

Rotating Grippers

pneumatic

SOMMER
automatic

Rotating **Grippers**

Grip and Rotate Parallel Gripper - with T-slot guides

Part No.	Stroke per jaw [mm]	Gripping force [N]	Page
Product Information			6
DGP404N	4	115	10
DGP404NC	4	155	10
DGP404NO	4	155	10
DGP404S	2	255	10
DGP404SC	2	350	10
DGP404SO	2	350	10



Grip and Rotate Parallel Gripper - with roller slides

Part No.	Stroke per jaw [mm]	Gripping force [N]	Page
Product Information			14
DGP12N	3	31	18
DGP12NC	3	52	18
DGP12NO	3	52	18





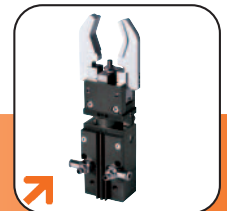
Grip and Rotate Three Jaw Gripper - with T-slot guides

Part No.	Stroke per jaw [mm]	Gripping force [N]	Page
Product Information			22
DGD304N	4	114	26
DGD304NC	4	154	26
DGD304NO	4	154	26
DGD304S	2	238	26
DGD304SC	2	318	26
DGD304SO	2	318	26



Grip and Rotate Pivoting Arm Gripper

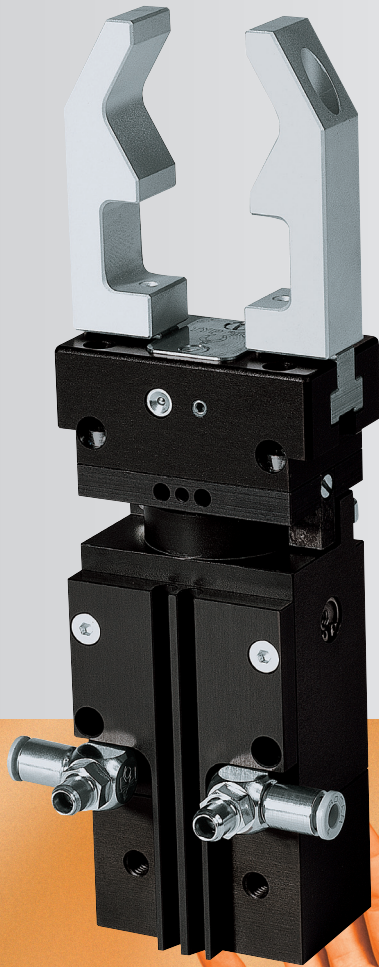
Part No.	Opening angle per jaw [°]	Gripping torque in closing [Nm]	Page
Product Information			30
DGK20N	90	3	34





*Parallel Grip & **Rotate** Module*

pneumatic



DGP404

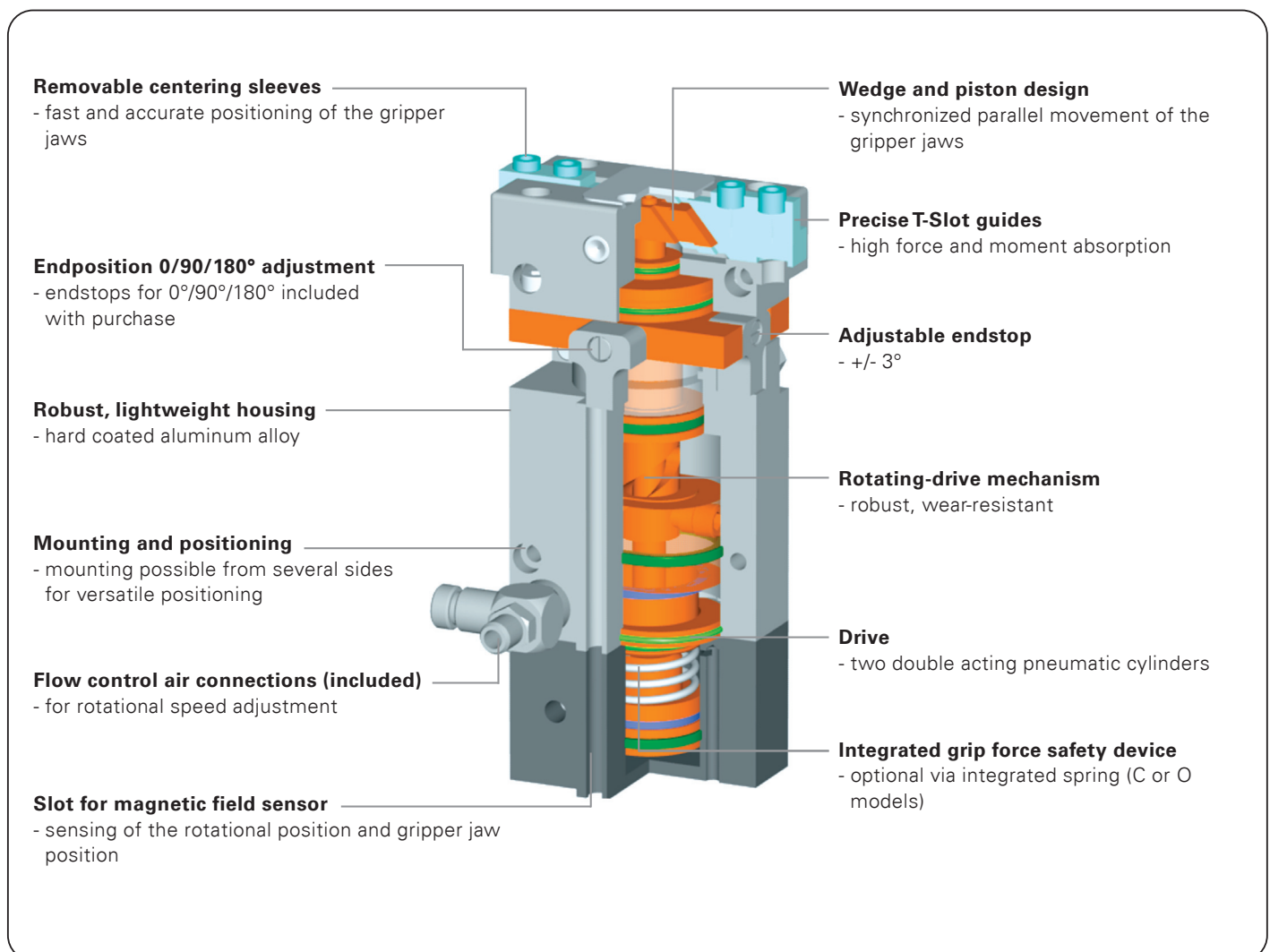
SOMMER
automatic

Parallel Grip & Rotate Module

Features

- Grip and rotate functions can be controlled separately
- Grip and rotate, either 90° or 180°, combined in a compact module
- Six different types in this series, for inside - and outside-gripping, with a stroke of 2 or 4 mm per jaw, also available with mechanical gripping-force-retention
- Stable T-Slot guides to aid the absorption of large forces and moments, optimally suited for high loads

Functional diagram





Terms

- Gripping force:** the arithmetic sum of the individual forces occurring at the jaws
- Closing/Opening time:** time required for gripper jaws to cover maximum stroke distance
- Repeatability:** at endstops after 50/100 consecutive cycles
- Cycle:** one complete movement of the piston forward and back
- Maintenance:** recommended at 10 million cycles (please refer to the operating manual for constraints)
- Available for download at: www.sommer-automatic.com
- low operating costs due to longer maintenance intervals
 - long lifespan

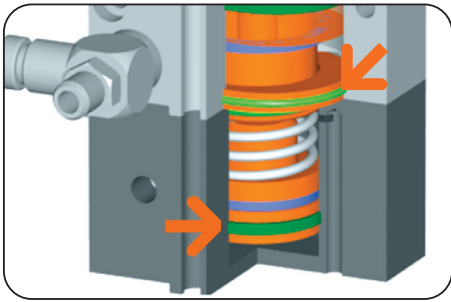
Model guide

- N:** Standard design (long stroke - standard force)
- S:** Heavy duty design (short stroke - large force)
- C:** self-locking, spring closing
- O:** self-locking, spring opening

Order No.	Stroke per jaw	Gripping force in opening	Gripping force in closing	Self locking via	Torque
DGP404N	4 mm	115 N	115 N	DSV*	0,5 Nm
DGP404NC	4 mm	-	155 N	Spring	0,5 Nm
DGP404NO	4 mm	155 N	-	Spring	0,5 Nm
DGP404S	2 mm	255 N	255 N	DSV*	0,5 Nm
DGP404SC	2 mm	-	350 N	Spring	0,5 Nm
DGP404SO	2 mm	350 N	-	Spring	0,5 Nm

*DSV= Pressure safety valve/one-way valve (Part No. DSV1/8)

Parallel Grip & **Rotate Module**



Drive

Gripping N and S Models

Double acting pneumatic cylinder

- maximum power in both opening and closing
- grip force up to 350N

NC, NO and SC, SO Models

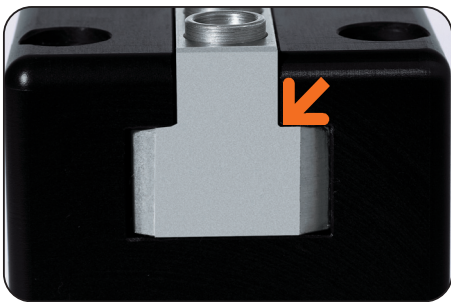
Double acting pneumatic cylinder with integrated spring as mechanical safety device (in the event of pressure loss)

- optimal transmission of power and grip force by spring

Rotation

Double acting pneumatic cylinder with oval piston

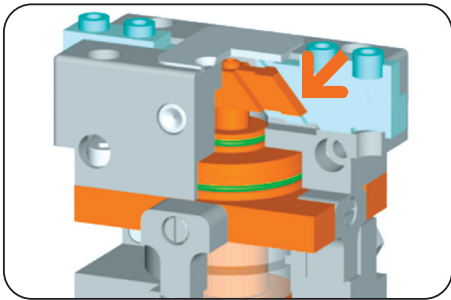
- maximum torque during rotation
- approximately 30% more piston area than with comparable round-piston



Guidance

Ground T-slot jaws made from hardened steel

- T-slot guides for maximum force and moment resistance
- high precision, play-free guides
- convenient service via external lubrication fitting



Power transfer

Wedge and piston design with mechanically restricted guides

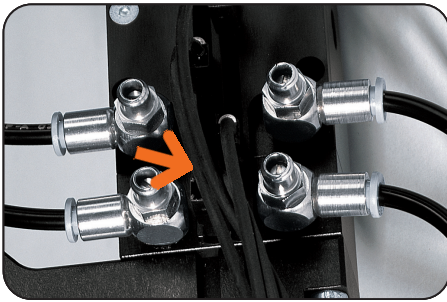
- optimal transmission of power to grip-force
- self-centering
- synchronized jaw movement
- high repeatability



Gripper jaw positioning

Positioning of the tooling fingers via centering sleeves

- precise positioning of the individual gripper fingers
- fast, easy, and economical switching of tooling fingers
- space saving design maximizes size of mounting holes

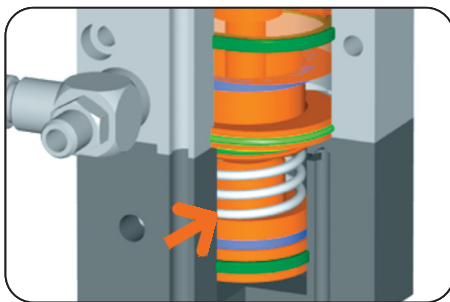


Position sensing

Built-in mount for magnetic field sensors

Sensing of the piston position

- compact - all sensors and cables are outside the swivel area
- stable, separate sensing of the gripping and rotating positions
- for magnetic field sensors with bracket for C-Nut



Gripping force safety device

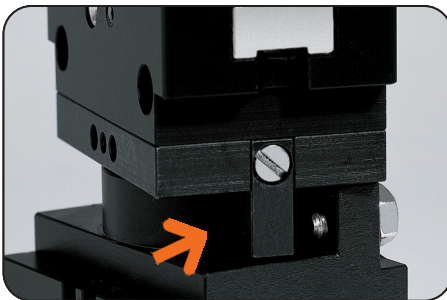
NC, NO and SC, SO Models

Energy retention through spring mounted in cylinder

- reliable mechanical grip force retention
- compact design

N and S external pressure retention safety valve

- gripping force retention through the use of optional pressure retention safety valve (Part Nr. DSV1/8).



Rotation angle

90° or 180°

Individually adjustable

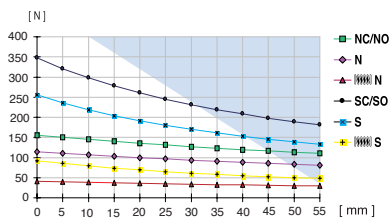
- simple relocation of endstop
- both stops included in delivery
- easily adaptable from one application to the next

Parallel Grip & Rotate Module



Gripping force diagram

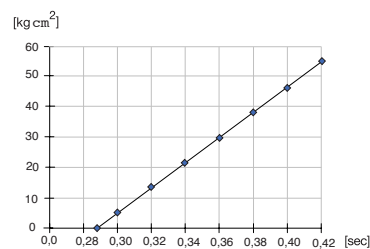
Gripping force as a function of jaw length.



Colored area: increased wear or tear to be expected.

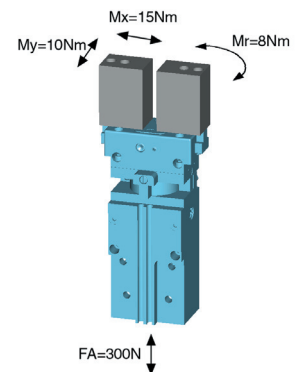
Rotation time diagram

Rotation time as a function of mass moment of inertia.

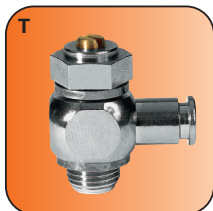


Forces and moments

Max allowable static forces and moments on jaws



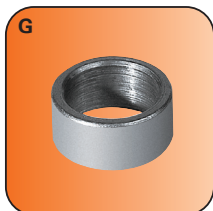
Included with purchase



Flow control air fittings
Part.-Nr. DRVM5x4



Endstop 90° + 180°
Part.-Nr. ANS0002

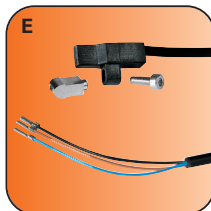


Centering sleeves
Part.-Nr. BDST40400

Accessorie list



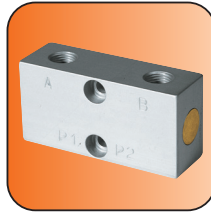
Compressed air fittings
Bst.-Nr. WVM5



Magnetic field sensor
Bst.-Nr. MFS103KHC42

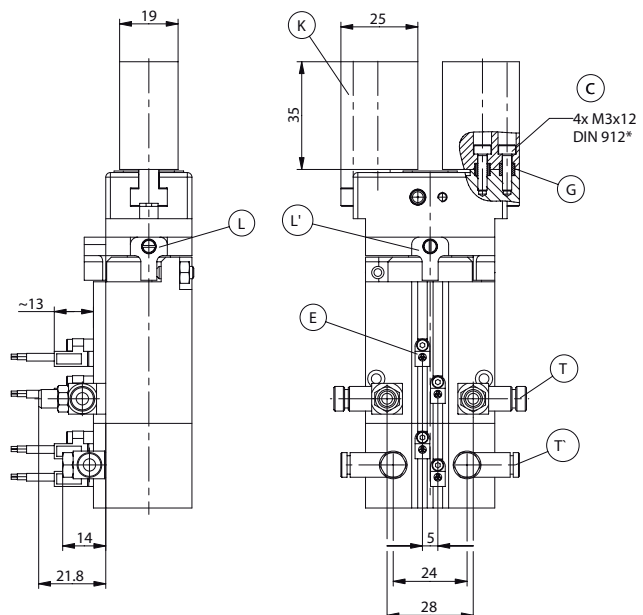


Universal jaw set
Part No. UB404 (Al)
Part No. UB404ST (St)



Pressure safety valve/
one-way valve
Part No. DSV1/8

Accessories



	DGP404N/S	DGP404NC/NO/SC/SO
A	5	7
B	12	16
C	26	34
D	34	46
X	5	14
Y	23,5	33,5

Magnetic field sensor incl. bracket

subject to change without prior notice



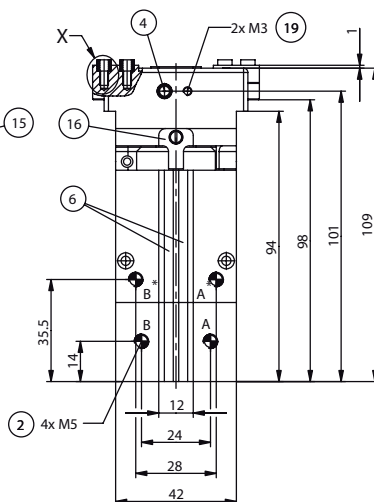
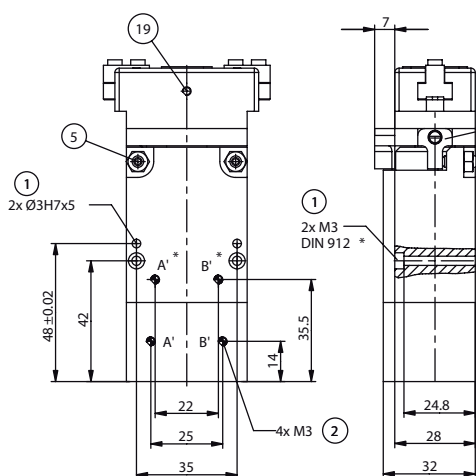
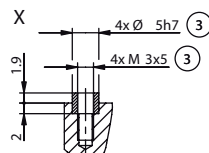
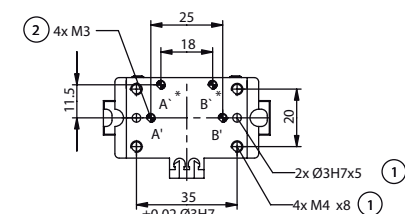
Order No.:	DGP404N	DGP404NC	DGP404NO	DGP404S	DGP404SC	DGP404SO
Gripping	Stroke per jaw [mm]:	4	4	4	2	2
	Gripping force in closing and opening [N]:	115	-	-	255	-
	Gripping force in closing [N]:	-	155	-	-	350
	Gripping force in opening [N]:	-	-	155	-	-
	Max suggested workpiece weight [kg]*:	0,59	0,79	0,79	1,3	1,8
	Gripping force secured by spring min./max. [N]:	-	40	40	-	95
	Closing time/opening time [s]:	0,01	0,015	0,015	0,01	0,015
	Repeatability +/- [mm]:	0,05	0,05	0,05	0,05	0,05
Rotation	Air volume per cycle [cm³]:	3	5	5	3	5
	Torque [Nm]:	0,5	0,5	0,5	0,5	0,5
	Rotation angle (90° or 180°) adjustable +/- [°]:	3	3	3	3	3
	Repeatability [°]:	0,05	0,05	0,05	0,05	0,05
	Bearing load axial/radial [N/Nm]:	960/10	960/10	960/10	960/10	960/10
	Air volume per cycle 90°/180° [cm³]:	4,5/9	4,5/9	4,5/9	4,5/9	4,5/9
	Operating pressure min./max. [bar]:	3/8	5/8	5/8	3/8	5/8
	Operating temperature min./max. [°C]**:	5/80	5/80	5/80	5/80	5/80
General	Weight [g]:	440	480	480	440	480

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$

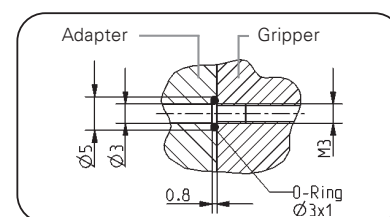
** High temperature resistant model (up to 150 °C) add "T" to part number

DGP404NC
DGP404NO
DGP404SC
DGP404SO

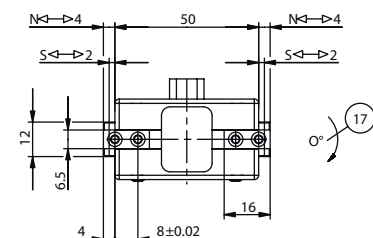


- ① Gripper mounting
- ② Power supply
- ③ Jaw fastening
- ④ Lubrication fitting plug
- ⑤ Adjustment screw
- ⑥ Slot for magnetic field sensor
- ⑬ Endstop 180°
- ⑭ Endstop 90°
- ⑮ Direction of rotation
- ⑯ Air purge connection
- A Air connection (closing) - Gripping
- B Air connection (opening) - Gripping
- A* Air connection - Rotation (90°/180°)
- B* Air connection - Rotation (0°)
- A' Alternate air connection (closing) - Gripping
- B' Alternate air connection (opening) - Gripping
- A'' Alternate air connection - Rotation (90°/180°)
- B'' Alternate air connection - Rotation (0°)

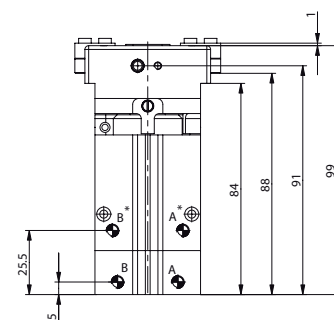
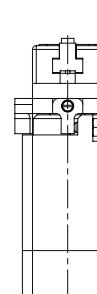
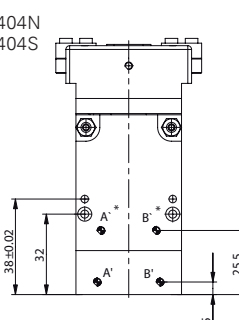
* equivalent to ISO 4762



Hoseless air connection



DGP404N
DGP404S



subject to change without prior notice



*Parallel Grip & **Rotate** Module*

pneumatic



DGP12

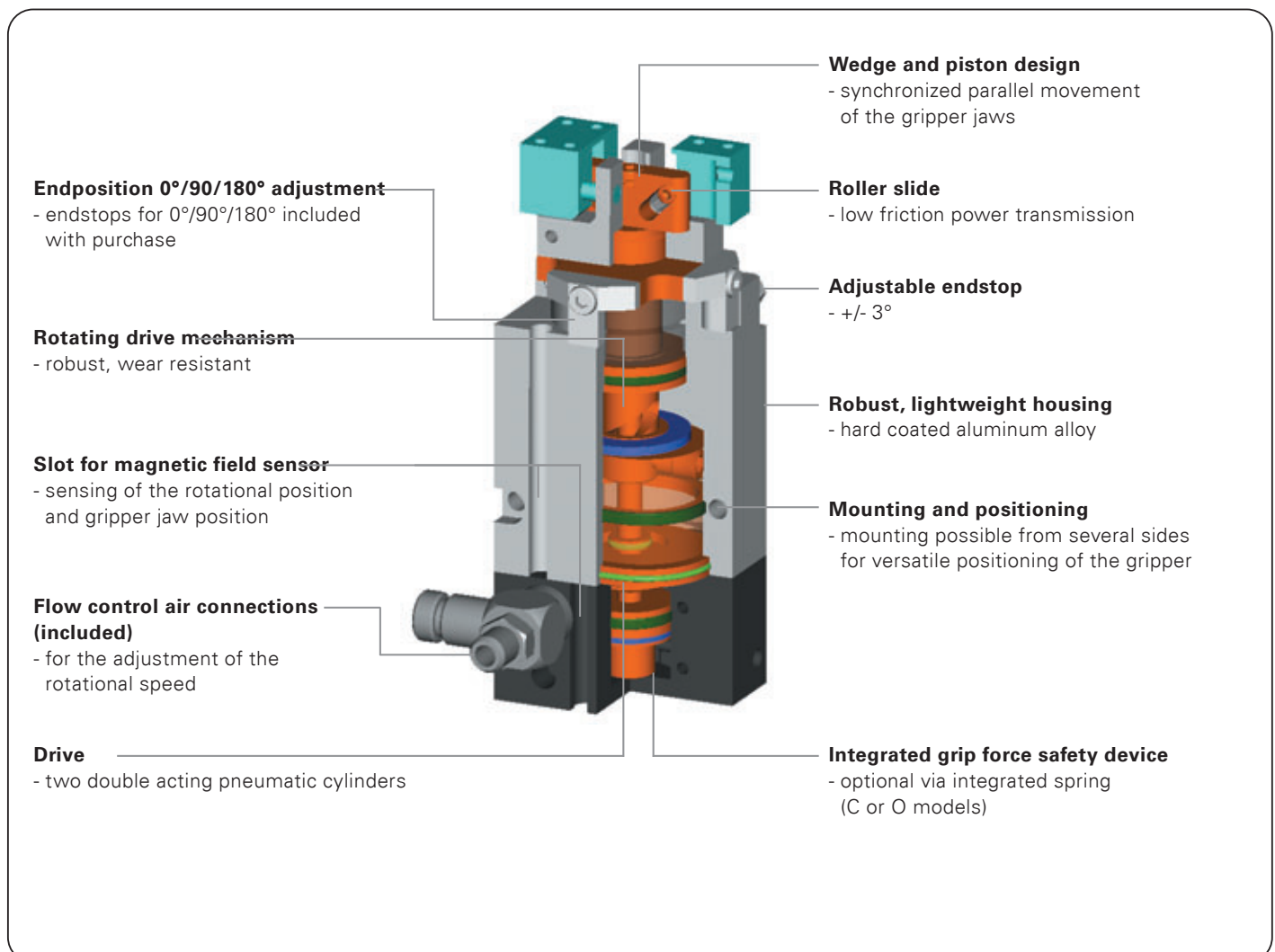
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Parallel Grip & Rotate Module

Features

- Grip and rotate can be controlled separately
- Grip and rotate, either 90° or 180°, combined in a compact module
- Inside and outside gripping, with stroke of 3mm per jaw, also available with mechanical grip force safety device
- With low friction roller slide and double-acting pneumatic cylinder for larger grip forces

Functional diagram





Terms

- Gripping force:** the arithmetic sum of the individual forces occurring at the jaws
- Closing/Opening time:** time required for gripper jaws to cover maximum stroke distance
- Repeatability:** at endstops after 50/100 consecutive cycles
- Cycle:** one complete movement of the piston forward and back
- Maintenance:** recommended at 10 million cycles (please refer to the Operating manual for constraints),
Available for download at: www.sommer-automatic.com
- low operating costs due to longer maintenance intervals
 - long lifespan

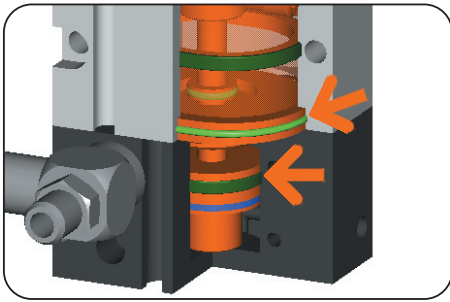
Model guide

- N:** Standard design (long stroke - standard force)
- C:** Self-locking, spring closing
- O:** Self-locking, spring opening

Order No.	Stroke per jaw	Gripping force in opening	Gripping force in closing	Self locking via	Torque
DGP12N	3 mm	31 N	31 N	DSV*	0,25 Nm
DGP12NC	3 mm	-	52 N	spring	0,25 Nm
DGP12NO	3 mm	52 N	-	spring	0,25 Nm

*DSV= Pressure safety valve/one-way valve (Part No. DSV1/8)

Parallel Grip & **Rotate Module**



Drive

Gripping

N Models

Double acting pneumatic cylinder

- maximum power in both opening and closing
- grip force up to 31N

NC, NO Models

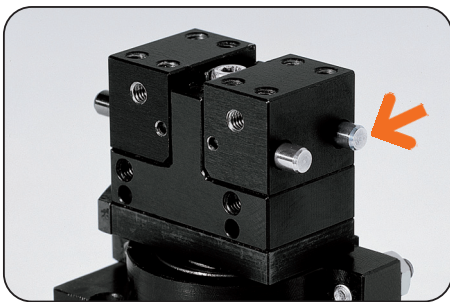
Double acting pneumatic cylinder with integrated spring as mechanical safety device (in the event of pressure loss)

- optimal transmission of power and grip force by spring

Rotation

Double acting pneumatic cylinder with oval piston

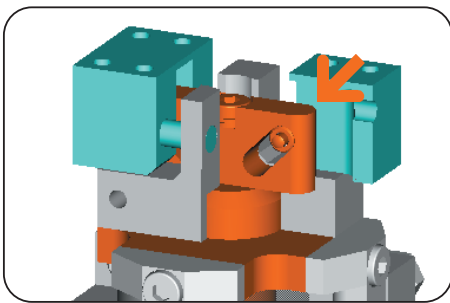
- maximum torque during rotation
- approximately 30% more piston area than with comparable round-piston



Guidance

Double roller slide

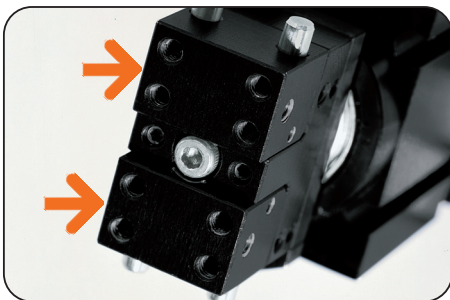
- harden steel pin
- jaw made of hard coat, anadized aluminum



Power transfer

Wedge and piston design with Roller slide

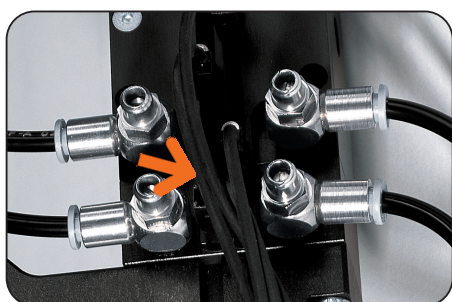
- optimum transmission of power to grip-force
- wear resistant
- self-centering
- synchronized jaw movement
- high repeatability



Gripper jaw positioning

Positioning of the tooling via threaded holes

- attachment of tooling fingers

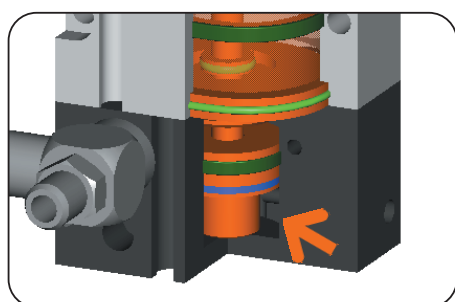


Position sensing

Built-in mount for magnetic field sensors

Sensing of the piston position

- compact-all sensors and cables are outside the swivel area
- stable, separate sensing of the gripping and rotating positions
- for magnetic field sensors with bracket for C-Nut



Gripping force safety device

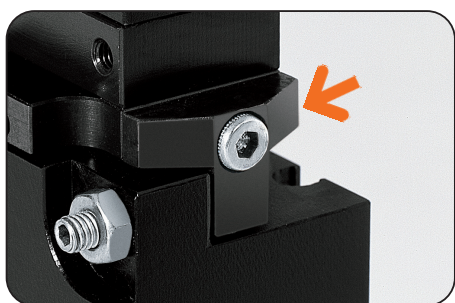
NC, NO Models

Energy retention through spring mounted in cylinder

- reliable mechanical grip force retention
- compact design

N external pressure retention safety valve

- Gripping force retention through the use of optional pressure safety valve (Part. Nr. DSV1/8). This type of grip force retention is restricted by the inevitable leakage of the pneumatic system.



Rotation angle

90° or 180°

Individually adjustable

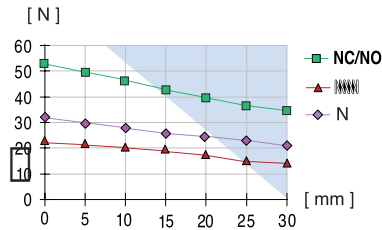
- simple relocation of endstop
- both stops included in delivery
- easily adaptable from one application to the next

Parallel Grip & Rotate Module



Gripping force diagram

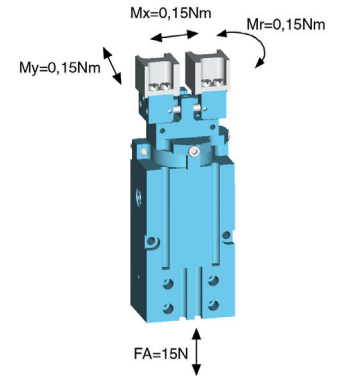
Gripping force as a function of jaw length.



Colored area: increased wear or tear to be expected.

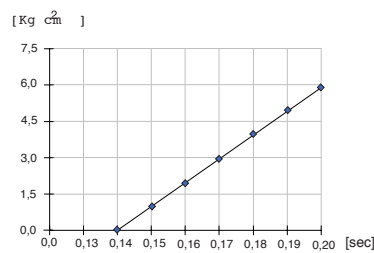
Forces and moments

Max allowable static forces and moments on jaws



Rotation time diagram

Rotation time as a function of mass moment of inertia.



Included with purchase



Flow control air fittings
Part No. DRVM5x4

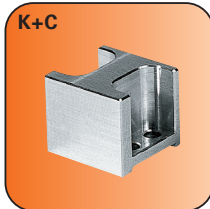


Endstop 90° + 180°
Part No. ANS0001

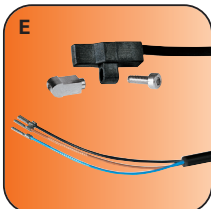
Accessory list



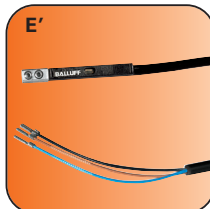
Compressed air fittings
Part No. WVM5



Universal jaw set
Part No. UB12 (Al)
Part No. UB12ST (St)



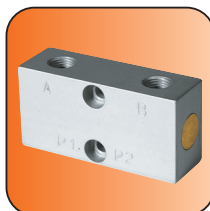
Magnetic field sensor
Part No. MFS103KHC42



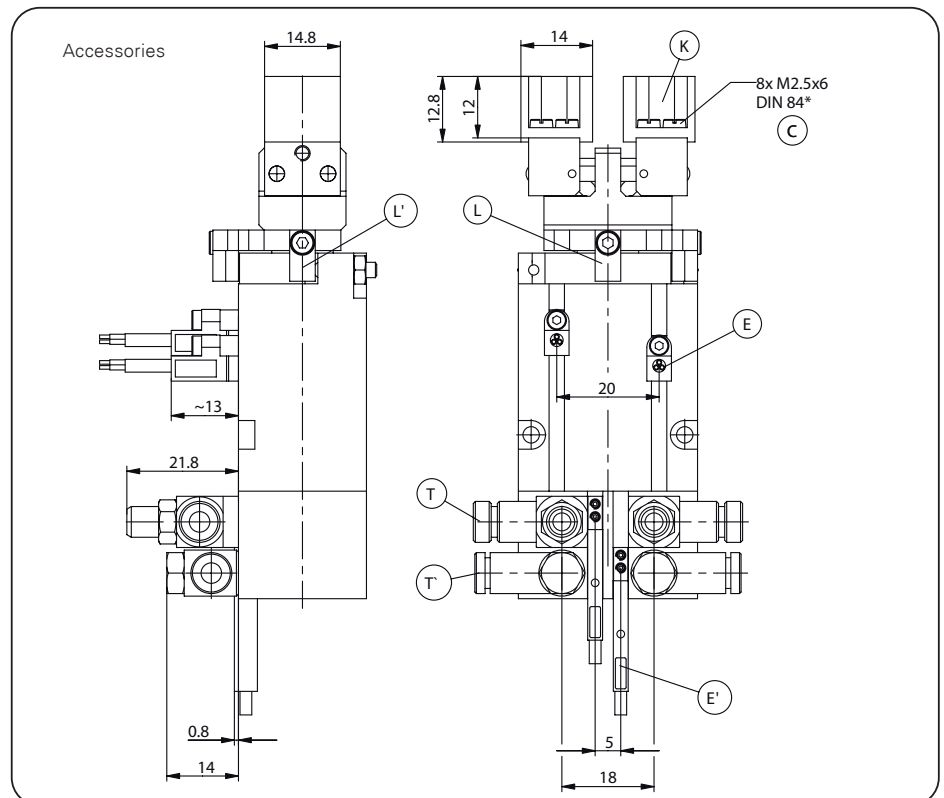
Magnetic field sensor
Part No. MFS303KHC30



Connector 3-plug
Part No. S12-G-3



Pressure safety valve/
one-way valve
Part No. DSV1/8



Magnetic field sensor incl. bracket

subject to change without prior notice



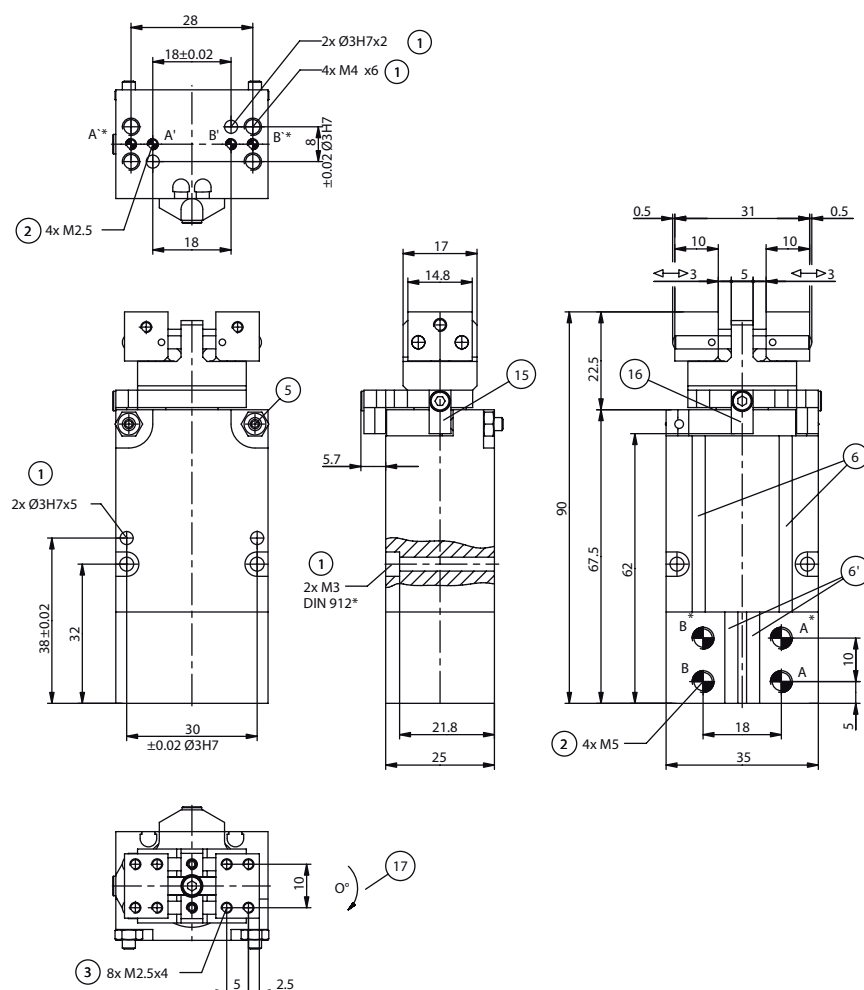
Order No.:	DGP12N	DGP12NC	DGP12NO
Gripping			
Stroke per jaw [mm]	3	3	3
Gripping force in closing and opening [N]:	31	-	-
Gripping force in closing [N]:	-	52	-
Gripping force in opening [N]:	-	-	52
Max suggested workpiece weight [g]*:	158	265	265
Gripping force secured by spring min. [N]:	-	21	21
Closing time/opening time [s]:	0,02	0,02	0,02
Repeatability +/- [mm]:	0,05	0,05	0,05
Air volume per cycle [cm³]:	1	1	1
Rotation			
Torque [Nm]:	0,25	0,25	0,25
Rotation angle 90° oder 180° adjustable +/- [°]:	3	3	3
Repeatability [°]:	0,05	0,05	0,05
Bearing load axial/radial [N/Nm]:	600/7	600/7	600/7
Air volume per cycle 90°/180° [cm³]:	1,9/3,8	1,9/3,8	1,9/3,8
General			
Operating pressure min./max. [bar]:	3/8	5/8	5/8
Operating temperature min./max. [°C]**:	5/80	5/80	5/80
Weight [g]:	200	200	200

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$

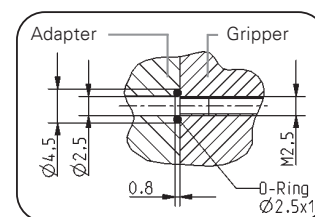
** High temperature resistant model (up to 150 °C) add "T" to part number

DGP12NO
DGP12NC
DGP12N



- ① Gripper mounting
- ② Power supply
- ③ Jaw fastening
- ⑤ Adjustment screw
- ⑥ Slot for magnetic field sensor-Rotation
- ⑥' Slot for magnetic field sensor - Gripping
- ⑬ Endstop 180°
- ⑬' Endstop 90°
- ⑭ Direction of rotation
- ① Air connection (closing) - Gripping
- ② Air connection (opening) - Gripping
- ①' Air connection - Rotation (90°/180°)
- ②' Air connection - Rotation (0°)
- ①' Alternate air connection (closing) - Gripping
- ②' Alternate air connection (opening) - Gripping
- ①' Alternate air connection - Rotation (90°/180°)
- ②' Alternate air connection - Rotation (0°)

* equivalent to ISO 4762



Hoseless air connection



*Three-Jaw **Grip & Rotate Module***

pneumatic



DGD304

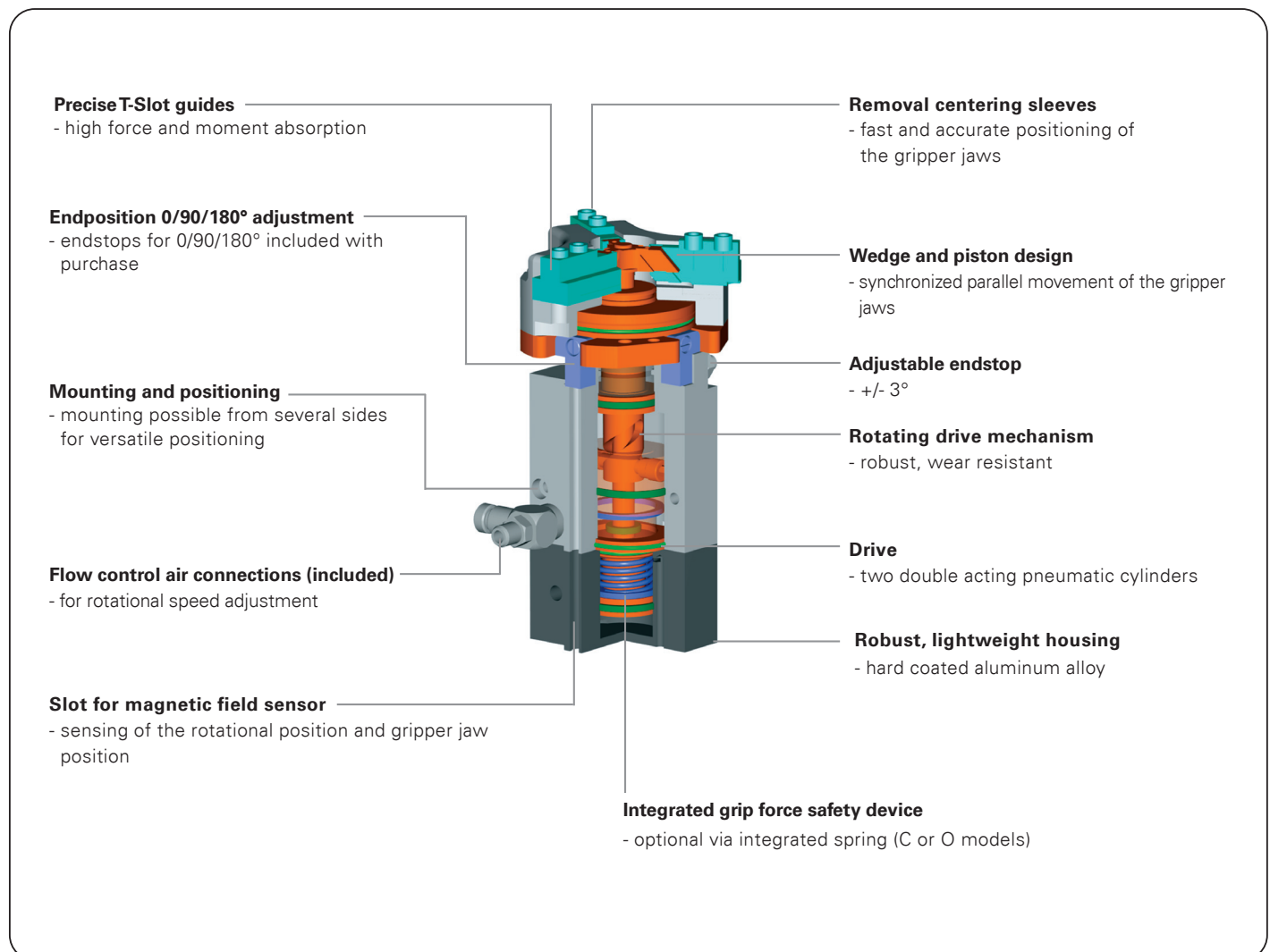
SOMMER
automatic

Three-Jaw **Grip & Rotate** Module

➤ Features

- Grip and rotate functions can be controlled separately
- Grip and rotate, either 90 or 180°, combined in a compact module
- Six different types in this series, for inside-and-outside-gripping, with a stroke of 2 or 4 mm per jaw, also available with mechanical gripping-force-retention
- Stable T-slot guides to aid the absorption of large forces and moments, optimally suited for high loads

Functional diagram



Terms

- Gripping force:** the arithmetic sum of the individual forces occurring at the jaws
- Closing/Opening time:** time required for gripper jaws to cover maximum stroke distance
- Repeatability:** at endstops after 50/100 consecutive cycles
- Cycle:** one complete movement of the piston forward and back
- Maintenance:** recommended at 10 million cycles (please refer to the operating manual for constraints)
- Available for download at: www.sommer-automatic.com
- low operating costs due to longer maintenance intervals
 - long lifespan

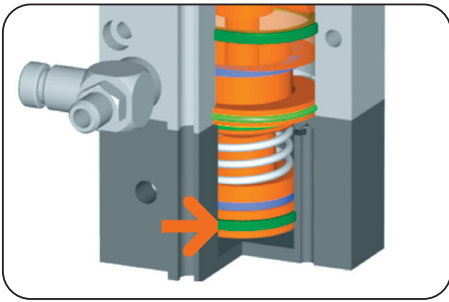
Model guide

- N:** Standard design (long stroke - standard force)
- S:** Heavy duty design (short stroke - large force)
- C:** self-locking, spring closing
- O:** self-locking, spring opening

Order No.	Stroke per jaw	Gripping force in opening	Gripping force in closing	Self locking via	Torque
DGD304N	4	114 N	114 N	DSV*	0,5 Nm
DGD304NC	4	-	154 N	Spring	0,5 Nm
DGD304NO	4	154 N	-	Spring	0,5 Nm
DGD304S	2	238 N	238 N	DSV*	0,5 Nm
DGD304SC	2	-	318 N	Spring	0,5 Nm
DGD304SO	2	318 N	-	Spring	0,5 Nm

*DSV= Pressure safety valve/one-way valve (Part No. DSV1/8)

Three-Jaw **Grip & Rotate** Module



Drive

Gripping

N and S Models

Double acting pneumatic cylinder

- maximum power in both opening and closing
- grip force up to 238 N

NC, NO and SC, SO Models

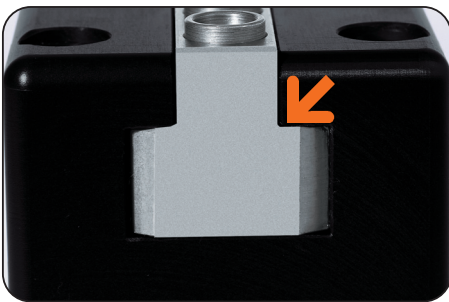
Double acting pneumatic cylinder with integrated spring as mechanical safety device (in the event of pressure loss)

- optimal transmission of power and grip force by spring

Rotation

Double acting pneumatic cylinder with oval piston

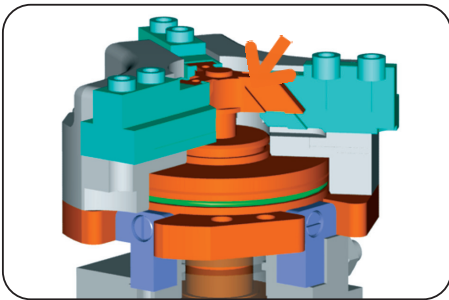
- maximum torque during rotation
- approximately 30% more piston area than with comparable round-piston



Guidance

Ground T-slot jaws made from hardened steel

- T-slot guides for maximum force and moment resistance
- high precision, play-free guides
- convenient service via external lubrication fitting



Power transfer

Wedge and piston design with mechanical restricted guides

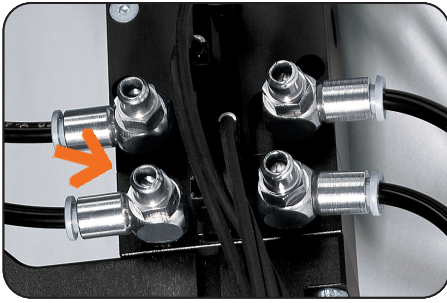
- optimal transmission of power to grip-force
- self-centering
- synchronized jaw movement
- high repeatability



Gripper jaw positioning

Positioning of the tooling fingers via centering sleeves

- precise positioning of the individual gripper fingers
- fast, easy, and economical switching of tooling fingers
- space saving design maximizes size of mounting holes

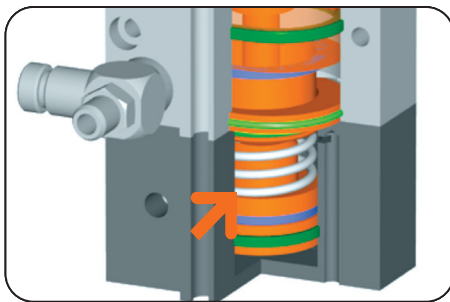


Position sensing

Built-in mount for magnetic sensors

Sensing of the piston position

- compact - all sensors and cables are outside the swivel area
- stable, separate sensing of the gripping and rotating positions
- for magnetic field sensors with bracket for C-Nut



Gripping force safety device

NC, NO and SC, SO Models

Energy retention through spring mounted in cylinder

- reliable mechanical grip force retention
- compact design

N and S external pressure retention safety valve

- Gripping force retention through the use of optional pressure retention safety valve (Part No. DSV1/8).



Rotation angle

90° or 180°

Individually adjustable

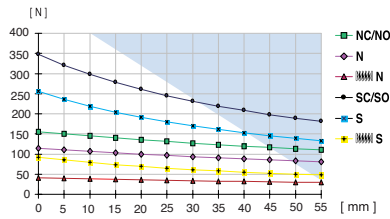
- simple relocation of endstop
- both stops included in delivery
- easily adaptable from one application to the next

Three-Jaw **Grip & Rotate** Module



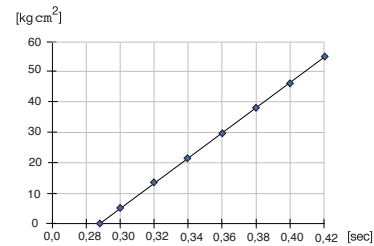
Gripping force diagram

Gripping force as a function of jaw length.



Colored area: increased wear or tear to be expected.

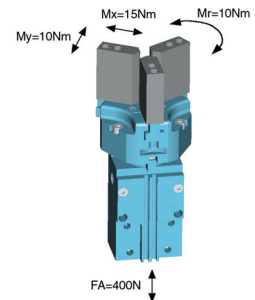
Rotating time diagram



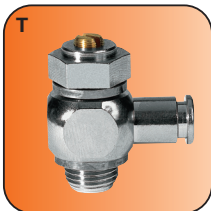
Rotation time as a function of mass moment of inertia.

Forces and moments

Max allowable static forces and moments on jaws.



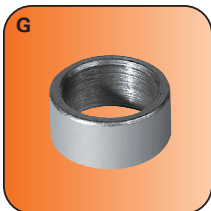
Included with purchase



Flow control air fittings
Part No. DRVM5x4



Endstop 90° + 180°
Part No. ANS0002

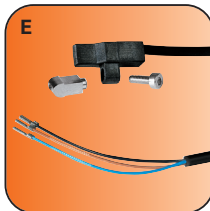


Centering sleeves
Part No. BDST40400

Accessory list



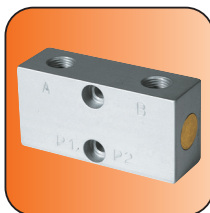
Compressed air fittings
Part No. WVM5



Magnetic field sensor
Part No. MFS103KHC42

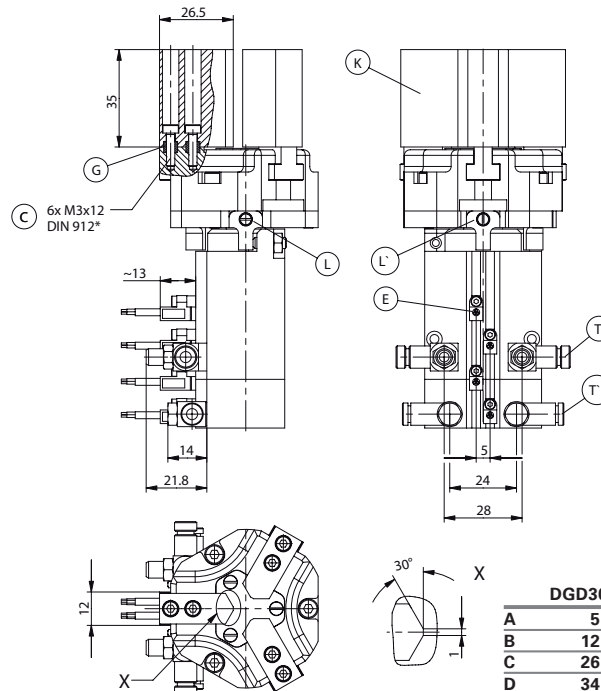


Universal jaw set
Part No. UB304 (Al)
Part No. UB304ST (St)



Pressure safety valve/
one-way valve
Part No.. DSV1/8

Accessories



Magnetic field sensor includes bracket

	DGD304N/S	DGD304NC/NO/SC/SO
A	5	7
B	12	16
C	26	34
D	34	46
X	5	14
Y	23,5	33,5

subject to change without prior notice

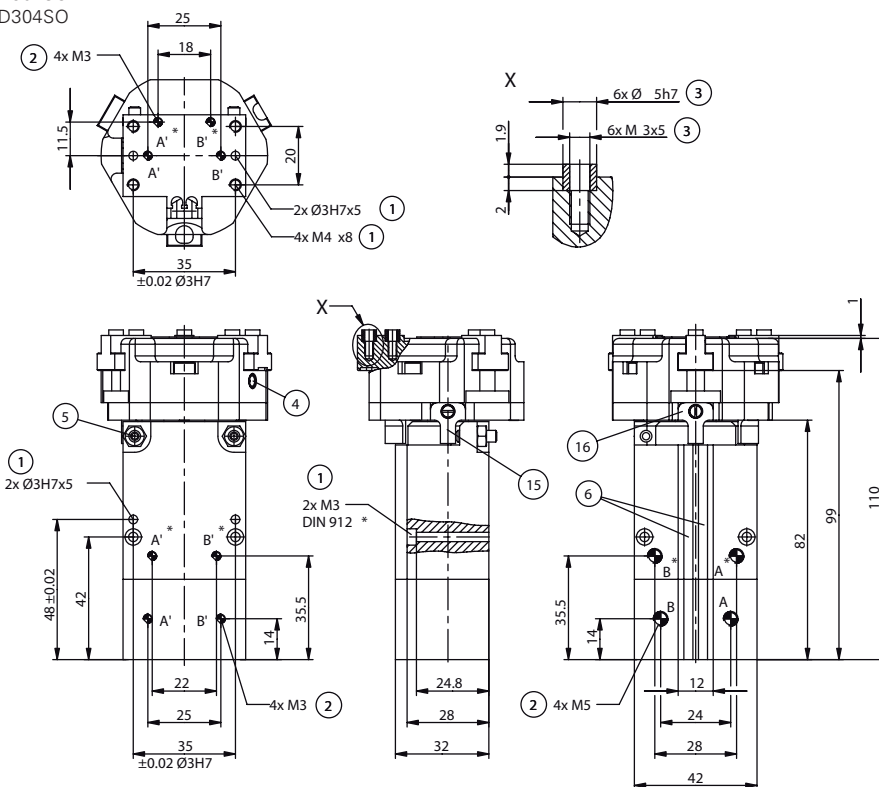
Order No.:	DGD304N	DGD304NC	DGD304NO	DGD304S	DGD304SC	DGD304SO
Gripping						
Stroke per jaw [mm]:	4	4	4	2	2	2
Gripping force in closing and opening [N]:	114	-	-	238	-	-
Gripping force in closing [N]:	-	154	-	-	318	-
Gripping force in opening [N]:	-	-	154	-	-	318
Max suggested workpiece weight [kg]*:	0,58	0,78	0,78	1,2	1,6	1,6
Gripping force secured by spring min./max. [N]:	-	40	40	-	80	80
Closing time/opening time [s]:	0,05	0,07	0,07	0,05	0,05	0,07
Repeatability +/- [mm]:	0,05	0,05	0,05	0,05	0,05	0,05
Air volume per cycle 90°/180° [cm³]:	9	18	18	9	18	18
Rotation						
Torque [Nm]:	0,5	0,5	0,5	0,5	0,5	0,5
Rotation angle 90° oder 180° adjustable +/- [°]:	3	3	3	3	3	3
Repeatability [°]:	0,05	0,05	0,05	0,05	0,05	0,05
Bearing load axial/radial [N/Nm]:	960/10	960/10	960/10	960/10	960/10	960/10
Air volume per cycle 90°/180° [cm³]:	4,6/9,2	4,6/9,2	4,6/9,2	4,6/9,2	4,6/9,2	4,6/9,2
General						
Operating pressure min/max [bar] :	3/8	5/8	5/8	3/8	5/8	5/8
Operating temperature min/max [°C]**:	5/80	5/80	5/80	5/80	5/80	5/80
Weight [g]:	600	640	640	600	640	640

All data measured at 6 bar

* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$

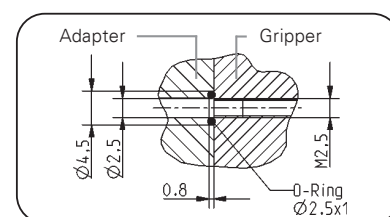
** High temperature resistant model (up to 150 °C) add " T " to part number

DGD304NC
DGD304NO
DGD304SC
DGD304SO



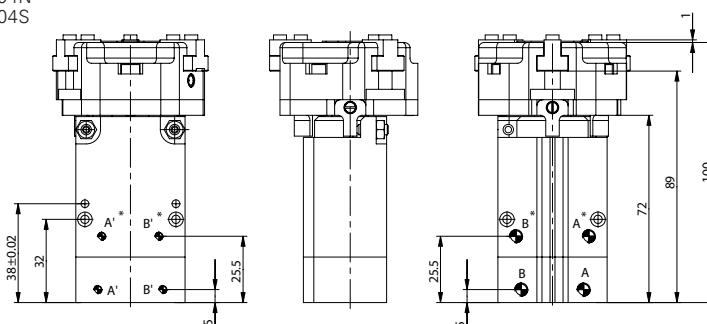
- ① Gripper mounting
- ② Power supply
- ③ Jaw fastening
- ④ Lubrication fitting plug
- ⑤ Adjustment screw
- ⑥ Slot for magnetic prox. switch
- ⑬ Endstop 180°
- ⑭ Endstop 90°
- ⑮ Direction of rotation
- Ⓐ Air connection (closing) - Gripping
- Ⓑ Air connection (opening) - Gripping
- Ⓐ* Air connection - Rotation (90°/180°)
- Ⓑ* Air connection - Rotation (0°)
- Ⓐ' Alternative air connection (closing) - Gripping
- Ⓑ' Alternative air connection (opening) - Gripping
- Ⓐ* Alternative air connection - Rotation (90°/180°)
- Ⓑ* Alternative air connection - Rotation (0°)

* equivalent to ISO 4762



Hoseless air connection

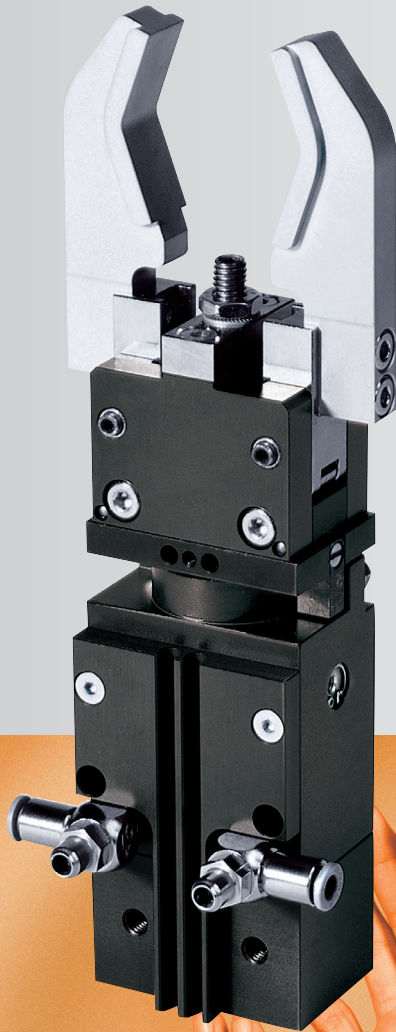
DGD304N
DGD304S





*Angular **Grip & Rotate Module***

pneumatic



DGK20N

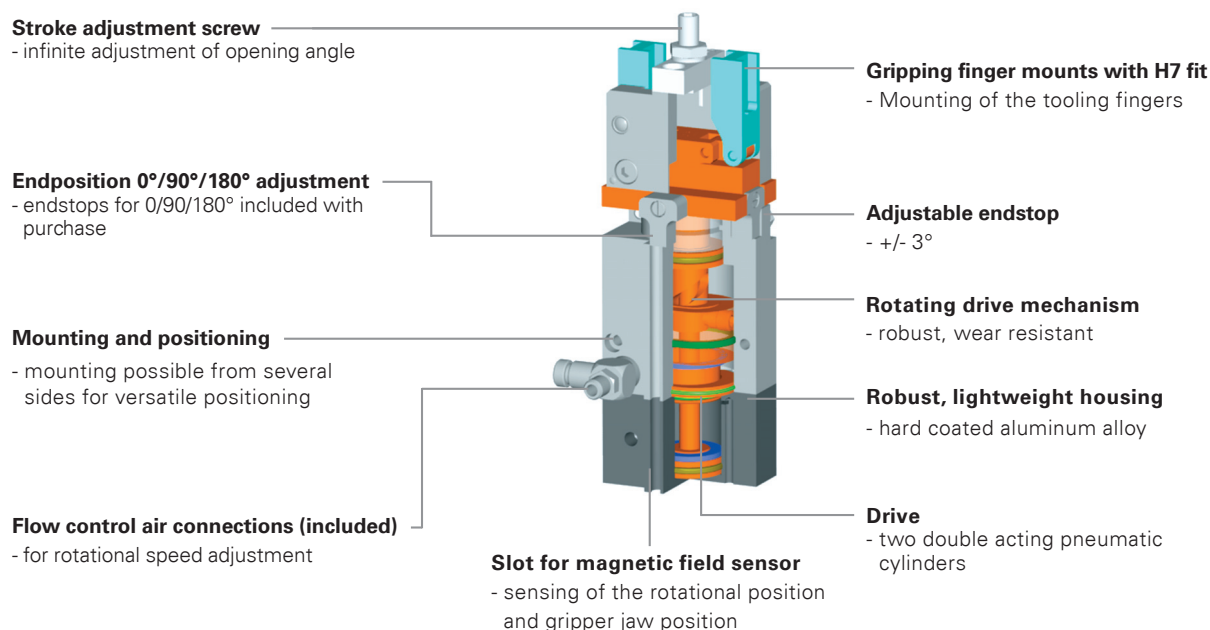
SOMMER
automatic

Angular **Grip & Rotate** Module

➤ Features

- Grip and rotate functions can be controlled separately
- Grip and rotate, either 90° or 180°, combined in a compact module
- Gripper opening angle infinitely adjustable from 1° to 180°
- At 180° opening angle, the workpiece is clear of the jaws, therefore no linear retraction stroke is needed

Functional diagram





Terms

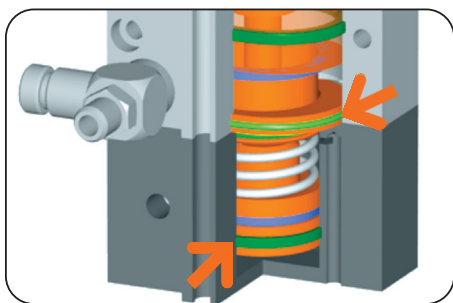
- Gripping force:** the arithmetic sum of the individual forces occurring at the jaws
- Closing/opening time:** time required for gripper jaws to cover maximum stroke distance
- Repeatability:** at endstops after 50/100 consecutive cycles
- Cycle:** one complete movement of the piston forward and back
- Maintenance:** recommended at 5 million cycles (please refer to the Operating manual for constraints)
Available for download at: www.sommer-automatic.com
- low operating costs due to longer maintenance intervals
 - long lifespan

Model guide

Order No.	Opening angle per jaw	Gripping torque in closing	Self-locking via	Torque
DGK20N	90°	3 Nm	DSV*/MS	0,5 Nm

**DSV= Pressure safety valve/one-way valve (Part No. DSV1/8); MS= Mechanical self-locking at 0° opening angle.*

Angular **Grip & Rotate Module**



Drive

Gripping

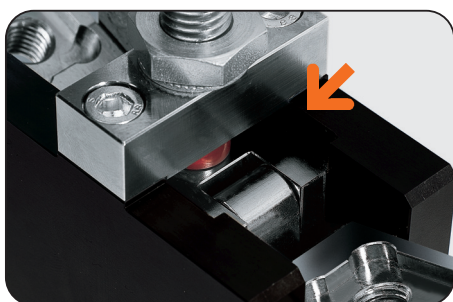
Double acting pneumatic cylinder

- maximum drive moment
- gripping torque up to 3,0Nm

Rotation

Double acting pneumatic cylinder with oval piston

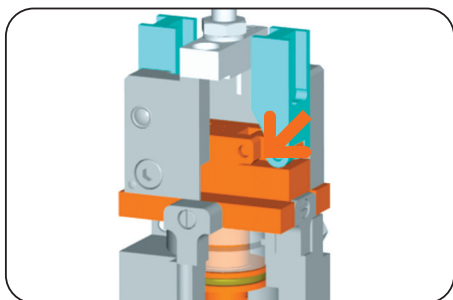
- maximum torque during rotation
- approximately 30% more piston area than with comparable round-piston



Guidance

The guides for the linkage are in the side plates

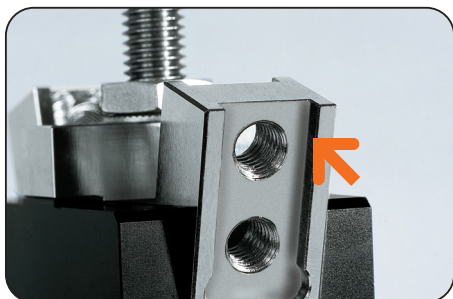
- for better repeatability
- precise guide
- virtually no play



Power transfer

Piston and toggle linkage

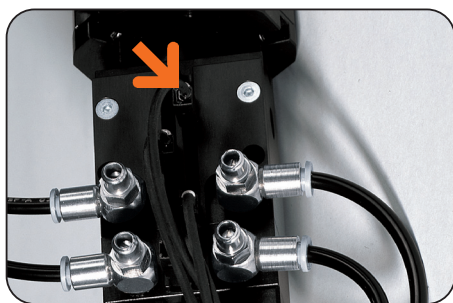
- maximum gripping force thru the linkage
- efficient conversion of piston force to the linkage
- centrally linked
- jaws are synchronized



Gripper jaw positioning

Gripping jaw mounts with H7 fit

- attachment of tooling fingers

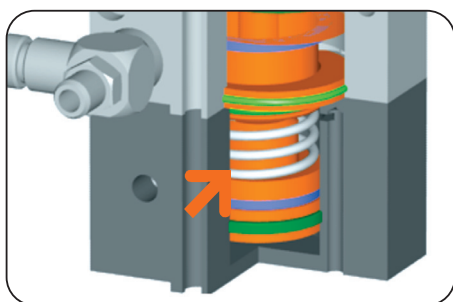


Position sensing

Slot for mounting of magnetic field sensor

Sensing of the piston position

- compact - all sensors and cables are outside the swivel area
- stable, separate sensing of the gripping and rotating positions
- for magnetic field sensor with bracket for C-Nut



Gripping force safety device

Mechanical self locking at 0° opening-angle via toggle linkage

Alternately, a pressure safety valve (Part Nr. DSV1/8) can be used, which prevent loss of grip force via pressure retention.



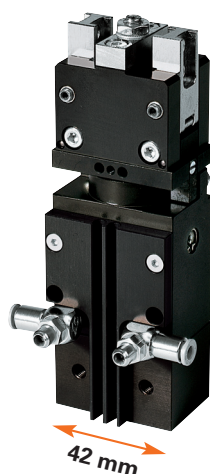
Rotation angle

90° or 180°

Individually adjustable

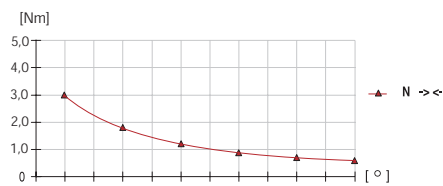
- simple relocation of endstop
- both stops included in delivery
- easily adaptable from one application to the next

Angular **Grip & Rotate Module**



Gripping force diagram

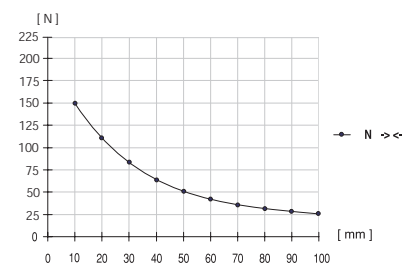
Gripping force as a function of opening angle.



Gripping force as a function of jaw length (measured at 1° opening angle)

Gripping force diagram

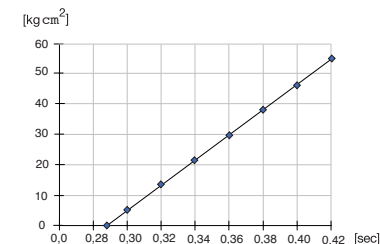
Gripping force as a function of jaw length (measured at 1° opening angle)



Measured from top edge of housing

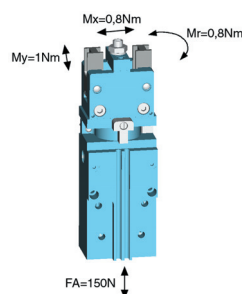
Rotation time diagram

Rotation time as a function of mass moment of inertia.

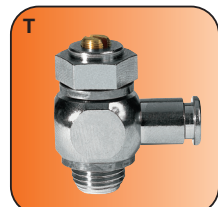


Forces and moments

Max allowable static forces and moments on jaws.



Included with purchase



Flow control air fittings
Part No. DRVM5x4



Endstop 90° + 180°
Part No. ANS0002

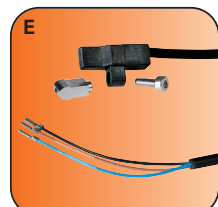
Accessory list



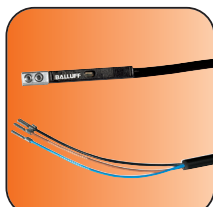
Compressed air fittings
Part No. WVM5



Compressed air fittings
Part No. GVM5



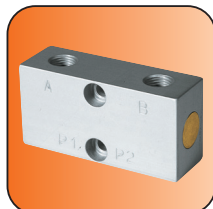
Magnetic field sensor
Part No. MFS103KHC42



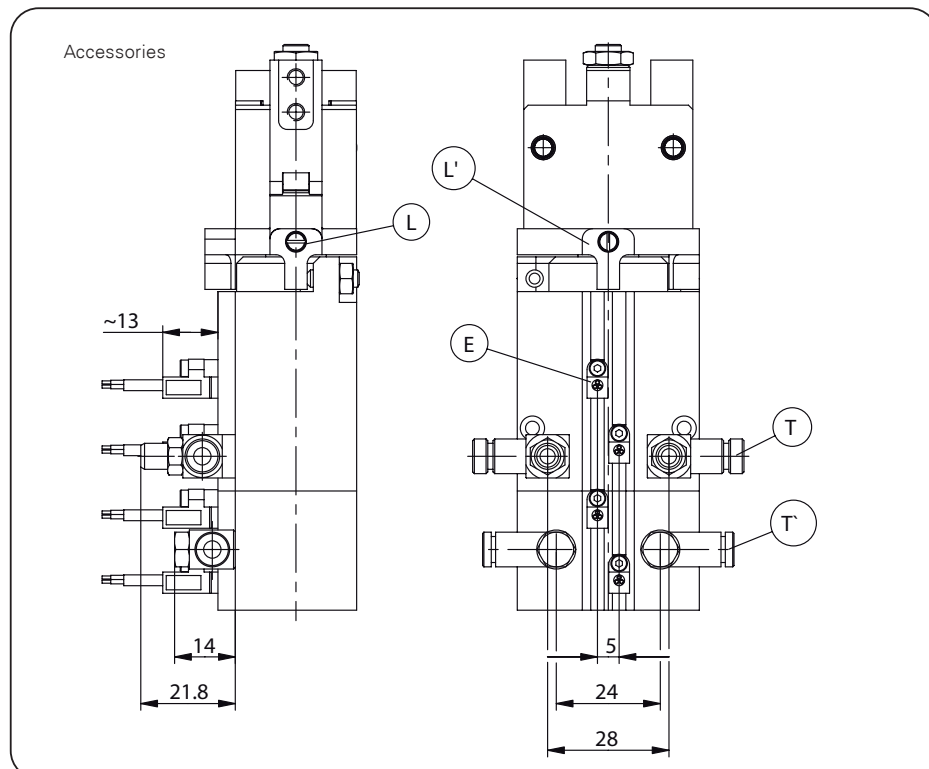
Magnetic field sensor
Part No. MFS303KHC30



Connector 3-plug
Part No. S12-G-3



Pressure safety valve/
one-way valve
Part No. DSV1/8



Magnetic field sensor incl. bracket

subject to change without prior notice

	Order No.:	Order No.
Gripping	Stroke per jaw [°]:	90
	Gripping force in closing [N]**:	150
	Gripping torque in closing [Nm]:	3
	Max suggested workpiece weight [g]*:	306
	Closing time/opening time [s]:	0,25
	Repeatability +/- [mm]:	0,1
	Air volume per cycle [cm³]:	9
Rotation	Torque [Nm]:	0,5
	Rotation angle (90° or 180°) adjustable +/- [°]:	3
	Repeatability [°]:	0,05
	Bearing load axial/radial [N/Nm]:	960/10
	Air volume per cycle 90°/180° [cm³]:	4,6/9,2
General	Operating pressure min/max [bar]:	3/8
	Operating temperature min/max [°C]**:	5/80
	Weight [g]:	550

All data measured at 6 bar

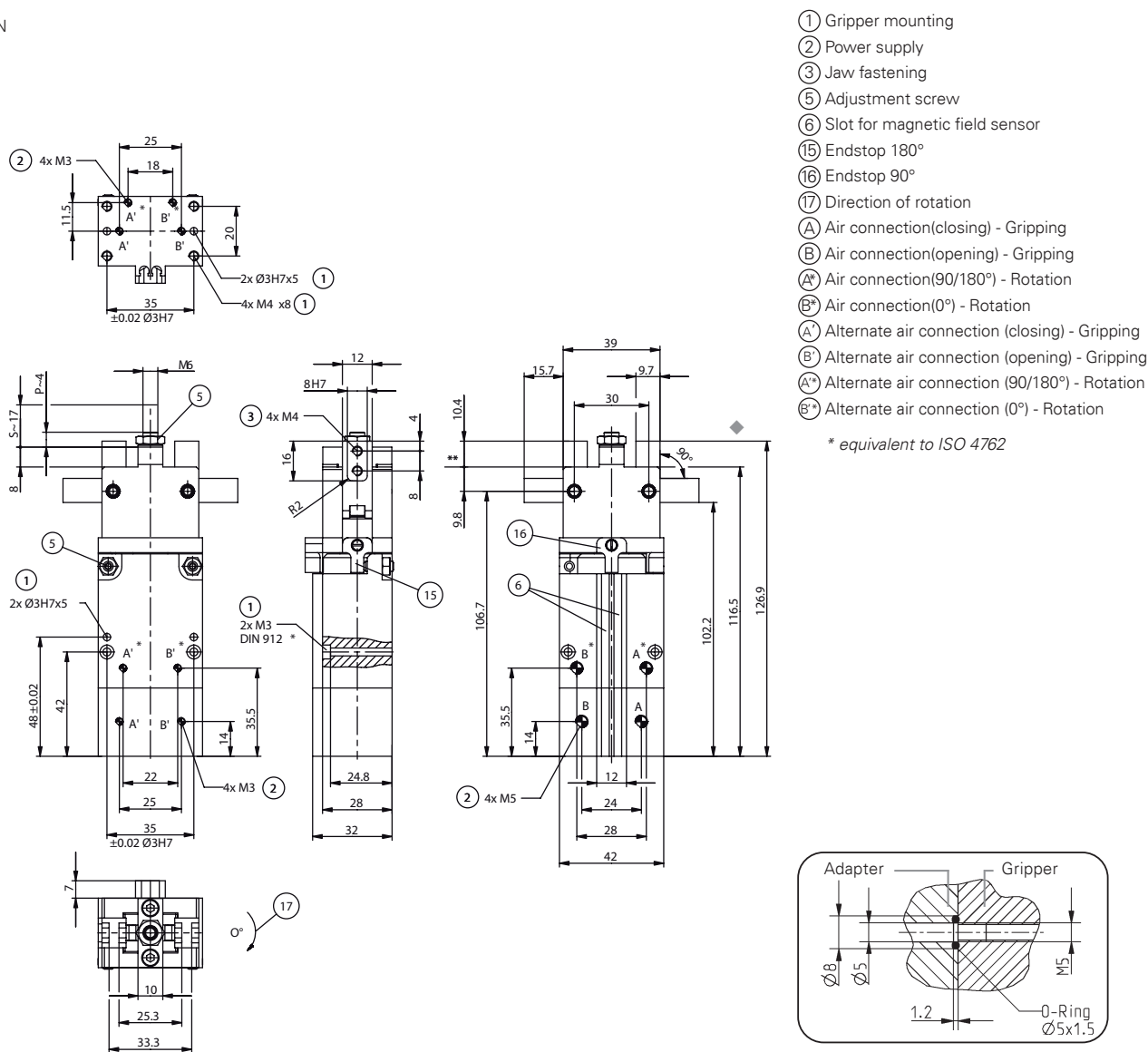
* Value determined with friction coefficient $\mu=0.1$ and safety factor $v = 2$

Spacing from top edge of housing $\blacklozenge = 40$ mm

** High temperature resistant model (up to 150 C°) add " T" to part number

*** Measured at 10 mm ab from top housing \blacklozenge and 1° opening angle

DGK20N





➤ Grippers <i>pneumatic</i>	01
➤ Grippers <i>electrical</i>	02
➤ Grippers <i>hydraulic</i>	03
➤ Grippers <i>Special</i>	04
➤ Grip & Rotate Modules <i>pneumatic</i>	05
➤ Separators	06
➤ Swivel Units <i>pneumatic</i>	07
➤ Swivel Units <i>electrical</i>	08
➤ Swivel Units <i>hydraulic</i>	09
➤ Rotation Jaws <i>pneumatic</i>	10
➤ Axial Compensation Modules	11
➤ Tool Changers	12
➤ Robotics Accessories	13
➤ Linear Cylinders	14
➤ Shock Absorber	15
➤ Air Vane Motors	16
➤ Rotary Cylinders	17
➤ Vacuum Components	18
➤ Accessorios	19