

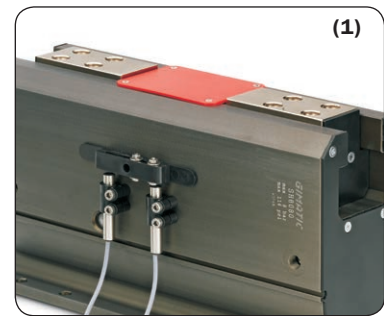
2-jaw parallel self-centering pneumatic gripper (series SH)

- Double acting.
- Exclusive self-centering system.
- Ready for magnetic and inductive sensors (1).
- Light weight, due to its alloy construction (2).

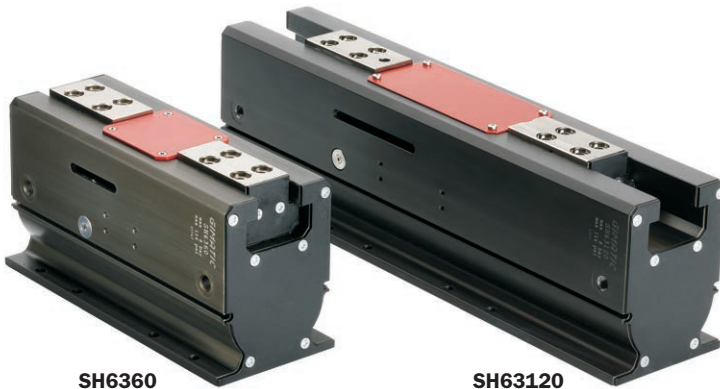


SH8080

SH80150



(1)



SH6360

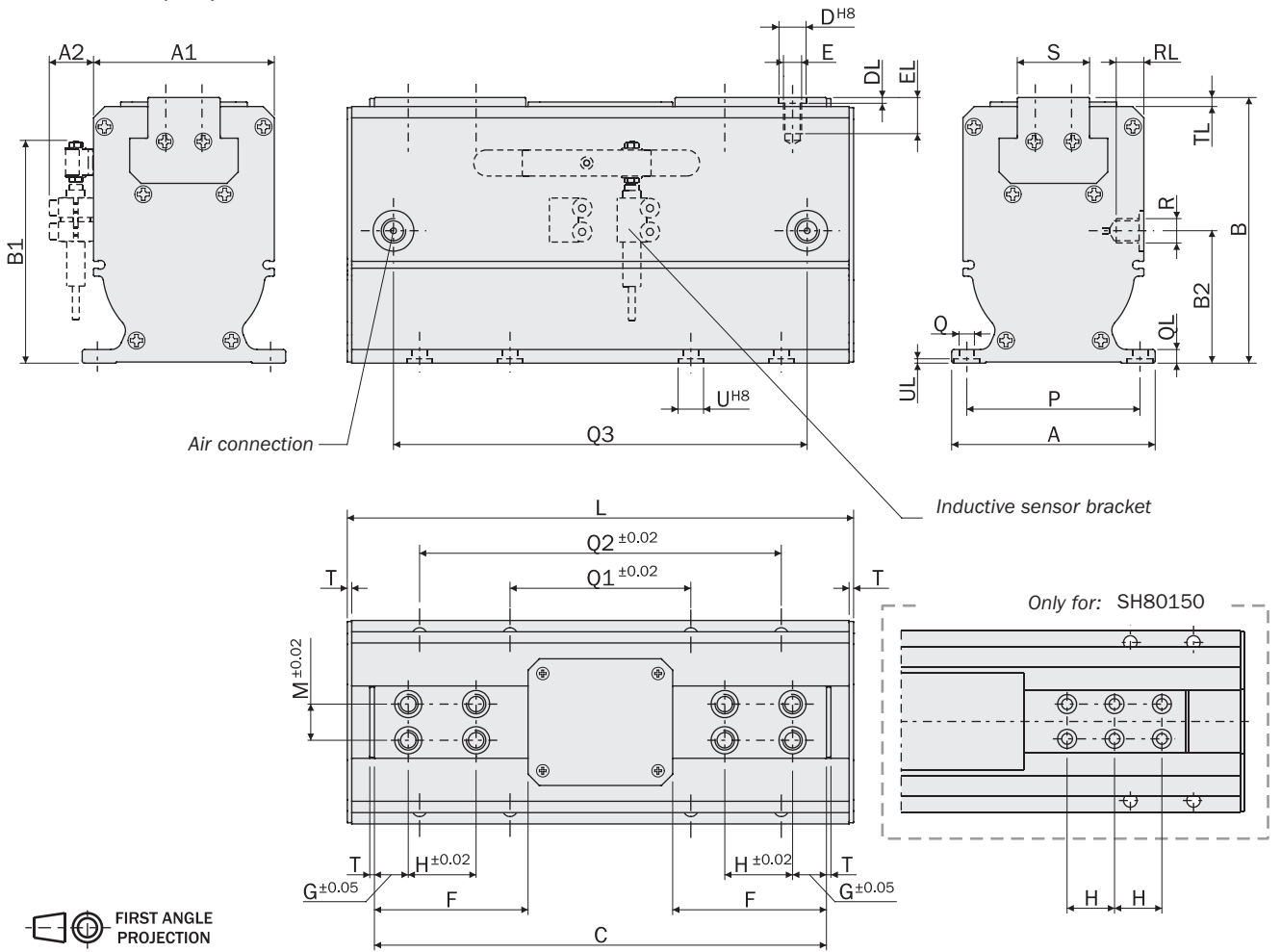
SH63120



(2)

	SH6360	SH63120	SH8080	SH80150
Medium	Filtered, lubricated / non lubricated compressed air			
Operating pressure range	1 ÷ 8 bar			
Operating temperature range	5° ÷ 60°C.			
Opening gripping force at 6 bar on each jaw	800 N		1250 N	
Opening total gripping force at 6 bar	1600 N		2500 N	
Closing gripping force at 6 bar on each jaw	800 N		1250 N	
Closing total gripping force at 6 bar	1600 N		2500 N	
Total stroke ±1 mm	60 mm	120 mm	80 mm	150 mm
Closing time without load	0.2 s	0.3 s	0.4 s	0.6 s
Weight	2.6 kg	5.2 kg	5 kg	9 kg

Dimensions (mm)



FIRST ANGLE PROJECTION

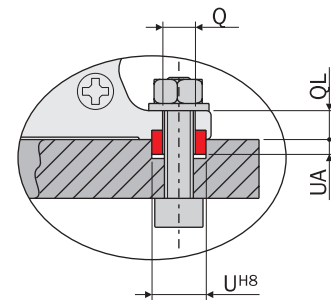
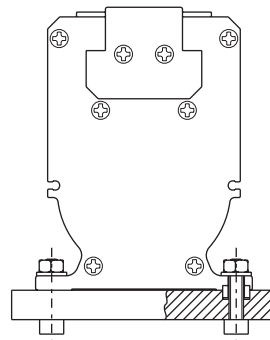
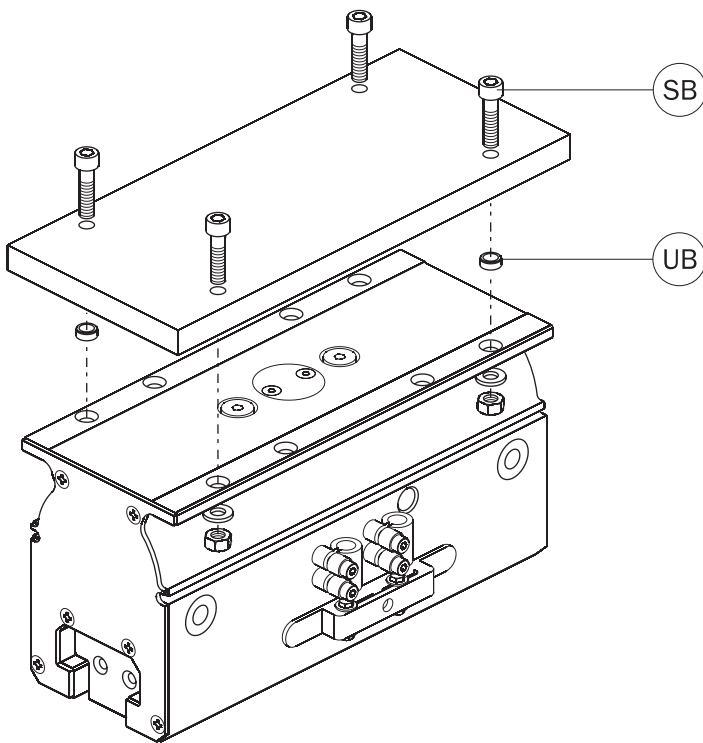
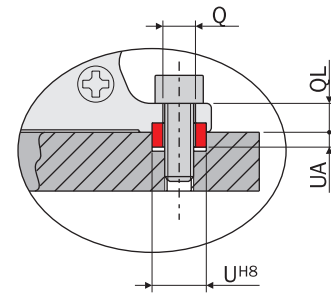
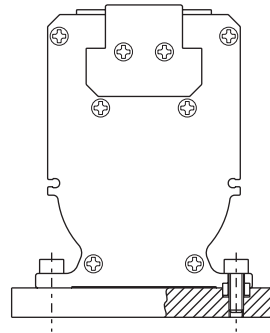
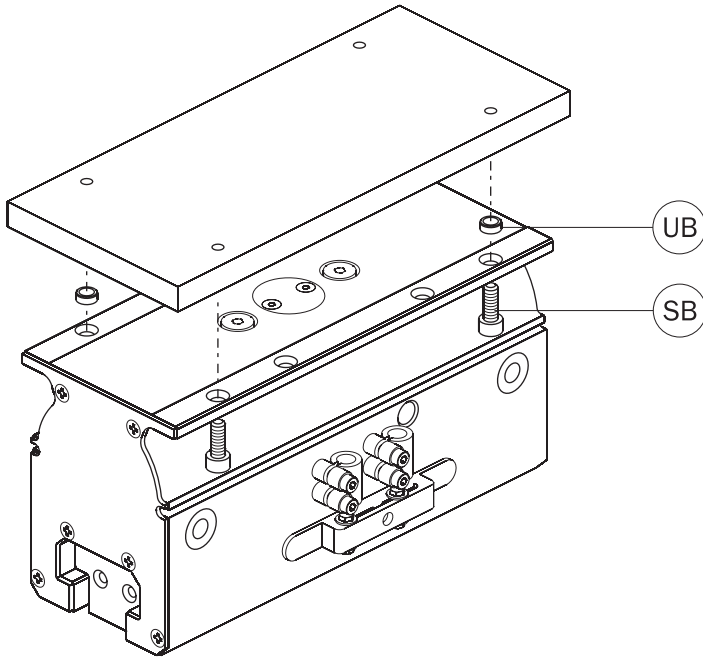
	SH6360	SH63120	SH8080	SH80150
A	90	90	115	115
A1	80	80	95	95
A2	19.5	19.5	19.5	19.5
B	117.5	117.5	161	161
B1	98	98	121.5	121.5
B2	58.5	58.5	72.5	72.5
C	200	270	240	360
D H ⁸	Ø12 H8	Ø12 H8	Ø12 H8	Ø12 H8
DL	2.6	2.6	2.6	2.6
E	M8	M8	M8	M8
EL	16	16	16	16
F	68	73	78	102.5
G ±0.05	15	15	15	15
H ±0.02	30	30	30	30
L	224	394	284	434
M ±0.02	16	16	22	22
P	77	77	100	100
Q	Ø6.5	Ø6.5	Ø8.5	Ø8.5
QL	6	6	8	8
Q1 ±0.02	80	80	140	140
Q2 ±0.02	160	160	220	220
Q3	183	353	240	390
R	1/8"Gas	1/8"Gas	1/8"Gas	1/8"Gas
RL	8	8	8	8
S	32	32	40	40
T	2	2	2	2
TL	4	4	4	4
U H ⁸	Ø9 H8	Ø9 H8	Ø12 H8	Ø12 H8
UL	2.6	2.6	2.6	2.6

Fastening

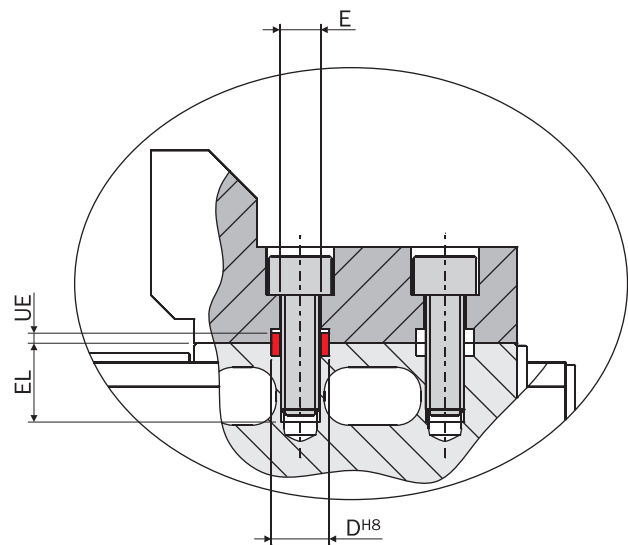
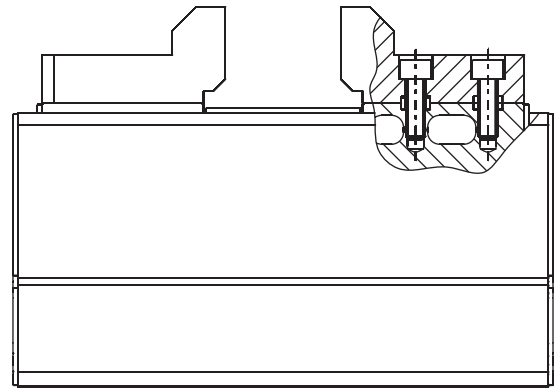
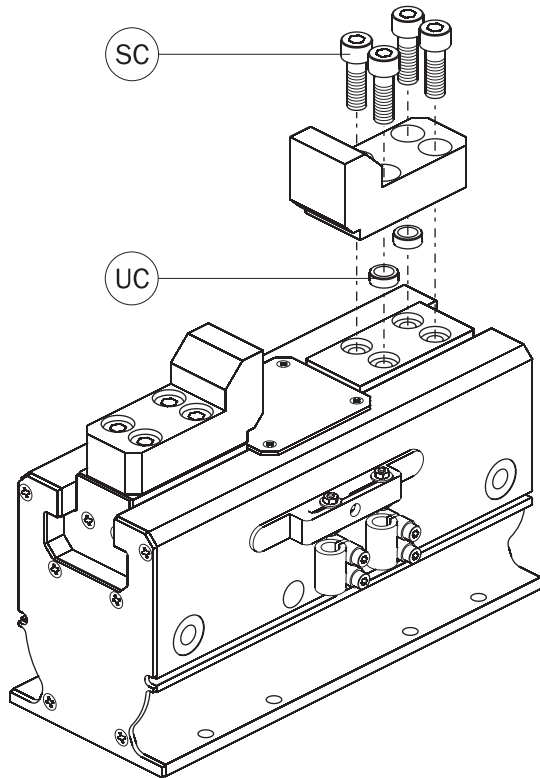
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

The flange allows the gripper fastening both from the top and from the bottom.

Use at least 4 screws (SB) and 2 centering sleeves (UB).



The gripping tools must be as short and light as possible.
They must be fastened by 4 screws (SC) and at least 2 centering sleeves (UC).



4 centering rings (UC) for the gripping tools and 2 centering sleeves (UB) for the housing are supplied in the packaging.

	SH6360 / SH63120	SH8080 / SH80150
SB	M6	M8
UB	Ø9 H=4	Ø12 H=5
Q	Ø6.5	Ø8.5
QL	6	8
U	Ø9 H8	Ø12 H8
UA	1.4	2.4
SC	M8	M8
UC	Ø12 H=5	Ø12 H=5
D	Ø12 H8	Ø12 H8
UE	2.4	2.4
E	M8	M8
EL	16	16

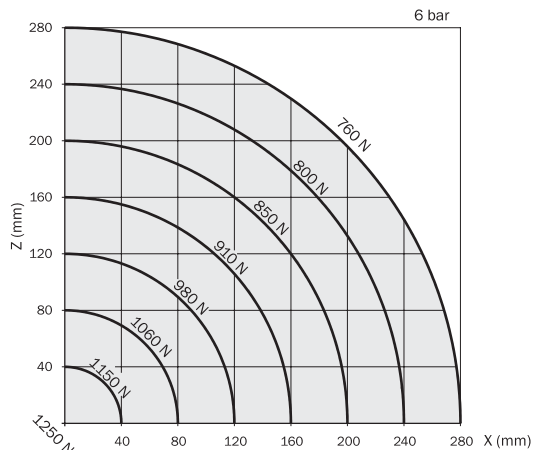
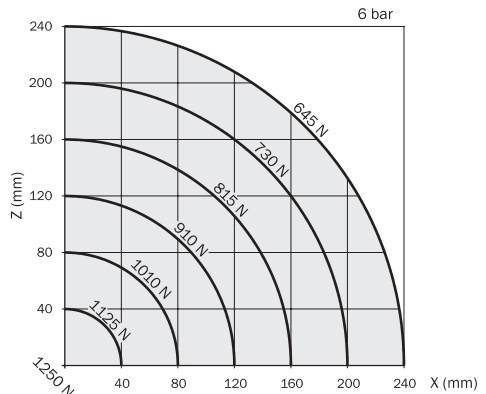
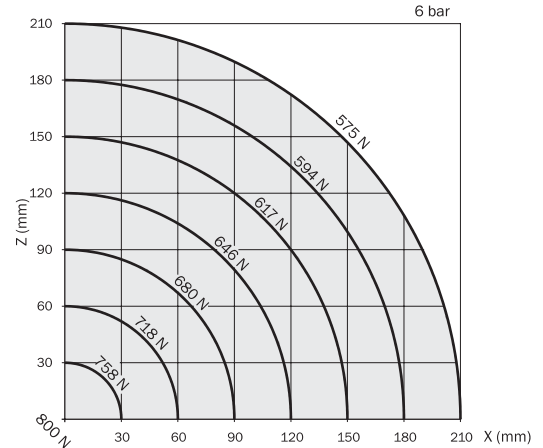
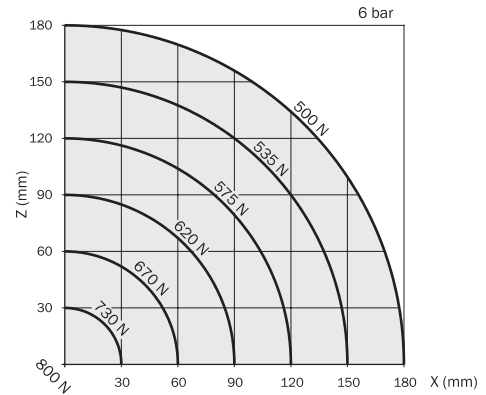
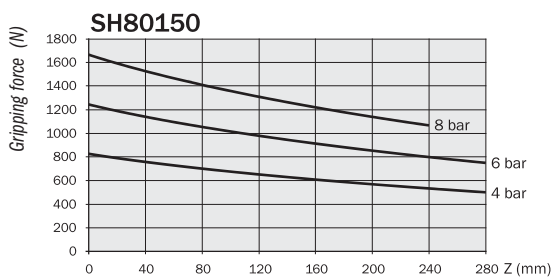
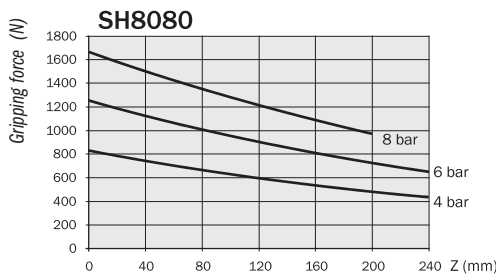
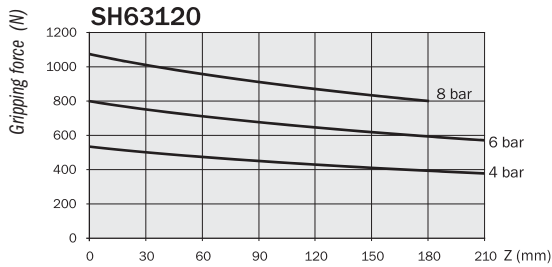
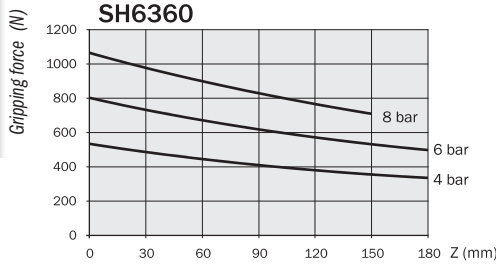
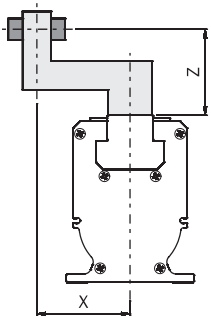
Gripping force

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

The gripper is double-acting for either external or internal gripping applications.

The gripping force is the same in both directions.

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



Safety loads

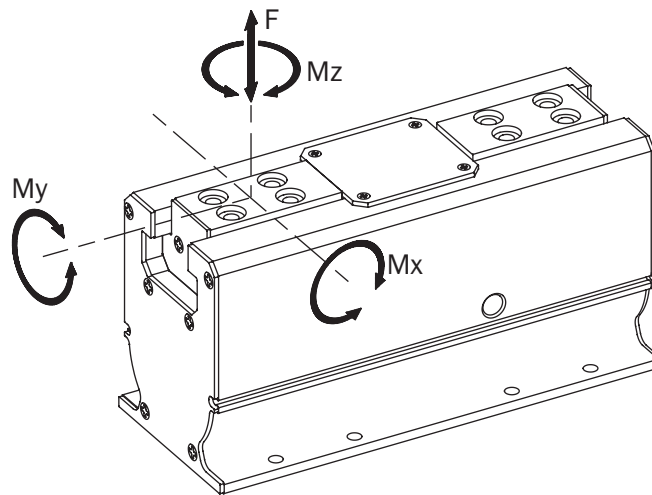
Check the table for maximum permitted loads.

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 with motionless jaws.

F_d , $M_x d$, $M_y d$, $M_z d$, are maximum permitted dynamic loads. Dynamic means with running jaws.

The following tables show the specified maximum loads (m) on each gripping tool as function of closing or opening time. Use flow controllers (not supplied) to get the proper speed.



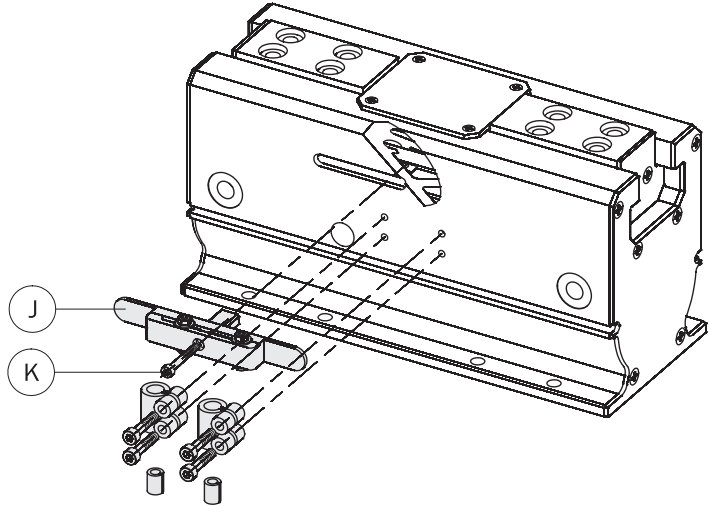
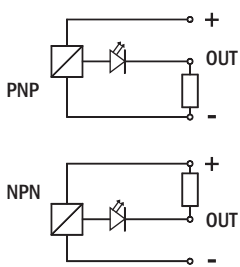
	SH6360	SH63120	SH8080	SH80150
F_s	2000 N	3000 N	4000 N	6000 N
$M_x s$	100 Nm	150 Nm	200 Nm	300 Nm
$M_y s$	50 Nm	75 Nm	100 Nm	150 Nm
$M_z s$	100 Nm	150 Nm	200 Nm	300 Nm
F_d	20 N	30 N	40 N	60 N
$M_x d$	2 Nm	3 Nm	4 Nm	6 Nm
$M_y d$	1 Nm	1.5 Nm	2 Nm	3 Nm
$M_z d$	2 Nm	3 Nm	4 Nm	6 Nm
m 0.9s	-	-	4 kg	6 kg
m 0.6s	2 kg	2.5 kg	3 kg	4 kg
m 0.4s	1.5 kg	1.8 kg	2 kg	-
m 0.3s	1 kg	1.2 kg	-	-
m 0.2s	0.7 kg	-	-	-

Sensors

The operating position can be checked by magnetic sensors (optional), detecting the magnets on the piston, or by inductive sensors (optional), detecting the screws on the appendix (J). This is to fix on the jaw, with the screw (K) supplied in the accessory pack for the inductive sensors. Use 4mm diameter inductive sensors.

Ordering codes of the inductive sensors:

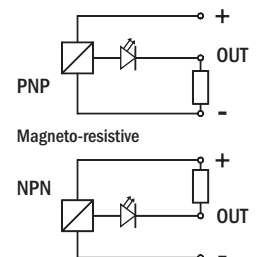
SI4M225-G	NPN	2.5m cable
SI4N225-G	PNP	2.5m cable



The accessories to fix the inductive sensors are supplied in the packaging.

The magnetic sensors from Gimatic are the codes:

SN4N225-G	PNP	2.5m cable
SN4M225-G	NPN	2.5m cable
SN3N203-G	PNP	M8 snap plug connector
SN3M203-G	NPN	M8 snap plug connector
SS4N225-G	PNP	2.5m cable
SS4M225-G	NPN	2.5m cable
3-G	PNP	M8 snap plug connector
SS3M203-G	NPN	M8 snap plug connector



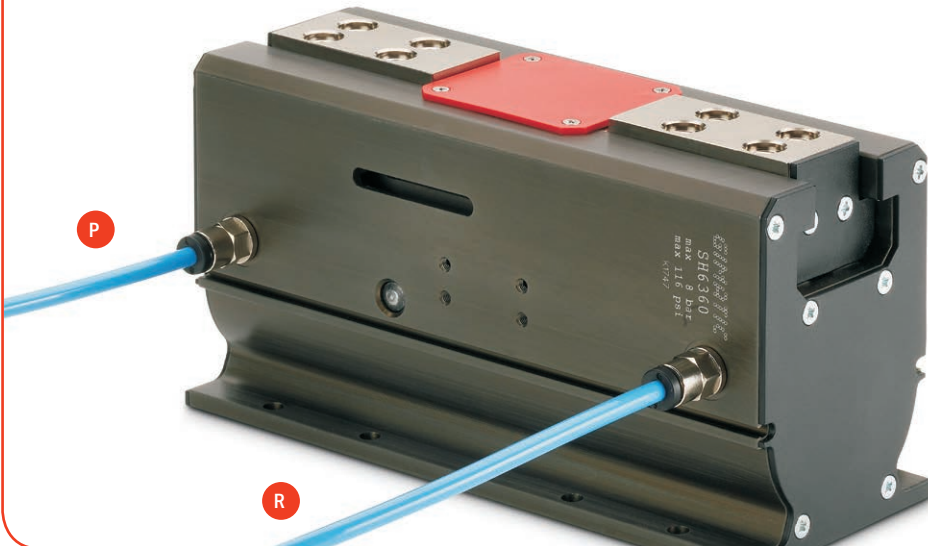
Compressed air feeding

The compressed air feeding can be accomplished on the lateral air ports (P and R) with fittings and hoses (not supplied).

Compressed air in P: gripper opening.
Compressed air in R: 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.



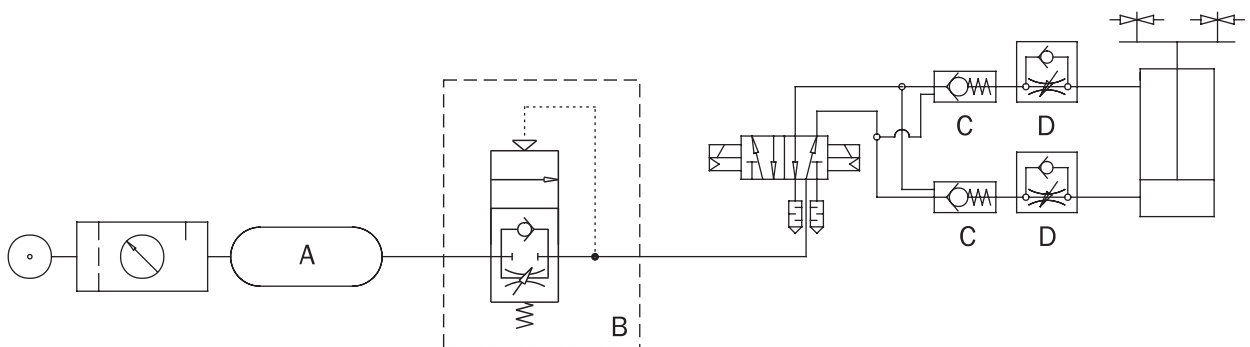
Pneumatic circuit

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).

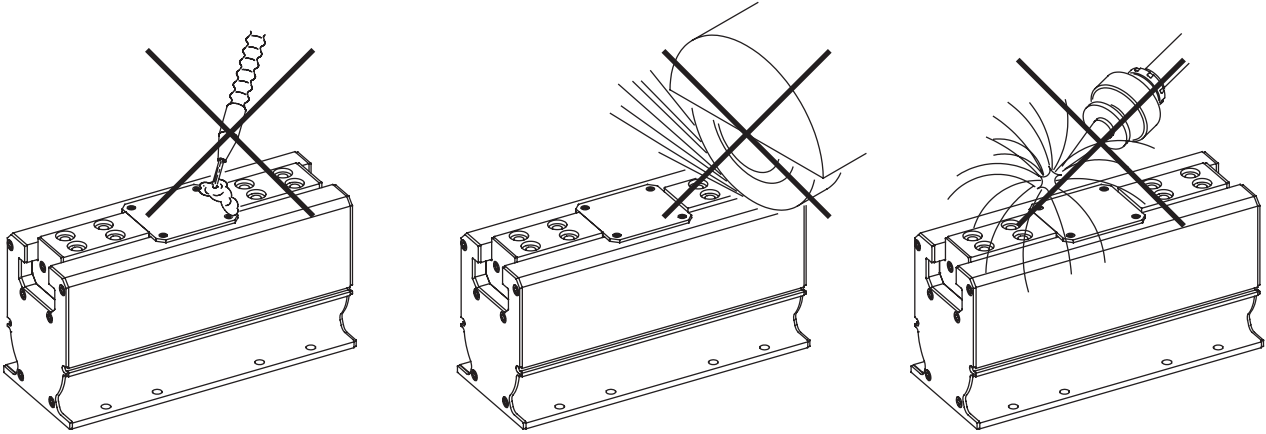


Caution

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.

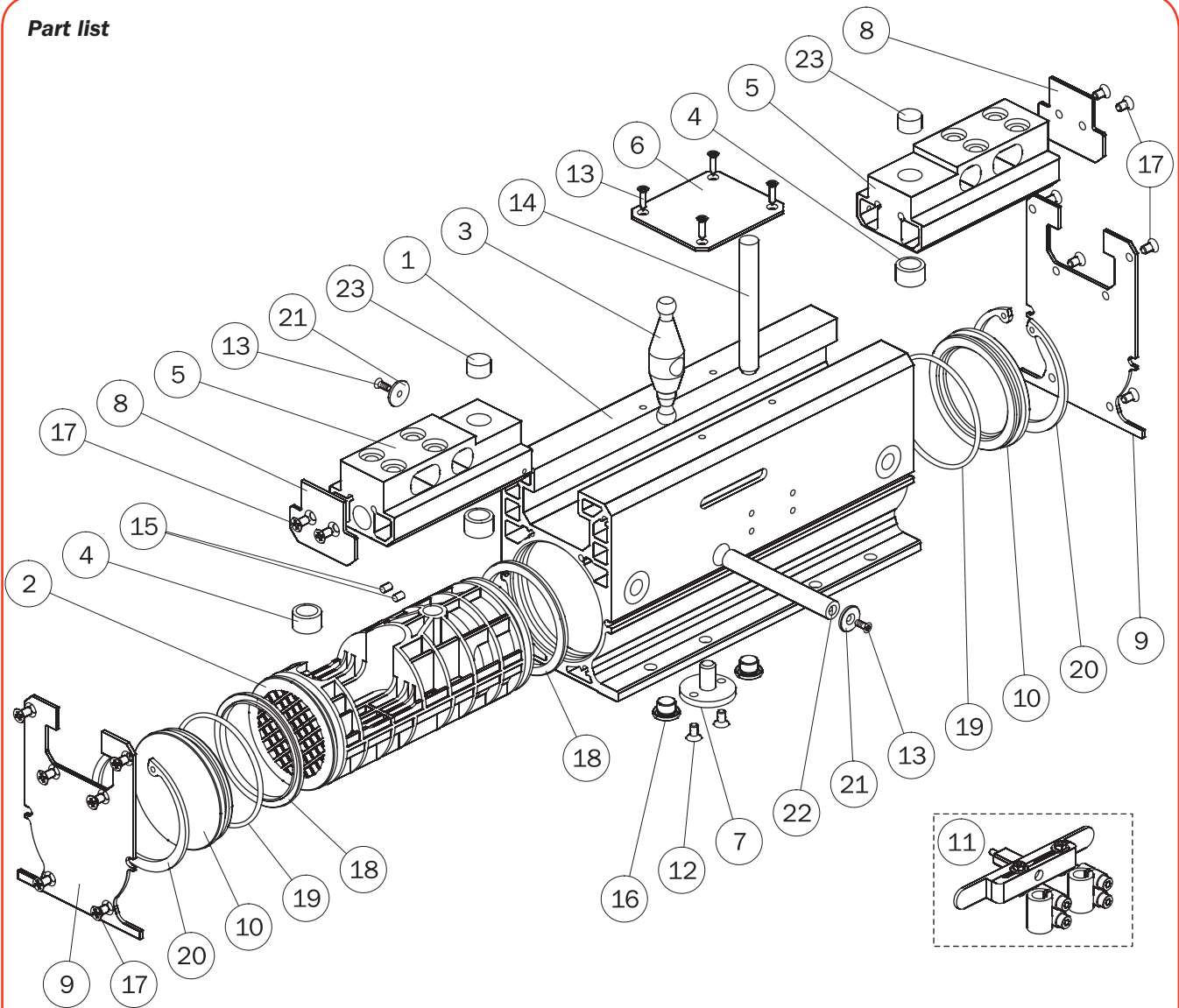
**Maintenance**

Grease the gripper after 5 million cycles with:

- Molykote DX (metal on metal);
- Molykote PG75 (gaskets).

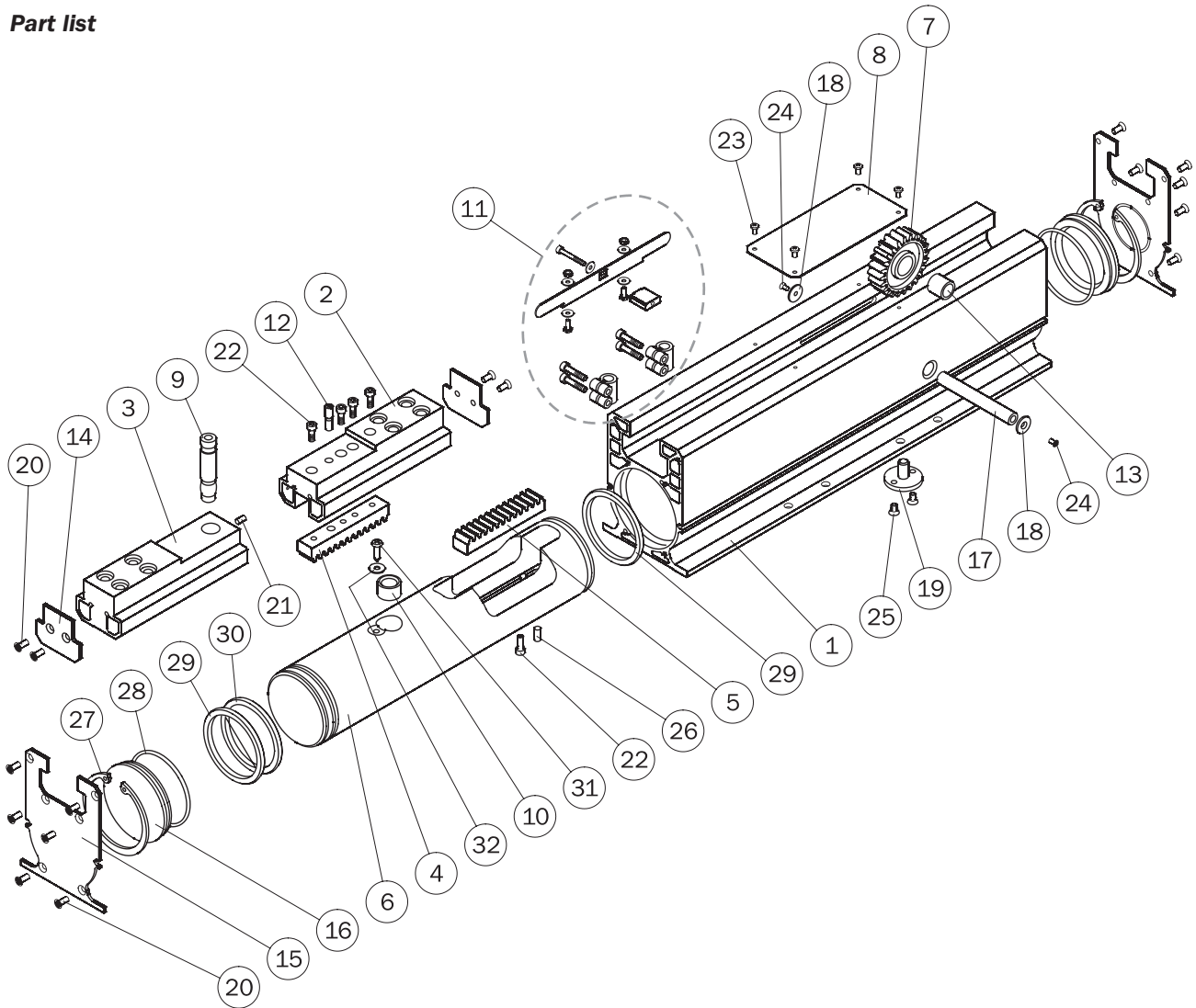


Part list



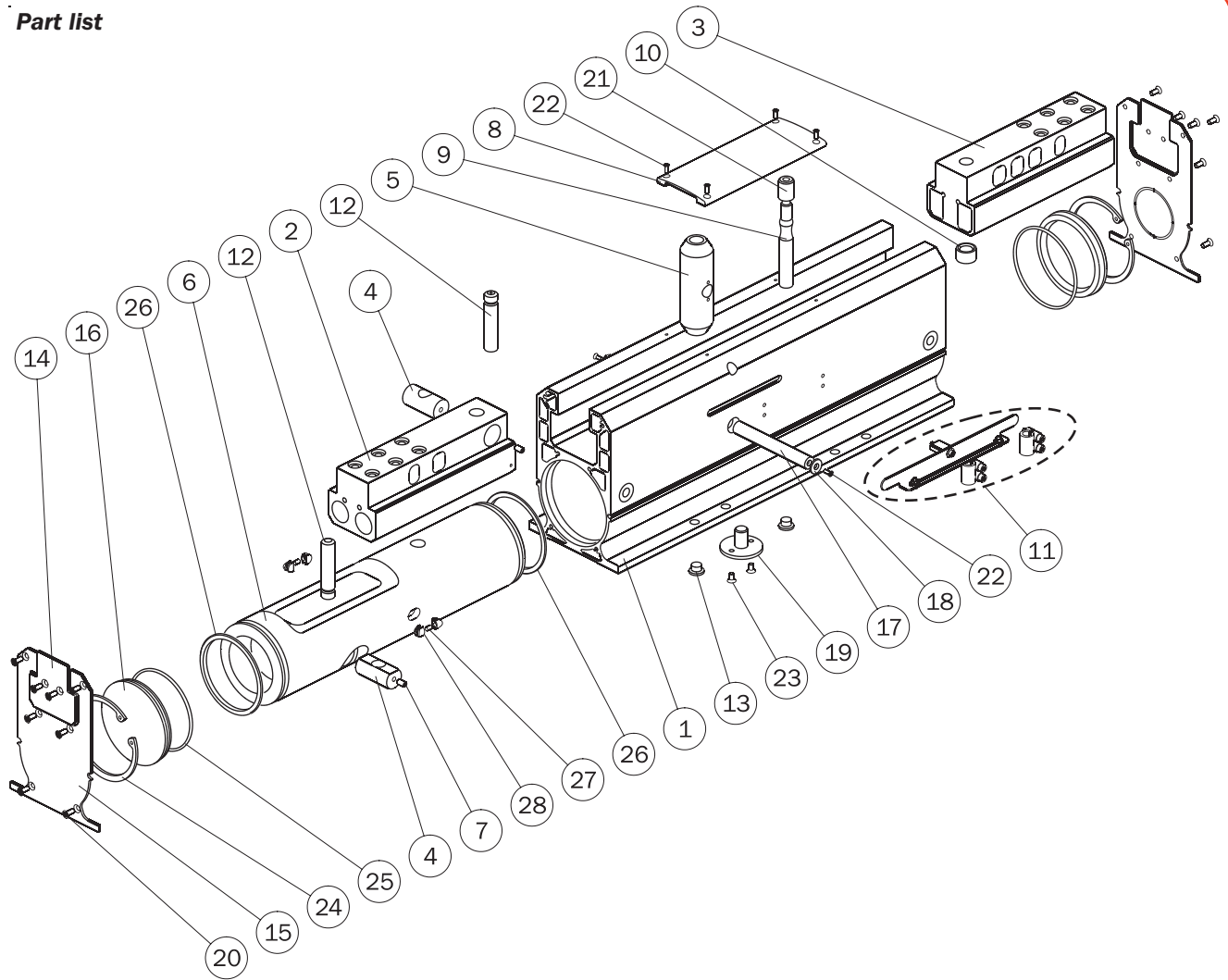
		SH6360	SH8080	
1	Gripper housing	SH6360-01	SH8080-01	1
2	Piston	SH6360-05	SH8080-05	2
3	Lever	SH6360-03	SH8080-03	3
4	Bush	SH6360-10	SH8080-10	4
5	Jaw	SH6360-02	SH8080-02	5
6	Upper cover	SH6360-08	SH8080-08	6
7	End-stroke device	SH6360-09	SH8080-09	7
8	Jaw cover	SH6360-11	SH8080-11	8
9	Housing cover	SH6360-13	SH8080-13	9
10	Plug	SH6360-04	SH8080-04	10
11	Sensor bracket	SHC001	SHC000	11
12	Screw	VITE-305 (M4x8 mm UNI5933 Z/B)	VITE-305 (M4x8 mm UNI5933 Z/B)	12
13	Screw	VITE-035 (M3x8 mm DIN965A INOX A2)	VITE-035 (M3x8 mm DIN965A INOX A2)	13
14	Dowel pin	SH6360-21	SH8080-21	14
15	Magnet	PAR-06-7	PAR-06-7	15
16	Plug	107-G1/8	107-G1/8	16
17	Screw	VITE-319 (M4x8 mm DIN7500M)	VITE-319 (M4x8 mm DIN7500M)	17
18	Dynamic gasket	GUAR-049E (63x53x4.5)	GUAR-128 (Ø2.62x58.42) GUAR-135 (Ø3.53x71.44)	18
19	O-Ring	GUAR-128 (Ø2.62x58.42)	GUAR-132 (Ø2.62x75.87)	19
20	Snap-ring	SEEGER-004N (Ø65 DIN472)	SEEGER-026 (Ø82 DIN472)	20
21	Washer	SH8080-06	SH8080-06	21
22	Dowel pin	SH6360-07	SH8080-07	22
23	Plug	SH6360-14	VITE-341 (M14x20 DIN 913)	23

Part list



		SH63120		
1	Gripper housing	SH63120-01		1
2	Left jaw	SH63120-02		2
3	Right jaw	SH63120-03		3
4	Jaw rack	SH63120-04		4
5	Piston rack	SH63120-05		5
6	Piston	SH63120-06		6
7	Pinion	SH63120-07		7
8	Upper cover	SH63120-08F		8
9	Dowel pin	SH63120-09		9
10	Bush	SH8080-10		10
11	Sensor bracket	SHC002		11
12	Screw	SH63120-13		12
13	Bushing	SH63120-14		13
14	Jaw cover	SH6360-11		14
15	Housing cover	SH6360-13		15
16	Plug	SH6360-04		16
17	Dowel pin	SH6360-07		17
18	Washer	SH8080-06		18
19	End-stroke device	SH6360-09		19
20	Screw	VITE-319 (M4x8 mm DIN7500M Z/B)		20
21	Grub screw	VITE-043 (M4x8 mm DIN913 INOX A2)		21
22	Screw	VITE-029 (M4x12 DIN912 INOX A2)		22
23	Screw	VITE-082 (M3x6 mm DIN7985A INOX A2)		23
24	Screw	VITE-139 (M3x6 mm DIN965A INOX A2)		24
25	Screw	VITE-305 (M4x8 mm UNI5933 Z/B)		25
26	Dowel pin	SPINA-044 (Ø5x12 mm DIN6325)		26
27	Snap-ring	SEEGER-004N (Ø65 DIN472)		27
28	O-Ring	GUAR-128 (Ø2.62x58.42)		28
29	Dynamic gasket	GUAR-049E (63x53x4.5)		29
30	Magnet	T63-10		30
31	Screw	VITE-005 (4.2x16 mm DIN7981)		31
32	Washer	VITE-281 (M4)		32

Part list



SH80150				
1	Gripper housing	SH80150-01		1
2	Left jaw	SH80150-21		2
3	Right jaw	SH80150-02		3
4	Rod foot	SH80150-22		4
5	Telescopic balance	SH80150-03		5
6	Piston	SH80150-05		6
7	Grub screw	VITE-141 (M5x10 mm DIN914 INOX A2)		7
8	Upper cover	SH80150-08		8
9	Connection pin	SH8080-21		9
10	Bush	SH8080-10		10
11	Sensor bracket	SHC003		11
12	Transmission rod	SH80150-23		12
13	Plug	107-G1/8		13
14	Jaw cover	SH8080-11		14
15	Housing cover	SH8080-13		15
16	Plug	SH8080-04		16
17	Balance pivot	SH8080-07		17
18	Washer	SH8080-06		18
19	End-stroke device	SH8080-09		19
20	Screw	VITE-319 (M4x8 mm DIN7500M Z/B)		20
21	Grub screw	VITE-341 (M14x20 mm DIN913)		21
22	Screw	VITE-035 (M3x8 DIN965A INOX A2)		22
23	Screw	VITE-305 (M4x8 mm UNI5933 Z/B)		23
24	Snap-ring	SEEGER-026 (Ø82 DIN472)		24
25	O-Ring	GUAR-132 (Ø2.62x75.87)		25
26	Dynamic gasket	GUAR-126 (80x70x4.5)		26
27	Magnet	PAR-06-7		27
28	Magnet housing	RT-12-07		28