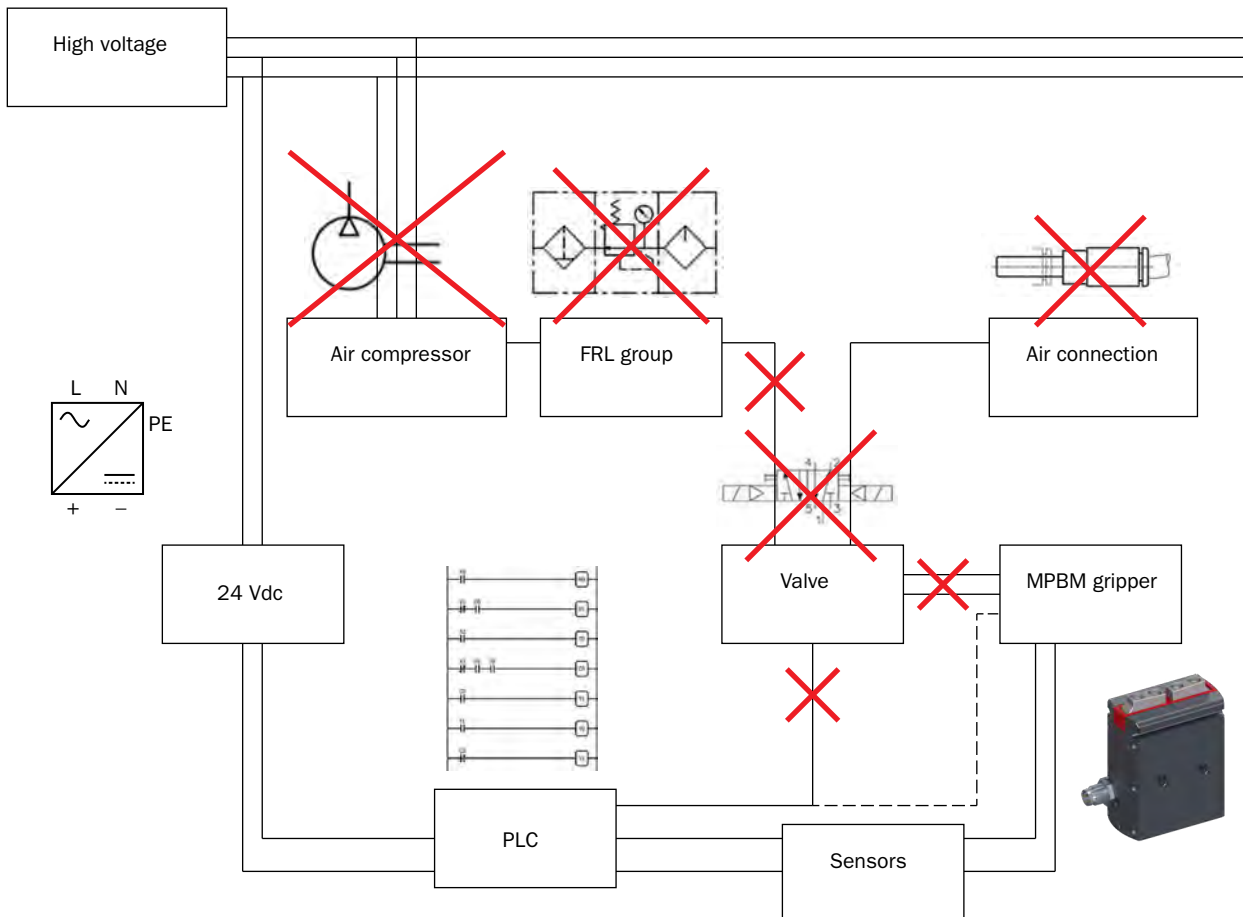


2-jaw angular self-centering electric gripper

- Plug & play user friendly gripper.
- No electricity consumption when gripper is engaged.
- No programming required.
- Gripper retention guaranteed in event of blackout.
- Self Adapting jaws part.
- Long life Brushless motor (Brushless DC).
- Built-in motor driver.
- 24 Vdc Low Voltage Power Supply.
- M8x1, 3 poles standard connection.
- Controllable by PLC as a pneumatic valve.
- Exclusive self-centering system.
- Fiber-carbon gear reduction.
- 10 million cycle maintenance-free.
- Jaws contained within gripper profile.
- Weight-dimensions-force best trade off.
- Rotary actuator fitting compatible.
- Optional magnetic sensors.





	MPBM1640	MPBM2540	MPBM3240
Price	\$889.00	\$954.00	\$1,018.00
Total gripping torque	68 Ncm	151 Ncm	277 Ncm
Stroke	2x23° (±2°)	2x23° (±2°)	2x23° (±2°)
Frequency at an ambient temperature of 86°C	0.93 Hz	0.85 Hz	0.81 Hz
Jaw closing time	0.09 s	0.13 s	0.14 s
Working gripper time	0.18 s	0.31 s	0.25 s
Duty cycle at an ambient temperature of 86°C	34%	53%	41%
Power supply	24 Vdc ±10%	24 Vdc ±10%	24 Vdc ±10%
Peak current	0.9 Apk	1.2 Apk	3.8 Apk
Nominal current	0.3 Arms	0.4 Arms	0.8 Arms
Brushless motor power	6 W	11 W	23 W
Connection	M8 - 3 poles		
Open/closed input signal	PNP open collector		
Repetition accuracy	0.02 mm	0.02 mm	0.02 mm
Operating temperature	41-140°F		
Environmental Degree	IP60	IP60	IP60
Noise level	< 70 dB	< 70 dB	< 70 dB
Mass (motor included)	140 g	315 g	510 g
Maximum inertial load	-	-	-
IPA Clean Room Certification	-	-	-
Reference standards	EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1		
Barycentric moment of inertia	Jxx	0.42 kgcm ²	1.72 kgcm ²
Barycentric moment of inertia	Jyy	0.53 kgcm ²	2.18 kgcm ²
Barycentric moment of inertia	Jzz	0.23 kgcm ²	0.94 kgcm ²
Technology and options	Page 914 - 915		

Gripping force

This electric gripper can be used for either external or internal gripping applications.

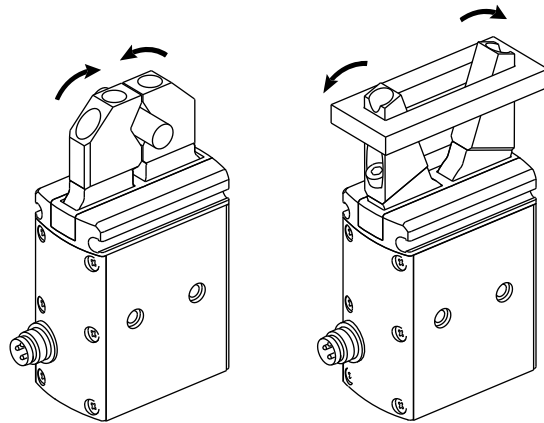
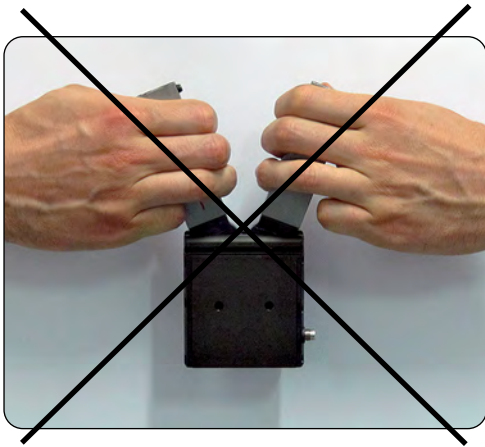
The part will be gripped in any position within the jaw stroke.

After the part is gripped, the spring force will hold the part (motor OFF and ZERO consumption).

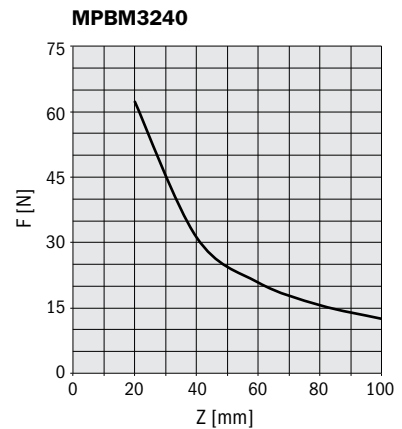
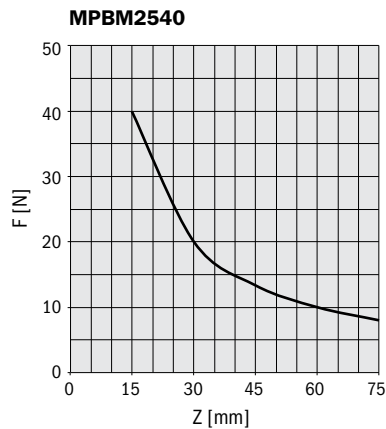
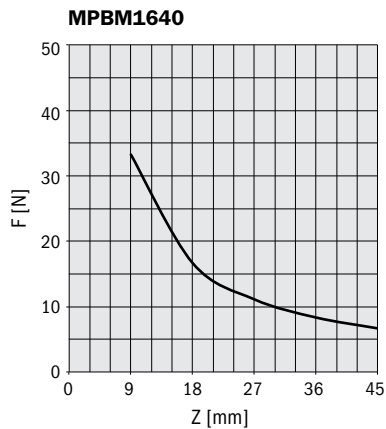
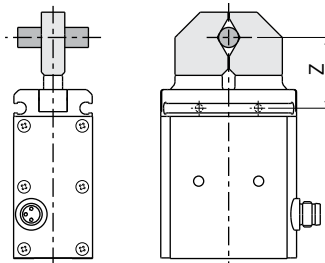
Even in case of power black-out.

Furthermore the gripper mechanism is irreversible, even without power supply.

So do not attempt to open or close the gripper manually.

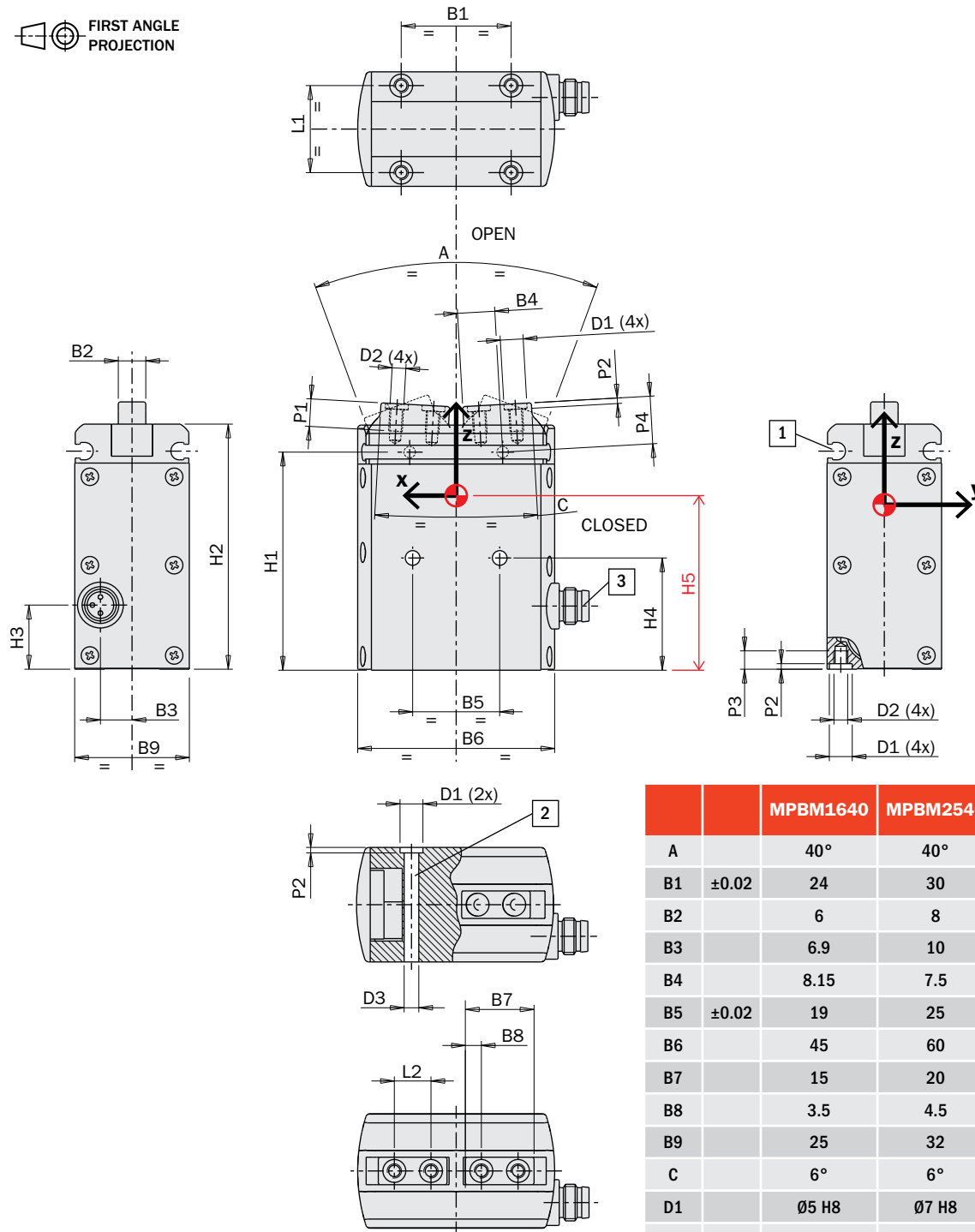


The graphs show the gripping force on each jaw, as a function of the gripping tool length Z .



Dimensions (mm)

FIRST ANGLE PROJECTION



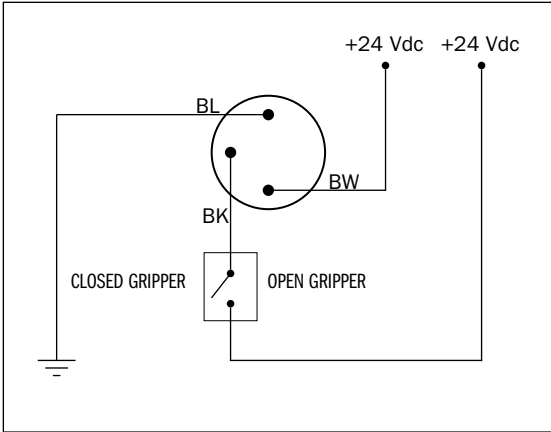
- 1 Magnetic sensor slot
- 2 Through hole for gripper fastening
- 3 Electrical connection

		MPBM1640	MPBM2540	MPBM3240
A		40°	40°	40°
B1	±0.02	24	30	36
B2		6	8	9
B3		6.9	10	11
B4		8.15	7.5	12.25
B5	±0.02	19	25	30
B6		45	60	73
B7		15	20	24
B8		3.5	4.5	5
B9		25	32	35
C		6°	6°	6°
D1		Ø5 H8	Ø7 H8	Ø7 H8
D2		M3	M4	M5
D3		Ø3.2	Ø4.2	Ø5.2
H1		47.6	63	72
H2		53.5	70	80
H3		14	17	19
H4	±0.02	24.5	32	38
H5		32.3	42.5	48.5
L1	±0.02	19	24	26
L2	±0.02	8	11	14
P1		6	8	10
P2	+0.1	1.2	1.5	1.5
P3		4	6	8
P4		10.4	14	16

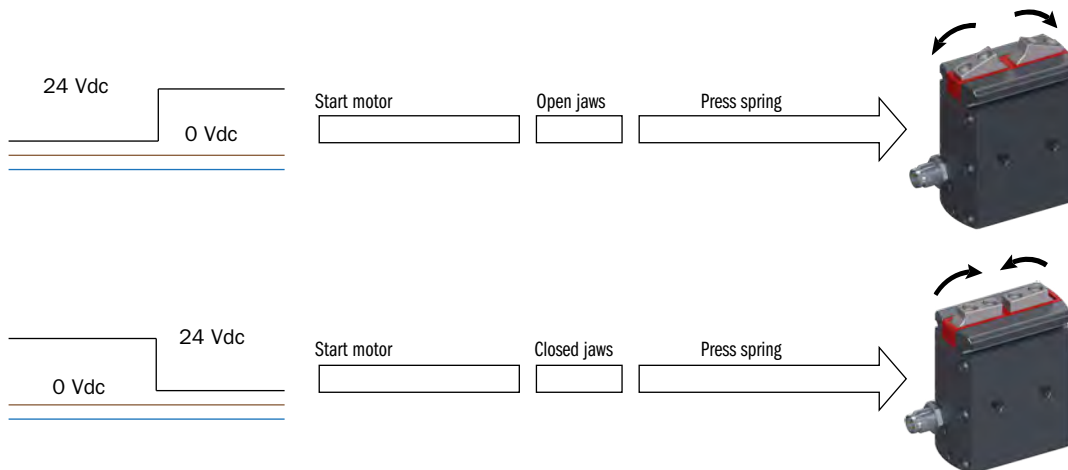
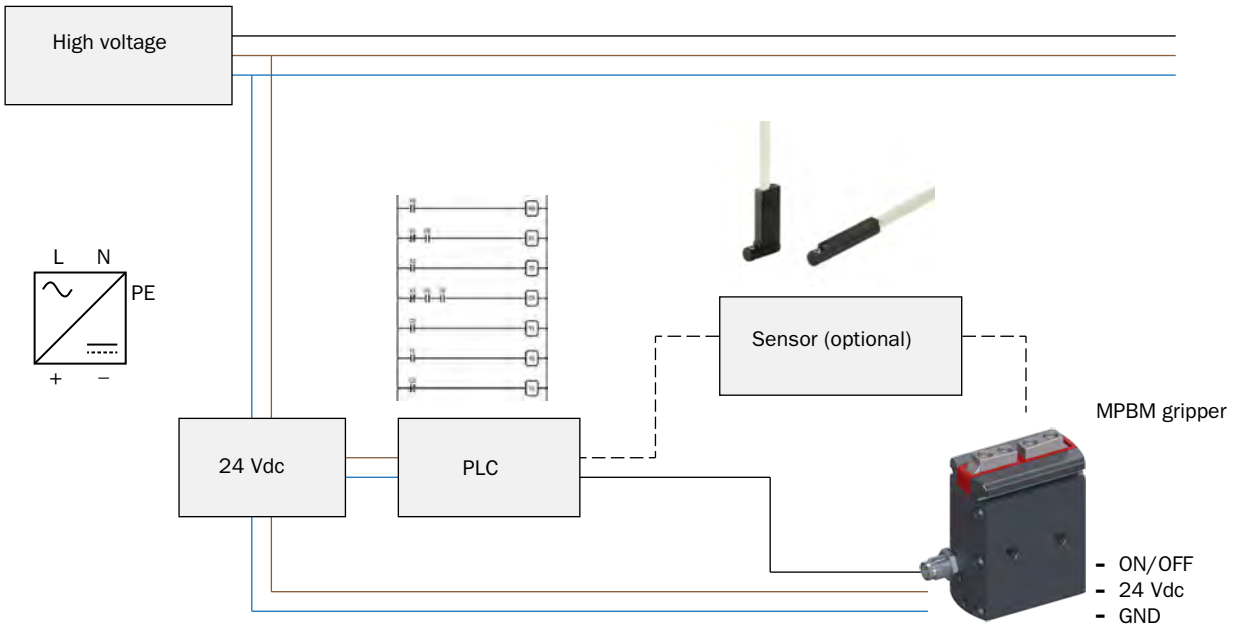
Electrical connection

It is possible to provide the power supply at 24Vdc and the closing/opening signal (ON/OFF) by the M8 standard connector with 3 poles.

No further electronics is necessary to drive the gripper.

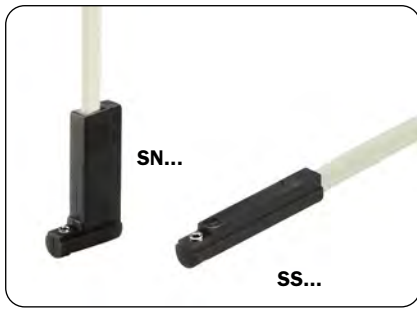


Optional M8x1 standard female connector.
Gimatic code: CFGM800325P / CFGM890325P.



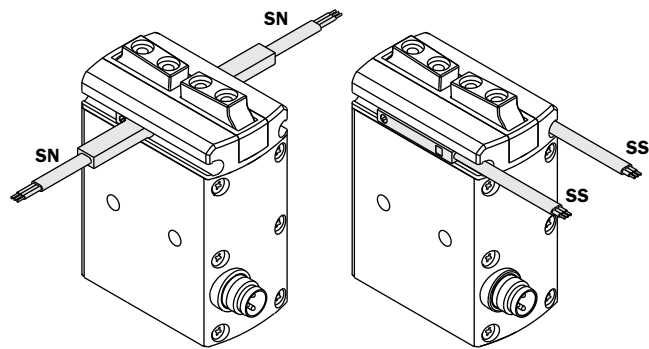
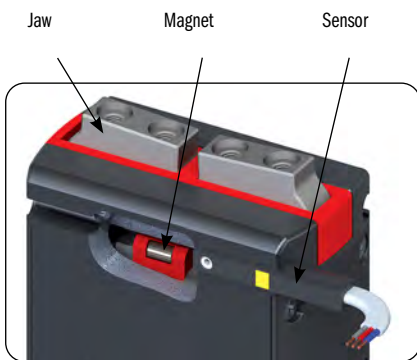
Sensors

The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnets on the jaws inside.



SN4N225G	PNP	2.5m cable	\$26.14
SN4M225G	NPN	2.5m cable	\$26.14
SN3N203G	PNP	M8 connector	\$29.96
SN3M203G	NPN	M8 connector	\$29.96
SS4N225G	PNP	2.5m cable	\$26.14
SS4M225G	NPN	2.5m cable	\$26.14
SS3N203G	PNP	M8 connector	\$29.96
SS3M203G	NPN	M8 connector	\$29.96

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

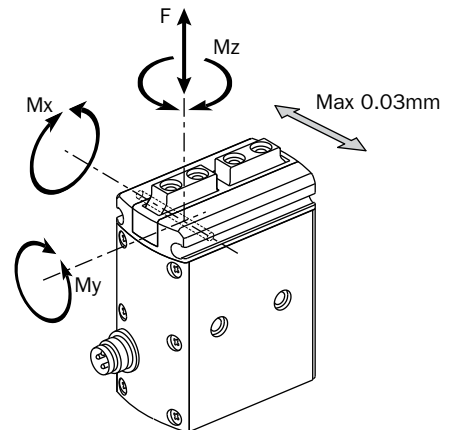


Safety loads and backlashes

Check the table for the maximum permitted loads. Excessive forces or torques can damage the gripper, cause operation problems and endanger the safety of the operator. F_s , $M_x s$, $M_y s$, $M_z s$, are the maximum permitted loads under static conditions, that is with motionless jaws. J is the maximum permitted moment of inertia on each gripping tool.

The picture below shows also the jaw maximum backlash.

	MPBM1640	MPBM2540	MPBM3240
F_s	40 N	80 N	120 N
$M_x s$	0.5 Nm	1 Nm	2.5 Nm
$M_y s$	1 Nm	2 Nm	5 Nm
$M_z s$	1 Nm	2 Nm	5 Nm
J	0.4 kgcm ²	2 kgcm ²	5 kgcm ²



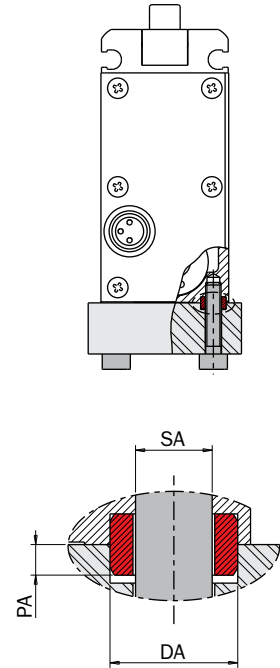
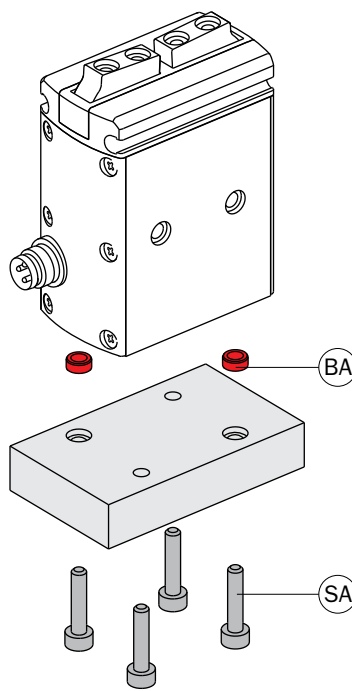
Gripper fastening

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.

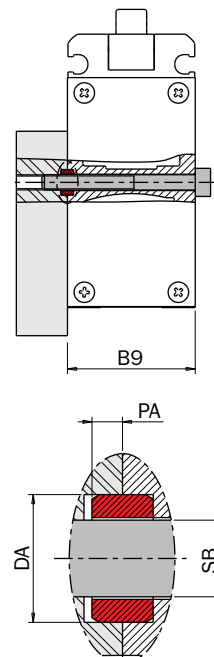
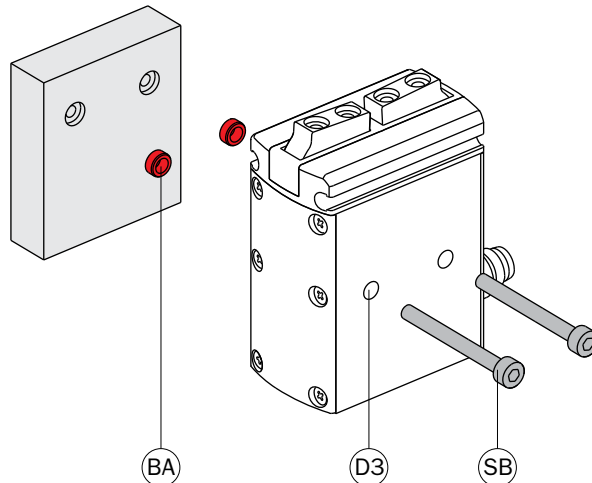
- To fasten gripper to base, use four screws (SA) through the mounting plate, screwed in the gripper.
- To fasten the gripper side, use two screws (SB) in the through holes (D3).

In every case, put the two centering sleeves (BA), which are supplied in the package. Check the dimensions (DA and PA) in the table for their housings in the mounting plate.

	MPBM1640	MPBM2540	MPBM3240
B9	25	32	35
D3	Ø3.2	Ø4.2	Ø5.2
DA	Ø5 h7	Ø7 h7	Ø7 h7
P3	4	6	8
PA	1.2	1.5	1.5
SA	M3	M4	M5
SB	M3	M4	M5

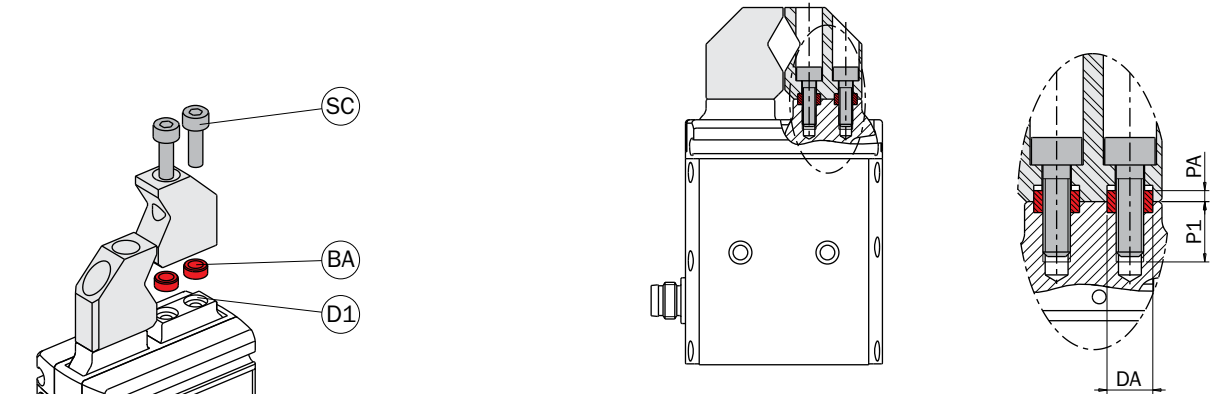


4 centering rings (BA) for the gripping tools and 2 centering sleeves (BA) for the housing are supplied in the packaging.

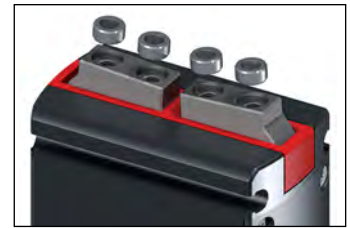


Gripping tool fastening

The gripping tools must be as short and light as possible. They must be fastened by two screws (SC) and two centering sleeves (BA) in the calibrated holes (D1) of the jaws.



	MPBM1640	MPBM2540	MPBM3240
DA	Ø5 h7	Ø7 h7	Ø7 h7
P1	6	8	10
PA	1.2	1.5	1.5
SC	M3	M4	M5



Serie compatibility

MPBM grippers series is perfectly compatible with MRE rotary series actuators without any special plate.

