③ Width of path

Recommended for achieving distortion-free gripper mounting

Inductive proximity switches



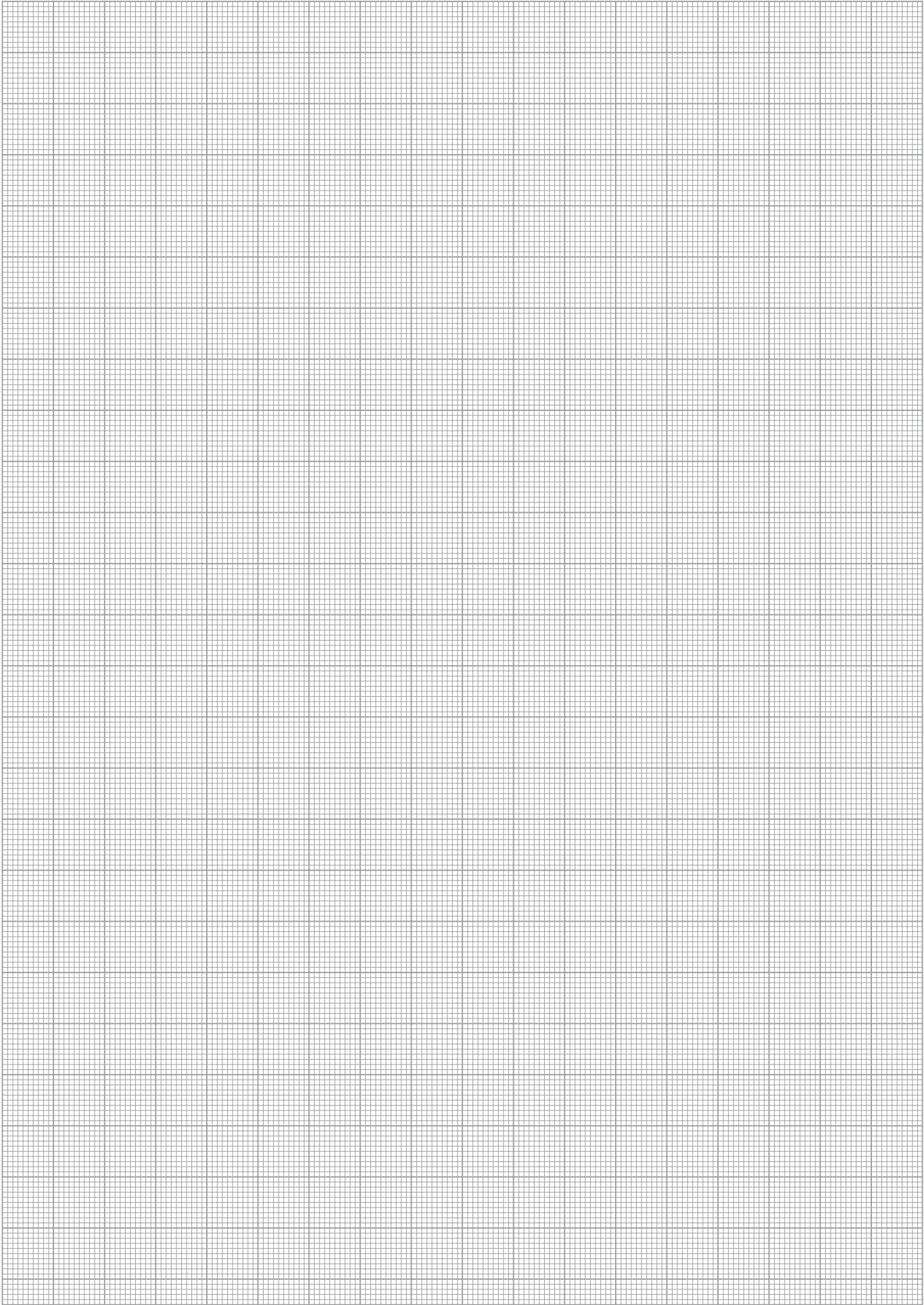
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-O-M8	0301484	•
IN 40-O-M12	0301584	
INK 40-O	0301556	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

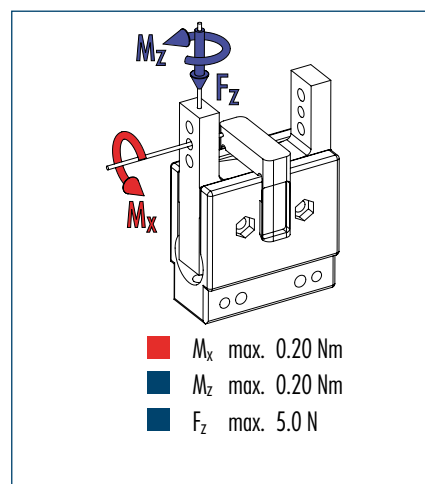
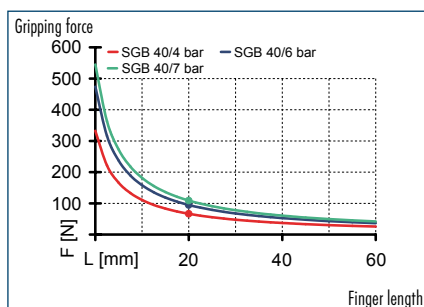
① Two sensors, one NO and one NC contact, are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





Gripping force, O.D. gripping

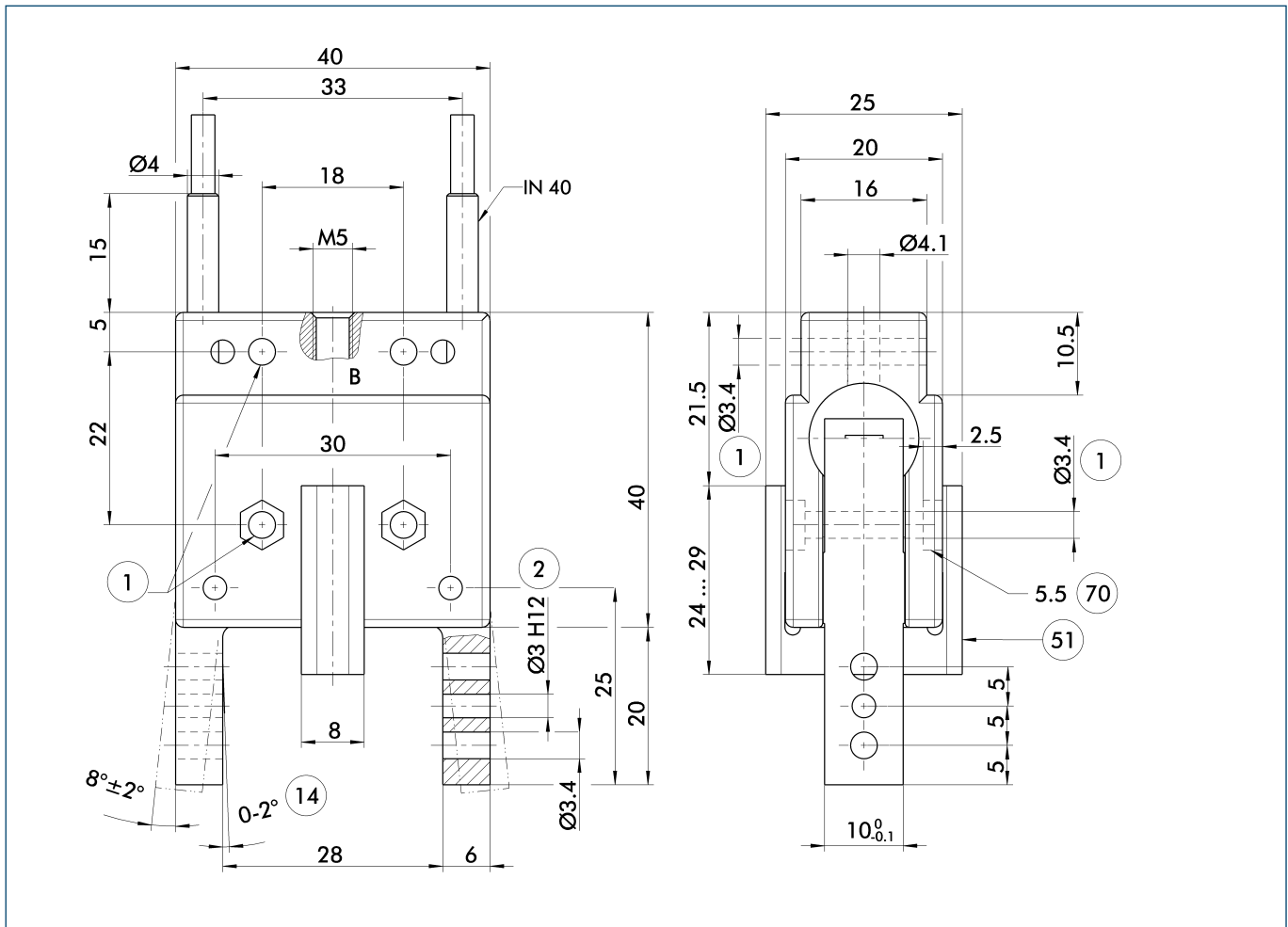


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGB 40
ID	0305200
Opening angle per jaw	8°
Closed angle per jaw up to	2°
Closing moment	2.37 [Nm]
Weight	0.05 [kg]
Recommended workpiece weight	0.4 [kg]
Air consumption per double stroke	1 [cm³]
Min./max. operating pressure	4/7 [bar]
Nominal operating pressure	6 [bar]
Closing/opening time	0.08/0.05 [s]
Max. permitted finger length	40 [mm]
Max. permitted weight per finger	0.05 [kg]
IP class	20
Min./max. ambient temperature	-10/90 [°C]
Repeat accuracy	0.1 [mm]
Min. pressure force	4 [N]
Pressure stroke	4 [mm]

Main view



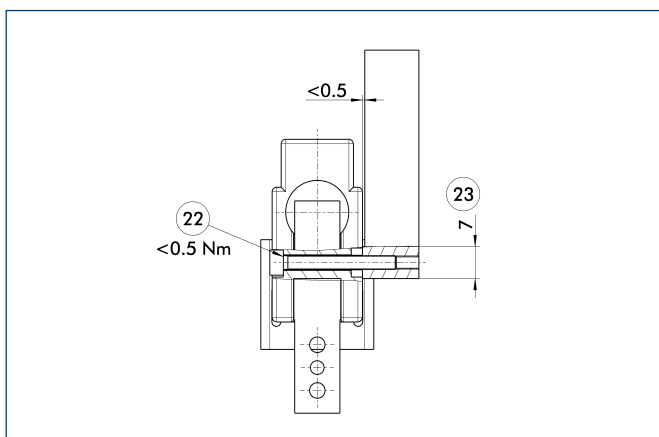
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

- ① Gripper connection
- ② Finger connection
- ⑭ Clamping reserve per finger

- ⑤① Pressure piece
- ⑦⑦ Wrench size

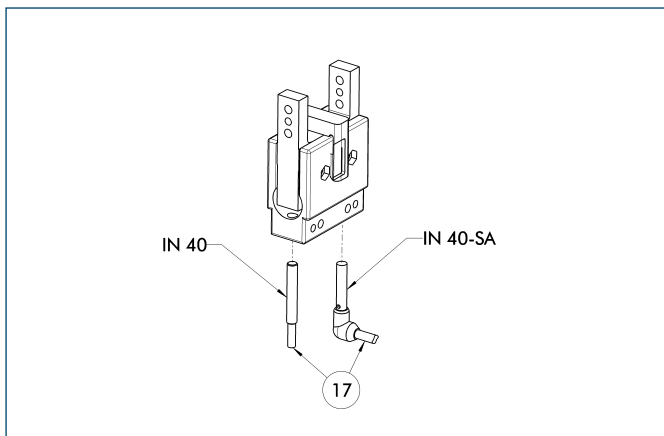
Mounting



- ②② Tightening torque
- ②③ Width of path

Recommended for achieving distortion-free gripper mounting

Inductive proximity switches



17 Cable outlet

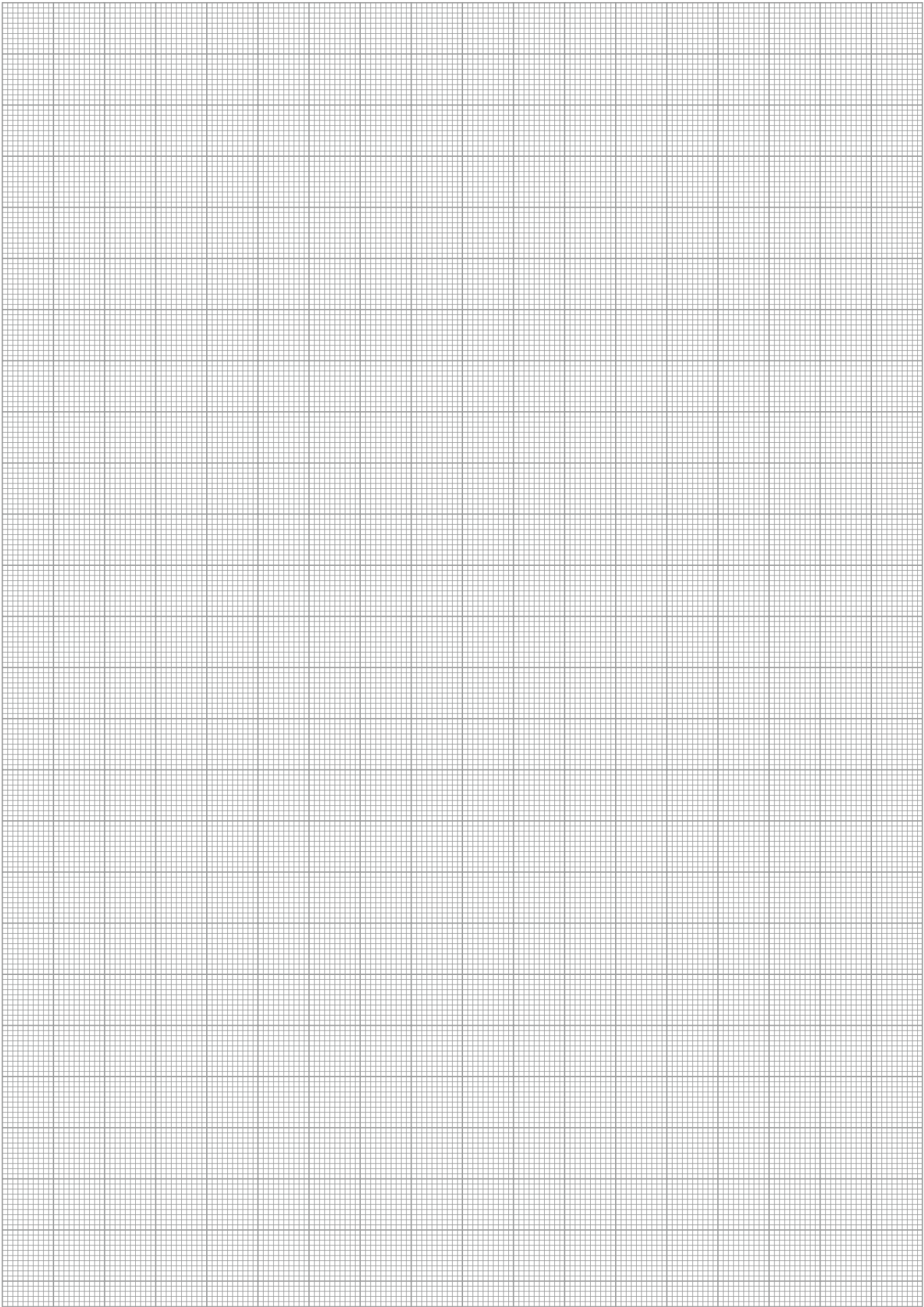
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-O-M8	0301484	•
IN 40-O-M12	0301584	
INK 40-O	0301556	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors, one NO and one NC contact, are required for each gripper, plus extension cables as an option.

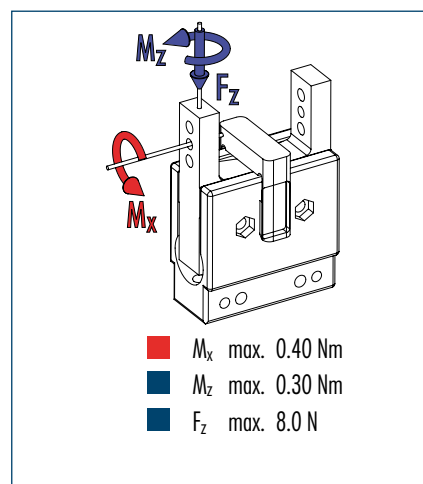
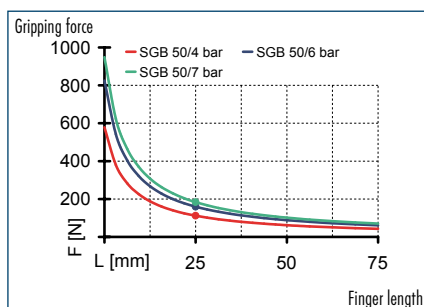
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.





Gripping force, O.D. gripping

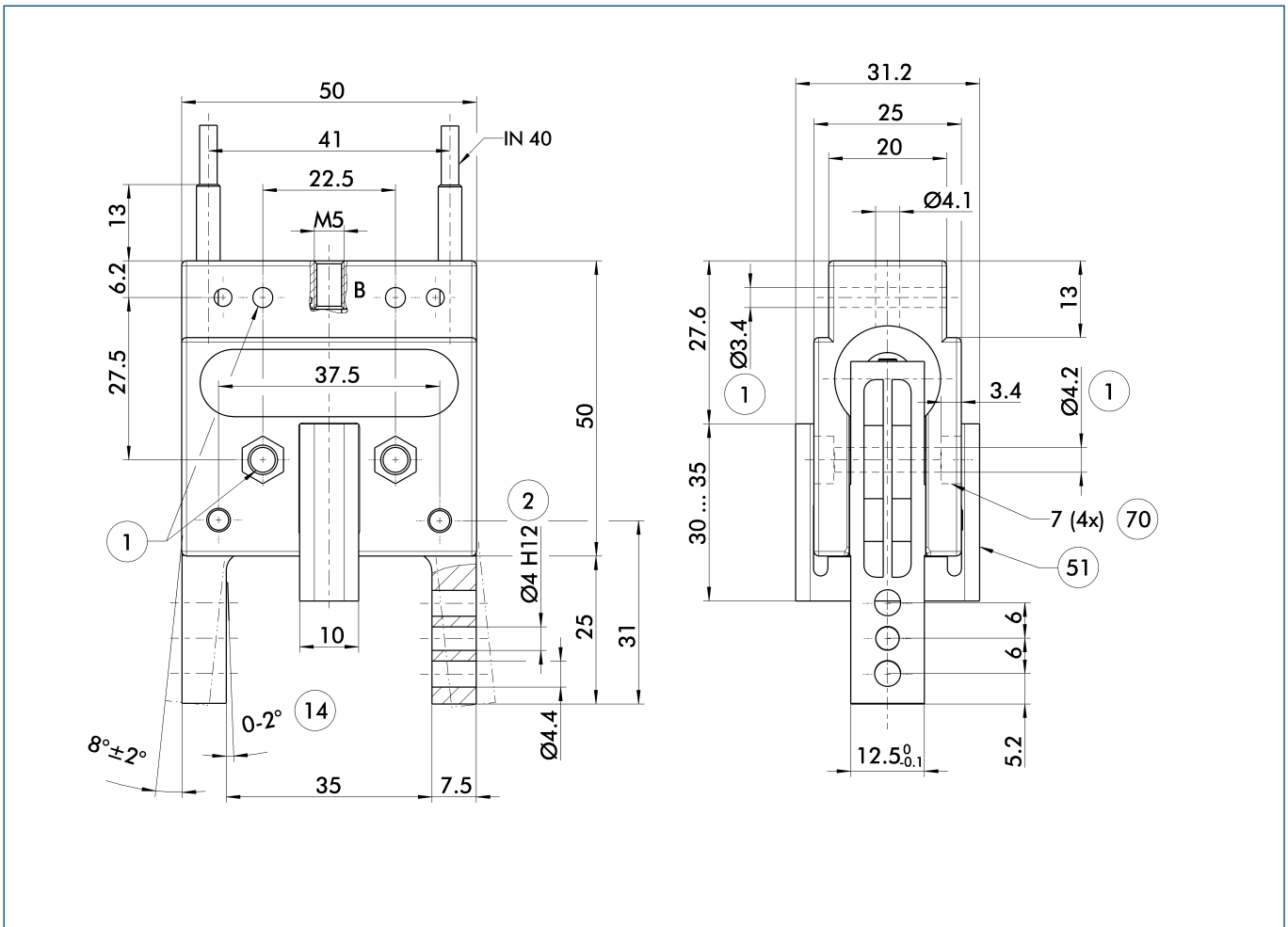


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGB 50
ID	0305201
Opening angle per jaw	8°
Closed angle per jaw up to	2°
Closing moment	4.95 Nm
Weight	0.06 kg
Recommended workpiece weight	0.8 kg
Air consumption per double stroke	1.8 cm³
Min./max. operating pressure	4/7 bar
Nominal operating pressure	6 bar
Closing/opening time	0.08/0.05 s
Max. permitted finger length	50 mm
Max. permitted weight per finger	0.07 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm
Min. pressure force	4 N
Pressure stroke	5 mm

Main view



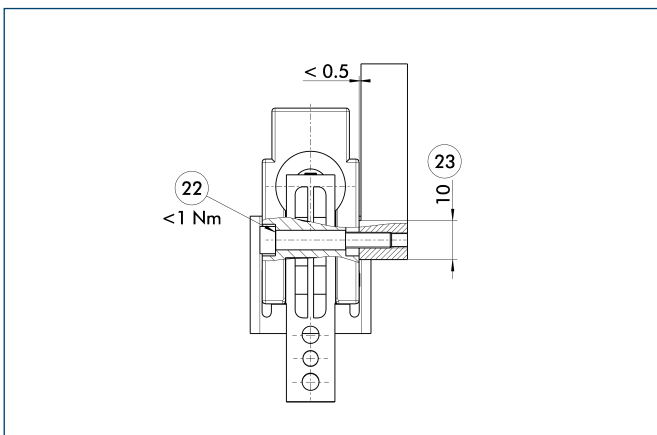
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

- ① Gripper connection
- ② Finger connection
- ⑭ Clamping reserve per finger

- ⑤① Pressure piece
- ⑦⑦ Wrench size

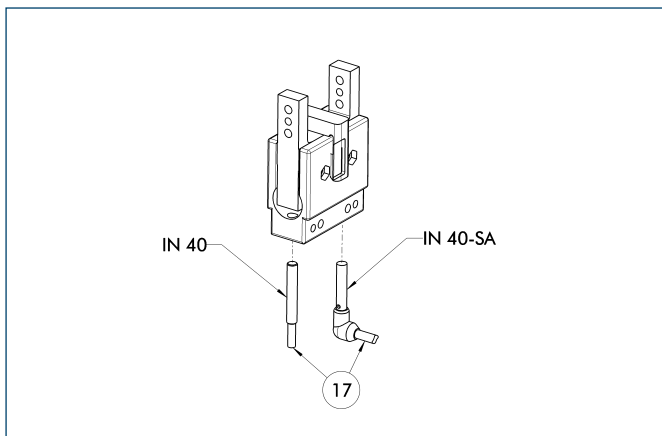
Mounting



- ②② Tightening torque
- ②③ Width of path

Recommended for achieving distortion-free gripper mounting

Inductive proximity switches



17 Cable outlet

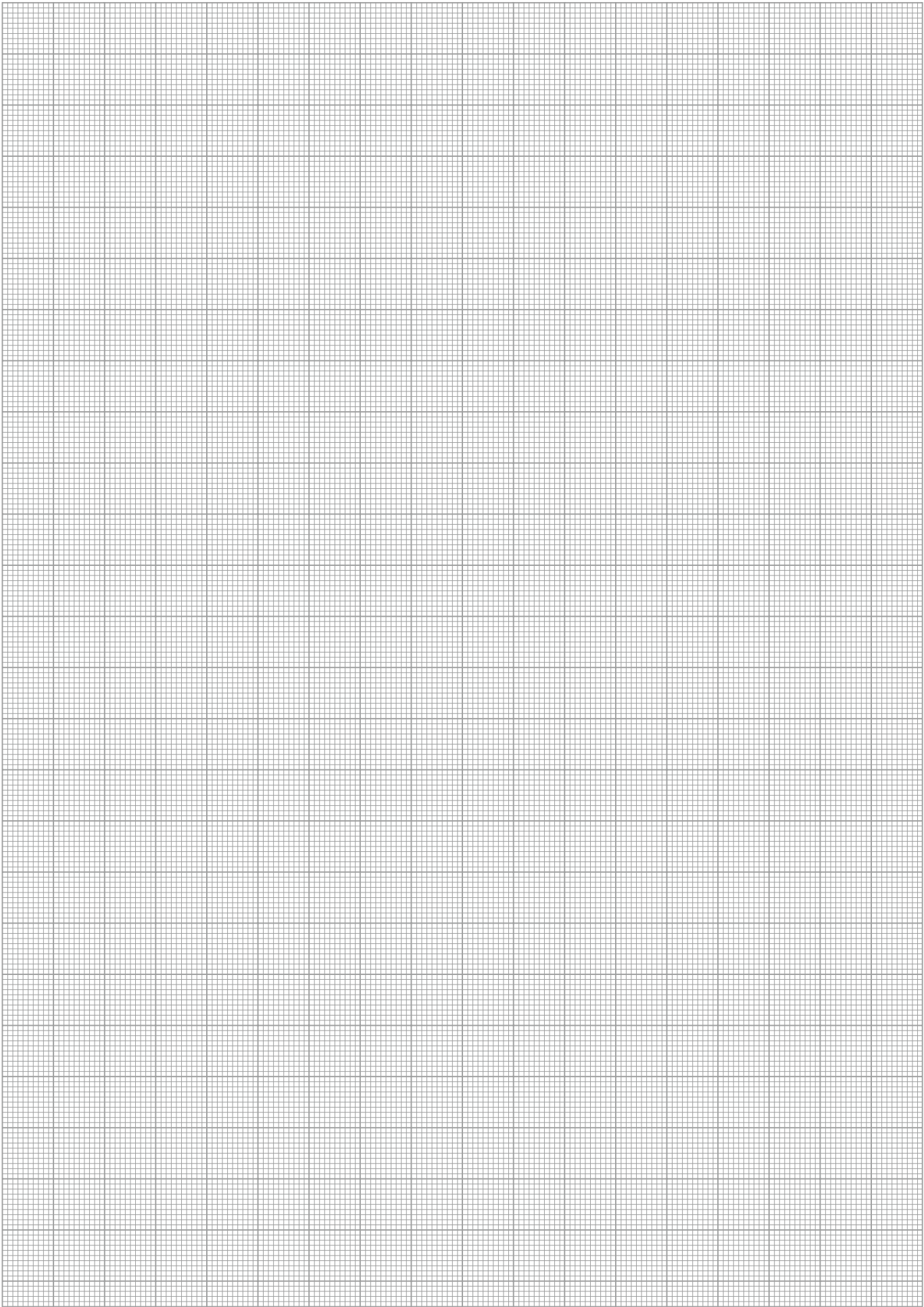
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-O-M8	0301484	•
IN 40-O-M12	0301584	
INK 40-O	0301556	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors, one NO and one NC contact, are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.





Sizes
10 ... 50



Weight
0.0025 kg ... 0.213 kg



Gripping moment
0.01 Nm ... 2.8 Nm

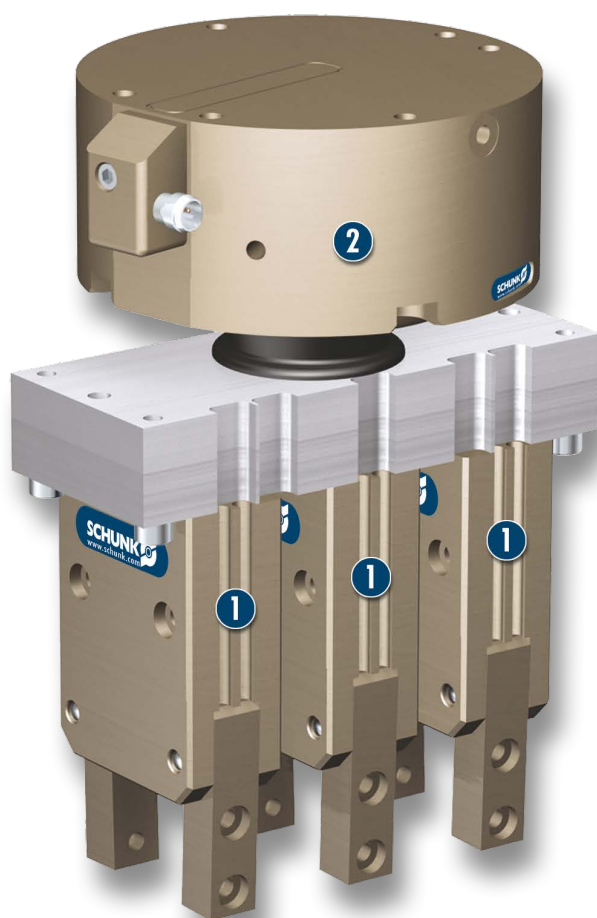


Angle per jaw
15°



Workpiece weight
0.007 kg ... 0.46 kg

Application example



Triple transfer unit for packaging with small boxboards

- 1 2-Finger Angular Gripper SWG
- 2 OPR collision and overload protection device

Gripper for small components

narrow double-acting 2-finger angular gripper

Field of application

For universal use in clean and slightly dirty environments. Suitable for applications requiring stacked, space-saving gripper assemblies.

Your advantages and benefits

Slim design

allowing the grippers to be stacked

Spring-assisted gripping force maintenance

holds the workpiece even in case of a loss of pressure

Wedge-hook design

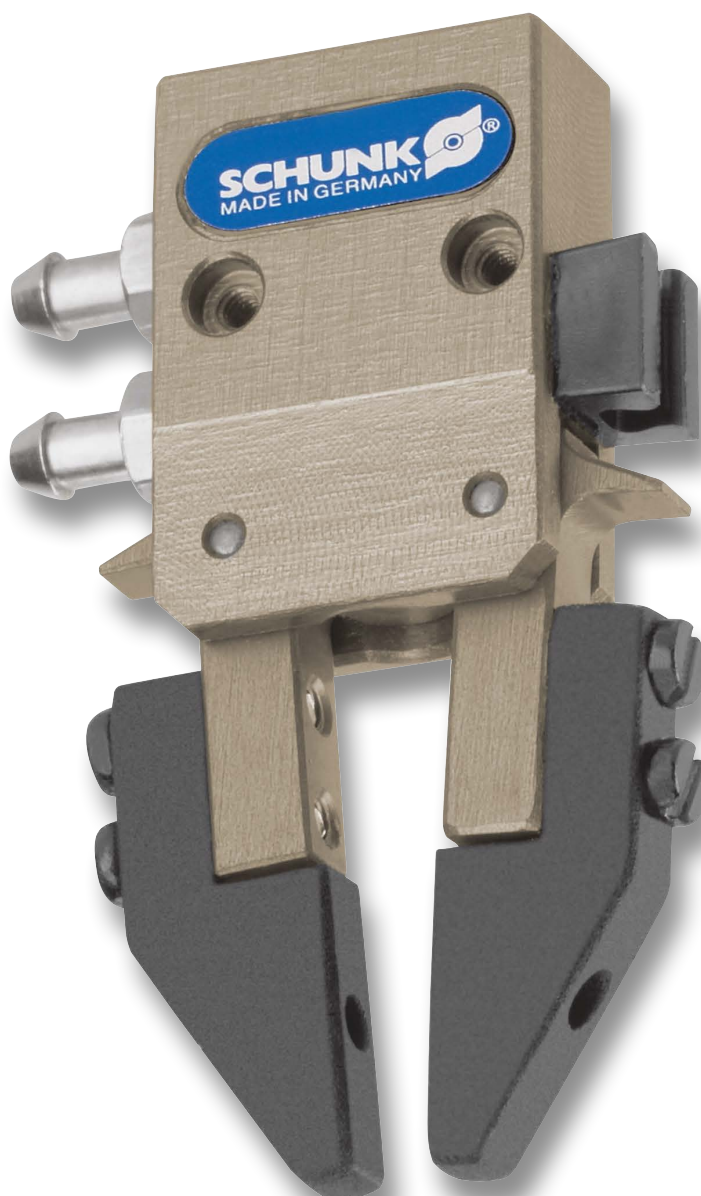
for high power transmission and synchronized gripping

Light, compact design

for space-saving handling without interfering contours

Monitoring via electronic magnetic switches

a space-saving feature in a slot in the housing



General note to the series

Principle of function

double-acting, guided kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

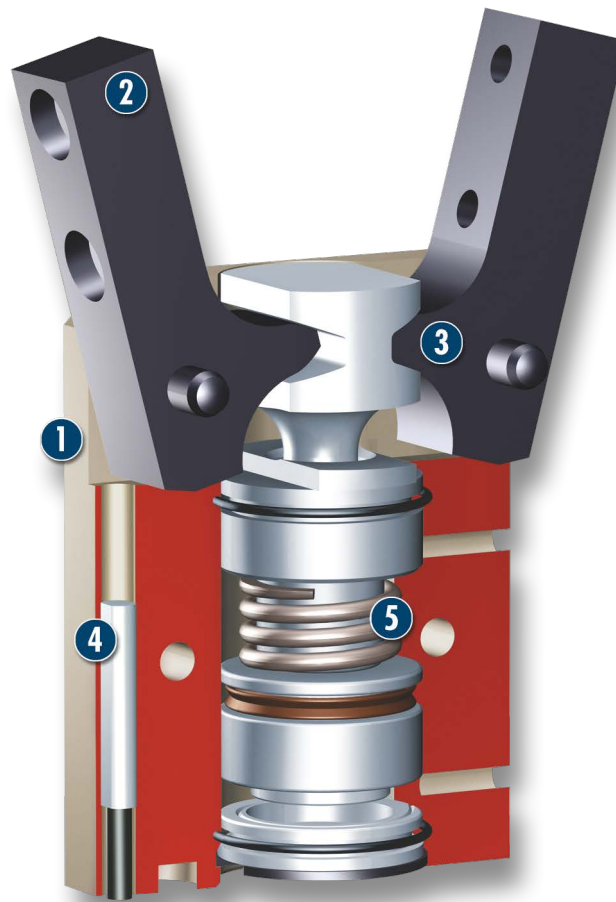
Scope of delivery

Swivel fittings, centering sleeves, assembly and operation manual with manufacturer's declaration

Gripping force maintenance device

always integrated, also possible via SDV-P pressure maintenance valve

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Base jaws**
for the connection of workpiece-specific gripper fingers
- 3 Kinematics**
precise gear for centric gripping
- 4 Sensor system**
electronic magnetic switch, located space-saving in the groove of the housing
- 5 Gripping force maintenance device**
mechanic gripping force maintenance for O.D. gripping

Functional description

The piston is moved up and down by compressed air. The kinematics transforms this vertical motion into a synchronous and rotatory gripping motion of the base jaws.

Options and special information

The SWG angular gripper can be stacked directly to reduce interfering contours.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Pressure maintenance valve



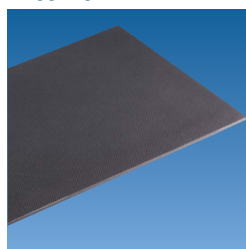
Magnetic Switches



Plastic inserts



Gripper pads



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

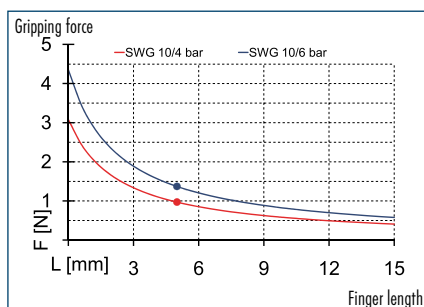
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

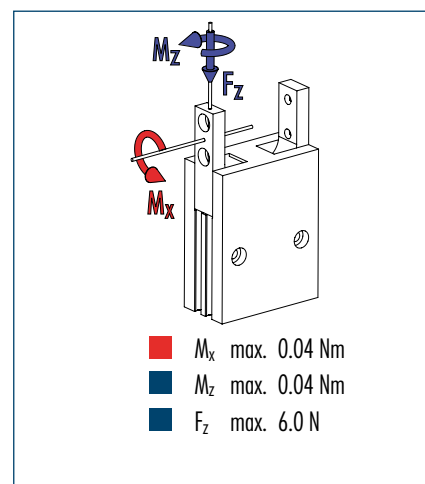
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

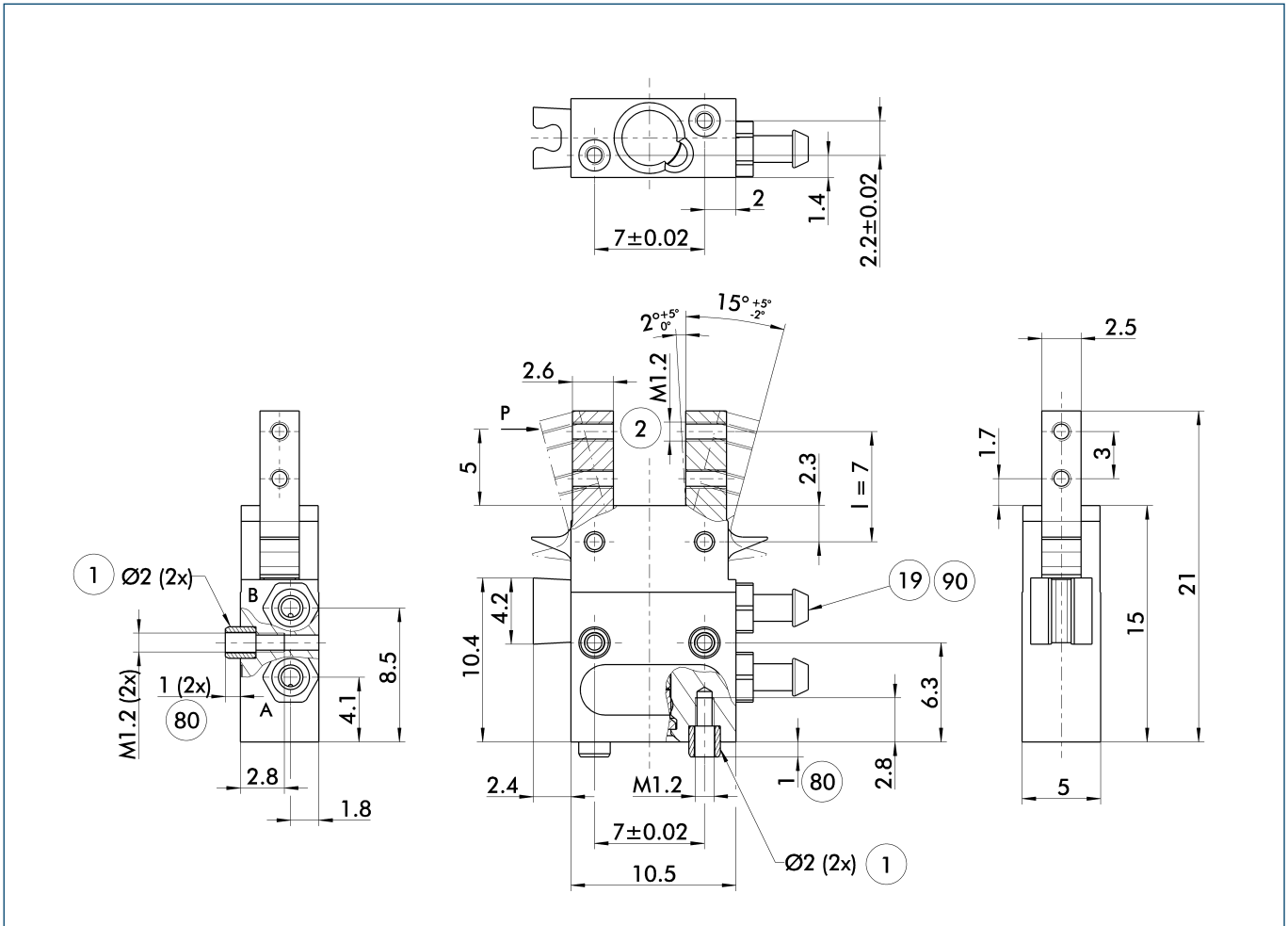


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 10
ID	0305116
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.01 Nm
Spring-actuated closing moment	0.0027 Nm
Weight	0.0025 kg
Recommended workpiece weight	0.007 kg
Air consumption per double stroke	0.055 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.015/0.02 s
Max. permitted finger length	10 mm
Max. permitted weight per finger	0.003 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



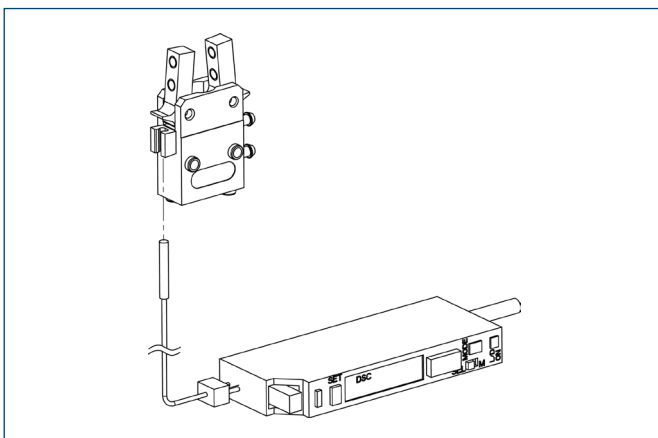
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 ① Gripper connection
 ② Finger connection
 19 Air connection

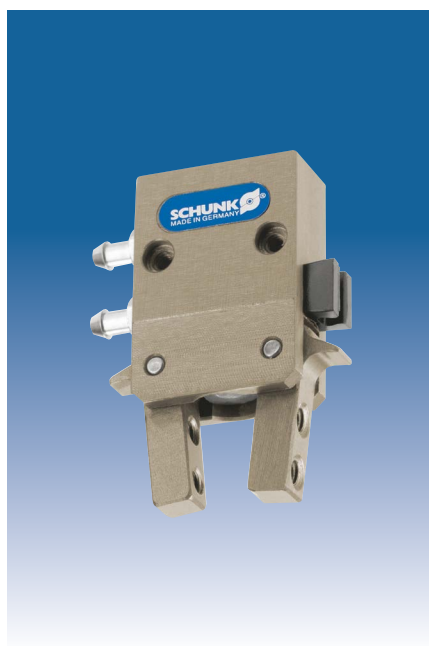
80 Depth of the centering sleeve hole in the matching part
 90 Polyurethane hoses with an I.D. of 1.6 mm.
 Source: AC Aircontrols GmbH, Kempen, Germany

Optical Proximity Switch

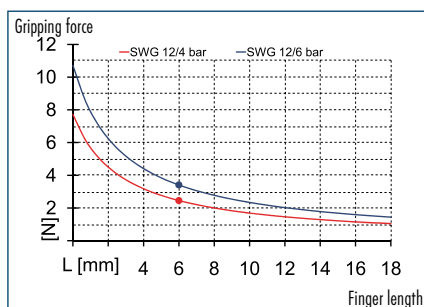


Description	ID
Optical Proximity Switch	
ONS 01	0301390
Optical wave guide	
ONS 01-LWL	0301391

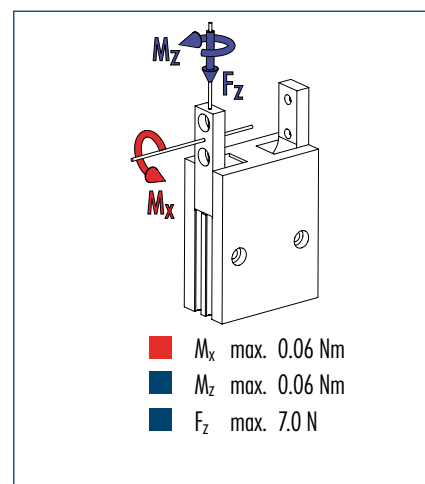
① Per each gripper a sensor (ONS 01) as well as an optical wave guide (ONS 01-LWL) are required. Assembly of the optical sensors at the gripper is done with the supplied plastic clip.



Gripping force, O.D. gripping



Finger load

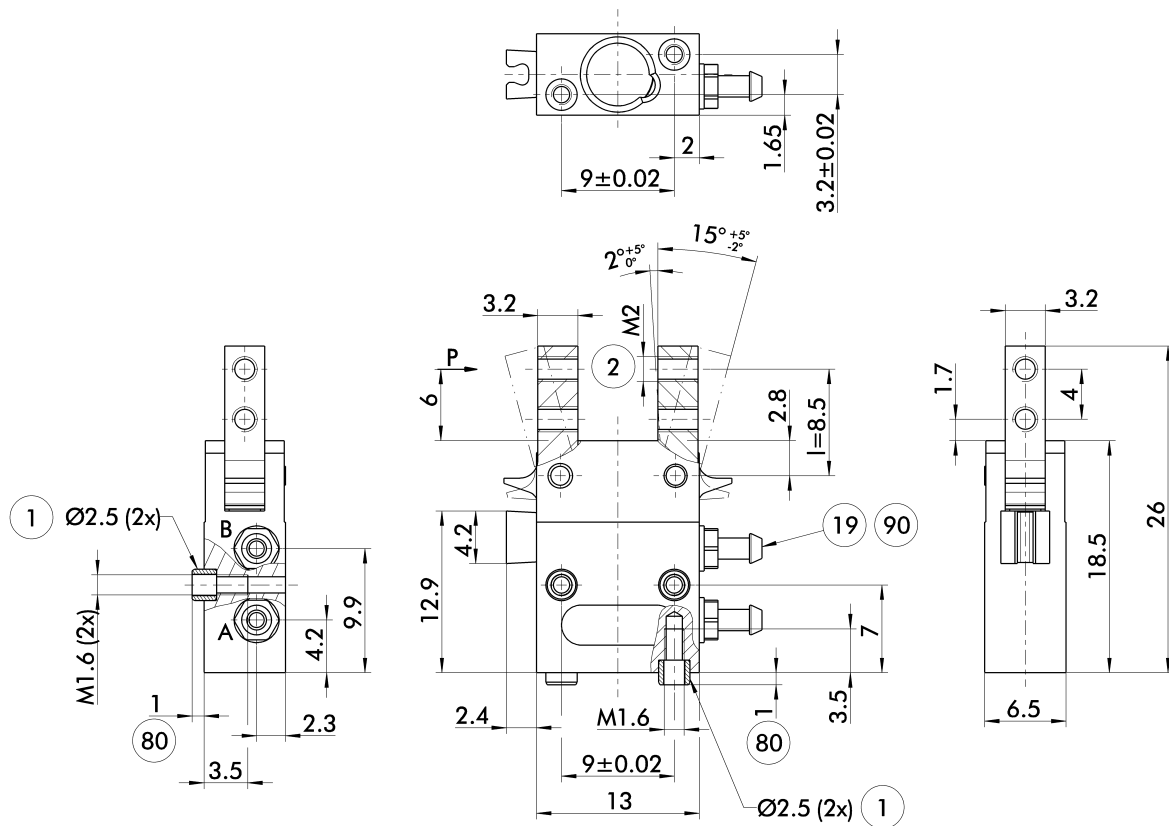


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 12
ID	0305115
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.03 Nm
Spring-actuated closing moment	0.009 Nm
Weight	0.0048 kg
Recommended workpiece weight	0.017 kg
Air consumption per double stroke	0.07 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.015/0.02 s
Max. permitted finger length	12 mm
Max. permitted weight per finger	0.006 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



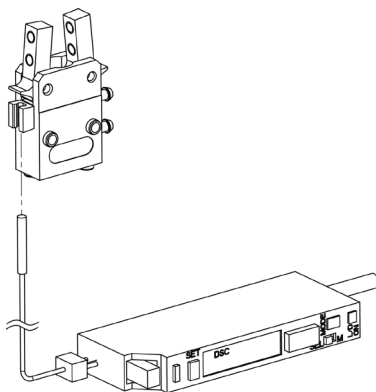
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 ① Gripper connection
 ② Finger connection
 ⑱ Air connection

80 Depth of the centering sleeve hole in the matching part
 90 Polyurethane hoses with an I.D. of 1.6 mm.
 Source: AC Aircontrols GmbH, Kempen, Germany

Optical Proximity Switch

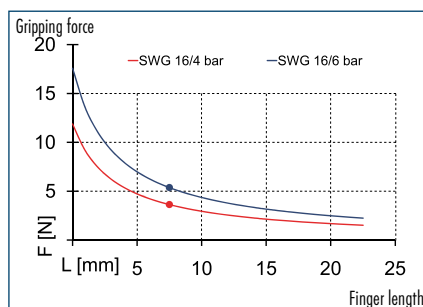


Description	ID
Optical Proximity Switch	
ONS 01	0301390
Optical wave guide	
ONS 01-LWL	0301391

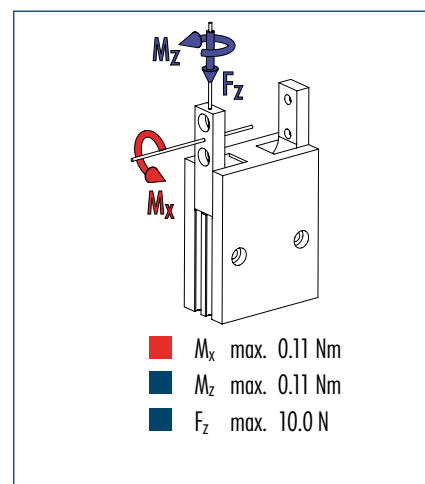
① Per each gripper a sensor (ONS 01) as well as an optical wave guide (ONS 01-LWL) are required. Assembly of the optical sensors at the gripper is done with the supplied plastic clip.



Gripping force, O.D. gripping



Finger load

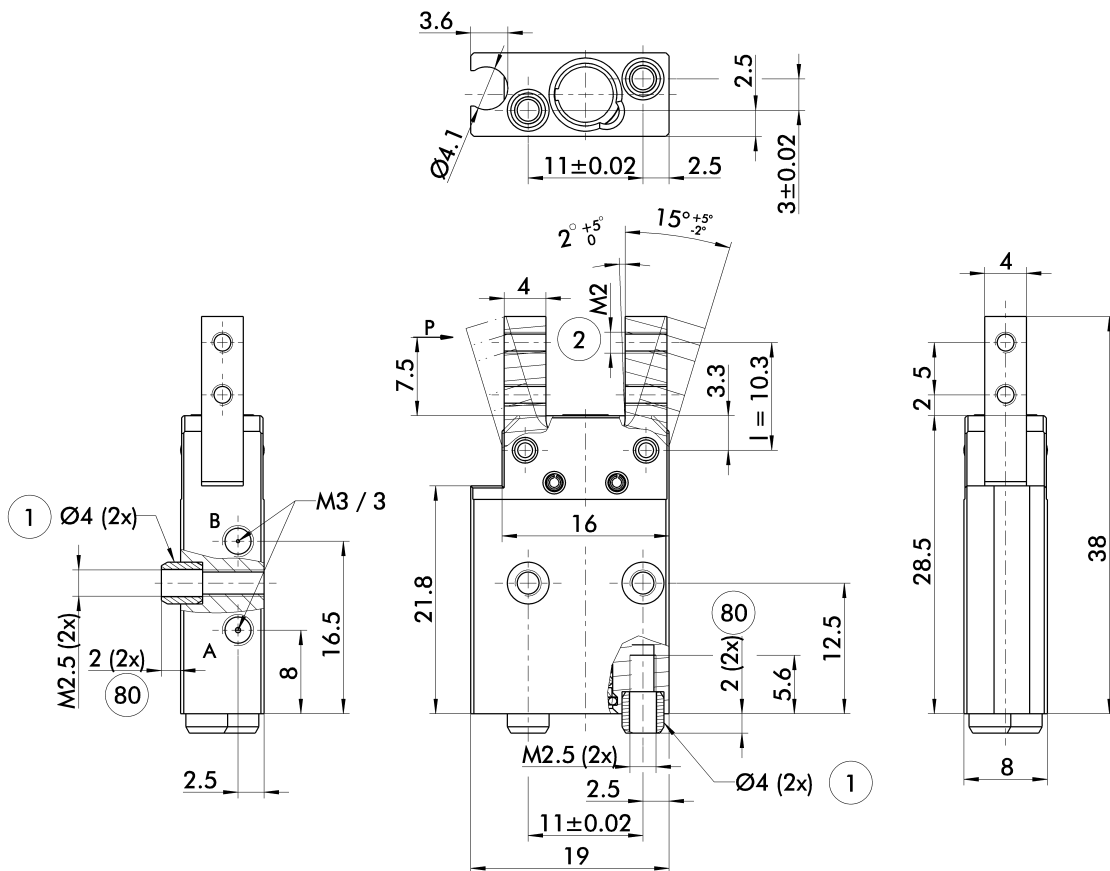


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 16
ID	0305104
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.058 Nm
Spring-actuated closing moment	0.017 Nm
Weight	0.011 kg
Recommended workpiece weight	0.027 kg
Air consumption per double stroke	0.12 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.015/0.02 s
Max. permitted finger length	15 mm
Max. permitted weight per finger	0.012 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view

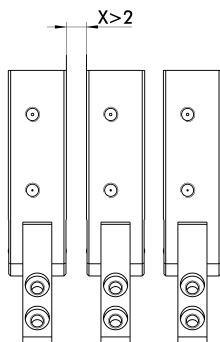


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see “Accessories” catalog section).

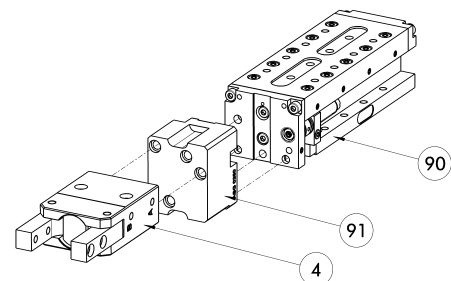
- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation

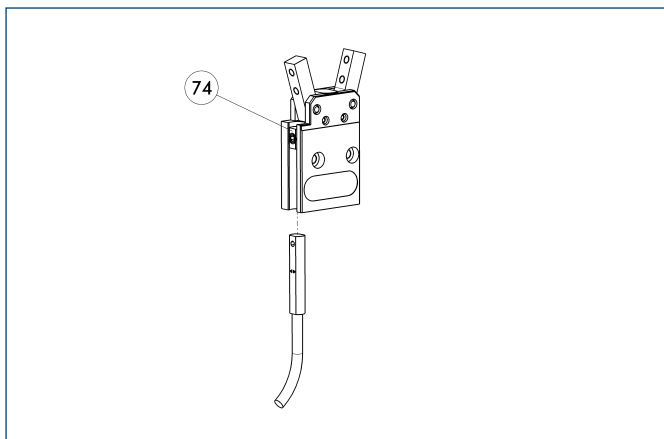


- ④ Gripper
⑨ CLM

- ⑨① ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



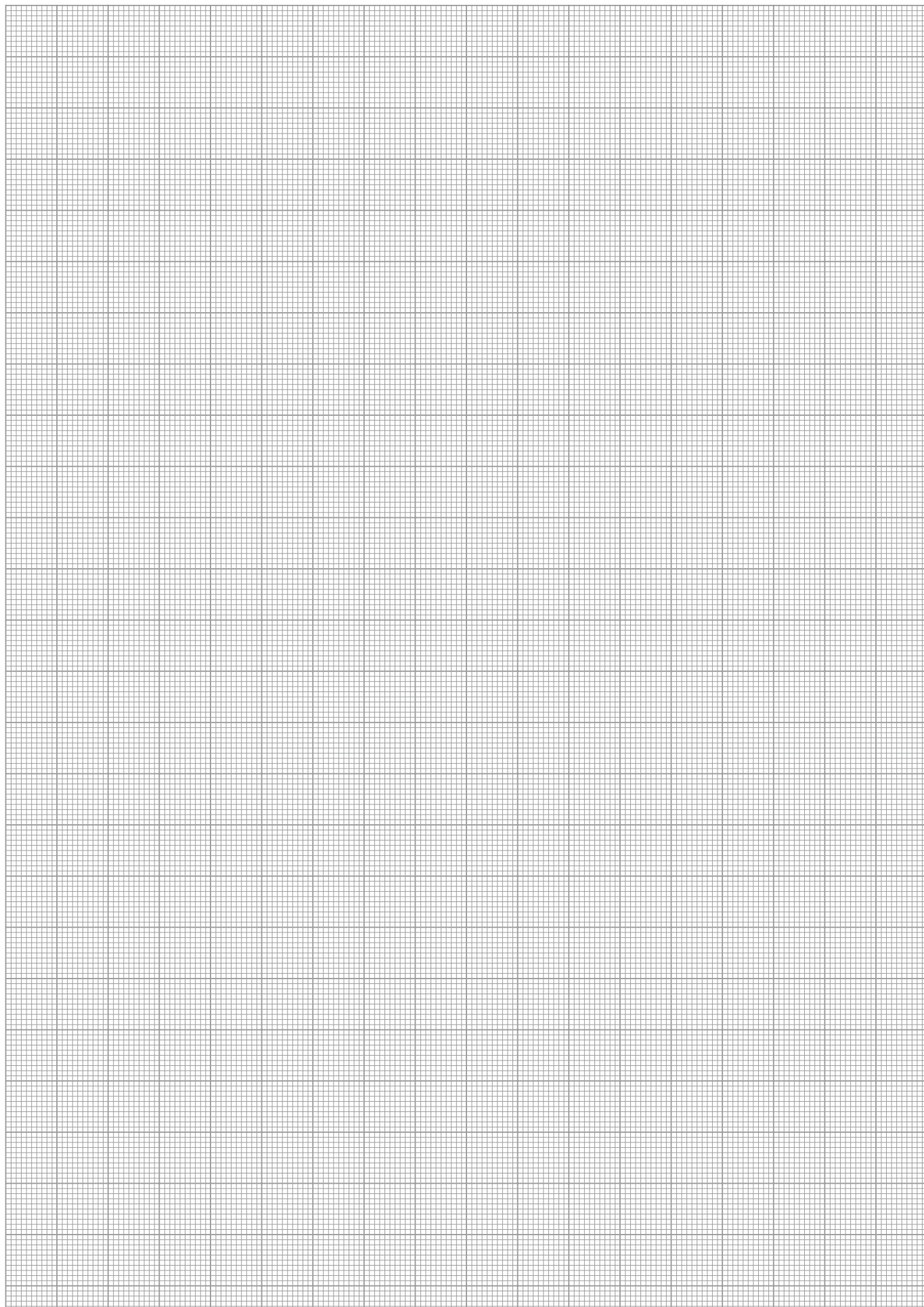
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

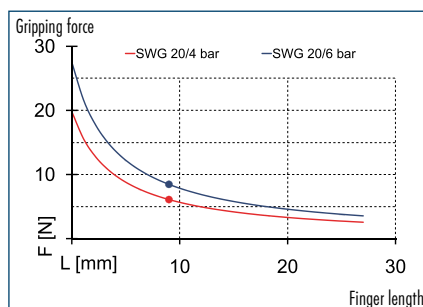
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

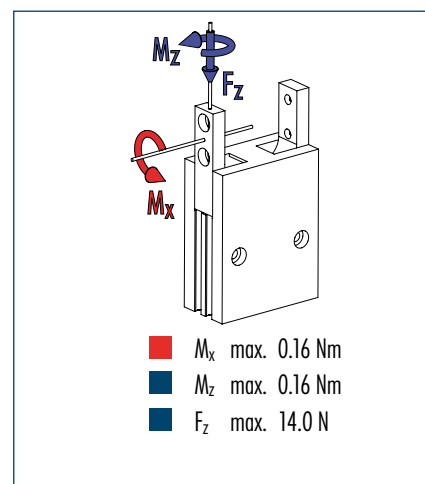




Gripping force, O.D. gripping



Finger load

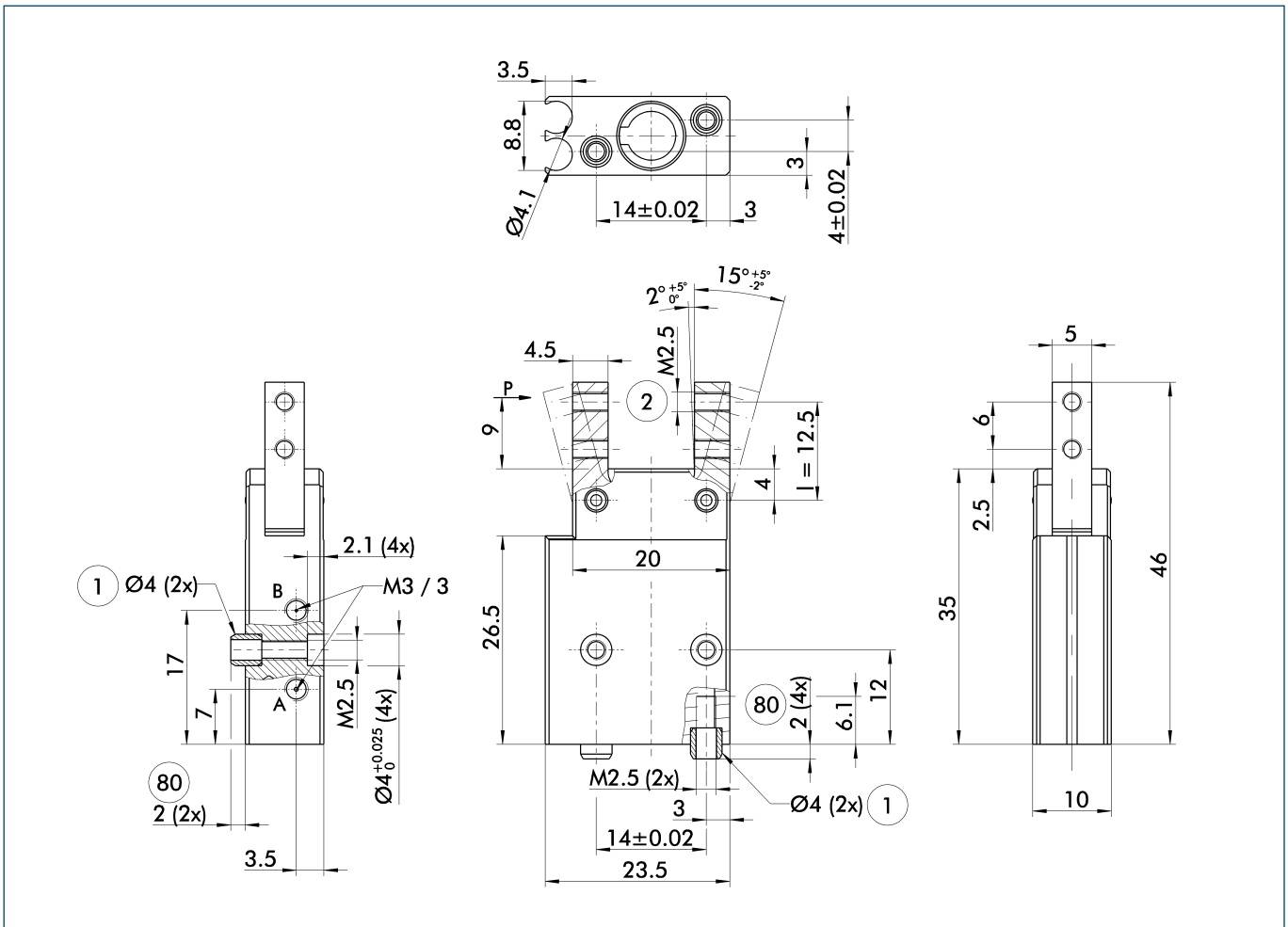


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 20
ID	0305105
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.11 Nm
Spring-actuated closing moment	0.033 Nm
Weight	0.019 kg
Recommended workpiece weight	0.043 kg
Air consumption per double stroke	0.25 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.015/0.02 s
Max. permitted finger length	18 mm
Max. permitted weight per finger	0.02 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



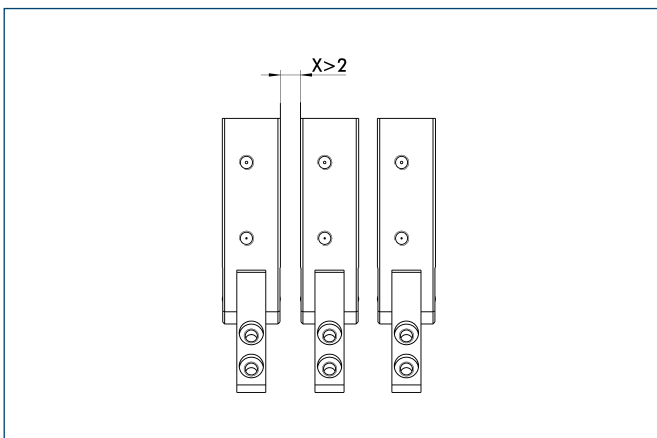
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

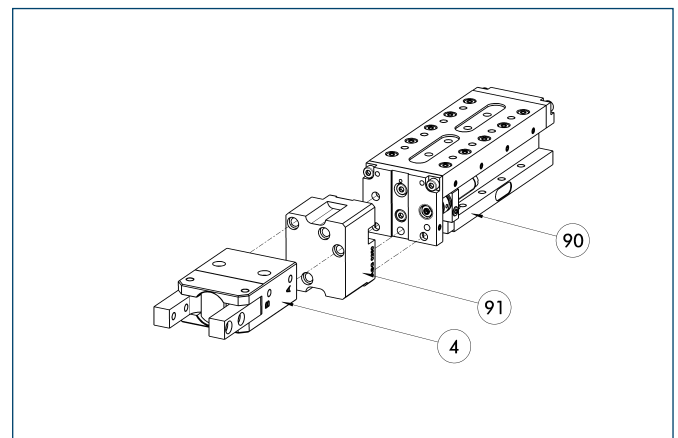
80 Depth of the centering sleeve hole in the matching part

Stacked arrangement



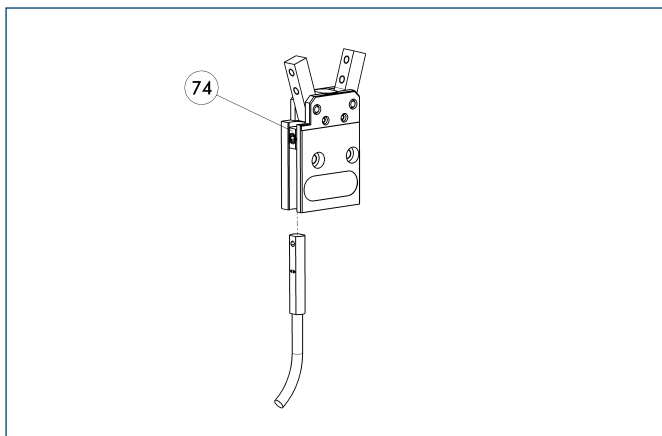
CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation



This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



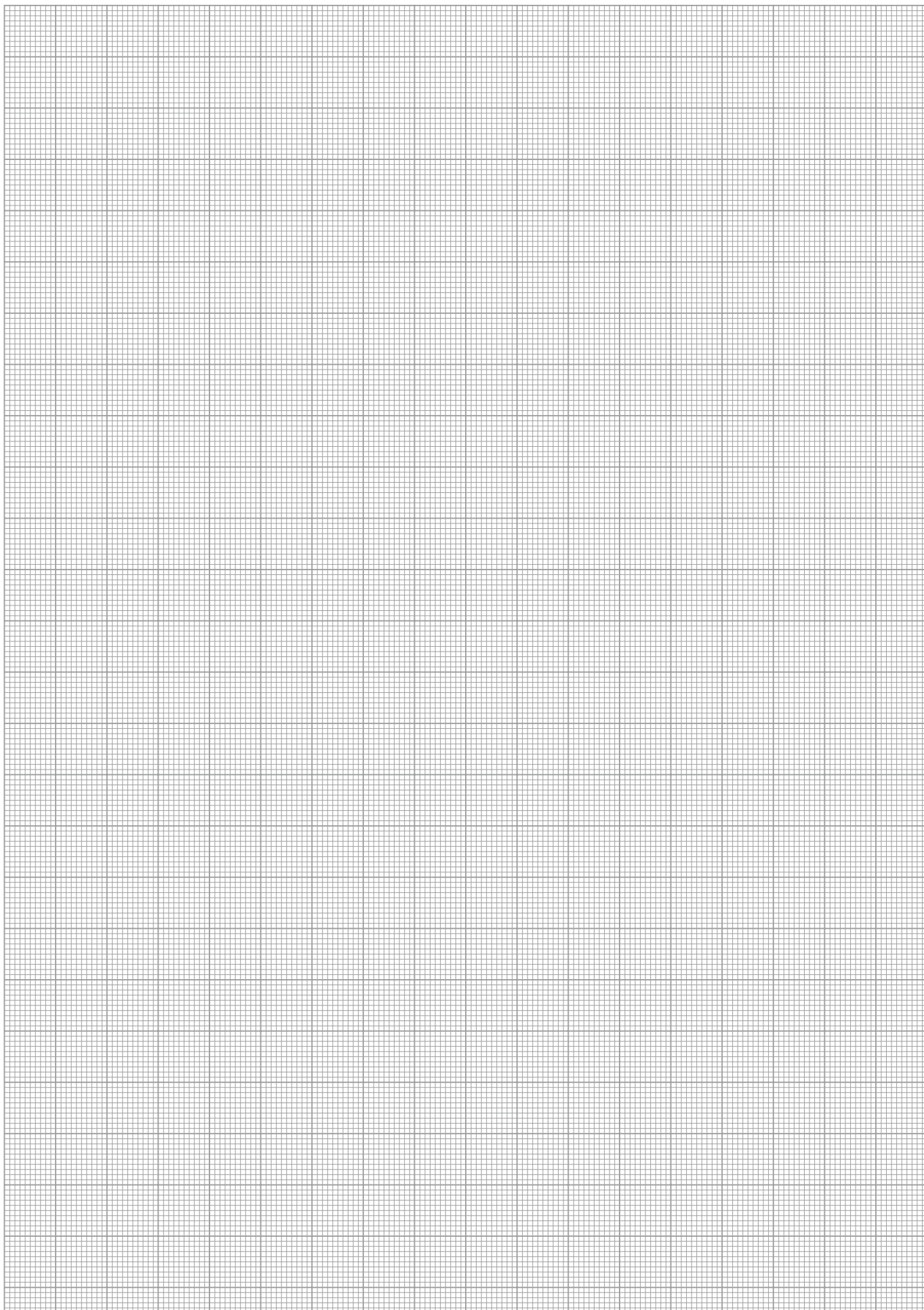
⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

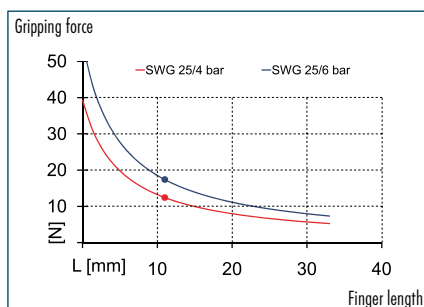
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

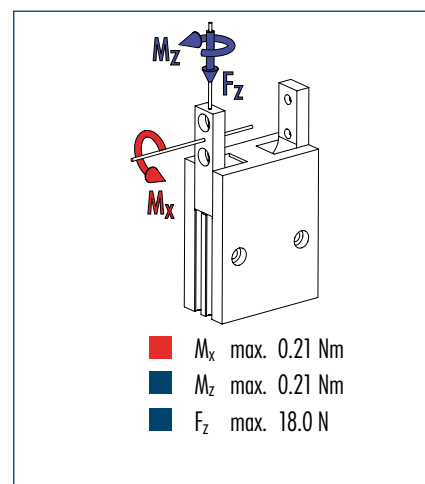




Gripping force, O.D. gripping



Finger load

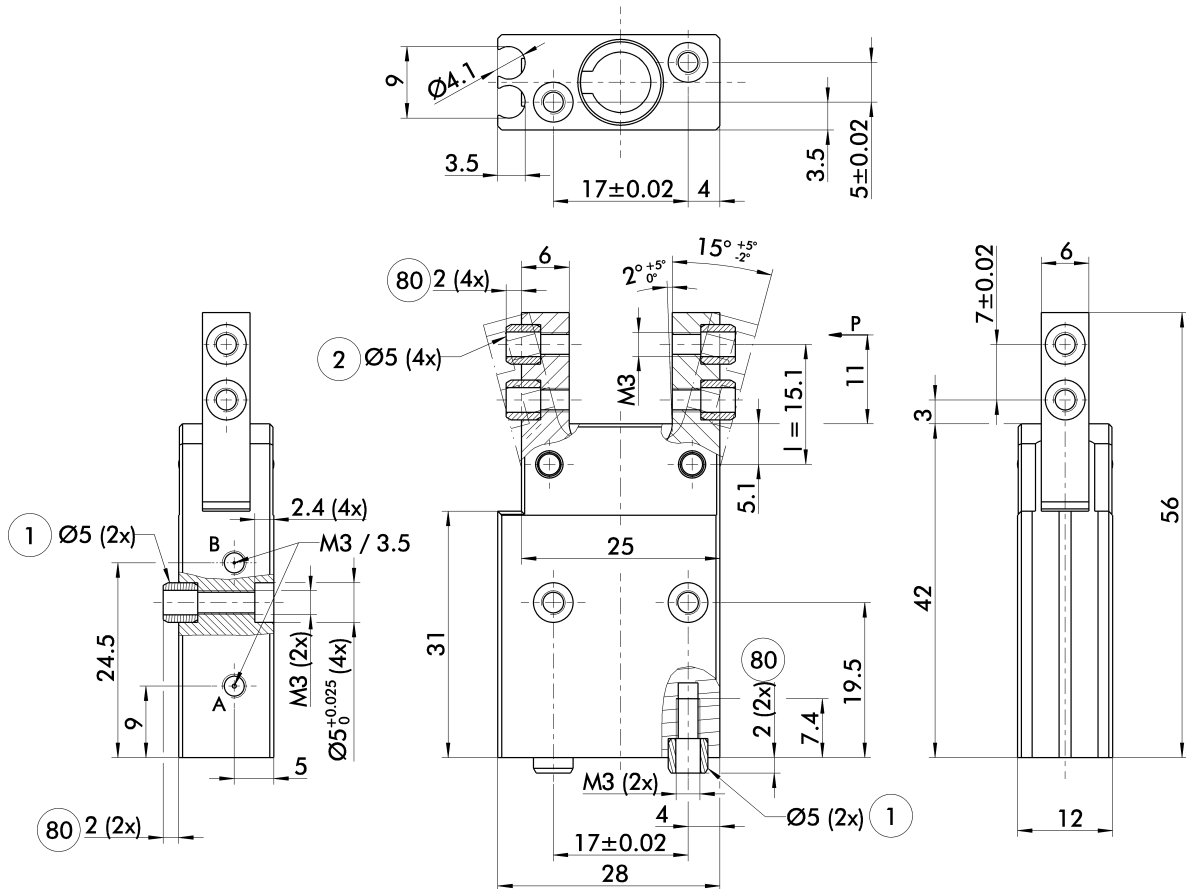


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 25
ID	0305106
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.28 Nm
Spring-actuated closing moment	0.08 Nm
Weight	0.035 kg
Recommended workpiece weight	0.09 kg
Air consumption per double stroke	0.4 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.015/0.02 s
Max. permitted finger length	22 mm
Max. permitted weight per finger	0.028 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



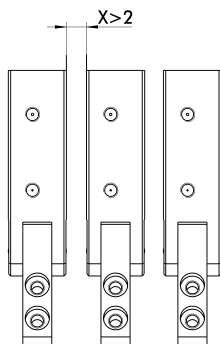
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

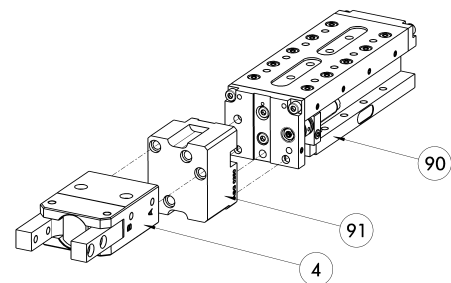
80 Depth of the centering sleeve hole in the matching part

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation

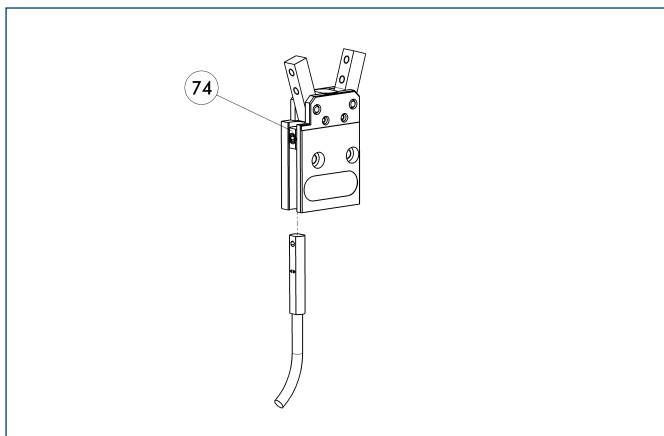


④ Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



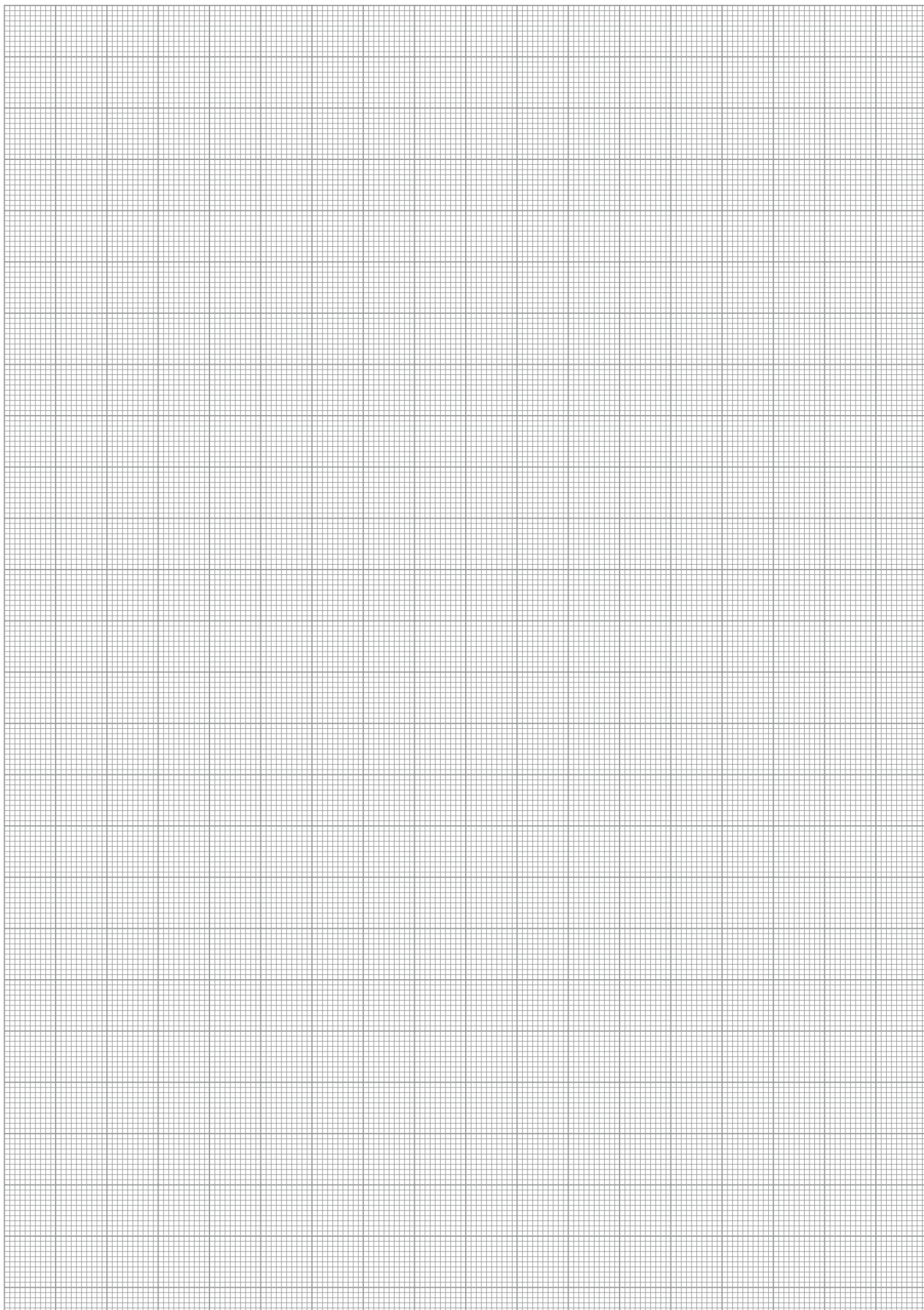
⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

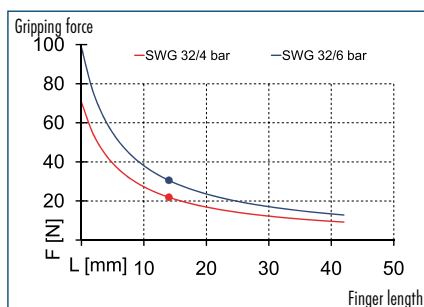
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

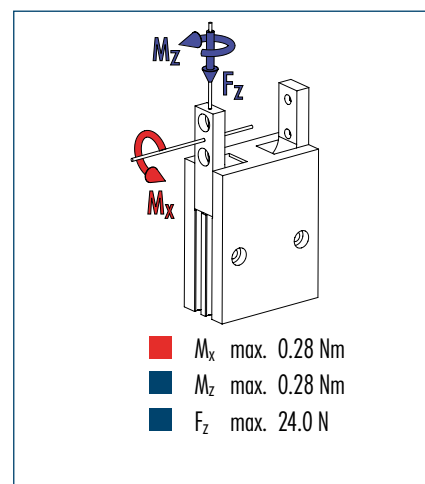




Gripping force, O.D. gripping



Finger load

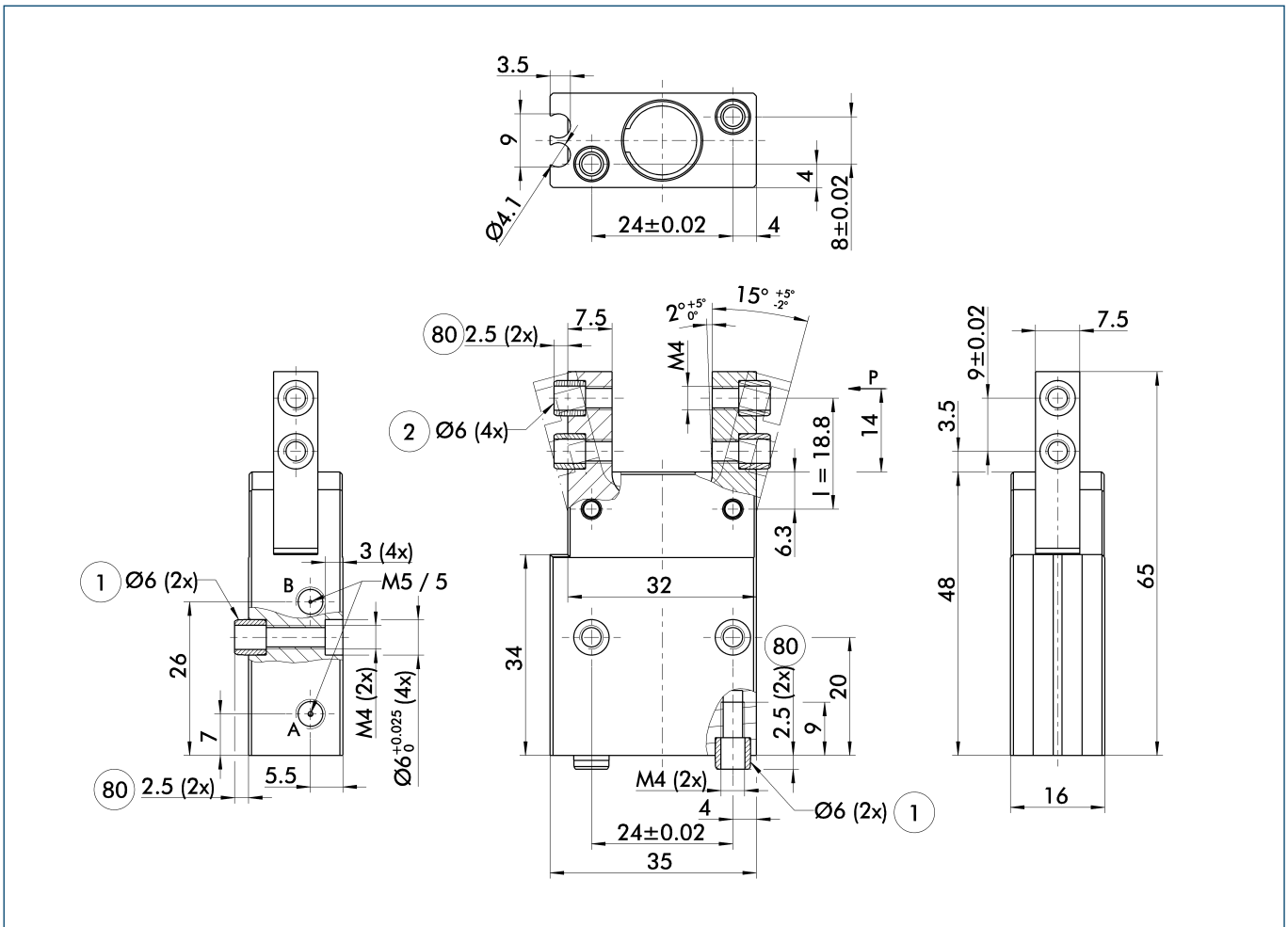


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 32
ID	0305107
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	0.62 [Nm]
Spring-actuated closing moment	0.18 [Nm]
Weight	0.069 [kg]
Recommended workpiece weight	0.156 [kg]
Air consumption per double stroke	0.85 [cm³]
Min./max. operating pressure	4/6.5 [bar]
Nominal operating pressure	6 [bar]
Closing/opening time	0.02/0.025 [s]
Max. permitted finger length	28 [mm]
Max. permitted weight per finger	0.036 [kg]
IP class	30
Min./max. ambient temperature	-10/90 [°C]
Repeat accuracy	0.05 [mm]

Main view



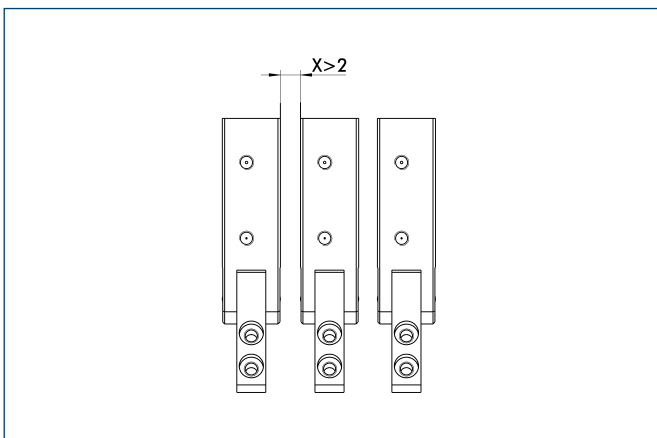
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

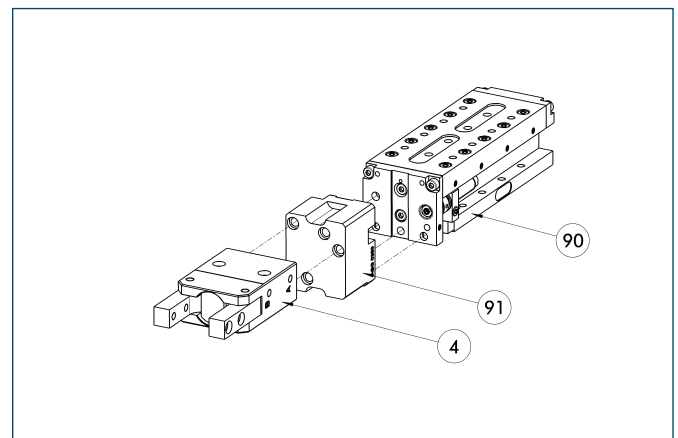
80 Depth of the centering sleeve hole in the matching part

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation

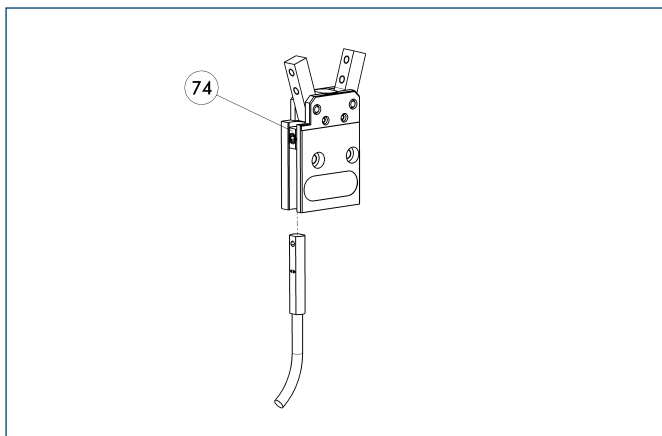


④ Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



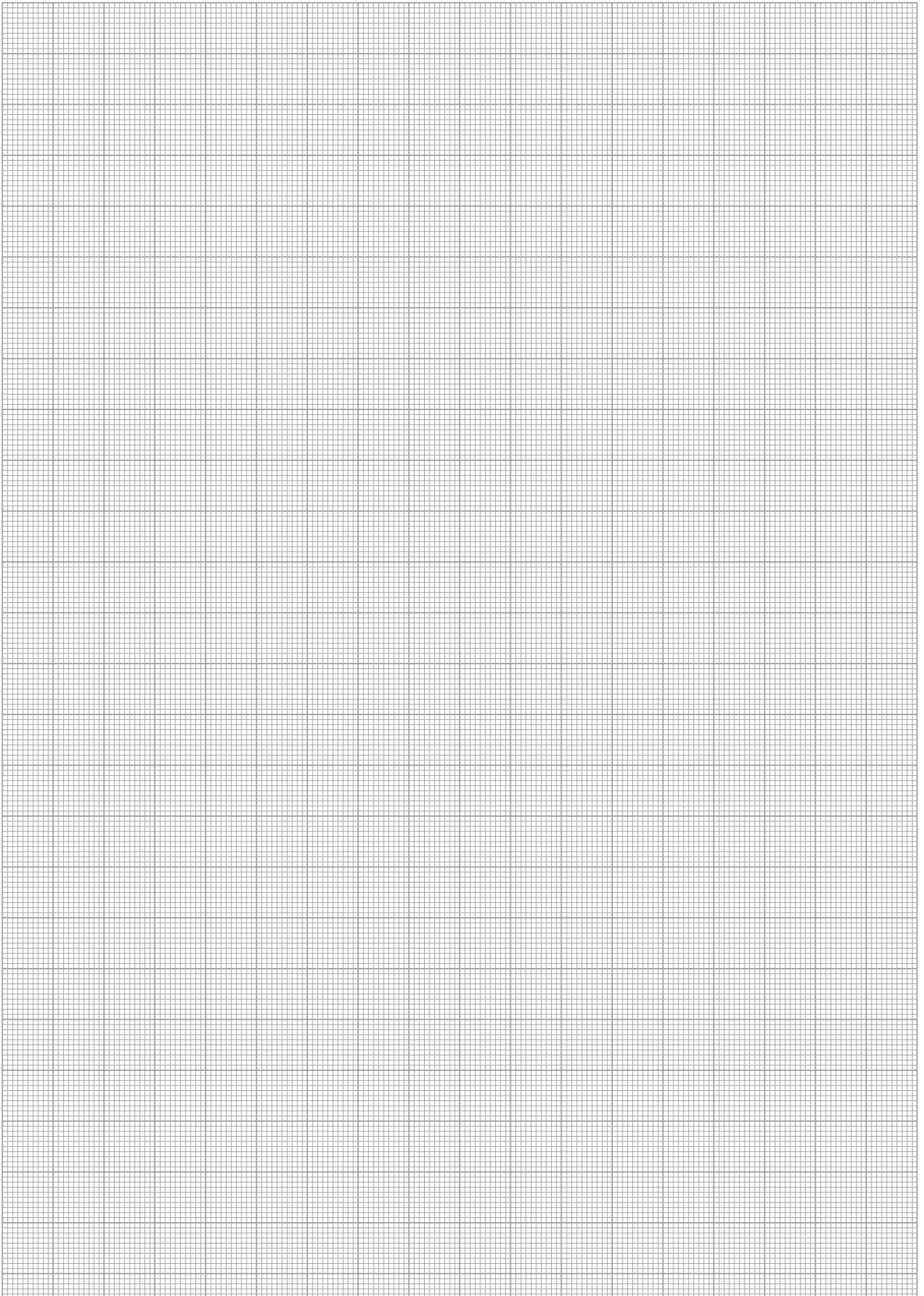
⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

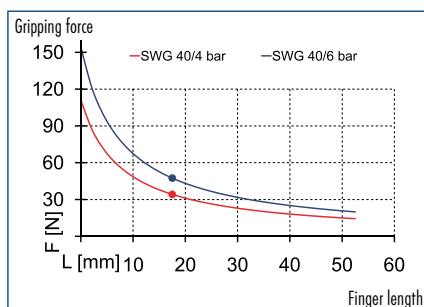
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

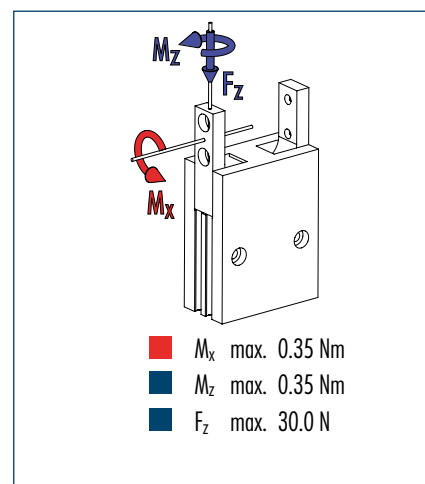




Gripping force, O.D. gripping



Finger load

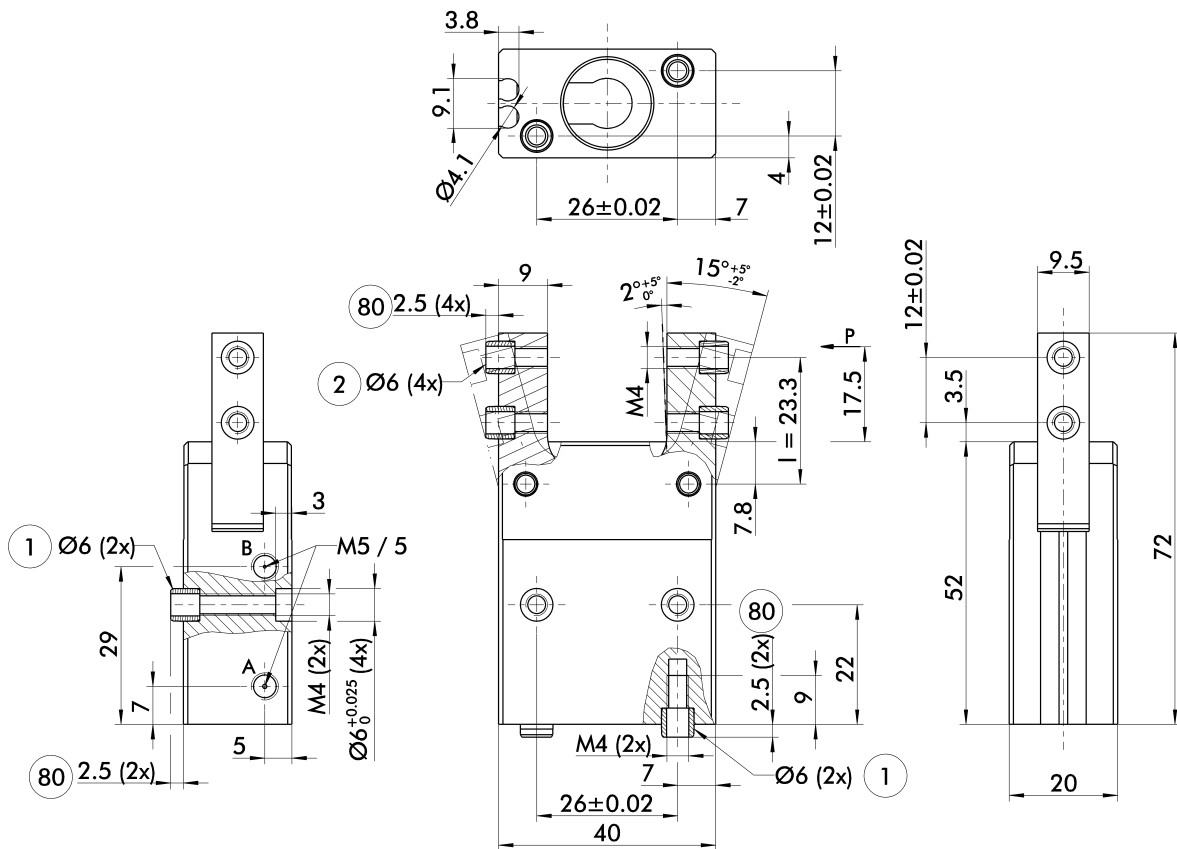


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 40
ID	0305108
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	1.2 Nm
Spring-actuated closing moment	0.36 Nm
Weight	0.106 kg
Recommended workpiece weight	0.24 kg
Air consumption per double stroke	1.6 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.025/0.03 s
Max. permitted finger length	35 mm
Max. permitted weight per finger	0.05 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



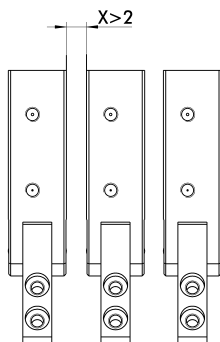
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

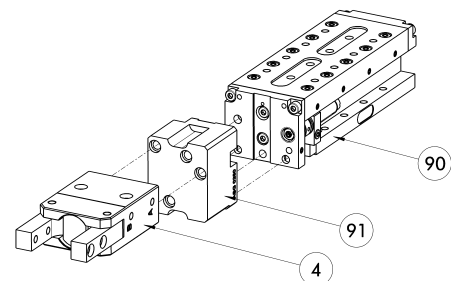
80 Depth of the centering sleeve hole in the matching part

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation

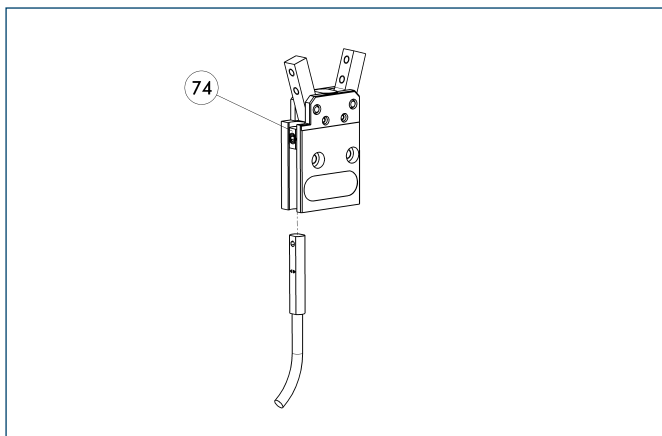


④ Gripper
90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



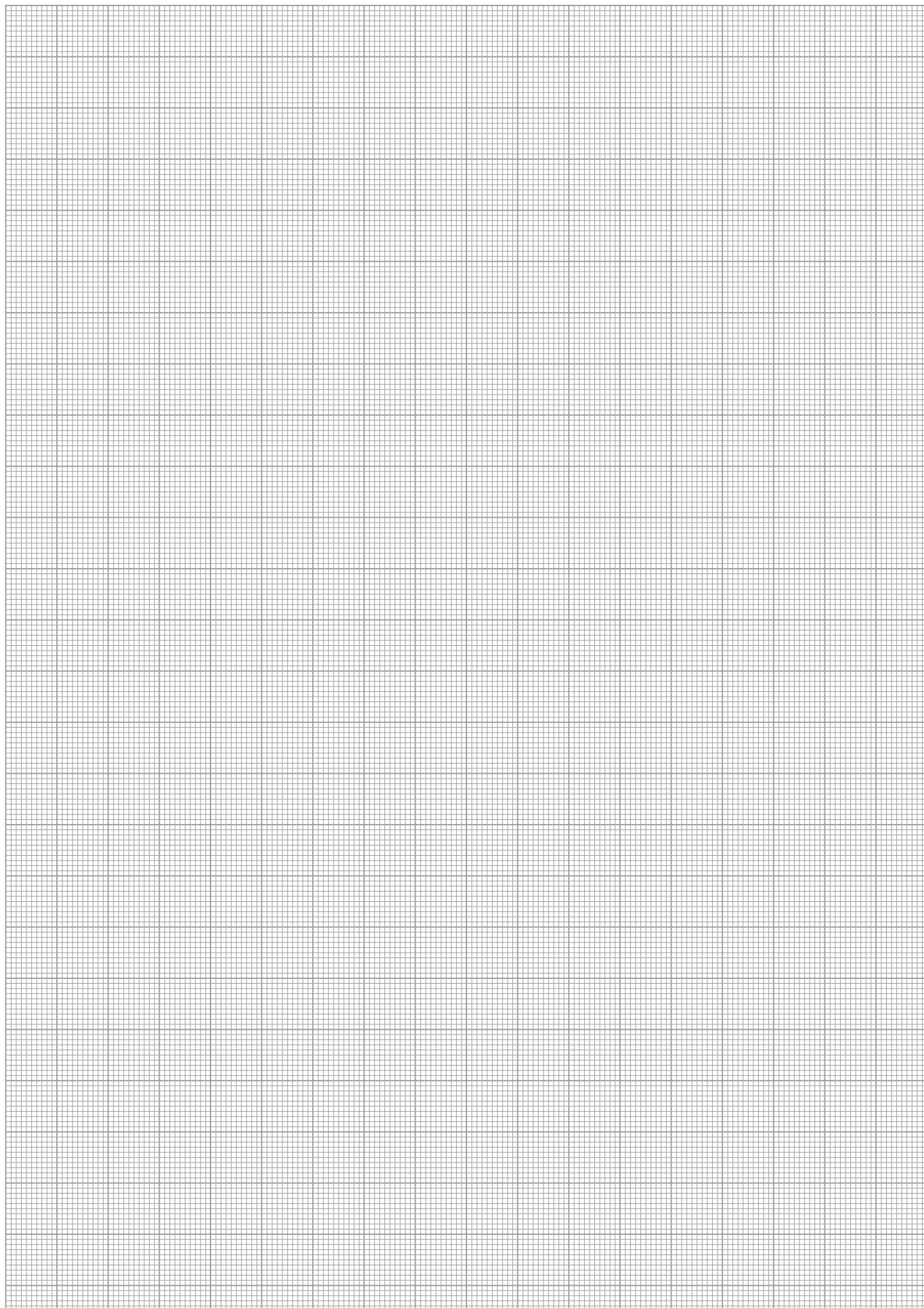
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

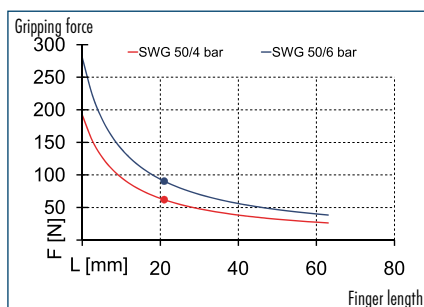
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

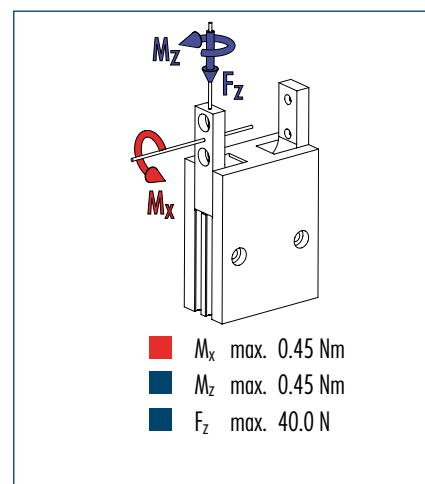




Gripping force, O.D. gripping



Finger load

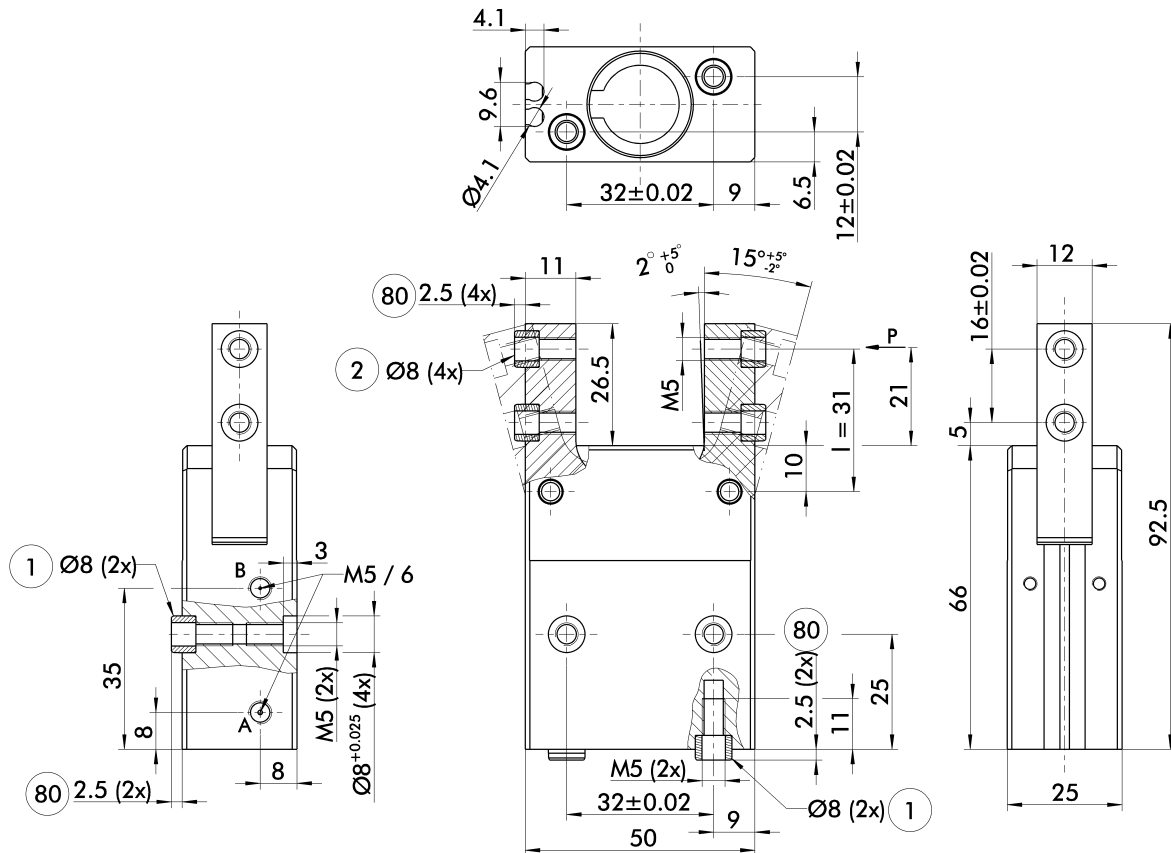


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SWG 50
ID	0305109
Opening angle per jaw	15°
Closed angle per jaw up to	7°
Closing moment	2.8 Nm
Spring-actuated closing moment	0.6 Nm
Weight	0.213 kg
Recommended workpiece weight	0.46 kg
Air consumption per double stroke	3.8 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.03/0.06 s
Max. permitted finger length	42 mm
Max. permitted weight per finger	0.08 kg
IP class	30
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



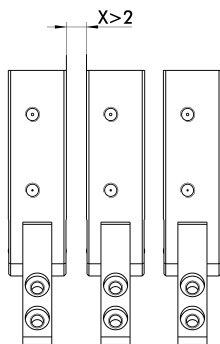
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
 B, b Main/direct connection, gripper closing
 ① Gripper connection
 ② Finger connection

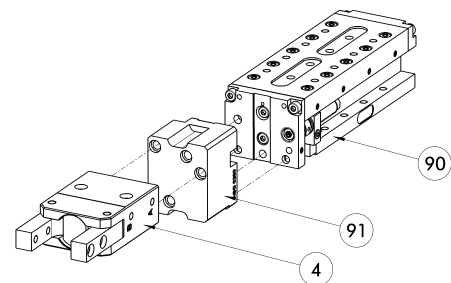
80 Depth of the centering sleeve hole in the matching part

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Modular Assembly Automation

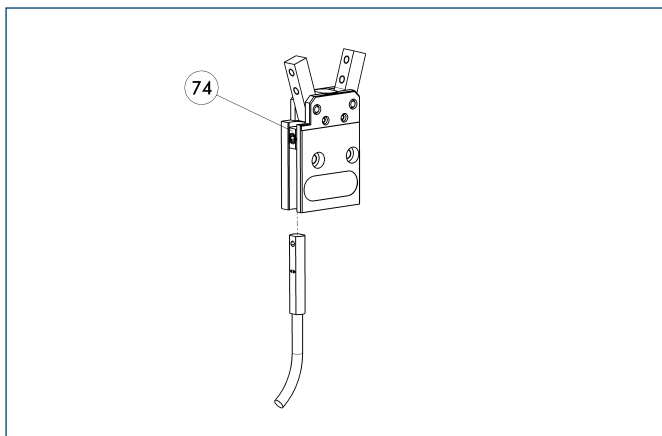


④ Gripper
 90 CLM

91 ASG

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

Programmable magnetic switch



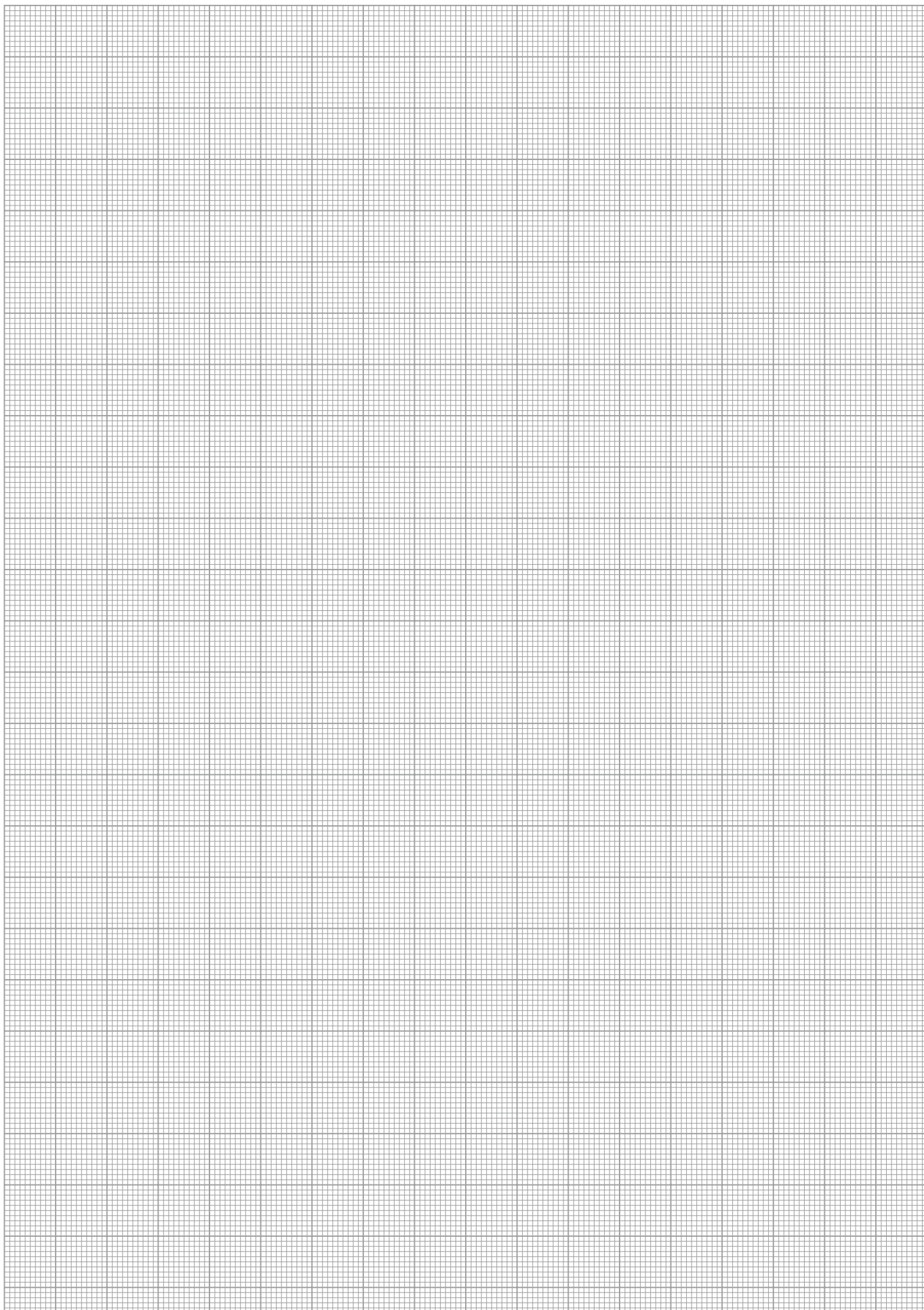
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.





Sizes
10 ... 40



Weight
0.042 kg ... 0.845 kg



Gripping moment
0.22 Nm ... 11.2 Nm

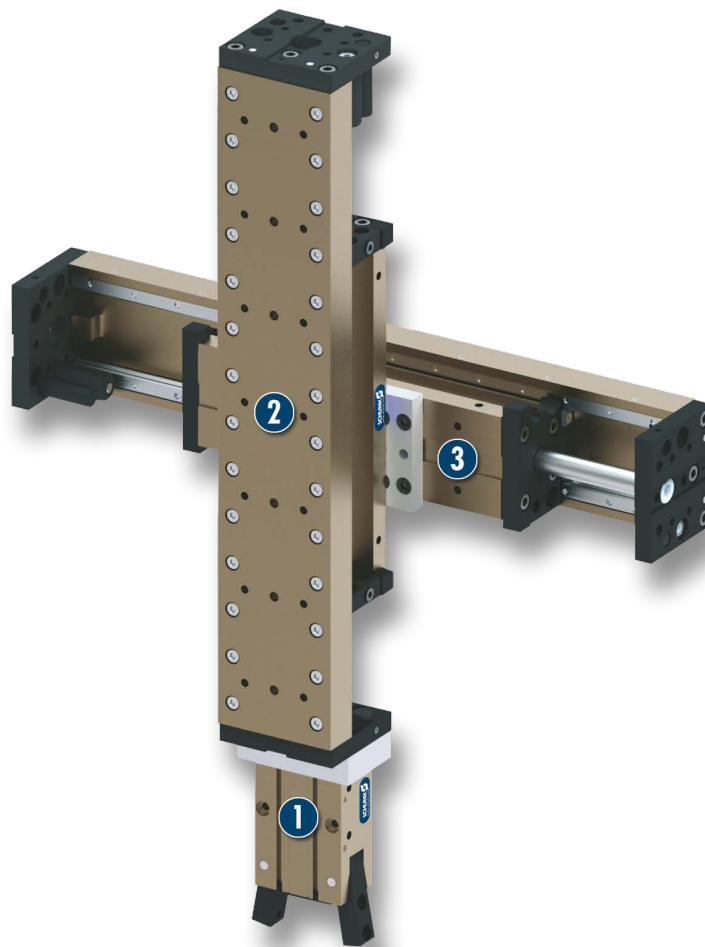


Angle per jaw
20°



Workpiece weight
0.06 kg ... 1 kg

Application example



Handling module for discharging inspection components from the assembly belt

1 2-Finger Angular Gripper LGW

2 Linear module LM

3 Linear module LM

Universal Gripper

universal angular gripper for small to medium-sized workpieces with excellent cost-performance ratio

Field of application

clean surrounding, for example an assembly area

Your advantages and benefits

Function optimized gripper type

for maximum cost effectiveness

Stable cinematics

for high power transmission and synchronized gripping

Matching SCHUNK C-slot switch

for process reliable position interrogation

Hard-anodized or hardened functional components

for long lifetime

Centering sleeves

for a repeat accurate exchange of grippers and fingers

Compact dimensions

for minimized interfering contours



General note to the series

Principle of function

double-acting, guided kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

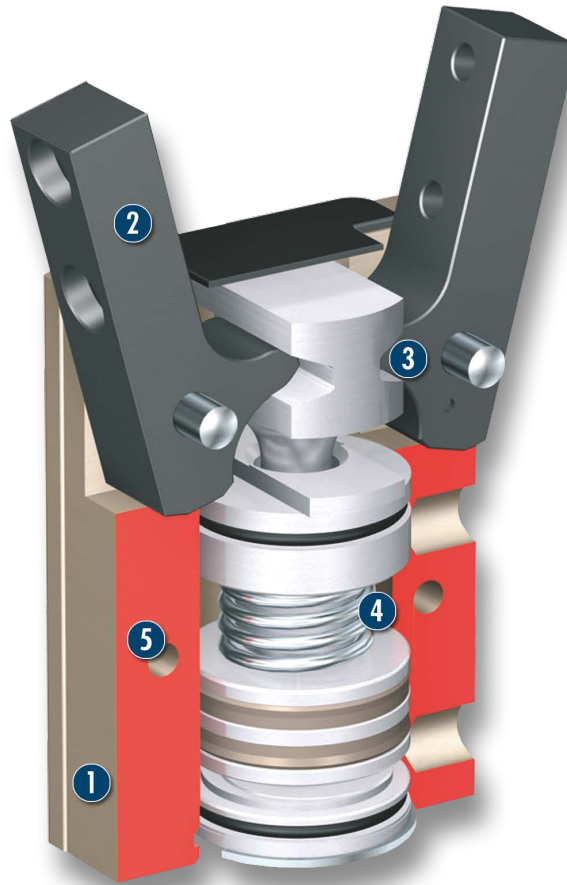
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Swivel fittings, centering sleeves, assembly and operation manual with manufacturer's declaration

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Kinematics**
precise gear for centric gripping
- 4 Gripping force maintenance device**
mechanic gripping force maintenance for O.D. gripping
- 5 Centering and mounting possibilities**
for assembly of the gripper to a base area and at the long side

Functional description

The piston is moved up and down by compressed air.
The kinematics transforms this vertical motion into a synchronous and rotatory gripping motion of the base jaws.

Options and special information

Monitoring with a SCHUNK MMS 22 or RMS 22 sensor is not possible. The use of the recommended sensors MZN and RZN is not compulsory.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



Sensor cables



Pressure maintenance valve



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

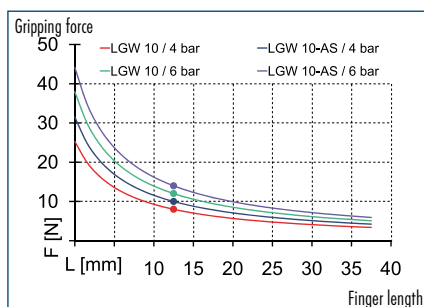
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

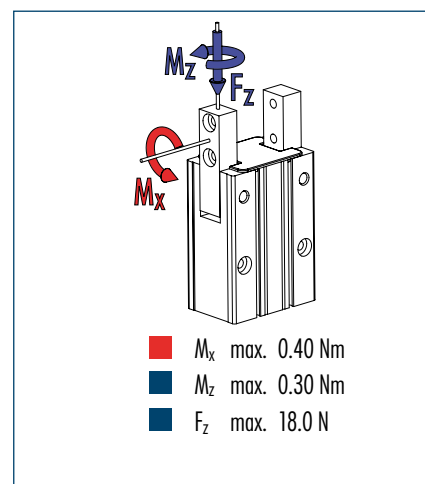
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

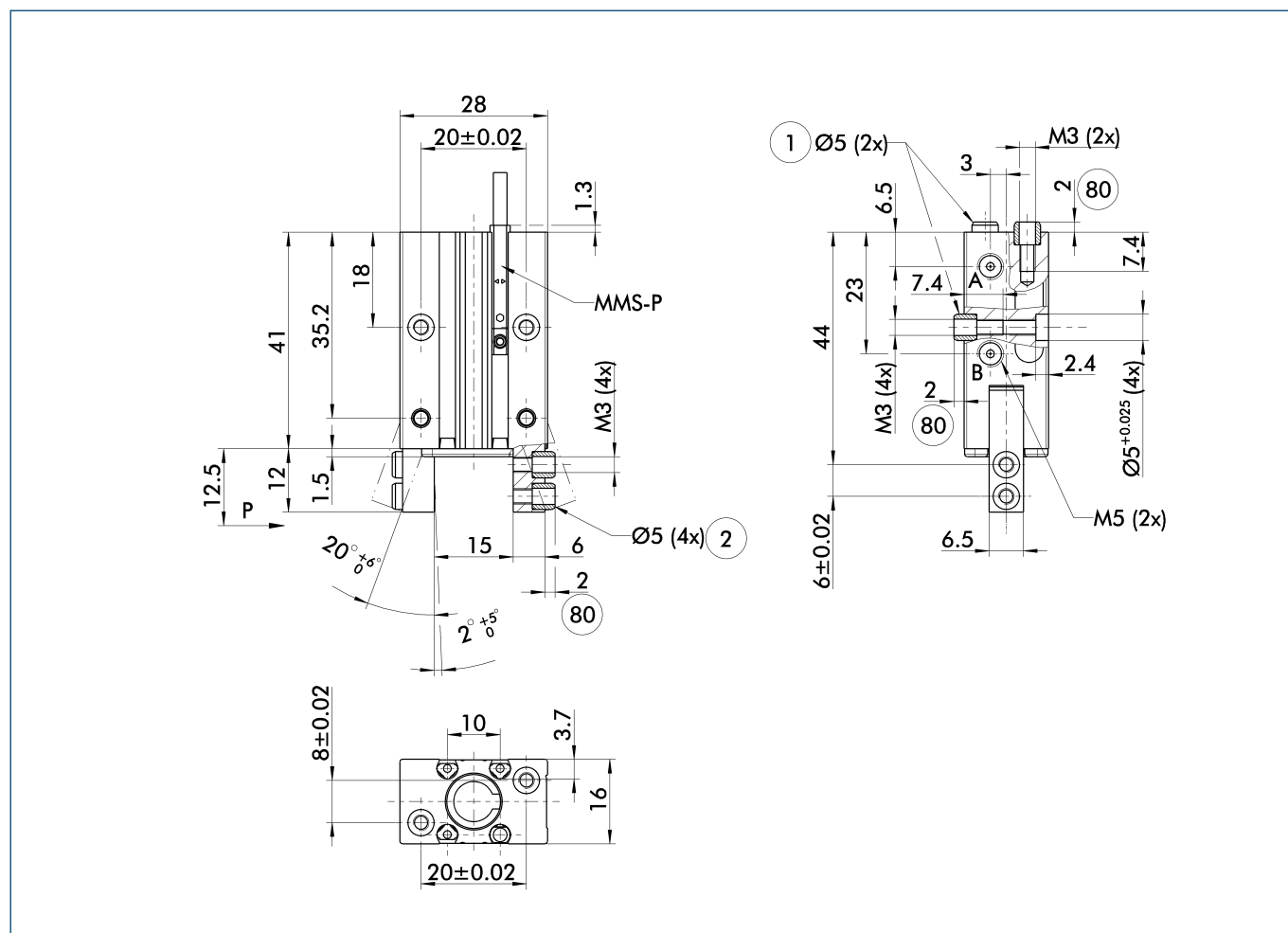


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGW 10	LGW 10-AS
ID	0312950	0312951
Opening angle per jaw	20	20
Closed angle per jaw up to	7	7
Closing moment	0.22	0.28
Spring-actuated closing moment		0.06
Weight	0.042	0.043
Recommended workpiece weight	0.06	0.07
Air consumption per double stroke	0.7	0.7
Min./max. operating pressure	2/8	4/6.5
Nominal operating pressure	6	6
Closing/opening time	0.02/0.02	0.02/0.03
Max. permitted finger length	25	25
Max. permitted weight per finger	0.04	0.04
IP class	40	40
Min./max. ambient temperature	-10/90	-10/90
Repeat accuracy	0.02	0.02

Main view



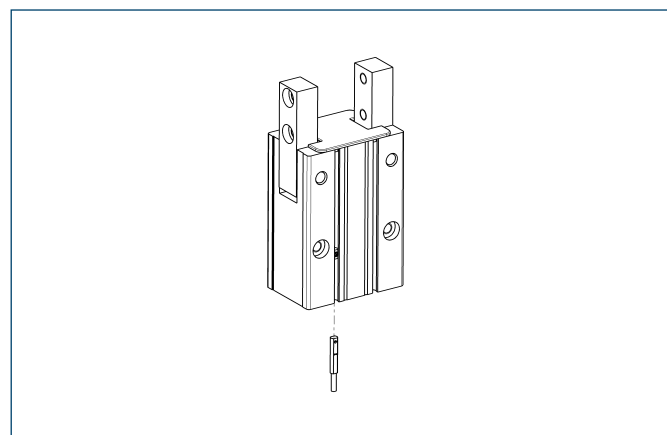
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection

- 80 Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

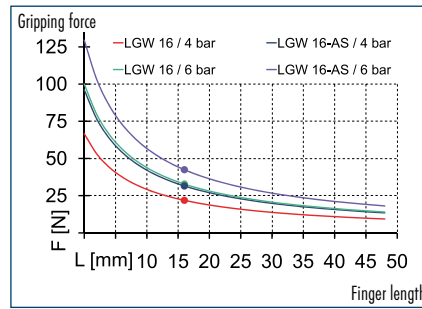
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ② Per gripper one sensor (closer/NO) is required, optionally a cable extension.



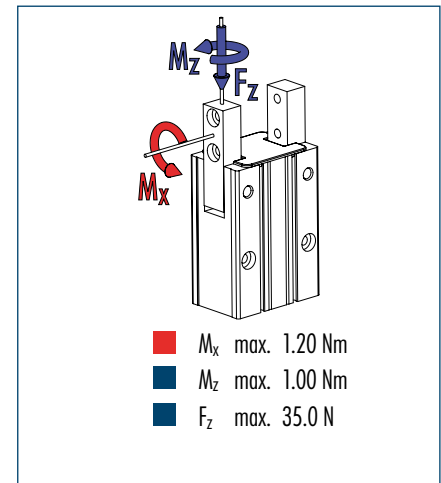
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

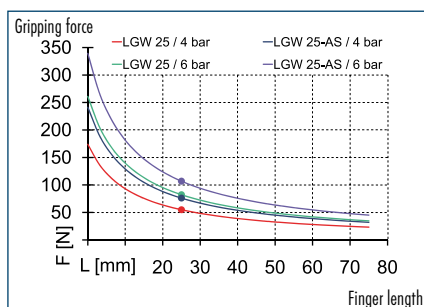
Description	LGW 16	LGW 16-AS
ID	0312952	0312953
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	7	7
Closing moment [Nm]	0.78	1
Spring-actuated closing moment [Nm]		0.22
Weight [kg]	0.088	0.091
Recommended workpiece weight [kg]	0.17	0.21
Air consumption per double stroke [cm³]	2.3	2.3
Min./max. operating pressure [bar]	2/8	4/6.5
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.03/0.02	0.025/0.03
Max. permitted finger length [mm]	32	32
Max. permitted weight per finger [kg]	0.05	0.05
IP class	40	40
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.02	0.02

⑧⑩ Depth of the centering sleeve hole in the matching part

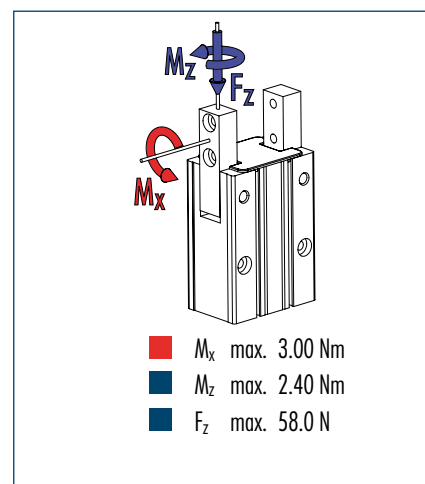
① Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

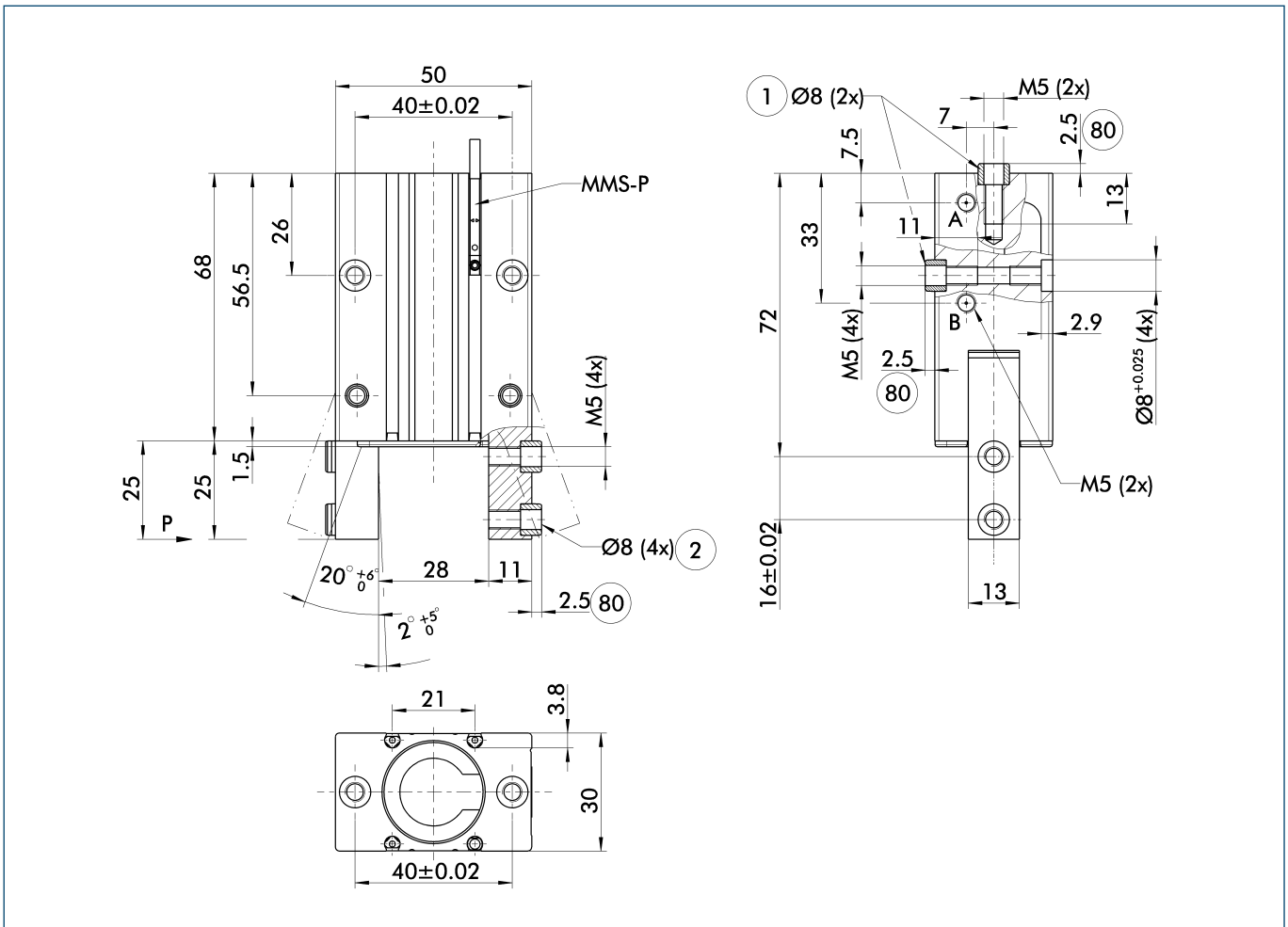


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGW 25	LGW 25-AS
ID	0312954	0312955
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	7	7
Closing moment [Nm]	3.2	4.1
Spring-actuated closing moment [Nm]		0.9
Weight [kg]	0.25	0.255
Recommended workpiece weight [kg]	0.45	0.55
Air consumption per double stroke [cm³]	9	9
Min./max. operating pressure [bar]	2/8	4/6.5
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.045/0.04	0.06/0.07
Max. permitted finger length [mm]	50	50
Max. permitted weight per finger [kg]	0.1	0.1
IP class	40	40
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.02	0.02

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

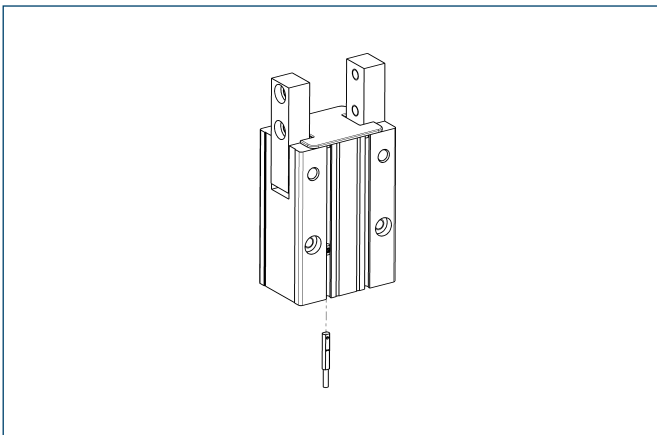
- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

⑧⑩ Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



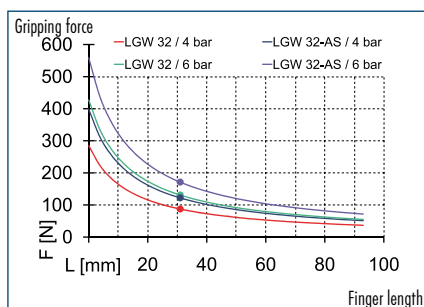
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMS-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

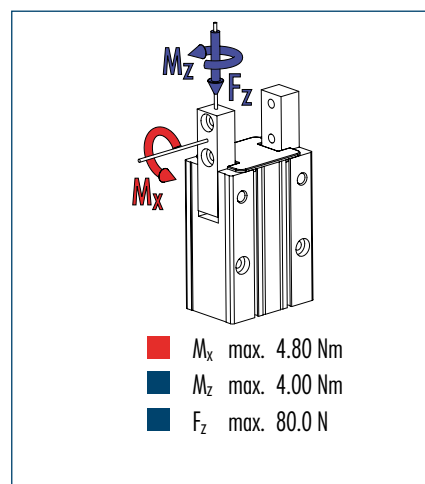
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

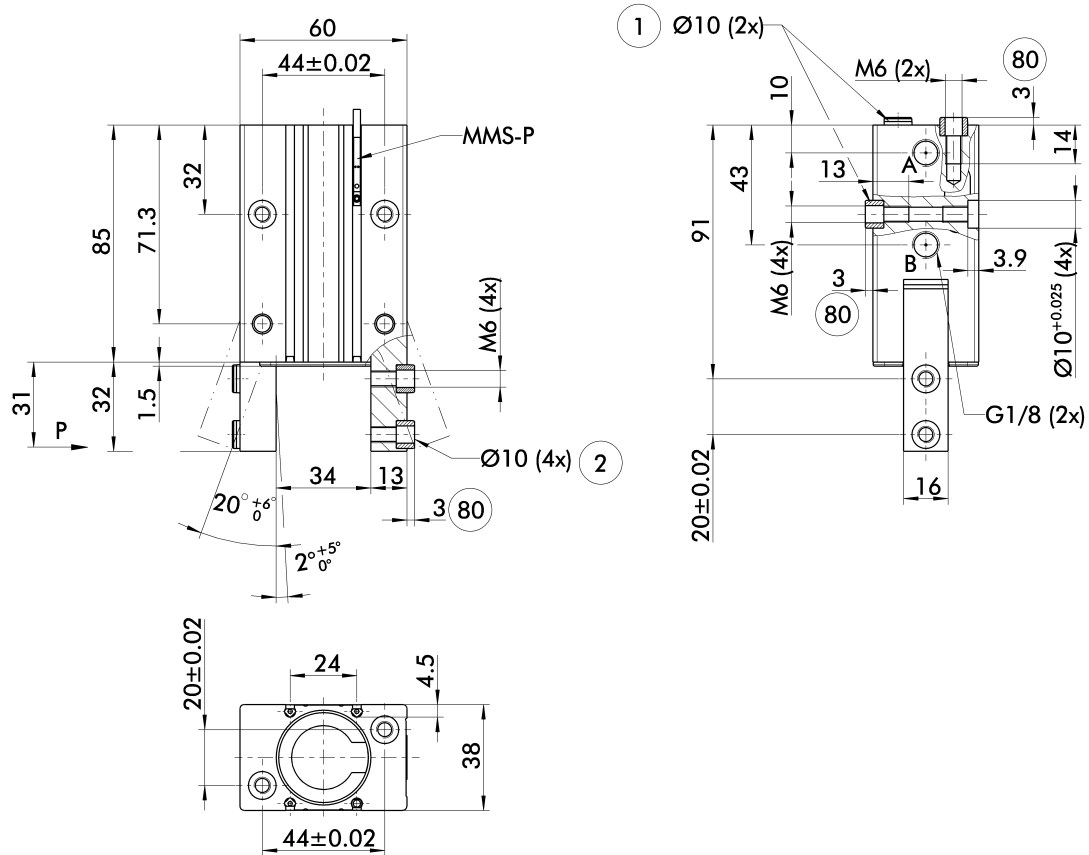


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGW 32	LGW 32-AS
ID	0312956	0312957
Opening angle per jaw	20°	20°
Closed angle per jaw up to	7°	7°
Closing moment	5.6 Nm	7.4 Nm
Spring-actuated closing moment		1.8 Nm
Weight	0.46 kg	0.466 kg
Recommended workpiece weight	0.64 kg	0.84 kg
Air consumption per double stroke	16.1 cm³	16.1 cm³
Min./max. operating pressure	2/8 bar	4/6.5 bar
Nominal operating pressure	6 bar	6 bar
Closing/opening time	0.05/0.055 s	0.06/0.07 s
Max. permitted finger length	62 mm	62 mm
Max. permitted weight per finger	0.13 kg	0.13 kg
IP class	40	40
Min./max. ambient temperature	-10/90 °C	-10/90 °C
Repeat accuracy	0.02 mm	0.02 mm

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

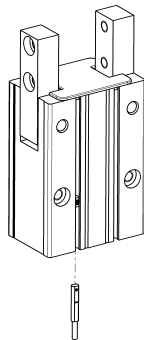
- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

- ① Gripper connection
- ② Finger connection

⑧⑩ Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



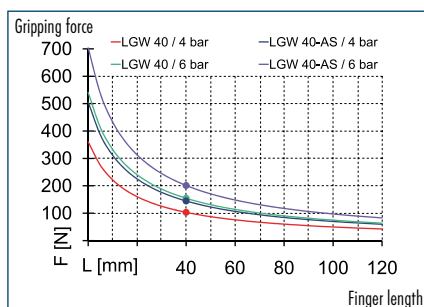
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

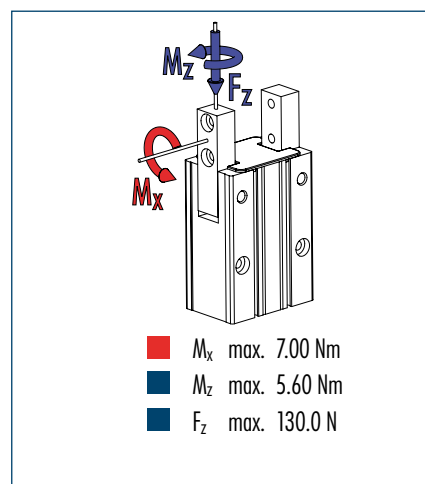
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

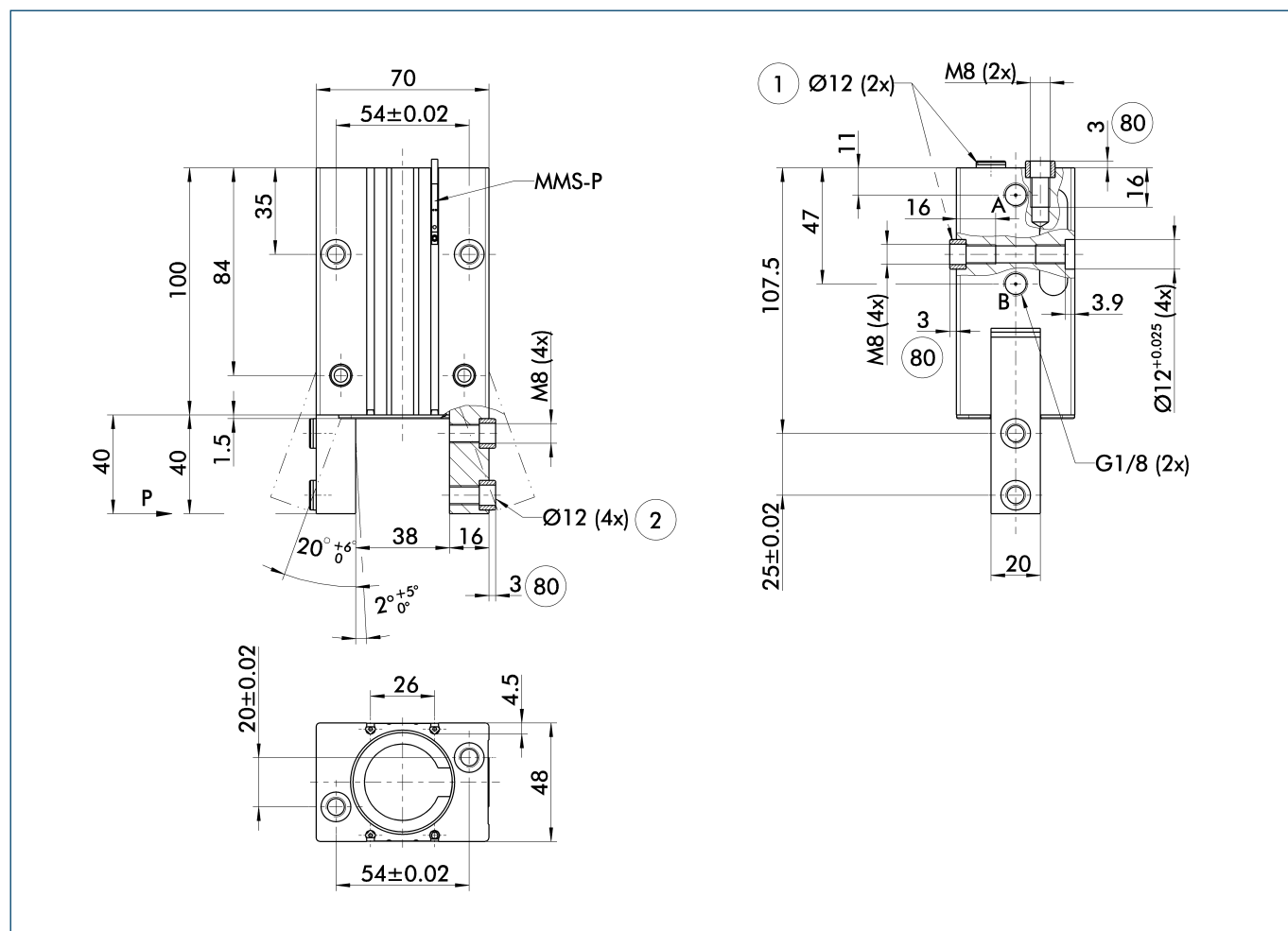


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGW 40	LGW 40-AS
ID	0312958	0312959
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	7	7
Closing moment [Nm]	8.6	11.2
Spring-actuated closing moment [Nm]		2.6
Weight [kg]	0.83	0.845
Recommended workpiece weight [kg]	0.78	1
Air consumption per double stroke [cm³]	31	31
Min./max. operating pressure [bar]	2/8	4/6.5
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.055/0.055	0.06/0.09
Max. permitted finger length [mm]	80	80
Max. permitted weight per finger [kg]	0.22	0.22
IP class	40	40
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.02	0.02

Main view



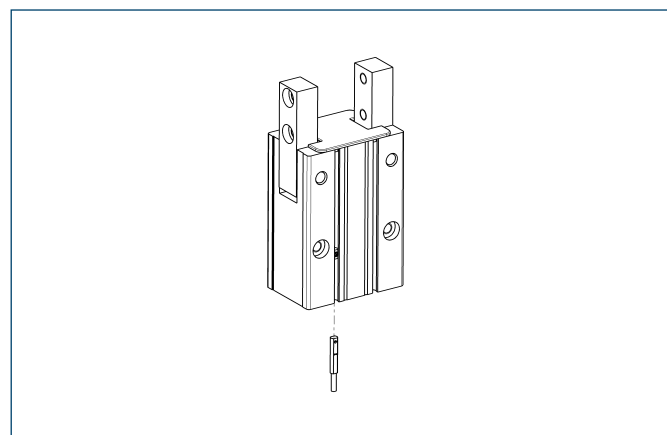
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, gripper opening
- B, b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection

- 80 Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ② Per gripper one sensor (closer/NO) is required, optionally a cable extension.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



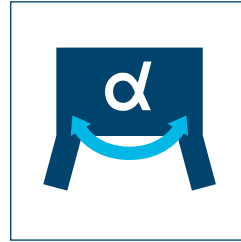
Sizes
40 ... 80



Weight
0.21 kg ... 1.2 kg



Gripping moment
5.98 Nm ... 50.82 Nm

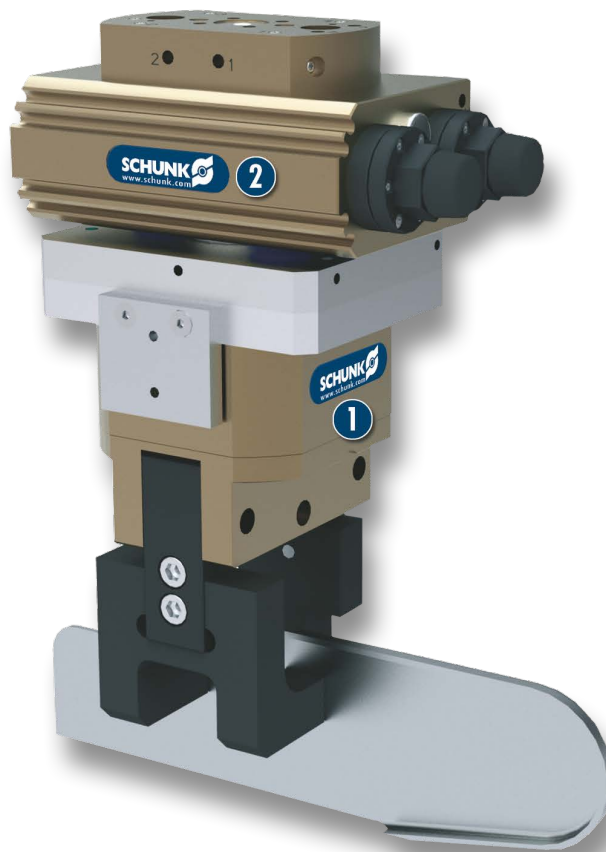


Angle per jaw
20°



Workpiece weight
1.1 kg ... 4.8 kg

Application example



Rotating/gripping combination for flexible handling of sheet metal components

- 1 2-Finger Angular Gripper PWG-S
- 2 Rotary Actuator SRU-plus

Universal Gripper

robust 2-finger angular gripper with spring-supported gripping force maintenance device

Field of application

for universal use in clean and slightly dirty environments

Your advantages and benefits

Spring-supported gripping force maintenance for O.D. gripping

holds the workpiece in case of pressure drop, always integrated

Proximity switch mounted directly without additional brackets

Eliminating unnecessary interfering contours

Minimum gripper dimensions at a maximum gripping force

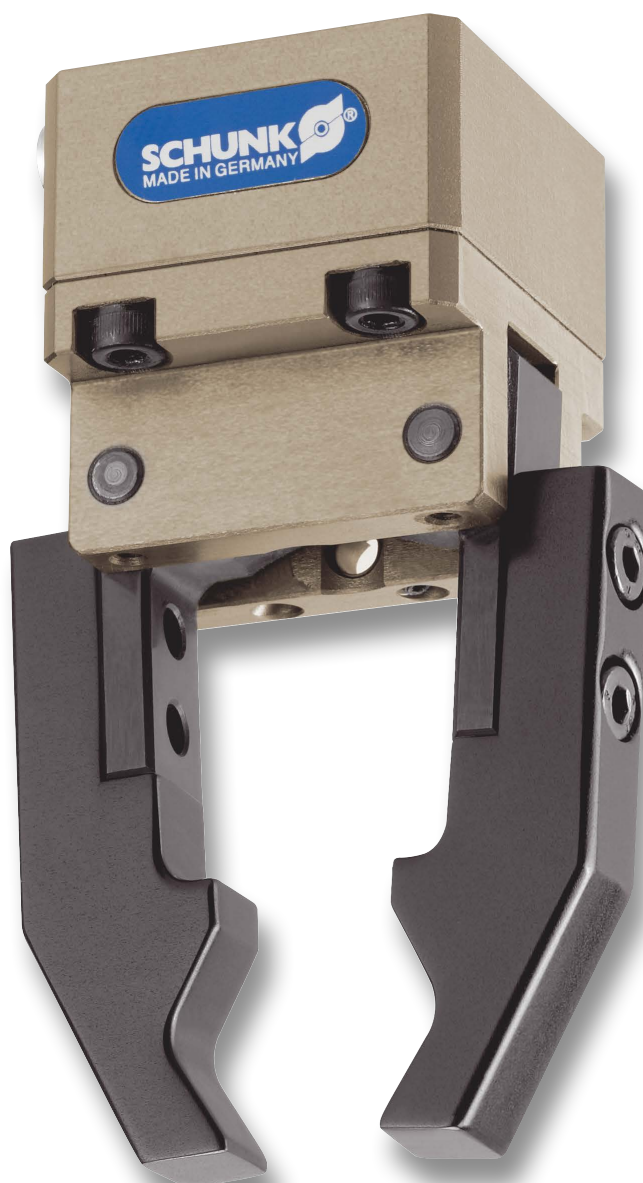
thus achieves an excellent power density

Robust gripper design

for a versatile field of applications

Kinematics

for high power transmission and synchronized gripping



General note to the series

Principle of function

Toggle drive system

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

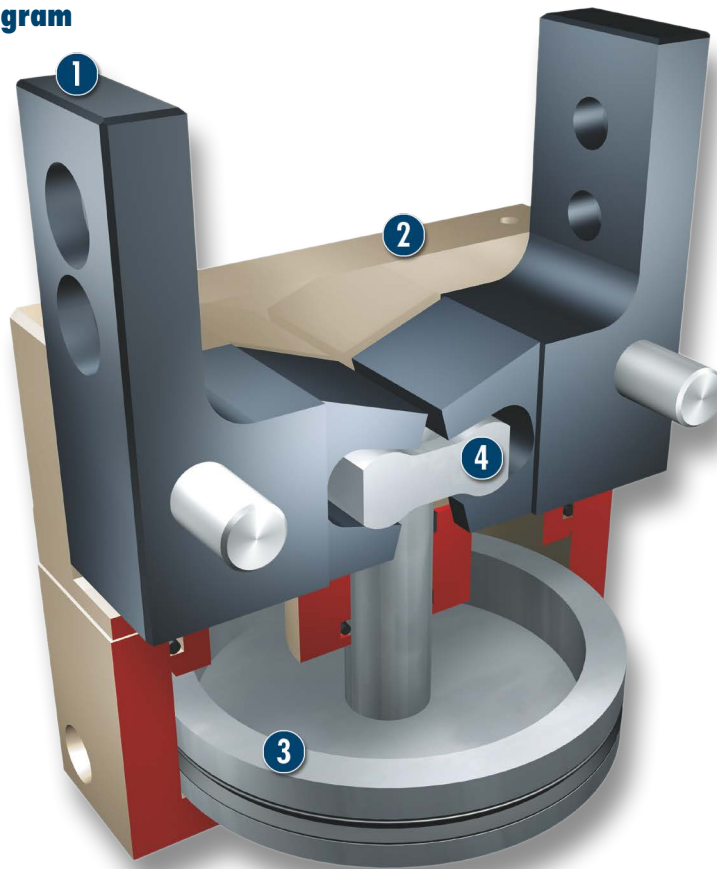
Scope of delivery

O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

always equipped with a mechanic gripping force maintenance device for O.D. gripping

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 3 Drive**
pneumatic, powerful and easy to handle
- 4 Lever mechanism**
for precise and synchronized gripping

Functional description

The piston is moved up and down by compressed air.
The kinematics transforms this vertical motion into a synchronous and rotatory gripping motion of the base jaws.

Options and special information

Reduced opening angle available on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



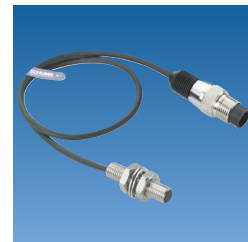
Fittings



Pressure maintenance valve



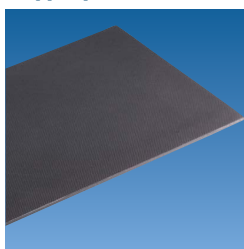
Inductive proximity switches



Plastic inserts



Gripper pads



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

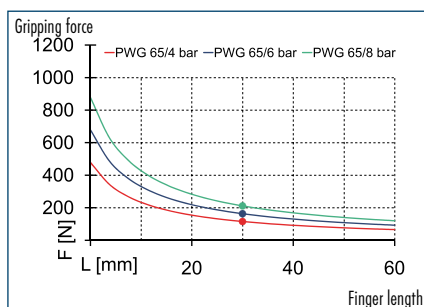
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

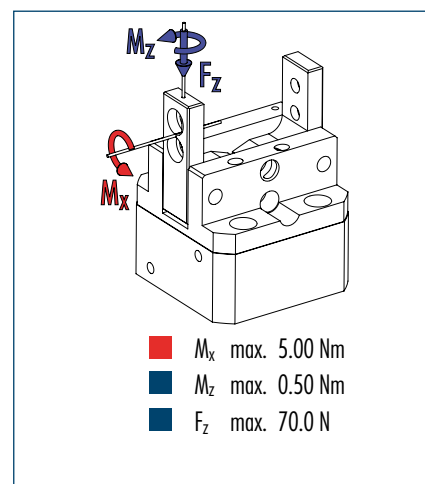
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

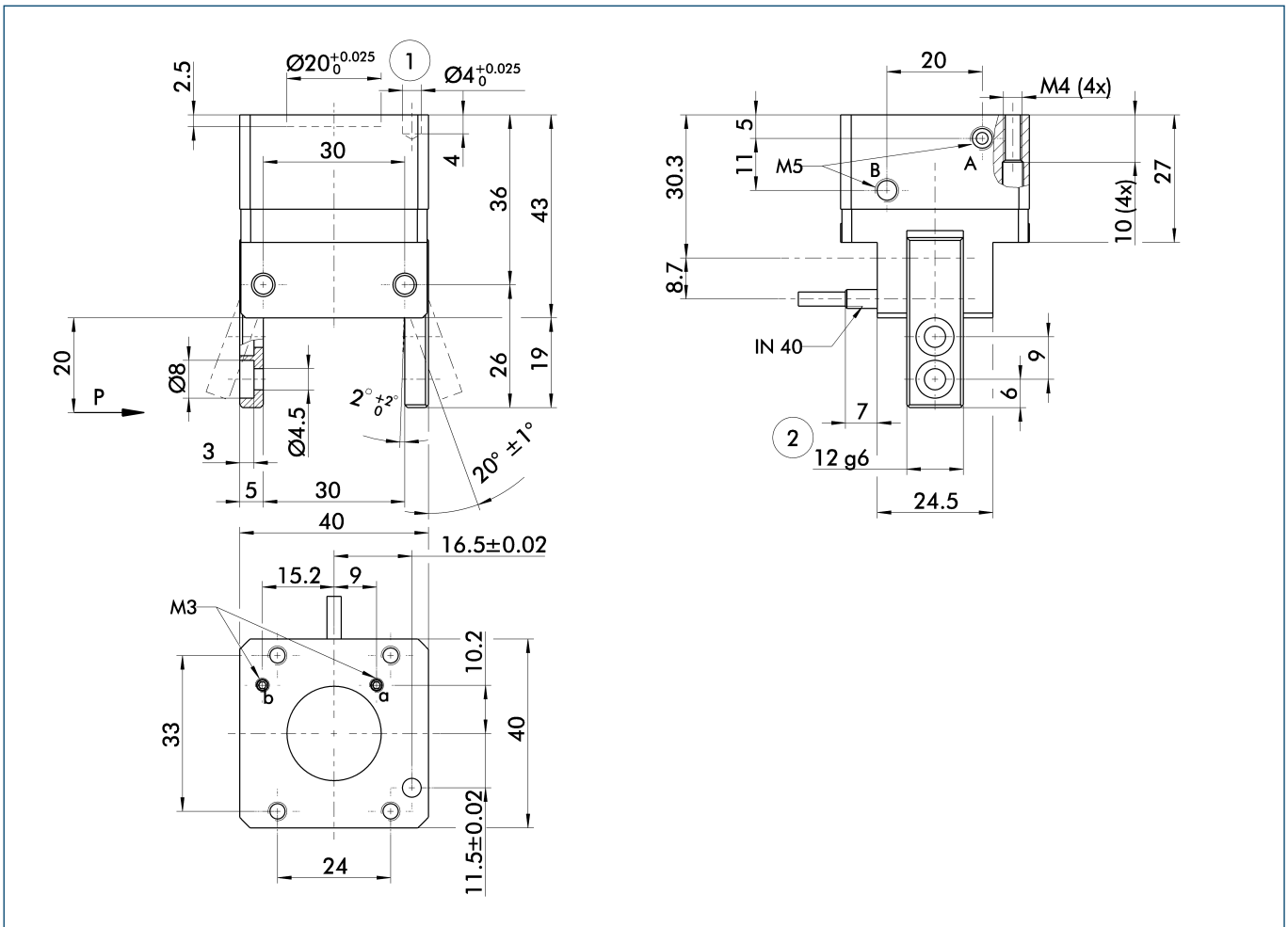


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG-S 40
ID	0302611
Opening angle per jaw	20°
Closed angle per jaw up to	4°
Closing moment	5.98 Nm
Spring-actuated closing moment	0.9 Nm
Weight	0.21 kg
Recommended workpiece weight	1.1 kg
Air consumption per double stroke	7.5 cm³
Min./max. operating pressure	4/8 bar
Nominal operating pressure	6 bar
Closing/opening time	0.01/0.01 s
Max. permitted finger length	40 mm
Max. permitted weight per finger	0.15 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



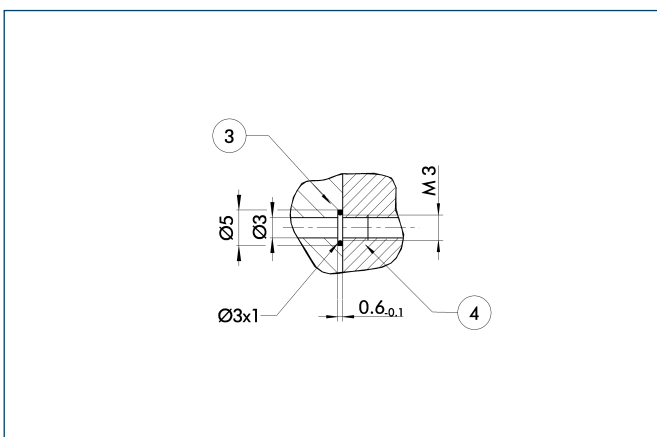
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

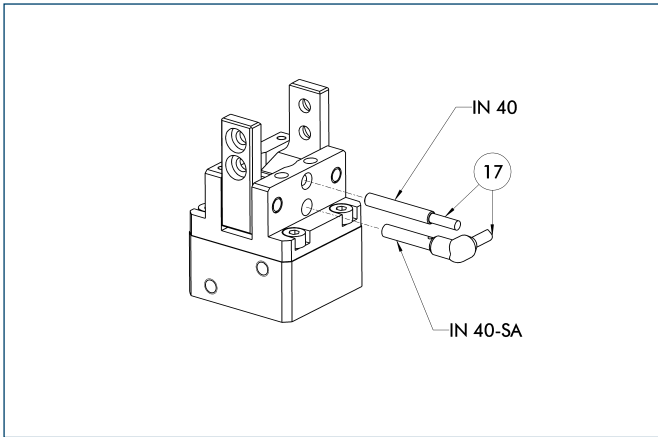
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Inductive proximity switches



17 Cable outlet

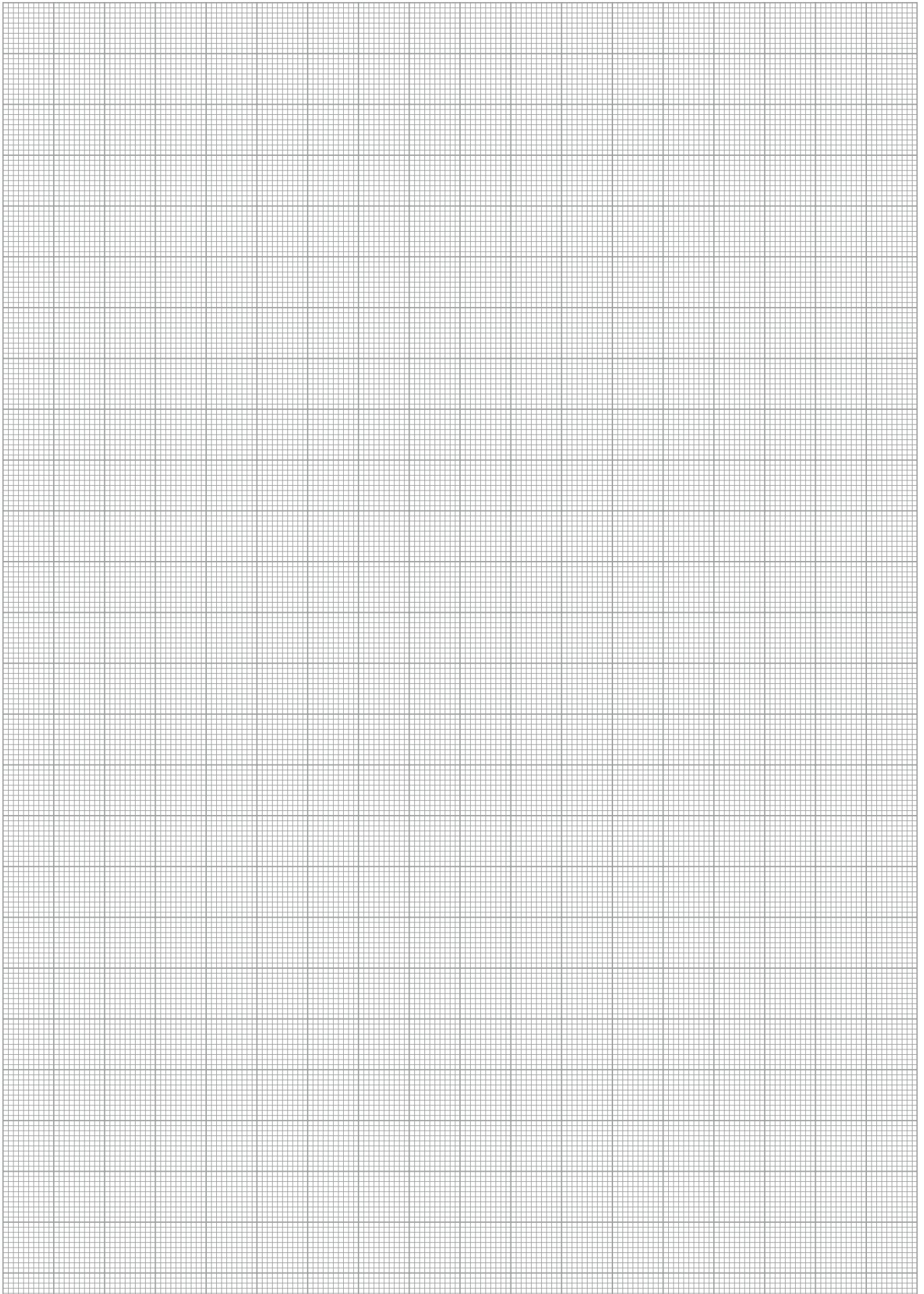
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

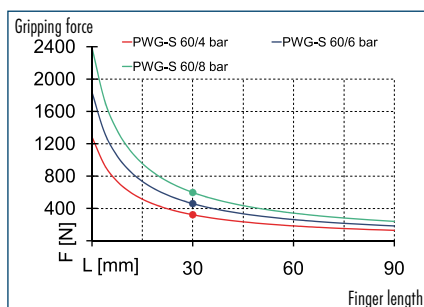
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

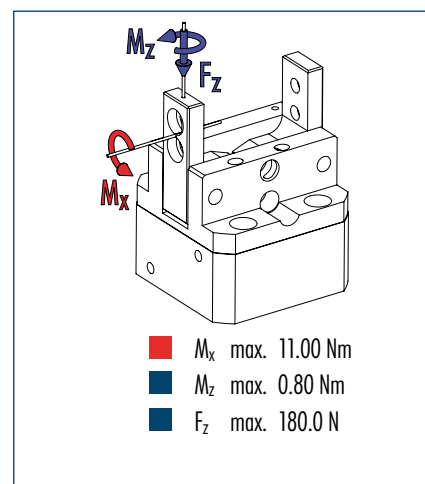




Gripping force, O.D. gripping



Finger load

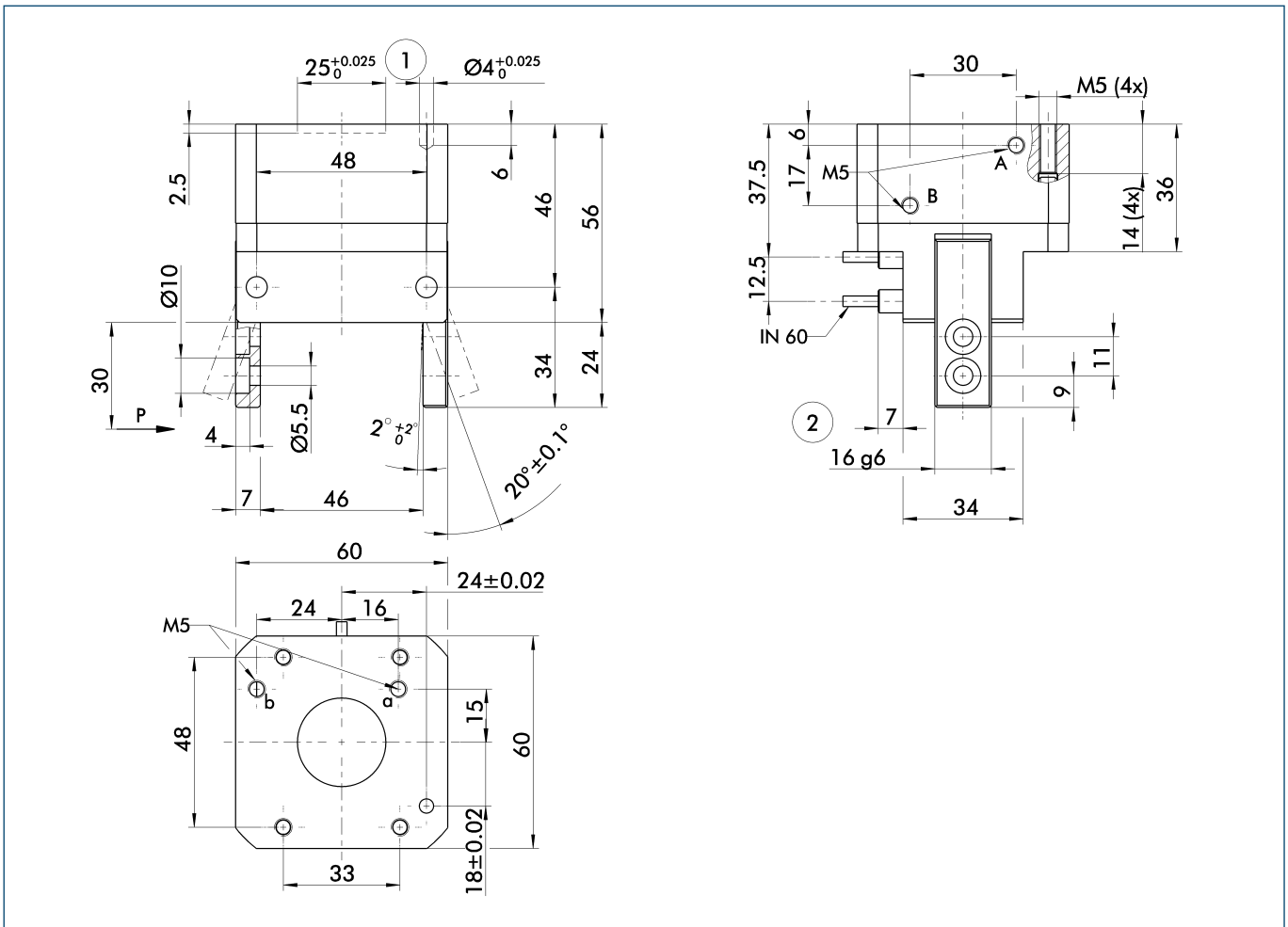


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG-S 60
ID	0302612
Opening angle per jaw	20°
Closed angle per jaw up to	4°
Closing moment	18.36 Nm
Spring-actuated closing moment	2.4 Nm
Weight	0.62 kg
Recommended workpiece weight	2.3 kg
Air consumption per double stroke	29 cm³
Min./max. operating pressure	4/8 bar
Nominal operating pressure	6 bar
Closing/opening time	0.03/0.03 s
Max. permitted finger length	60 mm
Max. permitted weight per finger	0.4 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

Main view



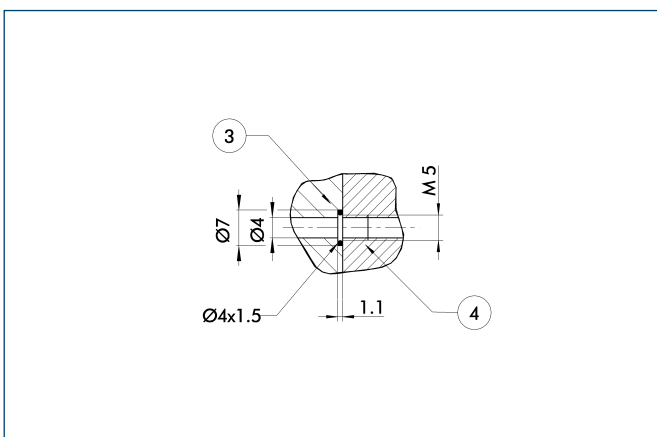
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

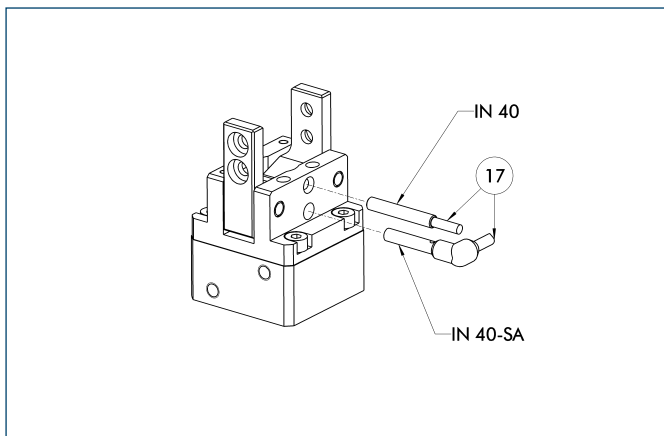
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Inductive proximity switches



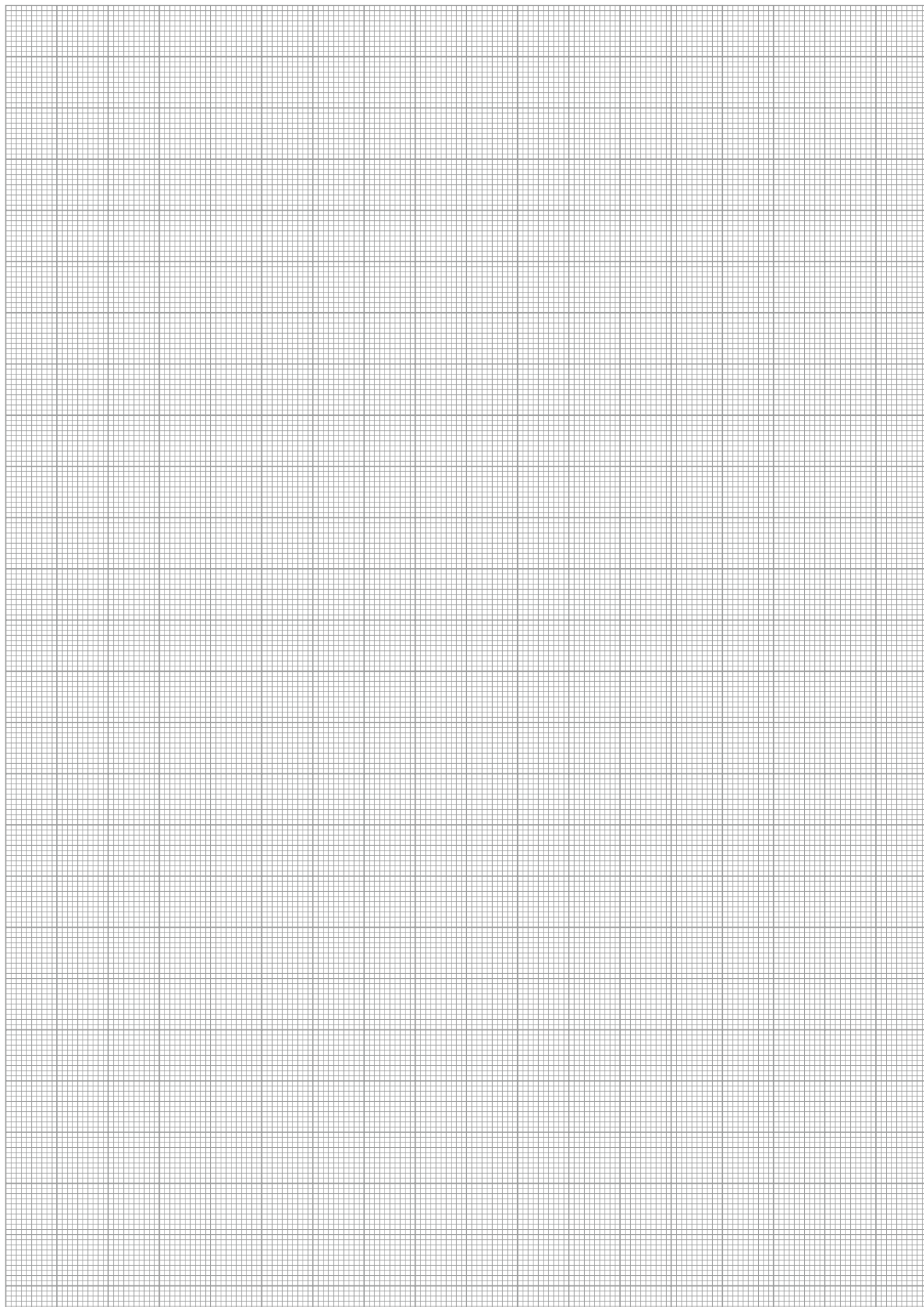
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 60-S-M8	0301485	•
IN 60-S-M12	0301585	
INK 60-S	0301553	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

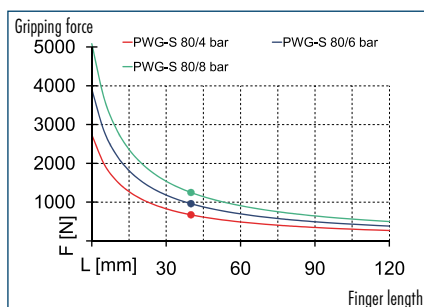
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

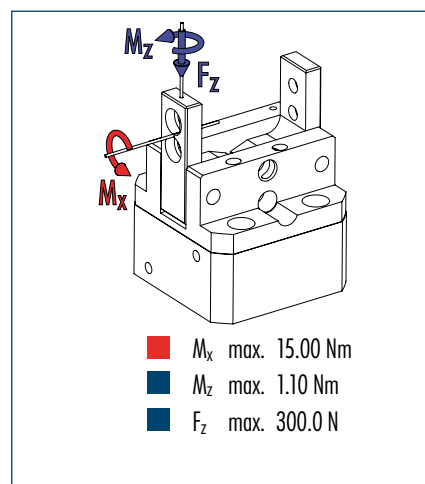




Gripping force, O.D. gripping



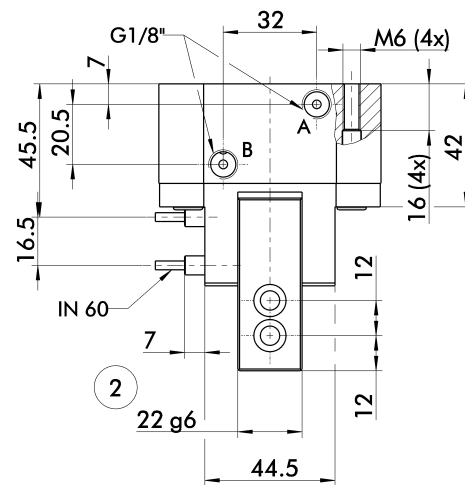
Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

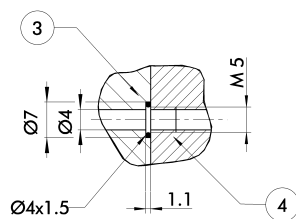
Description	PWG-S 80
ID	0302613
Opening angle per jaw	20°
Closed angle per jaw up to	4°
Closing moment	50.82 Nm
Spring-actuated closing moment	10.1 Nm
Weight	1.2 kg
Recommended workpiece weight	4.8 kg
Air consumption per double stroke	60 cm³
Min./max. operating pressure	4/8 bar
Nominal operating pressure	6 bar
Closing/opening time	0.05/0.05 s
Max. permitted finger length	80 mm
Max. permitted weight per finger	0.8 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.05 mm

[illegible]

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

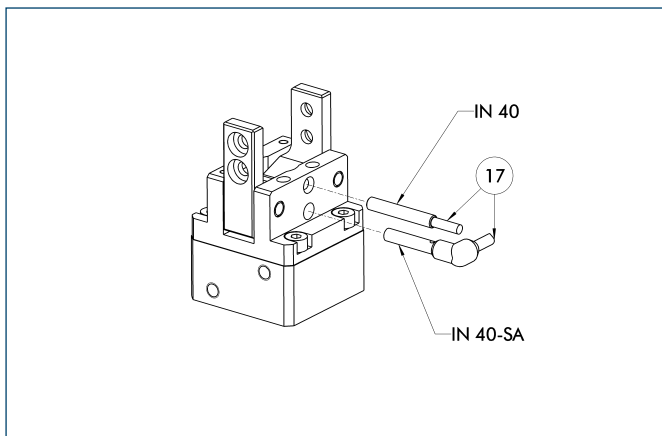
- ① Gripper connection
- ② Finger connection

- ## Hose-free direct connection



- 

Inductive proximity switches



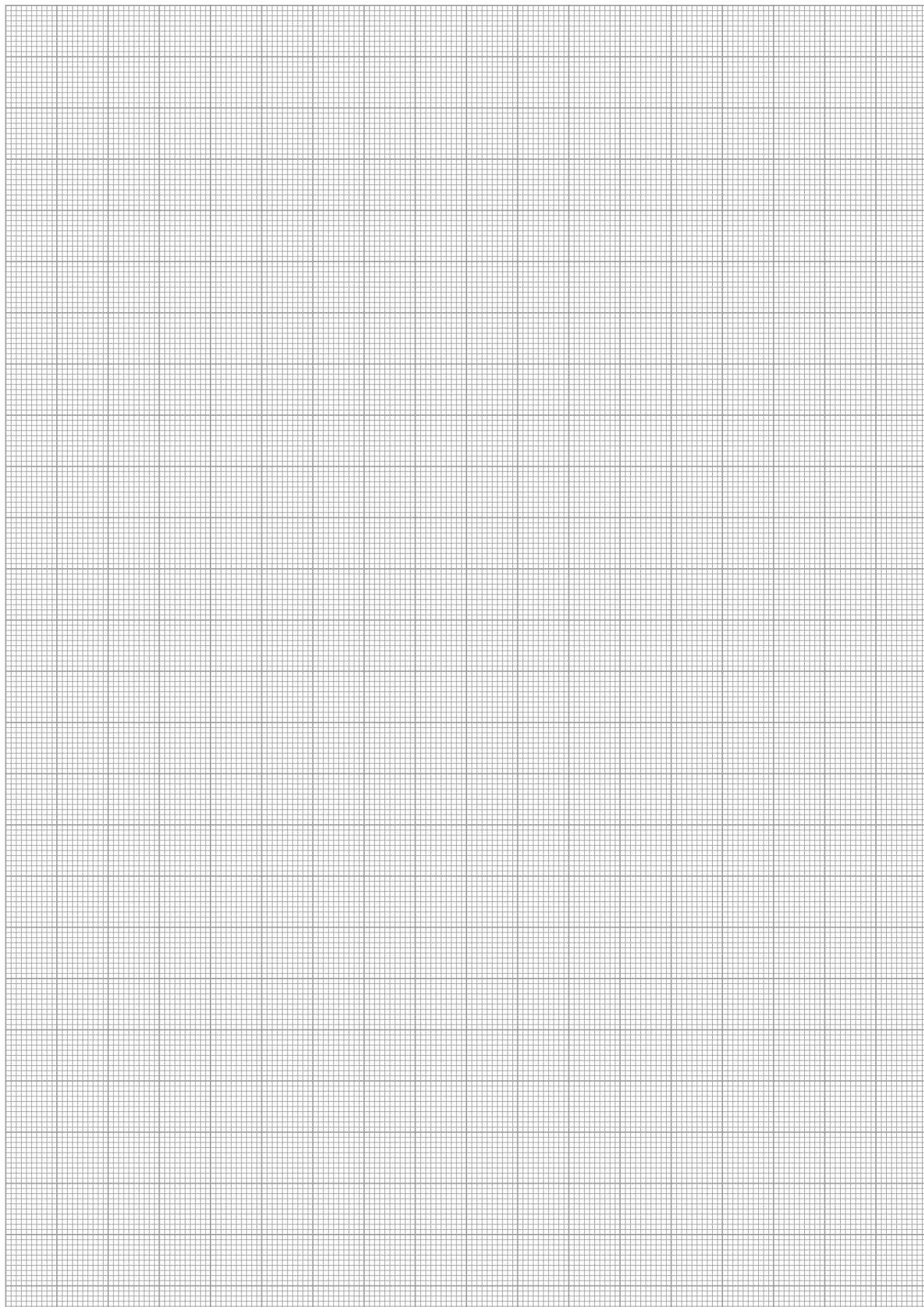
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 60-S-M8	0301485	•
IN 60-S-M12	0301585	
INK 60-S	0301553	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.





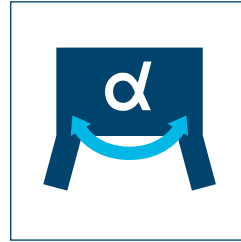
Sizes
65 ... 230



Weight
0.33 kg ... 16.3 kg



Gripping moment
6.44 Nm ... 934.2 Nm



Angle per jaw
20°



Workpiece weight
0.8 kg ... 35.8 kg

Application example



Rotary feed unit for shafts

1 2-Finger Angular Gripper PWG

2 Rotary Actuator SRU-plus

3 Linear axis with toothed-belt drive
HSB Beta

Universal Gripper

robust 2-finger angular gripper with spring-supported gripping force maintenance device

Field of application

for universal use in clean and slightly dirty environments

Your advantages and benefits

Variable top jaw design

as gripper is available both as a jaw version (-B) and a finger version (-F)

FPS measuring system

monitoring of jaw position or of 5 ranges by means of the add-on FPS sensor

Gripping force maintenance device

always with an integrated gripping force maintenance device for a high process reliability

Can be used in tough environments

thanks to the gripper's sturdy construction



General note to the series

Principle of function

Toggle drive system

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

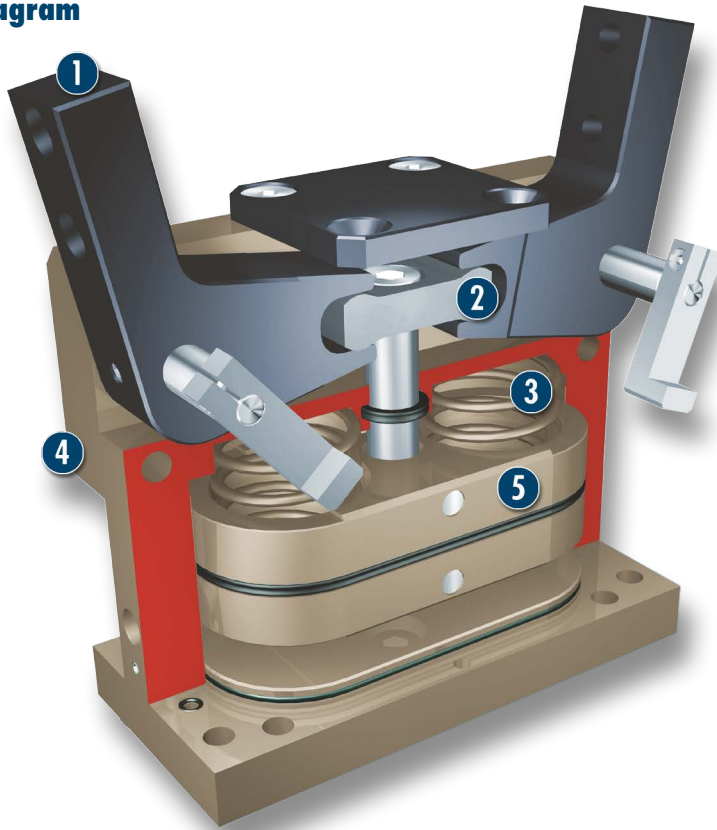
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Brackets for proximity switches, control cams, centering sleeves, O-rings for direct connection, assembly and operating manual with declaration of incorporation

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Lever mechanism**
for precise and synchronized gripping
- 3 Gripping force maintenance device**
mechanic gripping force maintenance for O.D. gripping
- 4 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 5 Drive**
pneumatic oval piston for maximum driving force

Functional description

180° angular grippers (radial grippers) are advantageous in order to avoid additional stroke motions. Since each jaw rotates away by 90°, they are mostly removed from the work area; a stroke motion to retract the entire gripper can be omitted. The kinematics transforms this vertical motion into a synchronous and rotatory gripping motion of the base jaws.

Options and special information

This series is especially suitable for handling crankshafts and camshafts.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Inductive proximity switches



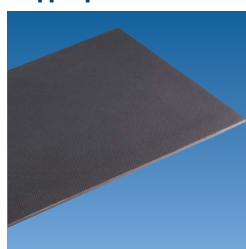
Sensor cables



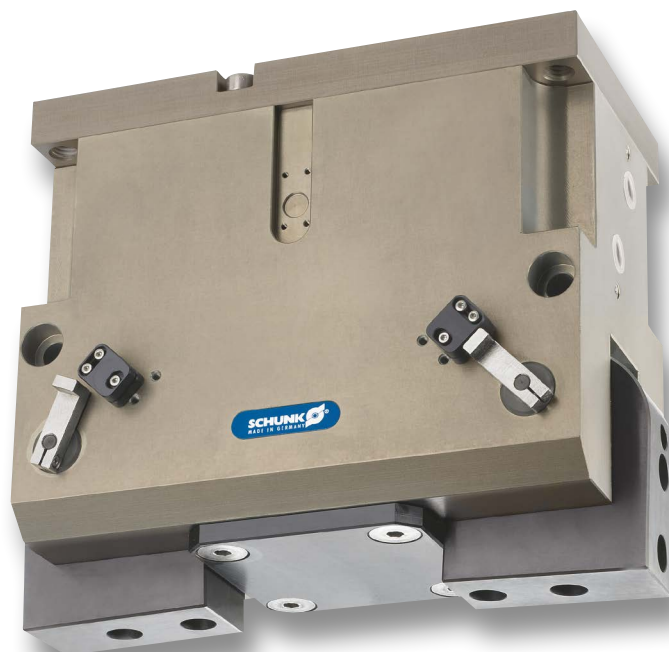
Plastic inserts



Gripper pads



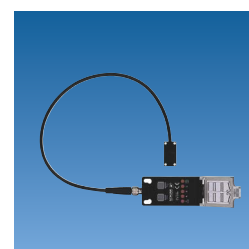
Pressure maintenance valve



Sensor Distributor



Flexible Position Sensor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

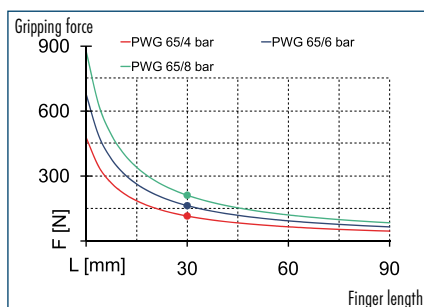
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

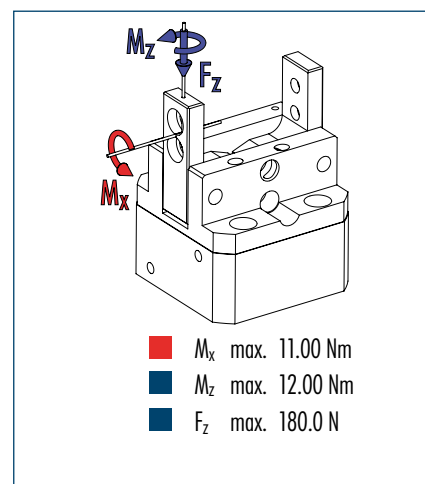
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

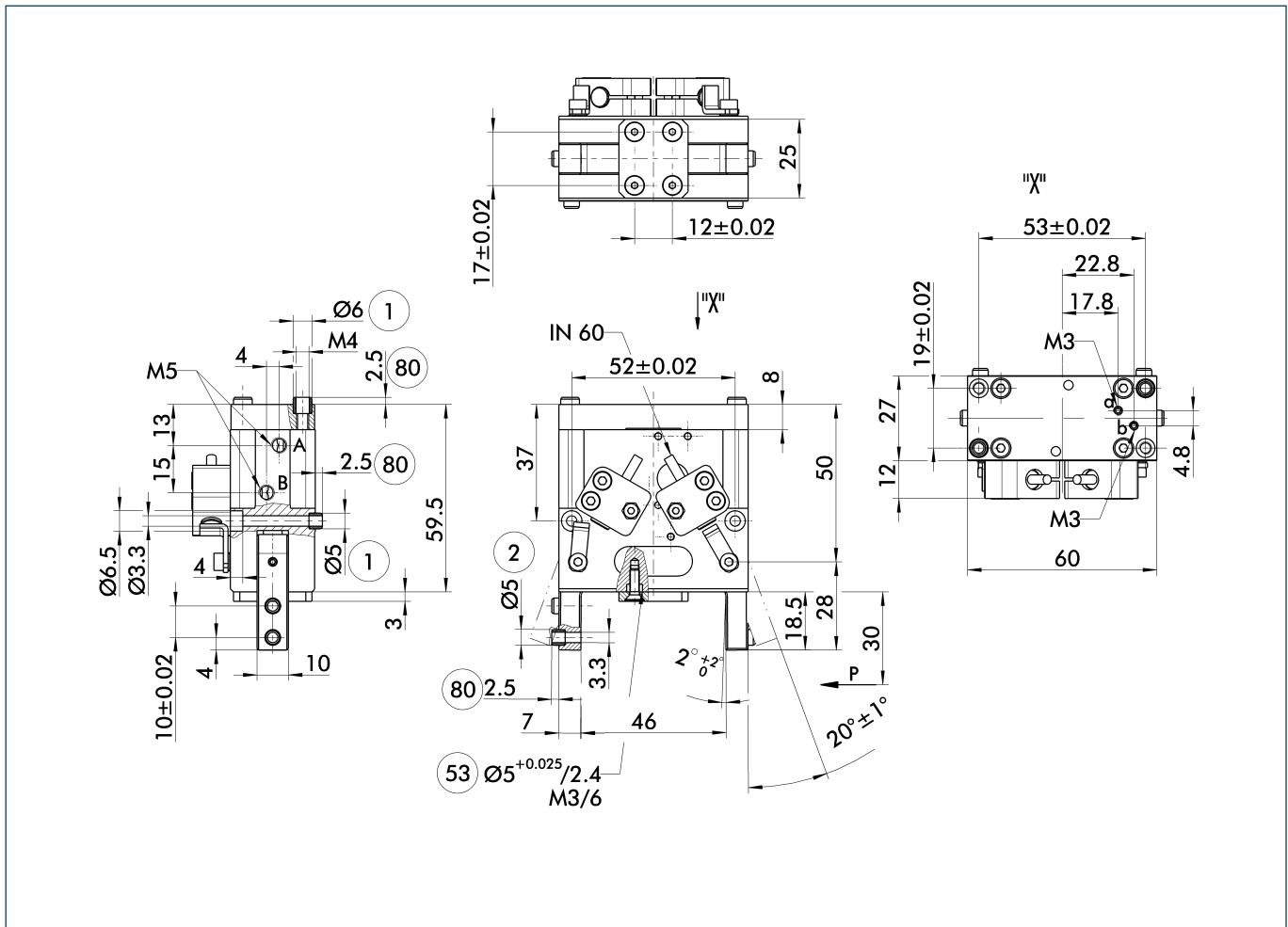


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG 65-F	PWG 65-B
ID	0302630	0302631
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	4	4
Closing moment [Nm]	6.44	6.44
Spring-actuated closing moment [Nm]	1.7	1.7
Weight [kg]	0.33	0.33
Recommended workpiece weight [kg]	0.8	0.8
Air consumption per double stroke [cm³]	8	8
Min./max. operating pressure [bar]	4/8	4/8
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.01/0.02	0.01/0.02
Max. permitted finger length [mm]	60	60
Max. permitted weight per finger [kg]	0.15	0.15
IP class	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05

Main view



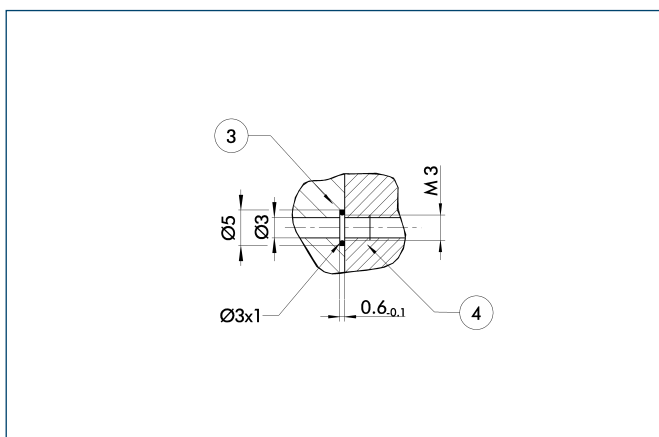
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see “Accessories” catalog section).

- A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

- ⑤③ Connection for shaft support
⑧① Depth of the centering sleeve hole in the matching part

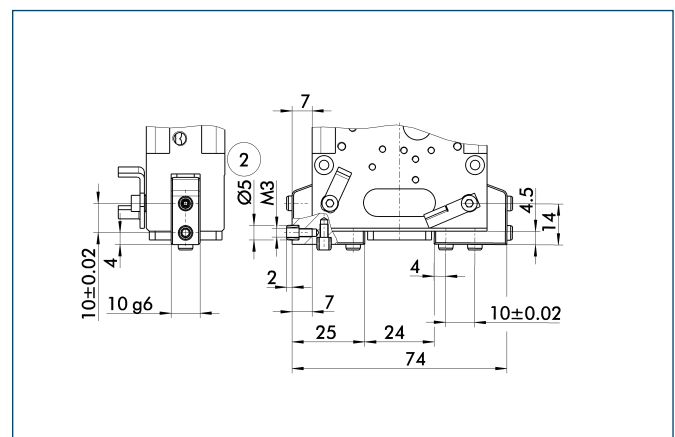
Hose-free direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

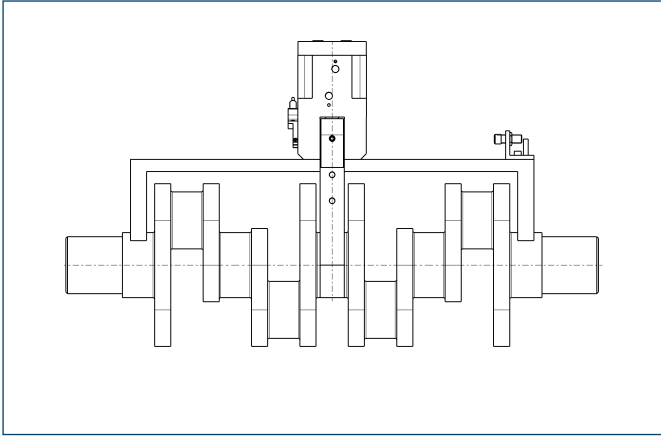
Jaw version



- ② Finger connection

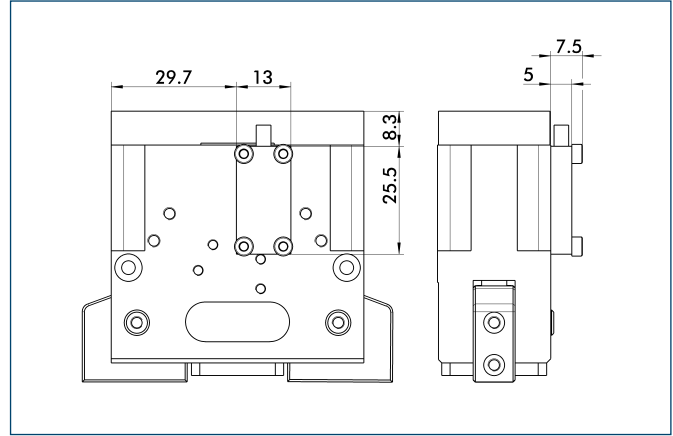
Divergent dimensions of version "B" (jaw version)

Shaft support



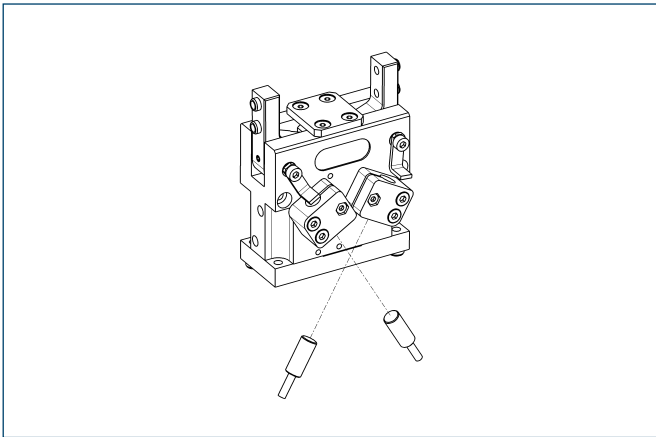
The complete assembly group for handling of cranks and cam shafts can be supplied on request.

FPS Flexible Position Sensor



Up to three intermediate positions of the PWG can be monitored via the FPS flexible position sensor.

Inductive proximity switches

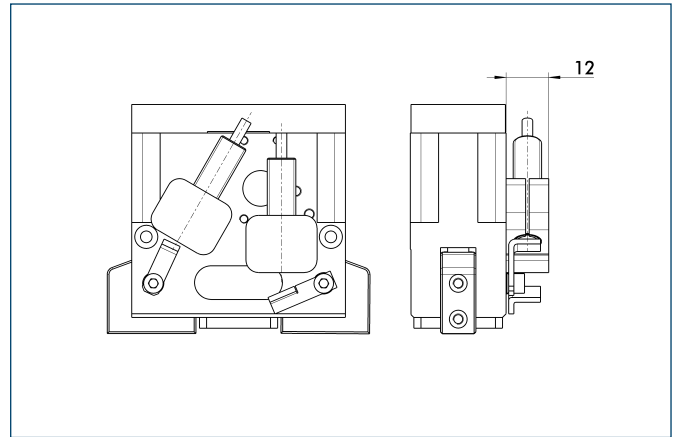


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 60-S-M8	0301485	•
IN 60-S-M12	0301585	
INK 60-S	0301553	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



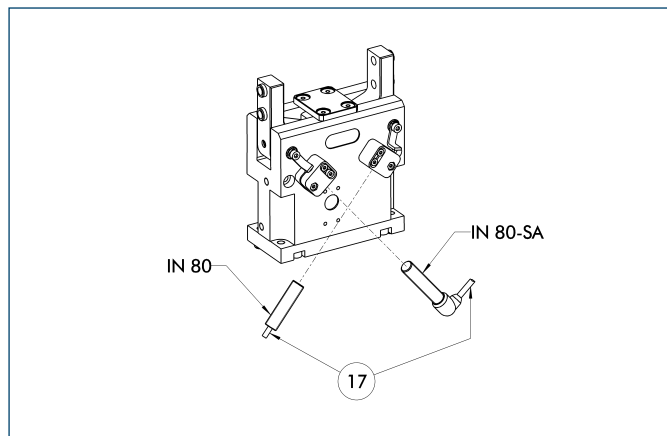
Description	ID
Mounting kit for proximity switch	
HG-PWG 65	0300764

- ① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Inductive proximity switches



17 Cable outlet

End position monitoring mounted with mounting kit

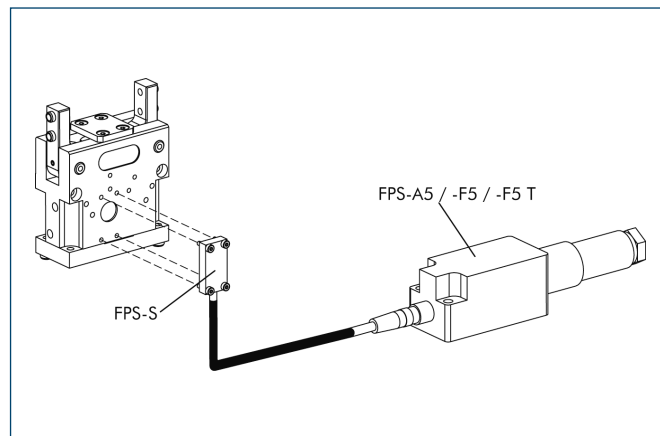
Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PWG 65	0300764	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
INK 80-SL	0301579	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

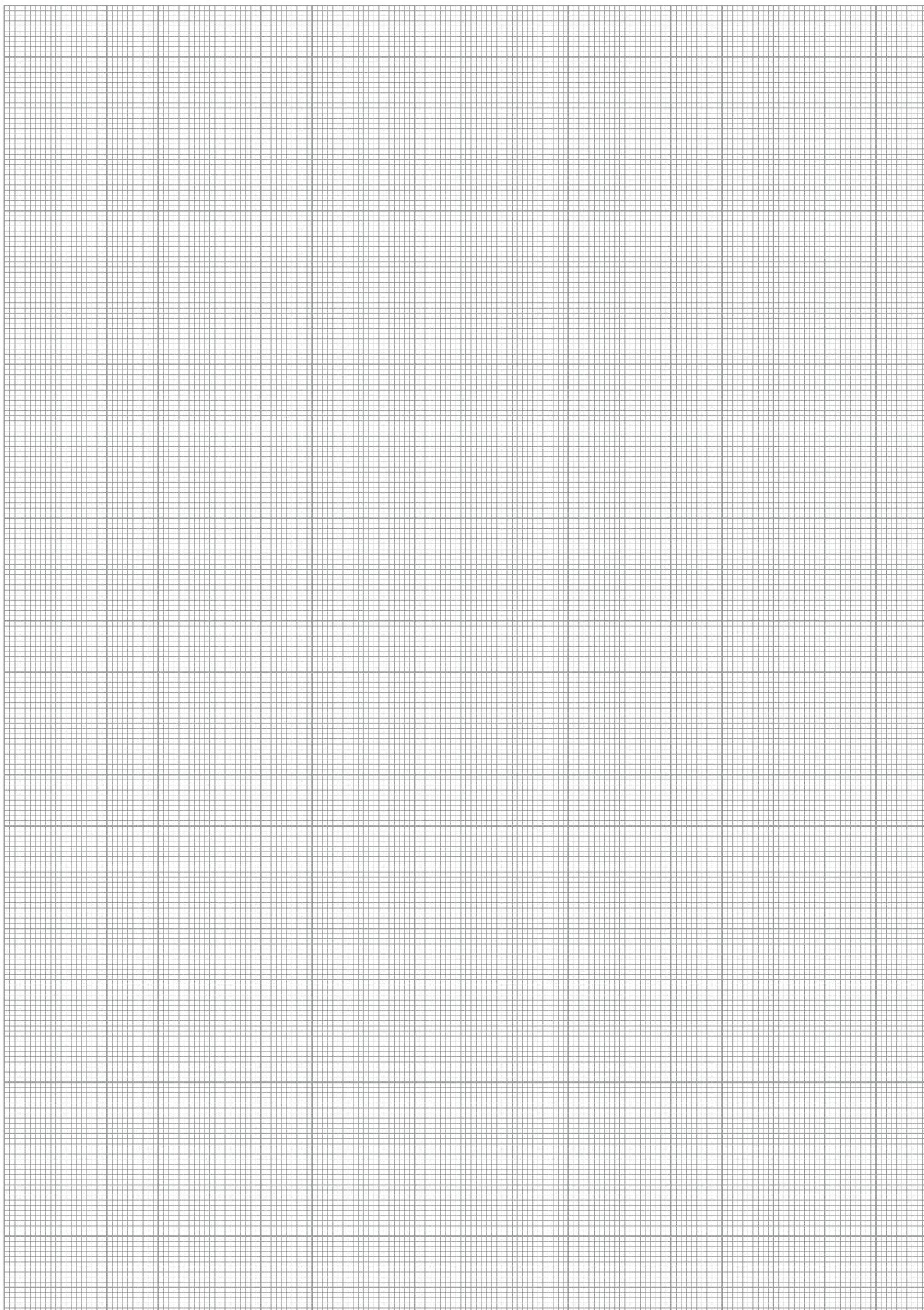
Flexible Position Sensor



Flexible position monitoring of up to five positions

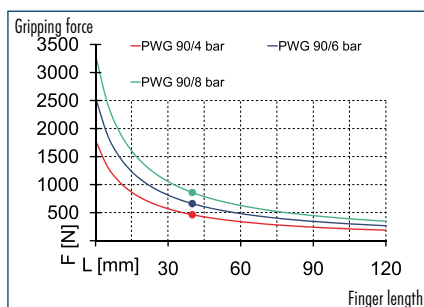
Description	ID
Sensor	
FPS-S 13	0301705
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807

① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

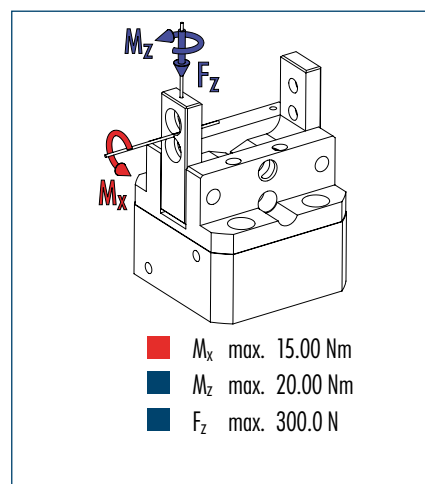




Gripping force, O.D. gripping



Finger load

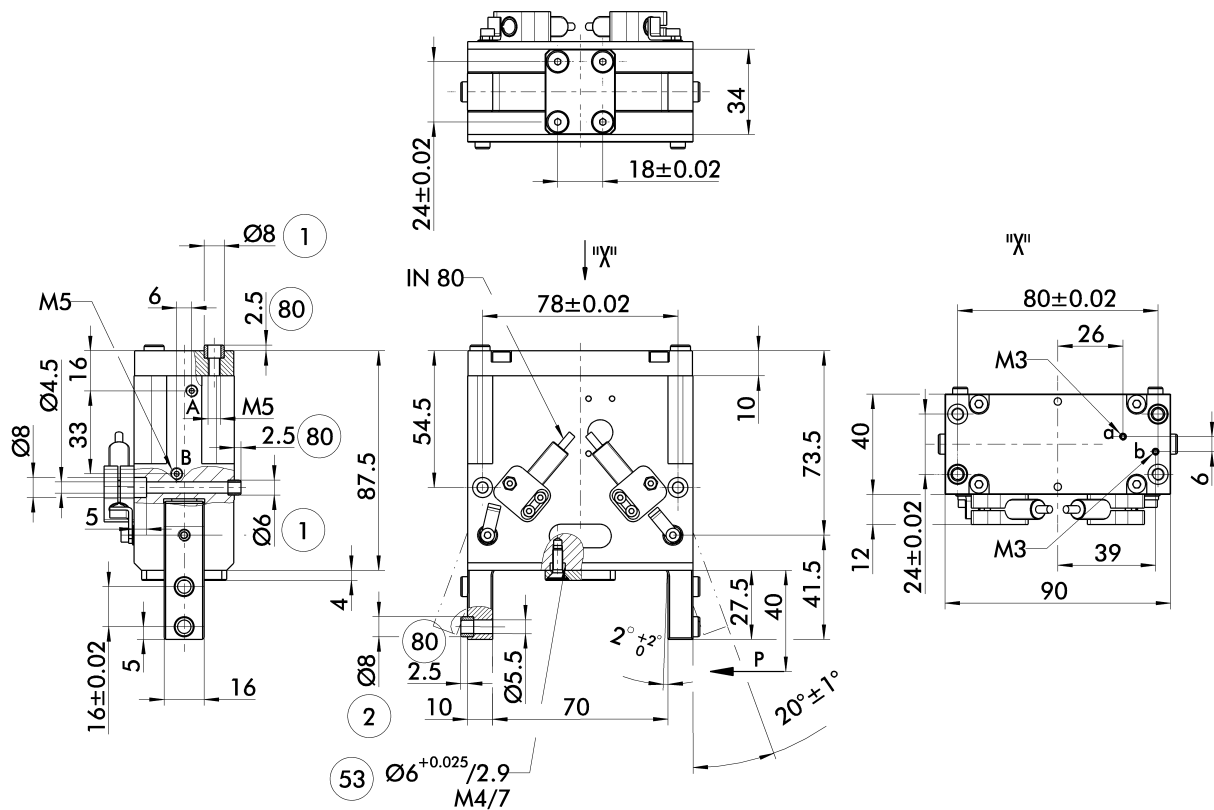


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG 90-F	PWG 90-B
ID	0302632	0302633
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	4	4
Closing moment [Nm]	35.69	35.69
Spring-actuated closing moment [Nm]	9	9
Weight [kg]	0.99	1.06
Recommended workpiece weight [kg]	3.3	3.3
Air consumption per double stroke [cm³]	35	35
Min./max. operating pressure [bar]	4/8	4/8
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.03/0.06	0.03/0.06
Max. permitted finger length [mm]	80	80
Max. permitted weight per finger [kg]	0.5	0.5
IP class	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05

Main view



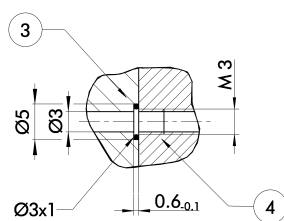
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

53 Connection for shaft support
80 Depth of the centering sleeve hole in the matching part

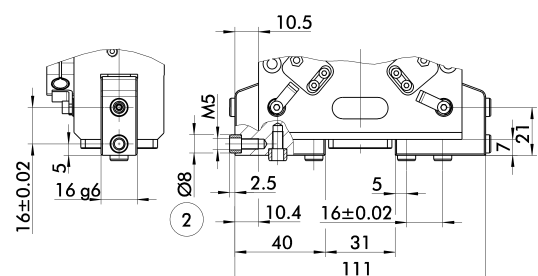
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

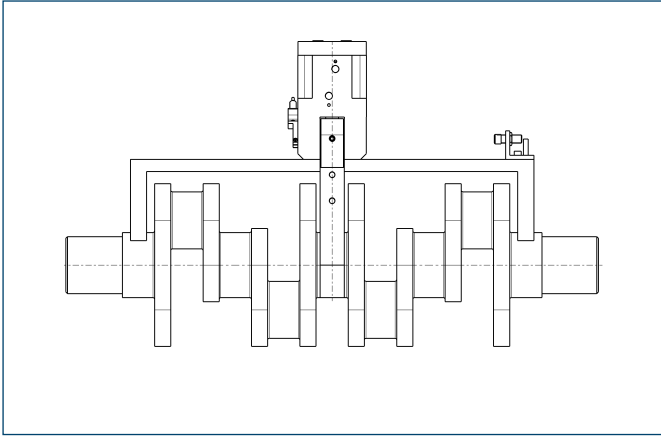
Jaw version



② Finger connection

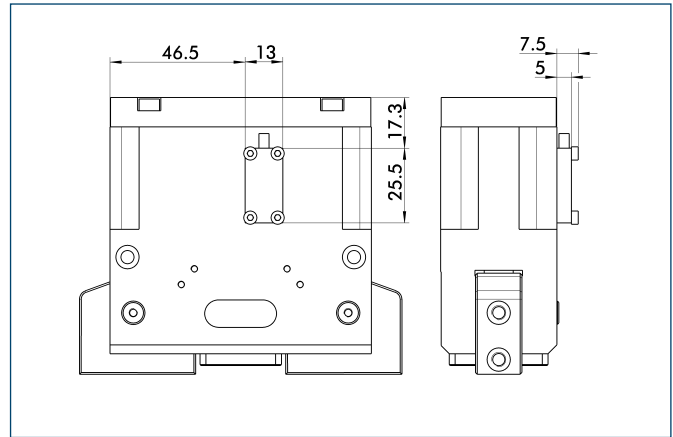
Divergent dimensions of version "B" (jaw version)

Shaft support



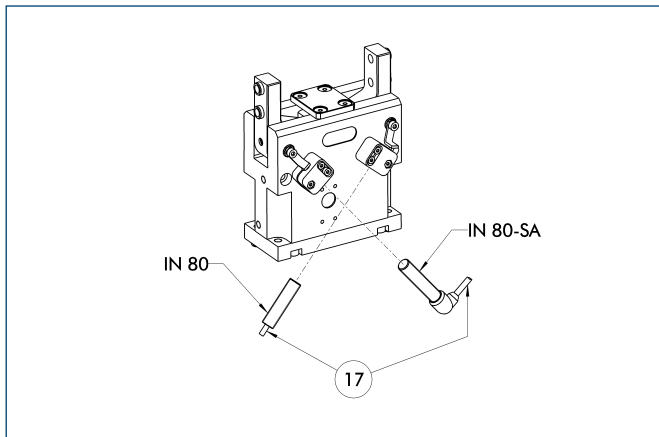
The complete assembly group for handling of cranks and cam shafts can be supplied on request.

Flexible Position Sensor



Up to three intermediate positions of the PWG can be monitored via the FPS flexible position sensor.

Inductive proximity switches



17 Cable outlet

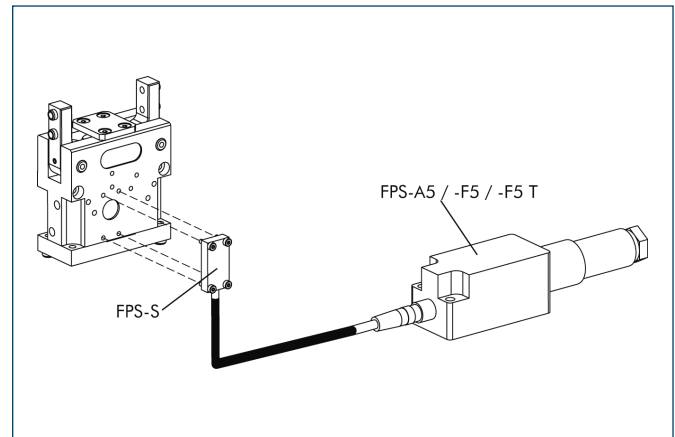
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Sensor	
FPS-S 13	0301705
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807

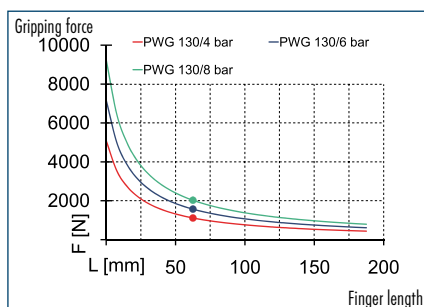
① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



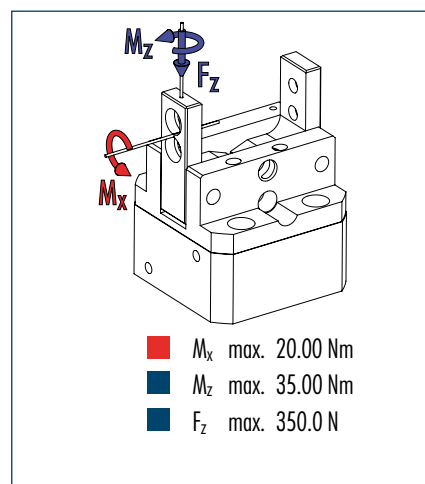
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Gripping force, O.D. gripping



Finger load

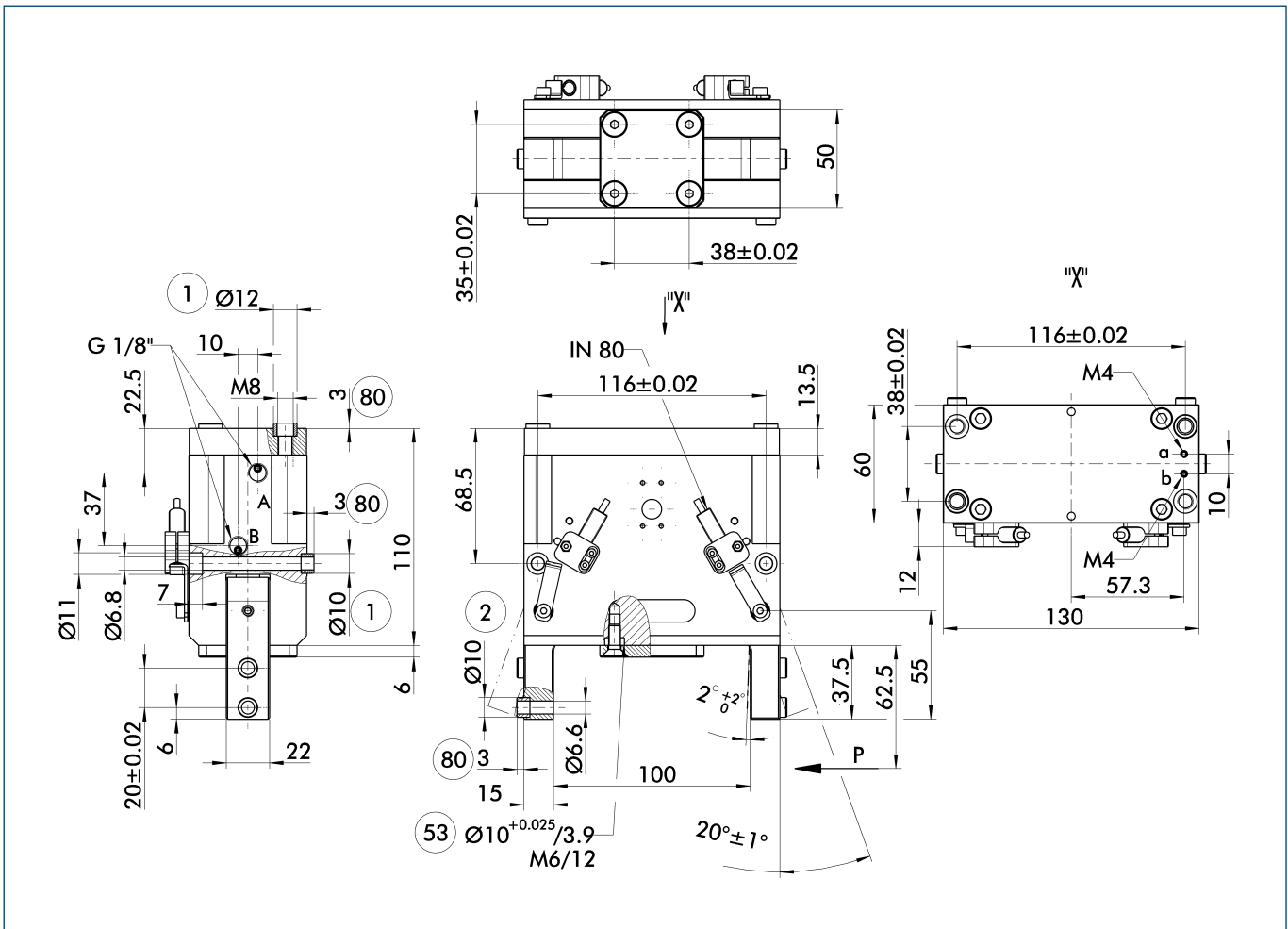


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG 130-F	PWG 130-B
ID	0302634	0302635
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	4	4
Closing moment [Nm]	125.4	125.4
Spring-actuated closing moment [Nm]	34.2	34.2
Weight [kg]	2.6	2.8
Recommended workpiece weight [kg]	8	8
Air consumption per double stroke [cm³]	120	120
Min./max. operating pressure [bar]	4/8	4/8
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.1/0.19	0.1/0.19
Max. permitted finger length [mm]	125	125
Max. permitted weight per finger [kg]	1	1
IP class	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05

Main view



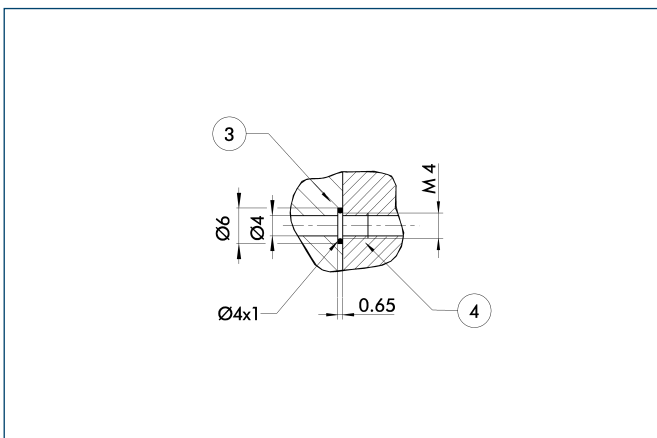
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

53 Connection for shaft support
80 Depth of the centering sleeve hole in the matching part

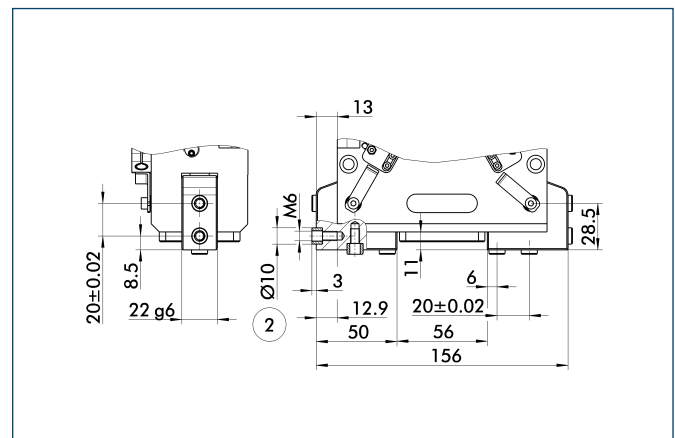
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

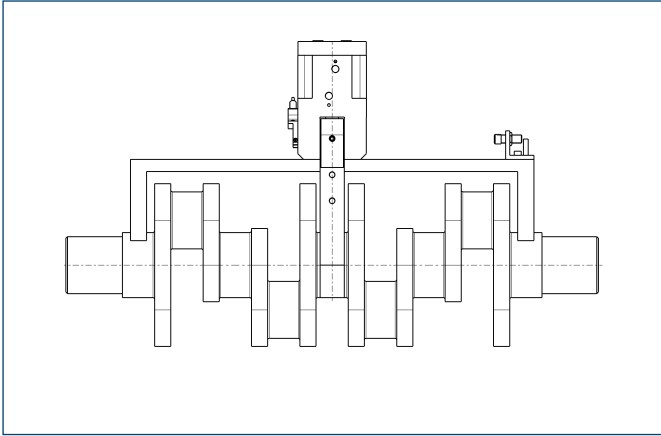
Jaw version



② Finger connection

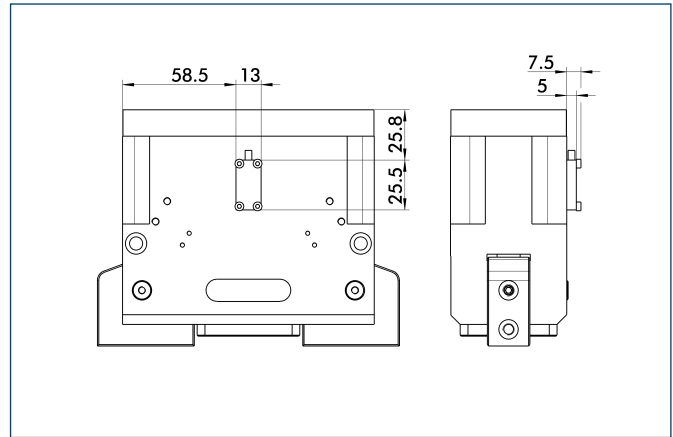
Divergent dimensions of version "B" (jaw version)

Shaft support



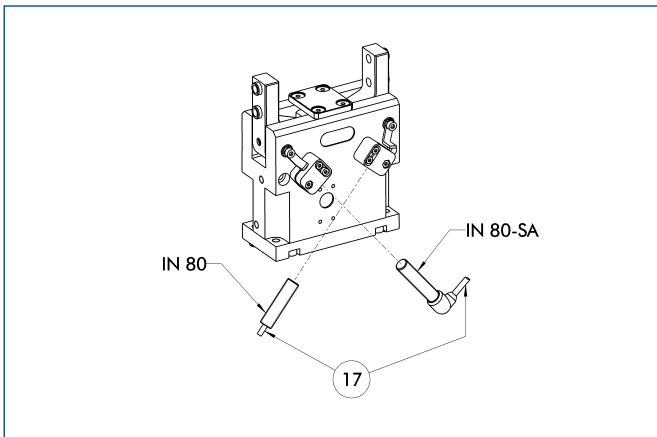
The complete assembly group for handling of cranks and cam shafts can be supplied on request.

Flexible Position Sensor



Up to three intermediate positions of the PWG can be monitored via the FPS flexible position sensor.

Inductive proximity switches



17 Cable outlet

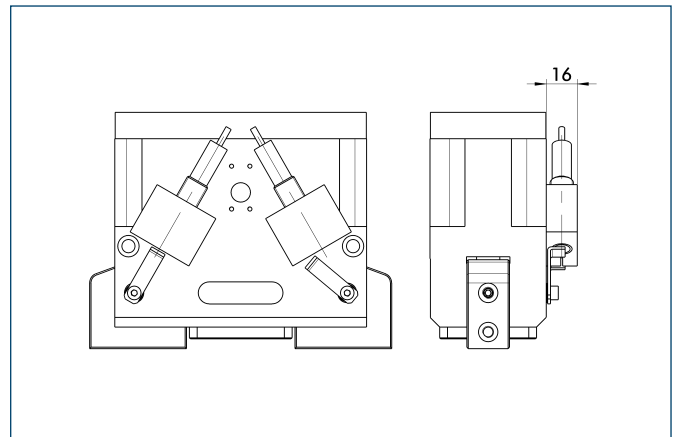
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



Description	ID
Mounting kit for proximity switch	
HG-PWG 130-230	0300763

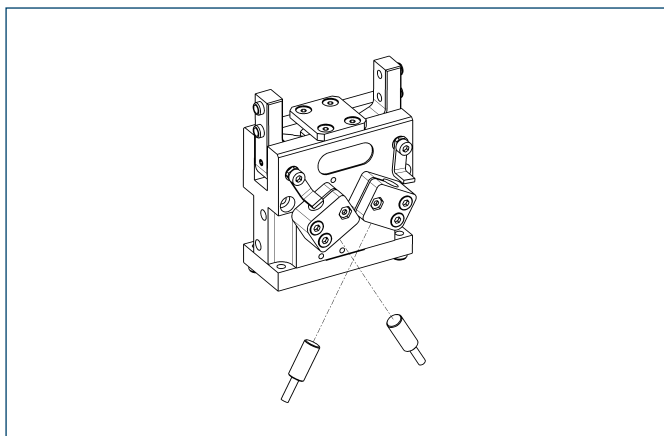
① This mounting kit needs to be ordered optionally as an accessory.

① The proximity switches must be ordered separately.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

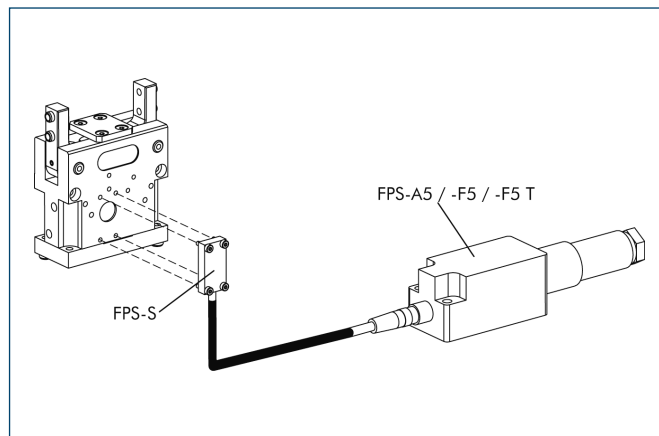


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PWG 130-230	0300763	
Inductive proximity switches		
IN 120-S-M12	0301592	•
INK 120-S	0301562	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

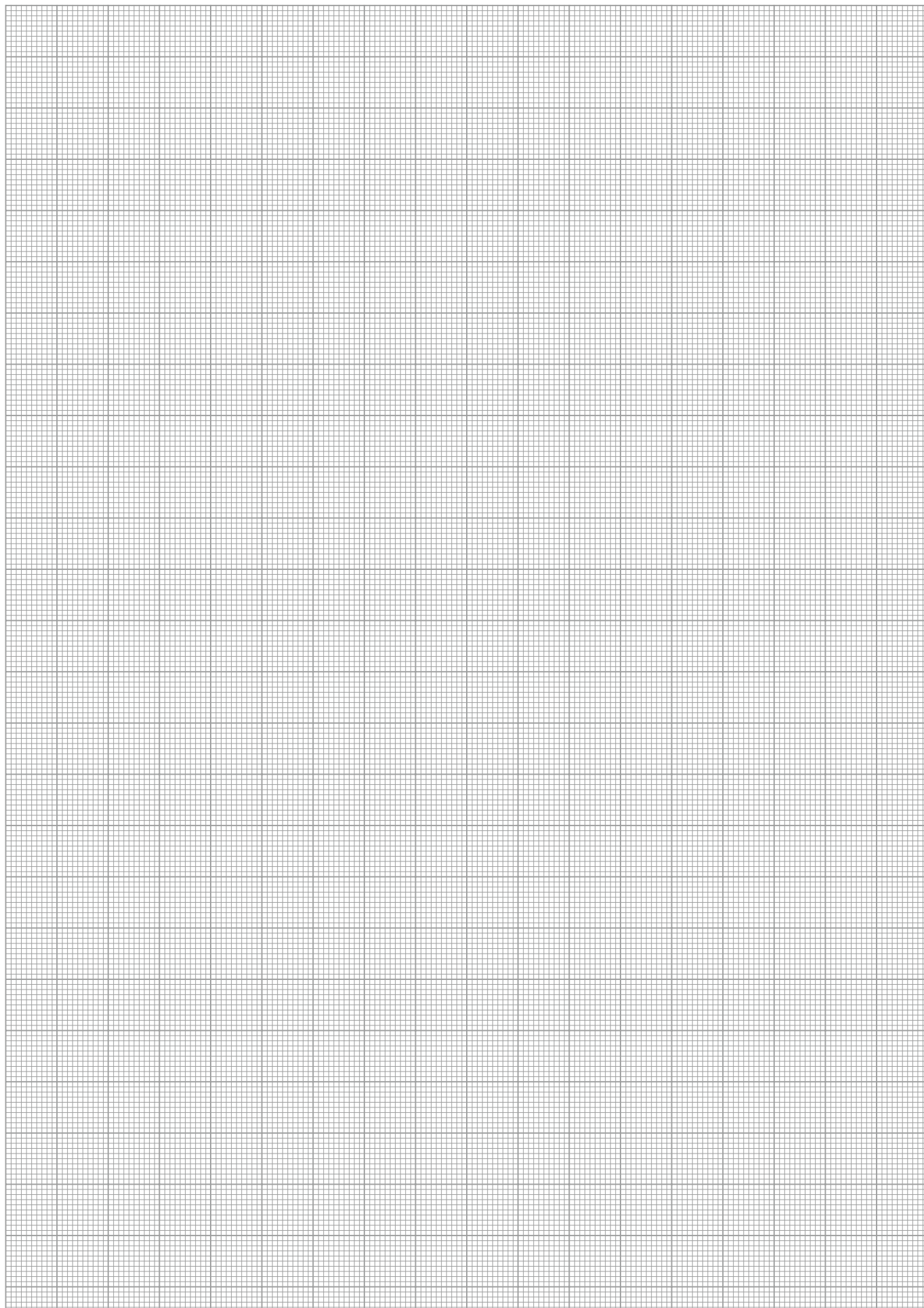
Flexible Position Sensor



Flexible position monitoring of up to five positions

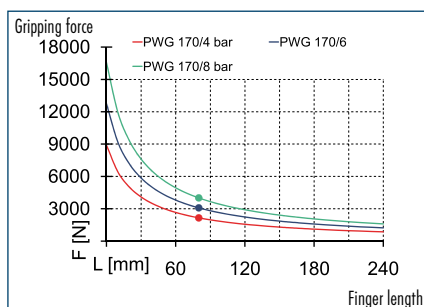
Description	ID
Sensor	
FPS-S 13	0301705
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

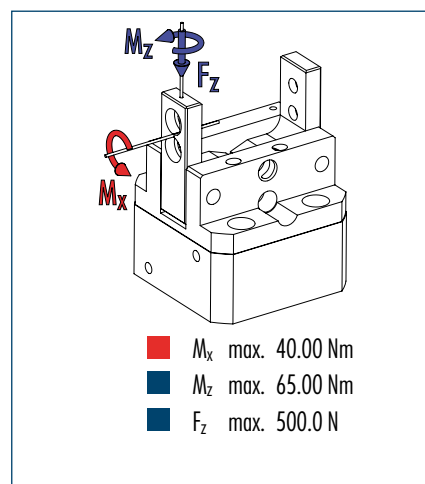




Gripping force, O.D. gripping



Finger load

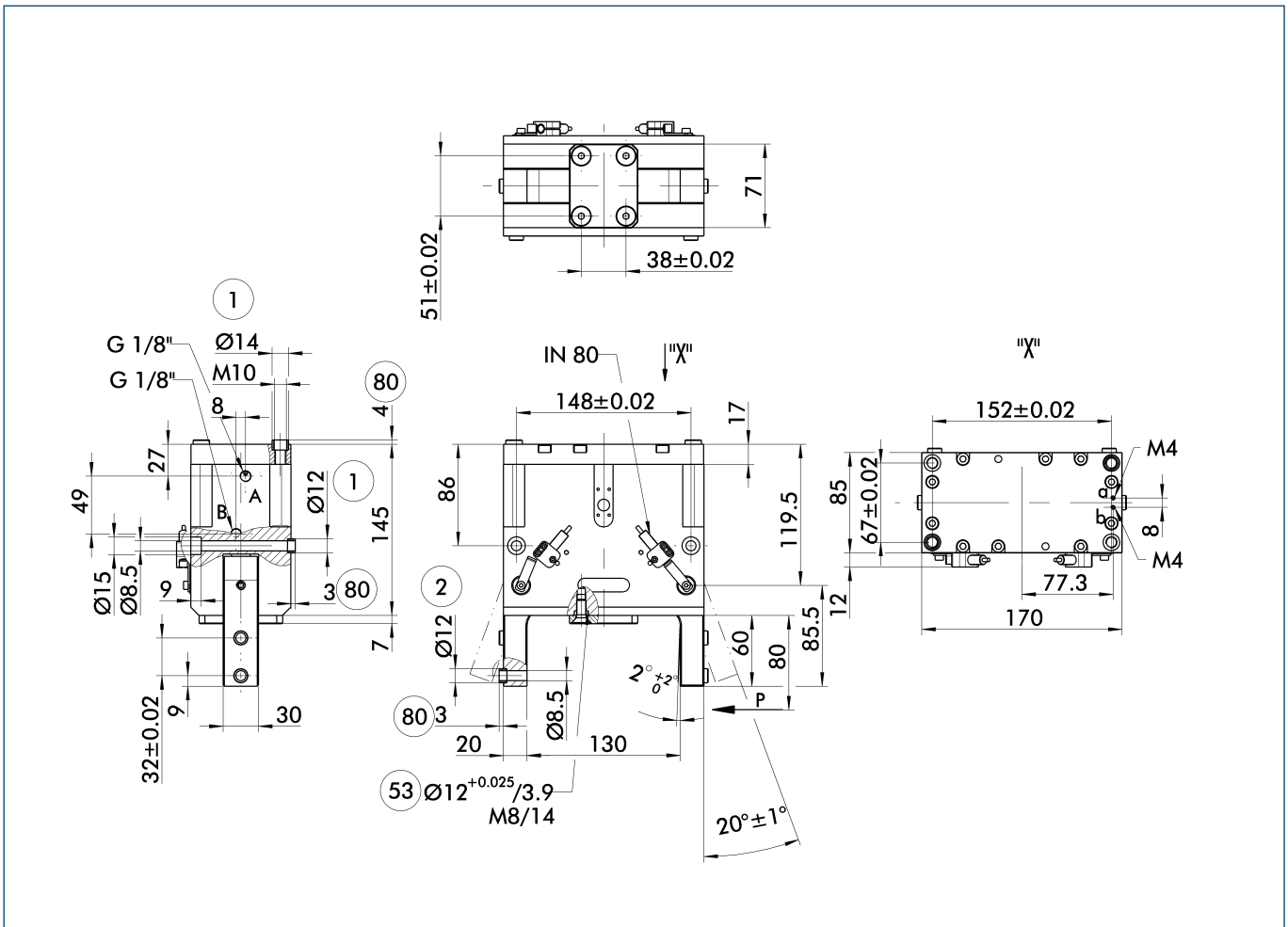


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG 170-F	PWG 170-B
ID	0302636	0302637
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	4	4
Closing moment [Nm]	324.9	324.9
Spring-actuated closing moment [Nm]	80.4	80.4
Weight [kg]	6.6	7
Recommended workpiece weight [kg]	15.7	15.7
Air consumption per double stroke [cm³]	320	320
Min./max. operating pressure [bar]	4/8	4/8
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.27/0.3	0.27/0.3
Max. permitted finger length [mm]	160	160
Max. permitted weight per finger [kg]	2.5	2.5
IP class	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05

Main view



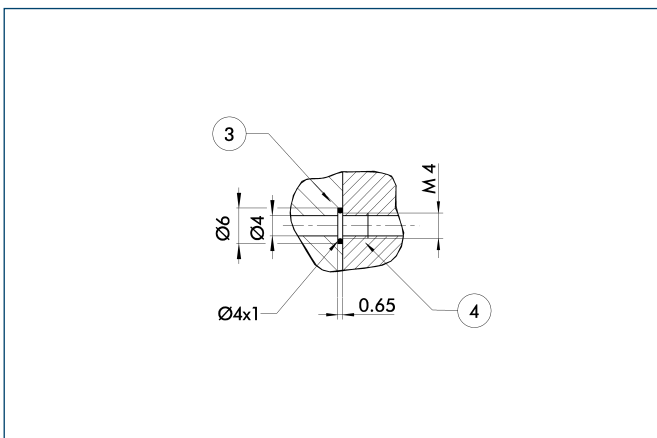
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑤③ Connection for shaft support
⑧① Depth of the centering sleeve hole in the matching part

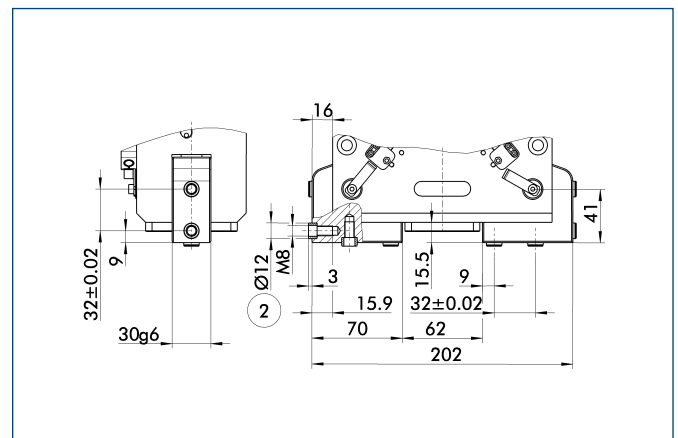
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

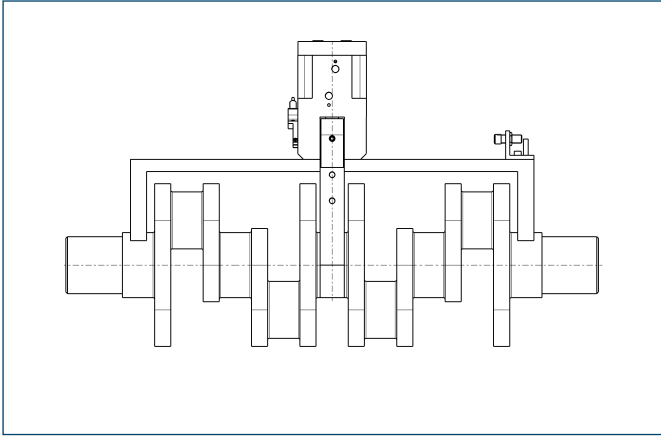
Jaw version



② Finger connection

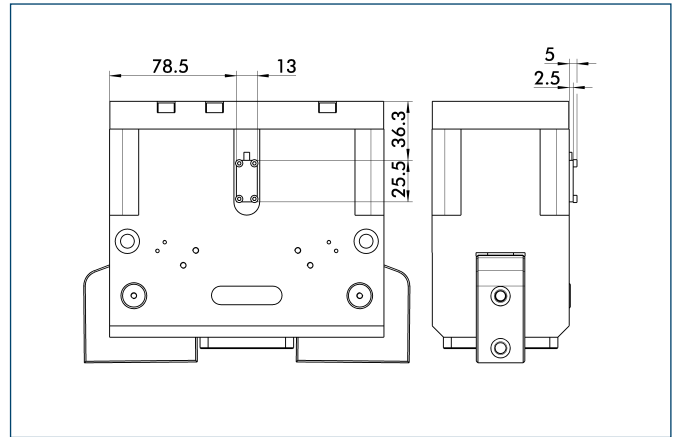
Divergent dimensions of version "B" (jaw version)

Shaft support



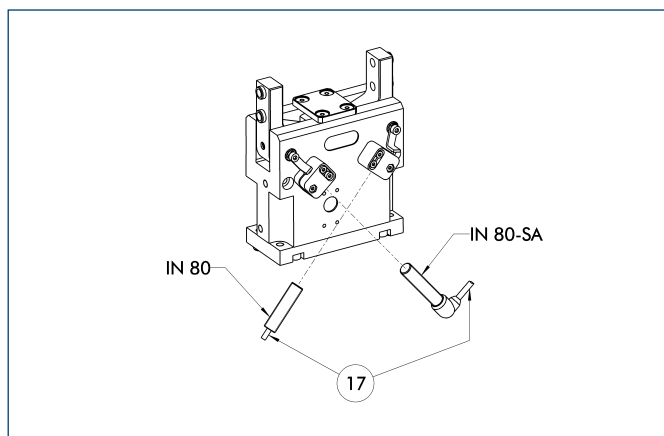
The complete assembly group for handling of cranks and cam shafts can be supplied on request.

Flexible Position Sensor



Up to three intermediate positions of the PWG can be monitored via the FPS flexible position sensor.

Inductive proximity switches



17 Cable outlet

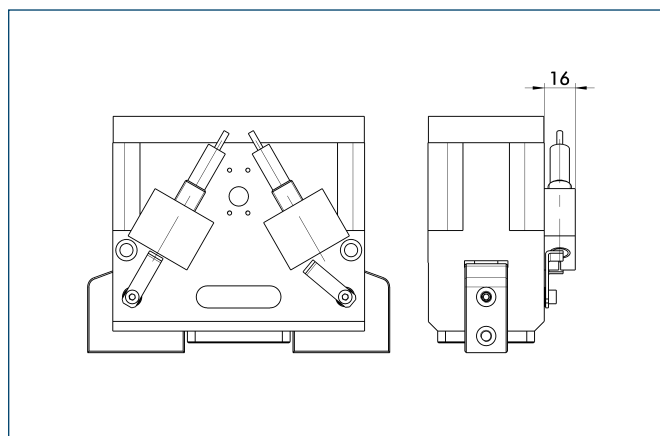
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



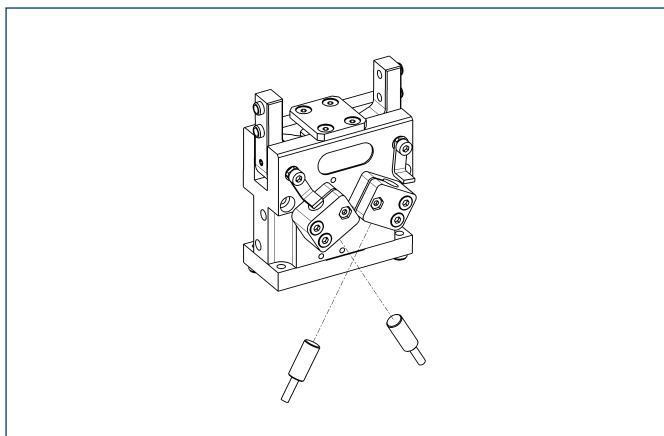
Description	ID
Mounting kit for proximity switch	
HG-PWG 130-230	0300763

① This mounting kit needs to be ordered optionally as an accessory.

① The proximity switches must be ordered separately.



Inductive proximity switches

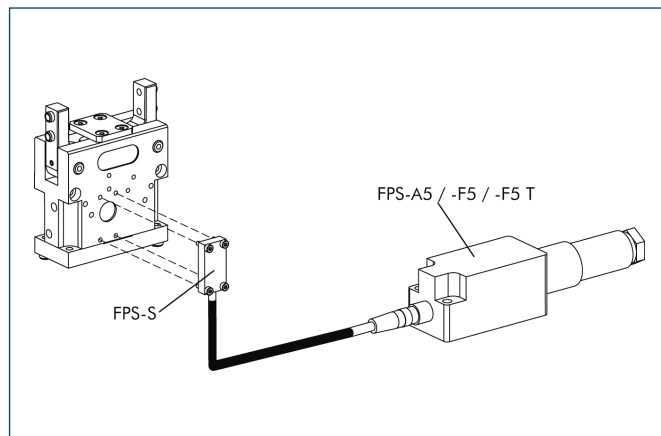


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PWG 130-230	0300763	
Inductive proximity switches		
IN 120-S-M12	0301592	•
INK 120-S	0301562	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

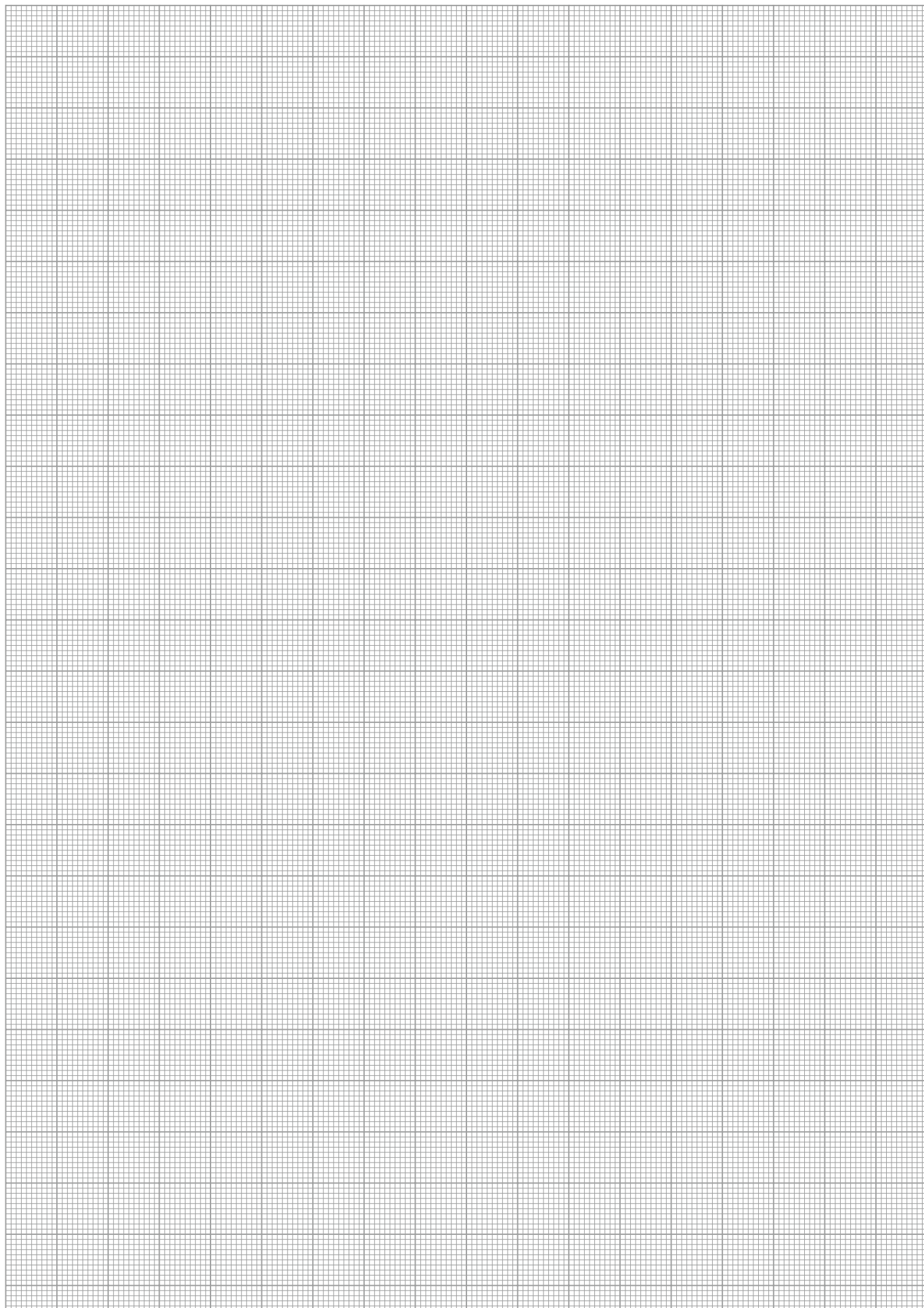
Flexible Position Sensor



Flexible position monitoring of up to five positions

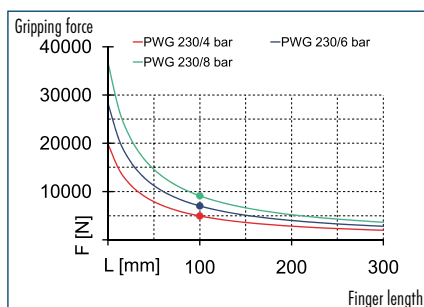
Description	ID
Sensor	
FPS-S 13	0301705
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.

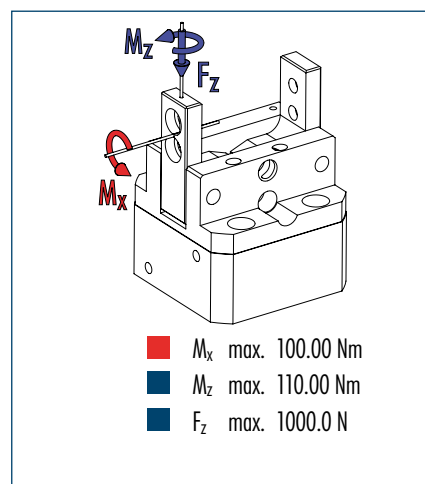




Gripping force, O.D. gripping



Finger load

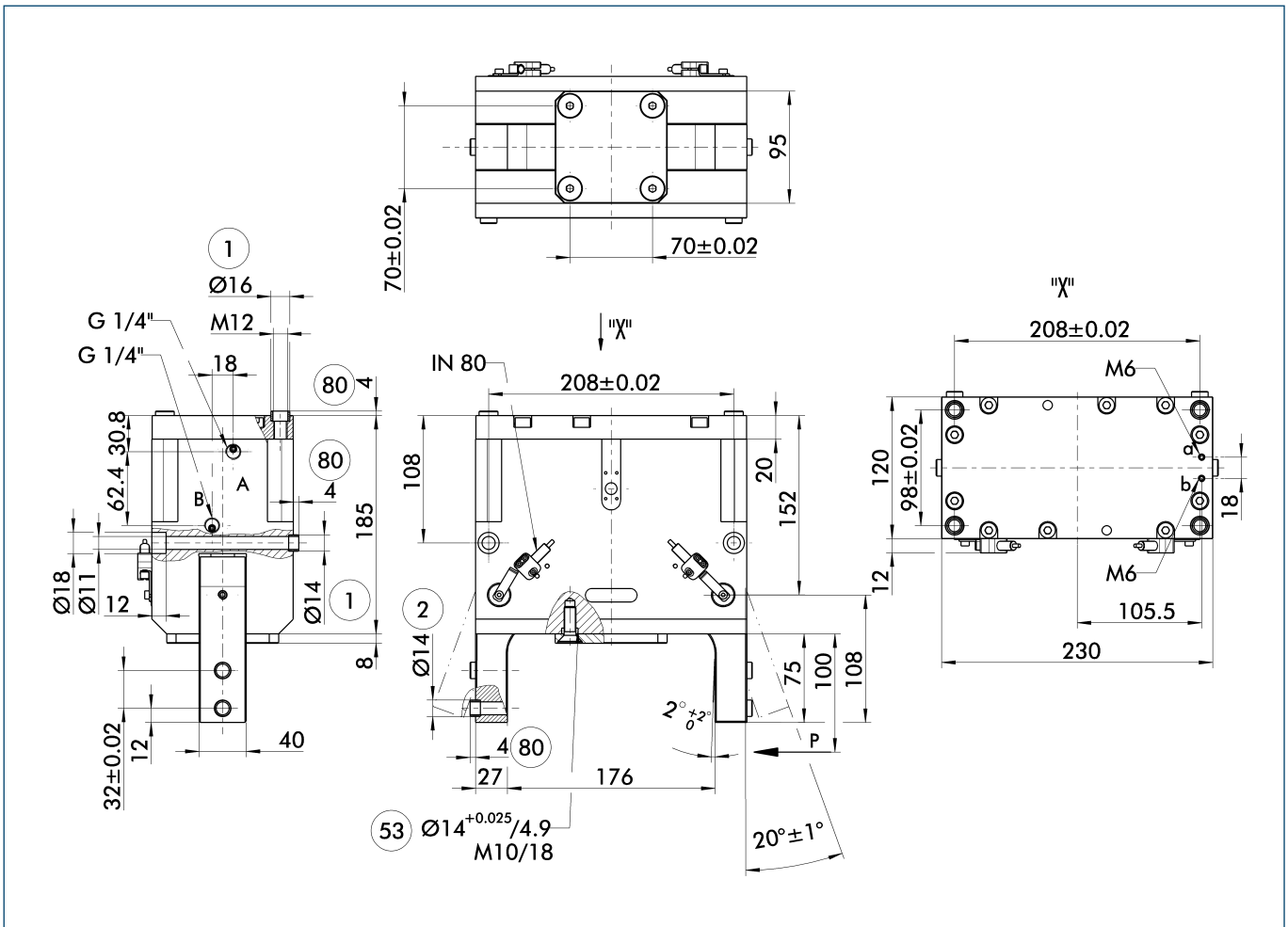


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PWG 230-F	PWG 230-B
ID	0302638	0302639
Opening angle per jaw [°]	20	20
Closed angle per jaw up to [°]	4	4
Closing moment [Nm]	934.2	934.2
Spring-actuated closing moment [Nm]	237.6	237.6
Weight [kg]	15.8	16.3
Recommended workpiece weight [kg]	35.8	35.8
Air consumption per double stroke [cm³]	860	860
Min./max. operating pressure [bar]	4/8	4/8
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.35/0.45	0.35/0.45
Max. permitted finger length [mm]	200	200
Max. permitted weight per finger [kg]	4	4
IP class	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05

Main view



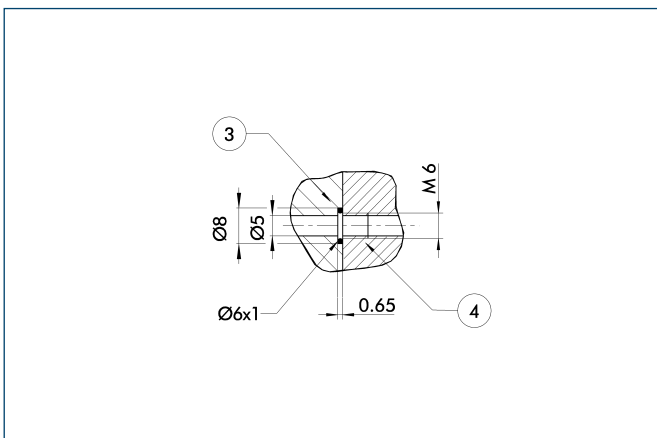
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used to hold the position in case of pressure drop (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑤③ Connection for shaft support
⑧① Depth of the centering sleeve hole in the matching part

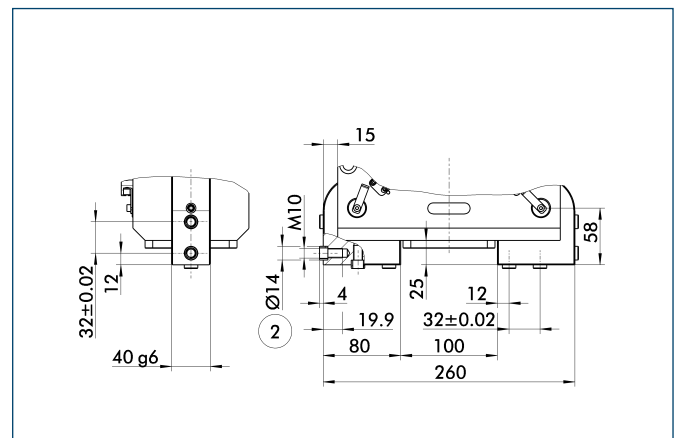
Hose-free direct connection



③ Adapter
④ Gripper

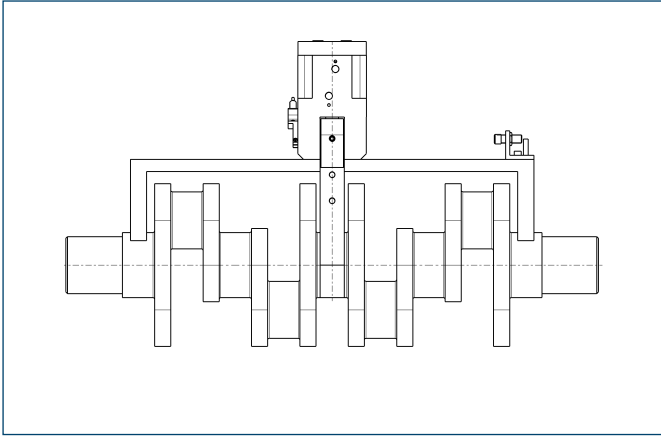
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Jaw version



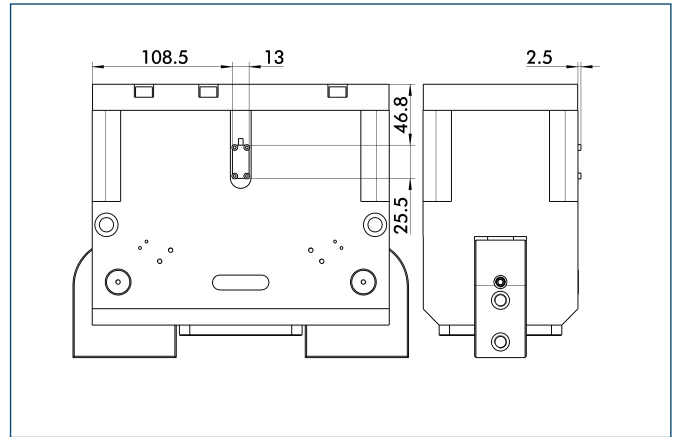
② Finger connection
Divergent dimensions of version "B" (jaw version)

Shaft support



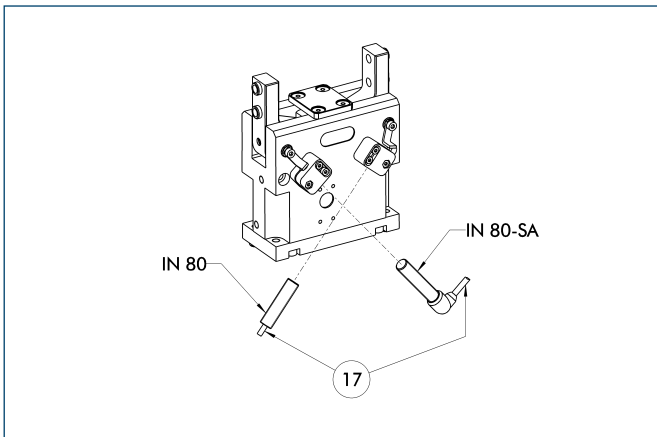
The complete assembly group for handling of cranks and cam shafts can be supplied on request.

Flexible Position Sensor



Up to three intermediate positions of the PWG can be monitored via the FPS flexible position sensor.

Inductive proximity switches



17 Cable outlet

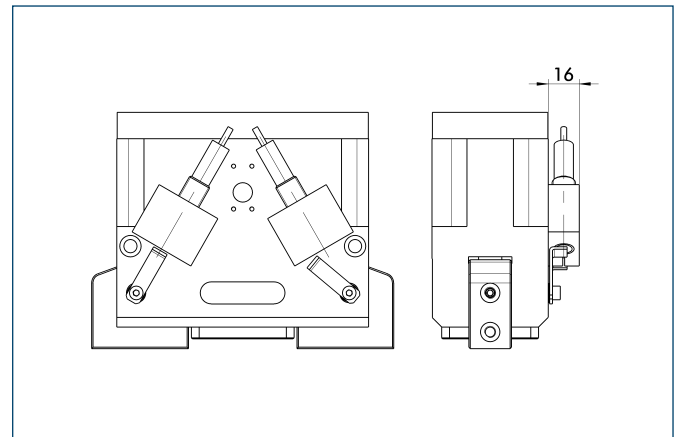
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
IN-C 80-S-M8	0301475	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

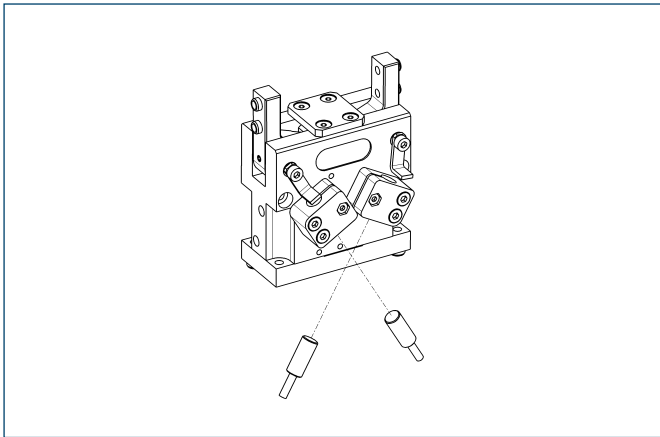


Description	ID
Mounting kit for proximity switch	
HG-PWG 130-230	0300763

① This mounting kit needs to be ordered optionally as an accessory.

① The proximity switches must be ordered separately.

Inductive proximity switches

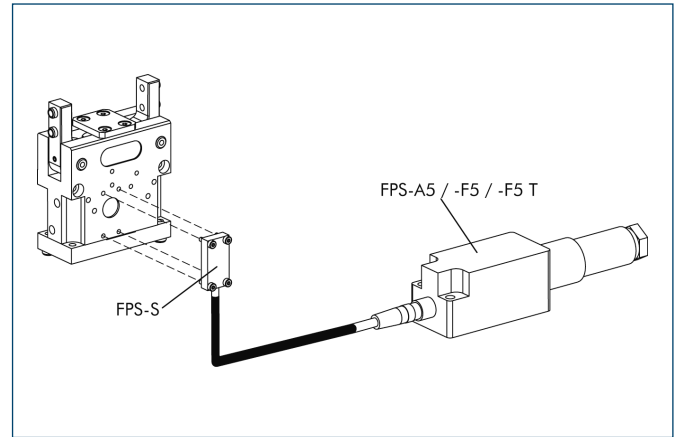


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
HG-PWG 130-230	0300763	
Inductive proximity switches		
IN 120-S-M12	0301592	•
INK 120-S	0301562	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

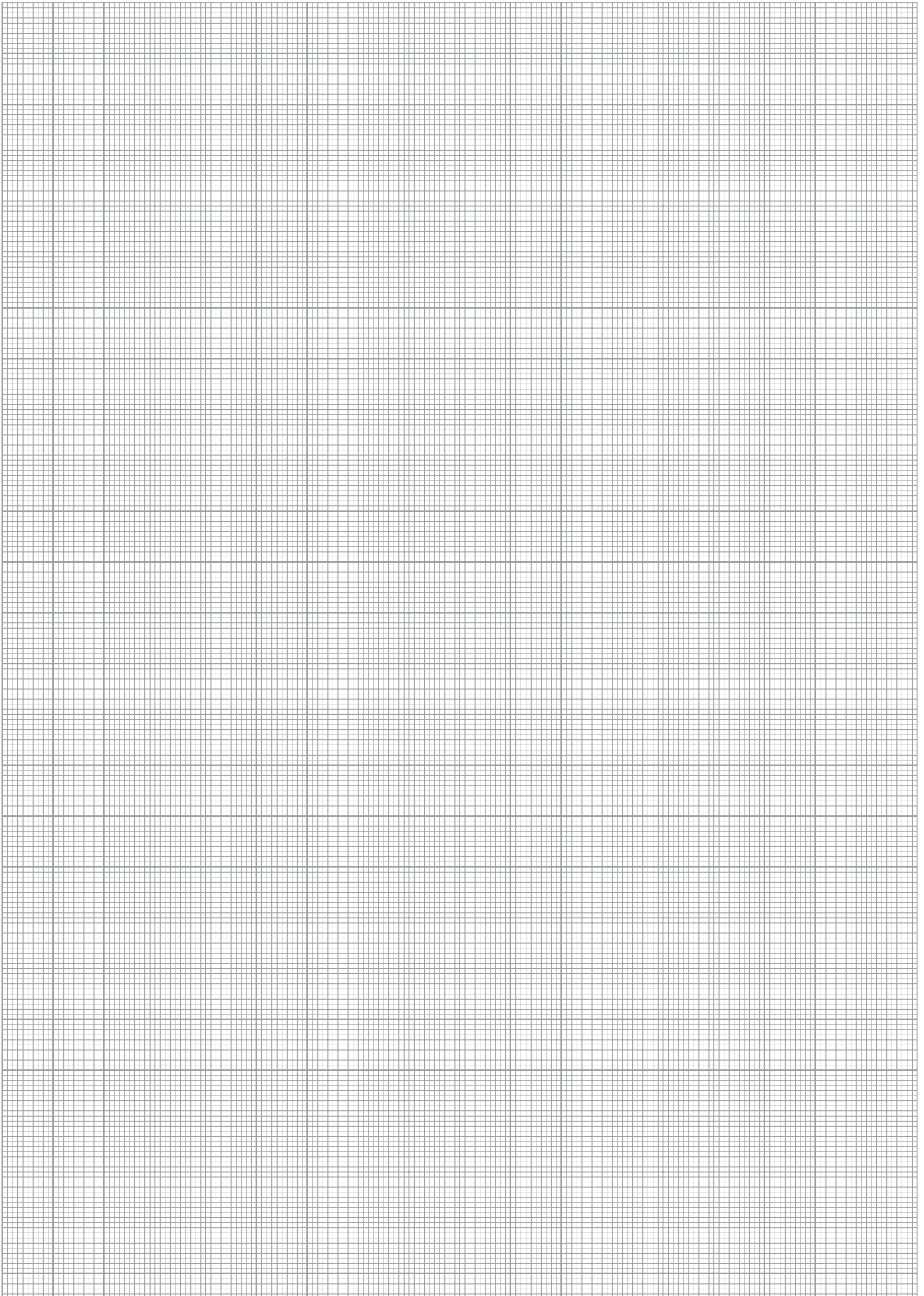
Flexible Position Sensor



Flexible position monitoring of up to five positions

Description	ID
Sensor	
FPS-S 13	0301705
Electronic Processor	
FPS-F5	0301805
FPS-F5 T	0301807

- ① When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the "Accessories" catalog section.



Pneumatic Gripping Modules

Pneumatic • 3-Finger Angular Gripper



3-FINGER ANGULAR GRIPPER

Series	Size	Page
Angular Gripper for small components		
SGW		996
SGW	40	1000
SGW	50	1004
SGW	64	1008





Sizes
40 ... 64



Weight
0.05 kg ... 0.17 kg



Gripping moment
1.35 Nm ... 7.45 Nm

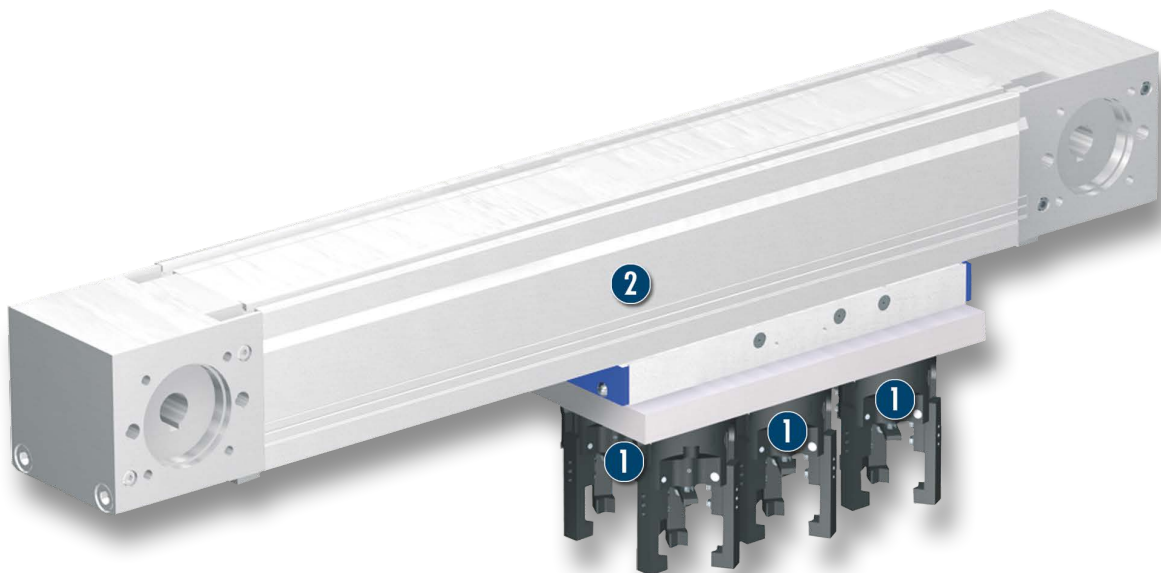


Angle per jaw
8°



Workpiece weight
0.3 kg ... 1.3 kg

Application example



Linear unit with 6-fold gripper for simultaneous handling of six smaller packages

- 1 3-Finger Centric Gripper SGW
- 2 Linear axis with toothed-belt drive HSB Beta

Angular Gripper for small components

small, plastic angular gripper with spring return and single-acting piston

Field of application

for universal use in clean and slightly dirty environments, with special requirements for the corrosion resistance and antistatic properties of the gripper unit

Your advantages and benefits

Housing of carbon-fiber-reinforced plastic

making the gripper extremely light and free from corrosion

One-way acting 3-fold piston with lever gear

for high power transmission and synchronized gripping

Spring-loaded pressure piece

for optional pressing and separating of workpieces

favorable in price

especially suitable for low-budget applications



General note to the series

Principle of function

one-way acting 3-fold piston with lever gear and spring reset

Housing material

carbon-fiber-reinforced plastic with metal functional parts

Base jaw material

carbon-fiber-reinforced plastic

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to
DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

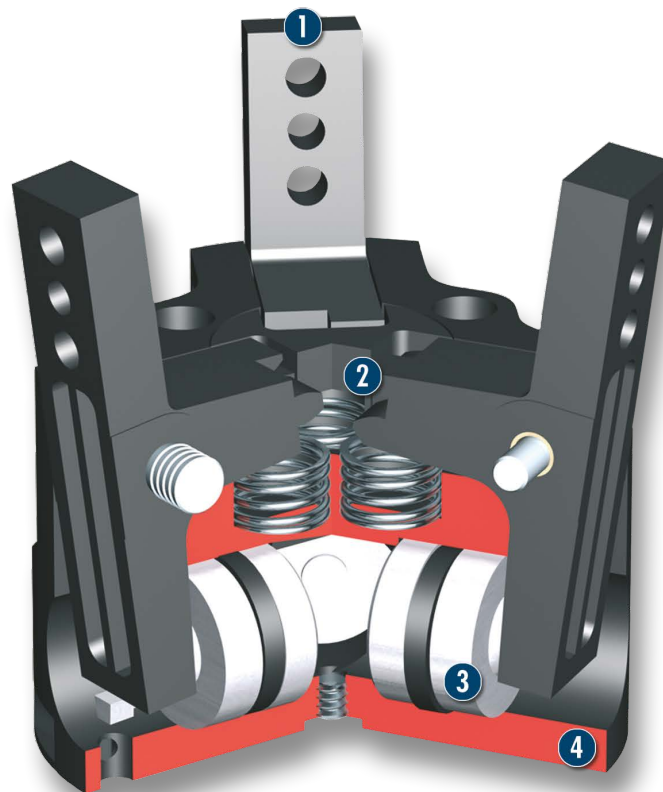
Scope of delivery

Centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Lever mechanism**
for precise and synchronized gripping
- 3 Drive**
single-acting double piston system with spring return
- 4 Housing**
weight-reduced due to the use of plastics

Functional description

The two horizontally arranged pistons are pressed away from each other by compressed air.

The base jaws are opened at an angle and in a synchronized fashion by the bearing-mounted lever mechanism.

Reset is done by compression spring.

Options and special information

The use of carbon-fiber-reinforced plastics endows this gripper with a very low weight and a disproportionately high gripping force.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Pressure maintenance valve



Fittings



Inductive proximity switches



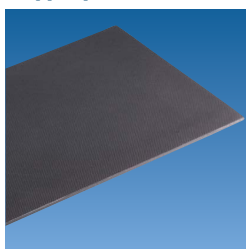
Sensor cables



Plastic inserts



Gripper pads



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

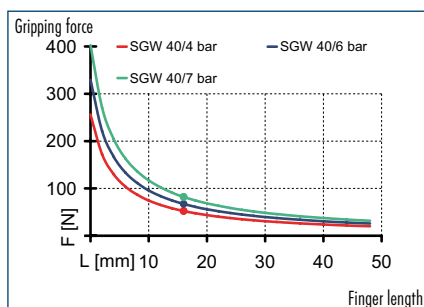
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

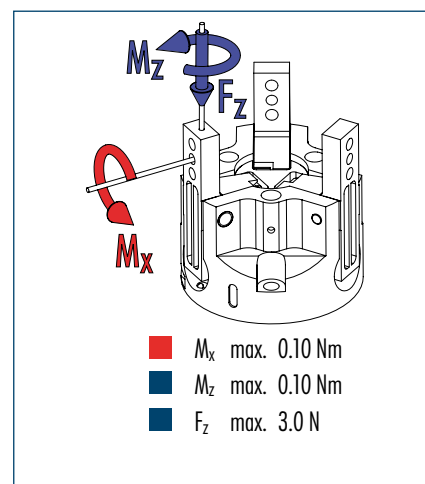
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGW 40
ID	0305204
Opening angle per jaw	8°
Closed angle per jaw up to	2°
Closing moment	1.35 Nm
Weight	0.05 kg
Recommended workpiece weight	0.3 kg
Air consumption per double stroke	0.5 cm³
Min./max. operating pressure	4/7 bar
Nominal operating pressure	6 bar
Closing/opening time	0.02/0.03 s
Max. permitted finger length	32 mm
Max. permitted weight per finger	0.03 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm

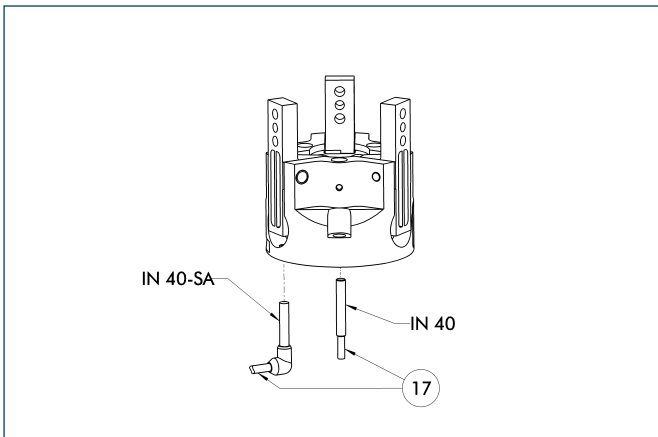
B, b Main/direct connection, gripper closing
① Gripper connection

② Finger connection

-

- 92 Maximum supporting length

Inductive proximity switches



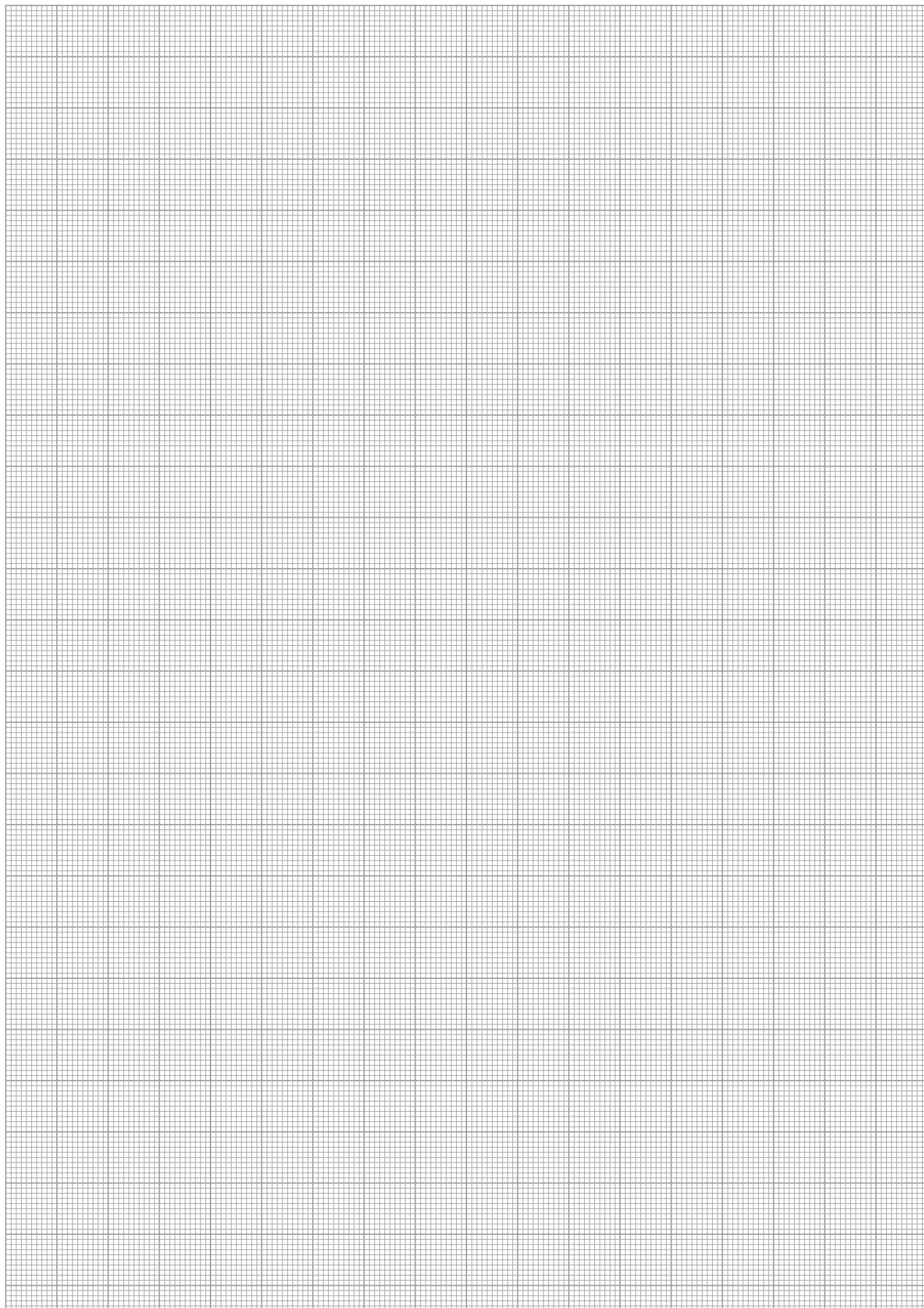
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

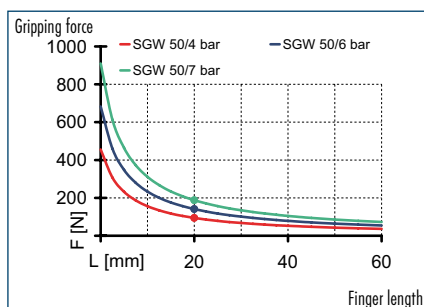
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

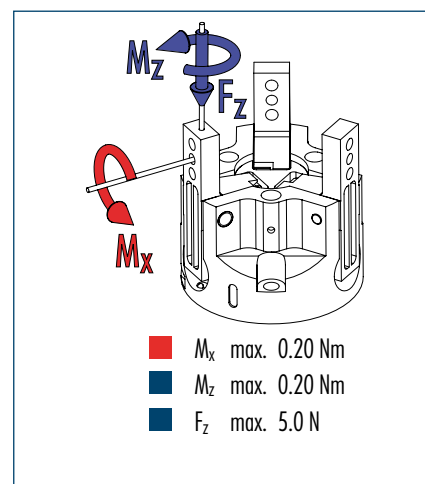




Gripping force, O.D. gripping



Finger load

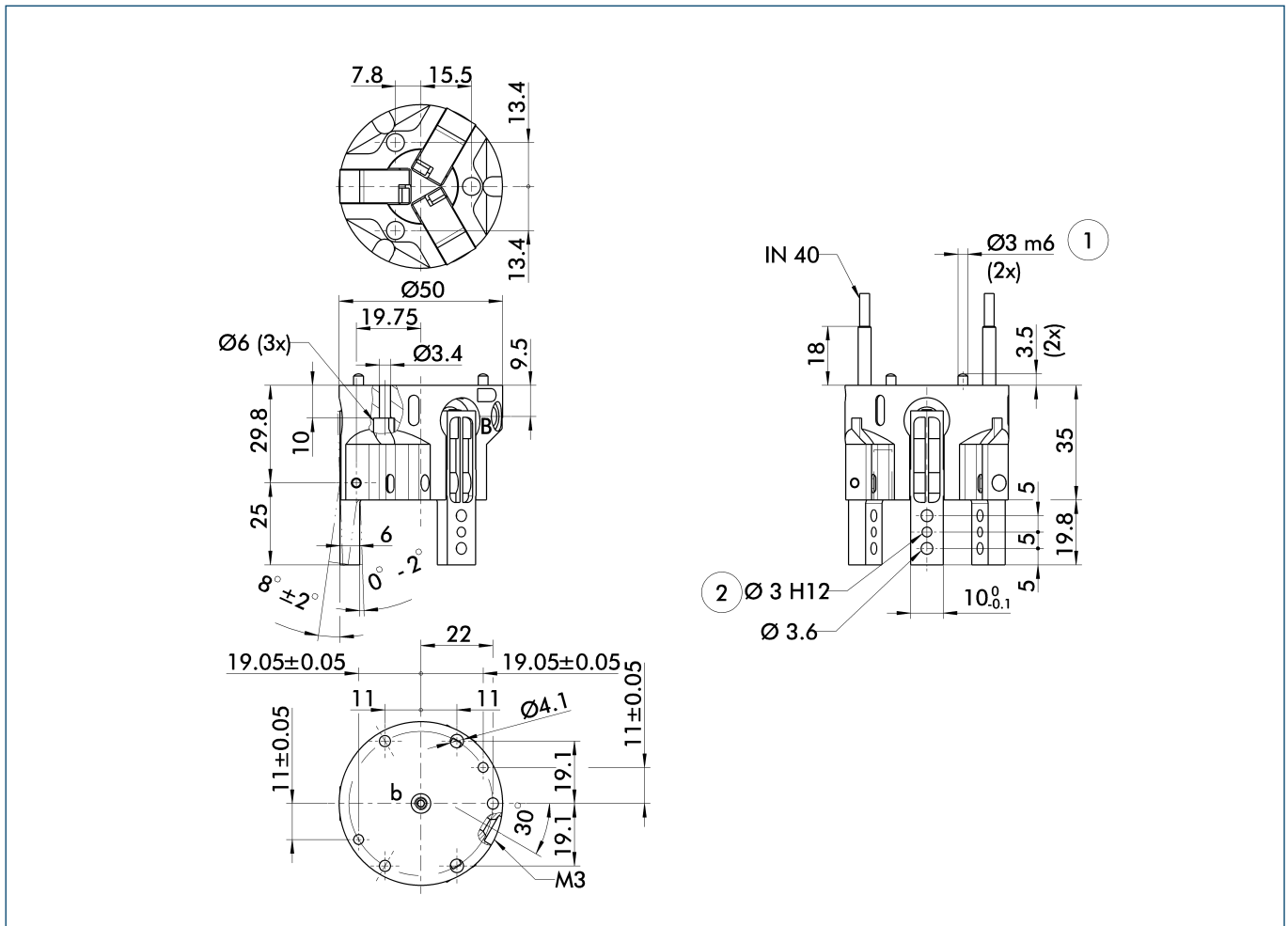


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGW 50
ID	0305205
Opening angle per jaw	8°
Closed angle per jaw up to	2°
Closing moment	3.55 Nm
Weight	0.09 kg
Recommended workpiece weight	0.6 kg
Air consumption per double stroke	1 cm³
Min./max. operating pressure	4/7 bar
Nominal operating pressure	6 bar
Closing/opening time	0.02/0.03 s
Max. permitted finger length	40 mm
Max. permitted weight per finger	0.05 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm

Main view



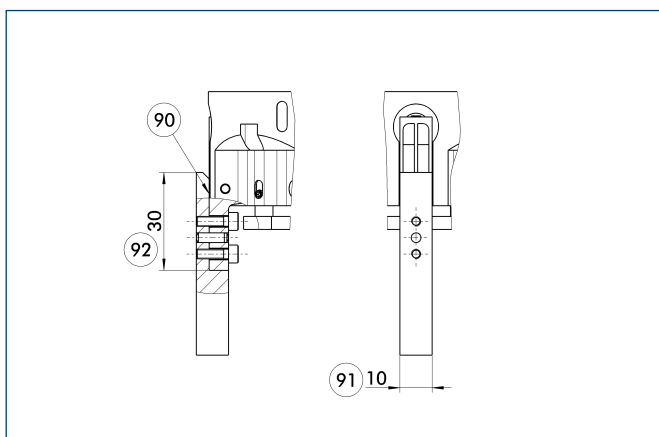
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

B, b Main/direct connection, gripper closing
① Gripper connection

② Finger connection

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

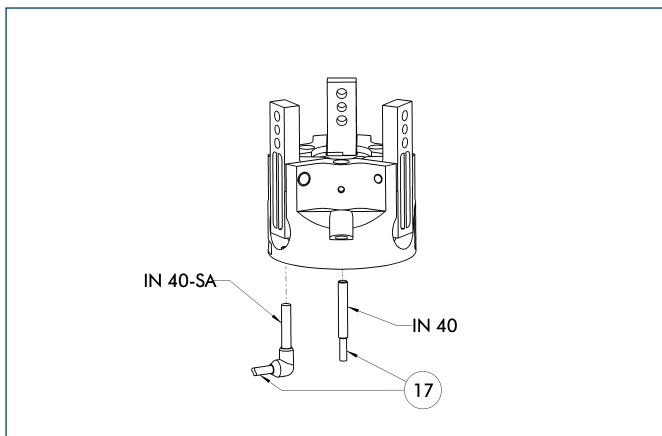
Jaw design O.D. gripping



90 Support top jaws at the base jaw
91 Maximum finger width

92 Maximum supporting length

Inductive proximity switches



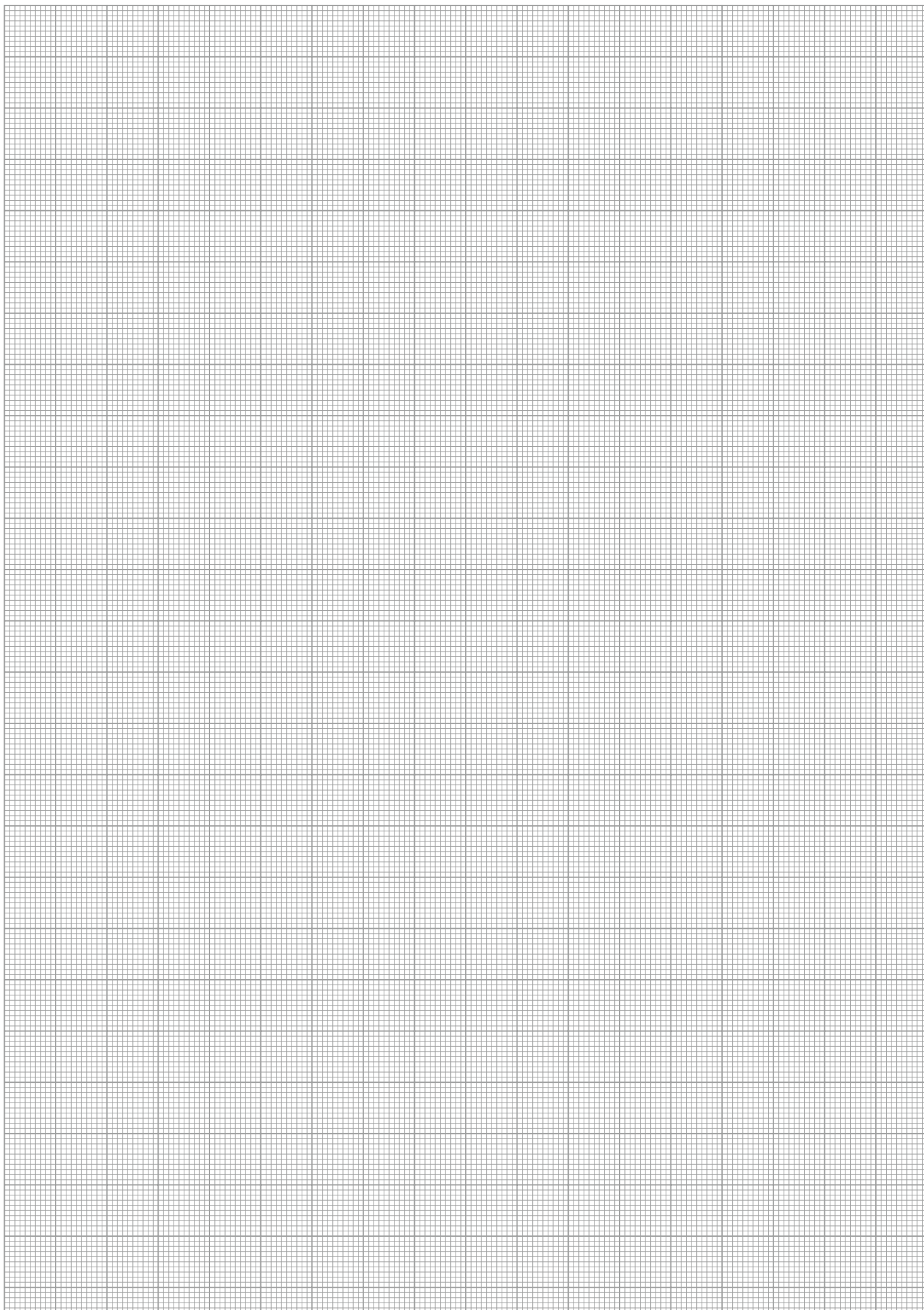
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

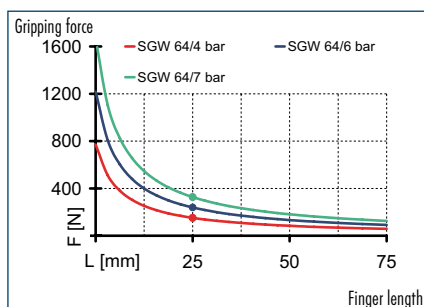
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

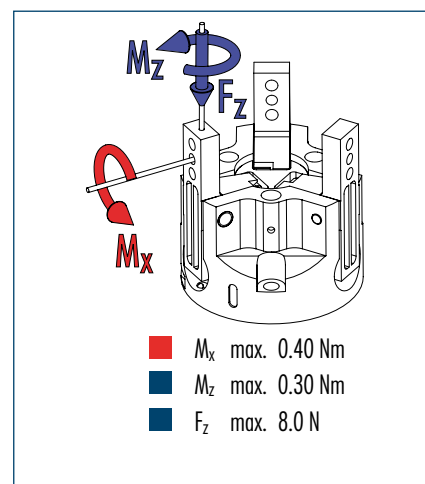




Gripping force, O.D. gripping



Finger load

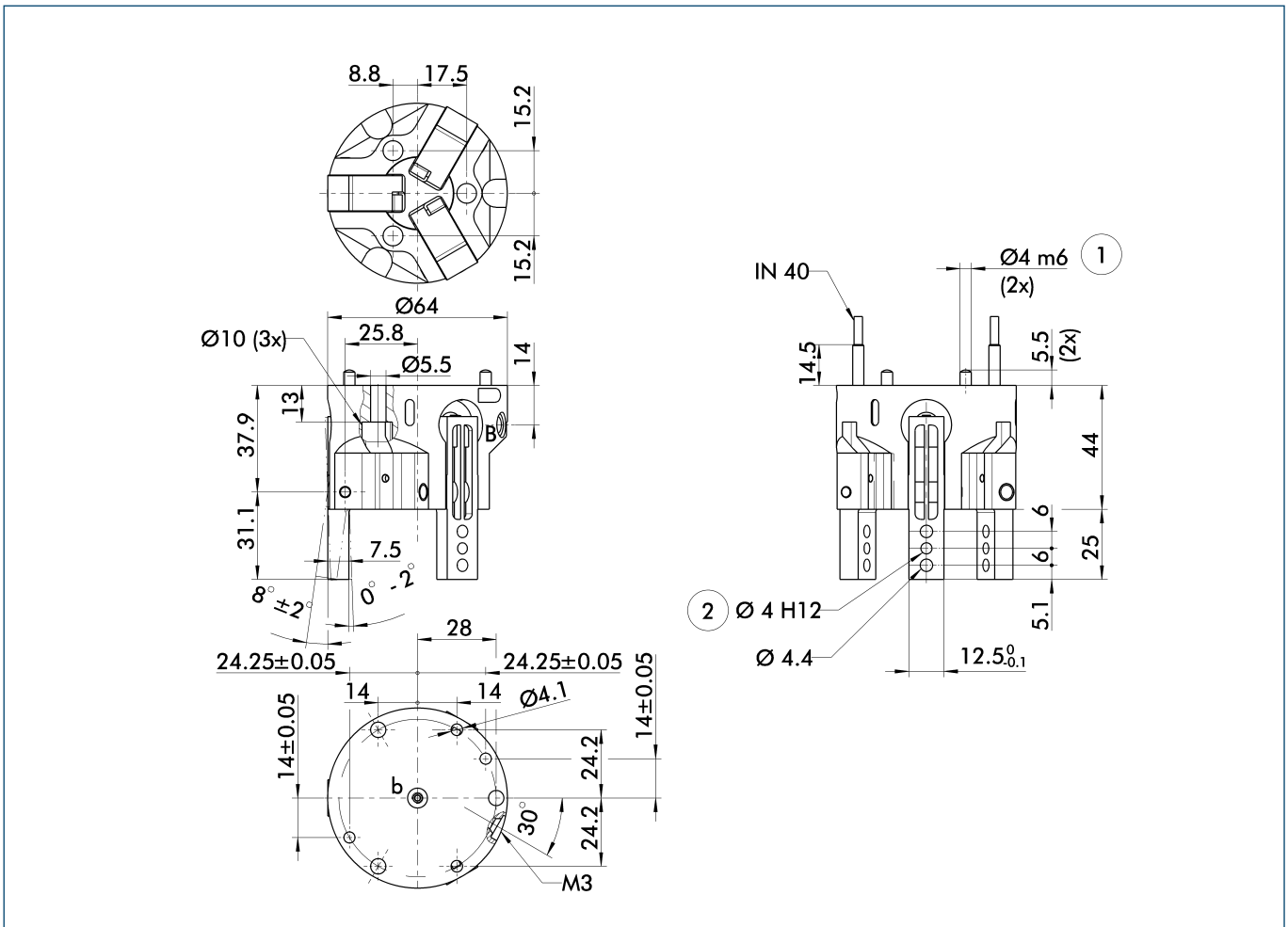


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	SGW 64
ID	0305206
Opening angle per jaw	8°
Closed angle per jaw up to	2°
Closing moment	7.45 Nm
Weight	0.17 kg
Recommended workpiece weight	1.3 kg
Air consumption per double stroke	1.8 cm³
Min./max. operating pressure	4/7 bar
Nominal operating pressure	6 bar
Closing/opening time	0.02/0.03 s
Max. permitted finger length	50 mm
Max. permitted weight per finger	0.07 kg
IP class	20
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm

Main view



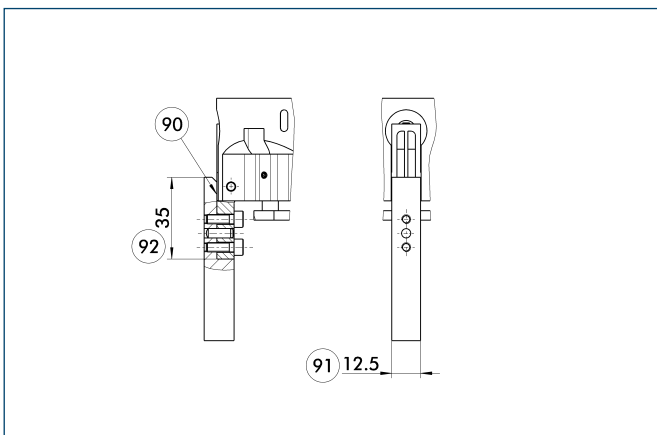
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

B, b Main/direct connection, gripper closing
① Gripper connection

② Finger connection

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

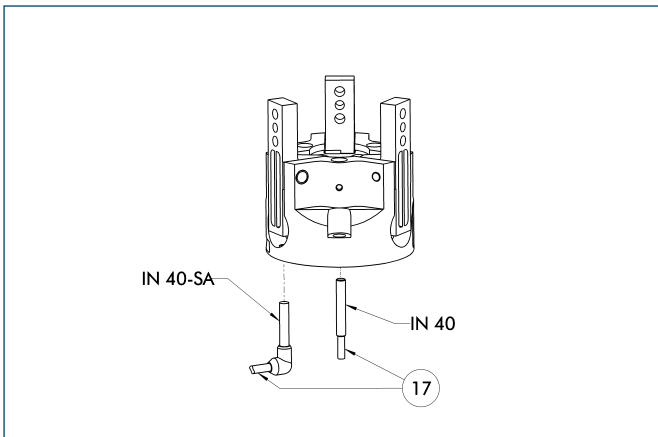
Jaw design O.D. gripping



90 Support top jaws at the base jaw
91 Maximum finger width

92 Maximum supporting length

Inductive proximity switches



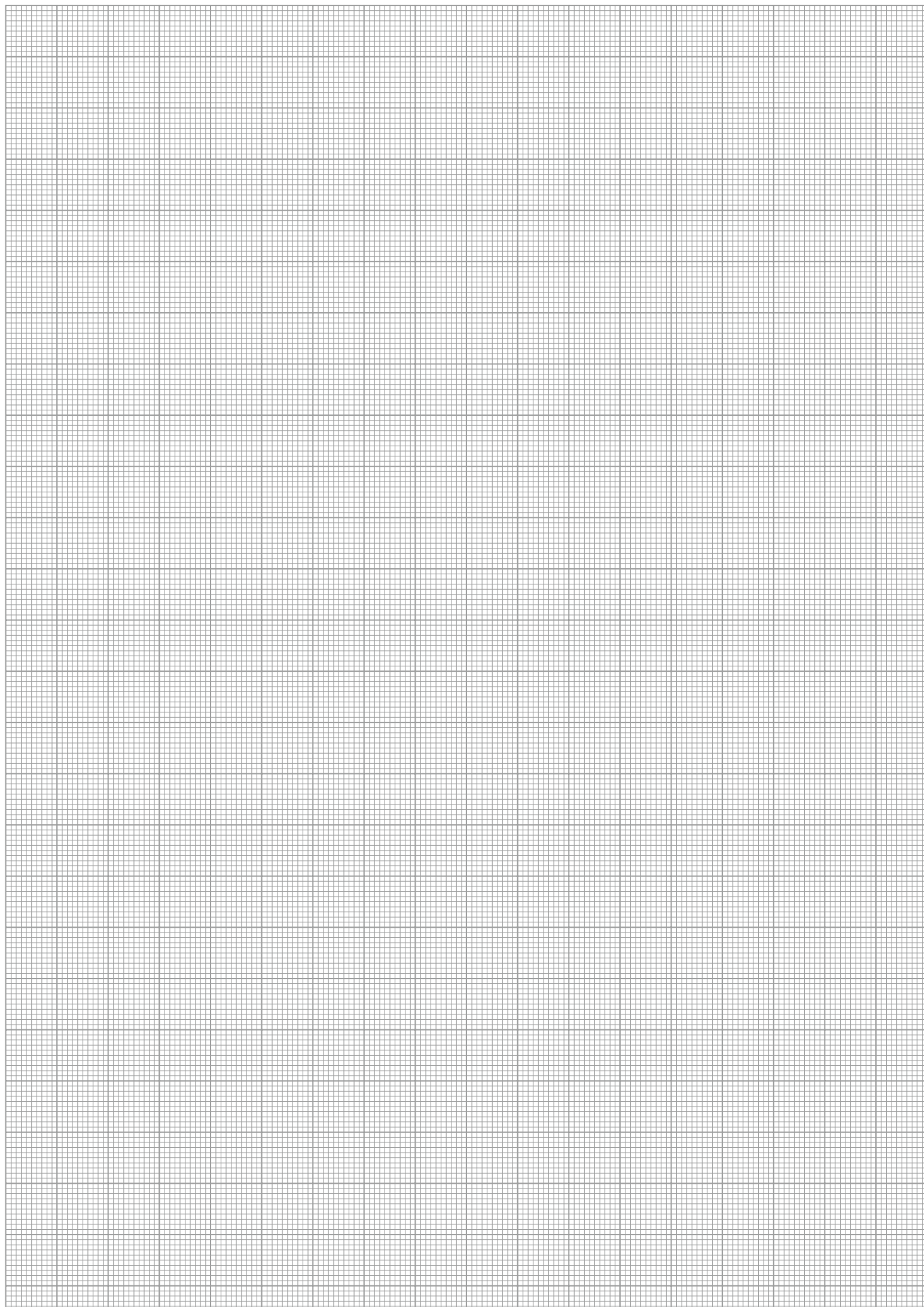
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Pneumatic Gripping Modules

Pneumatic • 2-Finger Radial Gripper



2-FINGER RADIAL GRIPPER

Series	Size	Page
Universal Gripper		
LGR		1014
LGR	10	1018
LGR	16	1020
LGR	25	1022
LGR	32	1024
LGR	40	1026
PRG		1028
PRG	26	1032
PRG	34	1036
PRG	42	1040
PRG	52	1044
PRG	64	1048
PRG	80	1052
PRG	100	1056
PRG	125	1060
Sealed Gripper		
DRG		1064
DRG	44	1068
DRG	54	1074
DRG	64	1080
DRG	80	1086
DRG	100	1090





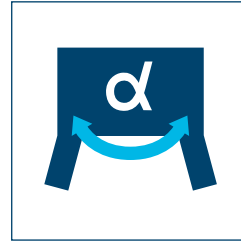
Sizes
10 ... 40



Weight
0.07 kg ... 1.27 kg



Gripping moment
0.3 Nm ... 15 Nm



Angle per jaw
90°



Workpiece weight
0.07 kg ... 1066 kg

Application example



Rotational adjustment for reorientation of workpieces

- 1 2-Finger Radial Gripper LGR
- 2 Rotary Actuator SRU-plus

Universal Gripper

universal 180°-angular gripper with excellent cost-performance ratio

Field of application

for universal use in clean and slightly dirty environments

Your advantages and benefits

Function optimized gripper type

for maximum cost effectiveness

Matching SCHUNK C-slot switch

for process reliable position interrogation

Hard-anodized or hardened functional components

for long lifetime

Centering sleeves

for a repeat accurate exchange of grippers and fingers

Compact dimensions

for minimized interfering contours



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

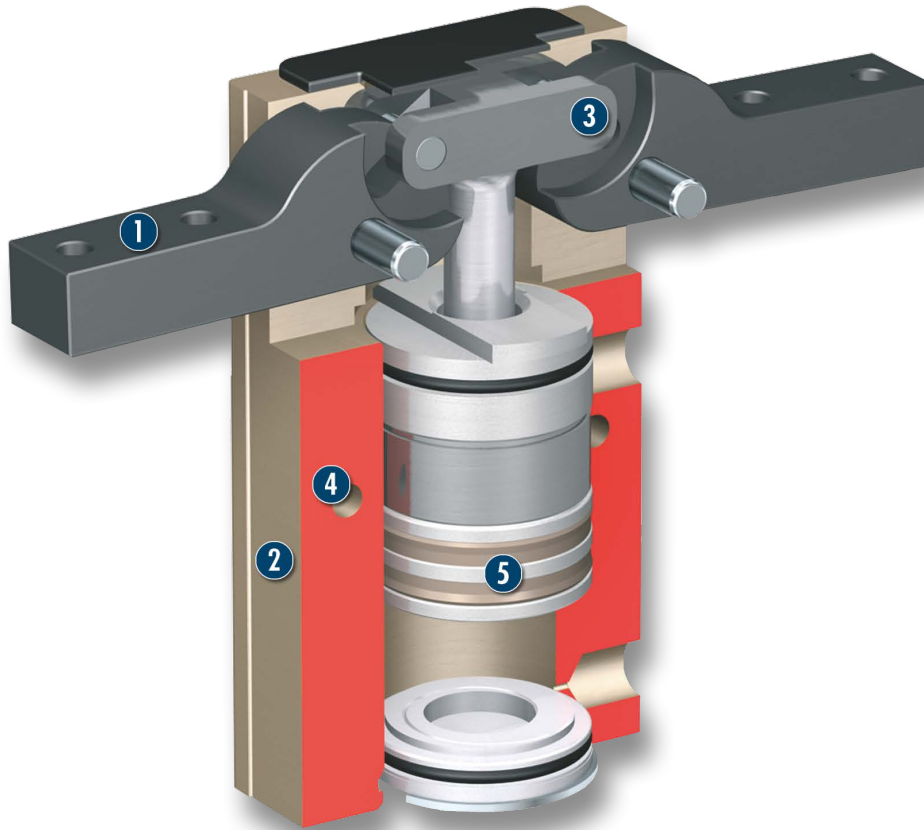
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering elements, assembly and operating instruction with manufacturer's declaration

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 3 Crank mechanism**
for centric gripping
- 4 Centering and mounting possibilities**
for universal assembly of the gripper
- 5 Drive**
pneumatic piston drive

Functional description

180° angular grippers (radial grippers) are advantageous in order to avoid additional stroke motions. Since each jaw rotates away by 90°, they are mostly removed from the work area; a stroke motion to retract the entire gripper can be omitted.

Options and special information

Monitoring with a SCHUNK MMS 22 or RMS 22 sensor is not possible. The use of the recommended sensors MZN and RZN is not compulsory.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Inductive proximity switches



Programmable magnetic switch



Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

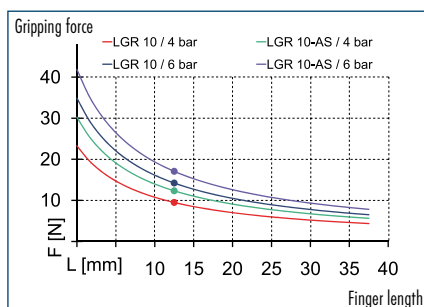
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

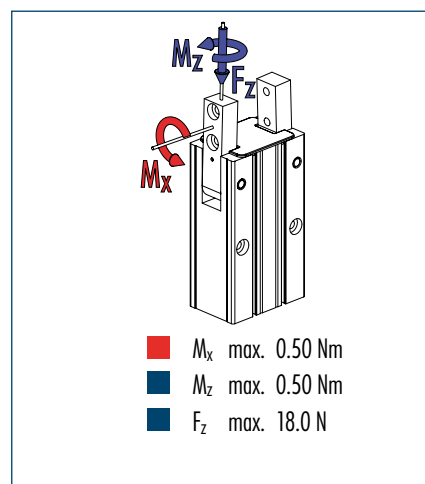
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

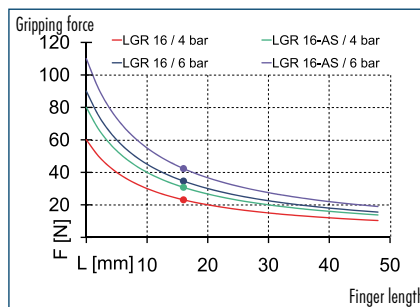
Description		LGR 10	LGR 10-AS
ID		0312970	0312971
Opening angle per jaw	[°]	90	90
Closed angle per jaw up to	[°]	4	4
Closing moment	[Nm]	0.3	0.36
Spring-actuated closing moment	[Nm]		0.06
Weight	[kg]	0.07	0.07
Recommended workpiece weight	[kg]	0.07	0.9
Air consumption per double stroke	[cm³]	1.2	1.45
Min./max. operating pressure	[bar]	2/8	4/6.5
Nominal operating pressure	[bar]	6	6
Closing/opening time	[s]	0.07/0.08	0.08/0.09
Max. permitted finger length	[mm]	25	25
Max. permitted weight per finger	[kg]	0.04	0.04
IP class		40	40
Min./max. ambient temperature	[°C]	-10/90	-10/90
Repeat accuracy	[mm]	0.02	0.02

⑧0 Depth of the centering sleeve hole in the matching part

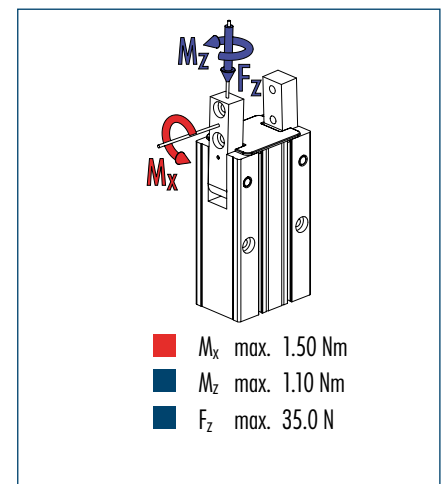
 Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

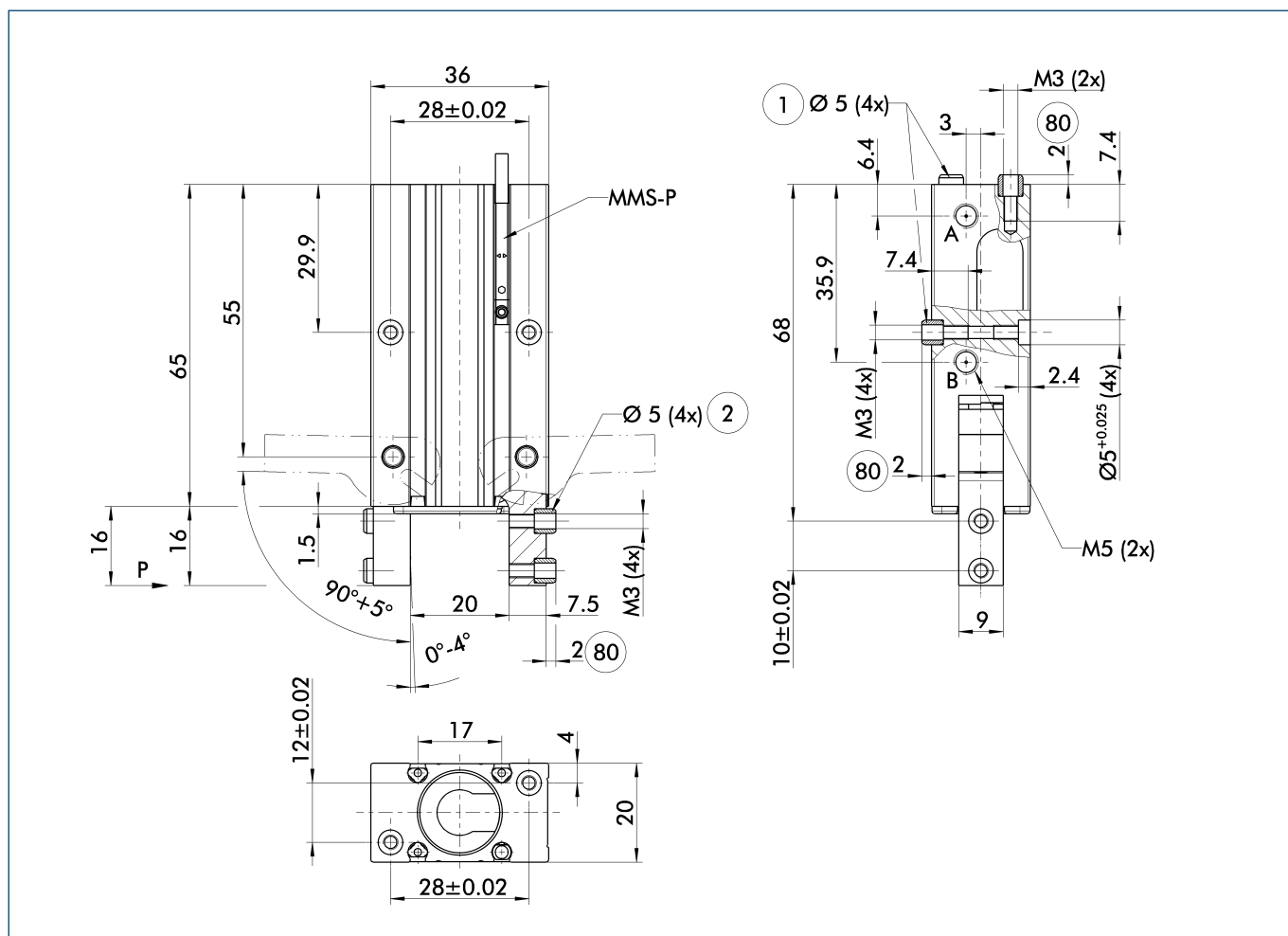


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGR 16	LGR 16-AS
ID	0312972	0312973
Opening angle per jaw	90	90
Closed angle per jaw up to	4	4
Closing moment	0.9	1.1
Spring-actuated closing moment		0.2
Weight	0.14	0.14
Recommended workpiece weight	0.17	0.21
Air consumption per double stroke	3.8	3.82
Min./max. operating pressure	2/8	4/6.5
Nominal operating pressure	6	6
Closing/opening time	0.08/0.09	0.1/0.15
Max. permitted finger length	32	32
Max. permitted weight per finger	0.05	0.05
IP class	40	40
Min./max. ambient temperature	-10/90	-10/90
Repeat accuracy	0.02	0.02

Main view



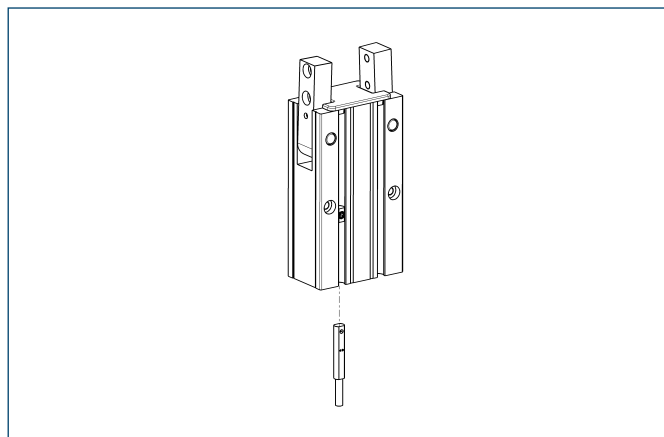
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

Programmable magnetic switch



Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

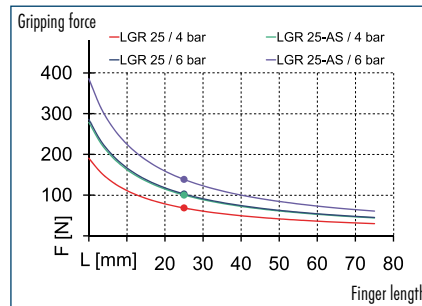
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

② Per gripper one sensor (closer/NO) is required, optionally a cable extension.

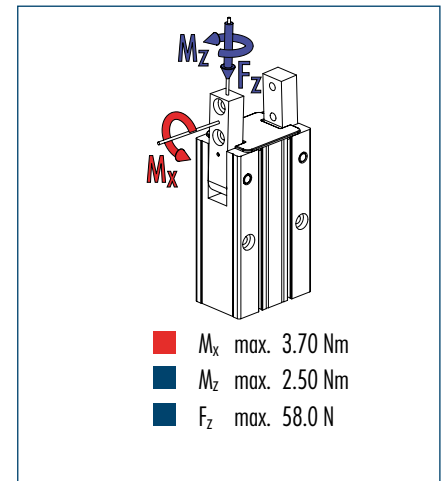




Gripping force, O.D. gripping



Finger load

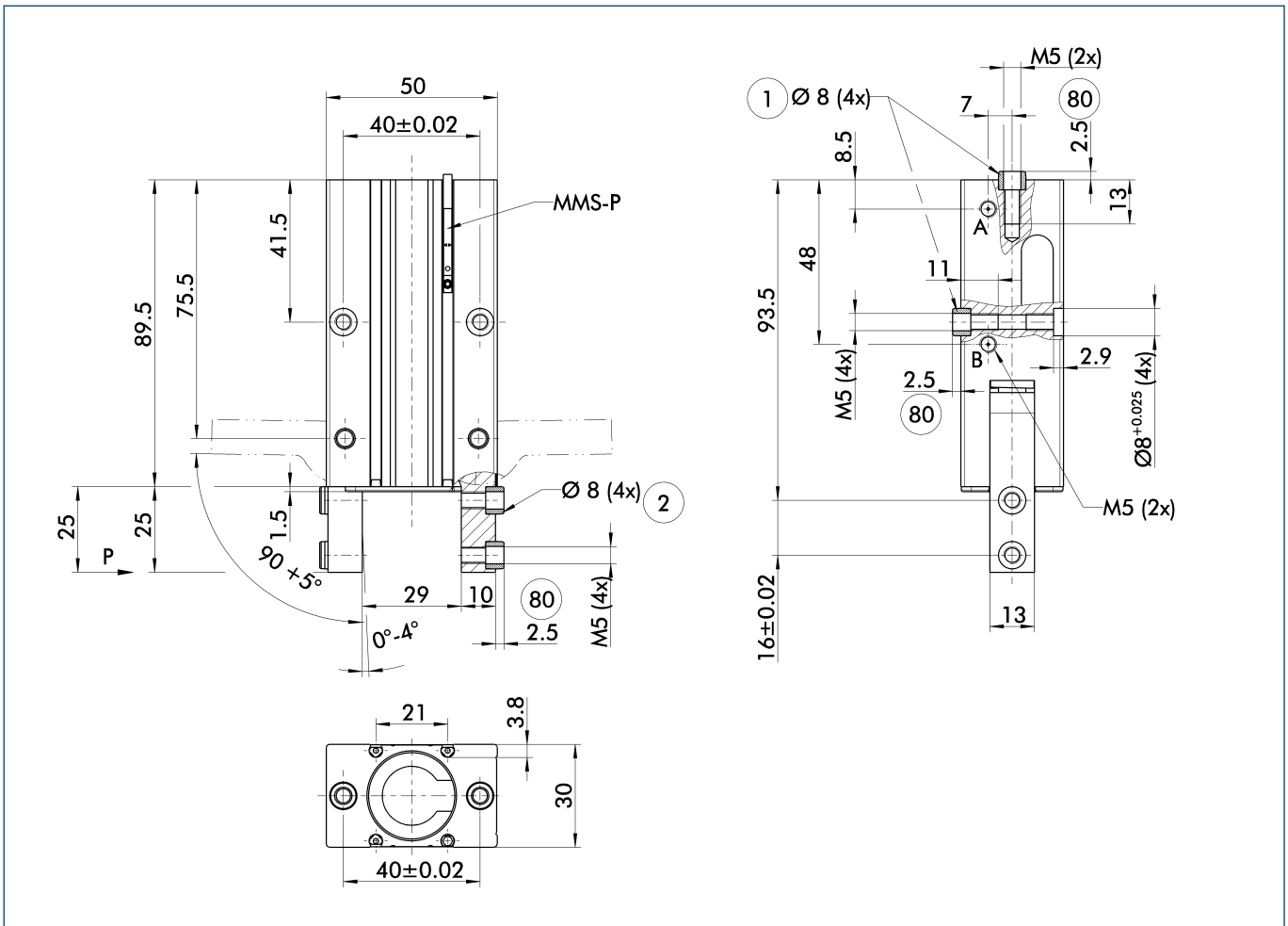


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description		
ID	LGR 25	LGR 25-AS
	0312974	0312975
Opening angle per jaw	90	90
Closed angle per jaw up to	4	4
Closing moment	4	5.4
Spring-actuated closing moment		1.4
Weight	0.4	0.41
Recommended workpiece weight	0.52	0.7
Air consumption per double stroke	13	9.31
Min./max. operating pressure	2/8	4/6.5
Nominal operating pressure	6	6
Closing/opening time	0.1/0.12	0.11/0.16
Max. permitted finger length	50	50
Max. permitted weight per finger	0.1	0.1
IP class	40	40
Min./max. ambient temperature	-10/90	-10/90
Repeat accuracy	0.02	0.02

Main view

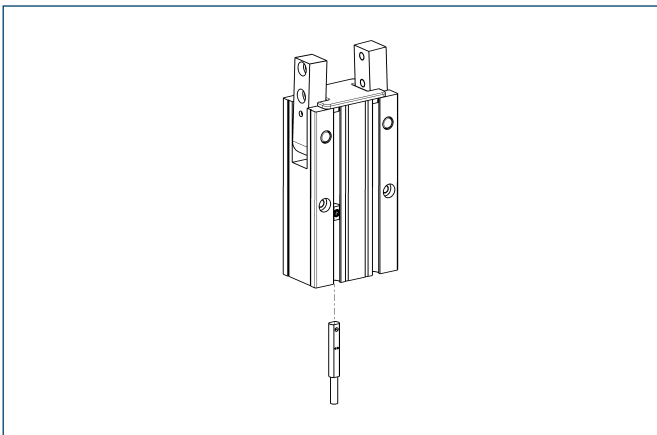


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

Programmable magnetic switch



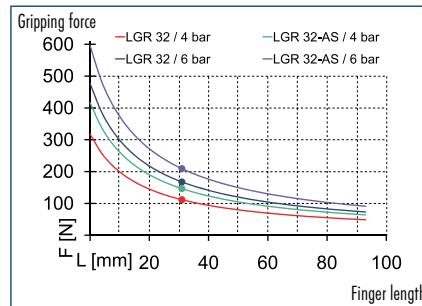
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMS-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

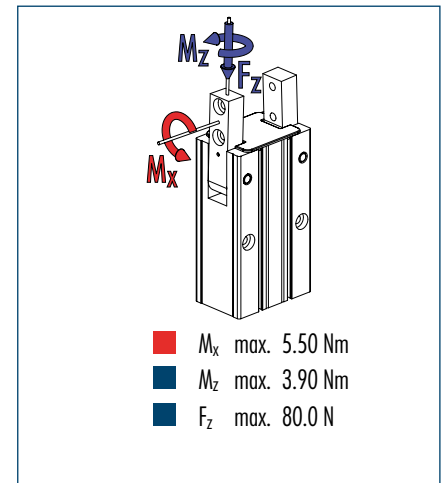
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

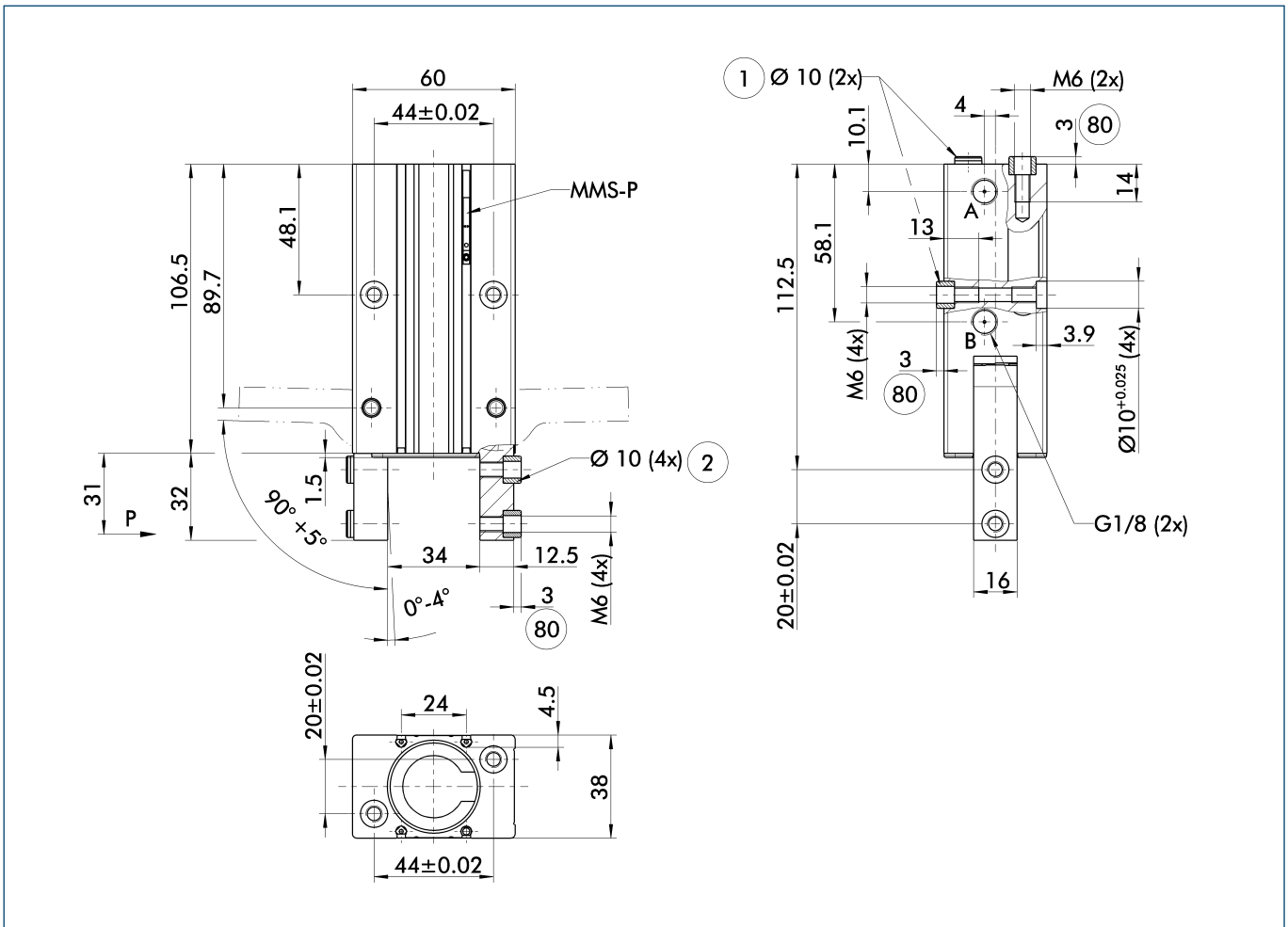


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LGR 32	LGR 32-AS
ID	0312976	0312977
Opening angle per jaw	90	90
Closed angle per jaw up to	4	4
Closing moment	8	10
Spring-actuated closing moment		2
Weight	0.74	0.75
Recommended workpiece weight	0.85	1066
Air consumption per double stroke	25	15.3
Min./max. operating pressure	2/8	4/6.5
Nominal operating pressure	6	6
Closing/opening time	0.13/0.17	0.14/0.2
Max. permitted finger length	62	62
Max. permitted weight per finger	0.13	0.13
IP class	40	40
Min./max. ambient temperature	-10/90	-10/90
Repeat accuracy	0.02	0.02

Main view

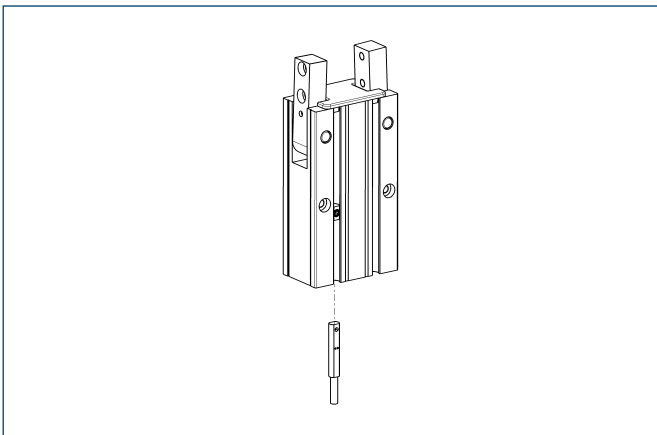


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | ⑧0 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

Programmable magnetic switch



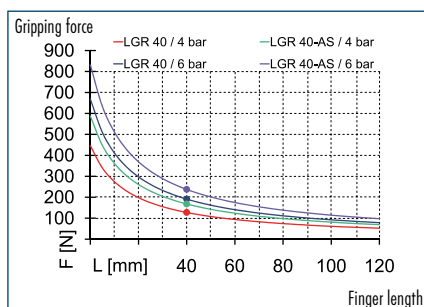
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMSP 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

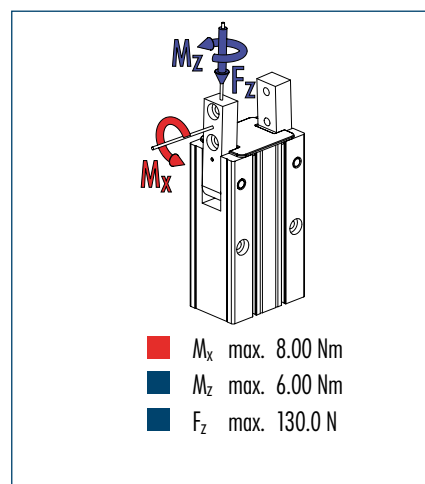
- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Gripping force, O.D. gripping



Finger load

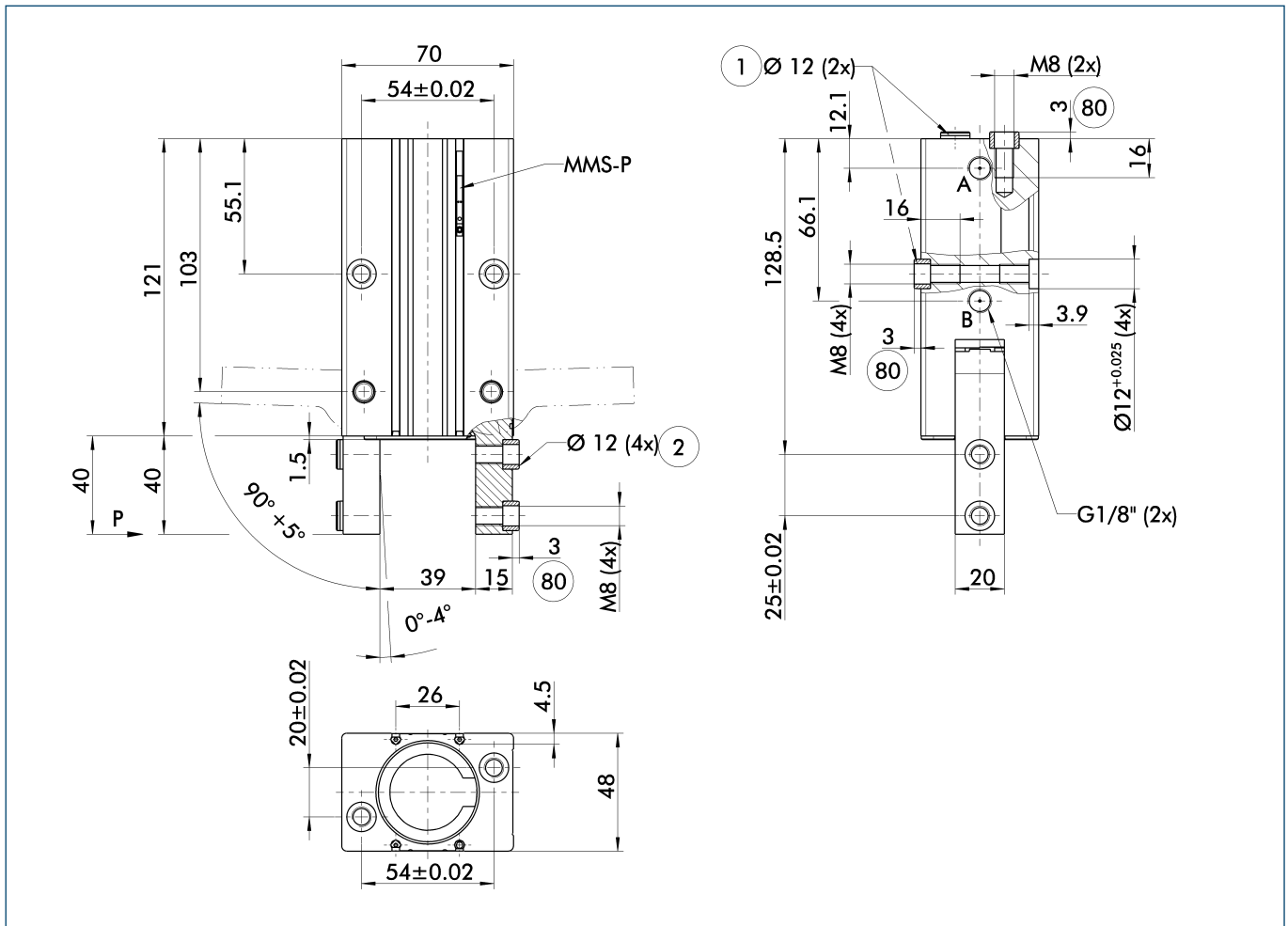


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description		
ID	LGR 40	LGR 40-AS
	0312978	0312979
Opening angle per jaw	90	90
Closed angle per jaw up to	4	4
Closing moment	12	15
Spring-actuated closing moment		3
Weight	1.25	1.27
Recommended workpiece weight	1.055	1.3
Air consumption per double stroke	42	24
Min./max. operating pressure	2/8	4/6.5
Nominal operating pressure	6	6
Closing/opening time	0.18/0.24	0.21/0.31
Max. permitted finger length	80	80
Max. permitted weight per finger	0.22	0.22
IP class	40	40
Min./max. ambient temperature	-10/90	-10/90
Repeat accuracy	0.02	0.02

Main view

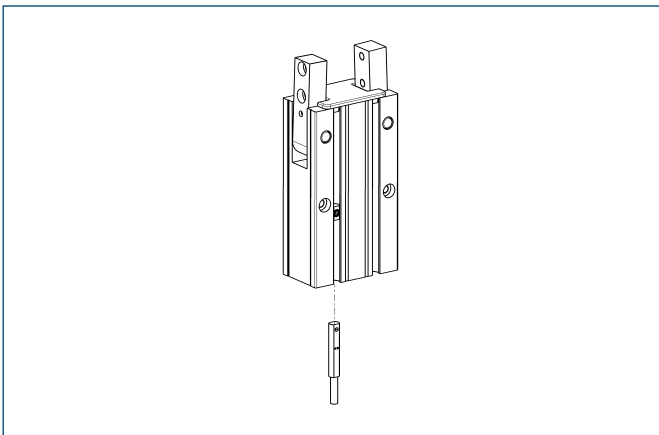


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

Programmable magnetic switch



Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMS-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ❗ Per gripper one sensor (closer/NO) is required, optionally a cable extension.



Sizes
26 ... 125



Weight
0.13 kg ... 6.72 kg



Gripping moment
2 Nm ... 295 Nm



Angle per jaw
30° ... 90°



Workpiece weight
0.3 kg ... 9.12 kg

Application example



Gripper-swivel combination for handling of small pins. The 180° opening angle of the gripper replaces a stroke unit which is normally necessary.

- 1 2-Finger Radial Gripper PRG
- 2 Rotary Actuator SRU-plus

Universal Gripper

180°-Radial Gripper with powerful 1-shift slotted link gear and oval piston

Field of application

for areas of application which, in addition to a large gripping force, require the shortest possible motion sequences through the radial design of the jaw stroke

Your advantages and benefits

Kinematics

The 1-shift slotted link gear assures a constant closing moment from -5° to $+7^\circ$.

Optimized cycle time due to innovative dampening

directly integrated drive chain

Maximum power density

for higher closing moments, longer and stable gripper fingers

Many options assure a higher degree of flexibility

Adjusted to the individual application, the PRG is also available with a mechanic gripping force maintenance device, as a high-temperature version, and with three opening angle versions $30^\circ/60^\circ/90^\circ$.

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



General note to the series

Principle of function

Crank drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

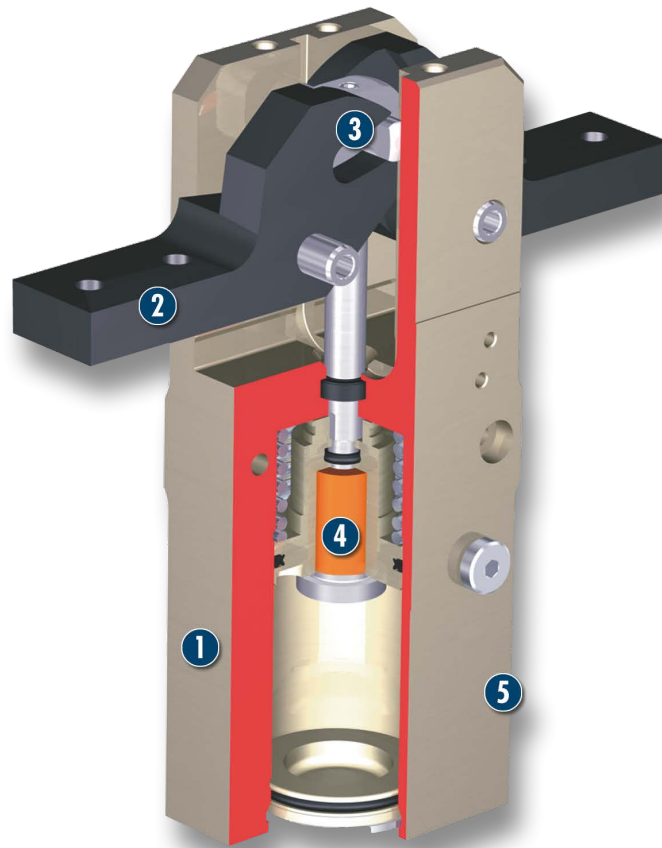
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 2 Base jaw**
for the connection of workpiece-specific gripper fingers
- 3 Kinematics**
Slotted link gear for very high gripping forces when the workpiece is contacted
- 4 Damping**
decoupled, for shorter cycle times
- 5 Monitoring**
integrated end position monitoring with magnetic switches

Functional description

The patented 1-shift slotted gear shift transfers this motion into a powerful closing moment. The closing moment is additionally reinforced by the curved shape of the guidance.

The crank system assures a force-extended jaw stroke behavior, but also a constant closing moment via a large range of closing angle.

Options and special information

180° radial grippers are advantageous since further stroke motions are no more necessary. Since every jaw swivels away by 90°, the gripper is outside of the working area, and a stroke motion back of the whole gripper is no more necessary.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Magnetic Switches



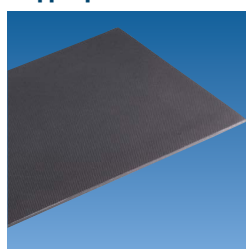
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

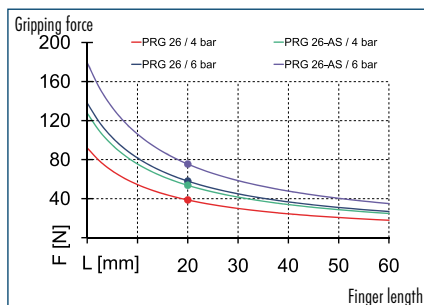
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

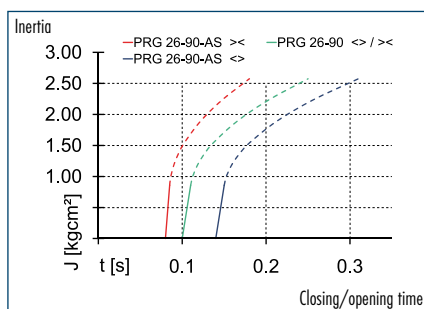
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



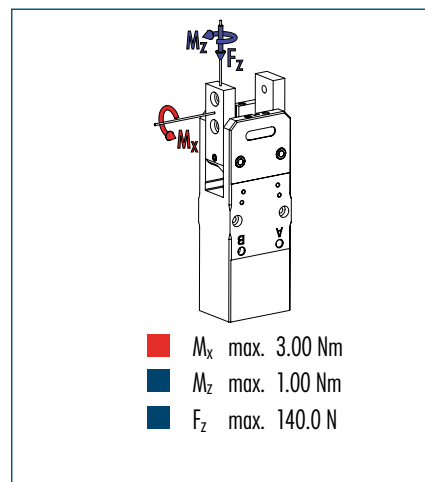
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PRG 26-30	PRG 26-30-AS	PRG 26-60	PRG 26-60-AS	PRG 26-90	PRG 26-90-AS
ID	0303651	0303661	0303691	0303701	0303671	0303681
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	2	2.6	2	2.6	2	2.6
Spring-actuated closing moment [Nm]		0.6		0.6		0.6
Weight [kg]	0.13	0.135	0.13	0.135	0.13	0.135
Recommended workpiece weight [kg]	0.3	0.38	0.3	0.38	0.3	0.38
Air consumption per double stroke [cm ³]	6.5	6.5	7.5	7.5	9	9
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.03	0.03	0.07	0.05	0.1	0.08
Opening time [s]	0.03	0.05	0.07	0.09	0.1	0.14
Max. permitted finger length [mm]	40	40	40	40	40	40
Max. mass moment of inertia per jaw [kgcm ²]	0.86	0.86	0.86	0.86	0.86	0.86
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05	0.05	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version	39303651	39303661	39303691	39303701	39303671	39303681
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

⑧0 Depth of the centering sleeve hole in the matching part

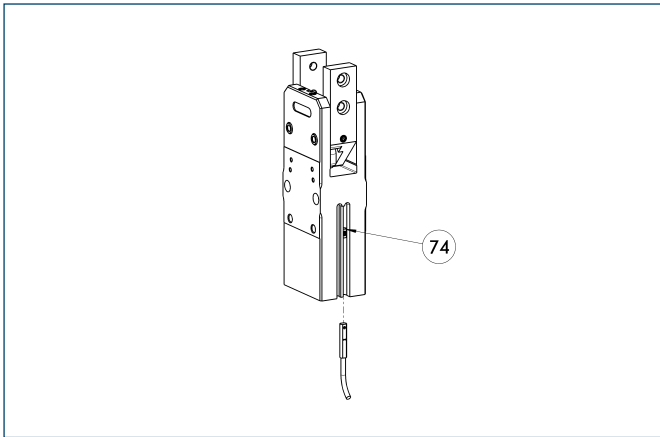
- ① Gripper connection
- ② Finger connection

Technical drawing of a mechanical part, likely a bush or sleeve, showing dimensions and callouts:

- Overall outer diameter: $\varnothing 4.5$
- Inner hole diameter: $\varnothing 2.5$
- Length: $M 2.5$
- Internal thread: $M 2.5 \times 1$
- Internal feature (fillet or chamfer): 0.65
- Callout 3 points to the outer diameter dimension.
- Callout 4 points to the internal thread dimension.

- 

Programmable magnetic switch



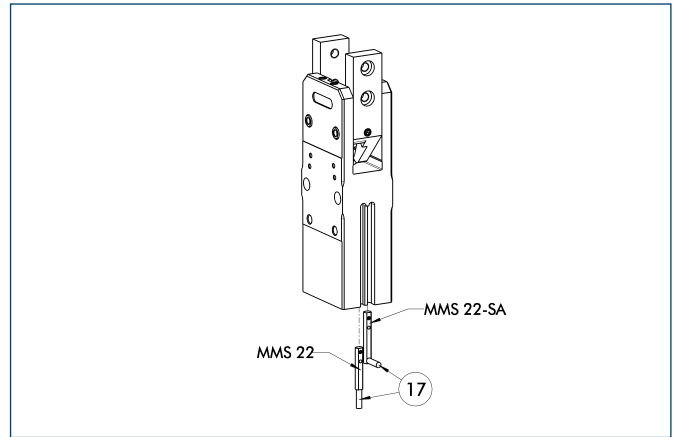
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



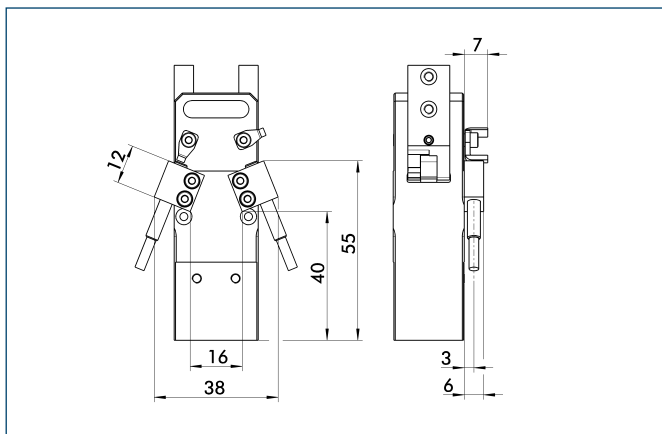
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

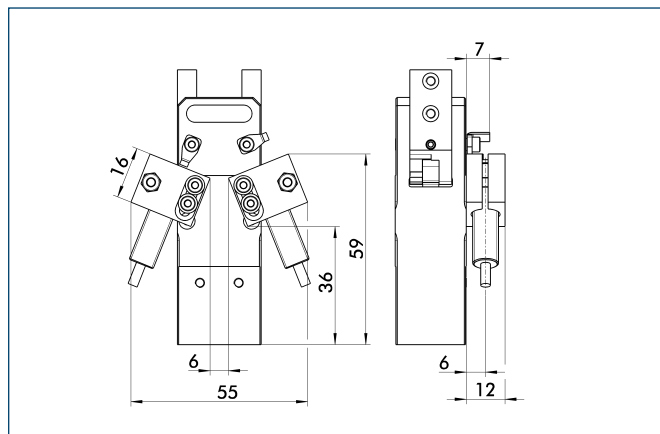
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 26-IN40	0303621

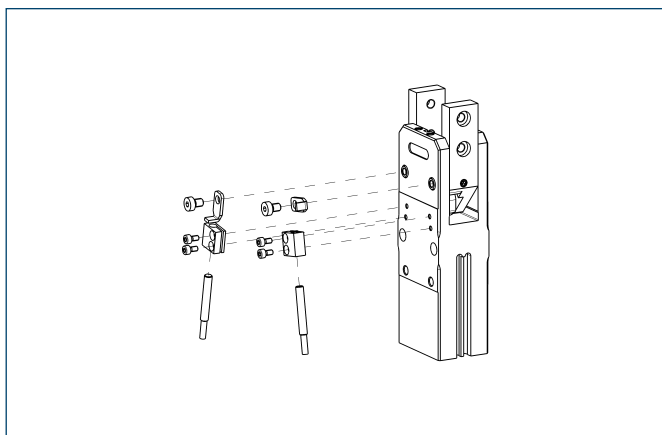
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 26-IN80	0304132

Inductive proximity switches

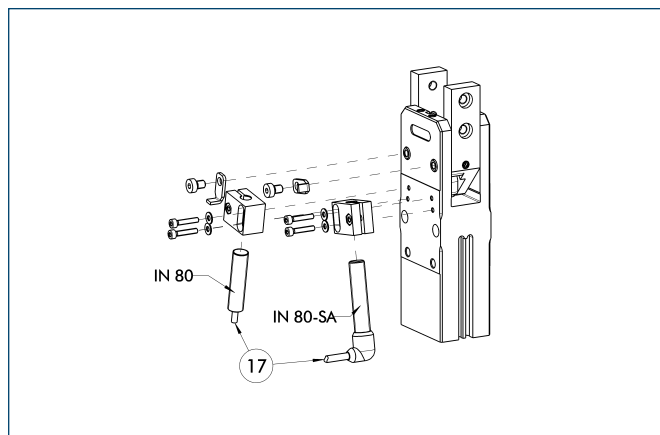


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 26-IN40	0303621	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 26-IN80	0304132	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

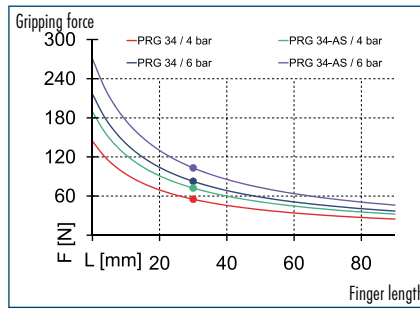
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



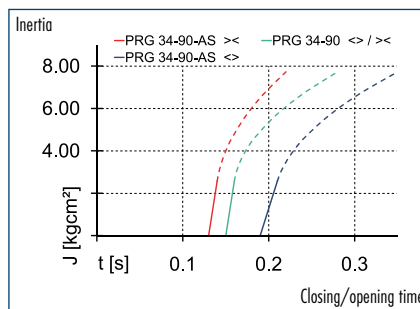
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



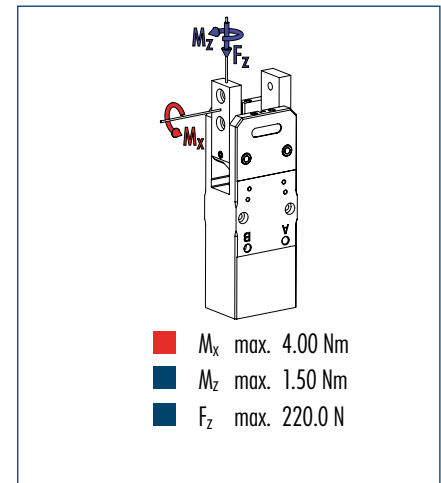
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PRG 34-30	PRG 34-30-AS	PRG 34-60	PRG 34-60-AS	PRG 34-90	PRG 34-90-AS
ID	0303652	0303662	0303692	0303702	0303672	0303682
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	4	5	4	5	4	5
Spring-actuated closing moment [Nm]		1		1		1
Weight [kg]	0.24	0.25	0.24	0.25	0.24	0.25
Recommended workpiece weight [kg]	0.42	0.53	0.42	0.53	0.42	0.53
Air consumption per double stroke [cm³]	12	12	14.5	14.5	17.5	17.5
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.05	0.04	0.1	0.09	0.15	0.13
Opening time [s]	0.05	0.06	0.1	0.13	0.15	0.19
Max. permitted finger length [mm]	60	60	60	60	60	60
Max. mass moment of inertia per jaw [kgcm²]	2.58	2.58	2.58	2.58	2.58	2.58
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05	0.05	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version	39303652	39303662	39303692	39303702	39303672	39303682
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

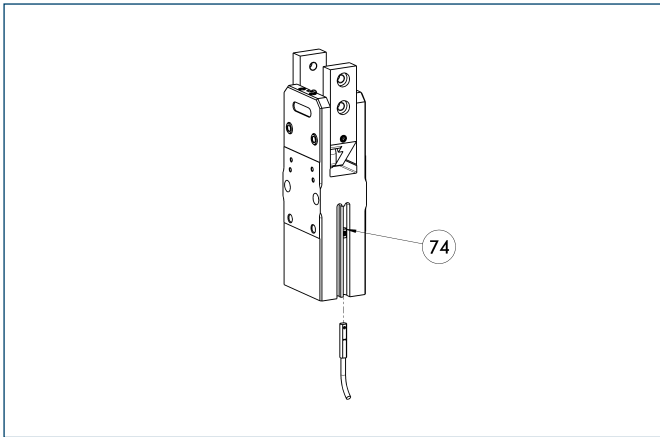
❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see “Accessories” catalog section).

Technical drawing of a mechanical part, likely a cross-section of a shaft or hub. The drawing includes the following dimensions and callouts:

- Ø5**: Outer diameter dimension.
- Ø3**: Inner diameter dimension.
- M 3**: Thread specification for the outer diameter.
- Ø3x1**: Dimension for the inner hole, indicating a diameter of 3 mm and a length of 1 mm.
- 0.6_{0,1}**: Dimension for the inner hole, indicating a diameter of 0.6 mm with a tolerance of 0.1 mm.
- 3**: Callout number pointing to the outer diameter.
- 4**: Callout number pointing to the inner hole.

- The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch



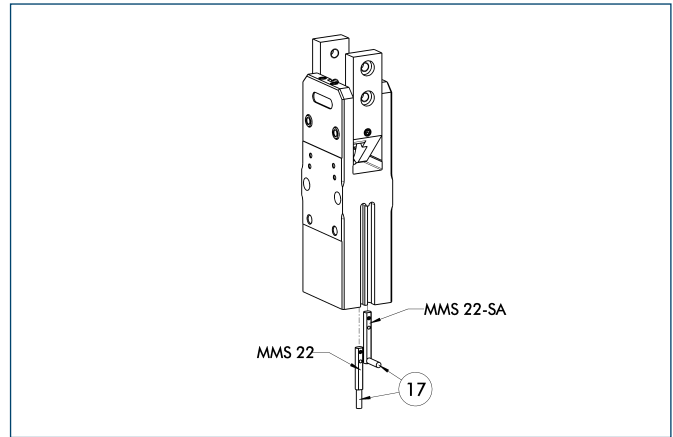
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



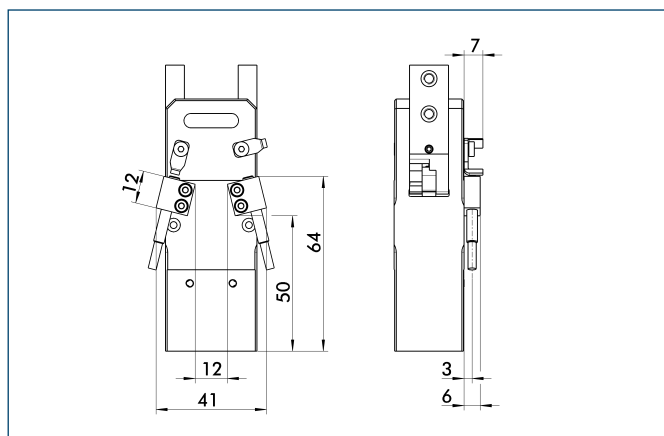
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

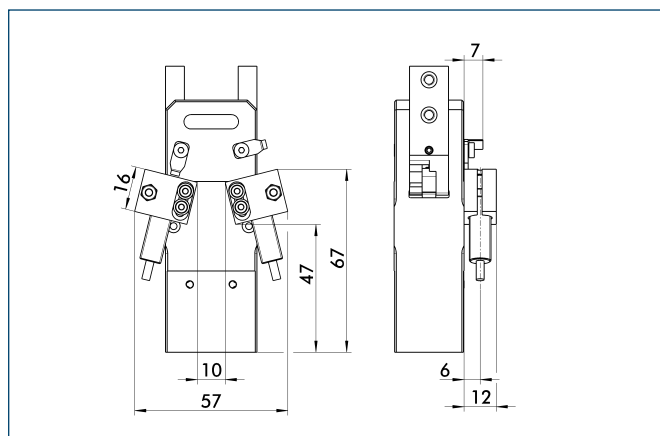
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 34-IN40	0303622

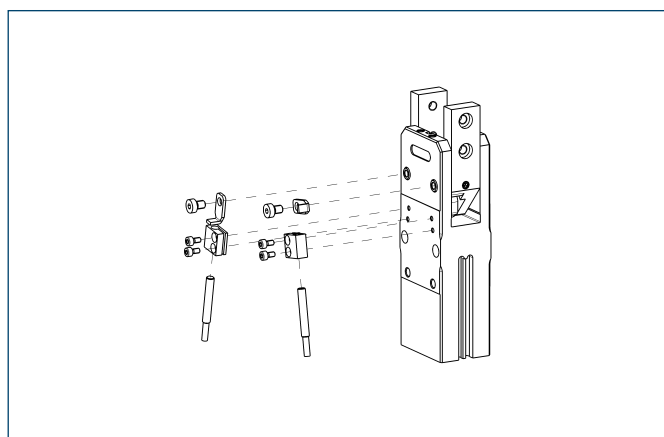
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 34-IN80	0304133

Inductive proximity switches



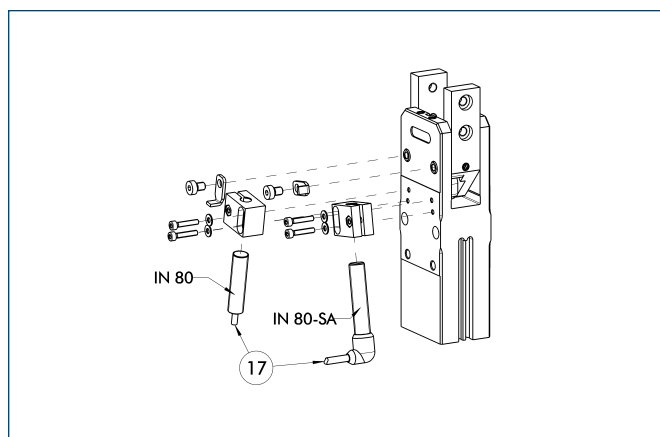
End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 34-IN40	0303622	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

② Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 34-IN80	0304133	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

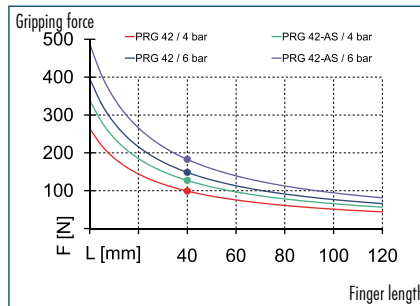
② Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



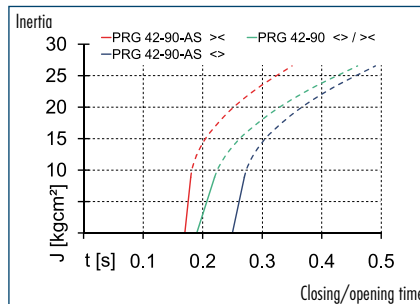
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



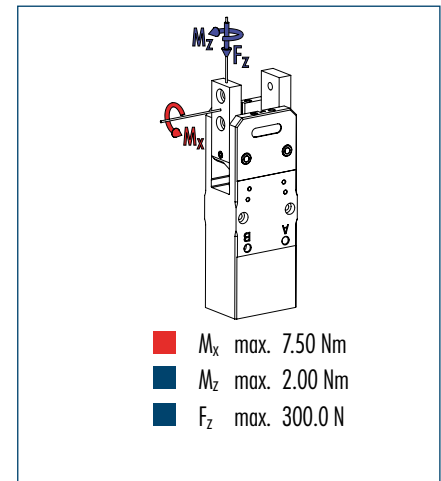
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

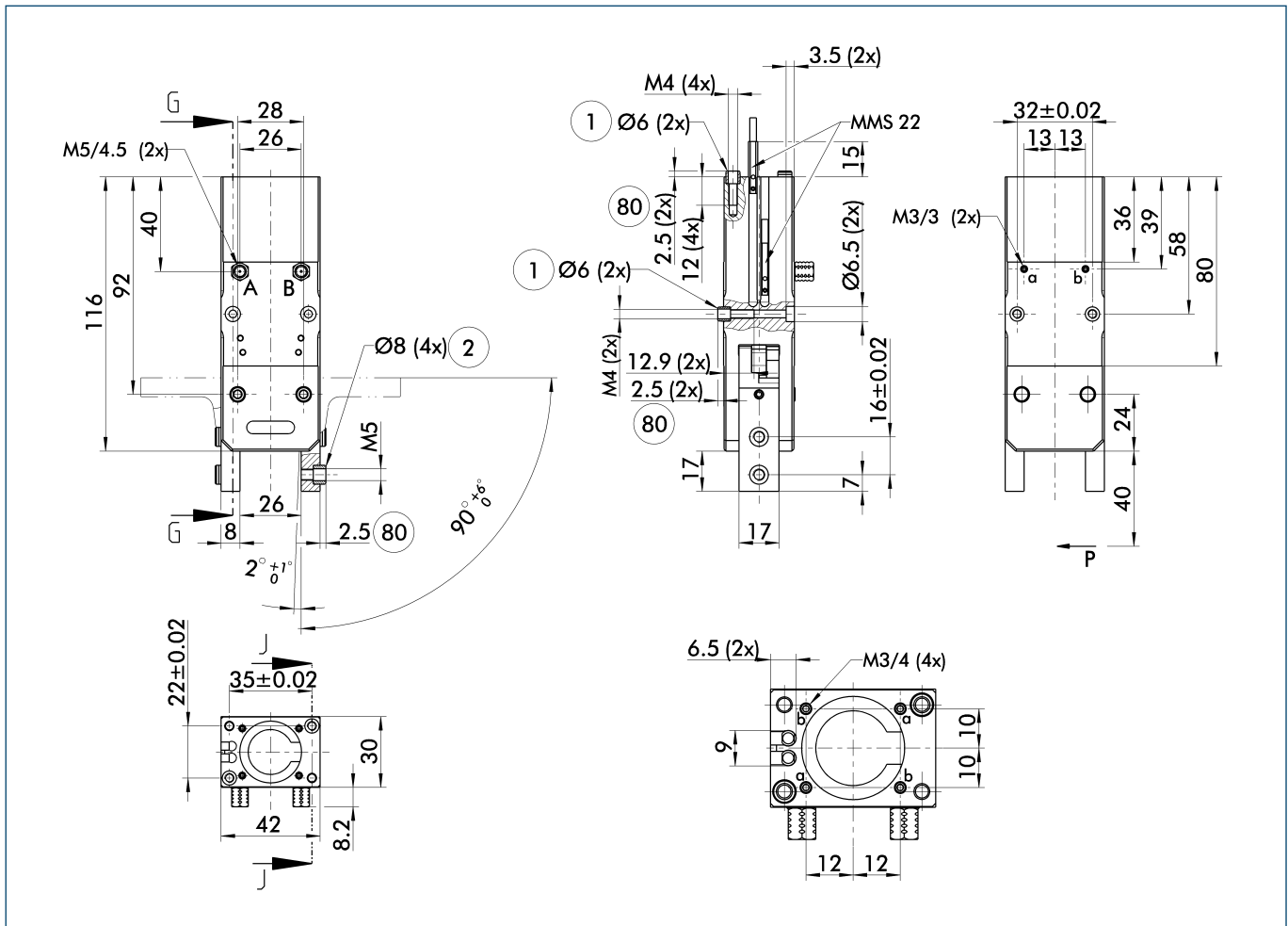
Description	PRG 42-30	PRG 42-30-AS	PRG 42-60	PRG 42-60-AS	PRG 42-90	PRG 42-90-AS
ID	0303653	0303663	0303693	0303703	0303673	0303683
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	9.5	11.7	9.5	11.7	9.5	11.7
Spring-actuated closing moment [Nm]	-	2.2	-	2.2	-	2.2
Weight [kg]	0.41	0.43	0.41	0.43	0.41	0.43
Recommended workpiece weight [kg]	0.76	0.93	0.76	0.93	0.76	0.93
Air consumption per double stroke [cm³]	29	29	34	34	39	39
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.06	0.06	0.13	0.11	0.19	0.17
Opening time [s]	0.06	0.08	0.13	0.17	0.19	0.25
Max. permitted finger length [mm]	80	80	80	80	80	80
Max. mass moment of inertia per jaw [kgcm²]	8.85	8.85	8.85	8.85	8.85	8.85
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05	0.05	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version	39303653	39303663	39303693	39303703	39303673	39303683
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

Main view



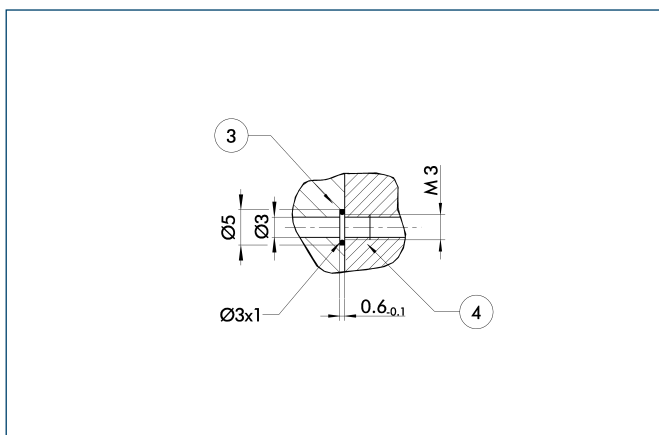
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

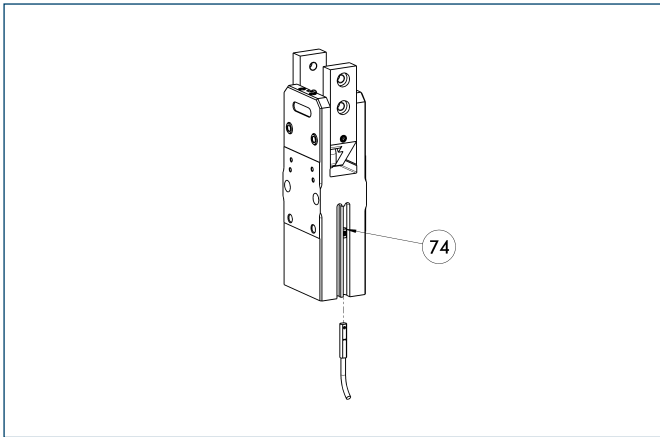
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch



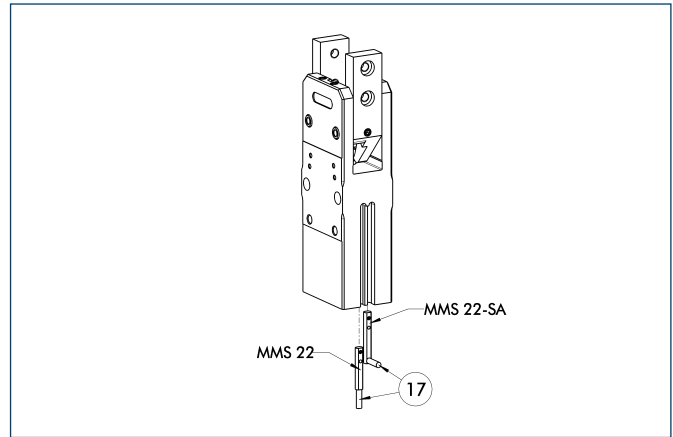
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



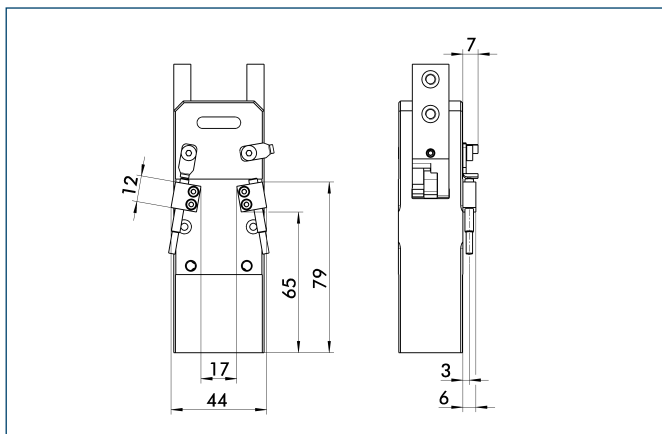
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

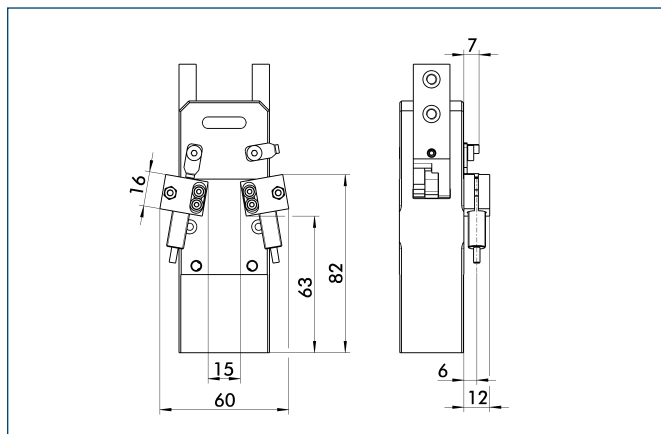
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 42-IN40	0303623

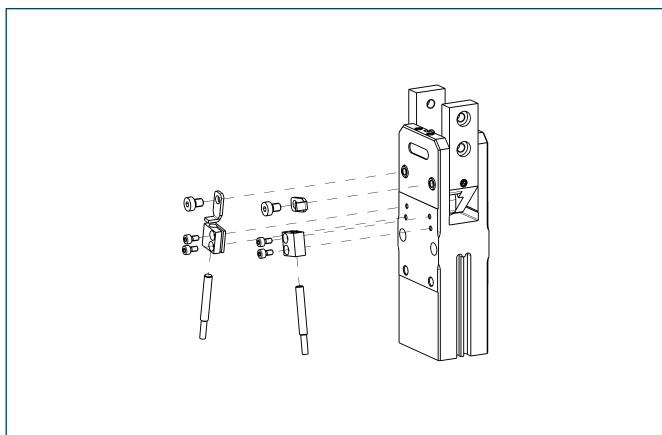
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 42-IN80	0304133

Inductive proximity switches



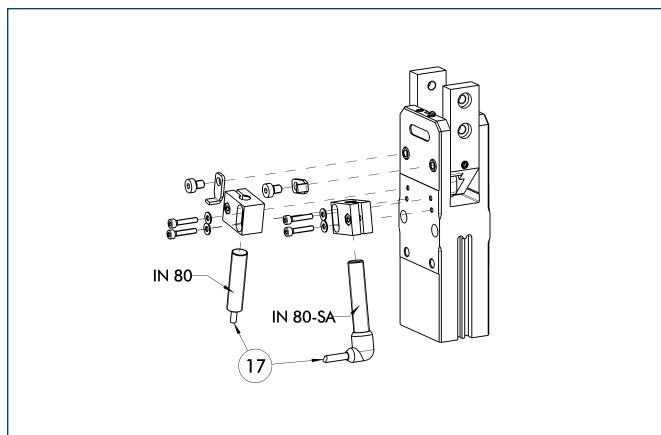
End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 42-IN40	0303623	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

② Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



① Cable outlet

End position monitoring mounted with mounting kit

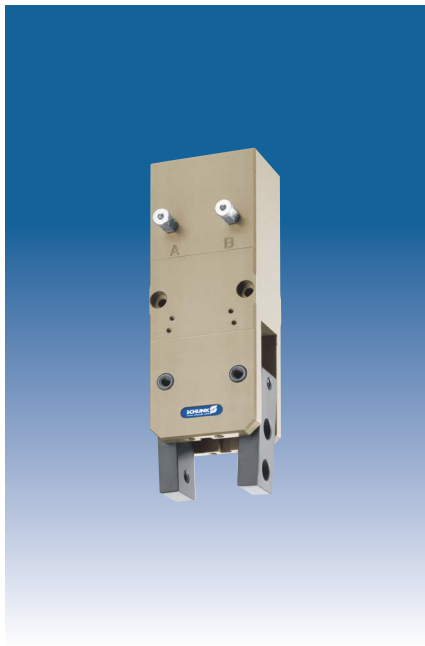
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 42-IN80	0304133	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

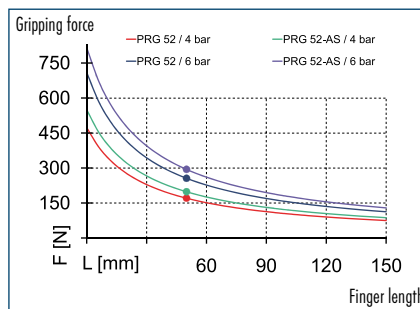
② Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



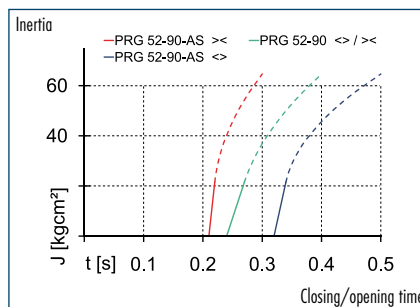
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



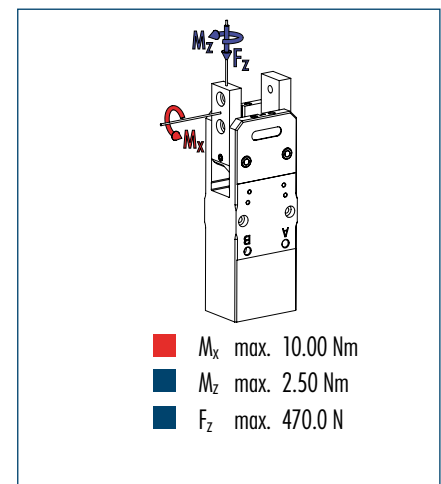
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are statical values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

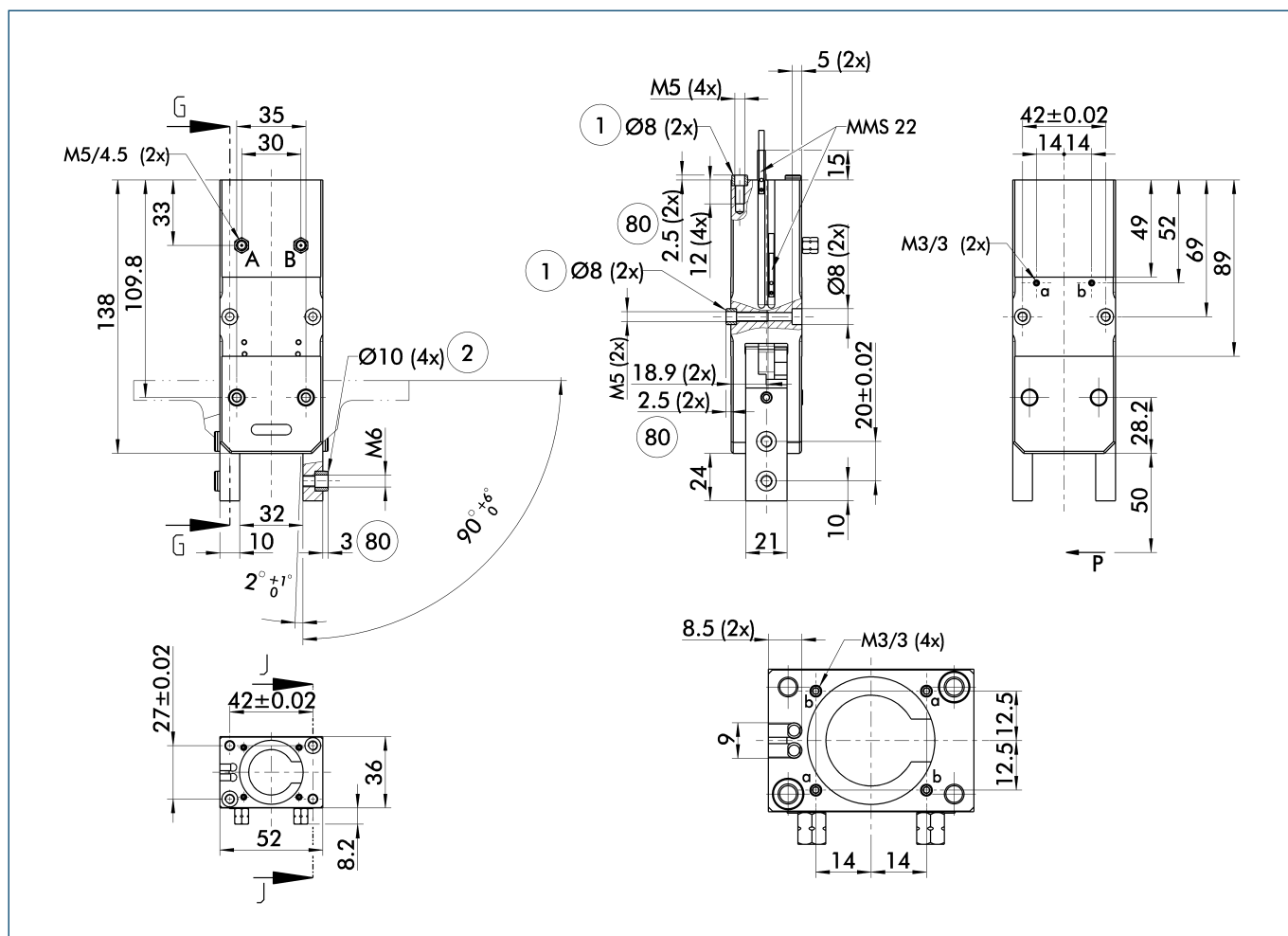
Description	PRG 52-30	PRG 52-30-AS	PRG 52-60	PRG 52-60-AS	PRG 52-90	PRG 52-90-AS
ID	0303654	0303664	0303694	0303704	0303674	0303684
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	20	23	20	23	20	23
Spring-actuated closing moment [Nm]		3		3		3
Weight [kg]	0.77	0.8	0.76	0.8	0.75	0.79
Recommended workpiece weight [kg]	1.3	1.5	1.3	1.5	1.3	1.5
Air consumption per double stroke [cm ³]	52	52	61	61	72	72
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.08	0.07	0.16	0.14	0.24	0.21
Opening time [s]	0.08	0.11	0.16	0.21	0.24	0.32
Max. permitted finger length [mm]	100	100	100	100	100	100
Max. mass moment of inertia per jaw [kgcm ²]	21.55	21.55	21.55	21.55	21.55	21.55
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05	0.05	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version	39303654	39303664	39303694	39303704	39303674	39303684
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

Main view



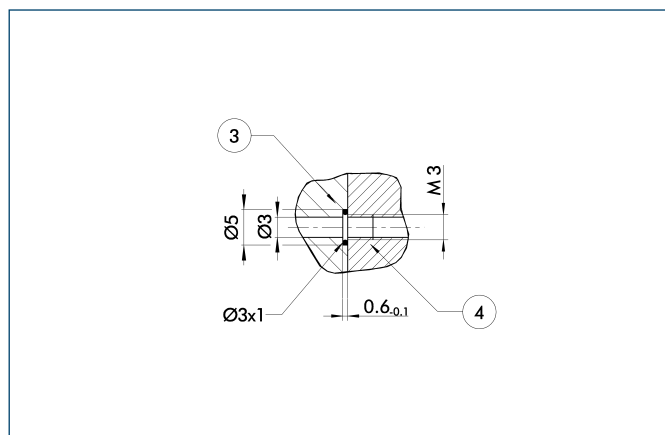
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

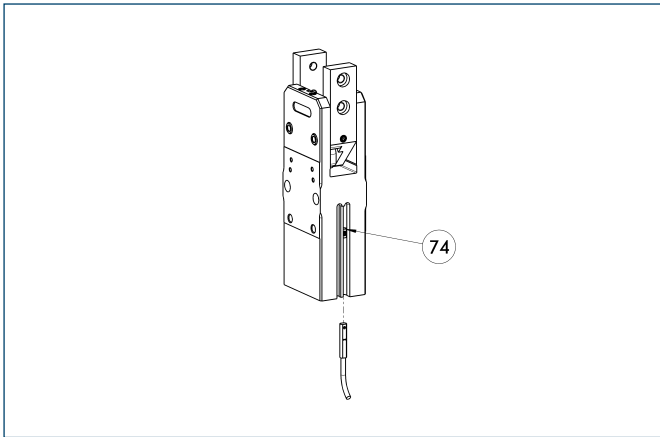
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch



74 Stop for MMS-P

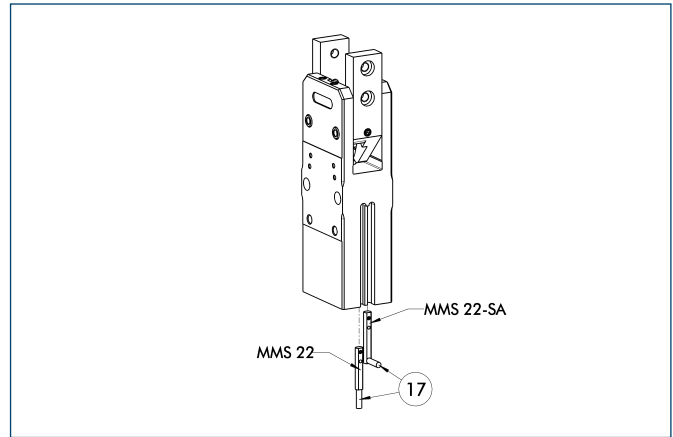
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

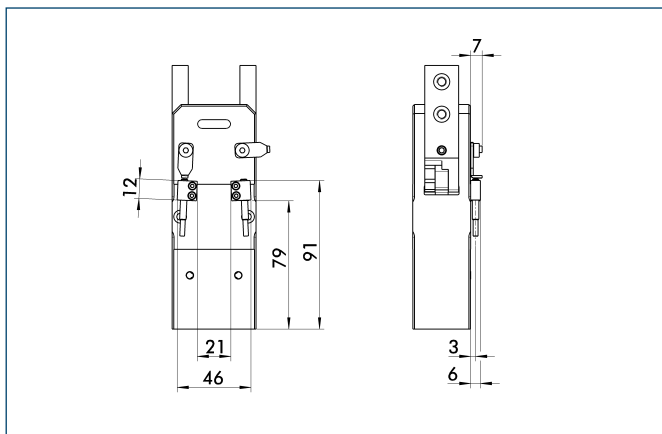
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

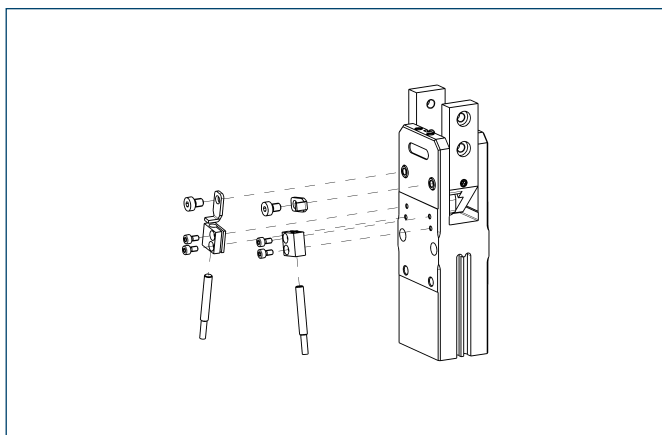
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 52-IN40	0303624

Inductive proximity switches

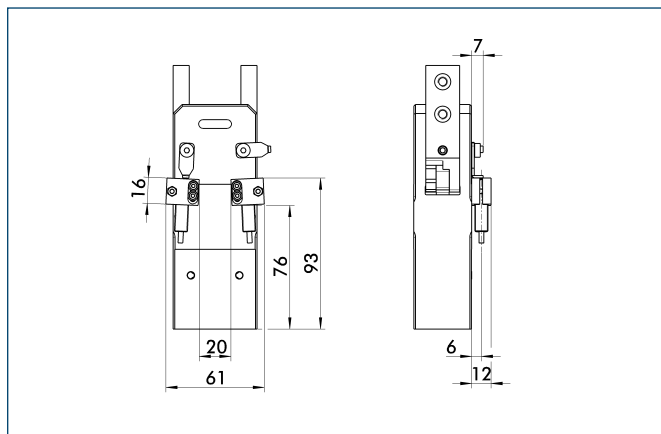


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 52-IN40	0303624	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

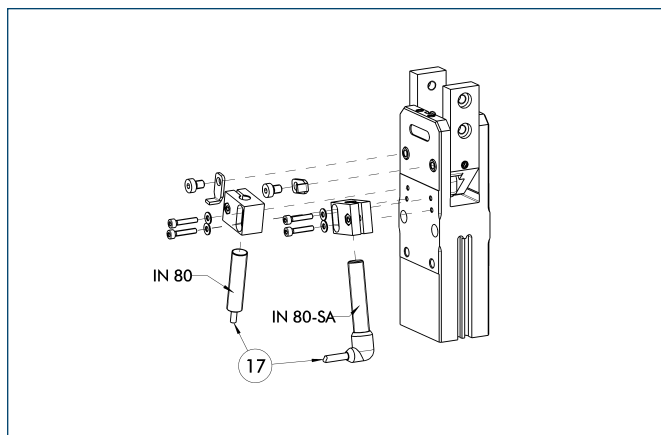
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 52-IN80	0304135

Inductive proximity switches



① Cable outlet

End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 52-IN80	0304135	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

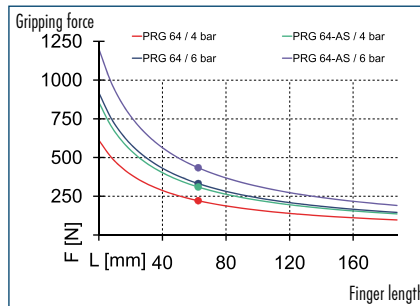
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



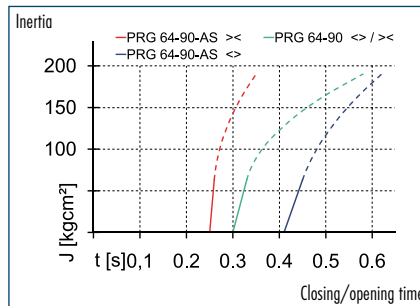
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



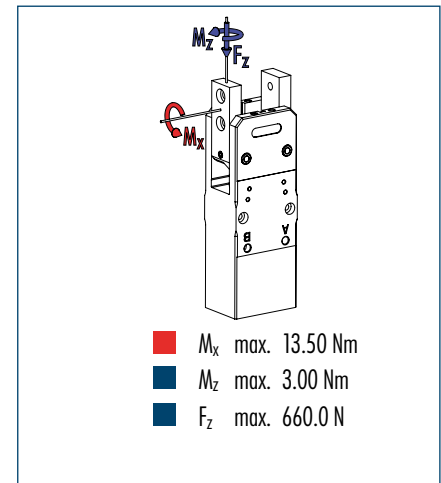
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

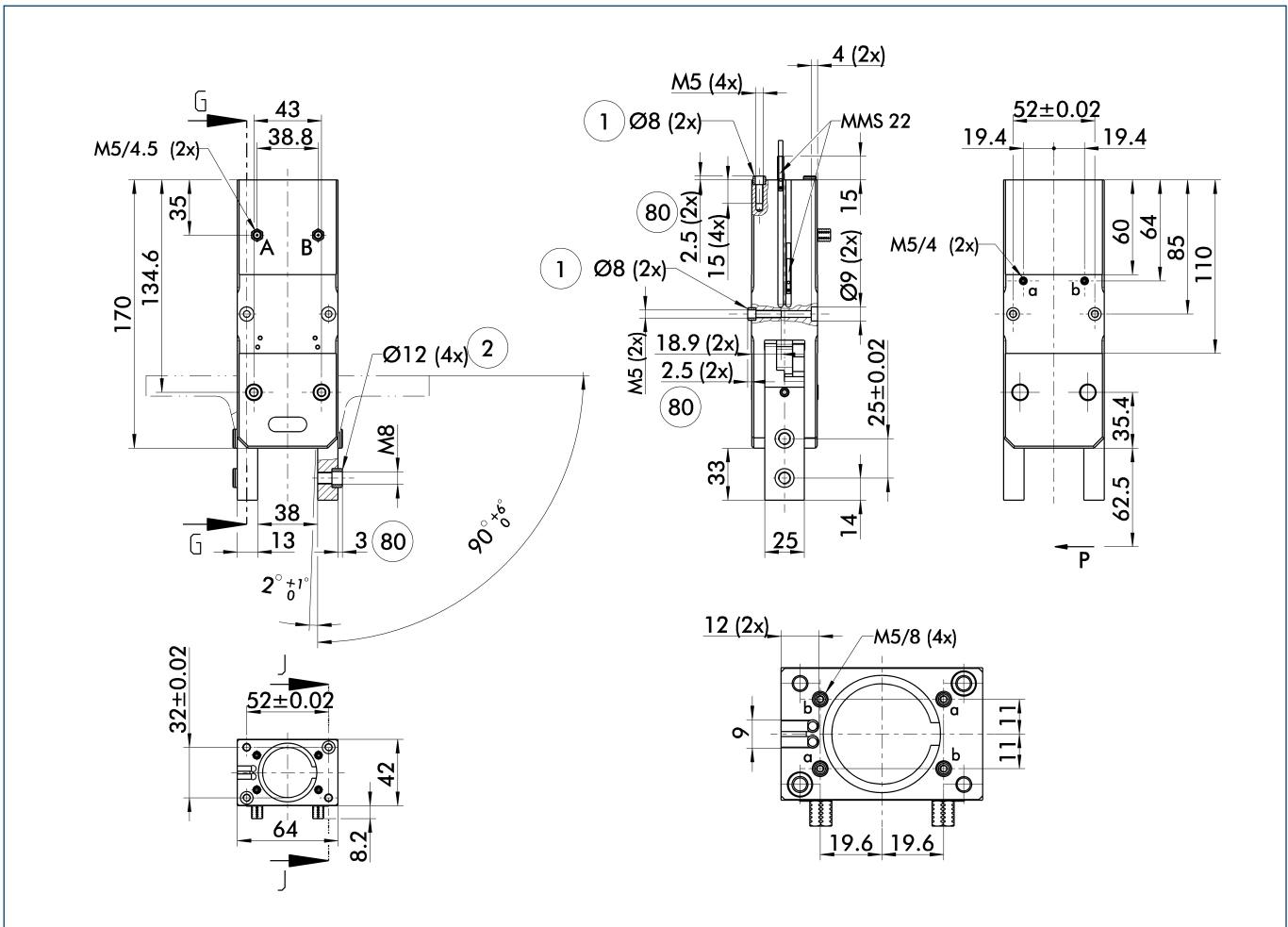
Description	PRG 64-30	PRG 64-30-AS	PRG 64-60	PRG 64-60-AS	PRG 64-90	PRG 64-90-AS
ID	0303655	0303665	0303695	0303705	0303675	0303685
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	32.5	42.5	32.5	42.5	32.5	42.5
Spring-actuated closing moment [Nm]		10		10		10
Weight [kg]	1.35	1.42	1.34	1.41	1.33	1.4
Recommended workpiece weight [kg]	1.69	2.21	1.69	2.21	1.69	2.21
Air consumption per double stroke [cm³]	88	88	102	102	120	120
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.1	0.08	0.2	0.17	0.3	0.25
Opening time [s]	0.1	0.14	0.2	0.27	0.3	0.41
Max. permitted finger length [mm]	125	125	125	125	125	125
Max. mass moment of inertia per jaw [kgcm²]	63.37	63.37	63.37	63.37	63.37	63.37
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.05	0.05	0.05	0.05	0.05	0.05

OPTIONS and their characteristics

High-temperature version	39303655	39303665	39303695	39303705	39303675	39303685
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

Main view



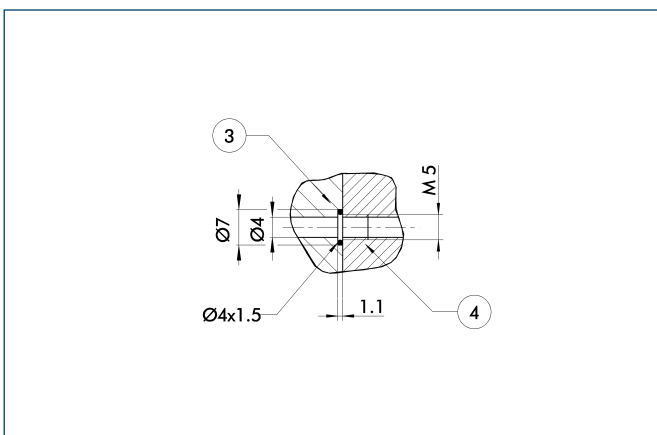
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

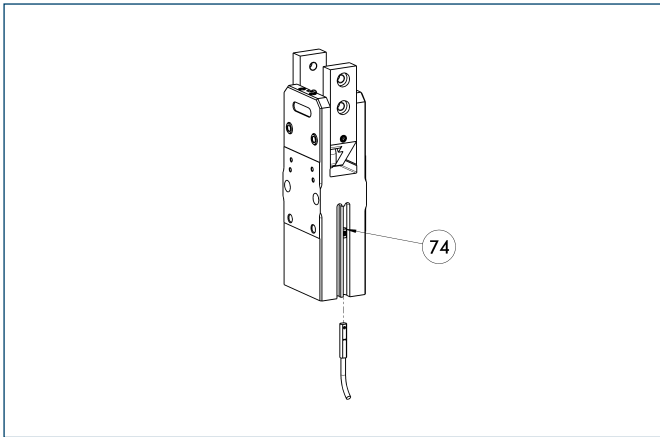
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch



74 Stop for MMS-P

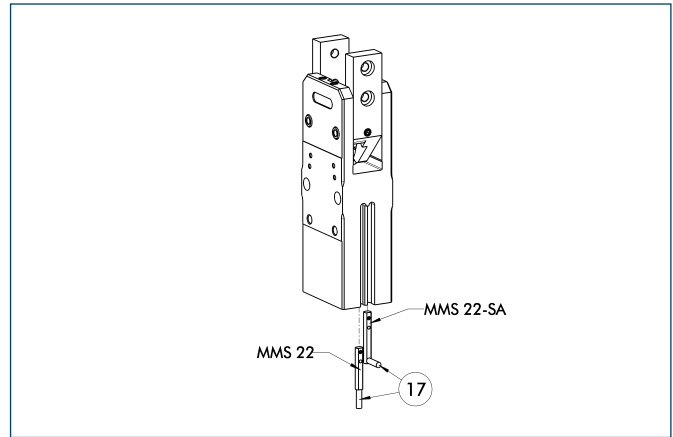
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



17 Cable outlet

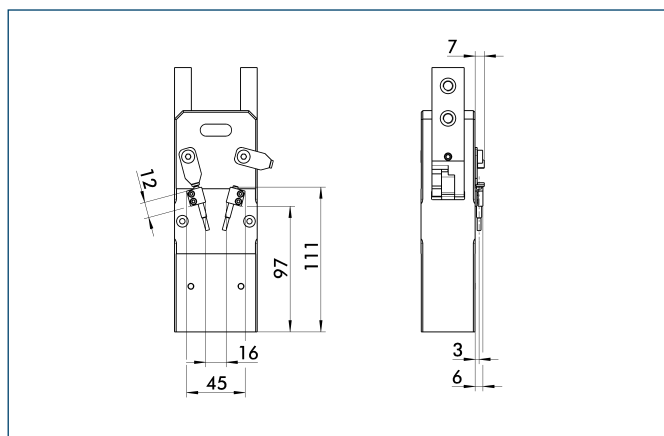
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

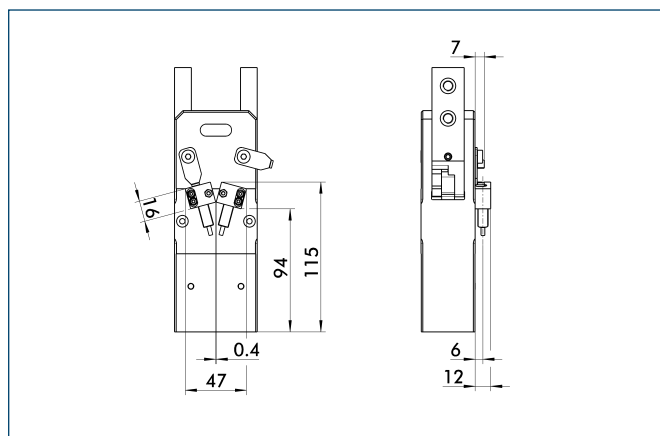
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 64-IN40	0303625

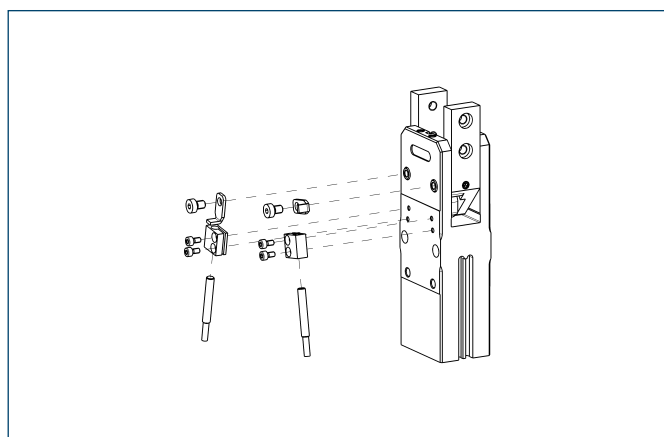
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 64-IN80	0304136

Inductive proximity switches

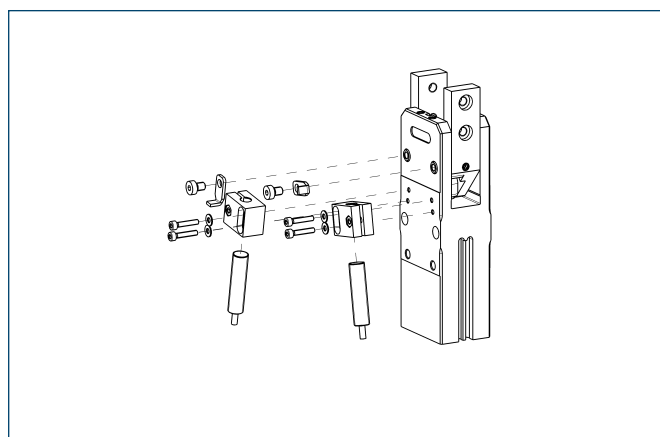


End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 64-IN40	0303625	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 64-IN80	0304136	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	

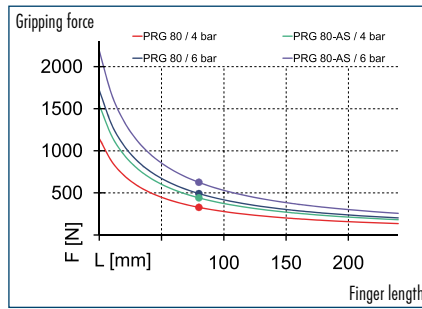
- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



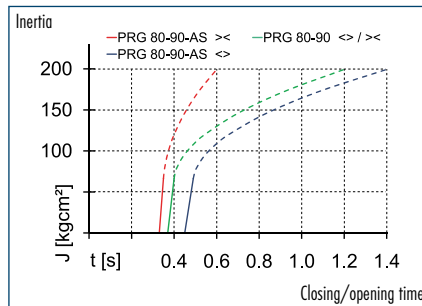
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



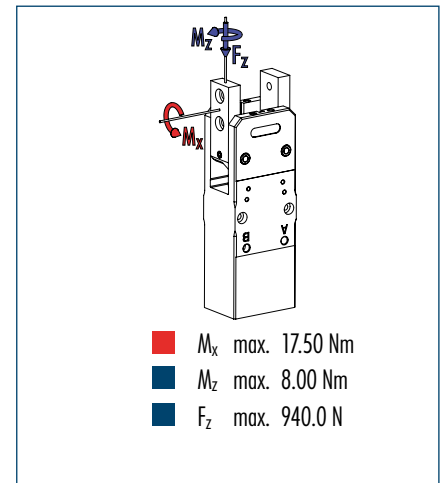
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	PRG 80-30	PRG 80-30-AS	PRG 80-60	PRG 80-60-AS	PRG 80-90	PRG 80-90-AS
ID	0303656	0303666	0303696	0303706	0303676	0303686
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	55	70	55	70	55	70
Spring-actuated closing moment [Nm]		15		15		15
Weight [kg]	2.17	2.26	2.16	2.25	2.15	2.24
Recommended workpiece weight [kg]	2.5	3.19	2.5	3.19	2.5	3.19
Air consumption per double stroke [cm³]	128	128	143	143	160	160
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.12	0.11	0.25	0.22	0.37	0.33
Opening time [s]	0.12	0.15	0.25	0.3	0.37	0.45
Max. permitted finger length [mm]	160	160	160	160	160	160
Max. mass moment of inertia per jaw [kgcm²]	66.44	66.44	66.44	66.44	66.44	66.44
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

High-temperature version	39303656	39303666	39303696	39303706	39303676	39303686
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

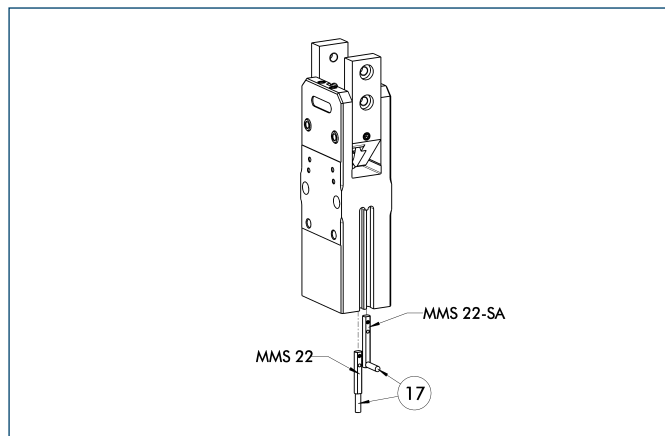
❶ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see “Accessories” catalog section).

Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:

- Callout 3:** Points to the outer surface of the part.
- Callout 4:** Points to the inner surface of the part.
- Dimensions:**
 - $\varnothing 7$: Outer diameter.
 - $\varnothing 4$: Inner diameter.
 - $M 5$: Threaded section.
 - 1.1 : Length of the threaded section.
 - $\varnothing 4 \times 1.5$: Dimension of the threaded section.

- The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Electronic magnetic switches



⑰ Cable outlet

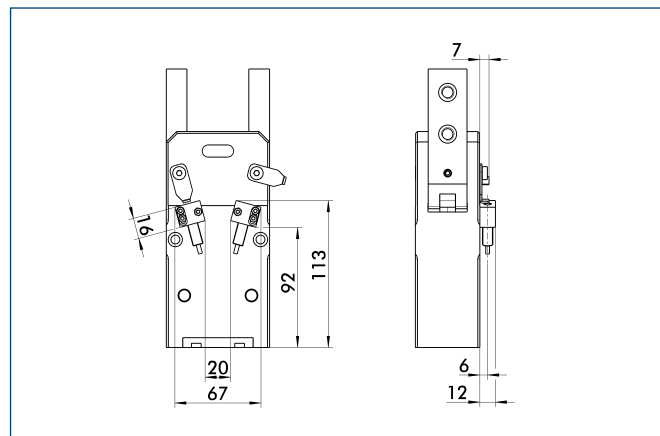
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

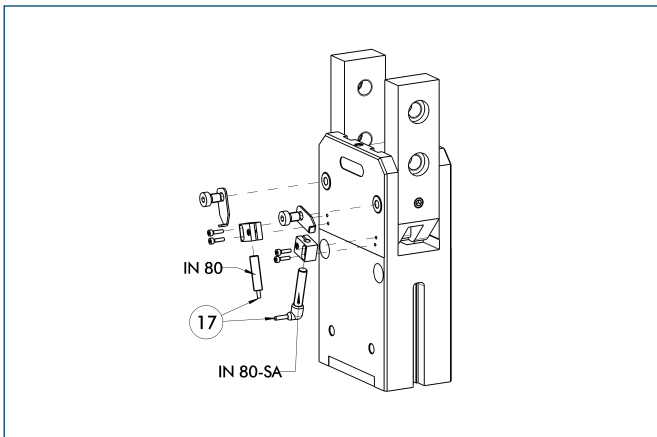
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 80-IN80	0303626

Inductive proximity switches



17 Cable outlet

End position monitoring mounted with mounting kit

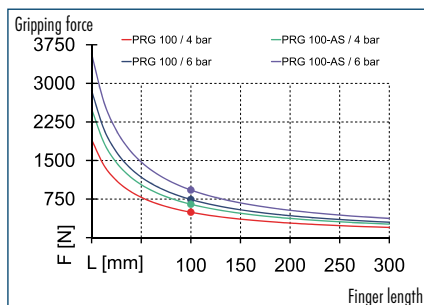
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 80-IN80	0303626	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

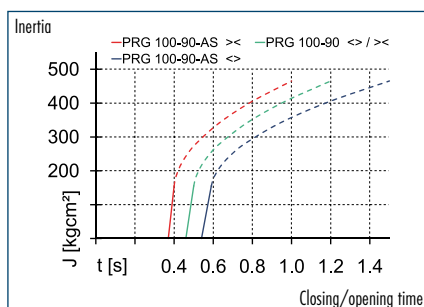




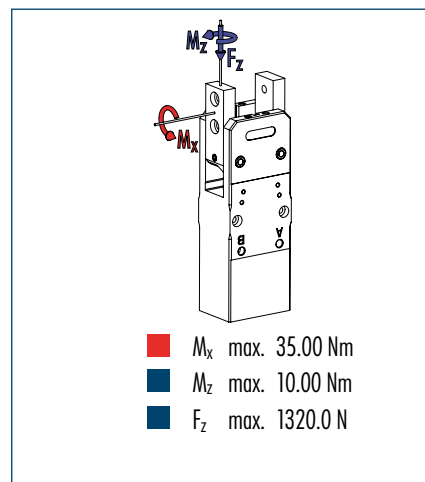
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

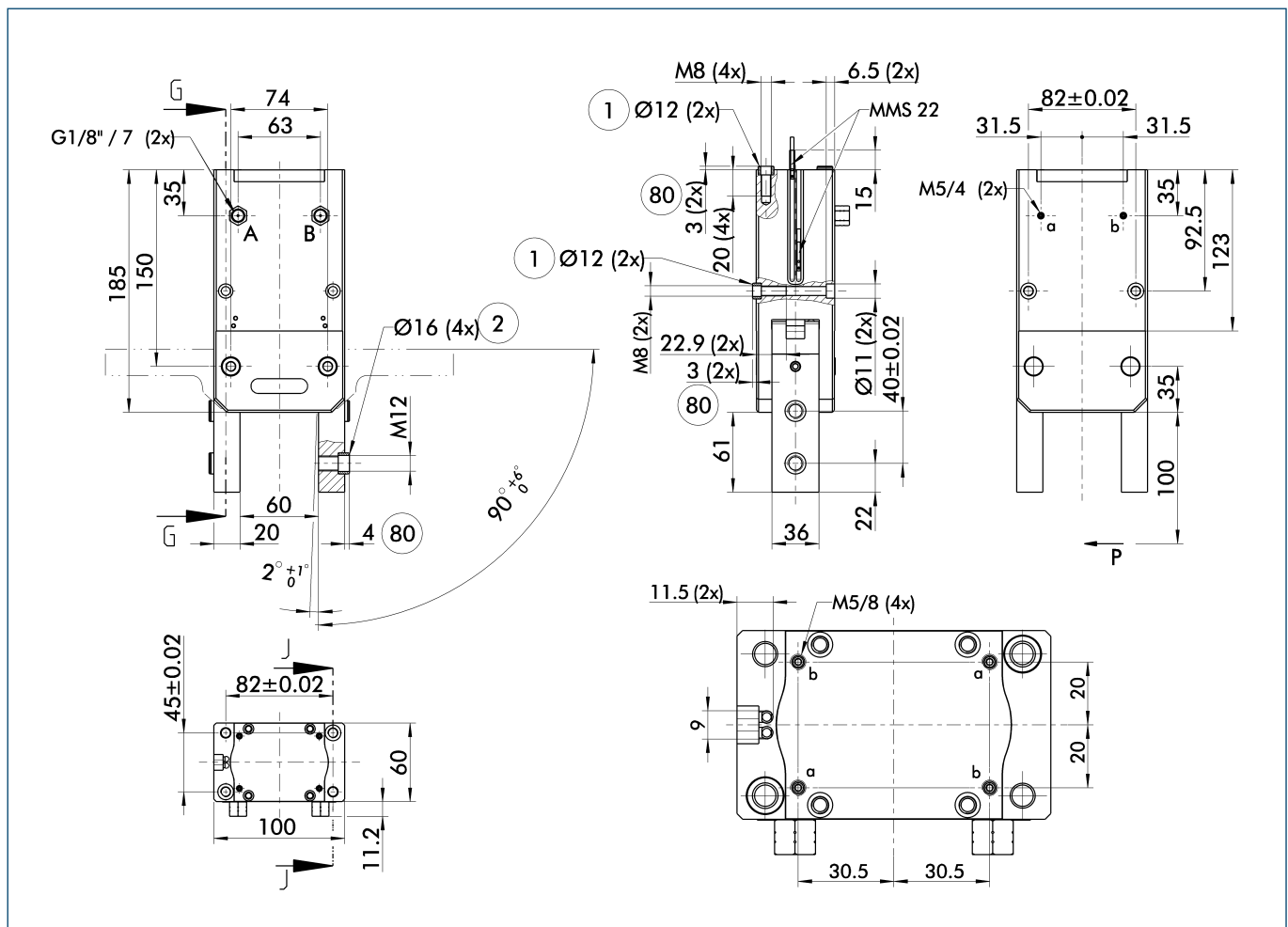
Description		PRG 100-30	PRG 100-30-AS	PRG 100-60	PRG 100-60-AS	PRG 100-90	PRG 100-90-AS
ID		0303657	0303667	0303697	0303707	0303677	0303687
Opening angle per jaw	[°]	30	30	60	60	90	90
Closed angle per jaw up to	[°]	4	4	4	4	4	4
Closing moment	[Nm]	100	125	100	125	100	125
Spring-actuated closing moment	[Nm]		25		25		25
Weight	[kg]	3.67	3.81	3.66	3.8	3.64	3.78
Recommended workpiece weight	[kg]	3.78	4.72	3.78	4.72	3.78	4.72
Air consumption per double stroke	[cm³]	230	230	260	260	290	290
Min./max. operating pressure	[bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Closing time	[s]	0.15	0.12	0.31	0.25	0.46	0.37
Opening time	[s]	0.15	0.18	0.31	0.36	0.46	0.54
Max. permitted finger length	[mm]	200	200	200	200	200	200
Max. mass moment of inertia per jaw	[kgcm²]	155.2	155.2	155.2	155.2	155.2	155.2
IP class		20	20	20	20	20	20
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy	[mm]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

High-temperature version		39303657	39303667	39303697	39303707	39303677	39303687
Min./max. ambient temperature	[°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

Main view

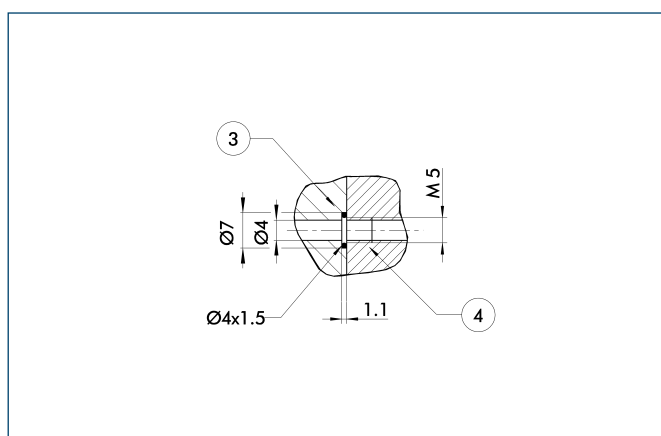


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|---|----|---|
| A, a | Main/direct connection, gripper opening | 80 | Depth of the centering sleeve hole in the matching part |
| B, b | Main/direct connection, gripper closing | | |
| ① | Gripper connection | | |
| ② | Finger connection | | |

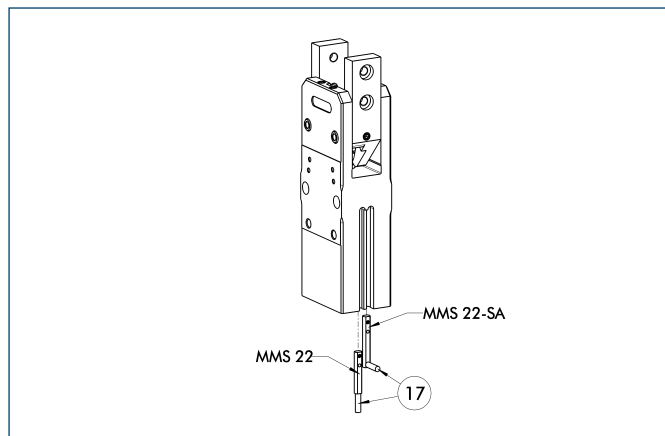
Hose-free direct connection



- ③ Adapter
- ④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Electronic magnetic switches



⑰ Cable outlet

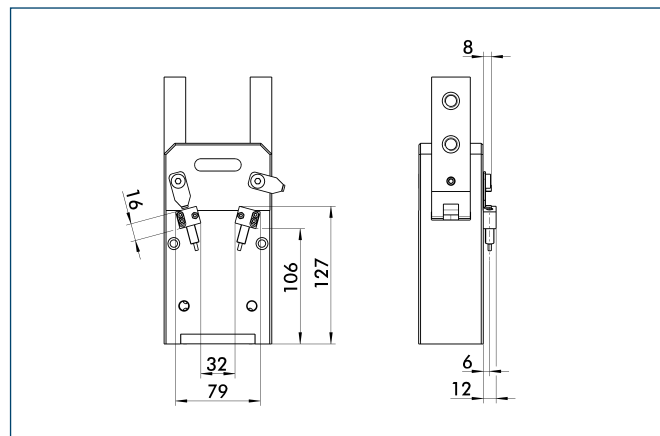
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

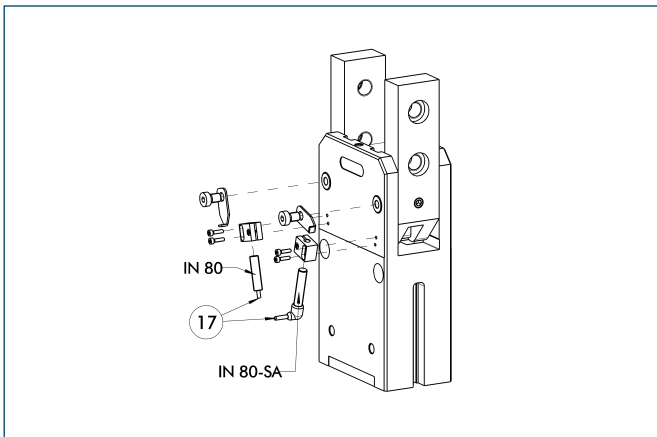
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 100-IN80	0303627

Inductive proximity switches



17 Cable outlet

End position monitoring mounted with mounting kit

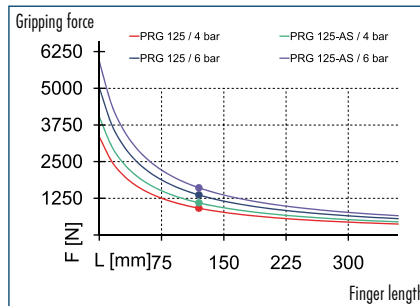
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 100-IN80	0303627	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

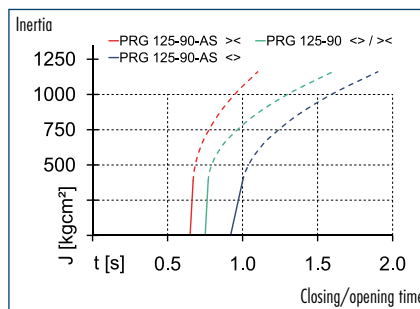




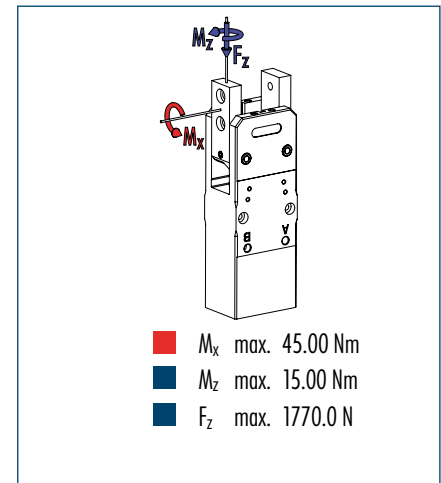
Gripping force, O.D. gripping



Maximum admissible inertia J



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

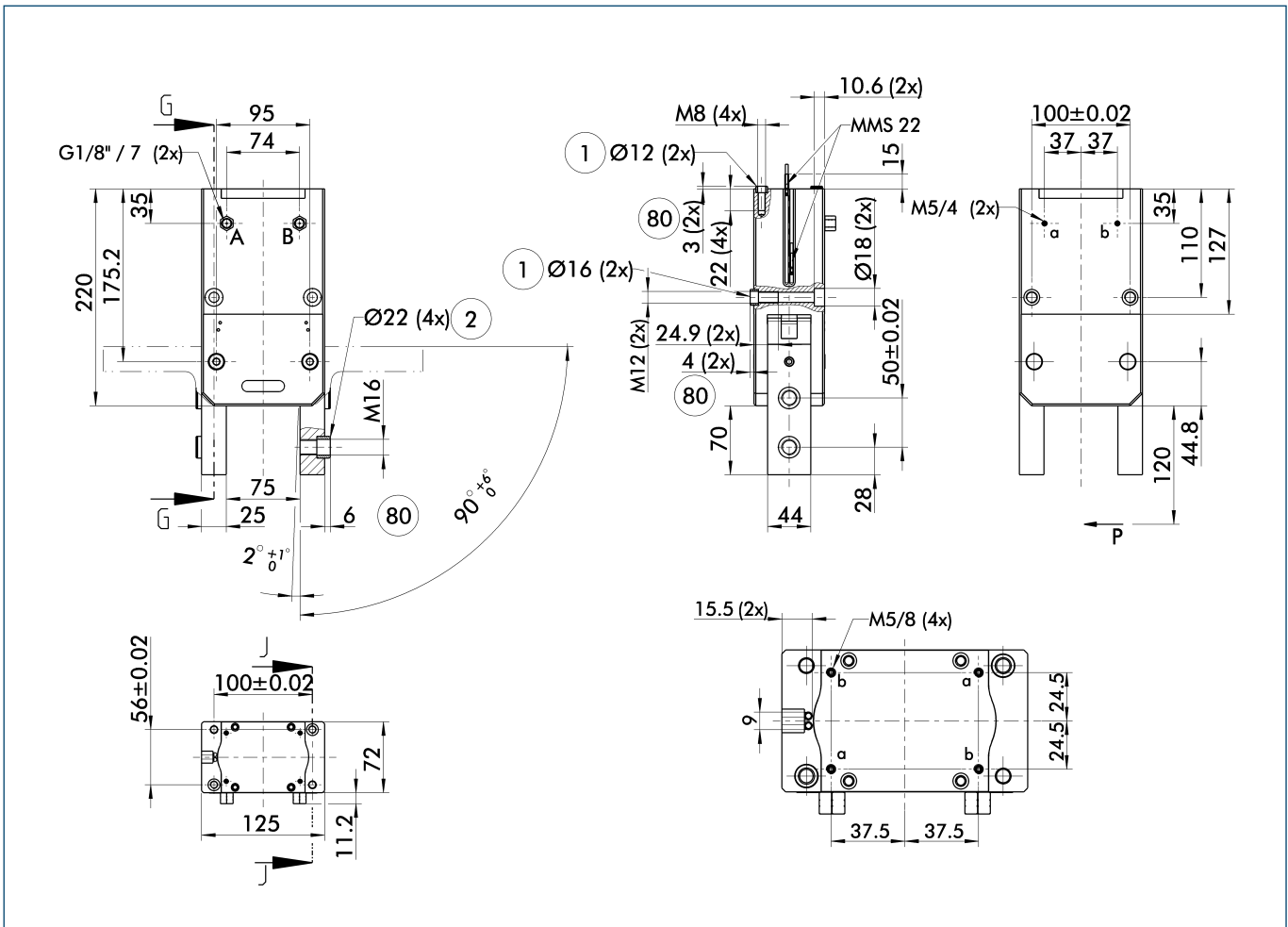
Description	PRG 125-30	PRG 125-30-AS	PRG 125-60	PRG 125-60-AS	PRG 125-90	PRG 125-90-AS
ID	0303658	0303668	0303698	0303708	0303678	0303688
Opening angle per jaw [°]	30	30	60	60	90	90
Closed angle per jaw up to [°]	4	4	4	4	4	4
Closing moment [Nm]	225	295	225	295	225	295
Spring-actuated closing moment [Nm]		70		70		70
Weight [kg]	6.49	6.72	6.48	6.71	6.46	6.69
Recommended workpiece weight [kg]	6.96	9.12	6.96	9.12	6.96	9.12
Air consumption per double stroke [cm³]	475	475	520	520	580	580
Min./max. operating pressure [bar]	2/8	4/6.5	2/8	4/6.5	2/8	4/6.5
Nominal operating pressure [bar]	6	6	6	6	6	6
Closing time [s]	0.25	0.22	0.5	0.43	0.75	0.65
Opening time [s]	0.25	0.31	0.5	0.61	0.75	0.92
Max. permitted finger length [mm]	240	240	240	240	240	240
Max. mass moment of inertia per jaw [kgcm²]	386.8	386.8	386.8	386.8	386.8	386.8
IP class	20	20	20	20	20	20
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90	-10/90	-10/90
Repeat accuracy [mm]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

High-temperature version	39303658	39303668	39303698	39303708	39303678	39303688
Min./max. ambient temperature [°C]	-10/130	-10/130	-10/130	-10/130	-10/130	-10/130

① The unit can be actuated without an external customer-specific throttling at the given value of max. mass moment of inertia per jaw. In case of higher mass moments of inertia, an additional throttling is possible (see diagram). The curve applies for 90° versions. For other versions the curve must be parallelly off-set according to the opening and closing times.

Main view



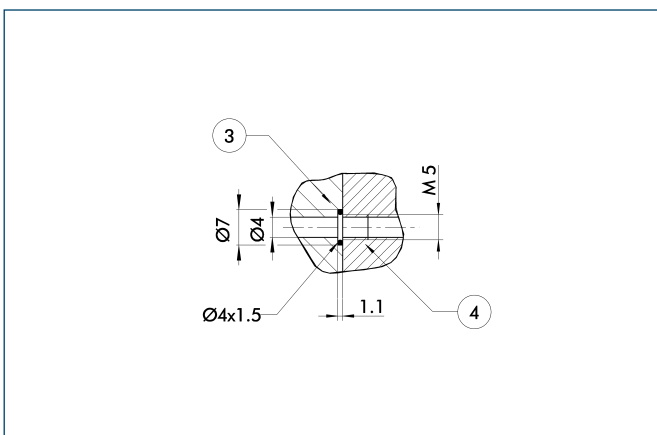
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⌀ Depth of the centering sleeve hole in the matching part

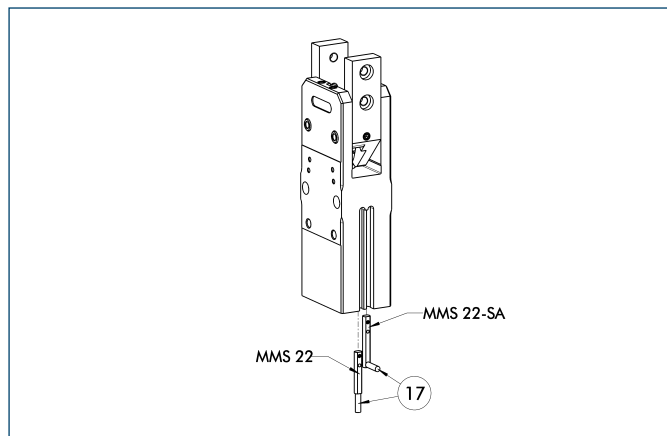
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Electronic magnetic switches



⑰ Cable outlet

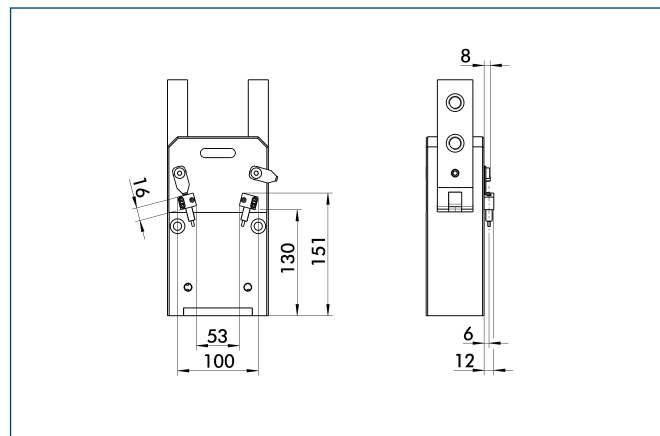
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

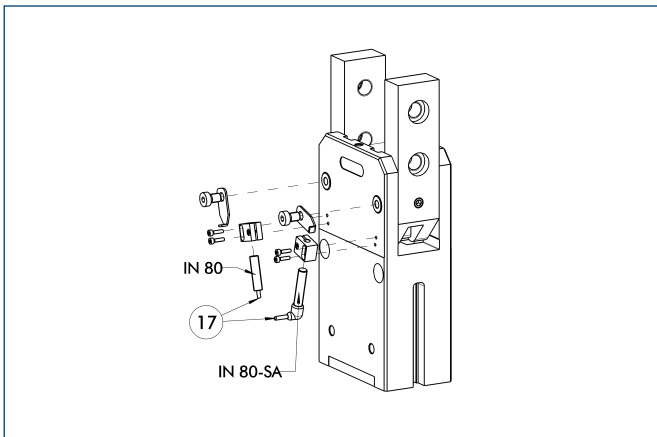
Mounting kit for proximity switch



The mounting kit consists of brackets, control cams and appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-PRG 125-IN80	0303628

Inductive proximity switches



17 Cable outlet

End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-PRG 125-IN80	0303628	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



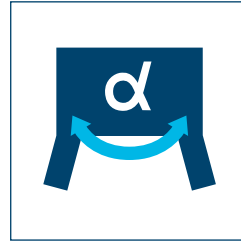
Sizes
44 ... 100



Weight
0.5 kg ... 4.46 kg



Gripping moment
8.2 Nm ... 143 Nm



Angle per jaw
90°



Workpiece weight
0.9 kg ... 7.2 kg

Application example



Linear gripping unit for removing workpieces
from a pallet-loading station

- 1 Sealed 2-Finger Radial Gripper DRG
- 2 MLD Linear Motor Drive

Sealed Gripper

sealed 180° angular gripper for use in dirty environments

Field of application

For applications requiring a large opening range. Specially suitable for use in dirty environments.

Your advantages and benefits

Completely sealed gripper version

allows applications in dirty environments

Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems

Equipped with gripping force maintenance device

ensuring that the workpiece stays gripped in case of power drop

Opening angle adjustable from 20° to 180°

for a versatile field of applications

Kinematics

Slotted link gear for concentric gripping with large opening and closing movements



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated

Pressure medium: Required quality class of compressed air according to

DIN ISO 8573-1: 6 4 4

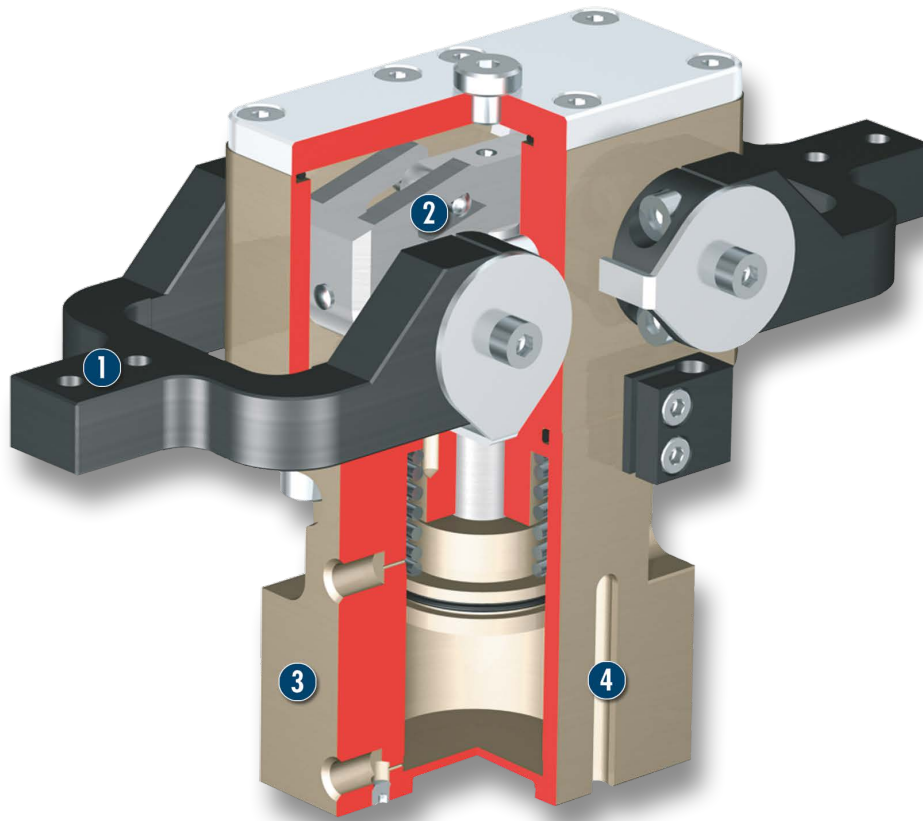
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, deaeration controls, assembly and operating manual with manufacturer's declaration

Sectional diagram



- 1 Base jaws**
for the connection of workpiece-specific gripper fingers
- 2 Kinematics**
Slotted link gear for concentric gripping with large opening and closing movements
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Position monitoring**
with C-slot switch

Functional description

The round piston is moved up or down by compressed air. In the process, the two pins of the slotted link gear move in unison and relative to the groove in the top jaws. In the gripping moment, these two pins reach the largest lever arm.

Options and special information

180° angular grippers (radial grippers) are advantageous in order to avoid additional stroke motions. Since each jaw rotates away by 90°, they are mostly removed from the work area; a stroke motion to retract the entire gripper can be omitted.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Pressure maintenance valve



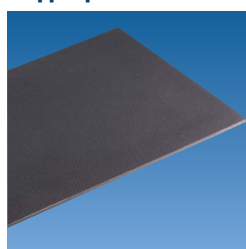
Inductive proximity switches



Plastic inserts



Gripper pads



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

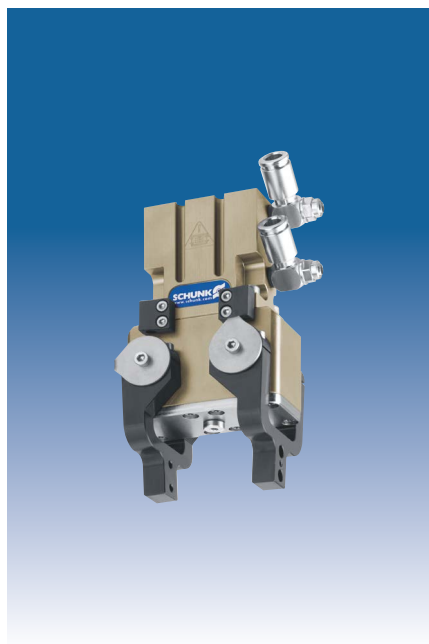
is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

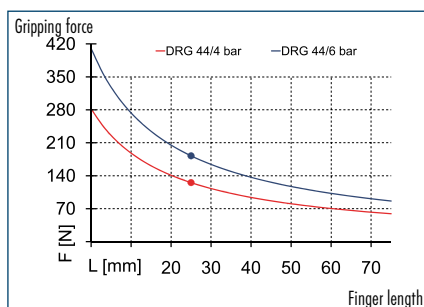
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

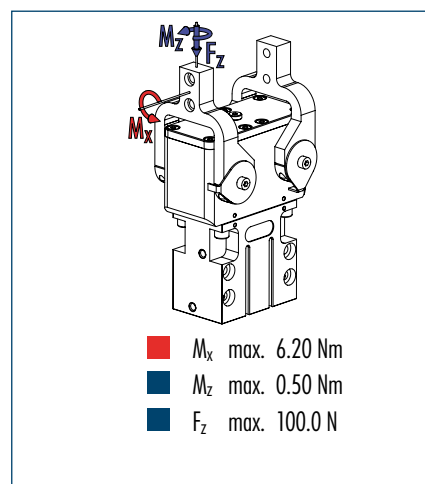
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load



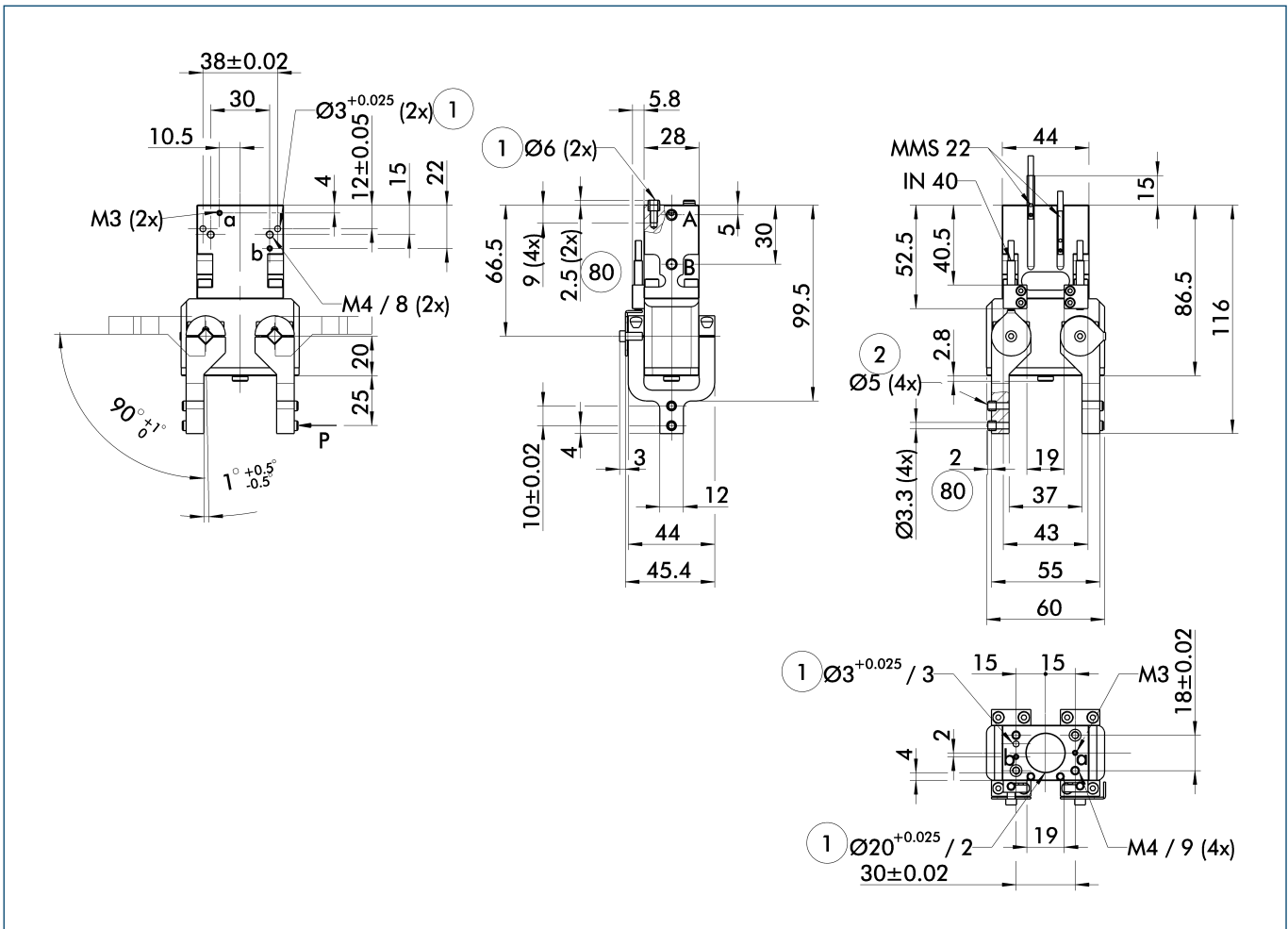
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	DRG 44
ID	0307106
Opening angle per jaw	90°
Closed angle per jaw up to	1.5°
Closing moment	8.2 Nm
Spring-actuated closing moment	1.8 Nm
Weight	0.5 kg
Recommended workpiece weight	0.9 kg
Air consumption per double stroke	16 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.4/0.5 s
Max. permitted finger length	50 mm
Max. permitted weight per finger	0.09 kg
IP class	67
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm
OPTIONS and their characteristics	
High-temperature version	39307106
Min./max. ambient temperature	-10/130 °C

① The opening angle of the base jaws can be limited.

Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

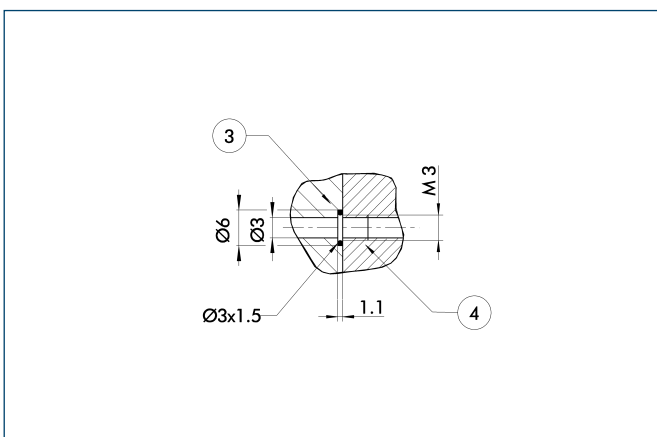
① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

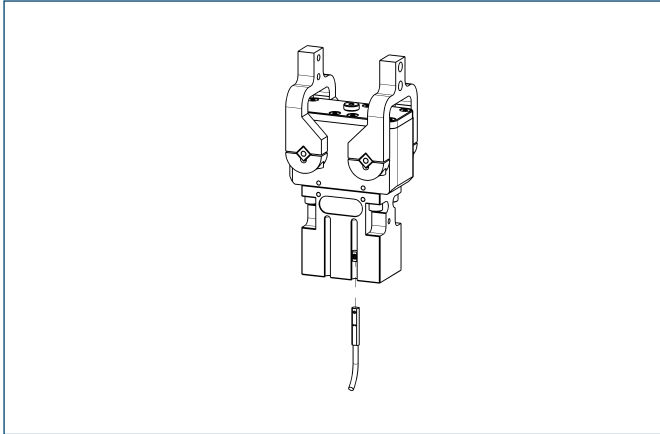
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch

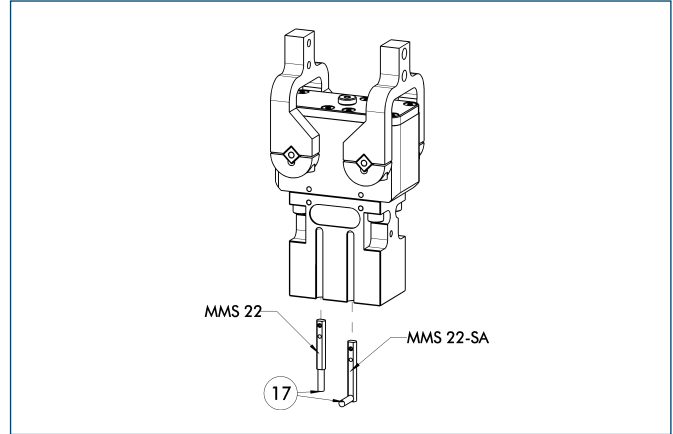


Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



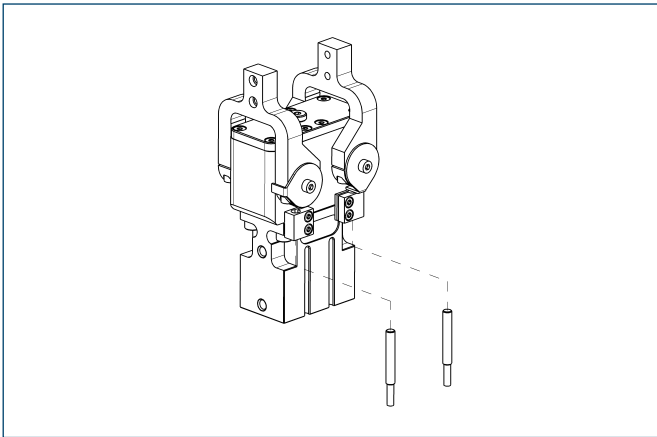
① Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches

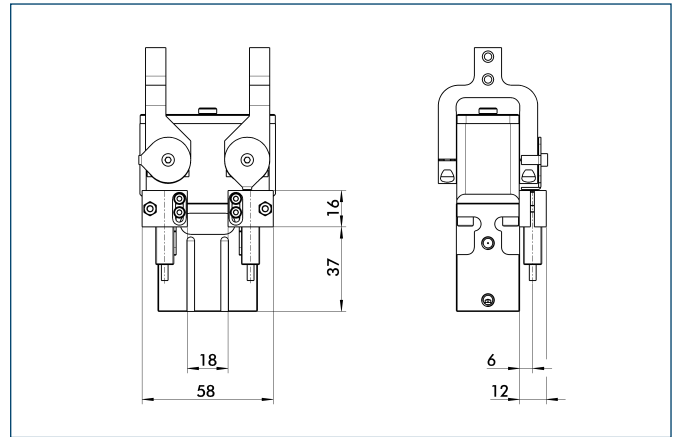


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



The mounting kit consists of brackets and the appropriate fastening materials. Proximity switches have to be ordered separately.

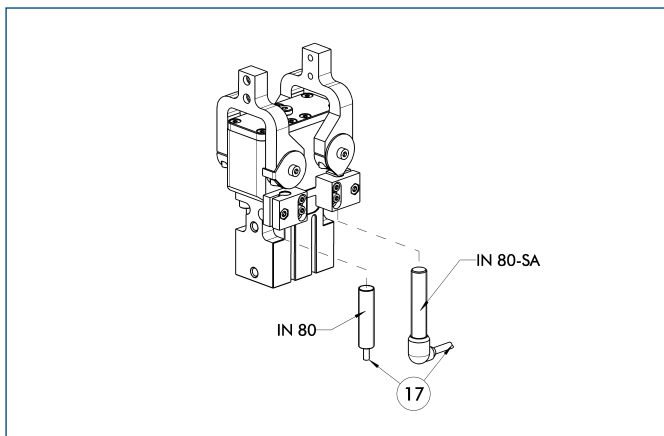
Description	ID
Mounting kit for proximity switch	
AS-DRG-44-80	0304131

- ① This mounting kit needs to be ordered optionally as an accessory.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Inductive proximity switches

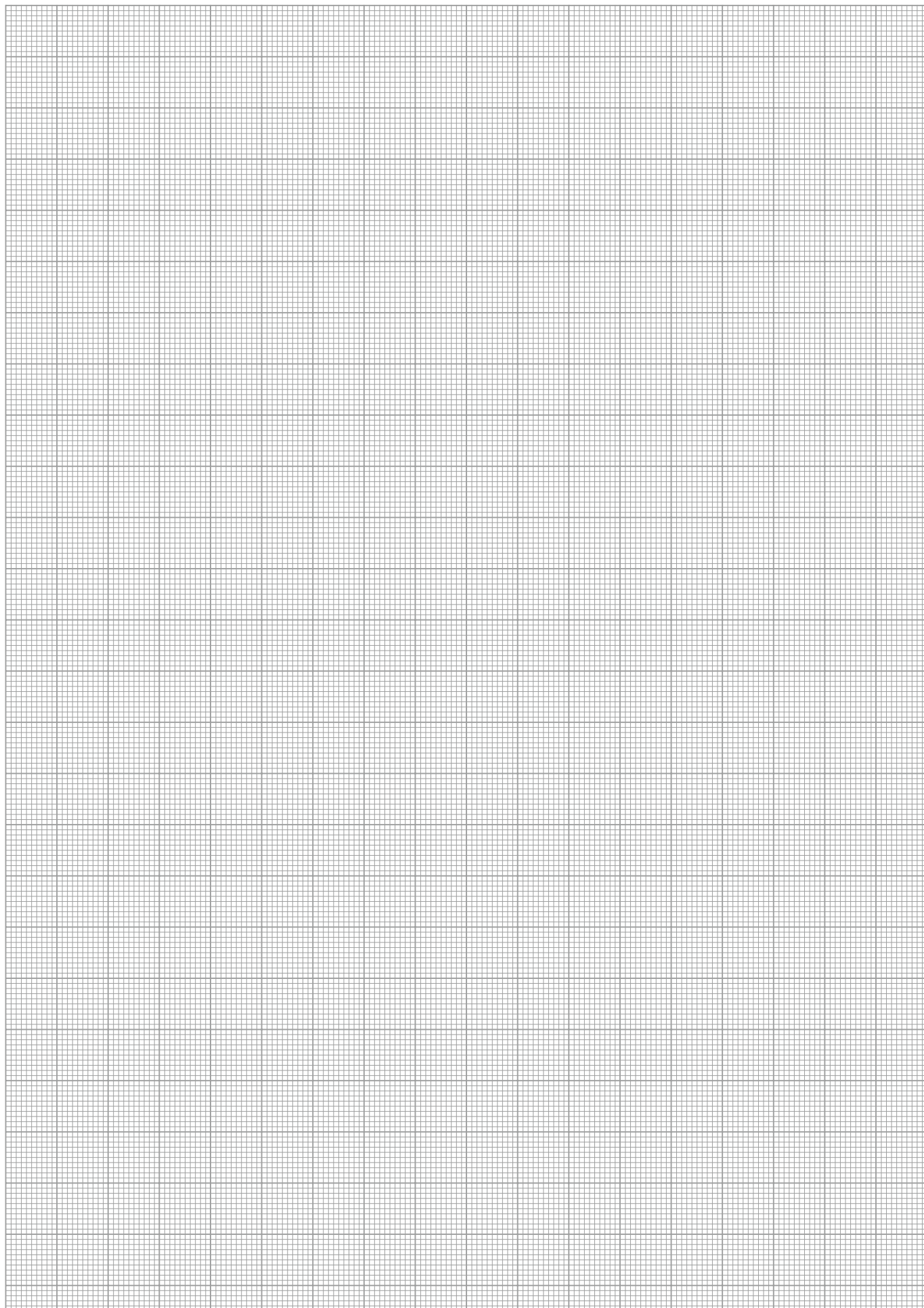


17 Cable outlet

End position monitoring mounted with mounting kit

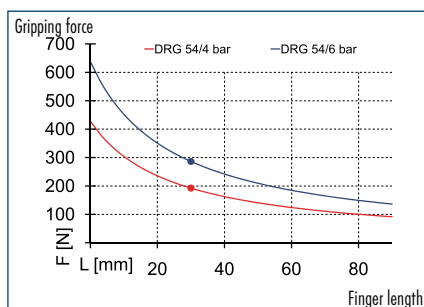
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-DRG-44-80	0304131	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

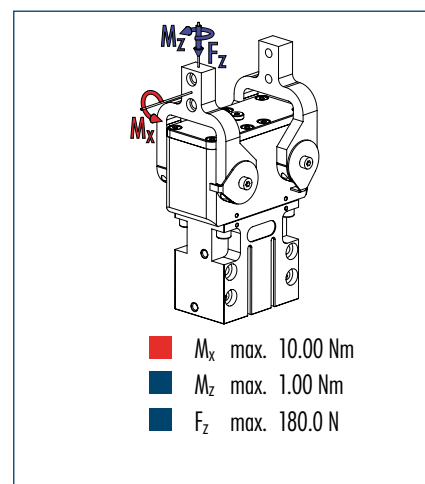




Gripping force, O.D. gripping



Finger load



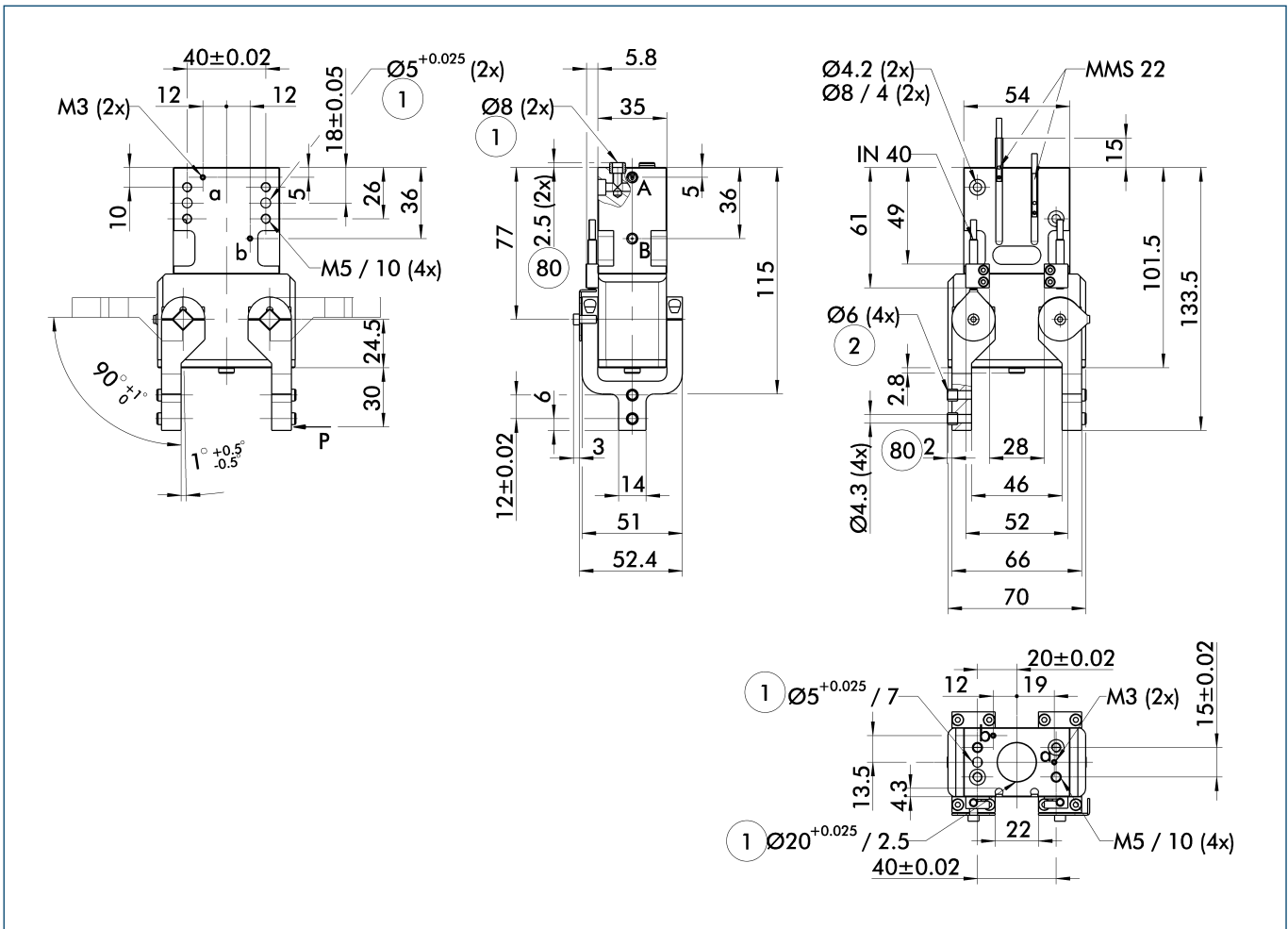
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	DRG 54
ID	0307107
Opening angle per jaw	[°] 90
Closed angle per jaw up to	[°] 1.5
Closing moment	[Nm] 15.6
Spring-actuated closing moment	[Nm] 2.8
Weight	[kg] 0.77
Recommended workpiece weight	[kg] 1.5
Air consumption per double stroke	[cm³] 36
Min./max. operating pressure	[bar] 4/6.5
Nominal operating pressure	[bar] 6
Closing/opening time	[s] 0.4/0.5
Max. permitted finger length	[mm] 60
Max. permitted weight per finger	[kg] 0.15
IP class	67
Min./max. ambient temperature	[°C] -10/90
Repeat accuracy	[mm] 0.1
OPTIONS and their characteristics	
High-temperature version	3907107
Min./max. ambient temperature	[°C] -10/130

① The opening angle of the base jaws can be limited.

Main view



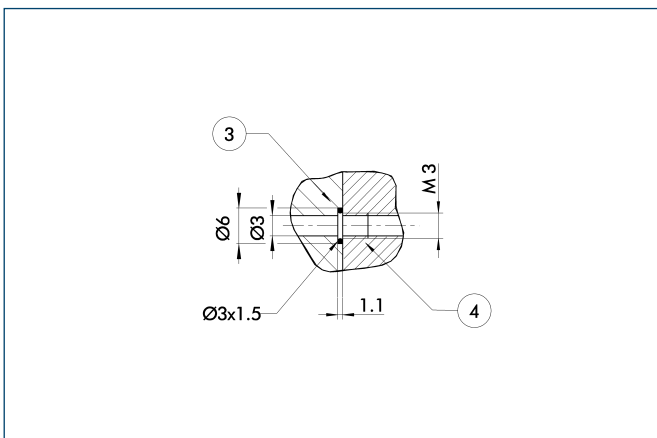
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

⑧ Depth of the centering sleeve hole in the matching part

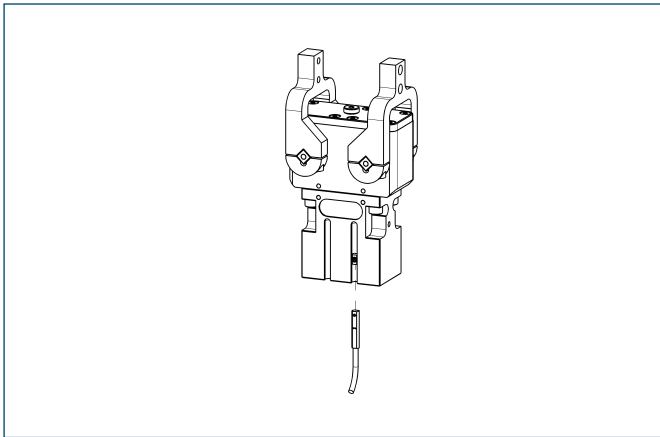
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Programmable magnetic switch

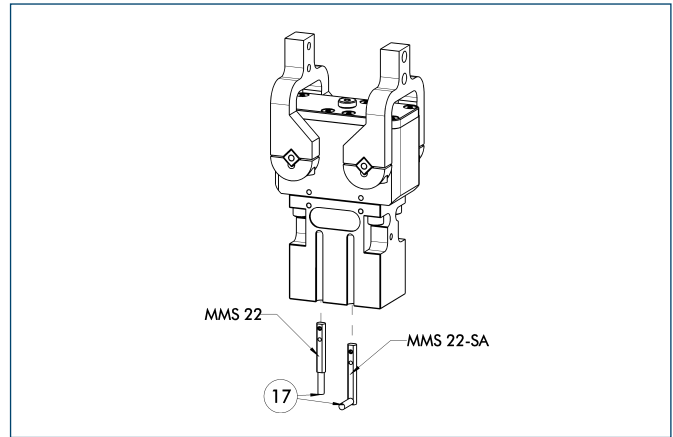


Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



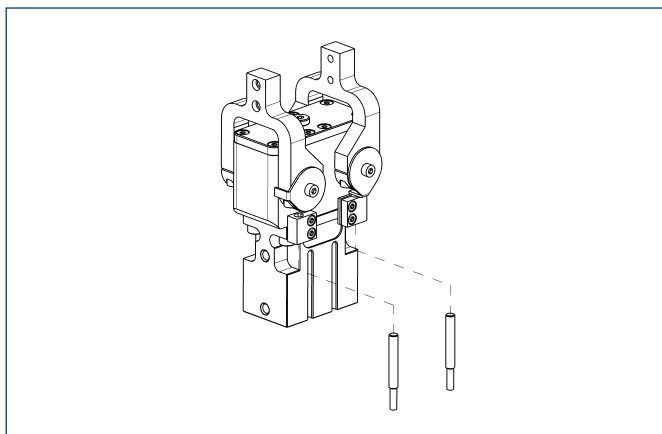
① Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches

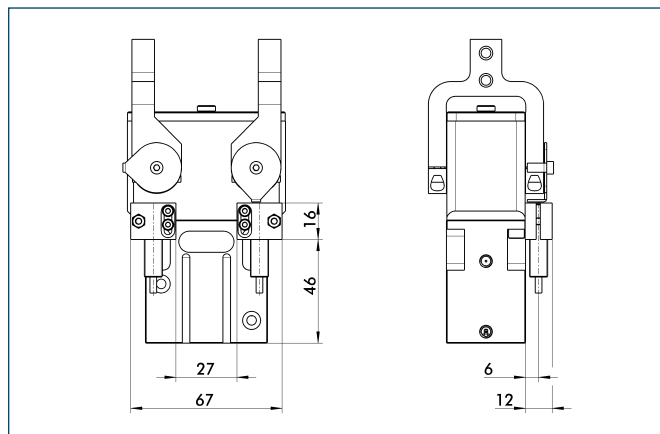


End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

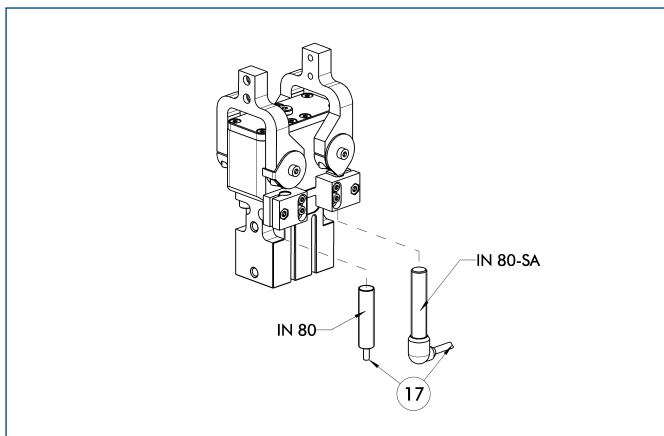


Description	ID
Mounting kit for proximity switch	
AS-DRG-44-80	0304131

- ① This mounting kit needs to be ordered optionally as an accessory.



Inductive proximity switches

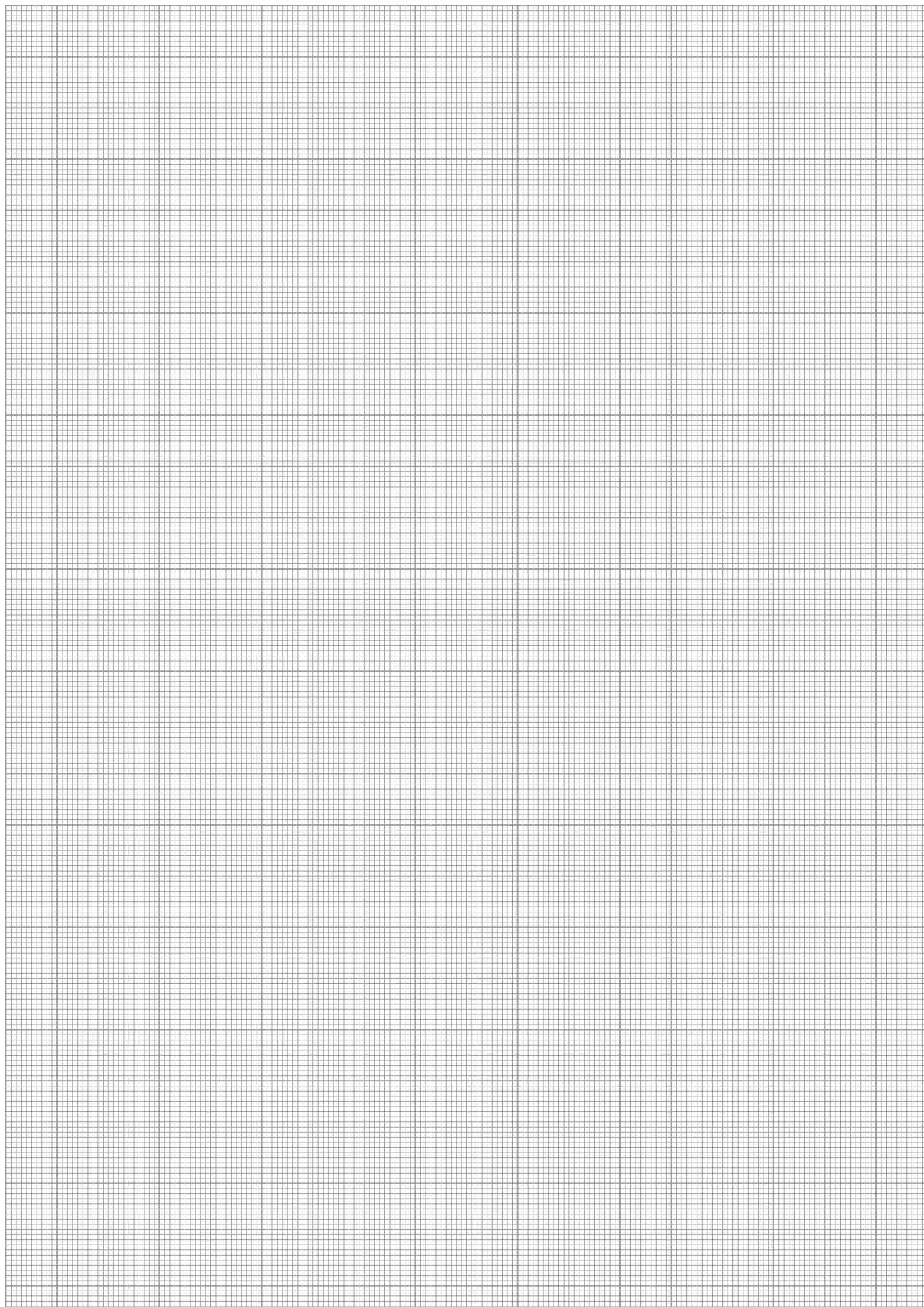


17 Cable outlet

End position monitoring mounted with mounting kit

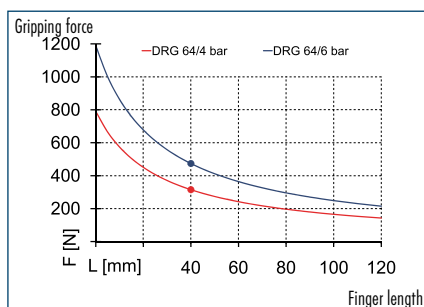
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-DRG-44-80	0304131	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

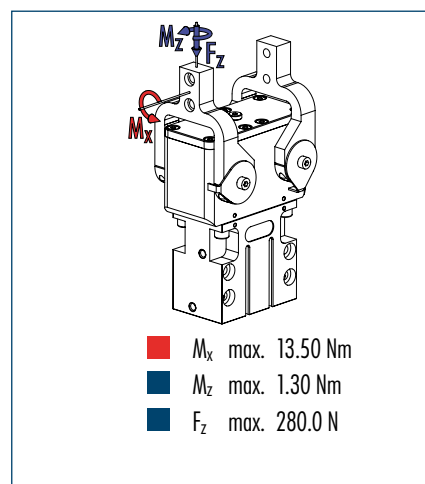




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	DRG 64
ID	0307108
Opening angle per jaw	90°
Closed angle per jaw up to	1.5°
Closing moment	31.5 Nm
Spring-actuated closing moment	5.1 Nm
Weight	1.15 kg
Recommended workpiece weight	2.4 kg
Air consumption per double stroke	57 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.4/0.5 s
Max. permitted finger length	80 mm
Max. permitted weight per finger	0.26 kg
IP class	67
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm
OPTIONS and their characteristics	
High-temperature version	39307108
Min./max. ambient temperature	-10/130 °C

① The opening angle of the base jaws can be limited.

Technical drawing of a 4/3-way solenoid valve, showing three views: front view (top left), side view (top middle), and top view (bottom right). The drawing includes dimensions in millimeters and various callouts for components and tolerances.

Front View (Top Left):

- Dimensions: 52±0.02, 20, 15, 23±0.05, 5, 27, 31, 40, 26.5, 1°^{+0.5°}_{-0.5°}, 90°_{0°}±1°.
- Callouts: M3 (2x), Ø5^{+0.025} (2x) 1, M6 / 12 (4x).

Side View (Top Middle):

- Dimensions: 5.8, 40, 5, 40, 131.5, 89, 2.8 (2x), 80, 16±0.02, 6, 4, 16, 56, 57.5.
- Callouts: 1 Ø10 (2x), A, B.

Top View (Bottom Right):

- Dimensions: 26±0.02, 20, 25±0.02, 4, 4, 4.3, 24, 52±0.02, 68, 56, 115.5, 155.5, 15, 64, 60, 78, 84, 36, 54, 2.5, 2.8, 80, Ø5.3 (4x), 2 Ø8 (4x), IN 40, Ø10 / 4 (4x), Ø5 (4x), MMS 22.
- Callouts: 1 Ø5^{+0.025} / 7, M3 (2x), M6 / 12 (4x), Ø25^{+0.025} / 2.5, 1.

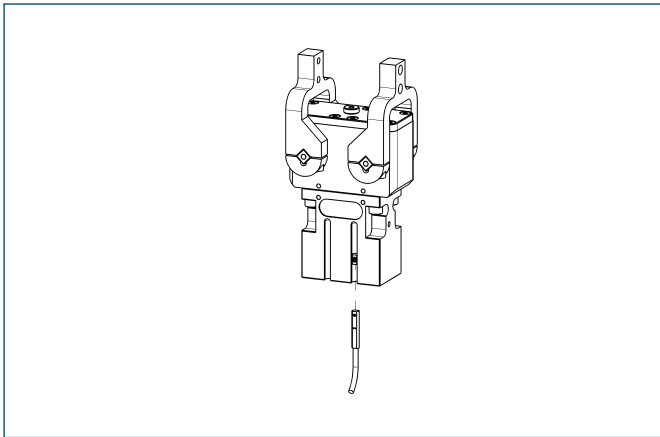
⑧⑩ Depth of the centering sleeve hole in the matching part

- ① Gripper connection
- ② Finger connection

Technical drawing of a mechanical part. The part is a cross-section of a cylindrical component. The outer diameter is labeled $\varnothing 6$. The inner diameter is labeled $\varnothing 3$. The length of the part is labeled $M 3$. The part is divided into two sections by a vertical line. The left section is labeled $\varnothing 3 \times 1.5$. The right section is labeled 1.1 . The part is labeled with callouts 3 and 4.

- 1081

Programmable magnetic switch

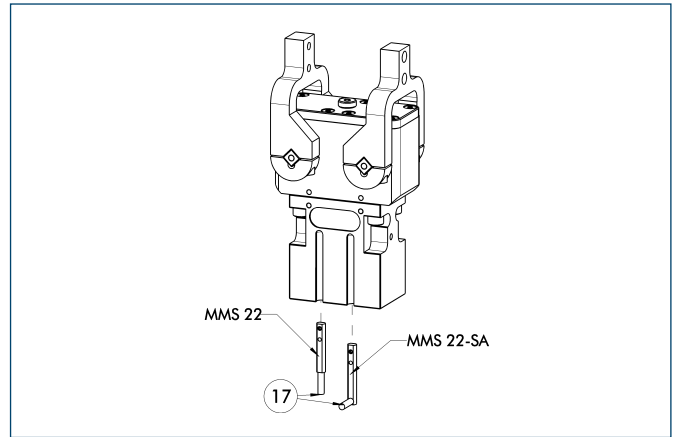


Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per gripper one sensor (closer/NO) is required, optionally a cable extension.

Electronic magnetic switches



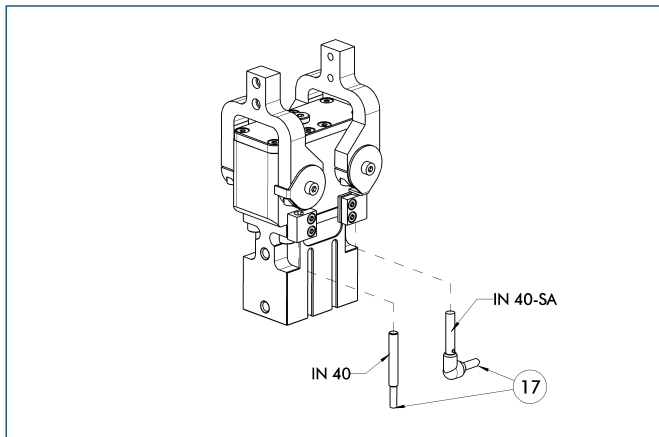
① Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



⑰ Cable outlet

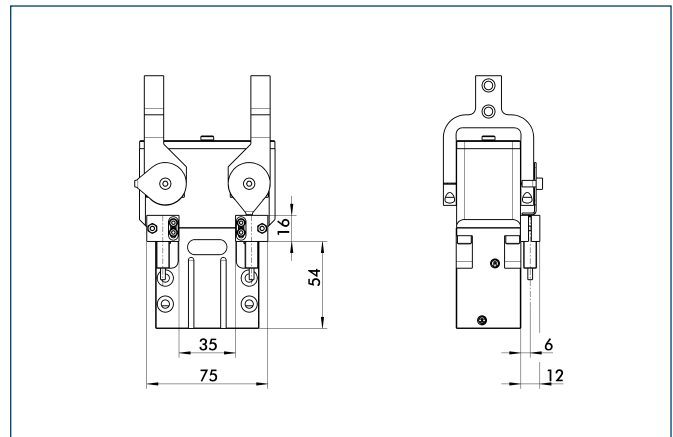
End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-O-M8	0301484	
IN 40-O-M12	0301584	
INK 40-O	0301556	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch



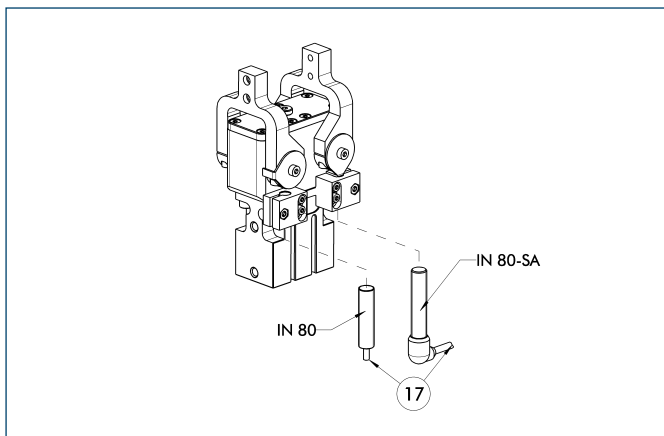
The mounting kit consists of brackets and the appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-DRG-44-80	0304131

① This mounting kit needs to be ordered optionally as an accessory.



Inductive proximity switches

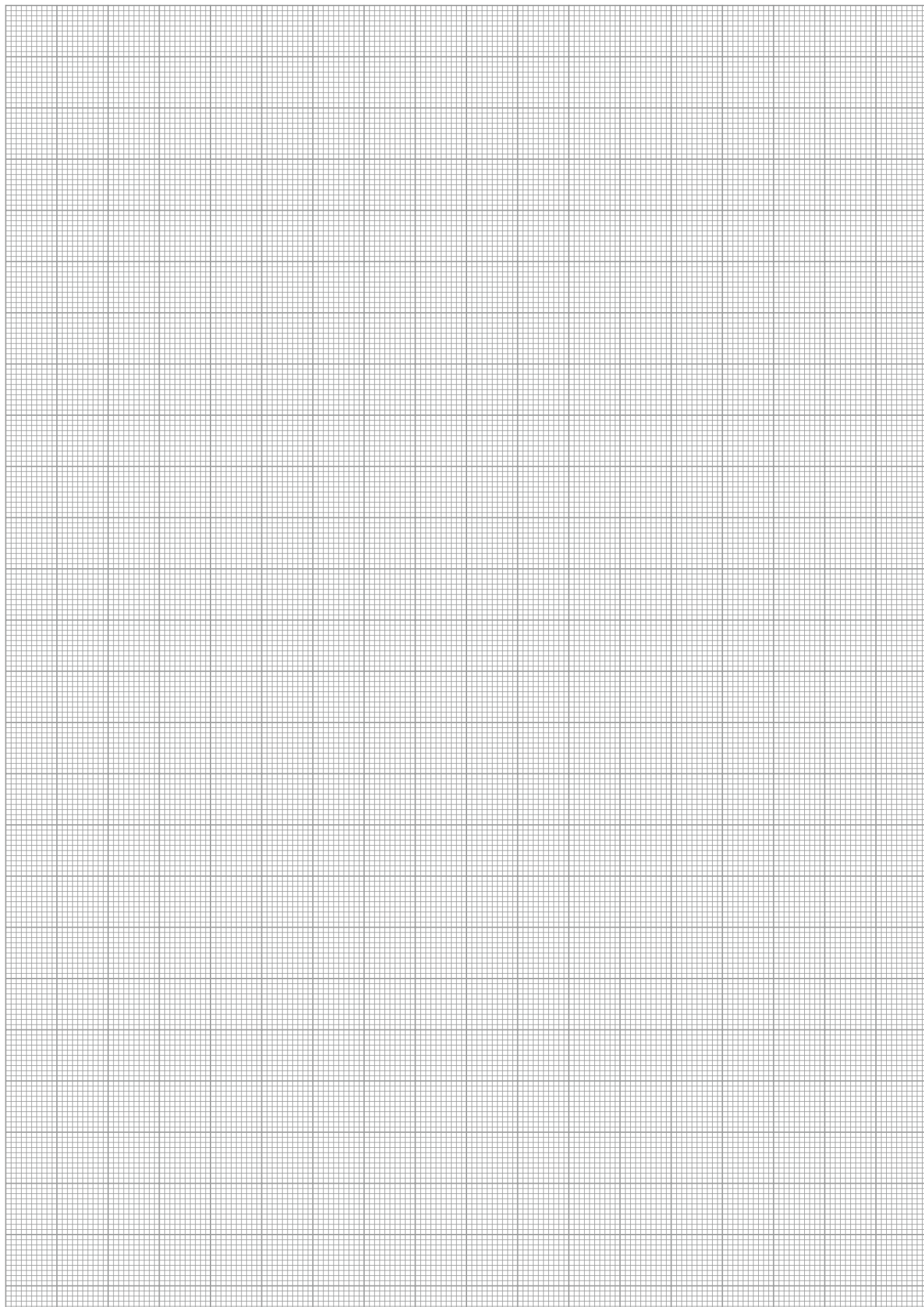


17 Cable outlet

End position monitoring mounted with mounting kit

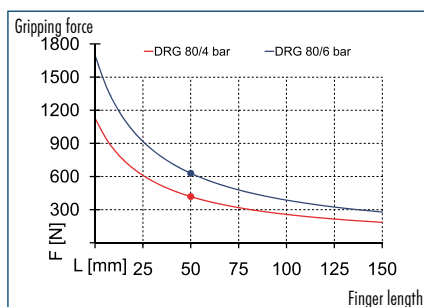
Description	ID	Recommended product
Mounting kit for proximity switch		
AS-DRG-44-80	0304131	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

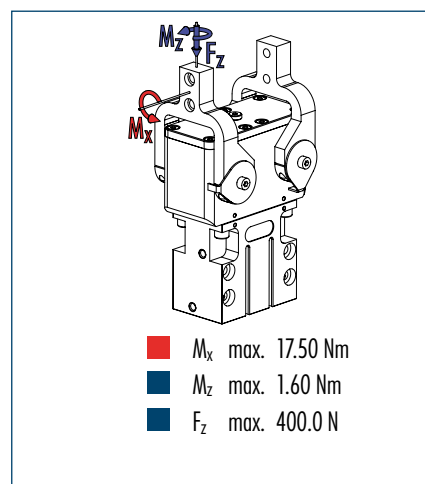




Gripping force, O.D. gripping



Finger load



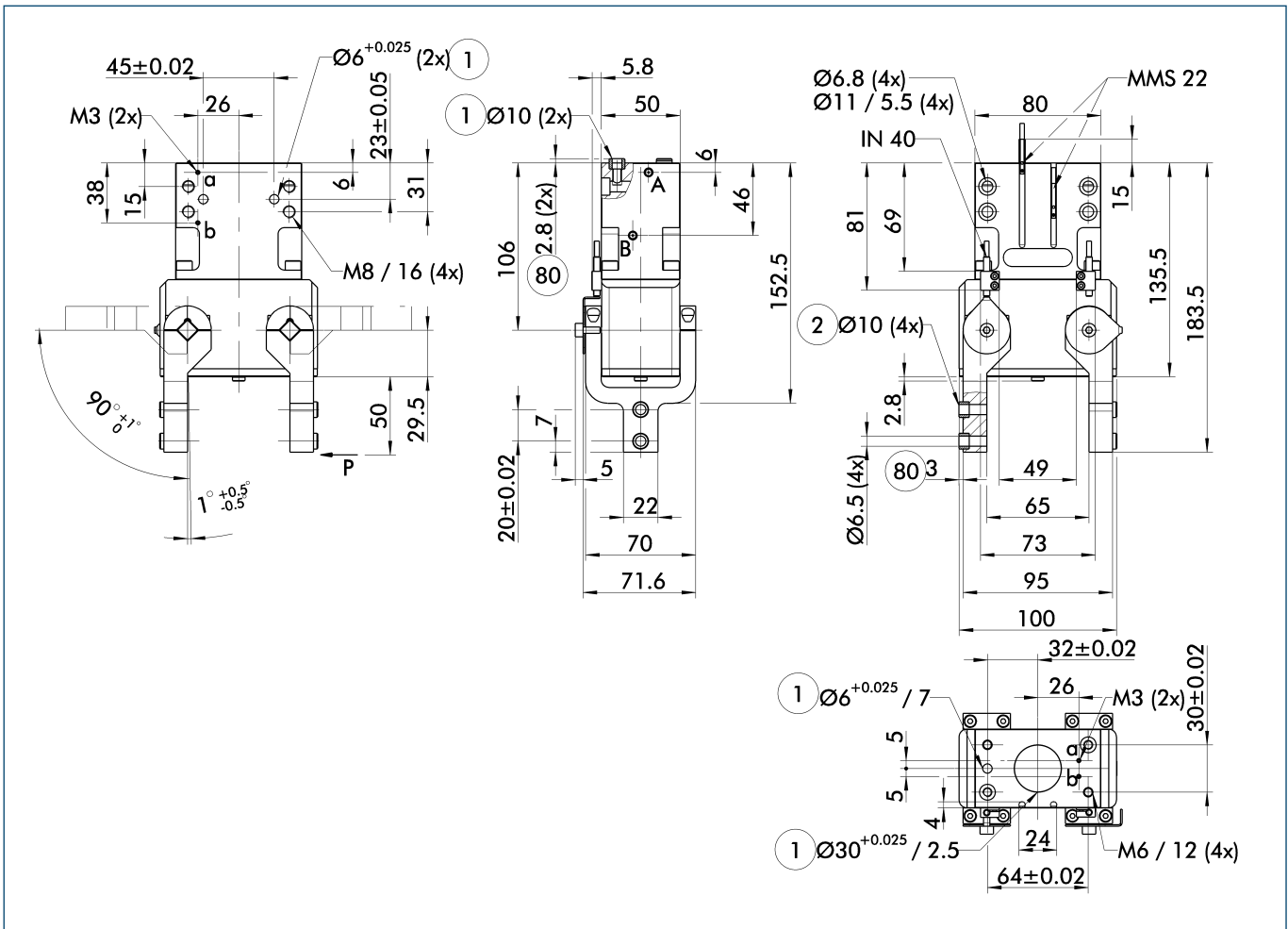
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	DRG 80
ID	0307109
Opening angle per jaw	90°
Closed angle per jaw up to	1.5°
Closing moment	50 Nm
Spring-actuated closing moment	8.1 Nm
Weight	2 kg
Recommended workpiece weight	3.2 kg
Air consumption per double stroke	110 cm³
Min./max. operating pressure	4/6.5 bar
Nominal operating pressure	6 bar
Closing/opening time	0.5/0.6 s
Max. permitted finger length	100 mm
Max. permitted weight per finger	0.5 kg
IP class	67
Min./max. ambient temperature	-10/90 °C
Repeat accuracy	0.1 mm
OPTIONS and their characteristics	
High-temperature version	39307109
Min./max. ambient temperature	-10/130 °C

① The opening angle of the base jaws can be limited.

Main view



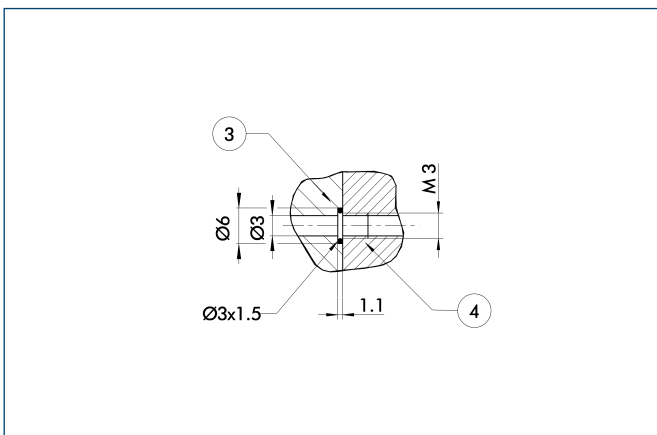
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

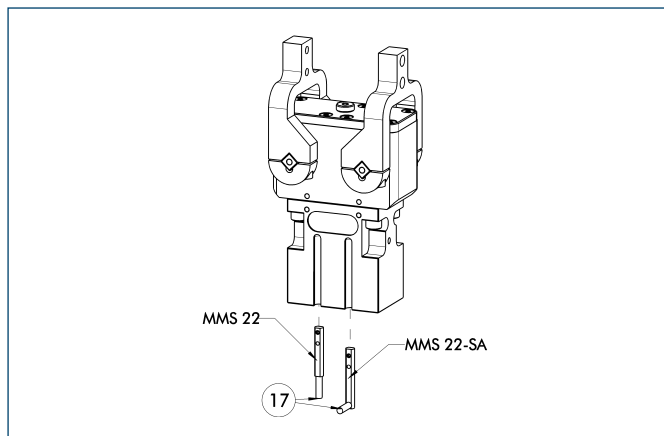
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Electronic magnetic switches



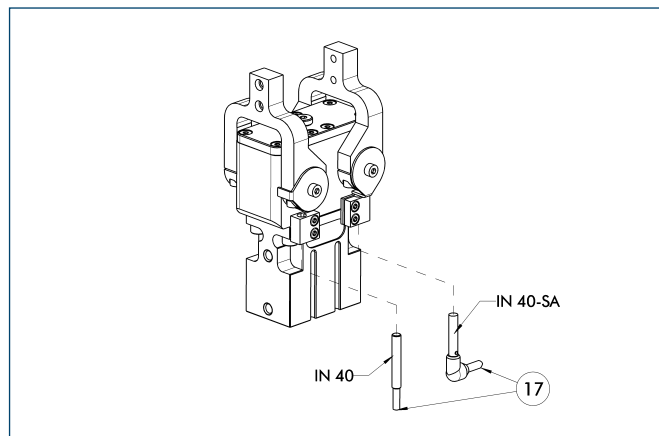
17 Cable outlet

End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



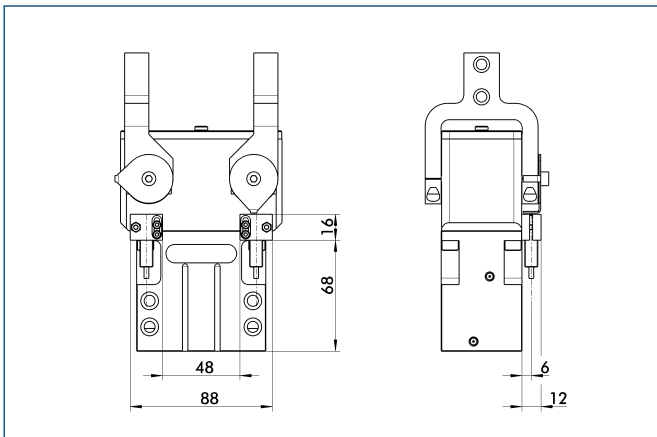
17 Cable outlet

End position monitoring for direct mounting

Description	ID	Recommended product
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	
IN 40-S-M5-PNP	0301491	
IN 40-S-M5-NPN	0301492	
Inductive proximity switch with lateral outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	•
INK 40-S-SA	0301565	
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

- ① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Mounting kit for proximity switch

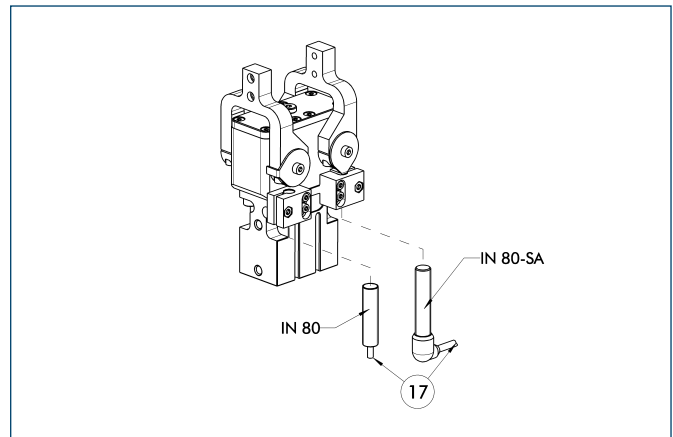


The mounting kit consists of brackets and the appropriate fastening materials. Proximity switches have to be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-DRG-44-80	0304131

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



① Cable outlet

End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-DRG-44-80	0304131	
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	

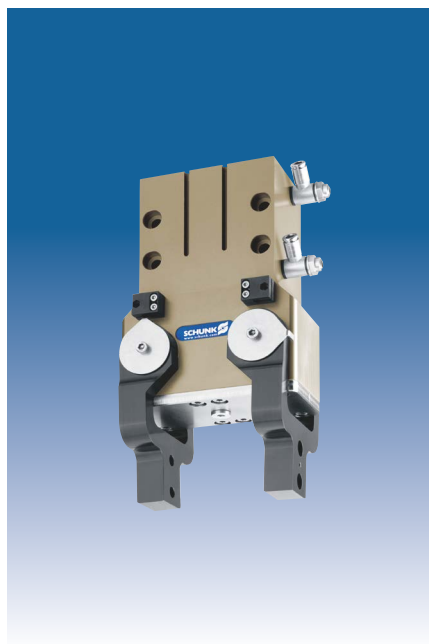
① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① This mounting kit needs to be ordered optionally as an accessory.

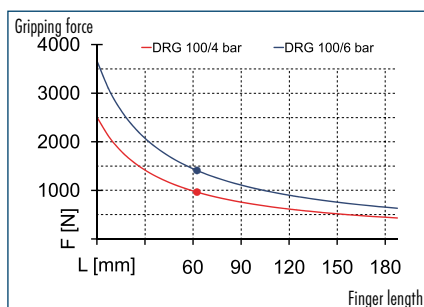
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



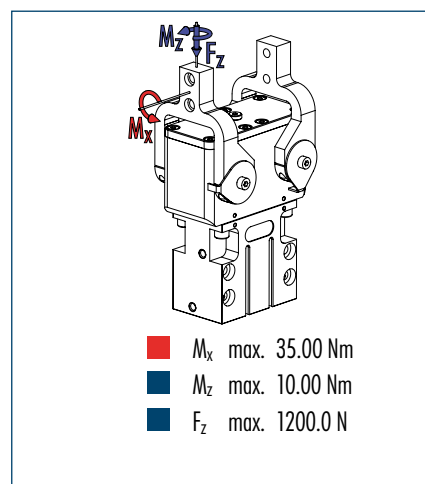
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Gripping force, O.D. gripping



Finger load



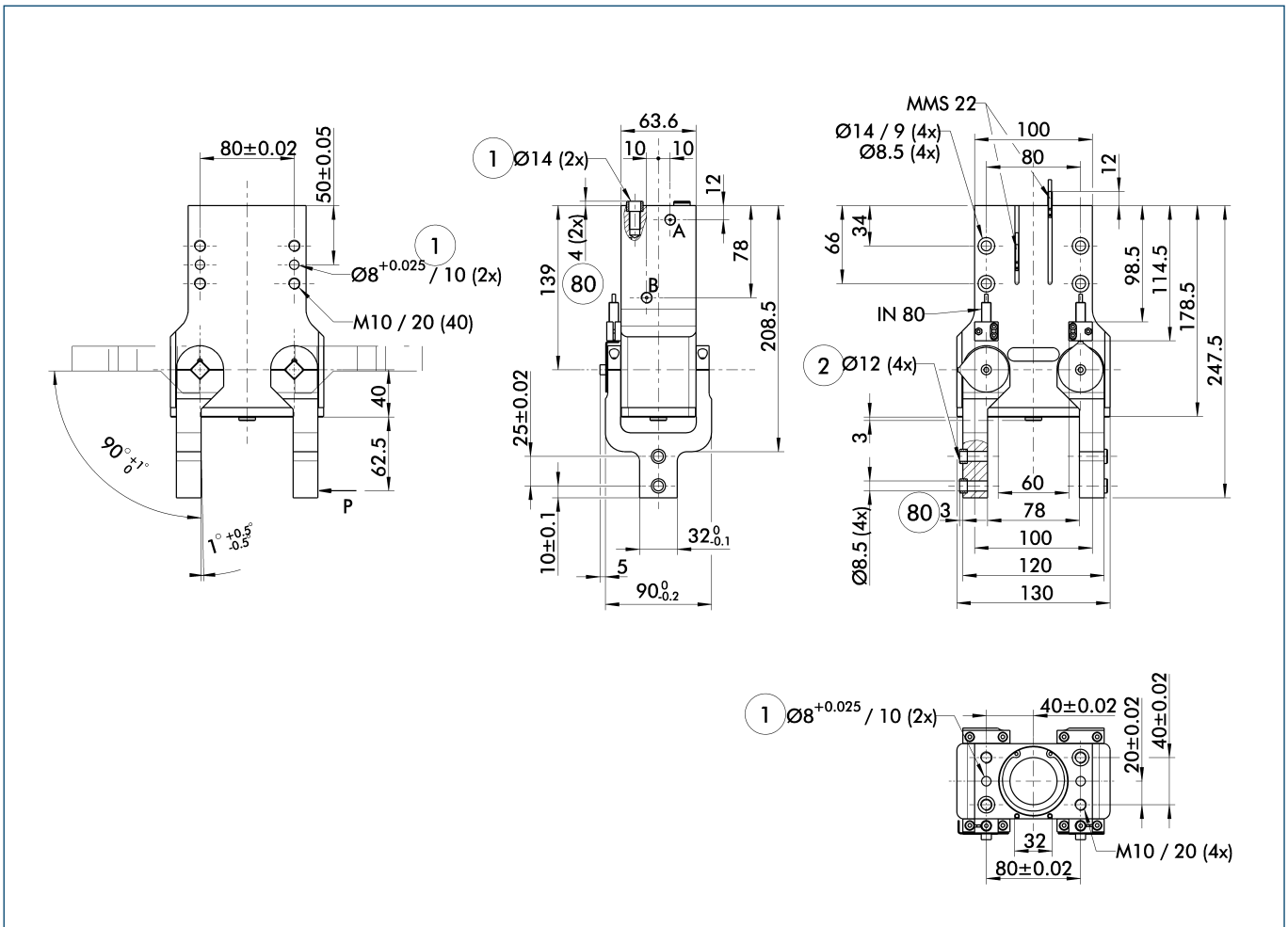
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	DRG 100
ID	0307110
Opening angle per jaw	90
Closed angle per jaw up to	1.5
Closing moment	143
Spring-actuated closing moment	30
Weight	4.46
Recommended workpiece weight	7.2
Air consumption per double stroke	217
Min./max. operating pressure	4/6.5
Nominal operating pressure	6
Closing/opening time	0.3/0.6
Max. permitted finger length	125
Max. permitted weight per finger	1
IP class	67
Min./max. ambient temperature	-10/90
Repeat accuracy	0.1
OPTIONS and their characteristics	
High-temperature version	39307110
Min./max. ambient temperature	-10/130

① The opening angle of the base jaws can be limited.

Main view



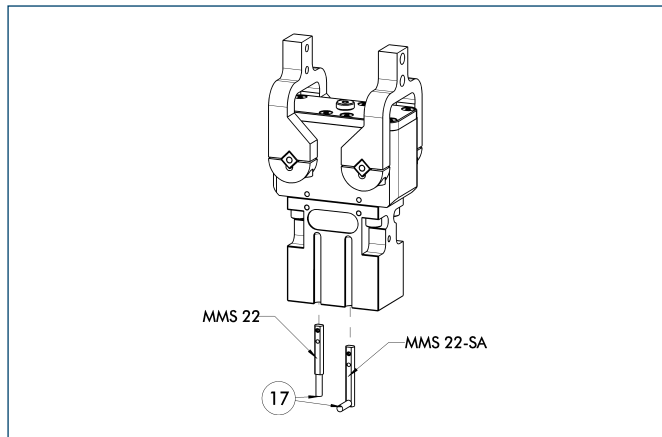
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection

80 Depth of the centering sleeve hole in the matching part

Electronic magnetic switches



⑰ Cable outlet

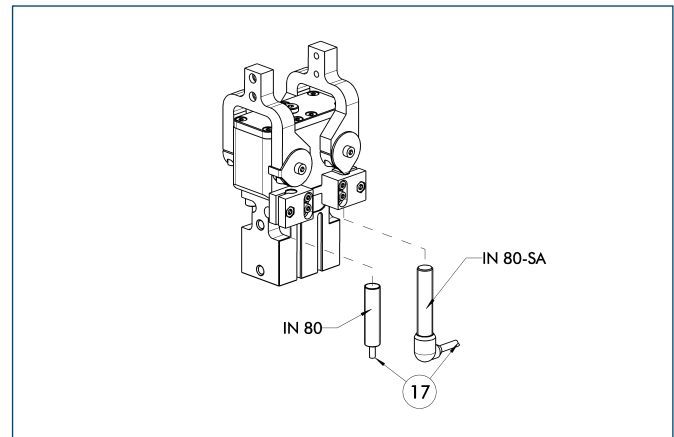
End position monitoring for mounting in the C-slot

Description	ID	Recommended product
Electronic magnetic switches		
MMS 22-S-M5-PNP	0301438	
MMS 22-S-M5-NPN	0301439	
MMS 22-S-M8-PNP	0301432	•
MMS 22-S-M8-NPN	0301433	
MMSK 22-S-PNP	0301434	
MMSK 22-S-NPN	0301435	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M5-PNP-SA	0301448	
MMS 22-S-M5-NPN-SA	0301449	
MMS 22-S-M8-PNP-SA	0301442	•
MMS 22-S-M8-NPN-SA	0301443	
MMSK 22-S-PNP-SA	0301444	
MMSK 22-S-NPN-SA	0301445	
Reed Switches		
RMS 22-S-M8	0377720	•
Connection cables		
KA BG05-L 3P-0300	0301652	
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BW05-L 3P-0300	0301650	
KA BW08-L 3P-0300-NPN	0301602	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-NPN	9641116	
KA BW08-L 3P-0500-PNP	0301502	
Cable extensions		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Inductive proximity switches



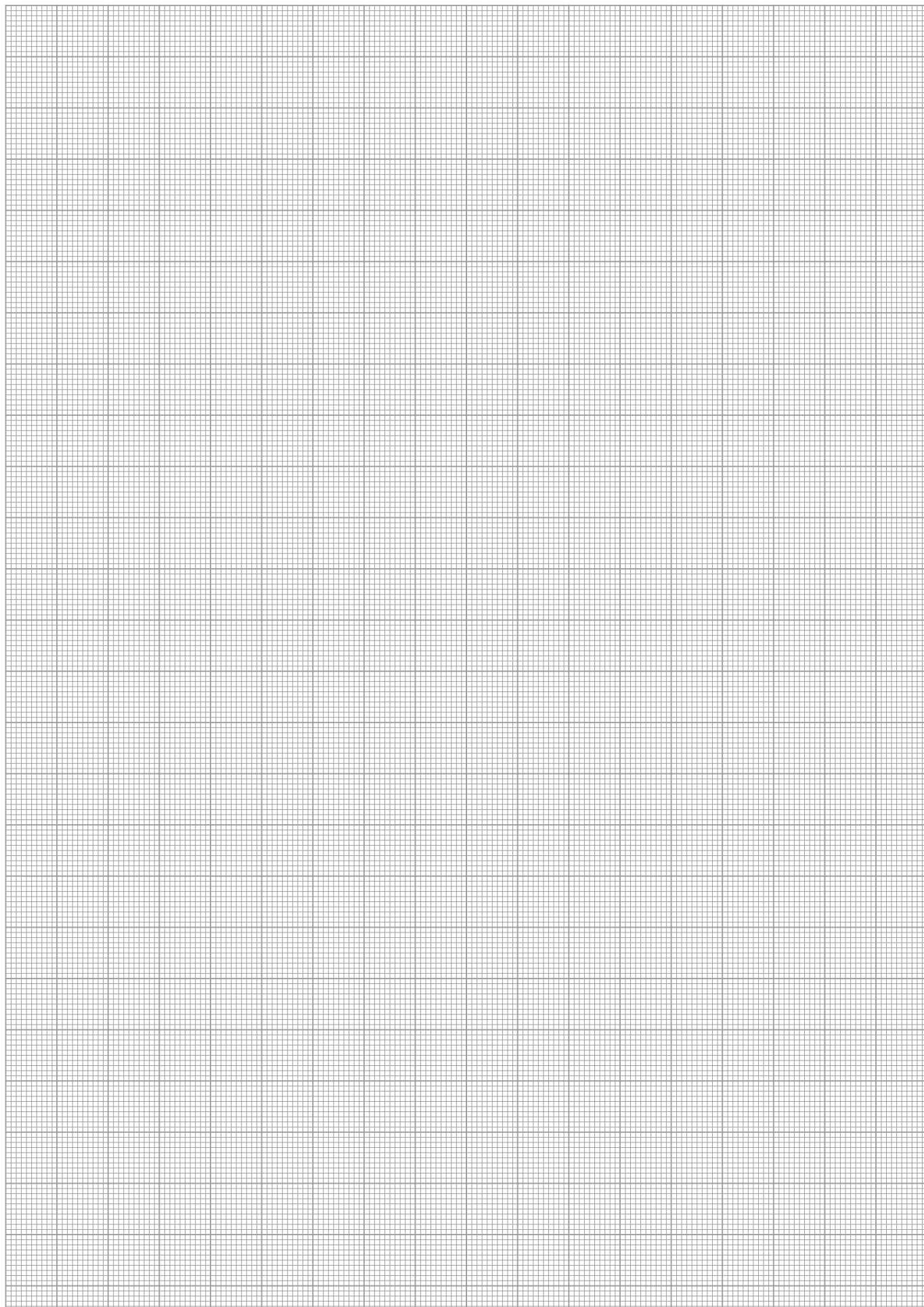
⑰ Cable outlet

End position monitoring for direct mounting

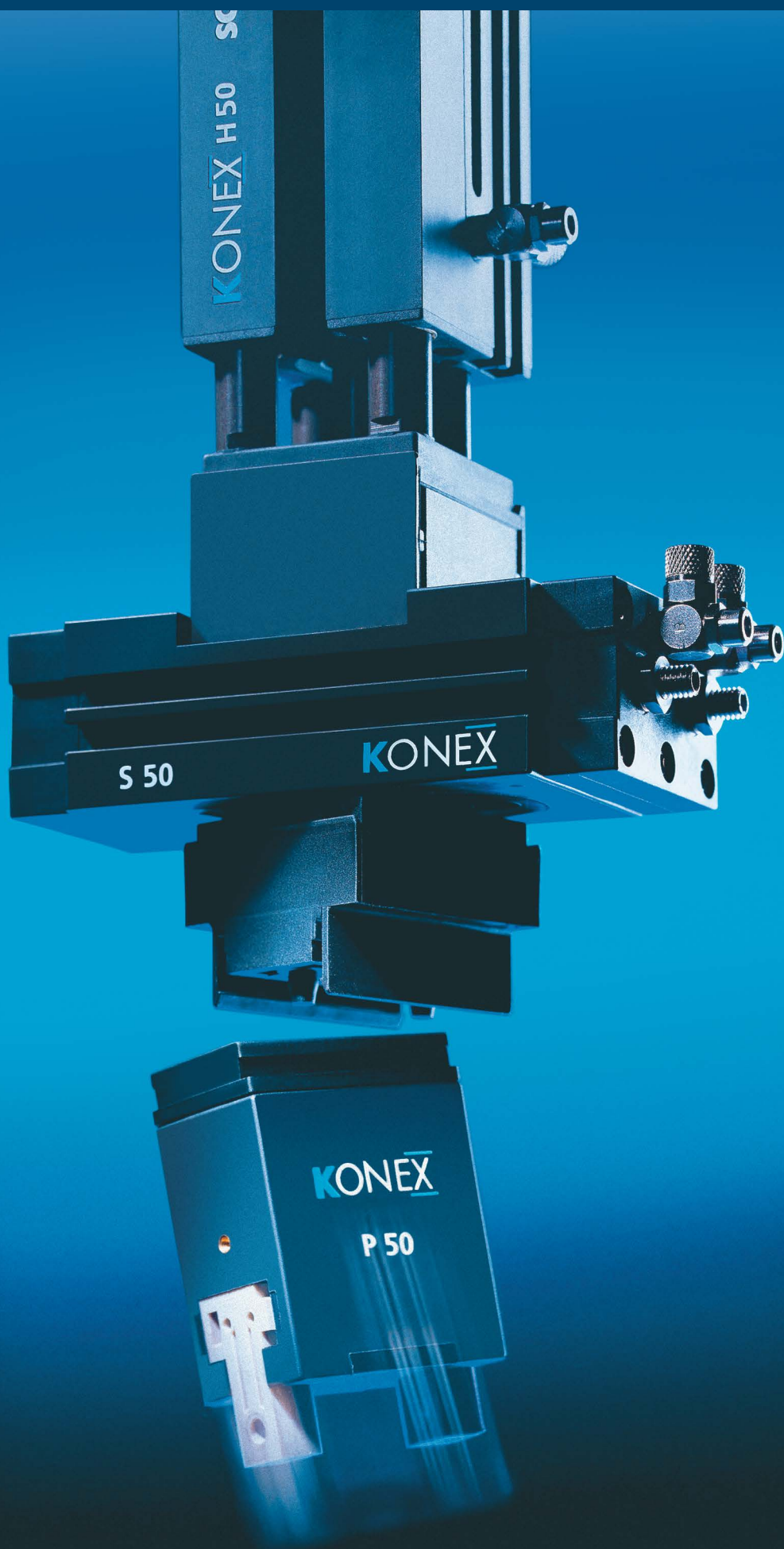
Description	ID	Recommended product
Inductive proximity switches		
IN 80-S-M8	0301478	•
IN 80-S-M12	0301578	
INK 80-S	0301550	
Inductive proximity switch with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	•
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	

① Two sensors (closer/NO) are required for each gripper, plus extension cables as an option.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



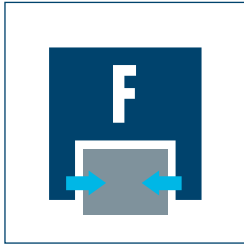
Pneumatic Modular Gripping System



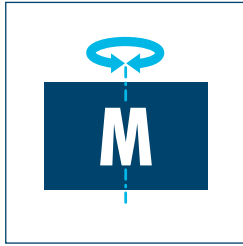
MODULAR GRIPPING SYSTEM

Series	Size	Page
KONEX		
KONEX		1096
KONEX	P 50	1100
KONEX	S 50	1104
KONEX	H 50	1108

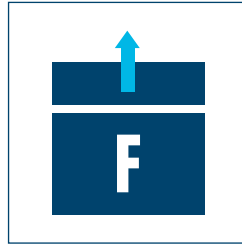




Gripping force
100 N

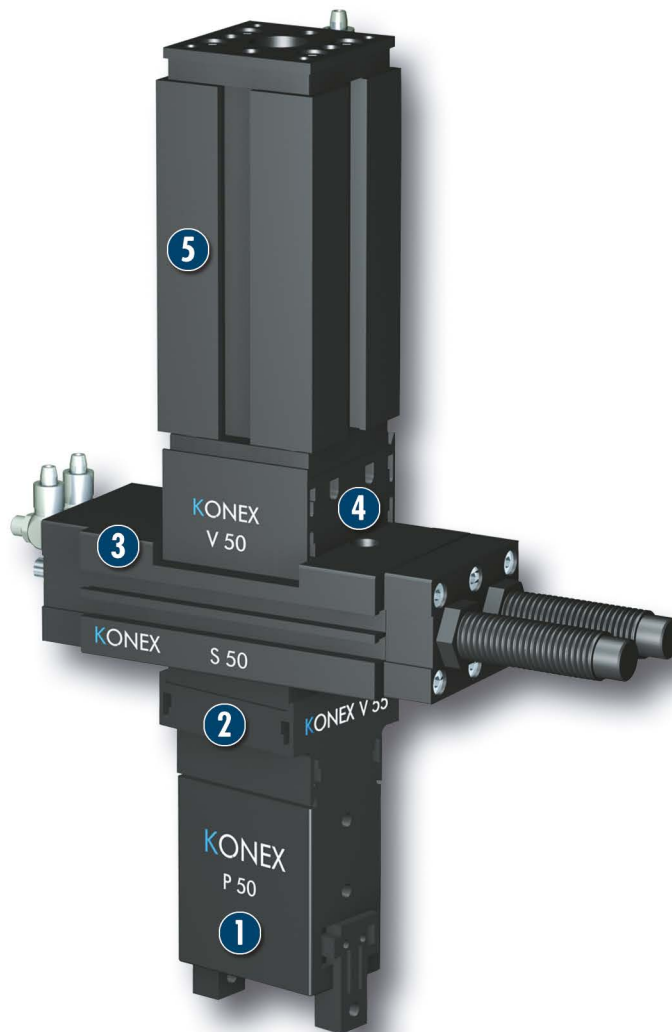


Torque
0.9 Nm



Piston force (extended)
250 N

Application example



KONEX weight-reduced, modular gripping system for economical automation in assembly and production

- 1 KONEX P 50
2-Finger Parallel Gripper
- 2 KONEX V 55 connector
- 3 KONEX S 50 Rotary Unit

- 4 KONEX V 50 connector
- 5 KONEX H 50 Linear Unit

Modular Gripping System

weight-reduced, low-price gripping system consisting of a linear unit, a gripper and a rotary unit connected with snap-on connectors, so that the modules do not need to be screwed in place

Area of application

suitable for clean environments and light loads

Your advantages and benefits

Low-price gripping system

comprising rotary unit, linear unit and parallel gripper

Complete series weight-reduced through the use of a high-performance polymer

making the modules extremely light and free from corrosion

Simple connection of the various components using snap-on connectors

enabling easy, fast assembly of modules



Information about the series

Working principle

Pneumatic piston drive, with transmission to a pinion in the case of the rotary unit

Housing material

High-performance polymer

Actuation

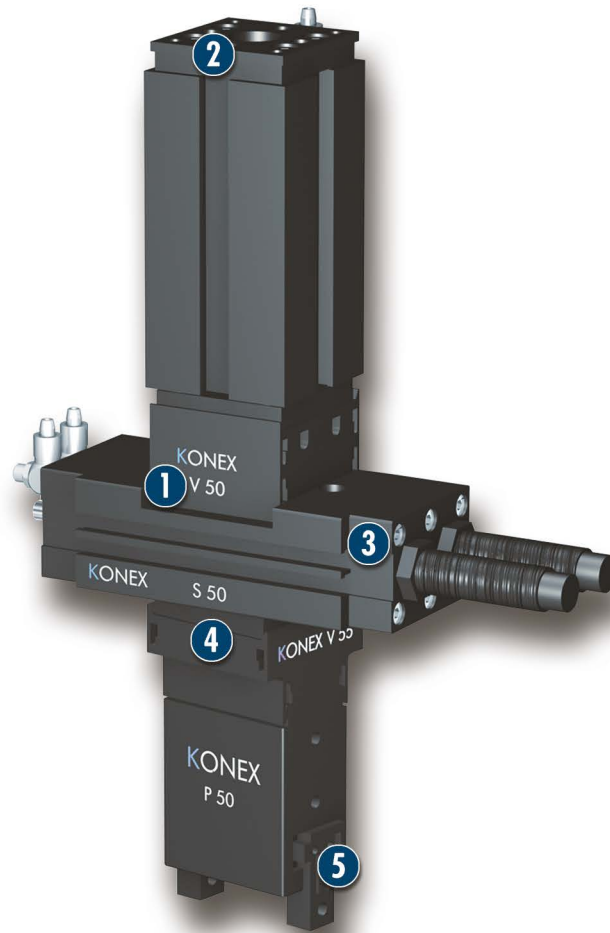
Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
Pressure medium: Requirements on quality of the compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months

Scope of delivery

Brackets for proximity switches (gripper only), assembly and operating manual with manufacturer's declaration



- 1 V 50 connector**
for connecting linear units and rotary units in any direction, attachable at 90° intervals
- 3 KONEX S**
weight-reduced Rotary Unit
- 5 KONEX P**
weight-reduced Parallel Gripper
- 2 KONEX H**
weight-reduced Linear Unit
- 4 V 55 connector**
for connecting a Rotary Unit or a Linear Unit to a Gripper, attachable at 90° intervals

Function description

The KONEX series works with pneumatics. The gripper functions by means of a pneumatic piston, the rotary unit on the basis of a double-piston rack and pinion principle and the linear unit through the direct connection of the lifting plate to the piston rod.

Options and special information

Thanks to the snap-on connectors, the individual modules are mounted within seconds.

Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



MMS magnetic switches



IN inductive proximity switches



Quentes plastic inserts



HKI gripper pads



SDV-P pressure maintenance valves



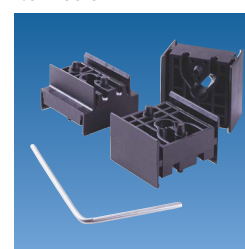
KV/KA sensor cables



V sensor distributors



Connector



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General information on the series

Gripping force

is the arithmetic total of the gripping force applied to each base jaw at distance P (see illustration), measured from the upper edge of the gripper.

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

V 50 and V 55 connectors

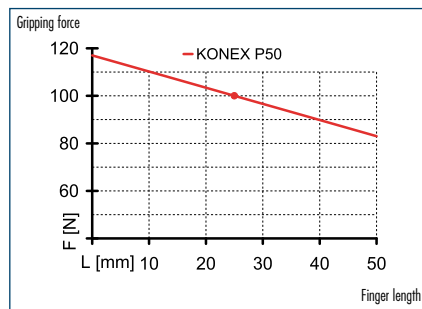
The linear unit is connected to the rotary unit via the V 50 connector. The gripper can be secured to the linear unit or rotary unit via the V 55 connector.

Closing and opening times

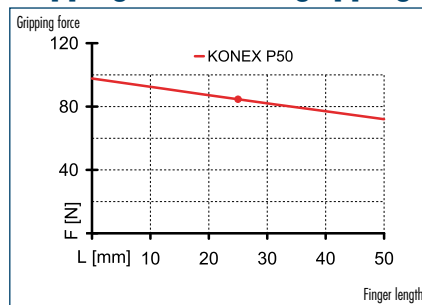
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



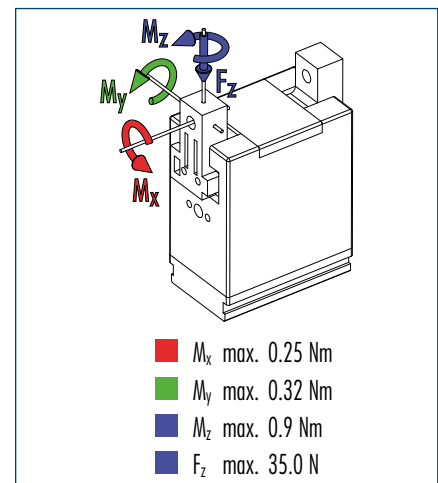
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

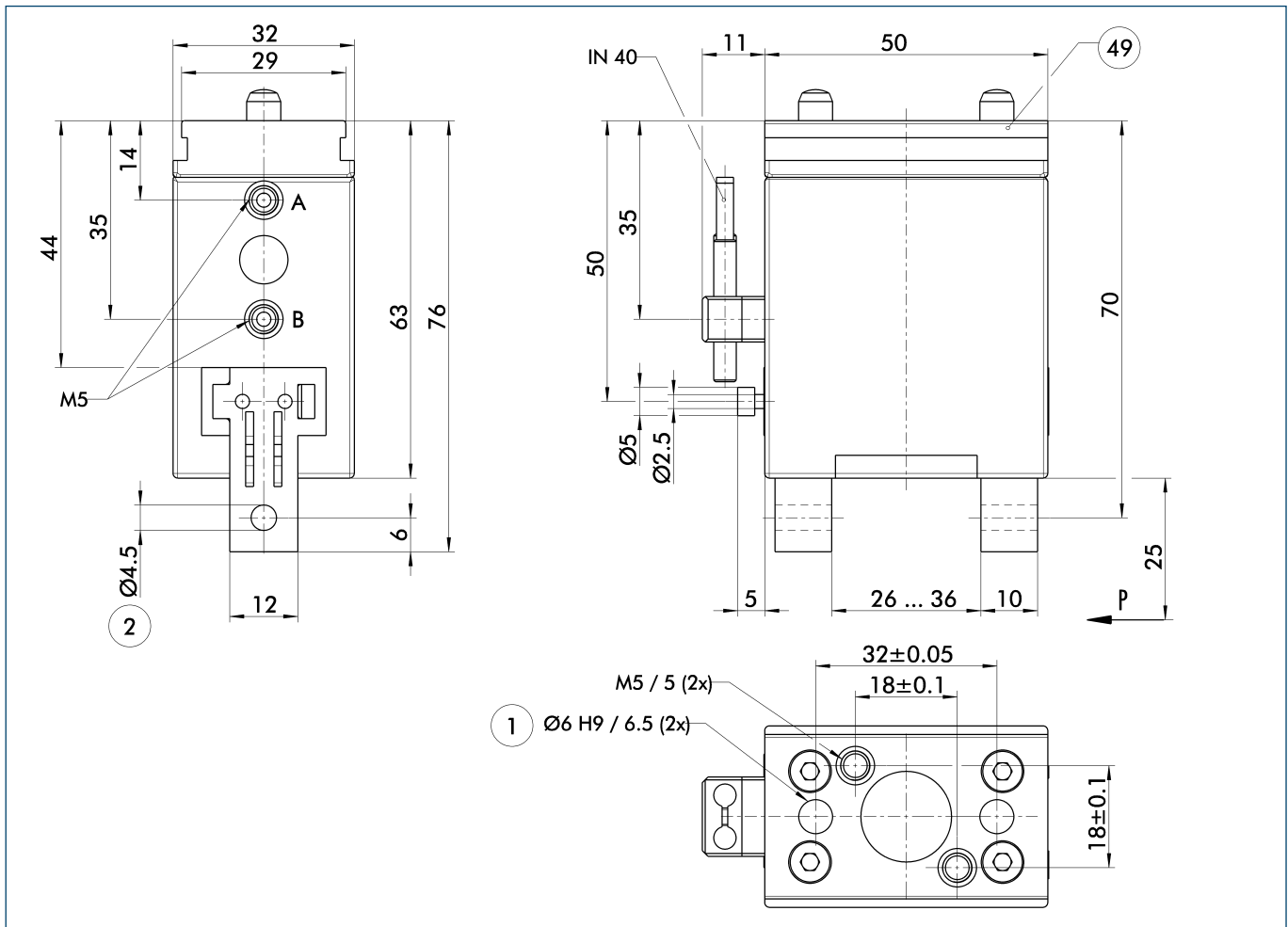


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may reduce.

Technical data

Description		Konex P 50
ID		0305550
Stroke per finger	[mm]	5.0
Closing force	[N]	85.0
Opening force	[N]	100.0
Weight	[kg]	0.15
Recommended workpiece weight	[kg]	0.2
Air consumption per double stroke	[cm ³]	5.2
Nominal pressure	[bar]	6.0
Minimum pressure	[bar]	2.5
Maximum pressure	[bar]	6.5
Closing time	[s]	0.03
Opening time	[s]	0.025
Max. permitted finger length	[mm]	50.0
Max. permitted weight per finger	[kg]	0.05
IP class		30
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy	[mm]	0.05

Main view

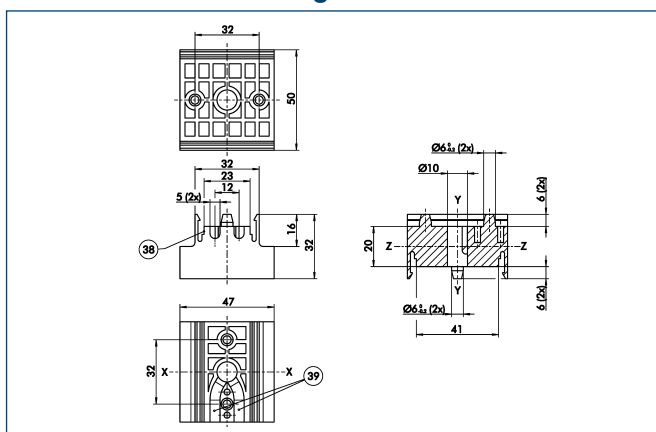


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

- ① The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

- A,a Main/direct connection, gripper opening
B,b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
49 Undercut for snap-on connection

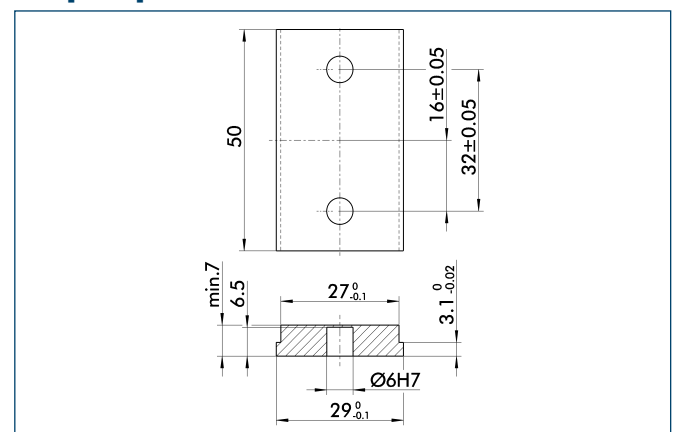
KONEX V 55 connecting element



- 38 Slot for disassembly tool
39 Slot for air hose Ø4

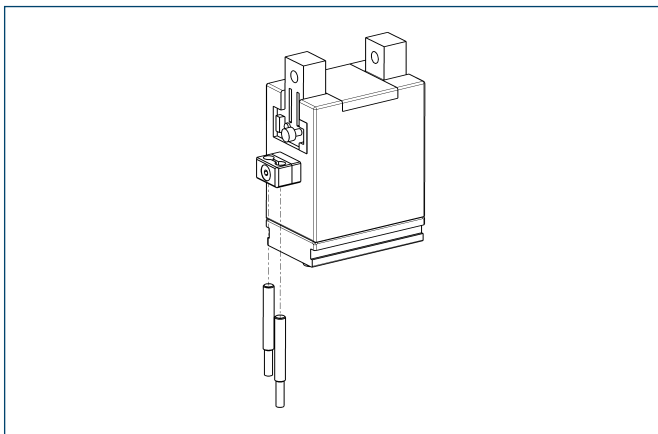
Connecting element between gripper and linear unit or rotary unit

Adapter plate



For fastening the KONEX P 50 gripper with the V 55 connecting element

Sensor system



End position monitoring:

Inductive proximity switches, for direct mounting

Description	ID	Recommended product
IN 40-S-M12	0301574	
IN 40-S-M5-NPN	0301492	
IN 40-S-M5-PNP	0301491	
IN 40-S-M8	0301474	•
INK 40-S	0301555	

① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

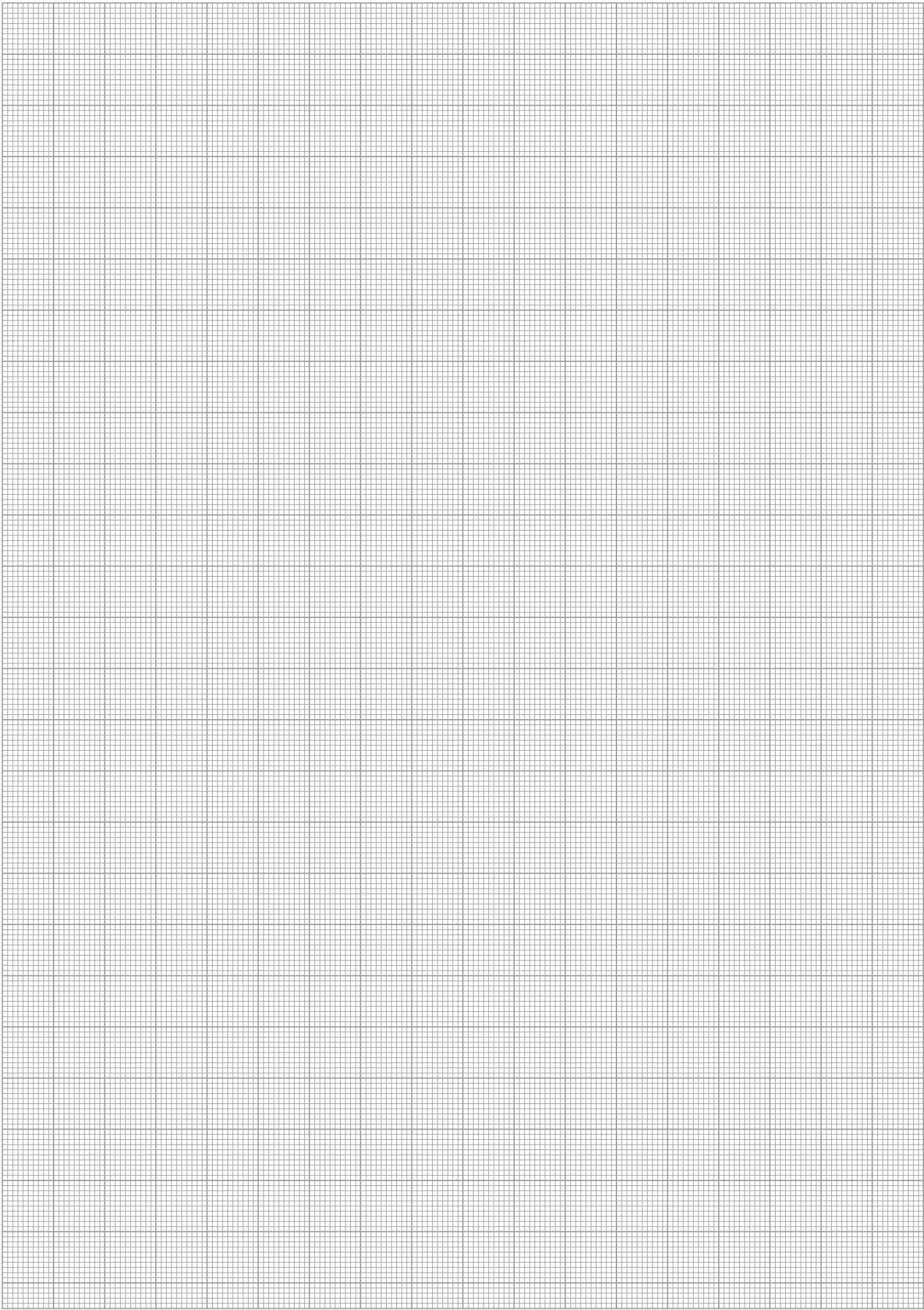
Extension cables for proximity switches/magnetic switches

Description	ID
KA BG05-L 3P-0300	0301652
KA BG08-L 3P-0300-PNP	0301622
KA BW05-L 3P-0300	0301650
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KA BW12-L 3P-0300-PNP	0301503
KA BW12-L 3P-0500-PNP	0301507
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

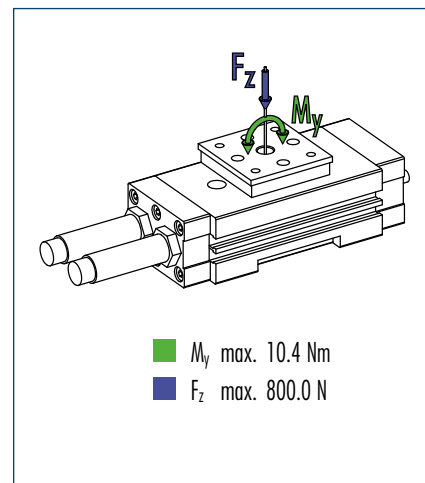


You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.





Pinion load



① The moment and force acting on the pinion may occur simultaneously.

Technical data

Description		Konex S 50
ID		0305450
Torque	[Nm]	0.9
Rotating angle	[°]	180.0
End Position Adjustability	[°]	2.0
Weight	[kg]	0.53
IP class		40
Max. permitted axial bearing load	[N]	800.0
Max. permitted radial bearing load	[Nm]	10.4
Cycle time (1x nominal angle of rotation) without attached load	[s]	0.35
Air consumption per cycle	[cm³]	10.5
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Nominal operating pressure	[bar]	6.0
Min. required operating pressure	[bar]	2.0
Max. permitted operating pressure	[bar]	6.5
Repeat accuracy	[°]	0.2

[illegible]

- A,a Main/direct connection, clockwise rotary unit
- B,b Main/direct connection, anti-clockwise rotary unit
- ① Rotary unit connection
- ② Attachment connection
- ④ Undercut for snap-on connection

- ① The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

Technical drawing of a square plate (100mm x 100mm x 10mm) with a central circular hole and four corner holes. The drawing includes a top view, a side view, and a cross-section view.

Top View: Shows a square plate with a central circular hole (diameter 10mm) and four corner holes (diameter 6.5mm). The overall dimensions are 100mm x 100mm. The central hole is located at the center, and the corner holes are located at the corners. The distance from the center of the central hole to the center of a corner hole is 50mm. The distance from the center of the central hole to the edge of the plate is 25mm. The distance from the center of a corner hole to the edge of the plate is 12.5mm.

Side View: Shows the thickness of the plate, which is 10mm. The central hole is located at the center of the plate.

Cross-section View: Shows a cross-section of the plate. The central hole has a diameter of 10mm. The corner holes have a diameter of 6.5mm. The distance from the center of the central hole to the center of a corner hole is 50mm. The distance from the center of the central hole to the edge of the plate is 25mm. The distance from the center of a corner hole to the edge of the plate is 12.5mm.

Dimensions and Callouts:

- Top View: 100 (overall width), 100 (overall height), 50 (distance from center to corner hole center), 25 (distance from center to edge), 12.5 (distance from corner hole center to edge), 10 (central hole diameter), 6.5 (corner hole diameter).
- Side View: 10 (thickness), 50 (distance from center to corner hole center), 25 (distance from center to edge), 12.5 (distance from corner hole center to edge).
- Cross-section View: 10 (central hole diameter), 6.5 (corner hole diameter), 50 (distance from center to corner hole center), 25 (distance from center to edge), 12.5 (distance from corner hole center to edge).

- (38) Slot for disassembly tool
 (39) Slot for air hose Ø4

Technical drawing of a mechanical part, showing front and top views with dimensions.

Front View (Left):

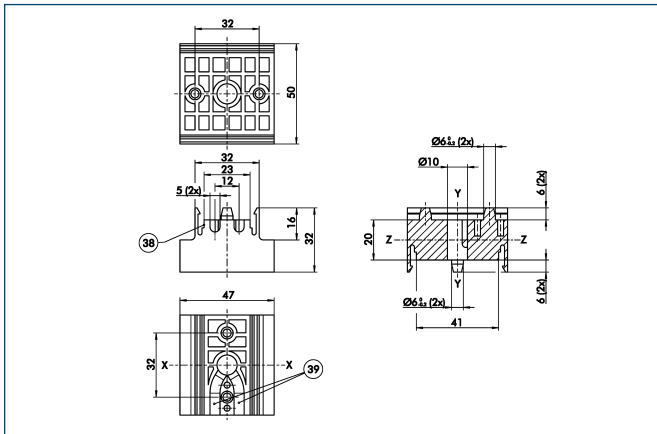
- Overall width: $47^{+0}_{-0.1}$
- Overall height: 32 ± 0.05
- Internal width: $45^{+0}_{-0.1}$
- Internal height: 16 ± 0.05
- Top surface thickness: $3.1^{+0.02}_{-0}$
- Bottom surface thickness: 6.5
- Internal hole diameter: $\varnothing 6H7$
- Internal hole length: $47^{+0}_{-0.1}$

Top View (Right):

- Overall width: $47^{+0}_{-0.1}$
- Overall height: 32 ± 0.05
- Internal width: $45^{+0}_{-0.1}$
- Internal height: 16 ± 0.05
- Top surface thickness: $3.1^{+0.02}_{-0}$
- Bottom surface thickness: 6.5
- Internal hole diameter: $\varnothing 6H7$
- Internal hole length: $47^{+0}_{-0.1}$

For connecting any modules you require to the linear unit or rotary unit with the V 50 connecting element

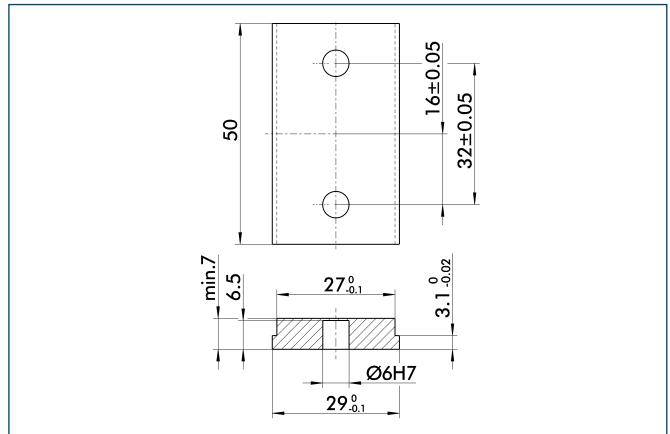
KONEX V 55 connecting element



- 38 Slot for disassembly tool
- 39 Slot for air hose Ø4

Connecting element between gripper and linear unit or rotary unit

Adapter plate

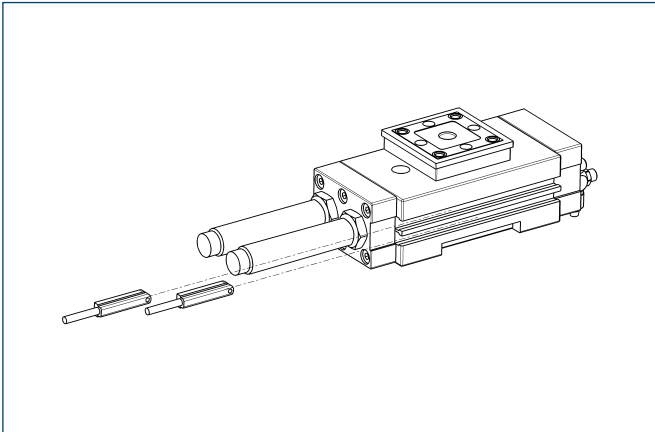


For connecting any modules you require to the linear unit or rotary unit with the V 55 connecting element



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Sensor system



End position monitoring:

Electronic magnetic switches, for mounting in C-slot

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

❗ Two sensors (NO contacts) are required for each unit.

Extension cables for proximity switches/magnetic switches

Description	ID
KA BG08-L 3P-0300-PNP	0301622
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

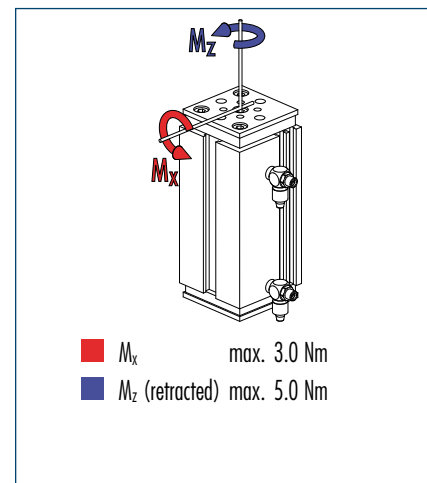
❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Moment load

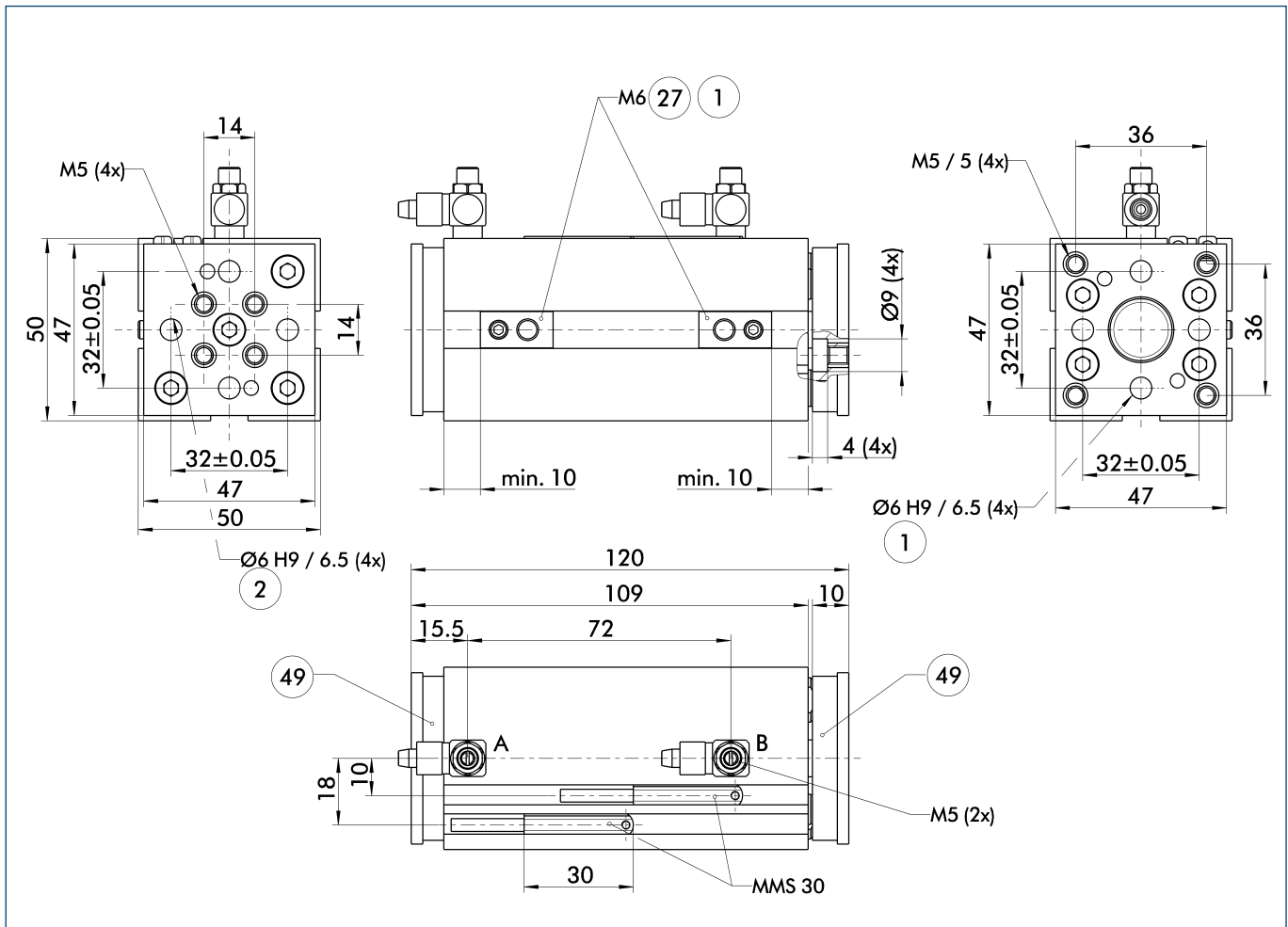


① The loading forces and moments may occur simultaneously.

Technical data

Description		Konex H 50
ID		0305350
Extension force	[N]	250.0
Retraction force	[N]	180.0
Stroke	[mm]	60.0
Weight	[kg]	0.45
Max. permitted torsional moment (extended)	[Nm]	2.0
Air consumption per double stroke	[cm ³]	54.0
Nominal operating pressure	[bar]	6.0
Max. permitted operating pressure	[bar]	6.5
Stroke time (extended)	[s]	0.07
IP class		42
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy	[mm]	0.2

Main view

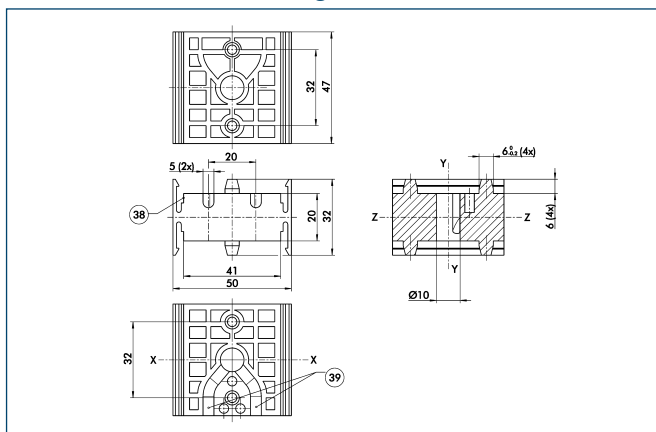


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

- ① The SDV-P pressure maintenance valve can be used to hold the position upon a loss of pressure (see "Accessories" catalog section).

- A,a Main/direct connection, extend advance linear unit
B,b Main/direct connection, return retract linear unit
① Linear unit connection
② Attachment connection
②⑦ Fastening groove for T-nuts
④⑨ Undercut for snap-on connection

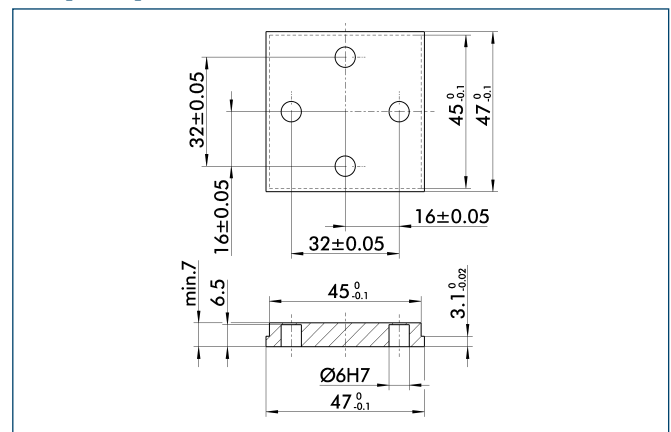
KONEX V 50 connecting element



- ③⑧ Slot for disassembly tool
③⑨ Slot for air hose Ø4

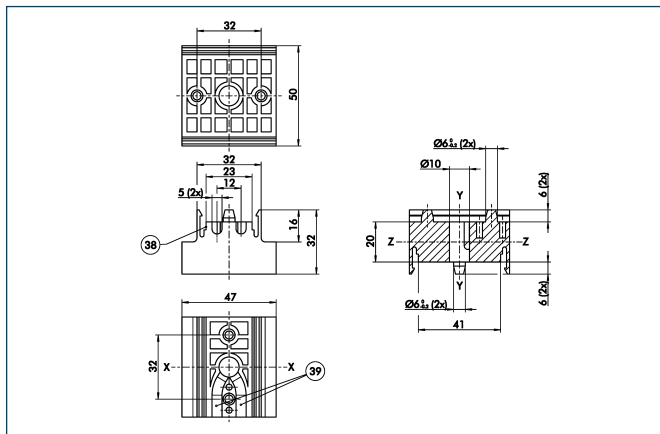
Connecting element between linear unit and rotary unit

Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 50 connecting element

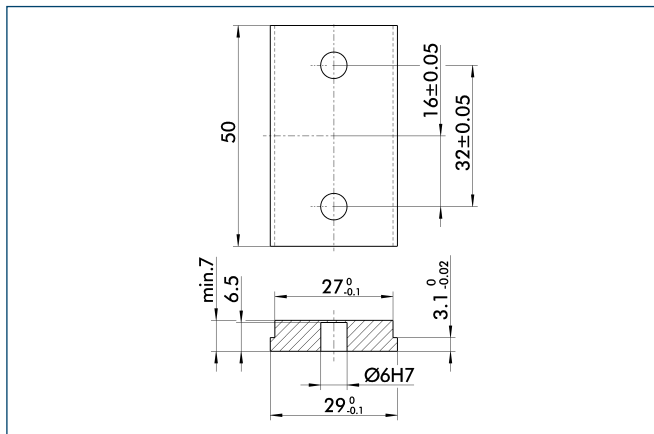
KONEX V 55 connecting element



- 38 Slot for disassembly tool
- 39 Slot for air hose Ø4

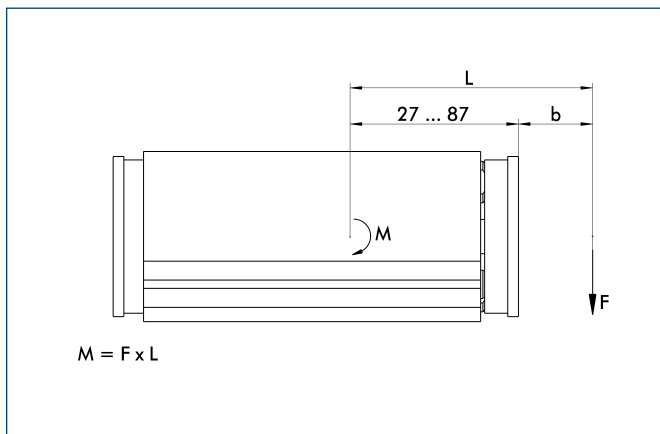
Connecting element between gripper and linear unit or rotary unit

Adapter plate



For connecting any modules you require to the linear unit or rotary unit with the V 55 connecting element

Bending moment

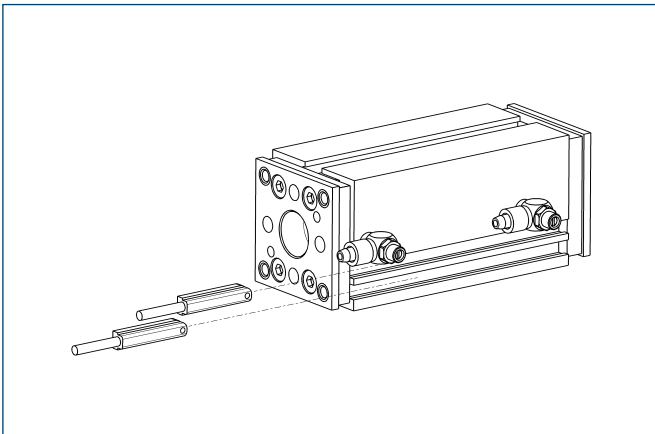


The drawing shows the center of rotation on which the leverage is based for the purpose of the bending moment calculation.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Sensor system



End position monitoring:

Electronic magnetic switches, for direct mounting

Description	ID	Recommended product
MMS 30-S-M12-PNP	0301571	
MMS 30-S-M8-PNP	0301471	•
MMSK 30-S-PNP	0301563	

❗ Two sensors (NO contacts) are required for each unit.

Extension cables for proximity switches/magnetic switches

Description	ID
KA BG08-L 3P-0300-PNP	0301622
KA BW08-L 3P-0300-PNP	0301594
KA BW08-L 3P-0500-PNP	0301502
KV BW08-SG08 3P-0030-PNP	0301495
KV BW08-SG08 3P-0100-PNP	0301496
KV BW08-SG08 3P-0200-PNP	0301497
KV BW12-SG12 3P-0030-PNP	0301595
KV BW12-SG12 3P-0100-PNP	0301596
KV BW12-SG12 3P-0200-PNP	0301597

❗ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

Pneumatic Gripper-Swivel System

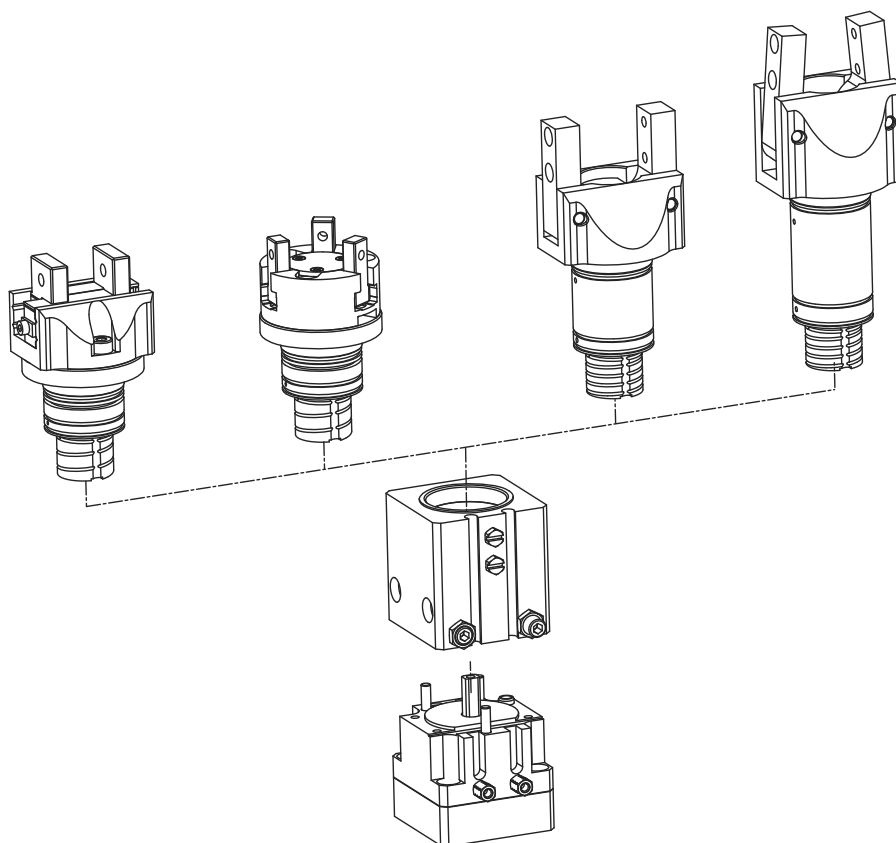


GRIPPER-SWIVEL SYSTEM

Series	Size	Page
GSM		1114
Parallel Gripper		
GSM-P		1116
GSM-P	32	1120
GSM-P	40	1124
GSM-P	50	1128
GSM-P	64	1132
Centric Gripper		
GSM-Z		1136
GSM-Z	30	1140
GSM-Z	38	1144
GSM-Z	45	1148
Angular Gripper		
GSM-W		1152
GSM-W	16	1156
GSM-W	20	1160
GSM-W	25	1164
GSM-W	32	1168
GSM-W	40	1172
Radial Gripper		
GSM-R		1176
GSM-R	16	1180
GSM-R	20	1184
GSM-R	25	1188
GSM-R	32	1192
GSM-R	40	1196



Modular Design



Versions of the series

Type

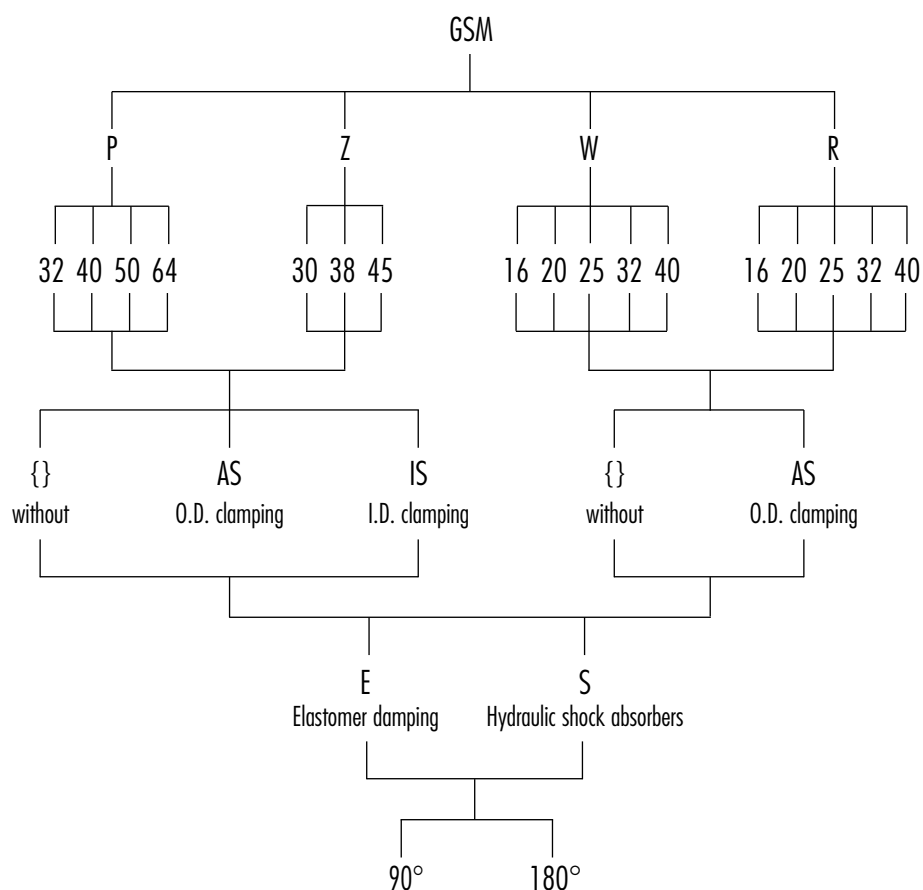
Gripper type

Size

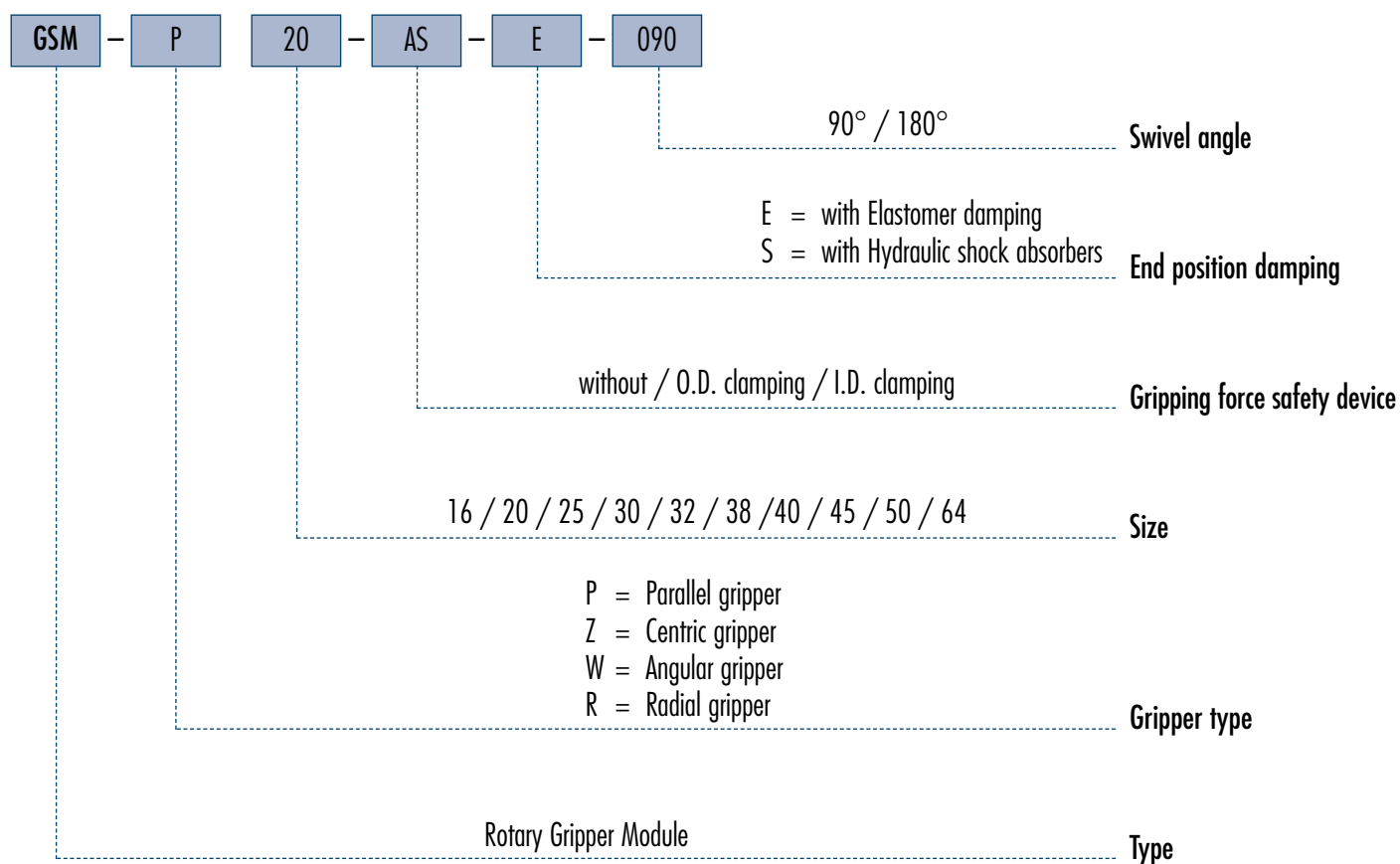
Gripping force safety device

End position damping

Swivel angle

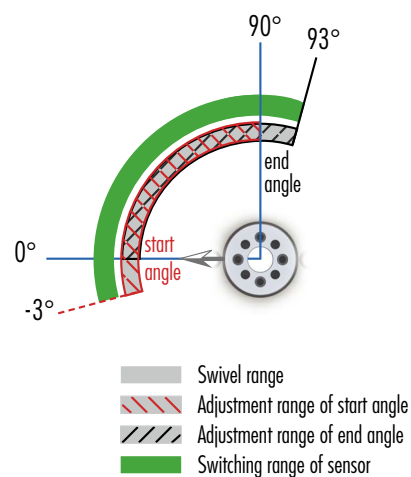


How to order

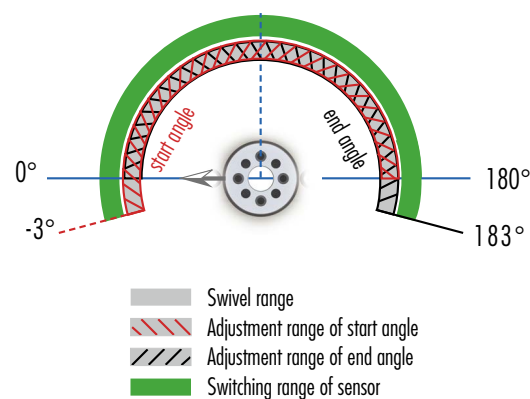


End stop adjustability and switching angle of sensor

- in the case of 90° units



- in the case of 180° units

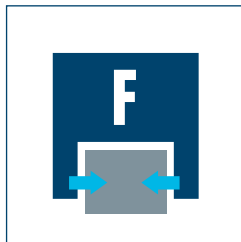




Sizes
32 ... 64



Weight
0.37 kg ... 1.51 kg



Gripping force
39 N ... 162 N

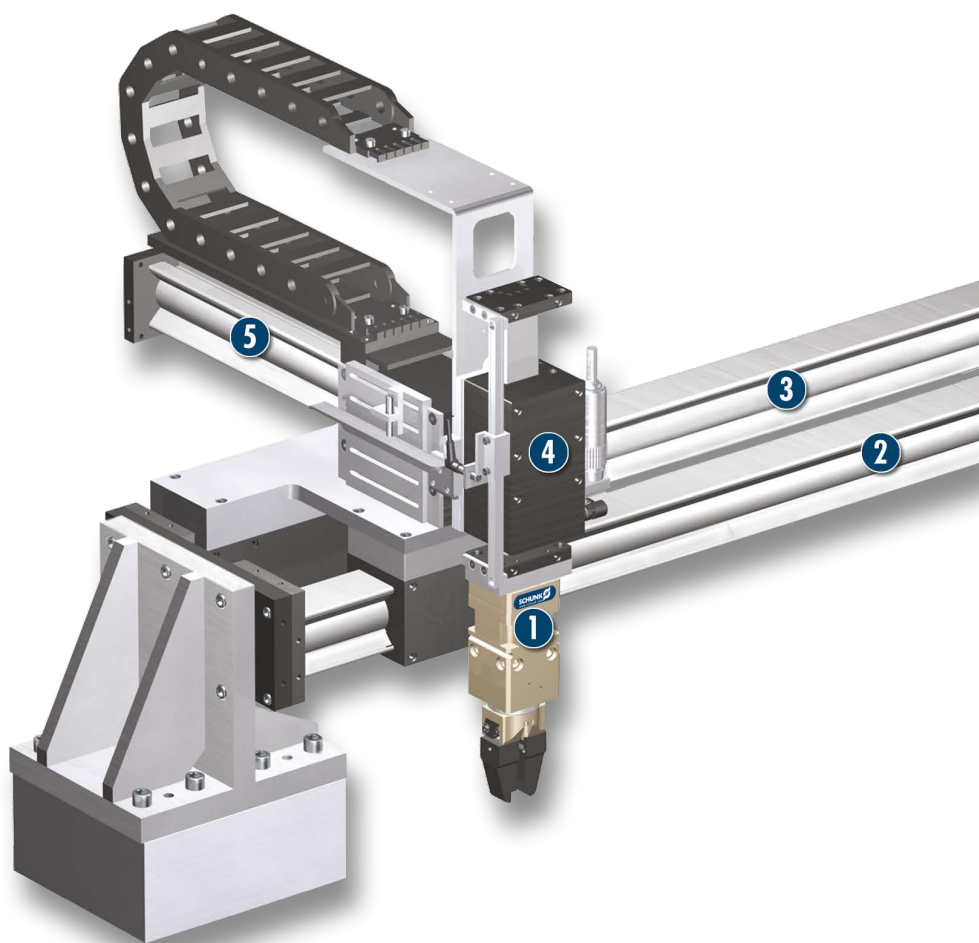


Stroke per finger
4 mm ... 10 mm



Torque
0.3 Nm ... 2.9 Nm

Application example



The three-axis boom (X-Y-Z) with rotary gripping combination is employed to insert various products individually in outer packaging whilst rotating them if necessary.

- 1 GSM-P Gripper Swivel Module
- 2 MLD Linear Motor Drive
- 3 Support axis without drive

- 4 Short-stroke Axis with direct drive MLD Stroke with reference switch
- 5 Linear axis with direct drive MLD with measuring system

Parallel Gripper Swivel Module

compact rotary gripping combination, consisting of a powerful rotor drive, an end-position and damping device and a 2-finger parallel gripper

Field of application

gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space

Your advantages and benefits

Space-saving

as the rotary drive, end-position damping unit and gripper are merged in one compact module

Economical

since adapter plates are not needed, there will be costs for project planning and engineering design

Powerful

thanks to optional hydraulic damping

Flexible

through several mounting options, infinitely adjustable rotating angle and numerous product versions

Roller guide

for precise gripping through base jaw guidance with minimum play

Process reliability

as moving cables and hoses are replaced by integrated feed-throughs

Mounting from three sides in three screw directions possible

for universal and flexible assembly of the rotary gripper module

Air supply via hose-free direct connection or screw connections

for the connection of exactly the right rotary gripper module in all automation solutions

Comprehensive accessories

through the use of existing gripper components



General note to the series

Principle of function

Combined rotor and piston drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

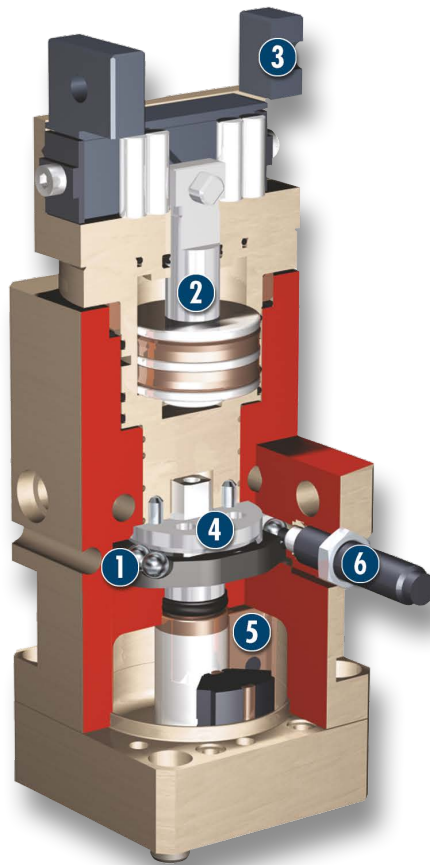
Scope of delivery

Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Preset of rotating angle**
using steel balls for any desired angle of rotation
- 2 Gripper drive**
double-acting piston drive system with wedge hook
- 3 Base jaw**
for the connection of workpiece-specific gripper fingers
- 4 End-position damping assembly**
for end-position adjustment and damping
- 5 Rotor**
as a compact, powerful drive
- 6 Hydraulic shock absorber**
to increase the damping performance

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



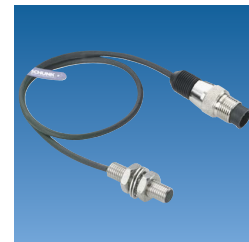
Fittings



Programmable magnetic switch



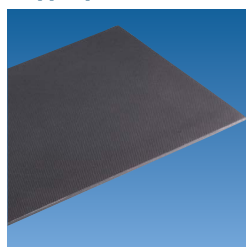
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



Finger blanks



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Closing and opening times, cycle times

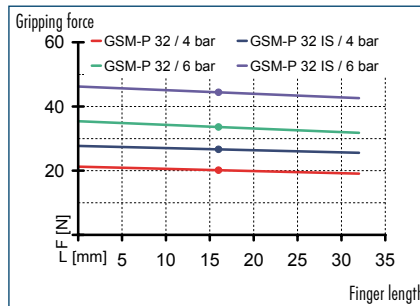
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

Middle attached load

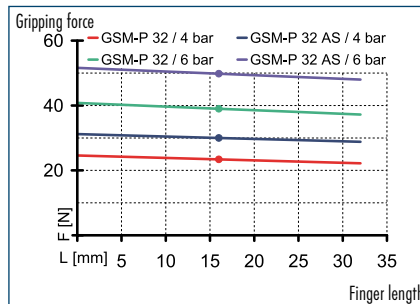
The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.



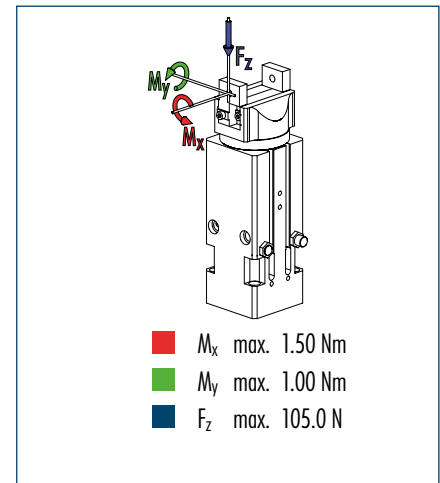
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		GSM-P 32-E-090	GSM-P 32-S-090	GSM-P 32-AS-E-090	GSM-P 32-AS-S-090	GSM-P 32-IS-E-090	GSM-P 32-IS-S-090
ID		0304630	0304730	0304631	0304731	0304632	0304732
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	4	4	4	4	4	4
Closing/Opening force	[N]	39/33	39/33	51/-	51/-	-/48	-/48
Min. spring force	[N]			12	12	15	15
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.2	0.2	0.2	0.2	0.2	0.2
Air consumption for gripping	[cm³]	4	4	4	4	4	4
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.37	0.37	0.42	0.42	0.42	0.42
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.04	0.03/0.04	0.04/0.03	0.04/0.03
Swiveling time with middle attached load	[s]	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	32	32	32	32	32	32
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04	0.04	0.04
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-P 32-E-180	GSM-P 32-S-180	GSM-P 32-AS-E-180	GSM-P 32-AS-S-180	GSM-P 32-IS-E-180	GSM-P 32-IS-S-180
ID		0303830	0303930	0303831	0303931	0303832	0303932
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18	0.18	0.18

[illegible]

- ① Gripper connection
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

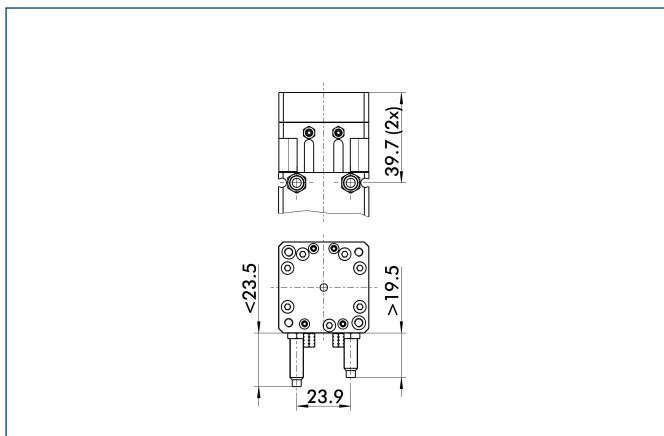
Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:

- Ø4.5**: Dimension indicating the outer diameter of the part.
- M 3**: Dimension indicating the thread specification (Metric 3mm).
- Ø2.5x1**: Dimension indicating the inner hole diameter and length.
- 0.65**: Dimension indicating a specific length or offset.
- Ø2.5**: Dimension indicating the inner hole diameter.
- Callout 4**: Points to the outer surface of the part.
- Callout 3**: Points to the inner hole of the part.

- [illegible]

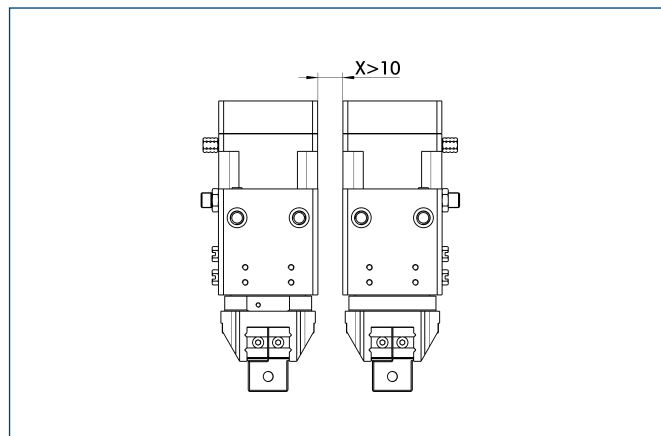
1121

Version with shock absorbers



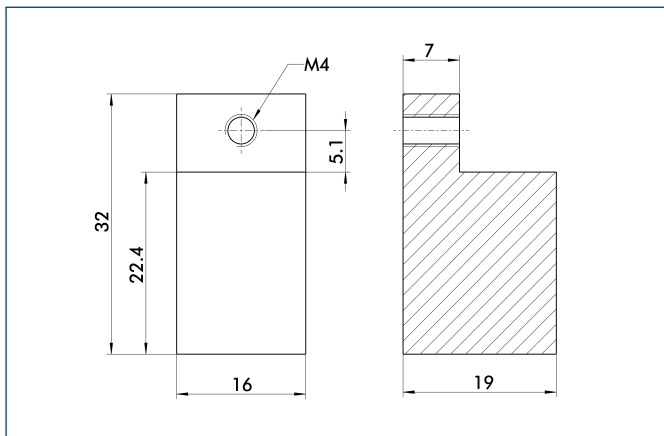
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

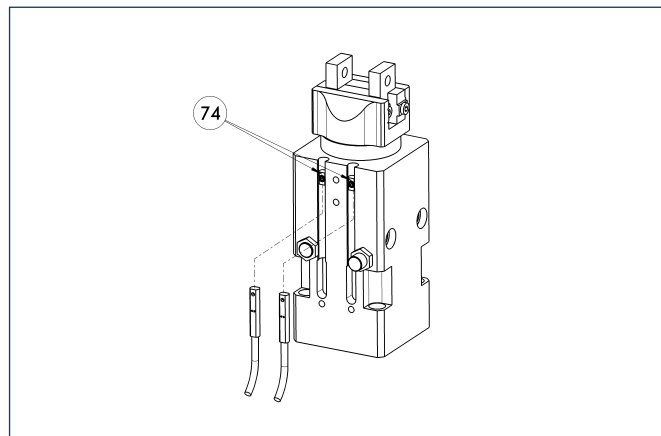
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 32	0340212	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

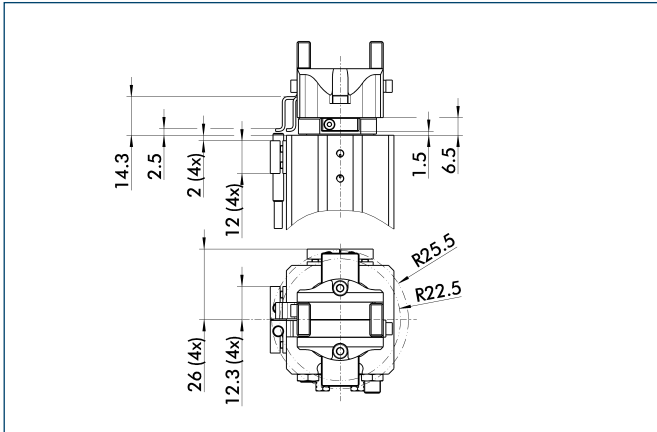
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°

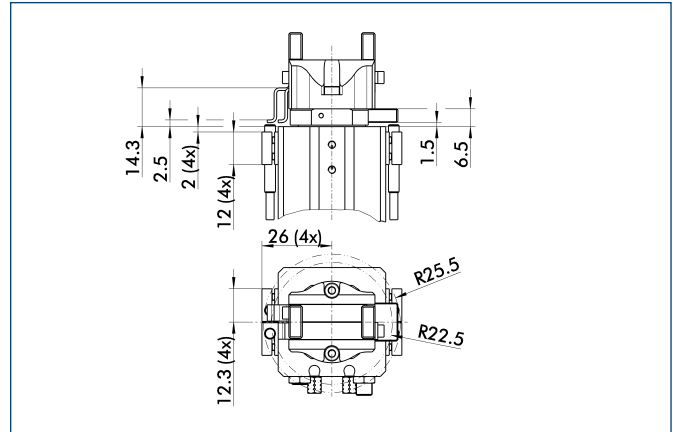


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 32	0304934

- ① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

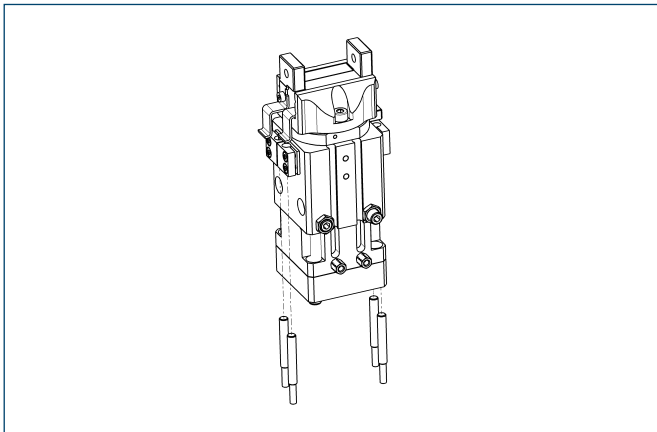


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 32	0304934

- ① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 32	0304934	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

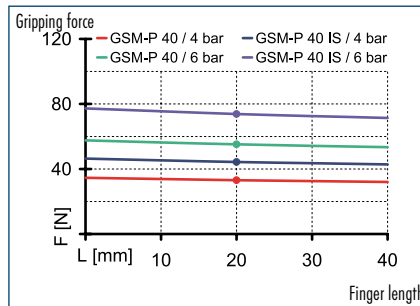
- ① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.
- ① This mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



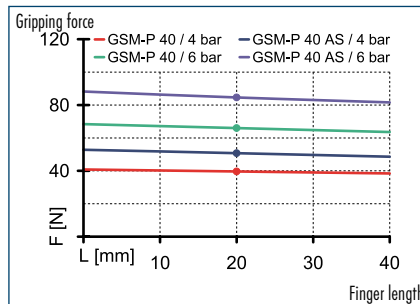
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



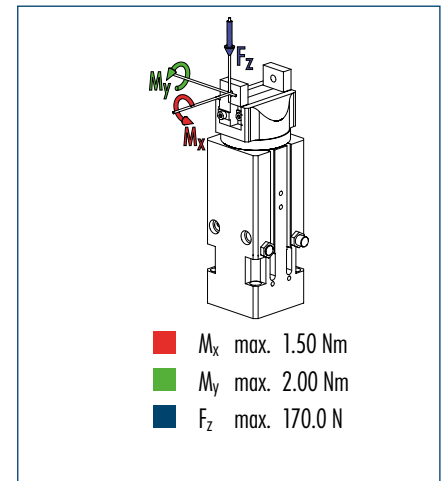
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

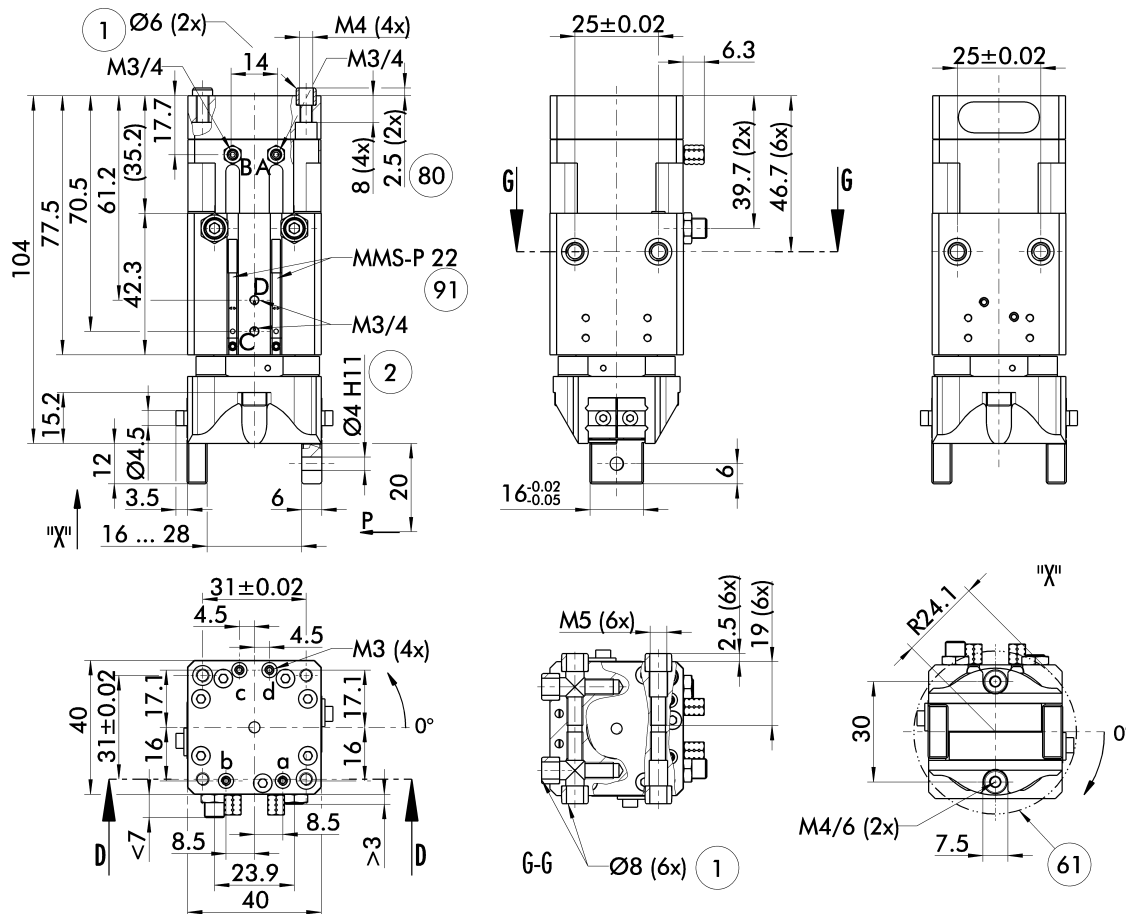
Technical data

Description		GSM-P 40-E-090	GSM-P 40-S-090	GSM-P 40-AS-E-090	GSM-P 40-AS-S-090	GSM-P 40-IS-E-090	GSM-P 40-IS-S-090
ID		0304640	0304740	0304641	0304741	0304642	0304742
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	6	6	6	6	6	6
Closing/Opening force	[N]	66/54	66/54	87/-	87/-	-/69	-/69
Min. spring force	[N]			21	21	15	15
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.33	0.33	0.33	0.33	0.33	0.33
Air consumption for gripping	[cm³]	5.97	5.97	5.97	5.97	5.97	5.97
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.43	0.43	0.5	0.5	0.5	0.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	40	40	40	40	40	40
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-P 40-E-180	GSM-P 40-S-180	GSM-P 40-AS-E-180	GSM-P 40-AS-S-180	GSM-P 40-IS-E-180	GSM-P 40-IS-S-180
ID		0303840	0303940	0303841	0303941	0303842	0303942
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22	0.22	0.22

Main view



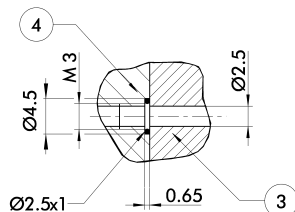
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|---|--|
| A, a Main/direct connection, rotary actuator clockwise turning | ① Gripper connection |
| B, b Main/direct connection, rotary actuator anti-clockwise turning | ② Finger connection |
| C, c Main/direct connection, gripper opening | ⑥1 Interfering contour during swiveling |
| D, d Main/direct connection, gripper closing | ⑧0 Depth of the centering sleeve hole in the matching part |
| | ⑨1 Monitoring of gripping and swiveling |



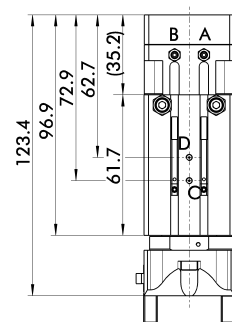
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

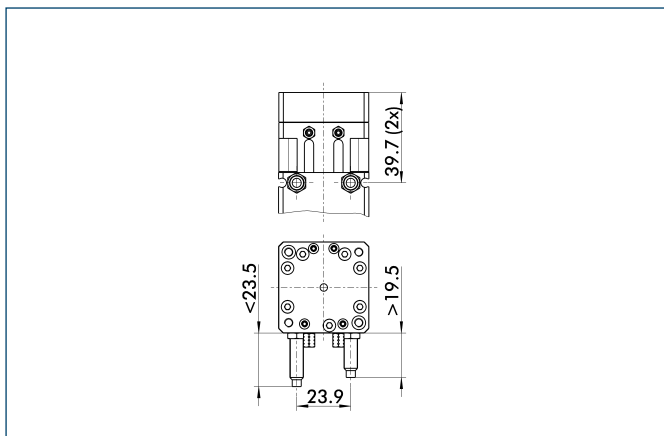
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



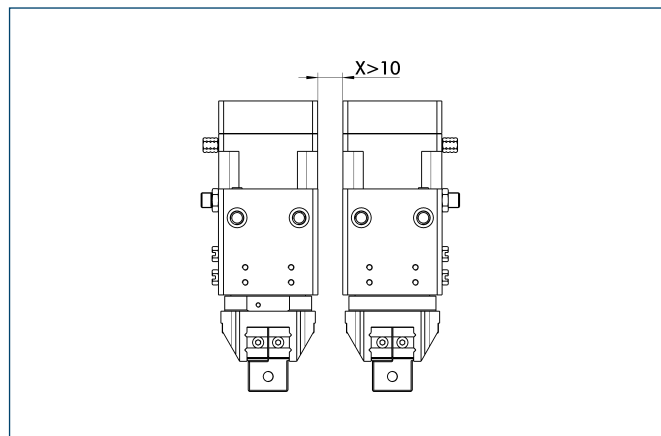
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



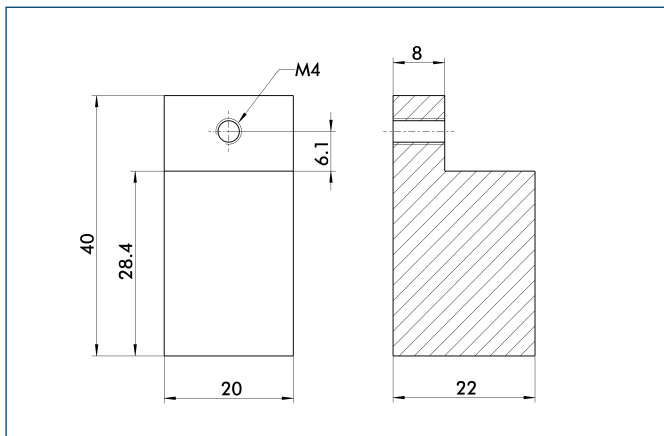
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

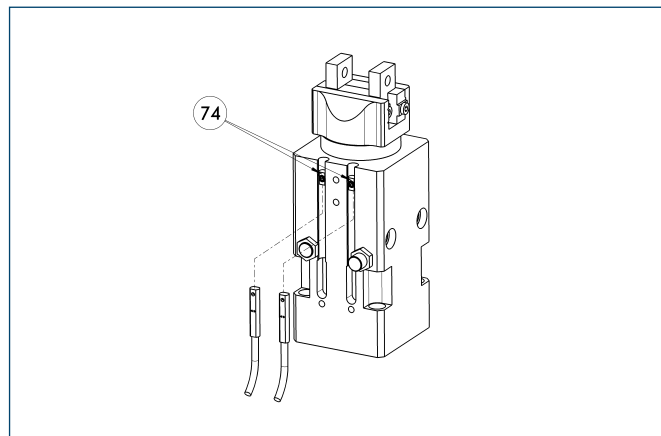
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 40	0340213	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

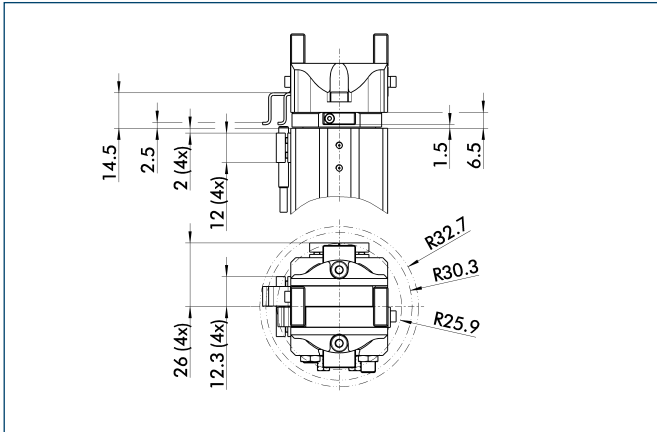
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°

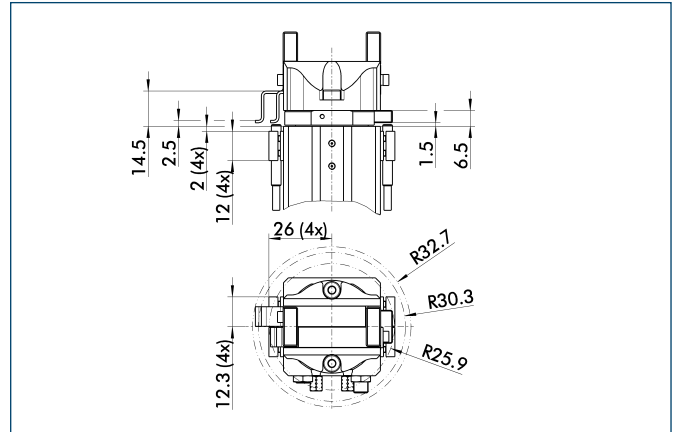


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 40	0304935

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

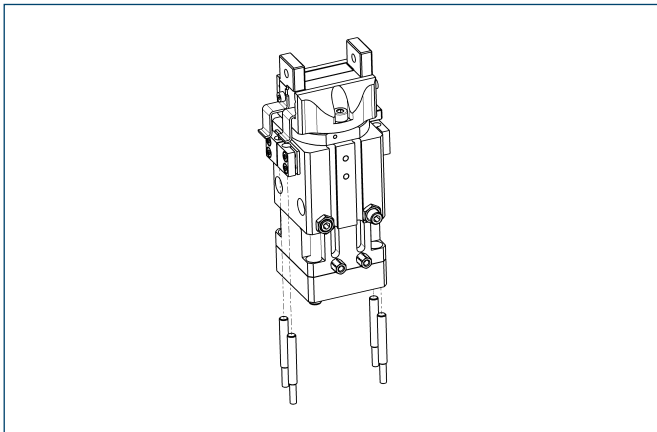


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 40	0304935

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 40	0304935	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

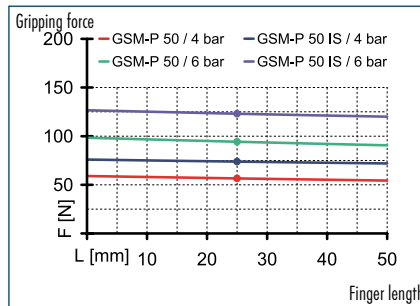
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



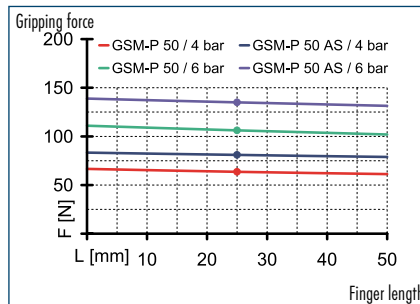
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



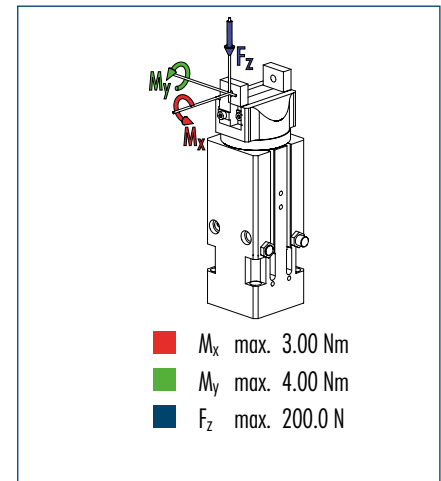
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		GSM-P 50-E-090	GSM-P 50-S-090	GSM-P 50-AS-E-090	GSM-P 50-AS-S-090	GSM-P 50-IS-E-090	GSM-P 50-IS-S-090
ID		0304650	0304750	0304651	0304751	0304652	0304752
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	8	8	8	8	8	8
Closing/Opening force	[N]	105/93	105/93	135/-	135/-	- /114	- /114
Min. spring force	[N]			30	30	21	21
Torque	[Nm]	2.9	2.9	2.9	2.9	2.9	2.9
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	10.84	10.84	10.84	10.84	10.84	10.84
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.19	1.19	1.19	1.19	1.2	1.2
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	50	50	50	50	50	50
Max. permitted weight per finger	[kg]	0.14	0.14	0.14	0.14	0.14	0.14
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-P 50-E-180	GSM-P 50-S-180	GSM-P 50-AS-E-180	GSM-P 50-AS-S-180	GSM-P 50-IS-E-180	GSM-P 50-IS-S-180
ID		0303850	0303950	0303851	0303951	0303852	0303952
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

[illegible]

- ① Gripper connection
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

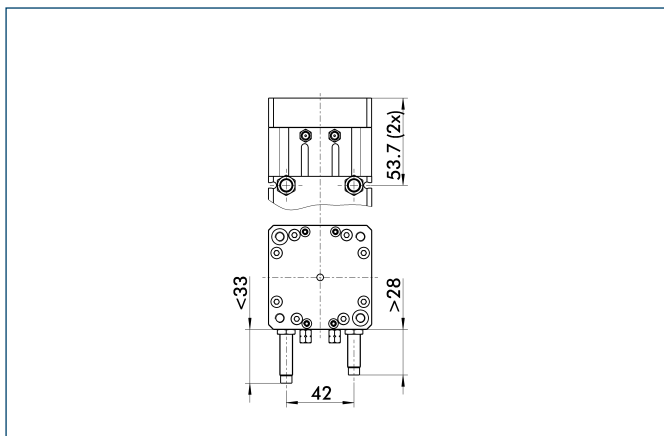
Technical drawing of a mechanical part, likely a valve or plug, showing dimensions and callouts:

- Callout 4:** Points to the top surface of the part.
- Callout 3:** Points to the bottom surface of the part.
- Dimensions:**
 - $\varnothing 6$: Overall diameter of the top surface.
 - $M4$: Thread specification for the top surface.
 - $\varnothing 4$: Diameter of the central hole.
 - 0.65 : Dimension of the central hole.
 - $\varnothing 4 \times 1$: Dimension of the central hole.

-
- Technical drawing of a mechanical assembly, likely a pump or motor component, showing dimensions and labels.
- Dimensions (mm):
- Overall width: 161
 - Overall height: 131
 - Height from base to center of A/B: 108.2
 - Height from base to center of C/D: 84.7
 - Height from base to center of C/D (alternative): 82.8
 - Height from base to center of A/B (alternative): (48.2)
- Labels:
- A, B: Top mounting points (screws/bolts).
 - C, D: Bottom mounting points (screws/bolts).

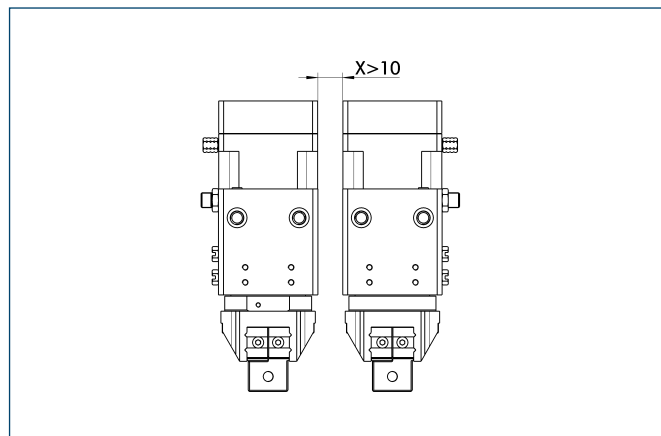
1129

Version with shock absorbers



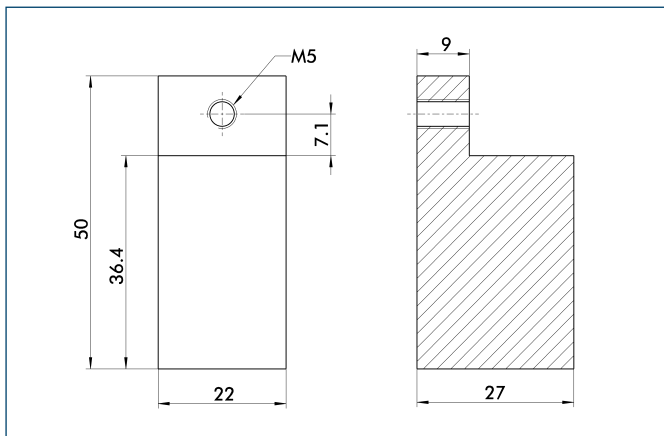
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

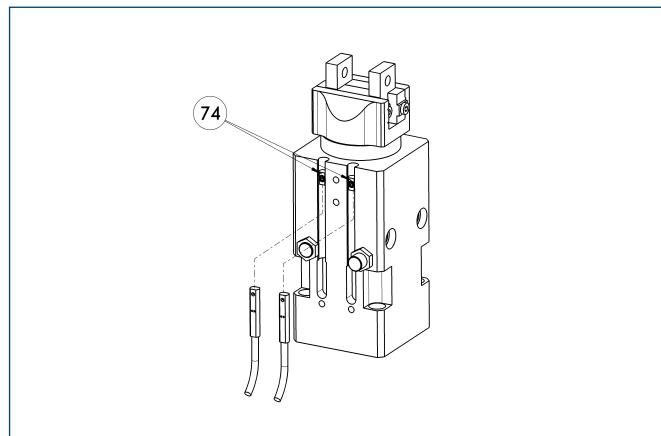
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 50	0340214	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

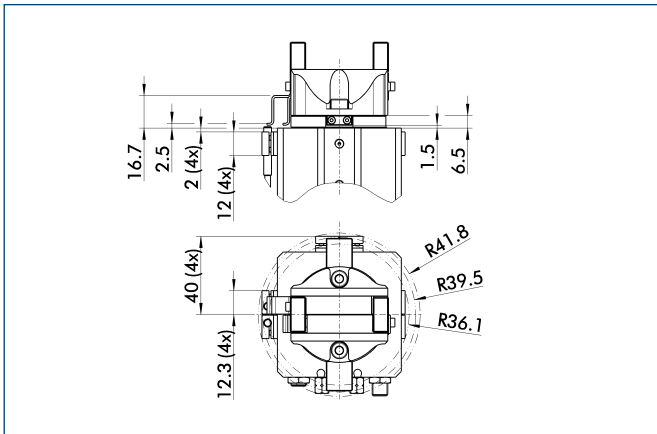
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°

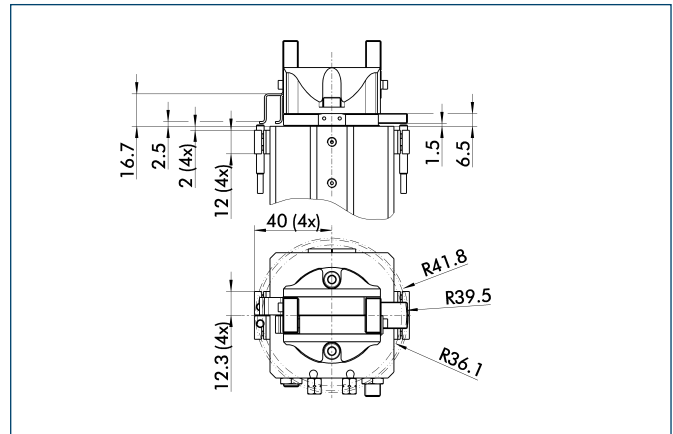


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 50	0304936

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

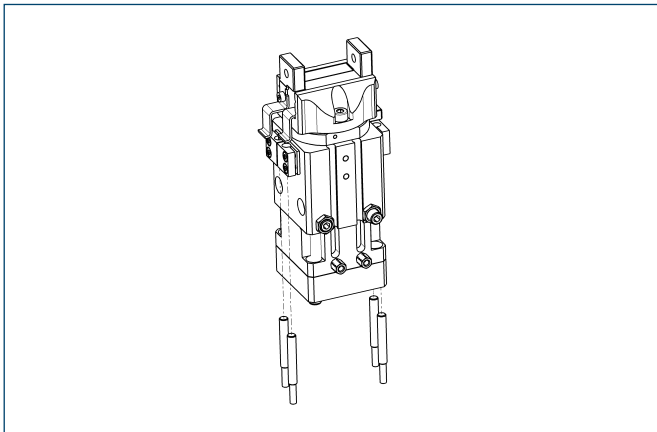


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 50	0304936

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 50	0304936	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

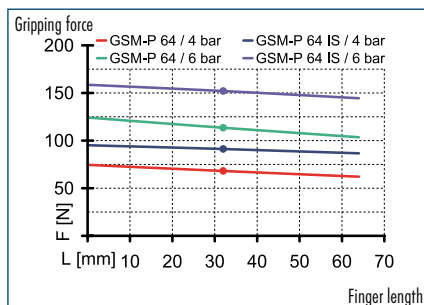
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



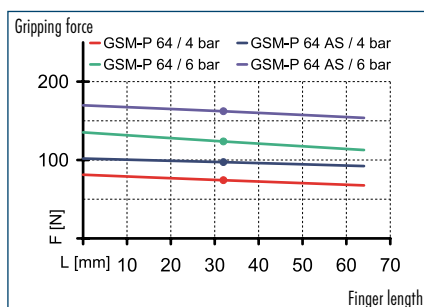
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



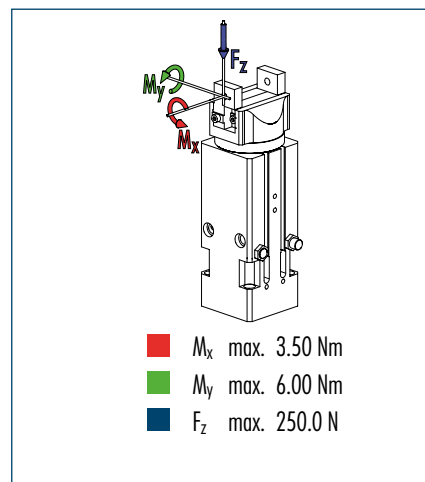
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

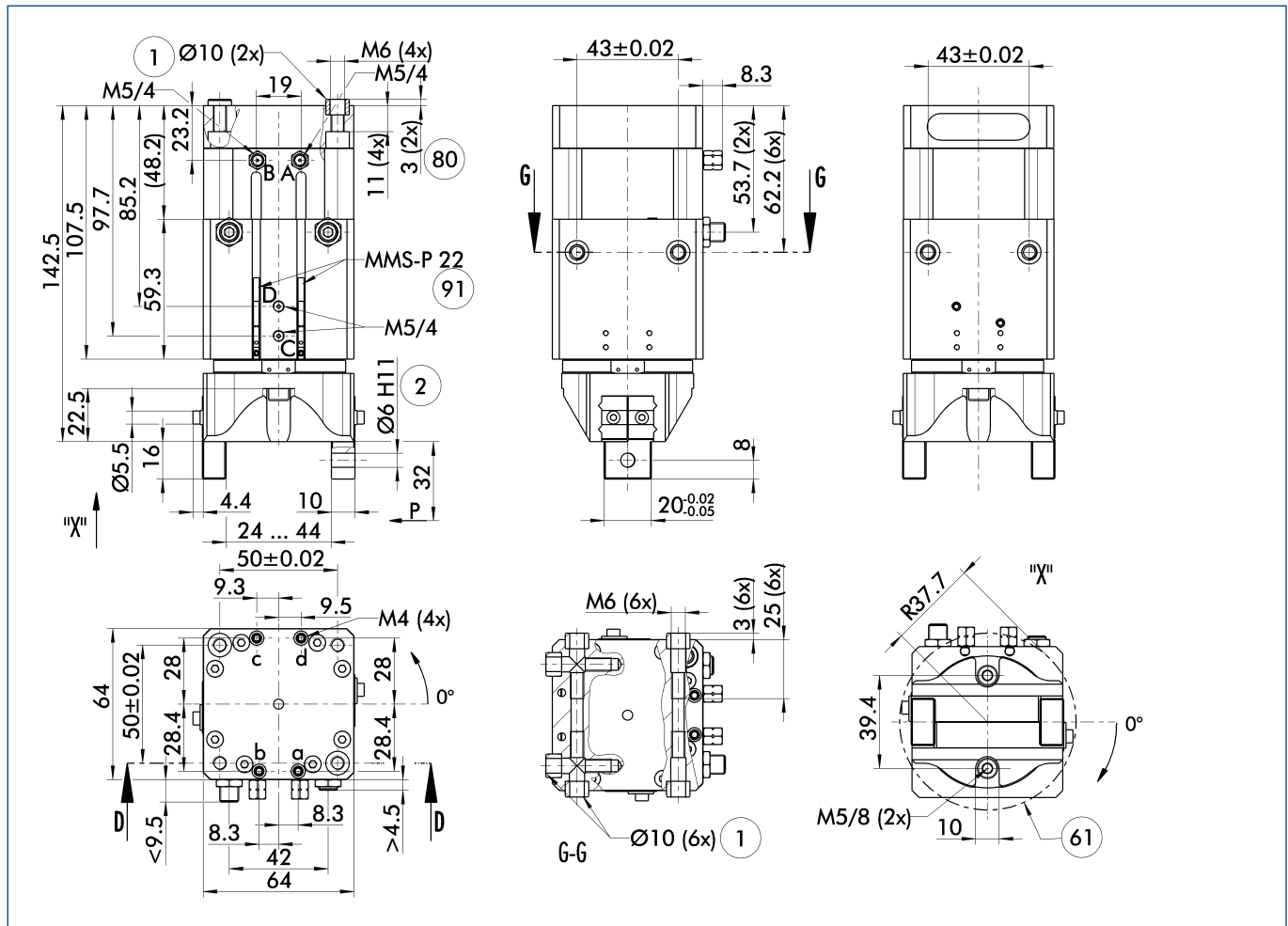
Technical data

Description		GSM-P 64-E-090	GSM-P 64-S-090	GSM-P 64-AS-E-090	GSM-P 64-AS-S-090	GSM-P 64-IS-E-090	GSM-P 64-IS-S-090
ID		0304660	0304760	0304661	0304761	0304662	0304762
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	10	10	10	10	10	10
Closing/Opening force	[N]	120/114	120/114	162/-	162/-	-/147	-/147
Min. spring force	[N]			42	42	33	33
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.61	0.61	0.61	0.61	0.61	0.61
Air consumption for gripping	[cm³]	15.81	15.81	15.81	15.81	15.81	15.81
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.39	1.39	1.51	1.51	1.51	1.51
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	64	64	64	64	64	64
Max. permitted weight per finger	[kg]	0.24	0.24	0.24	0.24	0.24	0.24
IP class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-P 64-E-180	GSM-P 64-S-180	GSM-P 64-AS-E-180	GSM-P 64-AS-S-180	GSM-P 64-IS-E-180	GSM-P 64-IS-S-180
ID		0303860	0303960	0303861	0303961	0303862	0303962
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

Main view



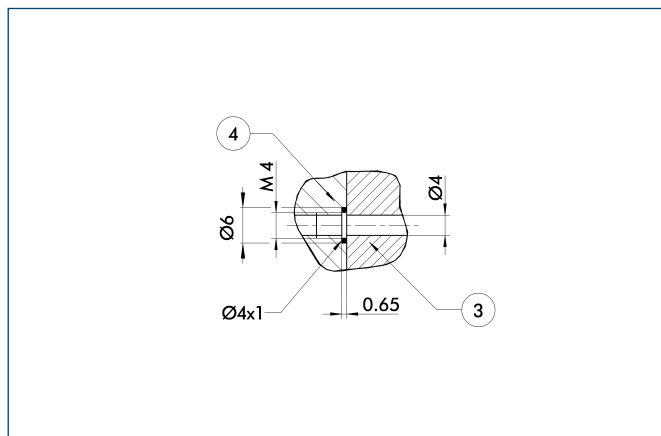
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Gripper connection
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

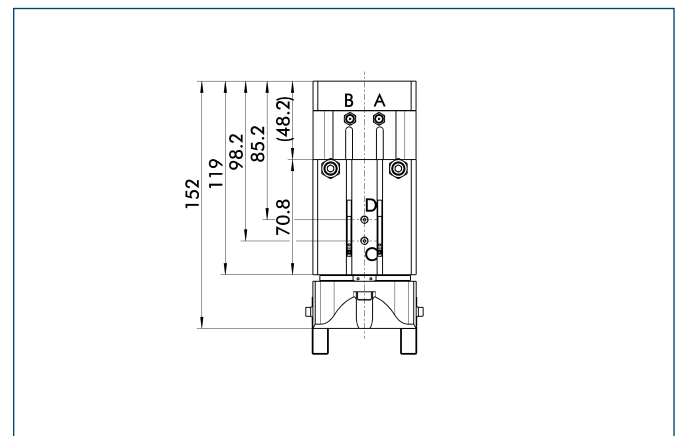
Hose-free direct connection



③ Adapter
④ Gripper swivel module

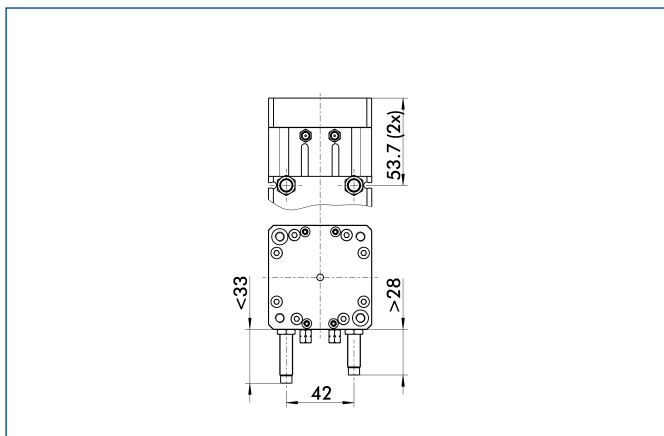
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



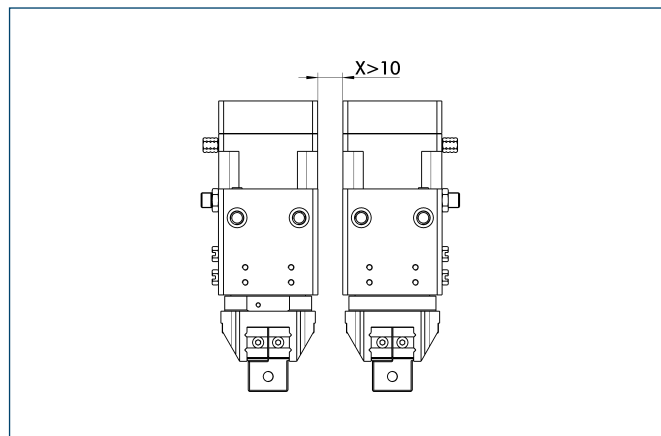
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



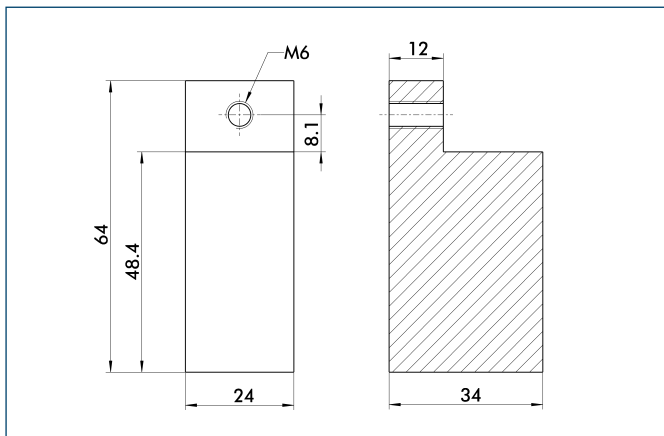
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

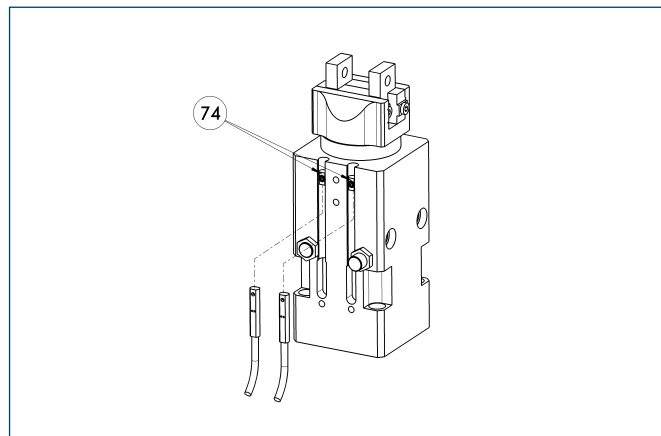
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 64	0340215	Aluminum	2

Programmable magnetic switch



74 Stop for MMS-P

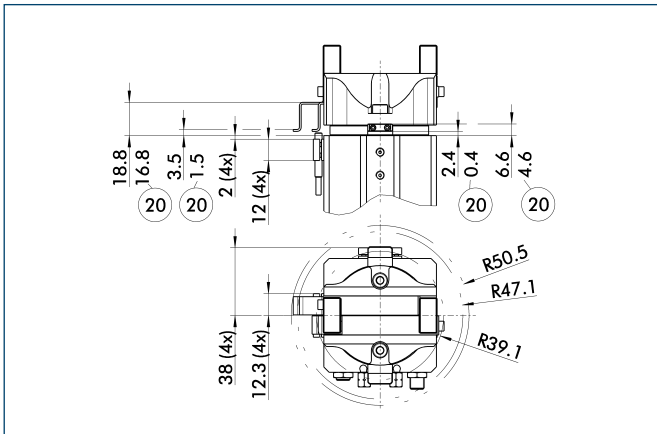
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°



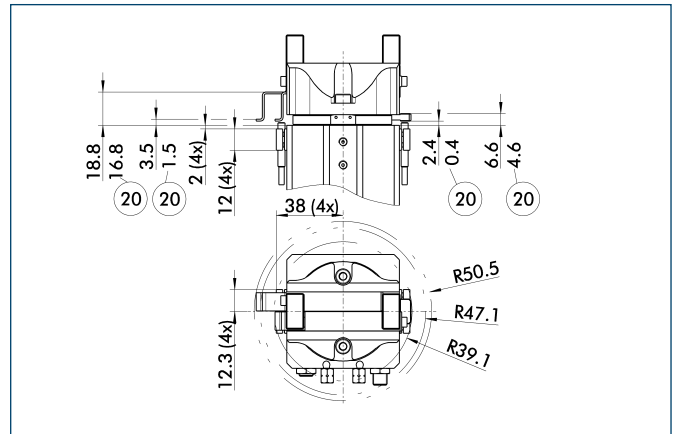
20 For AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 64	0304937

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°



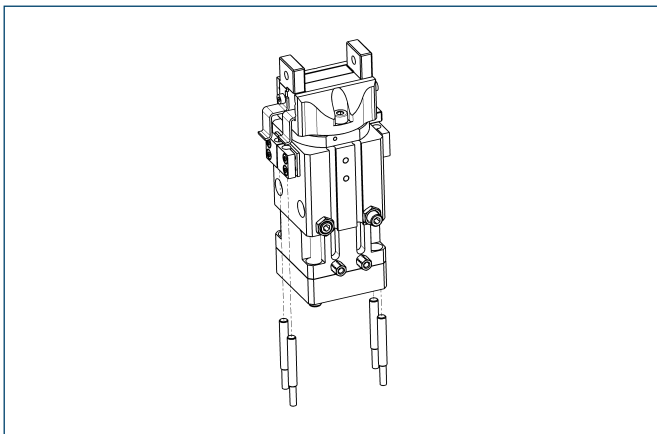
20 For AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-P 64	0304937

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-P 64	0304937	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

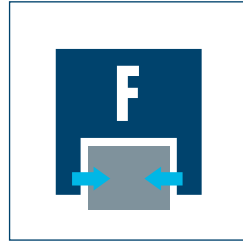
 You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Sizes
30 ... 45



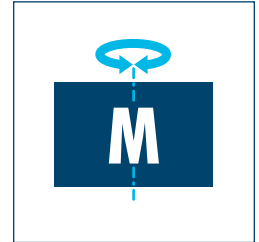
Weight
0.35 kg ... 1.32 kg



Gripping force
55 N ... 310 N

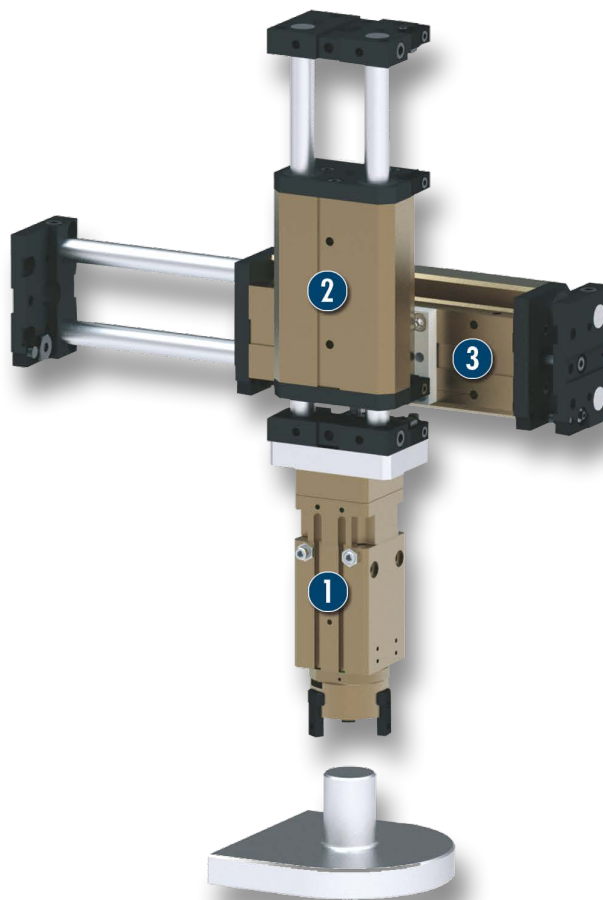


Stroke per finger
3 mm ... 5 mm



Torque
0.3 Nm ... 2.7 Nm

Application example



Compact, economical linear rotary gripper unit
for mounting a suspension device

1 GSM-Z Gripper Swivel Module

2 Linear Module KLM

3 Linear Module KLM

Concentric Gripper Swivel Module

compact rotary gripping combination, consisting of a powerful rotor drive, an end-position and damping device and a 3-finger concentric gripper

Field of application

gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space

Your advantages and benefits

Space-saving

as the rotary drive, end-position damping unit and gripper are merged in one compact module

Economical

since adapter plates are not needed, there will be costs for project planning and engineering design

T-slot guidance

for precise gripping at high moment loads

Flexible

through several mounting options, infinitely adjustable rotating angle and numerous product versions

Process reliability

as moving cables and hoses are replaced by integrated feed-throughs

Mounting from three sides in three screw directions possible

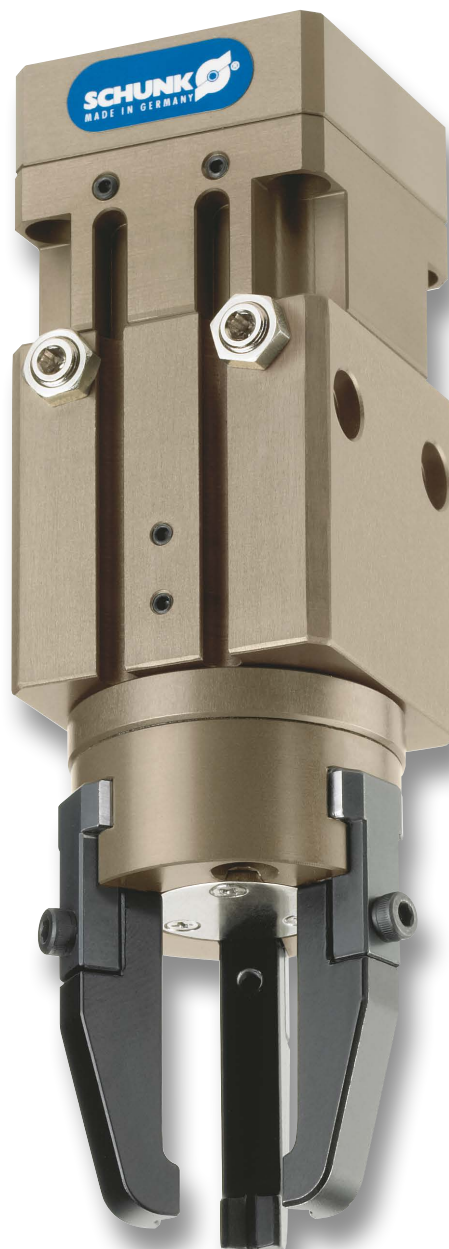
for universal and flexible assembly of the rotary gripper module

Air supply via hose-free direct connection or screw connections

for the connection of exactly the right rotary gripper module in all automation solutions

Comprehensive accessories

through the use of existing gripper components



General note to the series

Principle of function

Combined rotor and piston drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

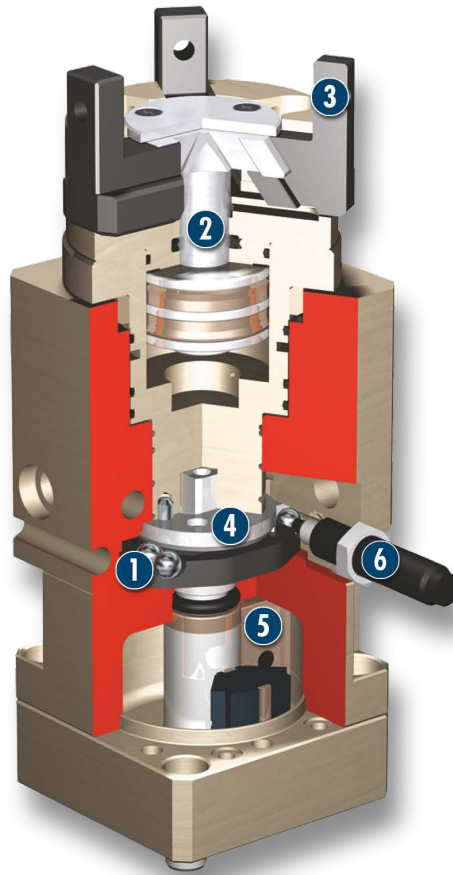
Scope of delivery

Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Preset of rotating angle
using steel balls for any desired angle of rotation</p> | <p>3 Base jaw
for mounting the top fingers</p> | <p>5 Rotor
as a compact, powerful drive</p> |
| <p>2 Gripper drive
double-acting piston drive system with wedge hook</p> | <p>4 End-position damping assembly
for end-position adjustment and damping</p> | <p>6 Hydraulic shock absorber
to increase the damping performance</p> |

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Programmable magnetic switch



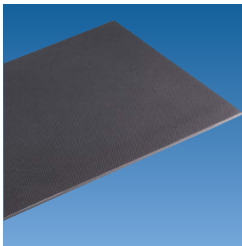
Inductive proximity switches



Plastic inserts



Gripper pads



Pressure maintenance valve



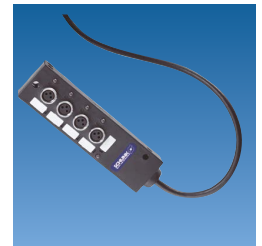
Finger blanks



Sensor cables



Sensor Distributor



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Closing and opening times, cycle times

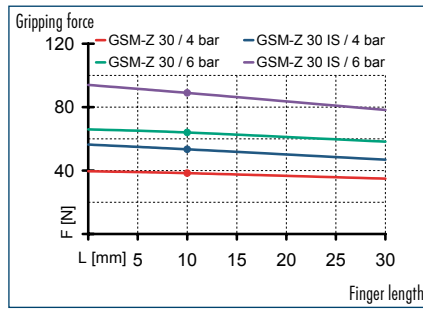
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

Middle attached load

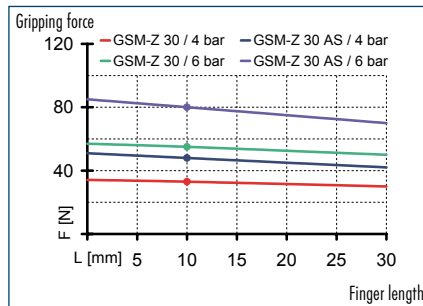
The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.



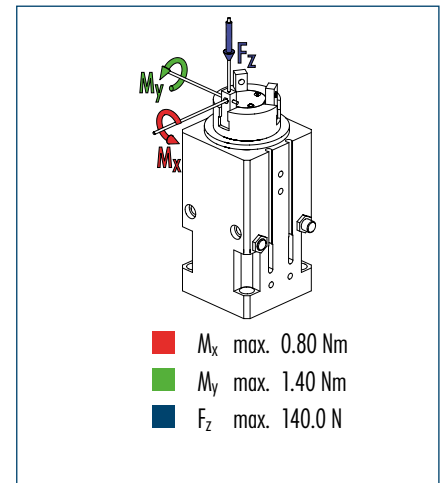
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

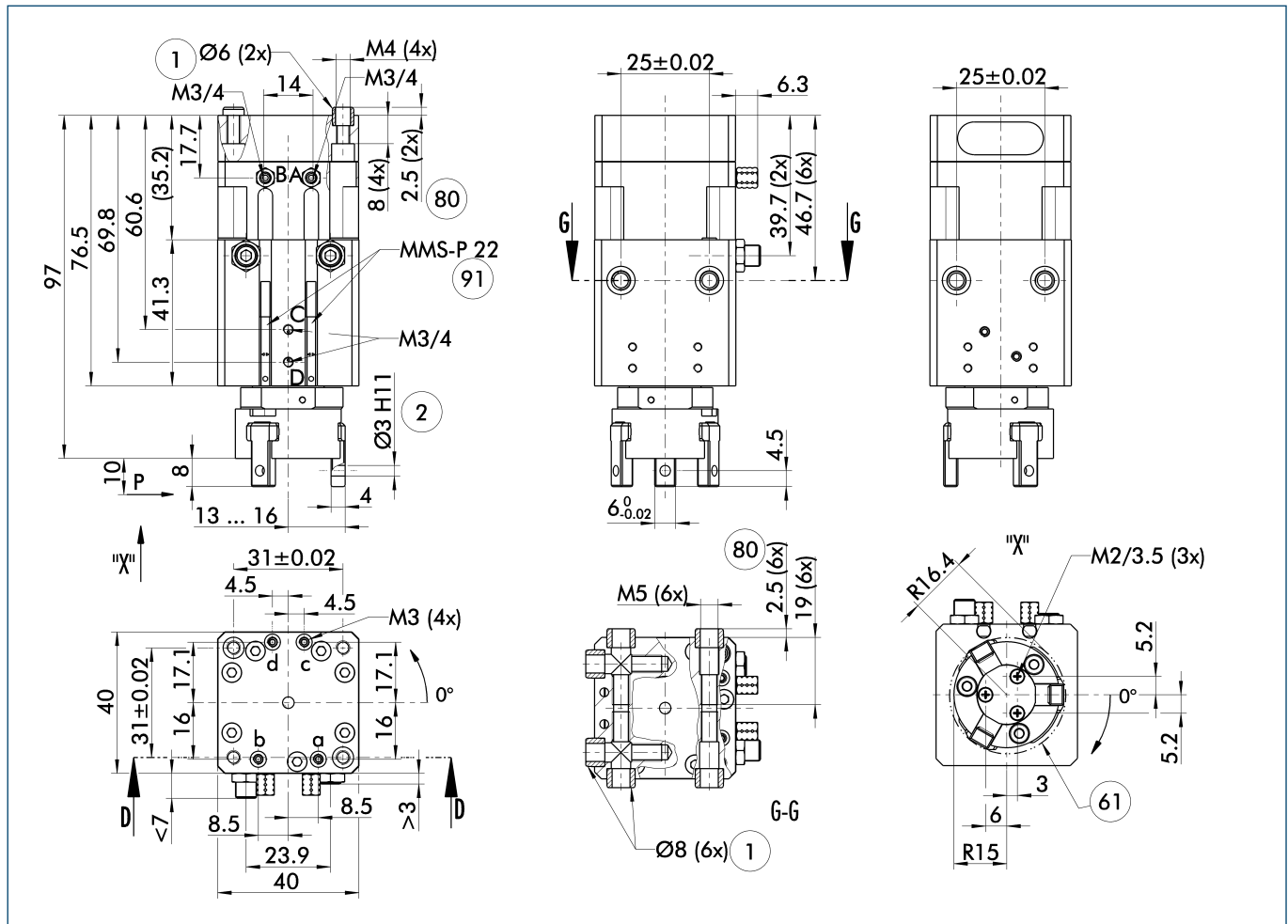
Technical data

Description		GSM-Z 30-E-090	GSM-Z 30-S-090	GSM-Z 30-AS-E-090	GSM-Z 30-AS-S-090	GSM-Z 30-IS-E-090	GSM-Z 30-IS-S-090
ID		0304633	0304733	0304634	0304734	0304635	0304735
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	3	3	3	3	3	3
Closing/Opening force	[N]	55/65	55/65	80/-	80/-	-/90	-/90
Min. spring force	[N]			25	25	25	25
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.25	0.25	0.25	0.25	0.25	0.25
Air consumption for gripping	[cm³]	4.51	4.51	4.51	4.51	4.51	4.51
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.35	0.35	0.4	0.4	0.4	0.4
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Swiveling time with middle attached load	[s]	0.06	0.12	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	30	30	30	30	30	30
Max. permitted weight per finger	[kg]	0.03	0.03	0.03	0.03	0.03	0.03
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-Z 30-E-180	GSM-Z 30-S-180	GSM-Z 30-AS-E-180	GSM-Z 30-AS-S-180	GSM-Z 30-IS-E-180	GSM-Z 30-IS-S-180
ID		0303833	0303933	0303834	0303934	0303835	0303935
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18	0.18	0.18

Main view



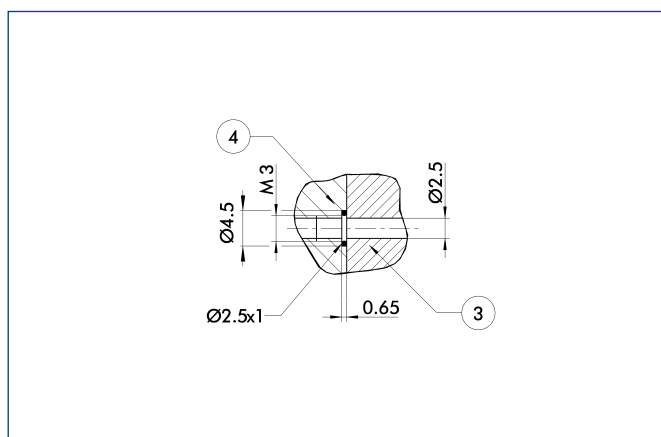
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- i** The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | | | |
|------|--|----|---|
| A, a | Main/direct connection, rotary actuator clockwise turning | ① | Connection gripper-rotary actuator |
| B, b | Main/direct connection, rotary actuator anti-clockwise turning | ② | Finger connection |
| C, c | Main/direct connection, gripper opening | ⑥1 | Interfering contour during swiveling |
| D, d | Main/direct connection, gripper closing | ⑧0 | Depth of the centering sleeve hole in the matching part |
| | | ⑨1 | Monitoring of gripping and swiveling |



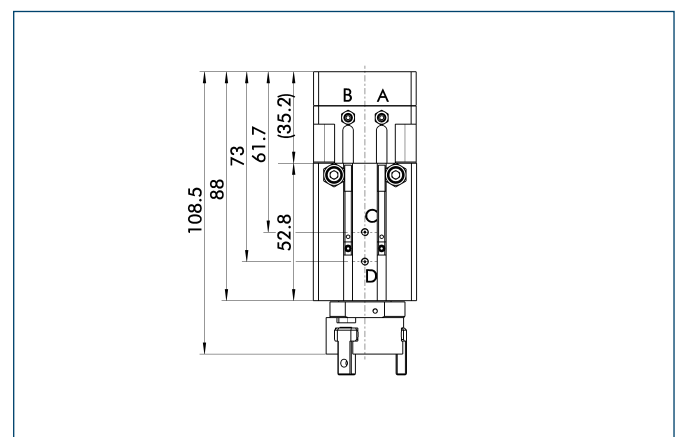
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

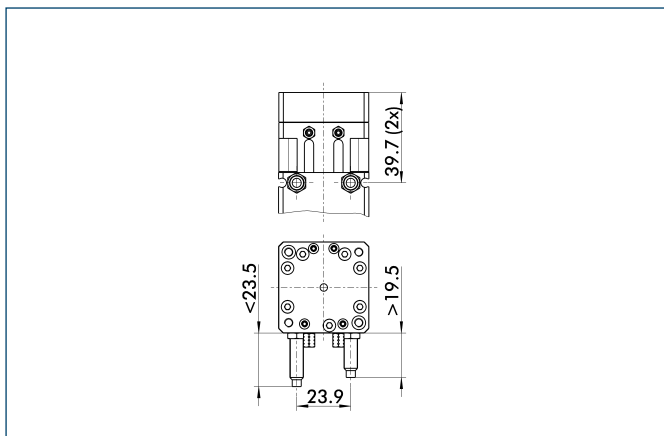
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



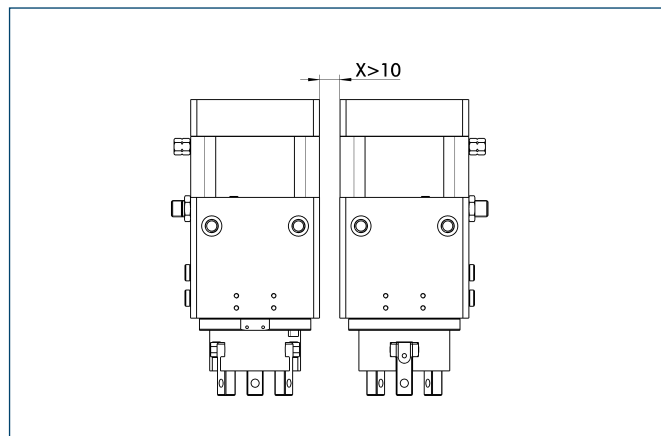
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



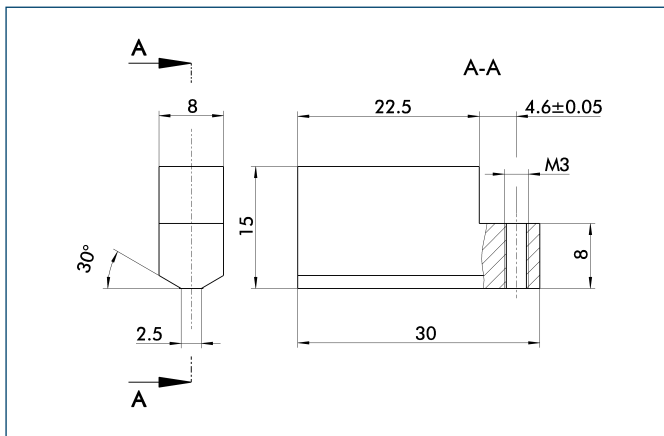
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

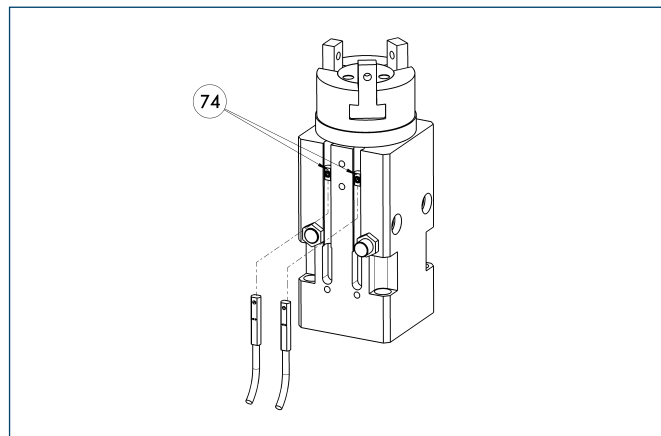
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 30	0340519	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

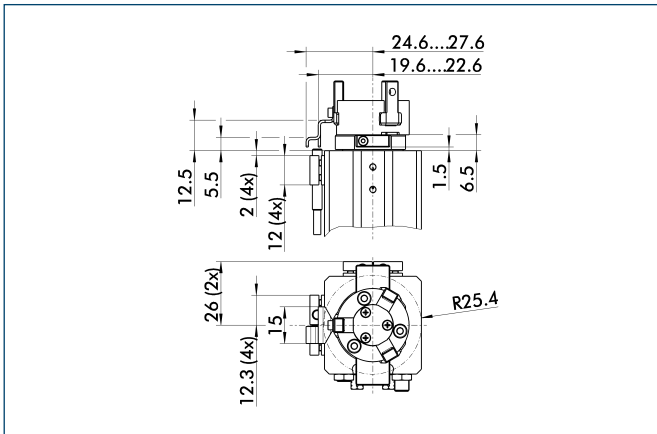
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°

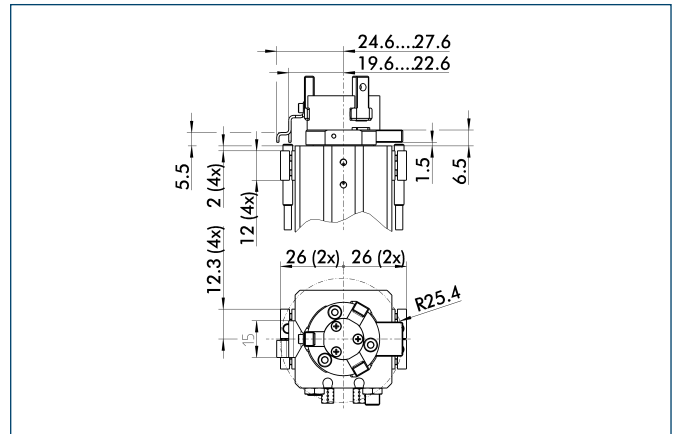


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 30	0304944

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

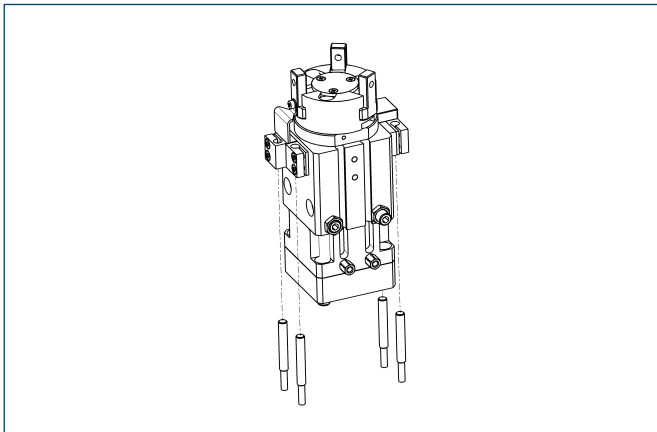


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 30	0304944

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 30	0304944	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

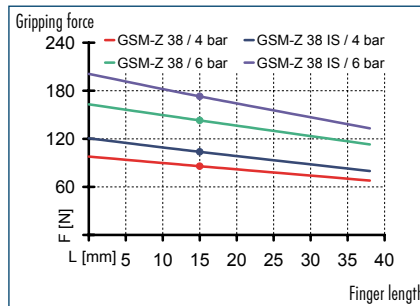
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



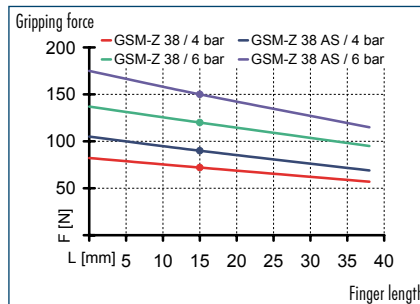
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



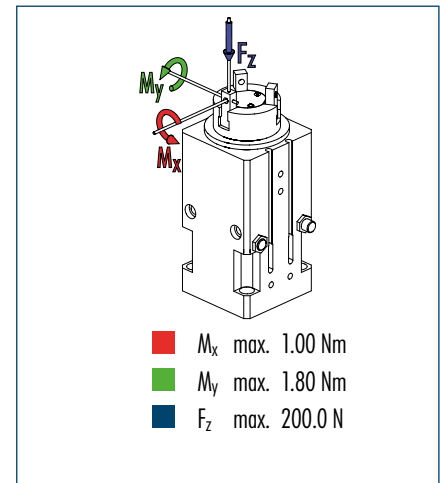
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

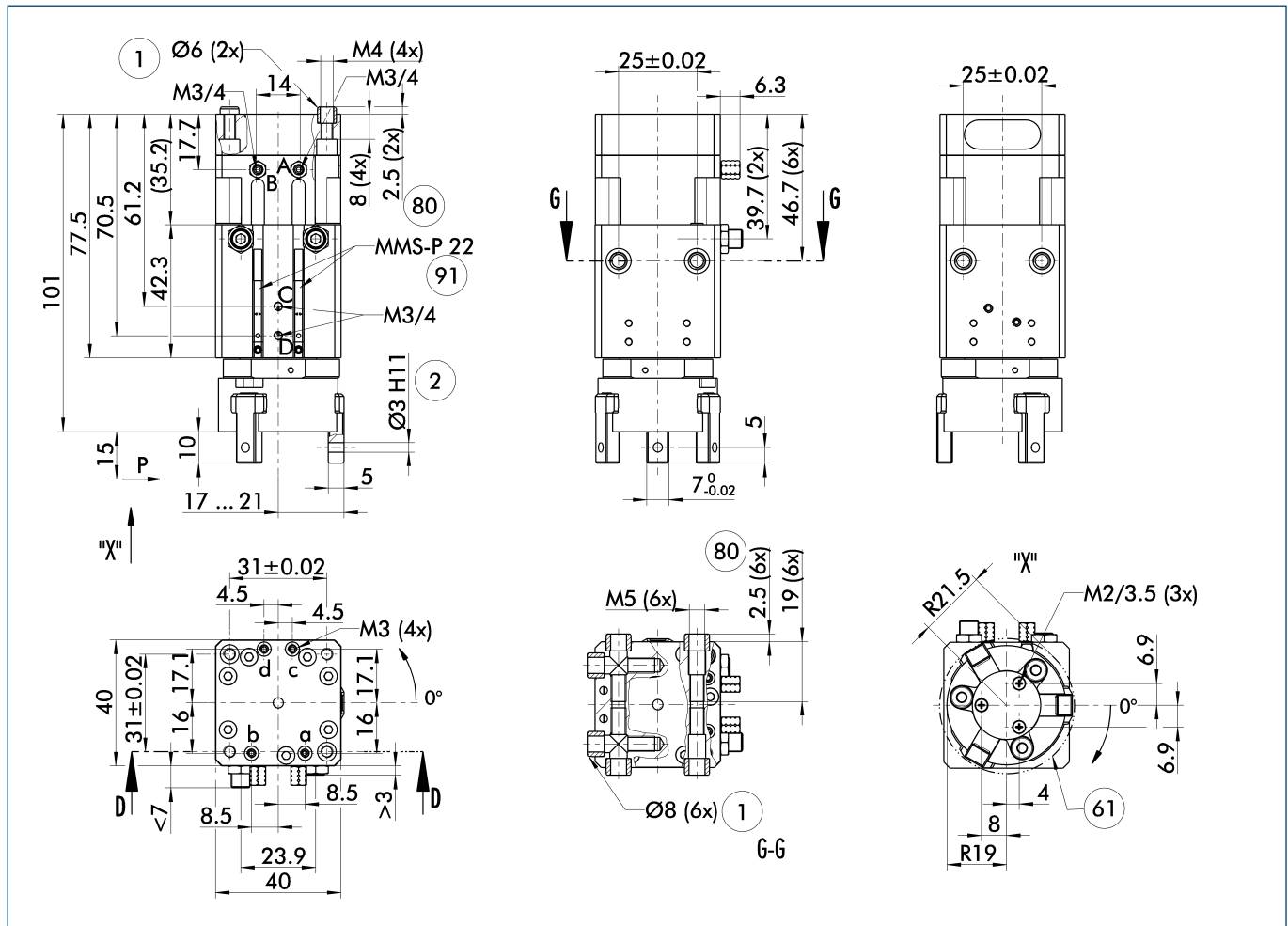
Technical data

Description		GSM-Z 38-E-090	GSM-Z 38-S-090	GSM-Z 38-AS-E-090	GSM-Z 38-AS-S-090	GSM-Z 38-IS-E-090	GSM-Z 38-IS-S-090
ID		0304643	0304743	0304644	0304744	0304645	0304745
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	4	4	4	4	4	4
Closing/Opening force	[N]	120/140	120/140	150/-	150/-	-/160	-/160
Min. spring force	[N]			30	30	40	40
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
Air consumption for gripping	[cm³]	6.58	6.58	6.58	6.58	6.58	6.58
Air consumption for swiveling	[cm³]	9	9	9	9	9	9
Weight	[kg]	0.4	0.4	0.48	0.48	0.48	0.48
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	38	38	38	38	38	38
Max. permitted weight per finger	[kg]	0.05	0.05	0.05	0.05	0.05	0.05
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-Z 38-E-180	GSM-Z 38-S-180	GSM-Z 38-AS-E-180	GSM-Z 38-AS-S-180	GSM-Z 38-IS-E-180	GSM-Z 38-IS-S-180
ID		0303843	0303943	0303844	0303944	0303845	0303945
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22	0.22	0.22

Main view



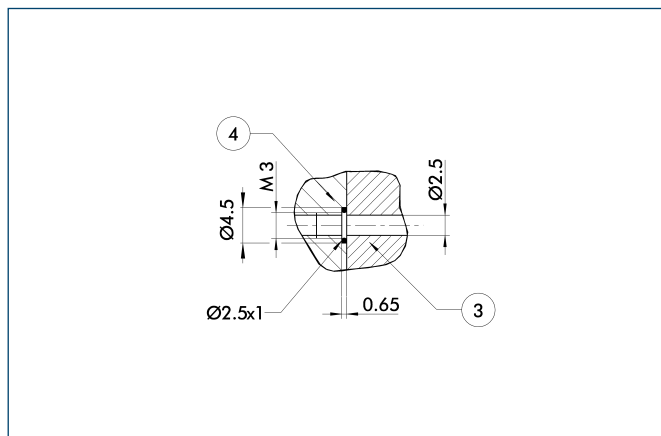
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|---|--|
| A, a Main/direct connection, rotary actuator clockwise turning | ① Rotary actuator connection |
| B, b Main/direct connection, rotary actuator anti-clockwise turning | ② Finger connection |
| C, c Main/direct connection, gripper opening | ⑥1 Interfering contour during swiveling |
| D, d Main/direct connection, gripper closing | ⑧0 Depth of the centering sleeve hole in the matching part |
| | ⑨1 Monitoring of gripping and swiveling |



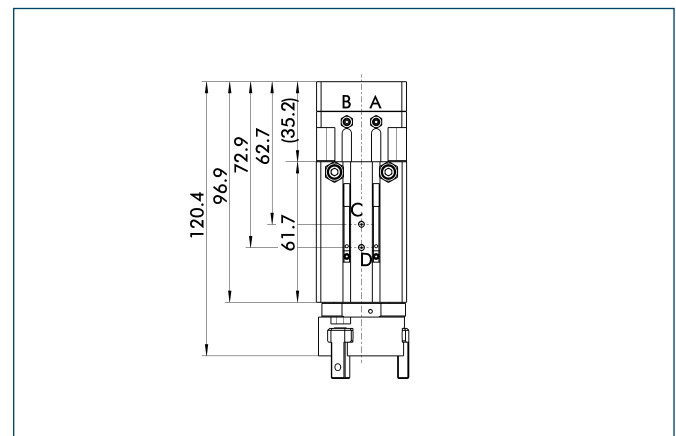
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

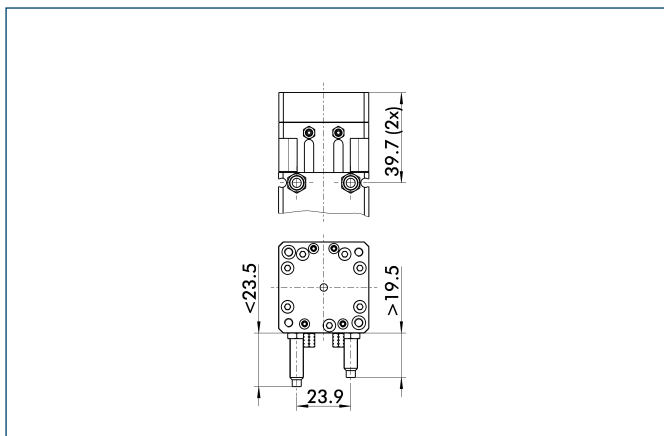
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



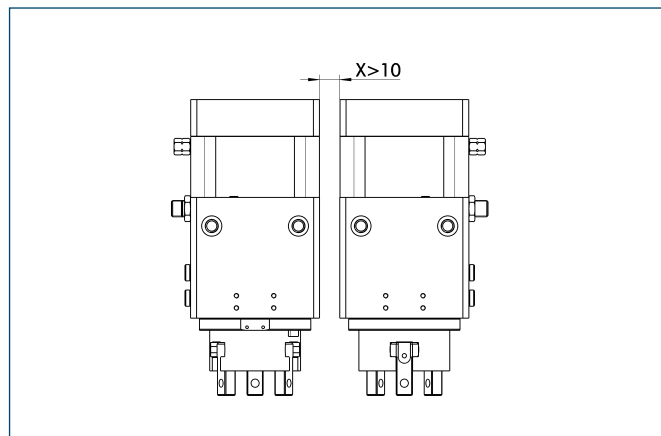
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



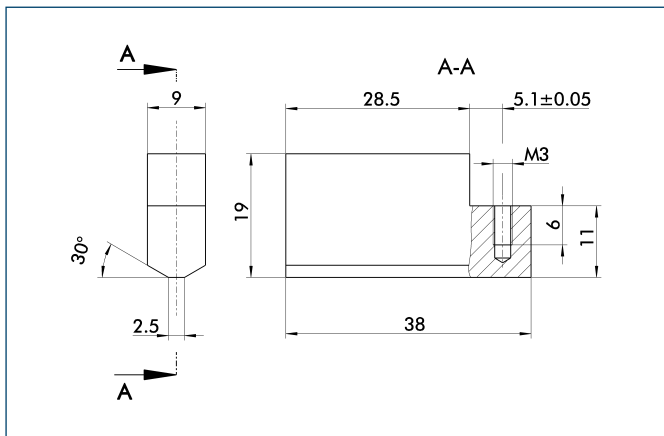
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

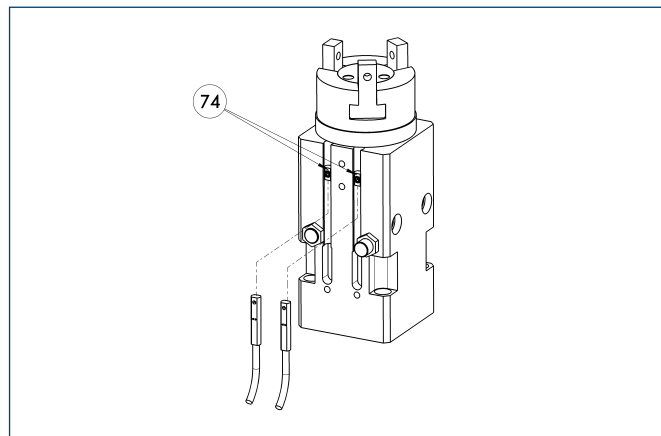
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 38	0340529	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

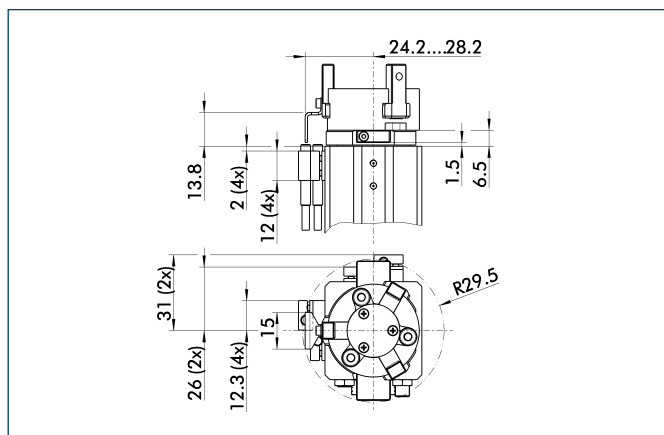
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°

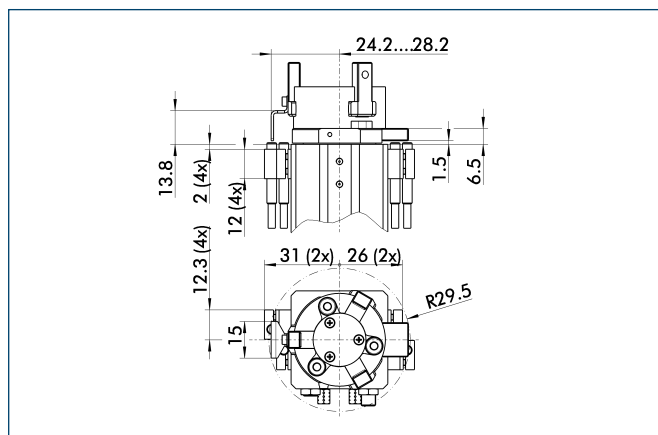


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 38	0304945

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°

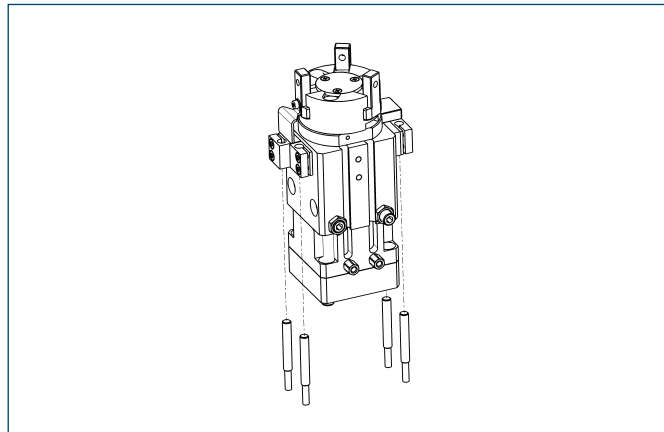


The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 38	0304945

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 38	0304945	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

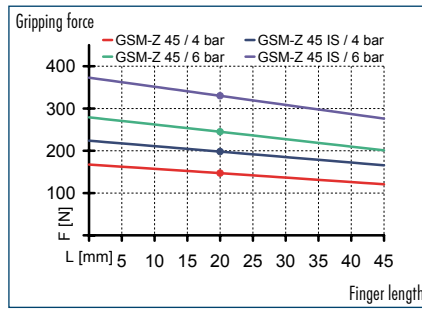
① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



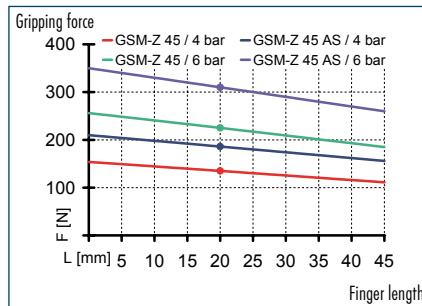
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



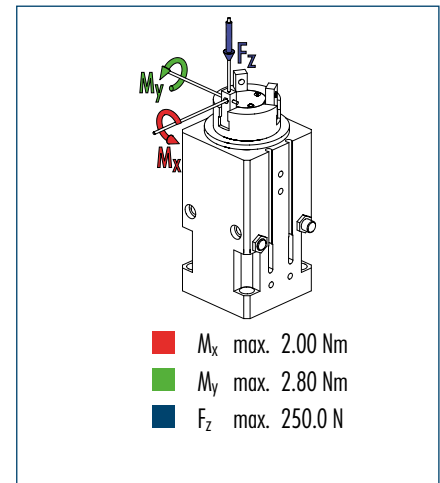
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

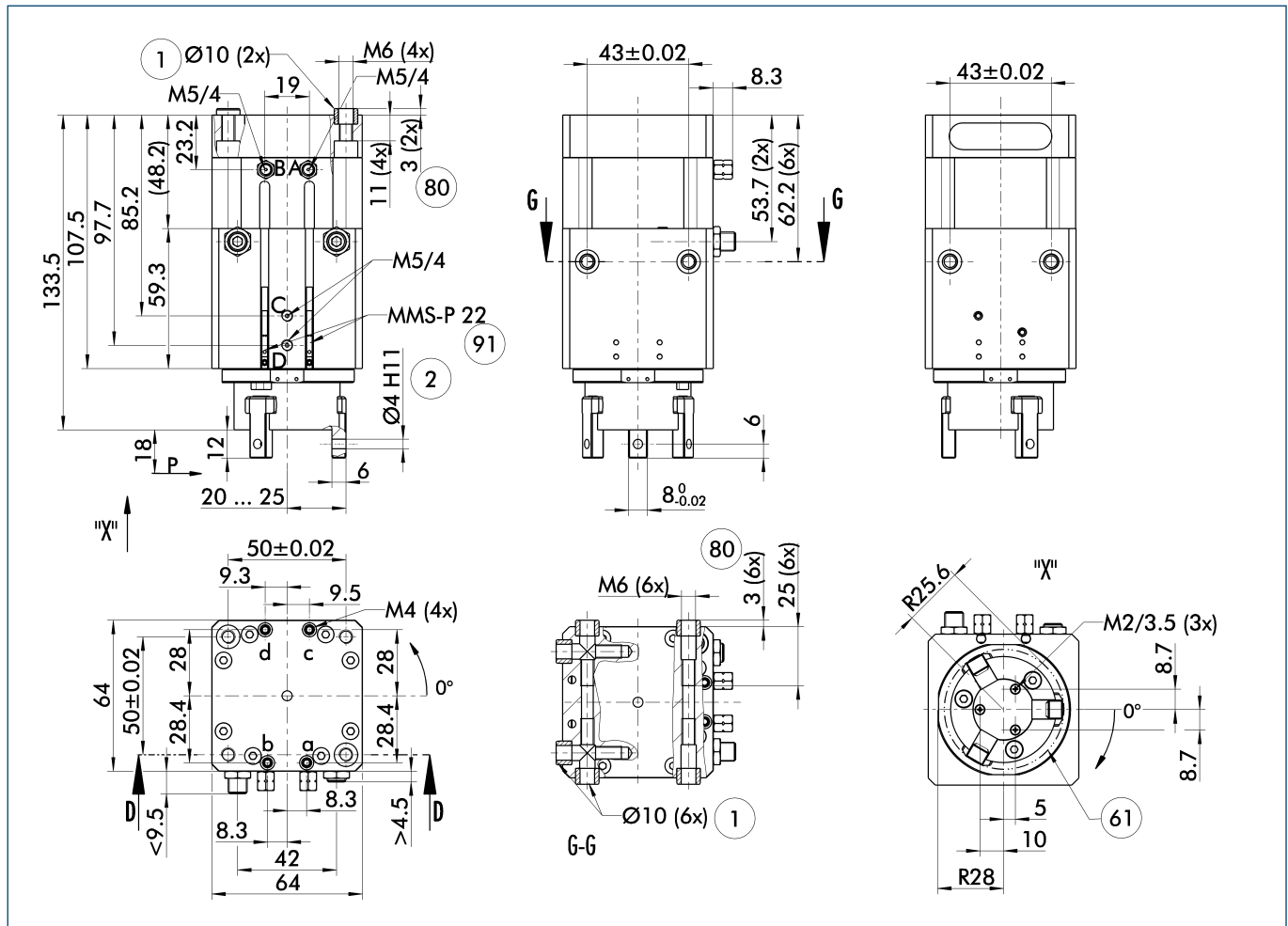
Technical data

Description		GSM-Z 45-E-090	GSM-Z 45-S-090	GSM-Z 45-AS-E-090	GSM-Z 45-AS-S-090	GSM-Z 45-IS-E-090	GSM-Z 45-IS-S-090
ID		0304663	0304763	0304664	0304764	0304665	0304765
End position adjustability	[°]	90	90	90	90	90	90
Stroke per finger	[mm]	5	5	5	5	5	5
Closing/Opening force	[N]	225/245	225/245	310/-	310/-	-/310	-/310
Min. spring force	[N]			85	85	95	95
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Damping for rotation		Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers	Elastomer damping	hydr. shock absorbers
Recommended workpiece weight	[kg]	1.1	1.1	1.1	1.1	1.1	1.1
Air consumption for gripping	[cm³]	13.85	13.85	13.85	13.85	13.85	13.85
Air consumption for swiveling	[cm³]	51	51	51	51	51	51
Weight	[kg]	1.2	1.2	1.32	1.32	1.32	1.32
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.04/0.05	0.04/0.05	0.05/0.04	0.05/0.04
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	45	45	45	45	45	45
Max. permitted weight per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
IP class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-Z 45-E-180	GSM-Z 45-S-180	GSM-Z 45-AS-E-180	GSM-Z 45-AS-S-180	GSM-Z 45-IS-E-180	GSM-Z 45-IS-S-180
ID		0303863	0303963	0303864	0303964	0303865	0303965
End position adjustability	[°]	180	180	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24	0.24	0.24

Main view



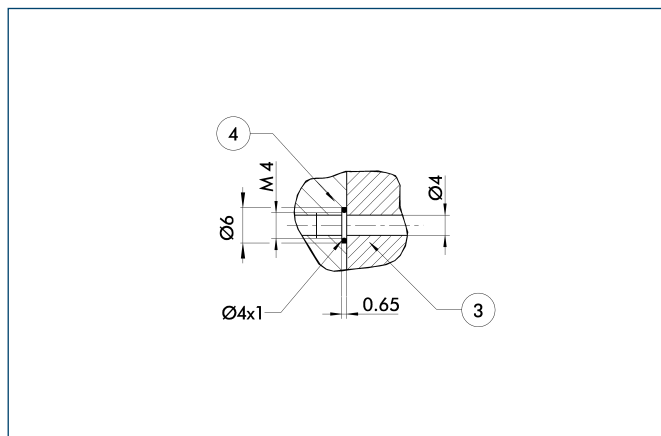
The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|---|--|
| A, a Main/direct connection, rotary actuator clockwise turning | ① Rotary actuator connection |
| B, b Main/direct connection, rotary actuator anti-clockwise turning | ② Finger connection |
| C, c Main/direct connection, gripper opening | ⑥1 Interfering contour during swiveling |
| D, d Main/direct connection, gripper closing | ⑧0 Depth of the centering sleeve hole in the matching part |
| | ⑨1 Monitoring of gripping and swiveling |



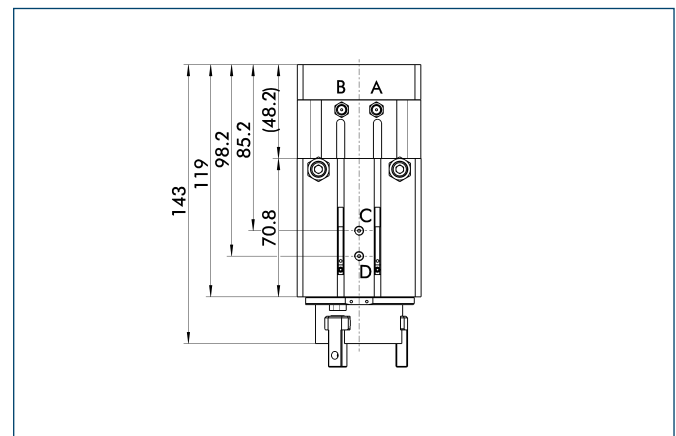
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

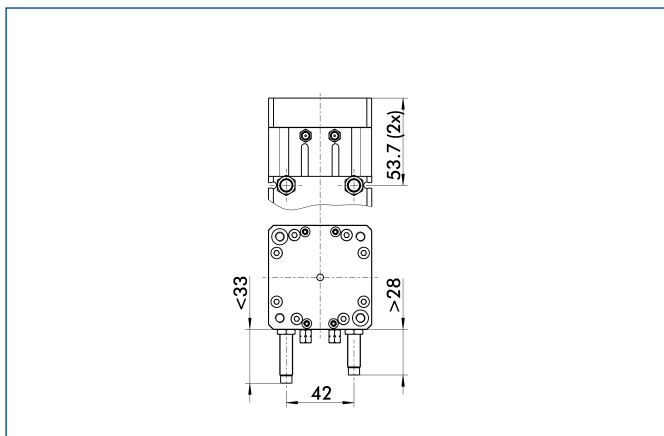
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

AS/IS gripping force maintenance device



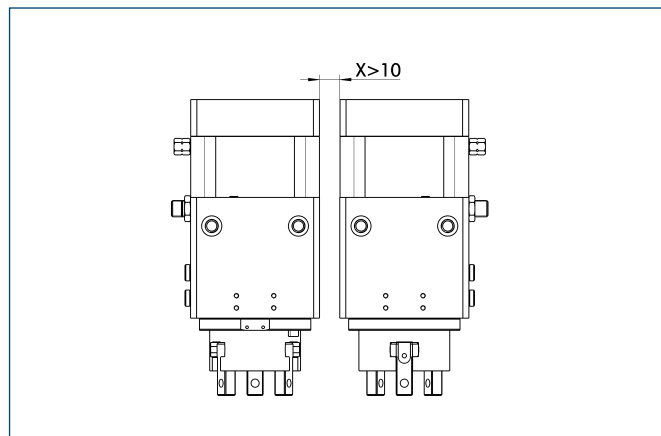
The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

Version with shock absorbers



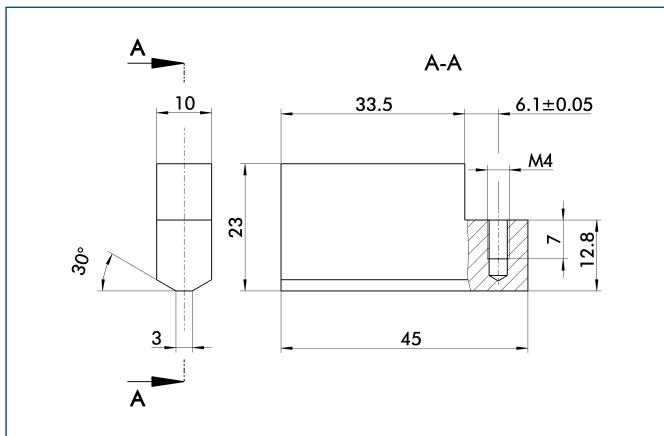
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

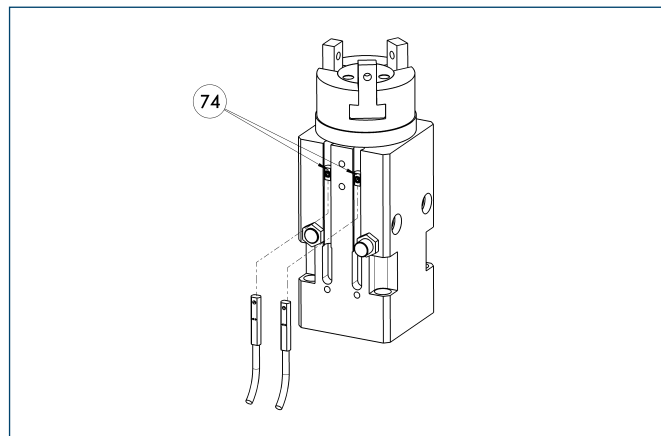
Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR 45	0340539	Aluminum	3

Programmable magnetic switch



74 Stop for MMS-P

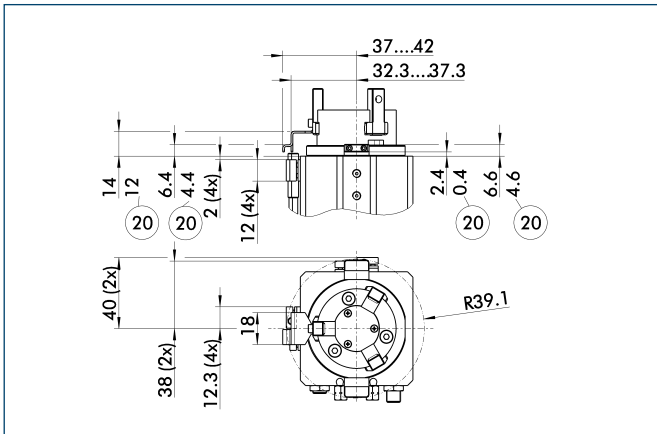
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

Mounting kit for proximity switches – angle of rotation 90°



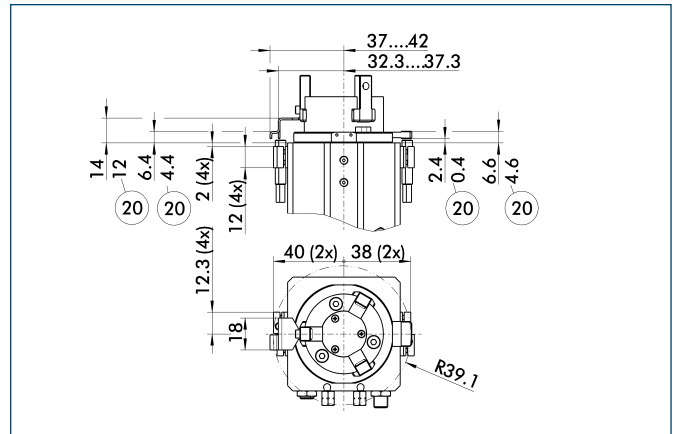
② For AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 45	0304946

① This mounting kit needs to be ordered optionally as an accessory.

Mounting kit for proximity switches – angle of rotation 180°



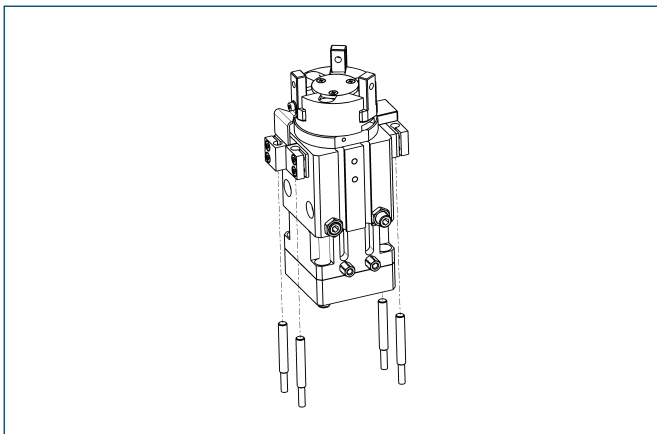
② For AS / IS version

The mounting kits for the 90° and 180° GSM versions are identical, only the mounting is different. The mounting kit consists of two switch cams, two operating cams (only one needs to be fitted, see operating manual), four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID
Mounting kit for proximity switch	
AS-GSM-Z 45	0304946

① This mounting kit needs to be ordered optionally as an accessory.

Inductive proximity switches



End position monitoring mounted with mounting kit

Description	ID	Recommended product
Mounting kit for proximity switch		
AS-GSM-Z 45	0304946	
Inductive proximity switches		
IN 40-S-M8	0301474	•
IN 40-S-M12	0301574	
INK 40-S	0301555	

① Per each GSM four sensors (closer/NO) are required, optionally also an extension cable. The conditions of the swivelling or gripping processes are evaluated of the control unit by logic evaluation of the four sensor signals. If inductive proximity switches should be used, please take care that the switching positions cannot be adjusted.

① This mounting kit needs to be ordered optionally as an accessory.

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



Sizes
16 ... 40



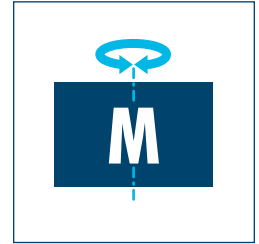
Weight
0.4 kg ... 1.73 kg



Gripping moment
1 Nm ... 11.2 Nm



Angle per jaw
20°



Torque
0.3 Nm ... 2.9 Nm

Application example



Unit for selecting defective components and for spot checks of the current process.

- 1 GSM-W Gripper Swivel Module
- 2 Linear module LM

Angular Gripper Swivel Module

compact rotary gripper combination, consisting of a powerful pneumatic rotary actuator, an end position and damping mechanism and an angular gripper

Field of application

gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space

Your advantages and benefits

Space-saving

as the rotary drive, end-position damping unit and gripper are merged in one compact module

Economical

since adapter plates are not needed, there will be costs for project planning and engineering design

Kinematics

for high power transmission and synchronized gripping

Process reliability

as moving cables and hoses are replaced by integrated feed-throughs

Comprehensive accessories

through the use of existing gripper components



General note to the series

Principle of function

Combined rotor and piston drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

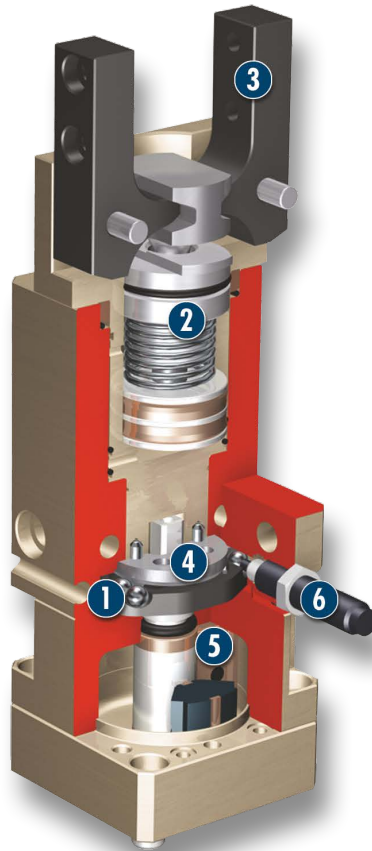
Scope of delivery

Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device

always integrated, also possible via SDV-P pressure maintenance valve

Sectional diagram



- 1** **Preset of rotating angle**
using steel balls for any desired angle of rotation
- 3** **Base jaw**
for mounting the top fingers
- 5** **Rotor**
as a compact, powerful drive
- 2** **Gripper drive**
via integrated pneumatic piston
- 4** **End-position damping assembly**
for end-position adjustment and damping
- 6** **Hydraulic shock absorber**
to increase the damping performance

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Programmable magnetic switch



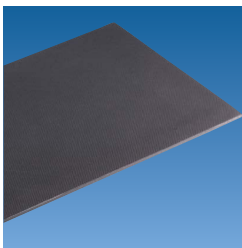
Sensor cables



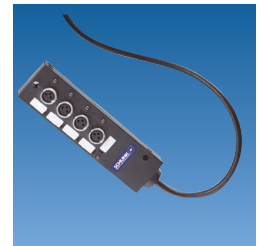
Plastic inserts



Gripper pads



Sensor Distributor



Pressure maintenance valve



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times, cycle times

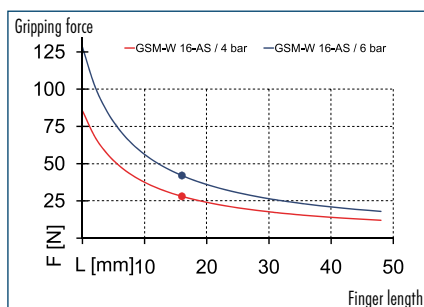
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

Middle attached load

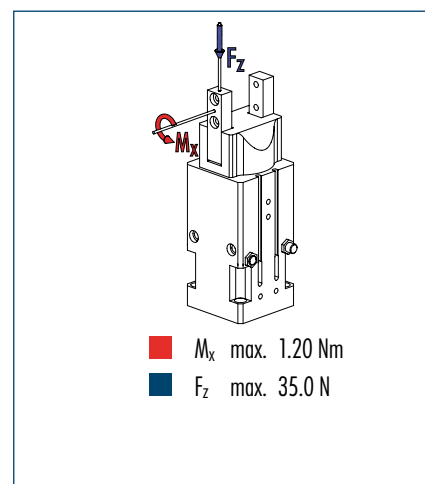
The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

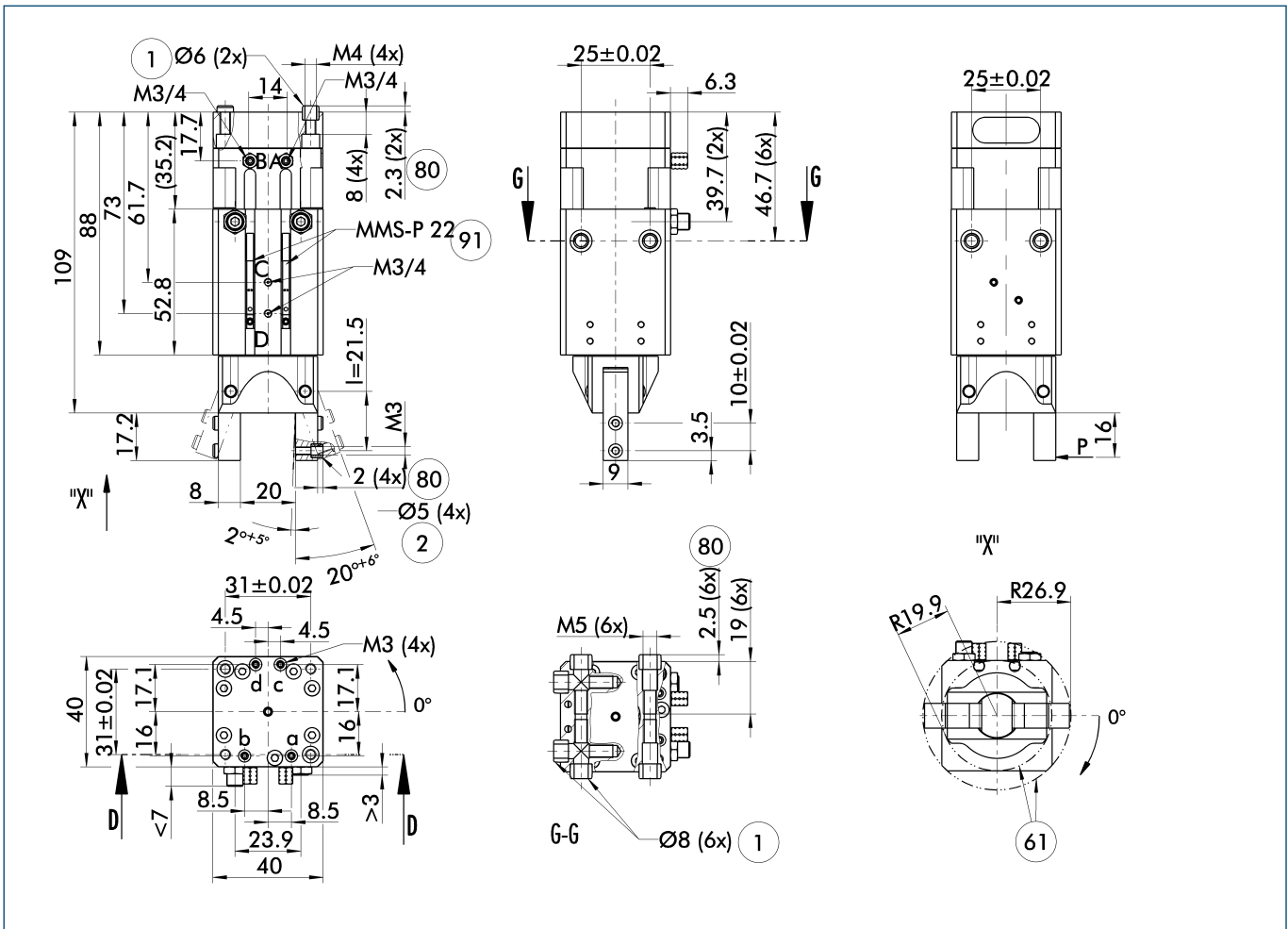
Technical data

Description		GSM-W 16-AS-E-090	GSM-W 16-AS-S-090
ID		0304637	0304737
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	1	1
Spring-actuated closing moment	[Nm]	0.22	0.22
Torque	[Nm]	0.35	0.35
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.21	0.21
Air consumption for gripping	[cm³]	5.5	5.5
Air consumption for swiveling	[cm³]	9	9
Weight	[kg]	0.4	0.4
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5
Closing/opening time	[s]	0.03/0.03	0.03/0.03
Swiveling time with middle attached load	[s]	0.12	0.12
Max. permitted finger length	[mm]	32	32
Max. permitted weight per finger	[kg]	0.04	0.04
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 16-AS-E-180	GSM-W 16-AS-S-180
ID		0303837	0303937
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	15	15
Swiveling time with middle attached load	[s]	0.18	0.18

Main view



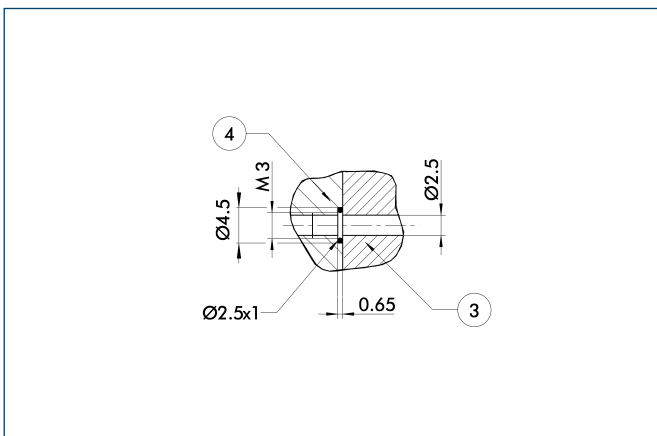
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Connection gripper-rotary actuator
② Finger connection
⑥1 Interfering contour during swiveling
⑧0 Depth of the centering sleeve hole in the matching part
⑨1 Monitoring of gripping and swiveling

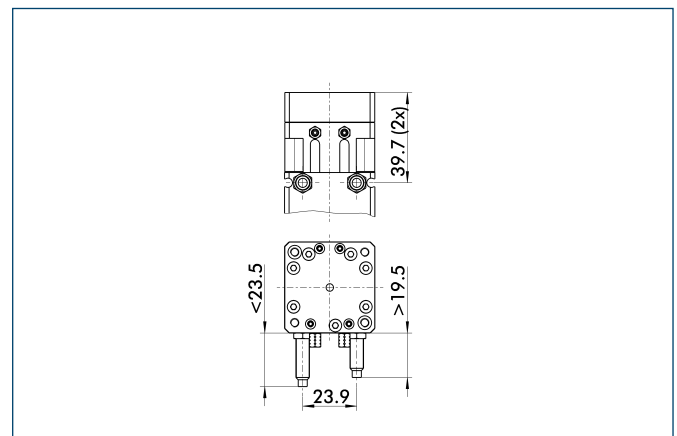
Hose-free direct connection



③ Adapter
④ Gripper swivel module

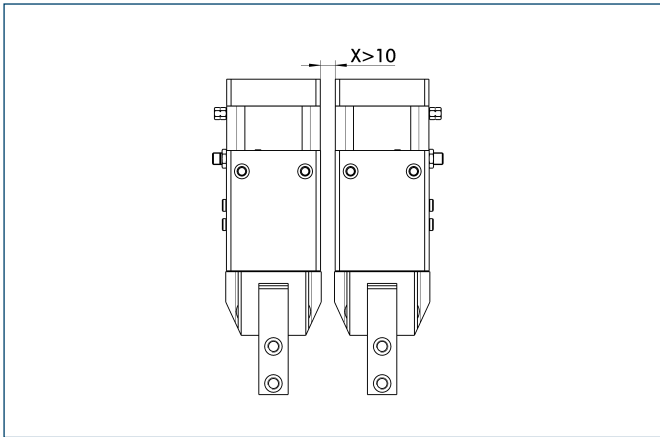
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



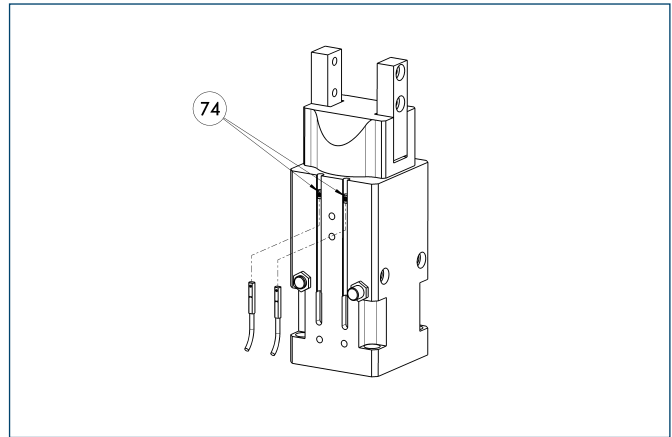
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

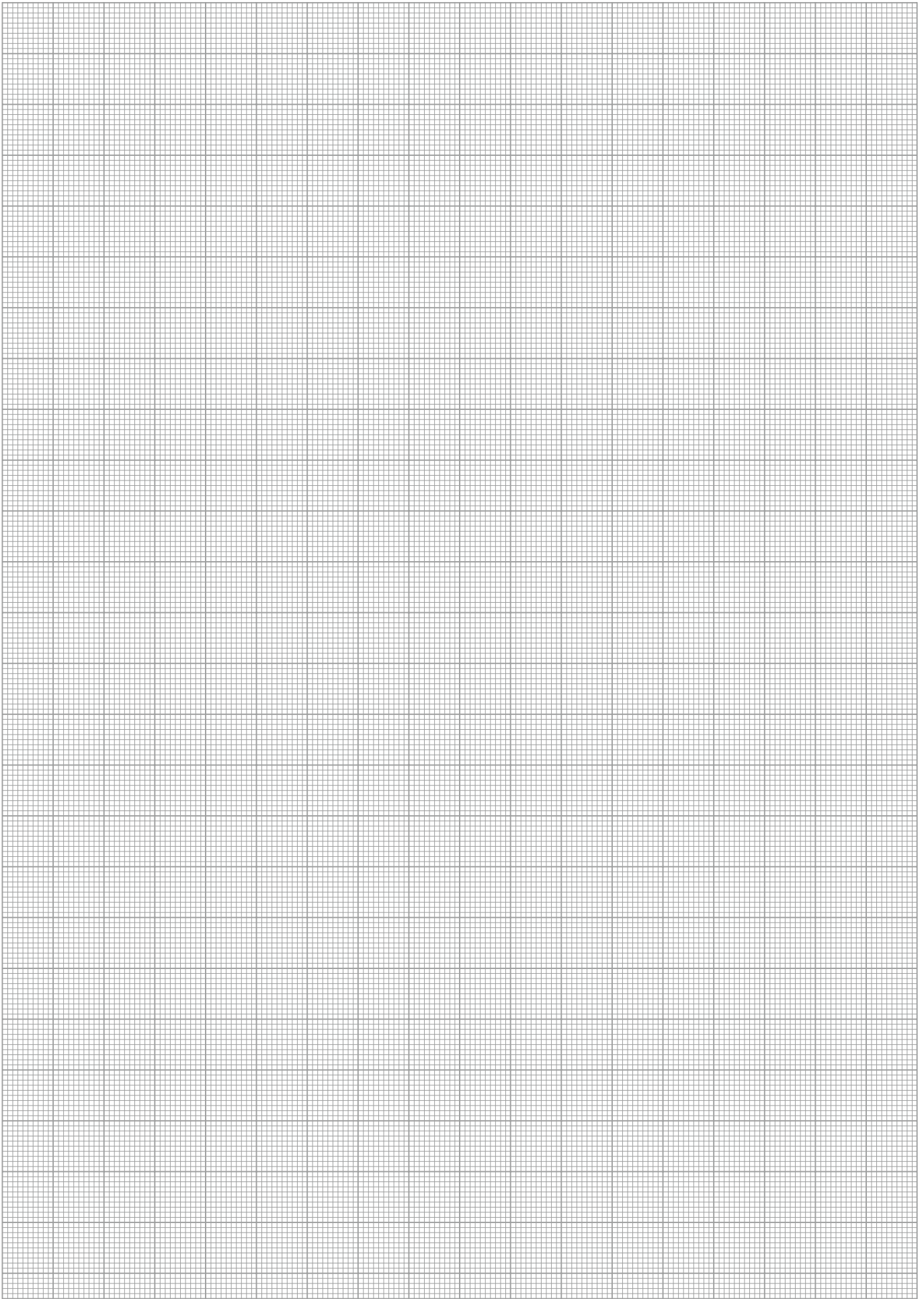


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

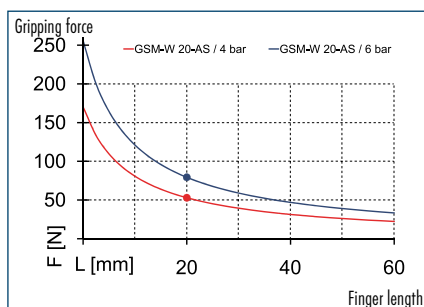
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

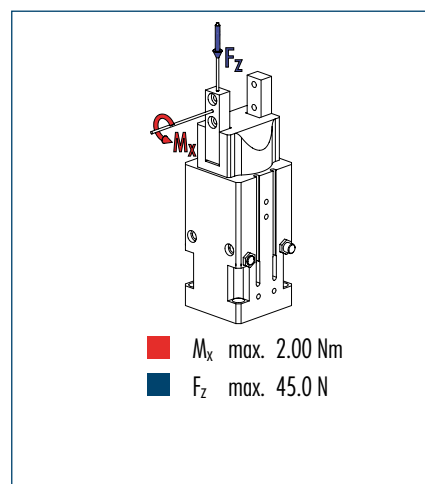




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

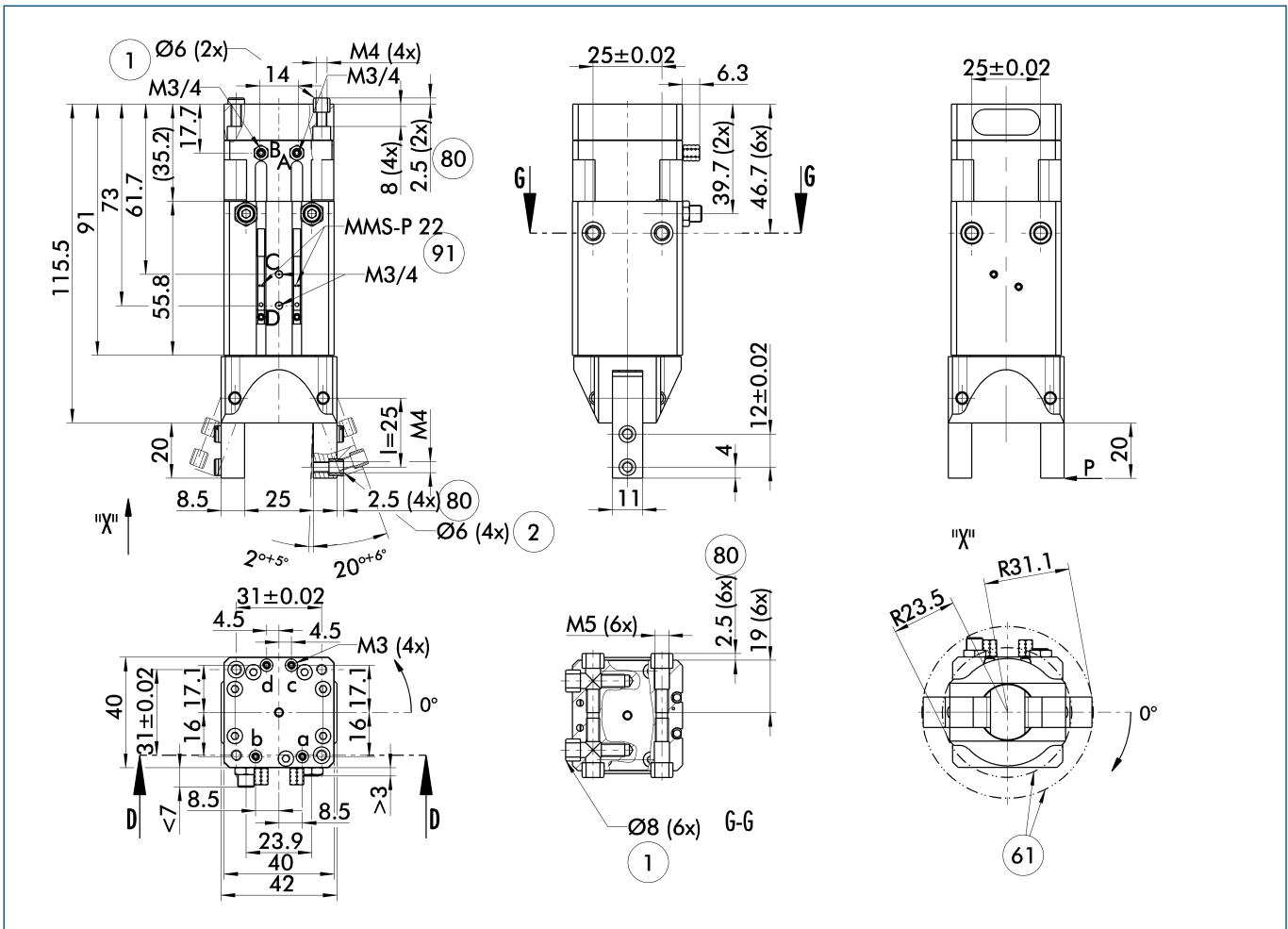
Technical data

Description		GSM-W 20-AS-E-090	GSM-W 20-AS-S-090
ID		0304647	0304747
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	2.3	2.3
Spring-actuated closing moment	[Nm]	0.7	0.7
Torque	[Nm]	0.3	0.3
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.4	0.4
Air consumption for gripping	[cm³]	8.22	8.22
Air consumption for swiveling	[cm³]	9	9
Weight	[kg]	0.44	0.44
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	4	4
Closing/opening time	[s]	0.04/0.06	0.04/0.06
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	40	40
Max. permitted weight per finger	[kg]	0.07	0.07
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 20-AS-E-180	GSM-W 20-AS-S-180
ID		0303847	0303947
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	15	15
Swiveling time with middle attached load	[s]	0.22	0.22

Main view



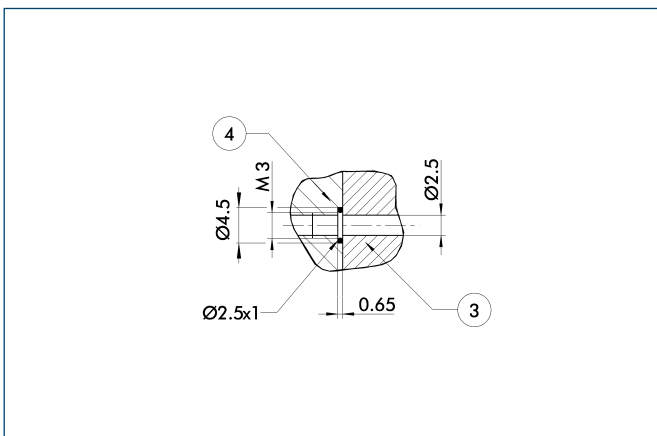
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Connection gripper-rotary actuator
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

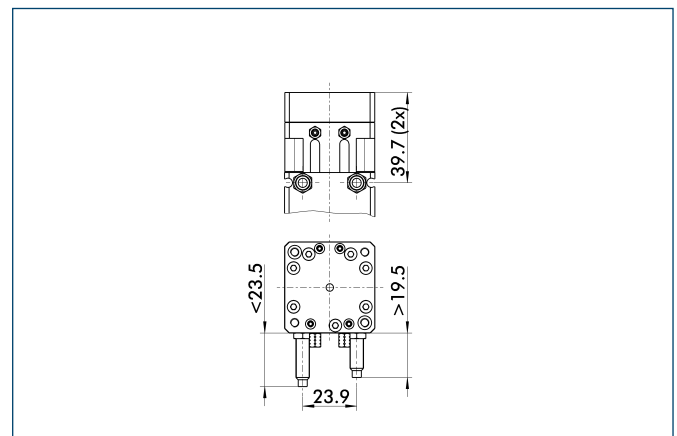
Hose-free direct connection



③ Adapter
④ Gripper swivel module

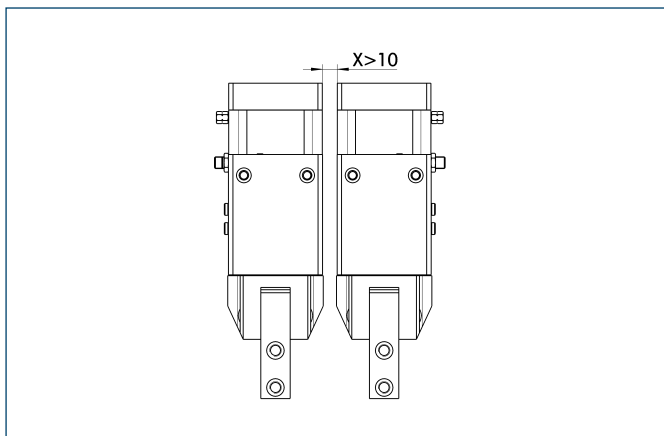
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



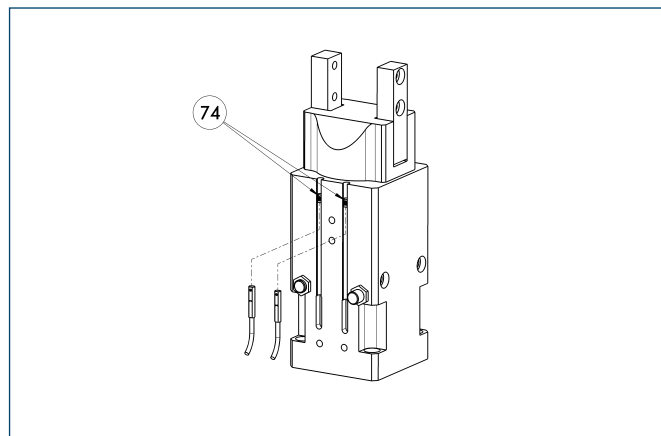
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

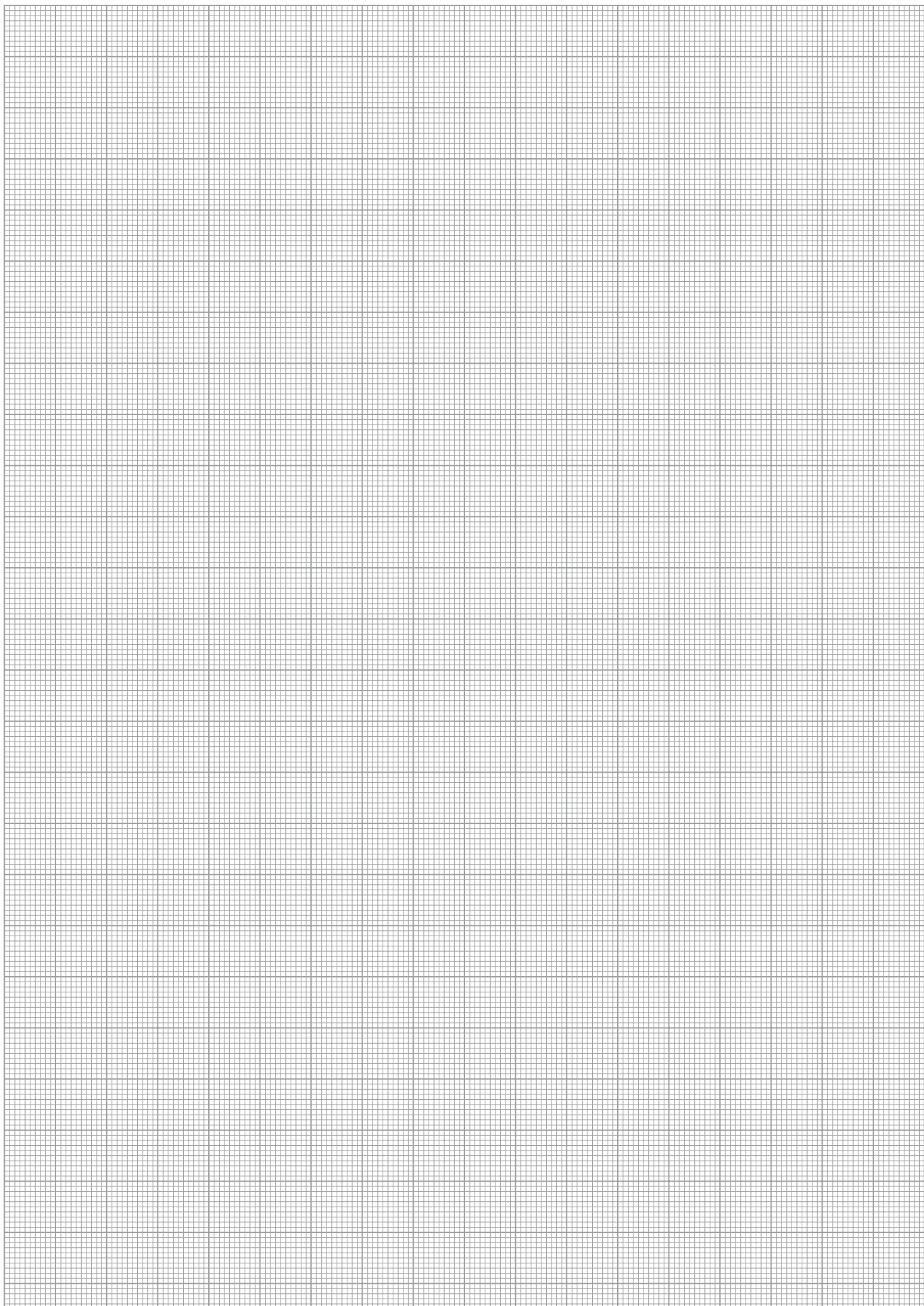


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

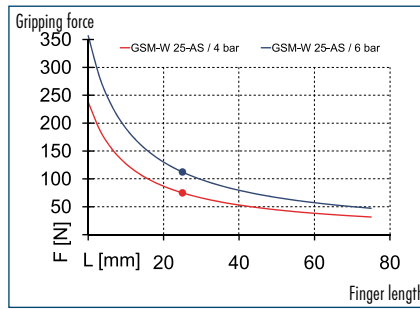
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

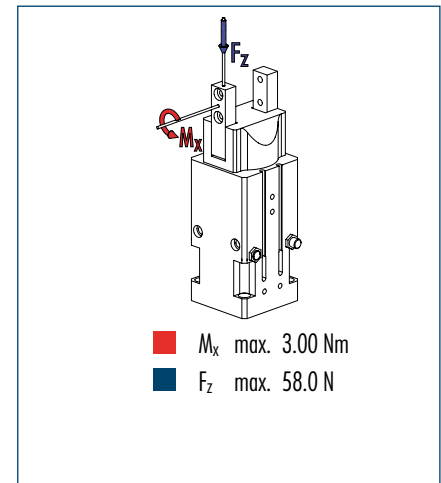




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

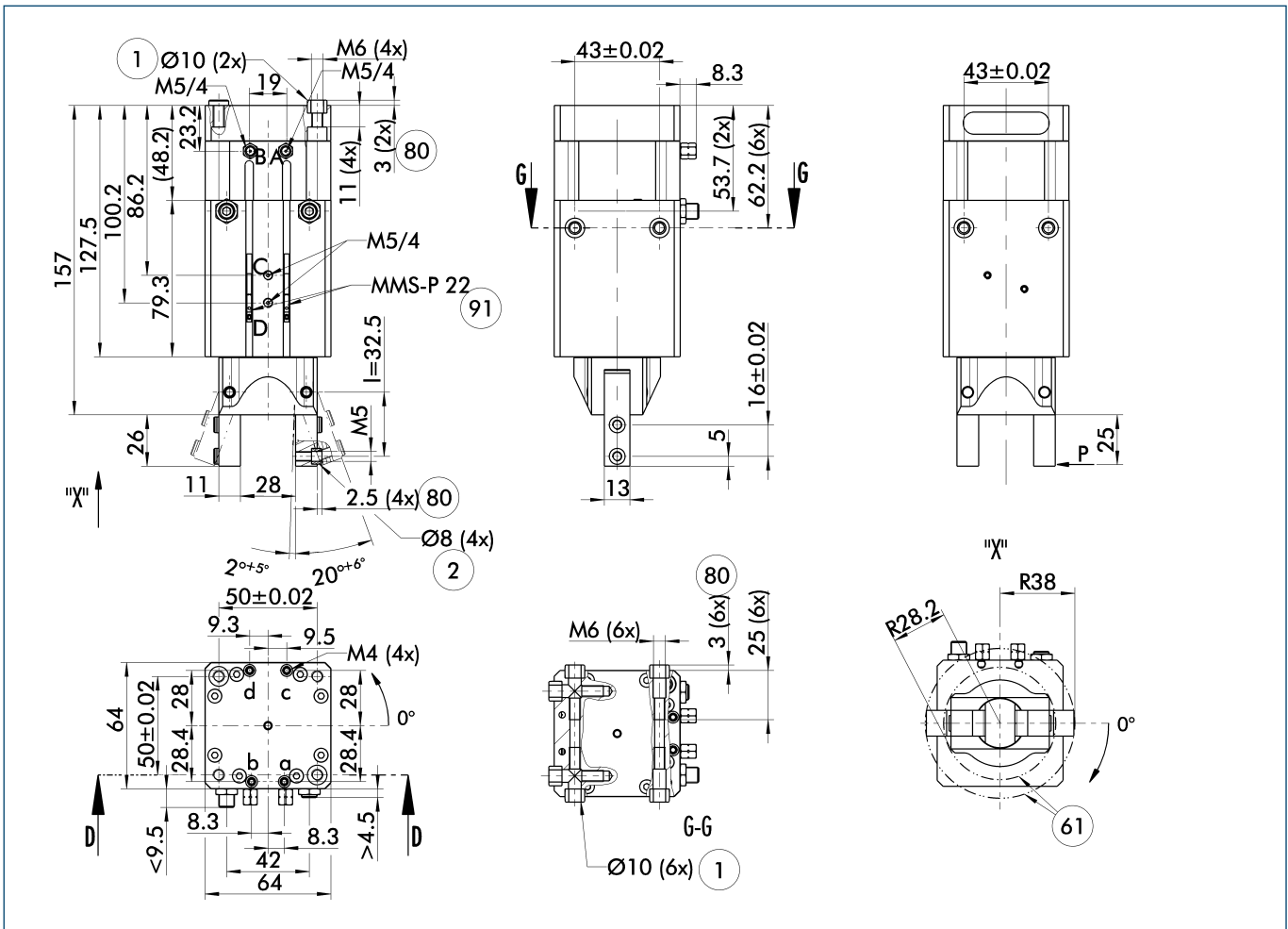
Technical data

Description		GSM-W 25-AS-E-090	GSM-W 25-AS-S-090
ID		0304657	0304757
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	4.1	4.1
Spring-actuated closing moment	[Nm]	0.9	0.9
Torque	[Nm]	2.9	2.9
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.55	0.55
Air consumption for gripping	[cm³]	16.53	16.53
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.32	1.32
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.04/0.06	0.04/0.06
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	50	50
Max. permitted weight per finger	[kg]	0.1	0.1
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 25-AS-E-180	GSM-W 25-AS-S-180
ID		0303857	0303957
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



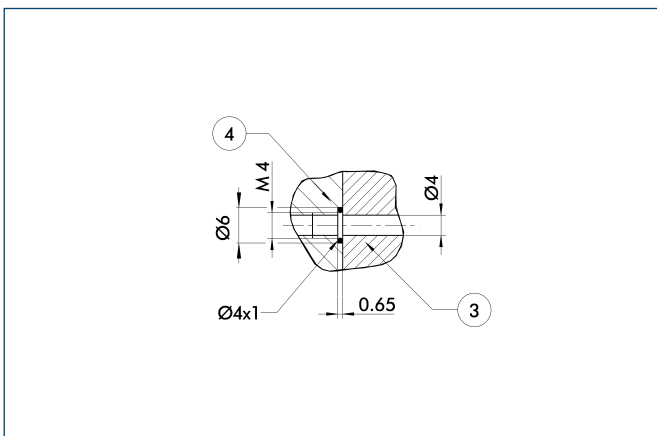
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, rotary actuator clockwise turning
- B, b Main/direct connection, rotary actuator anti-clockwise turning
- C, c Main/direct connection, gripper opening
- D, d Main/direct connection, gripper closing

- ① Connection gripper-rotary actuator
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

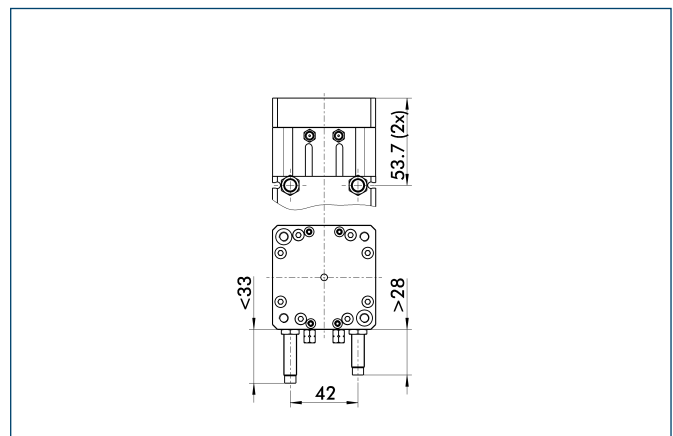
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

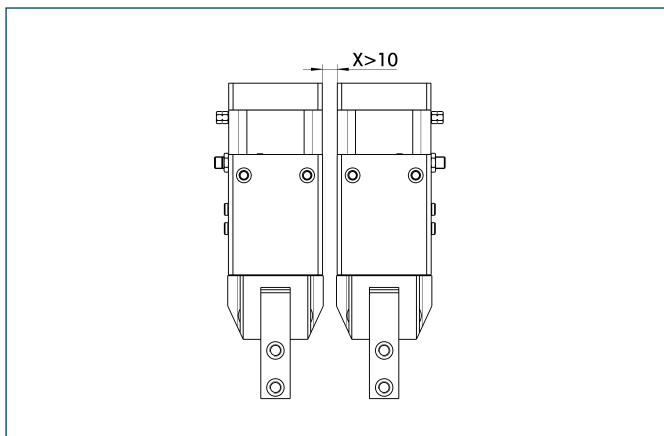
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



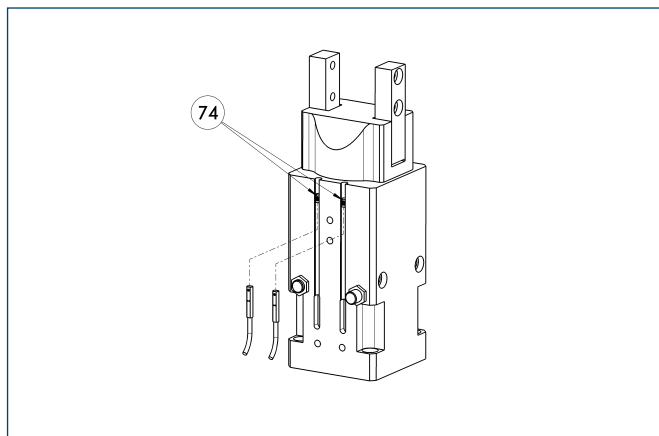
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

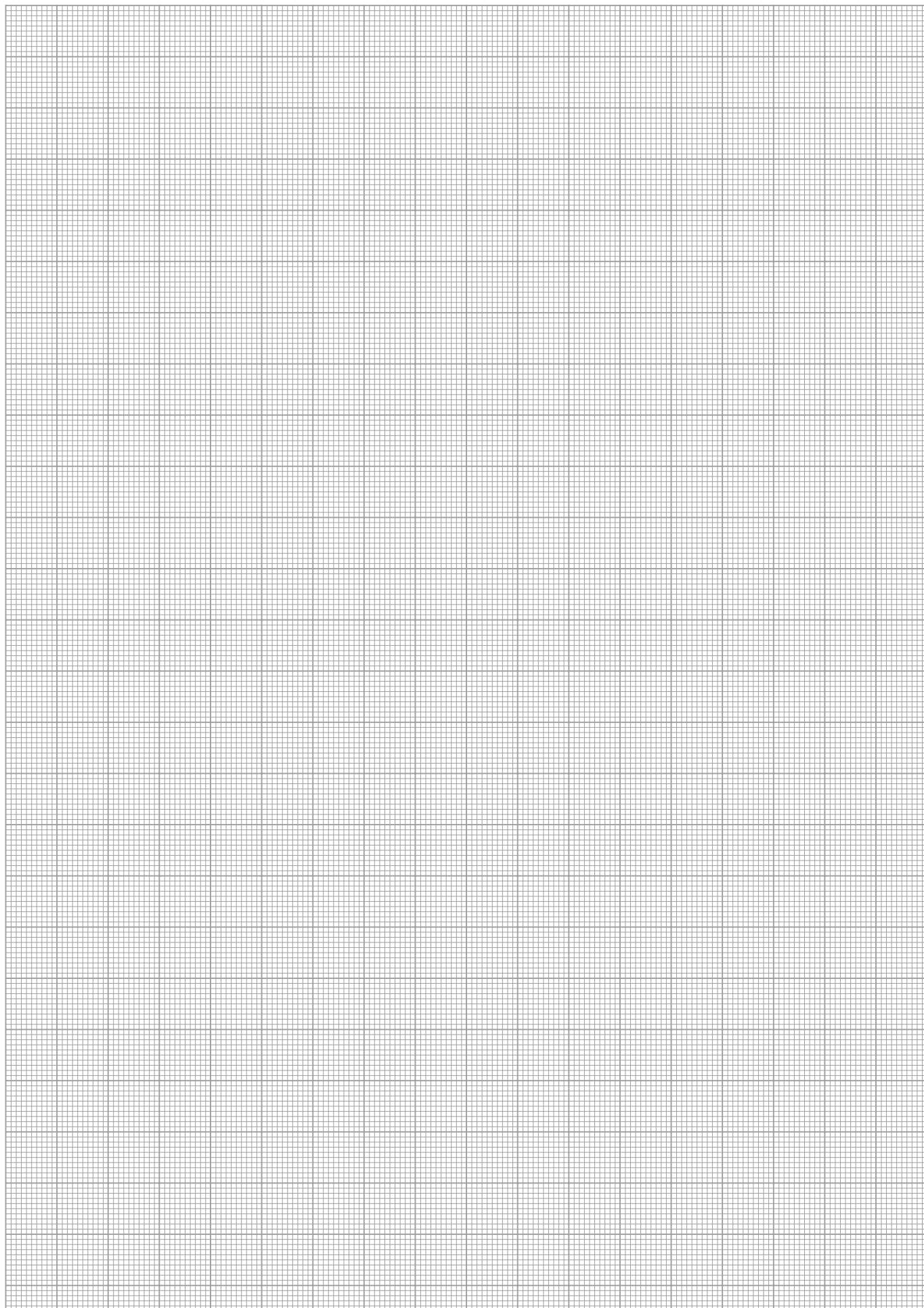


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

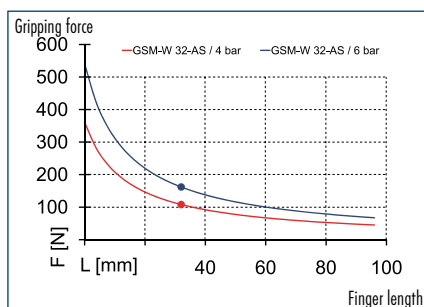
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

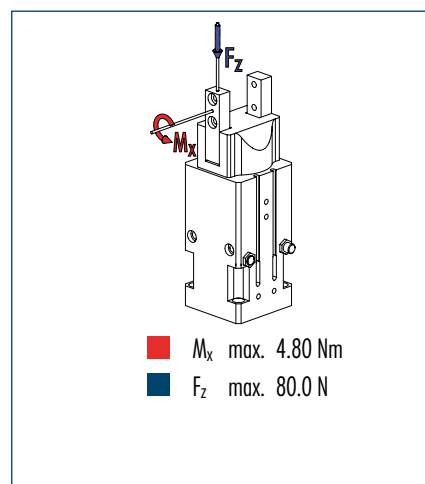




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

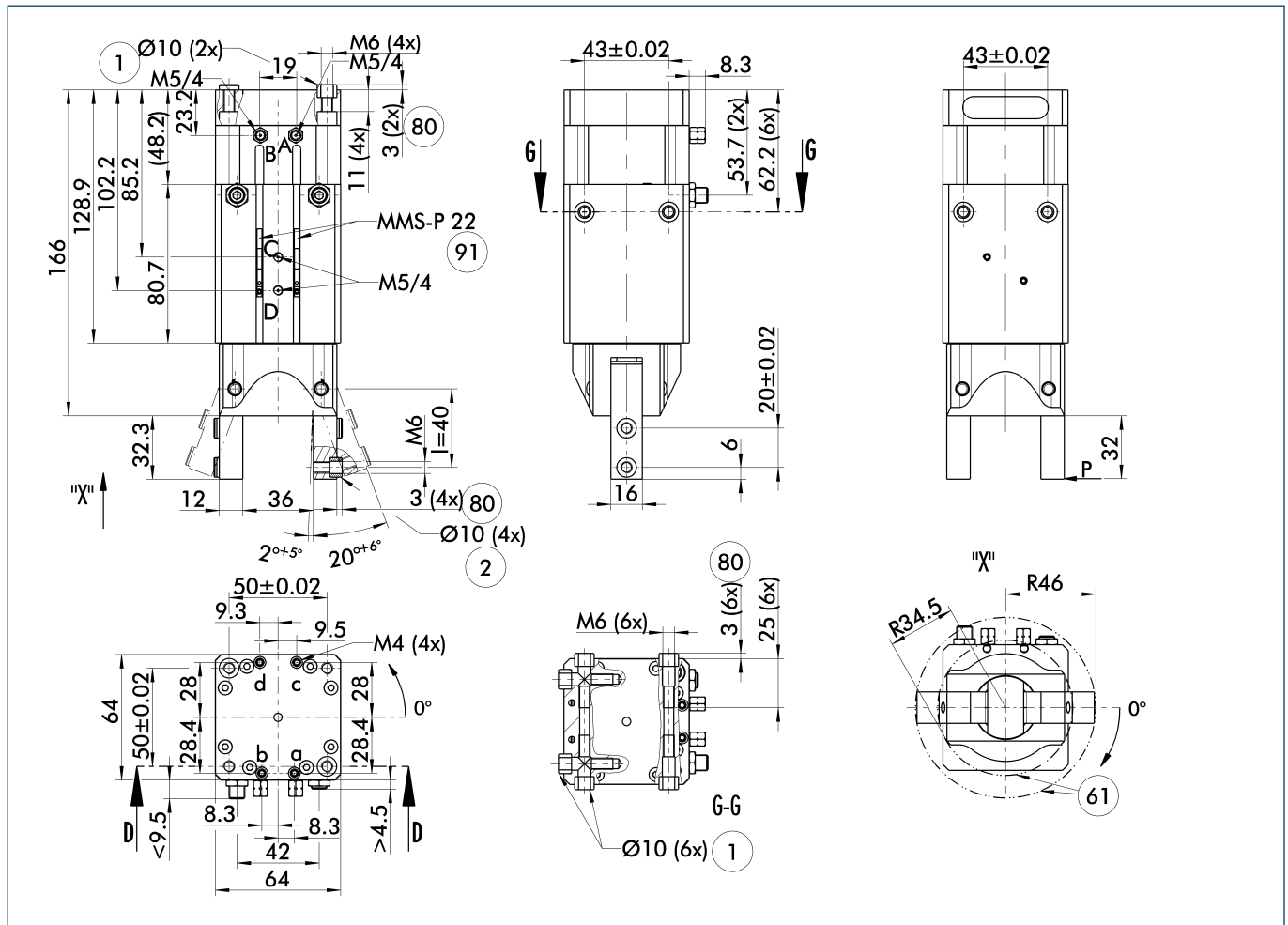
Technical data

Description		GSM-W 32-AS-E-090	GSM-W 32-AS-S-090
ID		0304677	0304777
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	7.4	7.4
Spring-actuated closing moment	[Nm]	1.8	1.8
Torque	[Nm]	2.7	2.7
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	0.84	0.84
Air consumption for gripping	[cm³]	25.56	25.56
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.44	1.44
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.05/0.07	0.05/0.07
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	64	64
Max. permitted weight per finger	[kg]	0.15	0.15
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 32-AS-E-180	GSM-W 32-AS-S-180
ID		0303877	0303977
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



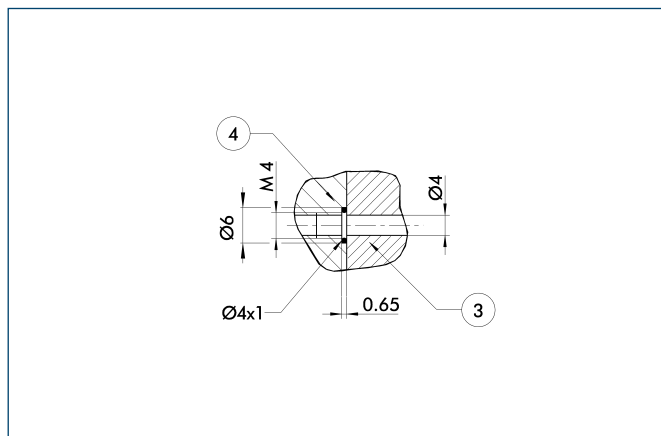
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- | | |
|---|--|
| A, a Main/direct connection, rotary actuator clockwise turning | ① Connection gripper-rotary actuator |
| B, b Main/direct connection, rotary actuator anti-clockwise turning | ② Finger connection |
| C, c Main/direct connection, gripper opening | ⑥1 Interfering contour during swiveling |
| D, d Main/direct connection, gripper closing | ⑧0 Depth of the centering sleeve hole in the matching part |
| | ⑨1 Monitoring of gripping and swiveling |



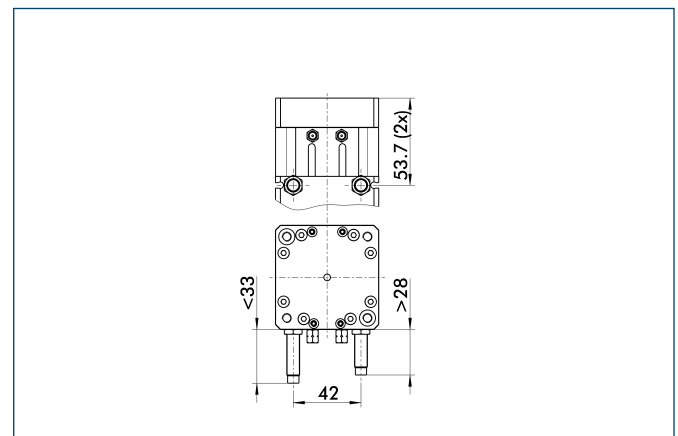
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

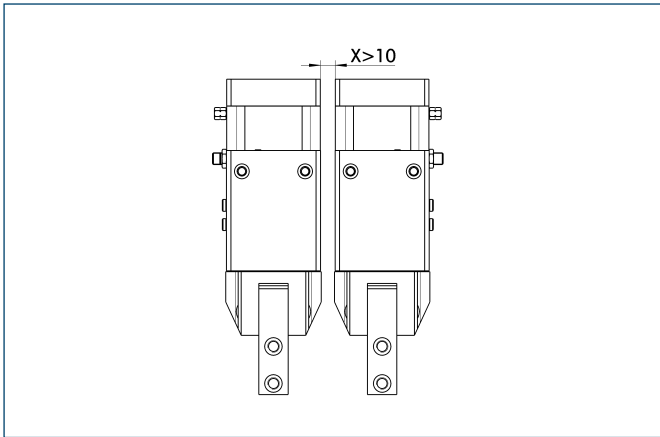
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



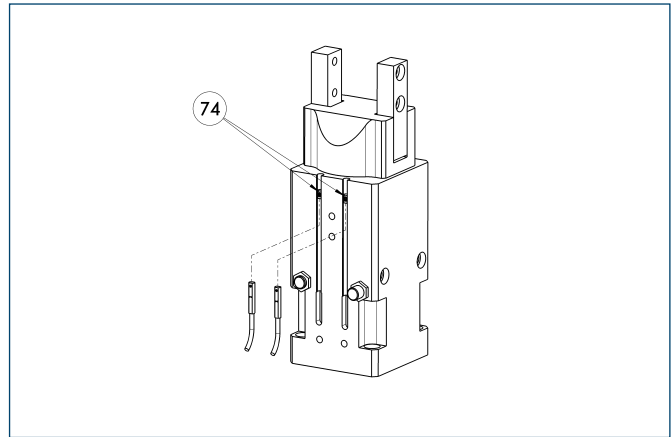
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch



74 Stop for MMS-P

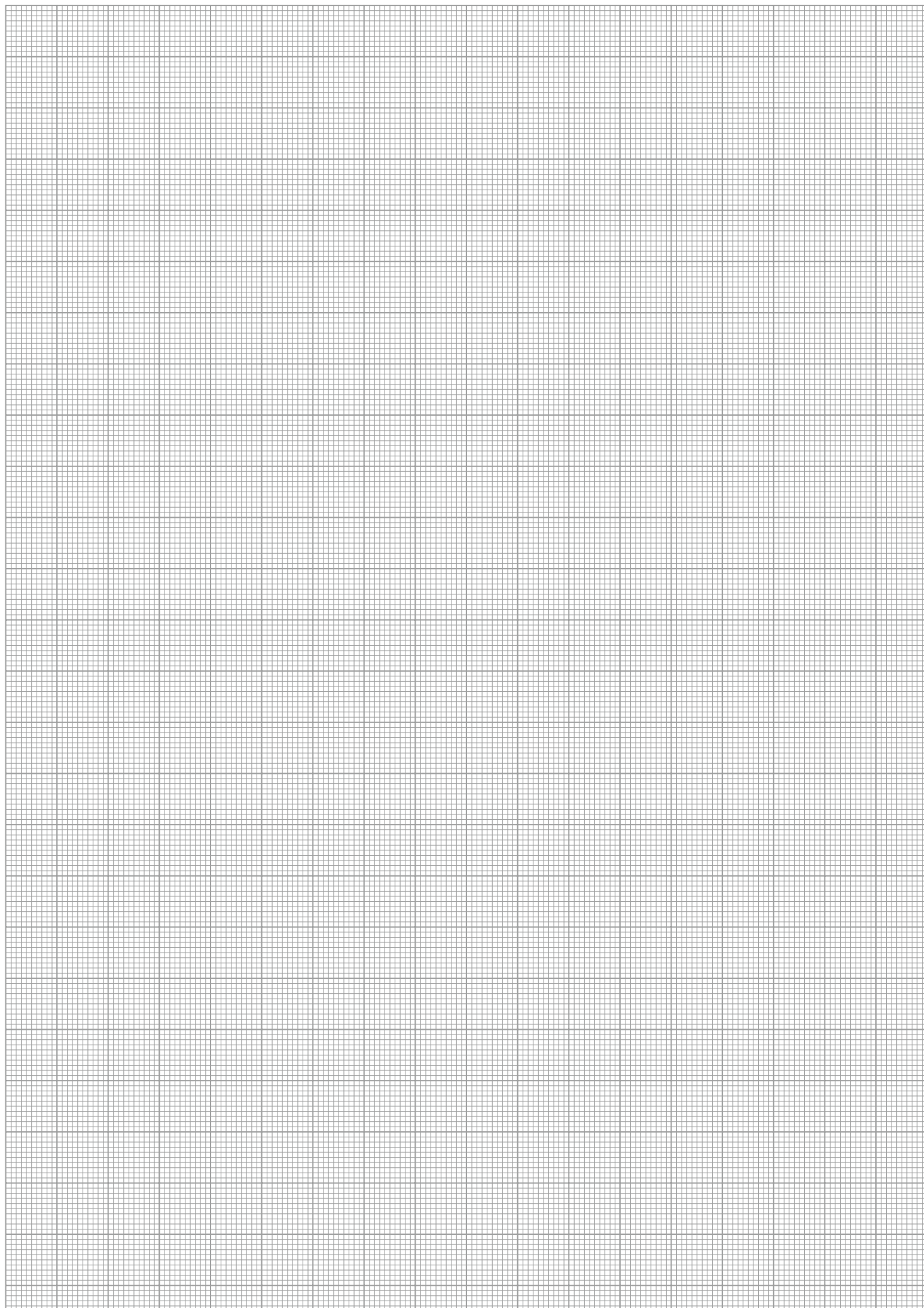
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

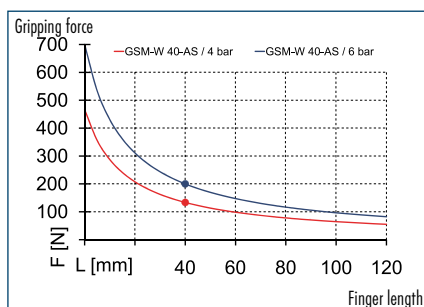


You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

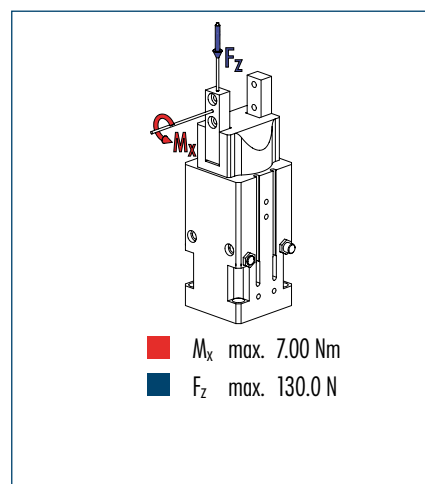




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

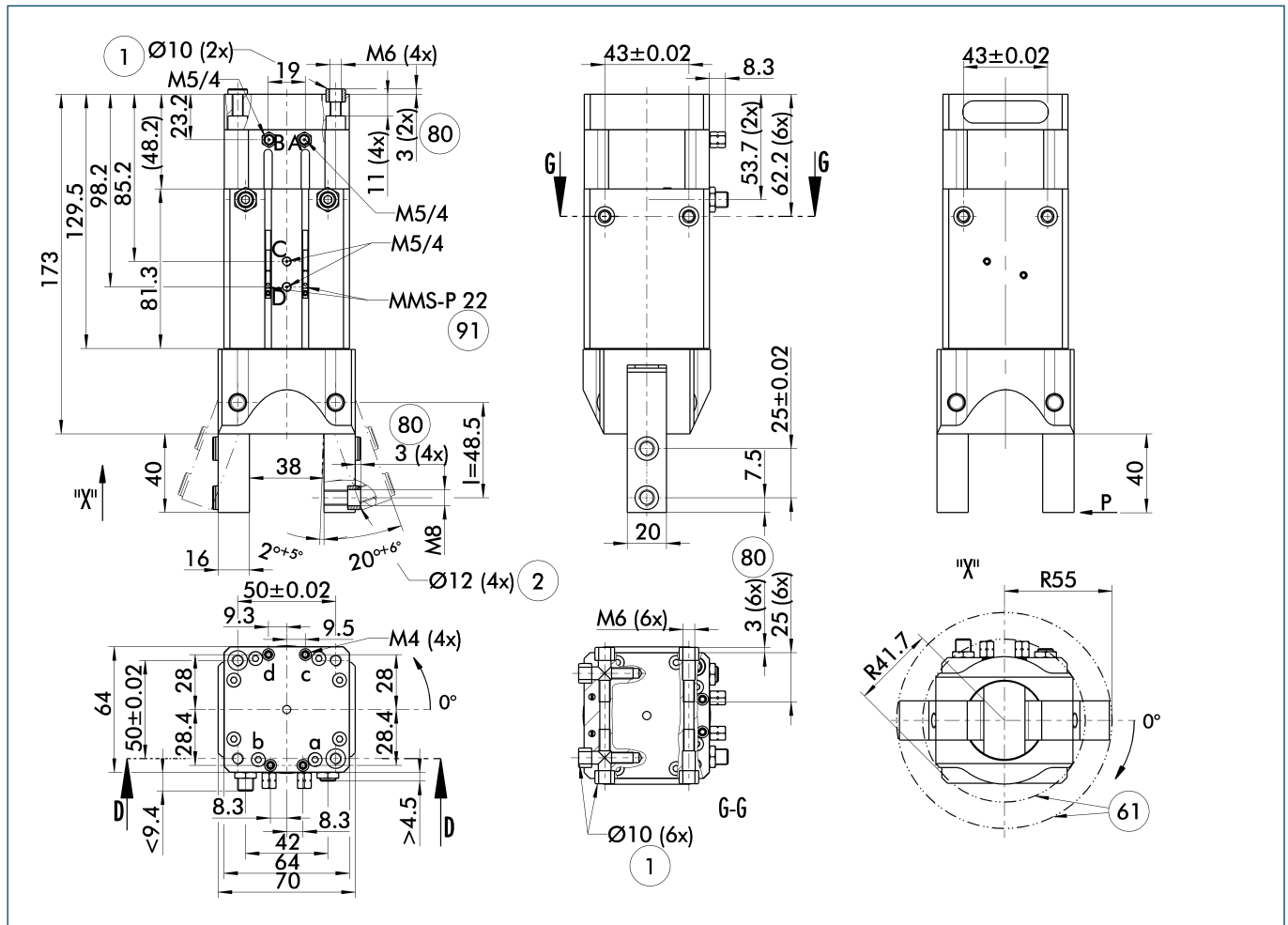
Technical data

Description		GSM-W 40-AS-E-090	GSM-W 40-AS-S-090
ID		0304687	0304787
End position adjustability	[°]	90	90
Opening angle per jaw	[°]	20	20
Closed angle per jaw up to	[°]	7	7
Closing moment	[Nm]	11.2	11.2
Spring-actuated closing moment	[Nm]	2.6	2.6
Torque	[Nm]	2.6	2.6
Angle of rotation	[°]	90	90
Recommended workpiece weight	[kg]	1	1
Air consumption for gripping	[cm³]	48.04	48.04
Air consumption for swiveling	[cm³]	51	51
Weight	[kg]	1.73	1.73
Nominal operating pressure	[bar]	6	6
Max. operating pressure	[bar]	6.5	6.5
Minimum operating pressure for gripping	[bar]	4	4
Minimum operating pressure for swiveling	[bar]	3	3
Closing/opening time	[s]	0.07/0.1	0.07/0.1
Swiveling time with middle attached load	[s]	0.14	0.14
Max. permitted finger length	[mm]	80	80
Max. permitted weight per finger	[kg]	0.25	0.25
IP class		30	30
Min./max. ambient temperature	[°C]	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1

OPTIONS and their characteristics

Description		GSM-W 40-AS-E-180	GSM-W 40-AS-S-180
ID		0303887	0303987
End position adjustability	[°]	180	180
Air consumption for swiveling	[cm³]	85	85
Swiveling time with middle attached load	[s]	0.24	0.24

Main view



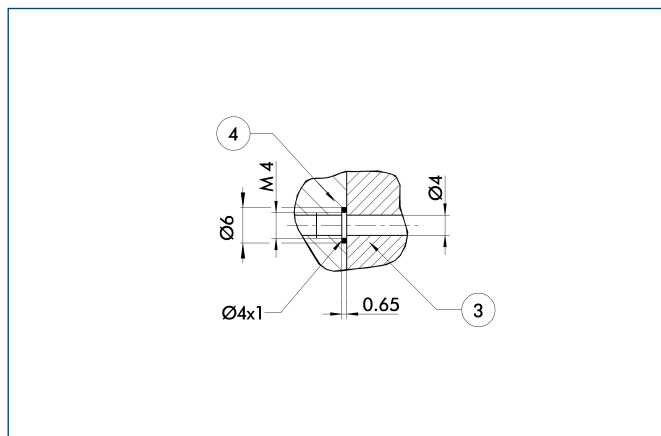
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Connection gripper-rotary actuator
② Finger connection
⑥1 Interfering contour during swiveling
⑧0 Depth of the centering sleeve hole in the matching part
⑨1 Monitoring of gripping and swiveling

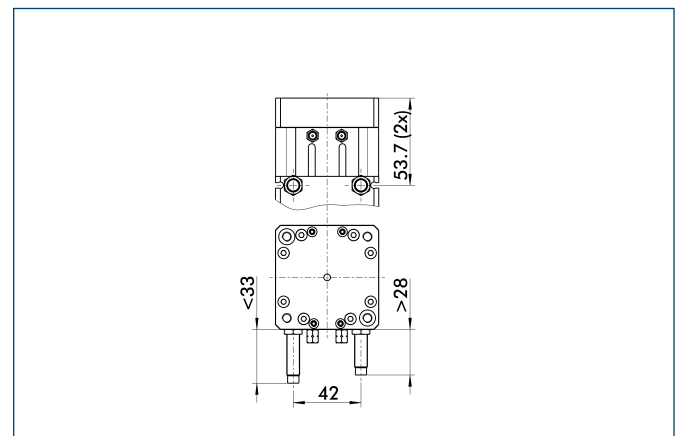
Hose-free direct connection



③ Adapter
④ Gripper swivel module

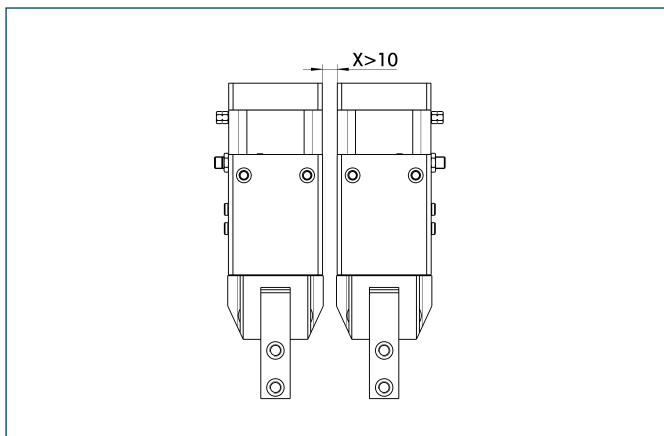
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



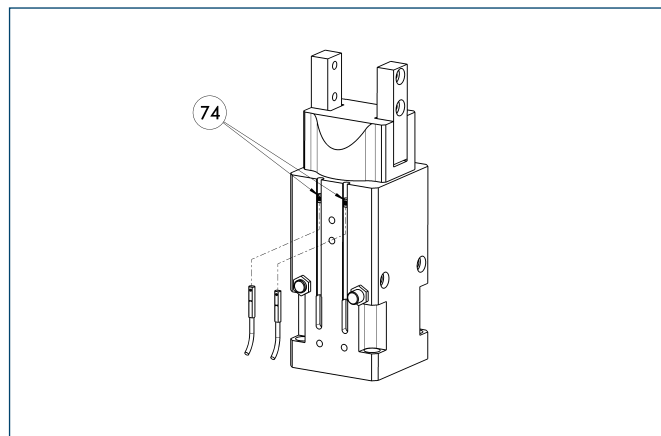
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

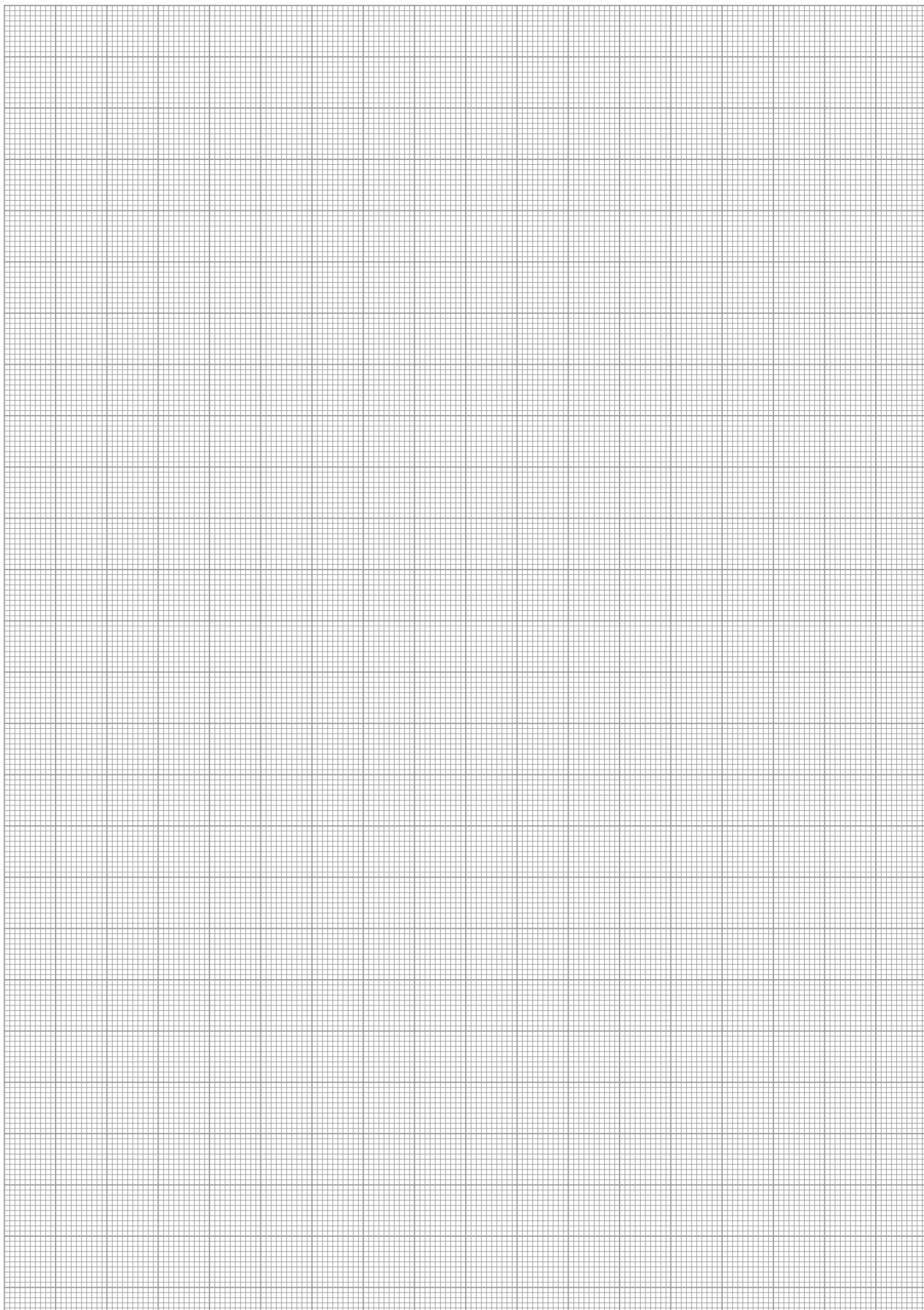


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.





Sizes
16 ... 40



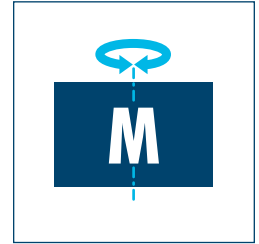
Weight
0.49 kg ... 2.19 kg



Gripping moment
0.9 Nm ... 15 Nm

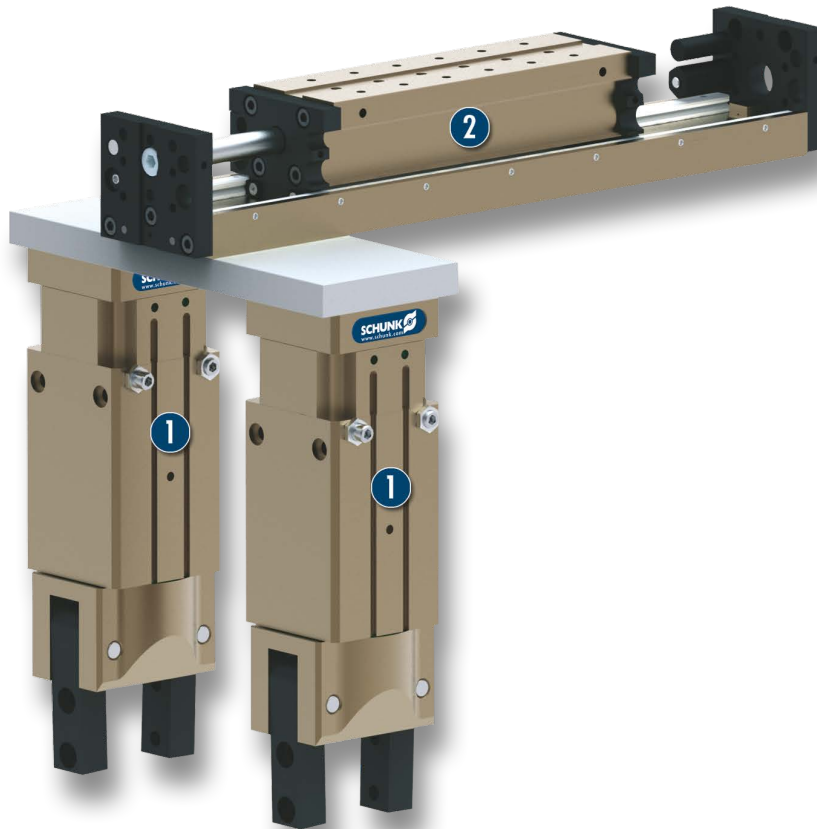


Angle per jaw
90°



Torque
0.3 Nm ... 2.9 Nm

Application example



Double converter for simultaneous conversion of two workpieces on a separate workpiece carrier.

- 1 GSM-R Gripper Swivel Module
- 2 Linear module LM

Radial Gripper Swivel Module

compact rotary gripper combination, consisting of a powerful pneumatic rotary actuator, an end position and damping mechanism and a radial gripper

Field of application

gripping and rotating combined in a single compact module, for automated assembly in places with a restricted amount of available space

Your advantages and benefits

Space-saving

as the rotary drive, end-position damping unit and gripper are merged in one compact module

Economical

since adapter plates are not needed, there will be costs for project planning and engineering design

Roller guide

for precise gripping through base jaw guidance with minimum play

Process reliability

as moving cables and hoses are replaced by integrated feed-throughs

Comprehensive accessories

through the use of existing gripper components



General note to the series

Principle of function

double-acting, guided kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

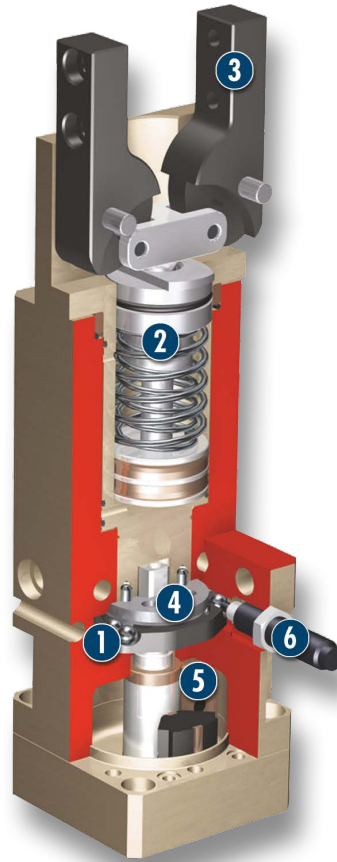
Scope of delivery

Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device

with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Preset of rotating angle
using steel balls for any desired angle of rotation</p> | <p>3 Base jaw
for mounting the top fingers</p> | <p>5 Rotor
as a compact, powerful drive</p> |
| <p>2 Gripper drive
via integrated pneumatic piston</p> | <p>4 End-position damping assembly
for end-position adjustment and damping</p> | <p>6 Hydraulic shock absorber
to increase the damping performance</p> |

Functional description

As its rotor is actuated with pressure, the drive rotates the integrated gripping module. The module itself is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.

Options and special information

Despite the many options and versions already available as standard, SCHUNK also designs and produces customized versions on request.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Programmable magnetic switch



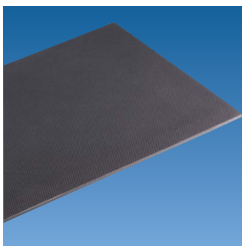
Sensor cables



Plastic inserts



Gripper pads



Sensor Distributor



Pressure maintenance valve



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in direction to the main axis. If the max. admissible finger length is exceeded, the speed of jaw motions have to be reduced and/or the opening angle has to be diminished, as it is done with heavy fingers. The service life of the gripper can shorten.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times, cycle times

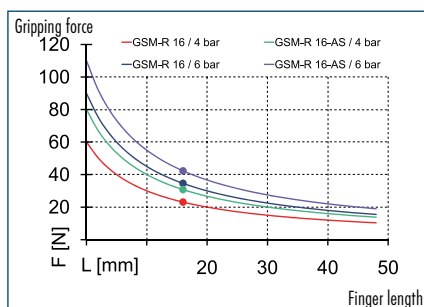
Closing and opening times are purely the times that the base jaws or fingers are in motion. Cycle times are purely the times that the rotating part (mostly the pinion) is in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

Middle attached load

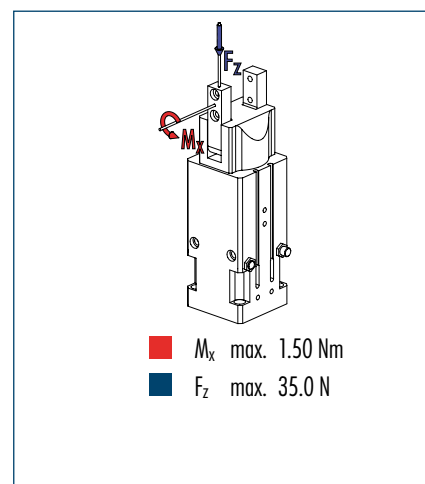
The middle attached load should constitute a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

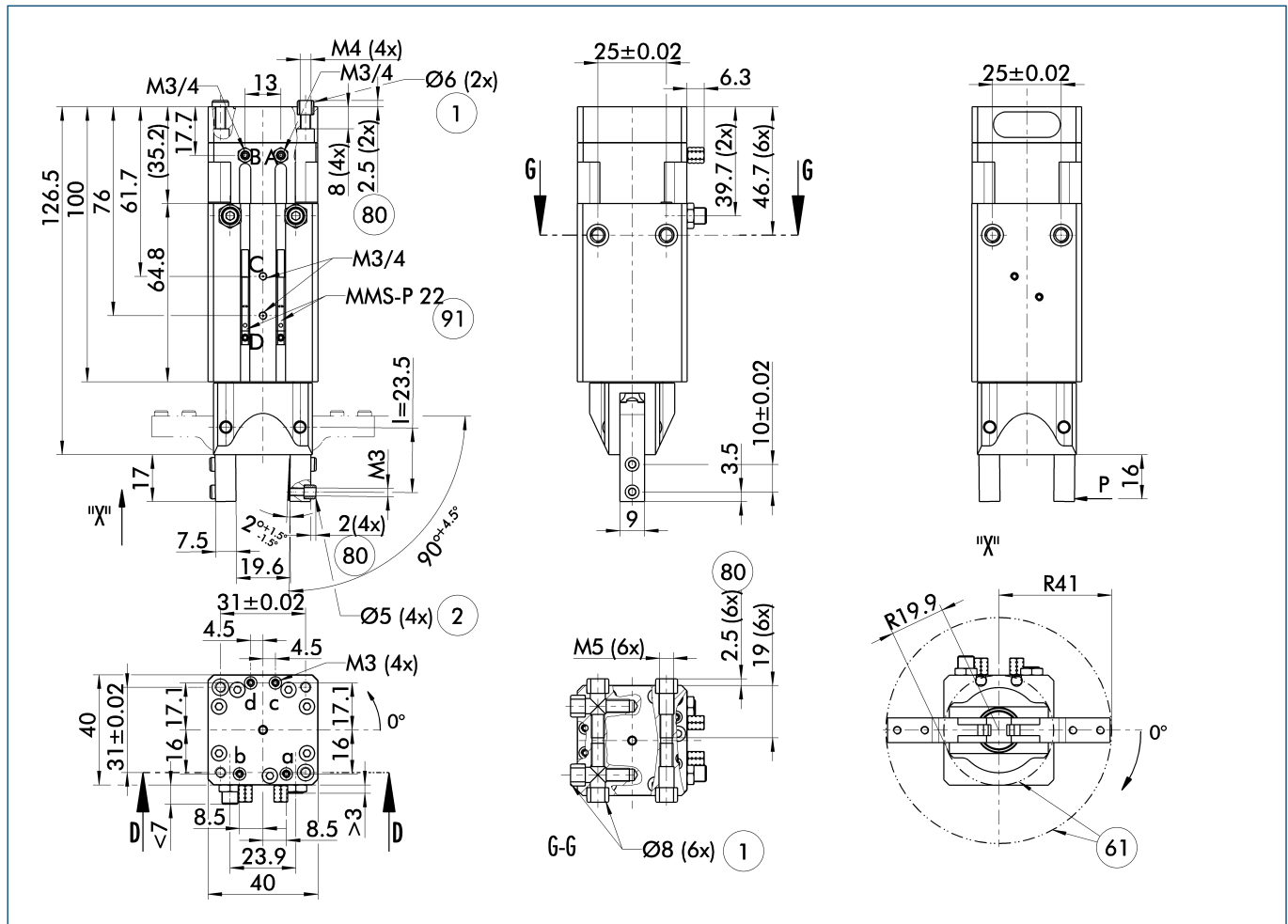
Technical data

Description		GSM-R 16-E-090	GSM-R 16-S-090	GSM-R 16-ASE-090	GSM-R 16-AS-S-090
ID		0304638	0304738	0304639	0304739
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	0.9	0.9	1.1	1.1
Spring-actuated closing moment	[Nm]			0.2	0.2
Torque	[Nm]	0.35	0.35	0.35	0.35
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.17	0.17	0.17	0.17
Air consumption for gripping	[cm³]	8.95	8.95	8.95	8.95
Air consumption for swiveling	[cm³]	9	9	9	9
Weight	[kg]	0.49	0.49	0.49	0.49
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.09/0.07	0.09/0.07	0.1/0.09	0.1/0.09
Swiveling time with middle attached load	[s]	0.12	0.12	0.12	0.12
Max. permitted finger length	[mm]	32	32	32	32
Max. permitted weight per finger	[kg]	0.04	0.04	0.04	0.04
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 16-E-180	GSM-R 16-S-180	GSM-R 16-ASE-180	GSM-R 16-AS-S-180
ID		0303838	0303938	0303839	0303939
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15
Swiveling time with middle attached load	[s]	0.18	0.18	0.18	0.18

Main view



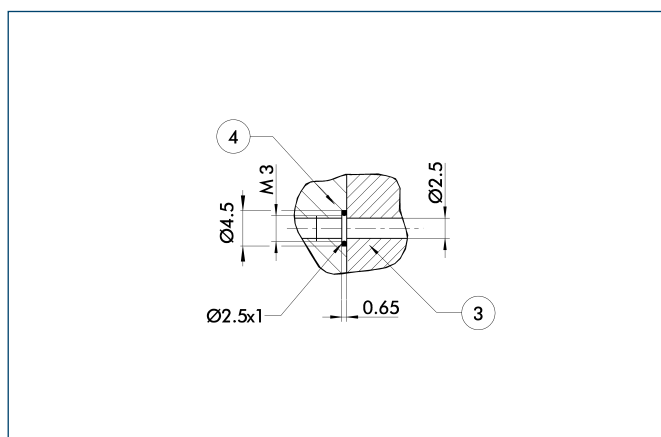
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, rotary actuator clockwise turning
- B, b Main/direct connection, rotary actuator anti-clockwise turning
- C, c Main/direct connection, gripper opening
- D, d Main/direct connection, gripper closing

- ① Connection gripper-rotary actuator
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

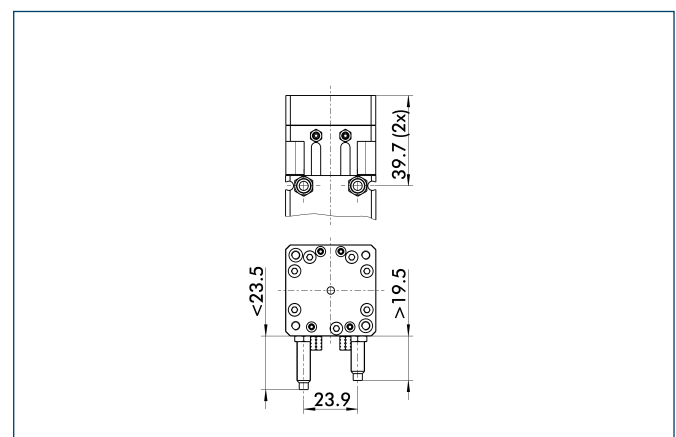
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

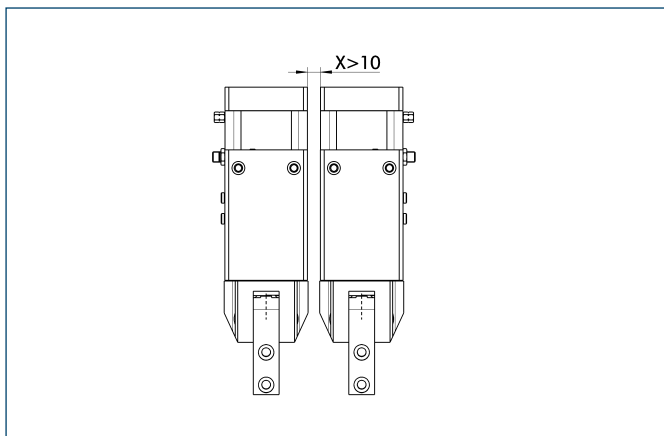
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



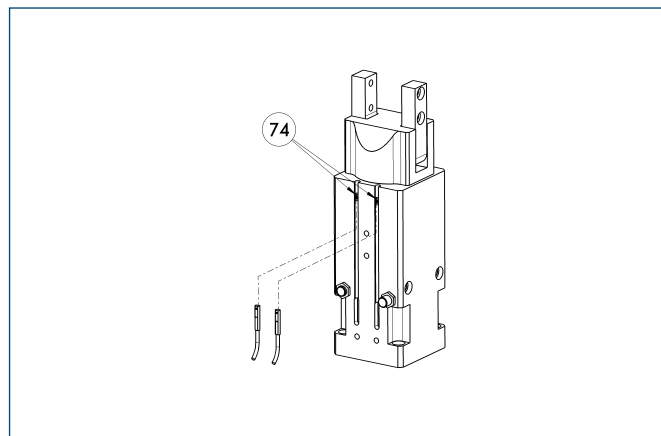
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

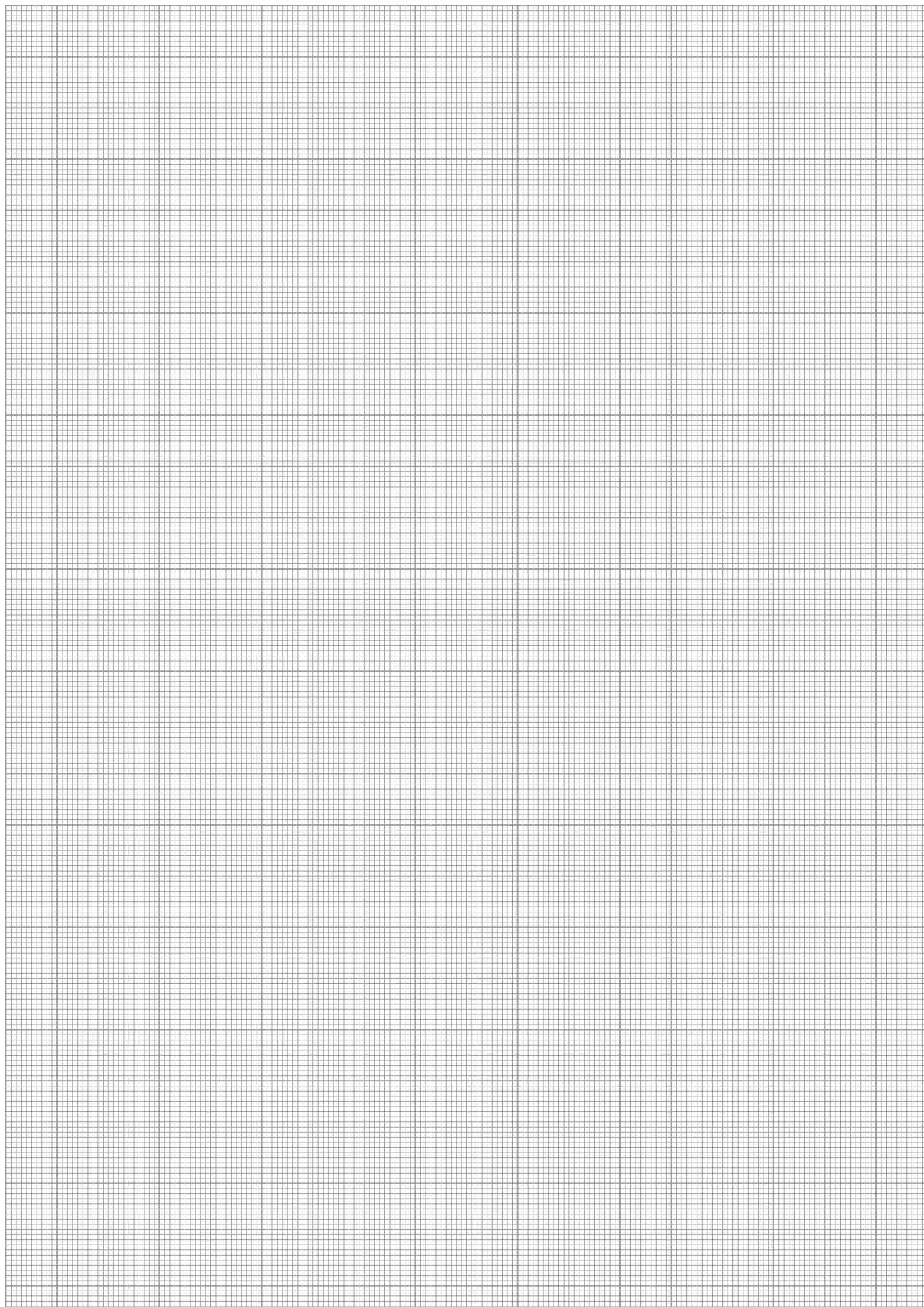


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

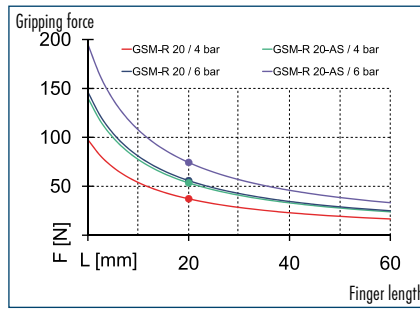
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

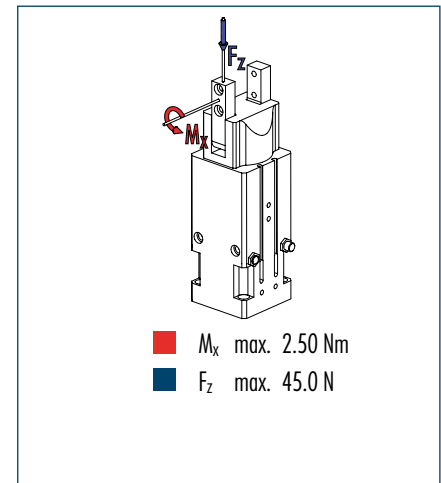




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

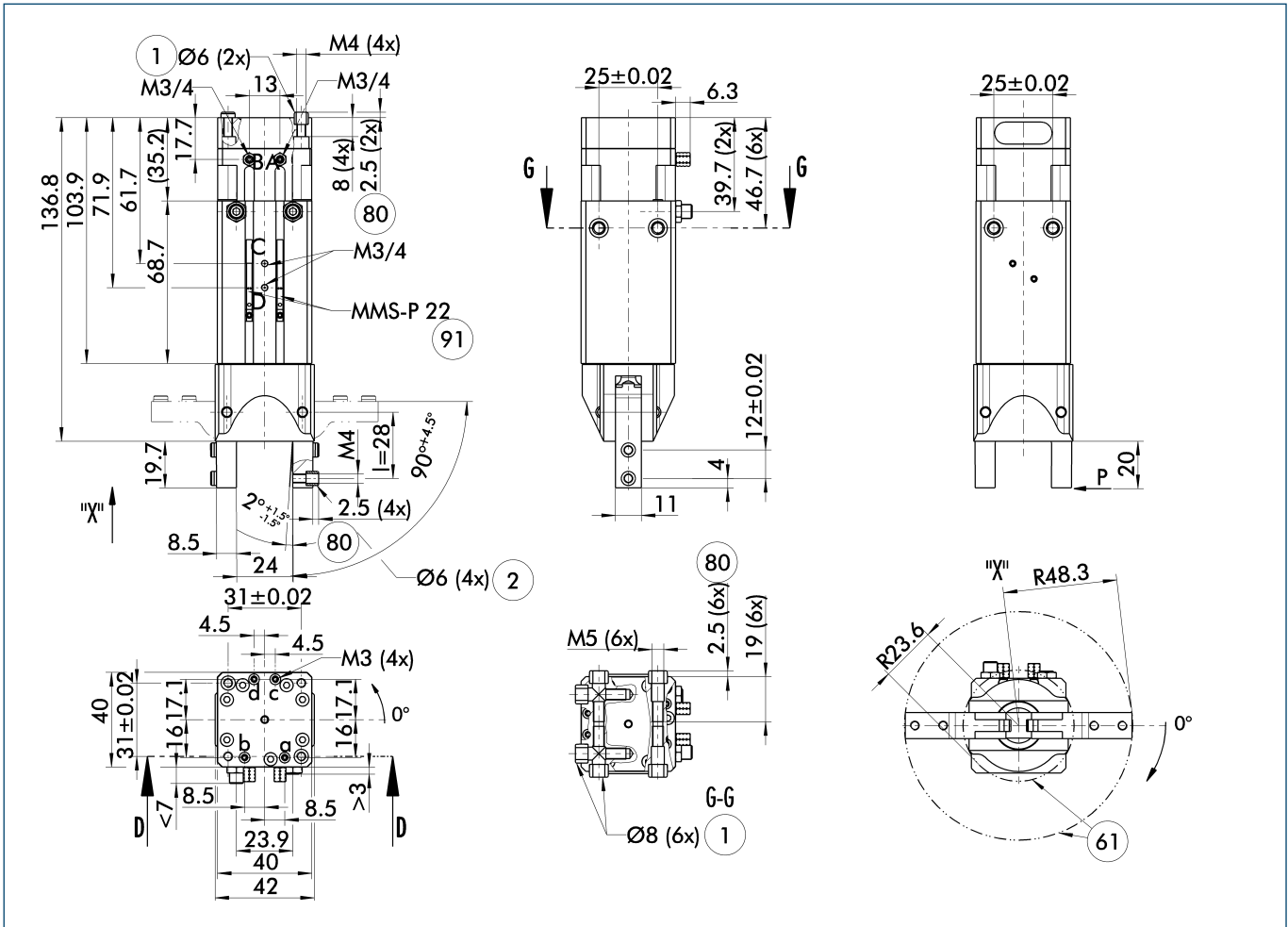
Technical data

Description		GSM-R 20-E-090	GSM-R 20-S-090	GSM-R 20-ASE-090	GSM-R 20-AS-S-090
ID		0304648	0304748	0304649	0304749
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	1.8	1.8	2.4	2.4
Spring-actuated closing moment	[Nm]			0.6	0.6
Torque	[Nm]	0.3	0.3	0.3	0.3
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.28	0.28	0.28	0.28
Air consumption for gripping	[cm³]	15.49	15.49	15.49	15.49
Air consumption for swiveling	[cm³]	9	9	9	9
Weight	[kg]	0.49	0.49	0.57	0.57
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	4	4	4	4
Closing/opening time	[s]	0.1/0.09	0.1/0.09	0.1/0.12	0.1/0.12
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	40	40	40	40
Max. permitted weight per finger	[kg]	0.07	0.07	0.07	0.07
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 20-E-180	GSM-R 20-S-180	GSM-R 20-ASE-180	GSM-R 20-AS-S-180
ID		0303848	0303948	0303849	0303949
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	15	15	15	15
Swiveling time with middle attached load	[s]	0.22	0.22	0.22	0.22

Main view



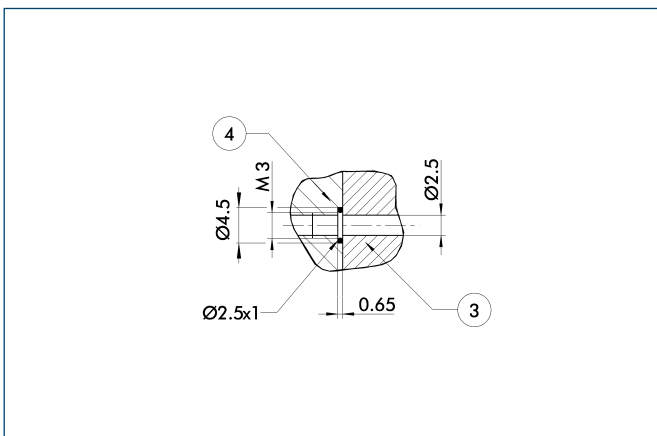
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

- A, a Main/direct connection, rotary actuator clockwise turning
- B, b Main/direct connection, rotary actuator anti-clockwise turning
- C, c Main/direct connection, gripper opening
- D, d Main/direct connection, gripper closing

- ① Connection gripper-rotary actuator
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

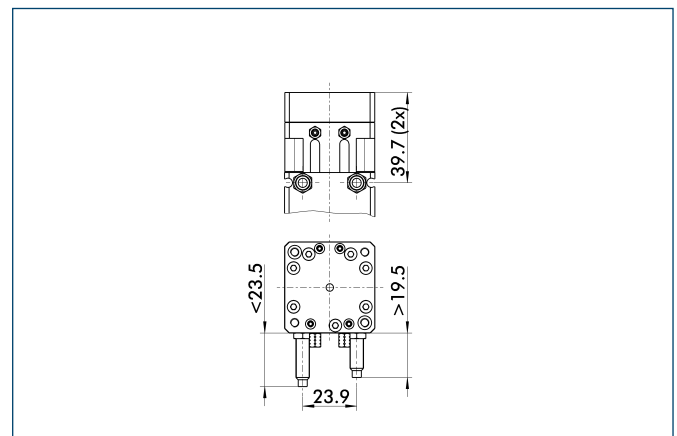
Hose-free direct connection



- ③ Adapter
- ④ Gripper swivel module

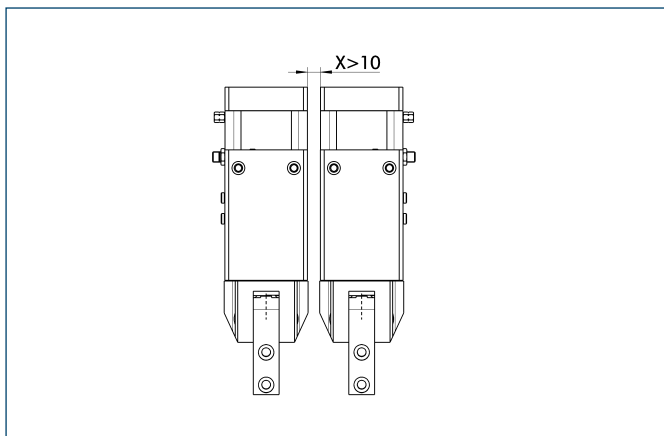
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



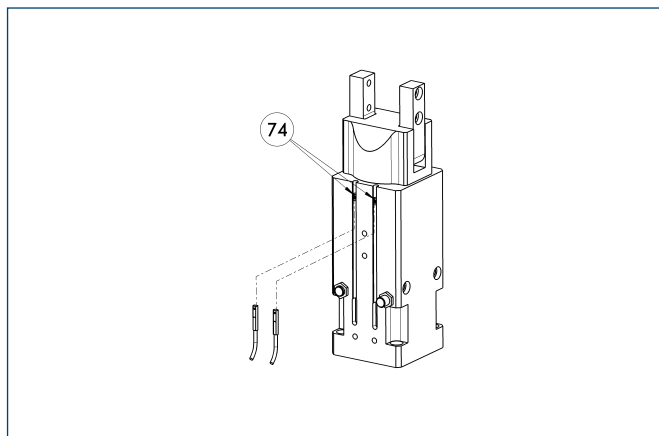
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

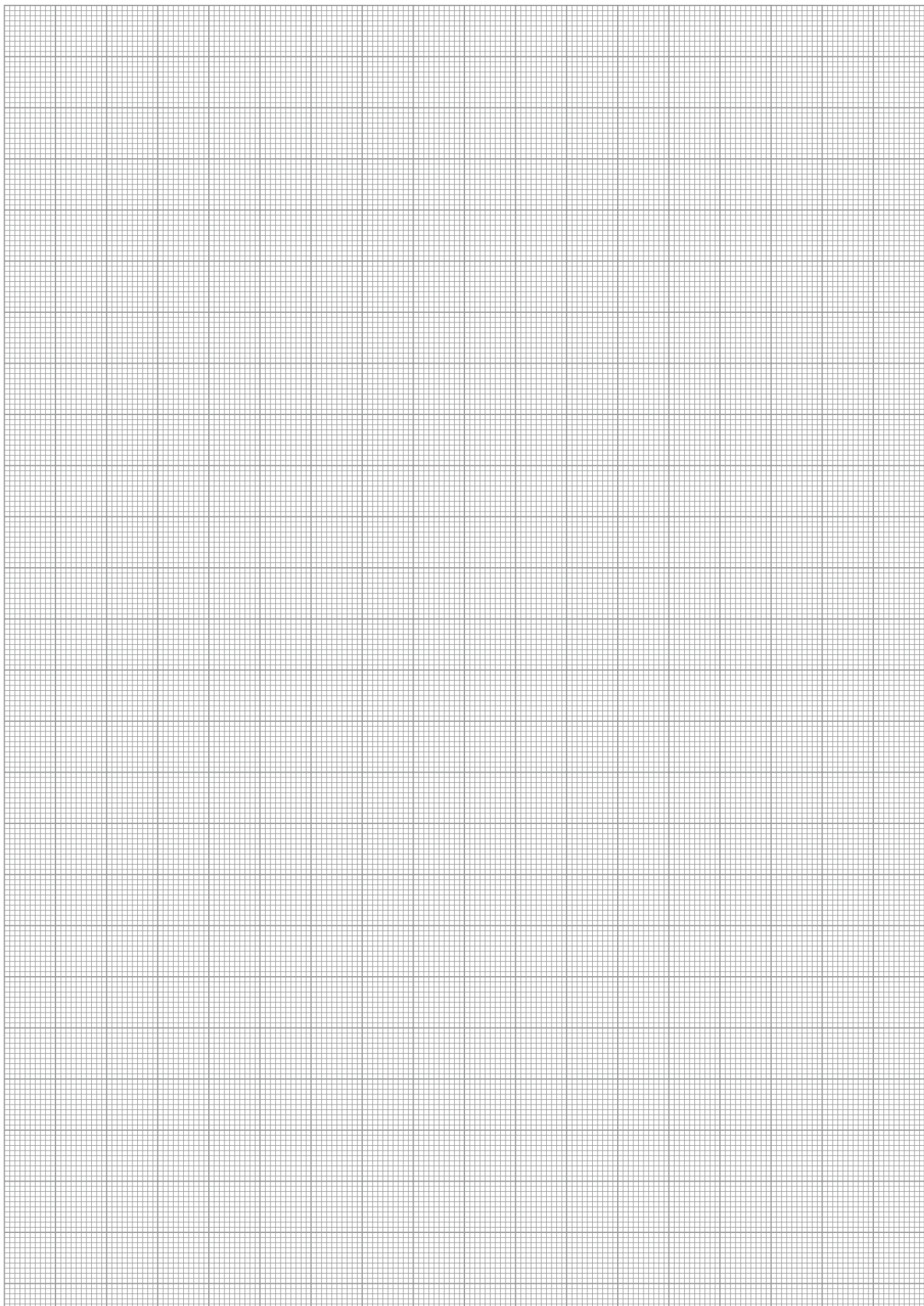


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

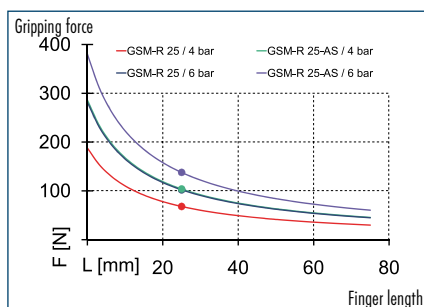
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

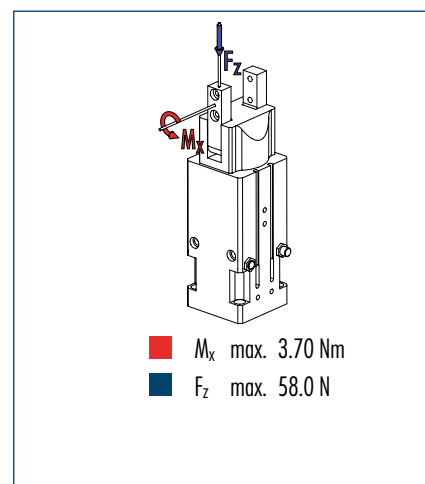




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

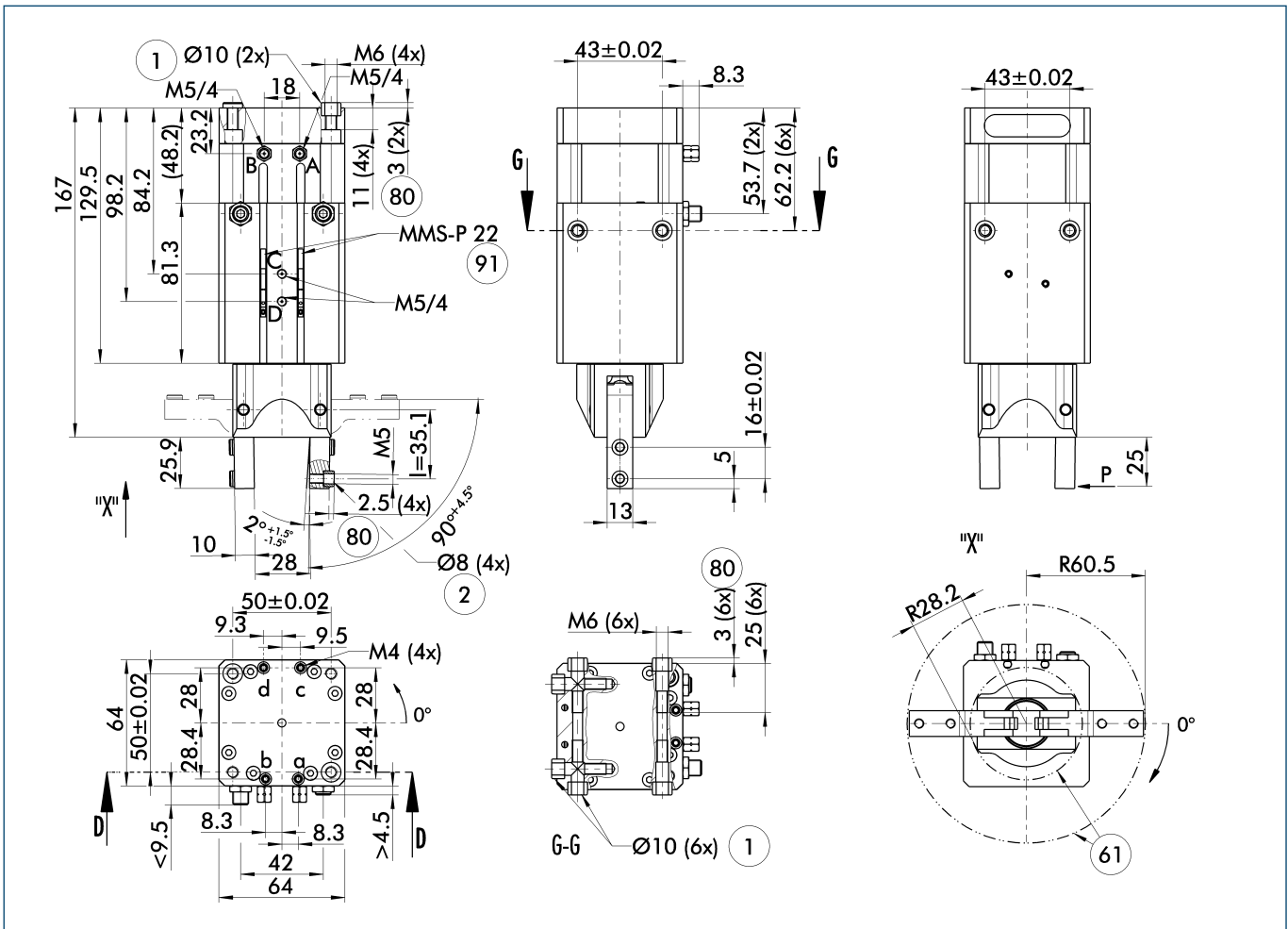
Technical data

Description		GSM-R 25-E-090	GSM-R 25-S-090	GSM-R 25-ASE-090	GSM-R 25-AS-S-090
ID		0304658	0304758	0304659	0304759
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	4	4	5.4	5.4
Spring-actuated closing moment	[Nm]			1.4	1.4
Torque	[Nm]	2.9	2.9	2.9	2.9
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	27.37	27.37	27.37	27.37
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	1.52	1.52	1.53	1.53
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.1/0.09	0.1/0.09	0.1/0.12	0.1/0.12
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	50	50	50	50
Max. permitted weight per finger	[kg]	0.1	0.1	0.1	0.1
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 25-E-180	GSM-R 25-S-180	GSM-R 25-ASE-180	GSM-R 25-AS-S-180
ID		0303858	0303958	0303859	0303959
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

Main view



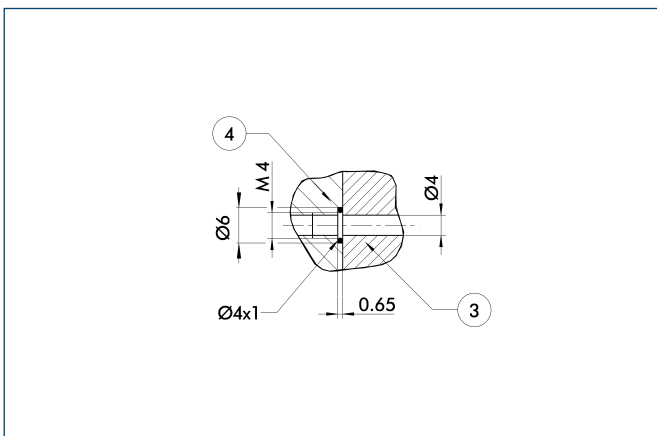
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Connection gripper-rotary actuator
② Finger connection
⑥1 Interfering contour during swiveling
⑧0 Depth of the centering sleeve hole in the matching part
⑨1 Monitoring of gripping and swiveling

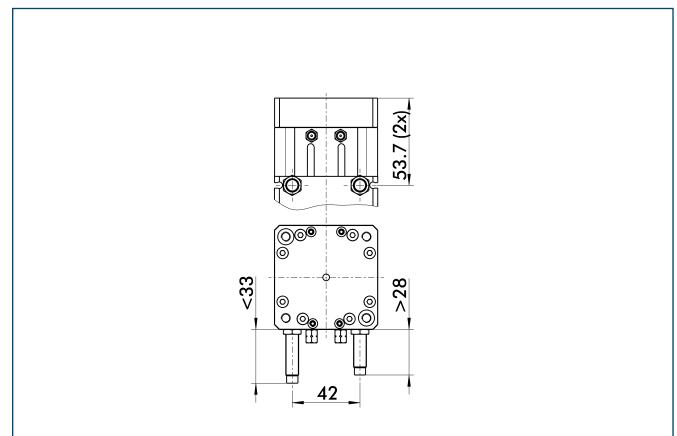
Hose-free direct connection



③ Adapter
④ Gripper swivel module

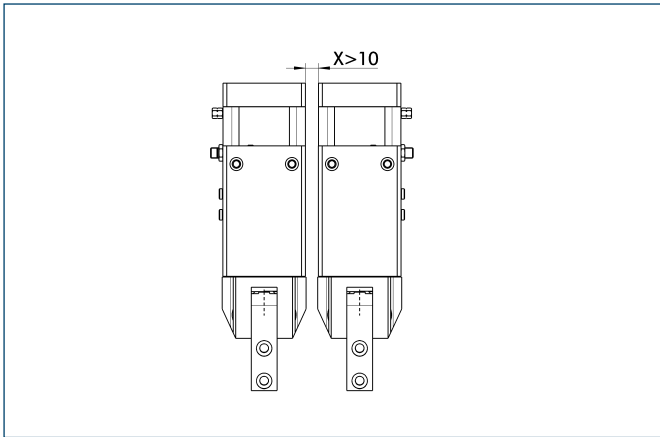
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



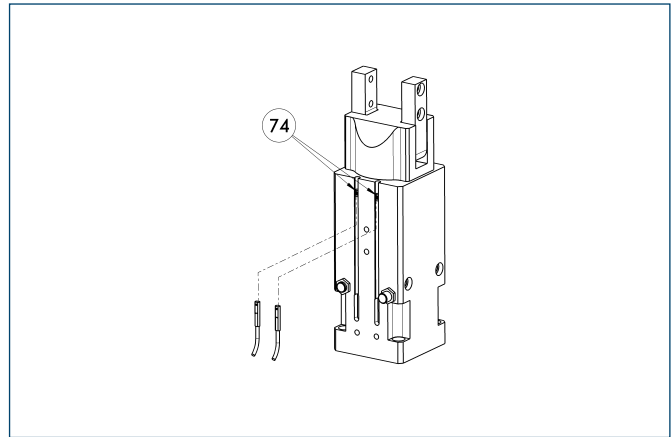
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

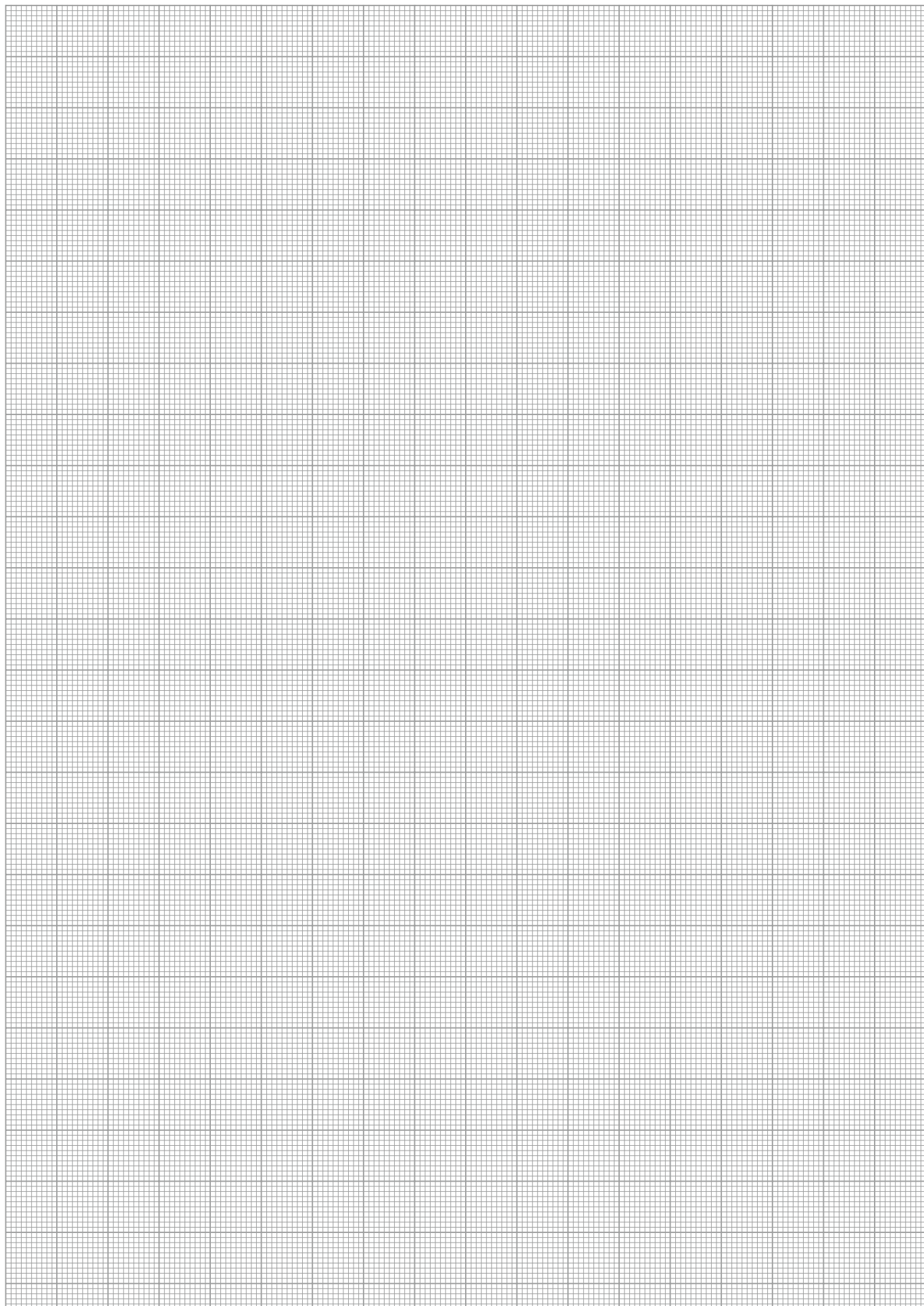


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

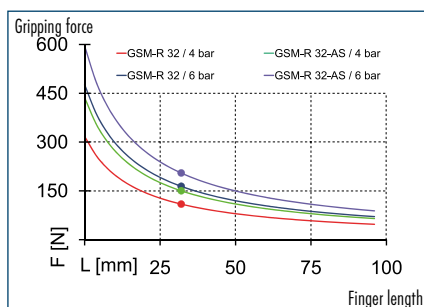
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

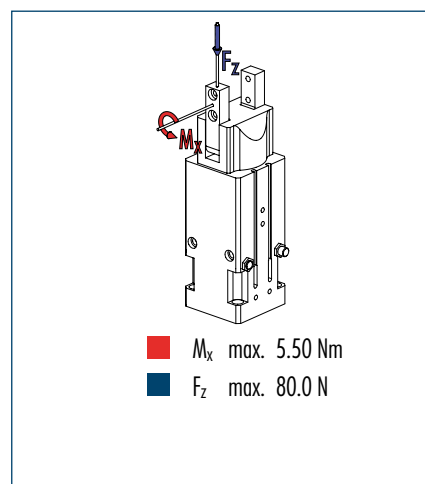




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description		GSM-R 32-E-090	GSM-R 32-S-090	GSM-R 32-ASE-090	GSM-R 32-AS-S-090
ID		0304678	0304778	0304679	0304779
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	8	8	10	10
Spring-actuated closing moment	[Nm]			2	2
Torque	[Nm]	2.6	2.6	2.6	2.6
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	0.85	0.85	0.85	0.85
Air consumption for gripping	[cm³]	48.77	48.77	48.77	48.77
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	1.83	1.83	1.86	1.86
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.11/0.12	0.11/0.12	0.12/0.17	0.12/0.17
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	64	64	64	64
Max. permitted weight per finger	[kg]	0.15	0.15	0.15	0.15
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 32-E-180	GSM-R 32-S-180	GSM-R 32-ASE-180	GSM-R 32-AS-S-180
ID		0303878	0303978	0303879	0303979
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

[illegible]

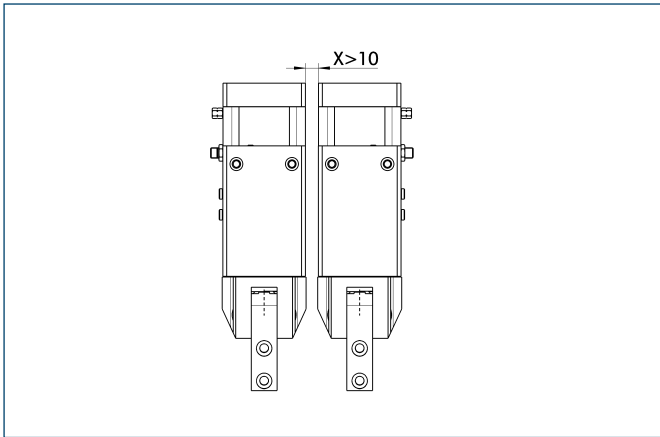
- ① Connection gripper-rotary actuator
- ② Finger connection
- 61 Interfering contour during swiveling
- 80 Depth of the centering sleeve hole in the matching part
- 91 Monitoring of gripping and swiveling

Technical drawing of a mechanical part, likely a bush or sleeve, showing dimensions and callouts:

- Callout 4:** Points to the outer diameter of the part, labeled $\varnothing 6$.
- Callout 3:** Points to the inner diameter of the part, labeled $\varnothing 4$.
- Callout 1:** Points to the thread specification, labeled $M4$.
- Callout 2:** Points to the length of the part, labeled 0.65 .

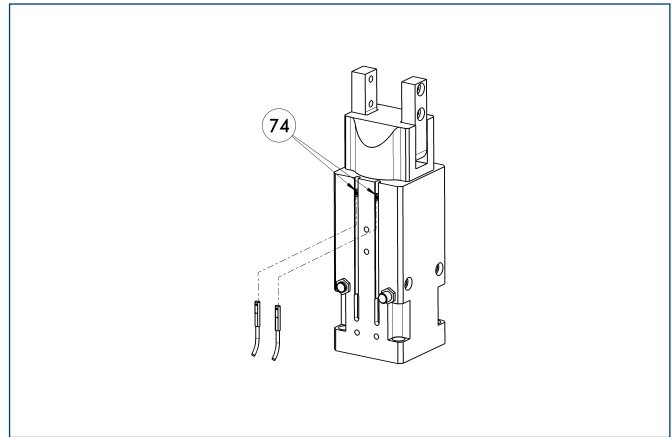
1193

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

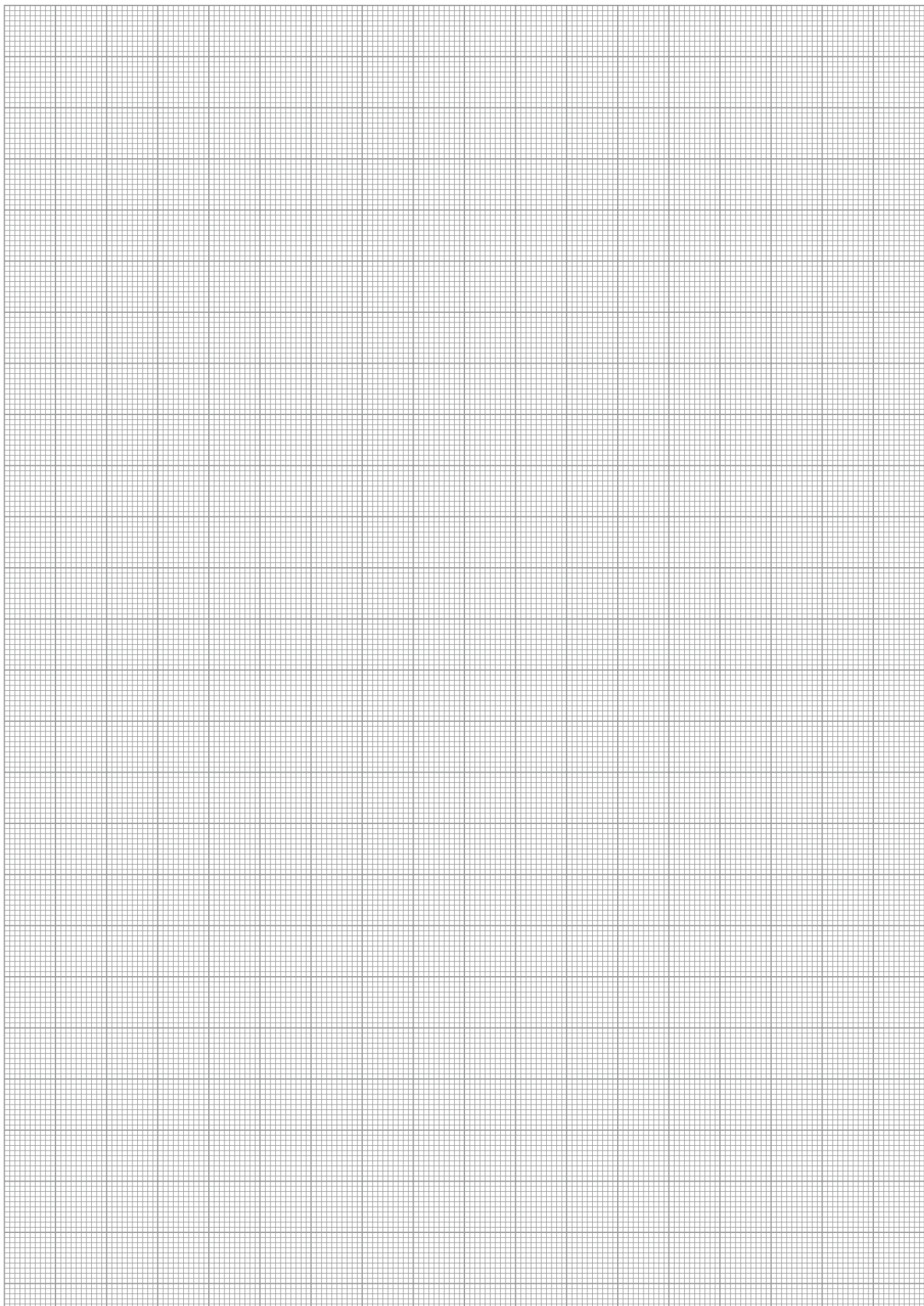


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

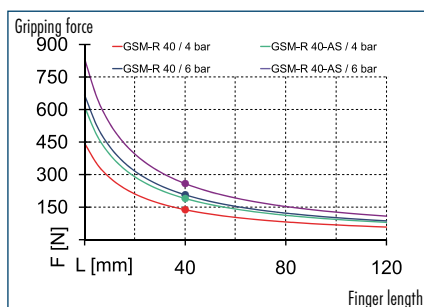
Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

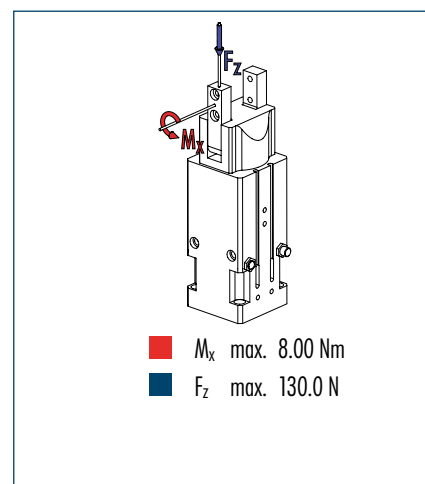




Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

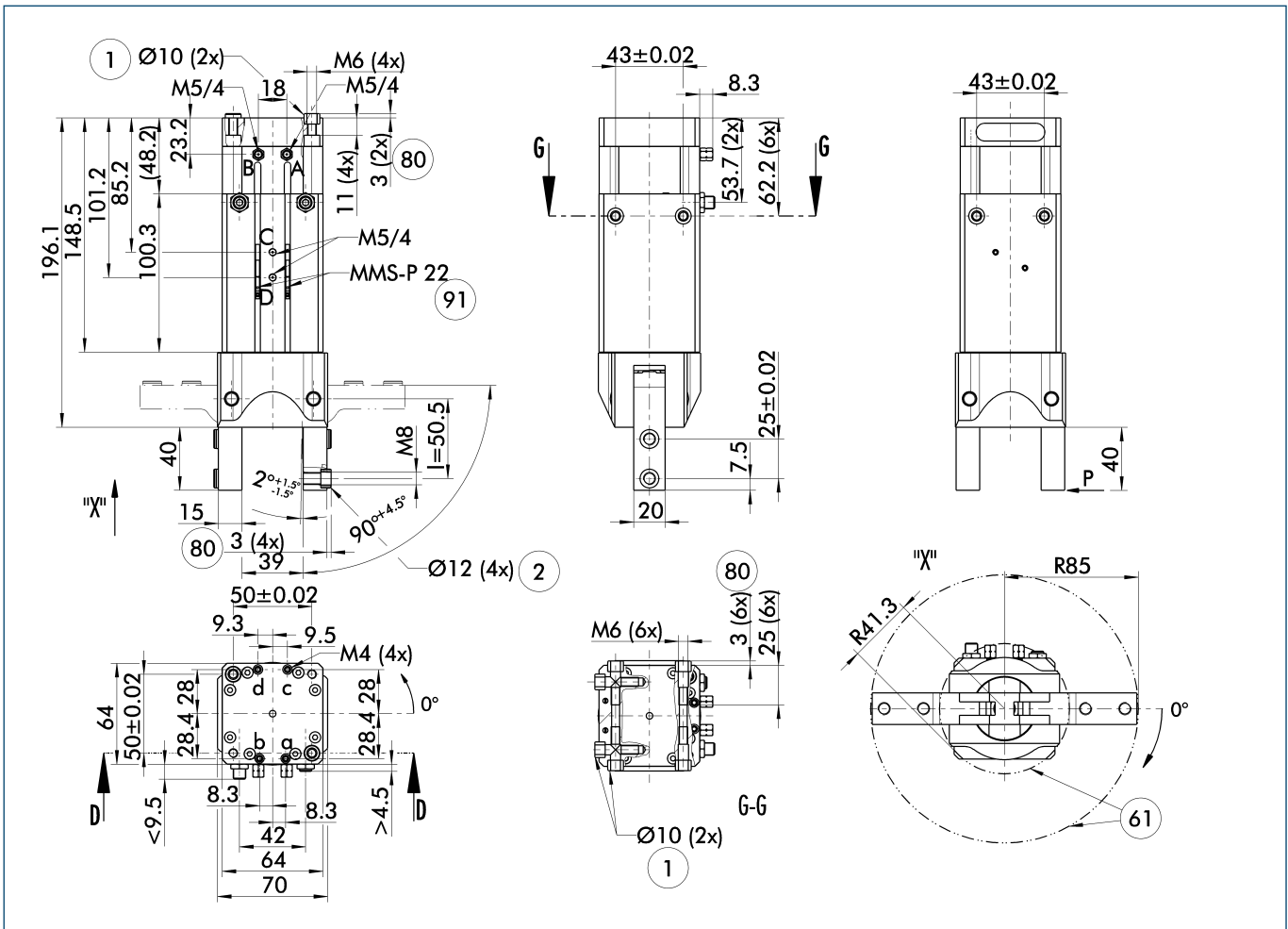
Technical data

Description		GSM-R 40-E-090	GSM-R 40-S-090	GSM-R 40-ASE-090	GSM-R 40-AS-S-090
ID		0304688	0304788	0304689	0304789
End position adjustability	[°]	90	90	90	90
Opening angle per jaw	[°]	90	90	90	90
Closed angle per jaw up to	[°]	3.5	3.5	3.5	3.5
Closing moment	[Nm]	12	12	15	15
Spring-actuated closing moment	[Nm]			3	3
Torque	[Nm]	2.3	2.3	2.3	2.3
Angle of rotation	[°]	90	90	90	90
Recommended workpiece weight	[kg]	1	1	1	1
Air consumption for gripping	[cm³]	80.52	80.52	80.52	80.52
Air consumption for swiveling	[cm³]	51	51	51	51
Weight	[kg]	2.15	2.15	2.19	2.19
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5
Minimum operating pressure for gripping	[bar]	2	2	4	4
Minimum operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.23/0.18	0.23/0.18	0.21/0.3	0.21/0.3
Swiveling time with middle attached load	[s]	0.14	0.14	0.14	0.14
Max. permitted finger length	[mm]	80	80	80	80
Max. permitted weight per finger	[kg]	0.25	0.25	0.25	0.25
IP class		30	30	30	30
Min./max. ambient temperature	[°C]	-10/90	5/60	-10/90	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1

OPTIONS and their characteristics

Description		GSM-R 40-E-180	GSM-R 40-S-180	GSM-R 40-ASE-180	GSM-R 40-AS-S-180
ID		0303888	0303988	0303889	0303989
End position adjustability	[°]	180	180	180	180
Air consumption for swiveling	[cm³]	85	85	85	85
Swiveling time with middle attached load	[s]	0.24	0.24	0.24	0.24

Main view



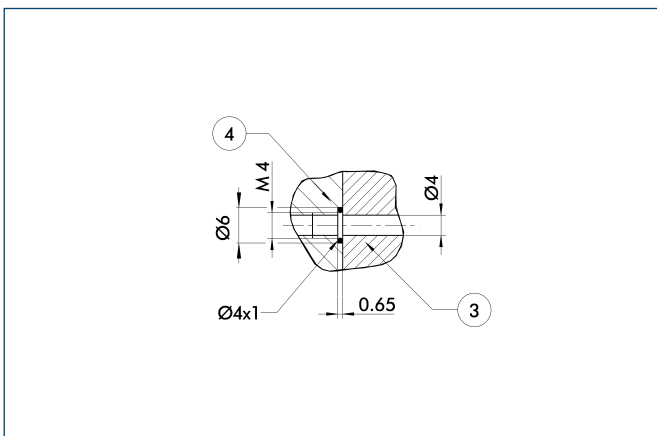
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, rotary actuator clockwise turning
B, b Main/direct connection, rotary actuator anti-clockwise turning
C, c Main/direct connection, gripper opening
D, d Main/direct connection, gripper closing

① Connection gripper-rotary actuator
② Finger connection
61 Interfering contour during swiveling
80 Depth of the centering sleeve hole in the matching part
91 Monitoring of gripping and swiveling

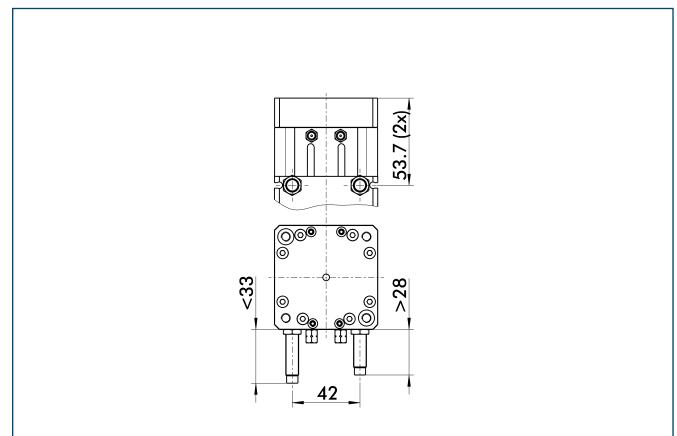
Hose-free direct connection



③ Adapter
④ Gripper swivel module

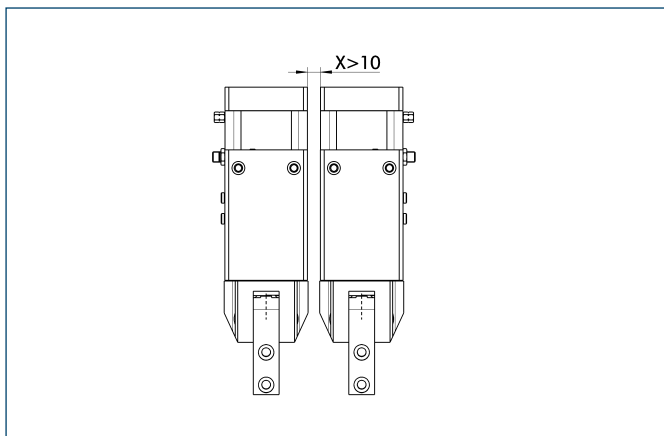
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Version with shock absorbers



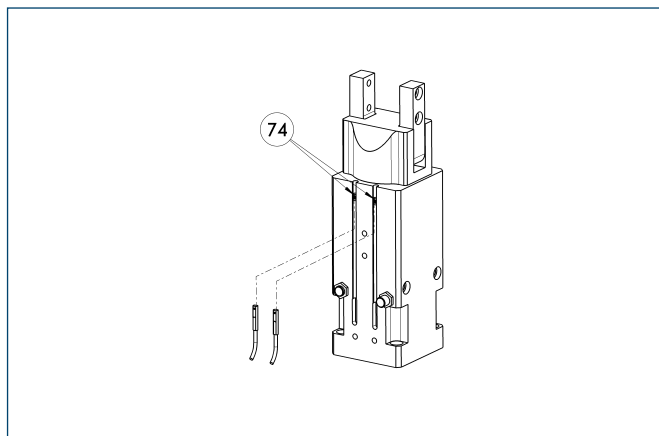
The drawing shows changes in dimensions of the shock absorber versions, compared to the elastomer versions shown on the main view.

Stacked arrangement



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

Programmable magnetic switch

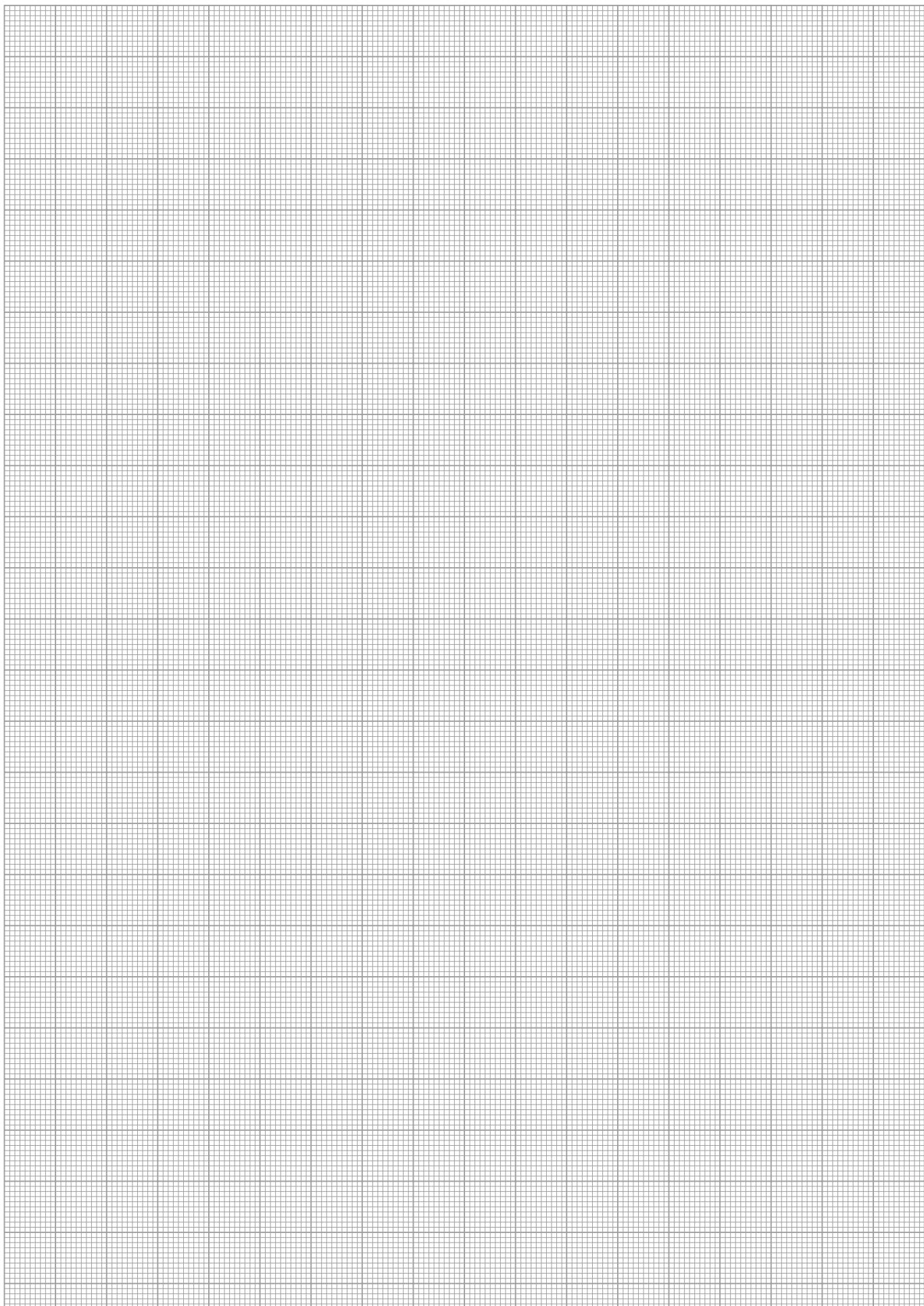


74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Recommended product
Programmable magnetic switch		
MMS-P 22-S-M8-PNP	0301370	•
MMSK-P 22-S-PNP	0301371	
Connection cables		
KA BG08-L 4P-0500	0307767	
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor Distributor		
V2-M8-4P-2XM8-3P	0301380	

- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
- ① Per each GSM two sensors MMS-P are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.



Electric Gripping Modules

2-Finger Parallel Gripper



2-FINGER PARALLEL GRIPPER

Series	Size	Page
Control		1202
Gripper for small components		
MEG		1204
MEG	40	1208
MEG	50	1212
MEG	64	1216
Universal Gripper		
EGN		1220
EGN	80	1224
EGN	100	1228
EGN	160	1232
PG		1236
PG	70	1240
EVG		1244
EVG	55-40	1248
EVG	55-100	1250
Long-stroke Gripper		
PEH		1252
PEH	30	1256
PEH	40	1260
PEH	50	1264
LEG		1268
LEG	760	1272



Electric Gripping Modules

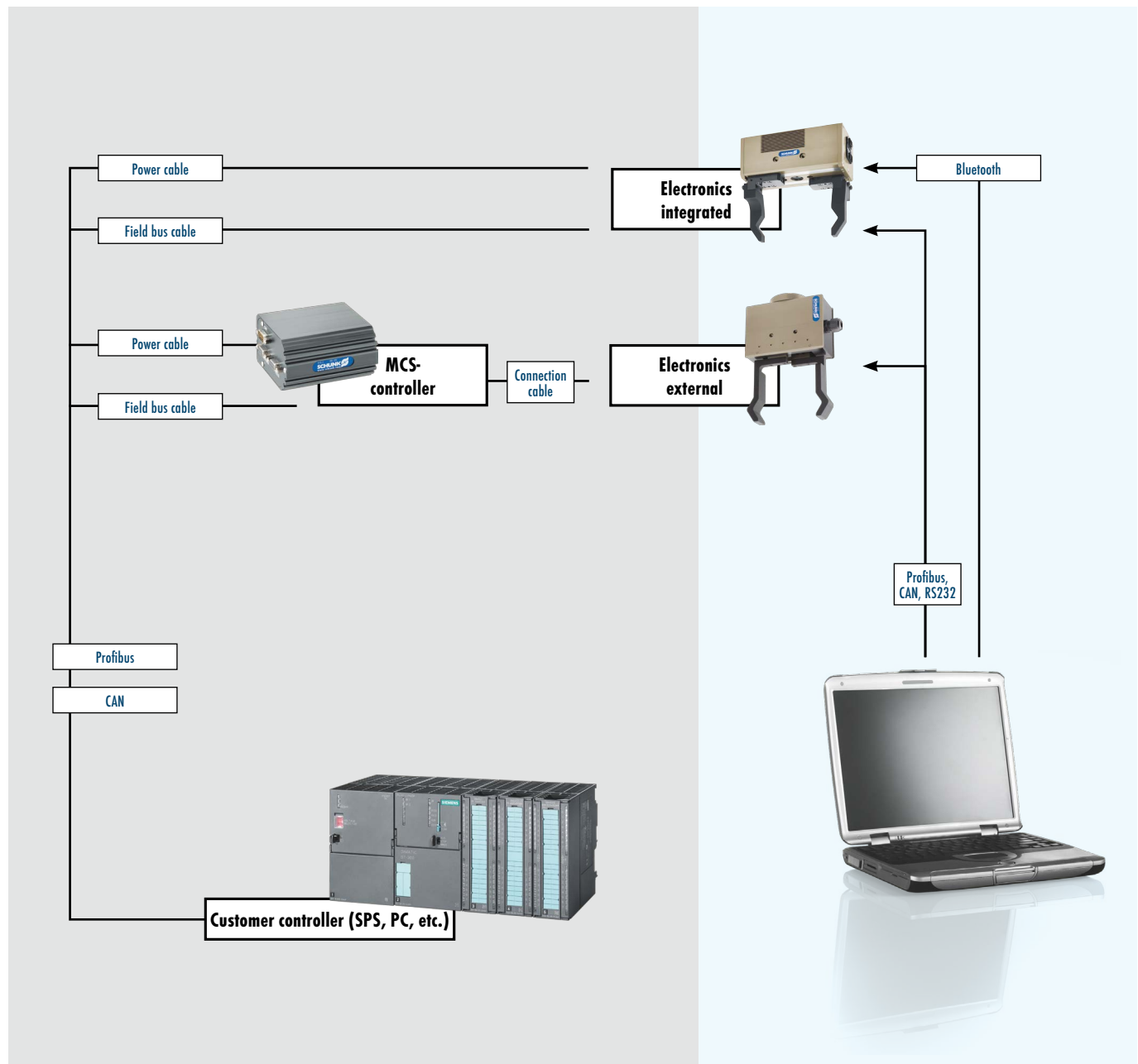
Electric • Gripper • Control

Control

To control the electric gripping modules, the approved SCHUNK electronics with SMP is used.

Productive application

Parameterisation/diagnostics



Your advantages and benefits

Control and feedback control electronics

integrated or external in one housing

Easy control

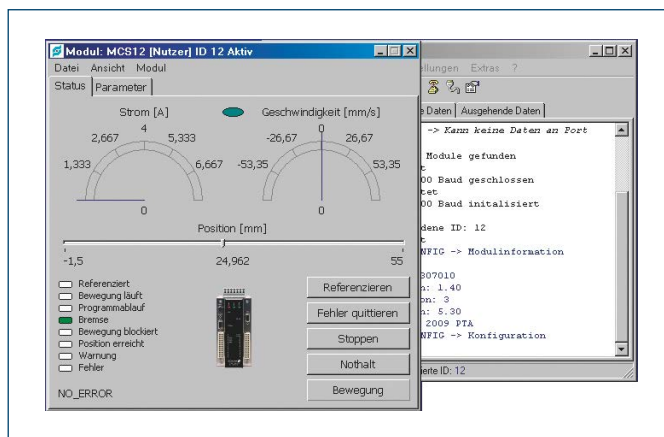
via Schunk Motion Protocol (SMP) or by software blocks
for e.g. Siemens PLC SIMATIC S7

Fast and easy setup

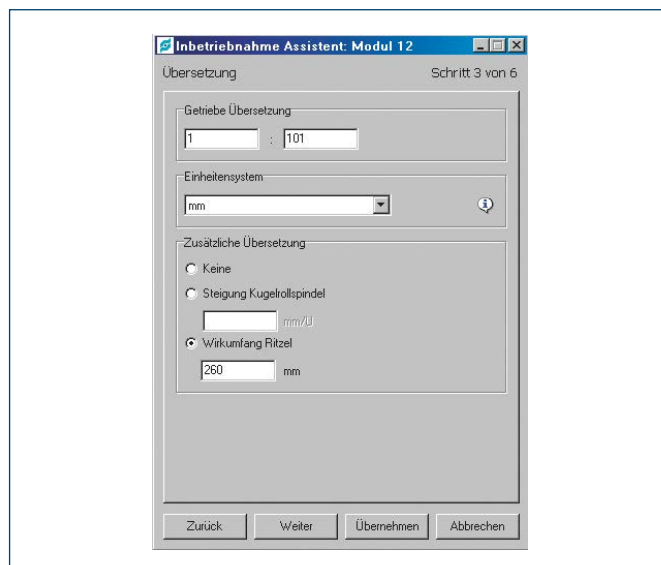
supported by an integrated setup wizard

MCDemo setup software

The MCDemo programming software lets you setup the electric gripper fast and easy. This is also supported by an integrated setup wizard. Instructions are supplied on data carriers.



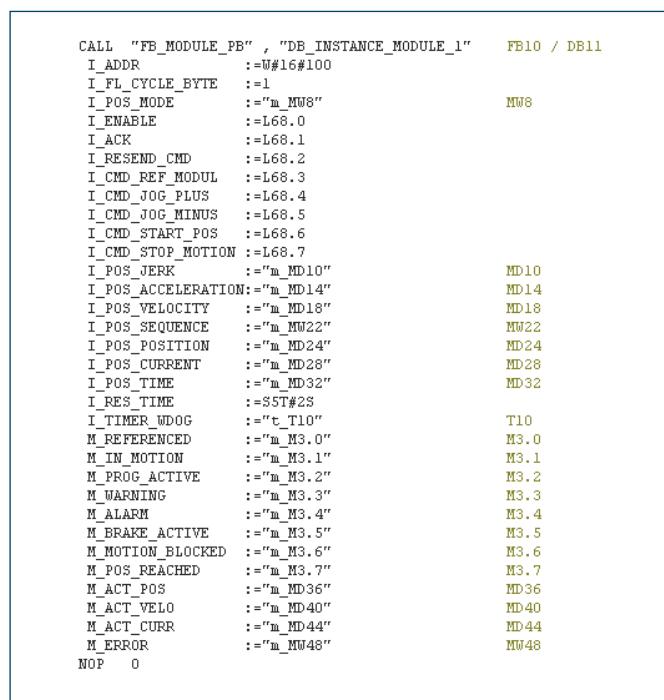
MCDemo: simple parameterisation, setup and diagnostics



Setup wizard: fast and simple setup

Contol via FB10 function block for Siemens S7-300/400

The FB10 function block eases the communication between the S7 and the SMP protocol of the electric gripper. Thereby, the electric gripper can be easily controlled and feedback signals can be evaluated.



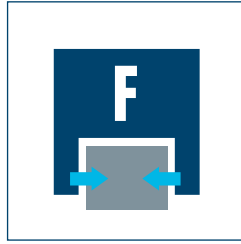
FB10 (AWL): for simple control, evaluation and diagnostics



Sizes
40 ... 64



Weight
0.47 kg ... 1.42 kg



Gripping force
40 N ... 175 N

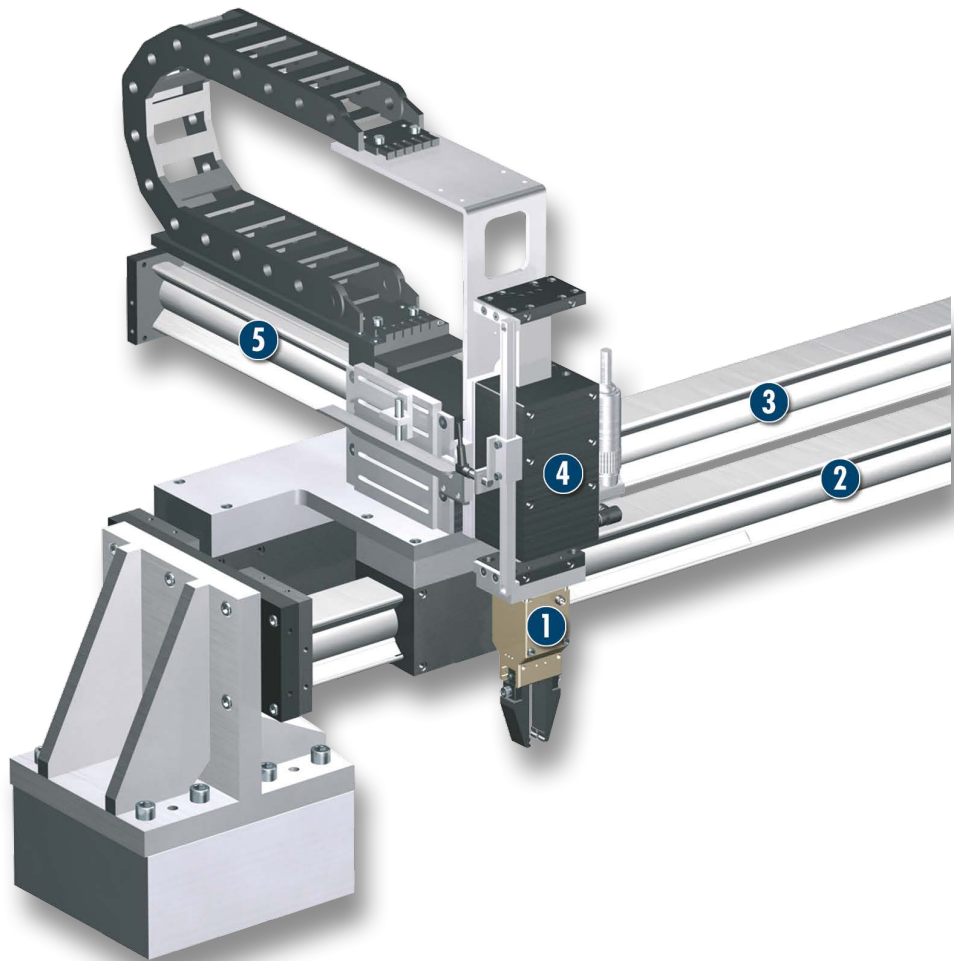


Stroke per finger
6 mm ... 10 mm



Workpiece weight
0.3 kg ... 0.85 kg

Application example



Fully electrically driven, triple-axis automatic insertion unit for small components

1 MEG servo-electric 2-Finger Parallel Gripper

2 MLD Linear Motor Drive

3 Support Axis

4 Short-stroke Axis with direct drive MLD Stroke with reference switch

5 Linear axis with direct drive MLD with measuring system

Gripper for small components

electric 2-finger parallel gripper with smooth-running base jaws guided on roller bearings

Field of application

gripping and motion of small to medium-sized workpieces with flexible force, stroke or speed

Your advantages and benefits

Drive design of step motor

for independent actuation without pneumatics or hydraulics

External electronic system

for control-intensive handling tasks with pre-positioning capability

Roller guide

for precise gripping through base jaw guidance with minimum play

Base jaws guided on double roller bearings

for low friction and smooth running

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

electrically, via step motor or spindle drive

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

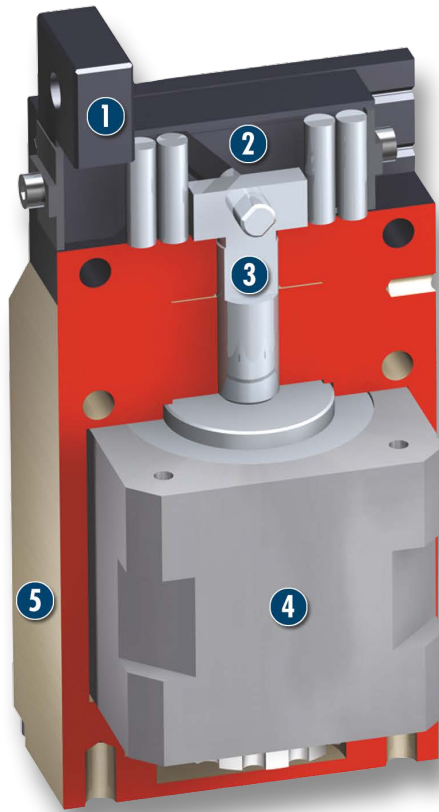
Scope of delivery

Centering elements, assembly and operating instruction with manufacturer's declaration.

Finger blanks are not included.

For actuating the gripper, an external control unit MEG-C is required.

Sectional diagram



- 1 Base jaw**
for the connection of workpiece-specific gripper fingers
- 2 Roller guide**
precise gripping through base jaw guide with minimum play
- 3 Wedge-hook design**
for high power transmission and centric gripping
- 4 Drive**
Step motor with spindle
- 5 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

Functional description

The spindle is moved upwards or downwards via a step motor drive. The lateral hooks on top of the spindle guide the angled groove of both base jaws, and this motion transfers into a synchronized opening or closing of the base jaws.

Options and special information

The electrical control of the MEG EC gripper is done via the appropriate MEG-C control unit.

Via digital and analog inputs the gripper parameters force, position and speed as well as the various operating modes are predefined. The status of the gripper can be monitored via digital and analog outputs.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Inductive proximity switches



Sensor cables



Control unit



Carbide clamping inserts



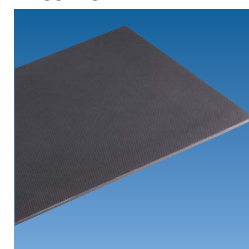
Plastic inserts



Finger blanks



Gripper pads



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

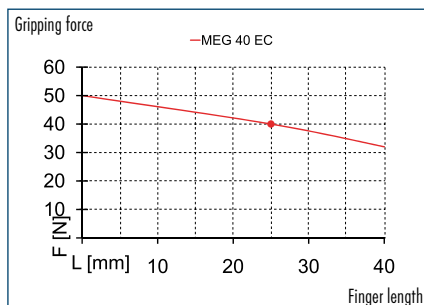
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

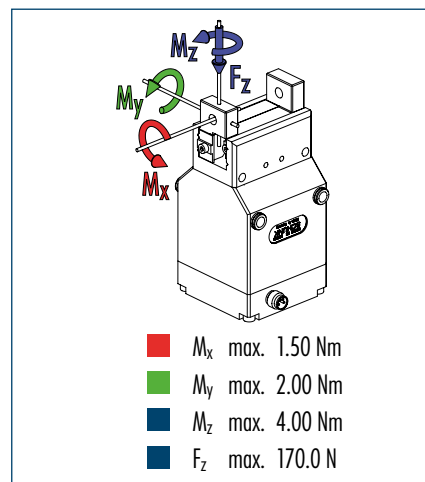
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



Gripping force



Finger load

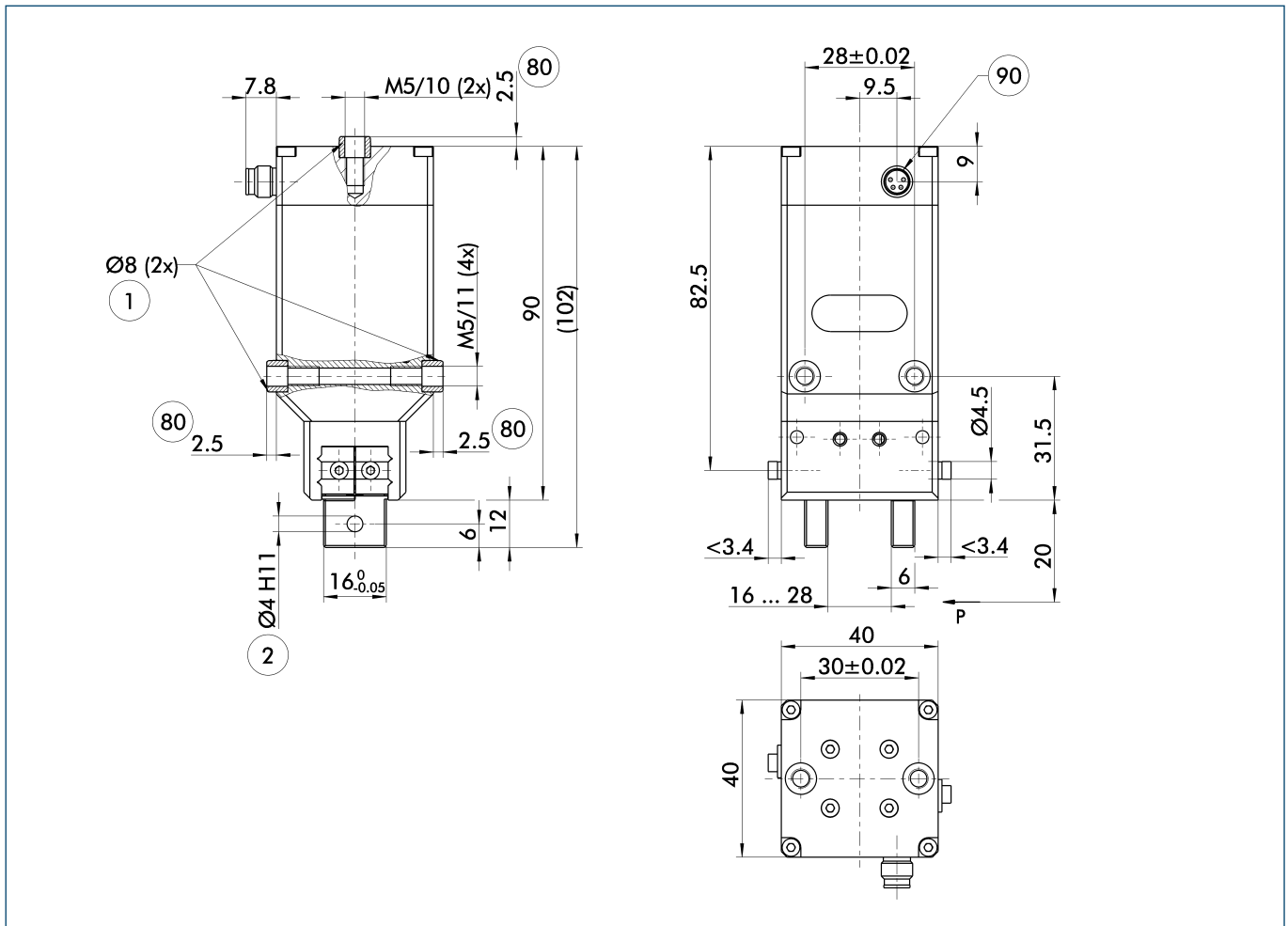


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	MEG 40 EC
ID	0306008
General technical data gripper	
Stroke per finger	[mm] 6
Minimum/maximum gripping force	[N] 35/40
Weight	[kg] 0.47
Recommended workpiece weight	[kg] 0.3
Max. permitted finger length	[mm] 40
Max. permitted weight per finger	[kg] 0.08
IP class	30
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.02
Maximum speed	[mm/s] 9.5
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 0.6
Max. total current	[A] 0.6
Controller operating data	
Description	MEG-C-40
ID	0307004
Implementation	external
Power supply	[V DC] 24
Field bus interface	I/O
Parametrized interface	

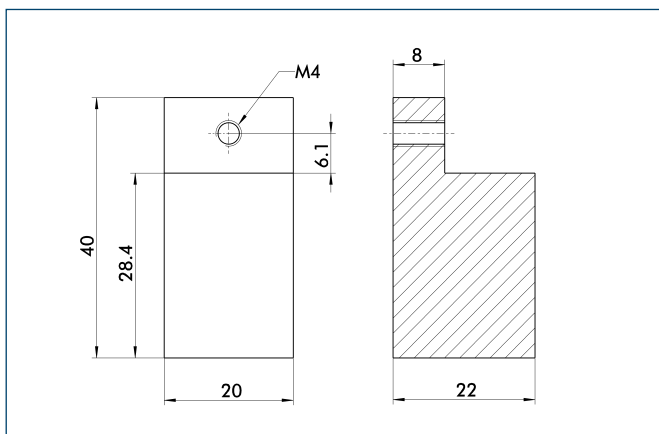
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- | | | | |
|----|--|----|--|
| ① | Gripper connection | ⑨0 | 4-pin connector M8x1 Woodhead Type
0908 047EM 04005 |
| ② | Finger connection | | |
| ⑧0 | Depth of the centering sleeve hole in the
matching part | | |

Finger blanks



Finger blanks for customized subsequent machining

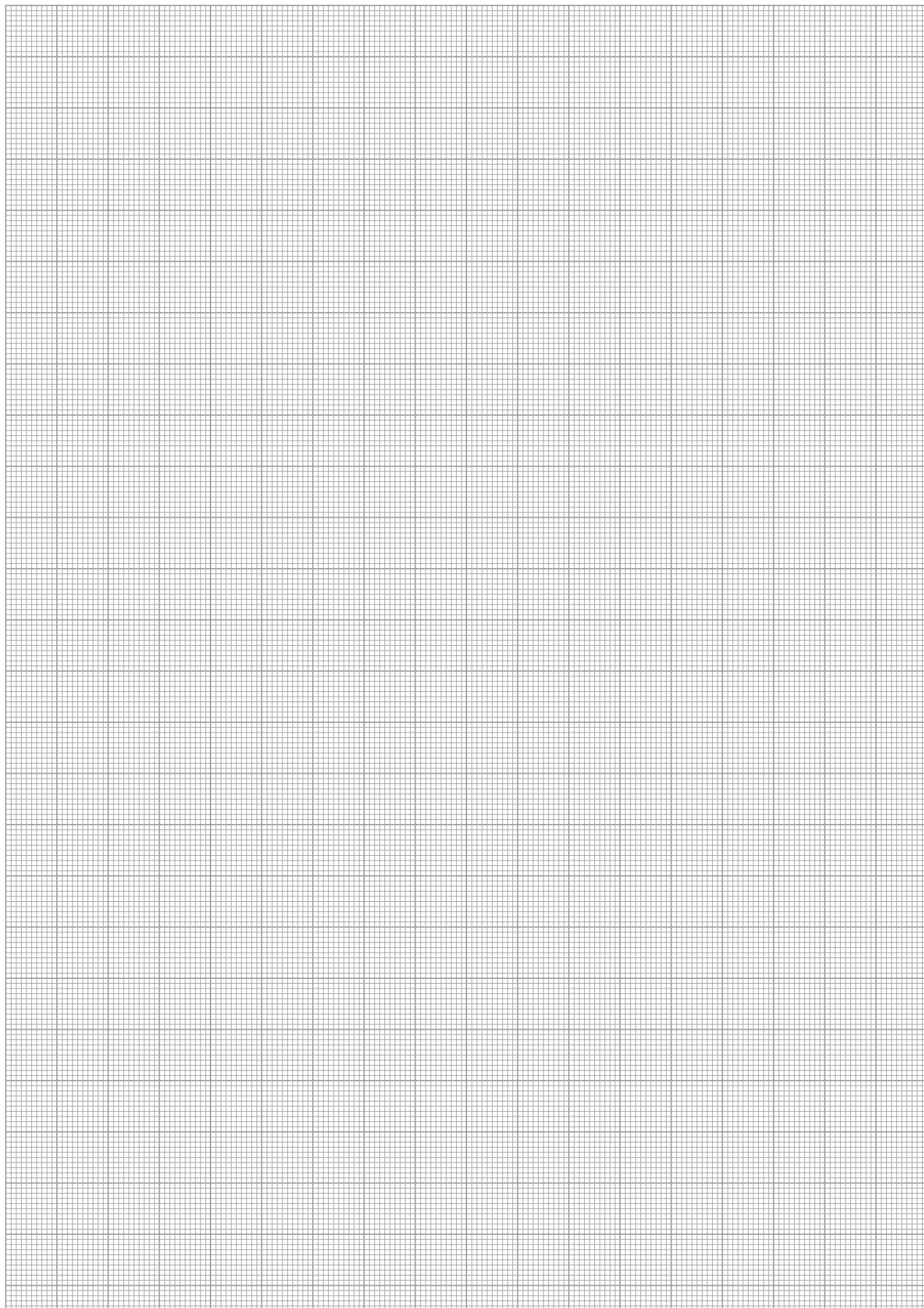
Description	ID	Material	Scope of delivery
Finger blanks			
ABR 40	0340213	Aluminium	2

Connection cables



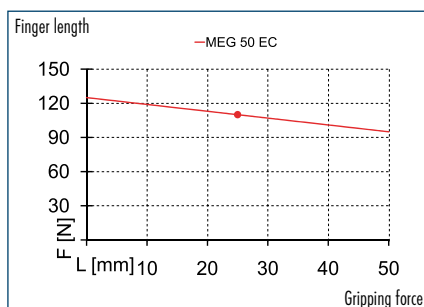
Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	0307767	5 m
KA BG08-L 4P-1000	0307768	10 m
KA BW08-L 4P-0500	0307765	5 m
KA BW08-L 4P-1000	0307766	10 m

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

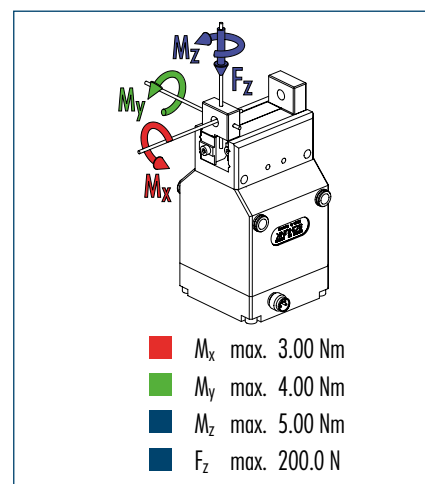




Gripping force



Finger load

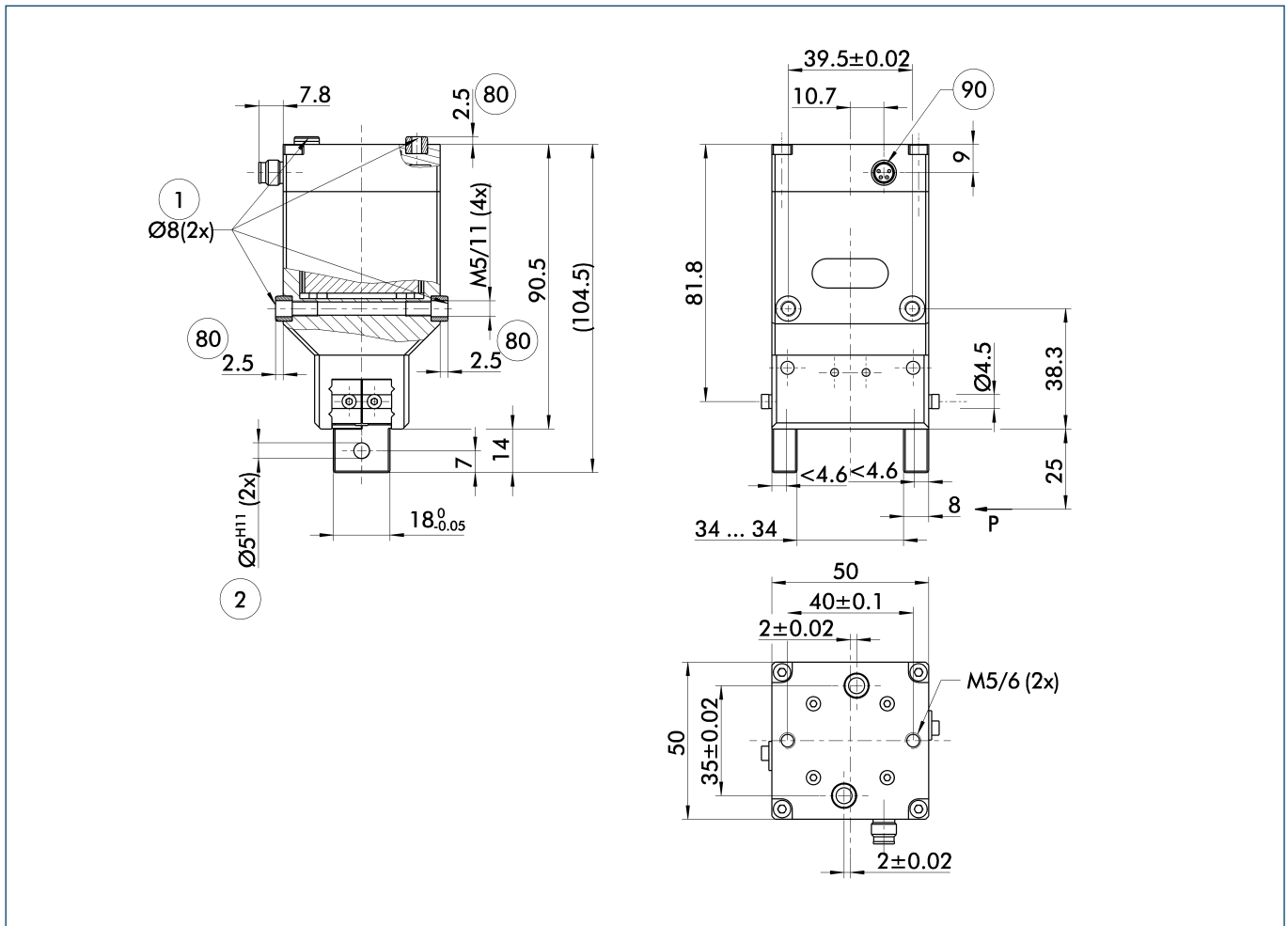


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	MEG 50 EC
ID	0306010
General technical data gripper	
Stroke per finger	[mm] 8
Minimum/maximum gripping force	[N] 60/110
Weight	[kg] 0.71
Recommended workpiece weight	[kg] 0.55
Max. permitted finger length	[mm] 50
Max. permitted weight per finger	[kg] 0.14
IP class	30
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.02
Maximum speed	[mm/s] 35
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 0.9
Max. total current	[A] 0.9
Controller operating data	
Description	MEG-C-50
ID	0307005
Implementation	external
Power supply	[V DC] 24
Field bus interface	I/O
Parametrized interface	

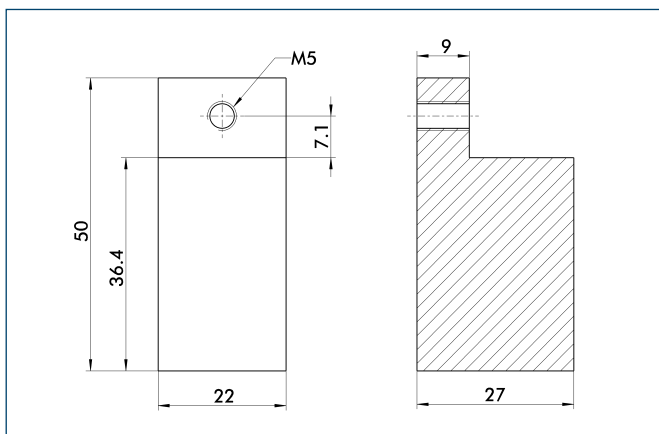
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- | | | | |
|----|--|----|--|
| ① | Gripper connection | ⑨0 | 4-pin connector M8x1 Woodhead Type
0908 047EM 04005 |
| ② | Finger connection | | |
| ⑧0 | Depth of the centering sleeve hole in the
matching part | | |

Finger blanks



Finger blanks for customized subsequent machining

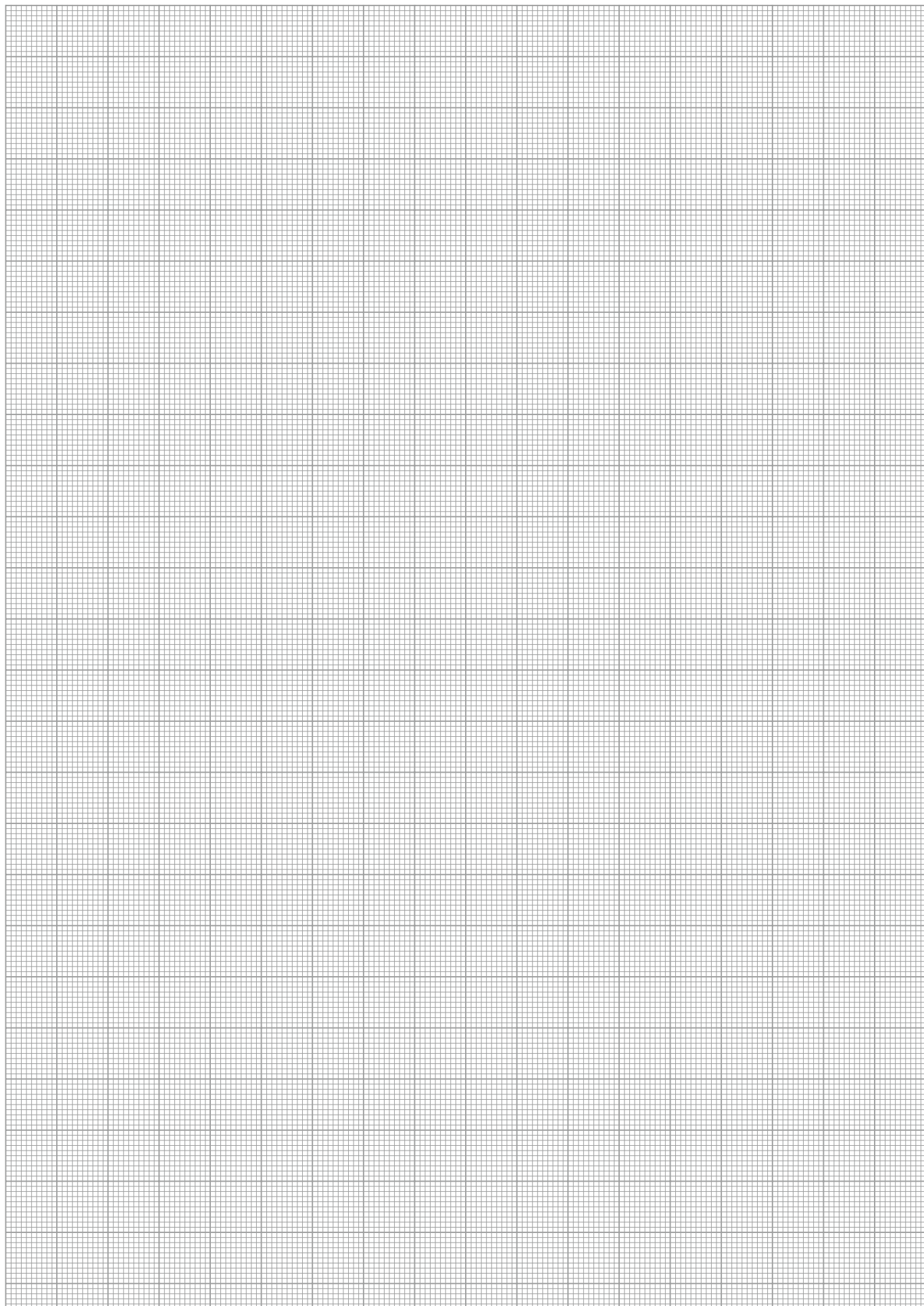
Description	ID	Material	Scope of delivery
Finger blanks			
ABR 50	0340214	Aluminium	2

Connection cables



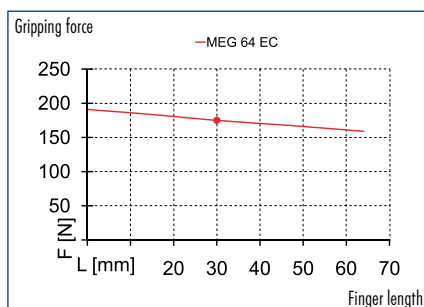
Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	0307767	5 m
KA BG08-L 4P-1000	0307768	10 m
KA BW08-L 4P-0500	0307765	5 m
KA BW08-L 4P-1000	0307766	10 m

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

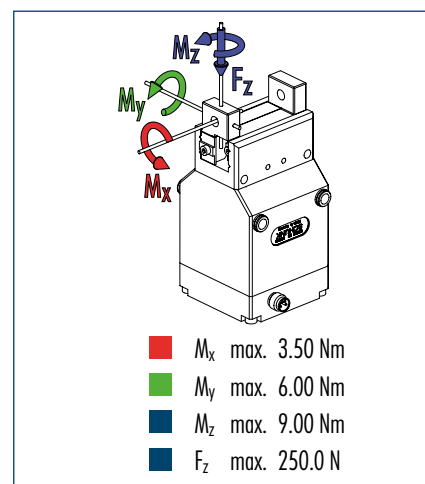




Gripping force



Finger load

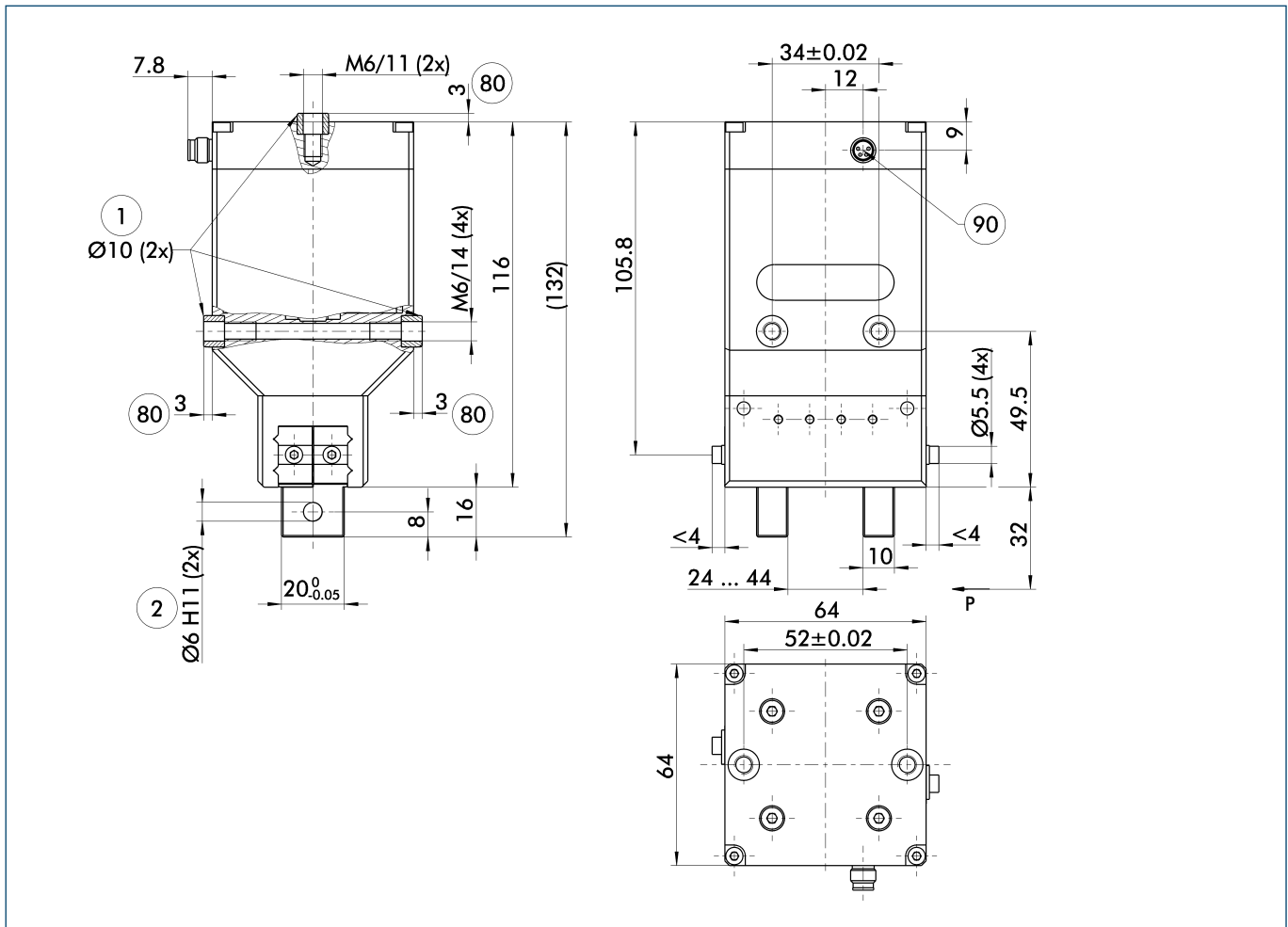


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	MEG 64 EC
ID	0306012
General technical data gripper	
Stroke per finger	[mm] 10
Minimum/maximum gripping force	[N] 40/175
Weight	[kg] 1.42
Recommended workpiece weight	[kg] 0.85
Max. permitted finger length	[mm] 64
Max. permitted weight per finger	[kg] 0.24
IP class	30
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.02
Maximum speed	[mm/s] 17
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 1.3
Max. total current	[A] 1.3
Controller operating data	
Description	MEG-C-64
ID	0307006
Implementation	external
Power supply	[V DC] 24
Field bus interface	I/O
Parametrized interface	

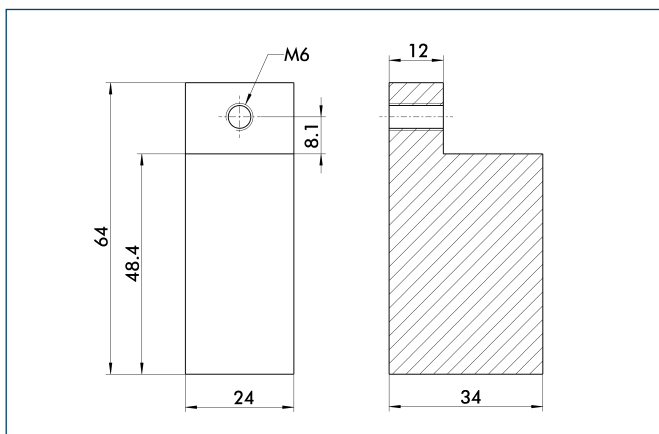
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- | | | | |
|----|--|----|--|
| ① | Gripper connection | ⑨0 | 4-pin connector M8x1 Woodhead Type
0908 047EM 04005 |
| ② | Finger connection | | |
| ⑧0 | Depth of the centering sleeve hole in the
matching part | | |

Finger blanks



Finger blanks for customized subsequent machining

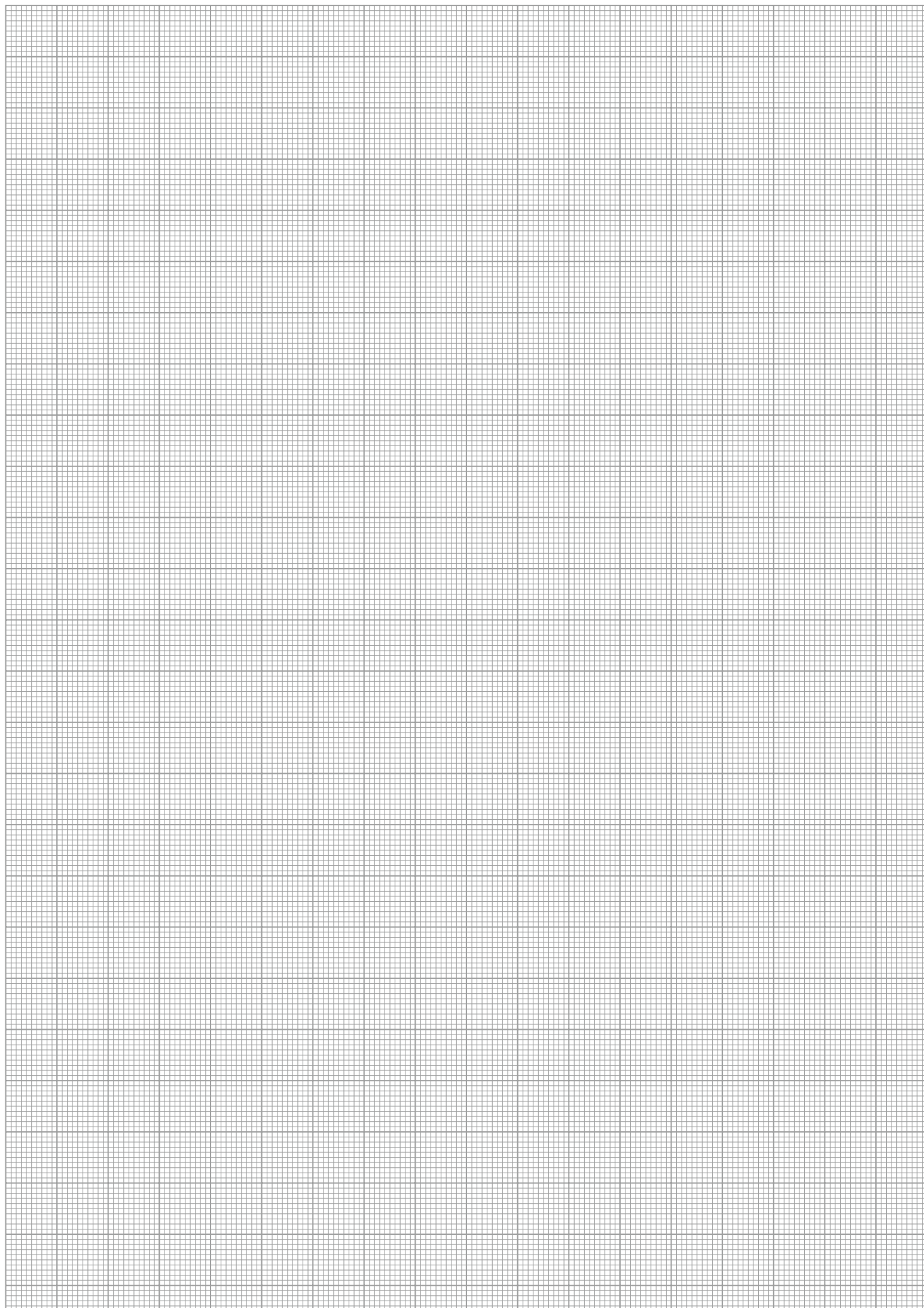
Description	ID	Material	Scope of delivery
Finger blanks			
ABR 64	0340215	Aluminium	2

Connection cables



Description	ID	Length
Connection cables		
KA BG08-L 4P-0500	0307767	5 m
KA BG08-L 4P-1000	0307768	10 m
KA BW08-L 4P-0500	0307765	5 m
KA BW08-L 4P-1000	0307766	10 m

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

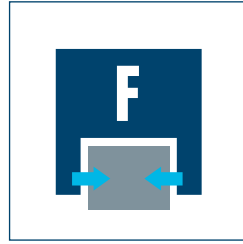




Sizes
80 ... 160



Weight
0.84 kg ... 3 kg



Gripping force
400 N ... 1000 N

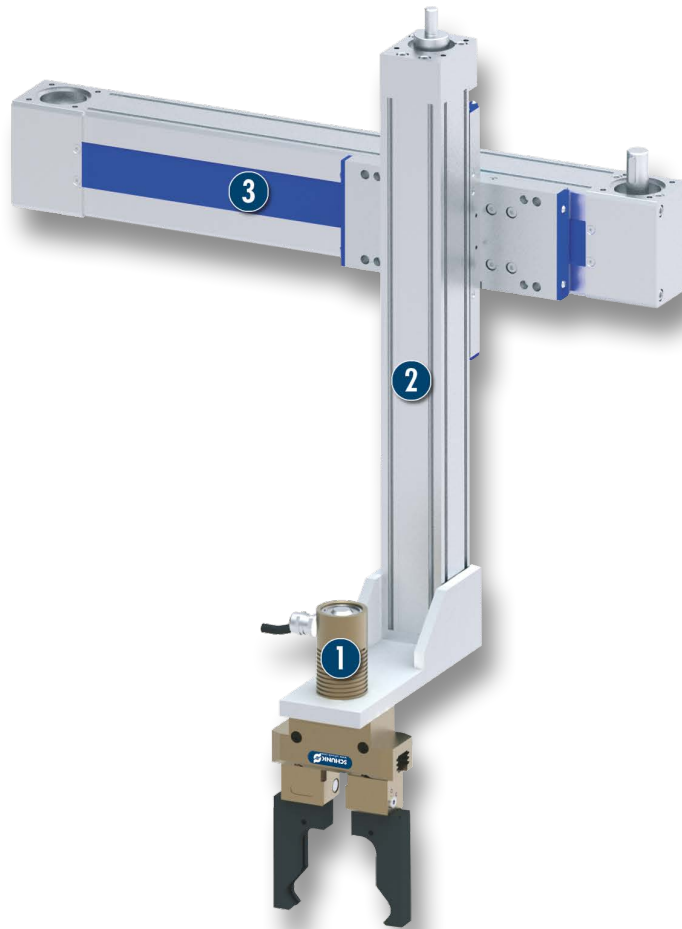


Stroke per finger
8 mm ... 16 mm



Workpiece weight
2.1 kg ... 5.4 kg

Application example



Completely electrically actuated gantry axis for palletizing and depalletizing different components with an enormous variance.

1 EGN Servo-electric 2-Finger Parallel Gripper

2 Vertical axis with spindle drive HSB Beta

3 Belt-driven axes HSB Beta

Universal Gripper

servo-electric 2-finger parallel gripper with high gripping force and moment loads thanks to the multi-tooth guidance

Field of application

Ideal standard solution for numerous fields of application. Highly versatile thanks to controlled gripping force, position and speed.

Your advantages and benefits

Drive design of servo-motor

for flexible use

with external electronics

for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Pre-positioning capability

to reduce cycle times through a short working stroke

Robust multi-tooth guidance

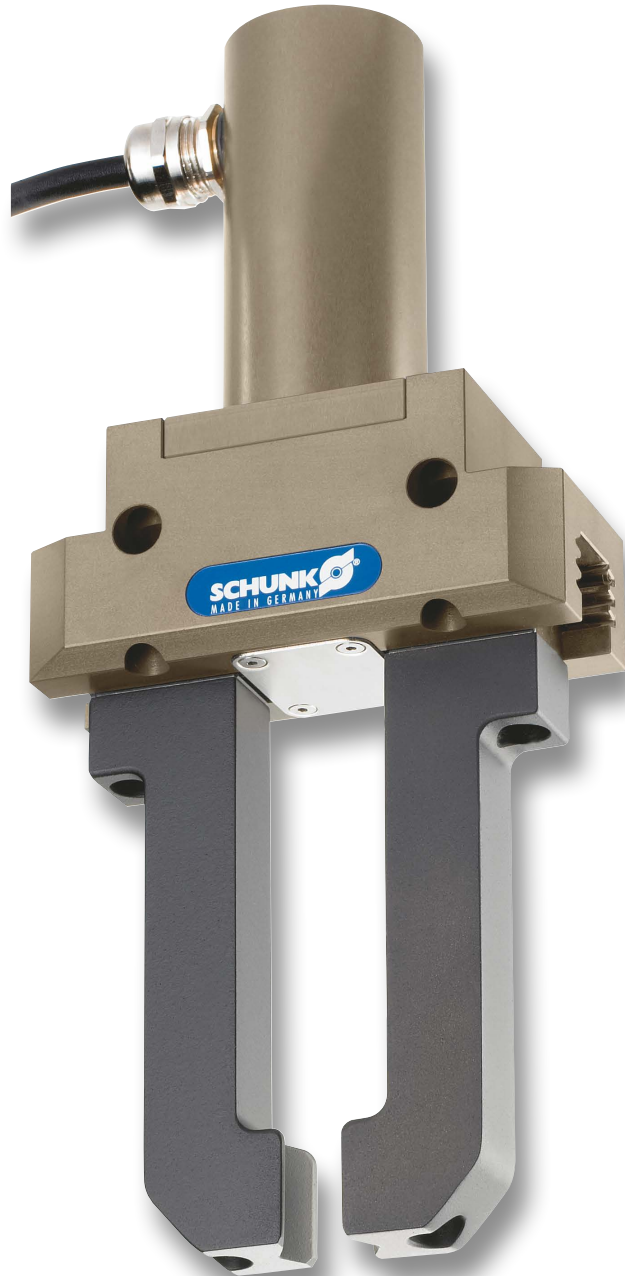
for precise handling

High maximum moments possible

suitable for using long gripper fingers

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

electrically, via step motor or spindle drive

Warranty

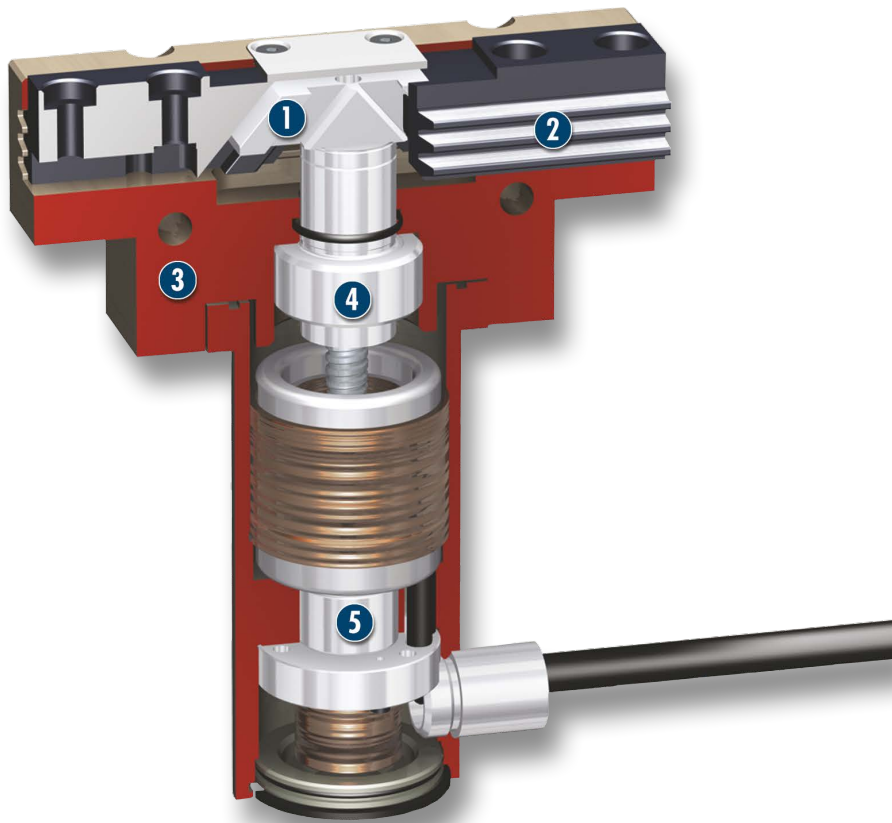
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.

For actuating the gripper, an external control unit is required.

Sectional diagram



- 1 Wedge-hook design**
for high power transmission and centric gripping
- 2 Multiple-tooth guidance**
precise gripping even with longer gripper fingers due to high-amperage scope-free base jaw guidance
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Spindle nut**
transforms the rotational movement into the axial movement of the wedge hook
- 5 Drive**
CD servo-motor with resolver

Functional description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servo-motor into an axial motion. Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

Options and special information

The electric control of the EGN gripper is carried out by the appropriate MSC-12 control electronics. Integration of it into a higher-ranking control program can be done via the communication interfaces Profibus, CAN-Bus or conventional inputs/outputs. For Bus communication, the SCHUNK Motion Protocol (SMP) is used. It allows the set-up of industrial Bus topologies and simplifies integration into the control system. If integration takes place simply by terminal signals, preprogrammed parameters can be called off via digital inputs. The gripper status can be monitored via digital outputs or via a Feldbus.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Finger blanks



Quick-change Jaw System



Force measuring jaws



Protection cover



Control unit



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

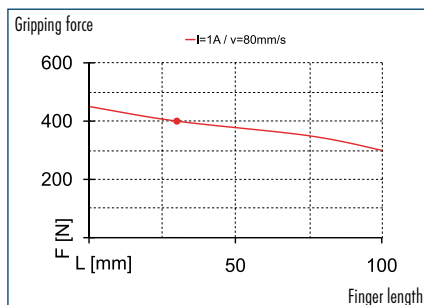
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

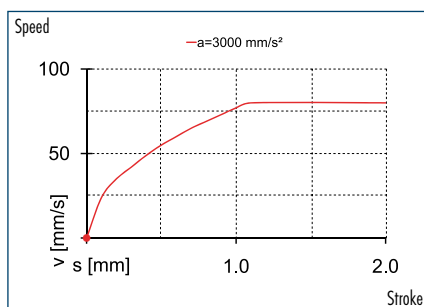
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



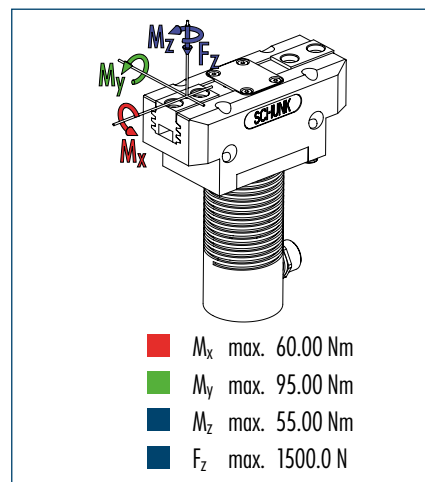
Gripping force



Speed



Finger load

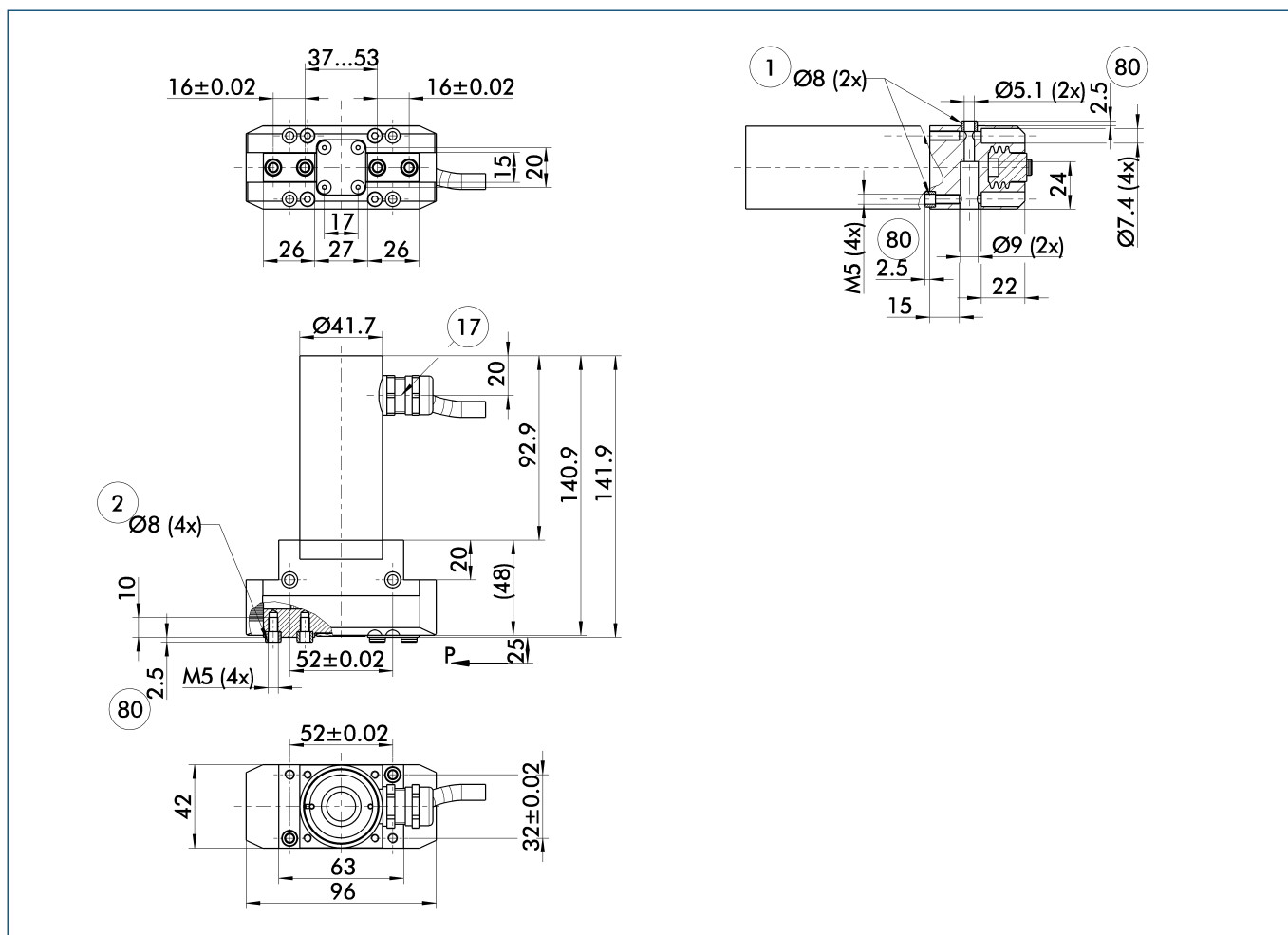


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EGN 80
ID	0306100
General technical data gripper	
Stroke per finger	[mm] 8
Minimum/maximum gripping force	[N] 170/400
Weight	[kg] 0.84
Recommended workpiece weight	[kg] 2.1
Max. permitted finger length	[mm] 100
Max. permitted weight per finger	[kg] 0.6
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.01
Maximum speed	[mm/s] 80
Maximum acceleration	[mm/s²] 3000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 1
Max. total current	[A] 4
Resolution	[Inc/U] 10
Controller operating data	
Description	MCS-12 (EGN/EZN)
ID	0307010
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

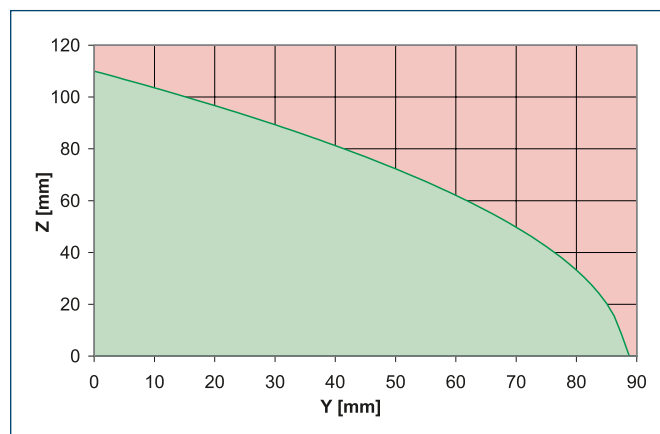
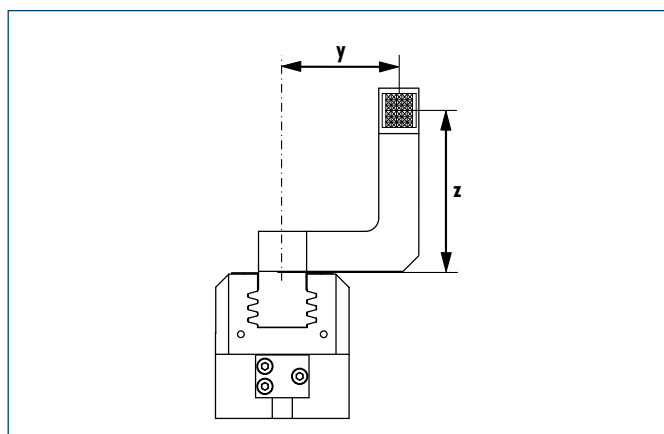


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

- 80 Depth of the centering sleeve hole in the matching part

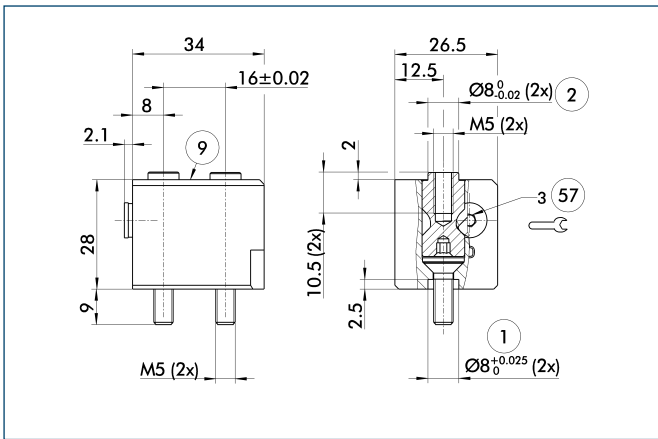
Maximum permitted finger projection



- Permitted range
- Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

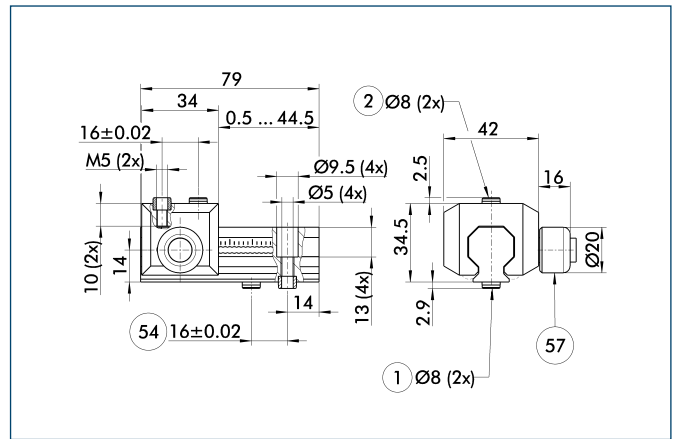
⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 80	0303024
Quick-change Jaw System base	
BSWS-B 80	0303025

Universal intermediate jaw



- ① Gripper connection
- ② Finger connection

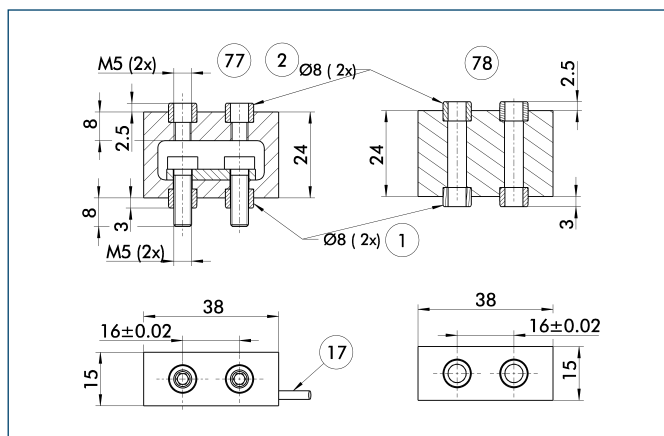
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 80	0300043	2 mm
UZH-S 80	5518271	2 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

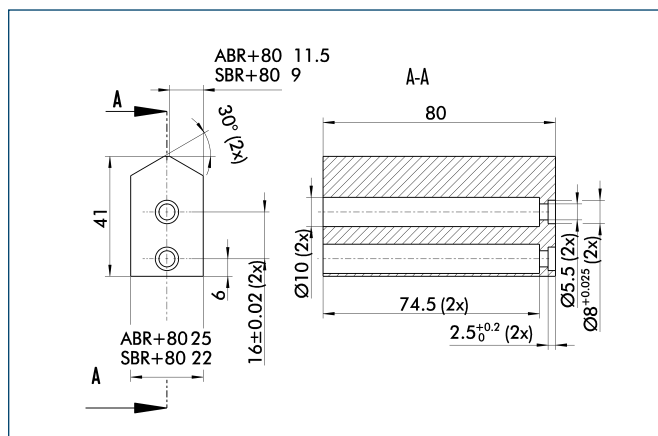


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 80	0301834
Passive intermediate jaws	
FMS-ZBP 80	0301835
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



Finger blanks for customized subsequent machining

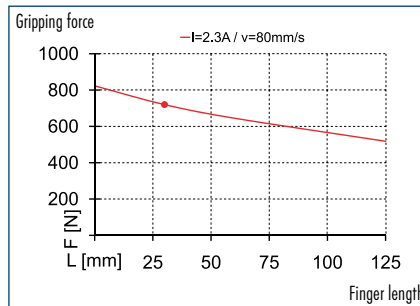
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 80	0300011	Aluminum	1
SBR-plus 80	0300021	16 MnCr 5	1



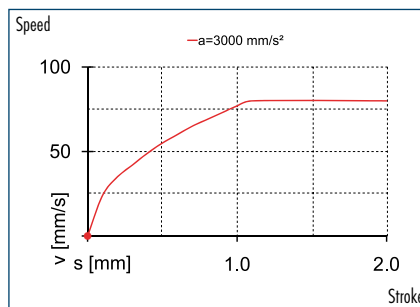
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



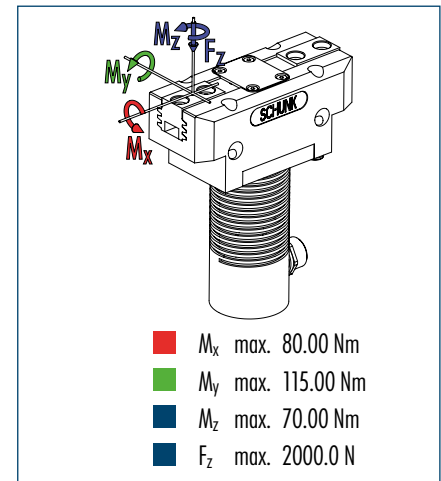
Gripping force



Speed



Finger load

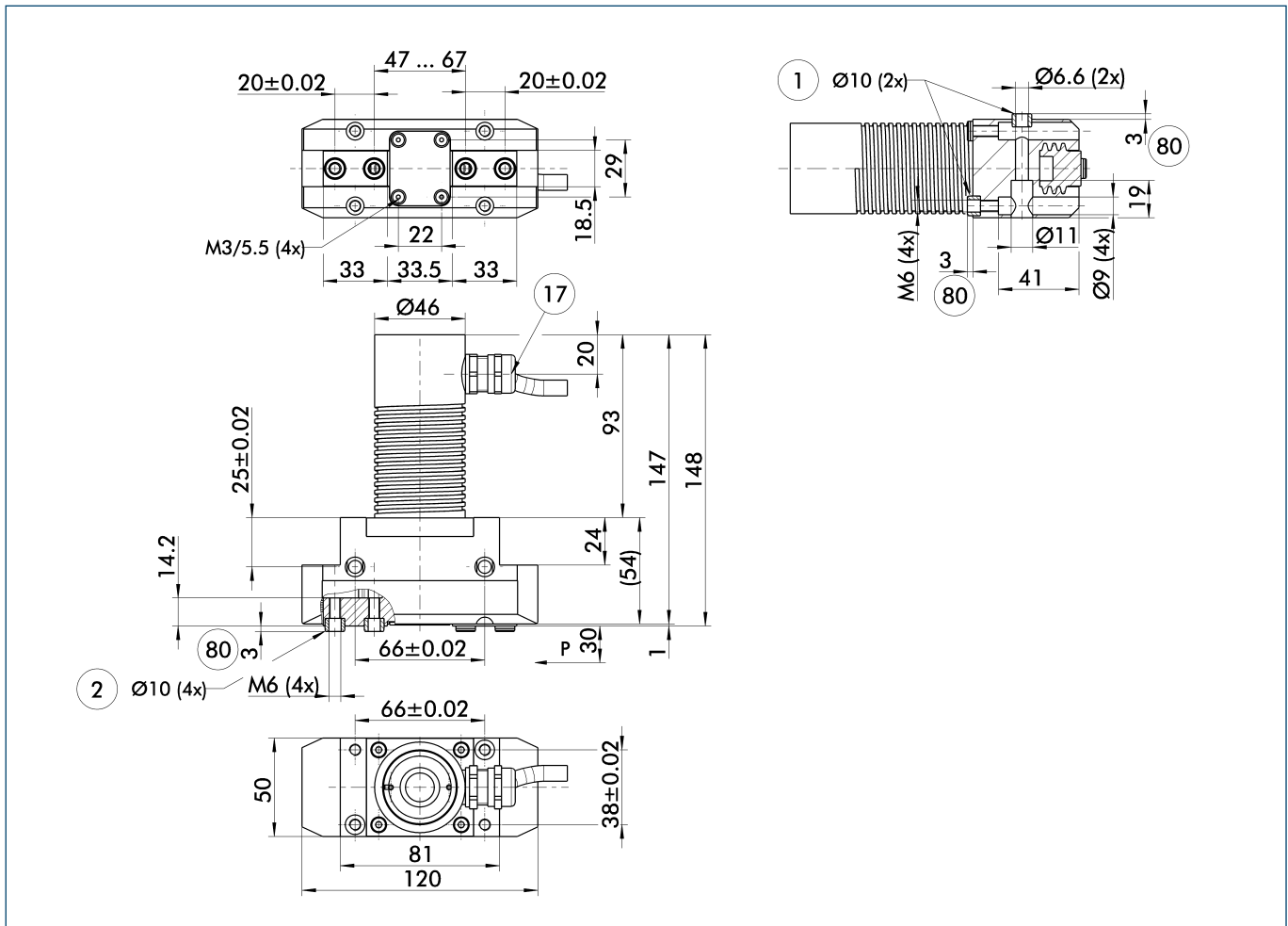


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EGN 100
ID	0306101
General technical data gripper	
Stroke per finger	[mm] 10
Minimum/maximum gripping force	[N] 170/720
Weight	[kg] 1.35
Recommended workpiece weight	[kg] 3.3
Max. permitted finger length	[mm] 125
Max. permitted weight per finger	[kg] 1.1
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.01
Maximum speed	[mm/s] 80
Maximum acceleration	[mm/s²] 3000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 2.3
Max. total current	[A] 4
Resolution	[Inc/U] 10
Controller operating data	
Description	MCS-12 (EGN/EZN)
ID	0307010
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

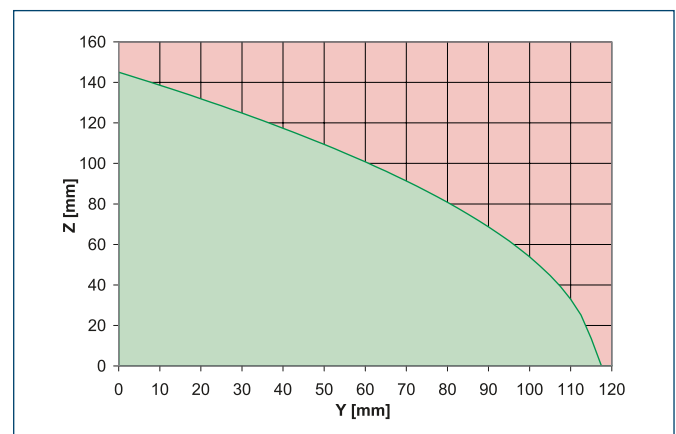
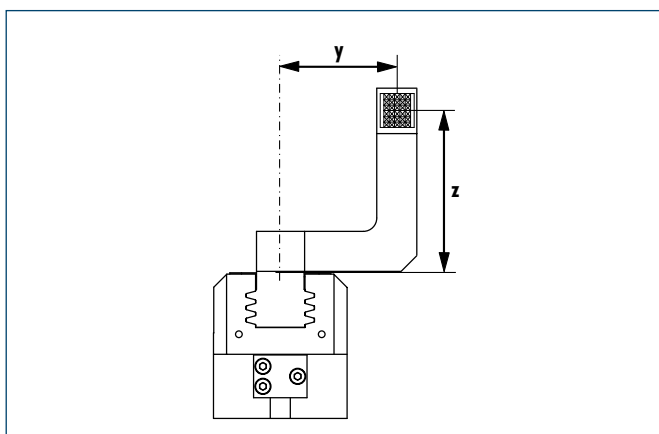


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

- 80 Depth of the centering sleeve hole in the matching part

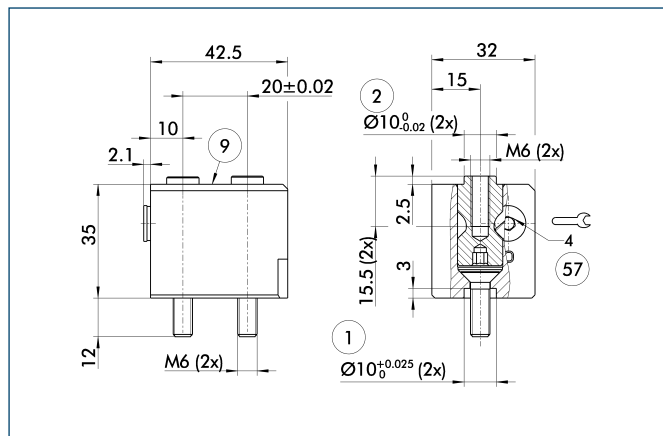
Maximum permitted finger projection



- Permitted range
- Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



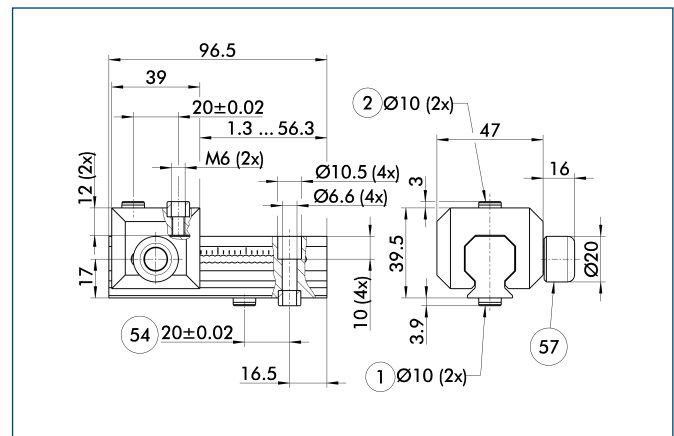
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version

The BSWs quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027

Universal intermediate jaw



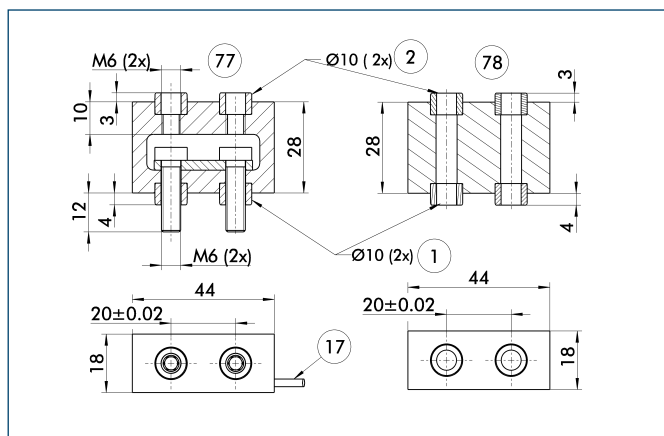
- | | |
|----------------------|--------------------------------------|
| ① Gripper connection | ⑤4 Optional right or left connection |
| ② Finger connection | ⑤7 Locking |

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 100	0300044	2.5 mm
UZB-S 100	5518272	2.5 mm

- ❶ The slide UZB-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

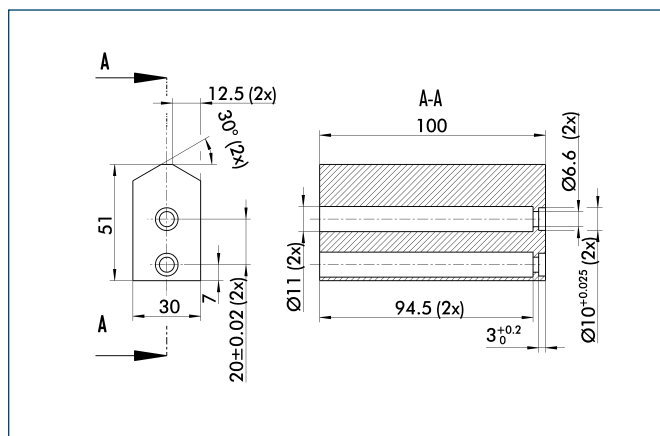


- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



Finger blanks for customized subsequent machining

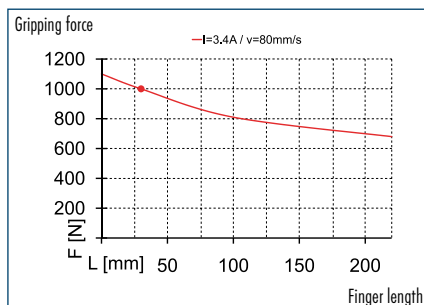
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1



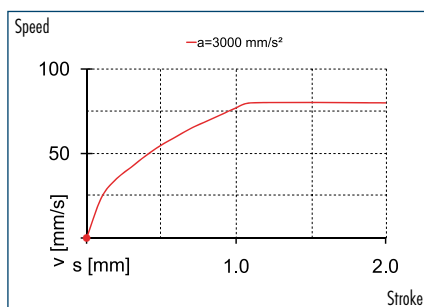
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



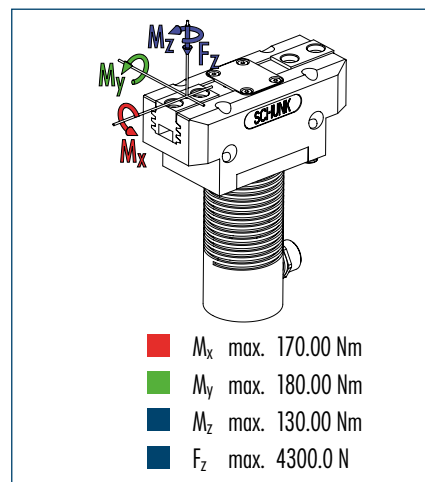
Gripping force



Speed



Finger load

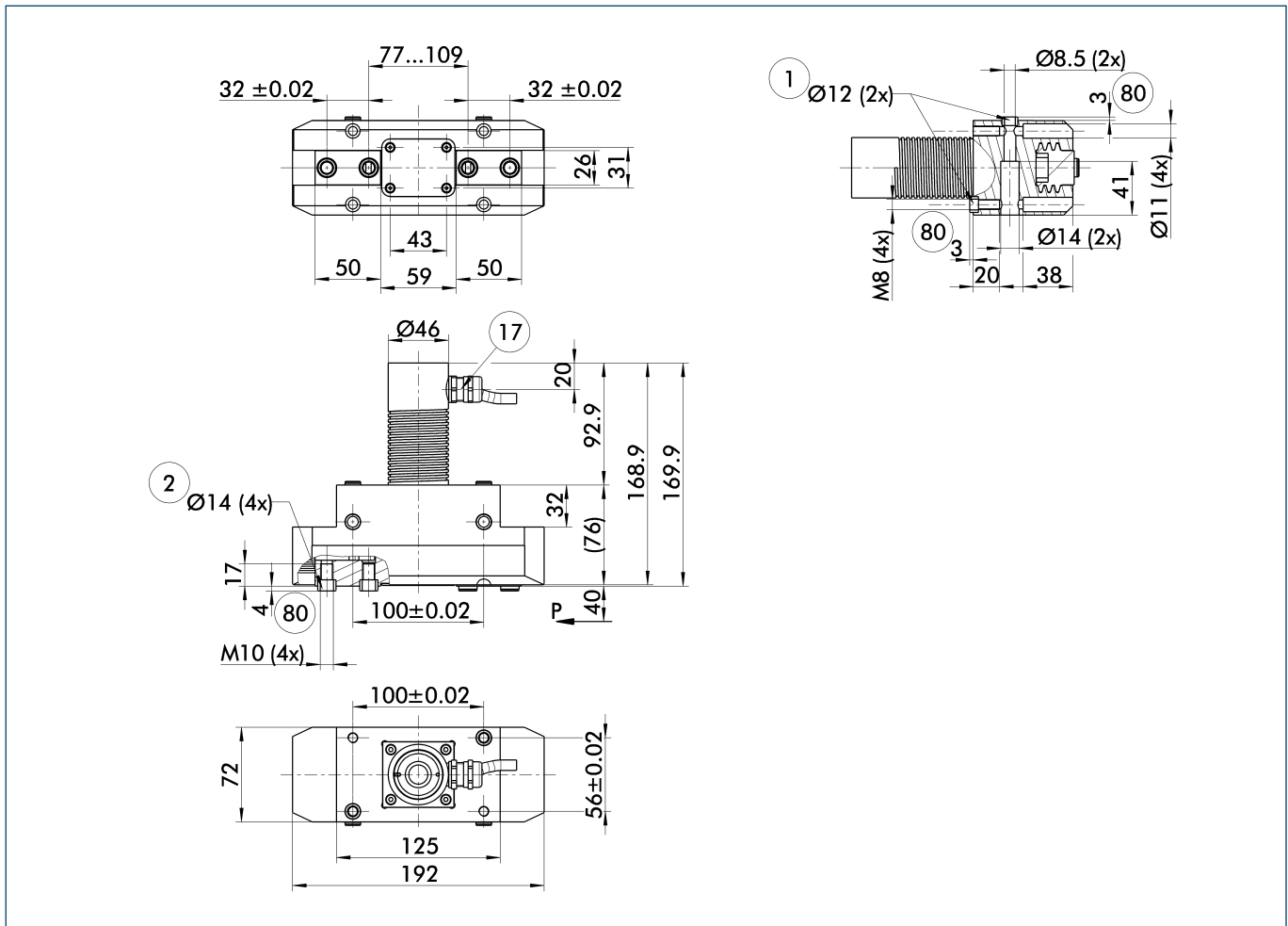


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EGN 160
ID	0306102
General technical data gripper	
Stroke per finger	[mm] 16
Minimum/maximum gripping force	[N] 250/1000
Weight	[kg] 3
Recommended workpiece weight	[kg] 5.4
Max. permitted finger length	[mm] 200
Max. permitted weight per finger	[kg] 3.5
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.01
Maximum speed	[mm/s] 80
Maximum acceleration	[mm/s²] 3000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 3.4
Max. total current	[A] 4
Resolution	[Inc/U] 10
Controller operating data	
Description	MCS-12 (EGN/EZN)
ID	0307010
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

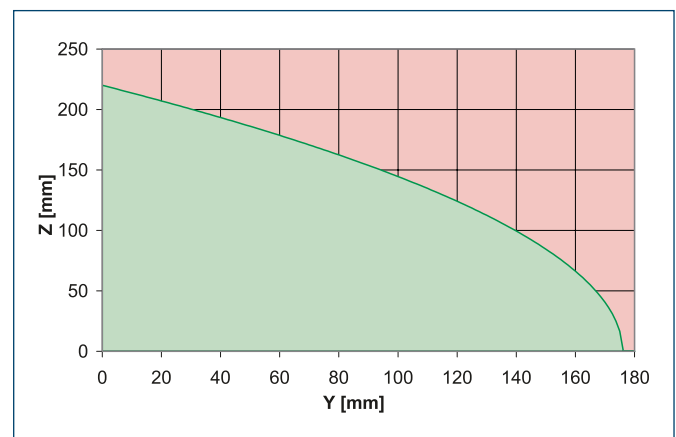
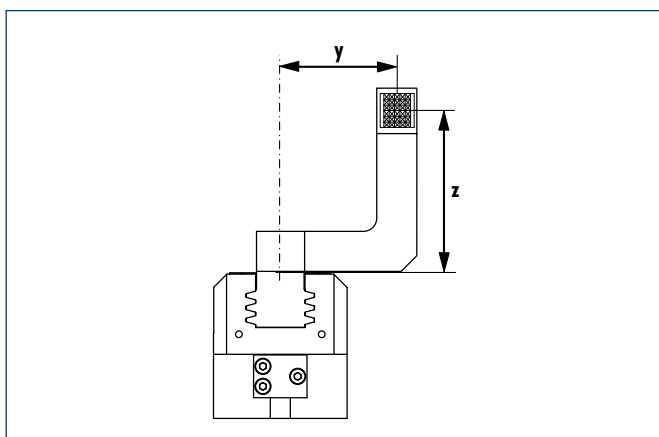


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- 17 Cable outlet

- 80 Depth of the centering sleeve hole in the matching part

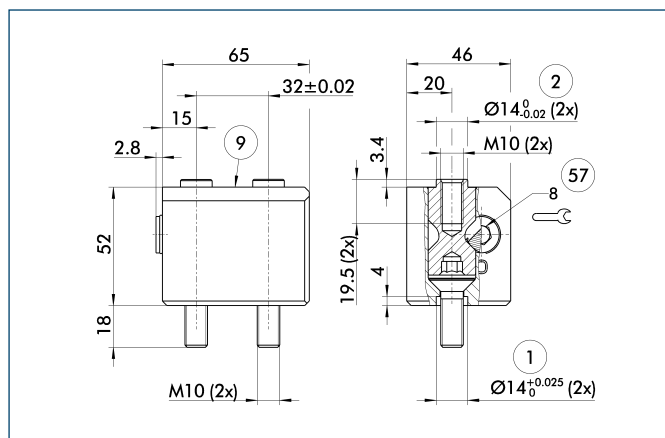
Maximum permitted finger projection



- Permitted range
- Inadmissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

Quick-change Jaw System



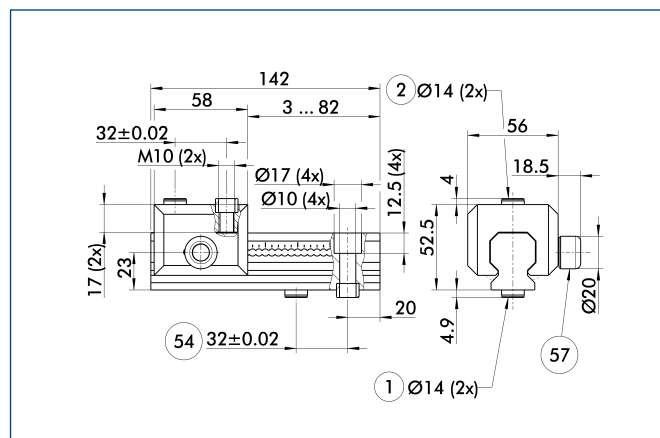
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 160	0303030
Quick-change Jaw System base	
BSWS-B 160	0303031

Universal intermediate jaw



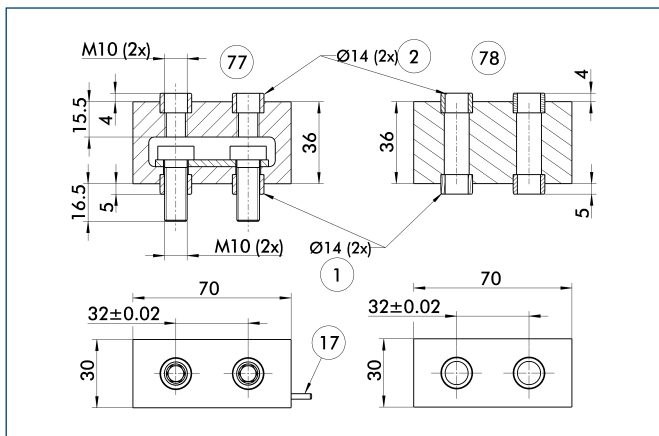
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 160	0300046	4 mm
UZH-S 160	5518274	4 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

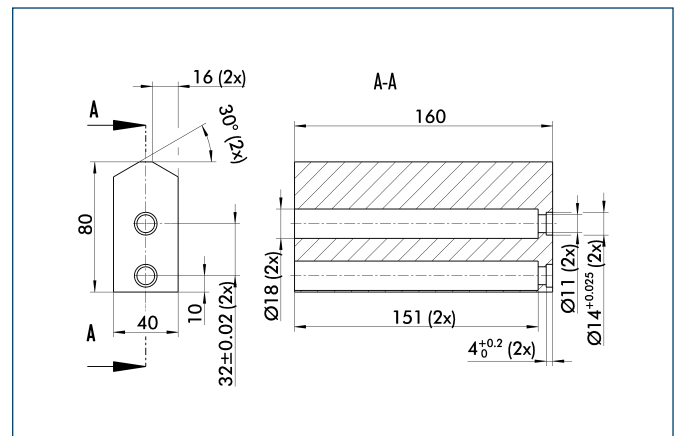


- ① Gripper connection
- ② Finger connection
- ⑦ Active intermediate jaws
- ⑧ Passive intermediate jaws
- ⑰ Cable outlet

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 160	0301840
Passive intermediate jaws	
FMS-ZBP 160	0301841
Electronic Processor	
FMS-A2	0301811
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 160	0300014	Aluminum	1
SBR-plus 160	0300024	16 MnCr 5	1



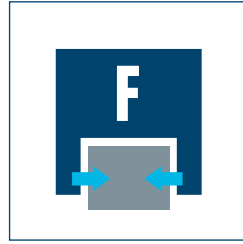
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



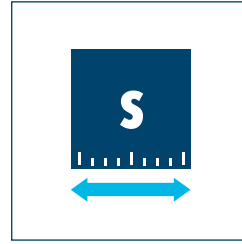
Size
70



Weight
1.4 kg



Gripping force
200 N

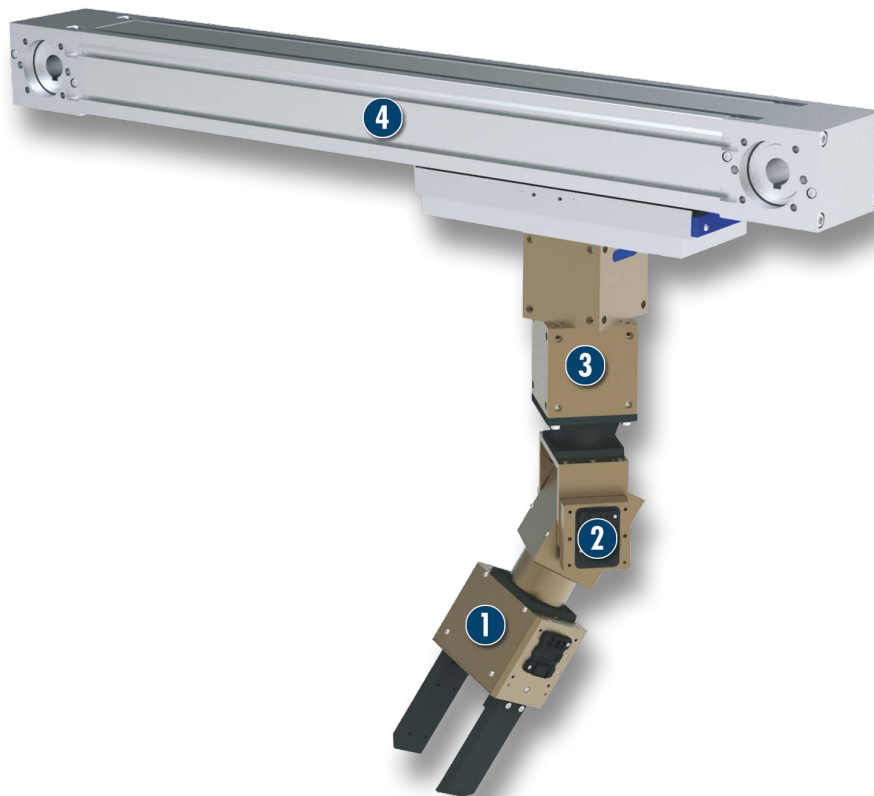


Stroke per finger
34 mm



Workpiece weight
1 kg

Application example



Gantry robot for flexible loading and unloading of sensitive workpieces

- 1 PG Servo-electric 2-Finger Parallel Gripper
- 2 PW Servo-electric Rotary Pan Tilt Actuator

- 3 Universal Rotary Unit PR
- 4 Linear axis with toothed-belt drive HSB Beta

Universal Gripper

servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke

Field of application

universal, ultra-flexible gripper for great part variety and sensitive components in clean working environments

Your advantages and benefits

Gripping force control in the range of 30 – 200 N

for the delicate gripping of sensitive workpieces

Large stroke of 70 mm

for flexible workpiece handling

Fully integrated control and power electronics

for creating a decentralized control system

Versatile actuation options

for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Standard connecting elements and uniform servo-controlled concept

for extensive combinatorics with other PowerCube modules (see explanation of the PowerCube system)



General note to the series

Principle of function

Spindle drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

servo-electric, via brushless DC servo-motor

Warranty

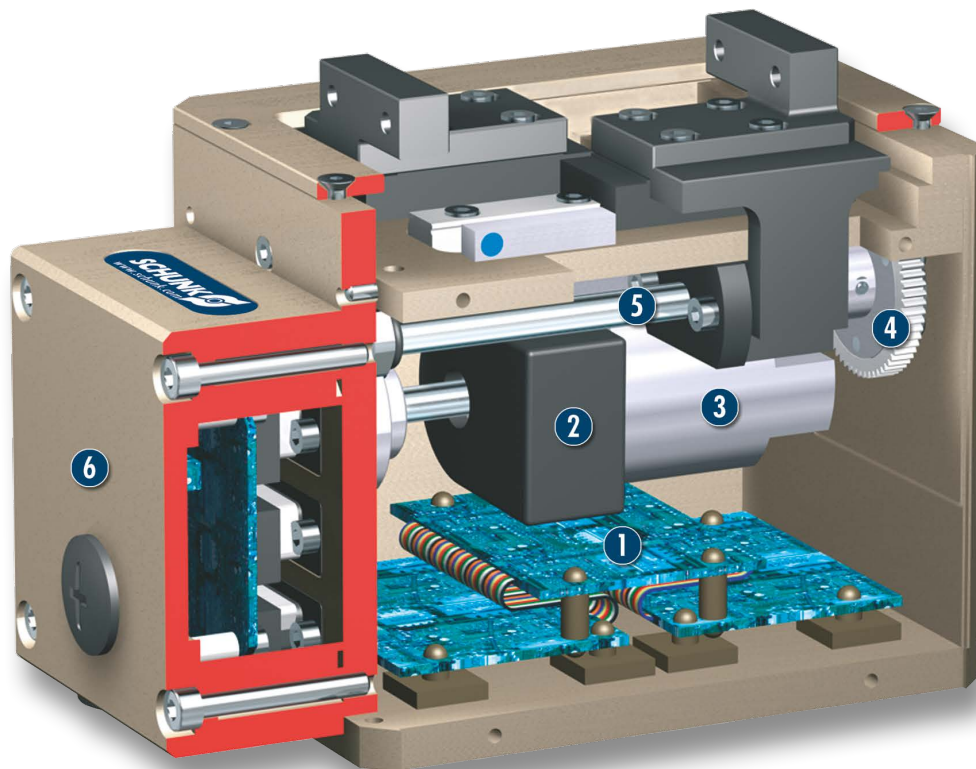
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.

For actuation of the gripper, an electric connection cap is necessary. This cap is not subject to the scope of delivery and has to be ordered separately.

Sectional diagram



- | | | |
|--|--|--|
| <p>1 Control electronics
integrated control and power electronics for actuating the servo-motor</p> <p>2 Encoder
for gripper positioning and position evaluation</p> | <p>3 Drive
brushless DC servo-motor</p> <p>4 Gear mechanism
Force transmission from the servo-motor to the drive spindle</p> | <p>5 Spindle
transforms the rotational movement into the linear movement of the base jaw</p> <p>6 Connection cap
Electrical connection for energy supply and communication</p> |
|--|--|--|

Functional description

The brushless servo-motor drives the ball bearing spindle via the gear mechanism. The rotational movement is transformed into the linear movement of the base jaw by base jaws mounted on the spindles.

Options and special information

The PG gripper is electrically actuated by the fully integrated control and power electronics. In this way, the module does not require any additional external control units.

A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication. This enables you to create industrial bus networks and ensures easy integration in control systems. You can make use of our hybrid cables for conveying the supply voltage and for communication.

For creating combined systems (e.g. Gripping/Rotary Units), further modules from our PowerCube serie are available for you.

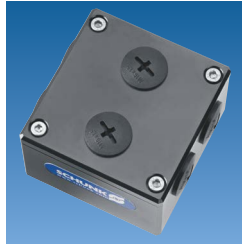
Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



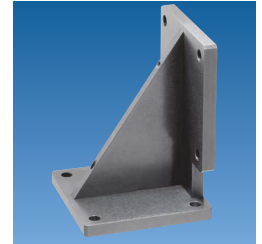
Connection cap



Power-/and data cable



Standard connecting elements



Finger blanks



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

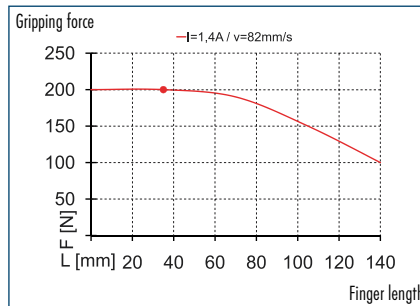
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

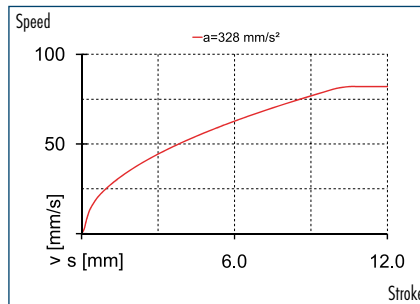
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



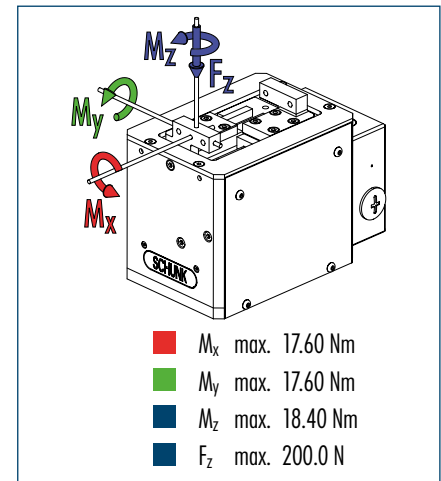
Gripping force



Speed



Finger load

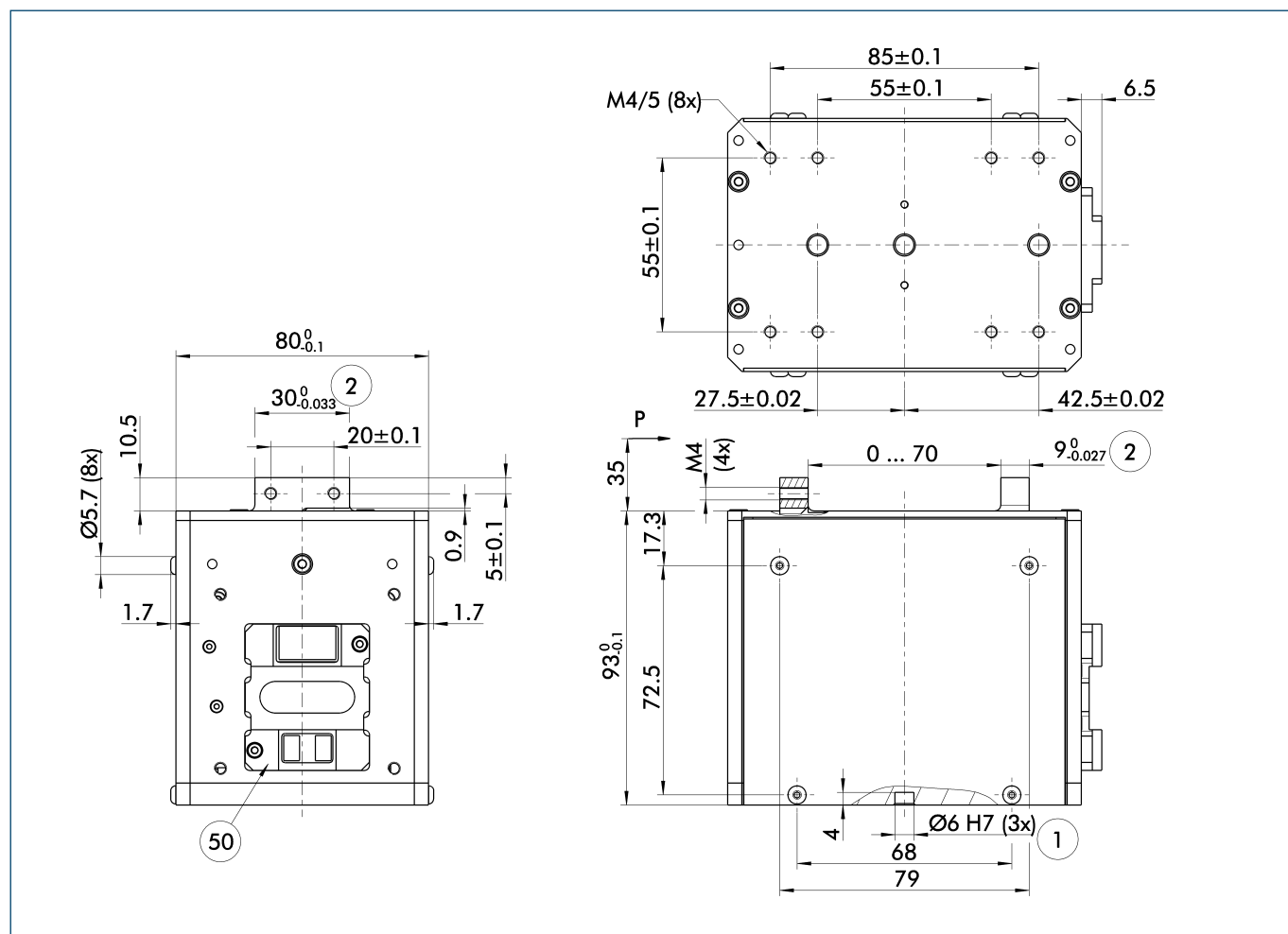


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	PG 70
ID	0306095
General technical data gripper	
Stroke per finger	[mm] 34
Minimum/maximum gripping force	[N] 30/200
Weight	[kg] 1.4
Recommended workpiece weight	[kg] 1
Max. permitted finger length	[mm] 140
IP class	20
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 82
Maximum acceleration	[mm/s²] 328
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 1.4
Max. total current	[A] 1.8
Controller operating data	
Description	PTA-V5.3
Implementation	integrated
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

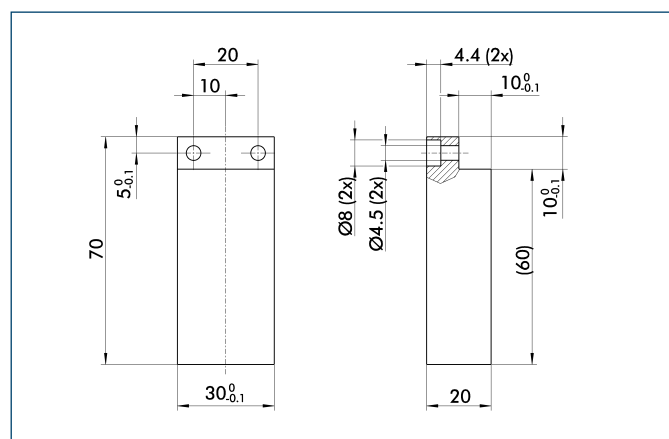


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection

- ⑤ Electronics connection

Finger blanks

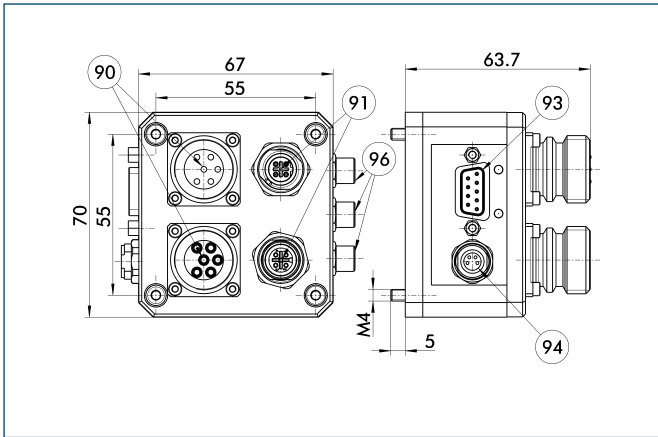


Description	ID	Material	Scope of delivery
Finger blanks			
ABR-PG 70	0307850	Aluminum	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

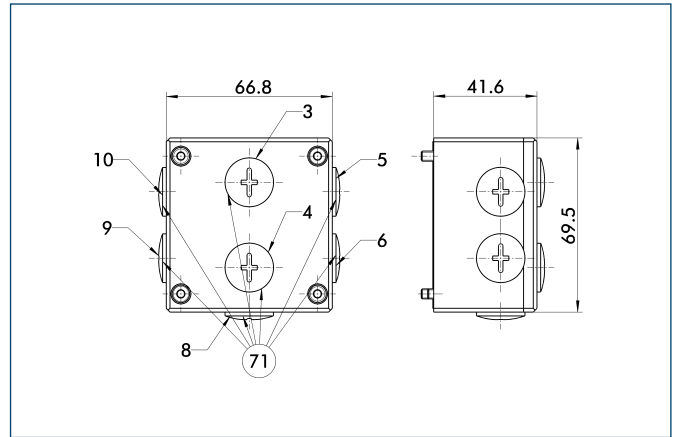
Connection cap MMI



- 90 Connection power supply (logic / load)
- 91 Connection Feldbus
- 93 Parametrized interface RS232
- 94 Connection power supply service box (SSB)
- 96 Connection external end switch

Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	0307501
MMI 070-V05-D-PB	0307503
MMI 070-V05-E-CN	0307500
MMI 070-V05-E-PB	0307502
Connection cables	
KA GGN1204-PB-00150-A	0349750
KA GGN1204-PB-00300-A	0349751
KA GGN1204-PB-00500-A	0349752
KA GGN1204-PB-01000-A	0349753
KA GGN1204-CN-00150-A	0349770
KA GGN1204-CN-00300-A	0349771
KA GGN1204-CN-00500-A	0349772
KA GGN1204-CN-01000-A	0349773
KA GLN2304-LK-00150-H	0349870
KA GLN2304-LK-00300-H	0349871
KA GLN2304-LK-00500-H	0349872
KA GLN2304-LK-01000-H	0349873
KA GGN2304-LK-00150-H	0349874
KA GGN2304-LK-00300-H	0349875
KA GGN2304-LK-00500-H	0349876
KA GGN2304-LK-01000-H	0349877

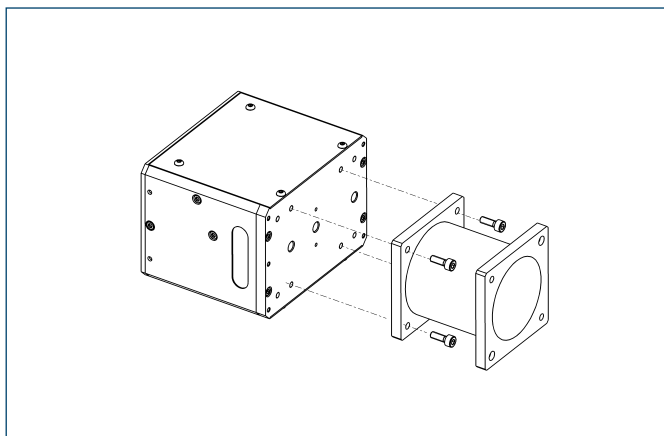
Connection cap DMI



- 71 M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	0307732
Options	
DMI V5 BLUETOOTH	0349050

Connecting element – straight

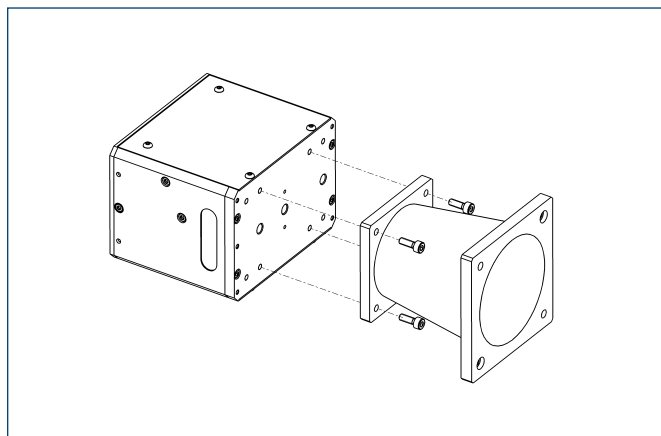


Straight standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 100	0307800
PAM 101	0307801

① Special lengths on request

Connecting element – conical

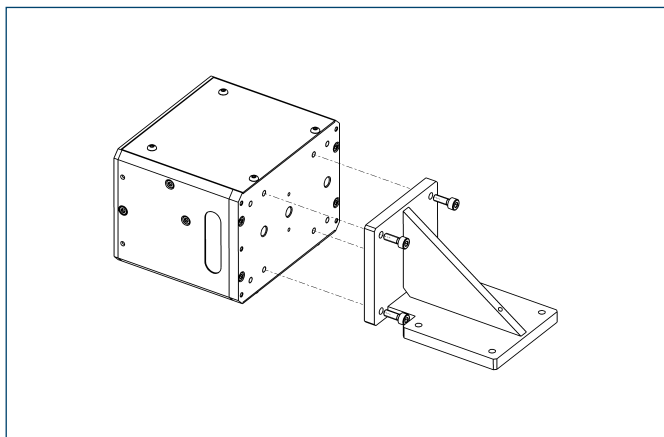


Conical standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 110	0307810
PAM 111	0307811

① Special lengths on request

Connecting element – angle



Right-angle standard element for connecting size 70 PowerCube modules

Description	ID
Connecting element	
PAM 120	0307820

① Special lengths on request



You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.



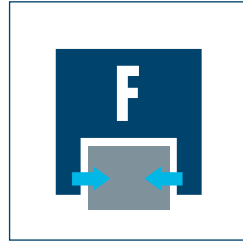
Sizes

55-40 ... 55-100



Weight

0.79 kg ... 1.1 kg



Gripping force

24 N ... 57 N



Stroke per finger

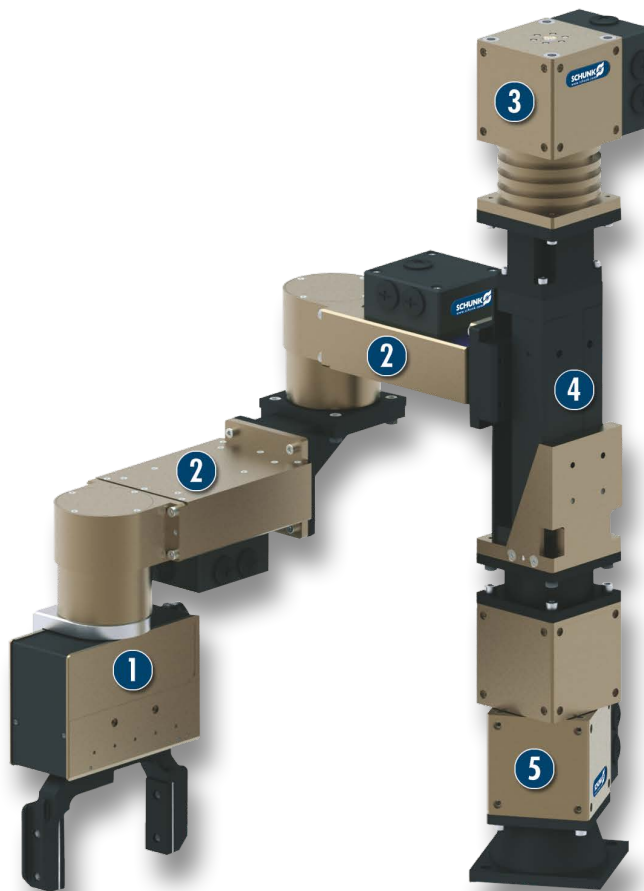
20 mm ... 50 mm



Workpiece weight

0.12 kg ... 0.28 kg

Application example



Horizontal joint arm in scara design for pick-and-place applications

1

Servo-electric 2-Finger Parallel Gripper EVG

2

Miniature Rotary Unit PRM

3

Spindle linear module PLS with integrated PSM servo drive

4

Spindle linear module PLS with integrated PSM servo drive

5

PR Servo-electric Rotary Actuator

Universal Gripper

servo-electric 2-finger parallel gripper with highly precise gripping force control and long stroke

Field of application

universal, ultra-flexible gripper for great part variety and sensitive components in clean working environments

Your advantages and benefits

Gripping force control in the range of 24 N – 57 N

for the delicate gripping of sensitive workpieces

Large stroke of 50 mm

for flexible workpiece handling

Pre-positioning capability

to reduce cycle times through a short working stroke

with external electronics

for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Profiled rail guide

for the precise handling of all kinds of workpieces

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly



General note to the series

Principle of function

Linear guidance with belt drive

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

servo-electric, via brushless DC servo-motor and bevel gear

Warranty

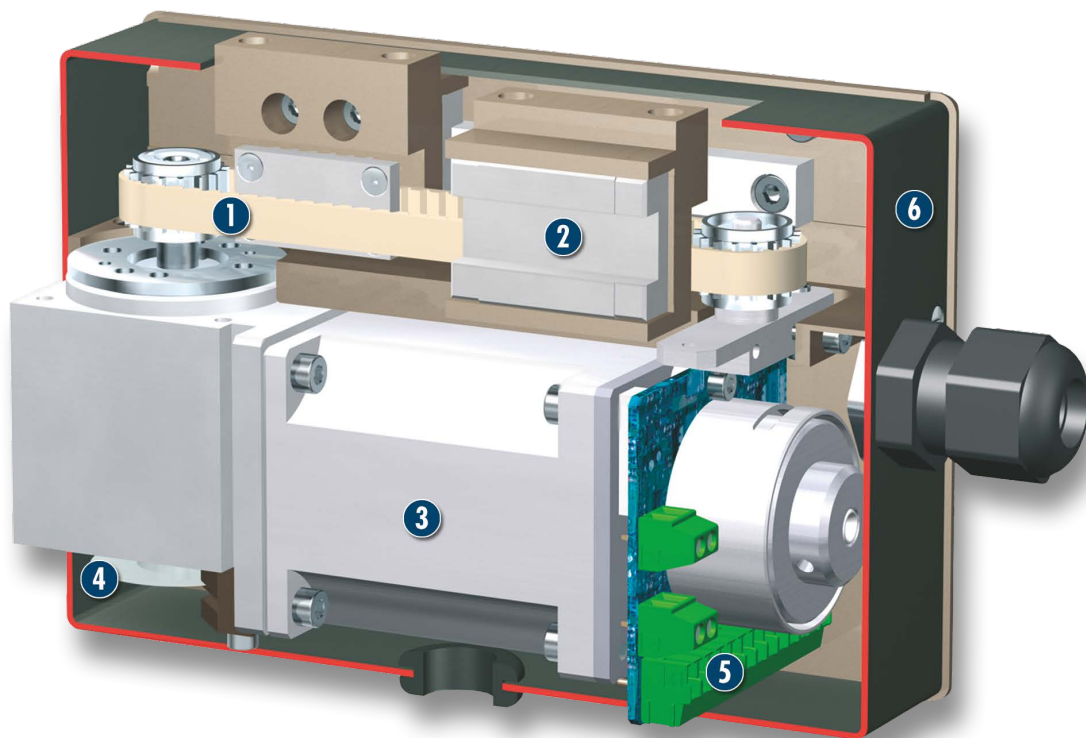
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.

For actuating the gripper, an external control unit is required.

Sectional diagram



- | | | |
|---|---|---|
| <p>1 Kinematics
scope-free, robust toothed belt drive with steel reinforcement</p> | <p>3 Drive
brushless DC servo-motor with hall-effect sensors and bevel gear, incl. holding brake</p> | <p>5 Connection circuit boards
Connection to the controller MCS-06</p> |
| <p>2 Profiled rail guide
for precise gripping with minimum play, smooth running gripping and low frictional loss</p> | <p>4 Encoder
for gripper positioning and position evaluation</p> | <p>6 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy</p> |

Functional description

The brushless servo-motor drives the ball screw by means of the gear mechanism. The rotational movement is transformed into the linear movement of the base jaw by base jaws mounted on the spindles.

Options and special information

Electrical actuation of the EVG gripper is carried out via the external control unit MCS-6. A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication.

This enables you to create industrial bus networks, and ensures easy integration in control systems. If integration of combined systems (e.g. gripper/rotary units) takes place, several further modules of our range of products are available for you.

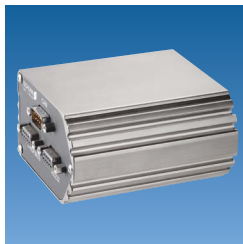
Accessories

Accessories from SCHUNK
— the suitable supplement
for maximum functionality,
reliability and performance of
all automation modules.

Centering sleeves



Control unit



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

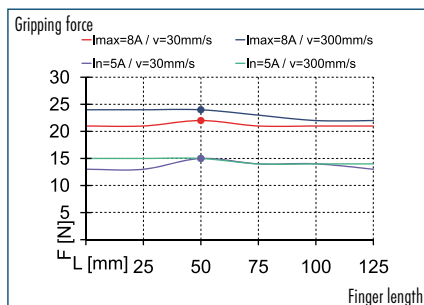
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

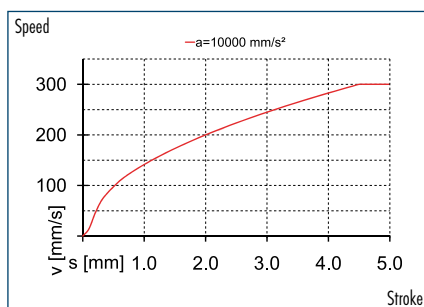
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



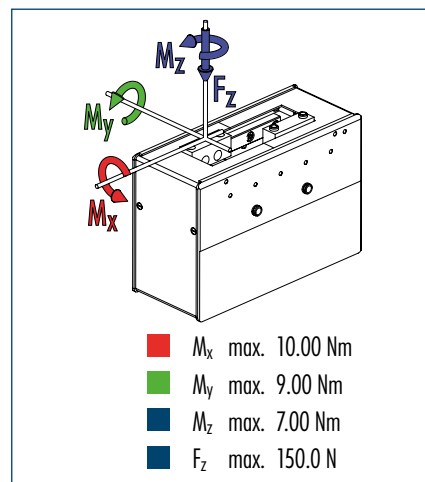
Gripping force



Speed



Finger load

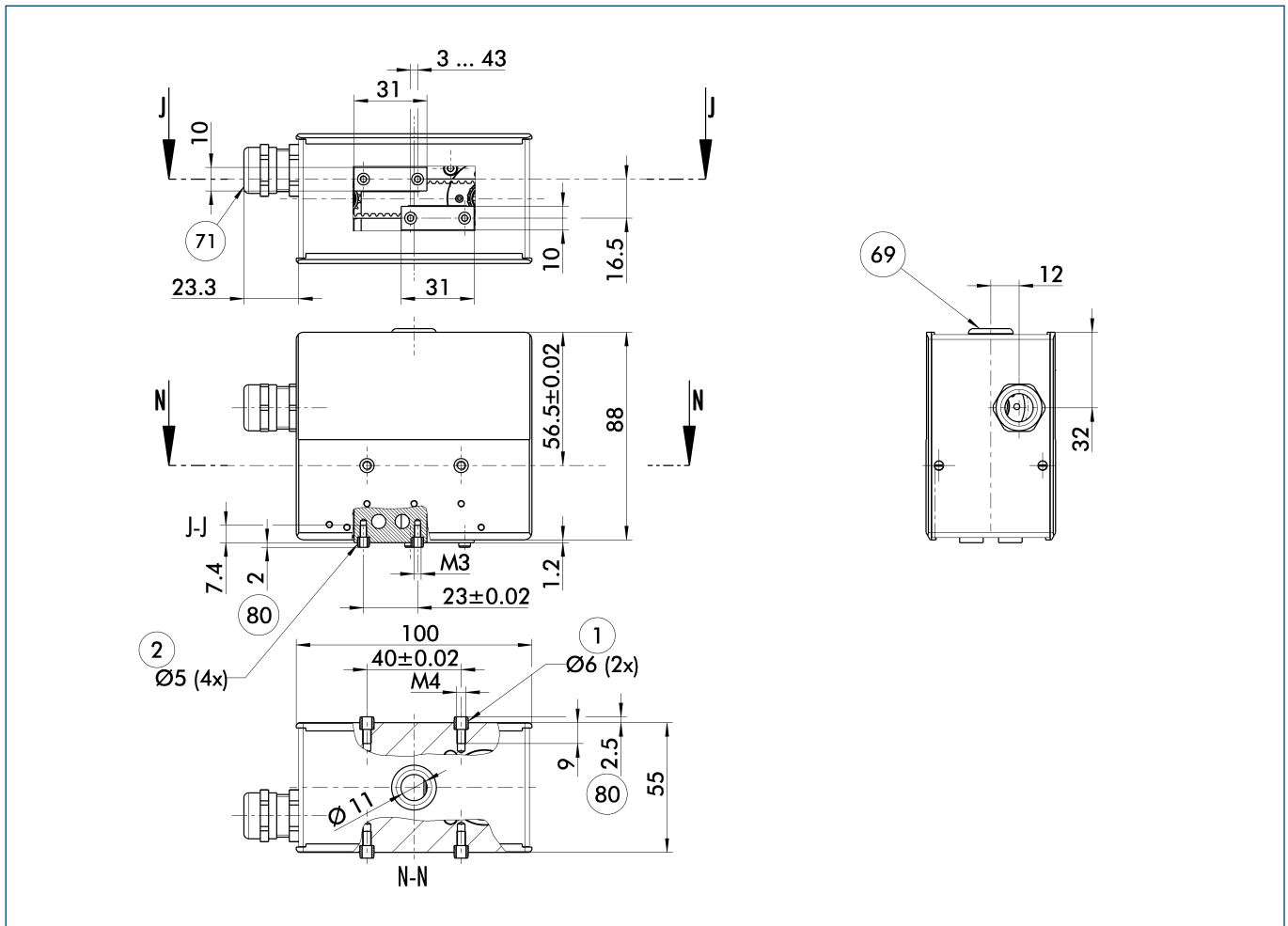


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EVG 55-40
ID	0306020
General technical data gripper	
Stroke per finger	[mm] 20
Minimum/maximum gripping force	[N] 5/24
Weight	[kg] 0.79
Recommended workpiece weight	[kg] 0.12
Max. permitted finger length	[mm] 125
Max. permitted weight per finger	[kg] 0.1
IP class	20
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 300
Maximum acceleration	[mm/s²] 10000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 5
Max. total current	[A] 8
Resolution	[Inc/U] 2000
Controller operating data	
Description	MCS-06 (EVG55-040)
ID	0306030
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

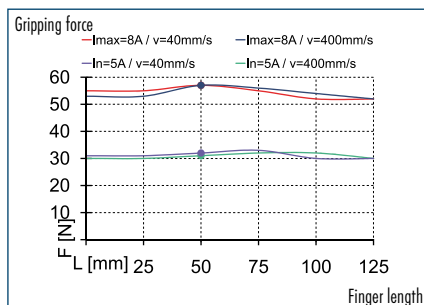


The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

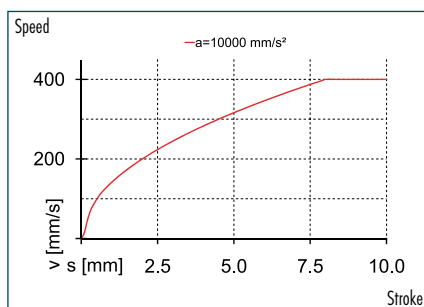
- ① Gripper connection
- ② Finger connection
- 69 Connection for electric feed-through
- 71 M 16 x 1.5 screw connection for cable guiding
- 80 Depth of the centering sleeve hole in the matching part



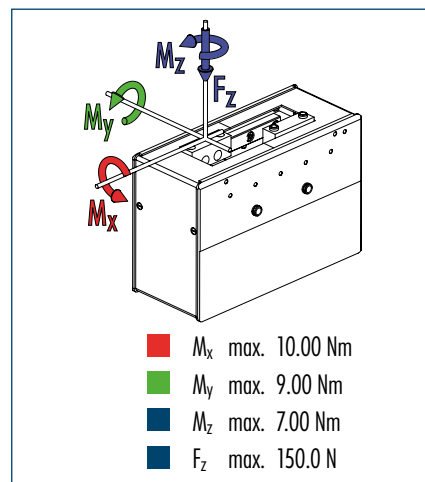
Gripping force



Speed



Finger load

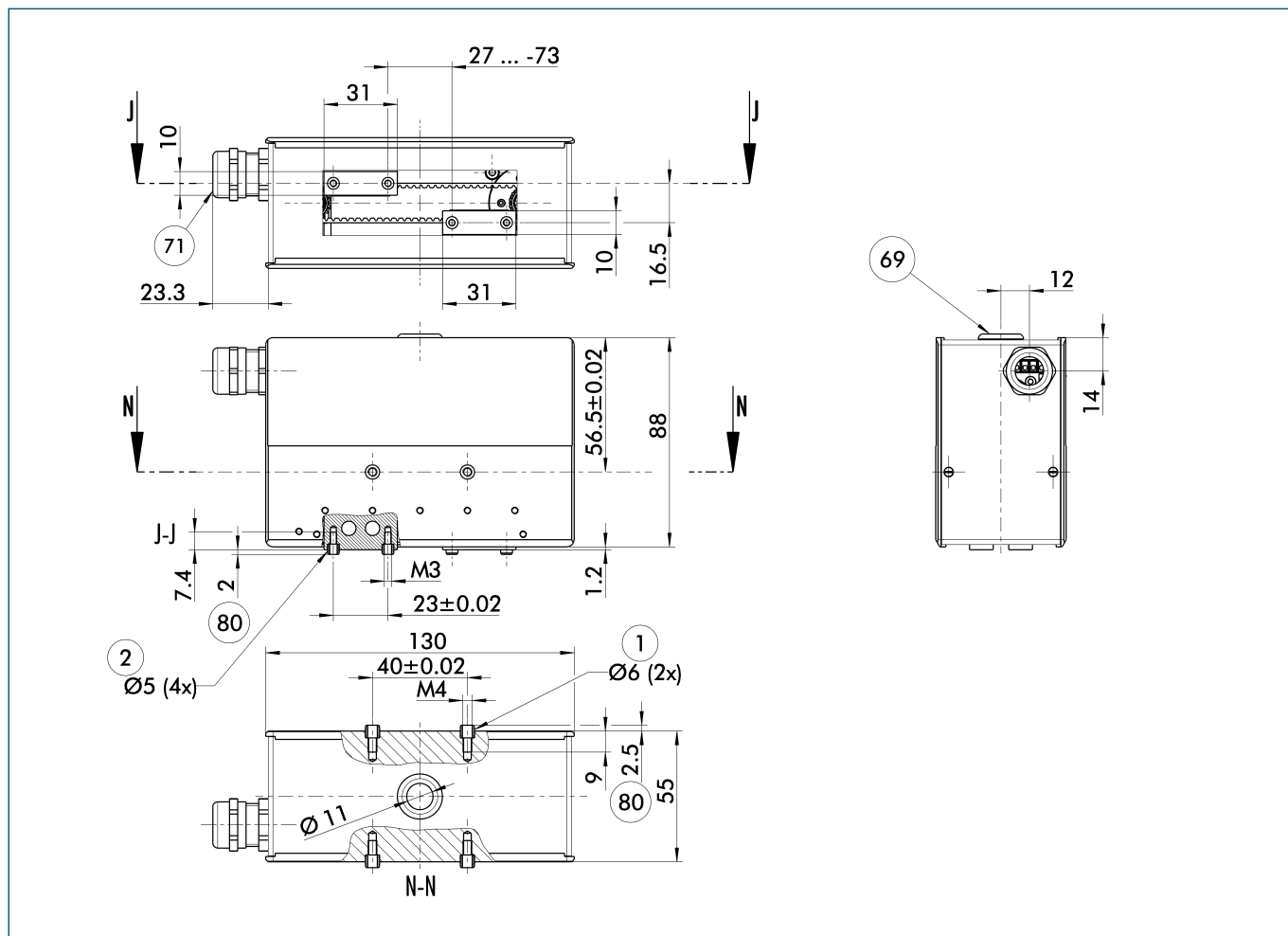


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EVG 55-100
ID	0306025
General technical data gripper	
Stroke per finger	[mm] 50
Minimum/maximum gripping force	[N] 3/57
Weight	[kg] 1.1
Recommended workpiece weight	[kg] 0.28
Max. permitted finger length	[mm] 125
Max. permitted weight per finger	[kg] 0.1
IP class	20
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 400
Maximum acceleration	[mm/s²] 10000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 5
Max. total current	[A] 8
Resolution	[Inc/U] 2000
Controller operating data	
Description	MCS-06 (EVG55-100)
ID	0306031
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view



The drawing shows the gripper in the basic version with opened jaws without considering the dimensions of the described options below.

- ① Gripper connection
- ② Finger connection
- 69 Connection for electric feed-through
- 71 M 16 x 1.5 screw connection for cable guiding

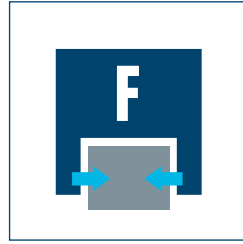
- 80 Depth of the centering sleeve hole in the matching part



Sizes
30 ... 50



Weight
5.4 kg ... 14.8 kg



Gripping force
750 N ... 1800 N

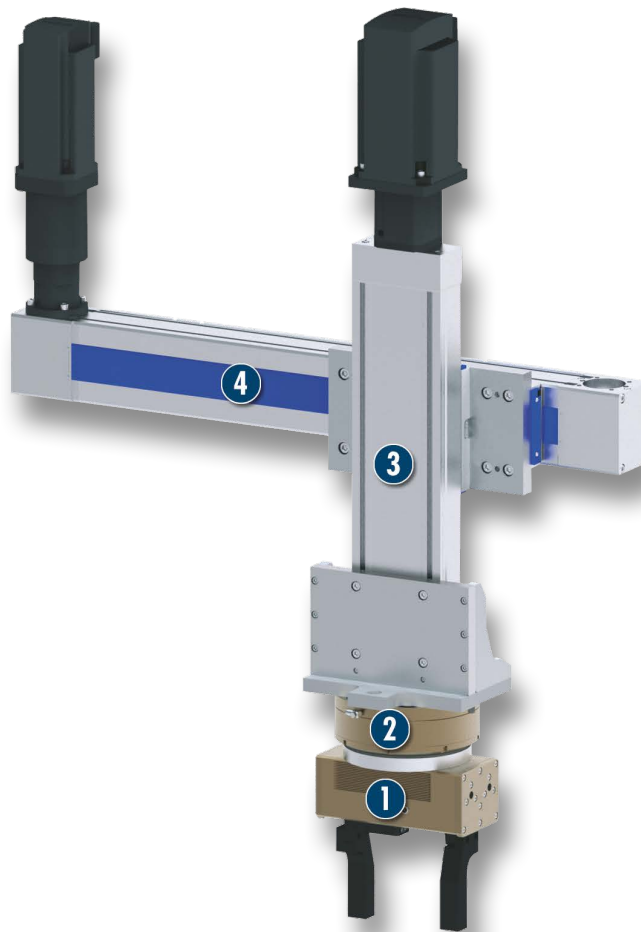


Stroke per finger
60 mm ... 100 mm



Workpiece weight
3.75 kg ... 9 kg

Application example



Fully electrically driven gantry axis for loading and depalettizing of various components with a large variance

1

PEH servo-electric 2-Finger Parallel Gripper

2

Rotary module with STM torque motor

3

Linear axis with spindle drive HSB Delta

4

Linear axis with toothed-belt drive HSB Beta

Long-stroke Gripper

servo-electric 2-finger parallel gripper with long jaw stroke for large parts and/or a broad range of parts

Field of application

universal, ultra-flexible gripper for great part variety in clean to slightly dirty working environments

Your advantages and benefits

Gripping force control in the range of 100 N – 1800 N

for the powerful gripping of various workpieces

Large stroke of 200 mm

for flexible workpiece handling

Fully integrated control and power electronics

for creating a decentralized control system

Versatile actuation options

for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Robust guidance

for the precise handling of all kinds of workpieces

High maximum moments possible

suitable for using long gripper fingers

Mounting from two sides in three screw directions possible

for universal and flexible gripper assembly



General note to the series

Principle of function

Spindle drive synchronized by rack and pinion principle

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

servo-electric, via brushless DC servo-motor

Warranty

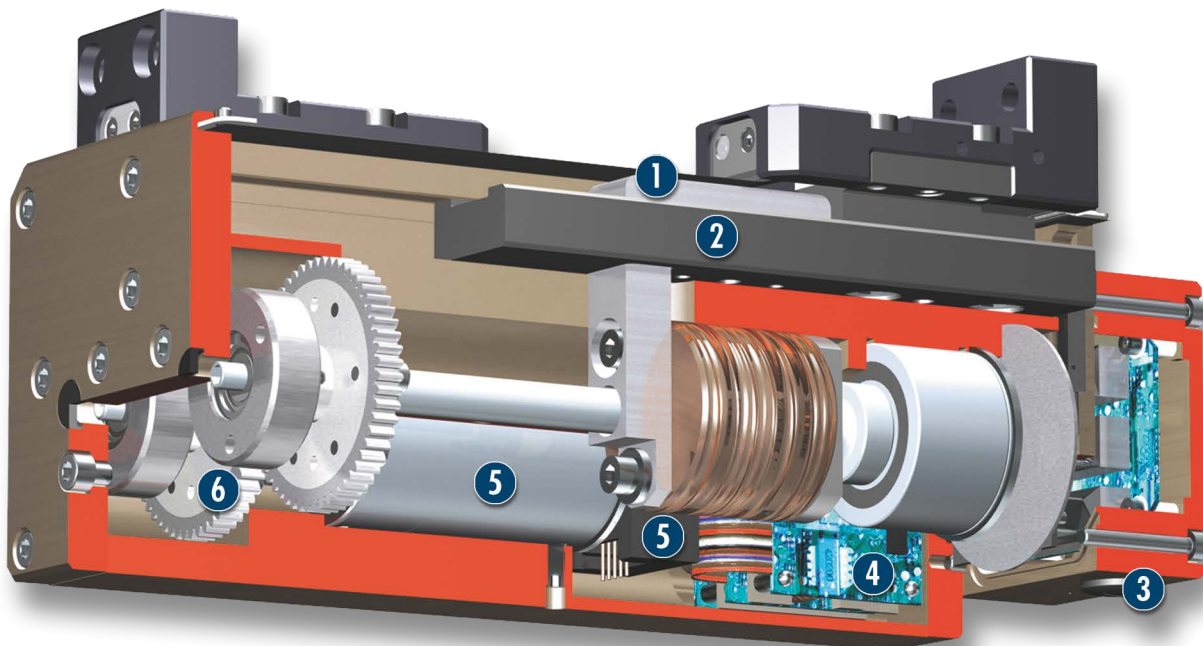
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.

For actuation of the gripper, an electric connection cap is necessary. This cap is not subject to the scope of delivery and has to be ordered separately.

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Kinematics
Rack and pinion principle for centric gripping</p> | <p>3 Connection cap
Electrical connection for energy supply and communication</p> | <p>5 Drive
brushless DC servo-motor with hall-effect sensors and encoder</p> |
| <p>2 Guidance
for precise gripping with minimal play at a high load capacity</p> | <p>4 Control electronics
integrated control and power electronics for actuating the servo-motor</p> | <p>6 Gear mechanism
Force transmission from the servo-motor to the drive spindle</p> |

Functional description

The brushless servo-motor drives the ball bearing spindle via the gear mechanism. A base jaw is moved by means of a carrier on the spindle. The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

The PEH gripper is electrically actuated by the fully integrated control and power electronics. In this way, the module does not require any additional external control units.

A varied range of interfaces, such as Profibus-DP or CAN-Bus are available as methods of communication. This enables you to create industrial bus networks and ensures easy integration in control systems. You can make use of our hybrid cables for conveying the supply voltage and for communication.

For creating combined systems (e.g. Gripping/Rotary Units), further modules from our PowerCube series are available for you.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Connection cap



Power-/and data cable



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

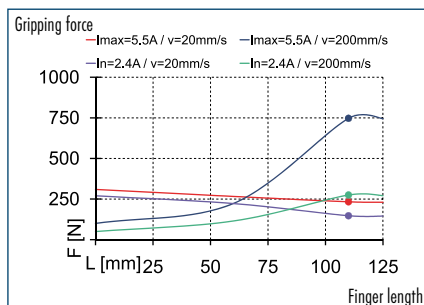
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

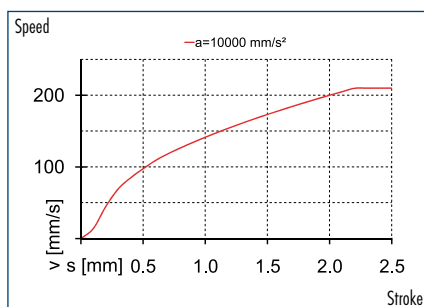
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



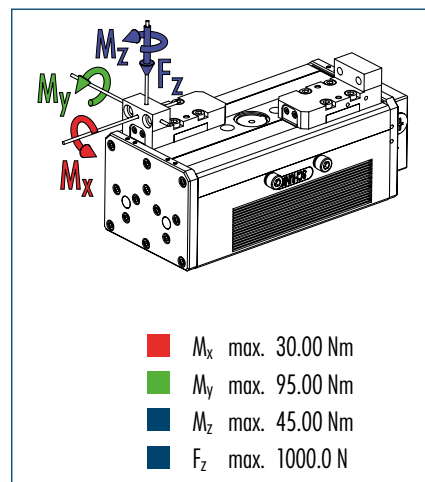
Gripping force



Speed



Finger load

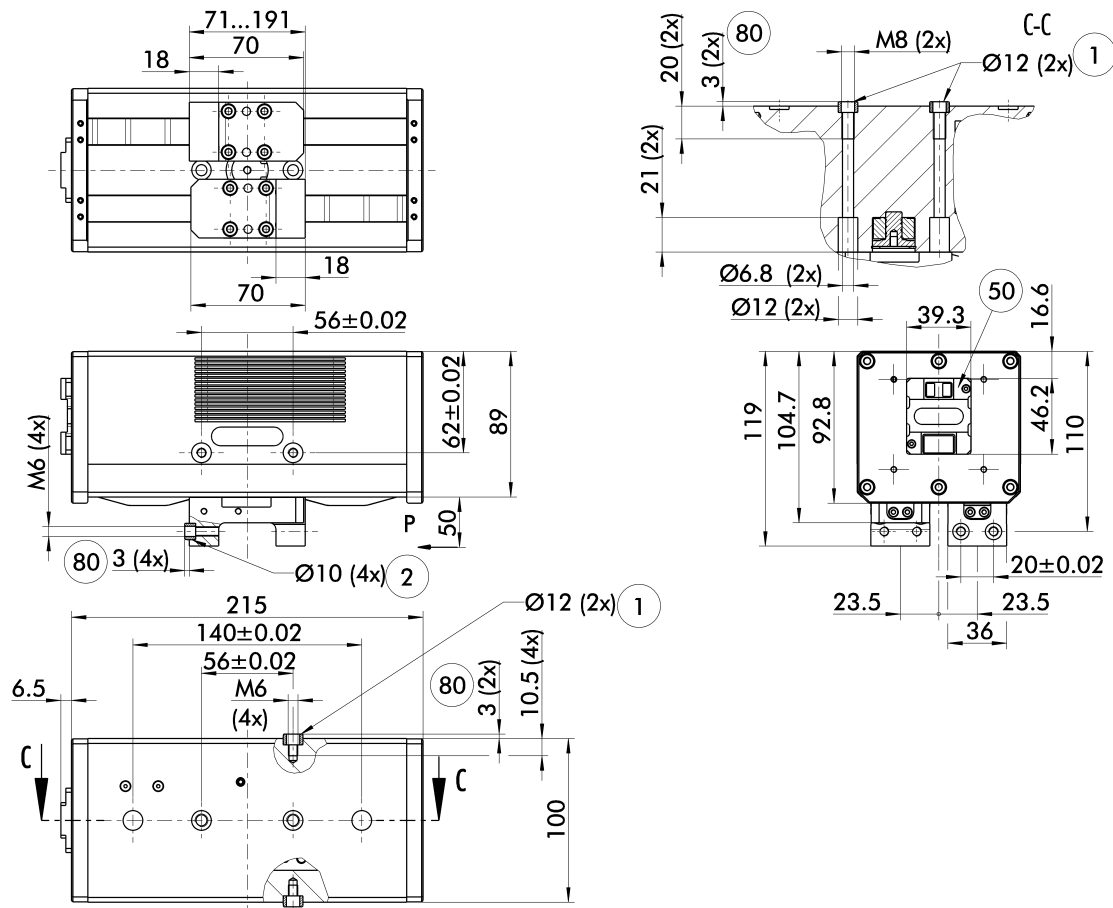


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	PEH 30
ID	0306060
General technical data gripper	
Stroke per finger	[mm] 60
Minimum/maximum gripping force	[N] 150/750
Weight	[kg] 5.4
Recommended workpiece weight	[kg] 3.75
Max. permitted finger length	[mm] 125
Max. permitted weight per finger	[kg] 2
IP class	41
Min./max. ambient temperature	[°C] 5/45
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 210
Maximum acceleration	[mm/s²] 10000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 2.4
Max. total current	[A] 5.5
Resolution	[Inc/U] 1
Controller operating data	
Description	PTA-V5.3
Implementation	integrated
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

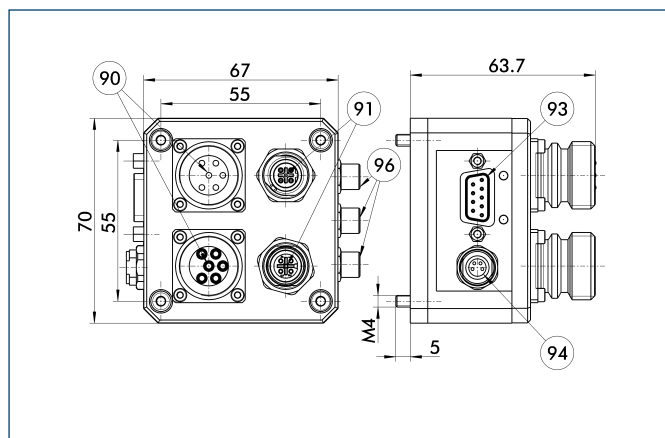


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ⑤⑤ Electronics connection

- ⑧⑩ Depth of the centering sleeve hole in the matching part

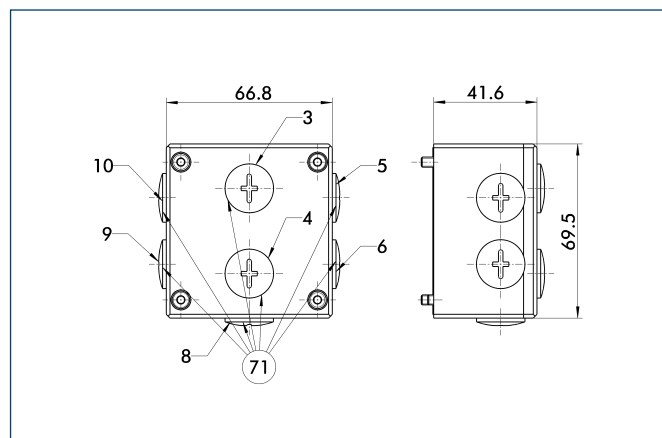
Connection cap MMI



- 90 Connection power supply (logic / load)
- 91 Connection Feldbus
- 93 Parametrized interface RS232
- 94 Connection power supply service box (SSB)
- 96 Connection external end switch

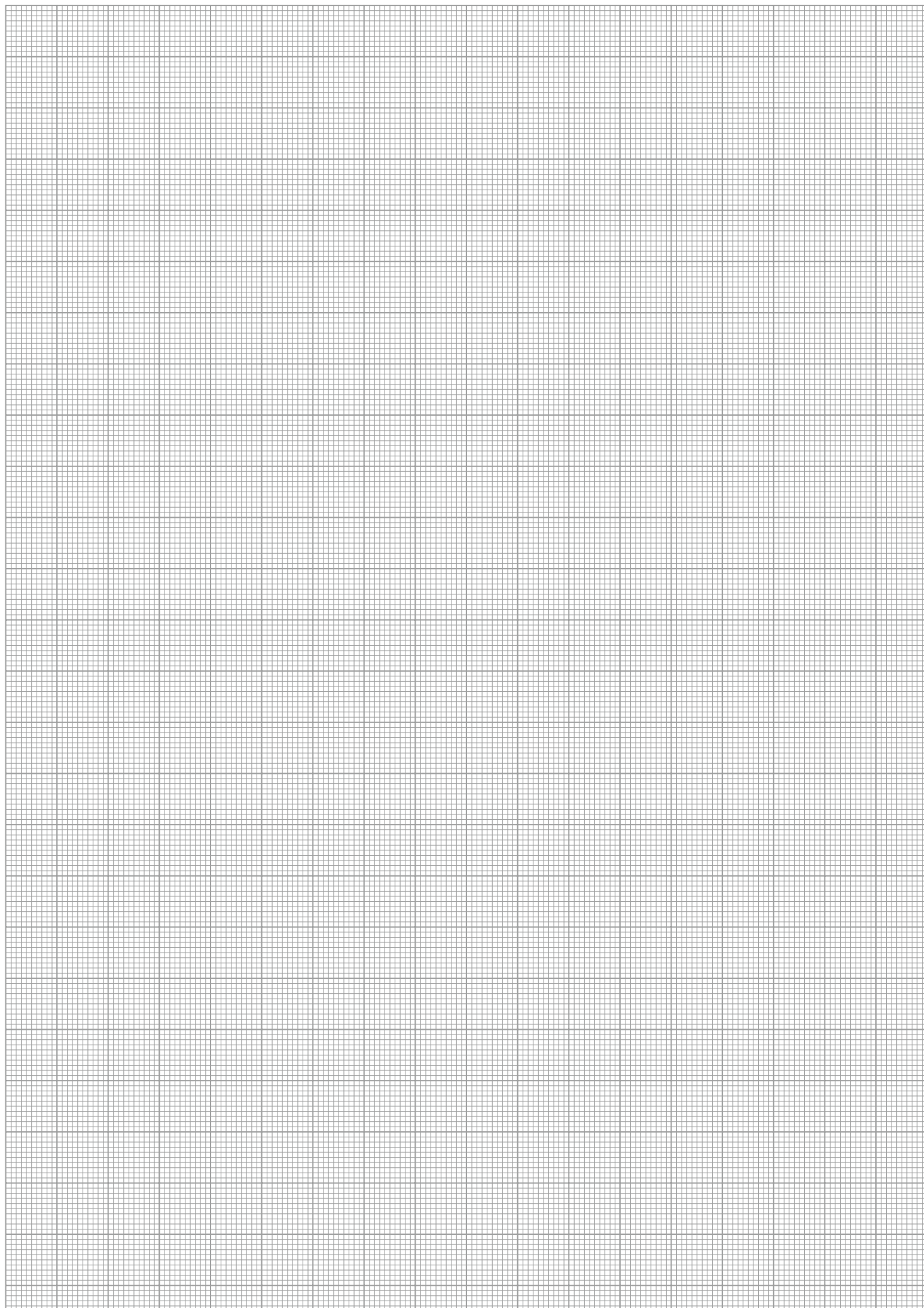
Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	0307501
MMI 070-V05-D-PB	0307503
MMI 070-V05-E-CN	0307500
MMI 070-V05-E-PB	0307502
Connection cables	
KA GGN1204-PB-00150-A	0349750
KA GGN1204-PB-00300-A	0349751
KA GGN1204-PB-00500-A	0349752
KA GGN1204-PB-01000-A	0349753
KA GGN1204-CN-00150-A	0349770
KA GGN1204-CN-00300-A	0349771
KA GGN1204-CN-00500-A	0349772
KA GGN1204-CN-01000-A	0349773
KA GLN2304-LK-00150-H	0349870
KA GLN2304-LK-00300-H	0349871
KA GLN2304-LK-00500-H	0349872
KA GLN2304-LK-01000-H	0349873
KA GGN2304-LK-00150-H	0349874
KA GGN2304-LK-00300-H	0349875
KA GGN2304-LK-00500-H	0349876
KA GGN2304-LK-01000-H	0349877

Connection cap DMI



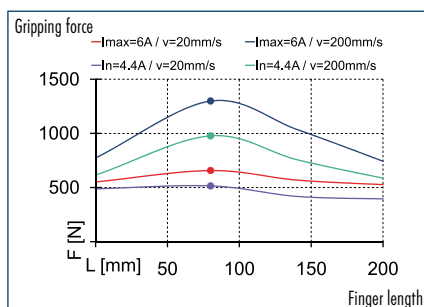
- 71 M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	0307732
Options	
DMI V5 BLUETOOTH	0349050

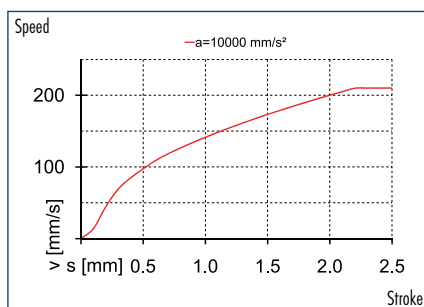




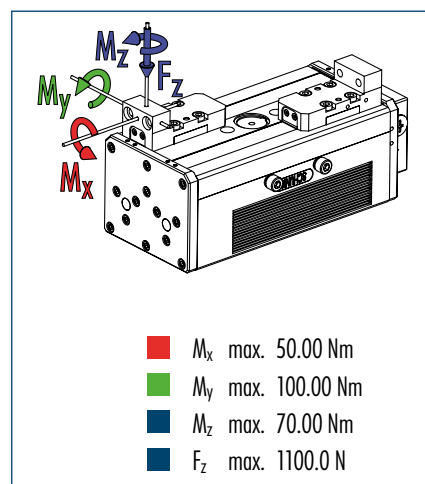
Gripping force, O.D. gripping



Speed



Finger load

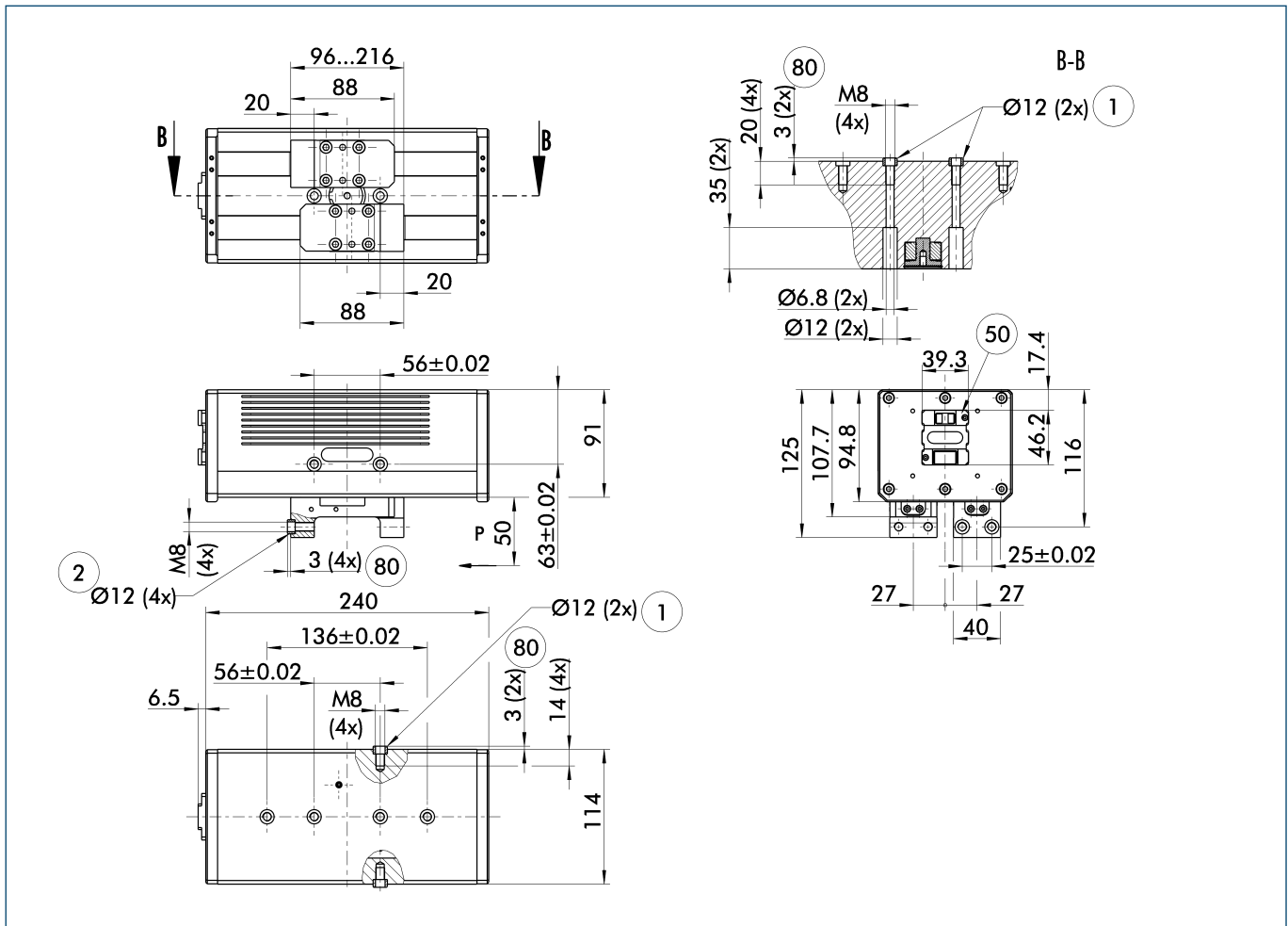


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	PEH 40
ID	0306062
General technical data gripper	
Stroke per finger	[mm] 60
Minimum/maximum gripping force	[N] 150/1300
Weight	[kg] 7.8
Recommended workpiece weight	[kg] 6.5
Max. permitted finger length	[mm] 200
Max. permitted weight per finger	[kg] 3
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 210
Maximum acceleration	[mm/s ²] 10000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 4.4
Max. total current	[A] 6
Resolution	[Inc/U] 1
Controller operating data	
Description	PTA-V5.3
Implementation	integrated
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

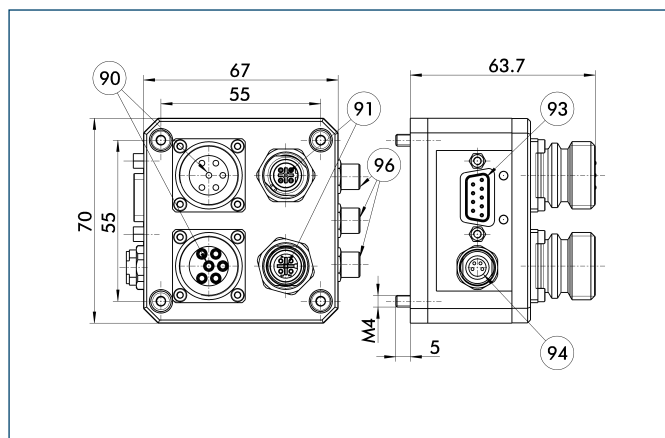


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ⑤ Electronics connection

- ⑧ Depth of the centering sleeve hole in the matching part

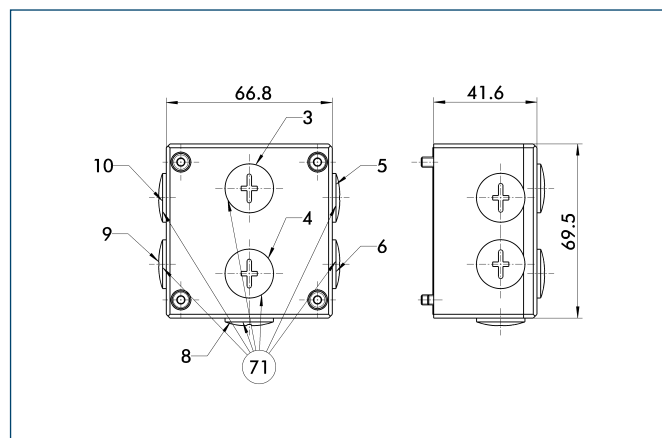
Connection cap MMI



- 90 Connection power supply (logic / load)
- 91 Connection Feldbus
- 93 Parametrized interface RS232
- 94 Connection power supply service box (SSB)
- 96 Connection external end switch

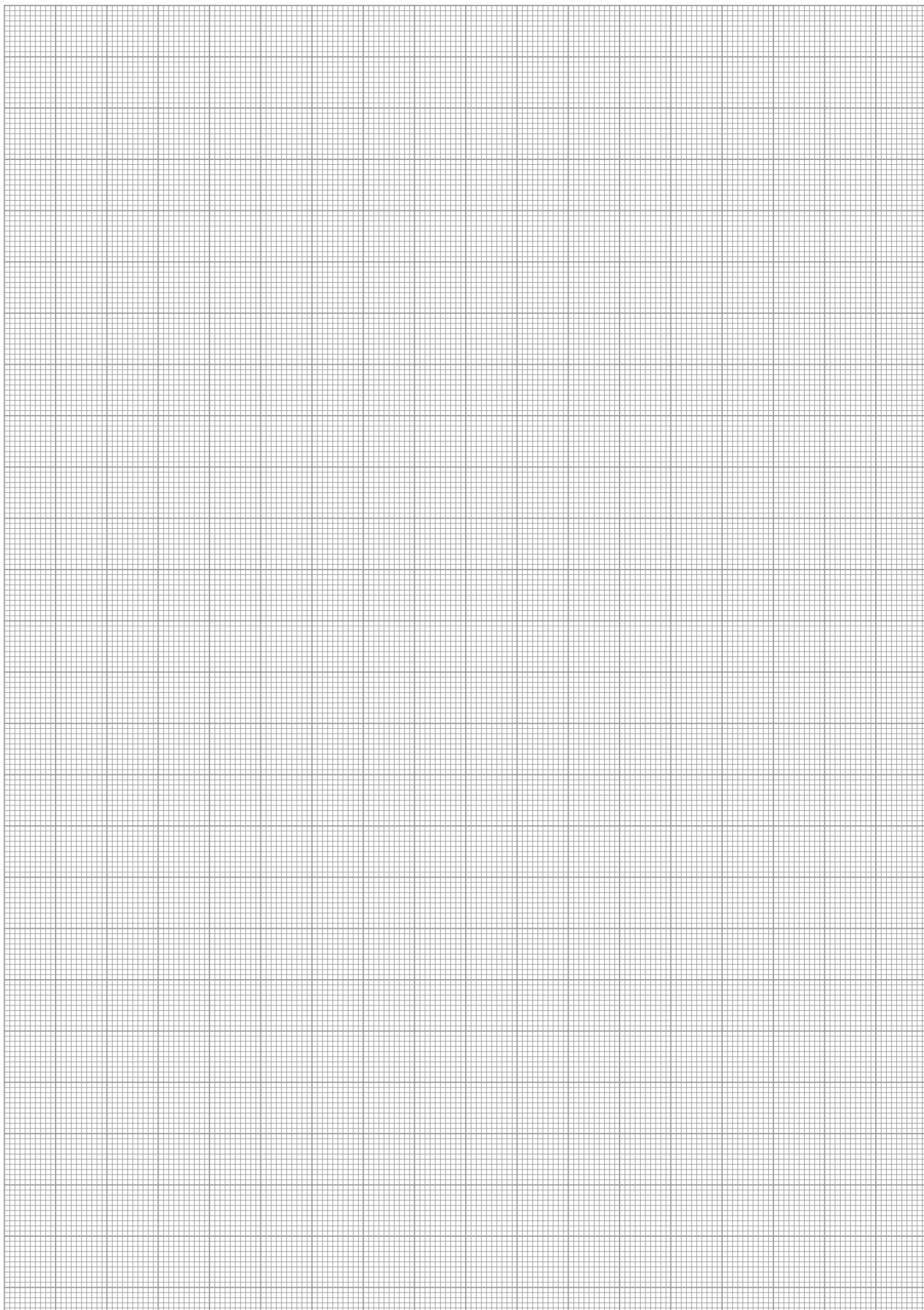
Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	0307501
MMI 070-V05-D-PB	0307503
MMI 070-V05-E-CN	0307500
MMI 070-V05-E-PB	0307502
Connection cables	
KA GGN1204-PB-00150-A	0349750
KA GGN1204-PB-00300-A	0349751
KA GGN1204-PB-00500-A	0349752
KA GGN1204-PB-01000-A	0349753
KA GGN1204-CN-00150-A	0349770
KA GGN1204-CN-00300-A	0349771
KA GGN1204-CN-00500-A	0349772
KA GGN1204-CN-01000-A	0349773
KA GLN2304-LK-00150-H	0349870
KA GLN2304-LK-00300-H	0349871
KA GLN2304-LK-00500-H	0349872
KA GLN2304-LK-01000-H	0349873
KA GGN2304-LK-00150-H	0349874
KA GGN2304-LK-00300-H	0349875
KA GGN2304-LK-00500-H	0349876
KA GGN2304-LK-01000-H	0349877

Connection cap DMI



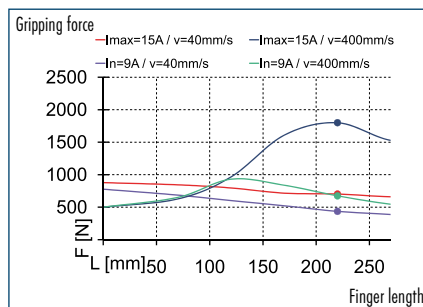
- 71 M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	0307732
Options	
DMI V5 BLUETOOTH	0349050

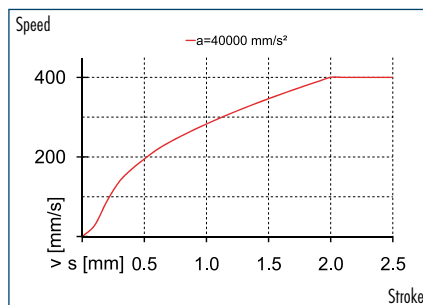




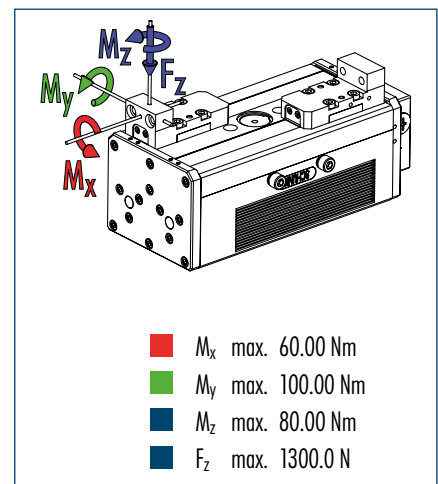
Gripping force, O.D. gripping



Speed



Finger load

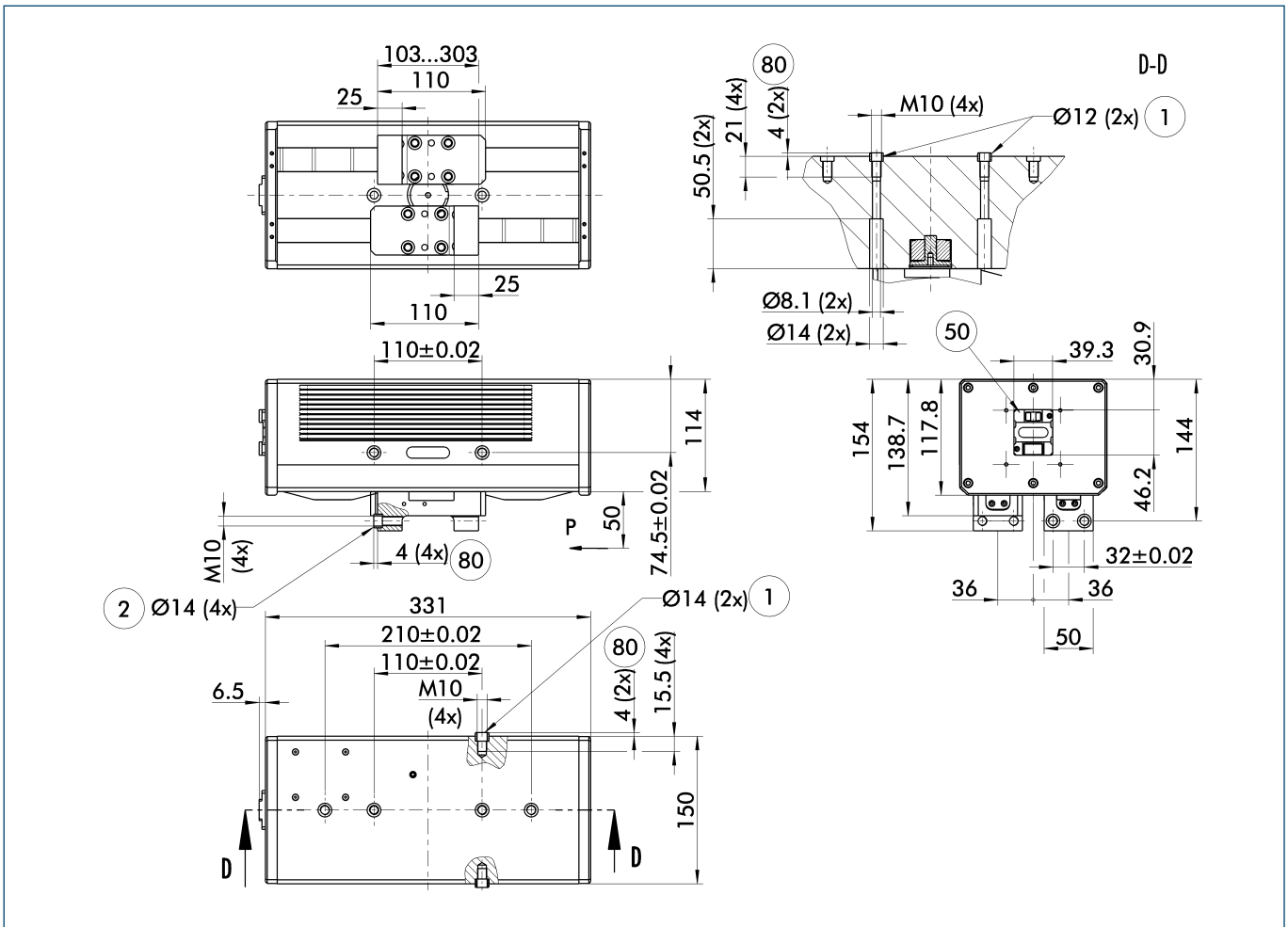


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	PEH 50
ID	0306064
General technical data gripper	
Stroke per finger	[mm] 100
Minimum/maximum gripping force	[N] 150/1800
Weight	[kg] 14.8
Recommended workpiece weight	[kg] 9
Max. permitted finger length	[mm] 270
Max. permitted weight per finger	[kg] 4
IP class	41
Min./max. ambient temperature	[°C] 5/45
Repeat accuracy	[mm] 0.05
Maximum speed	[mm/s] 400
Maximum acceleration	[mm/s²] 40000
Electrical operating data gripper	
Power supply	[V DC] 24
Nominal current	[A] 9
Max. total current	[A] 15
Resolution	[Inc/U] 1
Controller operating data	
Description	PTA-V5.3
Implementation	integrated
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

Main view

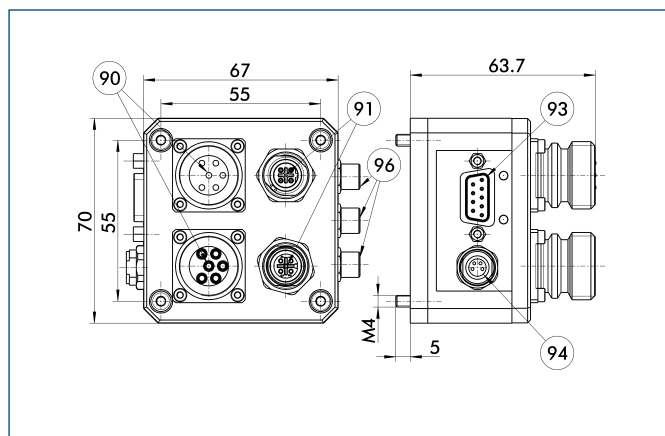


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ⑤ Electronics connection

- ⑧ Depth of the centering sleeve hole in the matching part

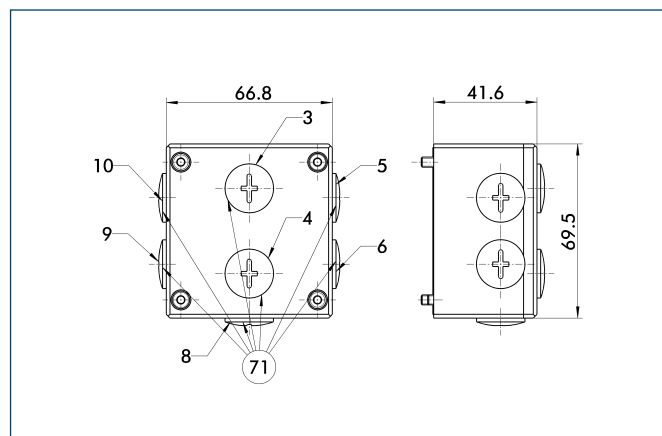
Connection cap MMI



- 90 Connection power supply (logic / load)
- 91 Connection Feldbus
- 93 Parametrized interface RS232
- 94 Connection power supply service box (SSB)
- 96 Connection external end switch

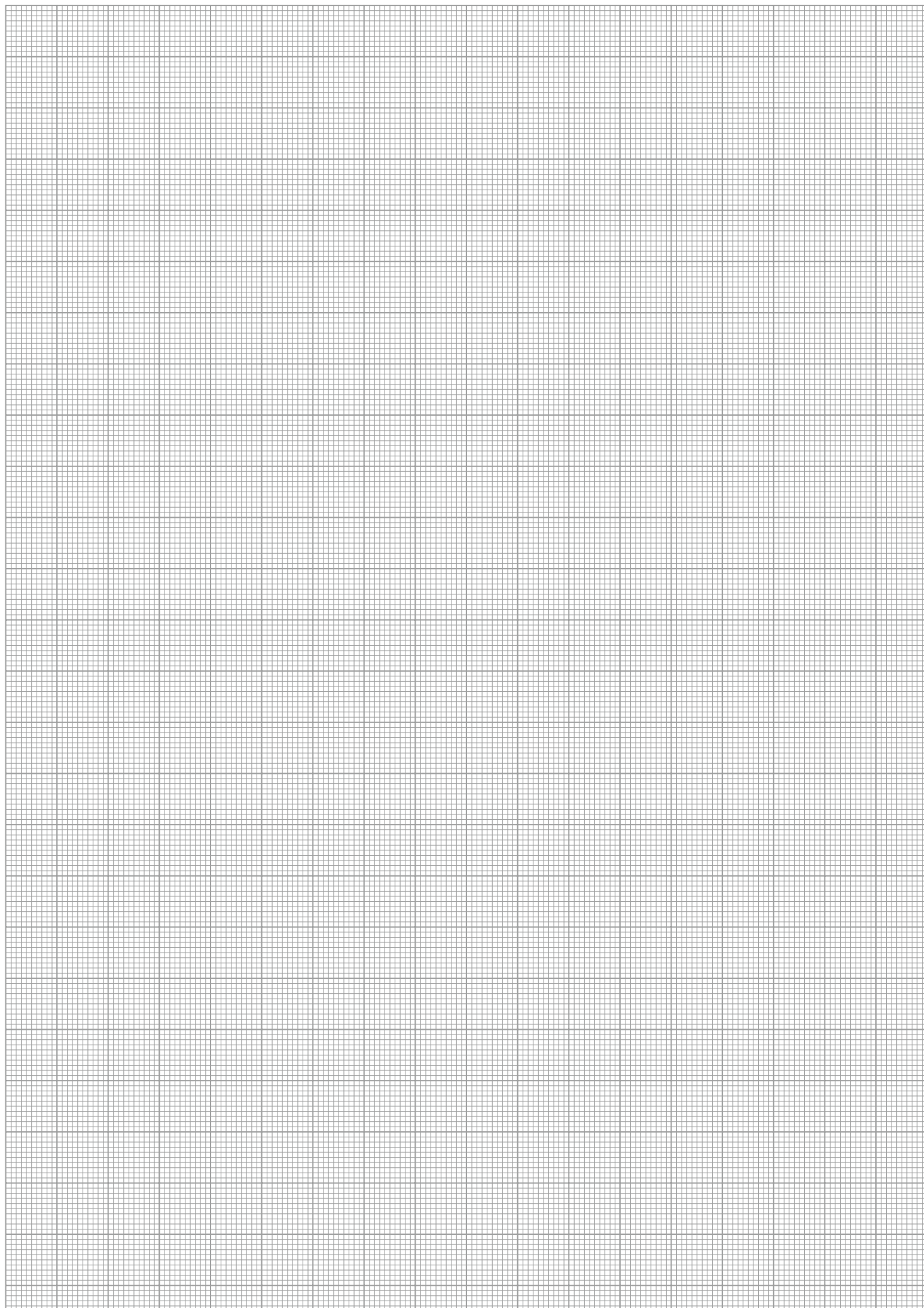
Description	ID
Connection cap modular mechatronic interface (MMI)	
MMI 070-V05-D-CN	0307501
MMI 070-V05-D-PB	0307503
MMI 070-V05-E-CN	0307500
MMI 070-V05-E-PB	0307502
Connection cables	
KA GGN1204-PB-00150-A	0349750
KA GGN1204-PB-00300-A	0349751
KA GGN1204-PB-00500-A	0349752
KA GGN1204-PB-01000-A	0349753
KA GGN1204-CN-00150-A	0349770
KA GGN1204-CN-00300-A	0349771
KA GGN1204-CN-00500-A	0349772
KA GGN1204-CN-01000-A	0349773
KA GLN2304-LK-00150-H	0349870
KA GLN2304-LK-00300-H	0349871
KA GLN2304-LK-00500-H	0349872
KA GLN2304-LK-01000-H	0349873
KA GGN2304-LK-00150-H	0349874
KA GGN2304-LK-00300-H	0349875
KA GGN2304-LK-00500-H	0349876
KA GGN2304-LK-01000-H	0349877

Connection cap DMI



- 71 M 16 x 1.5 screw connection for cable guiding

Description	ID
Connection cap sealed mechatronic interface (DMI)	
DMI 070-V05-B	0307732
Options	
DMI V5 BLUETOOTH	0349050

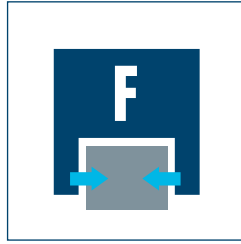




Size
760



Weight
9 kg ... 11.6 kg



Gripping force
1050 N ... 1500 N

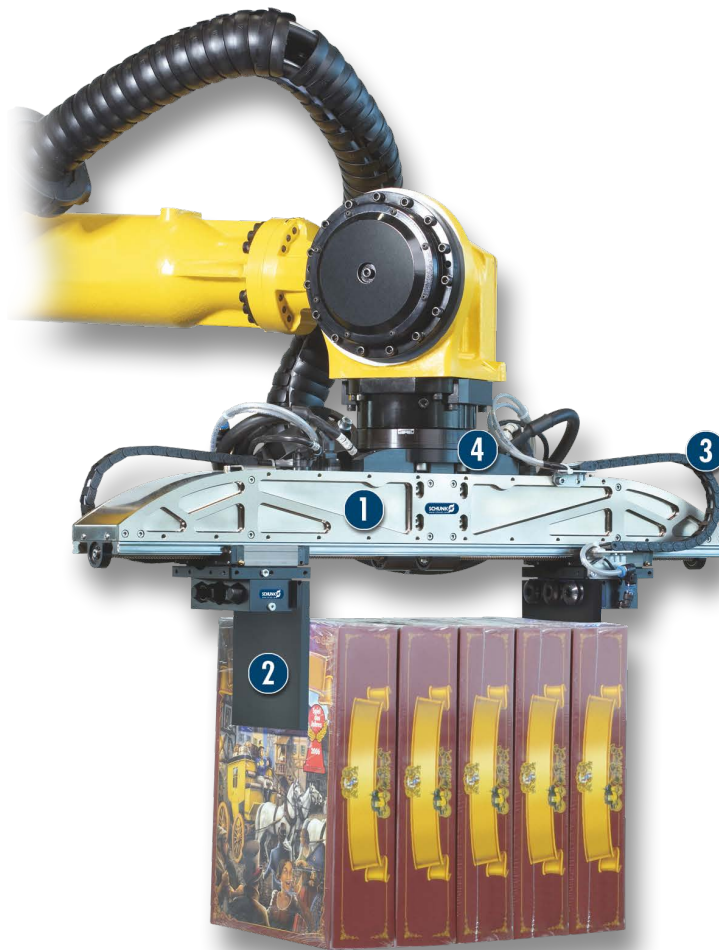


Stroke per finger
281 mm



Workpiece weight
15.75 kg ... 22.5 kg

Application example



Gripping unit for top loading and palettizing tasks

1 2-Finger Long-stroke Gripper LEG

2 Finger change system

3 Drag chain

4 ISO flange

Long-stroke Gripper

light long-stroke gripper for flexible and highly dynamic handling of various components

Field of application

Suitable for clean environments, very flexible gripping of various geometries and types of components. Due to the servo electric drives, the gripping position and the gripping force can be exactly determined.

Your advantages and benefits

Synchronized but also asynchronous moving of the fingers

Modular drive concept

compatible to each robot control and open for various motors

Position and moment controlled motion of the gripper

a great part variety can be covered by different sizes and dimensional stability

Extremely long stroke

2 x 0 ... 281 mm

Passive finger change system available (optional)

can be used manually or fully automatic, incl. energy feed-through

High moment payloads due to the guiding

suitable for using long gripper fingers

Current robot adoptions available

according to ISO 50, 63, 100, 125 and 160



General note to the series

Principle of function

Ball screw

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Aluminum alloy, hard-anodized

Actuation

via various servo-motors

Warranty

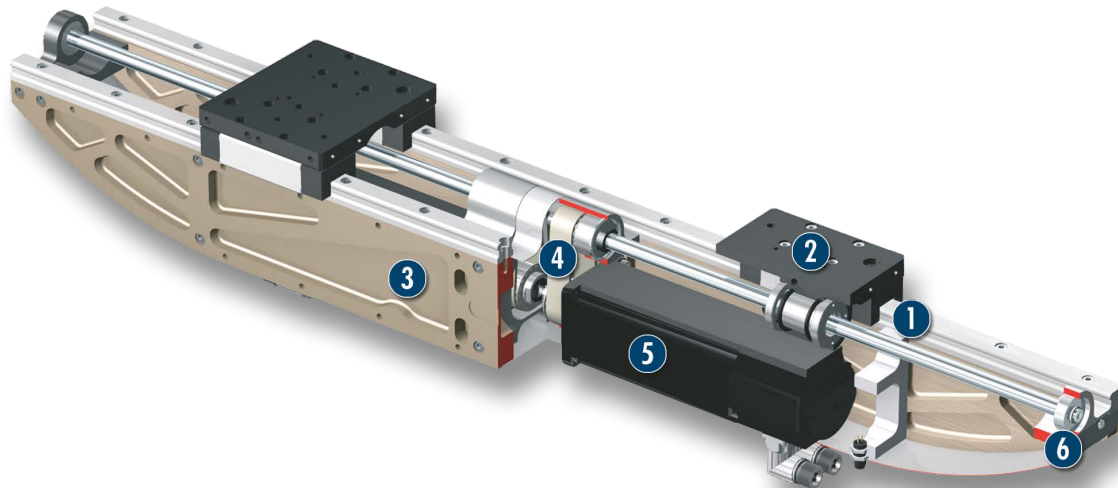
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering sleeves, centering pin, assembly and operating manual with declaration of incorporation.

Finger blanks are not included.

Sectional diagram



- | | | |
|--|--|---|
| <p>1 Guidance
precise gripping due to high-amperage smoothly running guidance</p> | <p>3 Housing
weight-optimized due to FEM and topology examination</p> | <p>5 Motor installation space
for various motors</p> |
| <p>2 Base jaw
for the connection of workpiece-specific gripper fingers</p> | <p>4 Kinematics
high moment payloads due to the ball screw</p> | <p>6 Sensor system
Optional: Sensors for reference run</p> |

Functional description

One or two drives actuate a bevel gear via a belt drive, and consequently move the base jaw.

With two drives every jaw can be moved individually from each other. During the actuation with a servo-motor, a coupling synchronizes the right-to-left and the left-to-right spindle with each other.

Options and special information

Lubrication nipple connection for re-lubrication of the spindle and the guidances are located in the base jaws.

Electrical actuation

The gripper can be actuated by motors of the mostly required robot manufacturers, or with other motors. Therefore the gripper can be actuated as the seventh axis by various robot manufacturers and just one user interface for robot and gripper is necessary.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



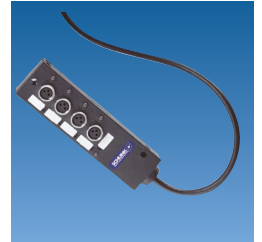
Inductive proximity switches



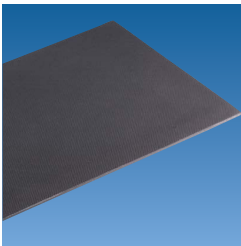
Sensor cables



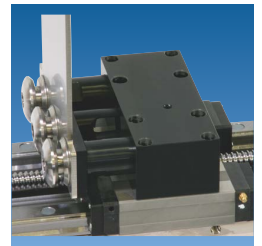
Sensor Distributor



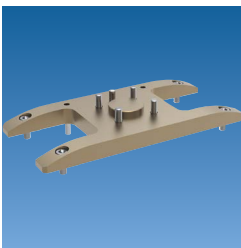
Gripper pads



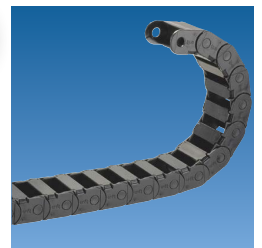
Finger change system (on request)



Flange



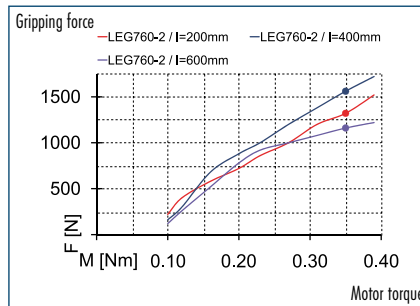
Drag chain



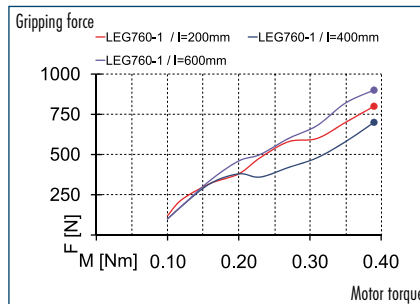
① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.



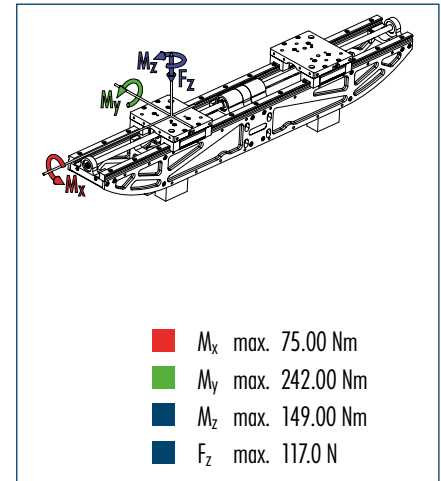
Gripping force asynchronous version



Gripping force synchronous version



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

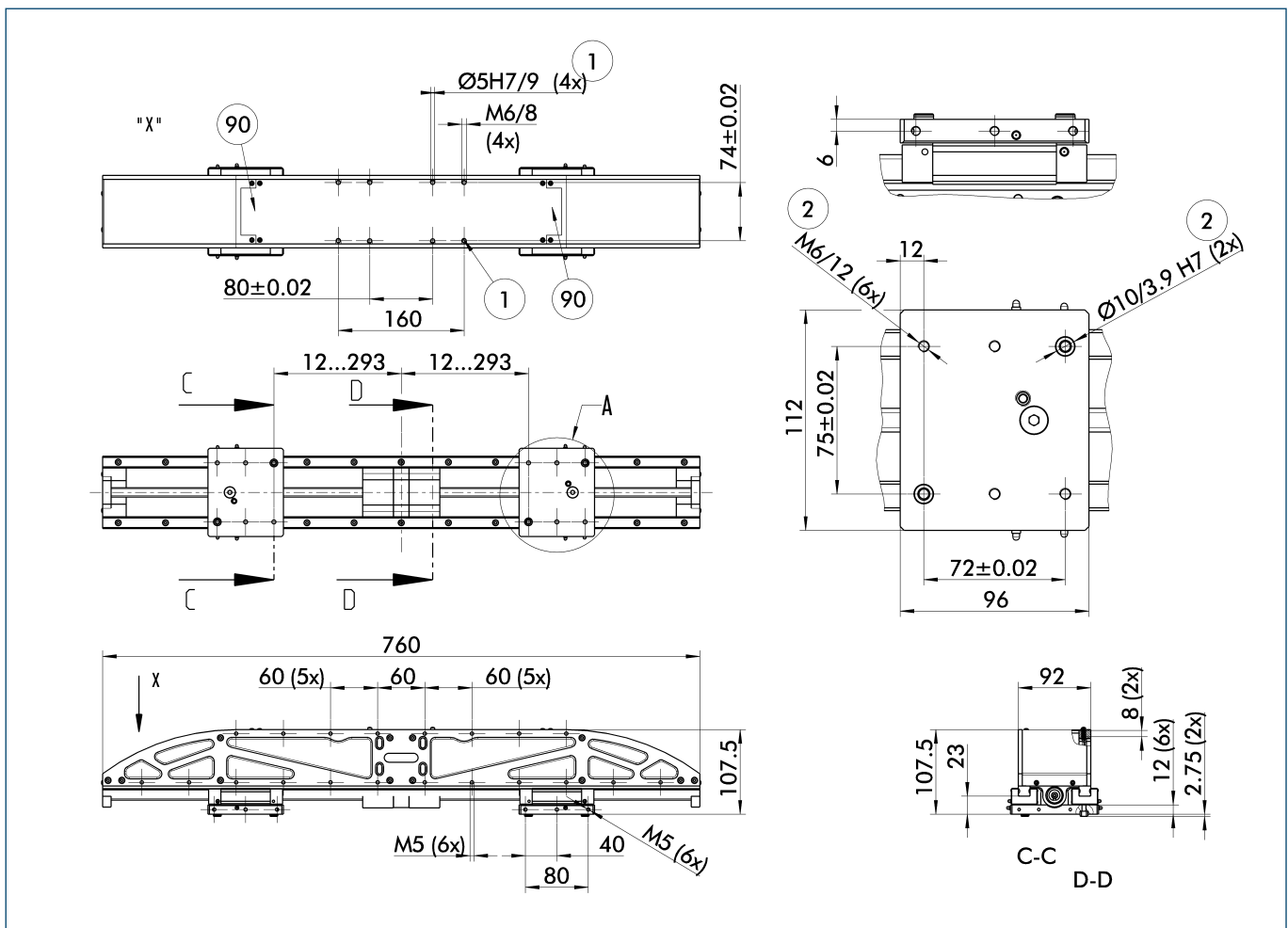
Asynchronous version for 2 motors		LEG 760-2-FanucB05	LEG 760-2-BOSCHMSK030B	LEG 760-2-KUKAMG8	LEG 760-2-ELAU
ID		0308012	0308013	0308014	0308015
Stroke per finger	[mm]	281	281	281	281
Minimum/maximum gripping force	[N]	300/1500	300/1500	300/1500	300/1500
Weight	[kg]	10.4	10.8	11.6	10.8
Recommended workpiece weight	[kg]	22.5	22.5	22.5	22.5
Max. permitted finger length	[mm]	600	600	600	600
Max. permitted weight per finger	[kg]	10	10	10	10
IP class		41	41	41	41
Min./max. ambient temperature	[°C]	5/65	5/65	5/65	5/65
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05
Maximum speed	[mm/s]	270	600	300	550
Maximum acceleration	[mm/s ²]	1500	1500	1500	1500
Power supply	[V]	400	400	400	400
Nominal current	[A]	3.6	1.5	1.4	1.1
Max. total current	[A]	6	2.8	1.8	1.4

OPTIONS and their characteristics

Synchronous version for 1 motor		LEG 760-1-FanucB05	LEG 760-1-BOSCHMSK030	LEG 760-1-KUKAMG8	LEG 760-1-ELAU
ID		0308002	0308003	0308004	0308005
Minimum/maximum gripping force	[N]	300/1050	300/1050	300/1050	300/1050
Weight	[kg]	9	9.2	9.6	9.2
Recommended workpiece weight	[kg]	15.75	15.75	15.75	15.75
Max. total current	[A]	8	3.8	2.4	1.9

① Motors are not included in the sales price. Integration of further motors on request.

Main view

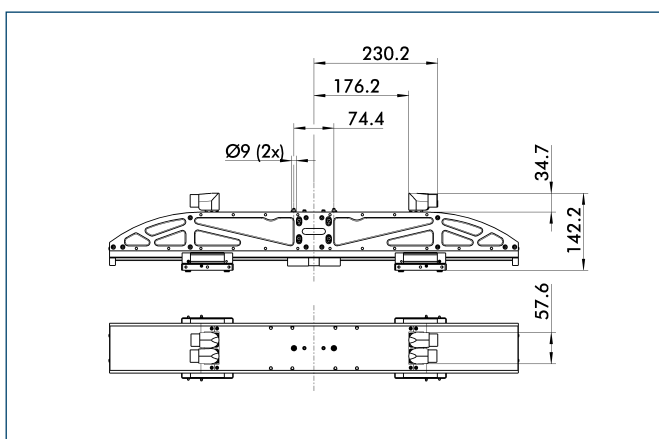


The drawing shows the unit in the basic version, the dimensions do not include the option described below.

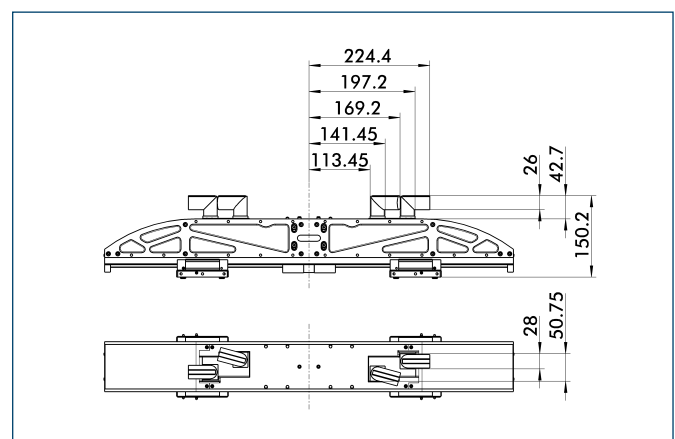
- ① Gripper connection
- ② Finger connection

90 Plug connector of the individual motor

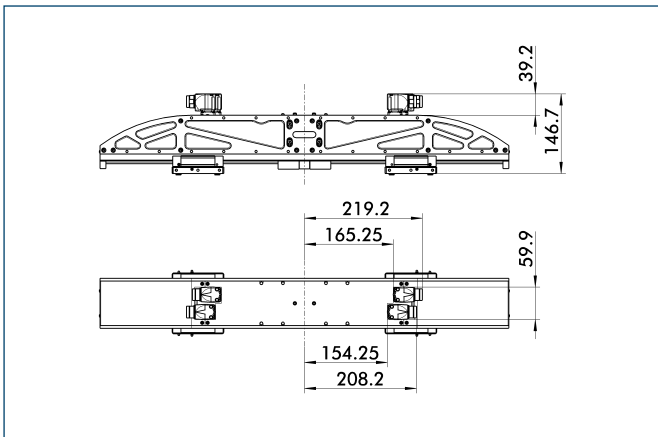
Interfering contours motor ELAU SH 055/8009



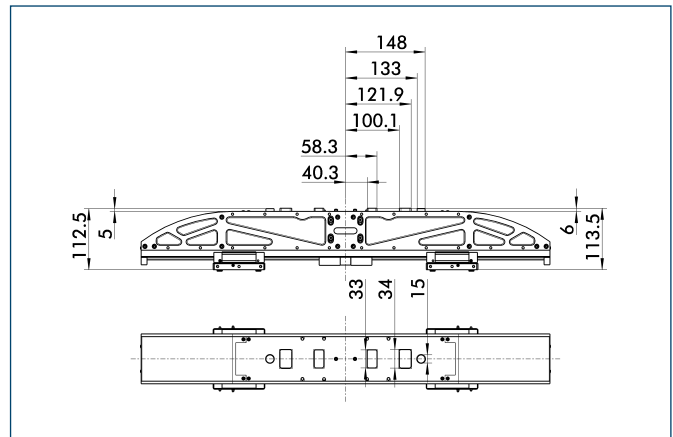
Interfering contours motor KUKA M6_8_44_45_50



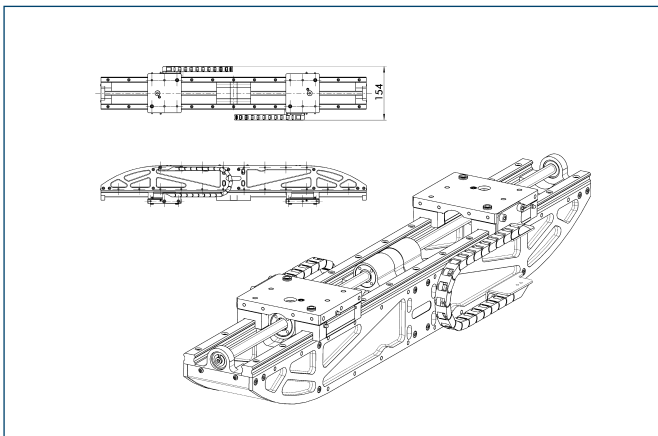
Interfering contours motor Bosch MSK 030 B



Interfering contours motor Fanuc B0.5/500iS



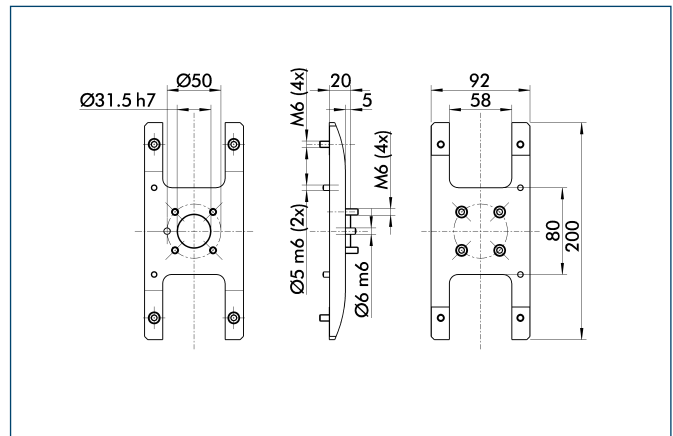
Cable chain



The mounting kit comprises two cable tracks, brackets for grippers and base jaws and fastening screws.

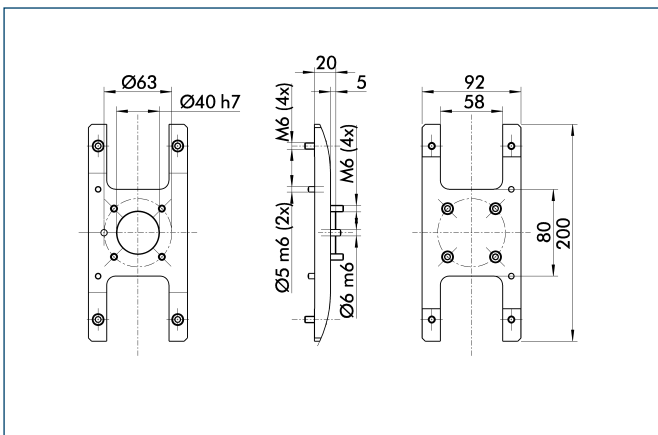
Description	ID
Cable chain	
Cable chain LEG 760	0308098

ISO flange in accordance with DIN ISO 50



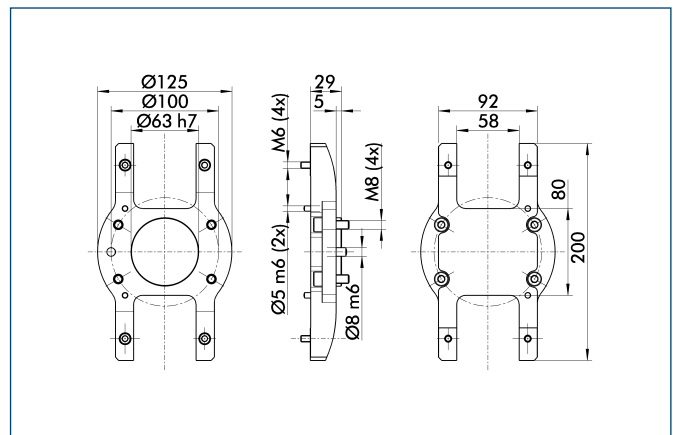
Description	ID
ISO flanges	
ADF 050	0308090

ISO flange in accordance with DIN ISO 63



Description	ID
ISO flanges	
ADF 063	0308091

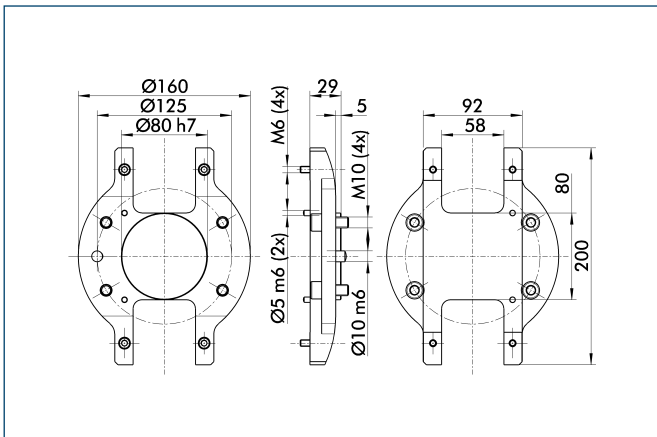
ISO flange in accordance with DIN ISO 100



Description	ID
ISO flanges	
ADF 100	0308092

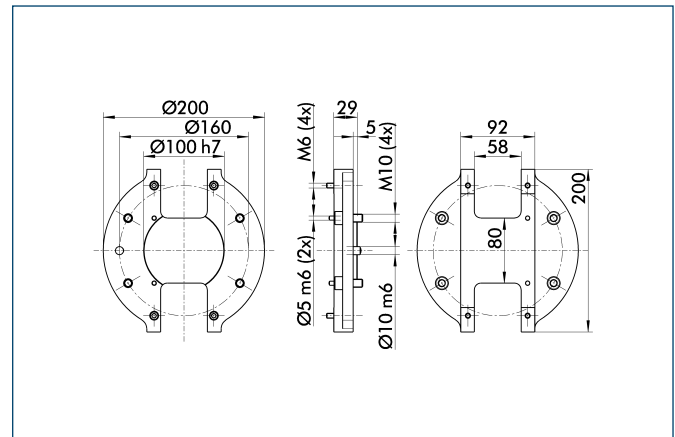
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

ISO flange in accordance with DIN ISO 125



Description	ID
ISO flanges	
ADF 125	0308093

ISO flange in accordance with DIN ISO 160



Description	ID
ISO flanges	
ADF 160	0308094



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Electric Gripping Modules

3-Finger Centric Gripper



3-FINGER CENTRIC GRIPPER

Series	Size	Page
Universal Gripper		
EZN		1278
EZN	64	1282
EZN	100	1286

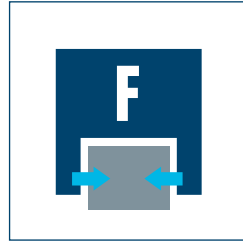




Sizes
64 ... 100



Weight
0.98 kg ... 2.3 kg



Gripping force
500 N ... 800 N

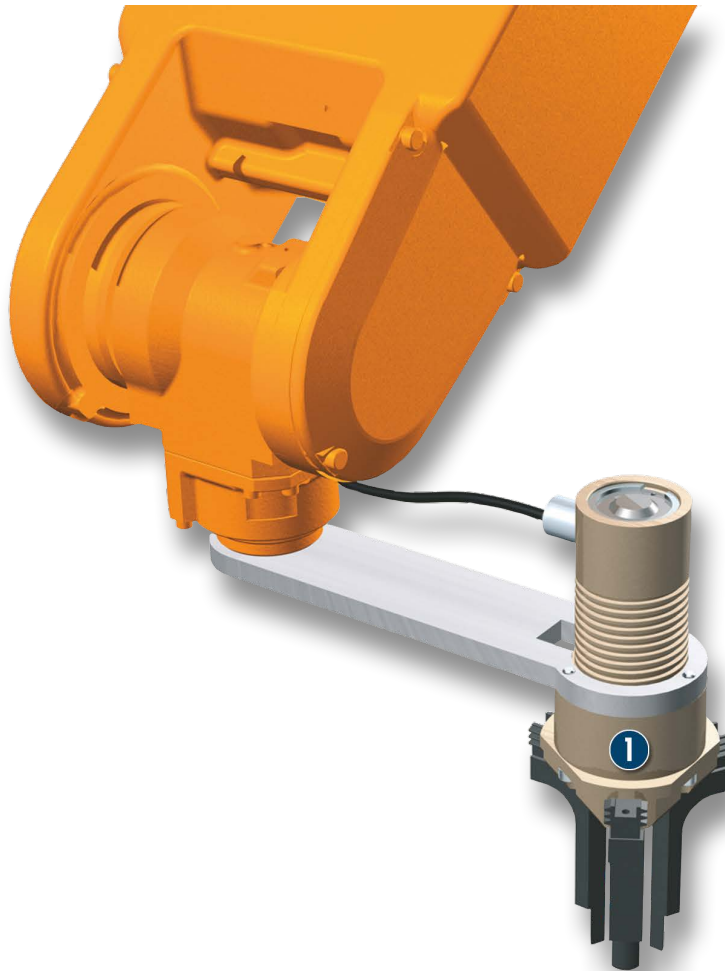


Stroke per finger
6 mm ... 10 mm



Workpiece weight
2.5 kg ... 4 kg

Application example



Connection via adapters to robots for handling all kinds of components – a complete application solution without pneumatics

1 EZN servo-electric 3-Finger Centric Gripper

Universal Gripper

servo-electric 3-finger centric gripper with large gripping force and high moment capabilities thanks to multiple-tooth guide

Field of application

Ideal standard solution for numerous fields of application. Highly versatile thanks to controlled gripping force, position and speed.

Your advantages and benefits

Drive design of servo-motor

for flexible use

with external electronics

for simple integration in existing servo-controlled concepts via Profibus-DP, CAN-Bus

Pre-positioning capability

to reduce cycle times through a short working stroke

Robust multi-tooth guidance

for precise handling

High maximum moments possible

suitable for using long gripper fingers

Fastening at one gripper side in two screw directions

for universal and flexible gripper assembly



General note to the series

Principle of function

Wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

servo-electric, via brushless DC servo-motor. For actuation of the gripper a servo controller is required. We recommend the MCS-12.

Warranty

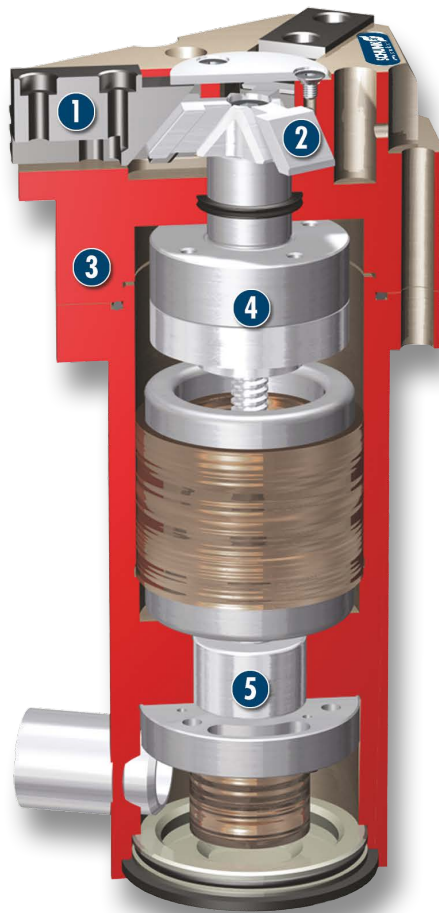
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

CD-ROM with SCHUNK software and assistant for commissioning, includes assembly- and operation manual, declaration of incorporation, enclosed pack with centering sleeves, functional module for control via Siemens S7-300/400. Finger blanks are not included.



Sectional diagram



- 1 Base jaw**
with multiple-tooth guidance for precise gripping even with long gripper fingers
- 2 Wedge-hook design**
for high power transmission and centric gripping
- 3 Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy
- 4 Kinematics**
roller-bearing mounted spindle nut system for transferring the rotational movement of the servo-motor into the axial movement of the piston rod
- 5 Drive**
CD servo-motor with resolver

Functional description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servo-motor into an axial motion.

Options and special information

Electrical actuation of the EZN gripper is carried out via the appropriate MCS-12 control electronics. Integration of the control electronics into the higher-ranking control plan can be implemented via the communication interfaces Profibus, CAN-bus or conventional digital inputs/ outputs. For Bus communication, the SCHUNK Motion Protocol (SMP) is used.

This enables you to create industrial bus networks, and ensures easy integration in control systems. If integration takes place simply by terminal signals, gripping parameters such as force, position and speed are predefined, and the different operating modes are defined by digital and analog inputs. The gripper status can be monitored by means of digital outputs, or via the Feldbus.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Finger blanks



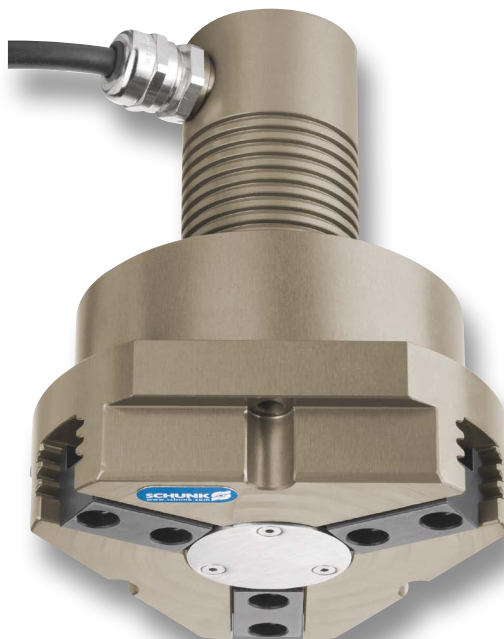
Quick-change Jaw System



Force measuring jaws



Protection cover



Control unit



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

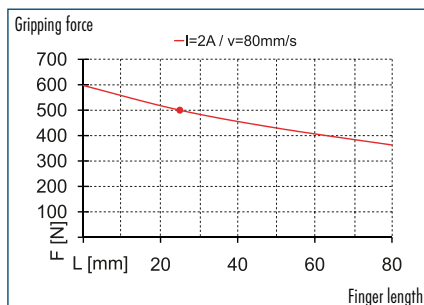
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

Currents

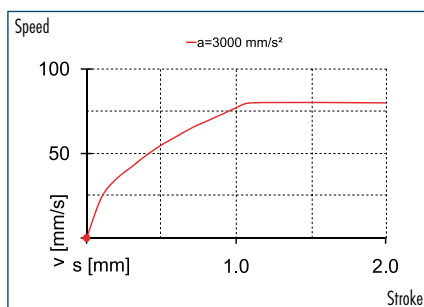
The indicated nominal currents can be actuated permanently. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.



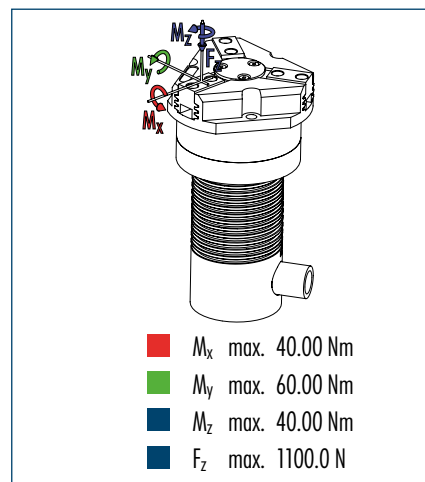
Gripping force



Speed



Finger load

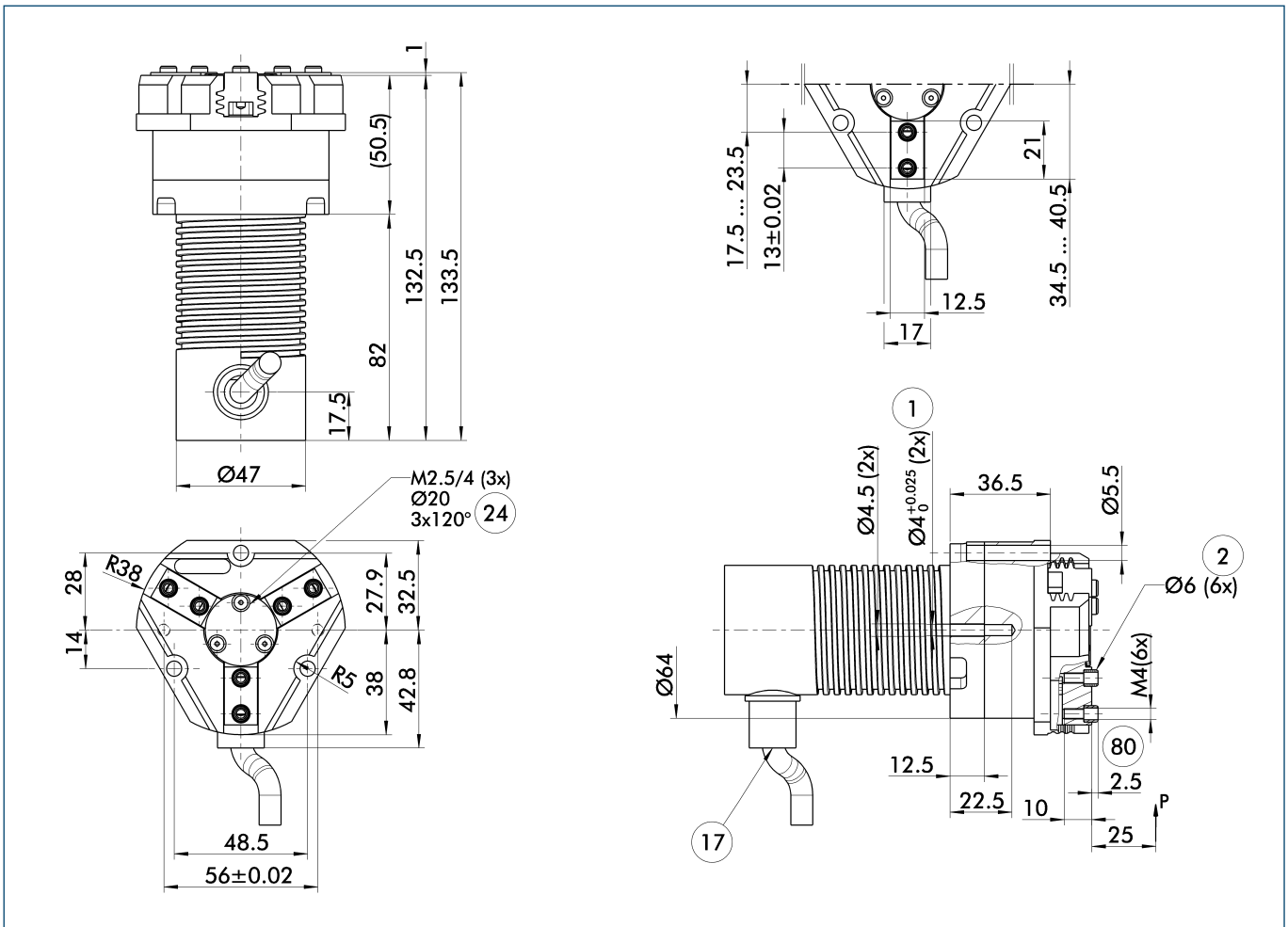


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EZN 64
ID	0306110
General technical data gripper	
Stroke per finger	[mm] 6
Minimum/maximum gripping force	[N] 140/500
Weight	[kg] 0.98
Recommended workpiece weight	[kg] 2.5
Max. permitted finger length	[mm] 80
Max. permitted weight per finger	[kg] 0.35
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.01
Maximum speed	[mm/s] 80
Maximum acceleration	[mm/s²] 3000
Electrical operating data gripper	
Power supply	[V] 24
Nominal current	[A] 2
Max. total current	[A] 4
Resolution	[Inc/U] 10
Controller operating data	
Description	MCS-12 (EGN/EZN)
ID	0307010
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

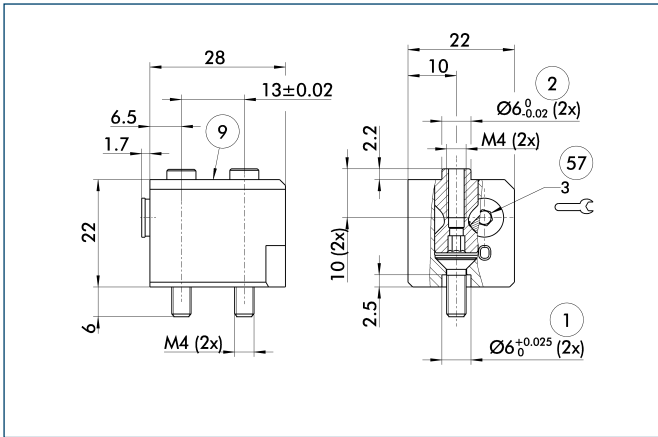
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ②④ Bolt circle
- ⑧⑩ Depth of the centering sleeve hole in the matching part

Quick-change Jaw System



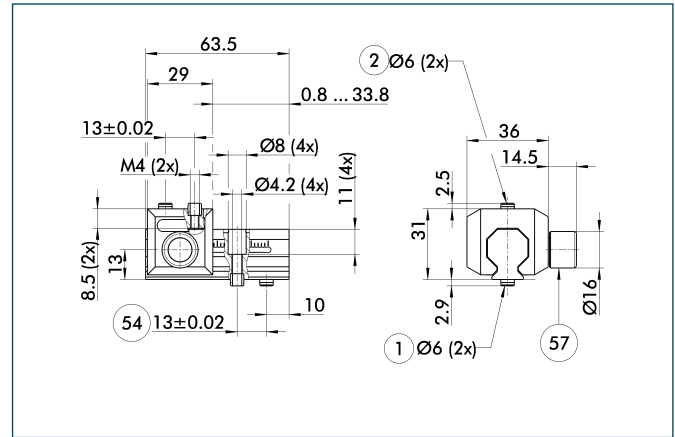
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 64	0303022
Quick-change Jaw System base	
BSWS-B 64	0303023

Universal intermediate jaw



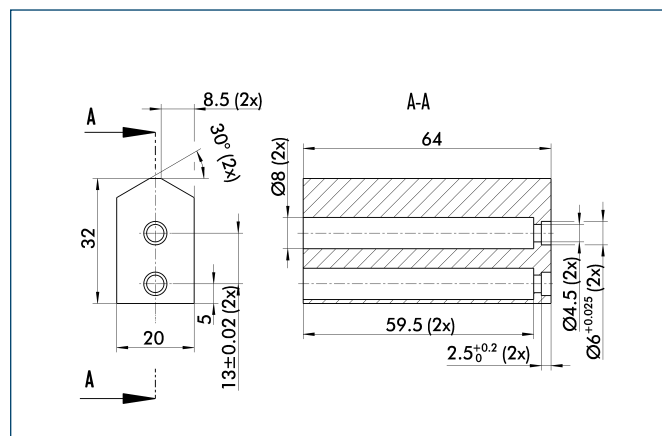
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 64	0300042	1.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

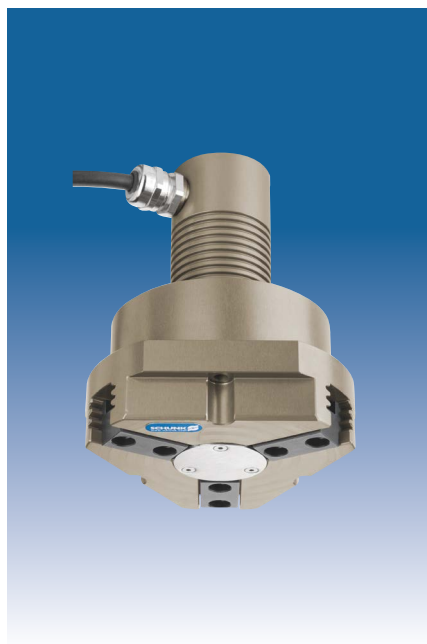
Finger blanks



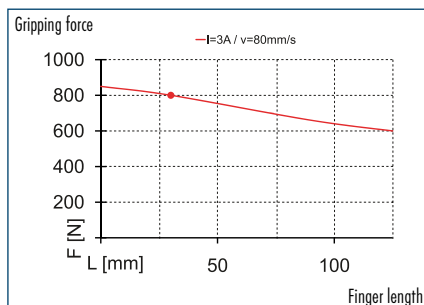
- Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Finger blanks for customized subsequent machining

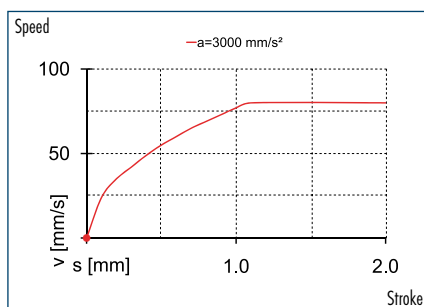
Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 64	0300010	Aluminum	1
SBR-plus 64	0300020	16 MnCr 5	1



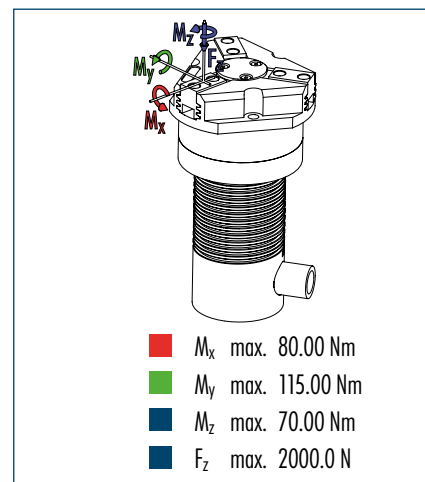
Gripping force



Speed



Finger load

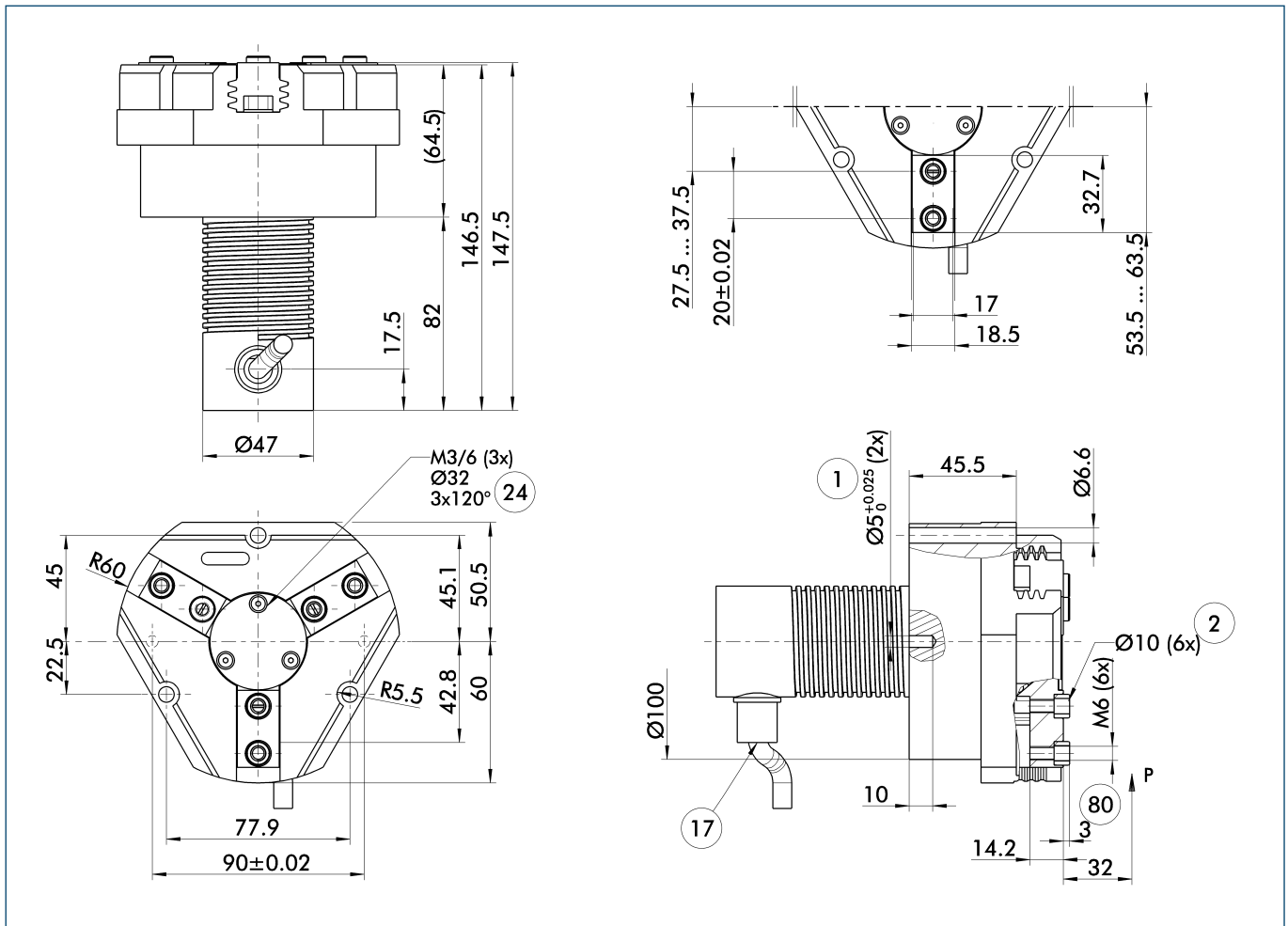


① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	EZN 100
ID	0306112
General technical data gripper	
Stroke per finger	[mm] 10
Minimum/maximum gripping force	[N] 300/800
Weight	[kg] 2.3
Recommended workpiece weight	[kg] 4
Max. permitted finger length	[mm] 125
Max. permitted weight per finger	[kg] 1.1
IP class	41
Min./max. ambient temperature	[°C] 5/55
Repeat accuracy	[mm] 0.01
Maximum speed	[mm/s] 80
Maximum acceleration	[mm/s²] 3000
Electrical operating data gripper	
Power supply	[V] 24
Nominal current	[A] 3
Max. total current	[A] 4
Resolution	[Inc/U] 10
Controller operating data	
Description	MCS-12 (EGN/EZN)
ID	0307010
Implementation	external
Power supply	[V DC] 24
Field bus interface	CAN / PROFIBUS / I/O
Parametrized interface	CAN / PROFIBUS / RS232

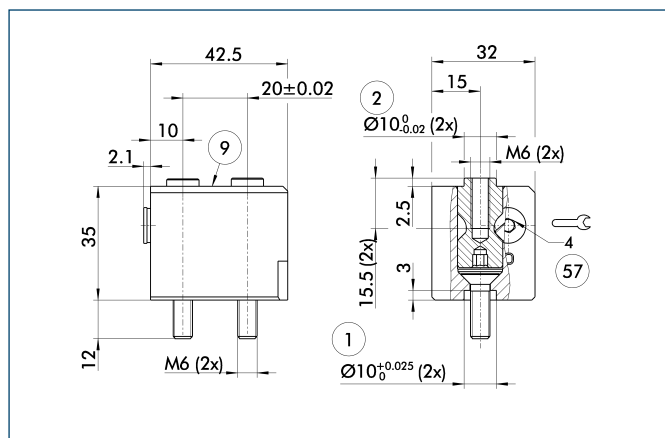
Main view



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ②④ Bolt circle
- ⑧⑩ Depth of the centering sleeve hole in the matching part

Quick-change Jaw System



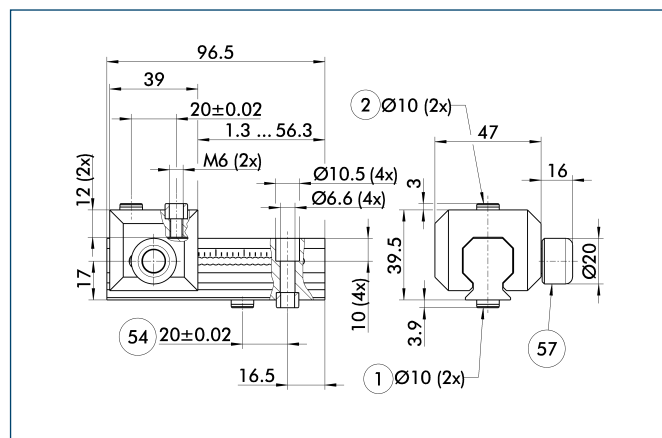
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.

Description	ID
Quick-change Jaw System adapter	
BSWS-A 100	0303026
Quick-change Jaw System base	
BSWS-B 100	0303027

Universal intermediate jaw



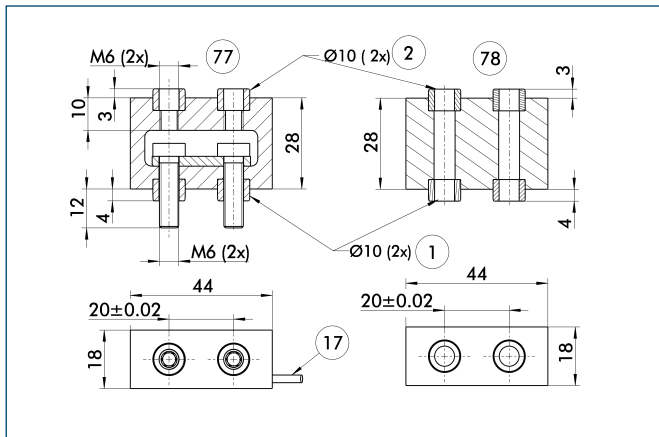
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Description	ID	Grid dimension
Universal intermediate jaw		
UZH 100	0300044	2.5 mm
UZH-S 100	5518272	2.5 mm

- ① The slide UZH-S can be removed completely and has to be ordered separately. Moreover, it allows a fast jaw change.

Force measuring jaws

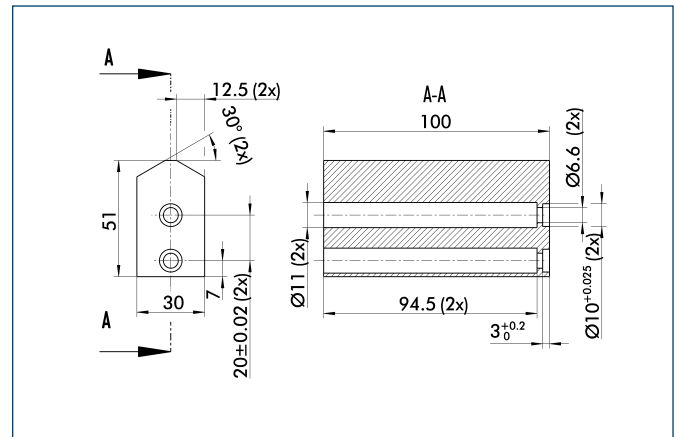


- ① Gripper connection
- ② Finger connection
- ⑦ Cable outlet
- ⑦⑦ Active intermediate jaws
- ⑦⑧ Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A1 control unit and a FMS-A connection cable are required.

Description	ID
Active intermediate jaws	
FMS-ZBA 100	0301836
Passive intermediate jaws	
FMS-ZBP 100	0301837
Electronic Processor	
FMS-A1	0301810
Connection cables	
FMS-AK0200	0301820
FMS-AK0500	0301821
FMS-AK1000	0301822
FMS-AK2000	0301823

Finger blanks



Finger blanks for customized subsequent machining

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-plus 100	0300012	Aluminum	1
SBR-plus 100	0300022	16 MnCr 5	1



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Special Gripper



Series	Size	Page
Food Gripper		
LMG		1292
LMG	44	1296
LMG	64	1298
O-ring Assembly Gripper		
ORG		1300
ORG	85	1306
Gripper with shaft interface		
GSW-B		1310
GSW-B 2-Finger	50 .. 100	1314
GSW-B 3-Finger	50 .. 100	1320
Vacuum Gripper		
GSW-V		1324
GSW-V	20	1328
GSW-V	25	1330
GSW-V	32	1332
Cleaning Unit		
RGG		1334
RGG	20	1338

Only some more Special Gripper ...

Heavy Duty Gripper SLG
for 700 kg and more



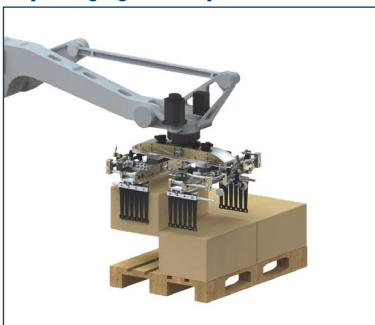
Pneumatic Compact Clamping Vice PKS
of the automotive industry



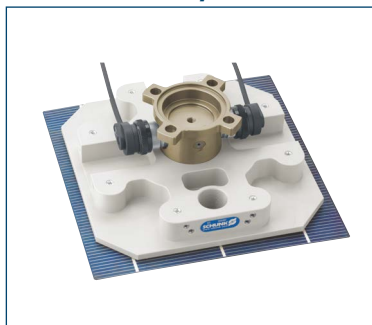
Double Gripper UFG
for loading and unloading



Multi-purpose Gripping System LEG
of packaging industry



Solar Cell Gripper SZG
of the solar industry



Aseptic Gripper
of the pharmaceutical industry



... much more ... Call us.



Sizes
44 ... 64



Weight
0.95 kg ... 3.3 kg



Gripping moment
8.2 Nm ... 31.5 Nm

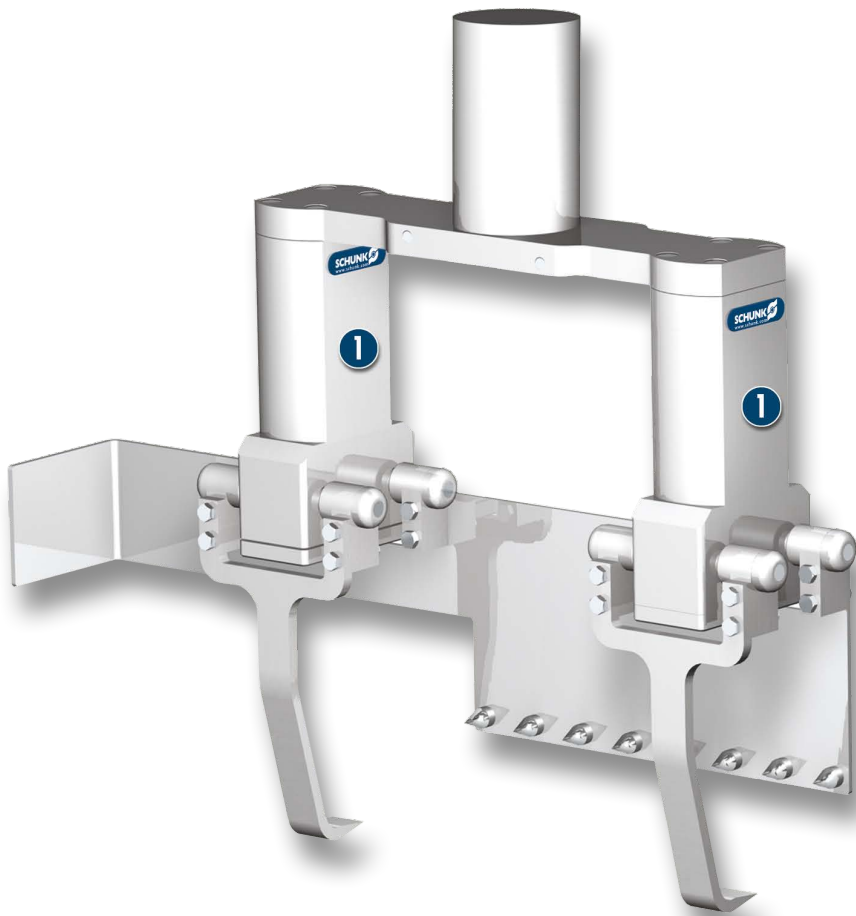


Angle per jaw
90°



Workpiece weight
0.9 kg ... 2.2 kg

Application example



Double gripper unit for handling lines of cutlets and large pieces of meat

1 Food gripper LMG

Food Gripper

Gripper in easy-to-clean design for handling food

Field of application

For gripping food and other substances requiring extreme hygiene in conformity with DIN EN 1672-2 "Hygienic Design"

Your advantages and benefits

Polished stainless steel housing

for complete cleaning and corrosion resistance

Opening angle adjustable from 20° to 180°

for a versatile field of applications

Air supply via hose-free direct connection

for the flexible supply of compressed air in all automation systems

Completely sealed mechanical parts (IP69K)

for use in extreme working conditions

Always with gripping force safety device

to prevent loss of food following a drop in air pressure



General note to the series

Principle of function

positively driven crank system

Housing material

Polished stainless steel

Base jaw material

Polished stainless steel

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

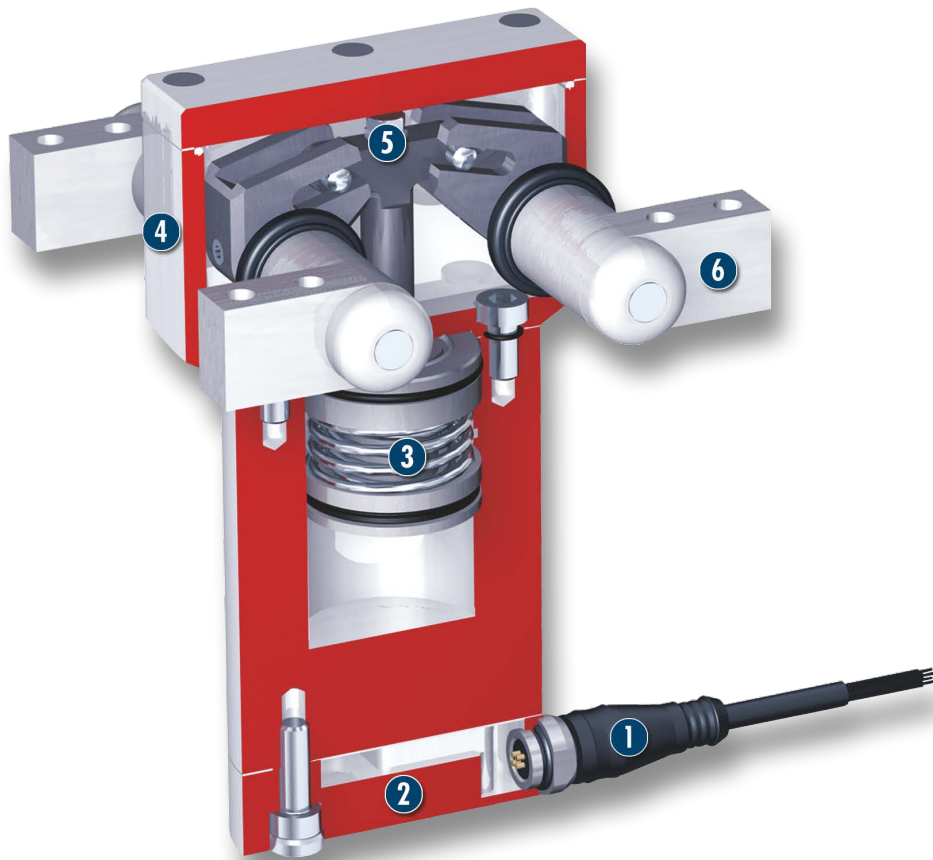
Scope of delivery

O-rings for direct connection, centering sleeves, flat seal for interface gripper/adaption, assembly and operating manual with declaration of incorporation

Gripping force maintenance device

via integrated spring

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Sensor monitoring (optional)
Cable feed-through for sensor monitoring with magnetic sensors</p> | <p>3 Gripping force maintenance device
integrated spring for gripping force maintenance</p> | <p>5 Kinematics
Slotted link gear for concentric gripping with large opening and closing movements</p> |
| <p>2 Energy connection
Direct connection for hosefree supply of compressed air</p> | <p>4 Polished stainless steel housing</p> | <p>6 Base jaws
for the connection of workpiece-specific gripper fingers</p> |

Functional description

The round piston is pressed up or down by compressed air. In the process, the two pins of the crank system move in unison and relative to the groove in the top jaws. In the gripping moment, these two pins reach the largest lever arm.

Options and special information

An extended temperature range up to 130 °C is available as a special version.

Version A (with monitoring)

Monitoring of the gripper status of version A is not an option, but an independent version. The sensors are integrated in the gripper. The sensors can be exchanged at SCHUNK only.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Fittings



Sensor cables



Sensor Distributor



Pressure maintenance valve



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Gripping moment

Gripping moment is the arithmetic total of gripping moments for each claw jaw.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

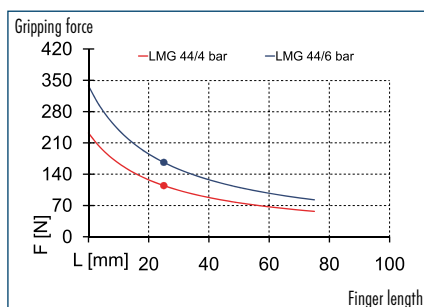
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g . Considerably heavier workpiece weights are permitted with form-fit gripping.

Closing and opening times

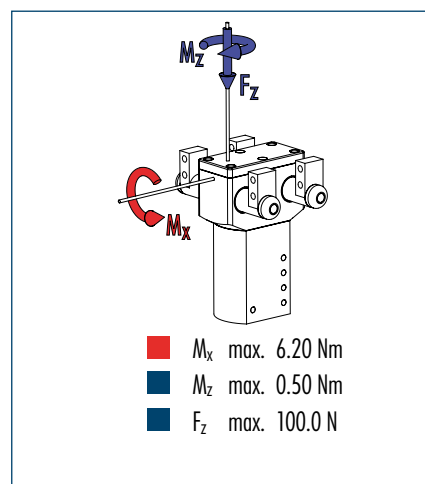
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



Gripping force, O.D. gripping



Finger load

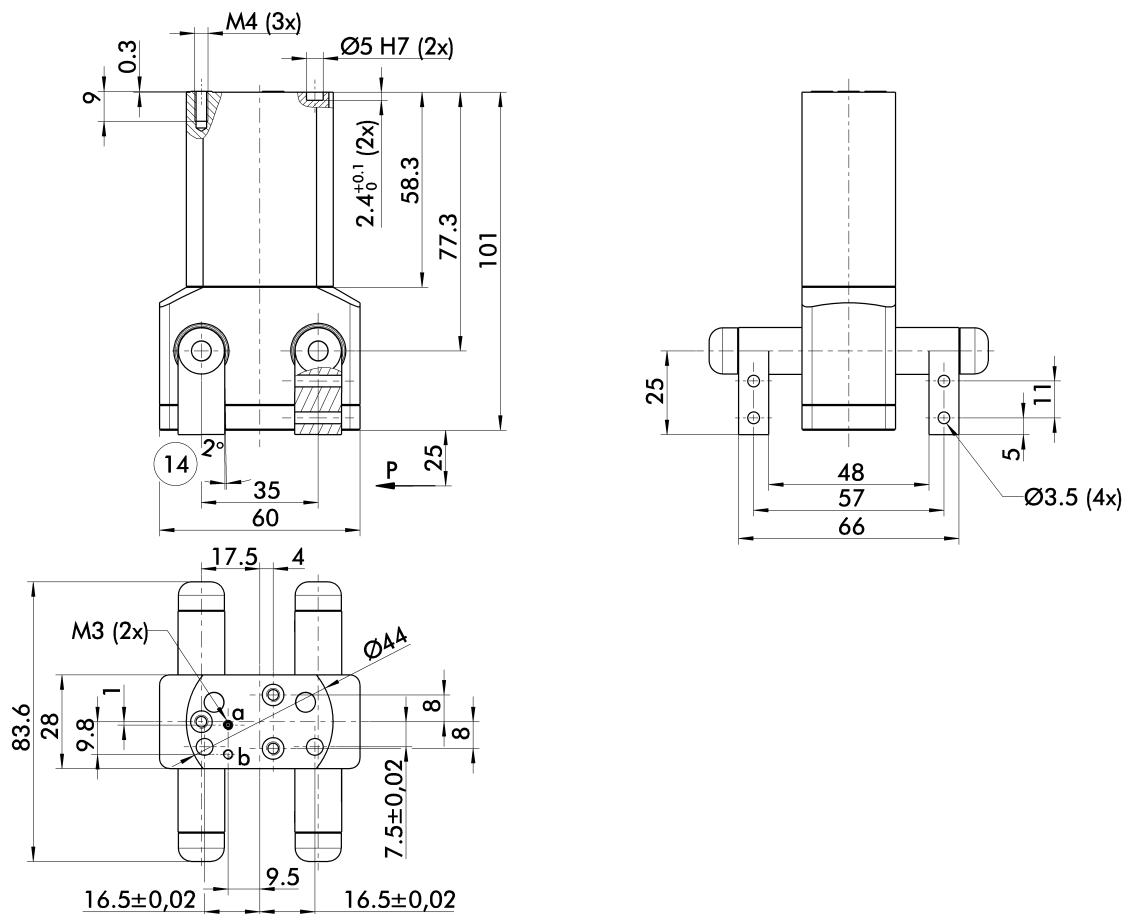


① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LMG 44	LMG 44-A
ID	0372002	0372003
Integrated monitoring	No	Yes
Opening angle per jaw [°]	90	90
Closed angle per jaw up to [°]	2	2
Closing moment [Nm]	8.2	8.2
Spring-actuated closing moment [Nm]	1.8	1.8
Weight [kg]	0.95	1.2
Recommended workpiece weight [kg]	0.9	0.9
Air consumption per double stroke [cm³]	16	16
Min./max. operating pressure [bar]	4/6.5	4/6.5
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.4/0.5	0.4/0.5
Max. permitted finger length [mm]	50	50
Max. permitted weight per finger [kg]	0.09	0.09
IP class	69K	69K
Min./max. ambient temperature [°C]	-25/90	-25/90
Repeat accuracy [mm]	0.1	0.1

Main view



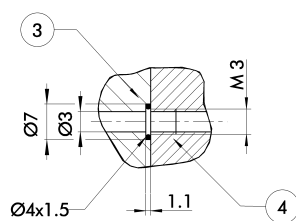
The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing

14 Clamping reserve per finger

① The SDV-P pressure maintenance valve can be used as a gripping force maintenance device (see "Accessories" catalog section).

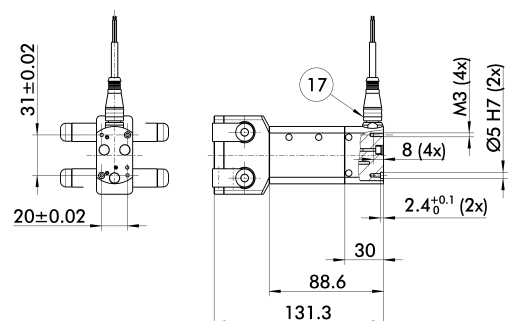
Hose-free direct connection



③ Adapter
④ Gripper

The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripper with position monitoring

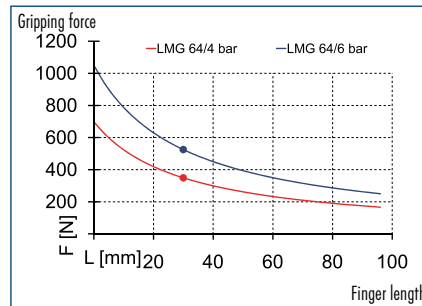


17 Cable outlet

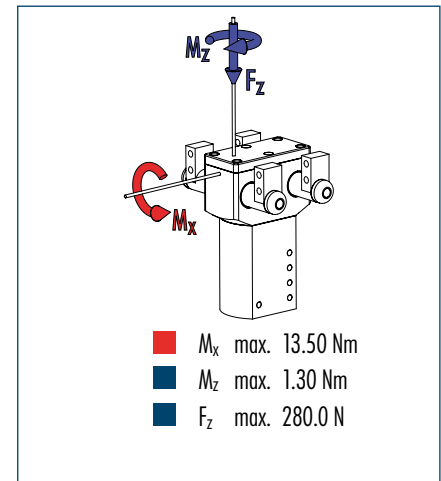
Gripper with position monitoring via magnetic sensors



Gripping force, O.D. gripping



Finger load



① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. If the maximum admissible finger weight is exceeded, throttling is necessary in order to ensure a smooth jaw motion without jerks or bounces. The life-time may reduce.

Technical data

Description	LMG 64	LMG 64-A
ID	0372006	0372007
Integrated monitoring	No	Yes
Opening angle per jaw [°]	90	90
Closed angle per jaw up to [°]	2	2
Closing moment [Nm]	31.5	31.5
Spring-actuated closing moment [Nm]	5.1	5.1
Weight [kg]	3	3.3
Recommended workpiece weight [kg]	2.2	2.2
Air consumption per double stroke [cm³]	57	57
Min./max. operating pressure [bar]	4/6.5	4/6.5
Nominal operating pressure [bar]	6	6
Closing/opening time [s]	0.4/0.5	0.4/0.5
Max. permitted finger length [mm]	80	80
Max. permitted weight per finger [kg]	0.26	0.26
IP class	69K	69K
Min./max. ambient temperature [°C]	-25/90	-25/90
Repeat accuracy [mm]	0.1	0.1

⑭ Clamping reserve per finger

-
- Technical drawing of a mechanical part, likely a cross-section of a shaft or a similar component. The drawing includes the following dimensions and callouts:
- Ø7**: Dimension for the outer diameter of the upper section.
 - Ø3**: Dimension for the inner diameter of the upper section.
 - Ø4x1.5**: Dimension for the outer diameter and length of the lower section.
 - 1.1**: Dimension for the length of the lower section.
 - M 3**: Dimension for the thread specification of the lower section.
 - 3**: Callout pointing to the upper section.
 - 4**: Callout pointing to the lower section.

-

- 1299



Size
85



Weight
1.35 kg

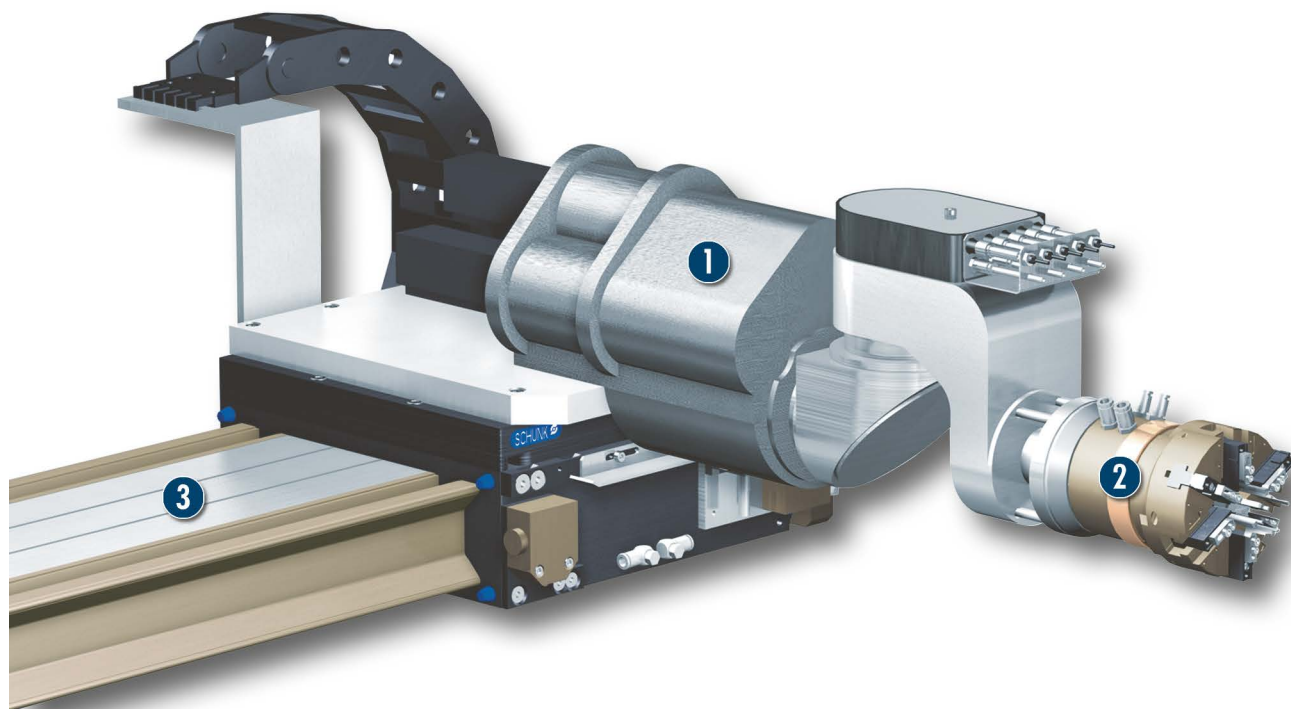


Ring diameter O.D. Assembly
appr. \varnothing 5 mm ... \varnothing 160 mm



Ring diameter I.D. Assembly
appr. \varnothing 10 mm ... \varnothing 120 mm

Application example



Automatic machine for the internal or external assembly of O-rings with a wide range of diameters

- 1 CAY 15 Handling Axis
- 2 ORG 85 O-ring Gripper

- 3 Linear Axis with Direct Drive MLD 200T

O-ring Assembly Gripper

Grippers equipped with the corresponding top jaw fingers, can assemble o-rings and mostly square rings or other rings, too, but also shafts (O.D. assembly) as well as bores (I.D. assembly).

Area of application

The gripper should be used in a clean environment, particularly in automated assembly.

Your advantages and benefits

O.D. and I.D. assembly with one gripper

for flexibility and cost-saving

"Controlled production" due to a new assembly principle

for high availability

Standard assembly finger for O.D. Assembly

for conventional ring sizes for fast commissioning



General information on the series

Working principle

Two independent finger triples shape the o-ring which will be then assembled.

Base jaw material

Steel

Housing material

Aluminum

Actuation

pneumatic, via filtered compressed air (10 µm): dry, oiled, or not lubricated pressure medium: Requirements on quality of the compressed air according to DIN ISO 8573-1: 6 4 4.

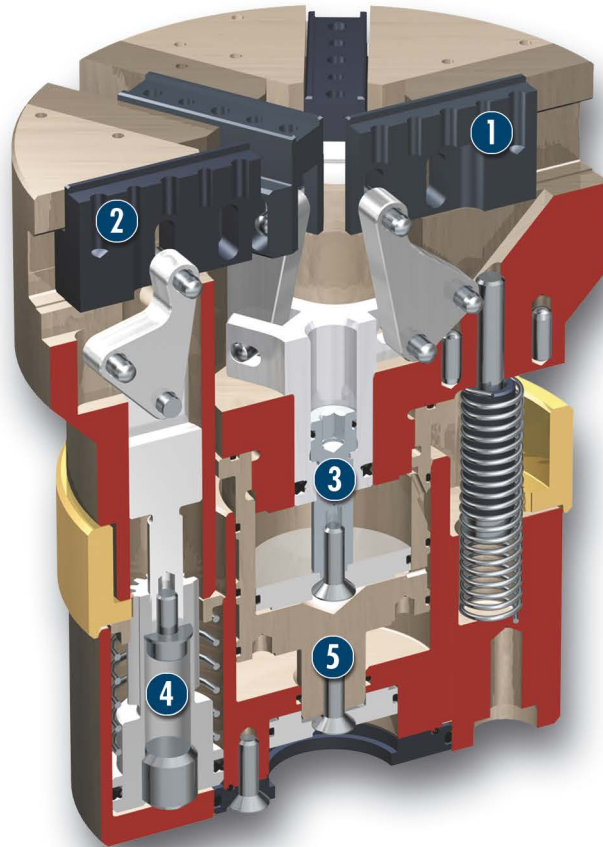
Warranty

24 months

Scope of delivery

Gripper with assembly- and operating manual, and manufacturer's declaration

Sectional diagram



1 Triple jaw A
double-acting

2 Triple jaw B
single-acting

3 Drive
for triple jaw A

4 Drive
for triple jaw B

5 Drive
for linear stroke

Function description

O.D. assembly

The o-ring is expanded by six fingers, the gripper is moved onto the assembly groove of the shaft. The three fingers of the triple jaw A will be retracted with a linear stroke first. The o-ring is already partially inserted in the groove, due to the triangle shape, which occurs since the three jaws of the triple jaw B are holding the o-ring now. The complete gripper is retracted now. The o-ring retracts into its assembly groove automatically now.

I.D. assembly

The segment jaws of triple B and the bar fingers of triple A are positioning the o-ring into the shape of a cloverleaf. The gripper is moved with its fingers into the assembly bore. The segment jaws push the o-ring in a large part of the groove's circumference into the groove. The bar fingers are retracted, the o-ring continuous to be inserted in the groove. The bar fingers are inside the o-ring now and the segment jaws push the o-ring imperatively into its groove.

Options and special information

For conventional o-ring sizes SCHUNK offers standard assembly fingers for O.D. assembly. Assembly fingers for I.D. assembly differentiate according to the o-rings. On request, SCHUNK is offering customized products or which can be manufactured by the customer himself. You will find detailed drawings and engineering instructions in our operating manual.

The pdf files are ready for download under: www.schunk.com.

Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves



Fittings



IN inductive proximity switches



KV/KA sensor cables



Assembly finger



V sensor distributors



General information on the series

Drawings and engineering instructions

For more information on drawings and engineering instructions of assembly fingers, please consult our operating manual for ORG. The pdf-file can be downloaded under www.schunk.com

Gripping force

is the arithmetic sum of the individual forces occurring at the base jaws at a distance P (see drawing), measured from the upper edge of the gripper.

Finger length

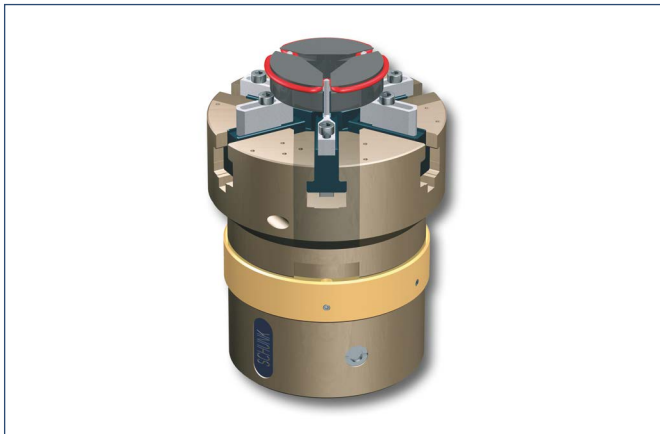
is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

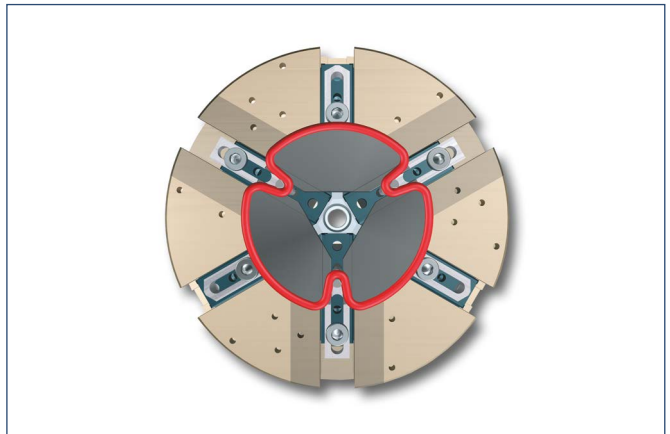
is defined as diffusion of the end position after 100 consecutive strokes



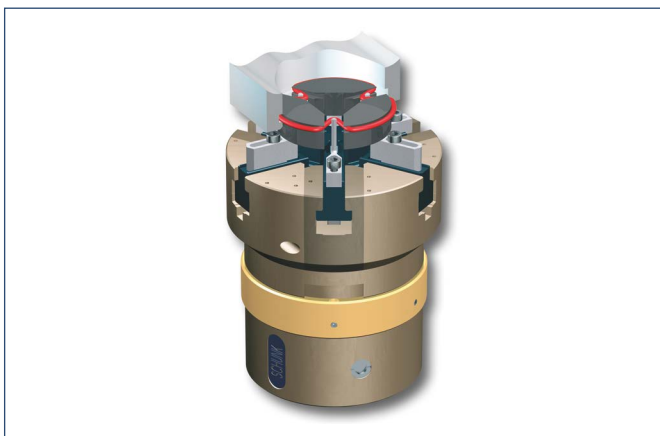
Assembly process I.D. assembly



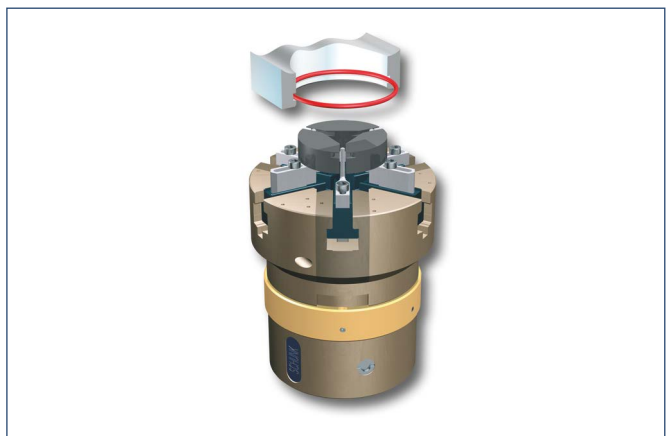
1. Mounting of the o-ring.



2. Shaping the o-ring into the shape of a cloverleaf.

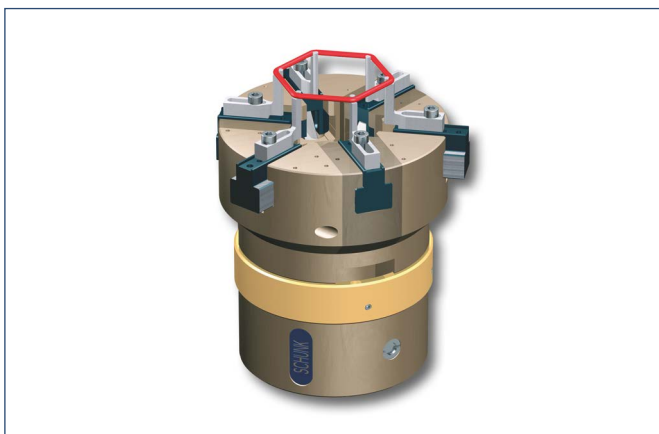


3. Travel into the bore (assembly position) and pressing by triple jaw B.

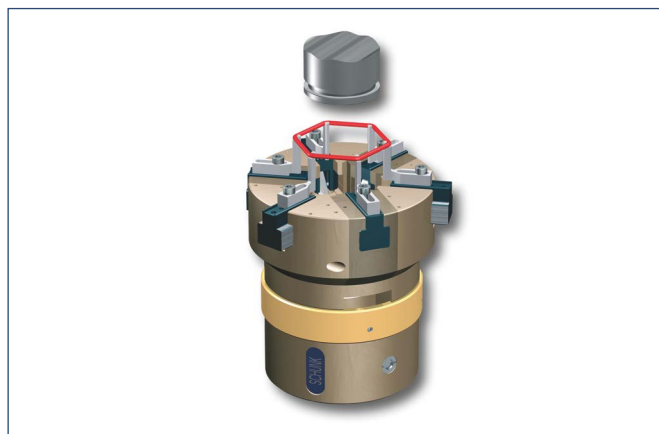


4. Pressing by triple jaw A and retraction of the gripper

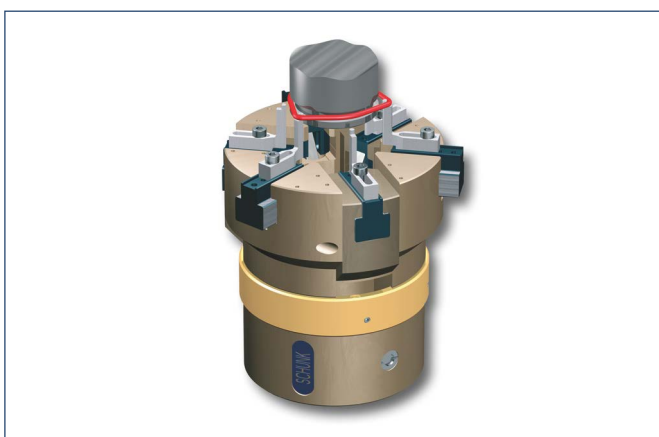
Assembly process O.D. assembly



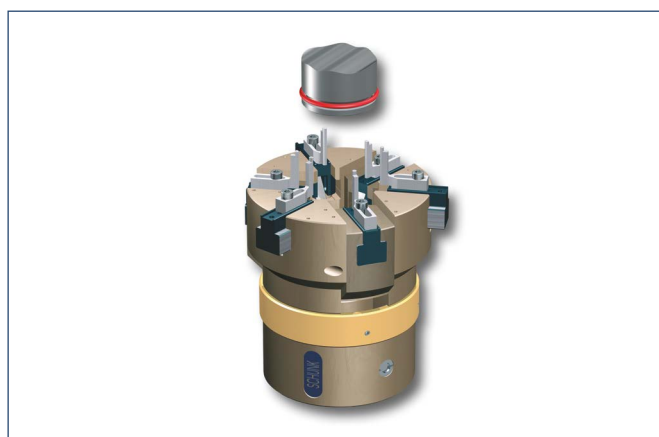
1. Mounting of the o-ring and expansion to a hexagon.



2. Travel to the shaft (assembly position).



3. Retraction of triple jaw A. The o-ring inserts into the groove.

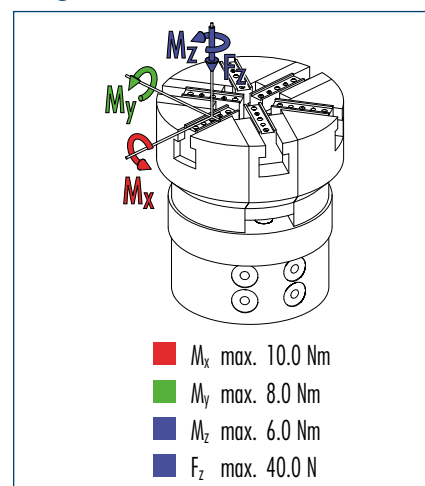


4. Retraction of the whole gripper. The o-ring is completely inserted in the groove now.





Finger load



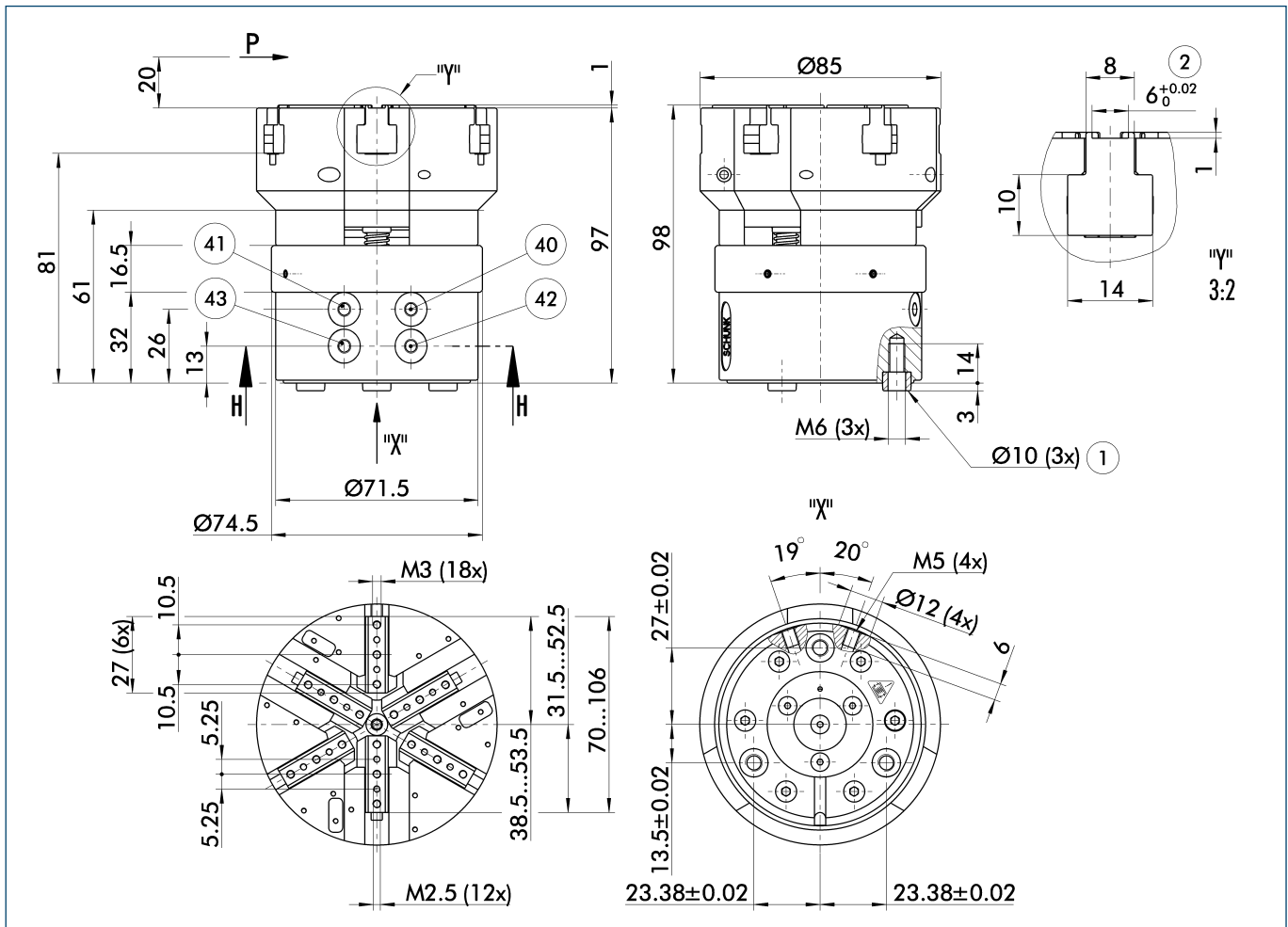
① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may reduce.

Technical data

Description	ORG 85
ID	0304120
No. of fingers	6
Triple jaw A: Principle of function	double-acting
Triple jaw A: Stroke per finger [mm]	21.0
Triple jaw A: Closing force [N]	45.0
Triple jaw A: Opening force [N]	55.0
Triple jaw A: Drawback stroke [mm]	5.0
Triple jaw A: Drawback force [N]	20.0
Triple jaw B: Principle of function	single-acting
Triple jaw B: Stroke per finger [mm]	15.0
Triple jaw B: Opening force [N]	125.0
Weight [kg]	1.35
Nominal pressure [bar]	6.0
Minimum pressure [bar]	4.0
Maximum pressure [bar]	8.0
Max. permitted finger length [mm]	60.0
IP class	40
Min. ambient temperature [°C]	-10.0
Max. ambient temperature [°C]	90.0
Repeat accuracy [mm]	0.02

① Principally o-rings can be assembled, depending on the shape (o-ring, square ring, ...), shore hardness, I.D. and string thickness as well as assembly depth. Basically for O.D. assembly o-rings from \varnothing 5 mm to \varnothing 160 mm can be assembled, in case of I.D. assembly o-rings from \varnothing 10 mm to \varnothing 120 mm. For last control if they are mountable, please contact SCHUNK

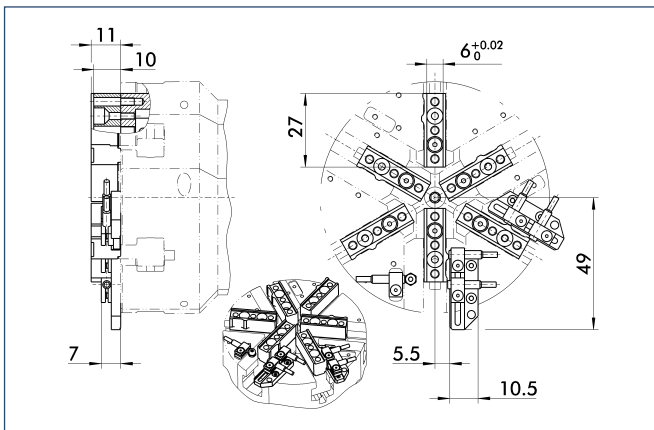
Main views



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

- ① Gripper connection
- ② Finger connection
- ④⑩ Connection gripper triple jaw A opens
- ④① Connection gripper triple jaw A closes
- ④② Connection gripper triple jaw B opens
- ④③ Connection Z-stroke unit run-in

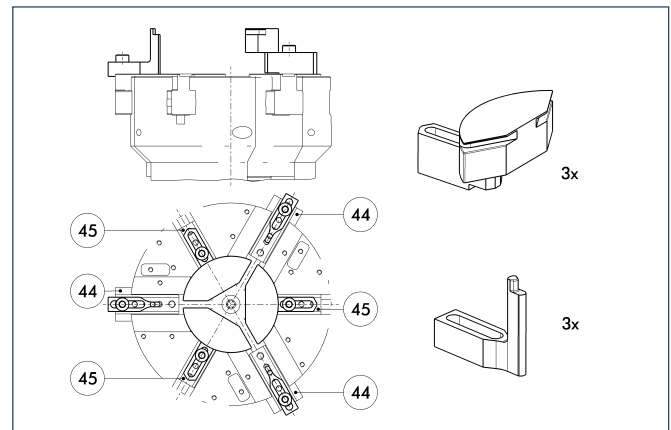
Mounting kit for proximity switch



The mounting kit consists of brackets, switch cams and the associated mounting materials.
The proximity switches must be ordered separately.

Description	ID
AS-ORG 85	0304129

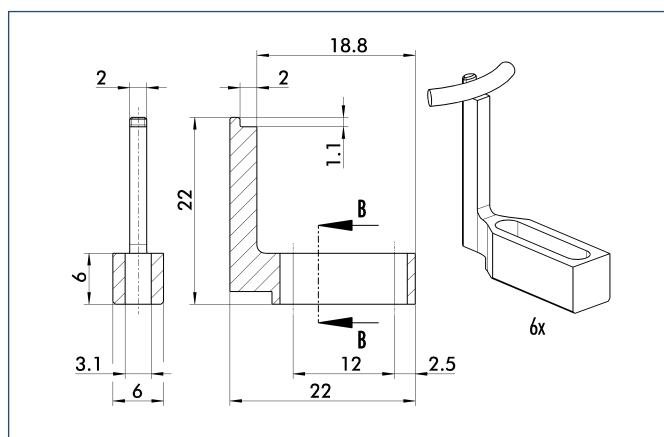
Concept for I.D. assembly



- 44 Triple jaw A
- 45 Triple jaw B

For I.D. assembly three finger shapes and three bar fingers are required. Its geometry depends on the dimensions of the rings to be assembled. Engineering instructions are shown in the operating manual which can be downloaded under ORG. SCHUNK offers engineering works and manufacturing on request.

O.D. assembly: Assembly finger 0.5 ... 1.0

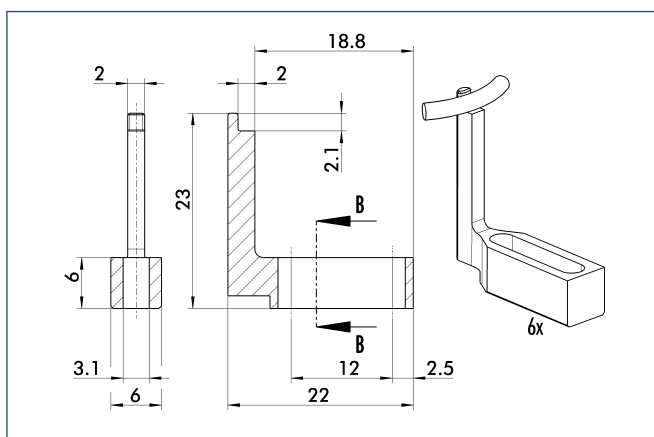


Standard finger for O.D. assembly of rings with a string thickness from 0.5 mm to 1 mm.

Description	Material	Scope of delivery	ID
MFA-D2-0.5-1.0-ORG 85	Aluminum	1	0304113

① Six fingers are required.

O.D. assembly: Assembly finger 1.0 ... 2.0

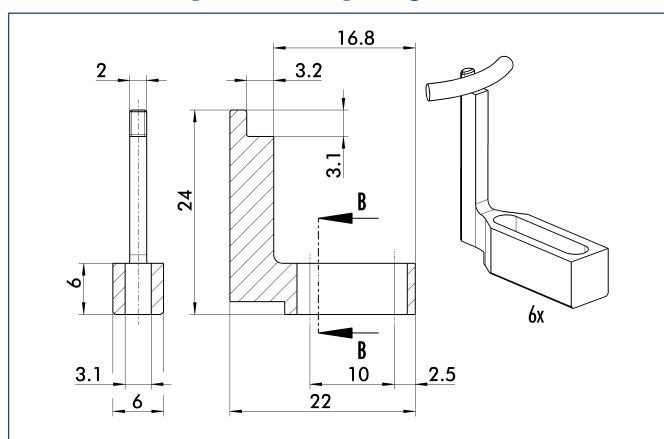


Standard finger for O.D. assembly of rings with a string thickness from 1.0 mm to 2.0 mm.

Description	Material	Scope of delivery	ID
MFA-D2-1.0-2.0-ORG 85	Aluminum	1	0304114

① Six fingers are required.

O.D. assembly: Assembly finger 2.0 ... 3.0

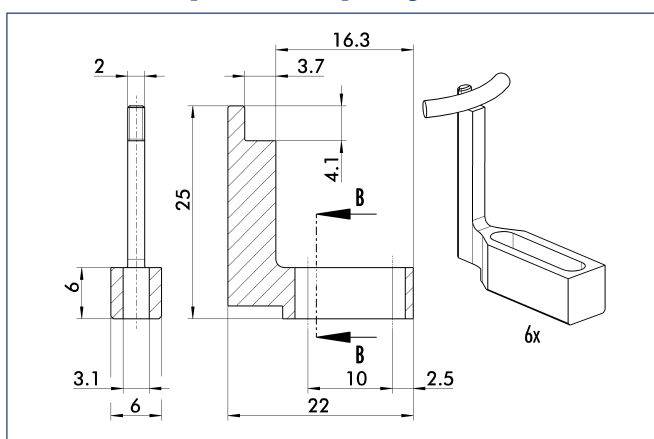


Standard finger for O.D. assembly of rings with a string thickness from 2.0 to 3.0 mm.

Description	Material	Scope of delivery	ID
MFA-D2-2.0-3.0-ORG 85	Aluminum	1	0304115

① Six fingers are required.

O.D. assembly: Assembly finger 3.0 ... 4.0



Standard finger for O.D. assembly of rings with a string thickness from 3.0 mm to 4.0 mm.

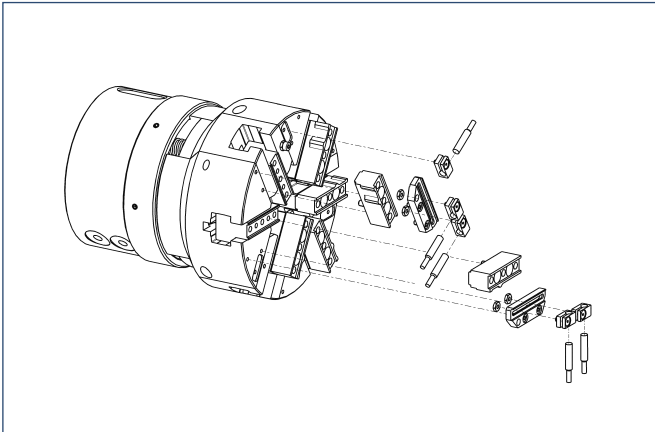
Description	Material	Scope of delivery	ID
MFA-D2-3.0-4.0-ORG 85	Aluminum	1	0304116

① Six fingers are required.



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

Sensor system



End position monitoring:

Inductive proximity switches, mounted with mounting kit

Description	ID
IN 3-S-M8-PNP	0301466

- ① Per gripper five sensors (closers/S) are required as well as optionally an extension cable.

Extension cables for proximity switches/magnetic switches

Description	ID
GK 3-M8-PNP	0301622
KV 10-M8-PNP	0301496
KV 20-M8-PNP	0301497
KV 3-M8-PNP	0301495
WK 3-M8-PNP	0301594
WK 5-M8-PNP	0301502

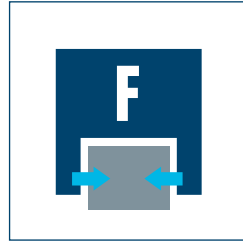
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



Sizes
50 ... 100



Weight
0.17 kg ... 1.4 kg



Gripping force
140 N ... 5900 N

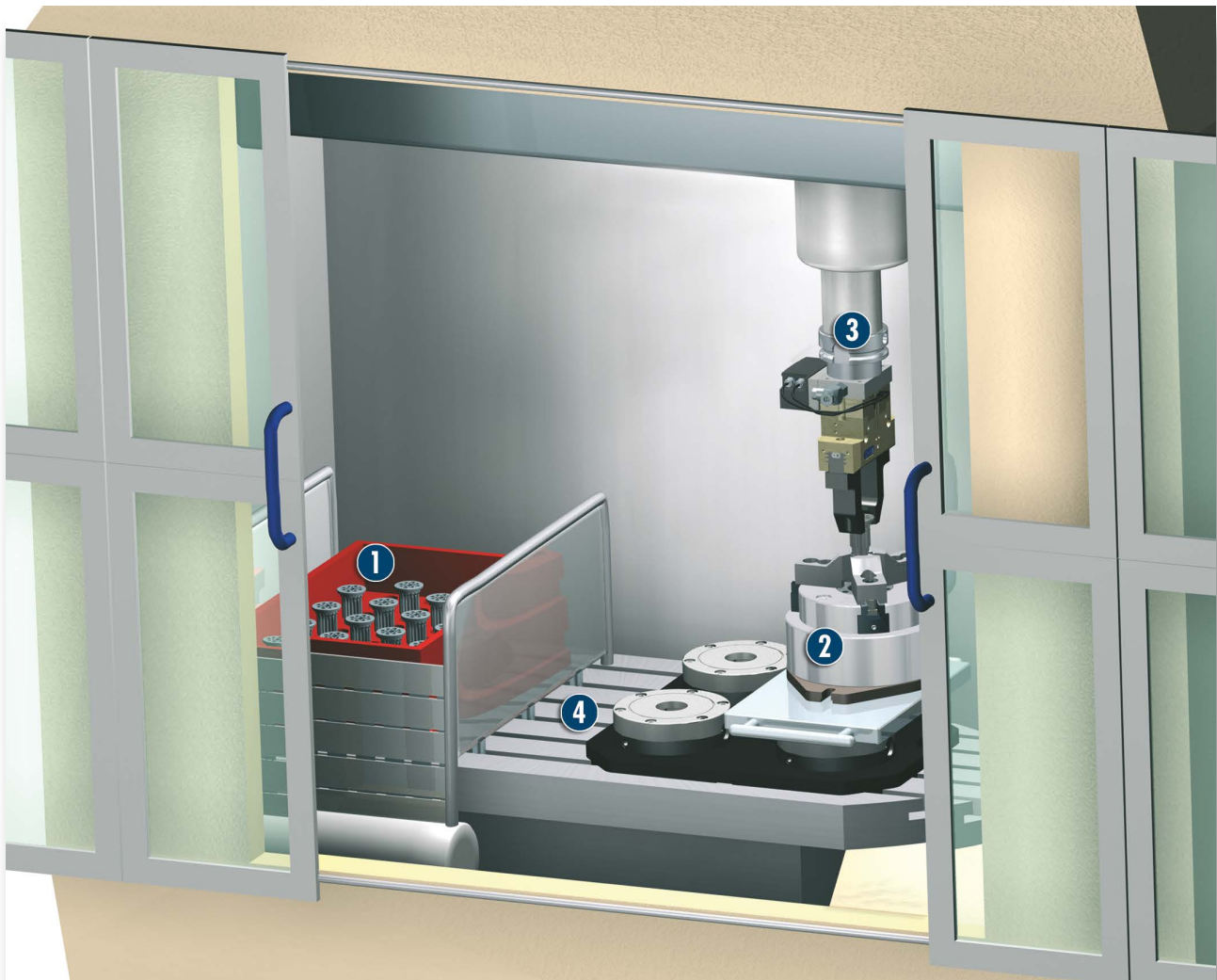


Stroke per finger
2 mm ... 10 mm



Workpiece weight
0.7 kg ... 20 kg

Application example



Exemplary application flow and machining:

1. The raw part is taken out of the rack with a gripper, and is delivered to a clamping station – the part will be clamped then
2. Exchange of tools and machining
3. Exchange of the gripper
4. Depositing the ready-machined part into the rack, the cycle is restarted from the beginning

- 1** Workpiece rack
- 2** Clamping device
- 3** Gripper with spindle interface
PGN-plus at GSW-B

- 4** Machine table

Gripper with shaft interface

universal gripper PGN-plus/PZN-plus with shaft interface GSW-B

Field of application

unit for automatic loading and unloading of machining centers by their own axis

Your advantages and benefits

Low-price module

from a universal gripper PGN-/PZN-plus and a shank interface

Fast, automated gripper changeover

from the gripper to the storage rack

Fully automated workpiece changeover

without robot- or gantry system



General note to the series

Principle of function

Pressure distributor and wedge-hook kinematics

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Blackened steel

Actuation

hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubricated or non-lubricated pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

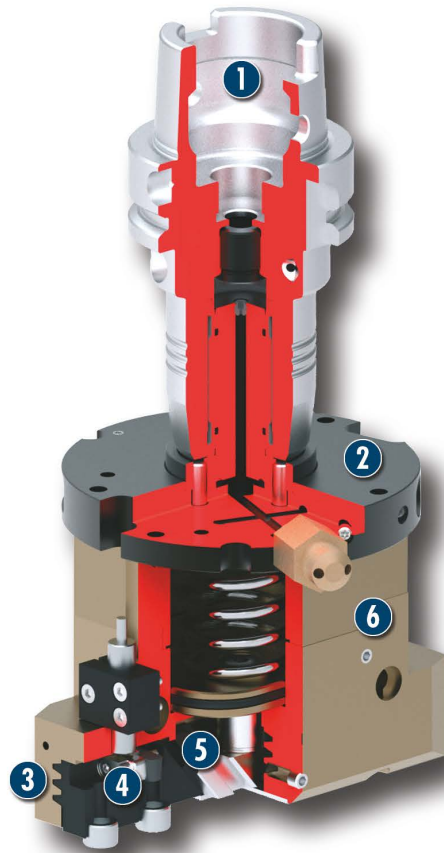
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Centering elements, assembly and operating instruction

Sectional diagram



- | | | |
|---|--|---|
| <p>1 Mount
for automatic tool/gripper changeover in the spindle</p> | <p>3 Multiple-tooth guidance
high-loadable base jaw guidance with minimum play for long fingers</p> | <p>5 Wedge-hook design
for high power transmission and centric gripping</p> |
| <p>2 Adapter plate with integrated pressure distributor
for a large pressure range</p> | <p>4 Base jaw
for the connection of workpiece-specific gripper fingers</p> | <p>6 Housing
weight-optimized through application of hard-anodized, high-strength aluminum alloy</p> |

Functional description

The pressure produced by the central internal supply of coolant is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be subjected to pressure, and can allow the base jaws to grip via the piston and wedge hook.

During the gripping operation the gripper continuously supplies coolant or compressed air by the lateral pressure control valve.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably. Further shaft diameters on request.

Please note that connection A of grippers in IS-version should not be sealed air-tight. The same applies for connection B of grippers in AS-version.

Precondition

If the spindles do not rotate, then machines have to provide compressed air or coolant.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Centering sleeves



Protection cover



Quick-change Jaw System



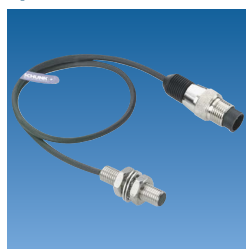
Finger blanks



Reed Switches for C-Nut



Cylindrical Reed Switches



Radio sensor system RSS



Universal intermediate jaw



Cleaning Unit



Vacuum Gripper



Toolholder



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.

General note to the series

Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Closing and opening times

The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Closing and opening forces

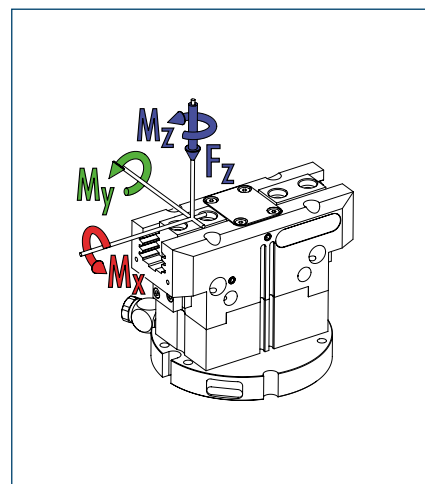
The indicated forces are mentioned for each nominal operating pressure of the drive medium. Details are indicated as force areas, since the forces depend on the gripper stroke.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • Gripper with shaft interface



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	GSW-B 50-P	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID	0308420	0308422	0308423	0308424
Weight [kg]	0.2	0.23	0.31	0.42
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90
Max. permitted speed [l/min]	20	20	20	20
Nominal operating pressure compressed air [bar]	6	6	6	6
Min./max. operating pressure compressed air [bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant [bar]	40	40	40	40
Min./max. operating pressure coolant [bar]	20/50	20/50	20/50	20/50
Max. moments $M_x/M_y/M_z$ [Nm]	20/25/10	40/60/40	60/95/55	80/115/70
Max. force F_z [N]	500	1100	1500	2000

Grippers and their characteristics

Gripping principle	O.D. gripping	O.D. gripping	O.D. gripping	O.D. gripping
Description	PGN-plus 50-1-IS	PGN-plus 64-1-IS	PGN-plus 80-1-IS	PGN-plus 100-1-IS
ID	0371459	0371094	0371461	0371462
Stroke per finger [mm]	4	6	8	10
Closing force/opening force [N]	120 - 145/45 - 70	225 - 270/90 - 135	385 - 465/155 - 235	585 - 725/240 - 380
Max. permitted finger length [mm]	64	85	105	135
Description	PGN-plus 50-2-IS	PGN-plus 64-2-IS	PGN-plus 80-2-IS	PGN-plus 100-2-IS
ID	0371469	0371095	0371471	0371472
Stroke per finger [mm]	2	3	4	5
Closing force/opening force [N]	255 - 310/95 - 150	475 - 565/190 - 280	790 - 960/320 - 490	1360 - 1500/240 - 380
Max. permitted finger length [mm]	64	80	100	125
Gripping principle	I.D. gripping	I.D. gripping	I.D. gripping	I.D. gripping
Description	PGN-plus 50-1-AS	PGN-plus 64-1-AS	PGN-plus 80-1-AS	PGN-plus 100-1-AS
ID	0371399	0371092	0371401	0371402
Stroke per finger [mm]	4	6	8	10
Closing force/opening force [N]	45 - 70/115 - 140	90 - 135/205 - 250	155 - 235/335 - 415	240 - 380/520 - 660
Max. permitted finger length [mm]	68	85	105	135
Description	PGN-plus 50-2-AS	PGN-plus 64-2-AS	PGN-plus 80-2-AS	PGN-plus 100-2-AS
ID	0371449	0371093	0371451	0371452
Stroke per finger [mm]	2	3	4	5
Closing force/opening force [N]	95 - 150/235 - 290	190 - 280/430 - 520	320 - 490/690 - 860	500 - 790/1080 - 1370
Max. permitted finger length [mm]	68	80	100	125

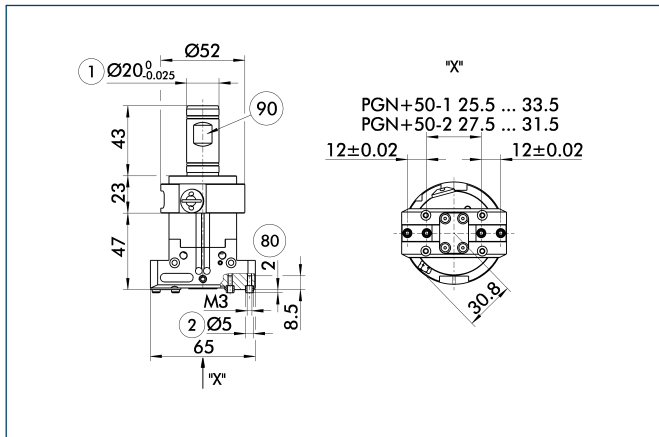
① The grippers have to be ordered separately.

① The grippers named "IS" are used for O.D. gripping; grippers named "AS" are used for I.D. gripping. By media pressure the gripper of the IS-version is closed; the one of the AS-version is opened via the media pressure. Alternatively it can be gripped with spring force and the media pressure can be loosened.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • Gripper with shaft interface

GSW-B with PGN-plus 50

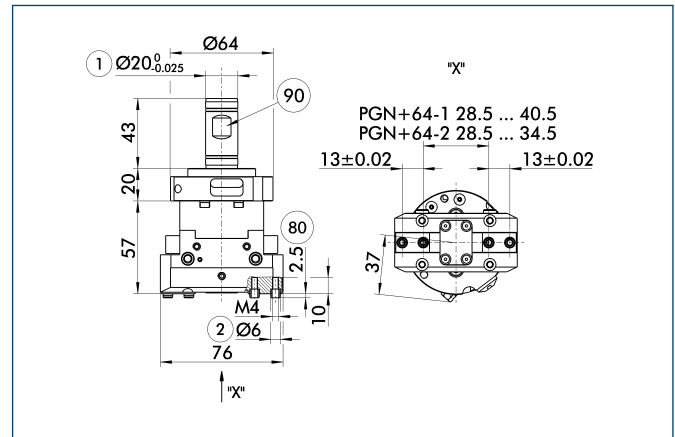


- ① Gripper connection
② Finger connection

- ⑧⑩ Depth of the centering sleeve hole in the matching part
⑨⑩ Weldon clamping surface

① Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with PGN-plus 64

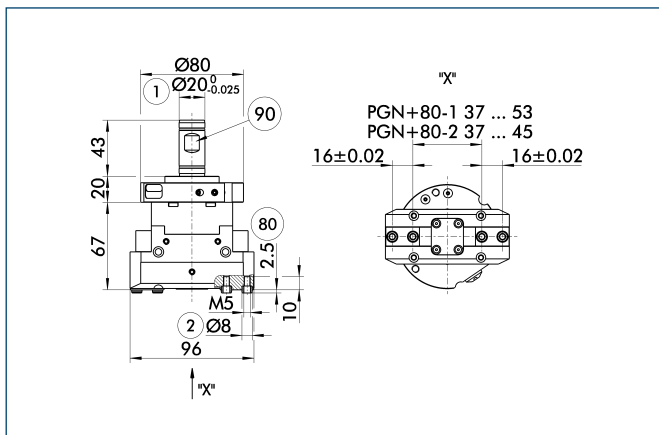


- ① Gripper connection
② Finger connection

- ⑧⑩ Depth of the centering sleeve hole in the matching part
⑨⑩ Weldon clamping surface

① Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with PGN-plus 80

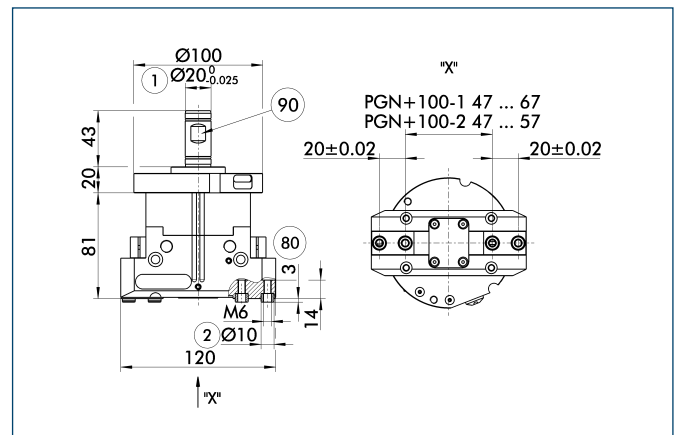


- ① Gripper connection
② Finger connection

- ⑧⑩ Depth of the centering sleeve hole in the matching part
⑨⑩ Weldon clamping surface

① Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with PGN-plus 100



- ① Gripper connection
② Finger connection

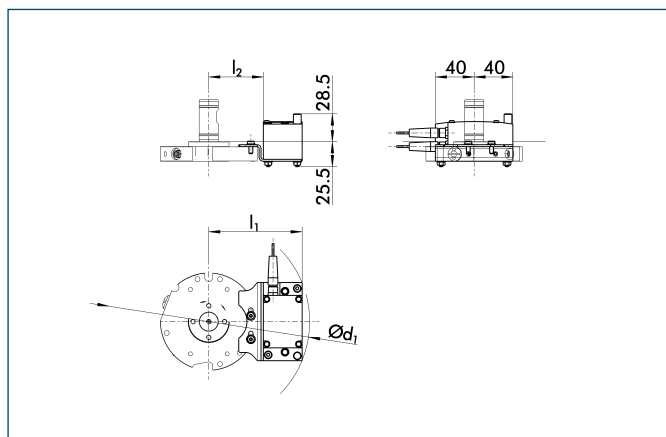
- ⑧⑩ Depth of the centering sleeve hole in the matching part
⑨⑩ Weldon clamping surface

① Please refer to the gripper in question for more detailed information. Suitable gripper accessories can be found in the additional views at the end of the gripper size in question.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • Gripper with shaft interface

Mounting kit for RSS

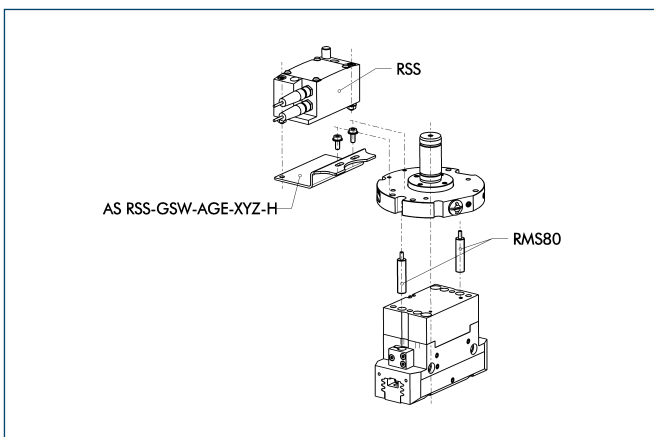


RSS mounted with mounting kit

Description	ID	l_1	l_2	d_1
Mounting kit for RSS				
AS-RSS-GSW-H	0308440			
GSW-B 64-PZ		79 mm	38 mm	Ø 177 mm
GSW-B 80-PZ		87 mm	46 mm	Ø 191 mm
GSW-B 100-PZ		97 mm	56 mm	Ø 210 mm

The transmitter RSS-T2 can be assembled with the mentioned attachment kit.

Reed Switches – RSS – Mounting kits



End position monitoring mounted with mounting kit

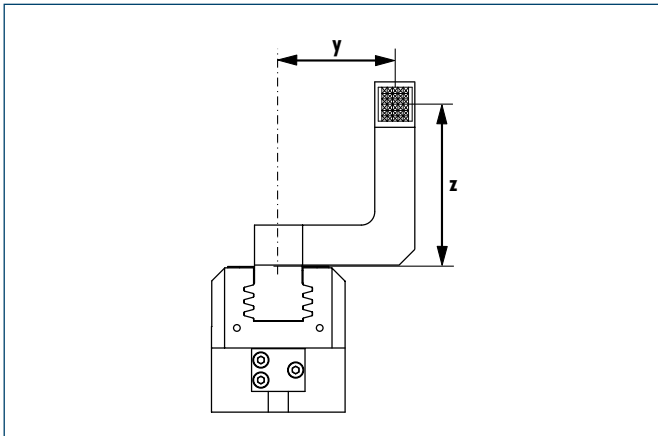
Description	ID
Mounting kit for RSS	
AS-RSS-GSW-H	0308440
Radio system RSS	
RSS-T2	0377710
RSS-R1	0377700
RSS-R-A	0377730
Mounting kit for Reed Switches	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 22-S-M8	0377720
RMS 80-S-M8	0377721

The radio system consists of a transmitter RSS-T2, the receiver RSS-R1 and the antenna RSS-R-A.

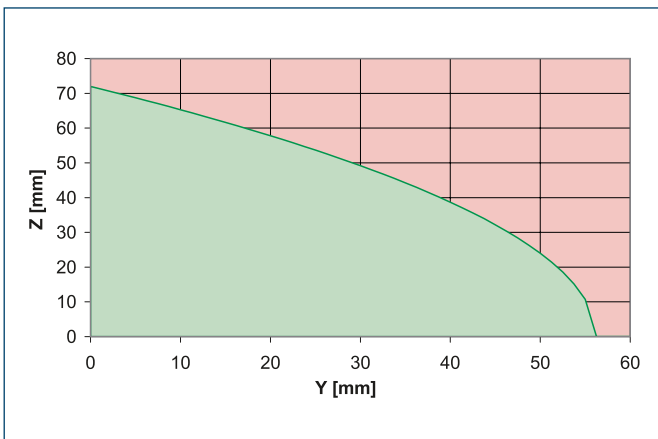
For cylindrical reed switches RMS 80 the mentioned attachment kits are required, and can be directly assembled into the sensor's C-slot of the grippers. In case of gripper size 50 standard monitoring is not possible. For size 64 just via reed switch RMS 80 is necessary.

- ① Two sensors (Closer/S) are required for each gripper, plus extension cables as an option.
- ① The mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Maximum permitted finger offset



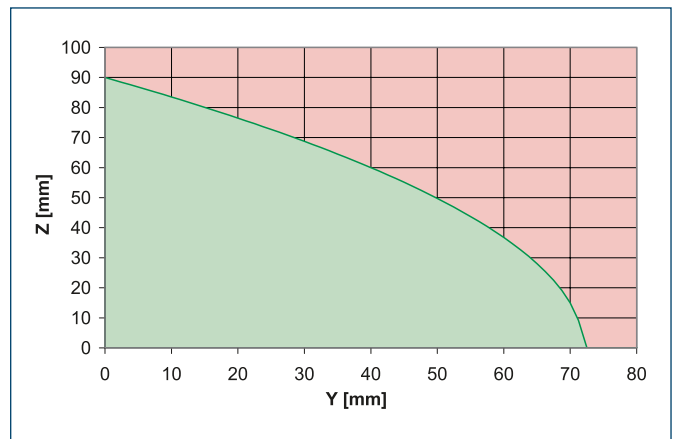
PGN-plus 50



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

PGN-plus 64



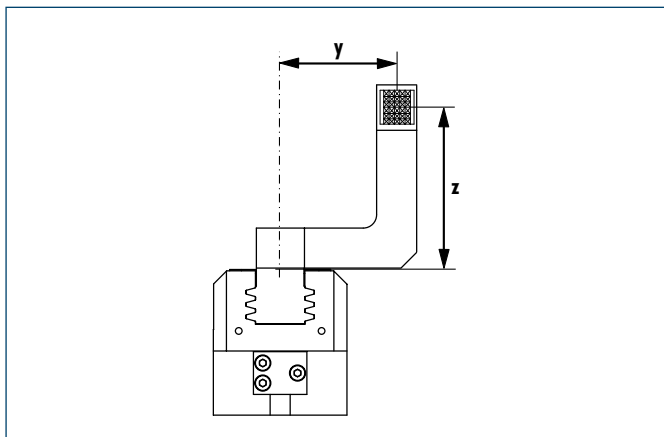
■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

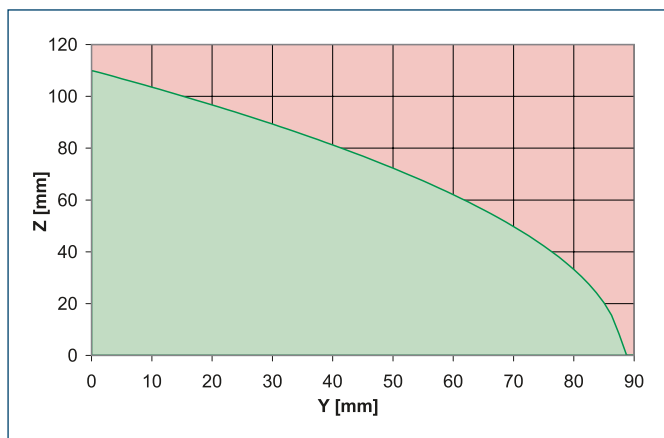
GSW-B with 2-Finger Parallel Gripper

Special Gripper • Gripper with shaft interface

Maximum permitted finger offset



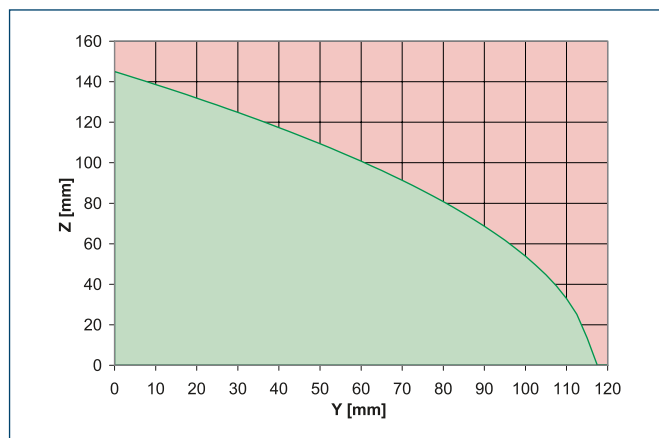
PGN-plus 80



■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

PGN-plus 100

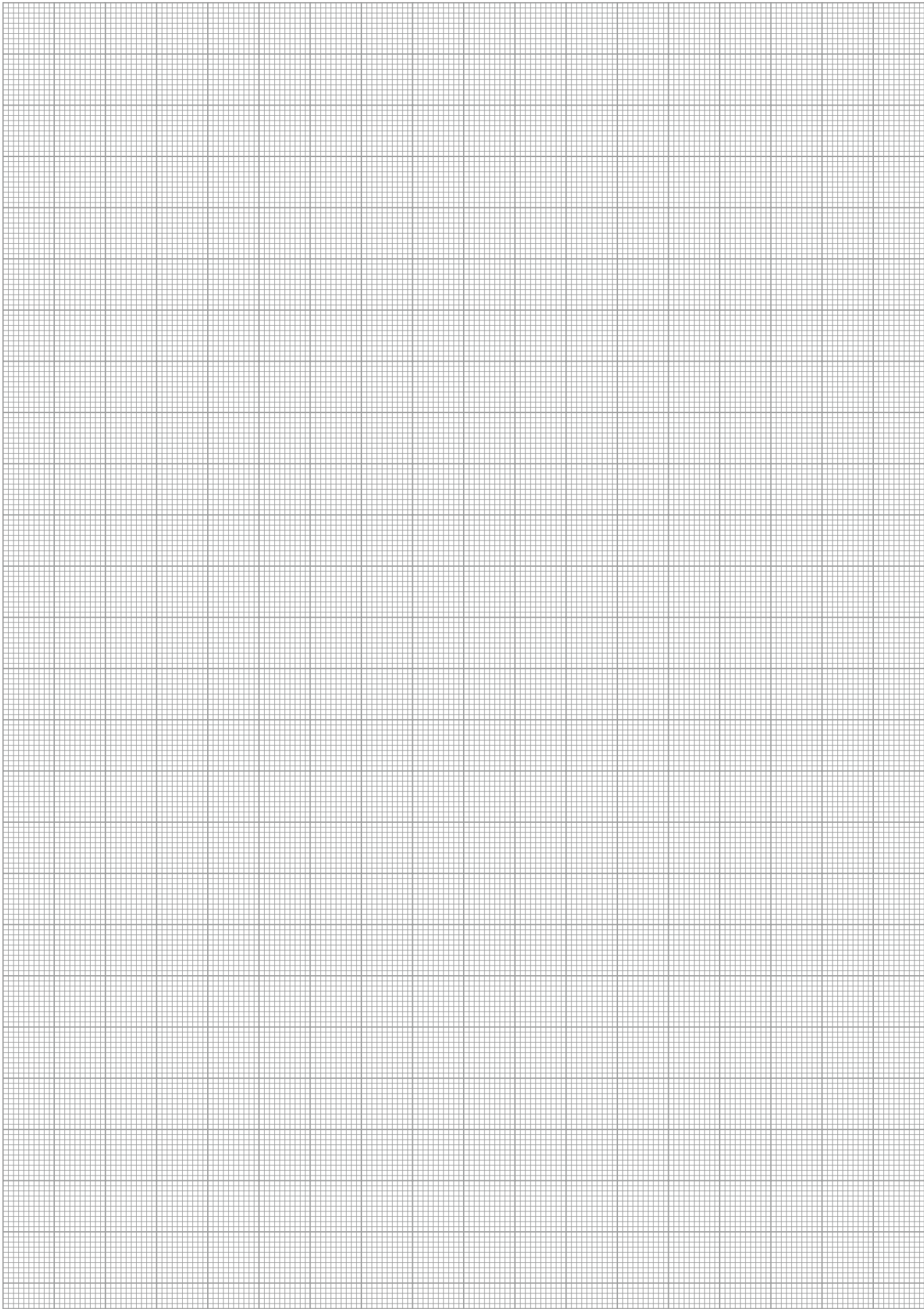


■ Permitted range
■ Non-permissible range

The curve applies to the basic version (stroke -1). For other versions, the curve will be parallel but offset in line with the max. permitted finger length.

GSW-B with 2-Finger Parallel Gripper

Special Gripper • Gripper with shaft interface

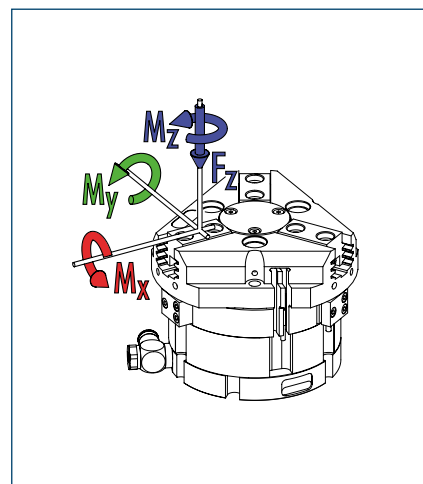


GSW-B with 3-Finger Centric Gripper

Special Gripper • Gripper with shaft interface



Finger load



① The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description	GSW-B 50-Z	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID	0308421	0308422	0308423	0308424
Weight [kg]	0.2	0.23	0.31	0.42
Min./max. ambient temperature [°C]	-10/90	-10/90	-10/90	-10/90
Max. permitted speed [l/min]	20	20	20	20
Nominal operating pressure compressed air [bar]	6	6	6	6
Min./max. operating pressure compressed air [bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant [bar]	40	40	40	40
Min./max. operating pressure coolant [bar]	20/50	20/50	20/50	20/50
Max. moments $M_x/M_y/M_z$ [Nm]	20/25/10	40/60/40	60/95/55	80/115/70
Max. force F_z [N]	500	1100	1500	2000

Grippers and their characteristics

Gripping principle

	O.D. gripping	O.D. gripping	O.D. gripping	O.D. gripping
Description	PZN-plus 50-1-IS	PZN-plus 64-1-IS	PZN-plus 80-1-IS	PZN-plus 100-1-IS
ID	0303539	0303540	0303541	0303542
Stroke per finger [mm]	4	6	8	10
Closing force/opening force [N]	340 - 355/150 - 165	585 - 640/220 - 275	910 - 1080/370 - 540	1610 - 1920/780 - 1090
Max. permitted finger length [mm]	64	85	105	135
Description	PZN-plus 50-2-IS	PZN-plus 64-2-IS	PZN-plus 80-2-IS	PZN-plus 100-2-IS
ID	0303639	0303640	0303641	0303642
Stroke per finger [mm]	2	3	4	5
Closing force/opening force [N]	705 - 740/310 - 345	900 - 1075/460 - 635	2150 - 2490/760 - 1100	3640 - 4280/1620 - 2260
Max. permitted finger length [mm]	64	80	100	125

Gripping principle

	I.D. gripping	I.D. gripping	I.D. gripping	I.D. gripping
Description	PZN-plus 50-1-AS	PZN-plus 64-1-AS	PZN-plus 80-1-AS	PZN-plus 100-1-AS
ID	0303509	0303510	0303511	0303512
Stroke per finger [mm]	4	6	8	10
Closing force/opening force [N]	120 - 190/255 - 325	185 - 280/485 - 580	350 - 525/825 - 1000	720 - 1070/1450 - 1800
Max. permitted finger length [mm]	68	85	105	135
Description	PZN-plus 50-2-AS	PZN-plus 64-2-AS	PZN-plus 80-2-AS	PZN-plus 100-2-AS
ID	0303609	0303610	0303611	0303612
Stroke per finger [mm]	2	3	4	5
Closing force/opening force [N]	245 - 400/525 - 680	315 - 580/705 - 970	730 - 1100/1930 - 2300	1500 - 2210/3290 - 4000
Max. permitted finger length [mm]	68	80	100	125

① The grippers have to be ordered separately.

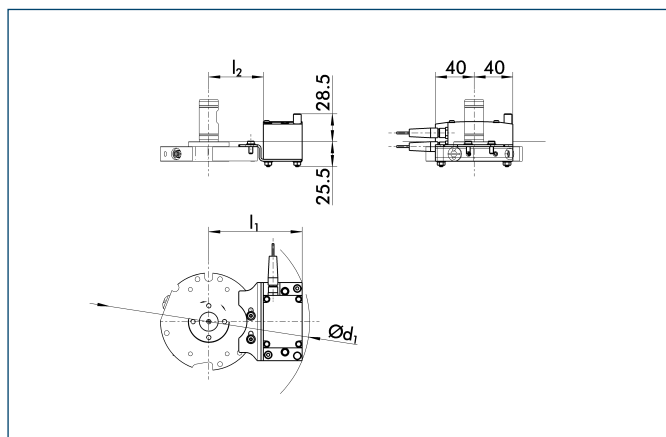
① The grippers named "IS" are used for O.D. gripping; grippers named "AS" are used for I.D. gripping. By media pressure the gripper of the IS-version is closed; the one of the AS-version is opened via the media pressure. Alternatively it can be gripped with spring force and the media pressure can be loosened.

Special Gripper • Gripper with shaft interface

GSW-B with 3-Finger Centric Gripper

Special Gripper • Gripper with shaft interface

Mounting kit for RSS

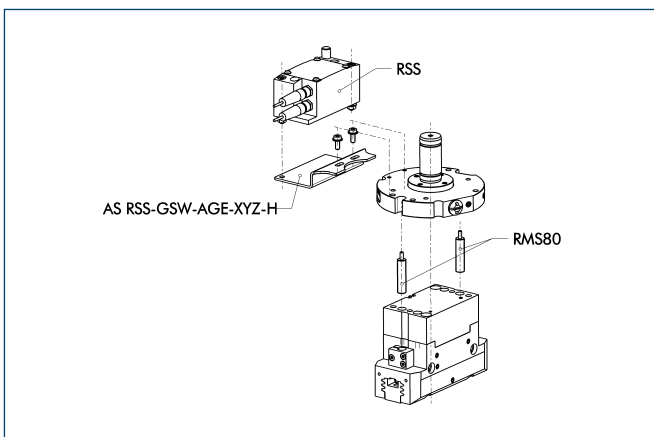


RSS mounted with mounting kit

Description	ID	l ₁	l ₂	d ₁
Mounting kit for RSS				
AS-RSS-GSW-H	0308440			
GSW-B 64-PZ		79 mm	38 mm	Ø 177 mm
GSW-B 80-PZ		87 mm	46 mm	Ø 191 mm
GSW-B 100-PZ		97 mm	56 mm	Ø 210 mm

The transmitter RSS-T2 can be assembled with the mentioned attachment kit.

Reed Switches – RSS – Mounting kits



End position monitoring mounted with mounting kit

Description	ID
Mounting kit for RSS	
AS-RSS-GSW-H	0308440
Radio system RSS	
RSS-T2	0377710
RSS-R1	0377700
RSS-R-A	0377730
Mounting kit for Reed Switches	
AS-RMS 80 PGN/PZN-plus 64/80	0377725
AS-RMS 80 PGN/PZN-plus 100/125	0377726
Reed Switches	
RMS 22-S-M8	0377720
RMS 80-S-M8	0377721

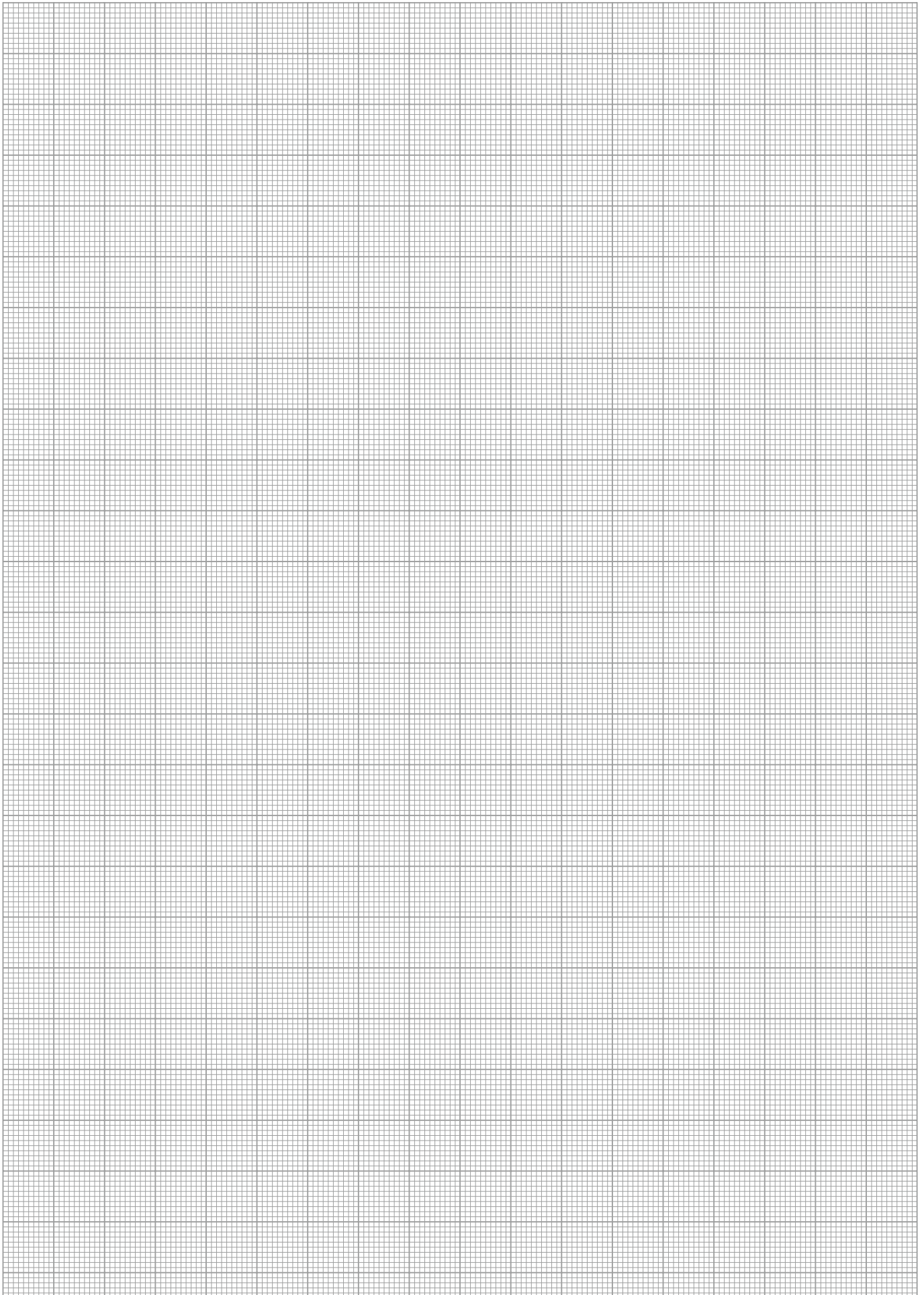
The radio system consists of a transmitter RSS-T2, the receiver RSS-R1 and the antenna RSS-R-A.

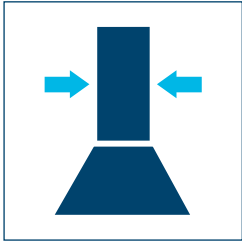
For cylindrical reed switches RMS 80 the mentioned attachment kits are required, and can be directly assembled into the sensor's C-slot of the grippers. In case of gripper size 50 standard monitoring is not possible. For size 64 just via reed switch RMS 80 is necessary.

- ① Two sensors (Closer/S) are required for each gripper, plus extension cables as an option.
- ① The mounting kit needs to be ordered optionally as an accessory.
- ① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

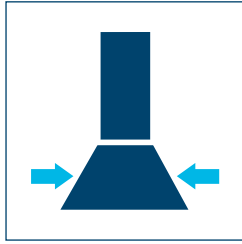
GSW-B with 3-Finger Centric Gripper

Special Gripper • Gripper with shaft interface





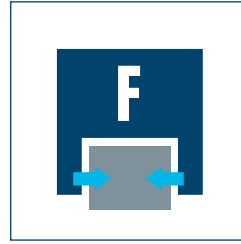
Suction pad diameter
30 mm ... 125 mm



Clamping diameter
20 mm ... 32 mm



Weight
0.12 kg ... 0.39 kg



Gripping force
55 N ... 980 N



Workpiece weight
0.28 kg ... 4.9 kg

Application example



Handling of gears in a milling center

- 1 Vacuum Gripper GSW-V
- 2 Gripper with shaft diameter GSW-B and PGN-plus
- 3 Gripper with shaft diameter GSW-B and PZN-plus
- 4 Cleaning Unit RGG
- 5 Radio sensor system RSS

Vacuum Gripper

Vacuum gripper for spindle interfaces is ideal for handling relatively flat components.

Field of application

Unit for automatic loading and unloading of machining centers by their own axis, which provides a compressed air and coolant supply via the tool mounting.

Your advantages and benefits

Low-price module

for flexible automation of your machine

Fast, automated gripper changeover

from the gripper to the storage rack

Fully automated workpiece changeover

without robot- or gantry system

Universally

suited for many different workpieces



General note to the series

Principle of function

Venturi nozzle

Housing material

Aluminum

Material of spindle interface

Aluminum alloy

Suction pad material

NBR-60

Actuation

hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubricated or non-lubricated pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

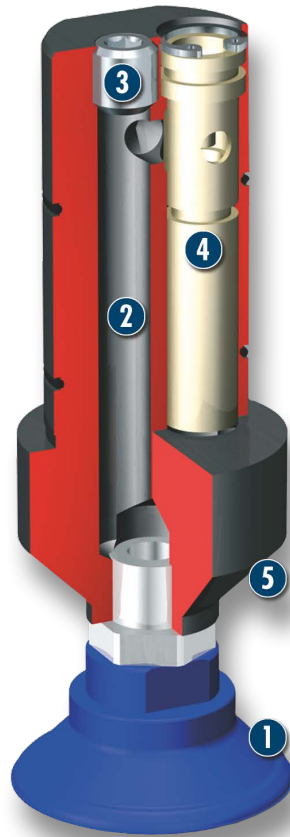
Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Assembly and operating manual

Sectional diagram



- 1 Vacuum suction cup**
for a flexible range of parts
- 2 Intake duct**
for producing suction power
- 3 Introduction of medium**
via spindle interface
- 4 Venturi nozzle**
for producing negativ pressure
- 5 Outlet opening**
for diverting the negative pressure

Functional description

The gripper can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder taper. The vacuum gripper is equipped with an integrated Venturi nozzle, and therefore does not require a vacuum connection to generate negative pressure. During the gripping operation the gripper continuously supplies coolant or compressed air by the outlet port.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably. Further shaft diameters on request. Please note that the product is not suitable for heat shrinking toolholders.

Precondition

If the spindles to not rotate, them machines have to provide compressed air or coolant.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Cleaning Unit



Mechanic gripper



Toolholder



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

General note to the series

Suction pad

Perfectly adaptable to smooth surfaces, with dampening effect during attachment and stroke effect during the suction phase.
Special suction cups on request.

Times

The indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Workpiece weight

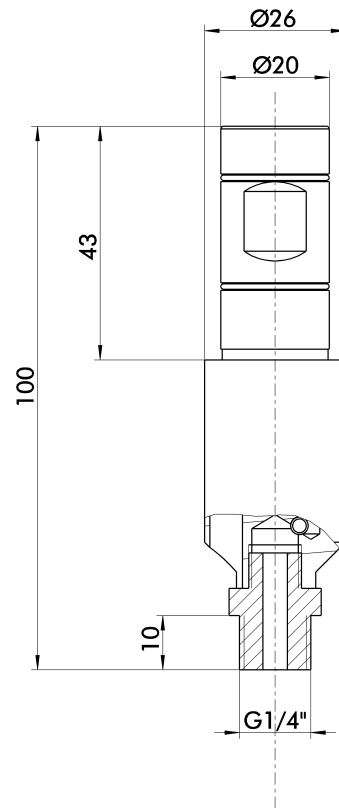
The recommended workpiece weight is calculated for a force-fit connection, indicated nominal flow rate and pressure as well as a safety factor of 2 against the weight of the acceleration of gravity g .



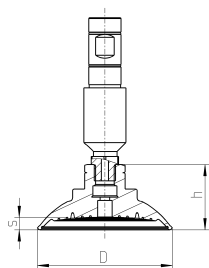
Technical data

Description		GSW-V 20	GSW-V 20-SND030	GSW-V 20-SND080	GSW-V 20-SND125
ID		0309120	0309121	0309122	0309123
Weight	[kg]	0.12	0.14	0.19	0.28
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[l/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	220	220	220	220
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	90	90	90	90

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	0309135	34 mm	20 mm	3 mm
SND 80-G1/4	0309136	89 mm	40 mm	7.6 mm
SND 125-G1/4	0309137	135 mm	48 mm	12.5 mm



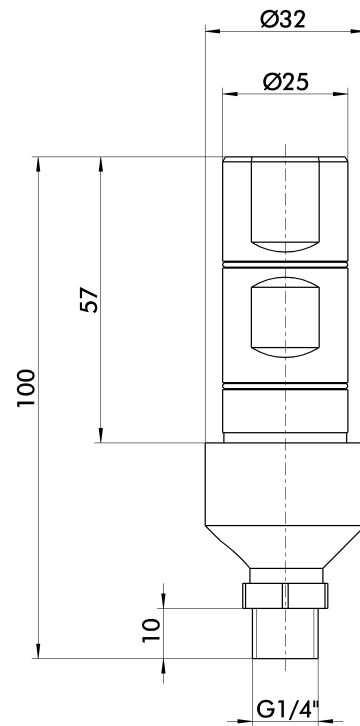
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



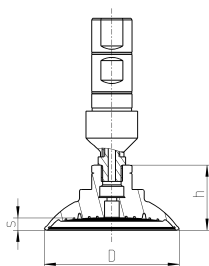
Technical data

Description		GSW-V 25	GSW-V 25-SND030	GSW-V 25-SND080	GSW-V 25-SND125
ID		0309125	0309126	0309127	0309128
Weight	[kg]	0.15	0.17	0.22	0.31
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[l/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	200	200	200	200
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	94	94	94	94

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	0309135	34 mm	20 mm	3 mm
SND 80-G1/4	0309136	89 mm	40 mm	7.6 mm
SND 125-G1/4	0309137	135 mm	48 mm	12.5 mm



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

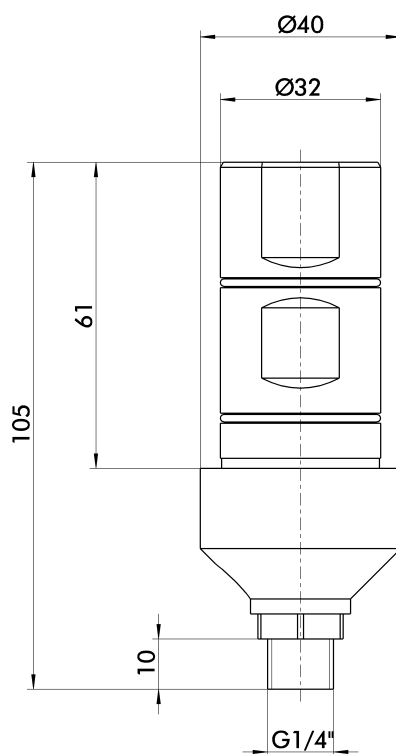




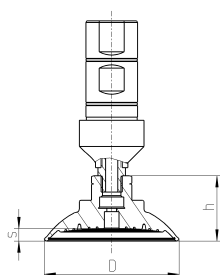
Technical data

Description		GSW-V 32	GSW-V 32-SND030	GSW-V 32-SND080	GSW-V 32-SND125
ID		0309130	0309131	0309132	0309133
Weight	[kg]	0.23	0.24	0.3	0.39
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	-10/90	-10/90	-10/90	-10/90
Max. admissible speed	[l/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	350	350	350	350
Min./max. operating pressure compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	250	250	250	250
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vacuum	[bar]	-0.8	-0.8	-0.8	-0.8
Minimum vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	98	98	98	98

Main view



Suction cup dimensions



Description	ID	D	H	S
Suction pad				
SND 30-G1/4	0309135	34 mm	20 mm	3 mm
SND 80-G1/4	0309136	89 mm	40 mm	7.6 mm
SND 125-G1/4	0309137	135 mm	48 mm	12.5 mm



You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



Size
20



Weight
0.1 g

Application example



Handling of gears in a milling center

- 1 Vacuum Gripper GSW-V
- 2 Gripper with shaft diameter GSW-B and PGN-plus
- 3 Gripper with shaft diameter GSW-B and PZN-plus
- 4 Cleaning Unit RGG
- 5 Radio sensor system RSS

Cleaning Unit

for cleaning of clamping devices and for automating machine tools

Field of application

every machine with conventinal tool mountings and compressed air or coolant supply by the spindle

Your advantages and benefits

Low-price module

for flexible automation of your machine

Fast, automatic cleaning

for a maximum machine utilization

Idle times

reduced on a minimum

Increased safety

for machine operator



General note to the series

Material of spindle interface

Aluminum alloy

Actuation

hydraulically by internal coolant supply (filtered, maximum particle size 30 microns) or pneumatically, via filtered compressed air (10 microns): dry, lubricated or non-lubricated pressure medium: Requirement to the compressed air quality as per DIN ISO 8573-1: 6 4 4

Warranty

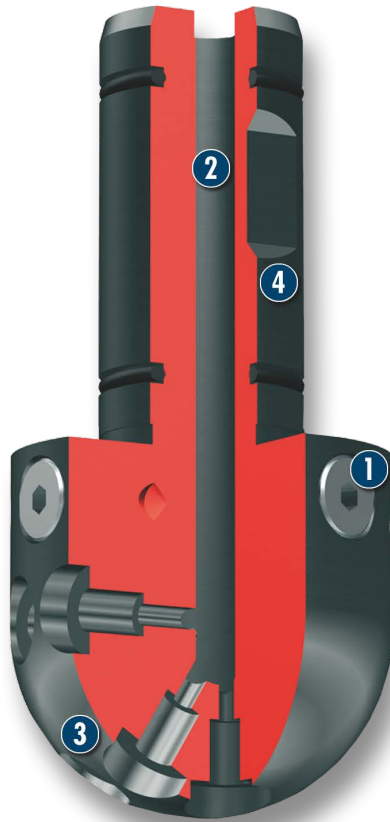
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Scope of delivery

Locking screws, set-screws, assembly and operation manual



Sectional diagram



- | | |
|---|--|
| <p>1 Locking screws and restrictor inserts
for changing the cleaning jet</p> | <p>3 Outlet openings
for producing cleaning jets</p> |
| <p>2 Center bore
for introduction of cleaning medium</p> | <p>4 Clamping diameter
for mounting in any toolholding system</p> |

Functional description

The Cleaning Unit can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder taper. Cleanliness made simple – a total of six nozzles on the ballhead blow out a powerful jet of air or coolant, which is forced from the toolholder taper into the shaft of the cleaning unit via a bore. The head can also rotate with the machine tool spindle when it moves, and can reach all corners of the working area.

Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service lifetime of this product considerably. Further shaft diameters on request. Please note that the product is not suitable for heat shrinking toolholders.

Accessories

Accessories from SCHUNK — the suitable supplement for maximum functionality, reliability and performance of all automation modules.

Vacuum Gripper



Mechanic gripper



Toolholder



① For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the "Accessories" catalog section.



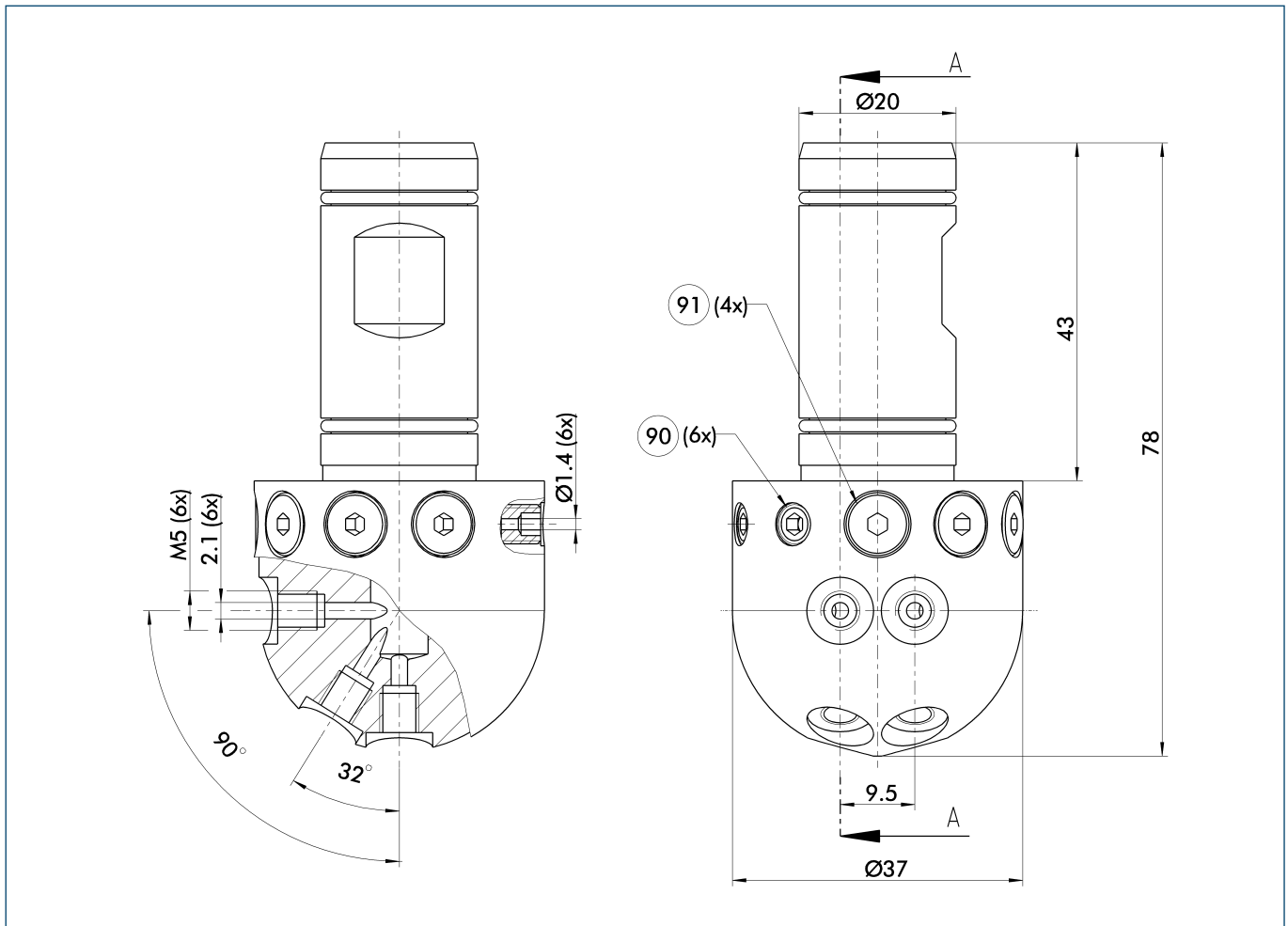


Technical data

Description		RGG 20
ID		0308590
Weight	[g]	0.1
Min./max. ambient temperature	[°C]	-10/90
Max. admissible speed	[l/min]	100
Max. operating pressure	[bar]	80
Material		Aluminum alloy



Main view



For reducing the jet of the nozzles, the set-screws with nozzle bores can be used.
Unused nozzles can be closed with the locking screws.

- 90 Set-screws with throttling port
- 91 Locking screws

Accessories



ACCESSORIES

Series	Size	Page
Accessories		
Motion Controller electric		
MCS		1342
MCS	06	1344
MCS	12	1346
MEG-C		1348
MEG-C	40/50/64	1350
Inductive Proximity Switches IN		1352
IN	3	1354
IN	5	1356
IN	8	1358
IN	40	1360
IN	40-SA	1362
IN	60	1364
IN	65	1366
IN	80	1368
IN	80-SA	1370
IN	C-80/80SL	1372
IN	120	1374
Magnetic Switches MMS-P		1376
MMS-P	22	1378
Magnetic Switches MMS		1380
MMS	22	1382
MMS	22-SA	1384
MMS	30	1386
MMSK	65	1388
Reed Switches RMS		1390
RMS	22	1392
RMS	80	1394
Optical Switches ONS		1396
ONS	01	1398
Switch Accessories		
SST		1400
NHG		1404
Sensor Distributor		1408
Y-Distributor		1410
V 2		1412
V 4		1414
V 8		1418
Cable and Connector fluidic		1422
KV		1424
KA		1426
KST-M8/KBU-M8		1432
KST-M12/KBU-M12		1434

Series	Size	Page
Accessories		
Measuring Systems		
APS-M1		1436
FPS/FPS-S/FPS-F5/FPS-Software		1440
FMS/FMS-A/FMS-ZBA/-ZBP		1448
Transmission Systems		
RSS/RSS-T2/RSS-R1		1456
Fluidic Monitoring System		
PA3		1462
Finger Blanks and Intermediate Jaws		1466
ABR-plus/SBR-plus		1468
ABR for MPG		1472
ABR for PG		1474
ABR for MPZ		1476
RB for KTG		1478
RB for KGG		1480
ZBH for PFH		1482
Clamping Inserts for Gripper Fingers		
Quentes		1486
HM		1490
HKI		1496
Quick-change Jaw System		
BSWS		1500
Universal Intermediate Jaw		
UZH		1506
Dust Cover		
HUE for PGN-plus		1512
HUE for PZN-plus		1518
Fastening Elements		
ZHU		1524
PAM		1528
Valves and Screw Connections		1536
SDV-P		1538
WV-G		1539
SWV		1540
DSV		1541
Grease		
Grease		1542

Electric controller MCS

Electric controllers are used for actuating/controlling mechatronic modules and systems without integrated electronics. SCHUNK offers these controllers in the versions MCS06 for EVG grippers, and the MCS12 version for EGN/EZN/EVG grippers, and STM rotary modules.



Description of function

The MCS controller is an electronic device that is used to actuate/control mechatronic modules.

Your advantages and benefits

Mounting on DIN rail

for quick installation in the control cabinet

High accuracy and flexibility

for positioning processes with, for example, highly accurate positioning or exact force/torque control

MCDemo setup software

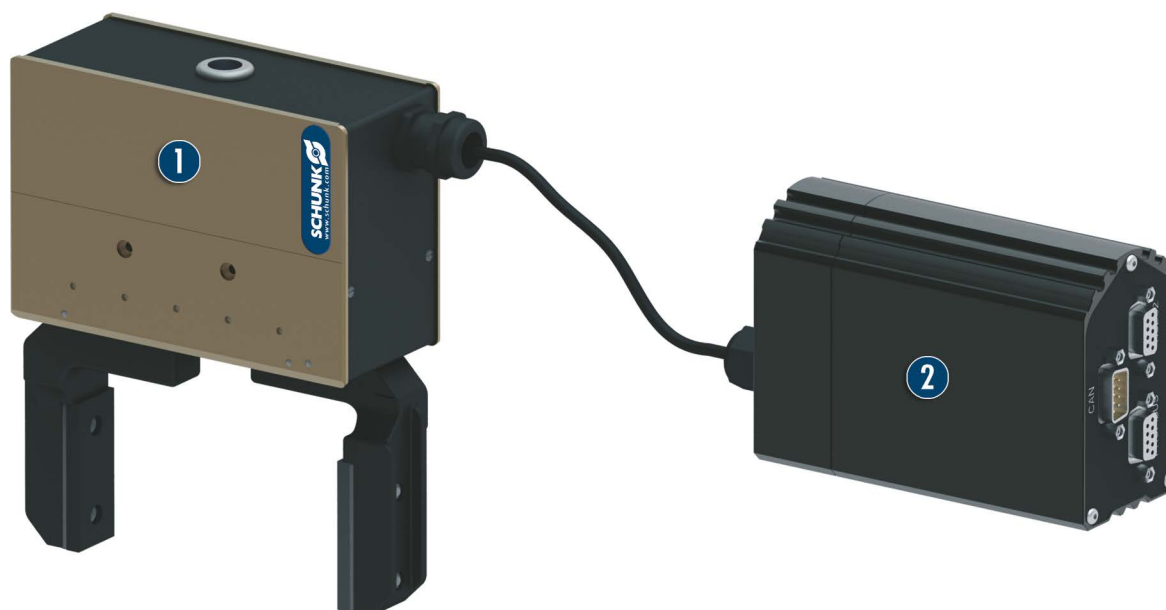
for simple and fast configuration

Field bus communication for Profibus-DP and CAN

for flexible integration into existing systems

Field of application

application in a clean environment in connection with the corresponding SCHUNK grippers or rotary modules



1 2-finger parallel gripper EVG

2 MCS06 controller

General information

Warranty
24 months

Notes

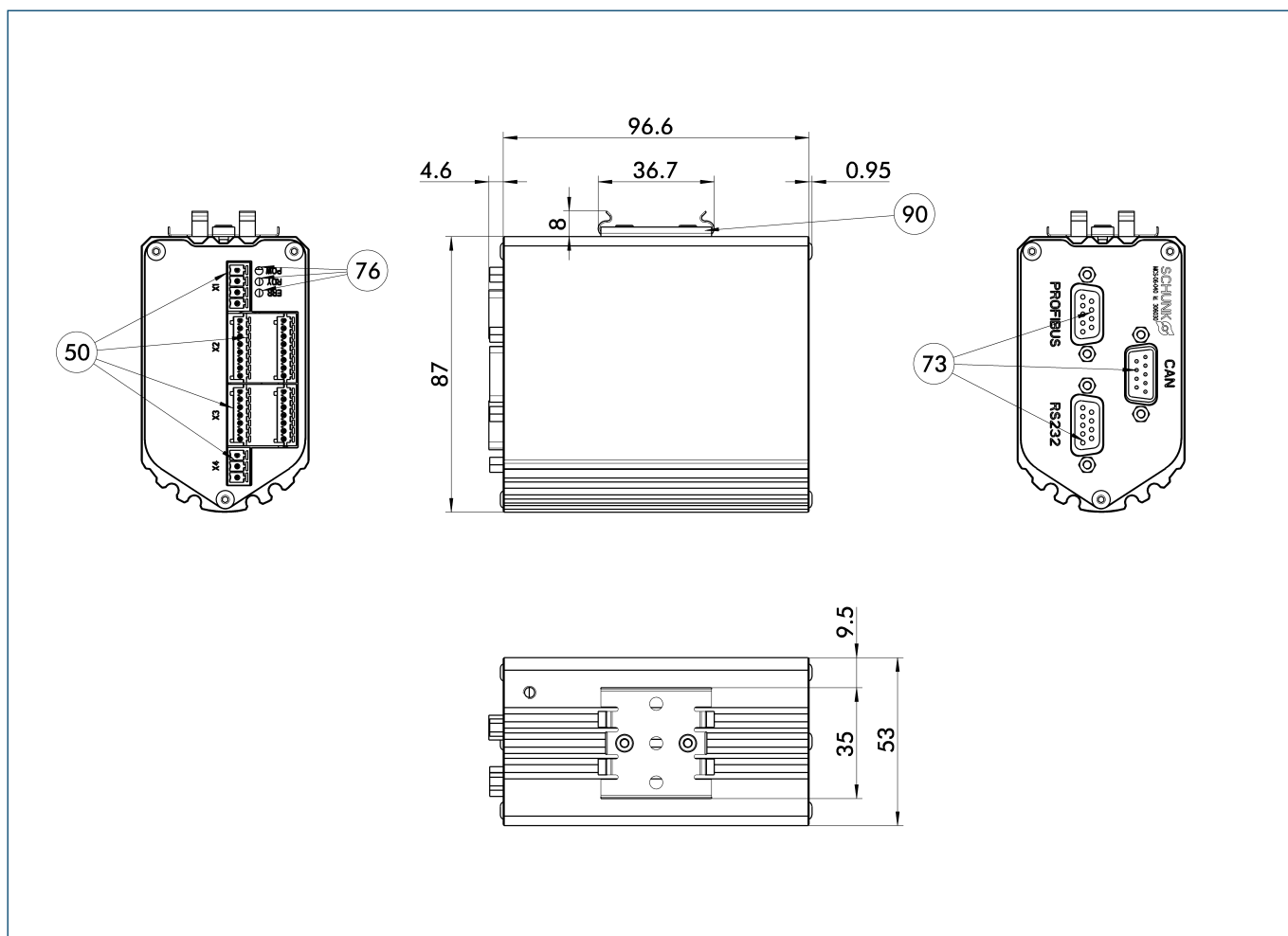
The MCS06/12 controllers are designed for installation in industrial control cabinets.



Technical data

Description		MCS06	
Version		EVG 55-40	EVG 55-100
ID		0306030	0306031
General technical data			
Protection class		IP30	
Power supply (logic)	[VDC]	24	
Power supply (load)	[VDC]	24	
Nominal/max. current (load)	[A]	4.0/8.5	5.0/8.5
Weight	[kg]	0.46	
Dimensions (W x H x D)	[mm]	53/97/87	
Min./max. ambient temperature	[°C]	5/45	
Type of mounting		DIN rail	
Motors/modules/systems		EVG	
Supported types of encoder		Encoder, resolver	
Control types/functions			
Position control		Yes	
Speed control		Yes	
Current control		Yes	
Force control		Yes, via value of current	
Technological functions		Pseudo absolute-value transducer function, freely programmable operations can be saved, actuation directly or using operations by means of digital I/Os or field bus interface	
Safety functions		-	
Interfaces			
Number of digital inputs/outputs		4/4	
Number of analogue inputs/outputs		-/-	
Type/number/connection of field bus		Profibus-DP/1/SUB-D	
Type/number/connection of field bus		CAN/1/SUB-D	
Type/number/connection of parameterisation		RS232/1/SUB-D	
Type/number/connection of parameterisation		Profibus-DP/-/via field bus connection	
Type/number/connection of parameterisation		CAN/-/via field bus connection	
Tools			
Software		MCDemo setup tool, function block for S7-300/400 for actuation	

Main view



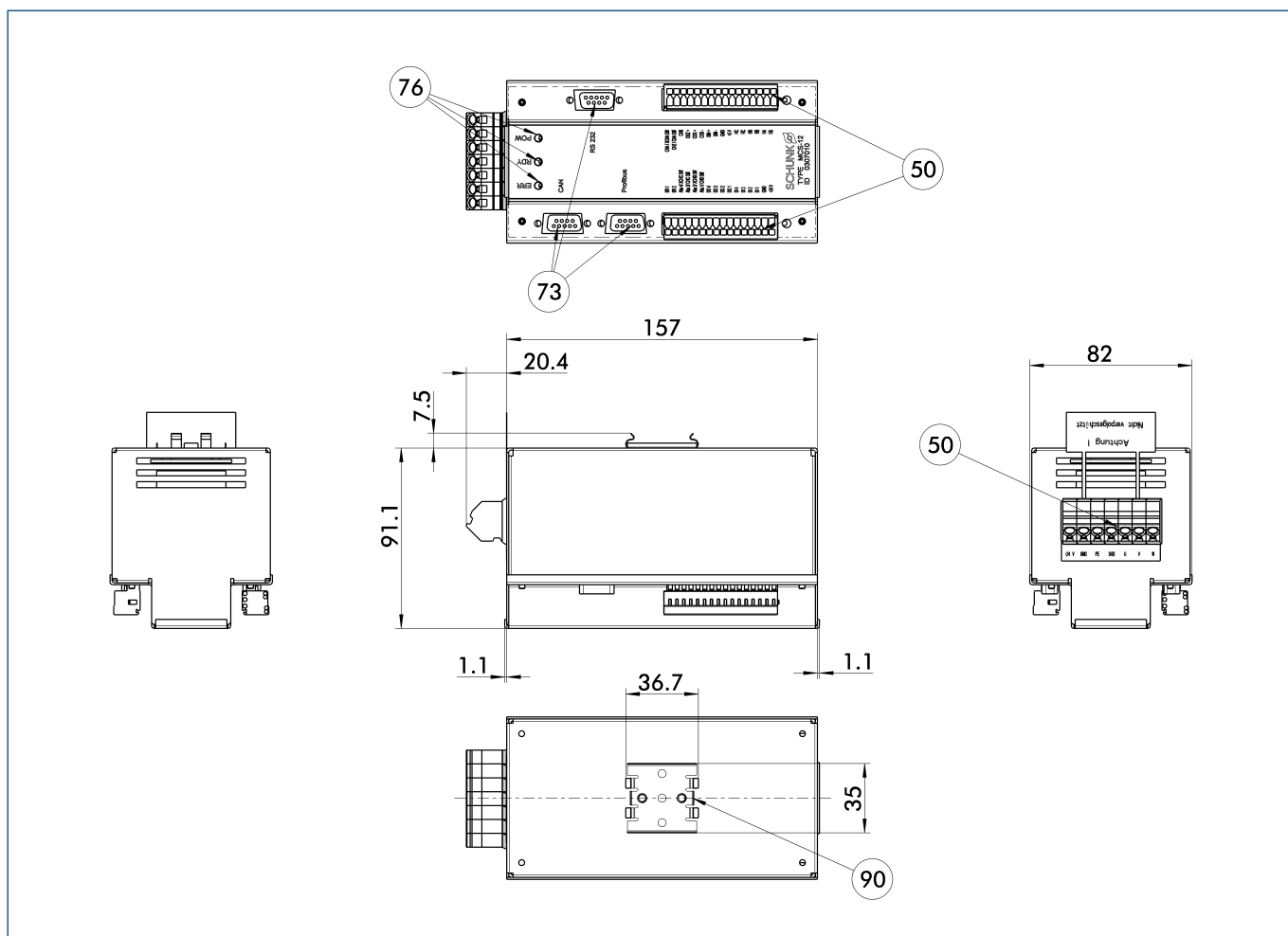
- 50 Terminal strips
- 73 Communication interfaces
- 76 LEDs
- 90 DIN rail for mounting



Technical data

Description		MCS12			
Version		EGN/EZN	STM 130	STM 170	STM 210
ID		0307010	0307015	0307016	0307017
General technical data					
Protection class		IP30			
Power supply (logic)	[VDC]	24			
Power supply (load)	[VDC]	24	48	48	48
Nominal/max. current (load)	[A]	6.0/8.0	4.2/13.0	6.7/18.8	6.2/24.0
Weight	[kg]	0.98			
Dimensions (W x H x D)	[mm]	82/157/92			
Min./max. ambient temperature	[°C]	5/45			
Type of mounting		DIN rail			
Motors/modules/systems		EGN, EZN, STM (48V DC)			
Supported types of encoder		Encoder, Resolver			
Control types/functions					
Position control		Yes			
Speed control		Yes			
Current control		Yes			
Force control		Yes, using current value			
Technological functions		Pseudo absolute-value transducer function, freely programmable operations can be saved, actuation directly or using operations by means of digital I/Os or field bus interface			
Safety functions		-			
Interfaces					
Number of digital inputs/outputs		4/4			
Number of analogue inputs/outputs		-/-			
Type/number/connection of field bus		Profibus-DP/1/SUB-D			
Type/number/connection of field bus		CAN/1/SUB-D			
Type/number/connection of parameterisation		RS232/1/SUB-D			
Type/number/connection of parameterisation		Profibus-DP/-/via field bus connection			
Type/number/connection of parameterisation		CAN/-/via field bus connection			
Tools					
Software		MCDemo setup tool, function block for S7-300/400 for actuation			

Main view



- 50 Terminal strips
- 73 Communication interfaces
- 76 LEDs
- 90 DIN rail for mounting

Electric controller MEG-C

Electric controllers are used for actuating/controlling mechatronic modules and systems without integrated electronics. The MEG-C controllers are offered by SCHUNK in the versions MEG-C40, MEG-C50, and MEG-C64 for MEG EC grippers.



Description of function

The MEG-C controller is an electronic device that is used to actuate/control the MEG-EC mechatronic grippers.

Your advantages and benefits

Mounting on DIN rail

for quick installation in the control cabinet

High accuracy and flexibility

for positioning processes with, for example, accurate positioning or exact force control

Easy actuation

Actuation via digital inputs/outputs, analogue value specification

Field of application

Application in a clean environment in connection with the corresponding SCHUNK MEG grippers



1 2-finger parallel gripper MEG-EC

2 MEG-C controller

General information

Warranty
24 months

Notes

The MEG-C controllers are designed for installation in industrial control cabinets.

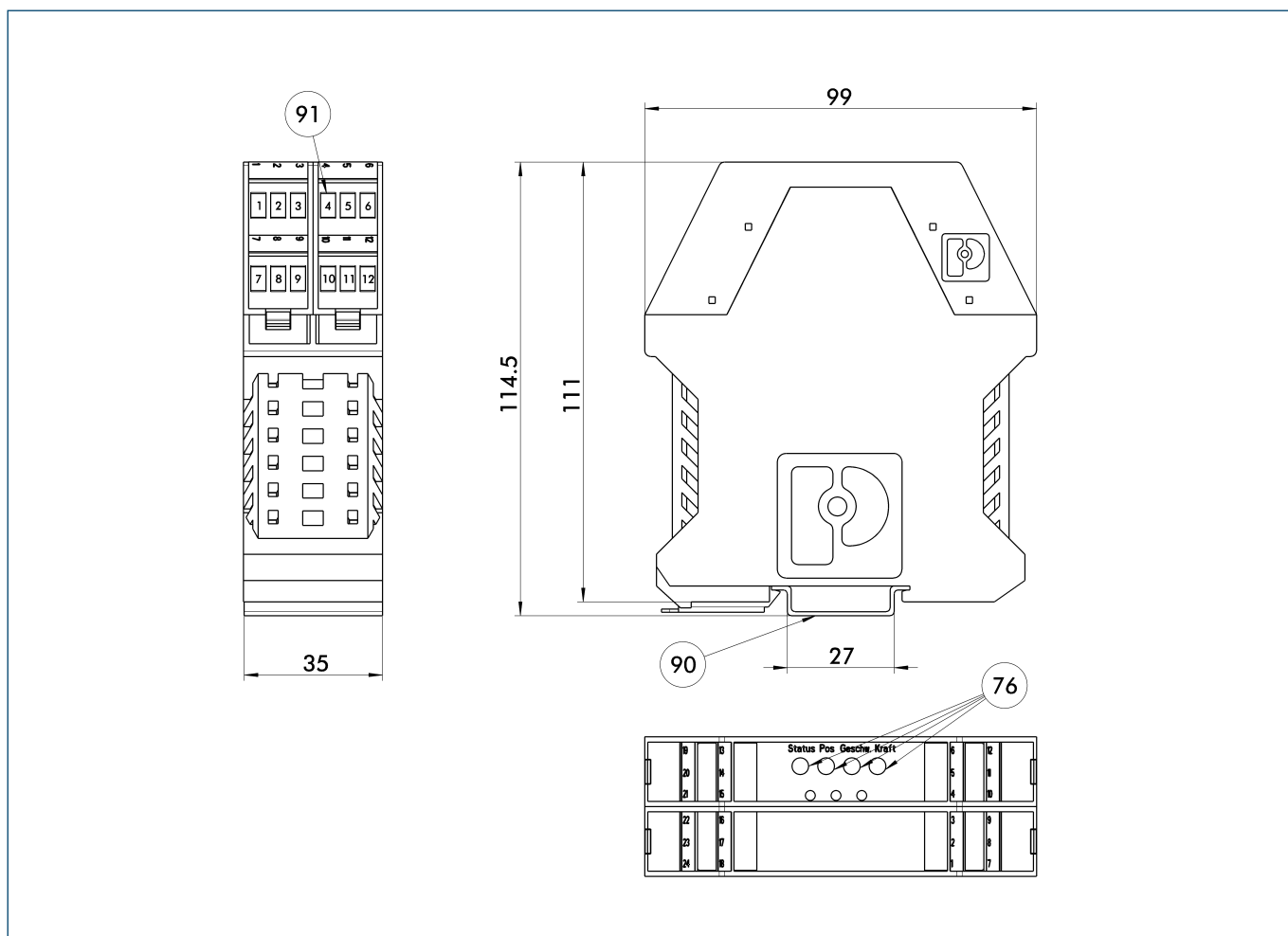




Technical data

Description		MEG-C		
Version		MEG-40 EC	MEG-50 EC	MEG-64 EC
ID		0307004	0307005	0307006
General technical data				
Protection class			IP30	
Power supply (logic)	[VDC]		24	
Power supply (load)	[VDC]		24	
Nominal/max. current (load)	[A]	1.0/1.5	1.0/1.5	2.0/5.0
Weight	[kg]		0.3	
Dimensions (W x H x D)	[mm]		35/99/114,5	
Min./max. ambient temperature	[°C]		-10/65	
Type of mounting			DIN rail	
Motors/modules/systems			MEG	
Supported types of encoder			-	
Control types/functions				
Position control			Yes	
Speed control			No	
Current control			Yes	
Force control			Yes, using current value	
Technological functions		Actuation directly via digital I/Os, parameter specification via analogue values		
Safety functions			-	
Interfaces				
Number of digital inputs/outputs			4/3	
Number of analogue inputs/outputs			3/1	
Type/number/connection field bus			-	
Type/number/connection field bus			-	
Type/number/connection of parameterisation			-	
Type/number/connection of parameterisation			-	
Type/number/connection of parameterisation			-	
Tools				
Software			-	

Main view



- 76 LEDs
- 90 DIN rail for mounting
- 91 Terminal strips

Inductive Proximity Switches

Inductive proximity switches are used to monitor the current position of automation components. They are available from SCHUNK in the versions IN (sensor with 30 cm molded cable and cable connector) or INK (sensor with 2 m long feeder cable and litz wires for wiring).



Function description

With their oscillator coil, inductive proximity switches produce a high-frequency, alternating magnetic field. This field occurs on the active surface of the sensor. If a metal object enters the field, it draws energy from the magnetic field, thereby reducing the oscillation amplitude. This change is detected, and the sensor switches.

Your advantages and benefits

Mounting through bracket

for simple, fast assembly

Version with LED display

for checking the switching state directly at the sensor

Version with connector

for easy, rapid replacement of extension cable

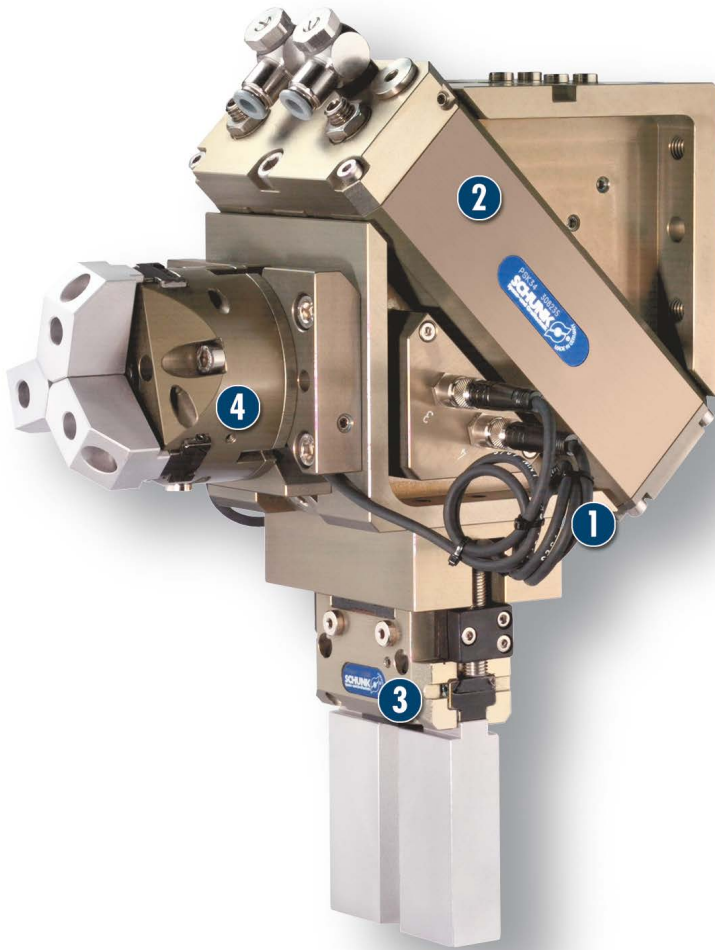
Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Proximity switch can be installed flush

for minimal interfering contours in the application

Application example



Aera of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Inductive SCHUNK sensors detect metals without contact and are resistant to vibration, dust and humidity. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

1 Plug-in IN Sensors

2 PSK Swivel Head

3 PGN 2-Finger Parallel Gripper with ABR finger blanks

4 PZN 3-Finger Centric Gripper with workpiece-specific gripper fingers

General information

Protection class according to DIN 40050

IP 67 in plugged condition for the use in clean or dusty environments, or in case of contact with water. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Voltage

10 – 30 V DC, residual ripple < 15%

Switching method

PNP switching

Warranty

24 months

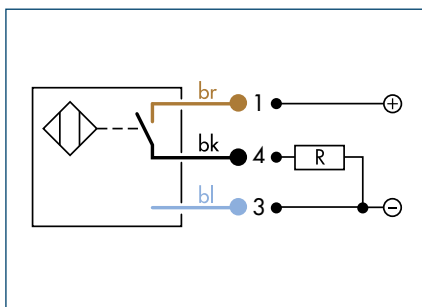
Notes

SCHUNK gripping, rotary and linear modules and robot accessory components must always be ordered from SCHUNK with the matching sensors, as these are ideally adapted to work together.

If major characteristics such as switching distance, switching function, hysteresis and voltage are largely the same, then proximity switches from other manufacturers may be used instead of inductive proximity switches (IN, INK) from SCHUNK.

However, if proximity switches from other manufacturers are used, SCHUNK cannot guarantee either their function or their functional reliability.

Wiring diagram closer

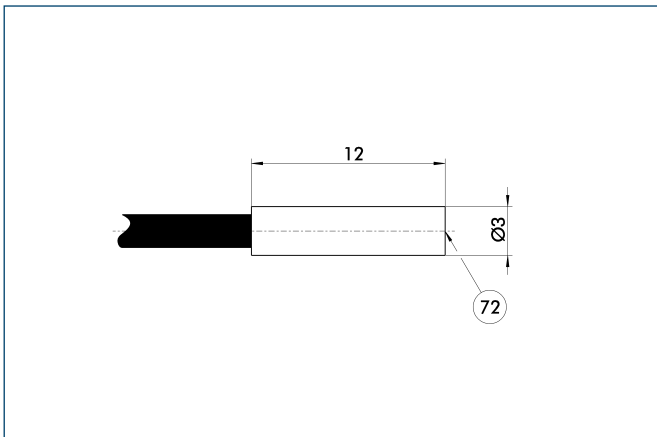


Technical data

Description	IN 3-S-M8-PNP
ID	0301466
Switching function	Closer
Switching distance [mm]	0.6
Switching hysteresis from the nominal switching distance	< 5%
Type of switching	PNP
Cable length [cm]	20
Cable connector/cable end	M8
Type of voltage	DC
Nominal voltage [V]	24
Min. voltage [V]	10
Max. voltage [V]	30
Power failure [V]	1.5
Max. switching current [A]	0.1
Min./max. ambient temperature [°C]	-25/75
Max. switching frequency [Hz]	1000
Typical switching time [s]	0
Tightness IP (sensor)	67
Tightness IP (sensor plugged)	67
LED display at the sensor	Yes
Cable diameter [mm]	2.5
Min. bending radius (dynamically) [mm]	25
Min. bending radius (statically) [mm]	12.5
Number of cores	3
Wire cross section [mm²]	0.14

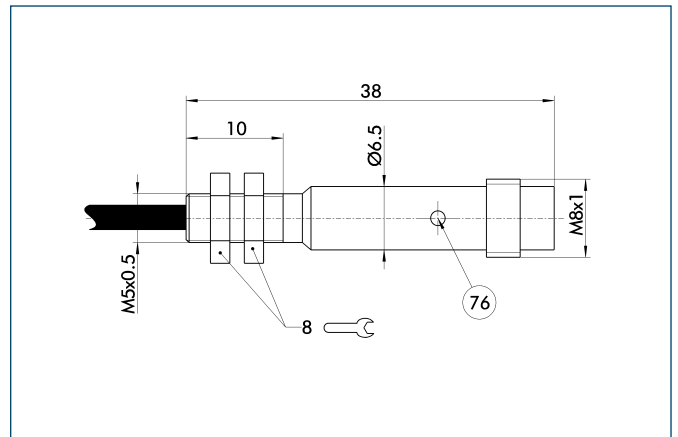
ⓘ Never separate the cable between the sensor and the plug connector.

IN 3 sensor



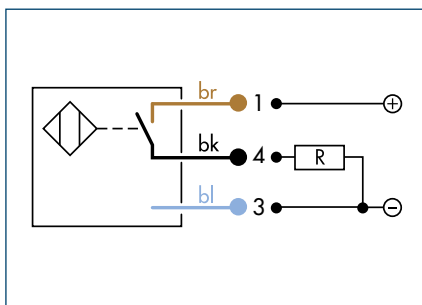
72 Active sensor surface

M8 connector



76 LED

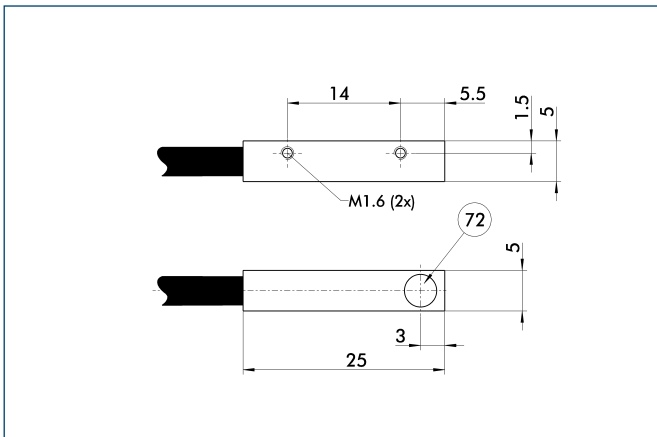
Wiring diagram closer



Technical data

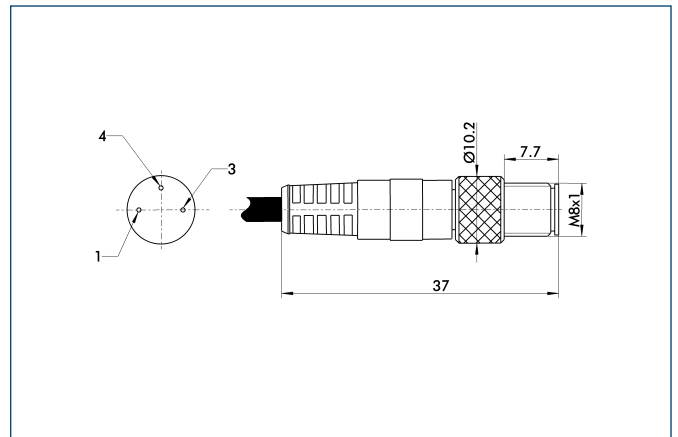
Description	IN 5-S-M8	IN 5-S-M12	INK 5-S
ID	0301469	0301569	0301501
Switching function	Closer	Closer	Closer
Switching distance [mm]	1	1	1
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 5-S sensor

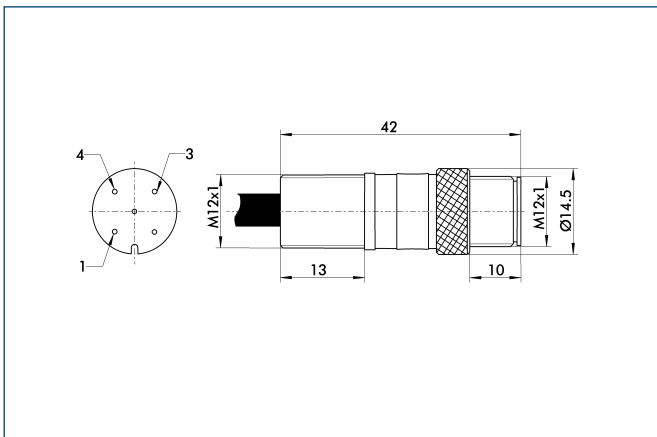


72 Active sensor surface

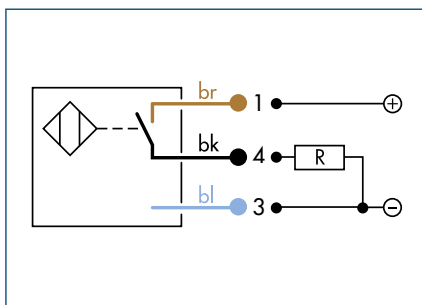
M8 connector



M12 connector



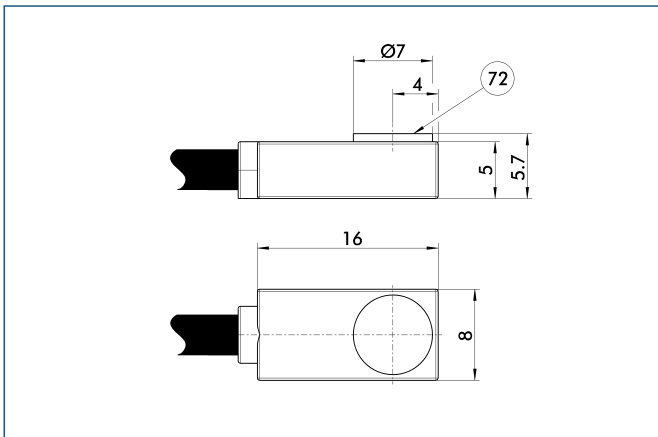
Wiring diagram closer



Technical data

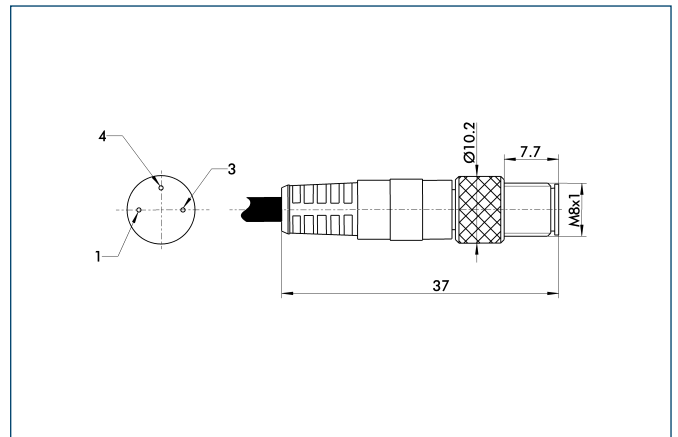
Description	IN 8-S-M8	IN 8-S-M12	INK 8-S
ID	0301481	0301581	9700052
Switching function	Closer	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 8-S sensor

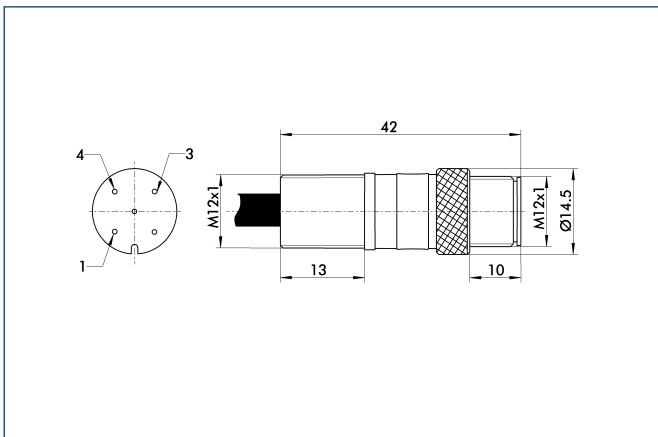


(72) Active sensor surface

M8 connector

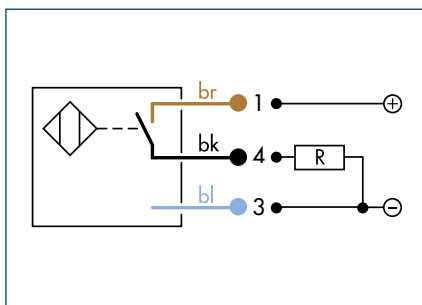


M12 connector

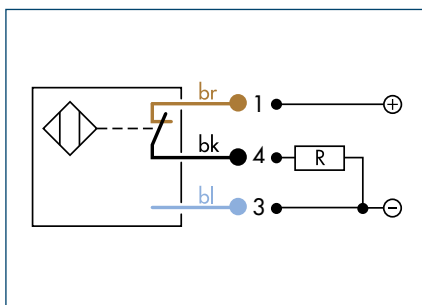




Wiring diagram closer



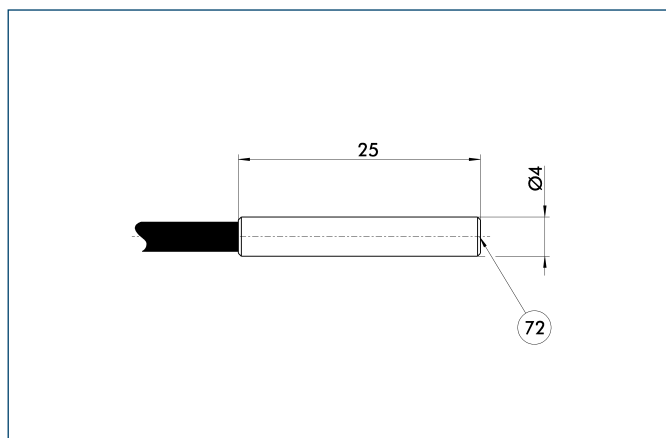
Wiring diagram opener



Technical data

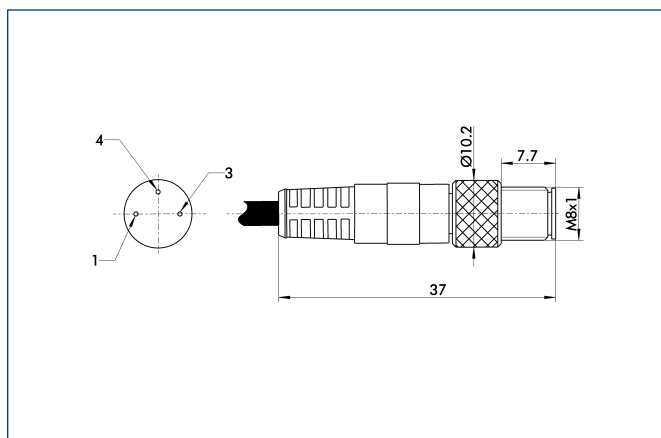
Description	IN 40-S-M8	IN 40-S-M12	INK 40-S	IN 40-O-M8	IN 40-O-M12	INK 40-O	IN 40-S-M5-PNP	IN 40-S-M5-NPN
ID	0301474	0301574	0301555	0301484	0301584	0301556	0301491	0301492
Switching function	Closer	Closer	Closer	Opener	Opener	Opener	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP	PNP	PNP	PNP	NPN
Cable length [cm]	30	30	200	30	30	200	30	30
Cable connector/cable end	M8	M12	open wires	M8	M12	open wires	M5	M5
Type of voltage	DC	DC	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24	24	24	24	24
Min. voltage [V]	10	10	10	10	10	10	10	10
Max. voltage [V]	30	30	30	30	30	30	30	30
Power failure [V]	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000	1000	1000	1000	1000	1000
Tightness IP (sensor)	67	67	67	67	67	67	67	67
Tightness IP (sensor plugged)	67	67	67	67	67	67	67	67
LED display at the sensor	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3	3	3	3	3
Wire cross section [mm²]	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14

IN 40 sensor

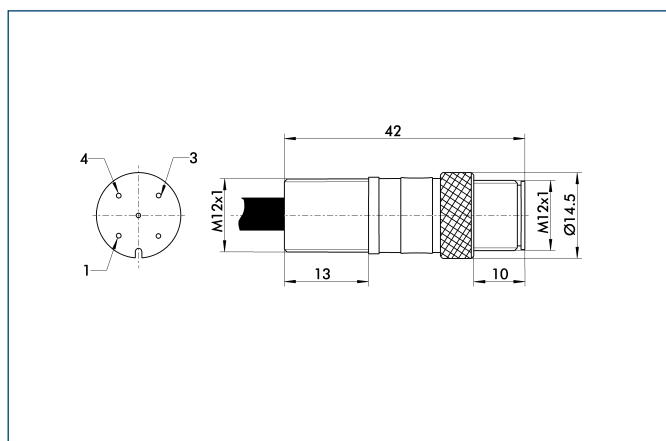


(72) Active sensor surface

M8 connector

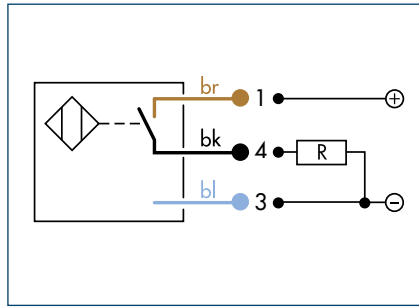


M12 connector

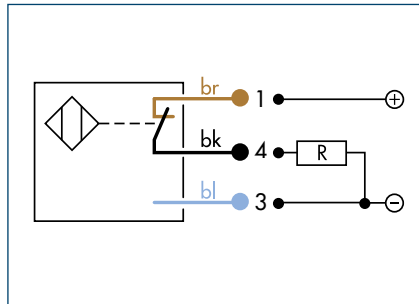




Wiring diagram closer



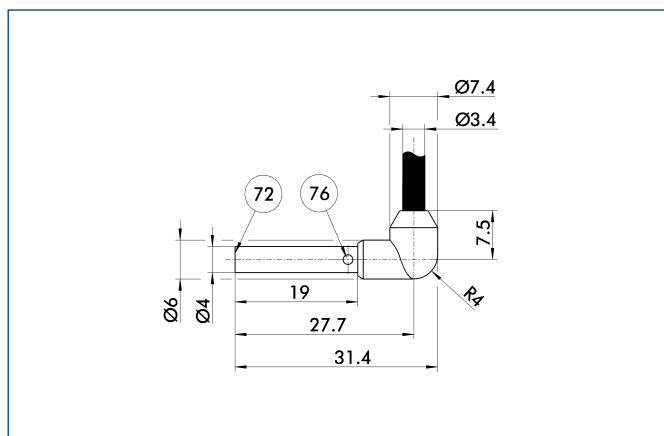
Wiring diagram opener



Technical data

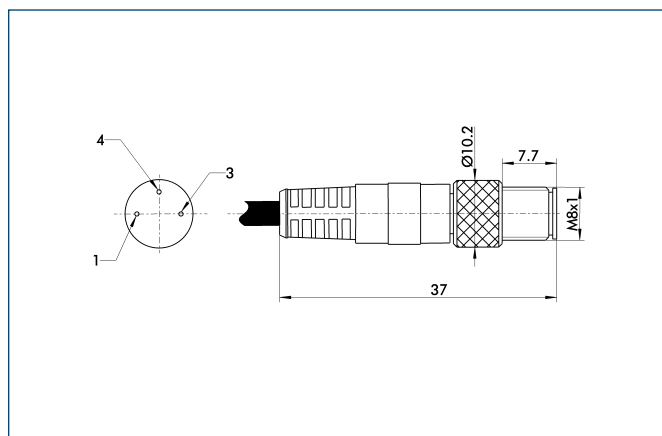
Description	IN 40-S-M12-SA	IN 40-S-M8-SA	INK 40-S-SA
ID	0301577	0301473	0301565
Switching function	Closer	Closer	Closer
Switching distance [mm]	0.8	0.8	0.8
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M12	M8	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 40-SA sensor

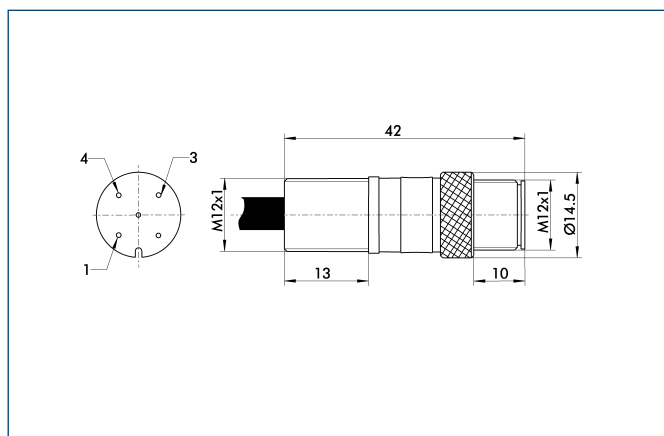


- 72 Active sensor surface
- 76 LED

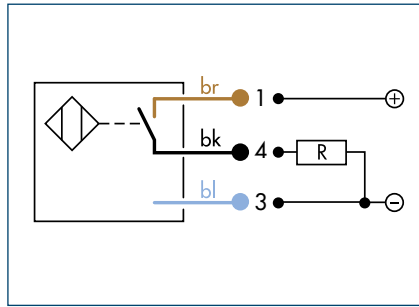
M8 connector



M12 connector



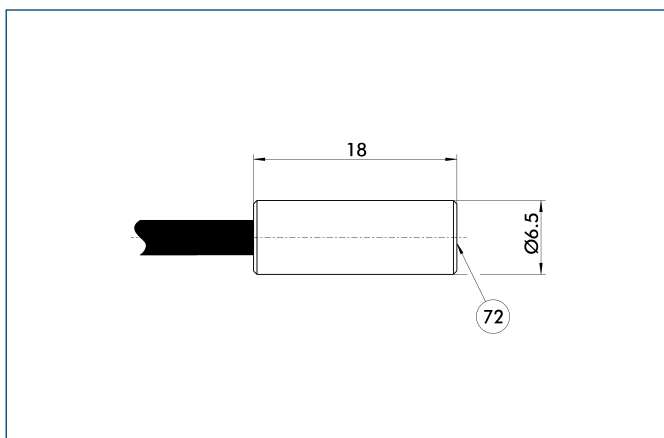
Wiring diagram closer



Technical data

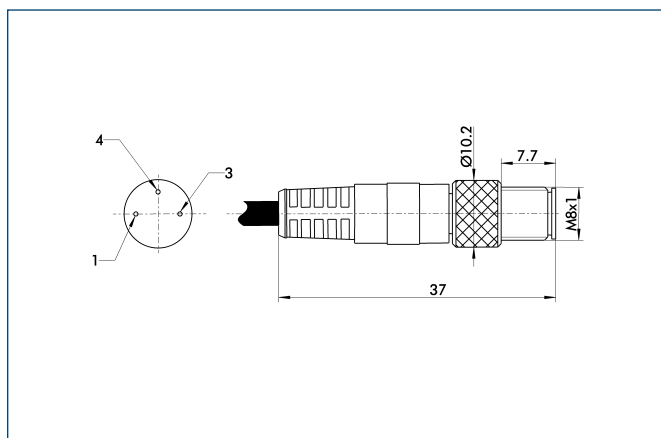
Description	IN 60-S-M8	IN 60-S-M12	INK 60-S
ID	0301485	0301585	0301553
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 60-S sensor

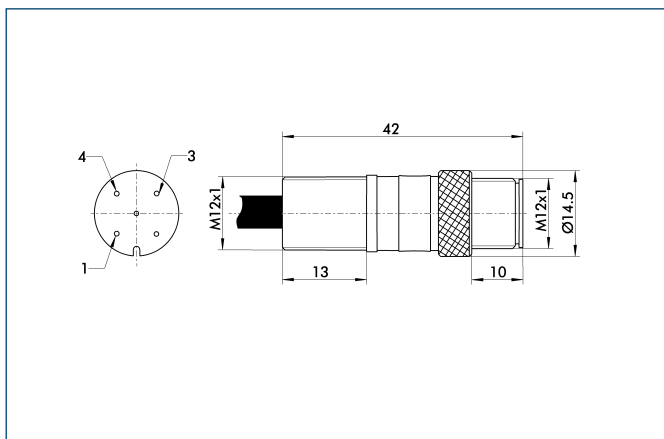


72 Active sensor surface

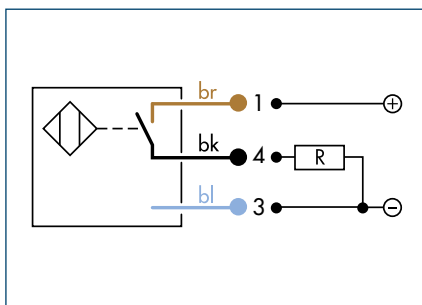
M8 connector



M12 connector



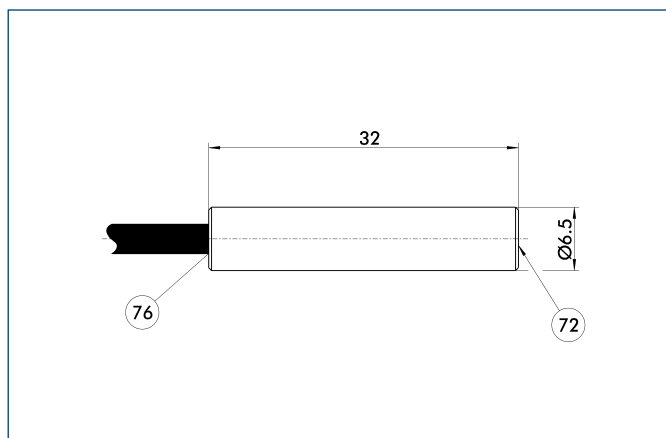
Wiring diagram closer



Technical data

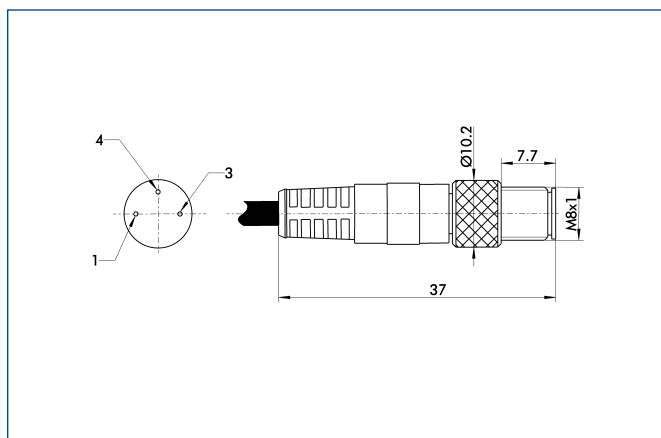
Description	IN 65-S-M8	IN 65-S-M12	INK 65-S
ID	0301476	0301576	0301554
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M8	M12	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 65-S sensor

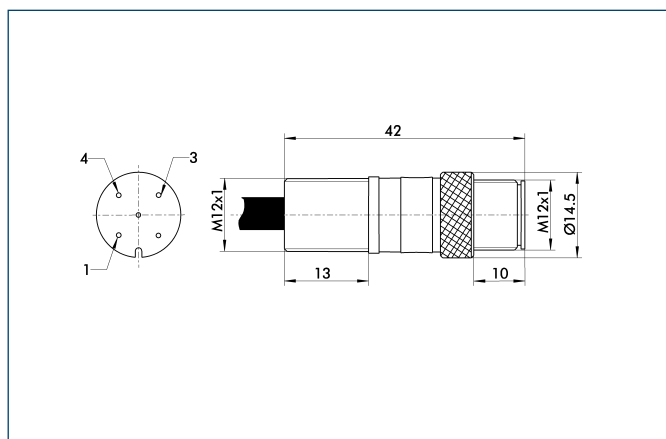


- 72 Active sensor surface
- 76 LED

M8 connector

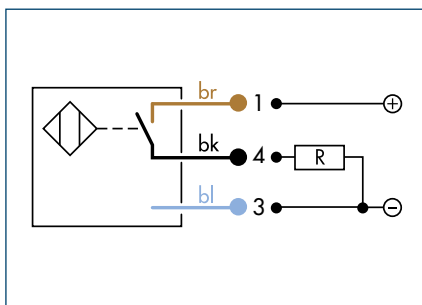


M12 connector

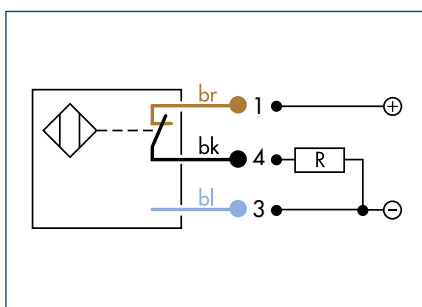




Wiring diagram closer



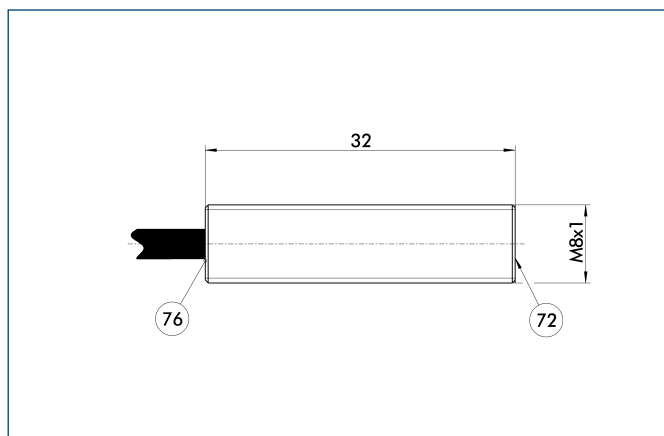
Wiring diagram opener



Technical data

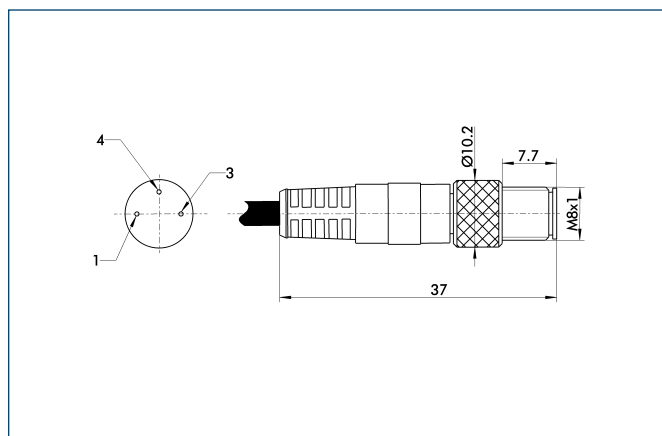
Description	IN 80-S-M8	IN 80-S-M12	INK 80-S	IN 80-O-M8	IN 80-O-M12	INK 80-O
ID	0301478	0301578	0301550	0301488	0301588	0301551
Switching function	Closer	Closer	Closer	Opener	Opener	Opener
Switching distance [mm]	1.5	1.5	1.5	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP	PNP	PNP
Cable length [cm]	30	30	200	30	30	200
Cable connector/cable end	M8	M12	open wires	M8	M12	open wires
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24	24	24
Min. voltage [V]	10	10	10	10	10	10
Max. voltage [V]	30	30	30	30	30	30
Power failure [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000	1000	1000	1000
Tightness IP (sensor)	67	67	67	67	67	67
Tightness IP (sensor plugged)	67	67	67	67	67	67
LED display at the sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

IN 80 sensor

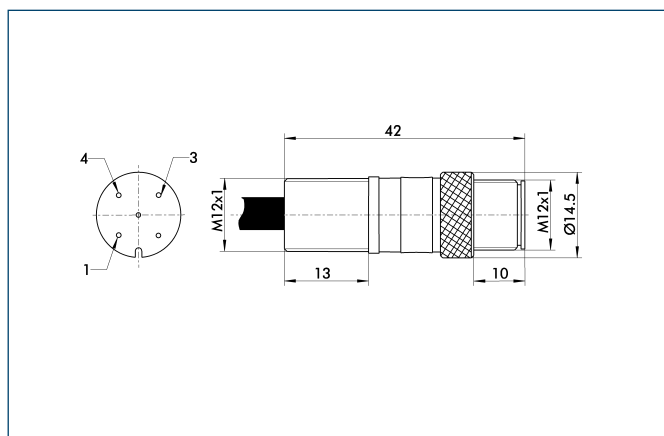


- 72 Active sensor surface
- 76 LED

M8 connector

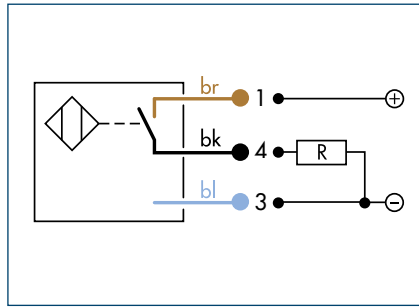


M12 connector

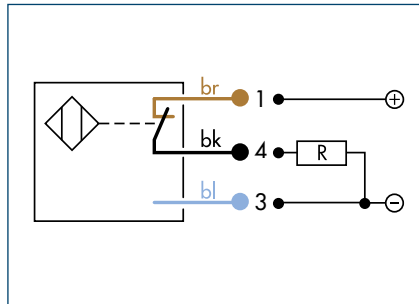




Wiring diagram closer



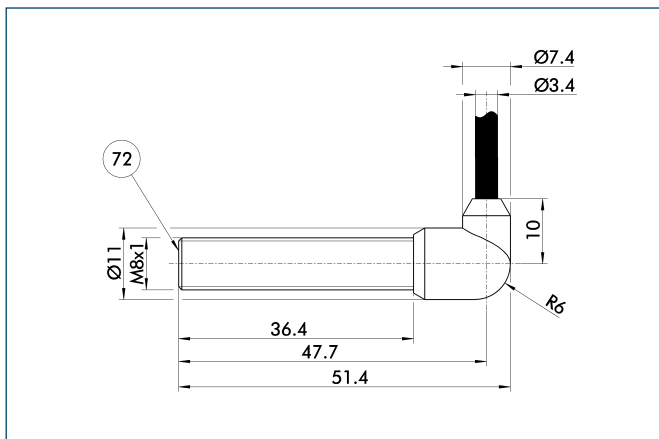
Wiring diagram opener



Technical data

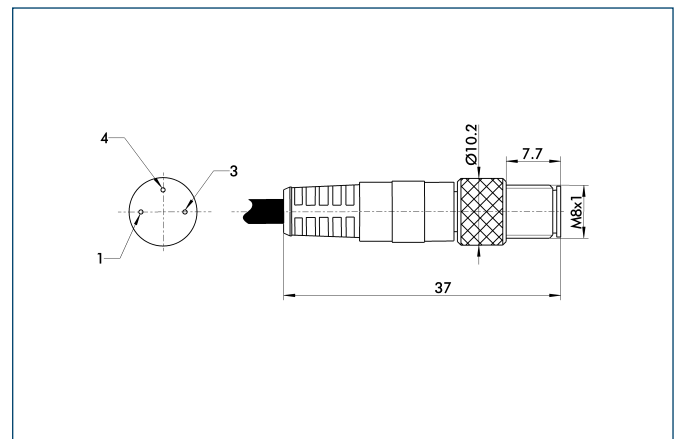
Description	IN 80-S-M12-SA	IN 80-S-M8-SA	INK 80-S-SA
ID	0301587	0301483	0301566
Switching function	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	1.5
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP
Cable length [cm]	30	30	200
Cable connector/cable end	M12	M8	open wires
Type of voltage	DC	DC	DC
Nominal voltage [V]	24	24	24
Min. voltage [V]	10	10	10
Max. voltage [V]	30	30	30
Power failure [V]	1.5	1.5	1.5
Max. switching current [A]	0.2	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000	1000
Tightness IP (sensor)	67	67	67
Tightness IP (sensor plugged)	67	67	67
LED display at the sensor	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5
Number of cores	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

IN 80-SA sensor

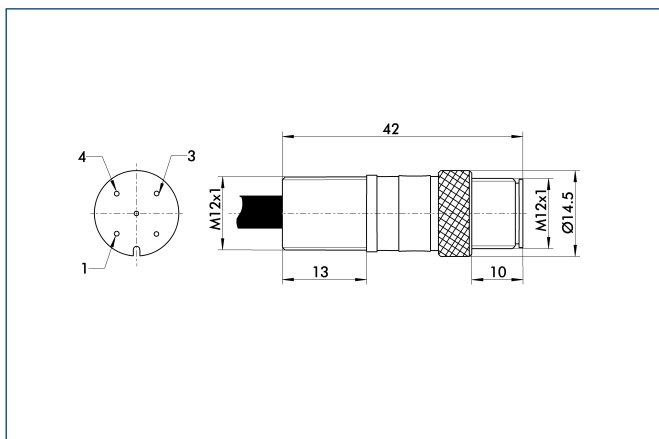


72 Active sensor surface

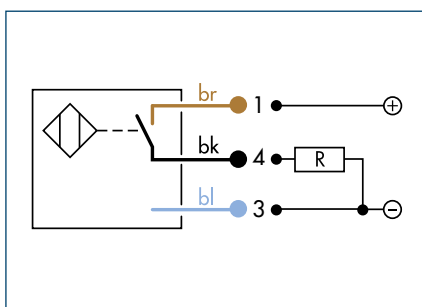
M8 connector



M12 connector



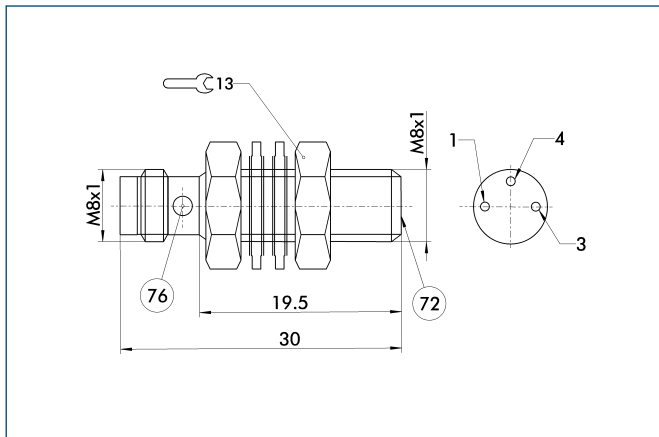
Wiring diagram closer



Technical data

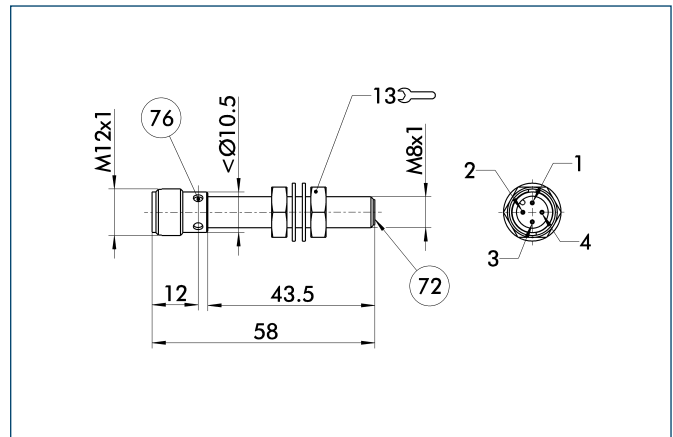
Description	IN-B 80-S-M12	IN-C 80-S-M8	IN 80-SL-M12	INK 80-SL
ID	0301479	0301475	0301529	0301579
Switching function	Closer	Closer	Closer	Closer
Switching distance [mm]	1.5	1.5	3	3
Switching hysteresis from the nominal switching distance	< 15%	< 15%	< 15%	< 15%
Type of switching	PNP	PNP	PNP	PNP
Cable length [cm]			30	200
Cable connector/cable end	M12	M8	M12	open wires
Type of voltage	DC	DC	DC	DC
Nominal voltage [V]	24	24	24	24
Min. voltage [V]	10	10	10	10
Max. voltage [V]	30	30	30	30
Power failure [V]	2.5	2.5	2.5	2.5
Max. switching current [A]	0.2	0.1	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70	-25/70	-25/70
Max. switching frequency [Hz]	1500	3000	1000	1000
Tightness IP (sensor)	68	68	67	67
Tightness IP (sensor plugged)	68	68	67	67
LED display at the sensor	Yes	Yes	Yes	Yes
Cable diameter [mm]	3.5	3.5	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35	35	35
Min. bending radius (statically) [mm]	17.5	17.5	17.5	17.5
Number of cores	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14

IN-C 80-S-M8 sensor



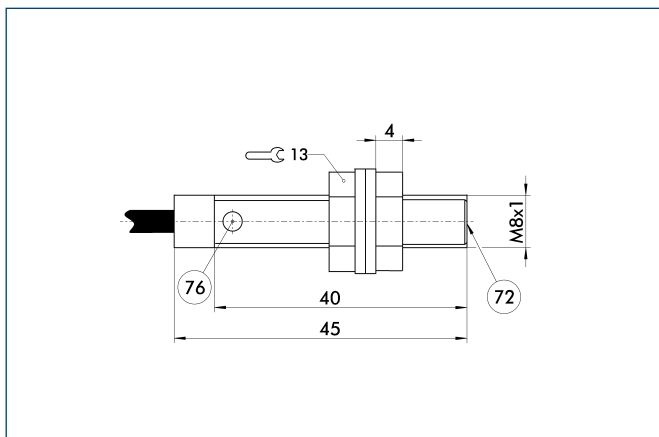
72 Active sensor surface
76 LED

IN-B 80-S-M12 sensor



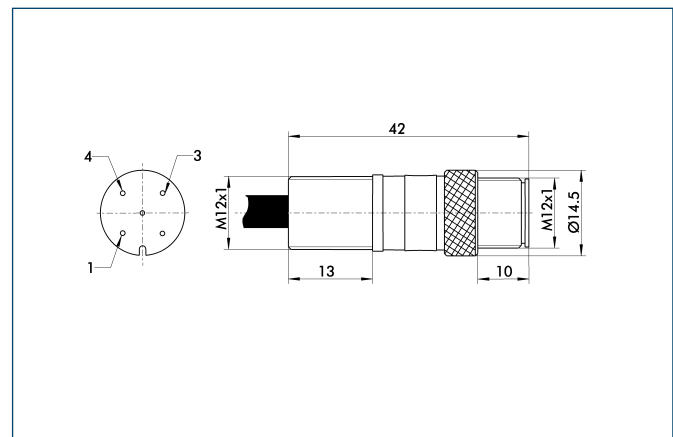
72 Active sensor surface
76 LED

IN 80-SL sensor

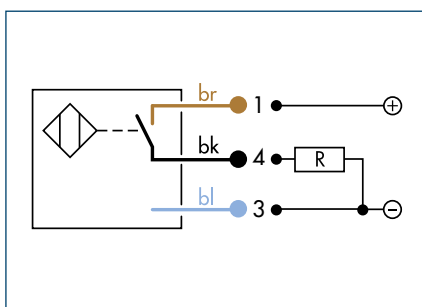


72 Active sensor surface
76 LED

M12 connector



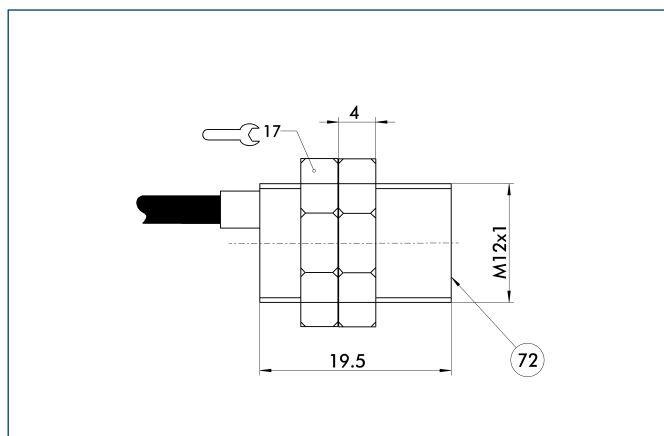
Wiring diagram closer



Technical data

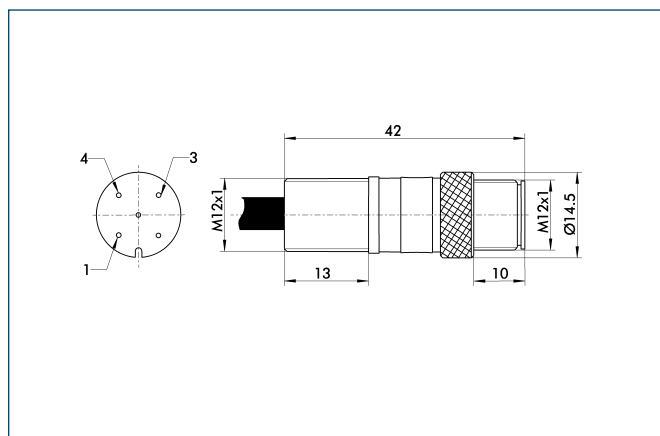
Description	IN 120-S-M12	IN 120-S
ID	0301592	0301562
Switching function	Closer	Closer
Switching distance [mm]	2	2
Switching hysteresis from the nominal switching distance	< 15%	< 15%
Type of switching	PNP	PNP
Cable length [cm]	30	200
Cable connector/cable end	M12	open wires
Type of voltage	DC	DC
Nominal voltage [V]	24	24
Min. voltage [V]	10	10
Max. voltage [V]	30	30
Power failure [V]	1.5	1.5
Max. switching current [A]	0.2	0.2
Min./max. ambient temperature [°C]	-25/70	-25/70
Max. switching frequency [Hz]	1000	1000
Tightness IP (sensor)	67	67
Tightness IP (sensor plugged)	67	67
LED display at the sensor	No	No
Cable diameter [mm]	3.5	3.5
Min. bending radius (dynamically) [mm]	35	35
Min. bending radius (statically) [mm]	17.5	17.5
Number of cores	3	3
Wire cross section [mm ²]	0.14	0.14

IN 120-S sensor



72 Active sensor surface

M12 connector



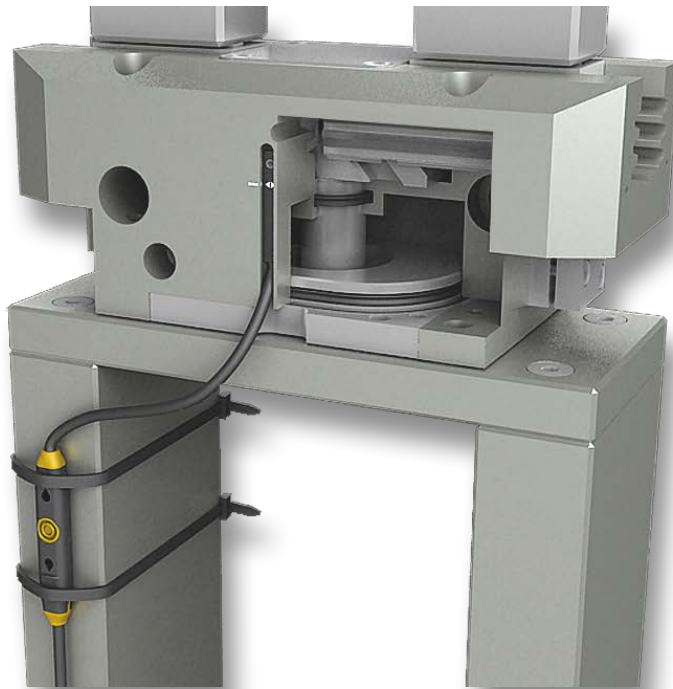
Magnetic Switch MMS-P

Accessories • Sensor System • Programmable Magnetic Switch

Programmable magnetic switch

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.

Application example



Functional description

One switch detects the two conditions "open" and "closed" - Therefore the costs for one switch can be saved.

In contrast to conventional solutions, the switching point of the sensor is taught by pushing the button at the current piston position.

If the automatically determined standard switching hysteresis should be optimized, it can be newly programmed.

Your advantages and benefits

Installation into the sensor groove

for space-saving, easy and fast assembly

Very flexible cable in PUR-version

for a long service lifetime and resistance against many chemicals

Version with plug connectors

for an easy and fast exchangeability of the extension cable

A programmable C-slot switch

for two switching points

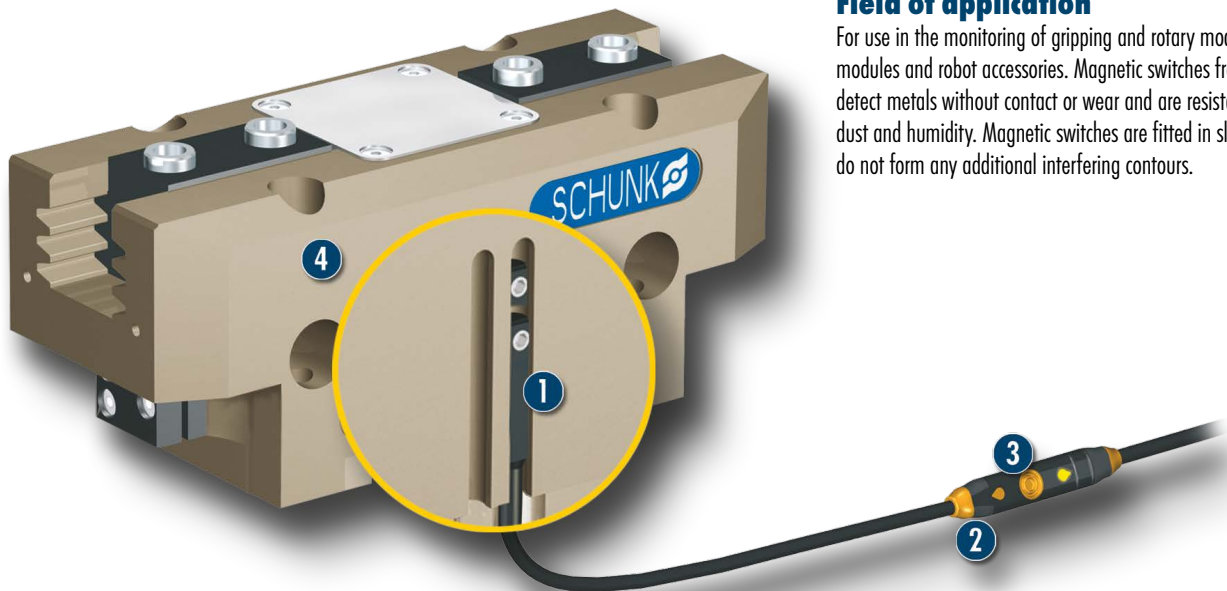
Programmable switching off hysteresis

for exact positions

Version with LED-display

for control of the switching status directly at the sensor

Sectional diagram



Field of application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours.

1 Sensor of the MMS-P 22

2 Electronic of the MMS-P 22

3 Key button for programming

4 Actuator with preset stop

General note to the series

SCHUNK gripping modules, rotary actuators and linear modules, as well as robot accessories should be monitored with the suitable sensors from SCHUNK, since everything is adjusted to each other.

Adjustment of sensor and product is characterized by the interplay of the parameter type and strength of the magnet, clearance, wall thickness and wall material between magnet and sensor, and by alignment and sensitivity of the sensor.

Sensors of other manufacturers which are integrated into SCHUNK products, seldom provide excellent switching results. Moreover, we cannot guarantee proper function or functional safety of them.

General information

Housing material

PA

Material of the cable coating

PUR

Mounting

clamped in the sensor groove, fixed with a socket head screw

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Options and special information

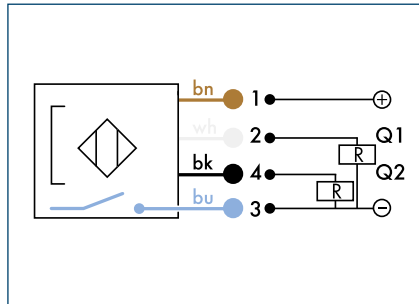
Protection class as per DIN 40050

IP67 in plugged position for the use in clean or dusty environments or if contact with water is given. Functionability in case of contact with other mediums (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK

Power supply

10 - 30 V DC at < 10 % residual ripple

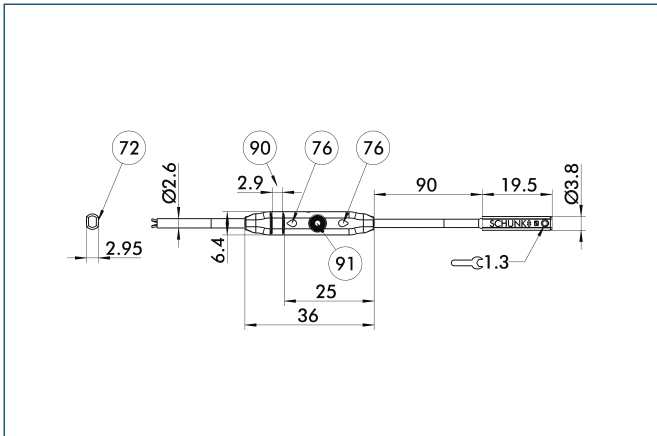
Wiring diagram closer



Technical data

Description	MMS-P 22-S-M8-PNP	MMSK-P 22-S-PNP
ID	0301370	0301371
Switching function	Closer	Closer
Type of switching	PNP	PNP
Cable length [cm]	30	200
Cable connector/ cable end	M8	open wires
Type of voltage	DC	DC
Nominal voltage [V]	24	24
Min. voltage [V]	10	10
Max. voltage [V]	30	30
Power failure [V]	2.2	2.2
Max. switching current [A]	0.15	0.15
Min./max. ambient temperature [°C]	-5/55	-5/55
Max. switching frequency [Hz]	1000	1000
Typical switching time [s]	0.001	0.001
Tightness IP (sensor)	67	67
Tightness IP (sensor plugged)	67	67
LED displac at the sensor	Yes	Yes
Cable diameter [mm]	2.6	2.6
Min. bending radius (dynamically) [mm]	39	39
Min. bending radius (statically) [mm]	26	26
Number of cores	4	4
Wire cross section [mm ²]	0.08	0.08

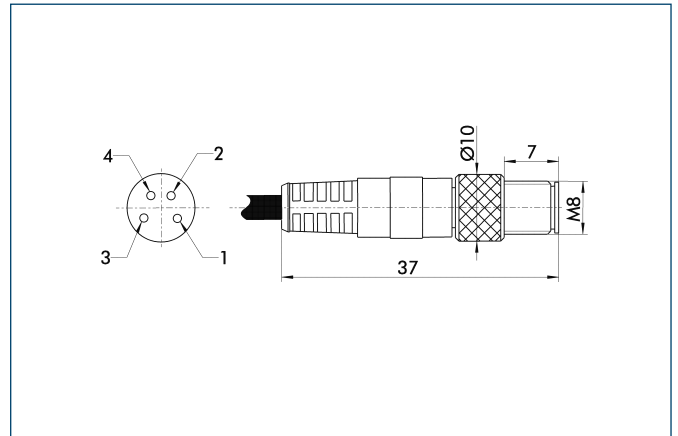
MMS-P 22 sensor



72 Active sensor surface
76 LED

90 Rib for cable connector
91 Key button

M8 4PIN Trapez connector



Magnetic Switches

Magnetic switches are used for monitoring the position of automation components. They detect the approach of a magnet without contact and, above a certain switching threshold, enable their output.



Function description

Magnetic switches react to magnetic fields. The resistors in the sensor consist of several ferromagnetic and non-magnetic layers. Two shielded and two non-shielded resistors are combined in a bridge circuit, which produces a signal proportional to the magnetic field when one is present. Above a threshold value, an output signal is switched via a comparator, and the sensor reacts.

Your advantages and benefits

Installation in the sensor slot

for space-saving, simple and fast assembly

Version with LED display

for checking the switching position directly at the sensor

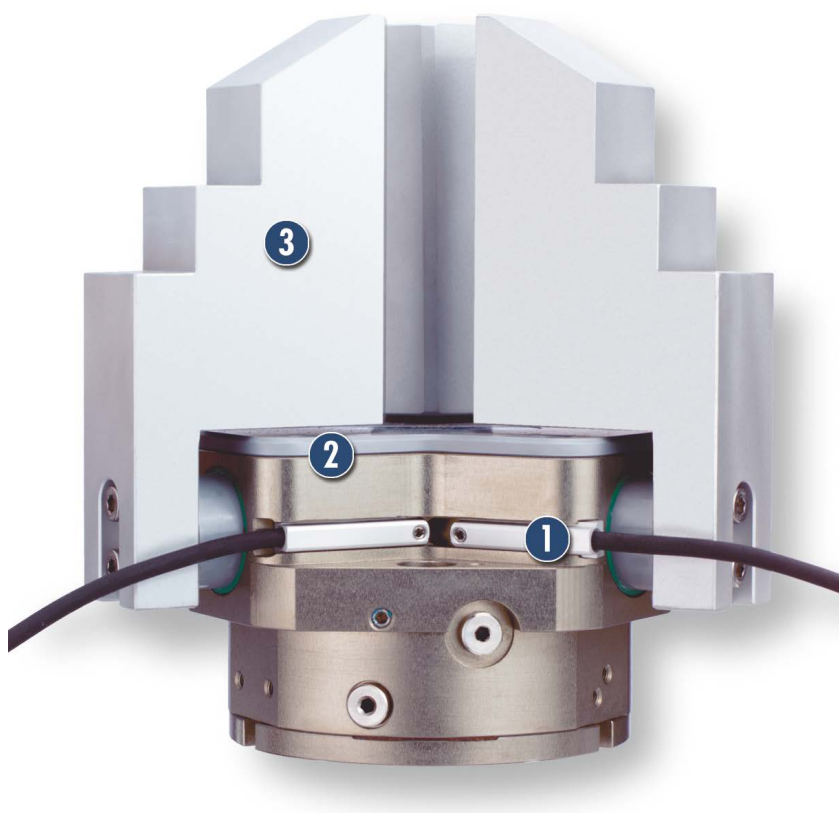
Version with connector

for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Application example



Area of application

For use in the monitoring of gripping and rotary modules, linear modules and robot accessories. Magnetic switches from SCHUNK detect metals without contact or wear and are resistant to vibration, dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours.

- 1** MMS Electronic Magnetic Switches for mounting in the C-slot of the gripper
- 2** Sealed 3-Finger Centric Gripper
- 3** Workpiece-specific Gripper Fingers

General information

Material

Sensor housing: PA in the MMS 22, aluminum in the MMS 30; Cable: with PUR sheath

Fastening

Clamps in the sensor slot

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

Voltage

10 – 30 V DC at < 10 % residual ripple

Switching method

PNP switching / NPN switching

Warranty

24 months (details, general terms and conditions and operating manuals can be downloaded under www.schunk.com)

Notes

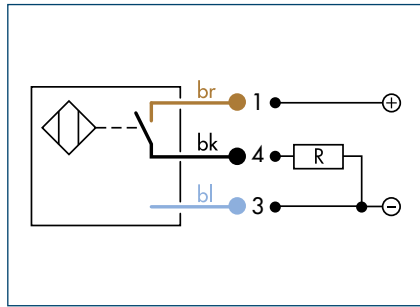
SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored with electromagnetic slot-fitted switches can generally only be reliably monitored with the appropriate electromagnetic switches from SCHUNK.

Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself.

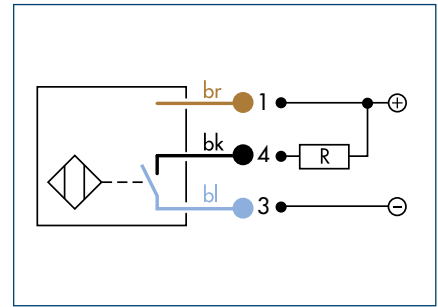
For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.



Circuit diagram of PNP closer



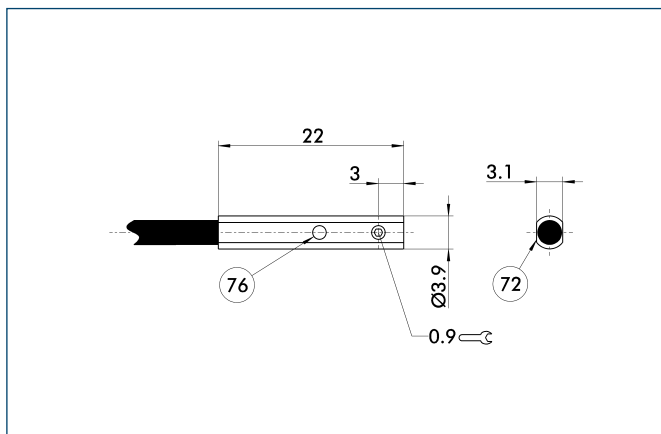
Circuit diagram of NPN closer



Technical data

Description	MMS 22-S-M5-PNP	MMS 22-S-M5-NPN	MMS 22-S-M8-PNP	MMS 22-S-M8-NPN	MMSK 22-S-PNP	MMSK 22-S-NPN
ID	0301438	0301439	0301432	0301433	0301434	0301435
Switching function	Closer	Closer	Closer	Closer	Closer	Closer
Switching method	PNP	NPN	PNP	NPN	PNP	NPN
Cable length [cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end	M5	M5	M8	M8	Open wire	Open wire
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature [°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature [°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001	0.001	0.001	0.001
IP class (sensor)	67	67	67	67	67	67
IP class (connector, plugged in)	67	67	67	67	67	67
LED display on sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic) [mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static) [mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

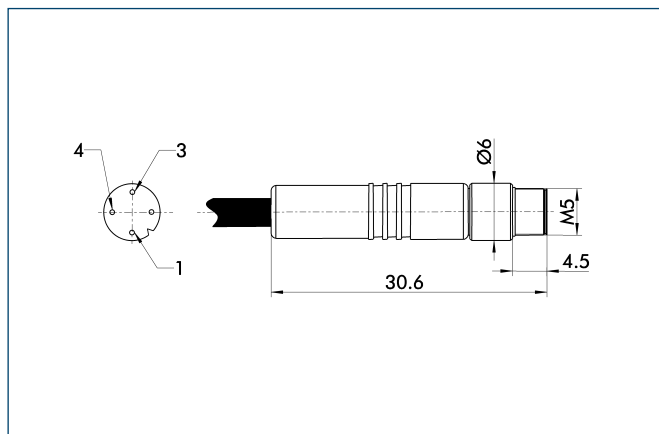
MMS 22 sensor



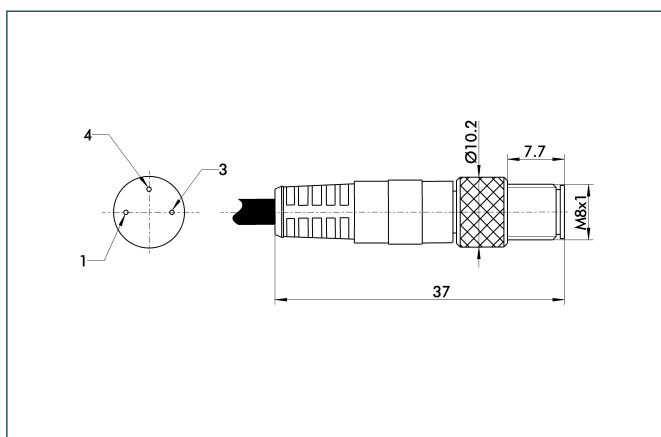
72 Active sensor surface

76 LED

M5 connector

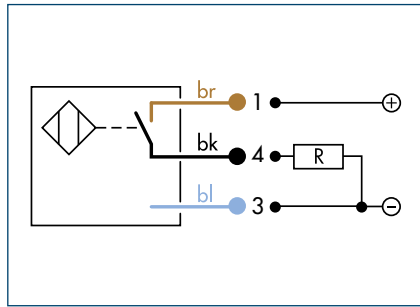


M8 connector

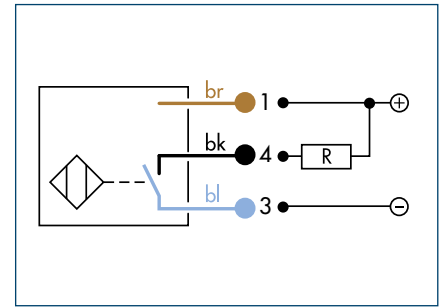




Circuit diagram of PNP closer



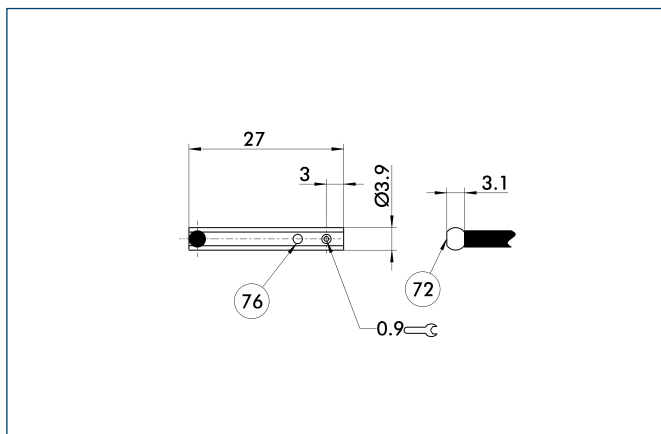
Circuit diagram of NPN closer



Technical data

Description	MMS 22-S-M5-PNP-SA	MMS 22-S-M5-NPN-SA	MMS 22-S-M8-PNP-SA	MMS 22-S-M8-NPN-SA	MMSK 22-S-PNP-SA	MMSK 22-S-NPN-SA
ID	0301448	0301449	0301442	0301443	0301444	0301445
Switching function	Closer	Closer	Closer	Closer	Closer	Closer
Switching method	PNP	NPN	PNP	NPN	PNP	NPN
Cable length [cm]	30.0	30.0	30.0	30.0	200.0	200.0
Cable connector/cable end	M5	M5	M8	M8	Open wire	Open wire
Type of voltage	DC	DC	DC	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2	0.2	0.2	0.2
Min. ambient temperature [°C]	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature [°C]	70.0	70.0	70.0	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001	0.001	0.001	0.001
IP class (sensor)	67	67	67	67	67	67
IP class (connector, plugged in)	67	67	67	67	67	67
LED display on sensor	Yes	Yes	Yes	Yes	Yes	Yes
Cable diameter [mm]	2.1	2.1	2.1	2.1	2.1	2.1
Min. bending radius (dynamic) [mm]	21.0	21.0	21.0	21.0	21.0	21.0
Min. bending radius (static) [mm]	10.5	10.5	10.5	10.5	10.5	10.5
No. of wires	3	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14	0.14

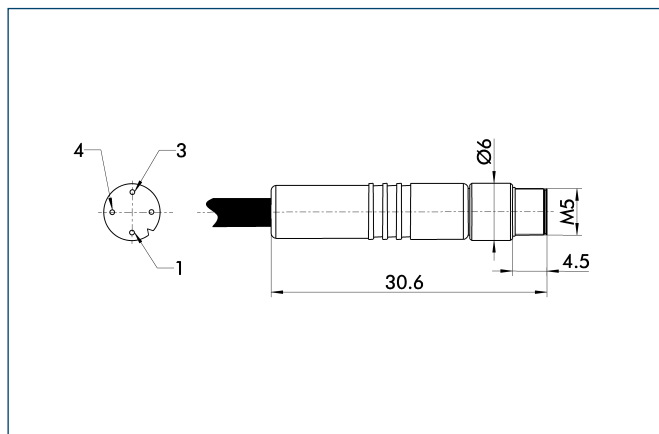
MMS 22-SA sensor



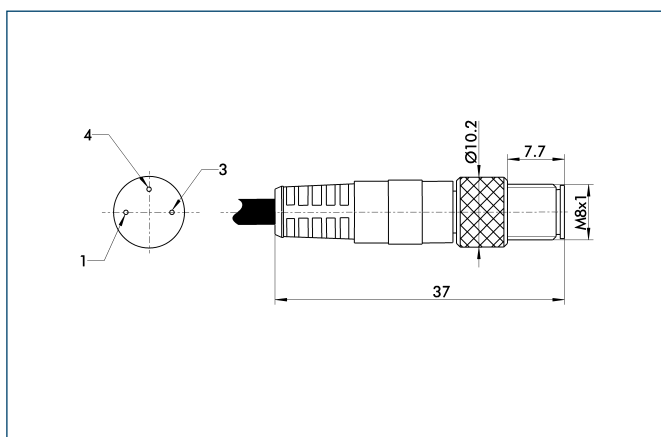
72 Active sensor surface

76 LED

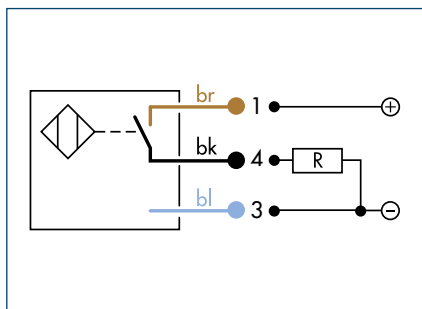
M5 connector



M8 connector



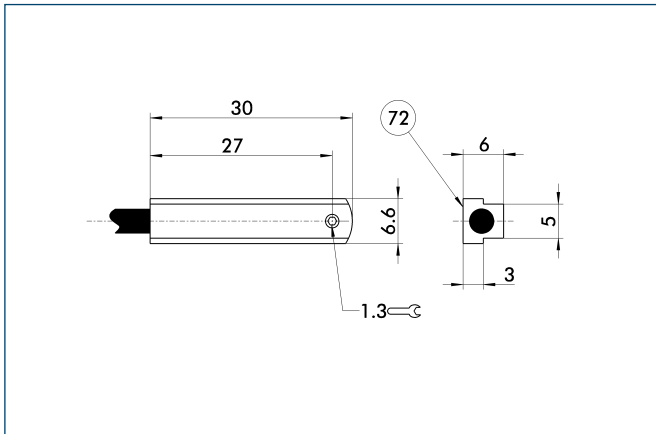
Circuit diagram of PNP closer



Technical data

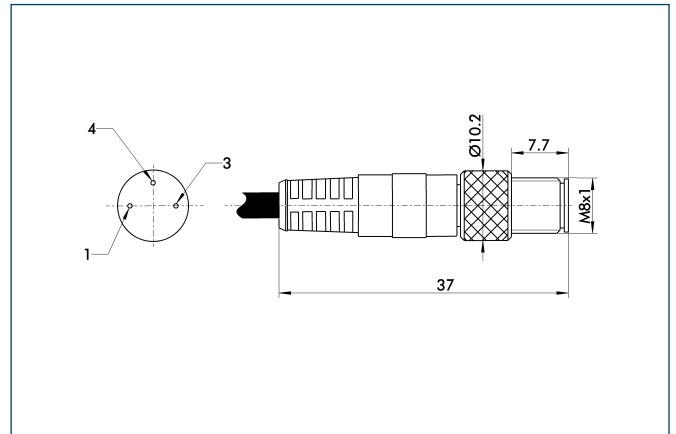
Description	MMS 30-S-M8-PNP	MMS 30-S-M12-PNP	MMSK 30-S-PNP
ID	0301471	0301571	0301563
Switching function	Closer	Closer	Closer
Switching method	PNP	PNP	PNP
Cable length [cm]	30.0	30.0	200.0
Cable connector/cable end	M8	M12	Open wire
Type of voltage	DC	DC	DC
Nominal voltage [V]	24.0	24.0	24.0
Min. voltage [V]	10.0	10.0	10.0
Max. voltage [V]	30.0	30.0	30.0
Voltage drop [V]	1.5	1.5	1.5
Max. power on contact [A]	0.2	0.2	0.2
Min. ambient temperature [°C]	-25.0	-25.0	-25.0
Max. ambient temperature [°C]	70.0	70.0	70.0
Typical switching time [s]	0.001	0.001	0.001
IP class (sensor)	67	67	67
IP class (connector, plugged in)	67	67	67
LED display on sensor	No	No	No
Cable diameter [mm]	3.5	3.5	3.5
Min. bending radius (dynamic) [mm]	35.0	35.0	35.0
Min. bending radius (static) [mm]	17.5	17.5	17.5
No. of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14

MMS 30 sensor

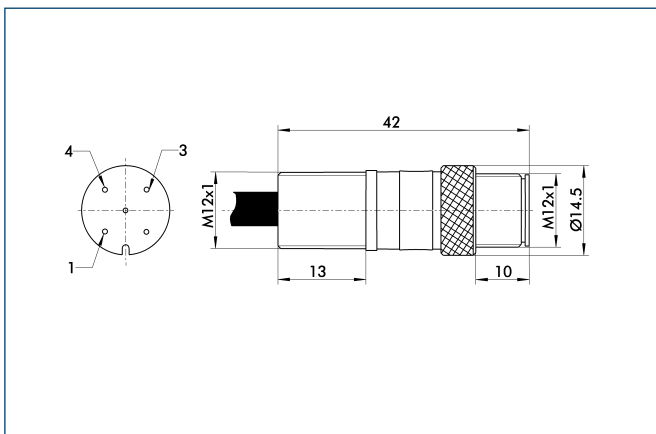


72 Active sensor surface

M8 connector

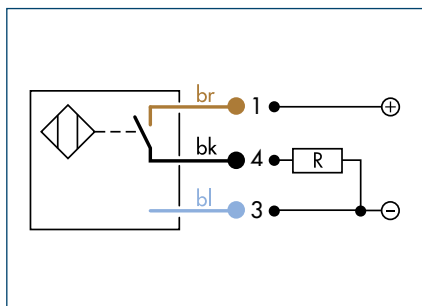


M12 connector

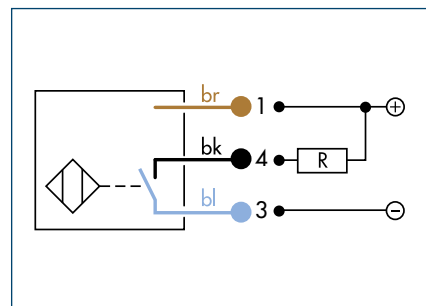




Circuit diagram of PNP closer

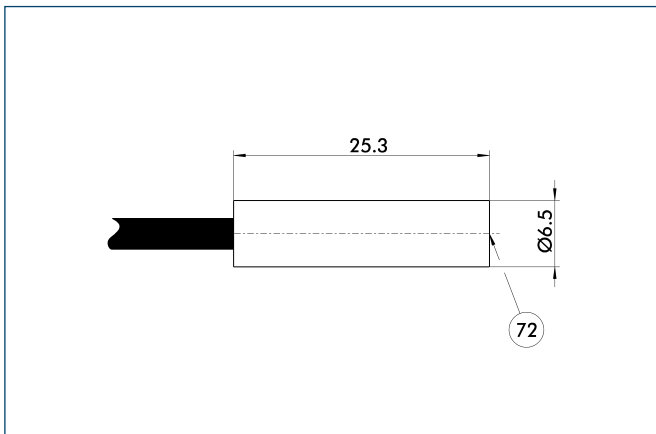


Circuit diagram of NPN closer



Description	MMS-K 65-5-PNP	MMS-K 65-5-NPN
ID	0301423	0301424
Switching function	Closer	Closer
Switching method	PNP	NPN
Cable length [cm]	200.0	200.0
Type of voltage	DC	DC
Nominal voltage [V]	24.0	24.0
Min. voltage [V]	10.0	10.0
Max. voltage [V]	30.0	30.0
Max. power on contact [A]	0.2	0.2
Min. ambient temperature [°C]	-20.0	-20.0
Max. ambient temperature [°C]	70.0	70.0
IP class (sensor)	67	67
IP class (connector, plugged in)	67	67
No. of wires	3	3
Wire cross section [mm ²]	0.14	0.14

MMSK 65/S sensor



72 Active sensor surface



Reed Switches

Reed switches are mechanical switches that react to the presence of magnetic fields (magnets). They are frequently used as low-price alternatives to electronic magnetic switches (MMS).



Function description

Reed switches consist of tiny, metal contacts (reeds). Under the influence of a magnetic field, they bend and touch one another, closing the contact.

Your advantages and benefits

Economical

for cost-saving applications

Installed in the sensor slot

for space-saving, simple and fast assembly

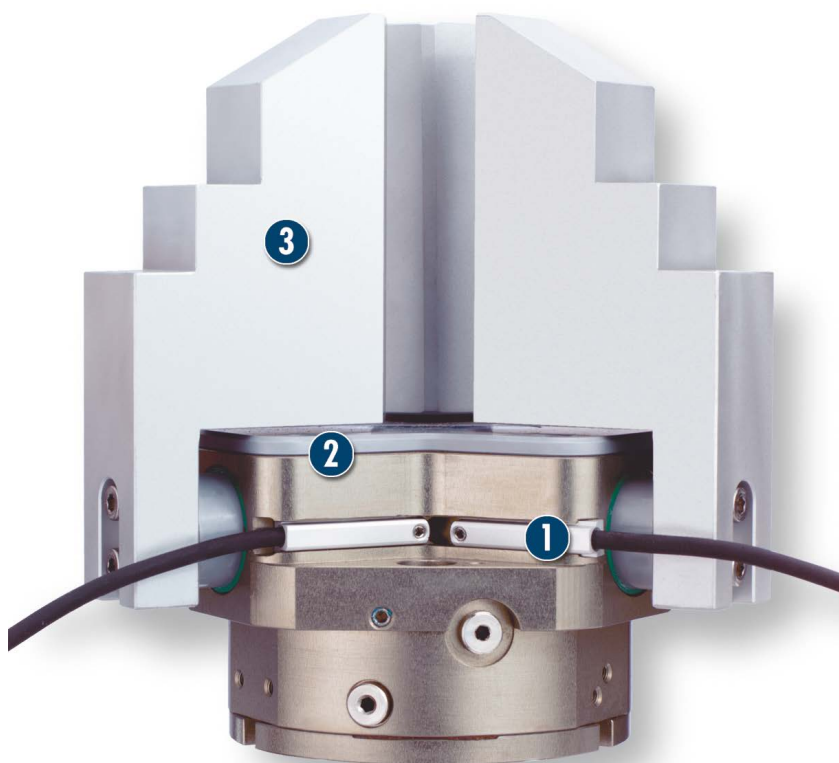
Version with connector

for easy, rapid replacement of the extension cable

Ultra-flexible PUR cable

for a long life and resistance to many chemicals

Application example



Area of application

For monitoring of gripping and rotary modules, linear modules and robot accessories. Reed switches from SCHUNK detect metals without contact or wear and are resistant to dust and humidity. Magnetic switches are fitted in slots and therefore do not form any additional interfering contours. Please note that not all SCHUNK products with sensor slot can be monitored using low-cost reed switches.

- 1** RMS Reed Switches for mounting in the C-slot of the gripper
- 2** Sealed 3-Finger Centric Gripper
- 3** Workpiece-specific Gripper Fingers

General information

Material

Sensor housing: PA in the RMS 22, stainless steel in the RMS 80
Cable: PUR sheath

Fastening

Clamps in sensor slot (RMS 22) / brackets (RMS 80)

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

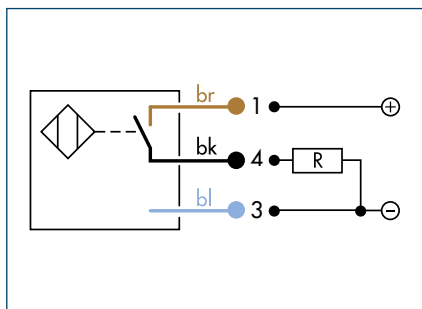
Warranty

24 months

Notes

SCHUNK gripper, rotary and linear modules and robot accessory components that are to be monitored by slot-fitted reed switches can generally only be reliably monitored with the appropriate reed switches from SCHUNK. Sensors and products are matched on the basis of the relationships between the parameters type and field strength of the magnet, distance, wall thickness and wall material of the magnet and the sensor, and the orientation and sensitivity of the sensor itself. For this reason, sensors from other manufacturers employed in SCHUNK products rarely give satisfactory switching results.

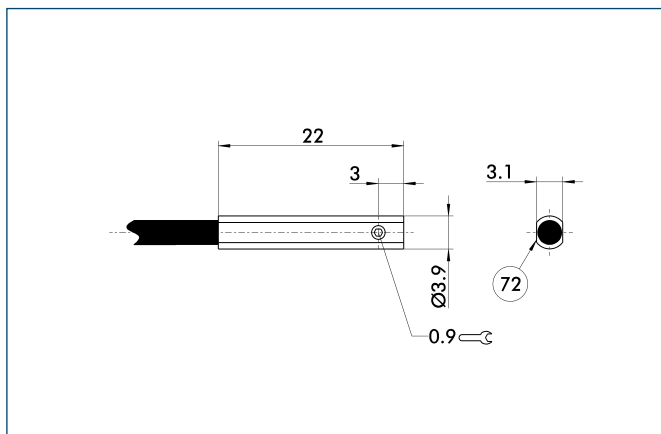
Circuit diagram of closer



Technical data

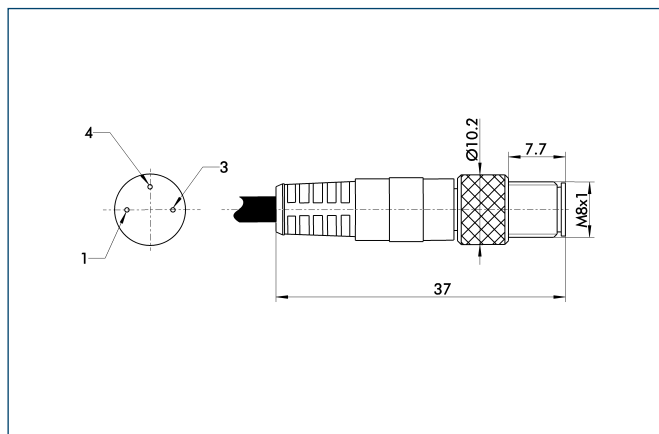
Description	RMS 22-S-M8
ID	0377720
Switching function	Closer
Switching method	PNP, NPN
Cable length [cm]	30.0
Cable connector/cable end	M8
Type of voltage	DC
Max. voltage DC [V]	120.0
Voltage drop DC [V]	0.0
Max. power on contact DC [A]	0.4
Type of voltage	AC
Max. voltage AC [V]	120.0
Voltage drop AC [V]	0.0
Max. power on contact AC [A]	0.4
Min. ambient temperature [°C]	-5.0
Max. ambient temperature [°C]	70.0
Typical switching time [s]	0.01
IP class (sensor)	67
IP class (connector, plugged in)	67
LED display on sensor	No
Cable diameter [mm]	2.1
Min. bending radius (dynamic) [mm]	21.0
Min. bending radius (static) [mm]	10.5
No. of wires	2
Wire cross section [mm ²]	0.14

RMS 22 sensor

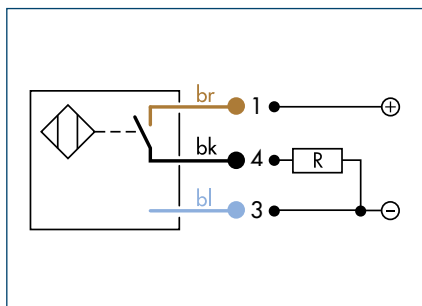


72 Active sensor surface

M8 connector



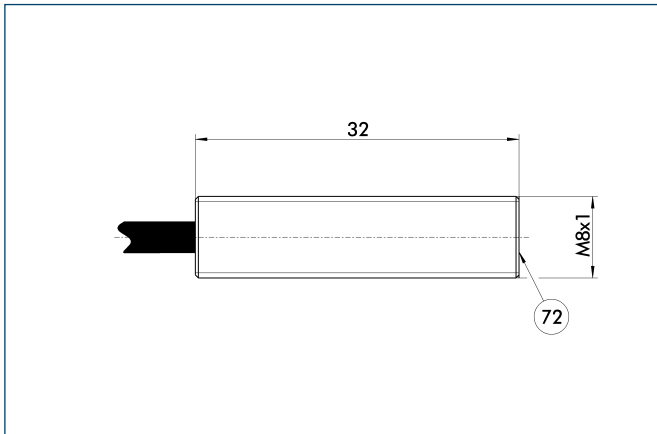
Circuit diagram of closer



Technical data

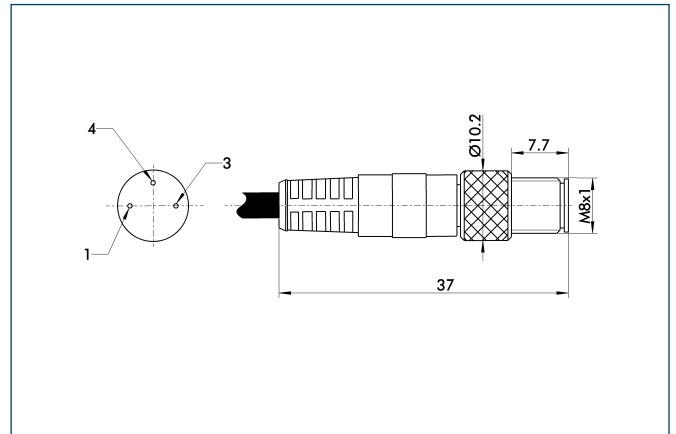
Description	RMS 80-S-M8
ID	0377721
Switching function	Closer
Switching method	PNP, NPN
Cable length [cm]	30.0
Cable connector/cable end	M8
Type of voltage	DC
Max. voltage DC [V]	120.0
Voltage drop DC [V]	0.0
Max. power on contact DC [A]	0.4
Type of voltage	AC
Max. voltage AC [V]	120.0
Voltage drop AC [V]	0.0
Max. power on contact AC [A]	0.4
Min. ambient temperature [°C]	-5.0
Max. ambient temperature [°C]	70.0
Typical switching time [s]	0.01
IP class (sensor)	67
IP class (connector, plugged in)	67
LED display on sensor	No
Cable diameter [mm]	2.1
Min. bending radius (dynamic) [mm]	21.0
Min. bending radius (static) [mm]	10.5
No. of wires	2
Wire cross section [mm ²]	0.14

RMS 80 sensor



72 Active sensor surface

M8 connector



Optical Switch



Function description

The optical sensor ONS emits light via the optical wave guide ONS-LWL. By analyzing the quantity of reflected light, the ONS can detect positions of the gripper being monitored and set or delete its output based on the programming.

Your advantages and benefits

Easy programming

for short commissioning times

LED display

for fast and easy functional checks

Light optical wave guide

for low weight on the gripper

Application example



Area of application

Use in clean environments in connection with the corresponding SCHUNK grippers.

- 1 Gripper
- 2 Optical wave guide
- 3 Force/torque sensor system controller

General information

Warranty
24 months

Notes

The ONS sensor is attractive due to its low sales price. It is based on the product FS-V31P from Keyence. By specifying the hardware and software, the user friendliness was increased for use with SCHUNK grippers and the functions optimized. For technical details see the operating manual.

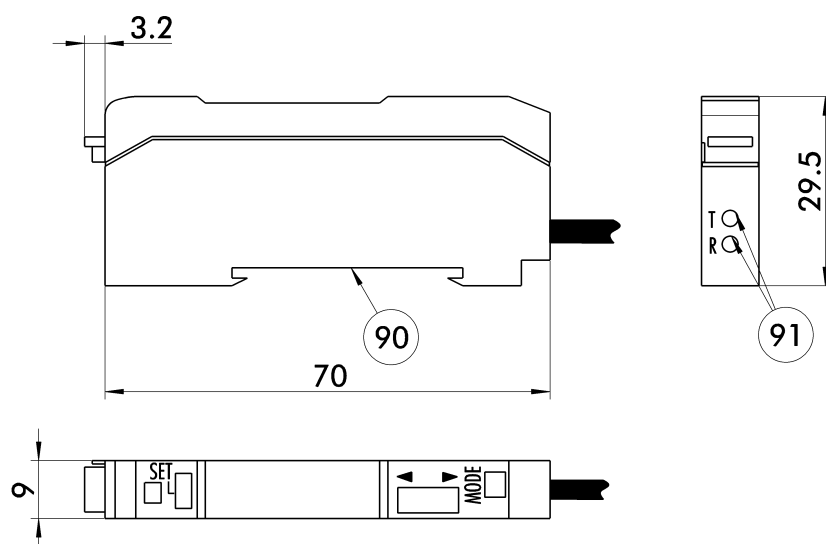


Technical data

Description	ONS 01
ID	301390
Voltage supply	DC
Min. voltage [V]	12
Max. voltage [V]	24
Number of digital switching outputs	1
Max. power on contact [mA]	100
Min. ambient temperature [°C]	-10
Max. ambient temperature [°C]	55
IP class	20

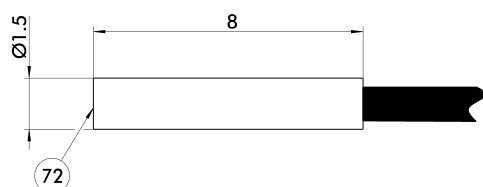
Description	ONS 01-LWL
ID	301391
Cable diameter [mm]	1
Diameter of cable end [mm]	1.5
Cable length [m]	1
Min. bending radius (dynamic) [mm]	40
Min. bending radius (static) [mm]	30

Main view of the ONS 01



- 90 Assembly rail
- 91 Connection for sensor

ONS 01-LWL



- 72 Active sensor surface
- ① One optical wave guide ONS 01-LWL is needed for each ONS 01.

Sensor Tester

The SST sensor tester enables the rapid testing and adjustment of inductive sensors, magnetic switches and reed contacts. The necessary power is supplied by a 9 V compound battery.



Function description

The sensor is connected to the M8, M12 or terminal connection of the sensor tester and the ON button pressed. The sensor position is displayed visually by LEDs and output acoustically via a signal buzzer.

Your advantages and benefits

Visual and acoustic signal

for simple function checking and adjustment

For 2- and 3-wire DC technology

enabling the connection of reed contacts, capacitive and inductive sensors

Tests possible without dismantling sensors

for short maintenance times

Connections for M8 and M12 or open cable ends possible

ensuring suitability for all SCHUNK sensors

PNP and NPN sensors can be tested

Operating voltage with 9 V compound battery

for mobile use

Automatic cut-off function

for an extended battery life

Application example



Area of application

Sensor testing and adjustment of the switching point (sensor calibration)

1 Sensor tester SST

2 Inductive proximity switches
IN 80

3 Metal plate

General information

Scope of delivery

Sensor tester incl. assembly and operating manual with manufacturer's declaration,
9 V compound battery

Notes

Please note that only one SST input (M8 or M12 or cable terminal input) can be used at once.

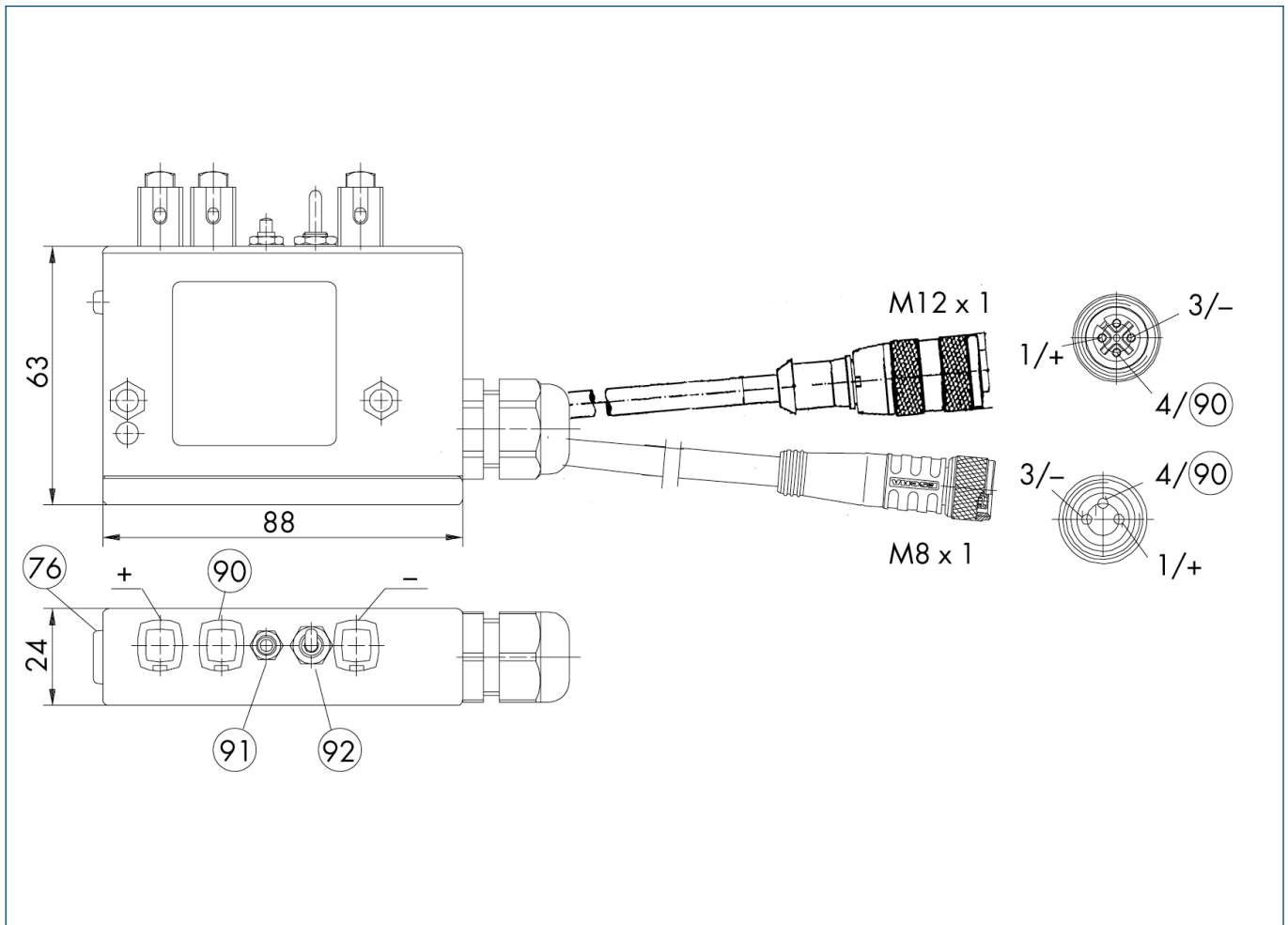
If the toggle switch is towards the sticker (nameplate), PNP is selected, if not, NPN.



Technical data

Description	SST
ID	0301400
Battery	9 V DC (compound battery Type LR 61)
Connection 1	M12*1
Connection 2	M8*1
Connection 3	direct clamping
Housing material	plastic
IP class	20

Main view



- 76 LED
- 90 Output
- 91 ON button
- 92 PNP / NPN changeover switch

Adjustable housing for proximity switch

The adjustable housings enable the position of the sensor to be set once only. If the sensor is changed, the sensor position is retained.



Function description

The sensor is inserted in the adjustable housing and fastened with the coupling ring. Next, the switching position is set. When the sensor is changed, the adjustable housing remains in the same location — only the sensor is changed by removing the coupling ring.

Your advantages and benefits

Setting has to be carried out only once
for rapid sensor replacement without recalibration

Corrosion-free material
for a long service life

Switches are protected against shocks
preventing mechanical destruction



Application example

Area of application

For universal use in the monitoring of automation modules with proximity switches



1 NHG adjustable housing

2 SRU 63 Flat Rotary Actuator

General information

Warranty
24 months

Notes

The coupling ring is slotted for fitting onto the cable.

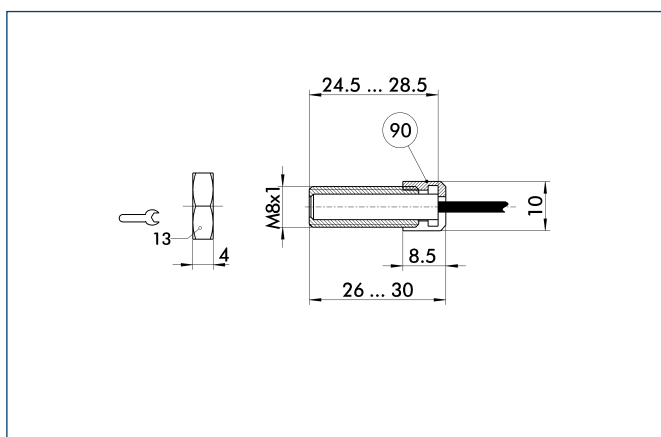




Technical data

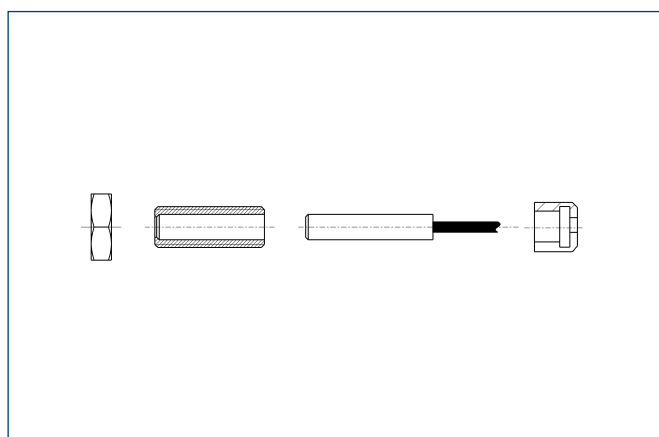
Description		NHG 5	NHG 8
ID		9646006	9646007
Suitable sensor Ø		M5	M8
Min. sensor length	[mm]	24.5	31.5
Max. sensor length	[mm]	28.5	35.5
Weight	[kg]	0.006	0.008
Material		Steel	Steel

NHG 5

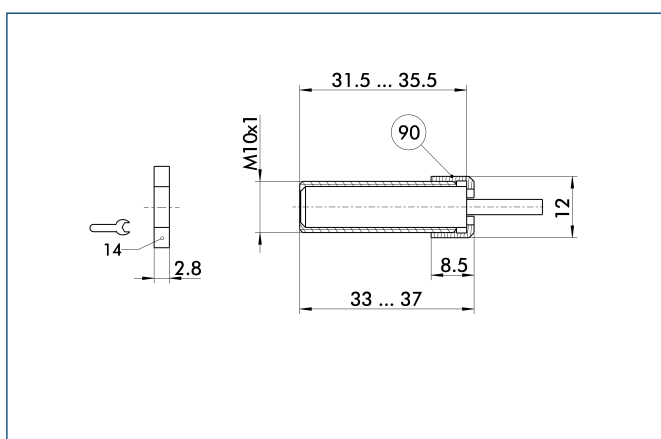


90 Coupling ring is slotted for fitting onto the cable

NHG 5 assembly

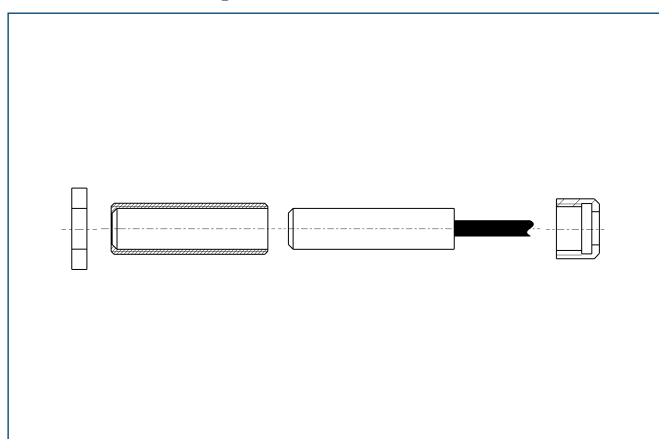


NHG 8



90 Coupling ring is slotted for fitting onto the cable

NHG 8 assembly



Sensor Distributor

For connecting all SCHUNK sensors and sensor systems (IN/INK/MMS/APS-M1, etc.). In the versions 2 (V2), 4 (V4) and 8 (V8).



Functional description

Distributors collect incoming signals and forward them in a single cable. This dispenses with unnecessary cables.

The switching position of the closed component can be controlled by the LEDs, which are integrated into the distributor.

Your advantages and benefits

Operating display and shift indicator by LED

for direct control of the switching status

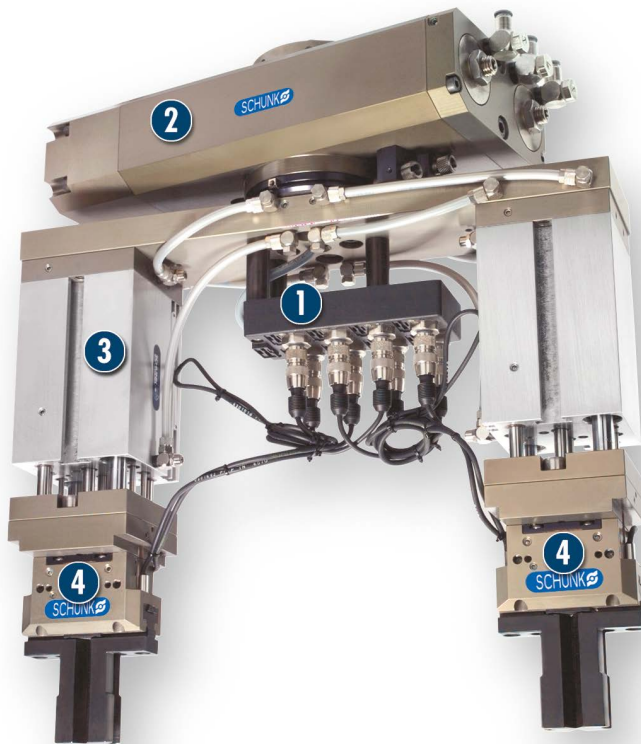
A feed line

therefore it is ideal for signal feed through

Robust PA housing

for a long service lifetime and resistance against many chemicals

Application example



Field of application

Sensor distributors from SCHUNK are all-rounders, insensitive against vibrations, dust and humidity. They are suitable for applications in clean and dirty environments.

- 1 V 8 Sensor Distributor
- 2 Rotary Actuator SRU-plus
- 3 PHE Stroke Module

- 4 PGN-plus 2-Finger Parallel Gripper with workpiece-specific gripper fingers

General note to the series

Housing material

PA 6 GF 30, black

Material of the cable coating

PUR

Mounting

by fastening with screws

Protection class according to DIN 40050

IP 67 in plugged condition for the use in clean or dusty environments, or in case of contact with water. Operability in case of contact with other media (coolant, acids, bases, etc.) is often given, however cannot be guaranteed by SCHUNK.

Scope of delivery

Complete incl. sealing plugs for sealing unused connections, 1 set of labels

Warranty

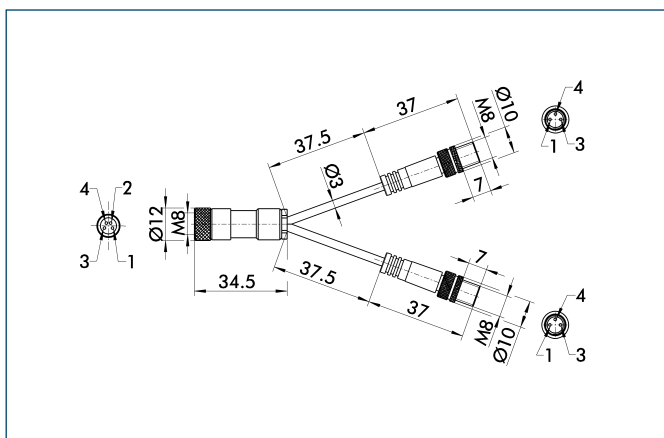
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)



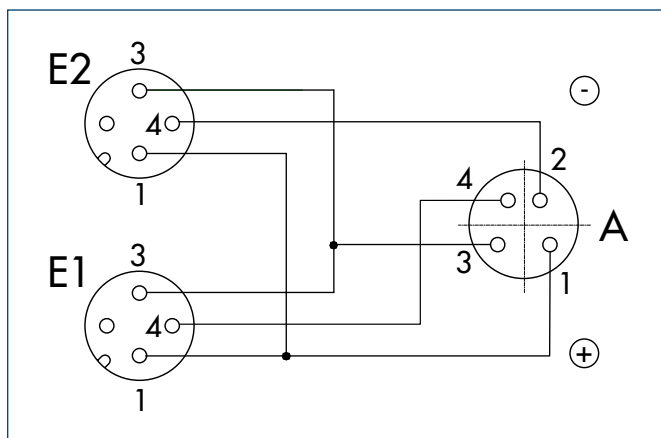
Technical data

Description	V2-M8-4P-2XM8-3P	
ID	0301380	
Connection socket	M8	
Cable length	[mm]	37
Nominal voltage	[V]	30
Max. total current	[A]	4
Min./max. ambient temperature	[°C]	-25/80

Main view



M8 wiring diagram

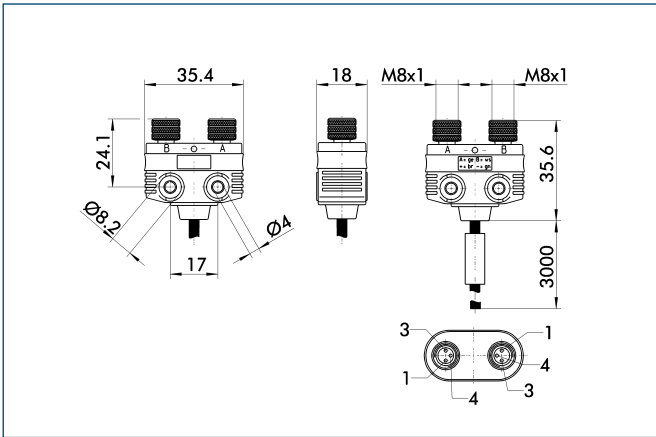




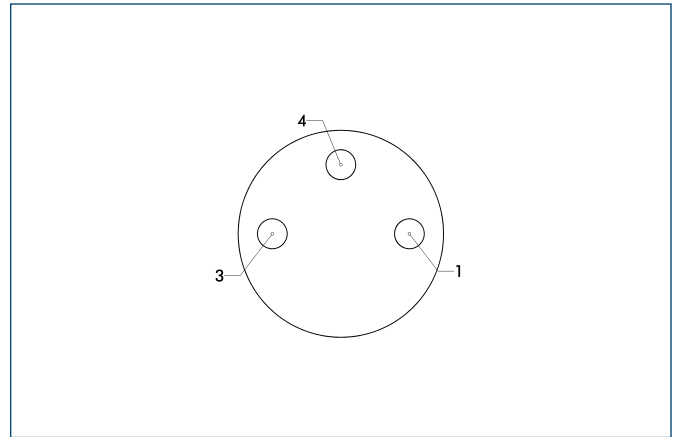
Technical data

Description		V 2-M8	V 2-M12
ID		0301741	0301742
Connection socket		M8	M12
Cable length	[m]	3	3
Cable diameter	[mm]	4.5	4.5
Nominal voltage	[V]	24	24
Min. voltage	[V]	10	10
Max. voltage	[V]	30	30
Max. current per wire	[A]	2	2
Max. total current	[A]	2	2

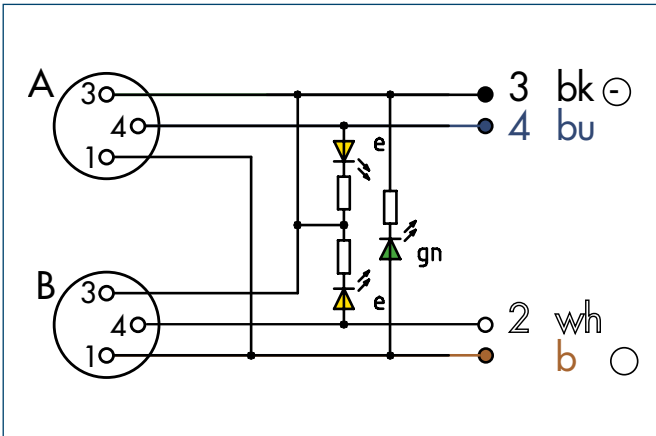
V 2-M8 main view



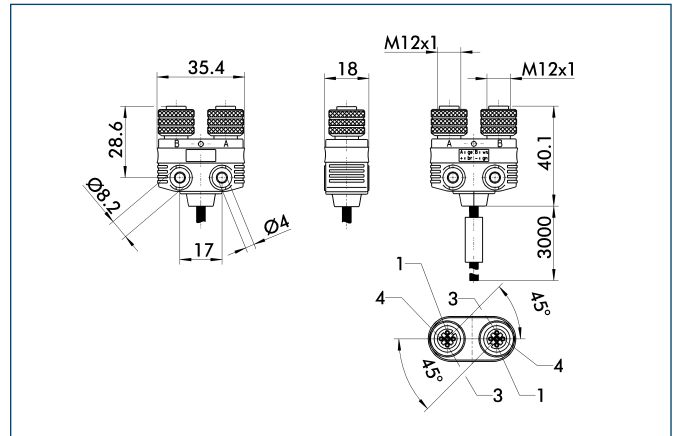
M8 contact assignment



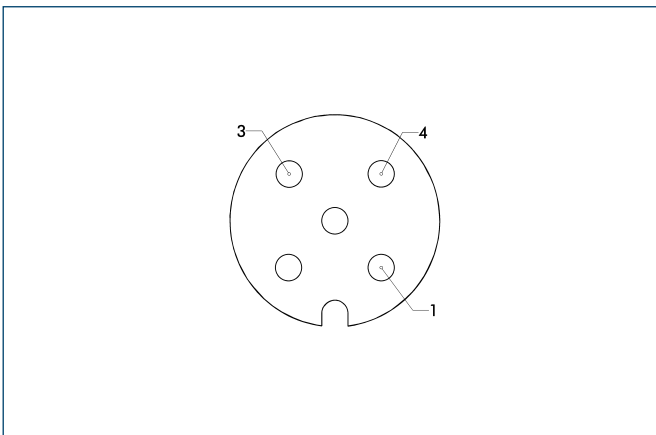
M8 wiring diagram



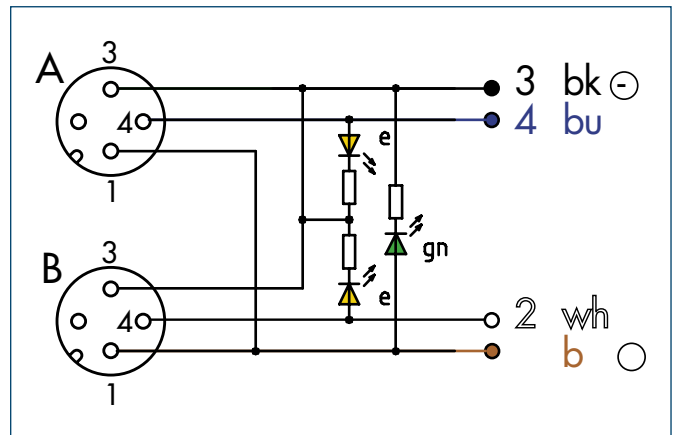
V 2-M12 main view



M12 contact assignment



M12 wiring diagram

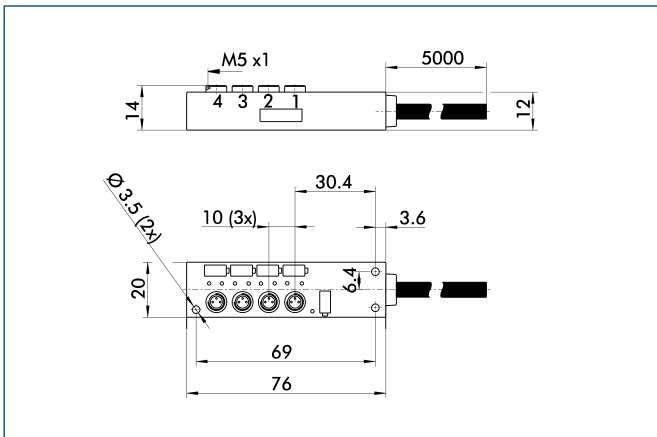




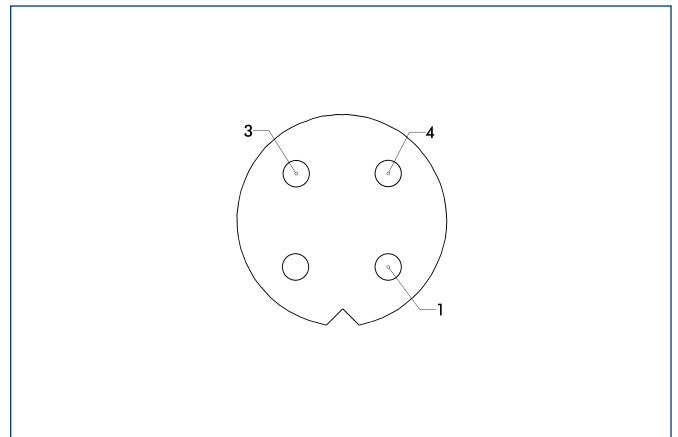
Technical data

Description		V 4-M5	V 4-M8	V 4-M12
ID		0301661	0301746	0301747
Connection socket		M5	M8	M12
Cable length	[m]	3	3	3
Cable diameter	[mm]	5	7	8.4
Nominal voltage	[V]	24	24	24
Min. voltage	[V]	30	30	30
Max. voltage	[V]	10	10	10
Max. current per wire	[A]	2	2	2
Max. total current	[A]	2	2	2

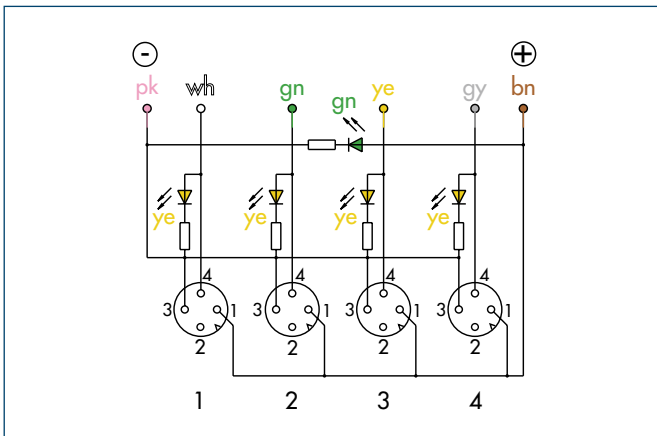
V 4-M5 main view



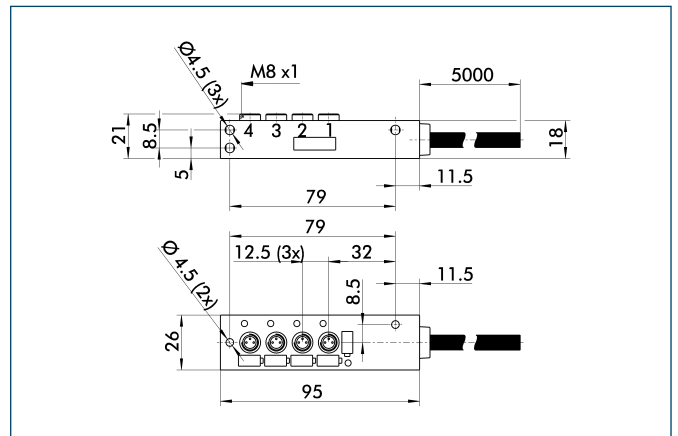
M5 contact assignment



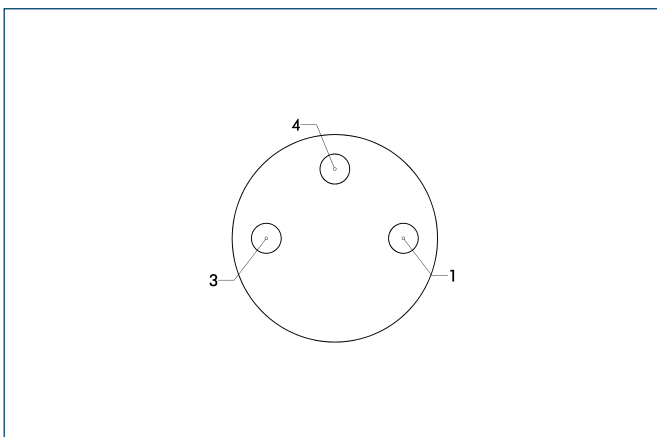
M5 wiring diagram



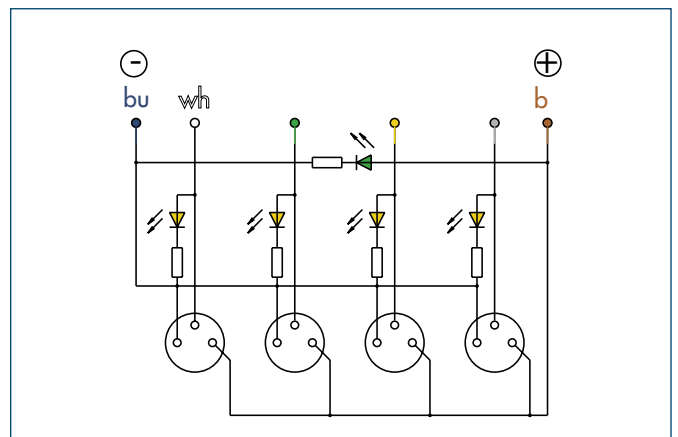
V 4-M8 main view



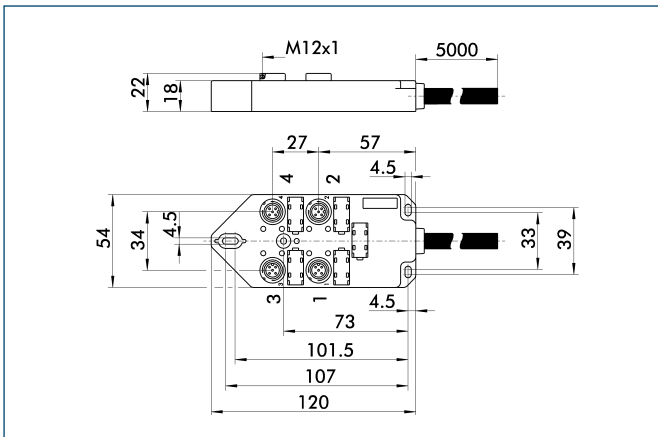
M8 contact assignment



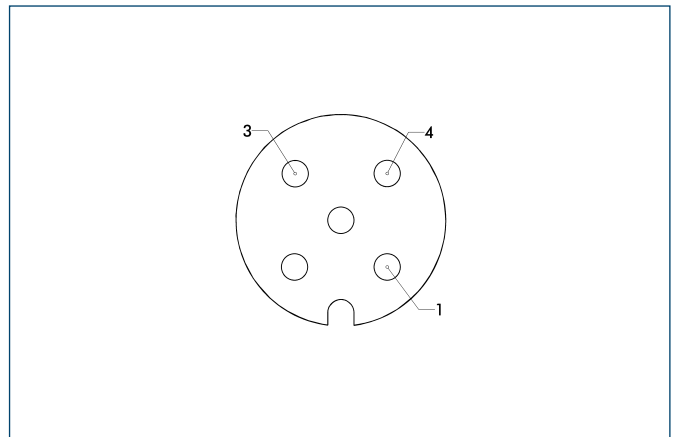
M8 wiring diagram



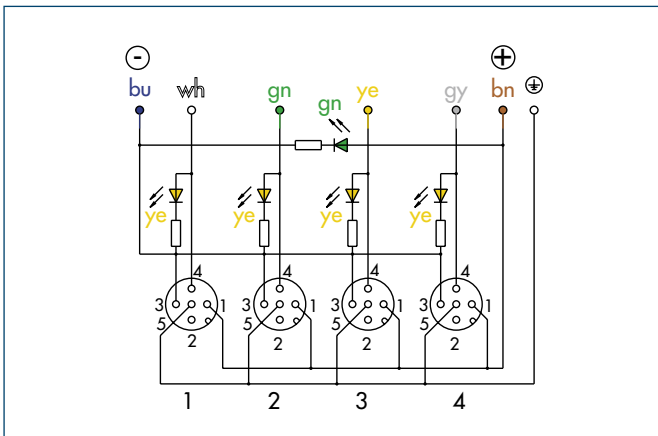
V 4-M12 main view

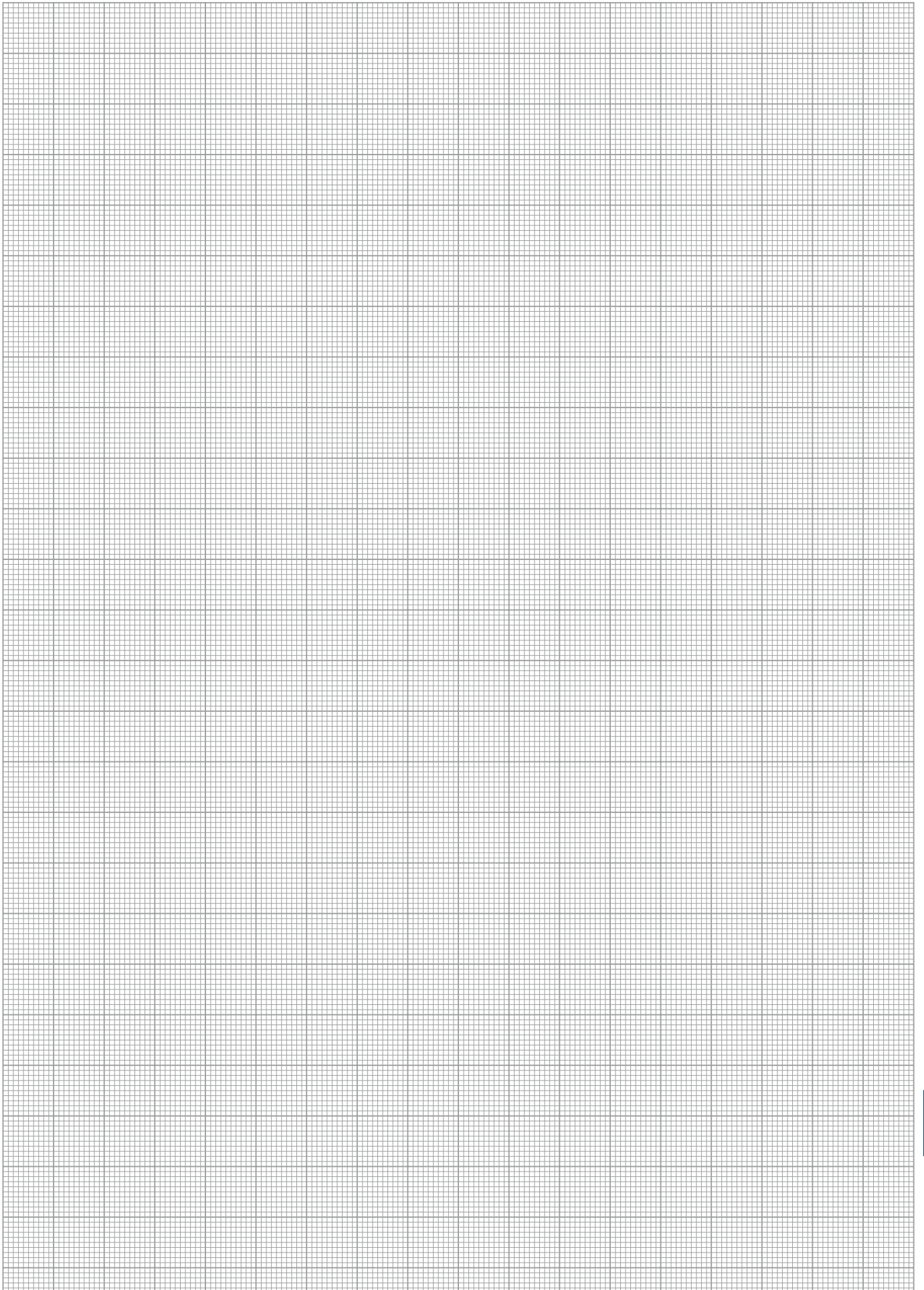


M12 contact assignment



M12 wiring diagram



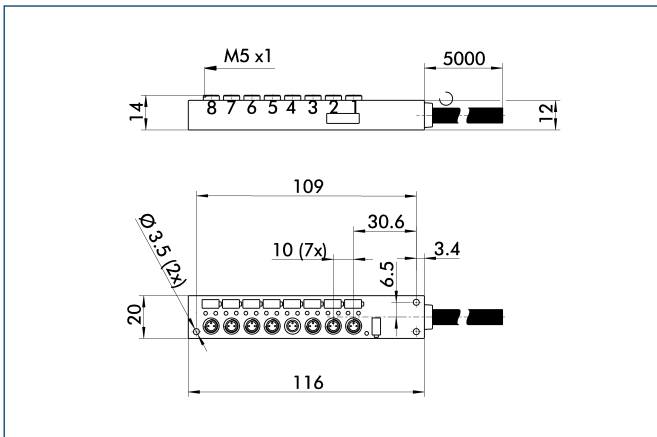




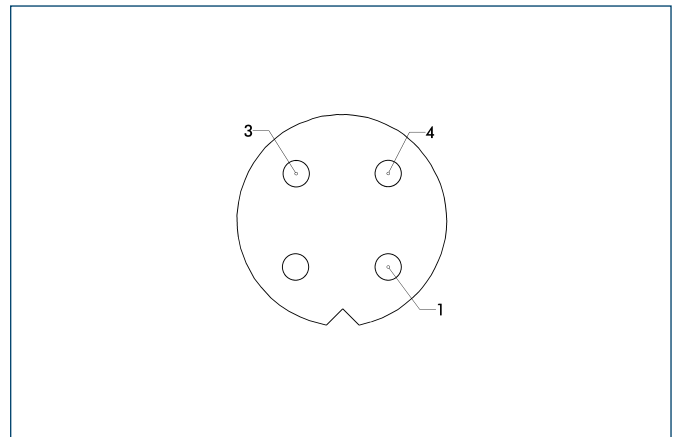
Technical data

Description		V 8-M5	V 8-M8	V 8-M12
ID		0301662	0301751	0301752
Connection socket		M5	M8	M12
Cable length	[m]	3	3	3
Cable diameter	[mm]	6.5	9.5	9.5
Nominal voltage	[V]	24	24	24
Min. voltage	[V]	10	10	10
Max. voltage	[V]	30	30	30
Max. current per wire	[A]	2	2	2
Max. total current	[A]	2	2	2

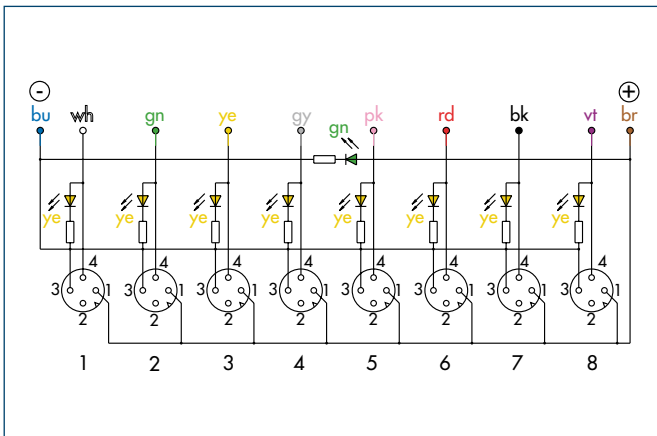
V 8-M5 main view



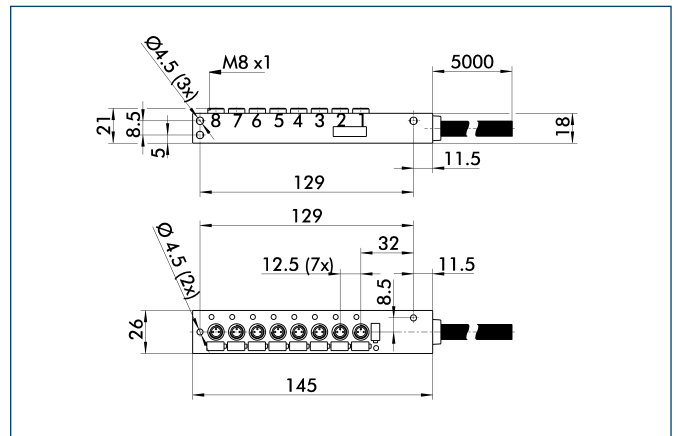
M5 contact assignment



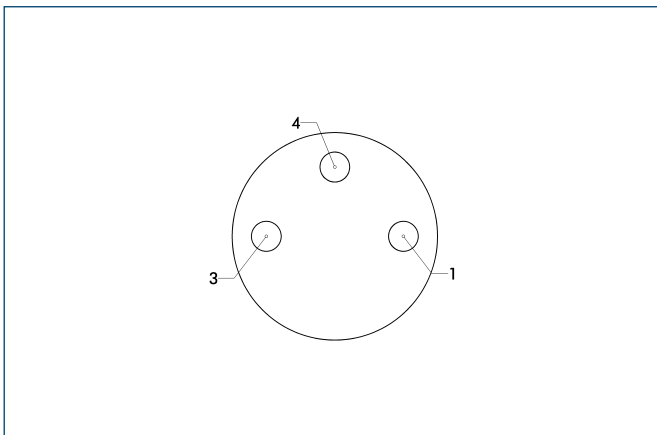
M5 wiring diagram



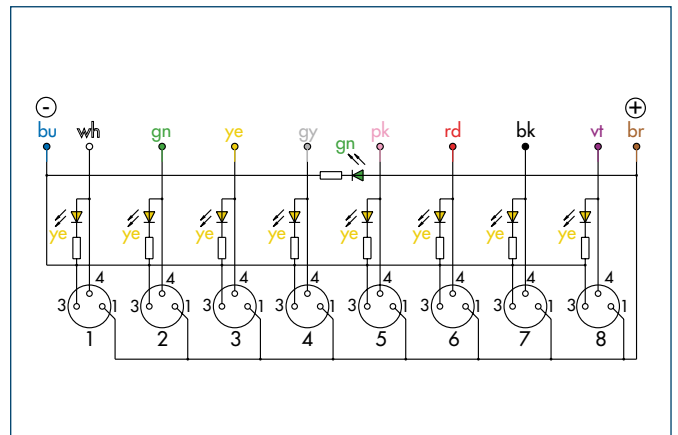
V 8-M8 main view



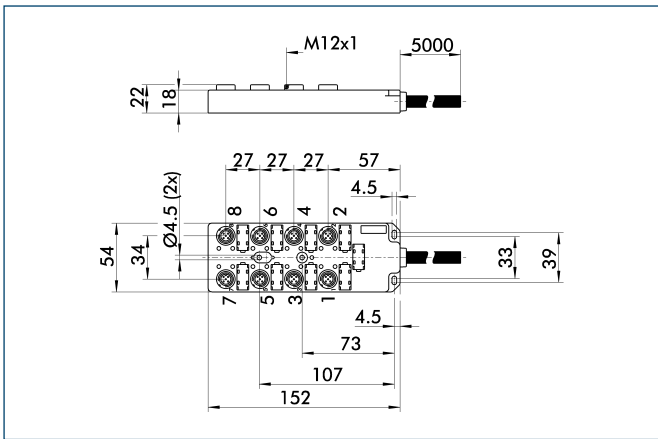
M8 contact assignment



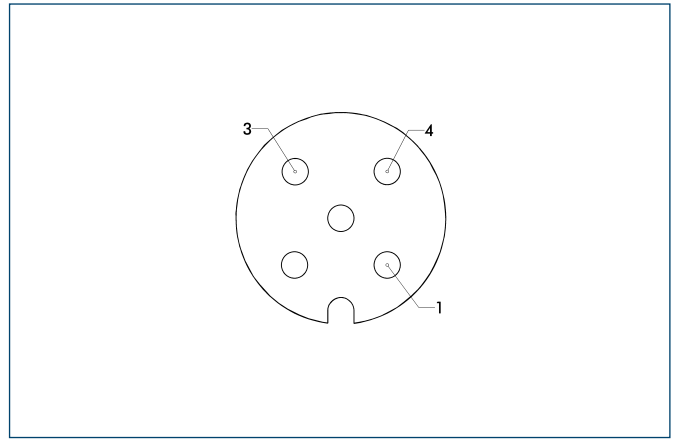
M8 wiring diagram



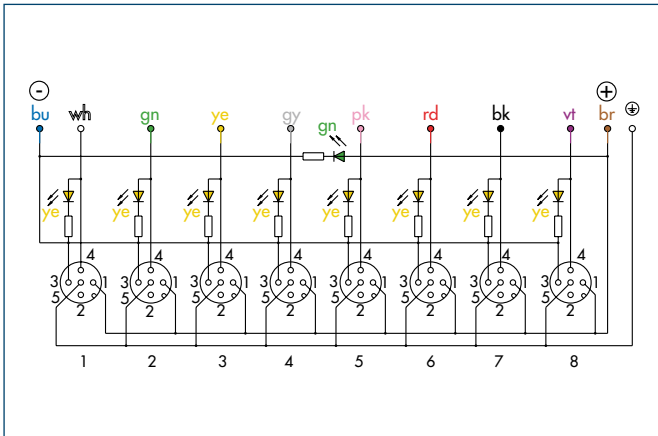
V 8-M12 main view

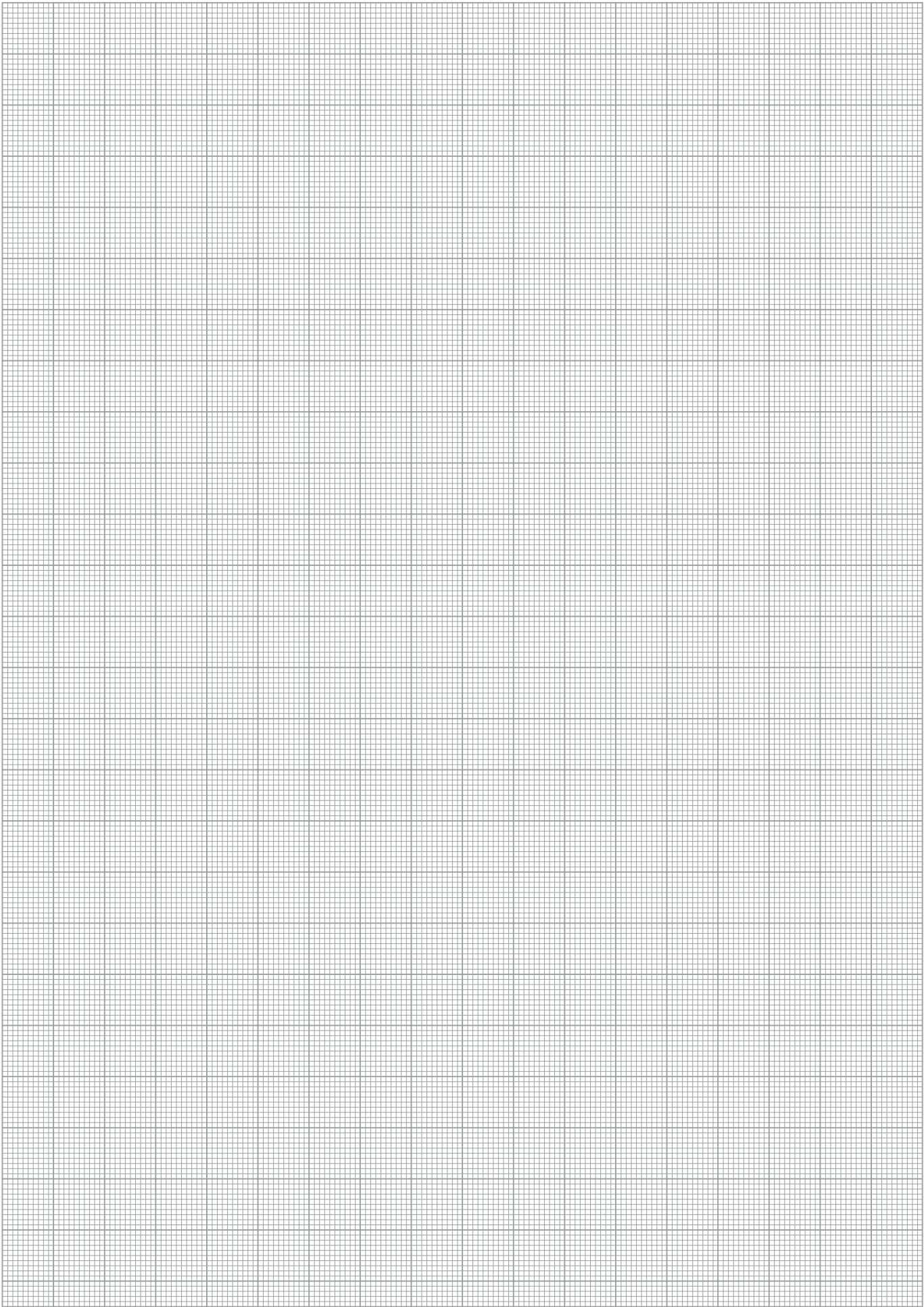


M12 contact assignment



M12 wiring diagram





Cable and connector

Extension cable, and customer cable connectors and sockets allowing convection, for flexible connection of SCHUNK sensor products.



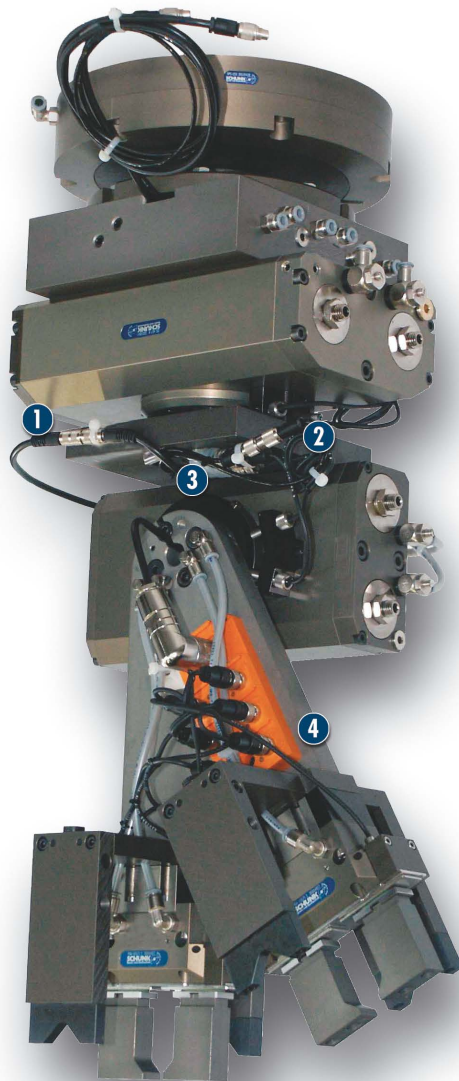
Your advantages and benefits

Extensive accessories

for special installation environments



Application example



Area of application

variable cable installations

- | | |
|-----------------------------------|--------------------------|
| 1 Cable extension KV | 3 V 2 Sensor Distributor |
| 2 Inductive proximity switches IN | 4 V 4 Sensor Distributor |

General information

Warranty

24 months (details, general terms and conditions and operating manuals can be downloaded under www.schunk.com)



Cable Extensions

equipped with a cable connector and cable socket for easy extension.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.

KV = Cable extensions

KA = Cable connection

G = Straight line plug

W = Angle plug

L = Litz wires

S = Connector

B = Bush

4P = 4 Pins

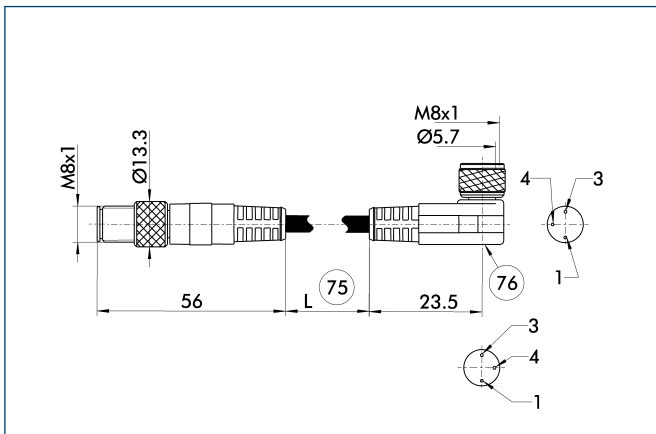


Technical data

Description	KV BW08-SG08 3P-0030-PNP	KV BW08-SG08 3P-0100-PNP	KV BW08-SG08 3P-0200-PNP
ID	0301495	0301496	0301497
Connection, sensor side	bush	bush	bush
Threads, sensor side	M8	M8	M8
Output angle, sensor side [°]	90.0	90.0	90.0
Connection, control cabinet side	plug	plug	plug
Threads, control cabinet side	M8	M8	M8
Output angle, control cabinet side [°]	0.0	0.0	0.0
Cable length [m]	0.3	1.0	2.0
Number of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR
Weight [kg]	0.02	0.04	0.06
Max. current per wire [A]	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5

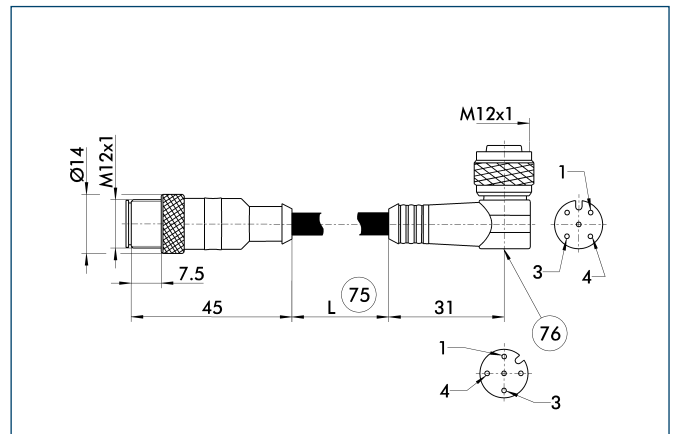
Description	KV BW12-SG12 3P-0030-PNP	KV BW12-SG12 3P-0100-PNP	KV BW12-SG12 3P-0200-PNP	KV BG12-SG12 3P-0060-PNP	KV BG12-SG12 3P-0030-PNP
ID	0301595	0301596	0301597	0301998	0301999
Connection, sensor side	bush	bush	bush	bush	bush
Threads, sensor side	M12	M12	M12	M12	M12
Output angle, sensor side [°]	90.0	90.0	90.0	0.0	0.0
Connection, control cabinet side	plug	plug	plug	plug	plug
Threads, control cabinet side	M12	M12	M12	M12	M12
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0	0.0
Cable length [m]	0.3	1.0	2.0	0.5	0.3
Number of wires	3	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR	PUR	PUR
Weight [kg]	0.052	0.078	0.126	0.048	0.039
Max. current per wire [A]	0.5	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5	0.5

KV BW08-SG08



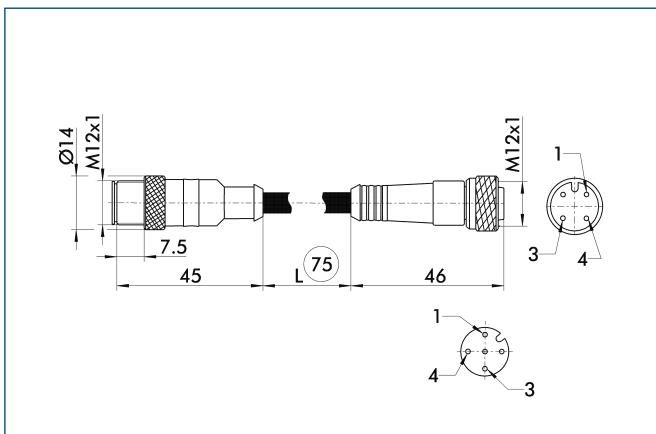
- 75 Cable length
76 LED

KV BW12-SG12



- 75 Cable length
76 LED

KV BG12-SG12



- 75 Cable length

Connection Cables

equipped with a cable socket (sensor side) and a stranded wire on the other end.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.

KV = Cable extensions

KA = Cable connection

G = Straight line plug

W = Angle plug

L = Litz wires

S = Connector

B = Bush

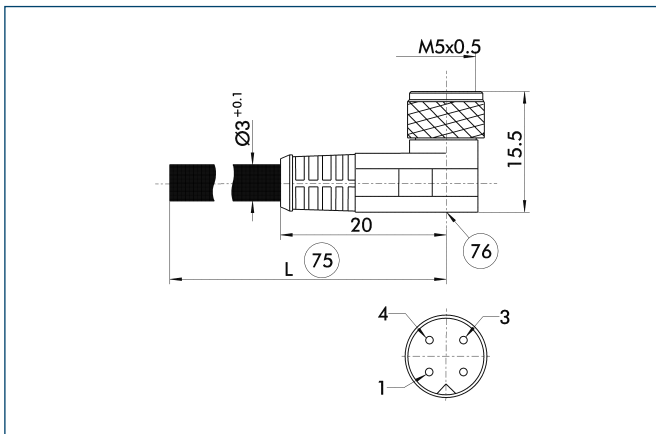
4P = 4 Pins



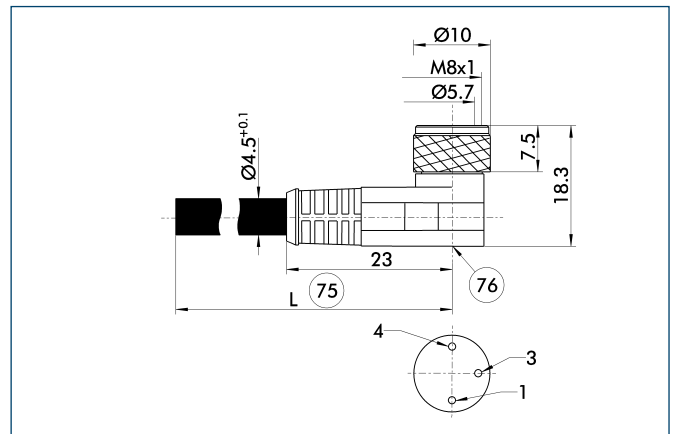
Technical data

Description	KA BW08-L 3P-0300-PNP	KA BW08-L 3P-0500-PNP	KA BW08-L 3P-0300-NPN	KA BW08-L 3P-0500-NPN
ID	0301594	0301502	0301602	9641116
Connection, sensor side	bush	bush	bush	bush
Threads, sensor side	M8	M8	M8	M8
Output angle, sensor side [°]	90.0	90.0	90.0	90.0
Connection, control cabinet side	open wire	open wire	open wire	open wire
Threads, control cabinet side				
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0
Cable length [m]	3.0	5.0	3.0	5.0
Number of wires	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR	PUR
Weight [kg]	0.12	0.2	0.12	0.2
Max. current per wire [A]	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5

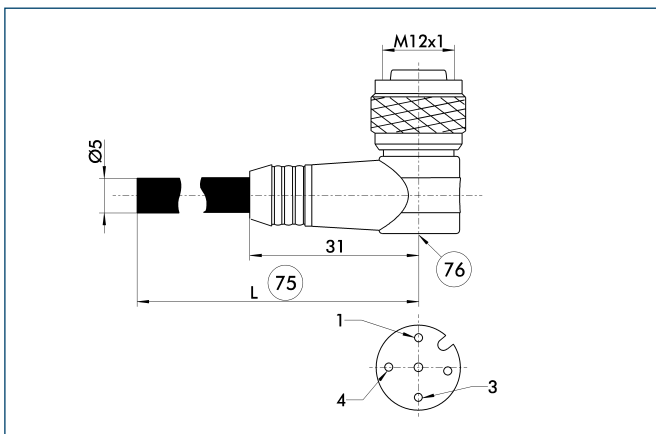
Description	KA BW05-L 3P-0300	KA BW12-L 3P-0300-PNP	KA BW12-L 3P-0500-PNP
ID	0301650	0301503	0301507
Connection, sensor side	bush	bush	bush
Threads, sensor side	M5	M12	M12
Output angle, sensor side [°]	90.0	90.0	90.0
Connection, control cabinet side	open wire	open wire	open wire
Threads, control cabinet side			
Output angle, control cabinet side [°]	0.0	0.0	0.0
Cable length [m]	3.0	3.0	5.0
Number of wires	3	3	3
Wire cross section [mm ²]	0.14	0.14	0.14
Cable jacket	PUR	PUR	PUR
Weight [kg]	0.1	0.136	0.2
Max. current per wire [A]	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5

BW05

- 75 Cable length
76 LED

BW08

- 75 Cable length
76 LED

BW12

- 75 Cable length
76 LED

Connection Cables

equipped with a cable socket (sensor side) and a stranded wire on the other end.

The switching state of the connected sensor is indicated on the LEDs integrated in the cable socket.

KV = Cable extensions

KA = Cable connection

G = Straight line plug

W = Angle plug

L = Litz wires

S = Connector

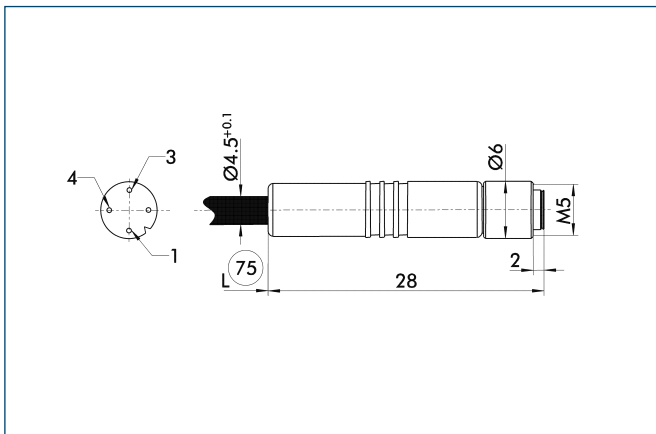
B = Bush

4P = 4 Pins

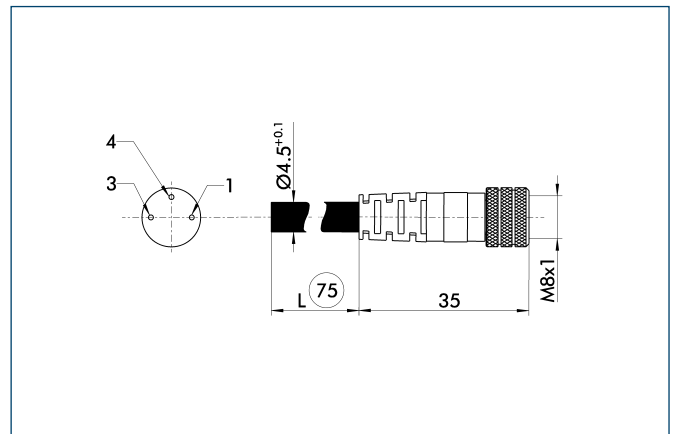


Technical data

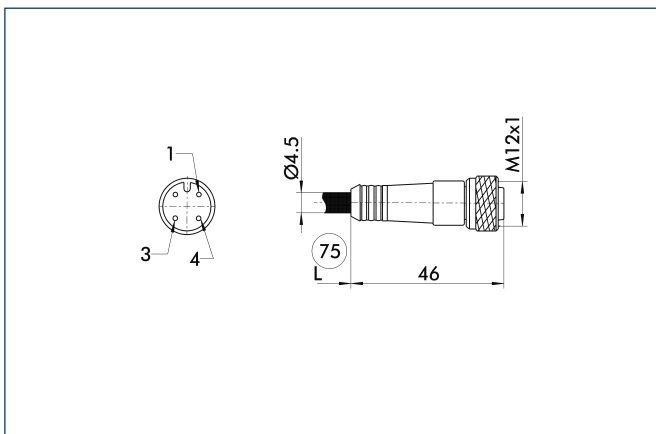
Description	KA BG05-L 3P-0300	KA BG08-L 3P-0300-PNP	KA BG08-L 3P-0500-PNP	KA BG12-L 3P-0500-PNP
ID	0301652	0301622	0301623	30016369
Connection, sensor side	bush	bush	bush	bush
Threads, sensor side	M5	M8	M8	M12
Output angle, sensor side [°]	0.0	0.0	0.0	0.0
Connection, control cabinet side	open wire	open wire	open wire	open wire
Threads, control cabinet side				
Output angle, control cabinet side [°]	0.0	0.0	0.0	0.0
Cable length [m]	3.0	3.0	5.0	5.0
Number of wires	3	3	3	3
Wire cross section [mm ²]	0.14	0.14	2.14	0.14
Cable jacket	PUR	PUR	PUR	PUR
Weight [kg]	0.085	0.085	0.18	0.18
Max. current per wire [A]	0.5	0.5	0.5	0.5
Max. overall current [A]	0.5	0.5	0.5	0.5

BG05

75 Cable length

BG08

75 Cable length

BG12

75 Cable length

Connection Cables

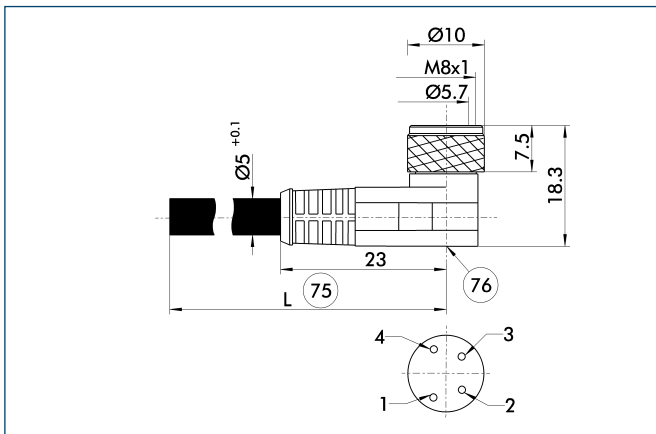
connected with a cable socket (sensor side) and a stranded wire on the other end.

KV = Cable extensions
 KA = Cable connection
 G = Straight line plug
 W = Angle plug
 L = Litz wires
 S = Connector
 B = Bush
 4P = 4 Pins

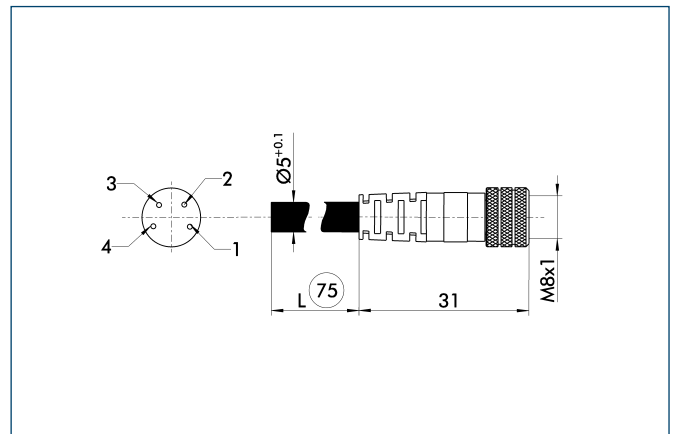


Technical data

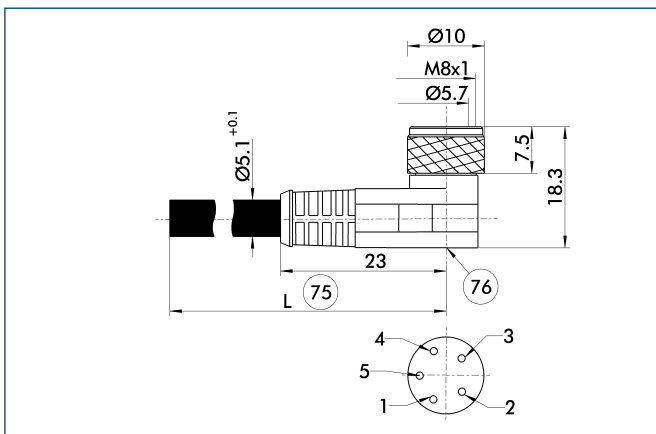
Description		KA BW08-L 4P-0500	KA BW08-L 4P-1000	KA BG08-L 4P-0500	KA BG08-L 4P-1000	KA BW08-L 5P-0500	KA BW08-L 5P-1000
ID		0307765	0307766	0307767	0307768	0307760	0307761
Design of connector		angle	angle	straight	straight	angle	angle
Basic length	[m]	5.0	10.0	5.0	10.0	5.0	10.0
Max. operating voltage	[V]	300	300	300	300	300	300
Cable diameter	[mm]	4.8	4.8	4.8	4.8	4.8	4.8
Number of conductors		14	14	14	14	14	14
Wire cross section	[mm ²]	0.25	0.25	0.25	0.25	0.25	0.25

KA BW08-L 4P

- 75 Cable length
76 LED

KA BG08-L 4P

- 75 Cable length

KA BW08-L 5P

- 75 Cable length
76 LED

Cable Connector and Socket

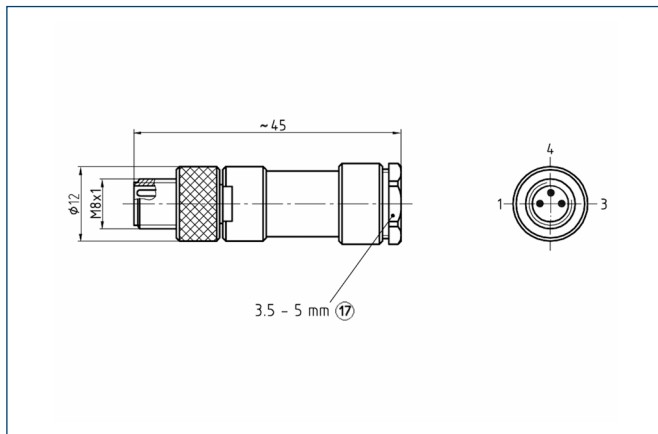
can be connected directly to cables. Cable connectors/sockets with M8 connection are soldered to the cable; cable connectors/sockets with M12 connection are connected via clamping.



Technical data

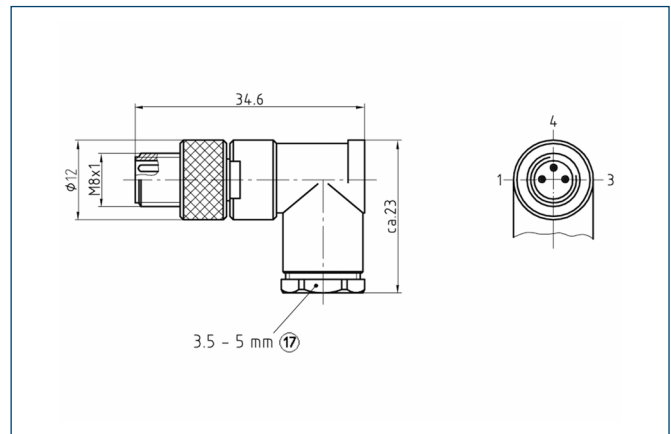
Description	KST-M8-G	KST-M8-W	KBU-M8-G	KBU-M8-W
ID	300050	300051	300052	300053
Connection	3-pin	3-pin	3-pin	3-pin
Maximum voltage [V]	60 AC / 75 DC	60 AC / 75 DC	60 AC / 75 DC	60 AC / 75 DC
Maximum current [A]	4	4	4	4
Max. connection diameter [mm ²]	0.25	0.25	0.25	0.25
Protection class	IP 67	IP 67	IP 67	IP 67
Housing material	PA	PA	PA	PA

Connector straight M8



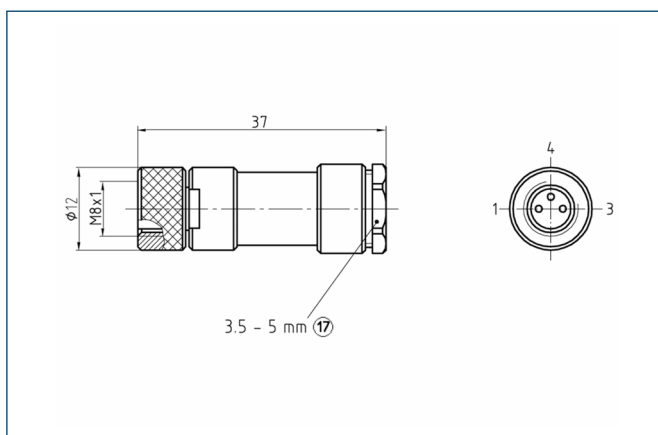
17 Cable outlet

Connector angled M8



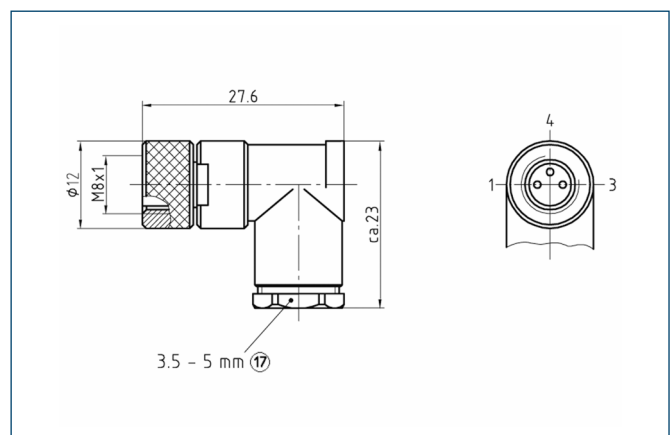
17 Cable outlet

Socket straight M8



17 Cable outlet

Socket angled M8



17 Cable outlet

Cable Connector and Socket

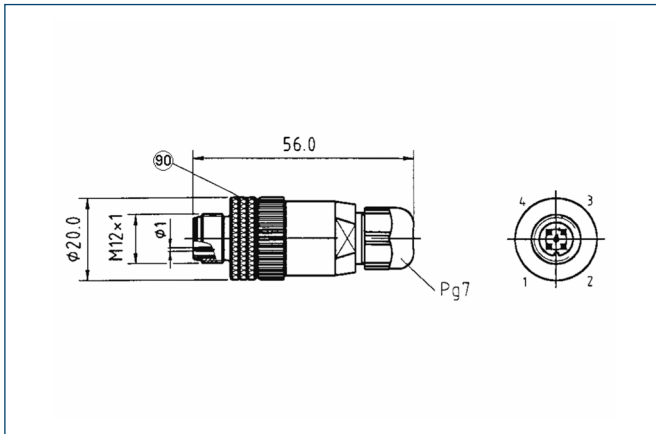
can be connected directly to cables. Cable connectors/sockets with M8 connection are soldered to the cable; cable connectors/sockets with M12 connection are connected via clamping.



Technical data

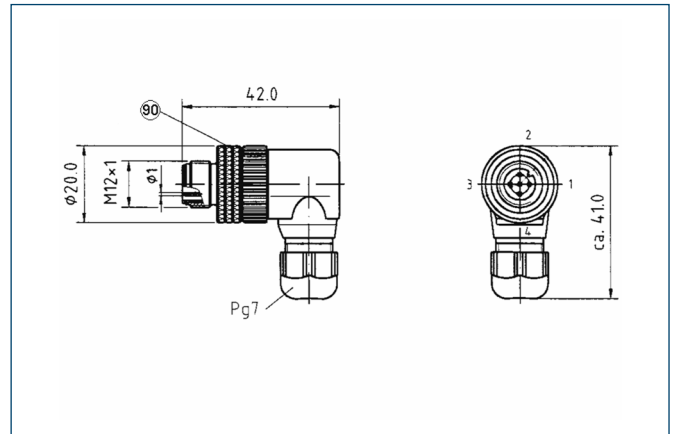
Description		KST-M12-G	KST-M12-W	KBU-M12-G	KBU-M12-W
ID		300060	300061	300062	300063
Connection		4-pin	4-pin	4-pin	4-pin
Maximum voltage	[V]	250 AC / 300 DC	250 AC / 300 DC	250 AC / 300 DC	250 AC / 300 DC
Maximum current	[A]	4	4	4	4
Max. connection diameter	[mm ²]	0.75	0.75	0.75	0.75
Protection class		IP 68	IP 68	IP 68	IP 68
Housing material		PA	PA	PA	PA
Cable clamping range	[mm]	Ø 2.5 - 6.5	Ø 2.5 - 6.5	Ø 2.5 - 6.5	Ø 2.5 - 6.5

Connector straight M12



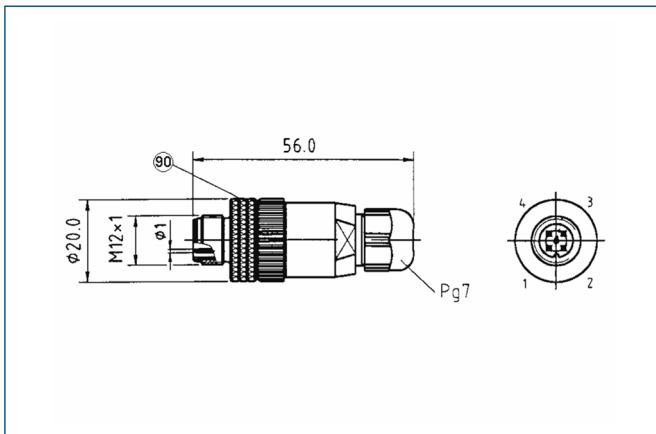
90 Locking ring

Connector angled M12



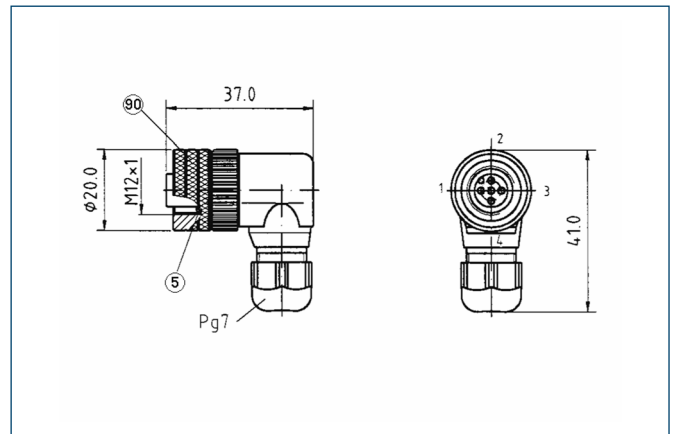
90 Locking ring

Socket straight M12



90 Locking ring

Socket angled M12



5 O-ring
90 Locking ring

Analog Position Sensor System

Mechanical, analog system comprising sensor and processor for accurately recording the position of gripper jaws.



Function description

The high-resolution APS-M1S sensor is actuated by an inclined surface (mounting kit), which is attached to the gripper base jaw. The changes in position of the sensor are recorded, amplified, prepared and made available to an analog output by the APS-M1E processor.

Your advantages and benefits

Position output

as voltage (V) or current (mA)

Precise measuring system

also for long strokes

Compact design

for space-saving installation in any control cabinet

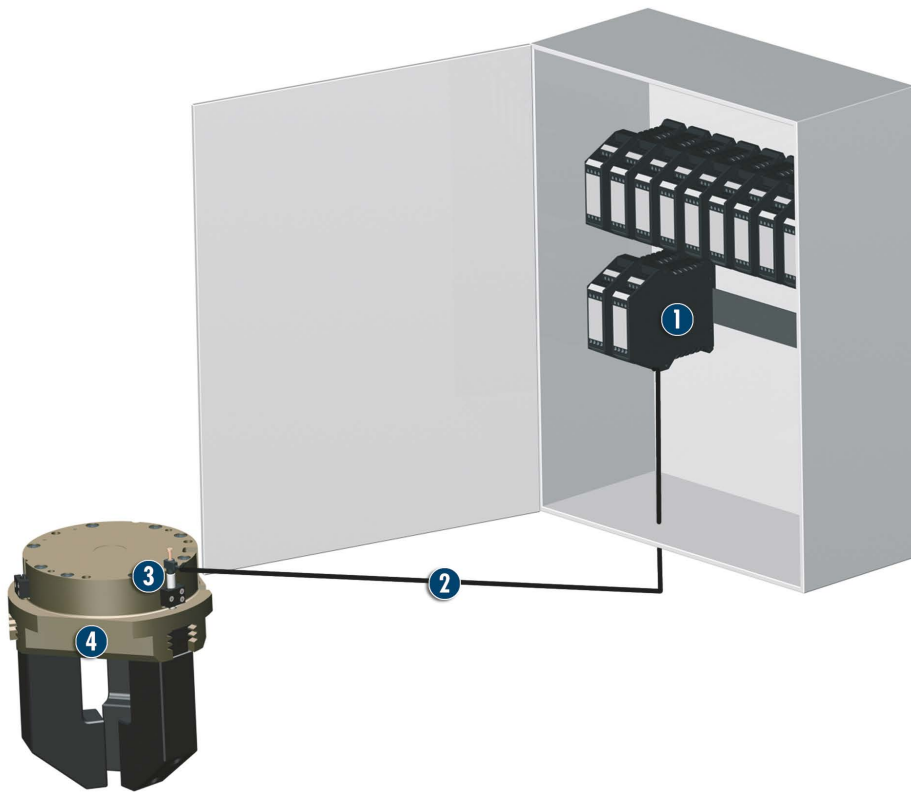
Conforms to CE

for absolute safety and long life during permanent operation

Application example

Area of application

for the precise measurement of the gripper jaw position in clean environments



1 APS-M1E Processor

2 APS-K7 Extension Cable

3 APS-M1S Sensor

4 PZN-plus 100 3-Finger Centric Gripper

General information

Warranty

24 months

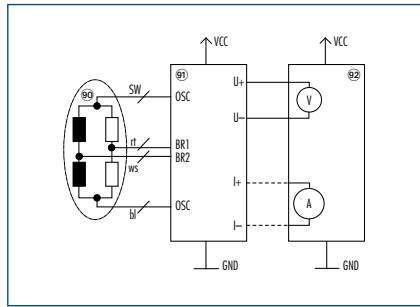
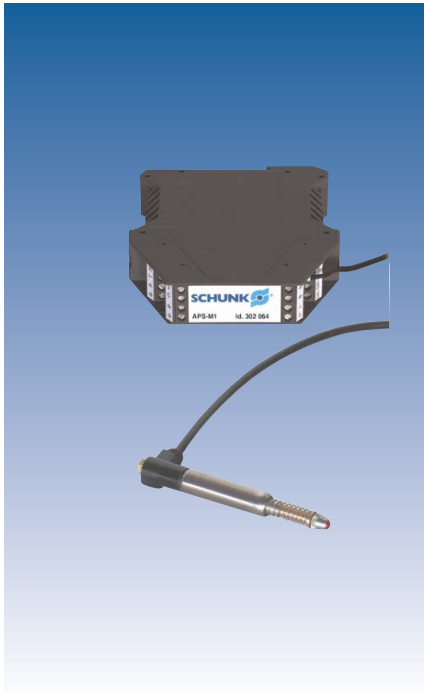
Ordering

The sensor and processor must be ordered as individual items.

Notes

The accuracy of the complete system as stated here is available from a stroke per jaw of 7 mm. The entire range of the sensor cannot be exploited with smaller strokes. The relative accuracy (ratio of repeat accuracy to jaw stroke) decreases, the absolute repeat accuracy (in mm) is the same as for a gripper with a 7 mm stroke, i.e. 0.021 mm.

Wiring diagram



- ⑨⑩ APS-M1S Sensor
- ⑨① APS-M1E Electronic Processor
- ⑨② Automation device, e.g. S7-300

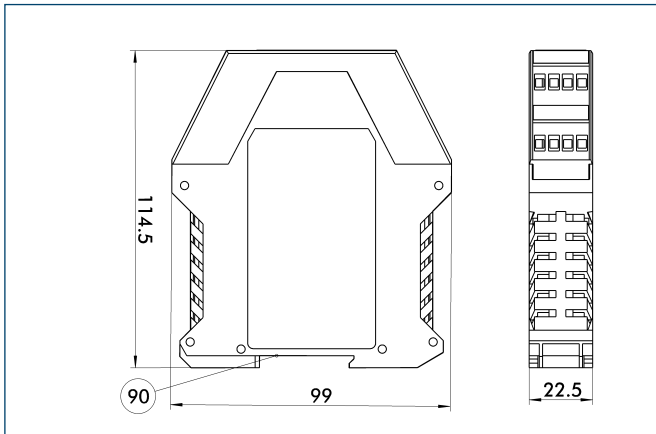
❗ When using an APS system, a mounting kit, APS sensor (APS-M1S) and processor (APS-M1E) are required for each gripper. The mounting kits can be found with the grippers. Mounting kits for other components/grippers are available on request. The sensor has a 3 m molded cable.

Technical data

Description		APS-M1S
ID		0302062
Measuring stroke	[mm]	2.0
Measuring accuracy	[mm]	0.004
Nominal current input	[A]	0.023
Tightness		67
Thermal drift of zero signal	[%/10K]	0.1
Thermal drift of amplification factor	[%/10K]	0.2
Min. ambient temperature	[°C]	10.0
Max. ambient temperature	[°C]	60.0
Weight	[kg]	0.16
Sensor material		Steel
Cable sheath		PUR

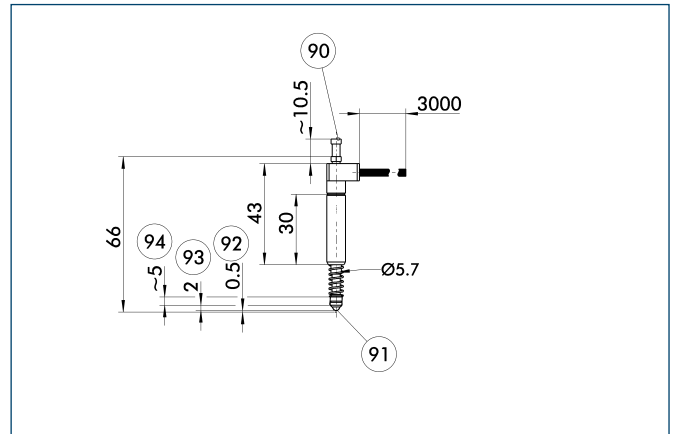
Description		APS-M1E
ID		0302064
Supply voltage		DC
Nominal voltage	[V]	24.0
Min. voltage	[V]	22.0
Max. voltage	[V]	26.0
Nominal power current	[A]	0.1
IP class		20
Min. ambient temperature	[°C]	0.0
Max. ambient temperature	[°C]	60.0
Repeat accuracy (sensor and processor)	[%]	0.3
Weight	[kg]	0.16
Housing material		PA
Output signal		0..10 V DC 4..20 mA
Fastening		top hat rail

APS processor



90 Groove for mounting rail

APS sensor



- 90 Position with retracted feeler rod
- 91 Carbide ball 1/8"
- 92 Initial stroke
- 93 Range of measurement
- 94 Free stroke

Mounting kits

The suitable mounting kit is specified with the gripper.

ID	Description
0302075	AS-APS-M1-64/1
0302076	AS-APS-M1-64/2
0302077	AS-APS-M1-80/1
0302078	AS-APS-M1-80/2
0302079	AS-APS-M1-100/1
0302080	AS-APS-M1-100/2
0302081	AS-APS-M1-125/1
0302082	AS-APS-M1-125/2
0302083	AS-APS-M1-160/1 and 240/2
0302084	AS-APS-M1-160/2
0302085	AS-APS-M1-200/1 and 380/2
0302086	AS-APS-M1-200/2
0302087	AS-APS-M1-240/1
0302088	AS-APS-M1-300/1
0302089	AS-APS-M1-300/2
0302090	AS-APS-M1-380/1

APS-K extension cable

As an option, an extension cable can be connected between the sensor and the processor. (The max. cable length between the sensor and the processor is 10 m, between the processor and its controller (SPC) max. 1 m.)

Description	ID	Length
APS-K0200	0302066	2.0 m
APS-K0700	0302068	7.0 m

FPS Flexible Position Sensor

The FPS sensor system measures the position of gripper jaws. It then indicates in which of the five freely teachable zones the jaws currently are. Additionally the jaw position can be read out via the „FPS Controller“ software.



Function description

A permanent magnet that moves with the base jaw permeates the FPS sensor with its magnetic field. The strength of this permeation changes depends on the distance of the magnet from the sensor. This variable is recorded, evaluated and output by the FPS electronic processor.

Your advantages and benefits

Simplest operation

with just two buttons, or with the machine control system using free control lines

Simple start-up

as the customer can set all positions during the teaching operation

Five digital outputs

for greater economy as compared to individual sensors

Small distance between two switching points, adjustable

Resistant to contamination

through non-ferromagnetic materials

Function and switching status display

via LEDs on the electronic processor

Conforms to CE

for safety and long life during permanent operation

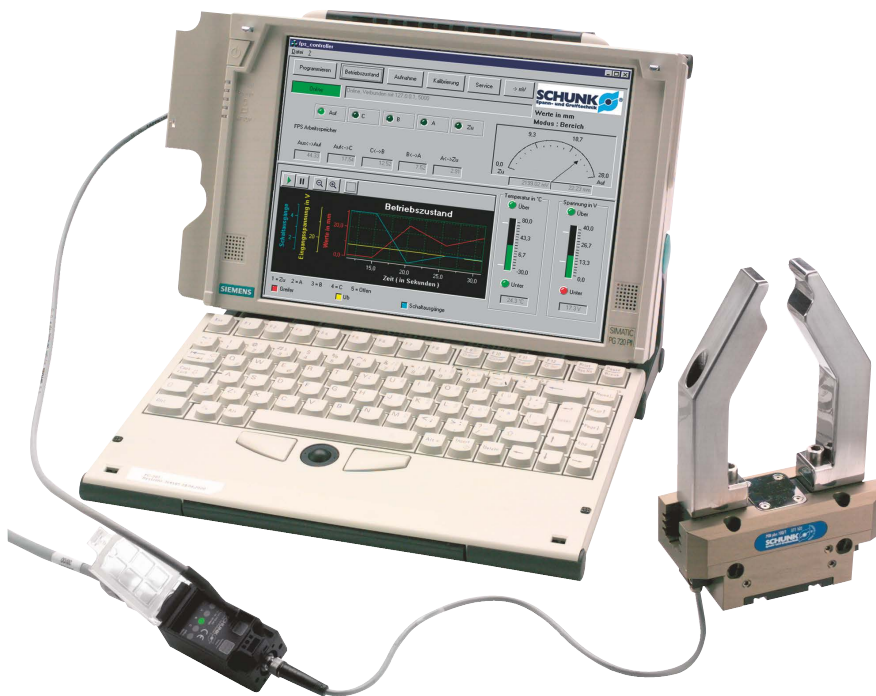
Digital technology

for resistance to interference

Additional advantages of the FPS-F5 and F5 T

- Measuring functionality
- Communication and remote maintenance via RS-232 protocol
- Position programming and readout of switching points
- Monitoring of temperature and input voltage
- Visualization via PC possible
- Data logging
- Calibration of system to gripper stroke
- Intelligent access authorization
- Adaptation to new product during the process

Application example



Area of application

Position sensing of gripper jaws up to a stroke of approx. 30 mm in environments that may be clean or dirty, but are free from steel chips.

General information

Resolution

The resolution is the minimum stroke difference that is required in order to reliably distinguish between two signals. Used in conjunction with most SCHUNK grippers, the FPS system achieves a resolution of 1 – 3 % of a jaw stroke. However, in some grippers a resolution of only 10 % is achieved due to the nature of the design. More precise resolutions may be reached, however, with the use of special solutions. Please contact us regarding the resolution/accuracy of the FPS system.

Connector for the electronic processor (enclosed)

12-pin circular connector (Binder type series 723, waterproof) suitable for connection cables with a diameter of 6 to 8 mm, recommended conductor cross-section 0.14 mm² (max. 0.25 mm²)

Ambient conditions

Use within the range of strong magnetic fields is not recommended. Neither the FPS sensor nor the FPS magnet may come into contact with ferromagnetic dust, chips or other substances.

Display

Five colored LEDs

Range of measurement

5 to 30 mm with SCHUNK magnet (NdFeB magnet cut to size, dimensions (6 x 25 mm x L) with various lengths L depending on the part of the range of measurement

Material

Processor: Plastic PA 6

Cable: PU, resistant to coolants/lubricants

Warranty

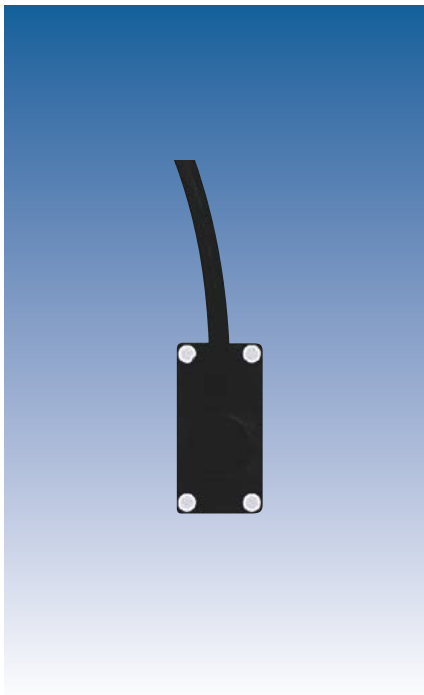
24 months

Notes

All data were determined on the basis of SCHUNK attachments and specifications. Please consult us regarding use of the sensor with modules from other manufacturers.

FPS Sensors

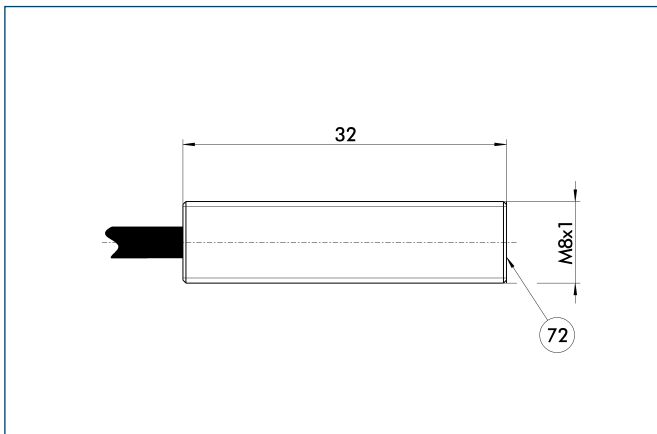
Either the FPS-S13 or the FPS-SM8 sensor is required, depending on the type of gripper. Each sensor is connected to its own FPS-F5/F5T processor.



Technical data

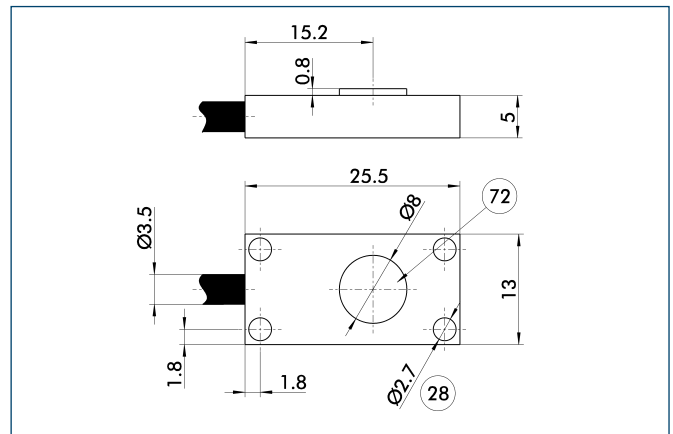
Description		FPS-S 13	FPS-S M8
ID		0301705	0301704
Cable diameter	[mm]	3.5	3.5
Cable length	[cm]	30.0	30.0
Connection of FPS on processor side		M8	M8
Weight	[kg]	0,01	0,015
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
IP class (sensor)		65	65
IP class (connector, plugged in)		65	65
Min. bending radius (dynamic)	[mm]	17.5	17.5
Min. bending radius (static)	[mm]	35.0	35.0

S-M8 sensor



(72) Active sensor surface

S13 sensor



(28) Through-bore

(72) Active sensor surface

Cable extensions

Max. extension between FPS sensor and electronic processor for trouble-free operation: 1 m

Description	ID	Length
KV BG08-SG08 3P-0050	0301598	0.5 m
KV BG08-SG08 3P-0100	0301599	1.0 m



FPS-F5 Processor

Measurement of the gripper stroke using sensors, assignment to the positions/zones “Open”, “Intermediate position 1,2,3” or “Closed”, and output of a position signal. A maximum of four switching points/five zones are freely programmable, RS-232 interface, remote maintenance, measuring functionality, system calibration to the millimeter, temperature and voltage monitoring.

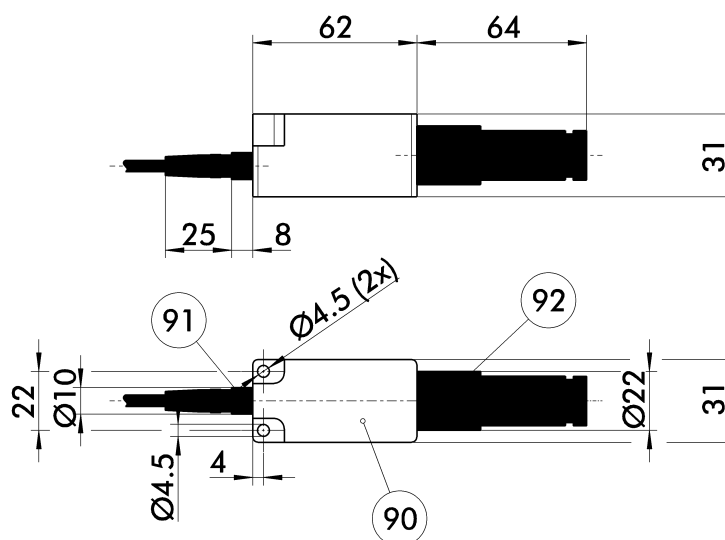
FPS-F5T Processor

Measurement of the gripper stroke using sensors, comparison with target value, output of tolerance information “Within tolerance”, “Above tolerance” or “Below tolerance”, plus “Open” and “Closed”. Otherwise, like the FPS-F5.

Technical data

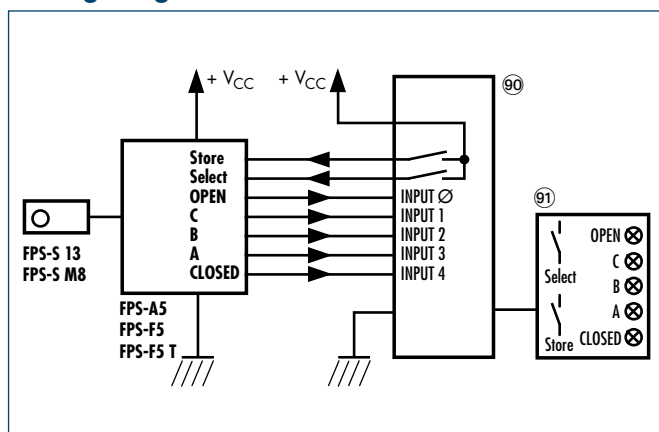
Description		FPS-F5	FPS-F5 T
ID		0301805	0301807
Nominal voltage	[V]	24.0	24.0
Min. voltage (DC)	[V]	10.0	10.0
Max. voltage (DC)	[V]	30.0	30.0
Nominal current (DC)	[A]	0.01	0.01
Weight	[kg]	0.06	0.06
Min. ambient temperature	[°C]	-25.0	-25.0
Max. ambient temperature	[°C]	70.0	70.0
IP class		65	65

Main view



- ⑨0 Transparent plastic cover, over control and display panel
- ⑨1 Connector on sensor side
- ⑨2 Connector on control cabinet side

Wiring diagram



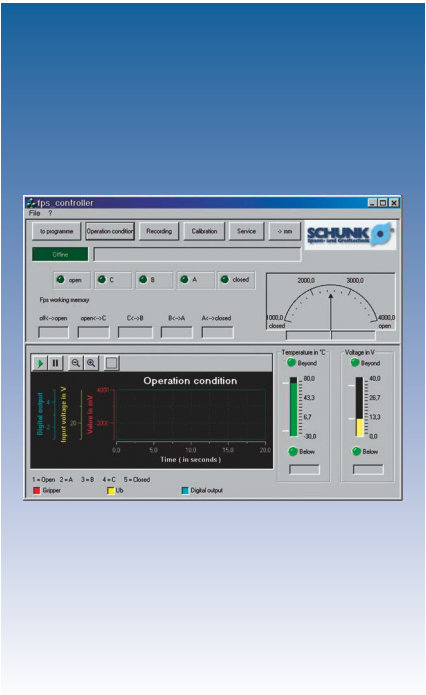
- ⑨0 SPC/PLC
- ⑨1 Machine panel (provided by customer)

For the contact assignment of the connections on the SPC side, please refer to the user's manual.

Cable extension (open wires)

from the electronic processor to the control cabinet

Description	ID	Length
KA SG16-L 12P-1000	0301801	10.0 m



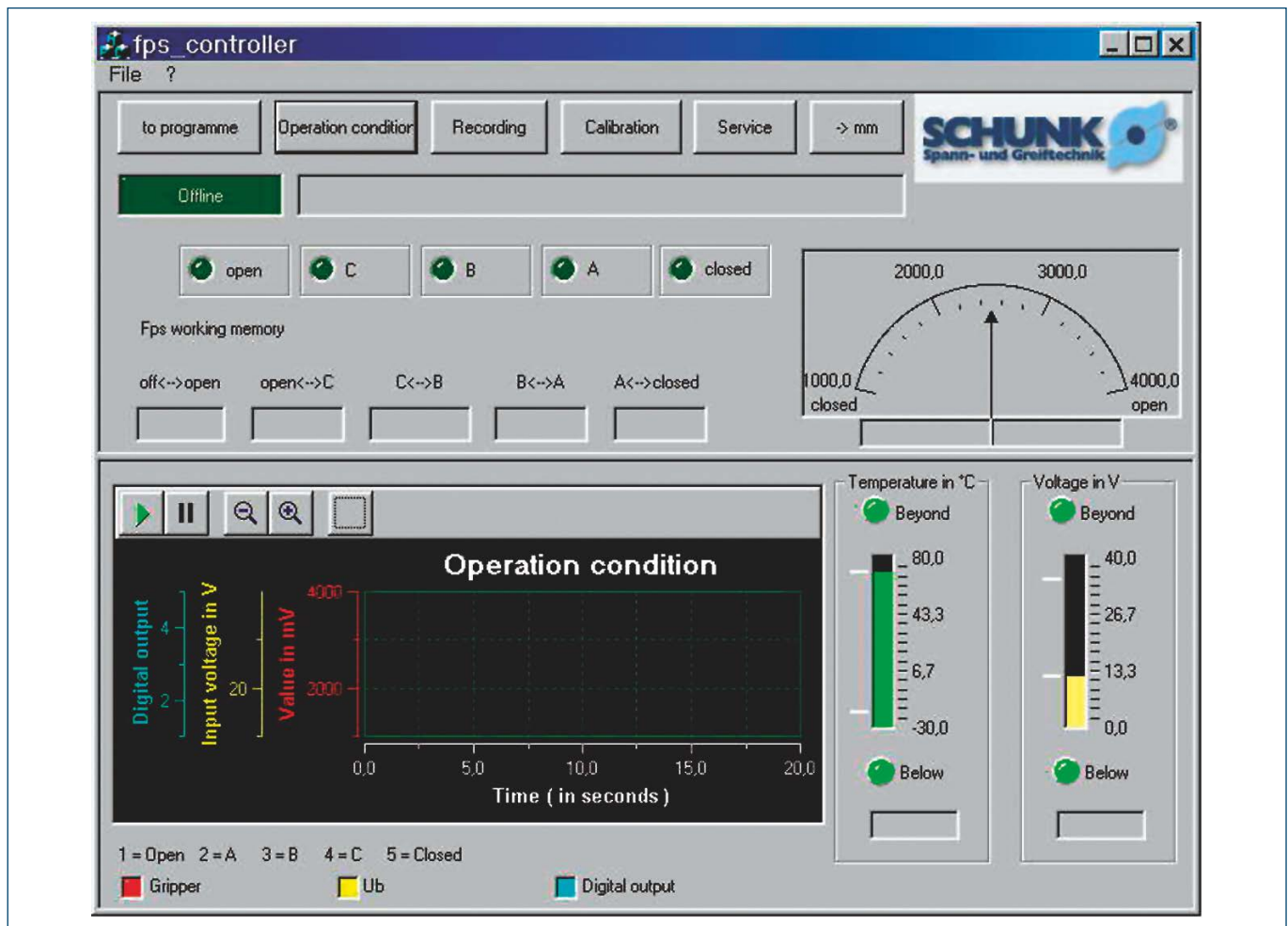
Software for FPS-F5/F5 T

The free FPS Controller software allows the user to monitor the FPS processor via an RS-232 interface. As a result, the FPS system can be calibrated to stroke measurement, the position can be read out and the FPS processor can be programmed. The FPS software also provides access to all auxiliary functions.

Technical data

Description	Software
ID (CD)	0301806
Download	www.schunk.com
Operating system	MS Windows

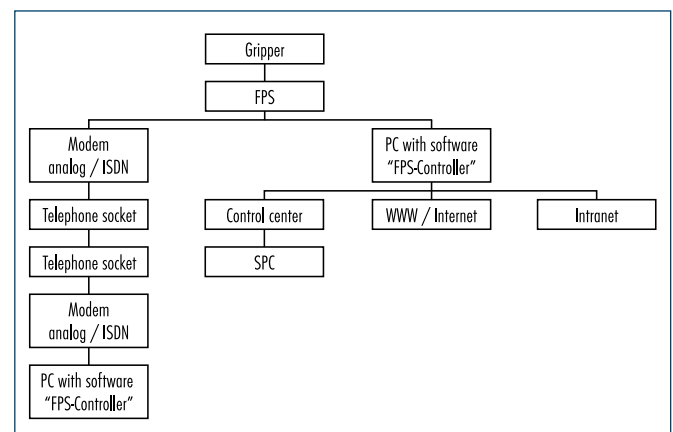
Screenshot software



Set-up with laptop



Possible connection methods



Force Measuring System

The FMS force measuring system is used for measuring the gripping forces during the gripping process. This opens up numerous new possibilities both during start-up and in the production process.



Function description

The FMS intermediate jaws are screwed on between the gripper base jaw and the top jaw, which comes in contact with the workpiece. Gripping forces on the top jaw result in a flow of force through the FMS intermediate jaw. Intelligently arranged strain gauges inside the intermediate jaw react to the resulting deformation. The FMS processor detects the change in the strain gauges and emits an analog signal indicating the force.

Your advantages and benefits

Simplest handling

via a control line that is directly connected to an SPC

Easy-to-perform measurement

of the actual, active gripping force

Result output via analog voltage value

Simple, linear relationship

between output voltage and gripping force

Simple zero balancing

with button or via control line

Integrated LCD

for visual monitoring

Easy assembly

Dirt-proof and waterproof

also for use in extreme ambient conditions.

Application example



1 PGN-plus 100 AS
2-Finger Parallel Gripper

2 FMS-ZBA Intermediate Jaw
with Sensor (active)

3 FMS-ZBP Intermediate Jaw
without Sensor (passive)

4 Workpiece-specific Gripper Finger

5 Electronic Processor

Area of application

Gripping force control

By sending control signals to the proportional valve that supplies the gripper, the SPC can influence the automatically measured gripping force.

Teaching robots

When gripping firmly fixed workpieces, the teaching of robots is simple and precise. Symmetrical gripping only takes place if the left- and right-hand gripper jaws apply the same force – thereby protecting the gripper and the robot.

Static grip force monitoring

Monitoring the grip force as the jaws close prevents the workpiece from being dropped when movement initiates. Overload protection by monitoring the max. permitted force, which can be triggered e.g. by an inadvertent increase in pressure, by off-center gripping or the incorrect positioning of the workpiece.

Preventive maintenance by replacing grippers in good time when there is a decline in the gripping force. This avoids unexpected manufacturing down-times.

Dynamic grip force monitoring

The effect of acceleration forces on the gripper jaws can be recorded and the motion sequence modified if necessary. Component monitoring during highly dynamic movements.

Measuring and teaching processes

Dimensional checking of the gripped component on the basis of an inserted reference component. If the component to be measured differs by more than ± 0.05 mm from the reference component, teaching can take place.

If the difference is smaller, the precise dimensions can be measured accurately even to within ± 0.002 mm.

Gauging the weight of the component by measuring the force due to weight of the component on the gripper fingers.

General information

For all PGN-plus and PZN-plus grippers

and gripper with identical finger connection diagram available as a standard product, and for other grippers on request (remember to ask about the delivery time!)

Conforms to CE

for absolute safety and long life during permanent operation

Warranty

24 months

Notes

The FMS force measuring system allows you to measure forces that act on the base jaw in the direction of the jaw movement. Up to three active (equipped with sensors) FMS-ZBA intermediate jaws are required for this purpose, depending on the application. The remaining base jaws are equipped with FMS-ZBP passive intermediate jaws (without sensors). Each FMS-ZBA active intermediate jaw requires an FMS-A1 electronic processor for evaluation, and an FMS-AK connection cable for connecting the electronic processor to an SPC or a control cabinet.

FMS Processor

Each FMS-ZBA active intermediate jaw requires an electronic processor.

The FMS-A1 processor is required for intermediate jaw sizes up to 125, the FMS-A2 processor from size 160.

The electronic processor is used to prepare, display and forward the measurement results. It is equipped with a housing connector and socket for connecting the force measuring jaw and the connection cable.

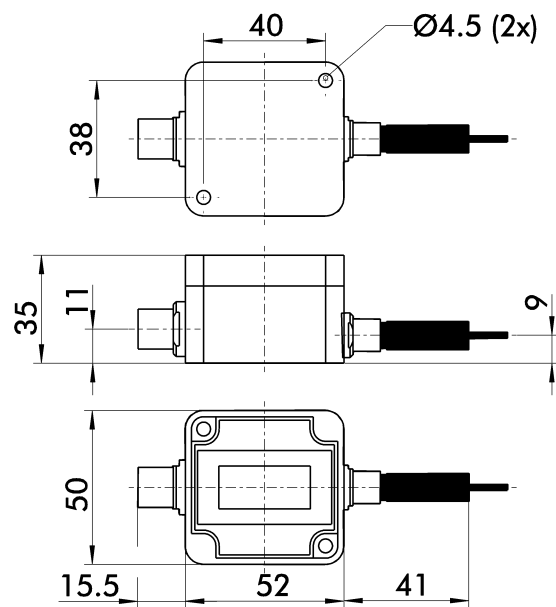


Technical data

Description	FMS-A1	FMS-A2
ID	0301810	0301811
Measuring accuracy [%]	3.0	5.0
Output signal	- 5VDC.. +5VDC	- 5VDC.. +5VDC
Type of voltage	DC	DC
Nominal voltage [V]	24.0	24.0
Min. voltage [V]	18.0	18.0
Max. voltage [V]	30.0	30.0
Nominal power current [A]	0.0045	0.0045
IP class	67	67
Weight [kg]	0.38	0.38

- ① The output voltage is linear to the forces occurring at the gripper fingers. The bandwidth of the output signal is not fully exploited by every active intermediate jaw. Zero balancing must be performed prior to measurement. The limit class A according to EN 61326 is complied with. The test to EN 61000-4-2, EN 61000-4-3, EN 61000-4-4 and EN 61000-4-6 was passed in conformity with EN 61326.

Main view



FMS-AK connection cable

The FMS-AK connection cable is used for connecting the electronic processor to a control cabinet or an SPS. A cable bushing is fitted on the side of the electronic processor, the other side is open.

Description	ID	Length
FMS-AK0500	0301821	5.0 m
FMS-AK1000	0301822	10.0 m
FMS-AK2000	0301823	20.0 m



Force Measuring Jaws

The force measuring jaw is situated between the gripper base jaw and the top jaw. The gripping force is conducted through it. Active intermediate jaws measure these forces and transfer the measured value to the electronic processor. Active intermediate jaws are equipped with a 30 cm cable and a cable connector. Passive intermediate jaws act solely as a bridge for the forces.

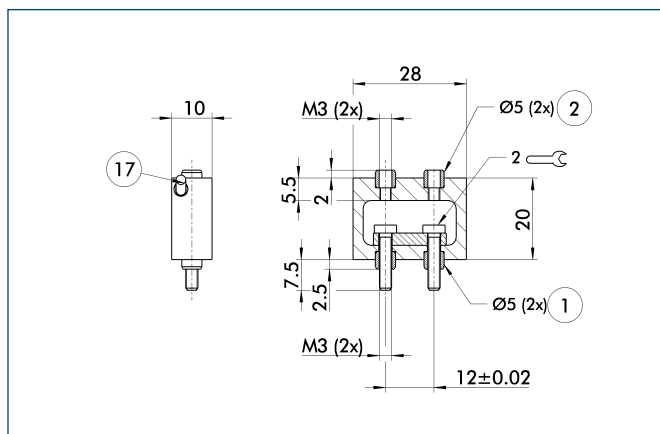
Definitions

The range of measurement is the range in which the overall system has an accuracy of < 3 %. The overload range is the range in which the overall system has an accuracy of > 3 %. At the end of the overload range there is a risk of mechanical destruction of the intermediate jaw.

Technical data

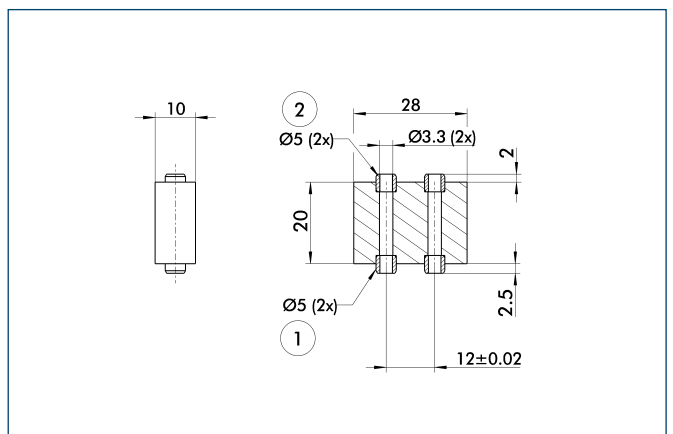
Description	ID	Start of range of measurement [N]	End of range of measurement [N]	End of overload range [N]	Weight [kg]	Min. ambient temperature [°C]	Max. ambient temperature [°C]
FMS-ZBA 50	0301830	0.0	145.0	290.0	0.03	-10.0	70.0
FMS-ZBP 50	0301831				0.02		
FMS-ZBA 64	0301832	0.0	260.0	520.0	0.04	-10.0	70.0
FMS-ZBP 64	0301833				0.025		
FMS-ZBA 80	0301834	0.0	430.0	860.0	0.056	-10.0	70.0
FMS-ZBP 80	0301835				0.035		
FMS-ZBA 100	0301836	0.0	685.0	1370.0	0.082	-10.0	70.0
FMS-ZBP 100	0301837				0.055		
FMS-ZBA 125	0301838	0.0	1120.0	2240.0	0.128	-10.0	70.0
FMS-ZBP 125	0301839				0.105		
FMS-ZBA 160	0301840	0.0	1600.0	3200.0	0.24	-10.0	70.0
FMS-ZBP 160	0301841				0.185		
FMS-ZBA 200	0301842	0.0	2325.0	4650.0	0.403	-10.0	70.0
FMS-ZBP 200	0301843				0.34		
FMS-ZBA 240	0301844	0.0	3700.0	7400.0	0.69	-10.0	70.0
FMS-ZBP 240	0301845				0.59		
FMS-ZBA 300	0301846	0.0	5150.0	10300.0	0.907	-10.0	70.0
FMS-ZBP 300	0301847				0.78		
FMS-ZBA 380	0301848	0.0	7100.0	14200.0	1.84	-10.0	70.0
FMS-ZBP 380	0301849				1.6		

FMS-ZBA 50



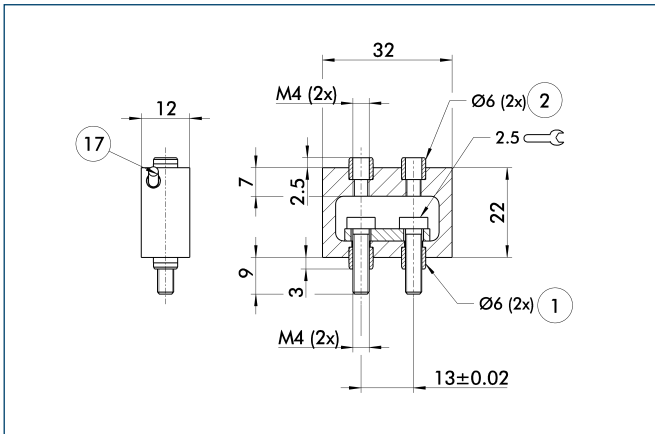
- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet

FMS-ZBP 50



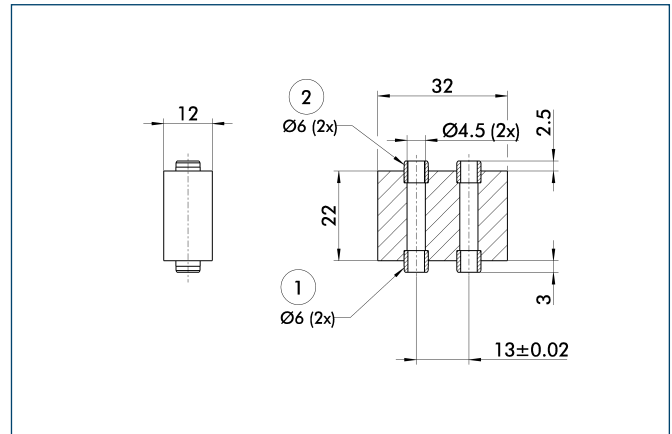
- ① Gripper connection
- ② Finger connection

FMS-ZBA 64



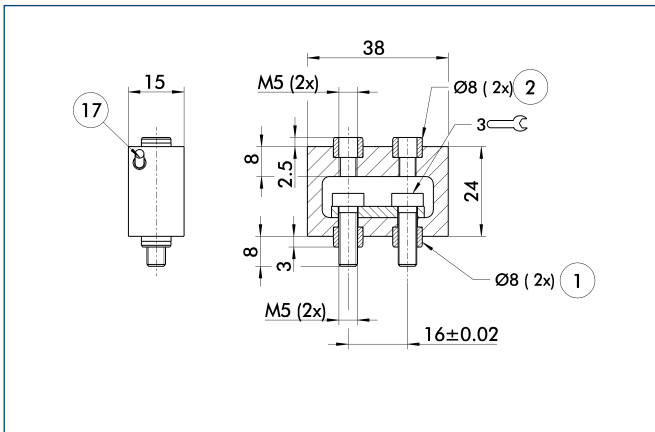
- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet

FMS-ZBP 64



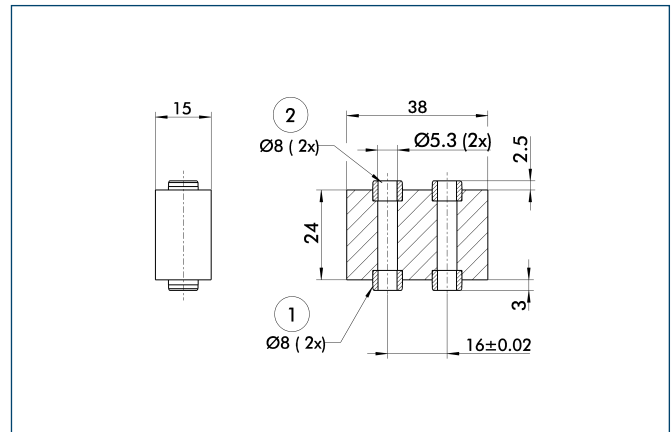
- ① Gripper connection
- ② Finger connection

FMS-ZBA 80



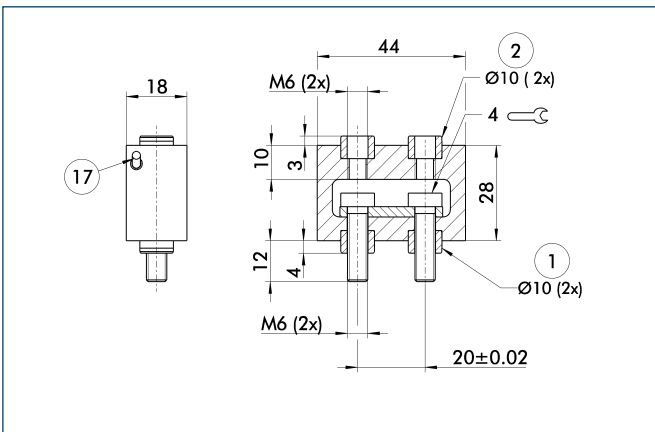
- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet

FMS-ZBP 80



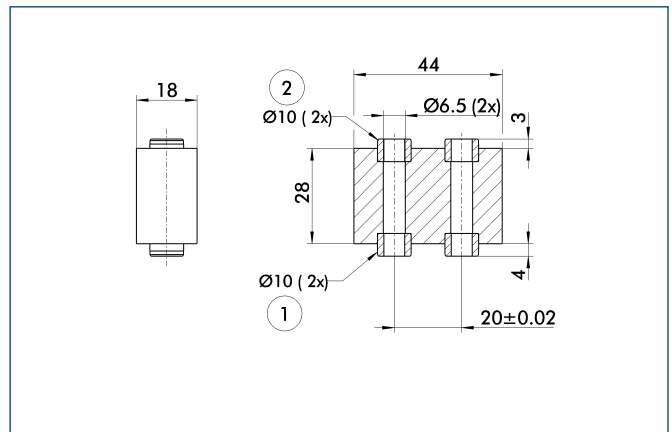
- ① Gripper connection
- ② Attachment connection

FMS-ZBA 100



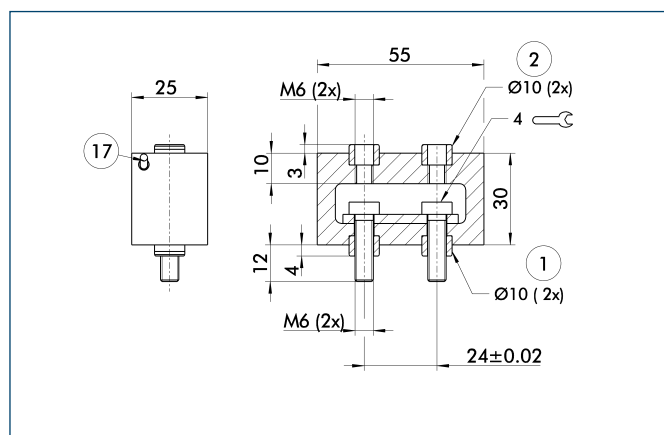
- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet

FMS-ZBP 100



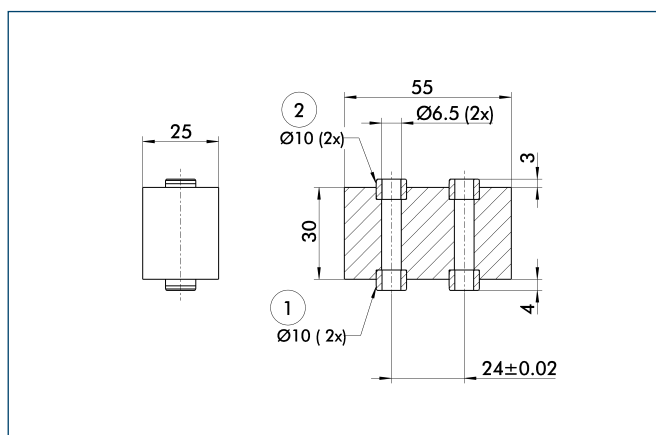
- ① Gripper connection
- ② Finger connection

FMS-ZBA 125



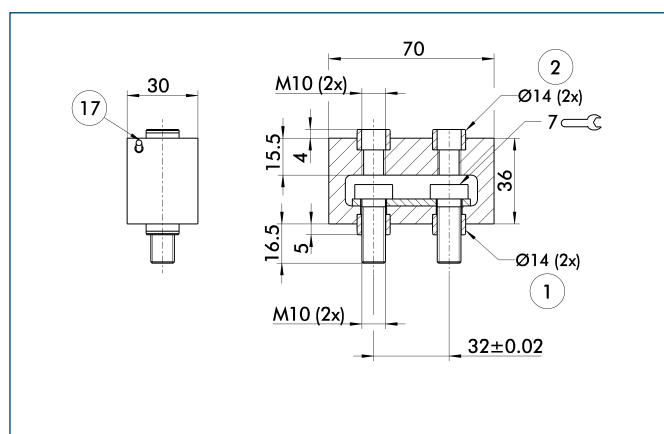
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 125



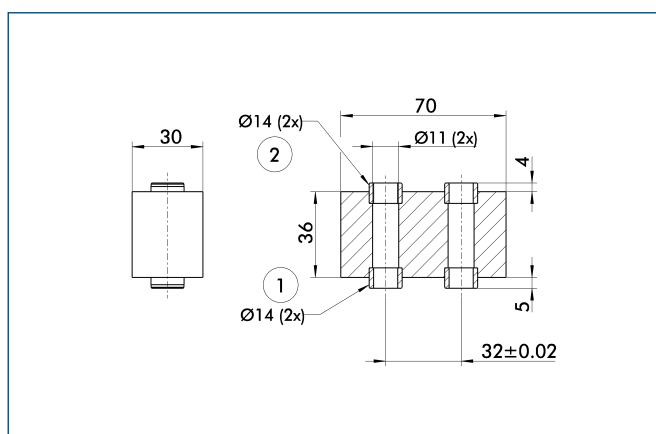
- ① Gripper connection
- ② Finger connection

FMS-ZBA 160



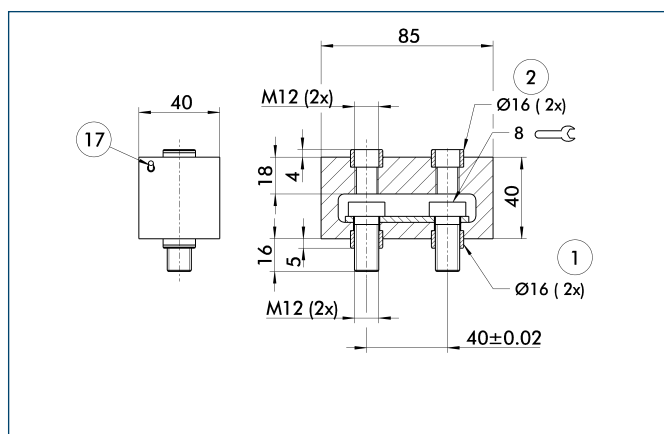
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 160



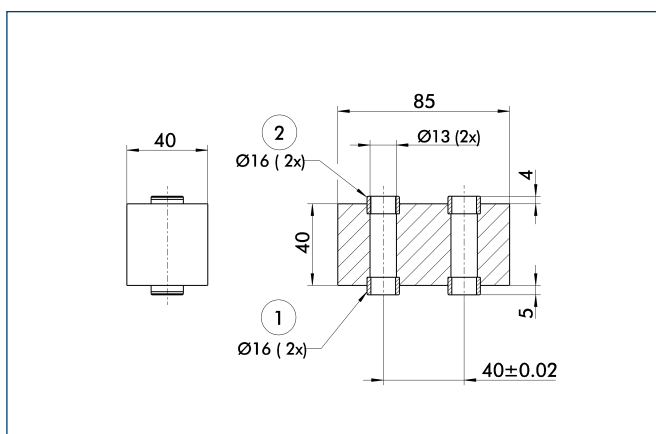
- ① Gripper connection
- ② Finger connection

FMS-ZBA 200



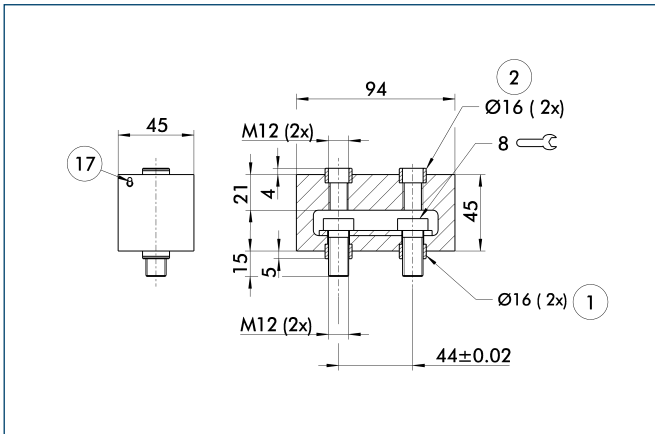
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 200



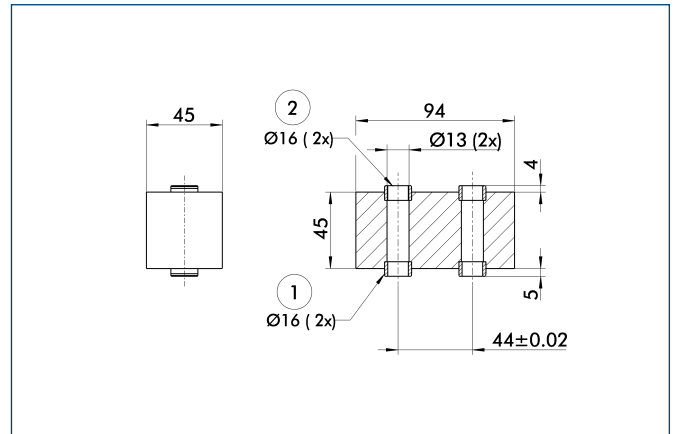
- ① Gripper connection
- ② Finger connection

FMS-ZBA 240



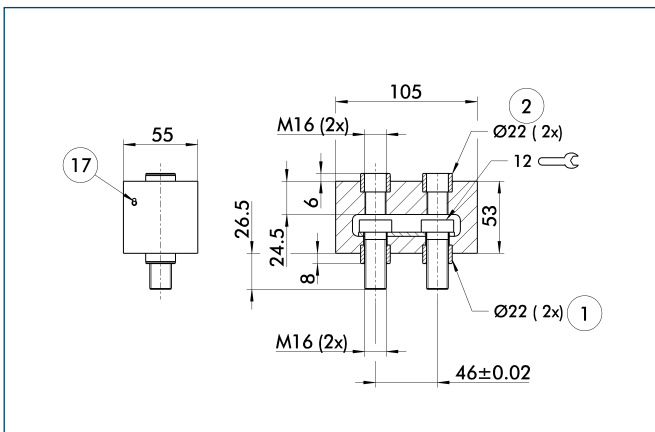
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 240



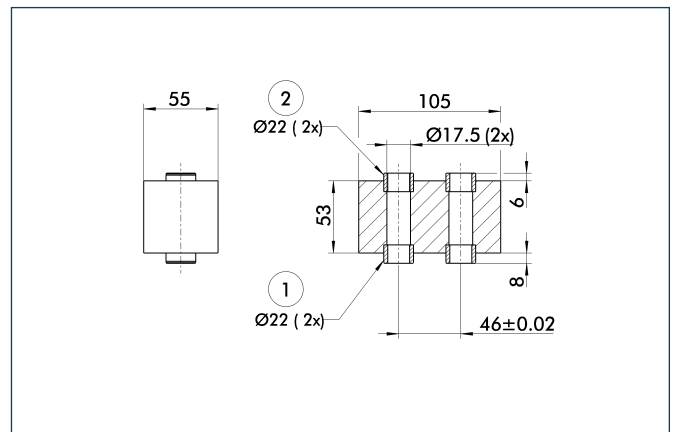
- ① Gripper connection
- ② Finger connection

FMS-ZBA 300



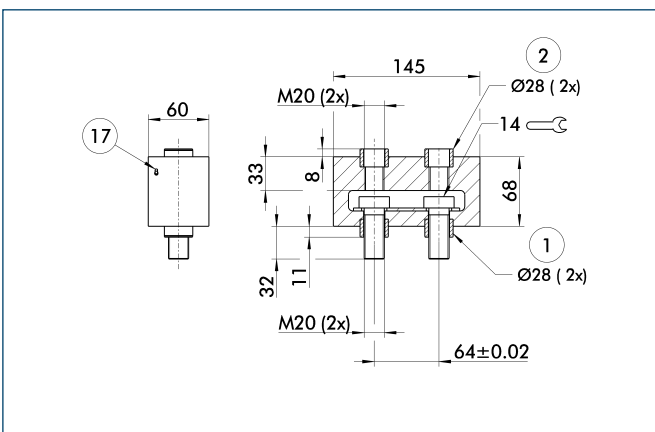
- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

FMS-ZBP 300



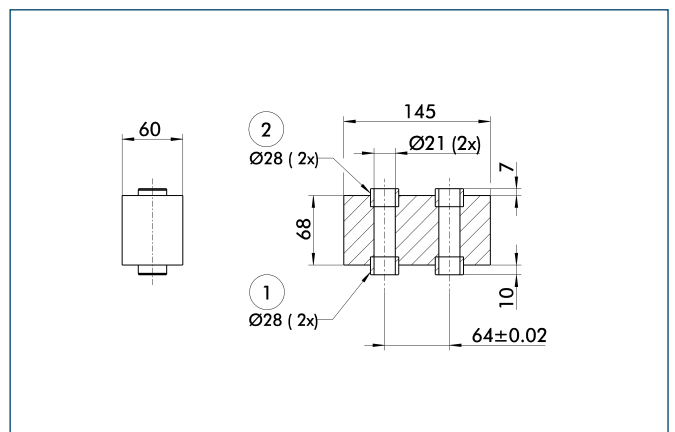
- ① Gripper connection
- ② Finger connection

FMS-ZBA 380



- ① Gripper connection
- ② Finger connection
- ⑰ Cable outlet

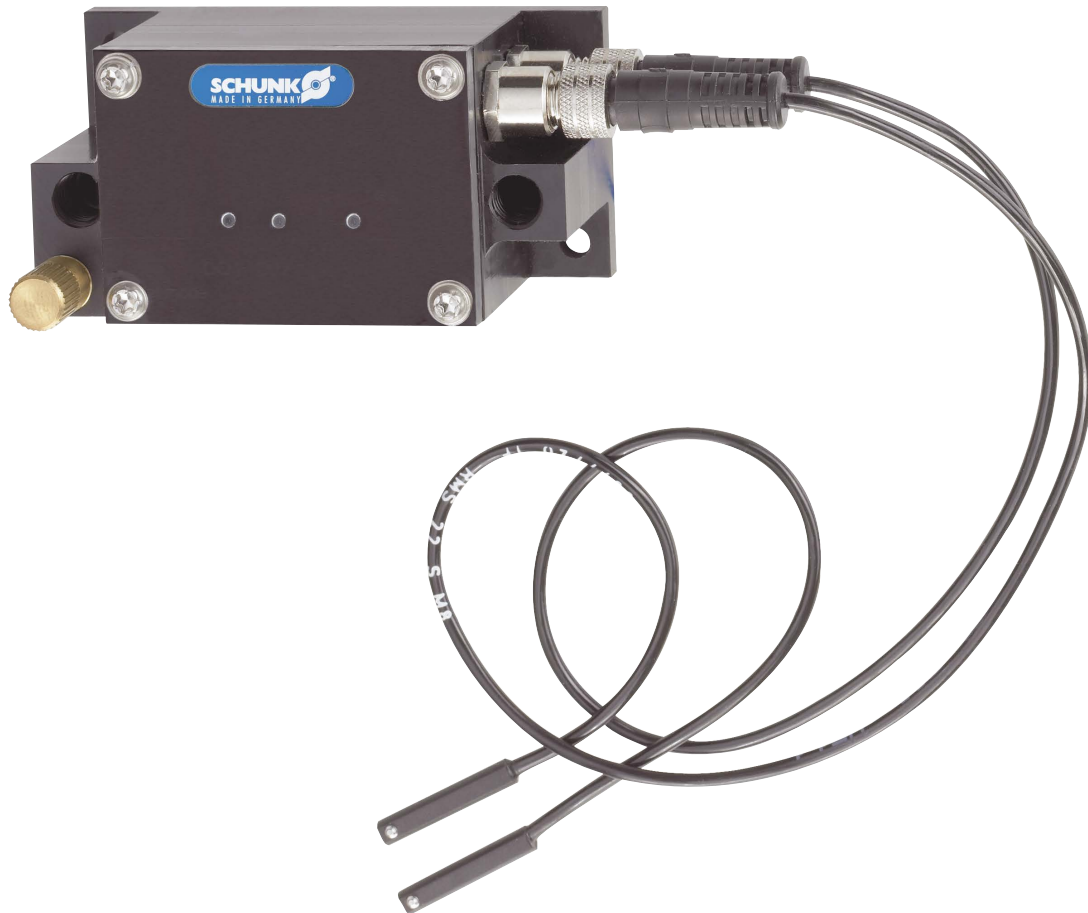
FMS-ZBP 380



- ① Gripper connection
- ② Finger connection

Wireless Sensors

Modular and expandable sensor system with no cable breakage, for end position monitoring of gripper modules.



Function description

The wireless sensor system consists of a transmitter (RSS-T2) with two mechanical switches and one receiver (RSS-R1) with an external antenna. The sensors monitor the stroke of the gripper jaw and report this to the transmitter. The latter transmits the information to the receiver, which is connected to the controller.

Your advantages and benefits

Wireless signal transmission

for monitoring with no cable breakage and for use in applications where no cables can be installed

Connection monitoring (watchdog), connection quality monitoring and battery monitoring

for maximum controlled production and optimum system monitoring

Space-saving installation of the Reed switches in sensor groove

for fast and easy mounting, also as a replacement for inductive proximity switches on request

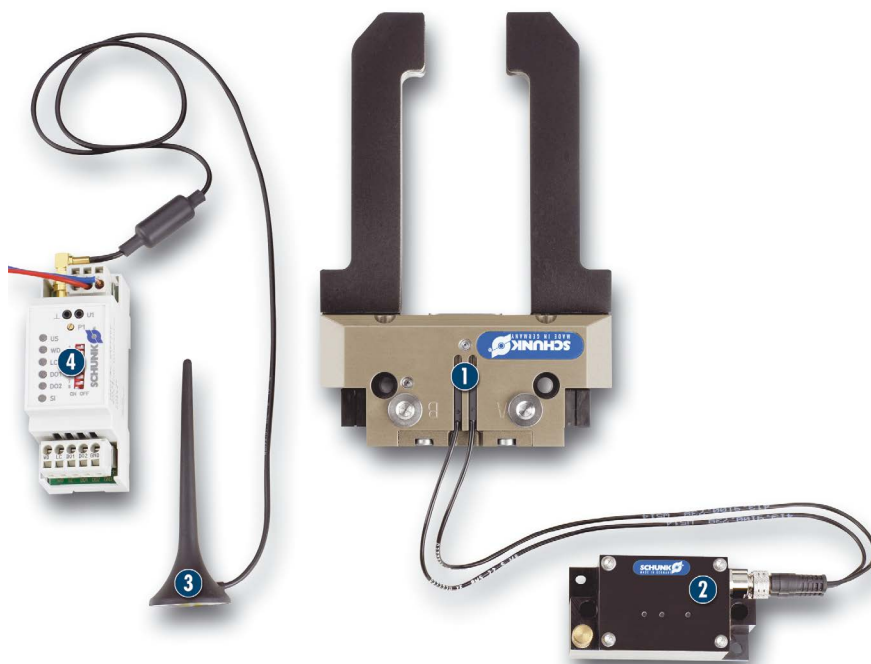
Life of battery in transmitter module

enables maintenance-free operation for typically more than six years

Simple teach function

for fast and easy functional commissioning

Application example



- 1 Reed switch RMS 22 in sensor groove of the 2-Finger Parallel Gripper PGN-plus
- 2 Transmitter module RSS-T2
- 3 Magnetic base antenna RSS-R-A
- 4 Receiver RSS-R1

General information

Protection class according to DIN 40050

IP 67 in connected condition for use in clean or dusty environments or in the event of contact with water. Contact with other media (cooling lubricants, acidic or caustic substances, etc.) frequently does not impair the function, but this cannot be guaranteed by SCHUNK.

Typical transmission ranges

approx. 10 meters in workshops
approx. 30 meters in the open

Power supply, receiver

24 V DC, 500 mA output

Life of transmitter battery

Min. 6 years at 2 transmissions / second
Min. 8 years at 1 transmission / second

Warranty

24 months

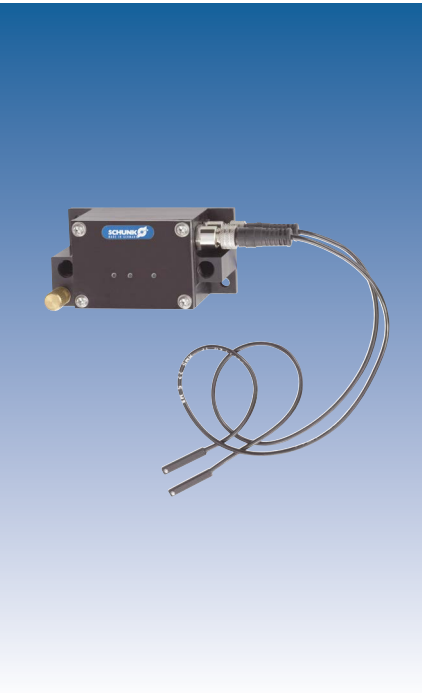
Area of application

The new wireless RSS sensor system can be used anywhere where no cable feed is possible. For example in milling or grinding machines, machining centers, or in rotating or close applications which are unsuitable for cable ducts. However, the RSS is also ideal for use in adverse ambient conditions and explosive areas.

Notes

Sheet steel prevents propagation of radio waves.

The radio energy transmitted by the RSS is a factor of 70,000 below that of DECT telephones and a factor of 30,000 below that of GSM mobile phones.



RSS-T2 Transmitter

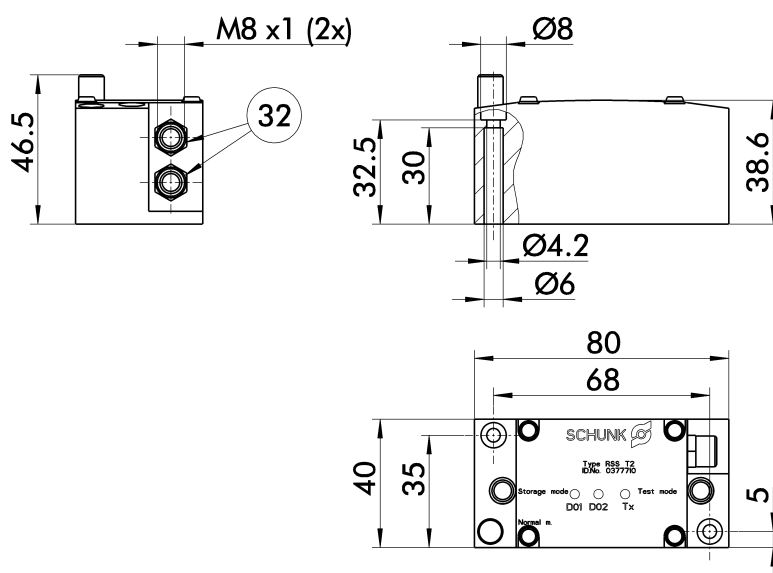
The RSS-T2 transmitter can transmit the signals from 2 switches. We recommend the use of RMS 22 or RMS 80.
Alternative switches can also be used. However, they must not require energy supply.

Technical data

Transmitter module

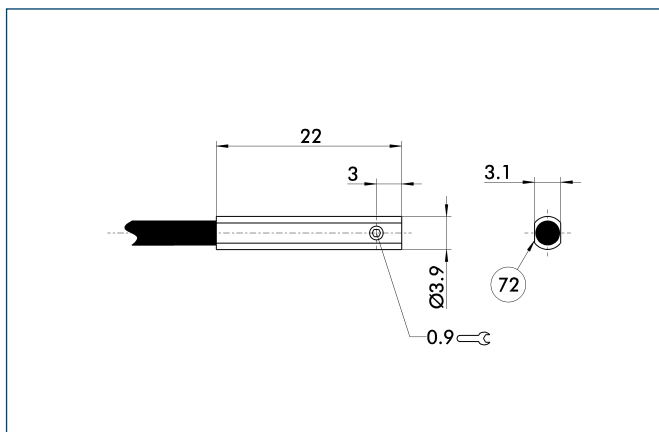
Description	RSS-T2
ID	0377710
Transmitting frequency [MHz]	868.3
Transmitter connection	2x M8
Integrated power supply	Lithium battery
Typical life of the battery [Years]	8
Housing material	PUR
Log	Enocean standard
Tightness	IP 67
Min. ambient temperature [°C]	0
Max. ambient temperature [°C]	50
Weight [kg]	0.16

Main view



32 Flange socket for sensor feed-through

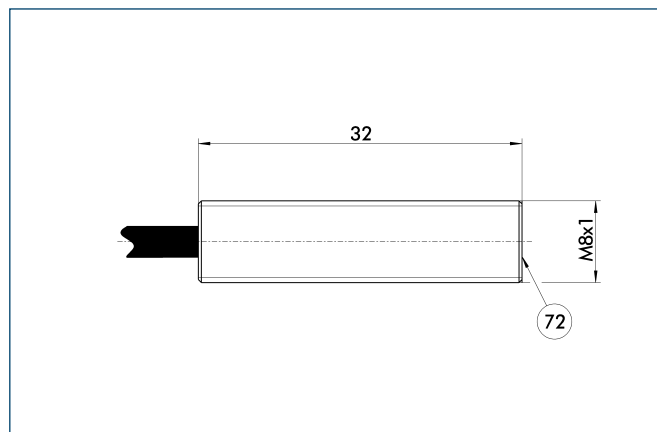
RMS 22 sensor



72 Active sensor surface

Further information on the RMS sensor can be found in the chapter on "Reed Switches".

RMS 80 sensor



72 Active sensor surface

Further information on the RMS sensor can be found in the chapter on "Reed Switches".

RSS-R1 Receiver

The RSS-R1 receiver can receive the signals of the RSS-T2 transmitter.

One receiver and one antenna are needed for each transmitter.



Technical data

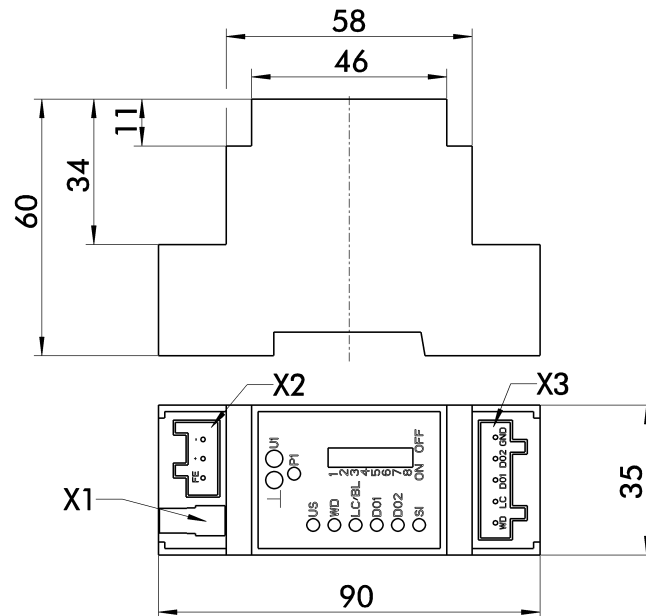
Receiver

Description	RSS-R1
ID	0377700
Receiving frequency [MHz]	868.3
Power supply	DC
Nominal voltage [V]	24
Min. voltage [V]	10
Max. voltage [V]	30
Max. current on contact per channel [mA]	500
Housing material	PUR
Log	Enocean standard
Short-circuit-proof	Yes
Tightness	IP 20
Fastening	Top hat rail
Min. ambient temperature [°C]	0
Max. ambient temperature [°C]	50

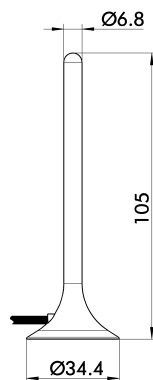
Antenna

Description	RSS-R-A
ID	0377730
Assembly	Magnetic base
Cable length [m]	2
Connection to cable end	SMA Mini
Utilization	Connection to receiver RSS-R1

Main view



RSS-R-A antenna



Fluidic Monitoring System

Pneumatic monitoring for three positions. For systems that can be monitored by means of conventional sensors.



Function description

The PA3 returns the information "open", "gripped" or "closed" to the controller via a single, additional pneumatic line. The pneumatic actuator only has to be modified with two pneumatic connections for this purpose. The PA3 is started up via a push button switch and a potentiometer. The unit is automatically taught during a set-up cycle.

Your advantages and benefits

Position scan without electric sensors

for diverse applications in new environments

An additional pneumatic line as an information hose

therefore only slight modification of the gripper necessary, also possible as retrofitting of existing components

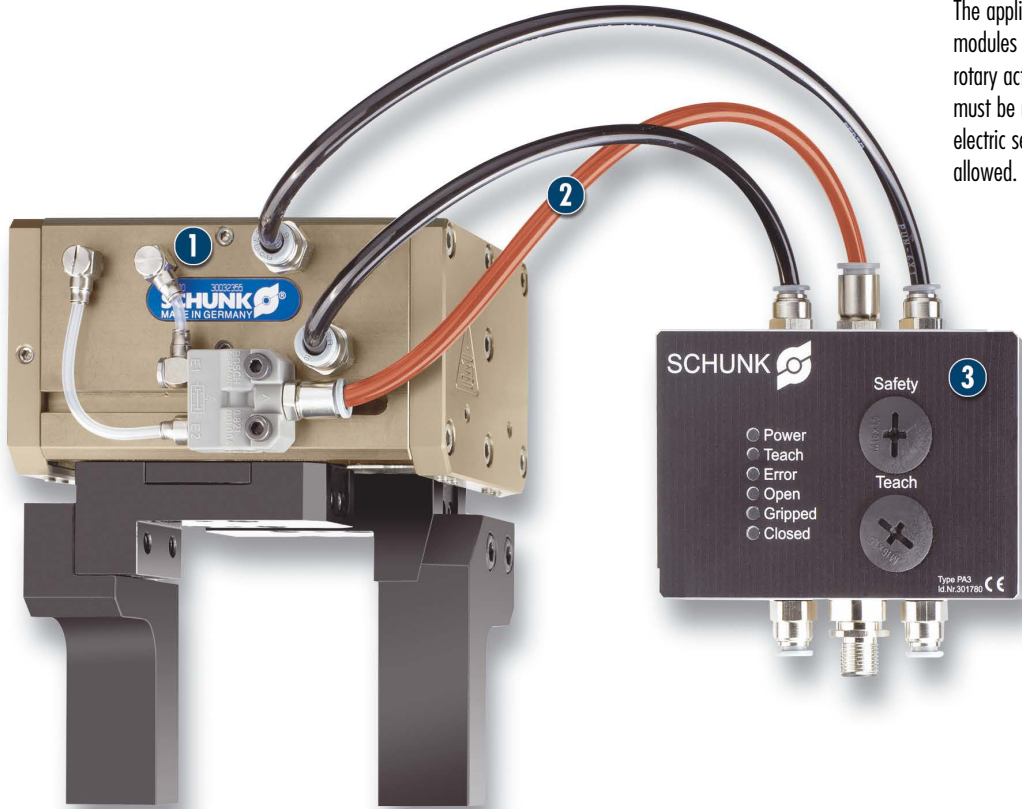
Simple start-up

via button and potentiometer

Self teach-in function

for automatic teaching of the monitoring system during the set-up cycle

Application example



Area of application

The applications range from pneumatic gripper modules to pneumatic actuators, such as cylinders or rotary actuators. For example, when gripper modules must be monitored in places that are not accessible by electric sensors or where electric sensors are not allowed.

1 2-Finger Long-stroke Gripper
PFH 30
with special bores for the PA3

2 Additional information source

3 PA3-Electronic system

General information

Power supply for electronics
24 V DC

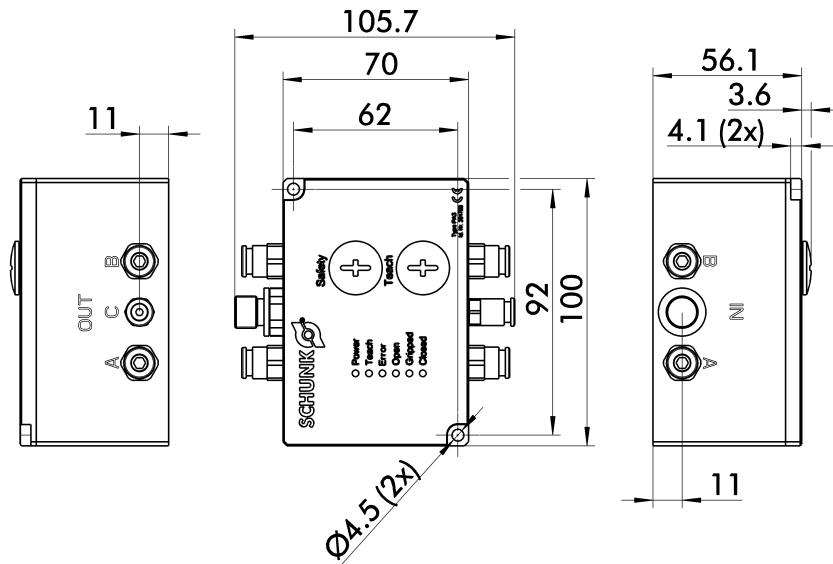
Warranty
24 months



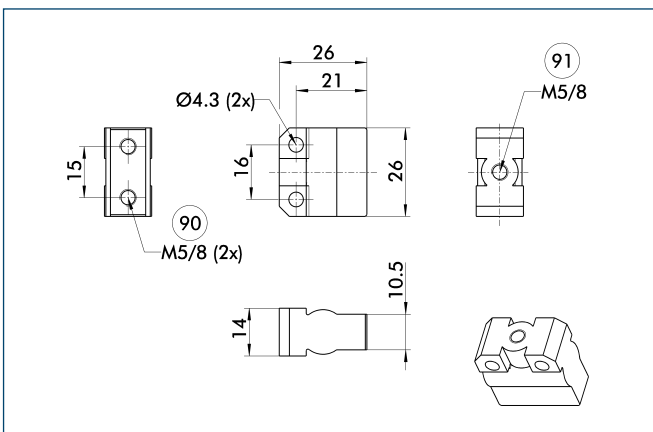
Technical data

Description		PA3
ID		0301780
IP class		67
Type of voltage		DC
Nominal voltage	[V]	24
Min. voltage	[V]	21.6
Max. voltage	[V]	26.4
Nominal power current	[mA]	30
Maximum current	[mA]	130
Weight	[kg]	1.13
Hose connection	[mm]	6
Min. nominal pressure	[bar]	3
Max. pressure	[bar]	10
Permissible media		compressed air
Typical switching time	[s]	1

Main view



AND valve



- 90 Input
- 91 Output

Two additional bore holes in the piston chamber of the monitored components are connected with the AND valve. The resulting pressure signal is sent to the PA3.

Finger Blanks and Intermediate Jaws

Accessories • Gripper Jaws • Finger Blanks

Gripper Jaws

of aluminum or steel for customized subsequent machining



Function description

Finger and jaw blanks already feature the mechanical interface to the gripper. The customer only needs to machine the blank to the specific workpiece geometry.

Your advantages and benefits

Matching finger blanks

for common gripper types

Easy mounting

thanks to standardized drilling pattern

High replacement accuracy

thanks to centering

Clamping contour

can be machined rapidly and easily

Rapid availability

Aluminum finger blanks

of high-strength aluminum alloy

Steel finger blanks

of hardenable steel

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 KTG 2-Finger Parallel Gripper

2 RB Finger Blanks for KTG

General information

Scope of delivery
including screws

Notes

To suit your special requirements, we will be glad to supply low-cost special solutions, workpiece-specific gripper fingers, attachment plates and complete units. Please ask for details.

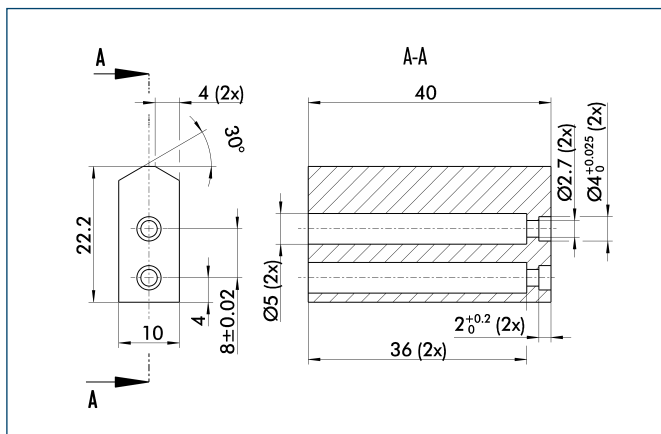




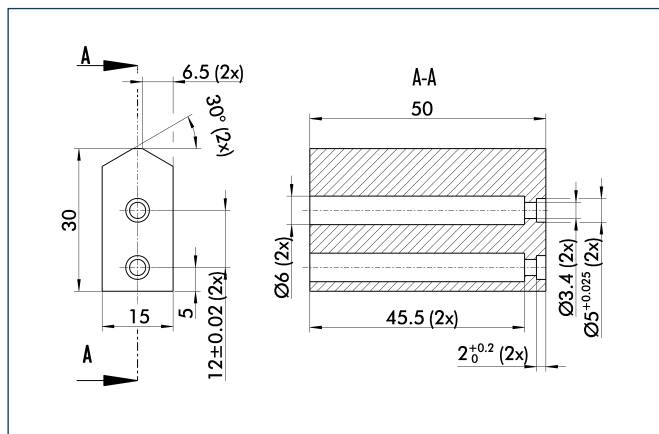
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR-plus 40	0300008	1	0.02	Aluminum
SBR-plus 40	0300018	1	0.055	16 MnCr 5
ABR-plus 50	0300009	1	0.045	Aluminum
SBR-plus 50	0300019	1	0.125	16 MnCr 5
ABR-plus 64	0300010	1	0.093	Aluminum
SBR-plus 64	0300020	1	0.26	16 MnCr 5
ABR-plus 80	0300011	1	0.162	Aluminum
SBR-plus 80	0300021	1	0.455	16 MnCr 5
ABR-plus 100	0300012	1	0.358	Aluminum
SBR-plus 100	0300022	1	1.004	16 MnCr 5
ABR-plus 125	0300013	1	0.638	Aluminum
SBR-plus 125	0300023	1	1.788	16 MnCr 5
ABR-plus 160	0300014	1	1.291	Aluminum
SBR-plus 160	0300024	1	3.45	16 MnCr 5
ABR-plus 200	0300015	1	2.191	Aluminum
SBR-plus 200	0300025	1	6.144	16 MnCr 5
SBR-plus 240	0300027	1	7.98	16 MnCr 5
ABR-plus 240	0300017	1	2.84	Aluminum
ABR-plus 300	0300016	1	3.236	Aluminum
SBR-plus 300	0300026	1	9.072	16 MnCr 5

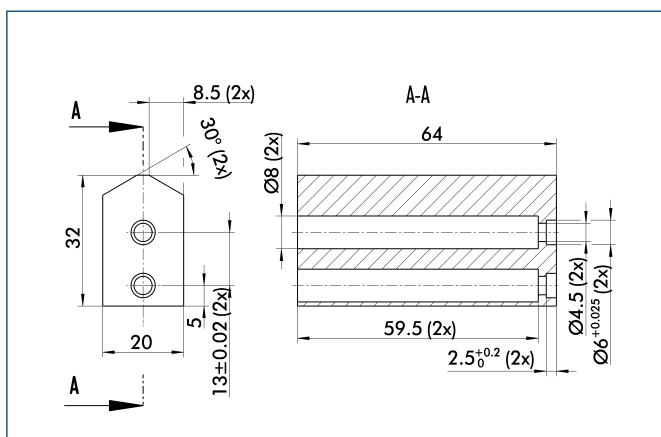
ABR-plus/SBR-plus 40



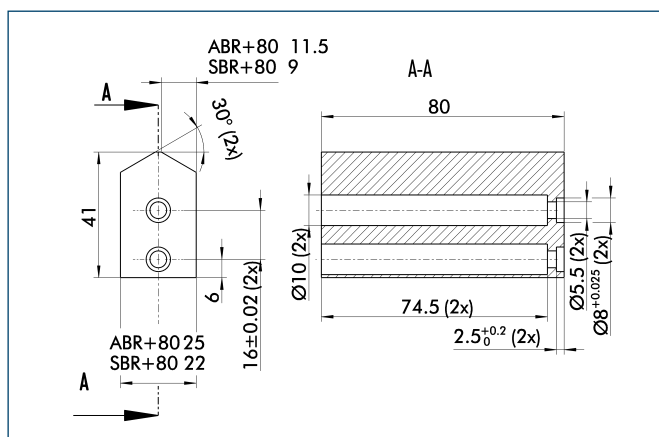
ABR-plus/SBR-plus 50



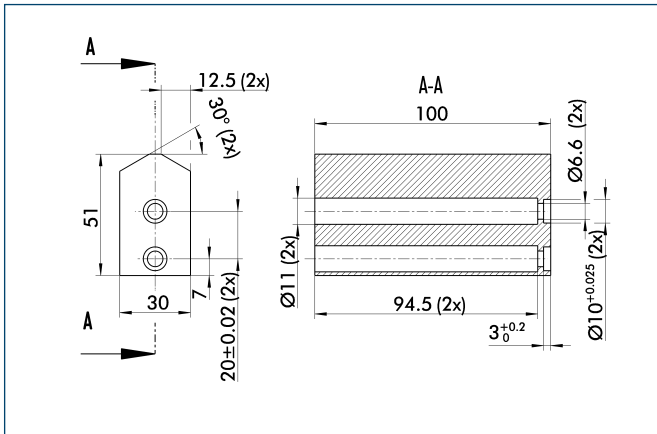
ABR-plus/SBR-plus 64



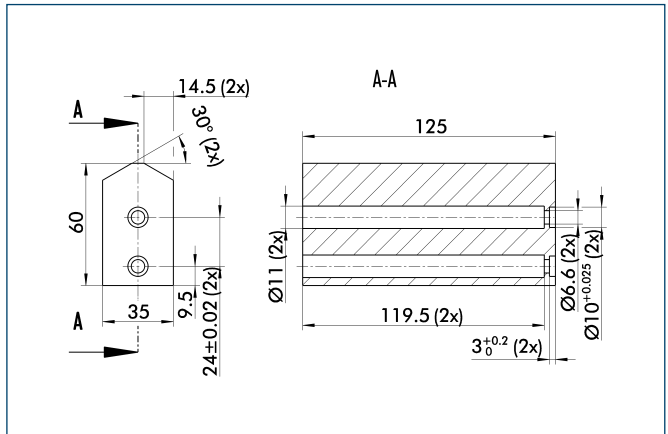
ABR-plus/SBR-plus 80



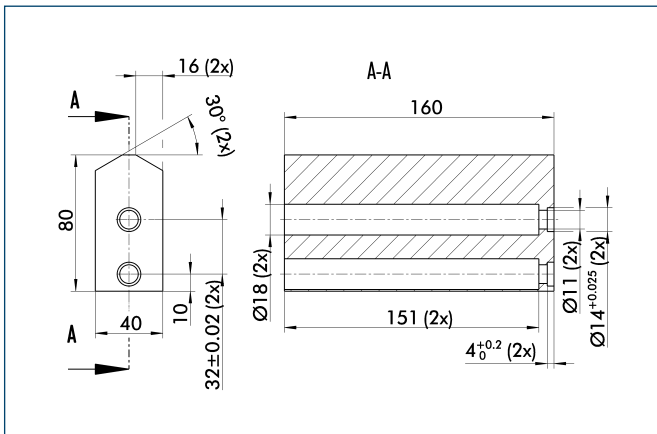
ABR-plus/SBR-plus 100



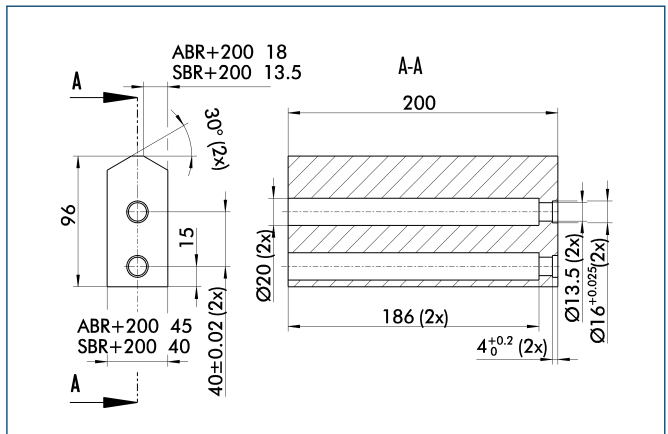
ABR-plus/SBR-plus 125



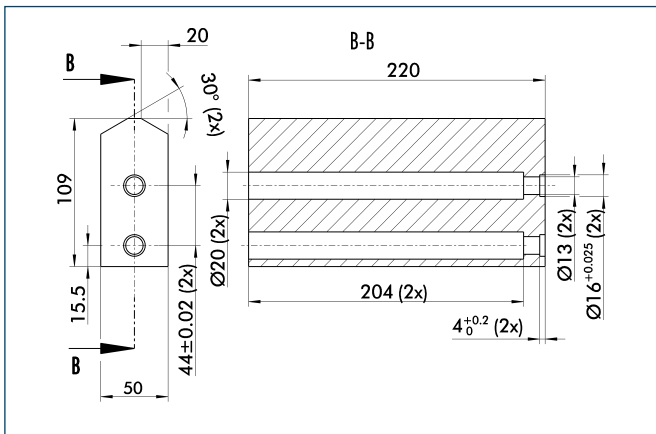
ABR-plus/SBR-plus 160



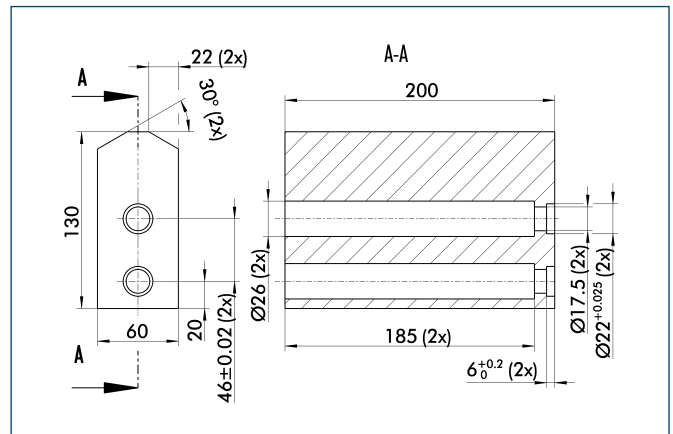
ABR-plus/SBR-plus 200

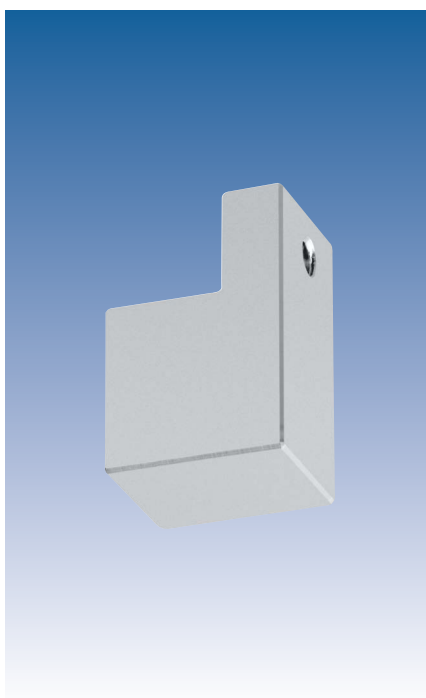


ABR-plus/SBR-plus 240



ABR-plus/SBR-plus 300

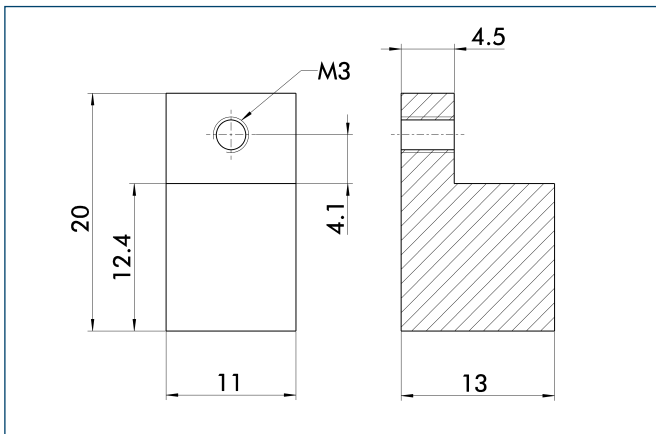




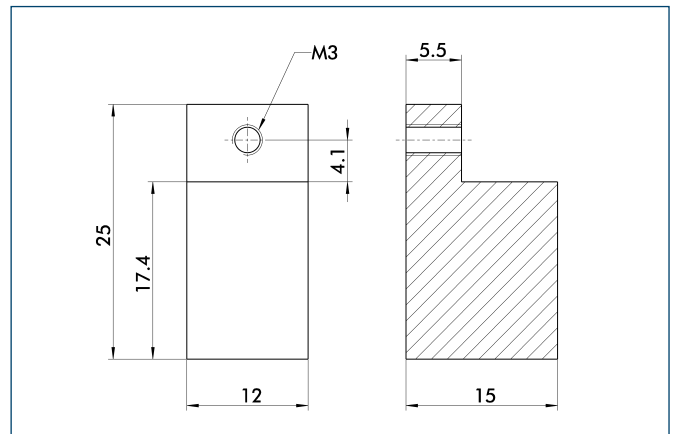
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 20	0340210	2	0.006	Aluminum
ABR 25	0340211	2	0.008	Aluminum
ABR 32	0340212	2	0.016	Aluminum
ABR 40	0340213	2	0.031	Aluminum
ABR 50	0340214	2	0.068	Aluminum
ABR 64	0340215	2	0.12	Aluminum

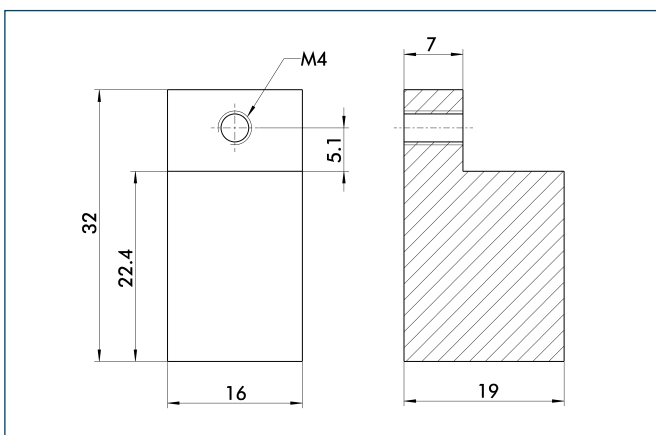
ABR 20



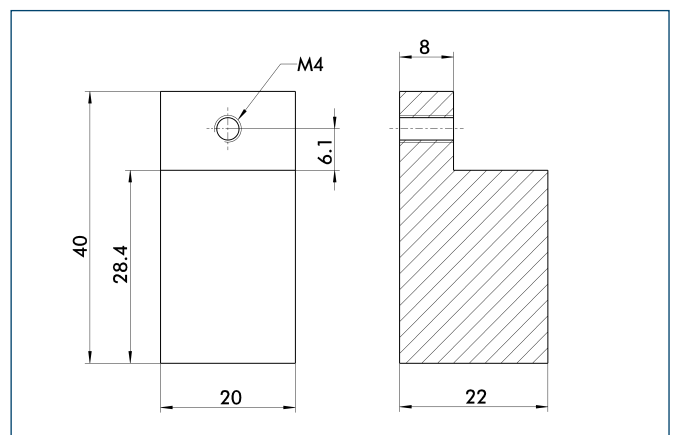
ABR 25



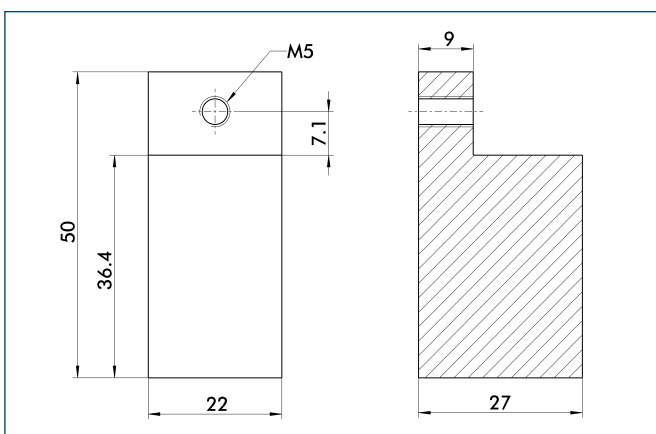
ABR 32



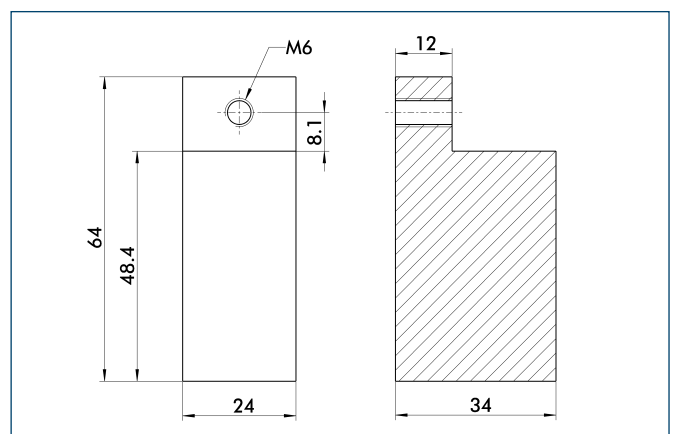
ABR 40

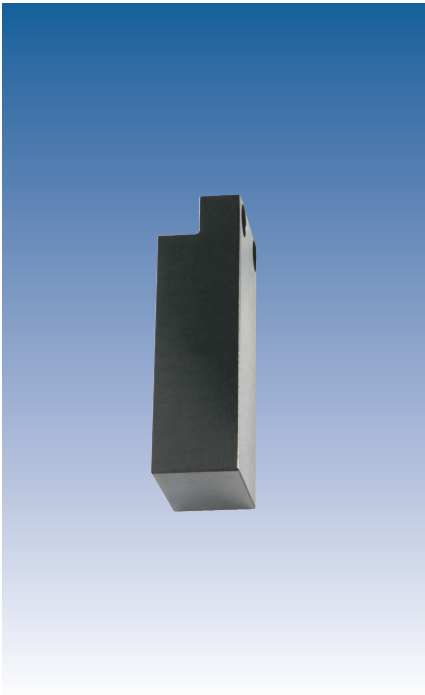


ABR 50



ABR 64





Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR-PG 70	0307850	1	0.12	Aluminum

Technical drawing of a mechanical part, showing front and side views with dimensions.

Front View (Left):

- Overall height: 70
- Overall width: $30^{0}_{-0.1}$
- Top flange width: 20
- Top flange thickness: 5 $^{0}_{-0.1}$
- Distance between mounting holes: 10
- Two mounting holes are shown on the top flange.

Side View (Right):

- Overall height: 100 $^{0}_{-0.1}$
- Overall width: 20
- Top flange thickness: 4.4 (2x)
- Distance from top flange to center of mounting hole: 10 $^{0}_{-0.1}$
- Two mounting holes are shown, with diameters $\varnothing 8$ (2x) and $\varnothing 4.5$ (2x).
- A central vertical feature is shown with a diameter of 60.

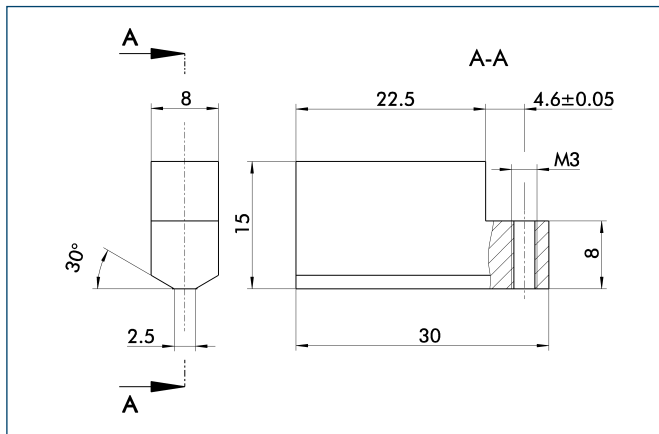




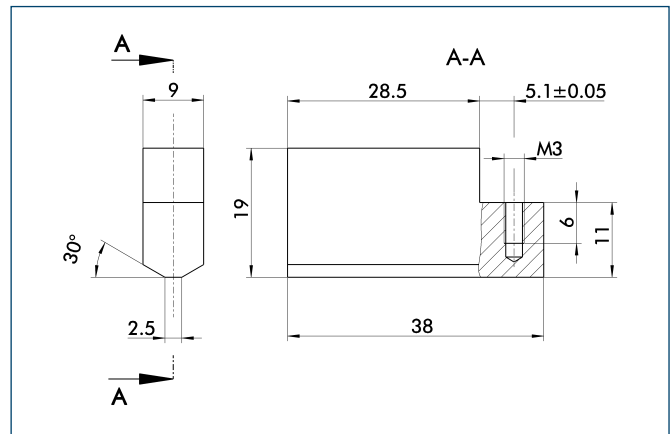
Technical data

Description	ID	Items per ID	Weight [kg]	Material
ABR 30	0340519	3	0.08	Aluminum
ABR 38	0340529	3	0.015	Aluminum
ABR 45	0340539	3	0.024	Aluminum

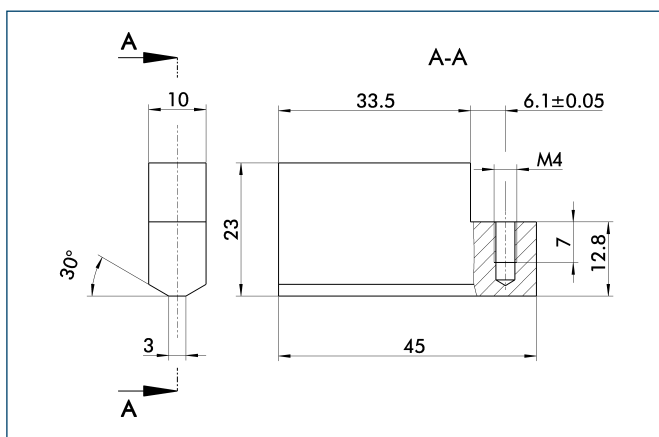
ABR 30



ABR 38



ABR 45

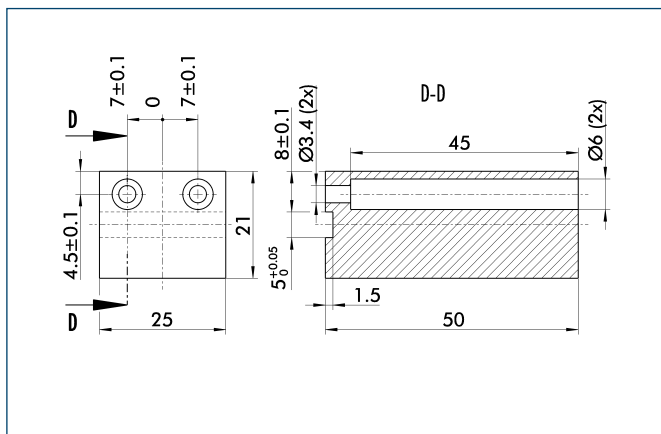




Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 50	0300280	2	0.065	Aluminum

RB 50



RB for KGG

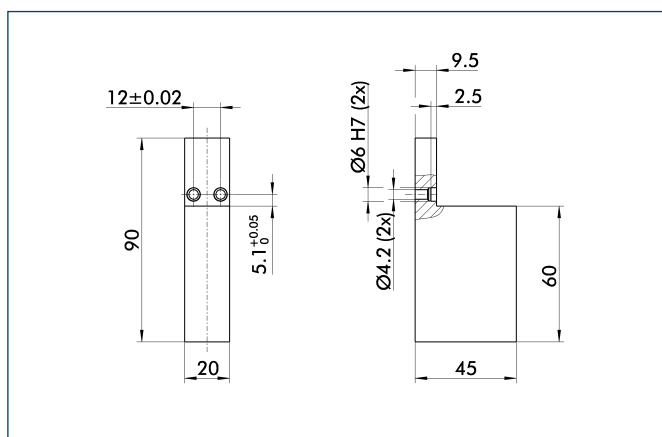
Accessories • Gripper Jaws • Finger Blanks • For Special Gripper Series



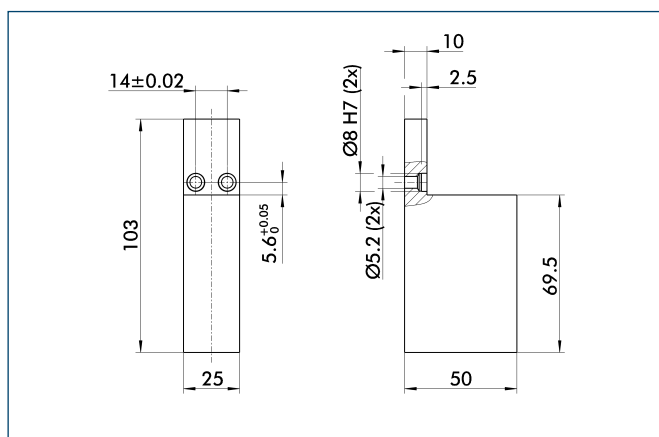
Technical data

Description	ID	Items per ID	Weight [kg]	Material
RB 80	0303089	2	0.16	Aluminum
RB 100	0303090	2	0.26	Aluminum
RB 140	0303091	2	0.467	Aluminum
RB 220	0300286	2	1.354	Aluminum
RB 280	0300287	2	3.102	Aluminum

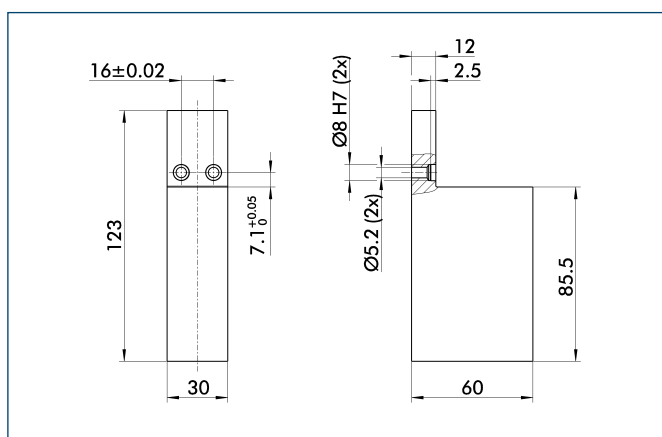
RB 80



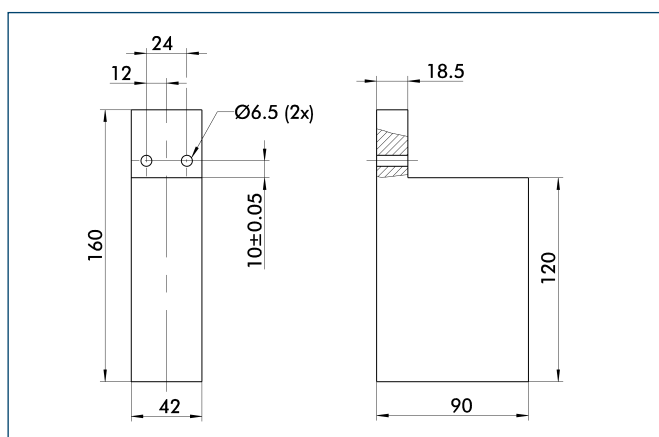
RB 100



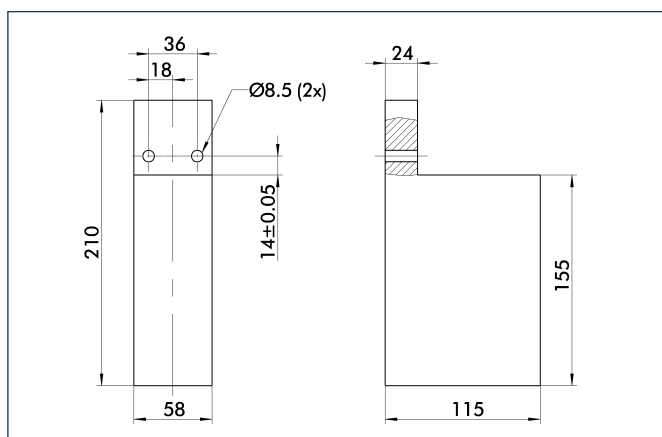
RB 140



RB 220



RB 280



ZBH for PFH

Accessories • Gripper Jaws • Intermediate Jaws



Technical data

Description	ID	Items per ID	Weight [kg]	Material
ZBH 30	0300220	2	0.66	16 MnCr 5
ZBH 40	0300221	2	0.89	16 MnCr 5
ZBH 50	0300222	2	1.64	16 MnCr 5

Technical drawing of a mechanical part showing three views: front, top, and side. The front view shows a rectangular block with a central slot and two circular features. The top view shows the overall dimensions and the location of the circular features. The side view shows the profile of the block and the internal structure of the slot. Dimensions are given in millimeters with tolerances.

Front View Dimensions:

- Overall width: 59.5
- Overall height: 36
- Distance from top edge to center of upper circular feature: 8 ± 0.02
- Distance from top edge to center of lower circular feature: 20 ± 0.02
- Distance from left edge to center of upper circular feature: 20 ± 0.02
- Distance from left edge to center of lower circular feature: 20 ± 0.02
- Distance from right edge to center of upper circular feature: 10 ± 0.02
- Distance from right edge to center of lower circular feature: 13.5 ± 0.02
- Slot width: 18
- Slot depth: 12 ± 0.02
- Slot height: 8 ± 0.02
- Thread specification: 2 M6/15 (2x)

Top View Dimensions:

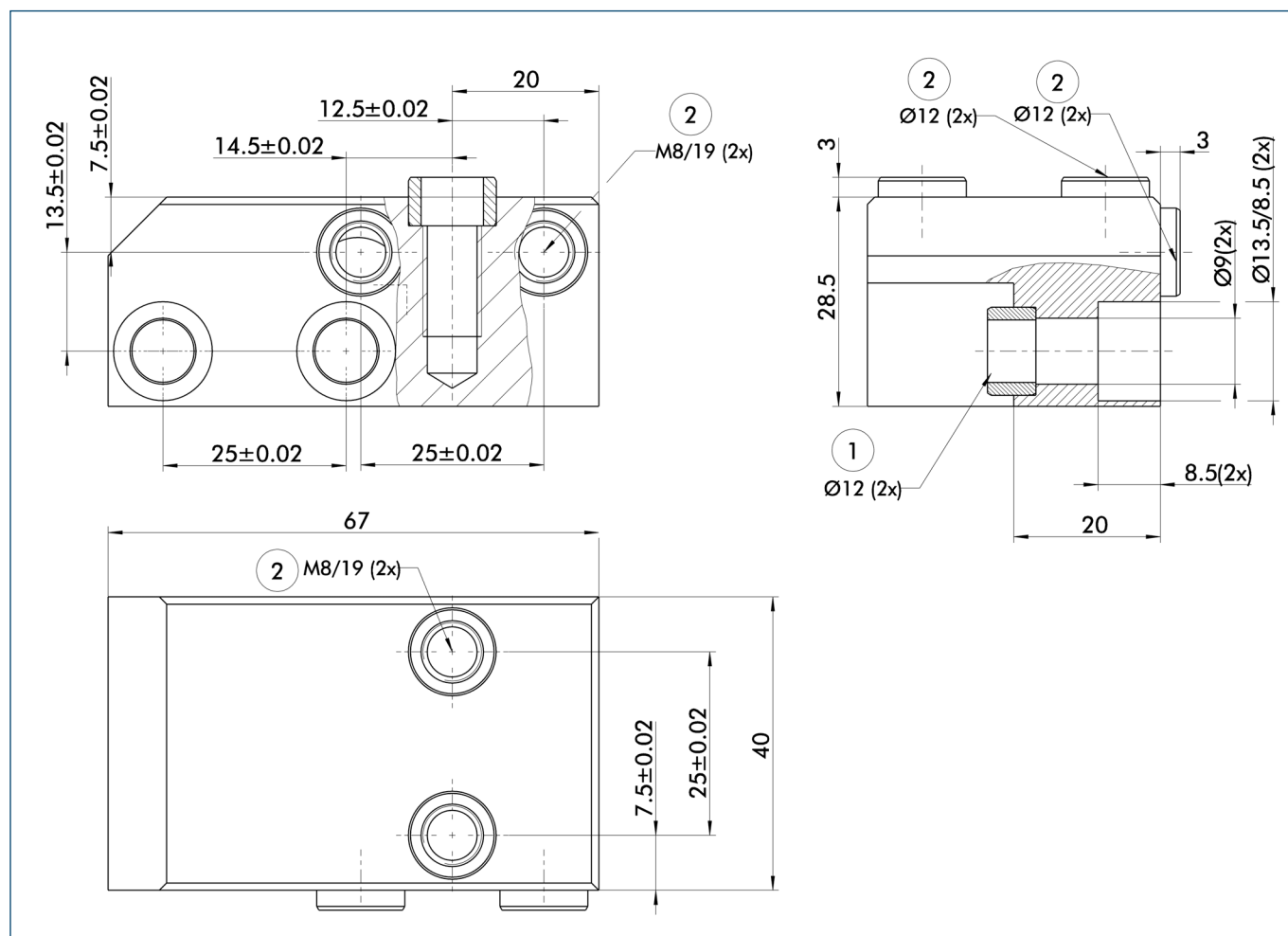
- Overall width: 59.5
- Overall height: 36
- Distance from top edge to center of upper circular feature: 8 ± 0.02
- Distance from top edge to center of lower circular feature: 20 ± 0.02
- Distance from left edge to center of upper circular feature: 20 ± 0.02
- Distance from left edge to center of lower circular feature: 20 ± 0.02
- Distance from right edge to center of upper circular feature: 10 ± 0.02
- Distance from right edge to center of lower circular feature: 13.5 ± 0.02
- Slot width: 18
- Slot depth: 12 ± 0.02
- Slot height: 8 ± 0.02
- Thread specification: 2 M6/15 (2x)

Side View Dimensions:

- Overall width: 59.5
- Overall height: 36
- Distance from top edge to center of upper circular feature: 8 ± 0.02
- Distance from top edge to center of lower circular feature: 20 ± 0.02
- Distance from left edge to center of upper circular feature: 20 ± 0.02
- Distance from left edge to center of lower circular feature: 20 ± 0.02
- Distance from right edge to center of upper circular feature: 10 ± 0.02
- Distance from right edge to center of lower circular feature: 13.5 ± 0.02
- Slot width: 18
- Slot depth: 12 ± 0.02
- Slot height: 8 ± 0.02
- Thread specification: 2 M6/15 (2x)

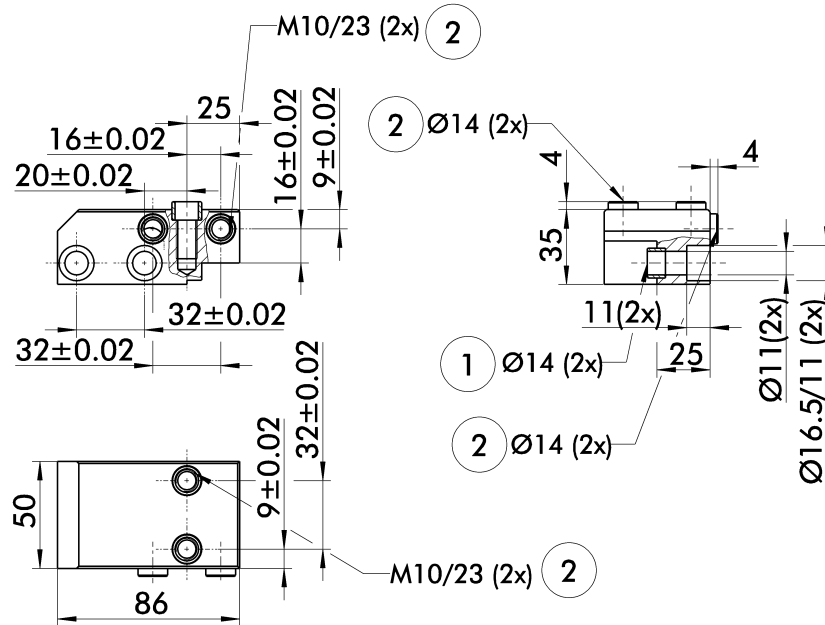
- ① Gripper connection
- ② Finger connection

ZBH 40 for PFH 40



- ① Gripper connection
- ② Finger connection

ZBH 50 for PFH 50



- ① Gripper connection
- ② Finger connection

Plastic Inserts

for gentle clamping of sensitive workpieces and for increasing the static friction.



Function description

The plastic inserts are used in gripper top jaws at the point contacting the workpiece. The surface helps to grip the workpiece securely and with low distortion.

Your advantages and benefits

High friction coefficient of approx. 0.3 - 0.4
thanks to the use of glass-fiber-reinforced plastic

Gentle clamping

of the most delicate surfaces, no clamping marks, excellent for ground or surface-treated parts

Low-cost system

through replaceable clamping inserts

High stability

through the aluminum support structure of the supporting jaw

Extensive workpiece locating surface

for low-deformation clamping of machined parts

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 Gripper Finger

2 Clamping Insert Quentes

General information

Material

glass-fiber-reinforced plastic

Warranty

24 months

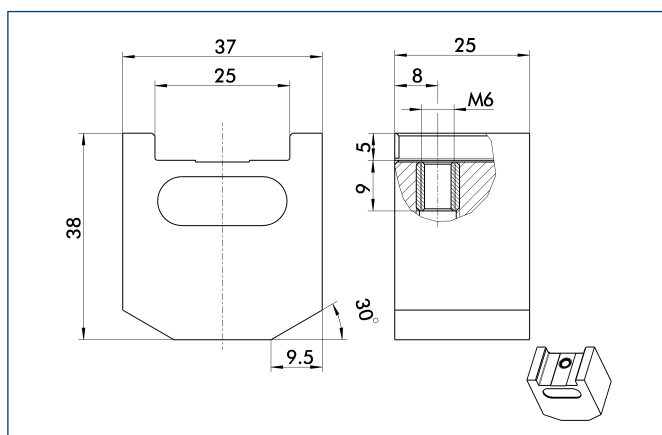




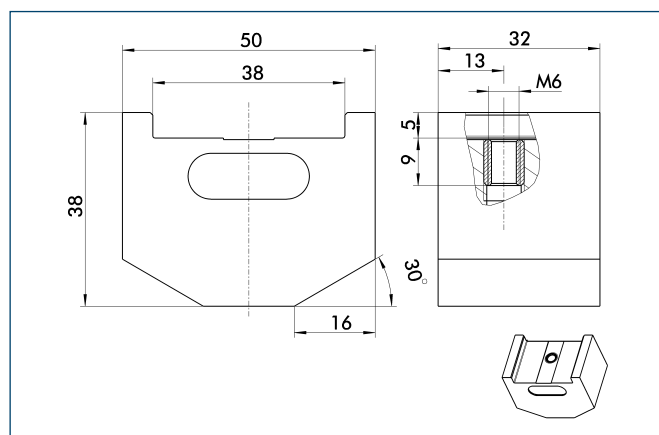
Technical data

Description	ID	Weight	Material
Quentes 5	0300760	0.13 kg	glass-fiber-reinforced plastic
Quentes 10	0300761	0.28 kg	glass-fiber-reinforced plastic

Quentes 5



Quentes 10



Hard Metal Clamping Inserts

Inserts for increasing the friction on the contact surface between the gripper fingers and the workpiece.



Function description

The HM clamping inserts are used in gripper top jaws at the point contacting the workpiece. The angular, rough surface helps to grip the workpiece securely.

Your advantages and benefits

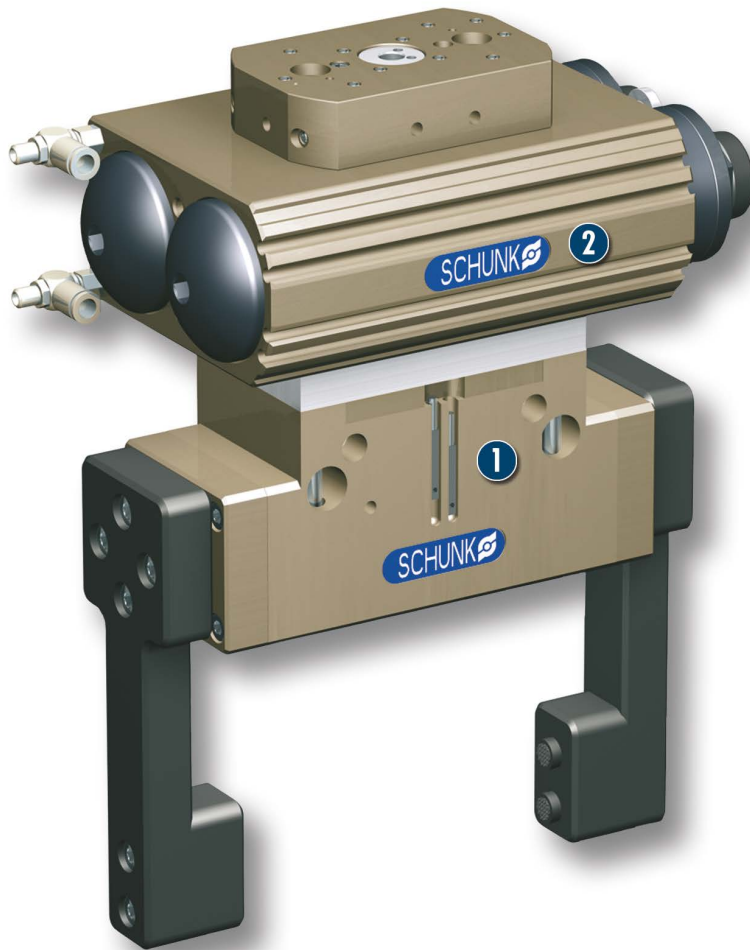
Increase of the friction factor
therefore requiring less gripping force

Various sizes available

Fast change possible

High load bearing capacity

Application example



Area of application

variable clamping tasks, for sensitive workpieces

1 DPG-plus 125 2-Finger Parallel Gripper, with top fingers equipped with carbide clamping inserts

2 SRU 35.1-180-3-4 Rotary Actuator in sealed IP67 version

General information

Material

Steel, hardened

Warranty

24 months

Notes

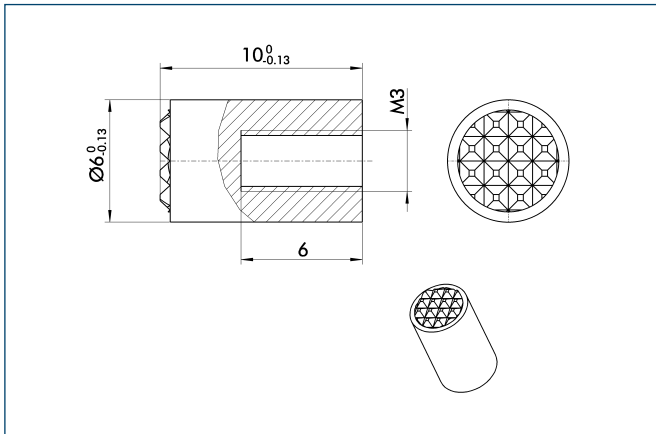
The HM clamping inserts should not be used if scratch marks are not desired on the workpiece.



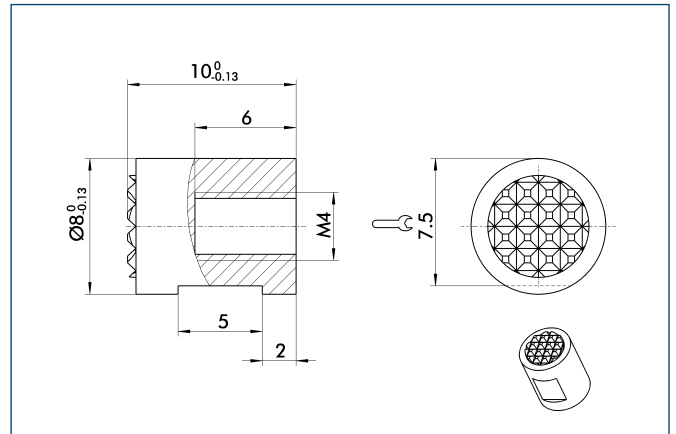
Technical data

Description	ID	Weight	Form	Material
HM 6	0300780	0.002 kg	Cylinder	Carbide
HM 8	0300781	0.004 kg	Cylinder	Carbide
HM 10	0300782	0.006 kg	Cylinder	Carbide
HM 11	0300783	0.01 kg	Cylinder	Carbide
HM 12	0300784	0.012 kg	Cylinder	Carbide
HM 13	0300785	0.016 kg	Cylinder	Carbide
HM 14	0300786	0.022 kg	Cylinder	Carbide
HM 15	0300787	0.012 kg	Cylinder	Carbide

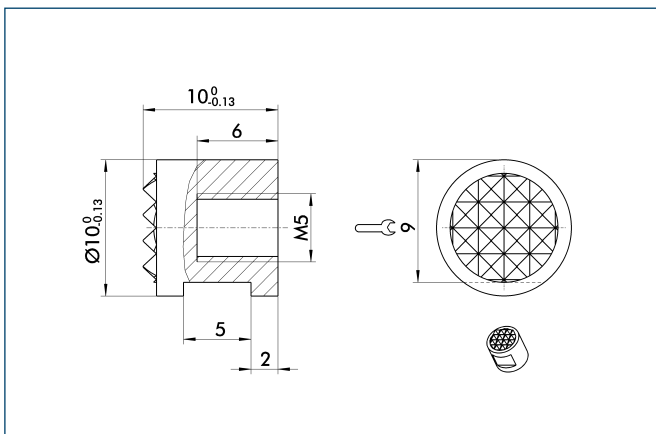
HM 6



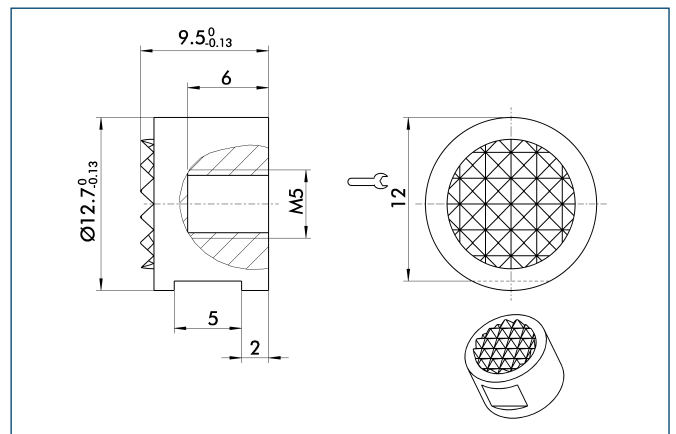
HM 8



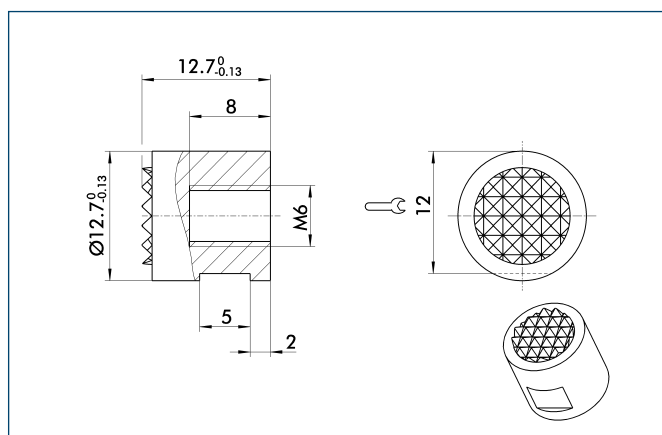
HM 10



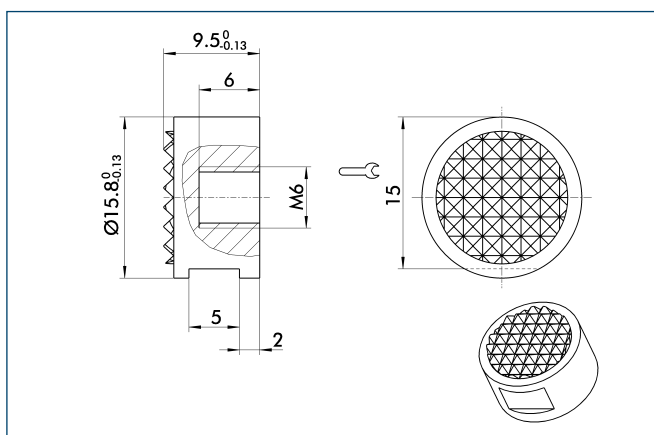
HM 11



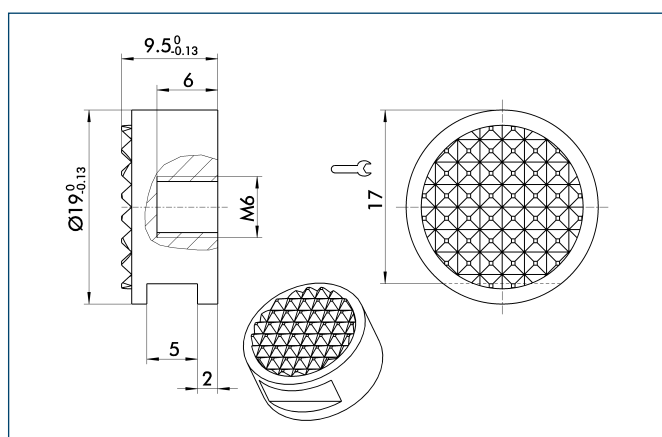
HM 12



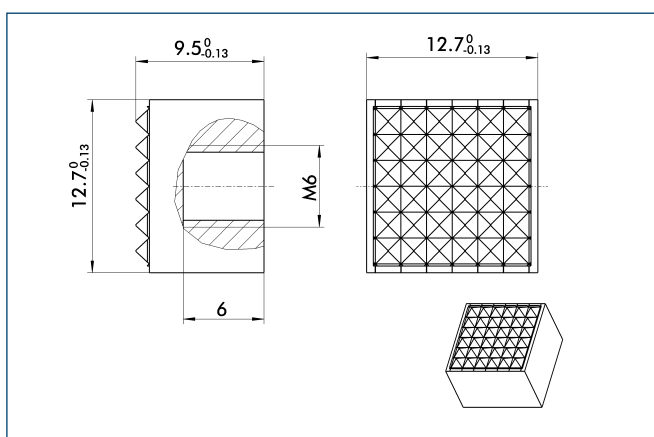
HM 13

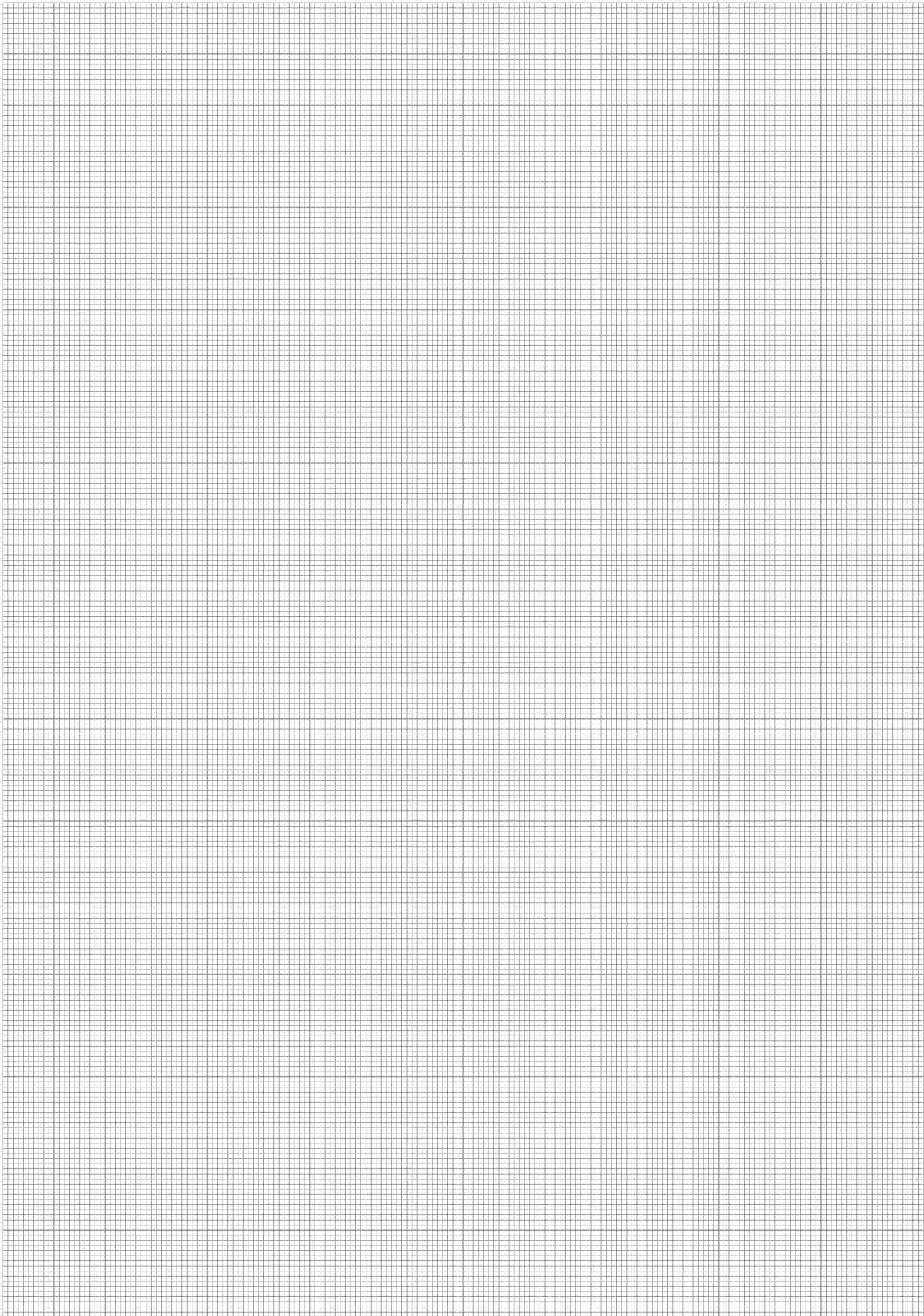


HM 14



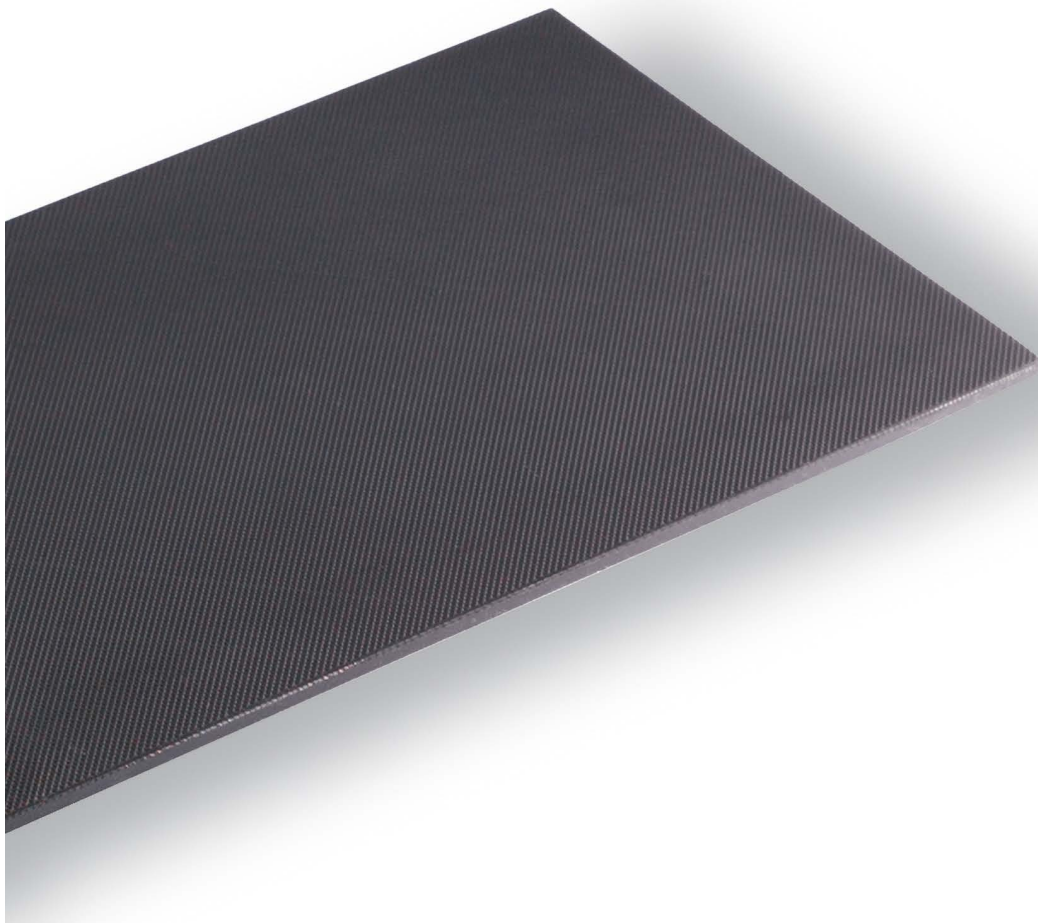
HM 15





HKI Gripper Pads

Gripper Pads made of soft plastic for surface-friendly gripping of workpieces with simultaneous increase of friction forces.



Function description

The gripper pads are attached to the surface of the gripper fingers that contact the workpiece.

Your advantages and benefits

High friction coefficient of approx. 0.3 - 0.4
for higher workpiece weights with the same gripping force

Easy assembly
through gluing or screws

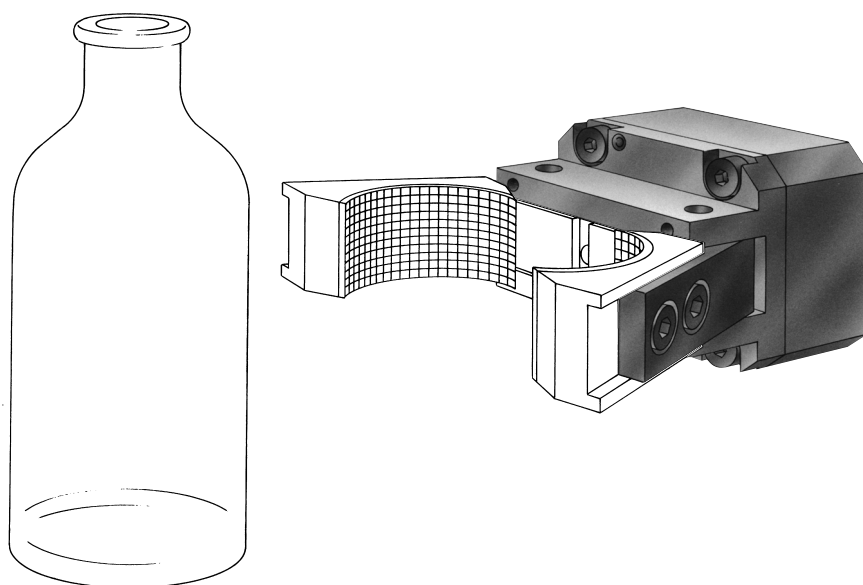
Pliable surface
for surface-friendly gripping

Resistant against oil
for use in difficult environments



Area of application

variable clamping tasks, for sensitive workpieces



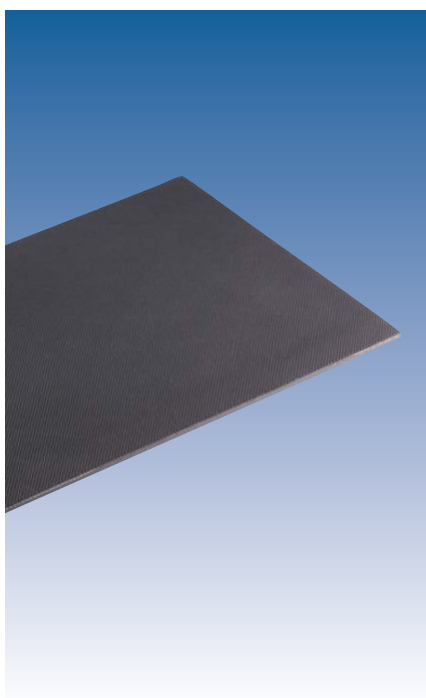
General information

Warranty
24 months

Notes

The HKI gripper pads are delivered as plates.
Blanks can be ordered as special products.

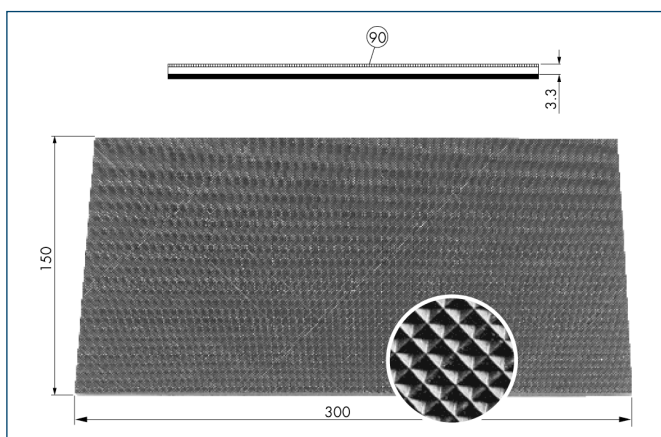




Technical data

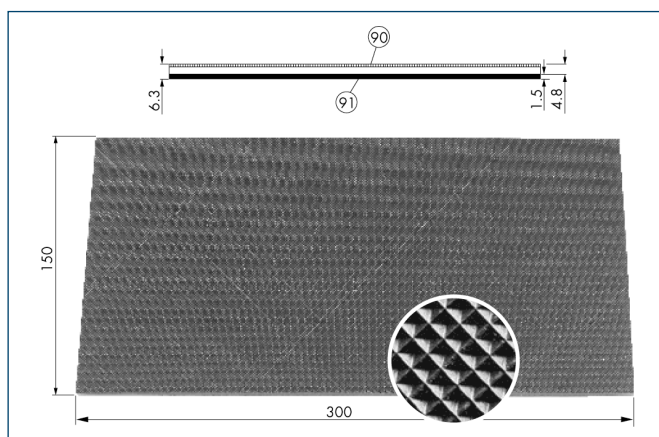
Description		HKI 1E	HKI 1A	HKI 1S
ID		0324160	0324161	0324162
Length	[mm]	300.0	300.0	300.0
Width	[mm]	150.0	150.0	150.0
Thickness	[mm]		6.3	13.5
Elastomer		NBR Perbunan	NBR Perbunan	NBR Perbunan
Hard elastomer	[Shore]	60.0	60.0	60.0
Hardness tolerance +/-	[Shore]	5.0	5.0	5.0
Base plate present		No	Yes	Yes
Material of base plate		Elastomer	Aluminum	Stainless steel
Min. ambient temperature	[°C]	-30.0	-30.0	-30.0
Max. ambient temperature	[°C]	100.0	100.0	100.0

HKI 1E



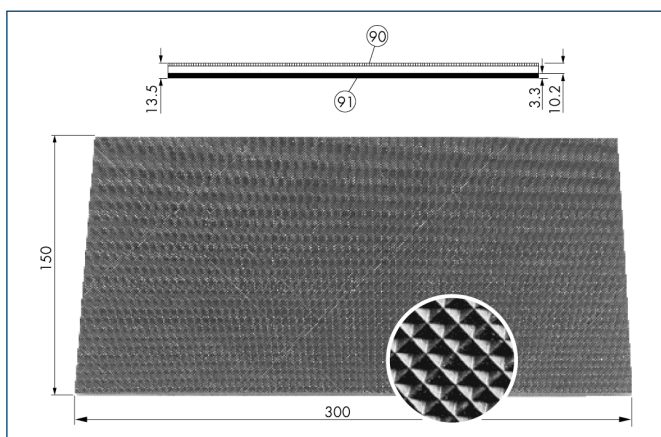
90 Elastomer pads

HKI 1A



90 Elastomer pads
91 Aluminum base plate

HKI 1S



90 Elastomer pads
91 Stainless steel base plate

Quick-change Jaw System

The BSWS quick-change jaw system enables top jaws to be changed on the gripper manually and rapidly. An adapter (BSWS-A) and a base (BSWS-B) are required for each gripper jaw.

For a reverse assembly without height set-up, one adapter (BSWS-A) and a kit (BSWS-U) per gripper jaw are required. Another effect of the BSWS-U is, that there are no disturbing fastening bores in the finger contour.



Functional description

The BSWS consists of a base, which is stationary fixed with the gripper, and two adapter pins, which are to be fastened at the top jaw, which is to be exchanged. The form-fit locking mechanics assures a fast exchange of the gripper fingers.

Your advantages and benefits

Universal application possibilities

By using the BSWS, just one single gripper is necessary for various applications

Manual jaw change via locking mechanics

easy and fast for a high gripper flexibility

Firm up to the maximum loadability of the base jaws

by safe adaption and connection with screws

Alternative possibility of inserting the locking bolt into the base jaws

The exchangeability and free choice of jaw design has no impact onto the inferring contours.

Application example



Field of application

For handling of various components or frequent retrofitting of automated production lines in clean to dirty environments.

Caution: The locking surfaces must keep free of grease and oil!

1 Quick-change Jaw System BSWS

3 2-Finger Parallel Grippers PGN-plus

2 Gripper jaws ABR-plus

General information

Housing material

Aluminum alloy, hard-anodized

Locking mechanism material

Steel

Warranty

24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

Sizes

suitable for the sizes 50 to 300 of the series PGN-plus, PZN-plus and many other grippers

Scope of delivery

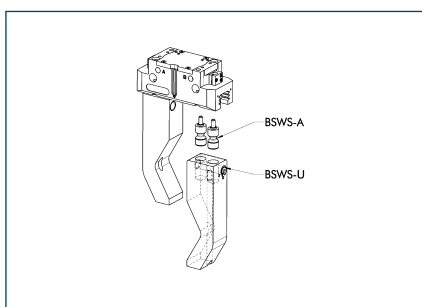
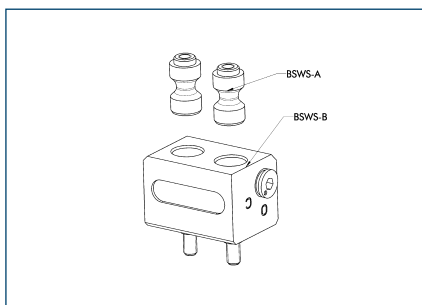
Base and adapter separately in different sizes

Options and special information

BSWS-U: Reversed assembly without additional height

If the additional attachment height of the BSWS system should have a negative impact, it is possible to fasten the BSWS adapter in the base jaws of the gripper with screws. Then the changing system is more compact in height. The locking mechanism will be integrated into the top jaw.

As another effect, there are no disturbing fastening bores at your finger contour. Please contact us for discussing this matter.



Sectional diagram



- 1 Locking mechanics**
powerful and rigid by positive locking
- 2 Fastened with screws**
towards the gripper base jaw
- 3 Base BSWS-B**
the Quick-change Jaw System
- 4 Adapter plate with BSWS-A**
to be fastened at the top jaws which will be changed

Technical data BSWS-A

Description	BSWS-A 50	BSWS-A 64	BSWS-A 80	BSWS-A 100	BSWS-A 125	BSWS-A 160	BSWS-A 200	BSWS-A 240
ID	0303020	0303022	0303024	0303026	0303028	0303030	0303032	0303034
Weight [kg]	0.002	0.005	0.011	0.024	0.046	0.077	0.16	0.3
Number of pins per ID	2	2	2	2	2	2	2	2
Grid dimension	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V	42CrMo4V

Technical data BSWS-B

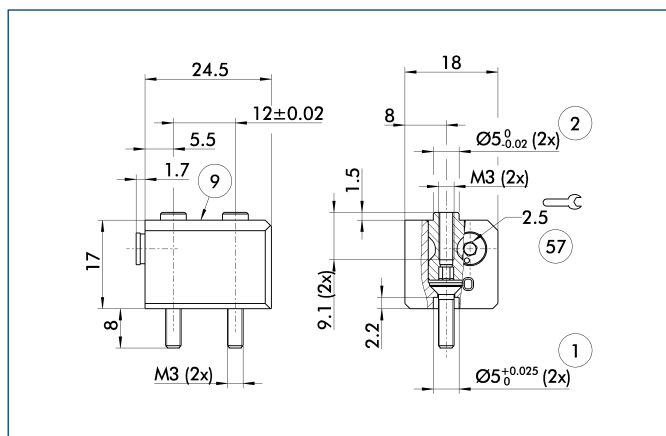
Description	BSWS-B 50	BSWS-B 64	BSWS-B 80	BSWS-B 100	BSWS-B 125	BSWS-B 160	BSWS-B 200	BSWS-B 240
ID	0303021	0303023	0303025	0303027	0303029	0303031	0303033	0303035
Weight [kg]	0.02	0.04	0.08	0.1	0.27	0.48	0.9	1.5

Technical data BSWS-U

Description	BSWS-U 50	BSWS-U 64	BSWS-U 80	BSWS-U 100	BSWS-U 125	BSWS-U 160	BSWS-U 200	BSWS-U 240
ID	0303040	0303041	0303042	0303043	0303044	0303045	0303046	0303047

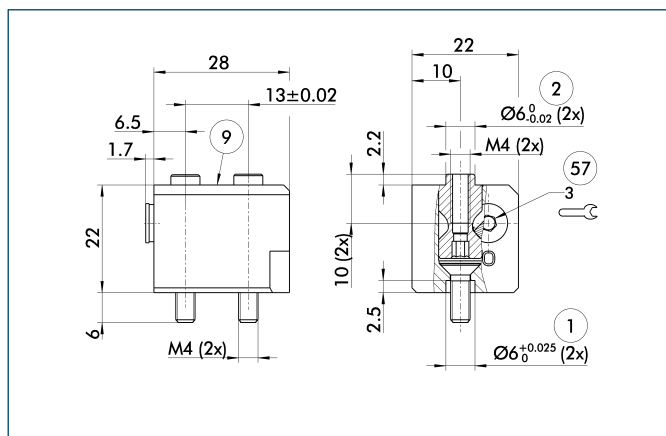
① The level difference of the BSWS-B amounts to +/- 0.05 mm and the exchangeability of a top jaw in combination with a BSWS-A amounts to +/- 0.02 mm.

BSWS 50



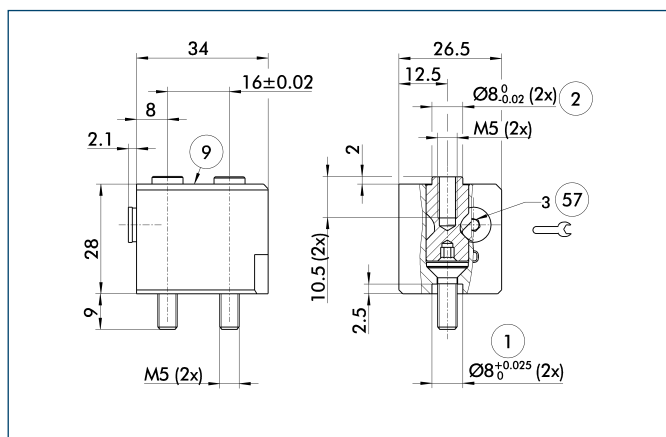
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 64



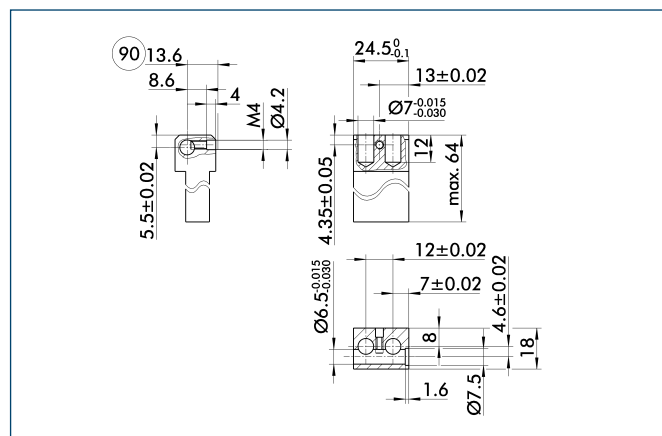
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 80



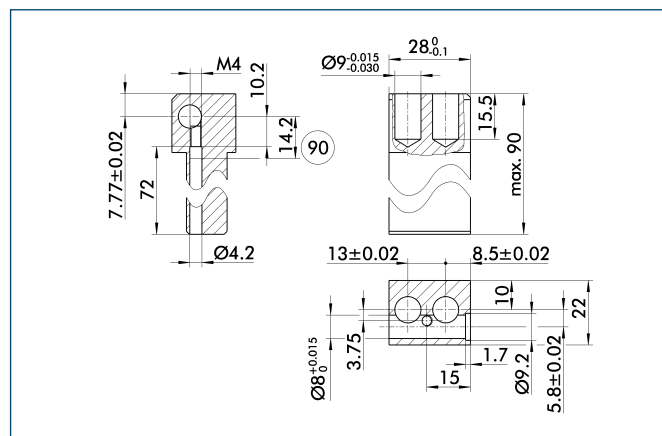
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS-U 50



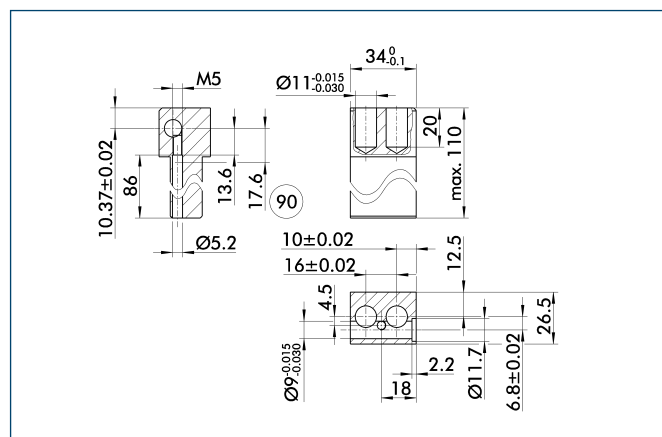
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 64



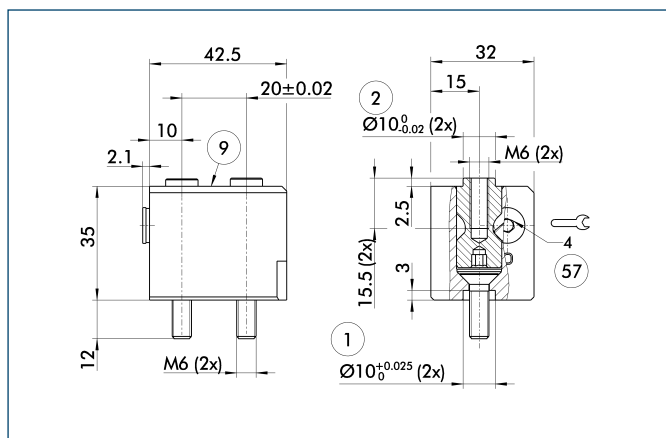
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 80



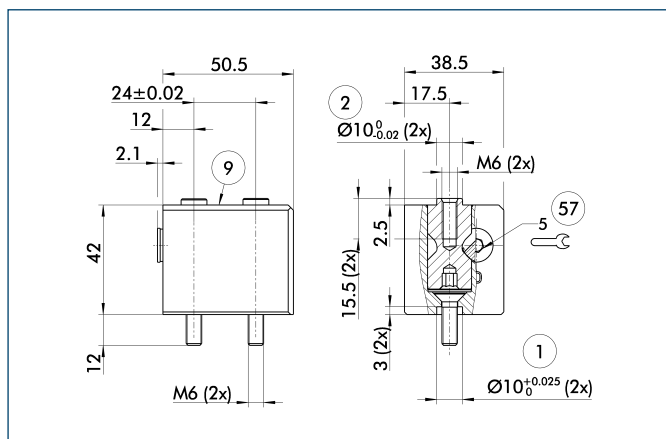
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS 100



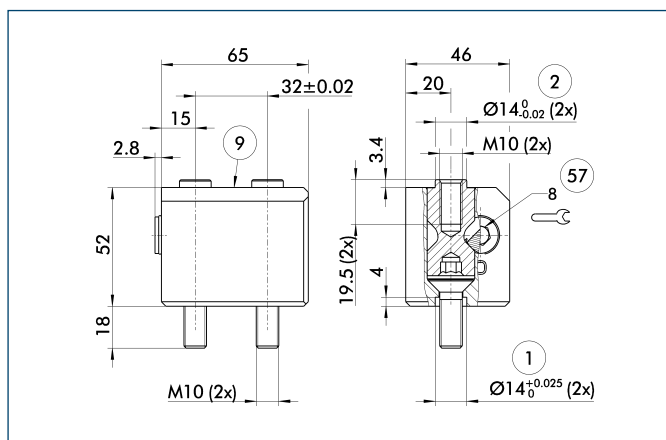
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- 57 Locking

BSWS 125



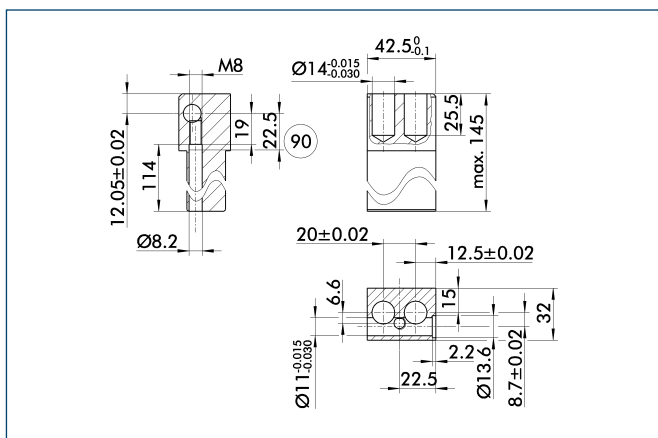
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- 57 Locking

BSWS 160



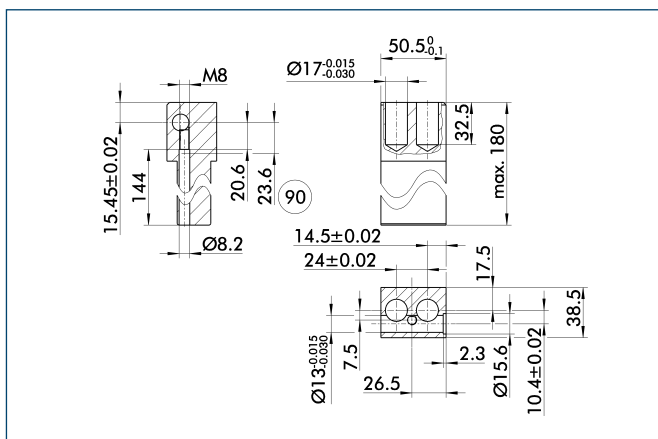
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- 57 Locking

BSWS-U 100



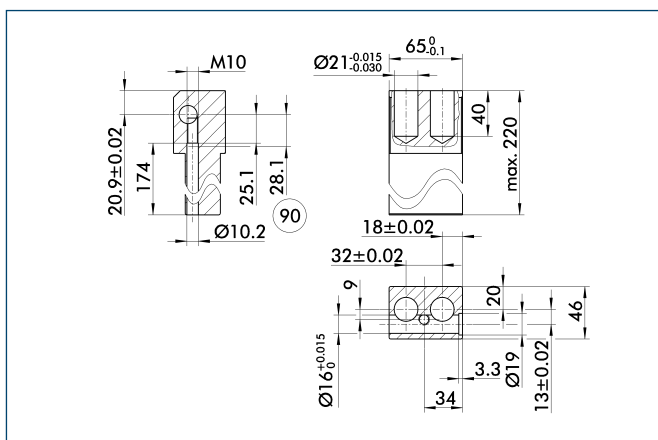
- 90 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 125



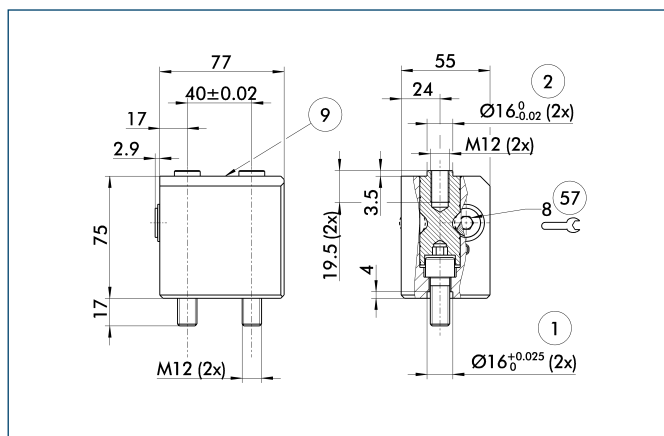
- 90 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 160



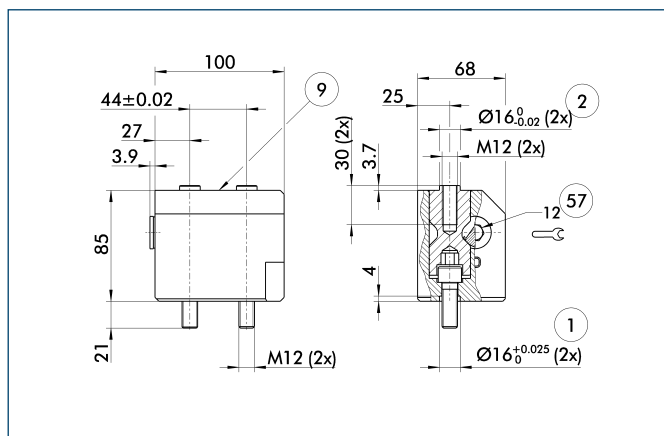
- 90 Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS 200



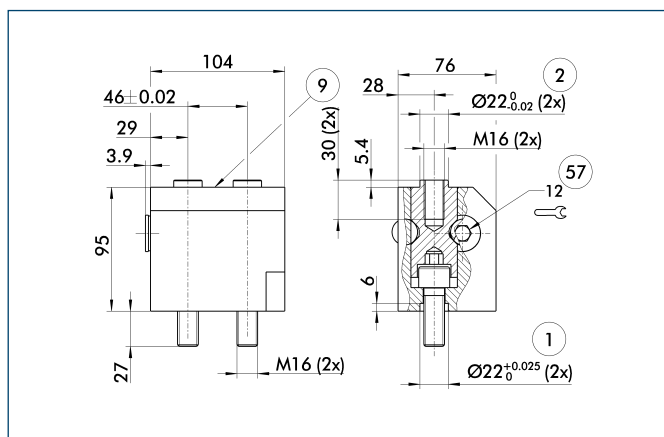
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 240



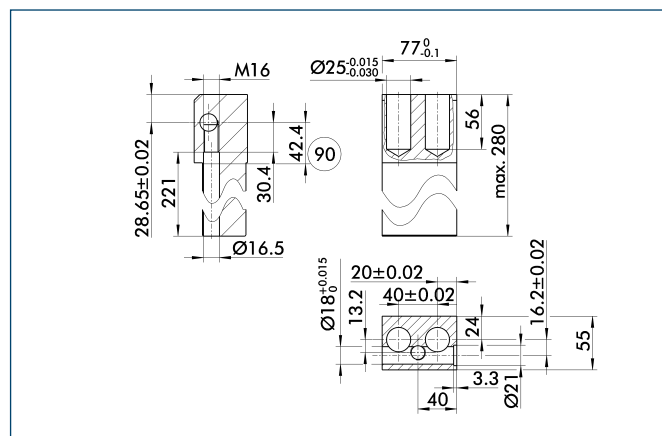
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS 300



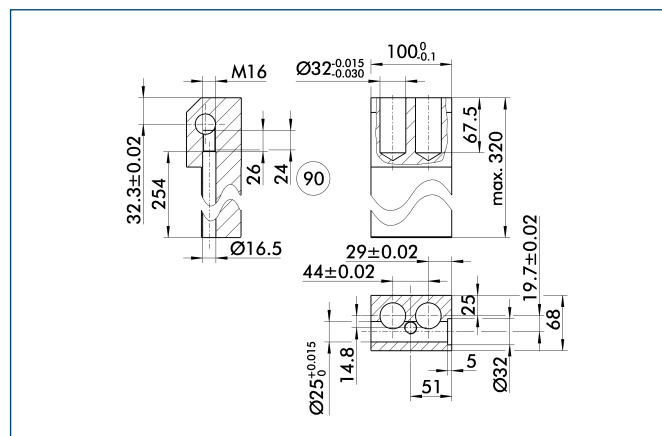
- ① Gripper connection
- ② Finger connection
- ⑨ For mounting screw connection diagram, see basic version
- ⑤⑦ Locking

BSWS-U 200



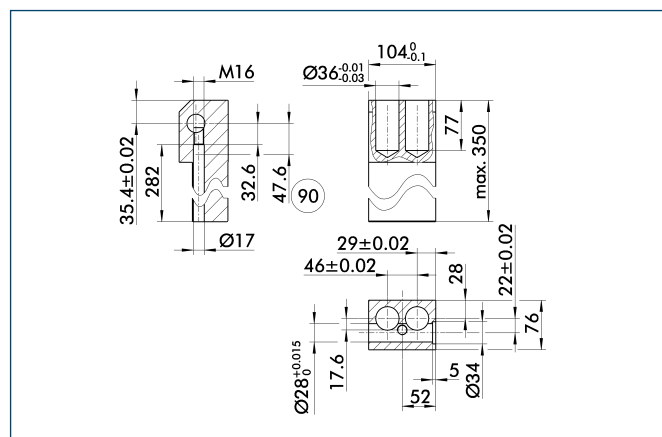
- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 240



- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

BSWS-U 300



- ⑨⑩ Length pressure piece
- ① The dimensions are finished dimensions - surfaces should be resistant to wear, e.g. hard alloy aluminum.

Universal intermediate jaw

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

Field of application

For handling of various components or frequent retrofitting of automated production lines in clean to dirty environments.

Caution: The locking surfaces must keep free of grease and oil!

Your advantages and benefits

Gripper with finger-sided centering

for universal and flexible gripper assembly

Stable guiding strip

suitable for long gripper fingers

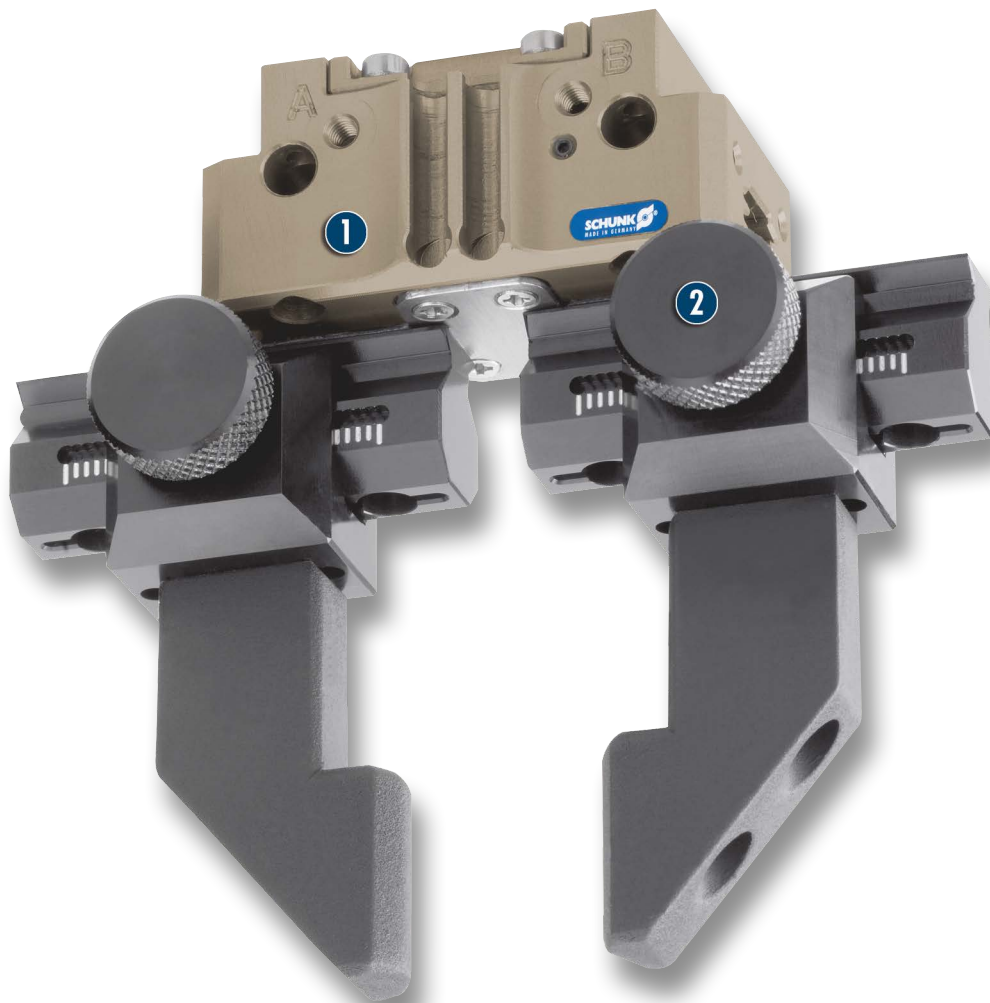
Grid

precise and repeatable

Tool-free adjustment and clamping

for an easy and fast retrofitting

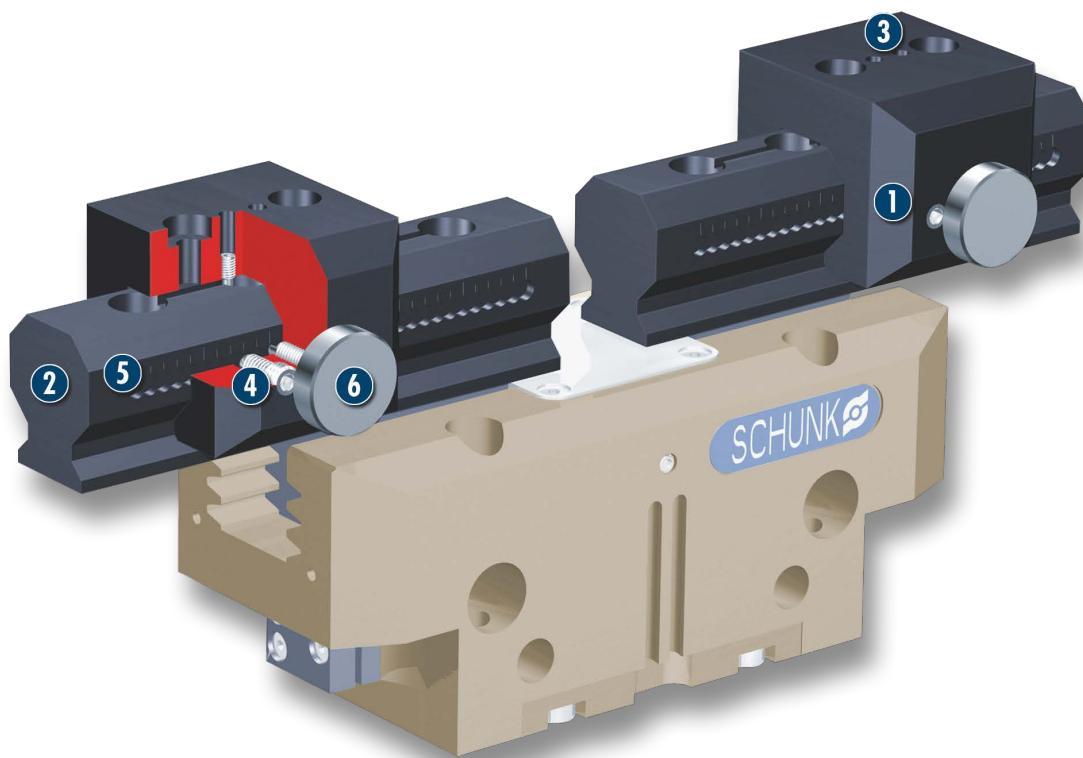
Application example



Adjustment of the gripping range and jaw change within seconds and tool-free

- 1 2-Finger Parallel grippers PGN-plus
- 2 Universal intermediate jaw UZZ

Sectional diagram



- 1 UZH slides**
for adjustment of the gripping area
- 2 UZH guidance**
high bending stiffness for exact gripping
- 3 Finger connection**
for the connection of workpiece-specific gripper fingers
- 4 Grid**
for fast adjustment of the gripping position
- 5 Scale**
for position detection and control
- 6 Position clamping**
stable due to form-fit clamping

Functional description

The finger stroke can be adjusted to tool-free. Then the intermediate jaw UZH allows retrofitting onto another workpiece width at short notice. The two-pieces UZH intermediate jaw from SCHUNK allows fast exchange of the top. The gripper can be retrofitted within no time for other gripping tasks – without needing a tool.

Options and special information

Adjustment range
up to three times higher than the gripper stroke

Material
Aluminum alloy, hard-anodized

Warranty
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)



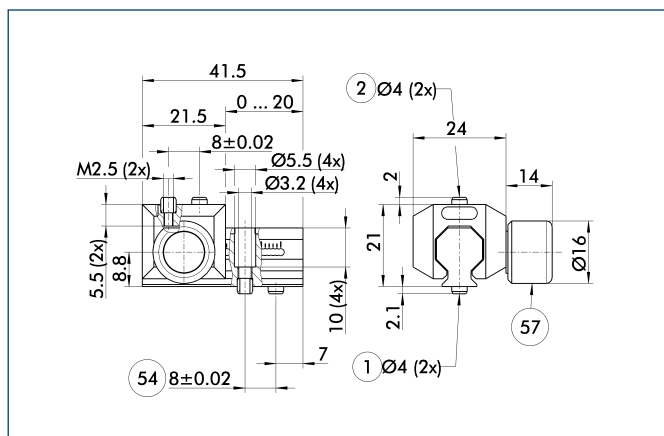
Technical data UZH

Description		UZH 40	UZH 50	UZH 64	UZH 80	UZH 100	UZH 125	UZH 160	UZH 200
ID		0300040	0300041	0300042	0300043	0300044	0300045	0300046	0300047
Max. adjustable range	[mm]	20	33	33	44	55	72.1	79	111
Grid dimension	[mm]	1	1.5	1.5	2	2.5	3	4	7
Weight	[g]	40	70	110	170	260	350	620	1180

Technical data UZH-S

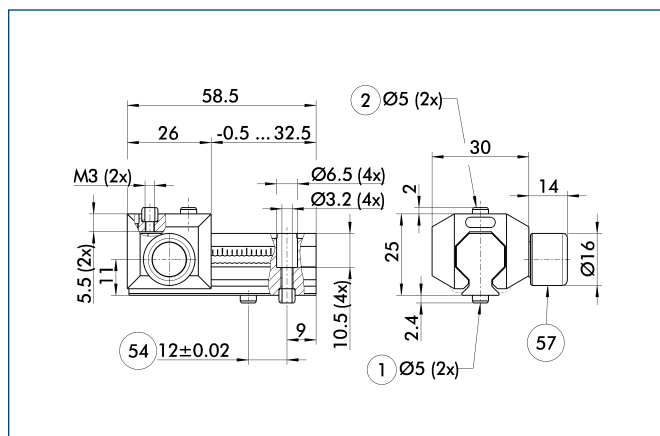
Description		UZH-S 80	UZH-S 100	UZH-S 125	UZH-S 160	UZH-S 200
ID		5518271	5518272	5518273	5518274	5518275
Max. adjustable range	[mm]	2	2.5	3	4	7
Grid dimension	[g]	100	140	180	300	520

Universal intermediate jaw UZH 40



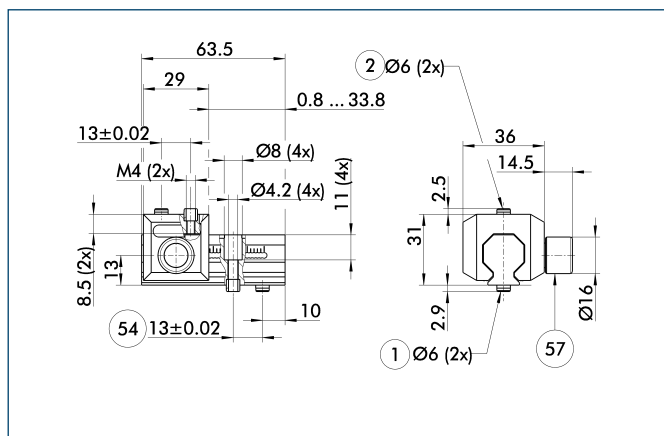
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 50



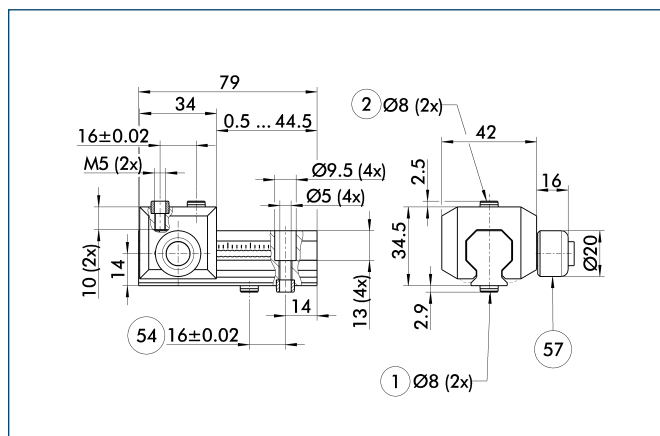
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 64



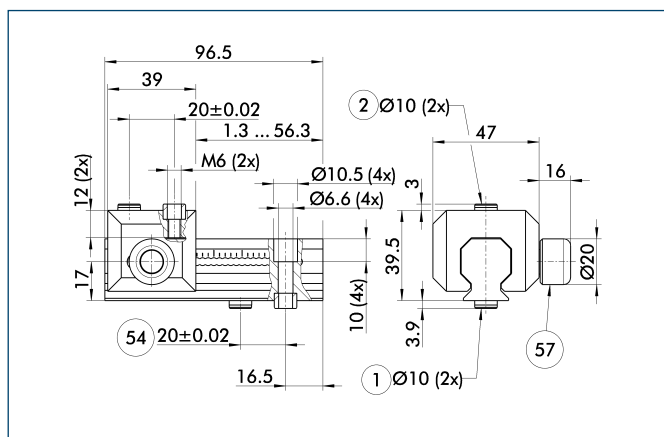
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 80



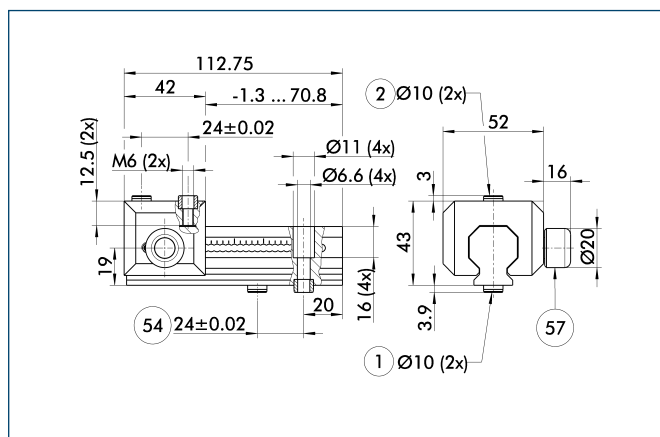
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 100



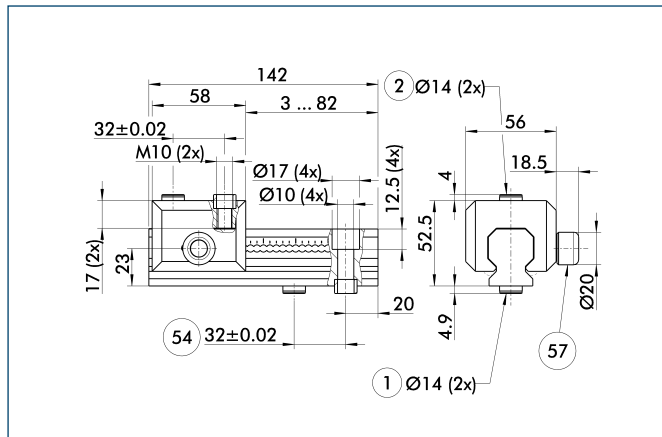
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 125



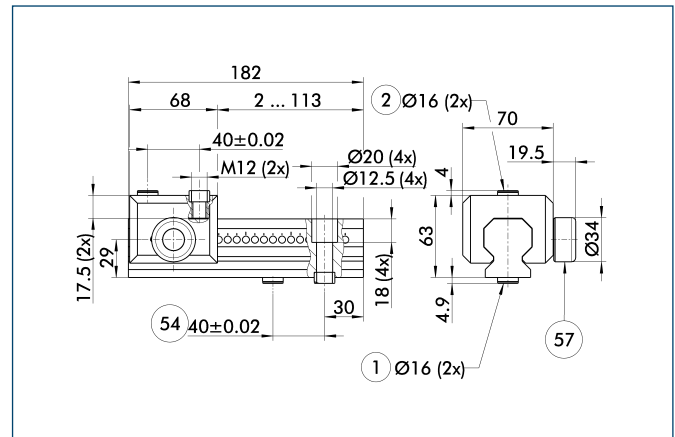
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 160

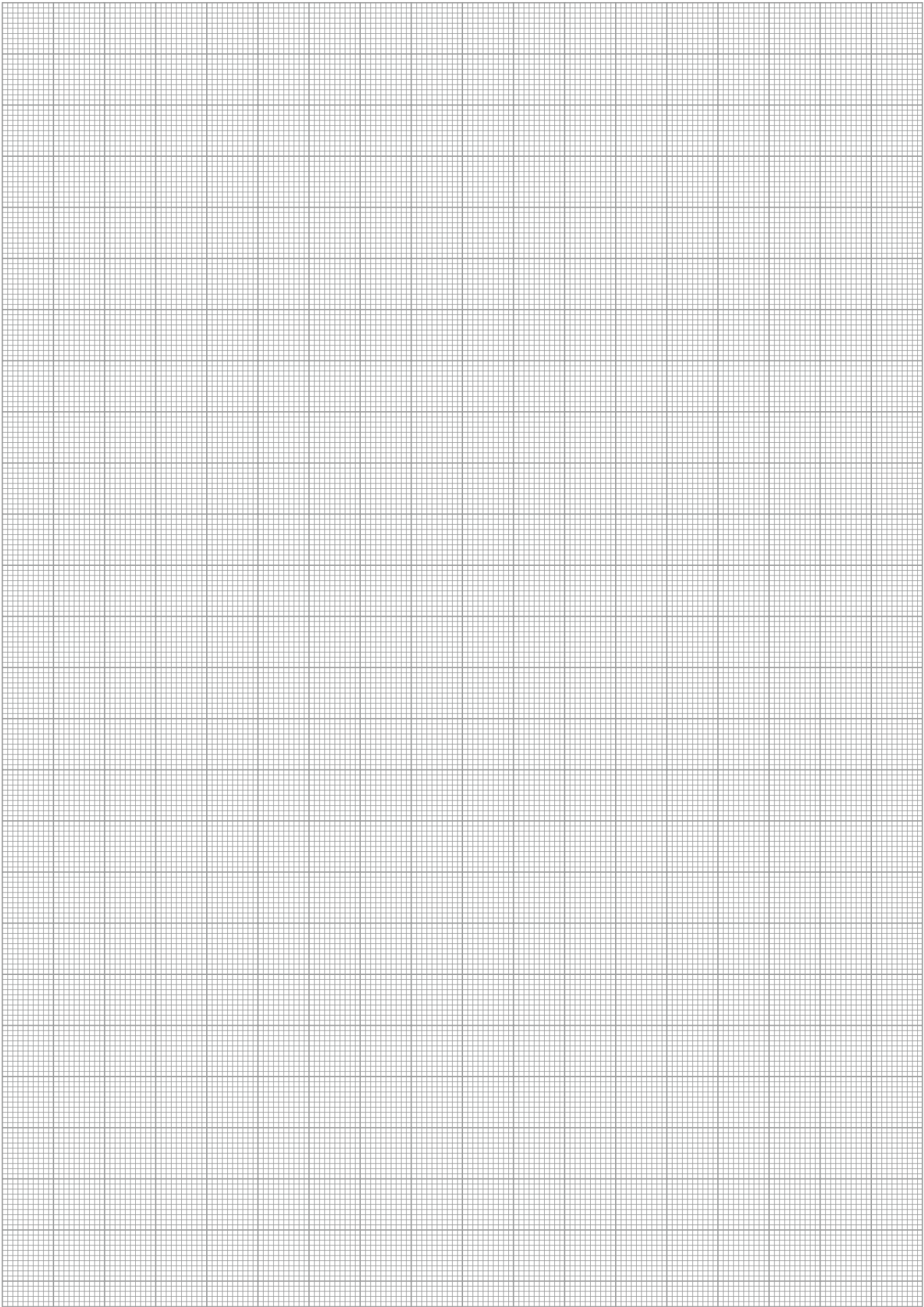


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking

Universal intermediate jaw UZH 200

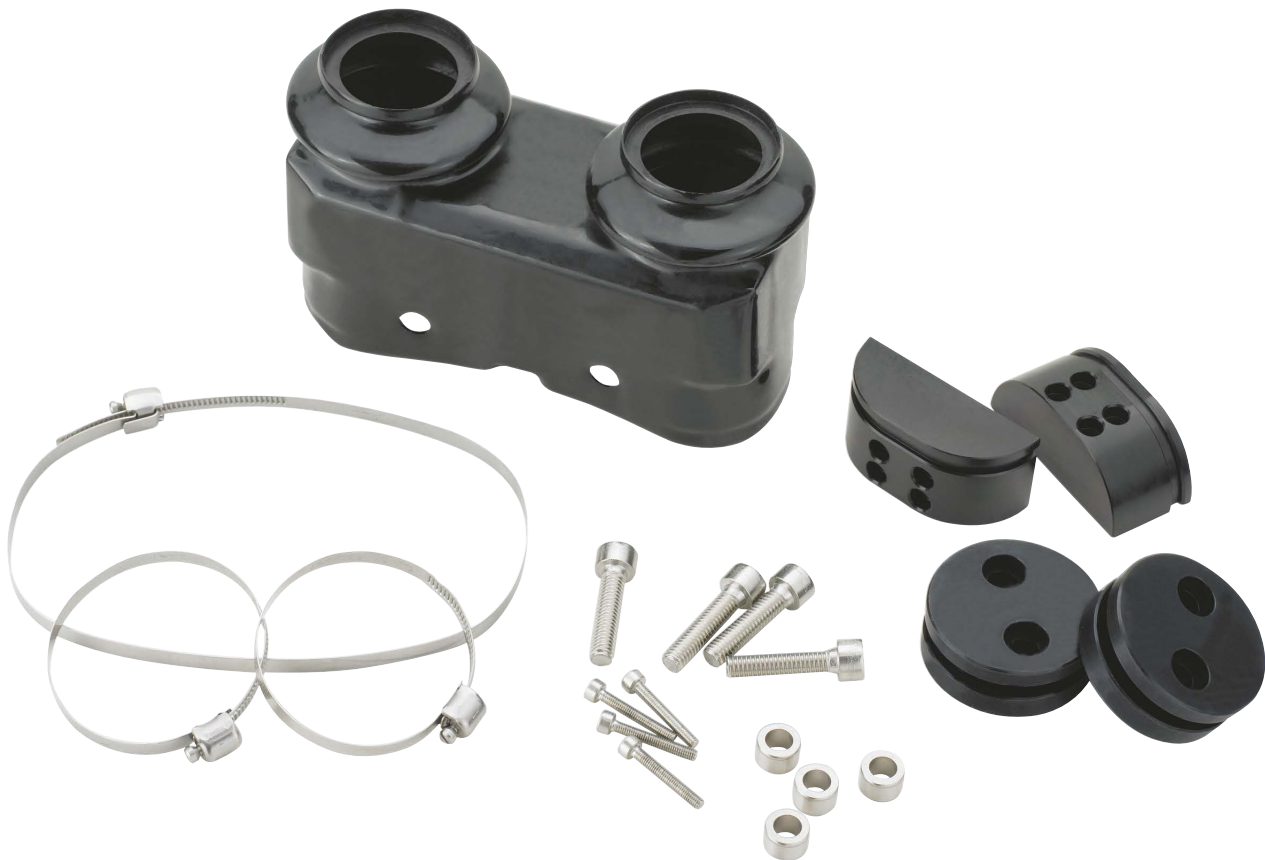


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking



Dust Cover HUE for PGN-plus

Soft plastic covering to protect gripper for numerous liquids.



Function description

The gripper receives intermediate jaws and filler pieces, so that the protective sleeve can be mounted. In combination with the additionally required customer's sealing of the lower sleeve connection, this results in a rating of IP 65.

Your advantages and benefits

Economical

for economical use

Flexible

through retrofitting

Space-saving

through minimum enlargement of the interfering contour

Application example



Area of application

use in numerous environments which are contaminated by fluids

Notes

Please note that the bottom connection of the protective sleeve must be sealed by the customer. We recommend applying a seal weld. For materials and instructions on applying seal welds, see operating manual.
You will find the material data sheet for dust covers HUE under www.schunk.com.



HUE for PGN-plus

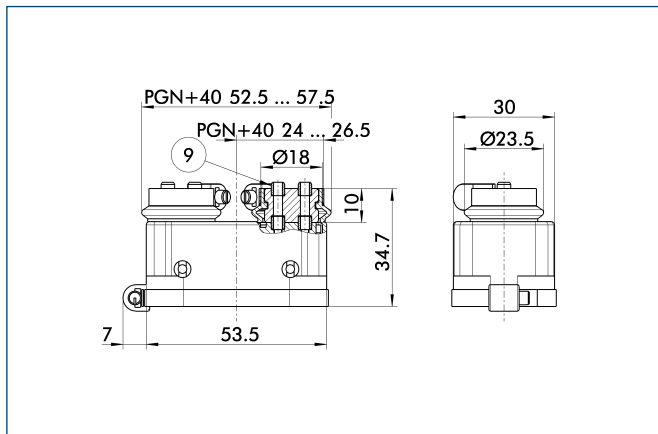
Accessories • Dust Cover



Technical data

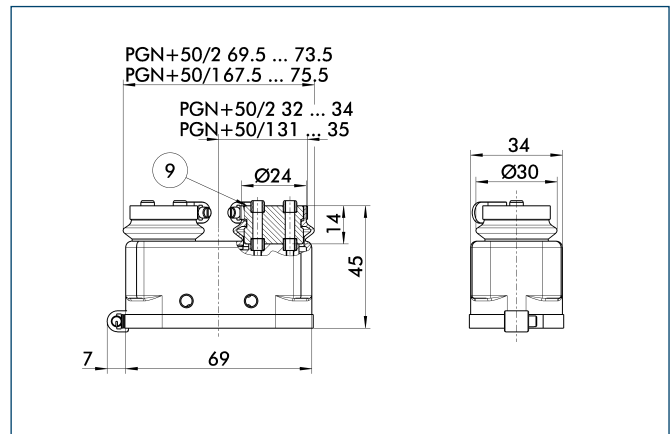
Description	ID	Material	ISO-Classification 14644-1	Min. permanent temperature [°C]	Max. permanent temperature [°C]	Weight [kg]
HUE PGN-plus 40	0371490	plastic	2	-30.0	80.0	0.05
HUE PGN-plus 50	0371479	plastic	2	-30.0	80.0	0.06
HUE PGN-plus 64	0371480	plastic	2	-30.0	80.0	0.08
HUE PGN-plus 80	0371481	plastic	2	-30.0	80.0	0.16
HUE PGN-plus 100	0371482	plastic	2	-30.0	80.0	0.24
HUE PGN-plus 125	0371483	plastic	2	-30.0	80.0	0.5
HUE PGN-plus 160	0371484	plastic	2	-30.0	80.0	0.6

HUE for PGN-plus 40



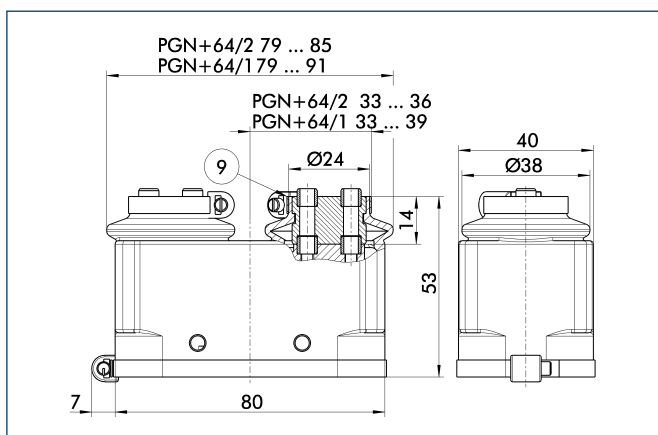
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 50



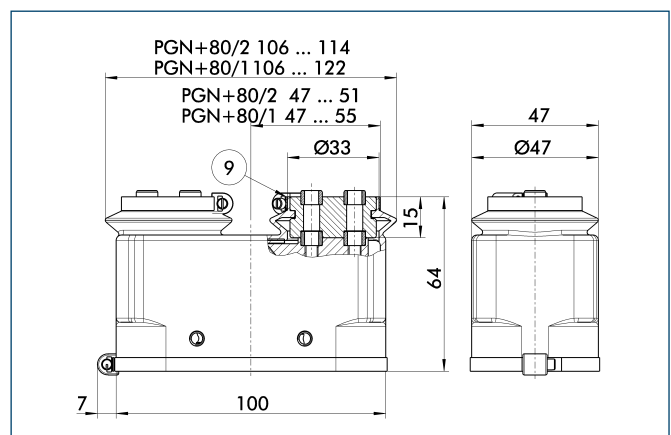
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 64



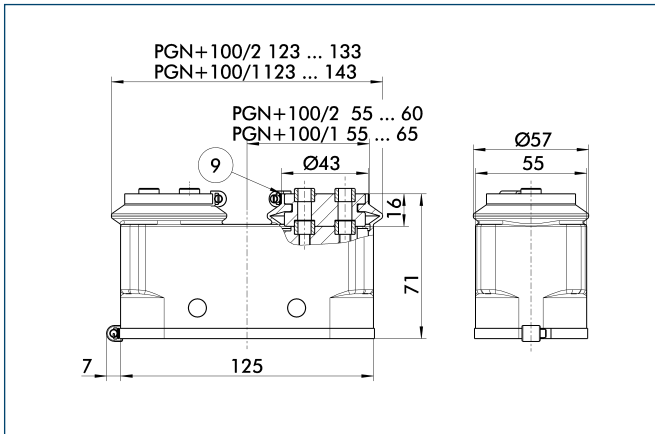
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 80



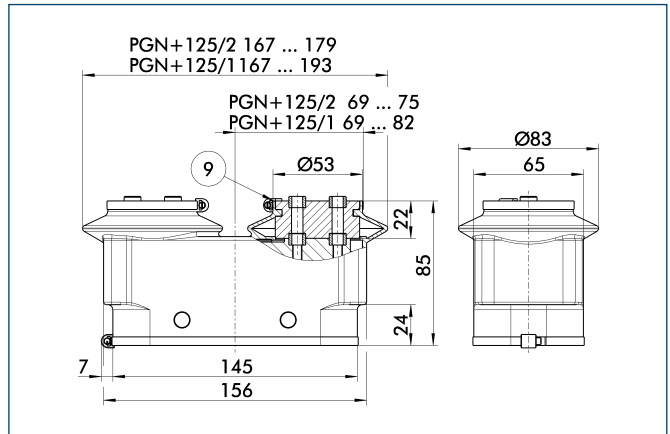
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 100



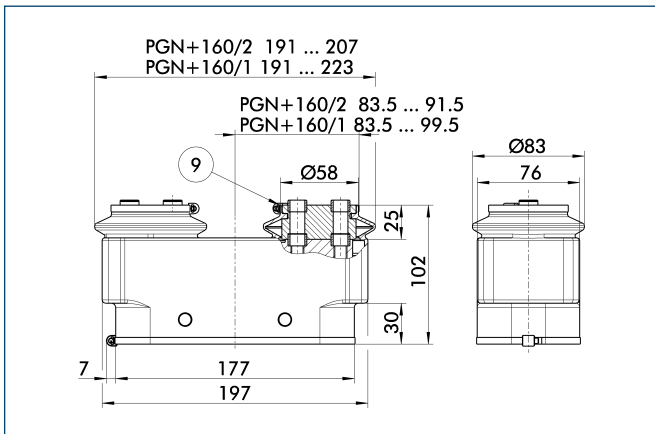
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 125



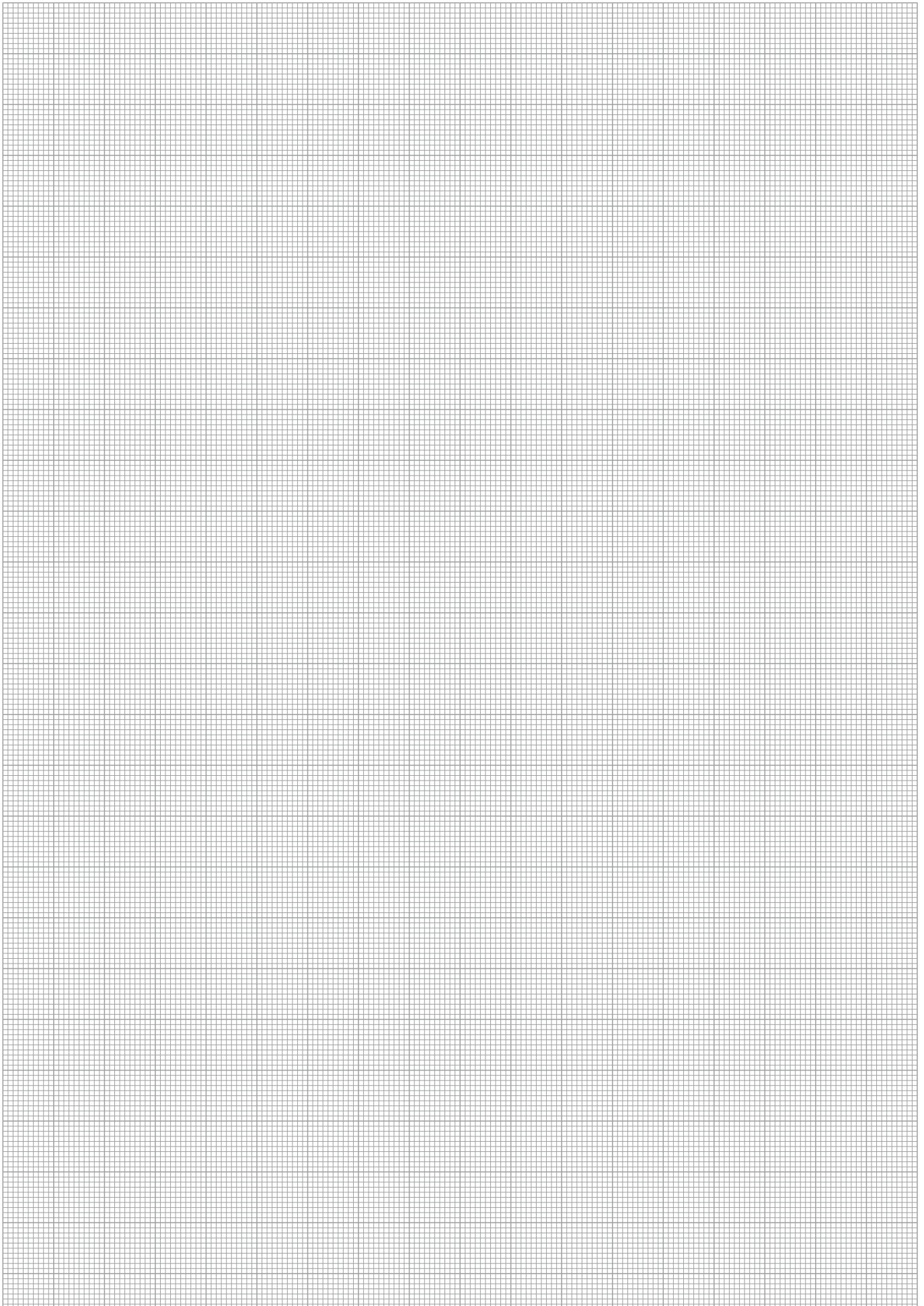
⑨ For screw connection diagram, see basic version

HUE for PGN-plus 160



⑨ For screw connection diagram, see basic version





Dust Cover HUE for PZN-plus

Soft plastic covering to protect gripper from numerous liquids.



Function description

The gripper receives intermediate jaws and filler pieces, so that the protective sleeve can be mounted. In combination with the additionally required customer's sealing of the lower sleeve connection, this results in a rating of IP 65.

Your advantages and benefits

Economical

for economical use

flexible

through retrofitting

Space-saving

through minimum enlargement of the interfering contour

Application diagram

Area of application

use in numerous environments which are contaminated by fluids



Notes

Please note that the bottom connection of the protective sleeve must be sealed by the customer. We recommend applying a seal weld. For materials and instructions on applying seal welds, see operating manual.
You will find the material data sheet for dust covers HUE under www.schunk.com.



HUE for PZN-plus

Accessories • Dust Cover



Technical data

Description	ID	Material	ISO-Classification 14644-1	Min. permanent temperature [°C]	Max. permanent temperature [°C]	Weight [kg]
HUE PZN-plus 40	0303478	plastic	2	-30.0	80.0	0.09
HUE PZN-plus 50	0303479	plastic	2	-30.0	80.0	0.11
HUE PZN-plus 64	0303480	plastic	2	-30.0	80.0	0.14
HUE PZN-plus 80	0303481	plastic	2	-30.0	80.0	0.28
HUE PZN-plus 100	0303482	plastic	2	-30.0	80.0	0.42
HUE PZN-plus 125	0303483	plastic	2	-30.0	80.0	0.87
HUE PZN-plus 160	0303484	plastic	2	-30.0	80.0	1.05

[illegible]

PZN+ 50/2 38.5 ... 40.5
PZN+ 50/133.5 ... 41.1

Ø32

30

Ø71

Ø53

50

15

14

Ø24

9

PZN+ 50/2 35 ... 37.5
PZN+ 50/133.5 ... 37.5

PZN+ 64/2 40.5 ... 43.5
PZN+ 64/1 40.5 ... 46.5

Ø34
35
Ø82
Ø70
20
57
14
Ø24.5
9
PZN+ 64/2 36 ... 39
PZN+ 64/1 36 ... 42

PZN+ 80/2 53.5 ... 57.5
PZN+ 80/1 53.5 ... 61.5

Ø48

44

Ø102

Ø86

64

23

15

Ø33

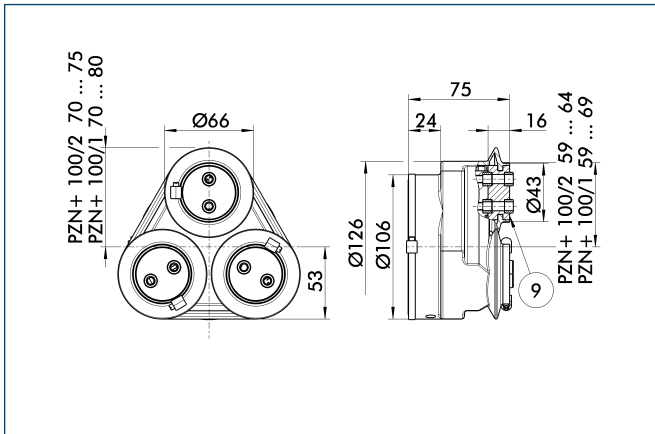
9

PZN+ 80/2 47 ... 51
PZN+ 80/1 47 ... 55

1521

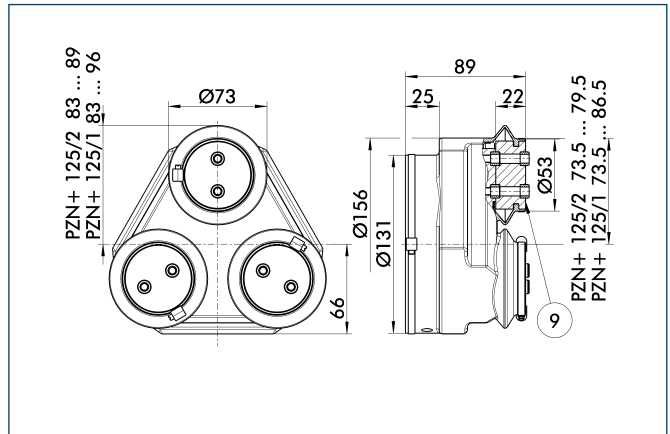


HUE for PZN-plus 100



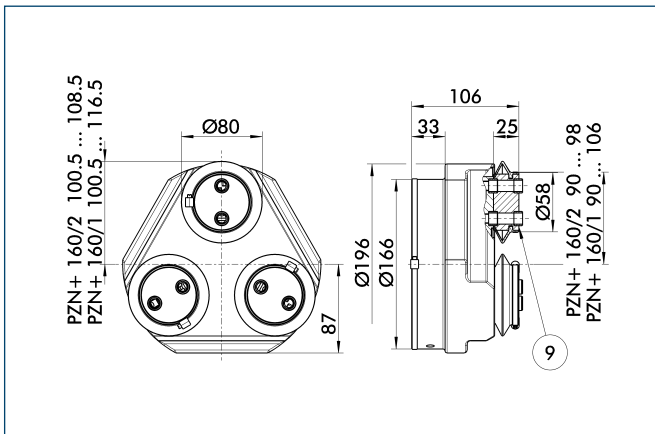
⑨ For screw connection diagram, see basic version

HUE for PZN-plus 125

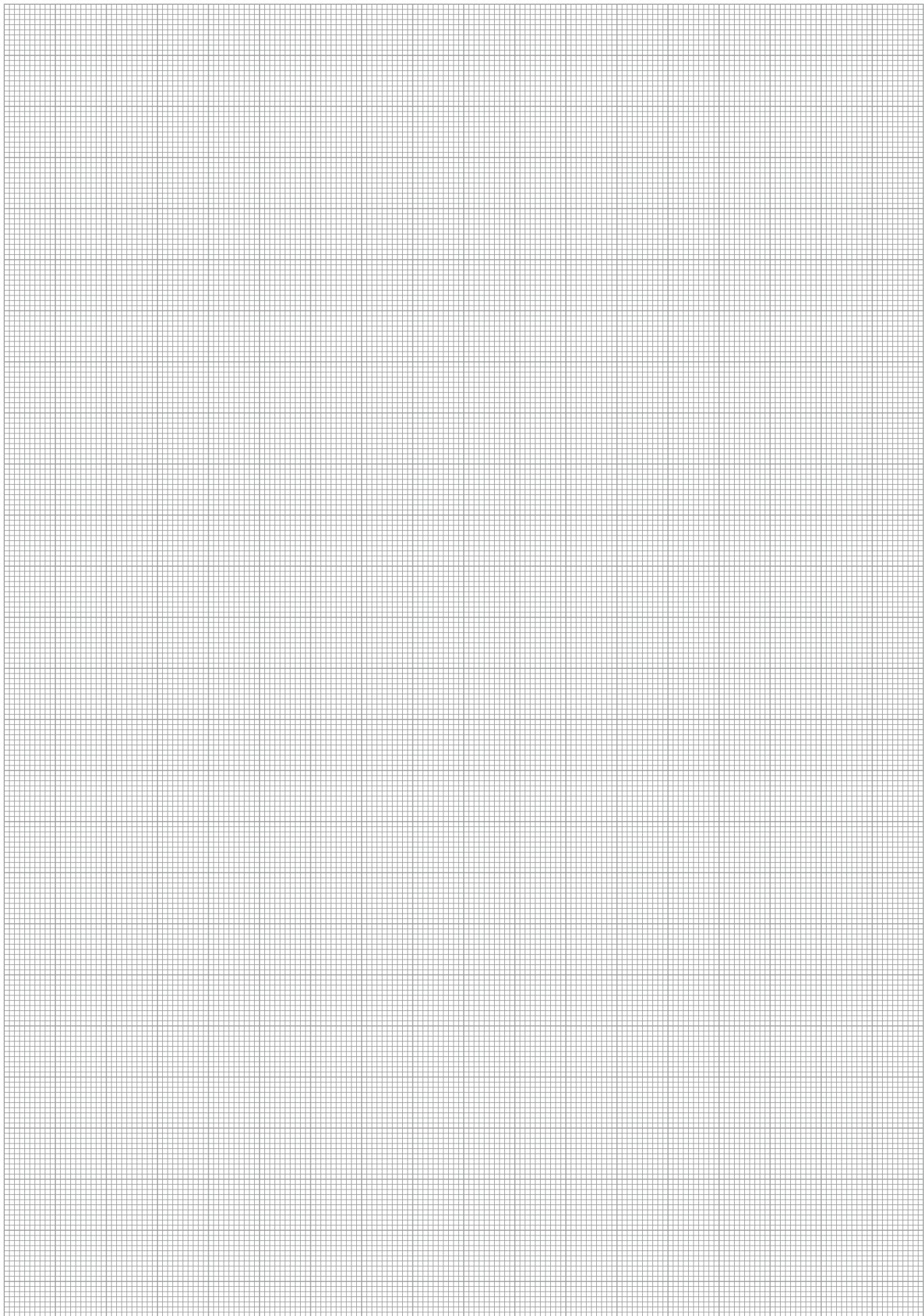


⑨ For screw connection diagram, see basic version

HUE for PZN-plus 160

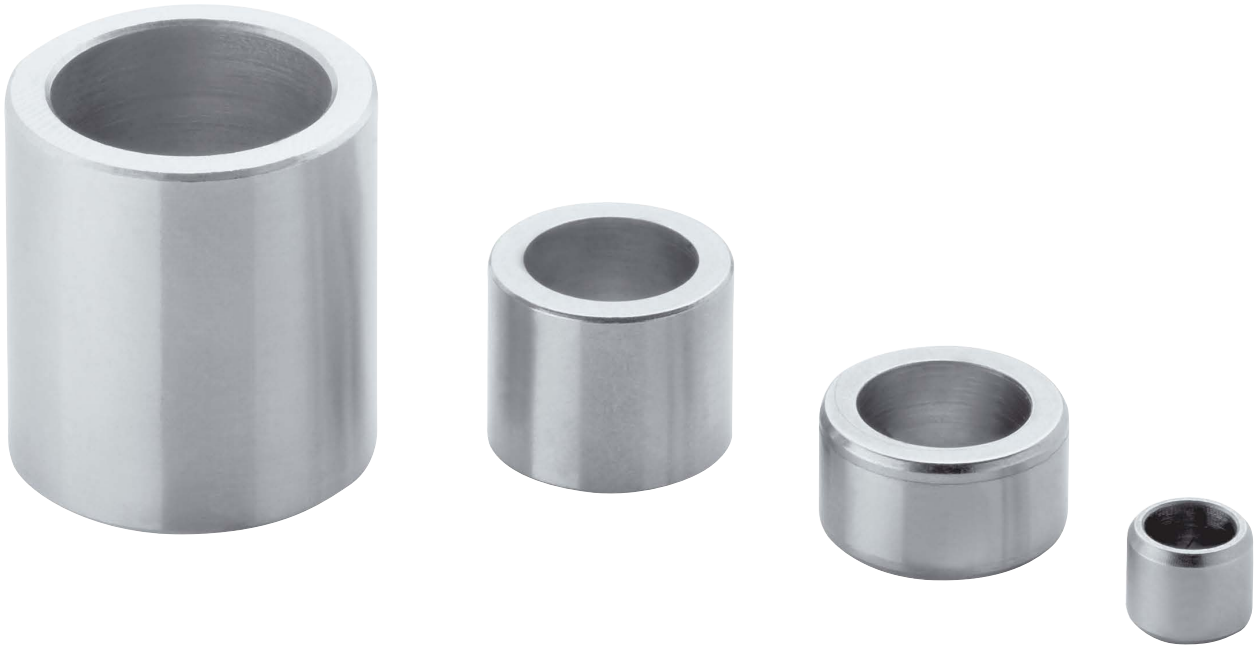


⑨ For screw connection diagram, see basic version



Centering Sleeves

Centering sleeves are used for centering between two elements. With SCHUNK grippers, this frequently occurs between the mounting plate and gripper and between the gripper and gripper fingers.



Function description

The centering sleeves are inserted coaxially to the screws.

Your advantages and benefits

Space-saving

for small, compact grippers

Precise

for high repeat accuracy

Economical

for low costs

Easy to install

for fast assembly



**Area of application**

variable centering tasks for gripper and rotary modules, as well as linear modules.

General information**Material**

steel

Warranty

24 months

Notes

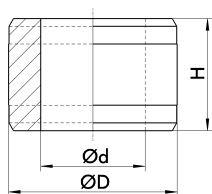
SCHUNK grippers include all necessary centering sleeves.





Technical data

Description	ID	Material	Ø D [mm]	Ø d [mm]	H [mm]
ZHU	9941547	Steel	2.0h6	1.3	1.95-0.05
ZHU	9941628	Steel	2.5h6	1.7	1.95-0.05
ZHU	9941629	Steel	3.0h6	2.1	1.95-0.05
ZHU	9939947	Steel	3.5h6	2.1	2.95-0.05
ZHU	9939376	Steel	4.0h6	2.6	3.95-0.05
ZHU	9939377	Steel	5.0h6	3.1	4.35-0.05
ZHU	9939384	Steel	6.0h6	4.1	5.35-0.05
ZHU	9939378	Steel	8.0h6	5.1	5.35-0.05
ZHU	9939379	Steel	10.0h6	6.2	6.65-0.05
ZHU	9939380	Steel	12.0h6	8.2	6.65-0.05
ZHU	9939381	Steel	14.0h6	10.2	8.6-0.1
ZHU	9939382	Steel	16.0h6	12.2	8.6-0.1
ZHU	9939383	Steel	22.0h6	16.2	13.6-0.1
ZHU	9941220	Steel	28.0h6	21.0	17.6-0.1

Main view

Connecting Elements for PowerCube

Standard elements and adapters for the accurately repeatable connections of PowerCube modules



Function description

The dimensions of the connecting elements are matched to the cube shape of the PowerCube modules. The accurately repeatable connection is made easily and quickly by means of four hexagon socket screws.

Your advantages and benefits

Standard elements
for high availability

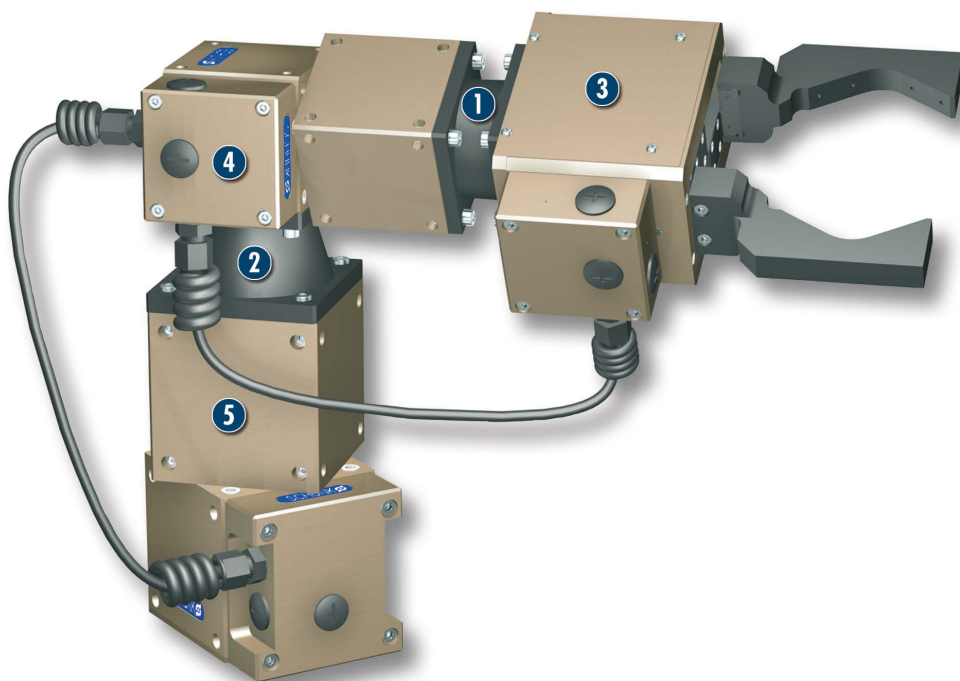
Geometry designs "straight", "conical" and "angular"
for maximum combinations

Suitable for all grippers, rotary units, drives and linear modules of the PowerCube series

Application example

Area of application

for easy and accurately repeatable connection of all PowerCube modules



- 1** Connecting element – straight
PAM 100
- 2** Connecting element – conical
PAM 110
- 3** Servo-electric 2-Finger Parallel
Gripper PG 70

- 4** Servo-electric Rotary Actuator
PR 70
- 5** Servo-electric Rotary Actuator
PR 90

General information

Warranty
24 months

Material
Aluminum alloy, hard-anodized

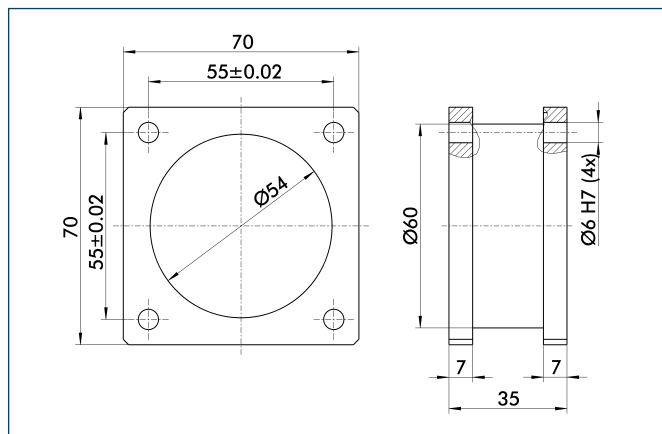
Notes

Special lengths are available on request.

PAM – Straight

Accessories • Mounting Elements • Connecting Elements for PowerCube • For Standard Screw Connection Diagram

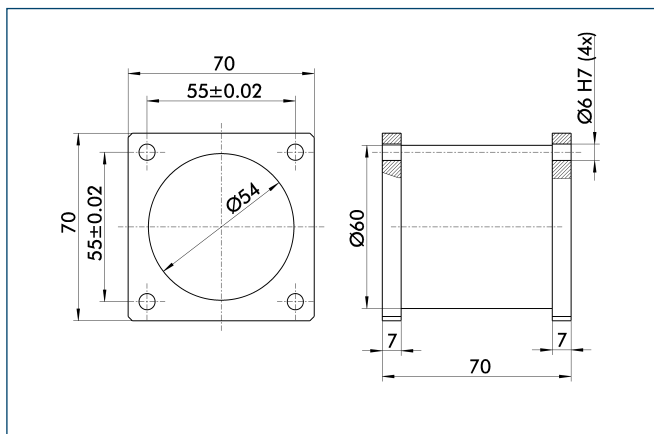
PAM 100 – Straight



suitable for PowerCube-Modules of size 70

Description	ID
PAM 100	0307800

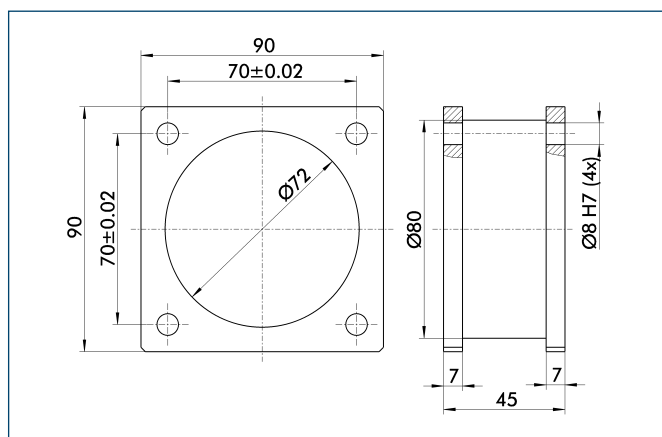
PAM 101 – Straight



suitable for PowerCube-Modules of size 70

Description	ID
PAM 101	0307801

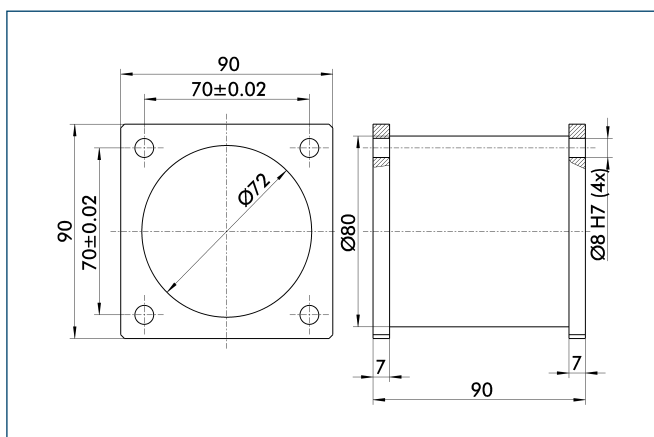
PAM 102 – Straight



suitable for PowerCube-Modules of size 90

Description	ID
PAM 102	0307802

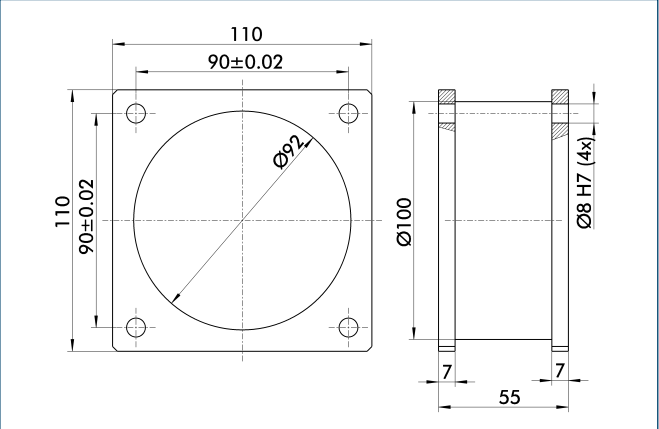
PAM 103 – Straight



suitable for PowerCube-Modules of size 90

Description	ID
PAM 103	0307803

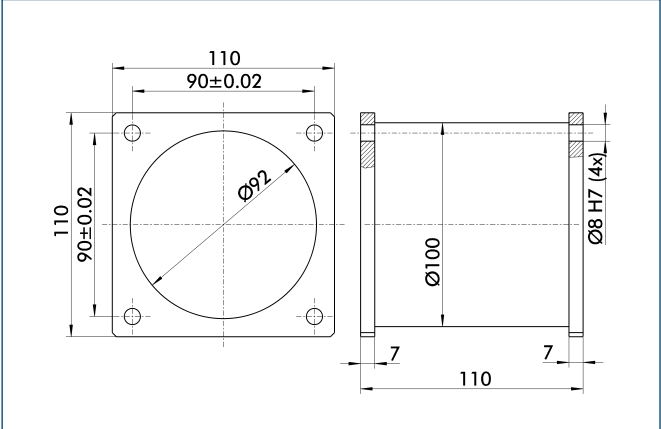
PAM 104 – Straight



suitable for PowerCube-Modules of size 110

Description	ID
PAM 104	0307804

PAM 105 – Straight

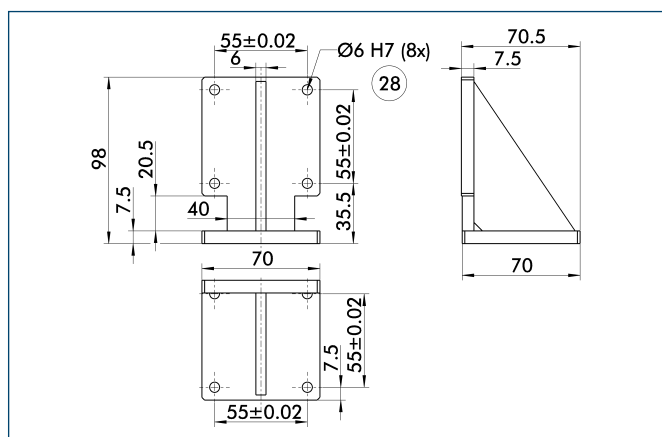


suitable for PowerCube-Modules of size 110

Description	ID
PAM 105	0307805



PAM 120 – Angled

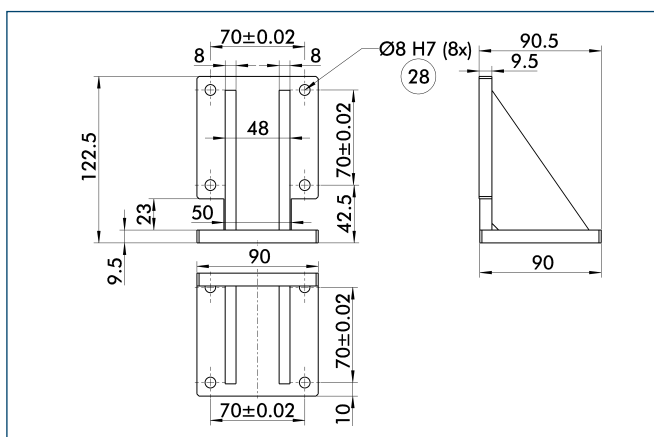


②⑧ Through-bore

suitable for PowerCube-Modules of size 70

Description	ID
PAM 120	0307820

PAM 121 – Angled

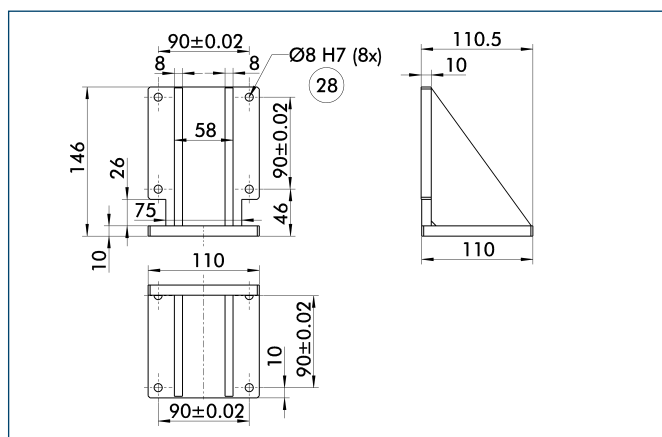


②⑧ Through-bore

suitable for PowerCube-Modules of size 90

Description	ID
PAM 121	0307821

PAM 122 – Angled

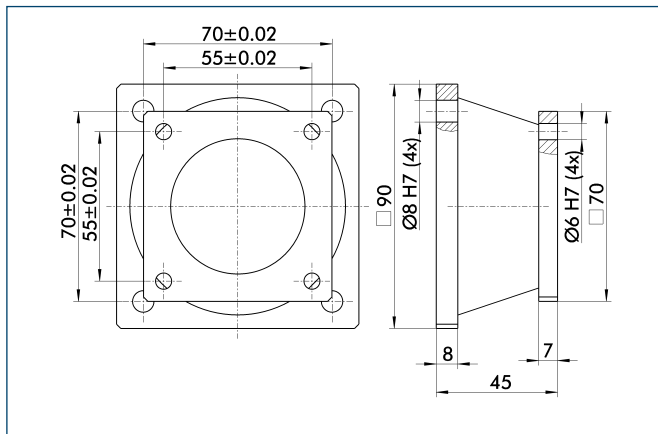


②⑧ Through-bore

suitable for PowerCube-Modules of size 110

Description	ID
PAM 122	0307822

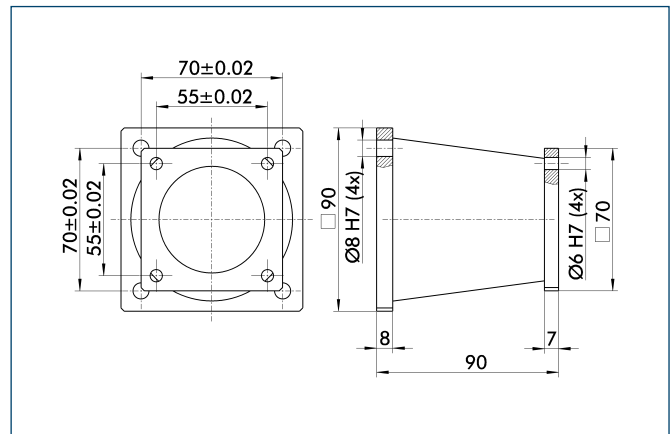
PAM 110 – Conical



suitable for PowerCube-Modules of size 70/90

Description	ID
PAM 110	0307810

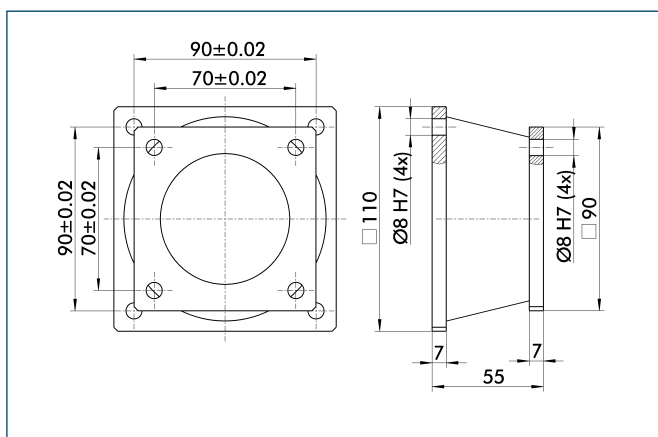
PAM 111 – Conical



suitable for PowerCube-Modules of size 70/90

Description	ID
PAM 111	0307811

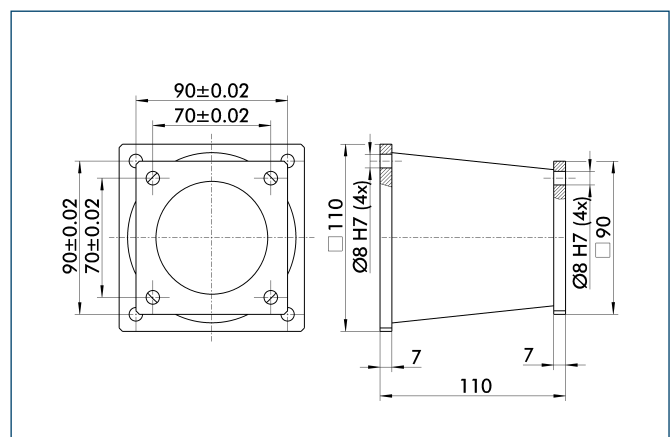
PAM 112 – Conical



suitable for PowerCube-Modules of size 90/110

Description	ID
PAM 112	0307812

PAM 113 – Conical



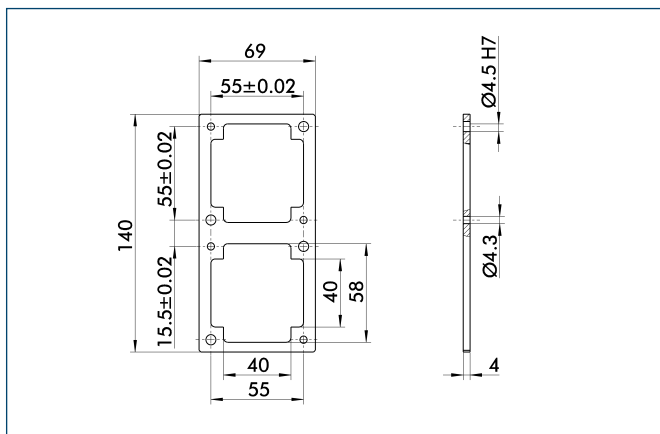
suitable for PowerCube-Modules of size 90/110

Description	ID
PAM 113	0307813

PAM – Adapter plates

Accessories • Mounting Elements • Connecting Elements for PowerCube • For Standard Screw Connection Diagram

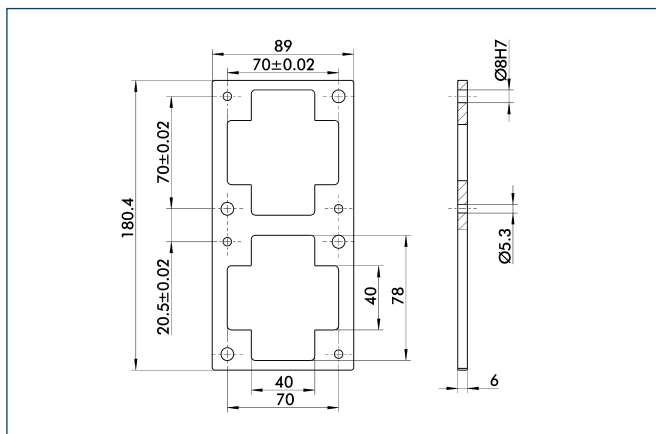
PAM 164



suitable for PowerCube-Modules of size 70

Description	ID
PAM 164	0307864

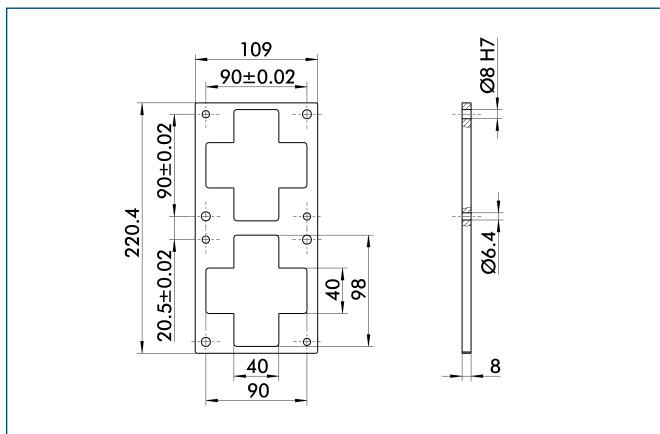
PAM 165



suitable for PowerCube-Modules of size 90

Description	ID
PAM 165	0307865

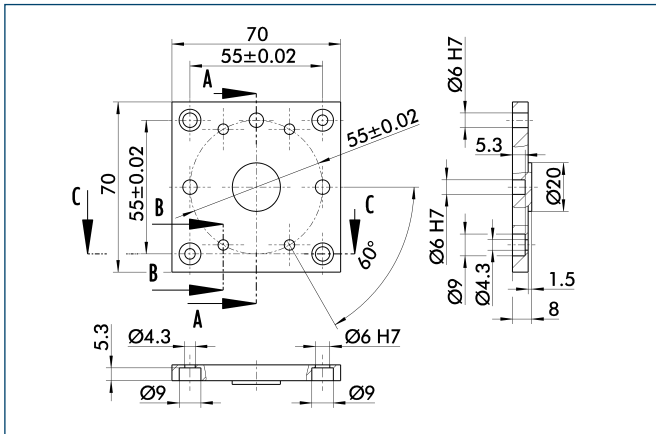
PAM 166



suitable for PowerCube-Modules of size 110

Description	ID
PAM 166	0307866

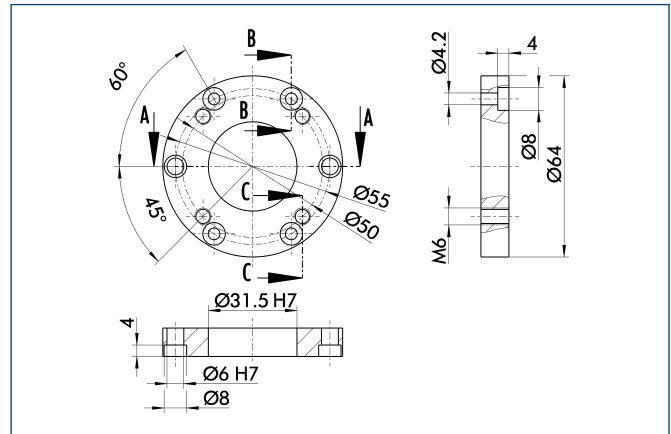
PAM 147 – PG to PW



suitable for accurately repeatable connection of the 2-finger parallel gripper PG 70 with the rotary pan-tilt actuator PW 70

Description	ID
PAM 147	0307847

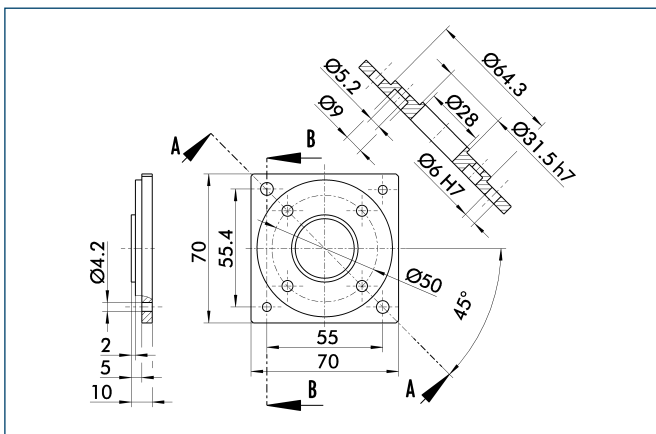
PAM 160 – PW to FTCL



suitable for accurately repeatable connection of the rotary pan-tilt actuator PW 70 with the force sensor FTCL-050

Description	ID
PAM 160	0307860

PAM 161 – FTCL to PG



suitable for accurately repeatable connection of the force sensor FTCL-050 with the 2-finger parallel gripper PG 70

Description	ID
PAM 161	0307861

Pressure maintenance Valves and Fittings

For connection and mounting of pneumatic hoses.



Your advantages and benefits

Suitable

for all SCHUNK gripper, rotary and linear modules, in addition to robot accessories

Flexible utilization

For use on pneumatic hoses from various manufacturers

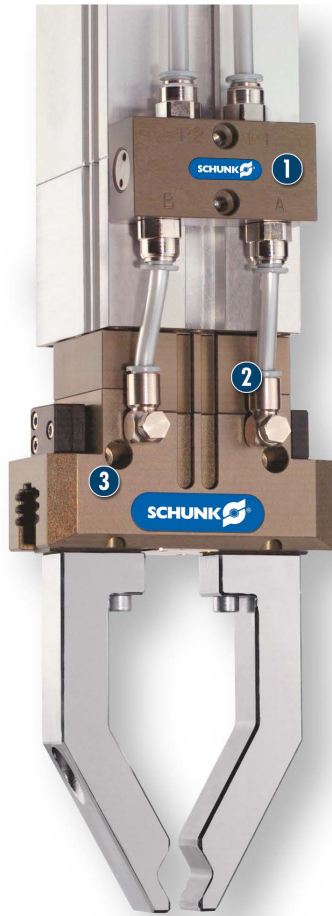
Fittings as plug-in connections

for fast hose attachment

SDV-P pressure maintenance valve

prevents loss of pressure

Application example



Area of application

for secure hose connections in automation solutions

1 SDV-P pressure maintenance valve

2 SWV banjo fitting

3 PGN-plus 2-Finger Parallel Gripper
with workpiece-specific gripper
fingers

General information

Warranty
24 months





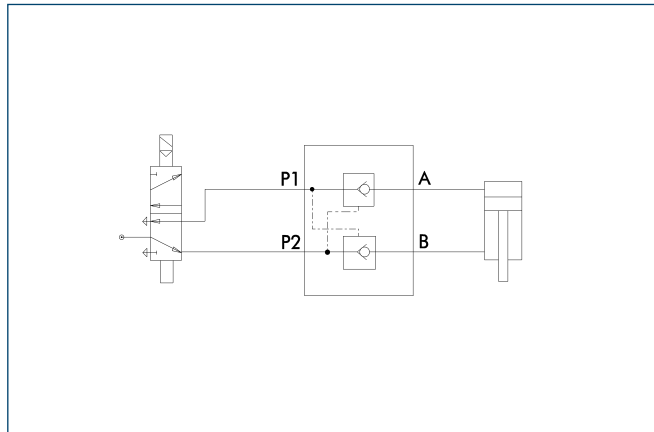
Pressure Maintenance Valve

In case of pressure loss, the pressure maintenance valve prevents air from escaping from the gripper. This prevents loss of clamping force, and the workpieces remain securely clamped in the gripper jaws. Especially suitable for grippers that cannot be equipped with a mechanical safety device.

Function

Two parallel switched check valves, which when pressurized, automatically open the return flow direction and close the pressure line.

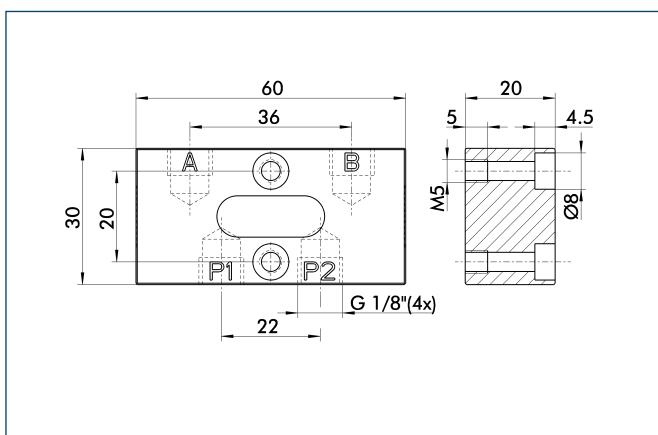
Circuit diagram



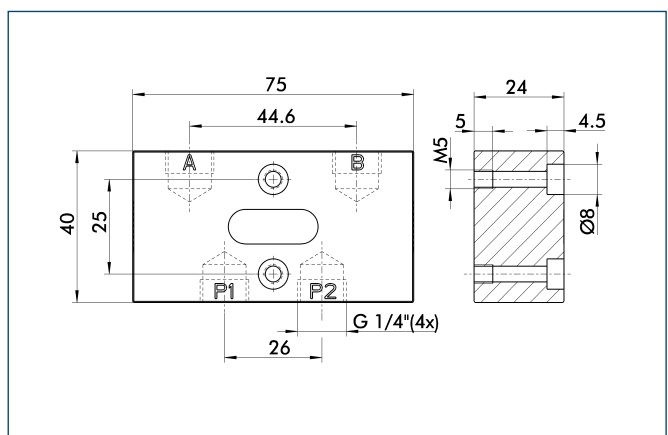
Technical data

Description		SDV-P 04	SDV-P 07
ID		0403130	0403131
Connection	["]	G1/8	G1/4
Max. throughput	[l/min]	200	300
Min. ambient temperature	[°C]	-10.0	-10.0
Max. ambient temperature	[°C]	80.0	80.0
Weight	[kg]	0.1	0.18
Min. pressure	[bar]	0.5	0.5
Max. pressure	[bar]	10	10
Switching time	[s]	0.01	0.01

SDV-P 04



SDV-P 07



WV Elbow Fitting

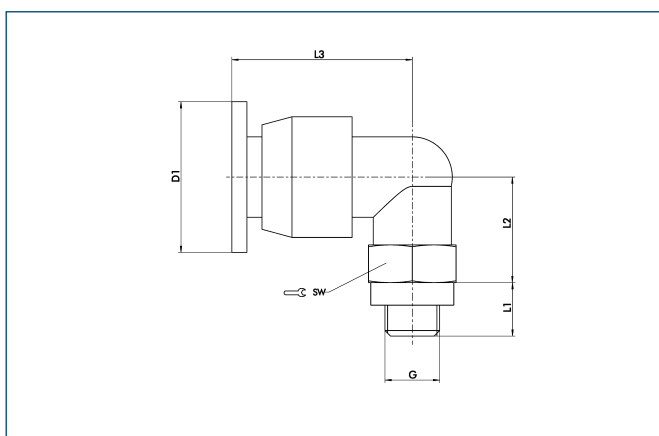
version as plug-in connection for fast and easy connection to the pneumatic energy supplies



Technical data

Description		WV-G1/8-6	WV-G1/8-8	WV-G1/4-6
ID		9937129	9936730	9937170
For hose diameter	[mm]	6.0	8.0	6.0
Threaded connection	["]	G1/8	G1/8	G1/4
Max. pressure	[bar]	20.0	20.0	20.0
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	60.0	60.0	60.0

Main view WV



Variable	WV-G 1-8-6	WV-G 1-8-8	WV-G 1-4-6
G	1/8"	1/8"	1/4"
L1	5	5	7
L2	13.05.07	16	15.05.07
L3	22	25.05.07	23.05.07
D1	12	14	12
SW	13	13	17
S4	10	12	10

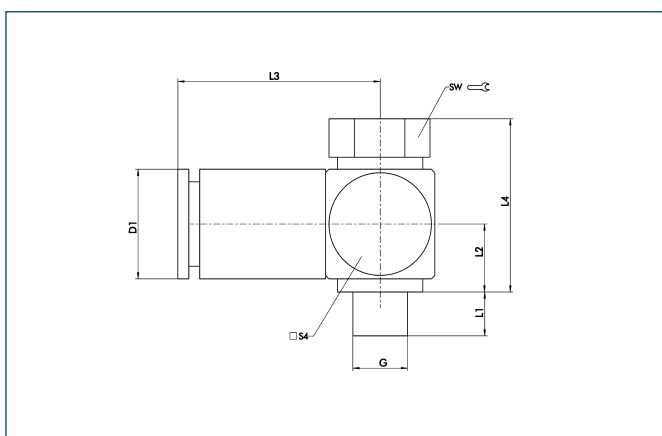
SWV Banjo Fitting

version as plug-in connection for fast and easy connection to the pneumatic energy supplies



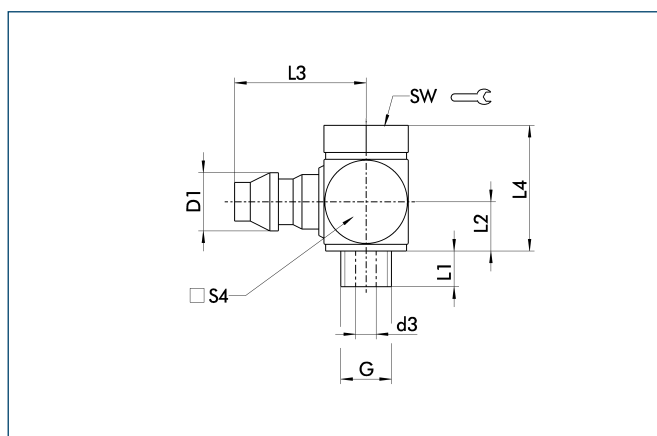
Description		SWV-M3-4	SWV-M5-6	SWV-G4-6	SWV-G8-6	SWV-G4-8
ID		9210505	9936171	9937128	9937152	9936728
For hose diameter	[mm]	4.0	6.0	6.0	6.0	8.0
Threaded connection	["]	M 3	M 5	G1/4	G1/8	G1/4
Max. pressure	[bar]	20.0	20.0	20.0	20.0	20.0
Min. ambient temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0
Max. ambient temperature	[°C]	60.0	60.0	60.0	60.0	60.0

Main view SWV



Variable	SWV-M5-6	SWV-G8-6	SWV-G4-6	SWV-G4-8
G	M5	G1/8"	G1/4"	G1/4"
d ₃	2	5	7	7
L ₁	4	06.05.07	8	8
L ₂	06.02.07	01.08.25	08.04.07	15.03.07
L ₃	18.05.07	22.05.07	24.05.07	25
L ₄	15.08.07	20.05.07	21.06.07	21.06.07
D ₁	10	12	12	13.05.07
SW	8	14	17	17
S ₄	10	15	19	19

Main view SWV-M3



Variable	SWV-M3-4
G	M3
d ₃	01.01.07
L ₁	2
L ₂	02.05.07
L ₃	07.03.07
L ₄	07.03.07
D ₁	03.04.07
SW	5
S ₄	5

DSV Banjo Fitting

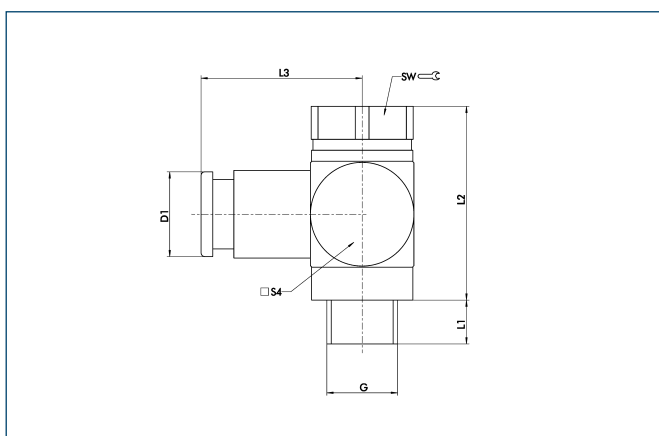
with one-way flow control valve Version as plug-in connection for fast and easy connection to the pneumatic energy supplies



Technical data

Description		DSV-M3-3	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G4-8
ID		9720005	9936160	9936159	9936161	9936162
Hose	[mm]	3.0	6.0	6.0	6.0	8.0
Min. operating temperature	[°C]	-10.0	-10.0	-10.0	-10.0	-10.0
Max. operating temperature	[°C]	60.0	60.0	60.0	60.0	60.0
Max. operating Pressure	[bar]	20.0	20.0	20.0	20.0	20.0

Main view DSV



Variable	DSV-M3-3	DSV-M5-6	DSV-G8-6	DSV-G4-6	DSV-G8-8
G	M3	M5	G1/8"	G1/4"	G1/8"
L1	02.05.07	4	5	06.05.07	5
L2 max.	29	21.05.07	30	32	30
L3	11	21	22.05.07	24.05.07	23
D1	04.08.07	10.04.07	12	12	14
SW	knurl	8	14	17	14

Grease

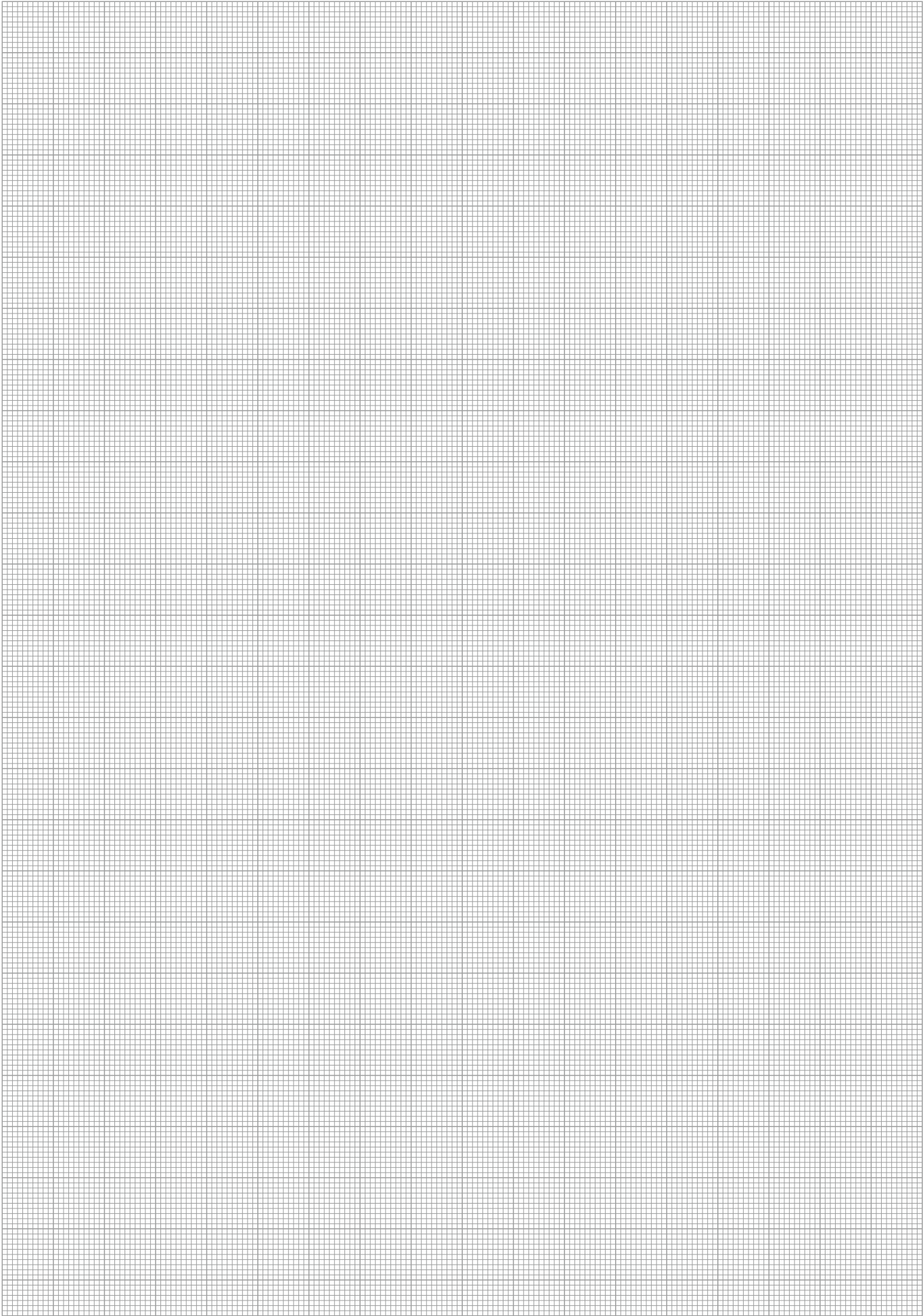
for re-lubrication of SCHUNK products in small containers.

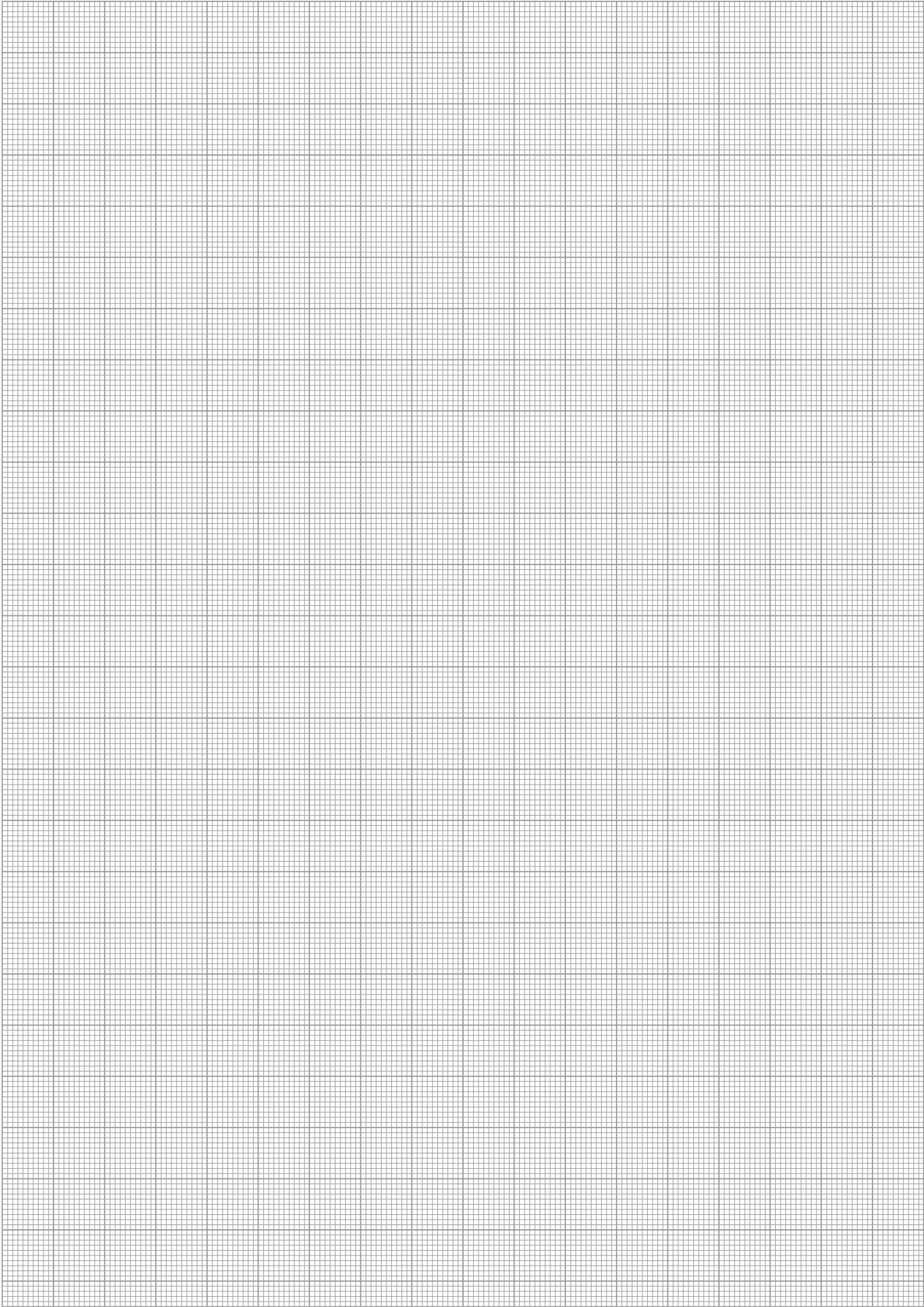


Technical data

Description	HLT 2	BR 2 plus	LINO MAX
ID	9948131	9948301	0184210
Area of application	Seals	Internal sliding surface between metal friction pairs	External sliding surface between metal friction pairs
Package form	Cartridge	Can	Cartridge
Quantity	[kg] 0.4	1.0	0.5

① Exact information on which grease is to be used where can be found in the operating manual for your SCHUNK module.





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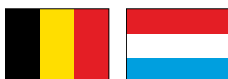
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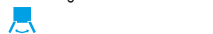
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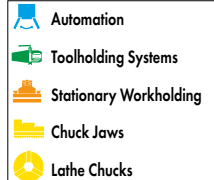
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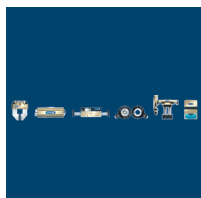
☐ Robot Accessories



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☐ Machine Vision



☐ Automation Product Overview



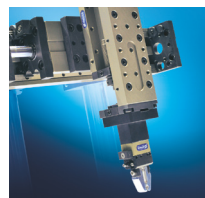
☐ Modular Assembly Technology Product Overview



☐ Modular Robotics



☐ Industry Solutions



☐ Highlights New Products



☐ Universal Rotary Actuator SRU-plus

Toolholding and Workholding



☐ Toolholding Systems

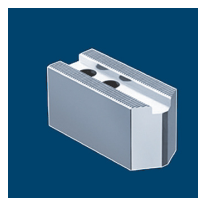


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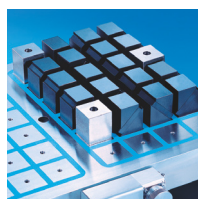
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