

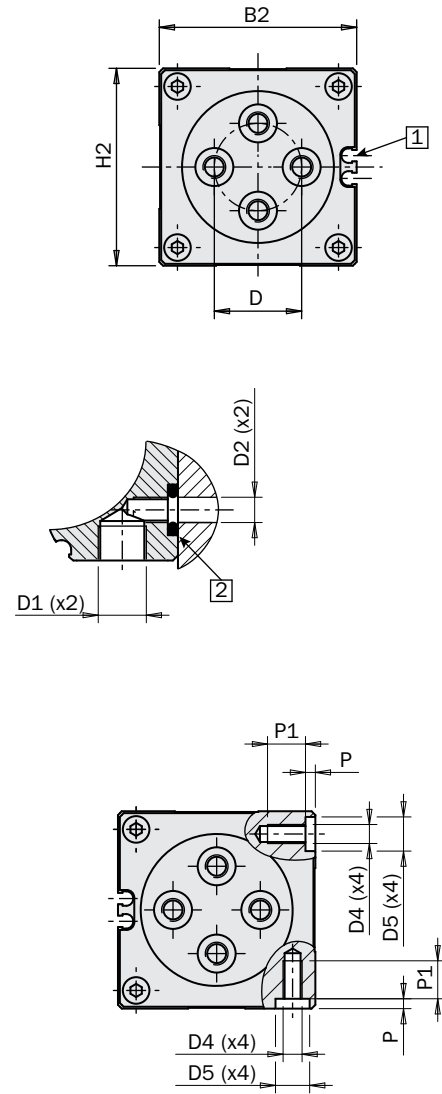
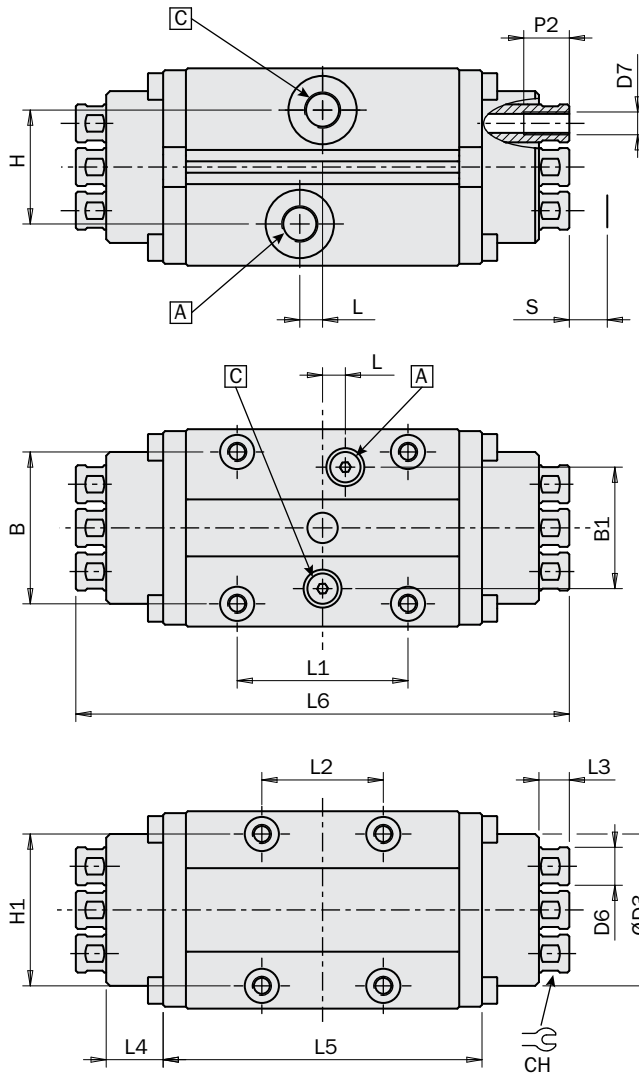
2-jaw self-centering pneumatic parallel gripper (series SX)

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



	SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
Medium	Compressed air in compliance with ISO 8573-1:2010 [7:4:4]							
Operating pressure range	2 ÷ 8 bar							
Operating temperature range	5 ÷ 100 °C							
Opening gripping force on each jaw at 6 bar	250 N	250 N	650 N	650 N	1050 N	1050 N	1700 N	1700 N
Total opening gripping force at 6 bar	500 N	500 N	1300 N	1300 N	2100 N	2100 N	3400 N	3400 N
Closing gripping force on each jaw at 6 bar	195 N	195 N	500 N	500 N	800 N	800 N	1250 N	1250 N
Total closing gripping force at 6 bar	390 N	390 N	1000 N	1000 N	1600 N	1600 N	2500 N	2500 N
Total stroke	10 mm	20 mm	20 mm	40 mm	30 mm	60 mm	40 mm	80 mm
Maximum working frequency	2 Hz	2 Hz	2 Hz	2 Hz	2 Hz	1 Hz	1 Hz	1 Hz
Cycle air consumption	11 cm ³	20 cm ³	50 cm ³	95 cm ³	115 cm ³	220 cm ³	230 cm ³	450 cm ³
Opening / Closing time without load	0.03 s	0.05 s	0.03 s	0.08 s	0.06 s	0.10 s	0.20 s	0.30 s
Repetition accuracy	0.05 mm							
Weight	260 g	310 g	750 g	900 g	1300 g	1700 g	2800 g	3500 g

Dimensions (mm)



		SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
B	±0.02	23	23	40	40	50	50	60	60
B1		22.5	22.5	32	32	38	38	45	45
B2		38	38	52	52	64	64	79	79
D	±0.02	15	15	Ø23	Ø23	Ø33	Ø33	Ø38	Ø38
D1		M5	M5	G1/8	G1/8	G1/8	G1/8	G1/8	G1/8
D2		M5	M5	M5	M5	M5	M5	G1/8	G1/8
D3		27	27	Ø40	Ø40	Ø50	Ø50	Ø63	Ø63
D4		M4	M4	M5	M5	M6	M6	M8	M8
D5	H8	7	7	Ø9	Ø9	Ø9	Ø9	Ø12	Ø12
D6	f7	Ø6	Ø6	Ø10	Ø10	Ø12	Ø12	Ø16	Ø16
D7		M3	M3	M6	M6	M8	M8	M10	M10
H		22.5	22.5	30	30	40	40	45	45
H1	±0.02	23	23	40	40	50	50	60	60
H2		38	38	52	52	64	64	79	79
L		-	-	6	6	10	10	10	10
L1	±0.02	30	30	45	45	50	50	70	70
L2	±0.02	30	30	32	32	35	35	50	50
L3		7.5	7.5	8	8	8.5	8.5	9.5	9.5
L4		7.5	7.5	15	15	18	18	26	26
L5		59	73	84	110	106	146	133	185
L6		89	103	130	156	159	199	204	256
P		2.1	2.1	2.6	2.6	2.6	2.6	2.6	2.6
P1		6.5	6.5	10	10	10	10	15	15
P2		6	6	12	12	20	20	20	20
S (x2)		5	10	10	20	15	30	20	40
CH		5	5	9	9	11	11	14	14

FIRST ANGLE PROJECTION

1

Sensor seat

2

O-Ring (not supplied)

A

Compressed air in A: gripper opening

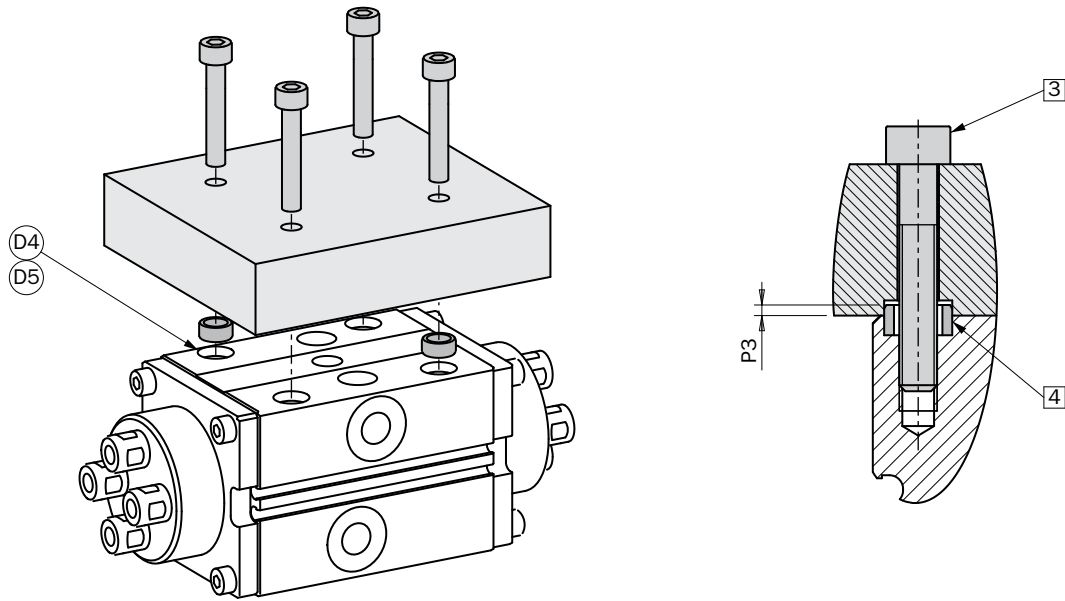
C

Compressed air in C: gripper closing

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 4 screws [3] in the threaded holes (D4) and 2 centering sleeves [4] in the spot faces (D5).

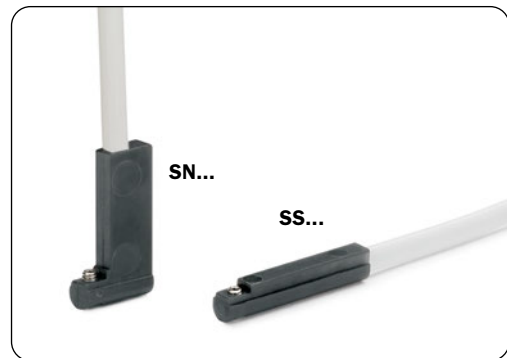


	SX25	SX40	SX50	SX63
[3]	M4	M5	M6	M8
[4]	Ø7h7 x 5.3 x 3	Ø9h7 x 6.4 x 4	Ø9h7 x 6.4 x 4	Ø12h7 x 8.4 x 5
P3	1.2 ^{-0.2}	1.4 ^{-0.2}	1.4 ^{-0.2}	2.4 ^{-0.2}

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:

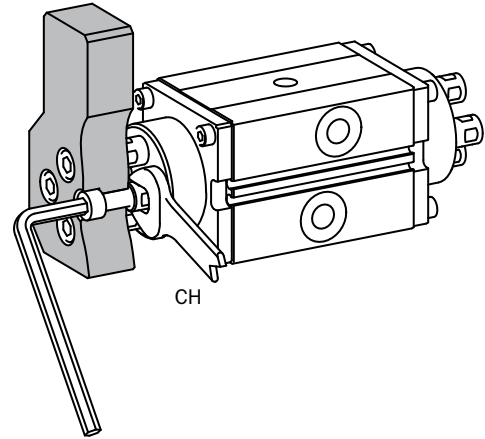
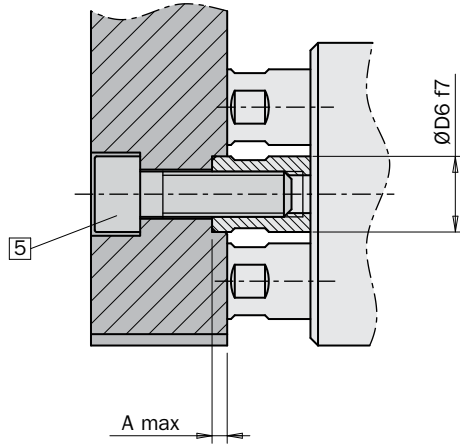


			SX	Price
SN4N225G	PNP	2.5m cable	☑	\$27.20
SN4M225G	NPN	2.5m cable	☑	\$27.20
SN3N203G	PNP	M8 snap plug connector	☑	\$31.16
SN3M203G	NPN	M8 snap plug connector	☑	\$31.16
SS4N225G	PNP	2.5m cable	☑	\$27.20
SS4M225G	NPN	2.5m cable	☑	\$27.20
SS3N203G	PNP	M8 snap plug connector	☑	\$31.16
SS3M203G	NPN	M8 snap plug connector	☑	\$31.16

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

Gripping tool fastening

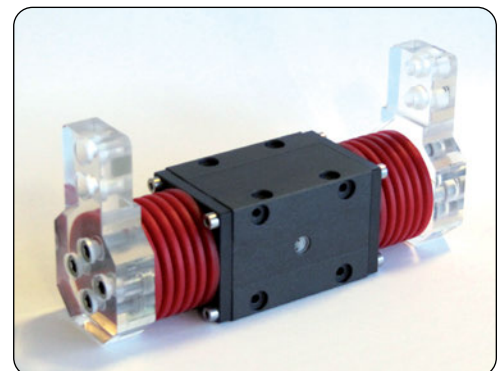
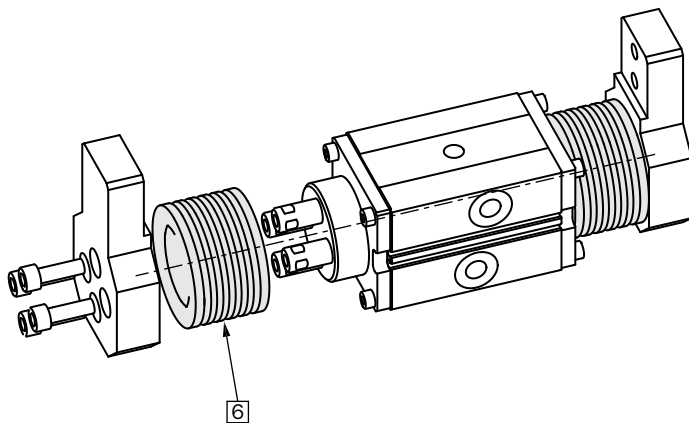
This gripper has no jaws and the gripping tools have to be fastened directly on the columns.
 The gripping tools must be as short and light as possible.
 They must be fastened with four screws [5] in the threaded holes (D7) of the columns.
 Drill centering holes for two of the four columns (D6).
 Hold the column with a wrench key, to avoid unscrewing it.



	SX25	SX40	SX50	SX63
A	1.5	2	2	2
[5]	M3	M6	M8	M10

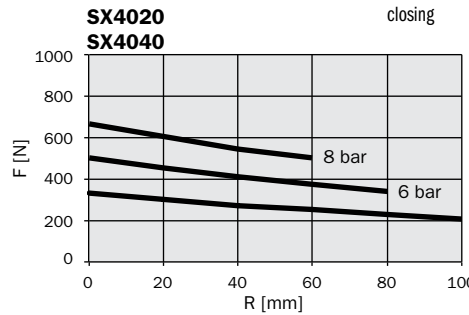
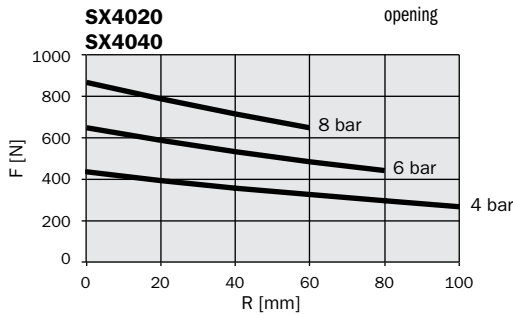
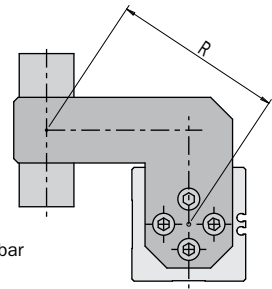
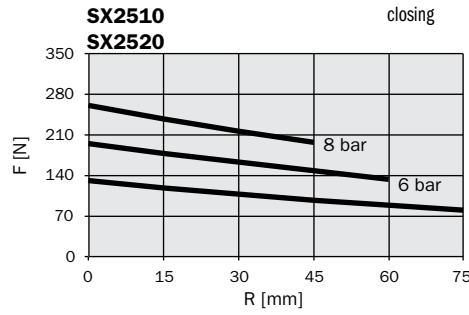
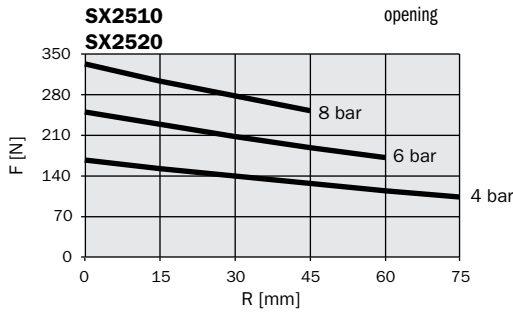
An optional bellow in silicone [6] is available to protect columns.
 Code SX25S01 for the gripper SX2510.
 Code SX40S01 for the gripper SX4020.
 Code SX50S01 for the gripper SX5030.
 Code SX63S01 for the gripper SX6340.

Part#
SX25S01
SX40S01
SX50S01
SX63S01

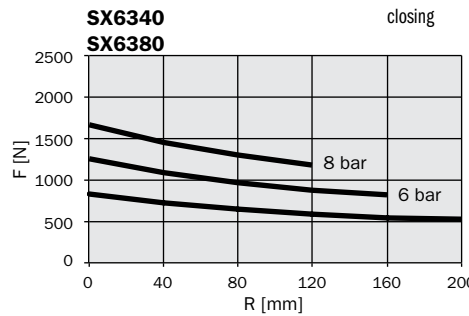
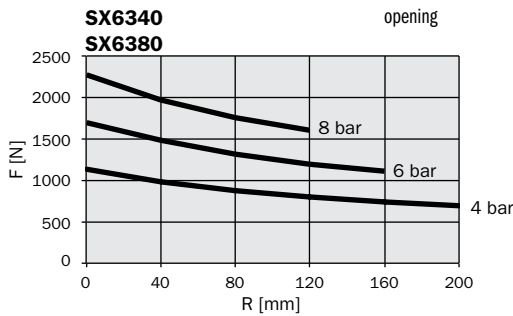
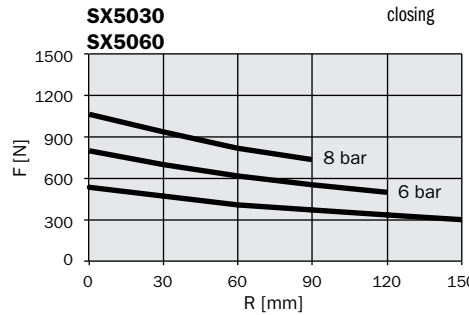
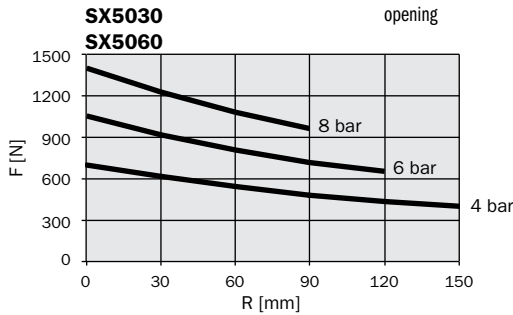


Gripping force

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



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

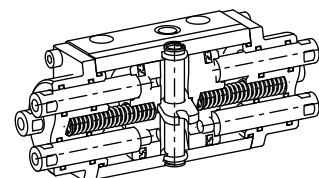


F [N]
Gripping force

Spring option

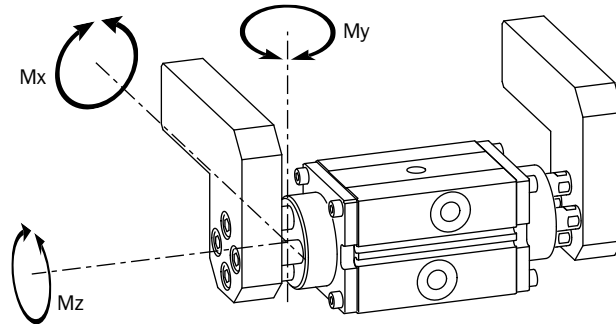
A version with a normally closed (-NC) spring is also available, on request. In the case of a pressure black-out, the spring provides about one tenth of the output force at 6 bar.

	SX4020-NC	SX5030-NC	SX6340-NC
Closing force on each jaw at 6 bar	527÷556 N	903÷966 N	1379÷1448 N
Opening force on each jaw at 6 bar	592÷621 N	889÷952 N	1517÷1586 N
Closing force on each jaw at 0 bar	35÷64 N	96÷159 N	116÷185 N
Opening force on each jaw at 0 bar	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.
 $M_x s$, $M_y s$, $M_z s$, are the maximum permitted static loads, that is when the jaws are still.
 $M_x d$, $M_y d$, $M_z d$, 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).



	SX2510	SX2520	SX4020	SX4040	SX5030	SX5060	SX6340	SX6380
$M_x s$	10 Nm	10 Nm	40 Nm	40 Nm	90 Nm	90 Nm	190 Nm	190 Nm
$M_y s$	10 Nm	10 Nm	40 Nm	40 Nm	90 Nm	90 Nm	190 Nm	190 Nm
$M_z s$	5 Nm	7 Nm	20 Nm	30 Nm	40 Nm	60 Nm	100 Nm	150 Nm
$M_x d$	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
$M_y d$	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
$M_z d$	0.1 Nm	0.1Nm	0.5 Nm	0.5 Nm	1.2 Nm	1.2 Nm	2.7 Nm	2.7 Nm
m	400 g	400 g	700 g	700 g	1400 g	1400 g	2100 g	2100 g

Gripping

The gripper is double-acting for either internal or external gripping applications. The gripping force is higher when opening.

