

3-jaw parallel self-centering pneumatic gripper (series T)

- Modular with Gimapick system.
- Double acting.
- Air feeding possible directly from the fixing plate.
- Possibility to mount it on front with through screws.
- High gripping force with low weight.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



T63



T40

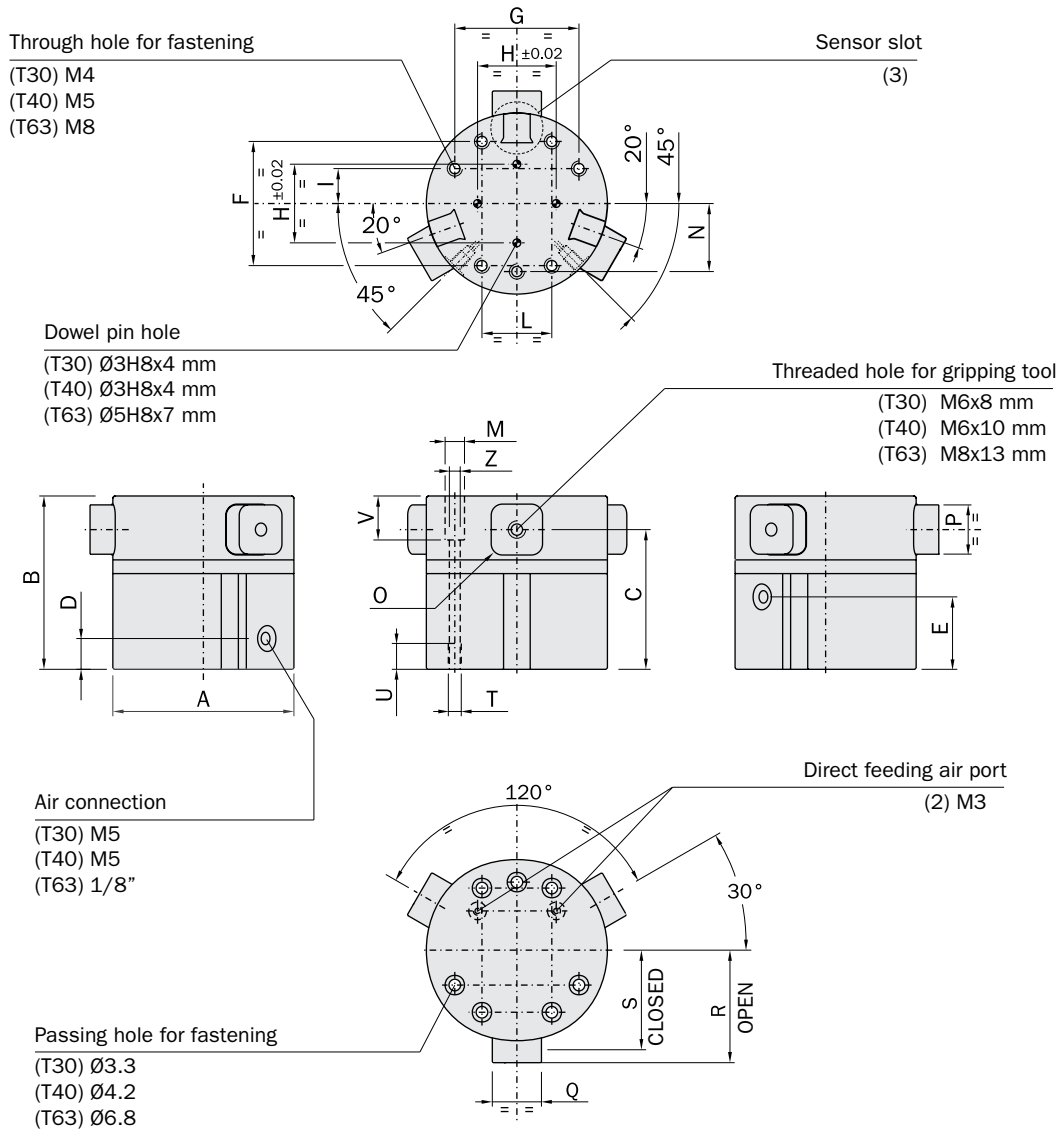


T30

	T30	T40	T63
Price	\$470.00	\$568.00	\$671.00
Medium	Filtered compressed air, lubricated or non-lubricated		
Pressure range	36-116 psi		
Temperature range	41-140 °F		
Gripping force on each jaw on opening at 87 psi	25.8 lbf	45 lbf	108 lbf
Gripping force on each jaw on closing at 87 psi	23.6 lbf	40.5 lbf	99 lbf
Total gripping force on opening at 87 psi	77.4 lbf	135 lbf	324 lbf
Total gripping force on closing at 87 psi	70.8 lbf	121.5 lbf	297 lbf
Stroke ±0.0078" (±0.2 mm)	3x 0.118" (3x 3mm)	3x 0.197" (3x 5mm)	3x 0.354" (3x 9mm)
Maximum operating frequency	4 Hz	3 Hz	2 Hz
Air consumption per cycle	0.73 in ³	1.16 in ³	5.74 in ³
Closing time without load	0.01 s	0.01 s	0.05 s
Repetition accuracy	0.000787" (0.02 mm)	0.000787" (0.02 mm)	0.000787" (0.02 mm)
Weight	325g	745g	1680g

Dimensions (mm)


	A	B	C	D	E	F	G	H ±0.02	I	L	M	N	O	P -0.05	Q -0.05	R	S	T	U	V	Z
T30	Ø50	59	49.5	8	27	37	-	30.4	-	21	Ø6	-	3	14	14	30.5	27.5	M4	8	14	Ø3.3
T40	Ø70	67	54	11.9	28	48	48	30.4	13.5	27	Ø7.5	26.3	4	19	19	43.6	38.5	M5	10	17	Ø4.2
T63	Ø90	90.5	72.8	12	38	66	-	59	-	38	Ø10.5	-	5	26	26	60.6	51.5	M8	16	28.5	Ø6.8

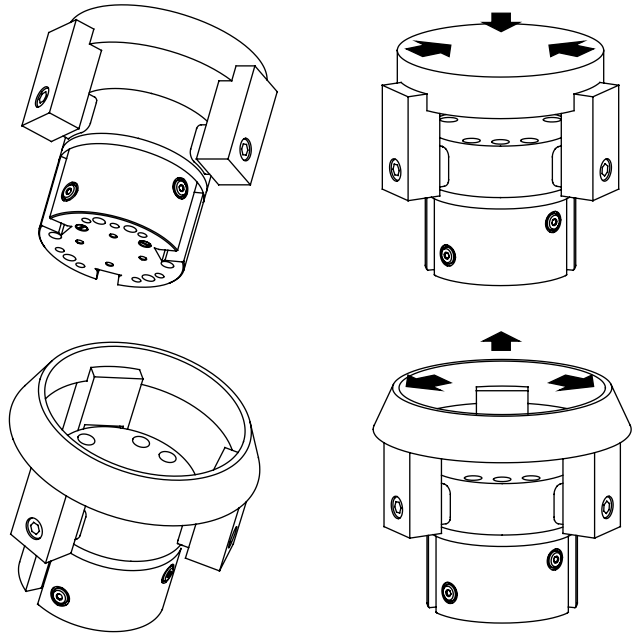
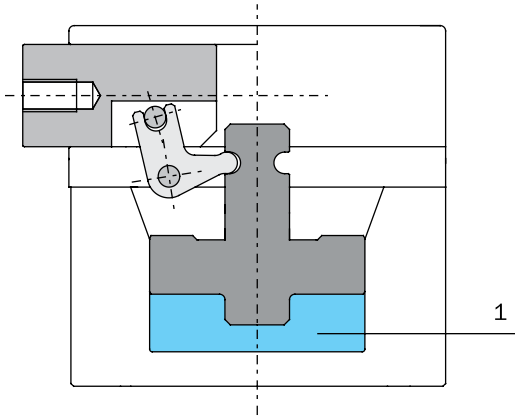


Gripping

The three jaw gripper allows the correct gripping of pieces with different diameter keeping the center in the same position. The jaws are linked to three levers moved by one piston, having by this, self-centering action.

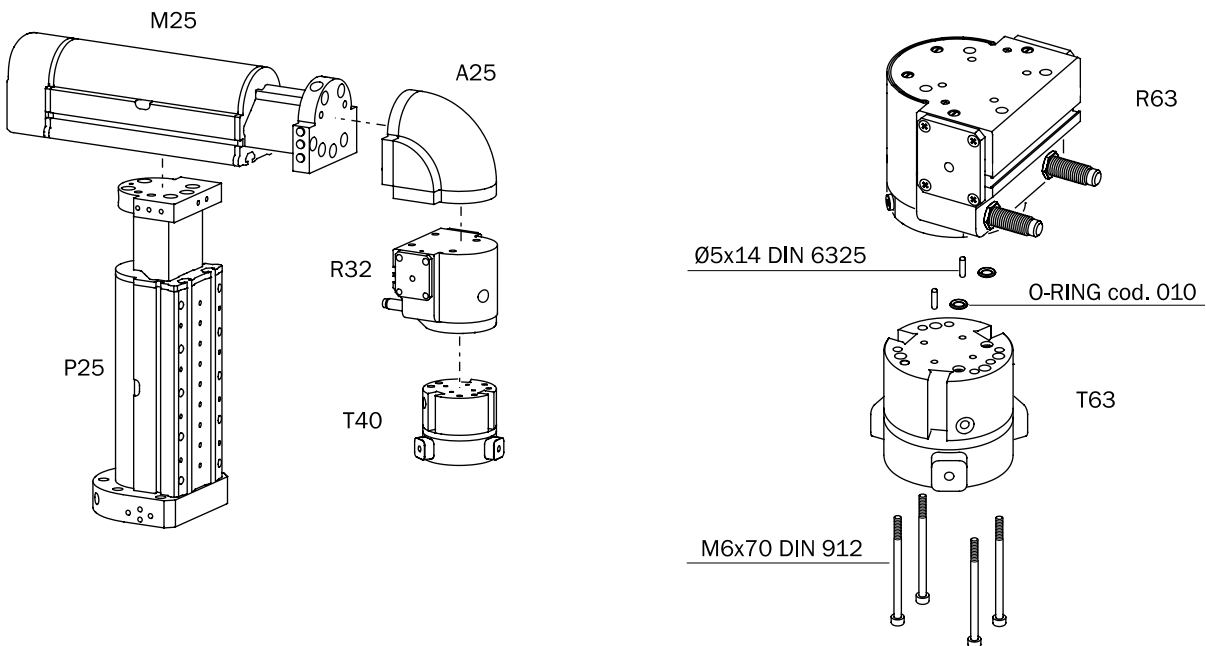
The gripper is double-acting, so internal or external gripping is possible.

 Pressurized chamber



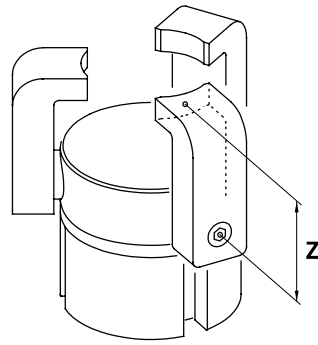
Application examples

These grippers can be easily mounted with Gimapick elements.

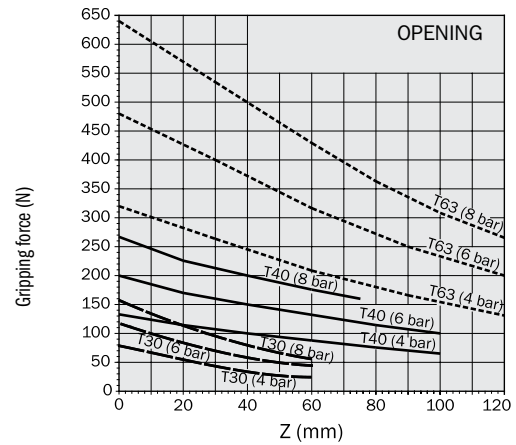
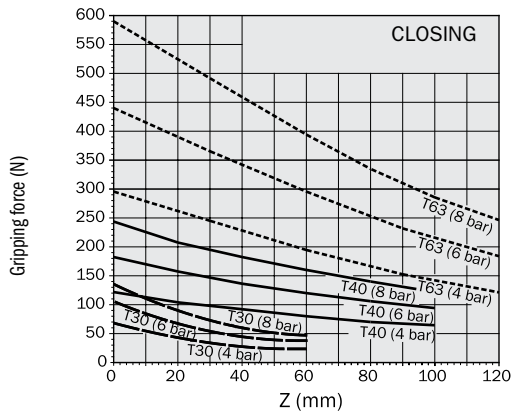


Gripping force

The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length (Z).

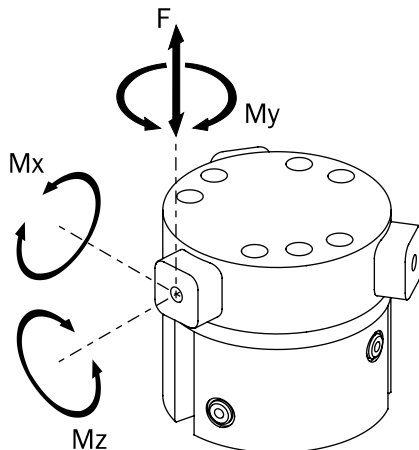


The force shown in these graphs refers to one jaw. The total force is triple.



Safety loads

Check the table for maximum permitted loads. Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator. $F_s, M_x s, M_y s, M_z s$, are maximum permitted static loads. Static means motionless jaws. $F_d, M_x d, M_y d, M_z d$, are maximum permitted dynamic loads. Dynamic means running jaws. The following table shows the specified maximum loads (m) on each gripping tool as a function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.

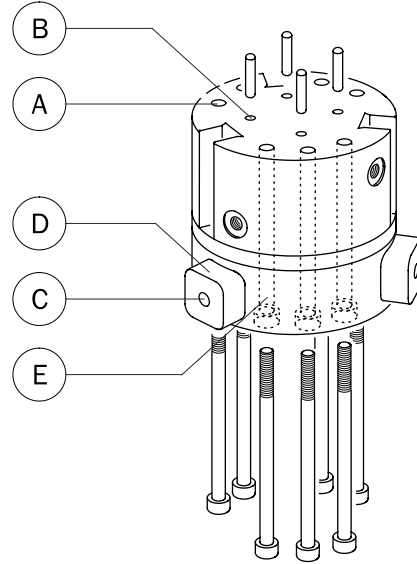
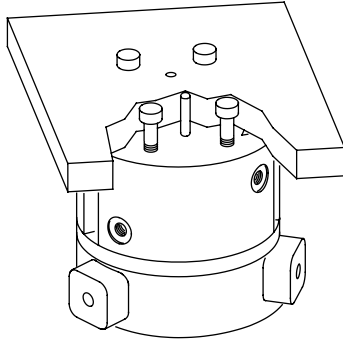


	T30	T40	T63
F_s	100 N	300 N	500 N
$M_x s$	4 Nm	12 Nm	32 Nm
$M_y s$	4 Nm	12 Nm	32 Nm
$M_z s$	4 Nm	12 Nm	32 Nm
F_d	1 N	3 N	8 N
$M_x d$	3 Ncm	8 Ncm	30 Ncm
$M_y d$	3 Ncm	8 Ncm	30 Ncm
$M_z d$	3 Ncm	8 Ncm	30 Ncm
m 0.2 s	150 g	300 g	700 g
m 0.1 s	100 g	200 g	500 g
m (*)	80 g	150 g	400 g

(*) without speed adjustment

Gripper fastening

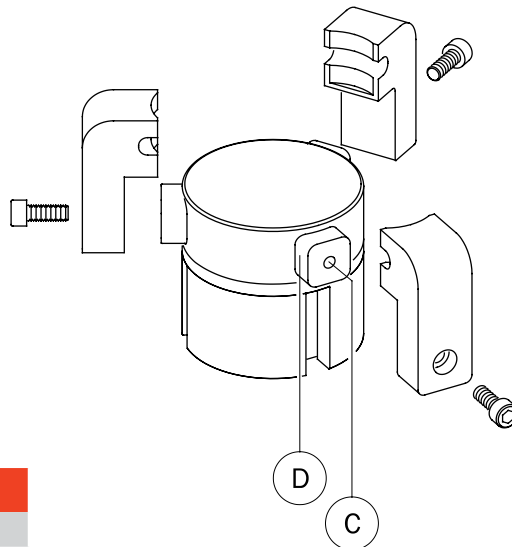
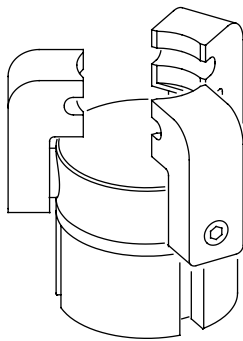
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load. To fasten the gripper use at least four screws and two dowel pins.



	T30	T40	T63
A	M4x8 mm	M5x10 mm	M8x16 mm
B	Ø3H8x4 mm	Ø3H8x4 mm	Ø5H8x7 mm
E	Ø3.3 mm	Ø4.2 mm	Ø6.8 mm

Gripping tool fastening

The gripping tools must be as short and light as possible. Fit them to the jaws by centering the square calibrated profile (D) and locking with a screw through the threaded middle hole (C).

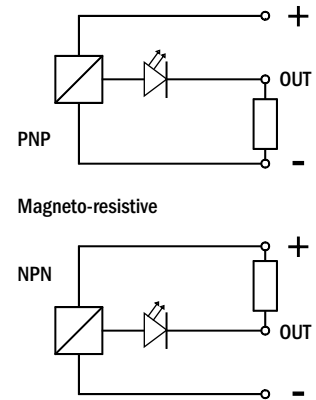
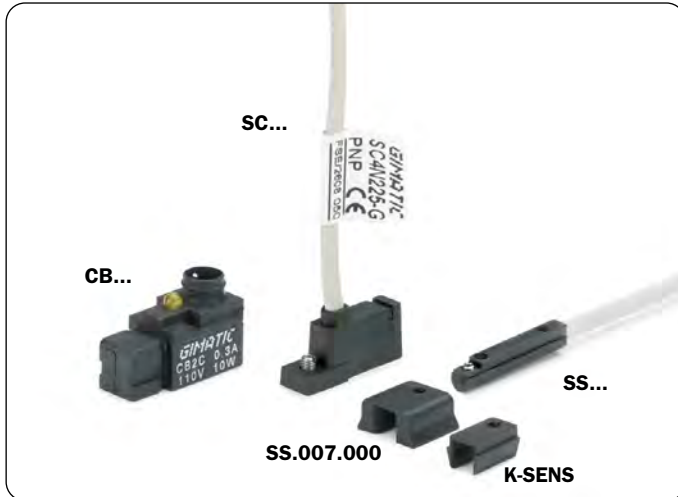


	T30	T40	T63
C	M6x8 mm	M6x10 mm	M8x13 mm
D	14 ^{-0.05} x 14 ^{-0.05} mm	19 ^{-0.05} x 19 ^{-0.05} mm	26 ^{-0.05} x 26 ^{-0.05} mm

Sensors

The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston. Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

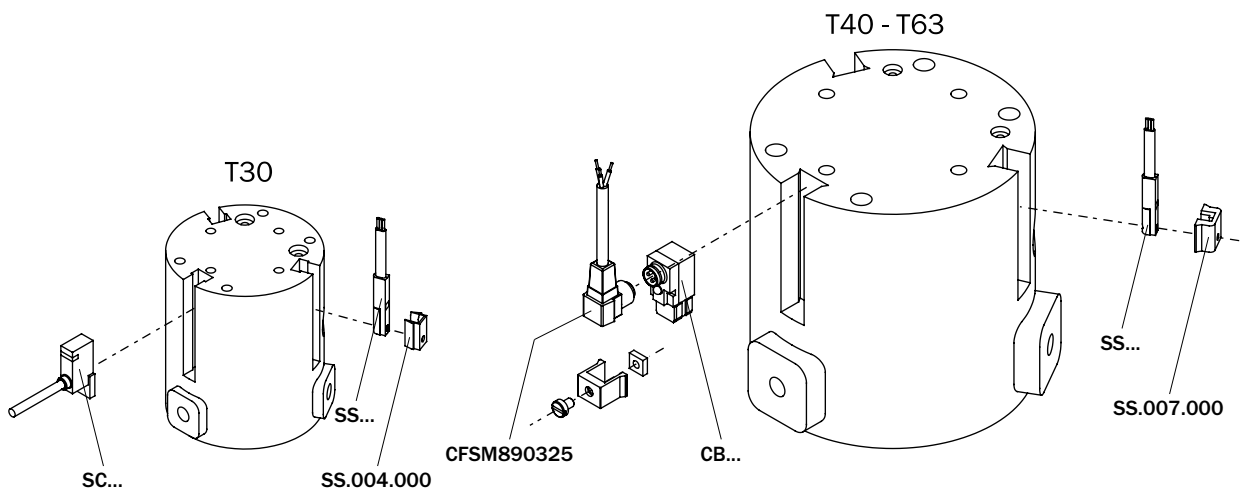
The sensors that can be used are:



				T30	T40	T63
CB3N2-G	PNP	M8 snap plug connector	\$22.00	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SC4N225G	PNP	2.5m cable	\$33.29	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SC3N203G	PNP	M8 snap plug connector	\$29.13	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SS4N225G	PNP	2.5m cable	\$26.14	<input checked="" type="checkbox"/> (2)	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> (1)
SS4M225G	NPN	2.5m cable	\$26.14	<input checked="" type="checkbox"/> (2)	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> (1)
SS3N203G	PNP	M8 snap plug connector	\$29.96	<input checked="" type="checkbox"/> (2)	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> (1)
SS3M203G	NPN	M8 snap plug connector	\$29.96	<input checked="" type="checkbox"/> (2)	<input checked="" type="checkbox"/> (1)	<input checked="" type="checkbox"/> (1)

(1)
By the adapter (SS.007.000) provided with the pack K-SENS.

(2)
Must buy the adapter K-SENS separately.



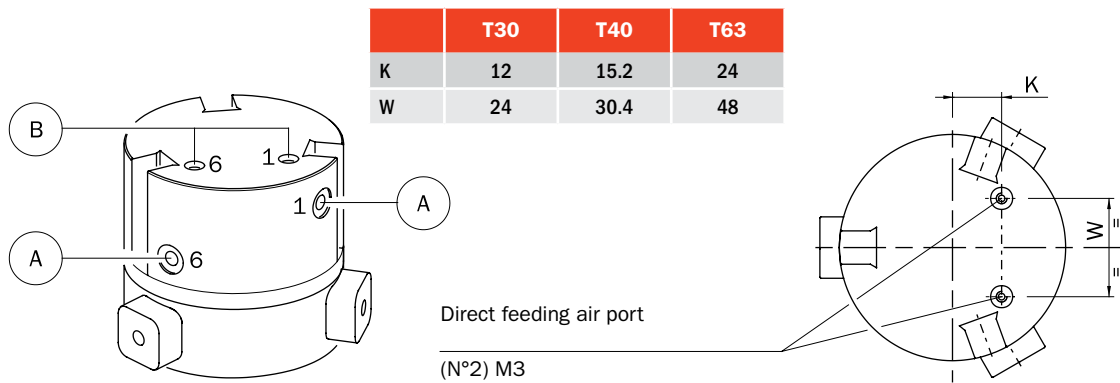
Compressed air feeding

The compressed air feeding is accomplished on the lateral air ports (A) with fittings and hoses (not supplied), or directly on the bottom air ports (B).

Compressed air in 1: gripper opening.
Compressed air in 6: gripper closing.

The compressed air, must be filtered from 5 to 40 µm.
Maintain the medium selected at the start, lubricated or not, for the complete service life of the gripper.

The pneumatic circuit must be pressurized progressively, to avoid uncontrolled movements.



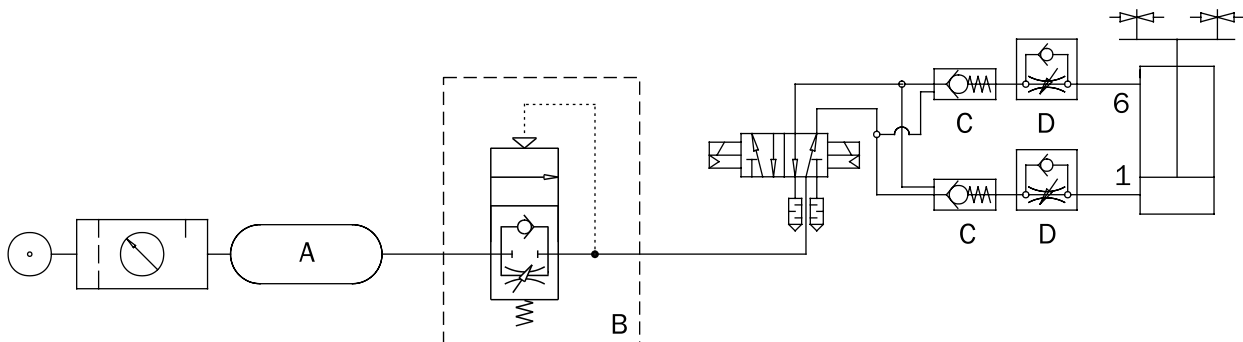
Pneumatic circuit

Possible problems on a compressed air circuit:

- 1- Pressure variation.
- 2- Pressurizing with empty cylinder.
- 3- Sudden pressure black-out.
- 4- Excessive speed of the jaws.

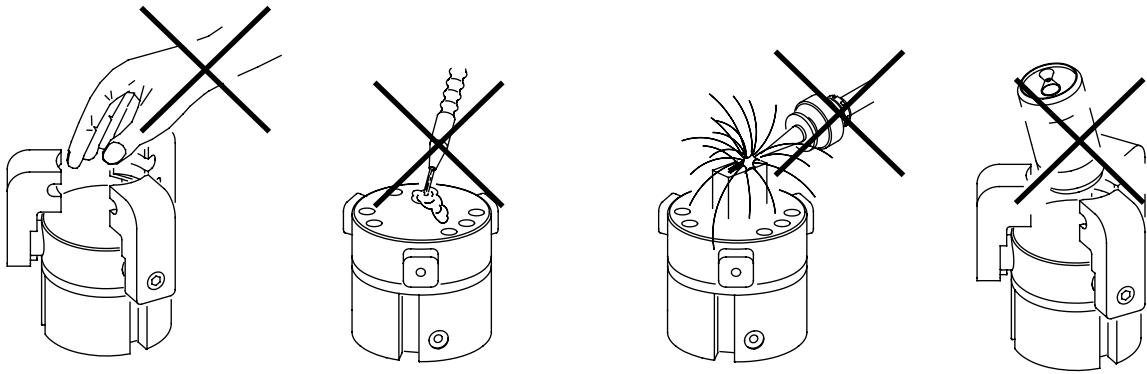
Possible solutions:

- 1- Compressed air storage (A).
- 2- Start-up valve (B).
- 3- Safety valve (C).
- 4- Flow controller (D).



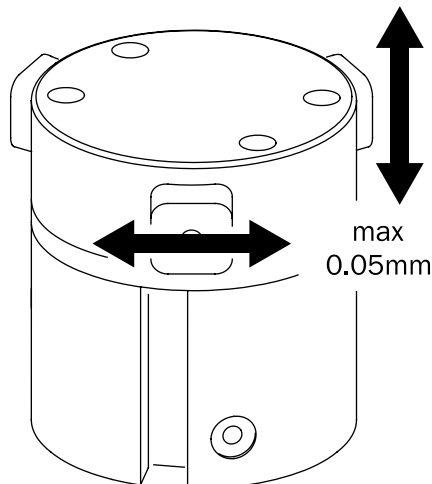
Caution

Never let the gripper come into contact with corrosive substances, soldering splashes or abrasive powders as they may damage the gripper.
 Never let non-authorized persons or objects stand within the operating range of the gripper.
 Never operate the gripper if the machine on which it is fitted does not comply with safety laws and standards of your country.

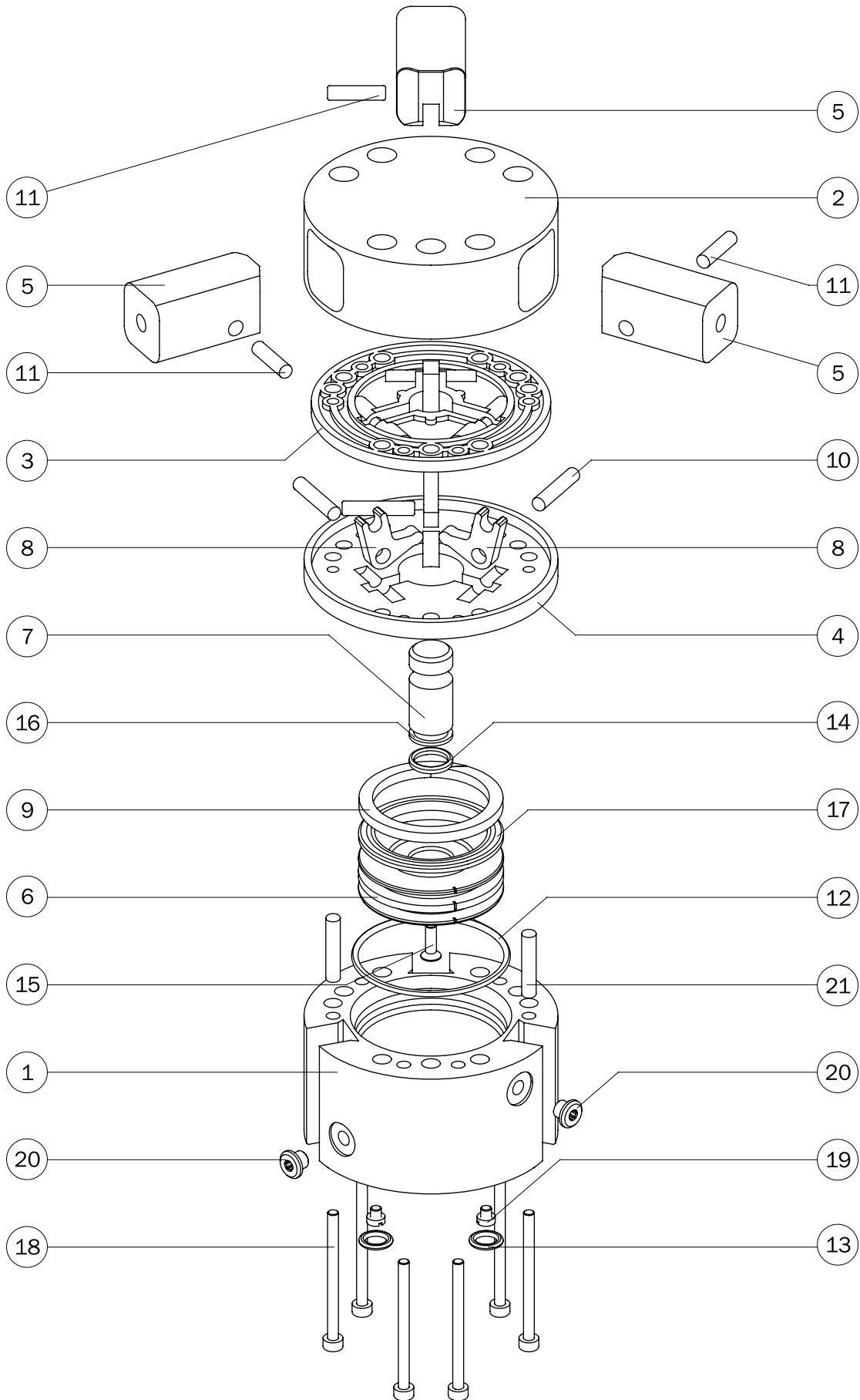


Maintenance

Grease the gripper after 10 million cycles with:
 • BERULUB FG-H 2 SL
 (Lubricant NSF H1 Registration No. 135919).
 The figure below shows the jaw backlash.



Exploded view



Part list

		T30	T40	T63	
1	Gripper housing	T30-1	T40-1	T63-1	1
2	Guidance block plate	T30-2	T40-2	T63-2	2
3	Upper bearing	T30-3	T40-3	T63-3	3
4	Lower bearing	T30-4	T40-4	T63-4	4
5	Jaw	T30-5	T40-5	T63-5	5
6	Piston	T30-6	T40-6	T63-6	6
7	Piston rod	T30-7	T40-7	T63-7	7
8	Lever	T30-8	T40-8	T63-8	8
9	Magnet	T30-10	T40-10	T63-10	9
10	Dowel pin	Ø3x8 mm DIN 6325	Ø4x20 mm DIN 6325	Ø6x24 mm DIN 6325	10
11	Dowel pin	Ø3x12 mm DIN 6325	Ø4x16 mm DIN 6325	Ø6x24 mm DIN 6325	11
12	O-RING gasket	Ø1.78x29.87 (GUAR-054)	Ø1.78x41 (GUAR-027)	Ø1.78x63.22 (GUAR-79)	12
13	O-RING gasket	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.07 (GUAR-039)	Ø1.78x6.07 (GUAR-039)	13
14	Gasket	Ø1.78x7.66 (GUAR-045)	18x12x3 (GUAR-014)	24x17x3 (GUAR-145)	14
15	Screw	TCEI M3x6 mm INOX A2 DIN 912	TSP M3x10 mm INOX A2 DIN 965A	TCEI M5x12 mm INOX A2 DIN 912	15
16	O-RING gasket	Ø1.78x5.28 (GUAR-011)	Ø1.78x9.25 (GUAR-065)	Ø1.78x12.42 (GUAR-047)	16
17	Gasket	30x21x3 (GUAR-024P)	40x31x3 (GUAR-006)	63x51x4 (GUAR-068)	17
18	Screw	M3x40 mm DIN 912 INOX A2	M3x40 mm DIN 912 INOX A2	M6x60 mm DIN 912 INOX A2	18
19	Plug	DT-205	DT-205	DT-205	19
20	Plug	107-M5	107-M5	107-1/8"	20
21	Dowel pin	Ø3x12 mm DIN 6325	Ø4x20 mm DIN 6325	Ø5x20 mm DIN 6325	21