

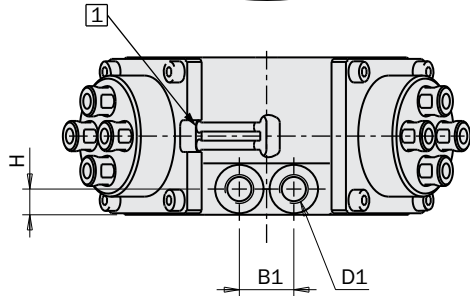
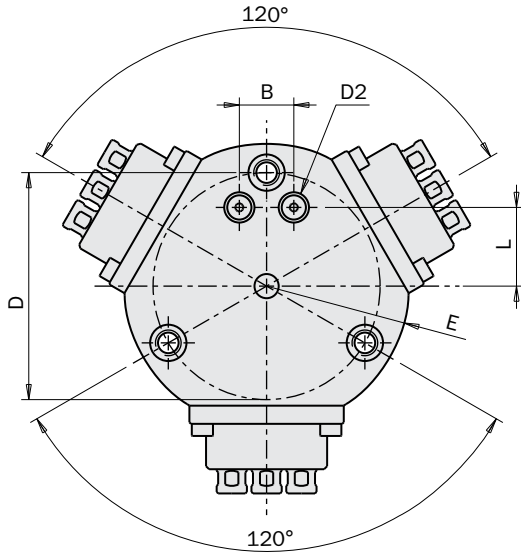
3-jaw parallel-acting self-centering pneumatic gripper (series SXT)

- Double acting (normally closed on request).
- Strong gripping force.
- Protection class: IP67.
- Double O-Ring sealing on the columns.
- Suitable for harsh environments.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.

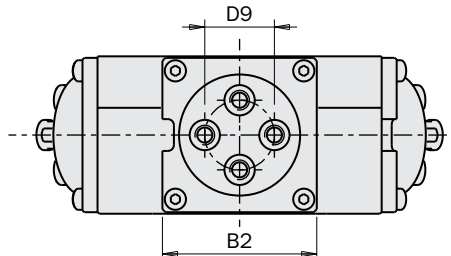
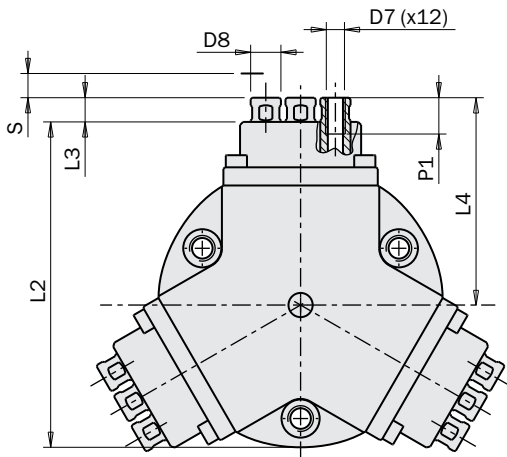
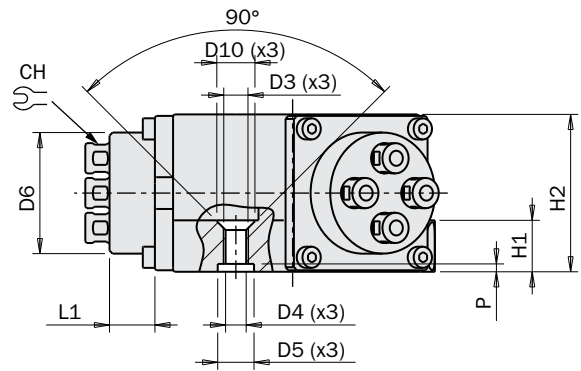


	SXT2505	SXT4008	SXT5012	SXT6315
Price	\$782.00	\$940.00	\$1103.00	\$1378.00
Medium	Filtered compressed air, lubricated or non-lubricated			
Pressure range	29-116 psi			
Temperature range	41-140 °F			
Opening gripping force on each jaw at 87 psi	56.2 lbf	146 lbf	236 lbf	371 lbf
Total gripping force on opening at 87 psi	168.6 lbf	438 lbf	708 lbf	1113 lbf
Gripping force on each jaw on closing at 87 psi	43.8 lbf	112.4 lbf	180 lbf	270 lbf
Total gripping force on closing at 87 psi	131.4 lbf	337.2 lbf	540 lbf	810 lbf
Stroke ±0.0196" (±0.5 mm)	3x 0.197" (3x 5mm)	3x 0.315" (3x 8 mm)	3x 0.472" (3x 12 mm)	3x 0.590" (3x 15 mm)
Maximum operating frequency	2 Hz	2 Hz	2 Hz	1 Hz
Air consumption per cycle	0.97 in ³	3.66 in ³	8.54 in ³	16.47 in ³
Opening / closing time without load	0.02 s	0.02 s	0.05 s	0.15 s
Repetition accuracy	0.00197" (0.05 mm)	0.00197" (0.05 mm)	0.00197" (0.05 mm)	0.00197" (0.05 mm)
Weight	420g	1100g	2000g	3800g

Dimensions (mm)



1 Sensor groove



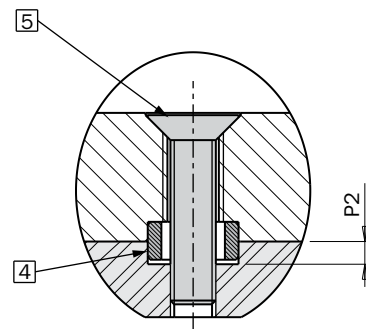
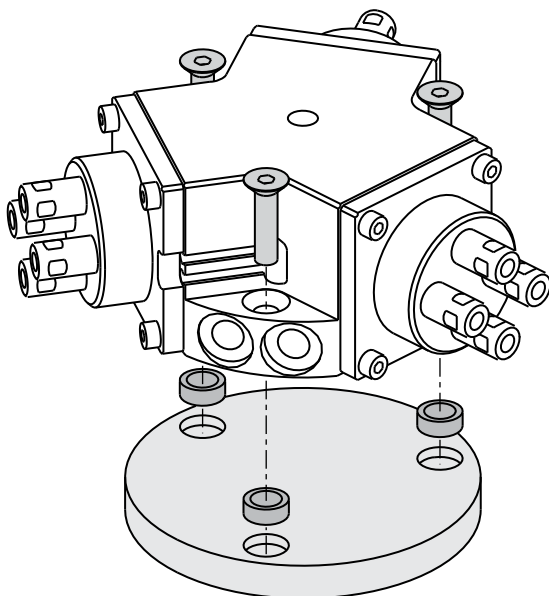
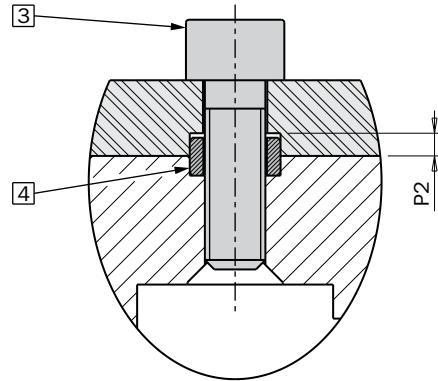
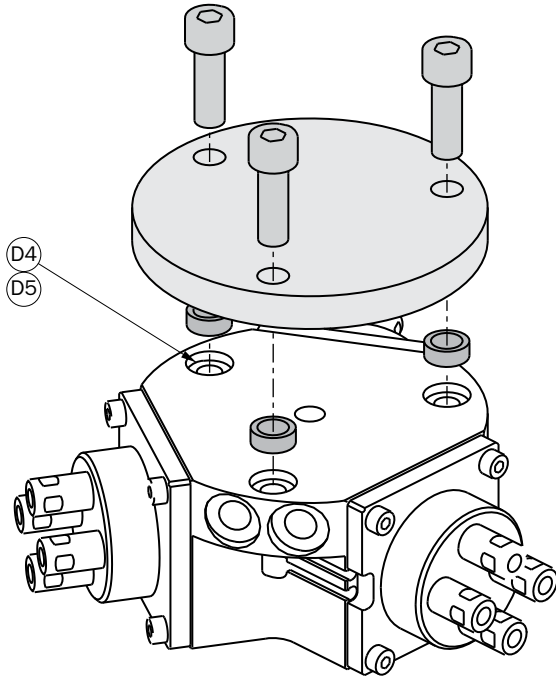
	SXT2505	SXT4008	SXT5012	SXT6315
B	16	18	24	24
B1	16	18	24	24
B2	38	51	63	78
D	±0.02 Ø59	Ø75	Ø98	Ø114
D1	M5	G1/8	G1/8	G1/8
D2	M3	M5	M5	M5
D3	Ø5.2	Ø6.8	Ø6.8	Ø8.5
D4	M6	M8	M8	M10
D5	H8 Ø9	Ø12	Ø12	Ø14
D6	Ø27	Ø40	Ø50	Ø63
D7	M3	M6	M8	M10
D8	f7 Ø6	Ø10	Ø12	Ø16
D9	±0.02 15	Ø23	Ø33	Ø38
D10	Ø11.2	Ø12.6	Ø12.6	Ø17.3
E	R36	R47	R58	R69
H	6	8.5	10	11
H1	12	17	20	22
H2	38	52	64	80
L	24	26	38	45
L1	7.5	15	18	26
L2	78	107.5	133	162
L3	7.5	8	8.5	9.5
L4	49.5	68.5	83.5	102.5
P	+0.1 2.1	2.6	2.6	2.6
P1	6	12	20	20
S (x2)	5	8	12	15
CH	5	9	11	14

Gripper fastening

The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.

Use three screws in the threaded holes (D4) and three centering sleeves [4] in the spot faces (D5).

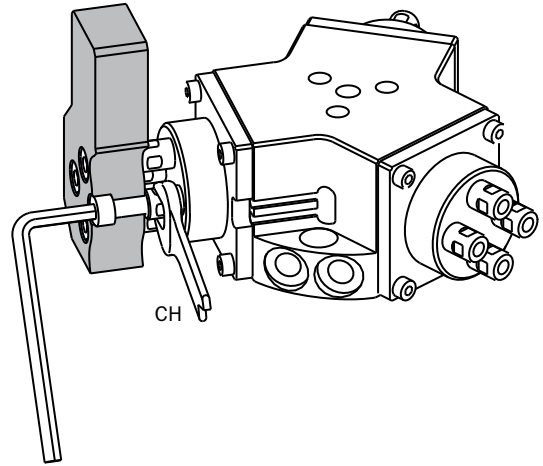
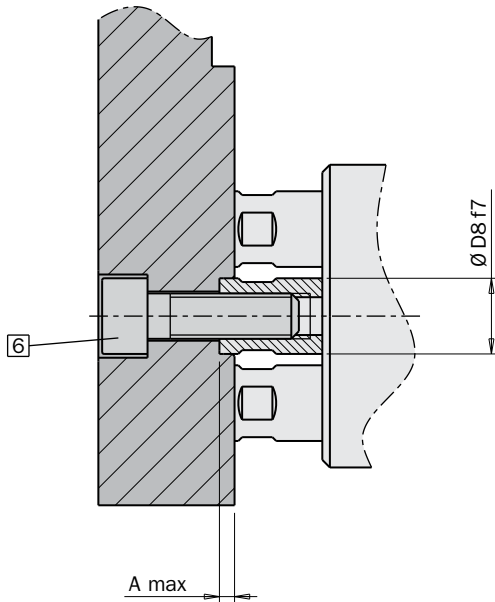
The gripper can be fastened either from the top or from the bottom. Three centering sleeves are supplied with the gripper.



	SXT2505	SXT4008	SXT5012	SXT6315
[3]	M6	M8	M8	M10
[4]	Ø9h7 x 6.4 x 4	Ø12h7 x 8.4 x 5	Ø12h7 x 8.4 x 5	Ø14h7 x 10.5 x 6
[5]	M5	M6	M6	M8
P2	2.2 ^{-0.2}	2.8 ^{-0.2}	2.8 ^{-0.2}	3.8 ^{-0.2}

Gripping tool fastening

This gripper has no jaws and the gripping tools have to be fastened directly on the columns.
 The gripping tools must be as short and light as possible.
 They must be fastened by four screws [6] in the threaded holes (D7) of the columns.
 Drill centering holes for two of the four columns (D8).
 Hold the column by a wrench key, to avoid unscrewing it.

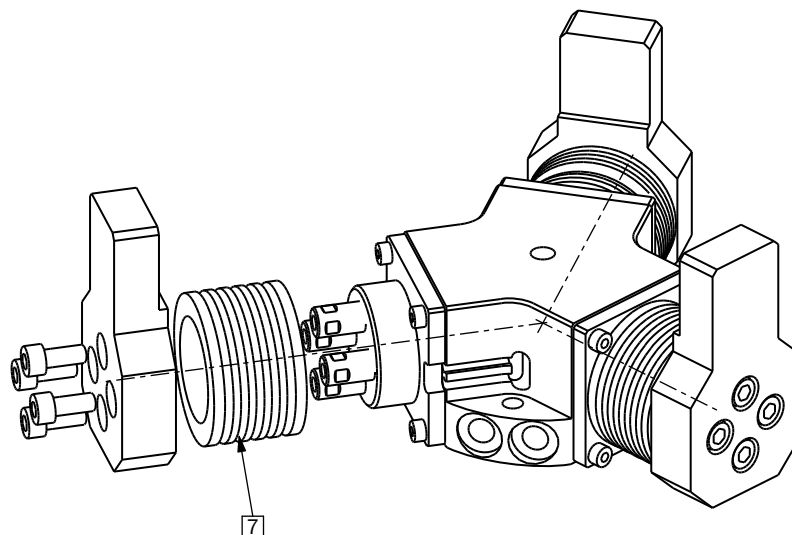


	SXT2505	SXT4008	SXT5012	SXT6315
A	1.5	2	2	2
[6]	M3	M6	M8	M10

An optional bellow in Silicone [7] is available to protect columns.

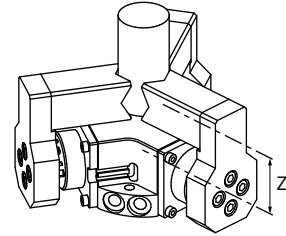
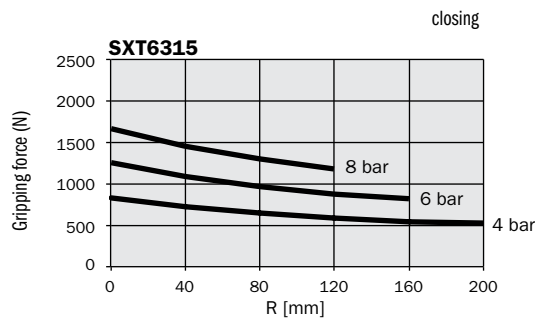
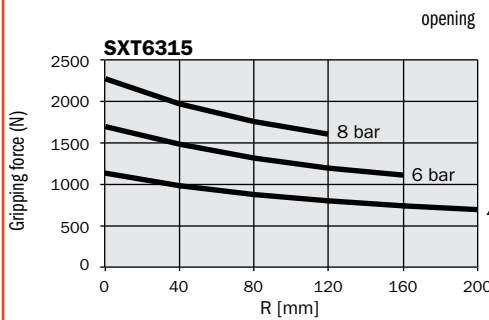
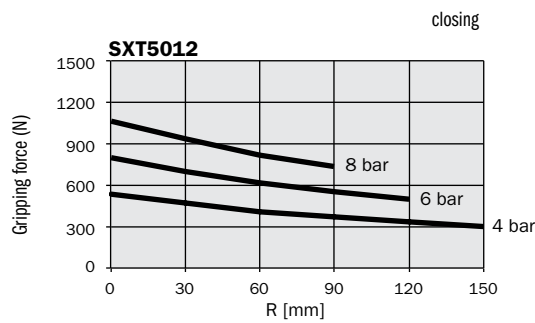
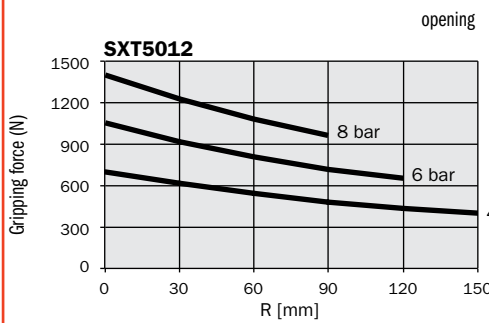
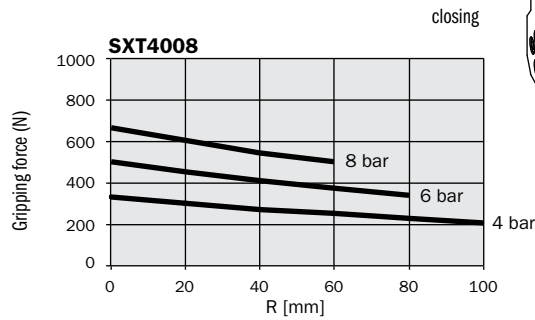
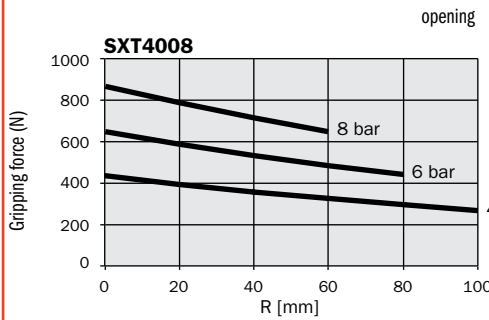
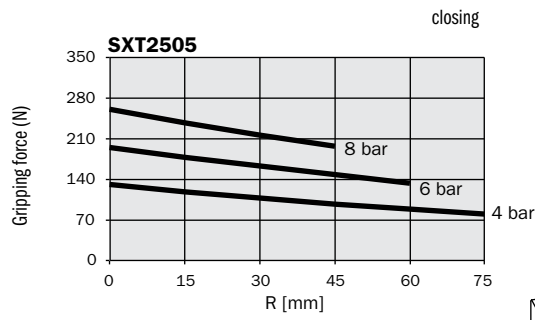
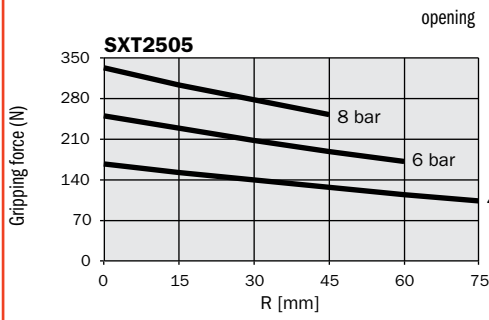
- Code SX25S01 for the gripper SXT2505.
- Code SX40S01 for the gripper SXT4008.
- Code SX50S01 for the gripper SXT5012.
- Code SX63S01 for the gripper SXT6315.

Part#	Price
SX25S01	\$25.10
SX40S01	\$26.30
SX50S01	\$27.60
SX63S01	\$28.90



Gripping force

The graphs show the medium gripping force on each jaw, as a function of the operating pressure and the distance Z of the gripping point.

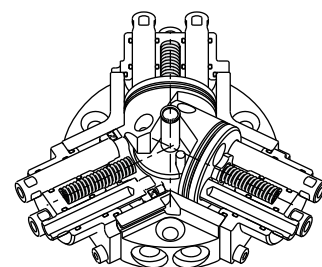


The force shown in these graphs refers to one jaw. The total force is triple.

Spring option

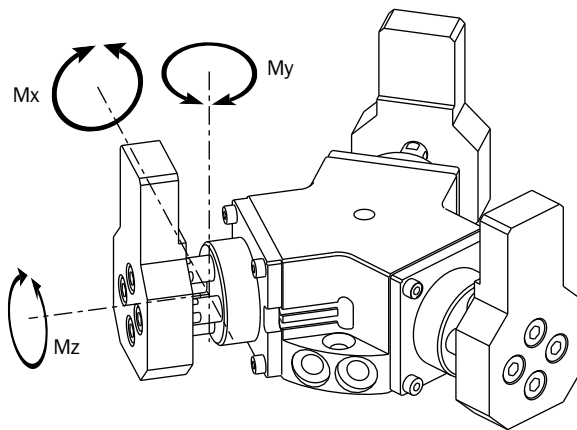
It is also available, on request, with a closing (-NC) spring, providing, after a pressure black-out, about one tenth of the output force at 6 bar.

	SXT4008-NC	SXT5012-NC	SXT6315-NC
Closing force at 6 bar each jaw	544÷568 N	914÷964 N	1350÷1400 N
Opening force at 6 bar each jaw	587÷610 N	871÷921 N	1467÷1517 N
Closing force at 0 bar each jaw	50÷73 N	116÷166 N	129÷179 N
Opening force at 0 bar each jaw	0 N	0 N	0 N



Safety loads

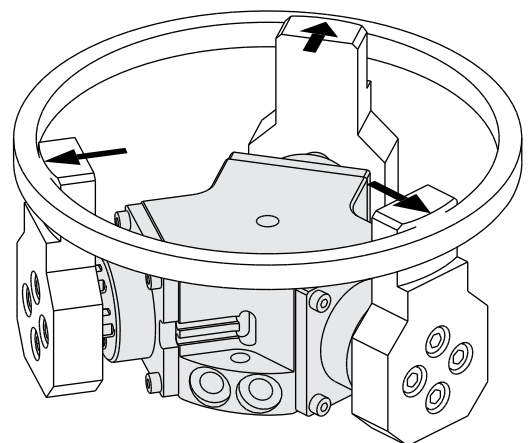
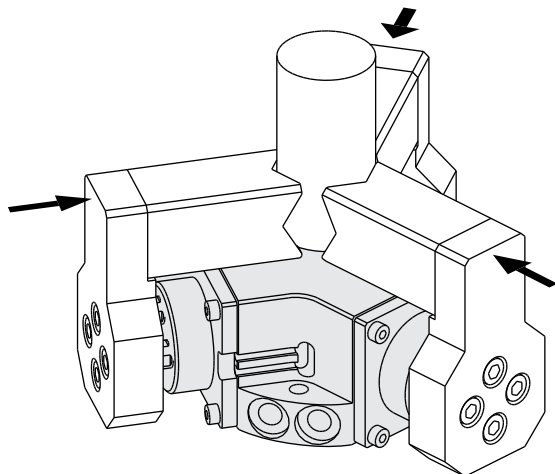
Check the table for maximum permitted loads.
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
 Mx s, My s, Mz s, are the maximum permitted static loads, that is when the jaws are still.
 Mx d, My d, Mz d, are the maximum permitted dynamic loads, that is when the jaws are operating.
 m is the maximum permitted weight of each gripping tool, when the gripper operates without speed adjustment. If the weight exceeds the permitted value, the jaw speed must be decreased by means of flow controllers (not supplied).



	SXT2505	SXT4008	SXT5012	SXT6315
Mx s	10 Nm	40 Nm	90 Nm	190 Nm
My s	10 Nm	40 Nm	90 Nm	190 Nm
Mz s	5 Nm	20 Nm	40 Nm	100 Nm
Mx d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
My d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
Mz d	0.1 Nm	0.5 Nm	1.2 Nm	2.7 Nm
m	400 g	700 g	1400 g	2100 g

Gripping

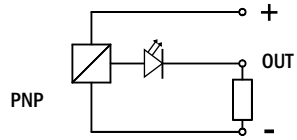
The gripper is double-acting for either internal or external gripping applications. The opening force is higher, than the closing force.



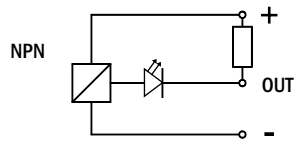
Sensors

The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston. The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

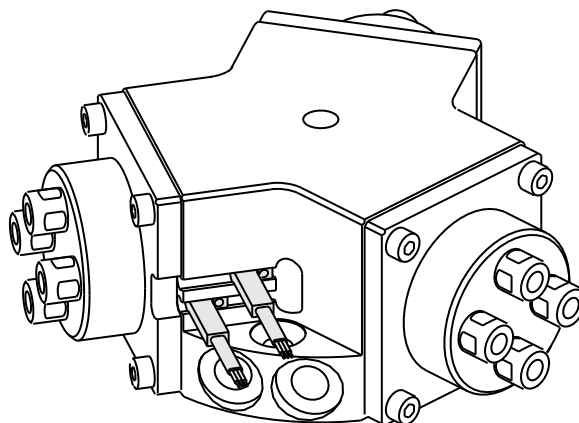


Magneto-resistive



				SXT
SN4N225G	PNP	2.5m cable	\$26.14	☑
SN4M225G	NPN	2.5m cable	\$26.14	☑
SN3N203G	PNP	M8 snap plug connector	\$29.96	☑
SN3M203G	NPN	M8 snap plug connector	\$29.96	☑

They are all provided with a 3-wire flat cable and a LED.



Compressed air feeding

The compressed air feeding can be accomplished by the air ports (on one side or on the bottom) with fittings and hoses (not supplied).

Or it can be supplied directly by the mounting plate, through O-Rings (not supplied), after removing the plugs.

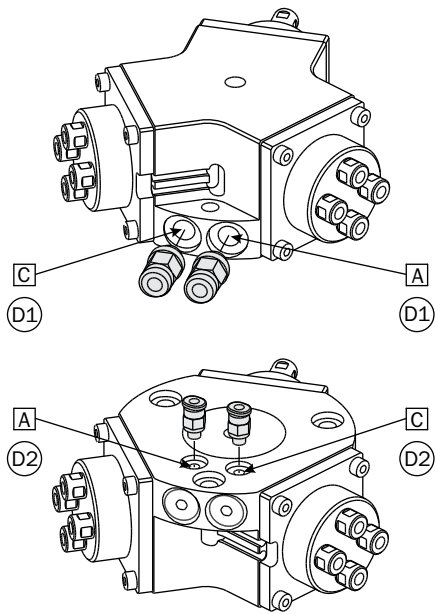
Compressed air in A: gripper opening.

Compressed air in C: gripper closing.

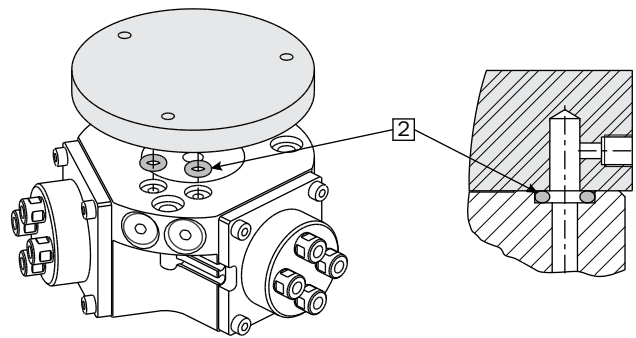
The compressed air, must be filtered from 5 to 40 µm.

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.



	SXT2505	SXT4008	SXT5012	SXT6315
[2]	Ø1.78x5.28	Ø2.62x5.23	Ø2.62x5.23	Ø2.62x5.23
D1	M5	G1/8	G1/8	G1/8
D2	M3	M5	M5	M5



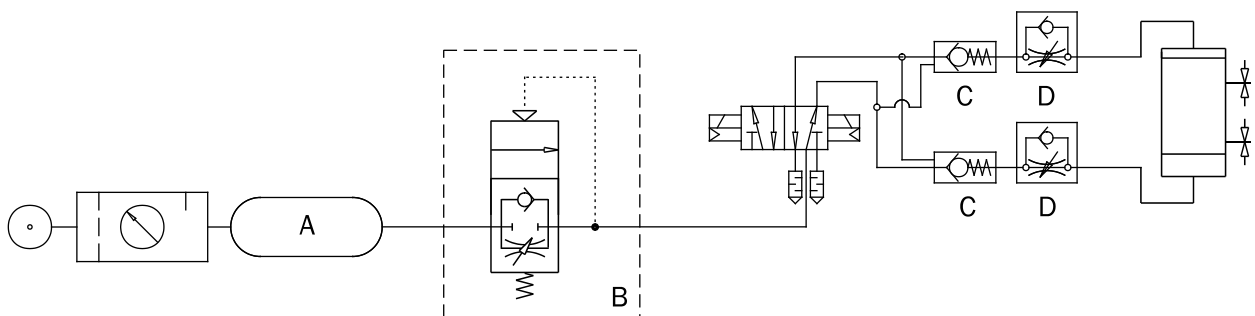
Pneumatic circuit

Possible problems on a compressed air circuit:

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

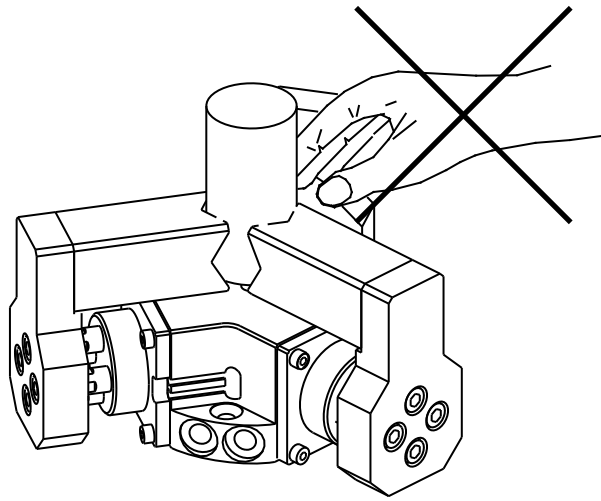
Possible solutions:

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



Cautions

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

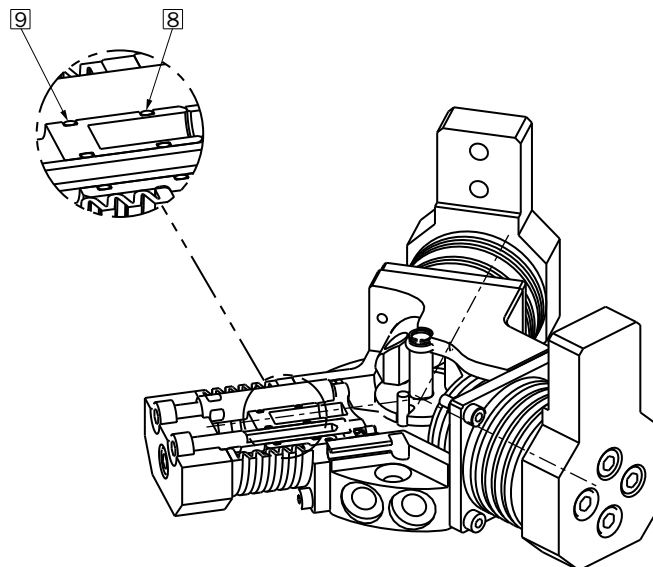
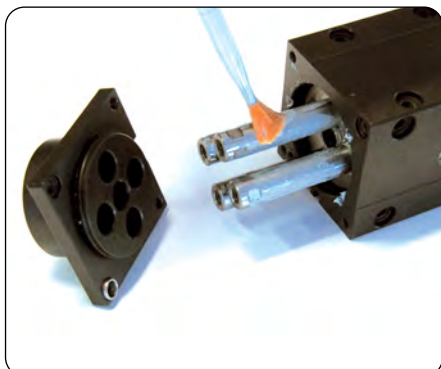
Grease the gripper after 5 million cycles with:

- BERULUB FG-H 2 SL
(Lubricant NSF H1 Registration No. 135919).

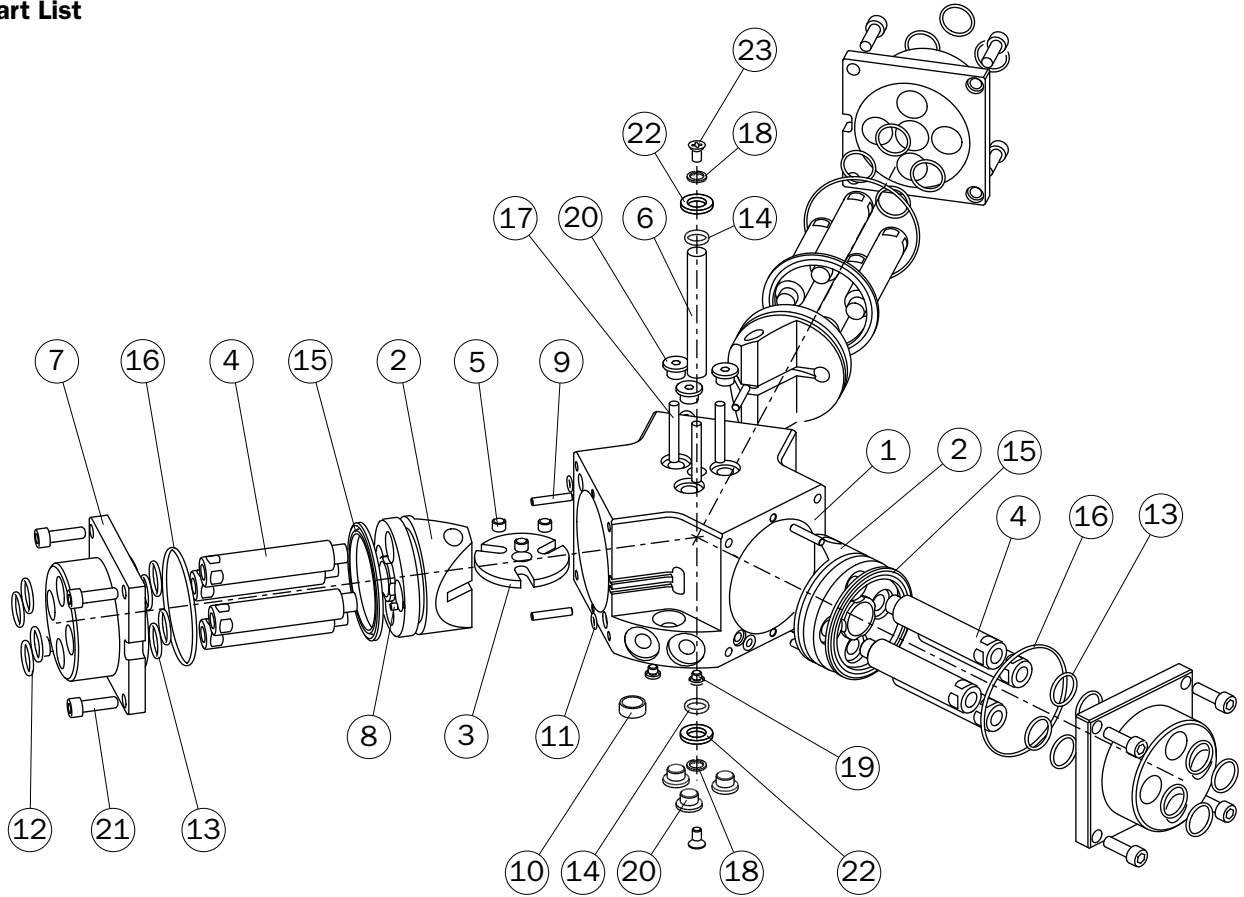
After removing the end caps, the columns can be greased and the O-Rings can be replaced.

The inner O-Ring is in NBR [8], the outer one in Viton [9].

By pulling the columns, also the pistons can be removed and the mechanism can be accessed.



Part List



		SXT2505	SXT4008	SXT5012	SXT6315	
1	Gripper body	SXT2505-01	SXT4008-01	SXT5012-01	SXT6315-01	1
2	Piston	SXT2505-04	SXT4008-04	SXT5012-04	SXT6315-04	2
3	Cam	SXT2505-05	SXT4008-05	SXT5012-05	SXT6315-05	3
4	Column	SX2510-06	SX4020-06	SX5012-06	SX6315-06	4
5	Bush	-	-	-	SXT6315-07	5
6	Pin	SX2520-07	SX4040-07	SX5060-07	SX6380-07	6
7	End cap	SX2520-02	SX4040-02	SX5060-02	SX6380-02	7
8	Magnet	EPP12-13	R63-180-20	R63-180-20	R63-180-20	8
9	Dowel pin	SPINA-065 (Ø2.5x10 DIN6325)	SPINA-007 (Ø3x14 DIN6325)	SPINA-042 (Ø3x16 DIN6325)	SPINA-097 (Ø4x21.8 DIN5402)	9
10	Bush	ZBH-9 (343453)	ZBH-12 (354236)	ZBH-12 (354236)	TH12516-09	10
11	O-Ring	GUAR-082 (Ø1x3)	GUAR-044 (Ø1.78x3.69)	GUAR-044 (Ø1.78x3.69)	GUAR-011 (Ø1.78x5.28)	11
12	O-Ring	GUAR-039V (Ø1.78x6.07)	GUAR-186V (Ø1.78x9.75)	GUAR-095V (Ø1.78x11.89)	GUAR-023V (Ø1.78x15.6)	12
13	O-Ring	GUAR-039H (Ø1.78x6.07)	GUAR-186H (Ø1.78x9.75)	GUAR-095H (Ø1.78x11.89)	GUAR-023H (Ø1.78x15.6)	13
14	O-Ring	GUAR-039H (Ø1.78x6.07)	GUAR-045H (Ø1.78x7.66)	GUAR-045H (Ø1.78x7.66)	GUAR-065 (Ø1.78x9.25)	14
15	Dynamic gasket	GUAR-061H (Ø2.62x20.29)	GUAR-006P (40x31x3)	GUAR-015P (50x41x3)	GUAR-068 (63x51x4)	15
16	O-Ring	GUAR-025 (Ø1.78x21.95)	GUAR-062 (Ø1.78x34.65)	GUAR-017 (Ø1.78x47.35)	GUAR-146 (Ø1.78x60.05)	16
17	Dowel pin	SPINA-042 (Ø3x16 DIN6325)	SPINA-033 (Ø4x25 DIN6325)	SPINA-011 (Ø4x30 DIN6325)	SPINA-115 (Ø5x36 DIN6325)	17
18	Snap-ring	-	SEEGER-008 (Ø8 DIN472 INOX)	SEEGER-008 (Ø8 DIN472 INOX)	SEEGER-038 (Ø10 DIN472 Z/B)	18
19	Plug	DT-205	107-M5	107-M5	107-M5	19
20	Plug	-	107-M5	107-M5	107-G1/8	20
21	Screw	VITE-016 (M3x16 DIN912 INOX A2)	VITE-004 (M4x14 DIN912 INOX A2)	VITE-015 (M5x16 DIN912 INOX A2)	VITE-011 (M6x20 DIN912 INOX A2)	21
22	Spacer	SX2520-11	-	-	-	22
23	Screw	VITE-058 (M2.5x5 DIN965 INOX A2)	-	-	-	23