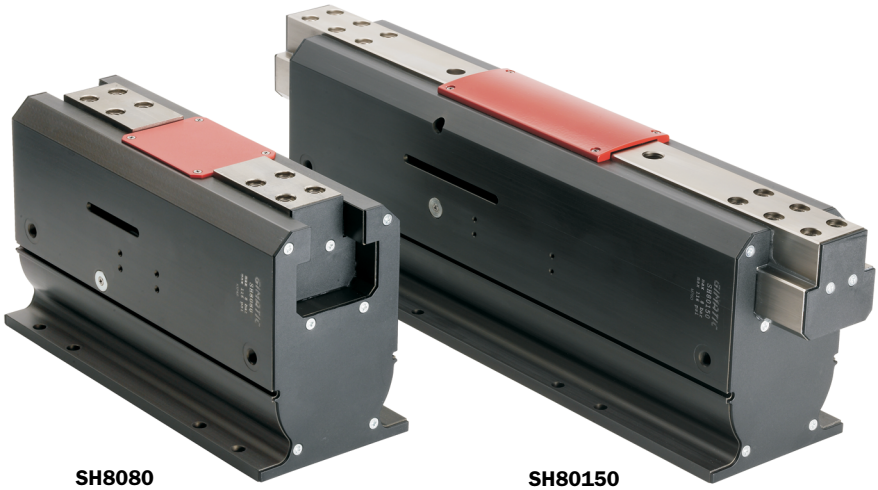
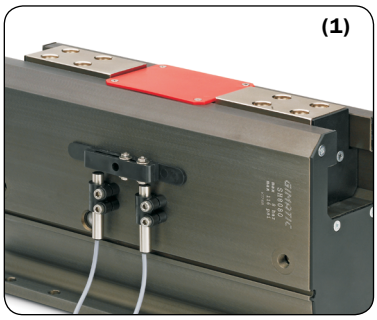
SH

2-JAW SELF-CENTERING PARALLEL PNEUMATIC GRIPPER (SERIES SH)

- Double-acting.
- Patented self-centering system.
- Ready for magnetic and inductive sensors (1).
- Lightweight: Built entirely of light alloy materials (2).



SH8080 SH80150



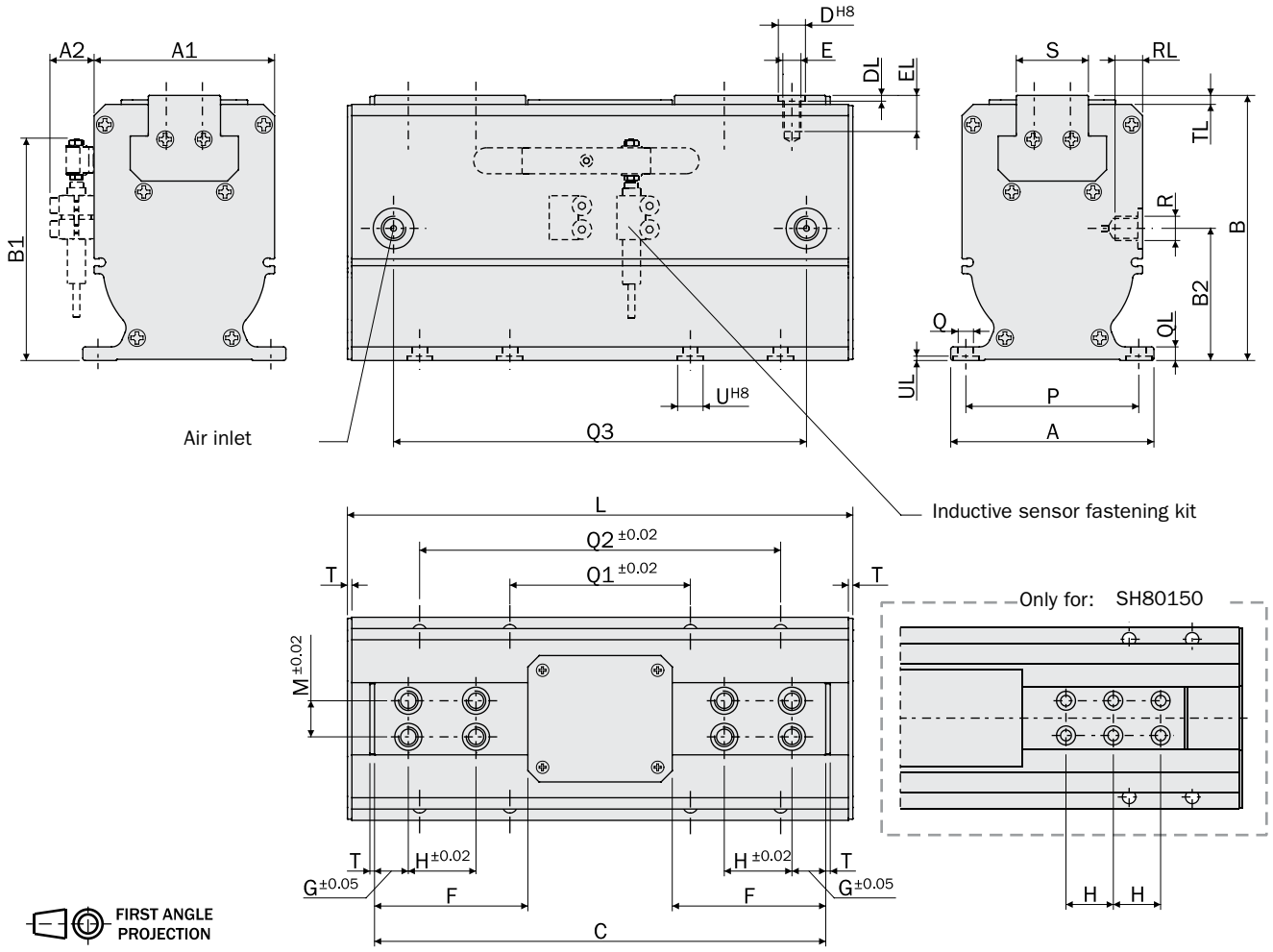
(1)

SH6360 SH63120

(2)

	SH6360	SH63120	SH8080	SH80150
Price	$877.00	$1541.00	$1090.00	$1942.00
Medium	Filtered compressed air, lubricated or non-lubricated			
Pressure range	15-116 psi			
Temperature range	41-140 °F			
Gripping force on each jaw on opening at 87 psi	180 lbf		281 lbf	
Total gripping force on opening at 87 psi	360 lbf		562 lbf	
Gripping force on each jaw on closing at 87 psi	180 lbf		281 lbf	
Total gripping force on closing at 87 psi	360 lbf		562 lbf	
Total stroke ±0.039" (±1 mm)	2.36" (60 mm)	4.72" (120 mm)	3.15" (80 mm)	5.9" (150 mm)
Closing time without load	0.2 s	0.3 s	0.4 s	0.6 s
Weight	5.73 lb (2.6kg)	11.46 lb (5.2kg)	11 lb (5kg)	19.84 lb (9kg)

DIMENSIONS (mm)

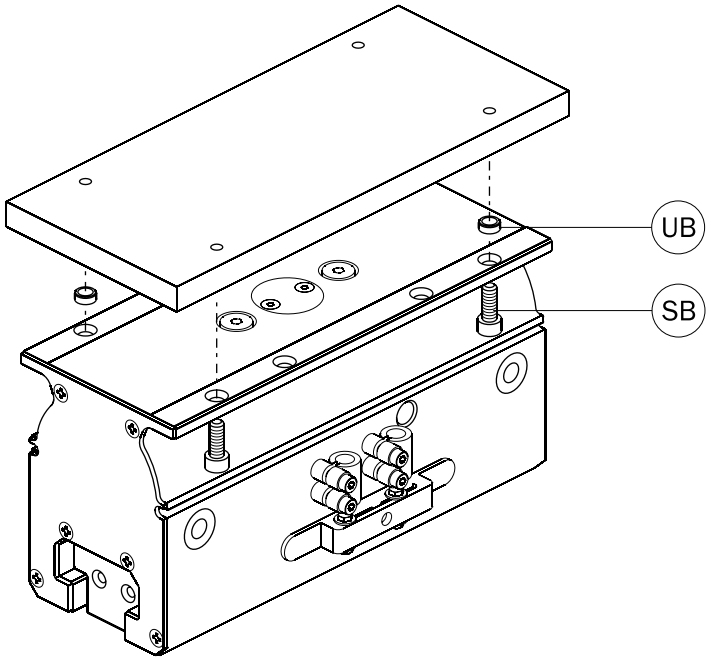


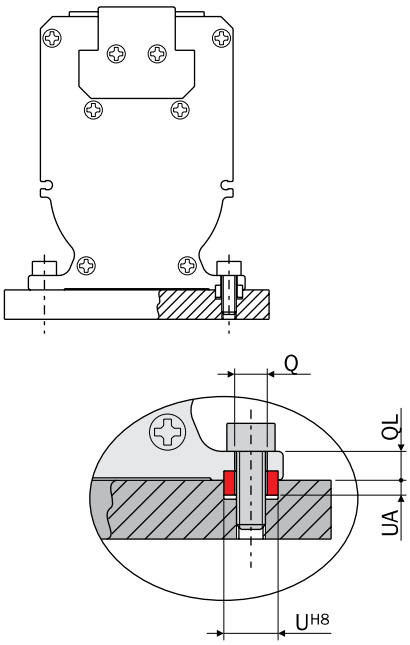
	SH6360	SH63120	SH8080	SH80150
A	90	90	115	115
A1	80	80	95	95
A2	19.5	19.5	19.5	19.5
B	117.5	117.5	161	161
B1	98	98	121.5	121.5
B2	58.5	58.5	72.5	72.5
C	200	270	240	360
D H8	Ø12 H8	Ø12 H8	Ø12 H8	Ø12 H8
DL	2.6	2.6	2.6	2.6
E	M8	M8	M8	M8
EL	16	16	16	16
F	68	73	78	102.5
G ±0.05	15	15	15	15
H ±0.02	30	30	30	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	290
Q2 ±0.02	160	160	220	370
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 H8	Ø9 H8	Ø9 H8	Ø12 H8	Ø12 H8
UL	2.6	2.6	2.6	2.6

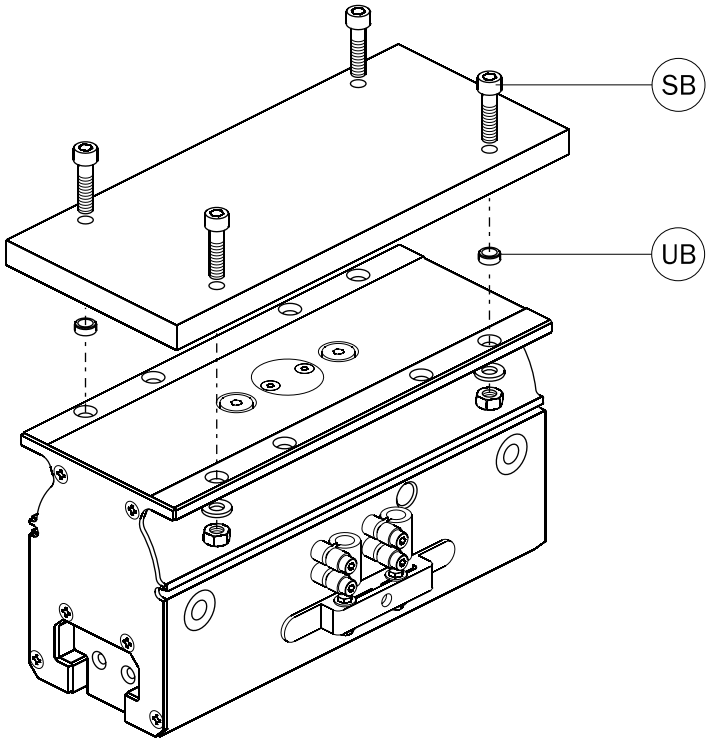
SH

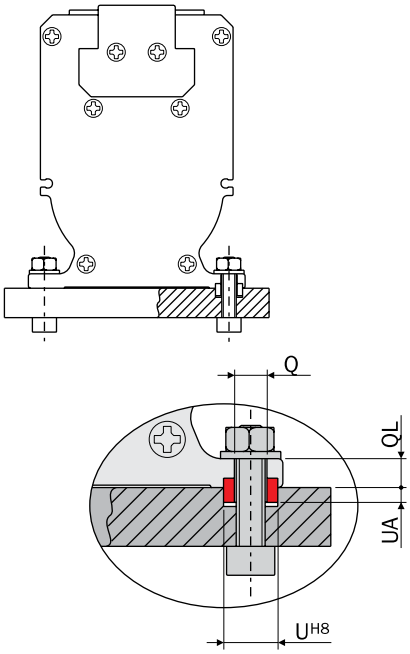
MOUNTING

The gripper can be mounted to a static or a moving part.
When on a moving part, attention must be paid to the inertial force which the gripper and its load are subjected to.
The flange allows the gripper to be fastened either from the top or from the bottom.
Use at least 4 bolts (SB) and 2 centering sleeves (UB).

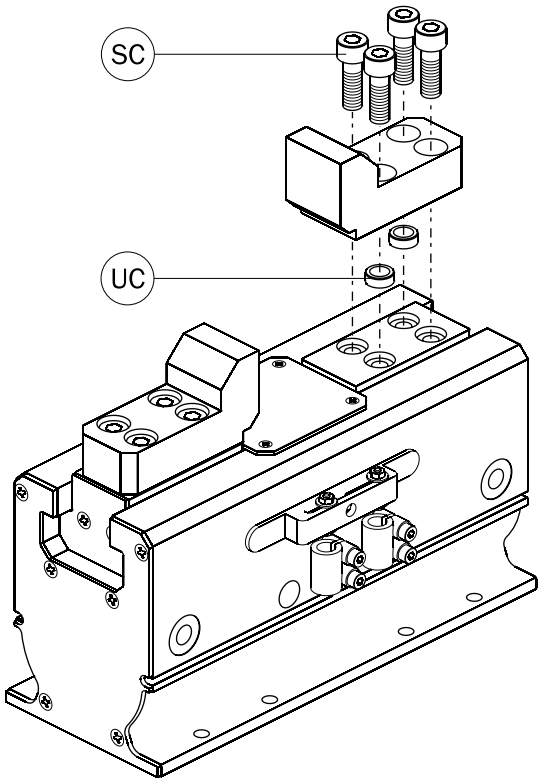


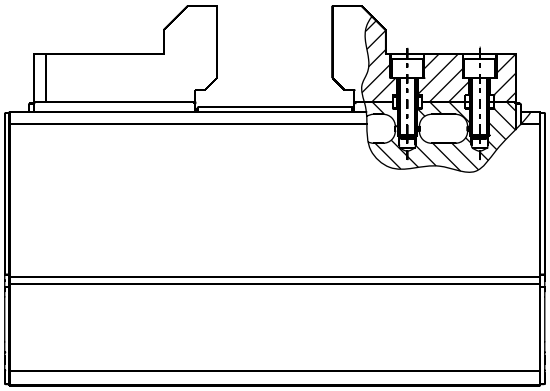


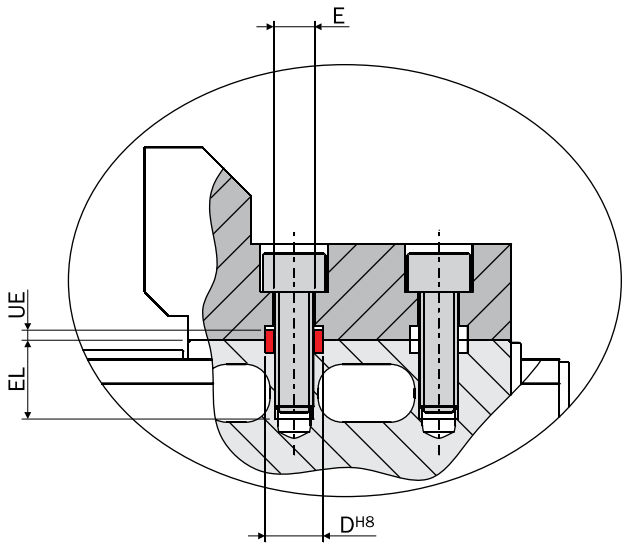




The gripper fingers must be as short and light as possible.
Mount them with 4 bolts (SC) and at least 2 centering sleeves (UC).







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

	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

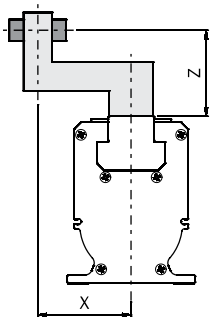
The graphs show the gripping force on each jaw, as a function of the operating pressure, of the gripper finger length (Z) and of the overhanging of the gripping point (X).
The gripper is double-acting and can, therefore, be used to grip a piece either from outside or from inside
The gripping force is the same both in opening and in closing.

GRIPPING FORCE **N x 0.225 = lbf**

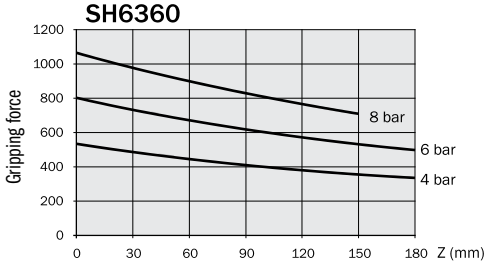
PRESSURE **bar x 14.5 = psi**

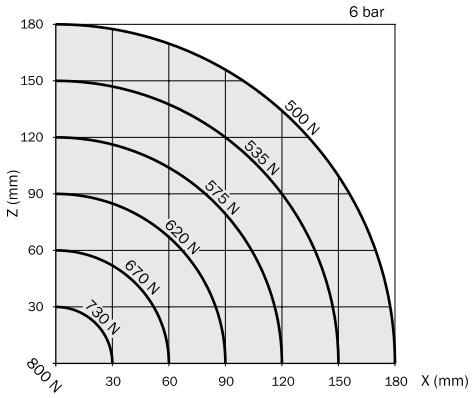
The force shown in these graphs refers to one jaw.

The total force is double.

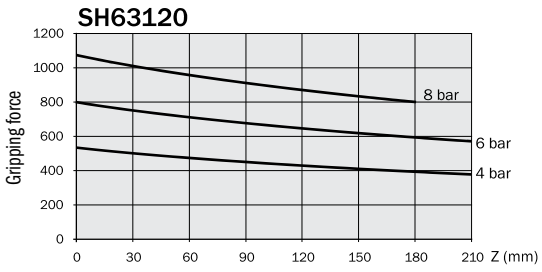


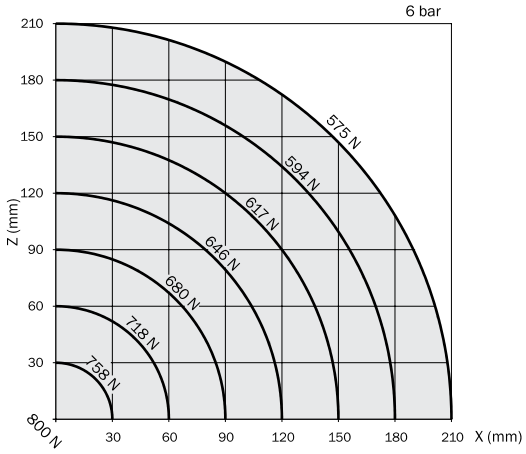
SH6360



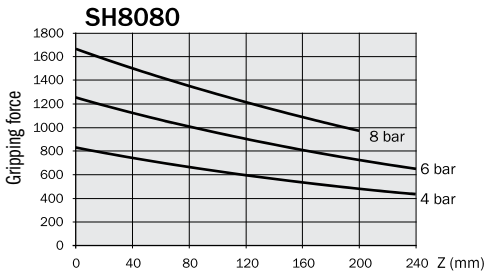


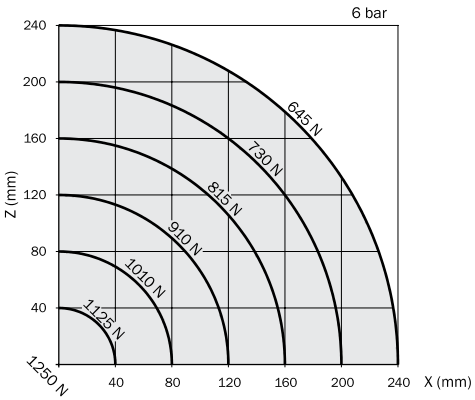
SH63120



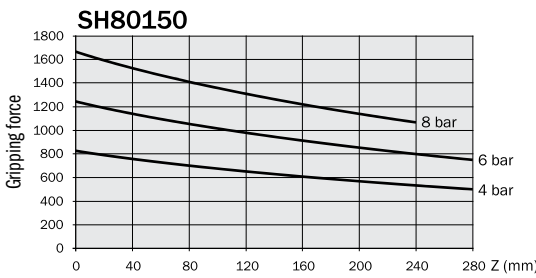


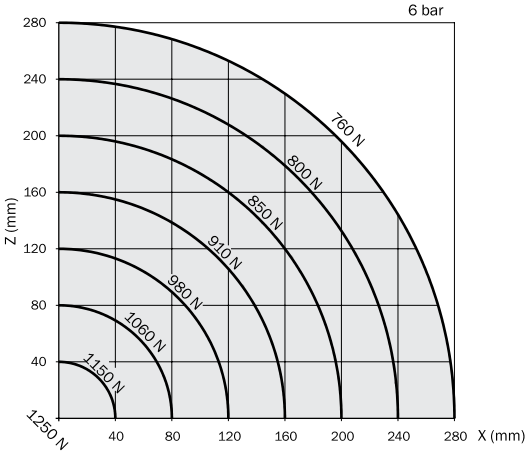
SH8080





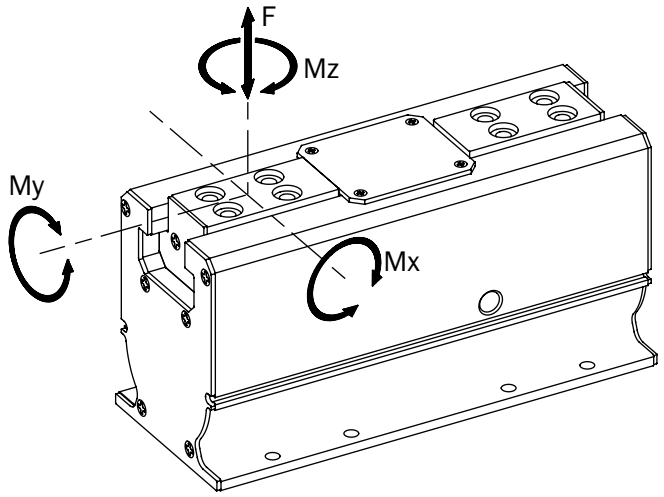
SH80150





SAFETY LOADS

Check the table for maximum permitted loads.
Excessive forces or torques can damage the gripper, cause malfunctions and endanger the safety of the operator.
F s, Mx s, My s, Mz s, are the maximum permitted loads under static conditions, that is when the jaws are motionless.
F d, Mx d, My d, Mz d, are the maximum permitted loads under dynamic conditions, that is when the jaws are moving.
The maximum permitted mass (m) on each gripping tool as function of the closing or opening time is also shown. Use flow controllers (not supplied) to achieve the desired speed



	SH6360	SH63120	SH8080	SH80150
F s	2000 N	3000 N	4000 N	6000 N
Mx s	100 Nm	150 Nm	200 Nm	300 Nm
My s	50 Nm	75 Nm	100 Nm	150 Nm
Mz s	100 Nm	150 Nm	200 Nm	300 Nm
F d	20 N	30 N	40 N	60 N
Mx d	2 Ncm	3 Ncm	4 Ncm	6 Ncm
My d	1 Ncm	1.5 Ncm	2 Ncm	3 Ncm
Mz d	2 Ncm	3 Ncm	4 Ncm	6 Ncm
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	-	-	-

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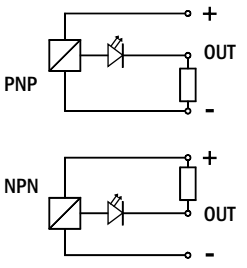
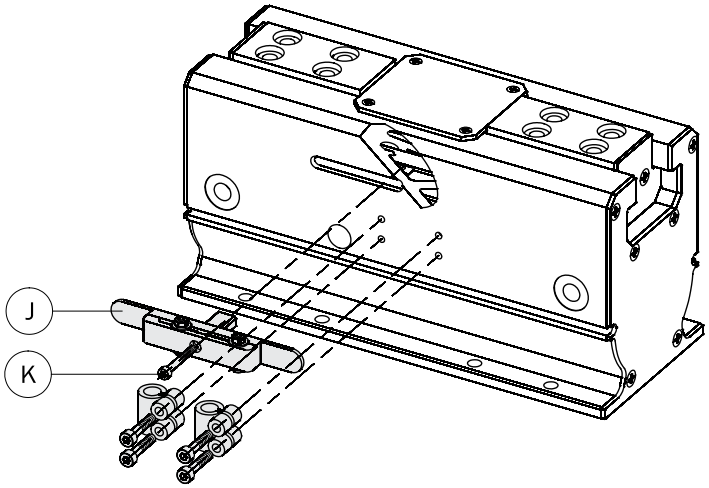
SENSORS

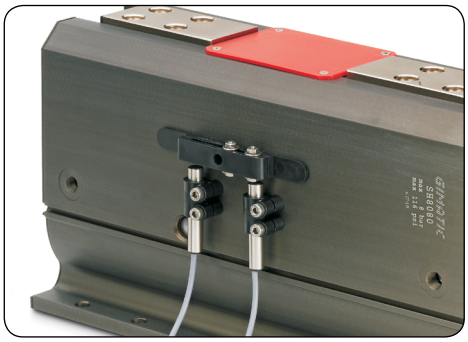
The operating position can be detected by magnetic sensors (optional) through magnets placed on the piston, or by inductive sensors (optional) through bolts inserted in the appendix (J). The latter is fixed to the jaw by means of a bolt (K) included in the kit for inductive sensors.
The inductive sensors must have a 4mm diameter.

Ordering codes for the inductive sensors:

Part#			Price
GSG-IS-NPN	NPN	2m cable	$58.50
GSG-IS-PNP	PNP	2m cable	$58.50



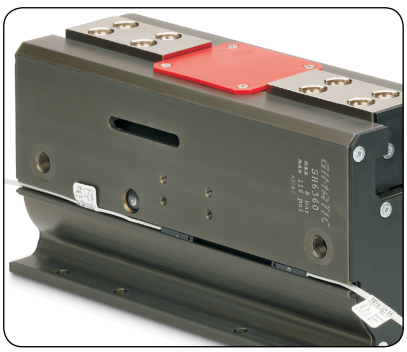


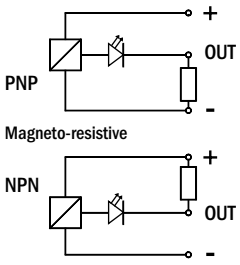


The inductive sensor fastening kit is included in the gripper package.

The magnetic sensors that can be used have the following Gimatic codes:

Part#			Price
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
SS4N225Y	PNP	2.5m cable	$26.14
SS4M225Y	NPN	2.5m cable	$26.14
SS3N203Y	PNP	M8 snap plug connector	$29.96
SS3M203Y	NPN	M8 snap plug connector	$29.96





PIPING THE UNIT

The gripper is pressurized from the side ports (P and R) using proper fittings and tubing (not supplied).

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

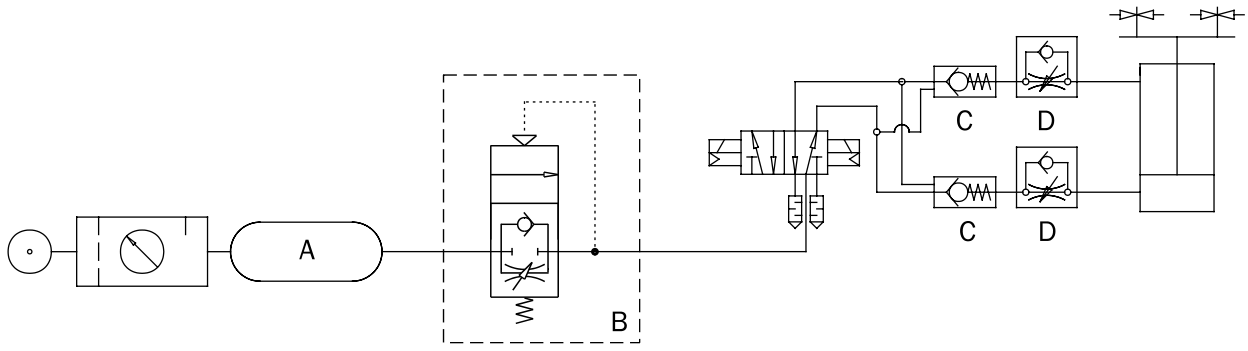
The compressed air must be filtered using a 5 to 40 micron filter. The initial choice on air lubrication (lubricated or not) must be kept for the complete service life of the gripper.

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

PNEUMATIC CIRCUIT

Possible problems on a compressed air circuit:
1- Pressure variations.
2- Pressurizing the empty gripper at start-up.
3- Sudden lack of pressure.
4- Excessive drive speed.

Possible solutions to the above issues:
1- External compressed air storage (A).
2- Start-up valve (B).
3- Safety valves (C).
4- Flow controllers (D).



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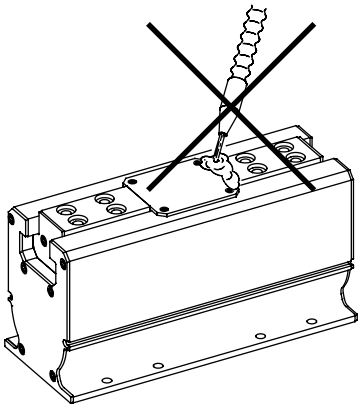
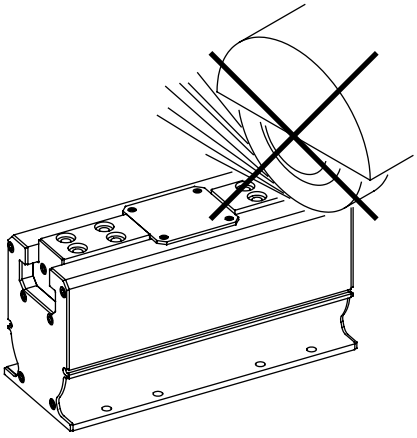
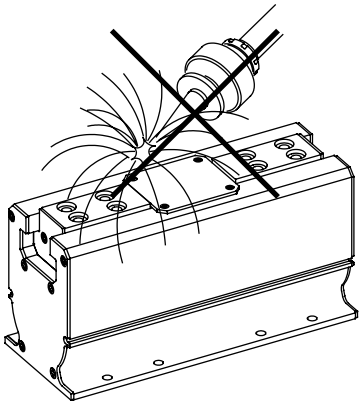
CAUTION

Never let the unit come into contact with corrosive substances, powders, or soldering or welding spatter as they will damage the gripper.
Never let non-authorized persons or objects be within the operating range of the gripper.
Never operate the gripper on a machine that does not comply with the safety standards and laws of your country.



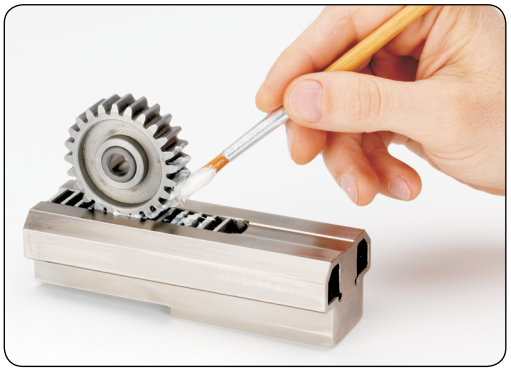


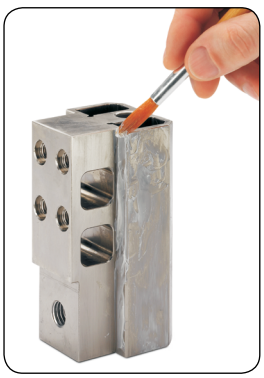


MAINTENANCE

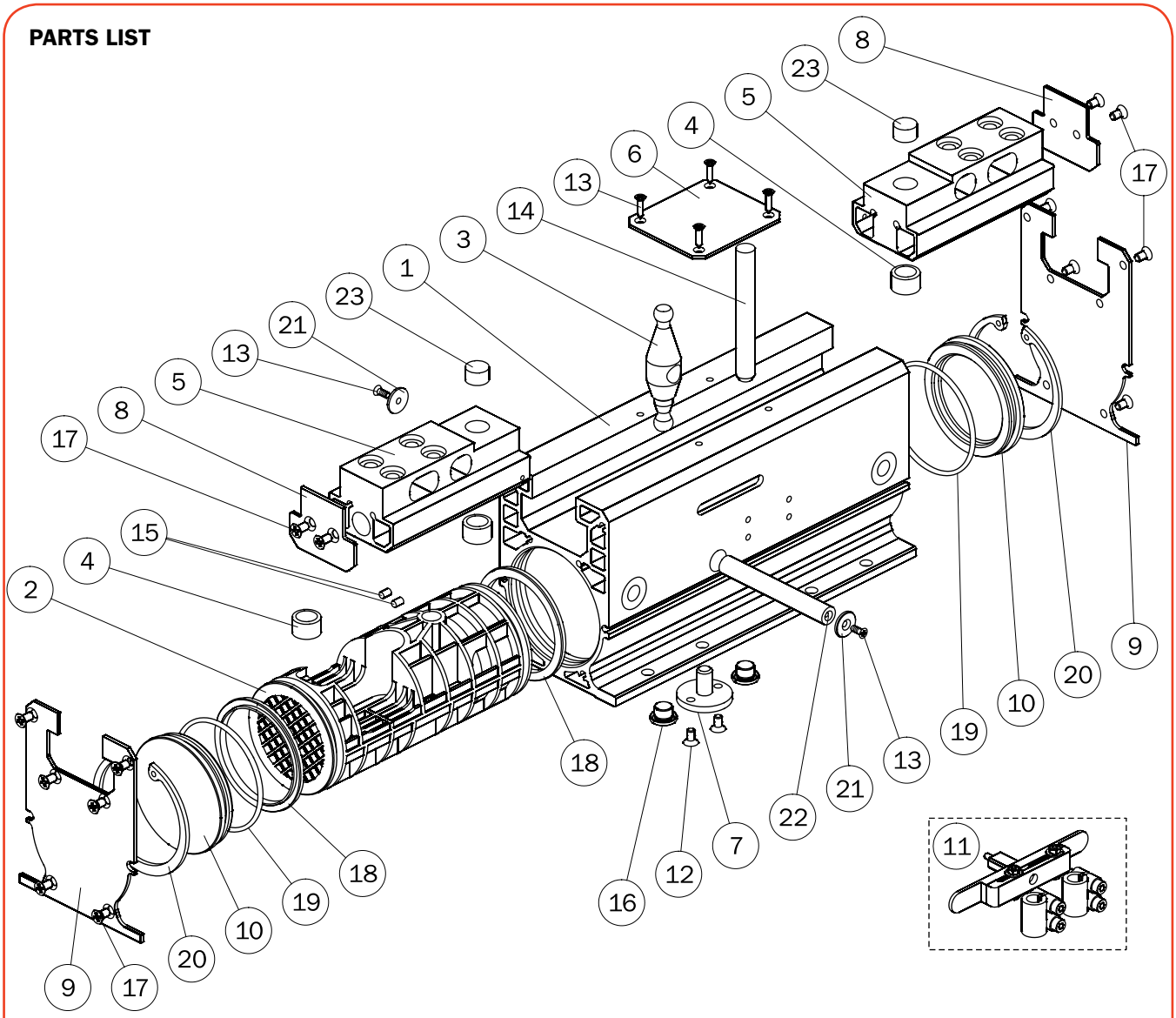
The gripper must be lubricated every 5 million cycles, using the following products:

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





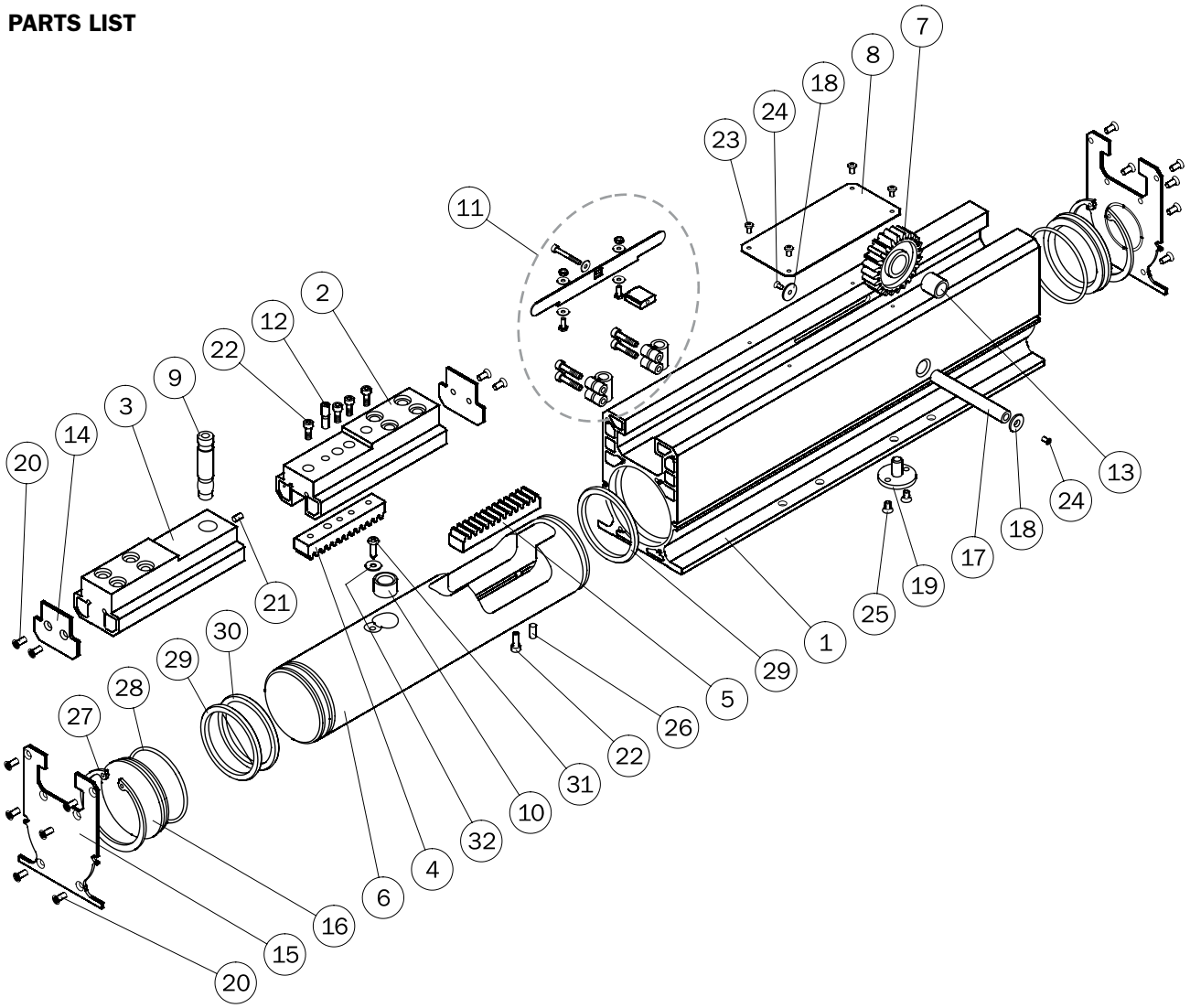
PARTS LIST



		SH6360	SH8080		
1	Gripper body	SH6360-01	SH8080-01		1
2	Piston	SH6360-05	SH8080-05		2
3	Lever	SH6360-03	SH8080-03		3
4	Bushing	SH6360-10	SH8080-10		4
5	Jaw	SH6360-02	SH8080-02		5
6	Cover	SH6360-08	SH8080-08		6
7	End-of-stroke device	SH6360-09	SH8080-09		7
8	Jaw cover	SH6360-11	SH8080-11		8
9	Body 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

SH

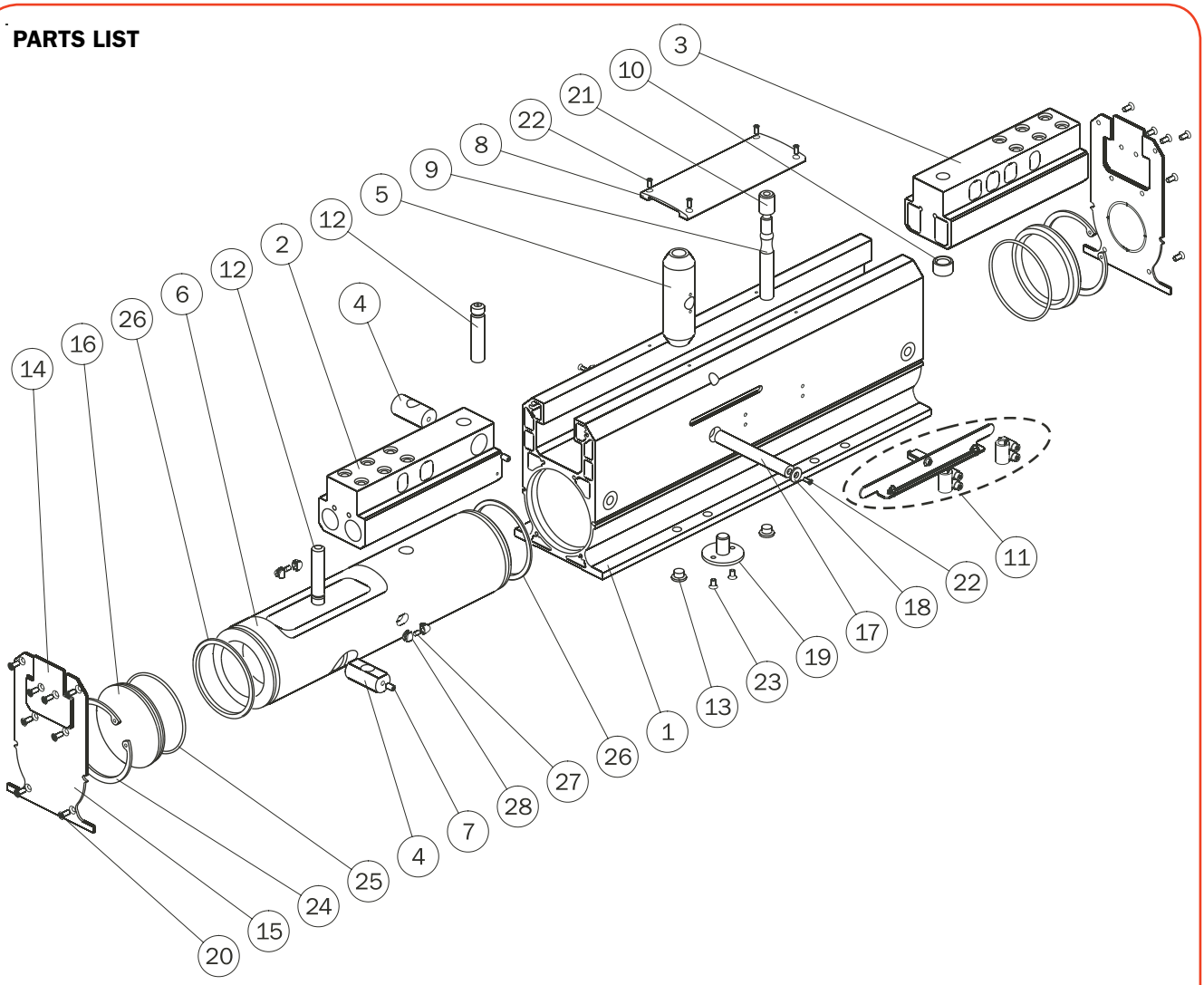
PARTS LIST



		SH63120		
1	Gripper body	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	Cover	SH63120-08F		8
9	Dowel pin	SH63120-09		9
10	Bushing	SH8080-10		10
11	Sensor bracket	SHC002		11
12	Centering pin	SH63120-13		12
13	Bushing	SH63120-14		13
14	Jaw cover	SH6360-11		14
15	Body cover	SH6360-13		15
16	Plug	SH6360-04		16
17	Dowel pin	SH6360-07		17
18	Washer	SH8080-06		18
19	End-of-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

01/2017

PARTS LIST



		SH80150		
1	Gripper body	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 INOXA2)		*7*
8	Cover	SH80150-08		*8*
9	Connection pin	SH8080-21		*9*
10	Bushing	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	Body cover	SH8080-13		*15*
16	Plug	SH8080-04		*16*
17	Balance pivot	SH8080-07		*17*
18	Washer	SH8080-06		*18*
19	End-of-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*