

2-jaw self centering angular pneumatic gripper (series GW)

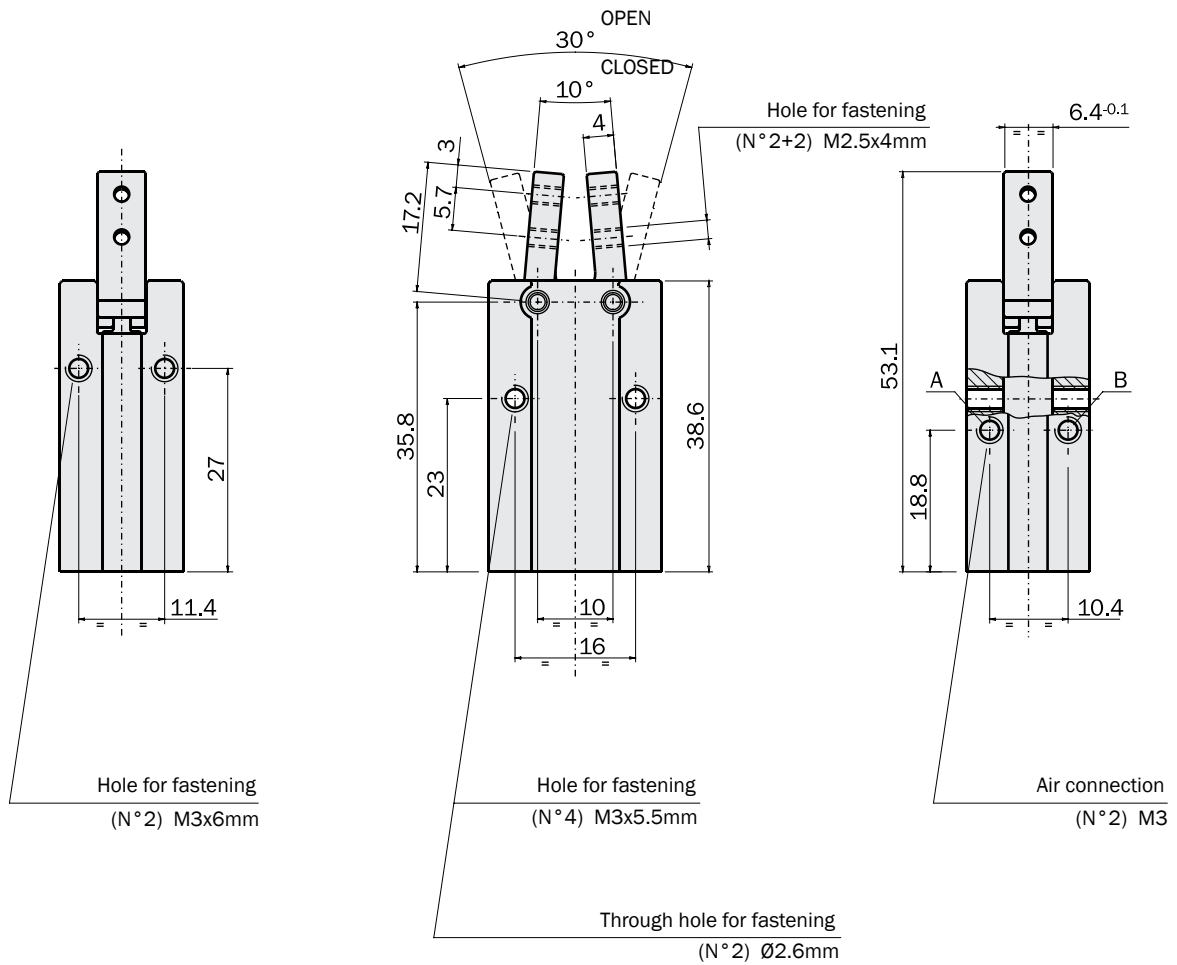
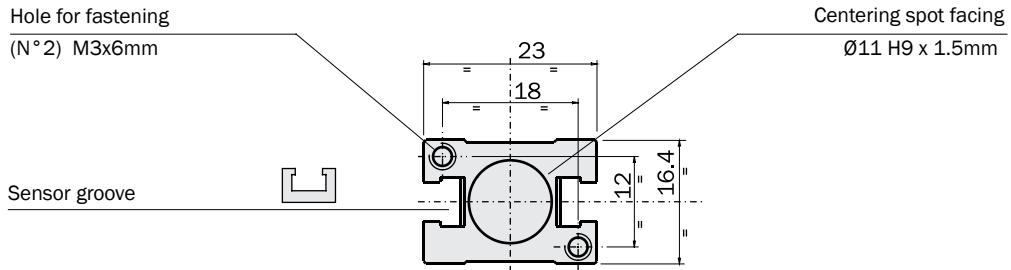
- Double acting.
- Long life and reliability, maintenance free.
- Various options for fastening.
- Optional proximity magnetic sensors.
- Spring closed (-NC) or spring open (-NO) option.
- FDA-H1 food-grade grease.



| | GW-10 | GW-16 | GW-20 | GW-25 |
|-------------------------------------|---|-------------------|-------------------|--------------------|
| Medium | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] | | | |
| Operating pressure range | 2 ÷ 8 bar | | | |
| Operating temperature range | 5° ÷ 60°C. | | | |
| Opening torque at 6 bar on each jaw | 11 Ncm | 45 Ncm | 89 Ncm | 178 Ncm |
| Opening total torque at 6 bar | 22 Ncm | 90 Ncm | 178 Ncm | 356 Ncm |
| Closing torque at 6 bar on each jaw | 8 Ncm | 36 Ncm | 78 Ncm | 160 Ncm |
| Closing total torque at 6 bar | 16 Ncm | 72 Ncm | 156 Ncm | 320 Ncm |
| Stroke | 2x20° | 2x20° | 2x20° | 2x20° |
| Maximum working frequency | 3 Hz | 3 Hz | 2 Hz | 2 Hz |
| Cycle air consumption | 0.7 cm ³ | 3 cm ³ | 6 cm ³ | 11 cm ³ |
| Closing time without load | 0.005 s | 0.005 s | 0.02 s | 0.02 s |
| Repetition accuracy | 0.04° | 0.04° | 0.04° | 0.04° |
| Weight | 39 g | 88 g | 180 g | 300 g |

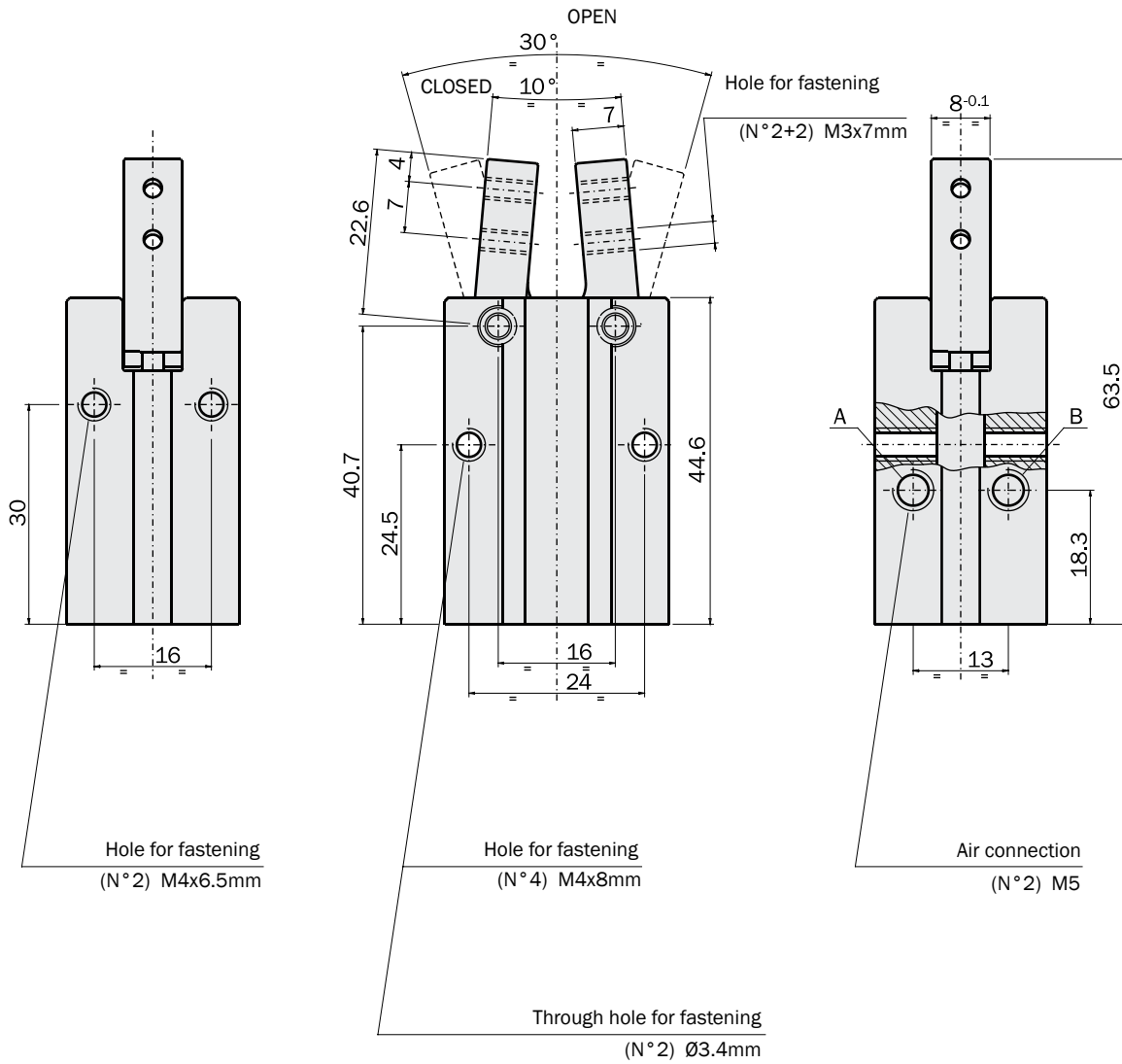
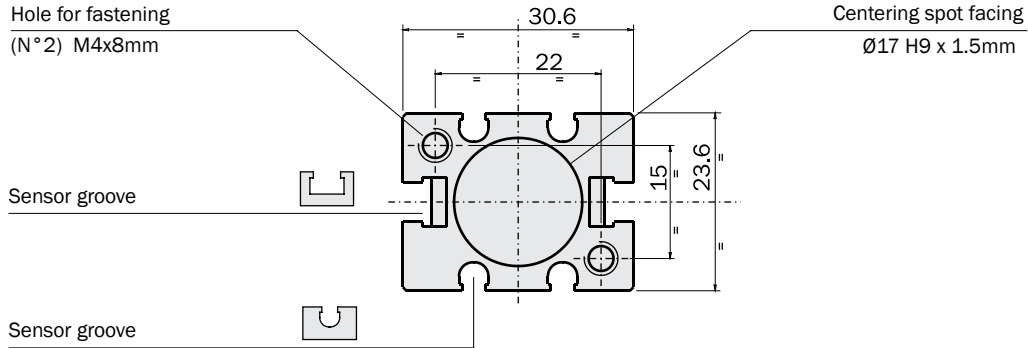
Dimensions (mm)

GW-10



Compressed air in A: gripper opening.
Compressed air in B: gripper closing.





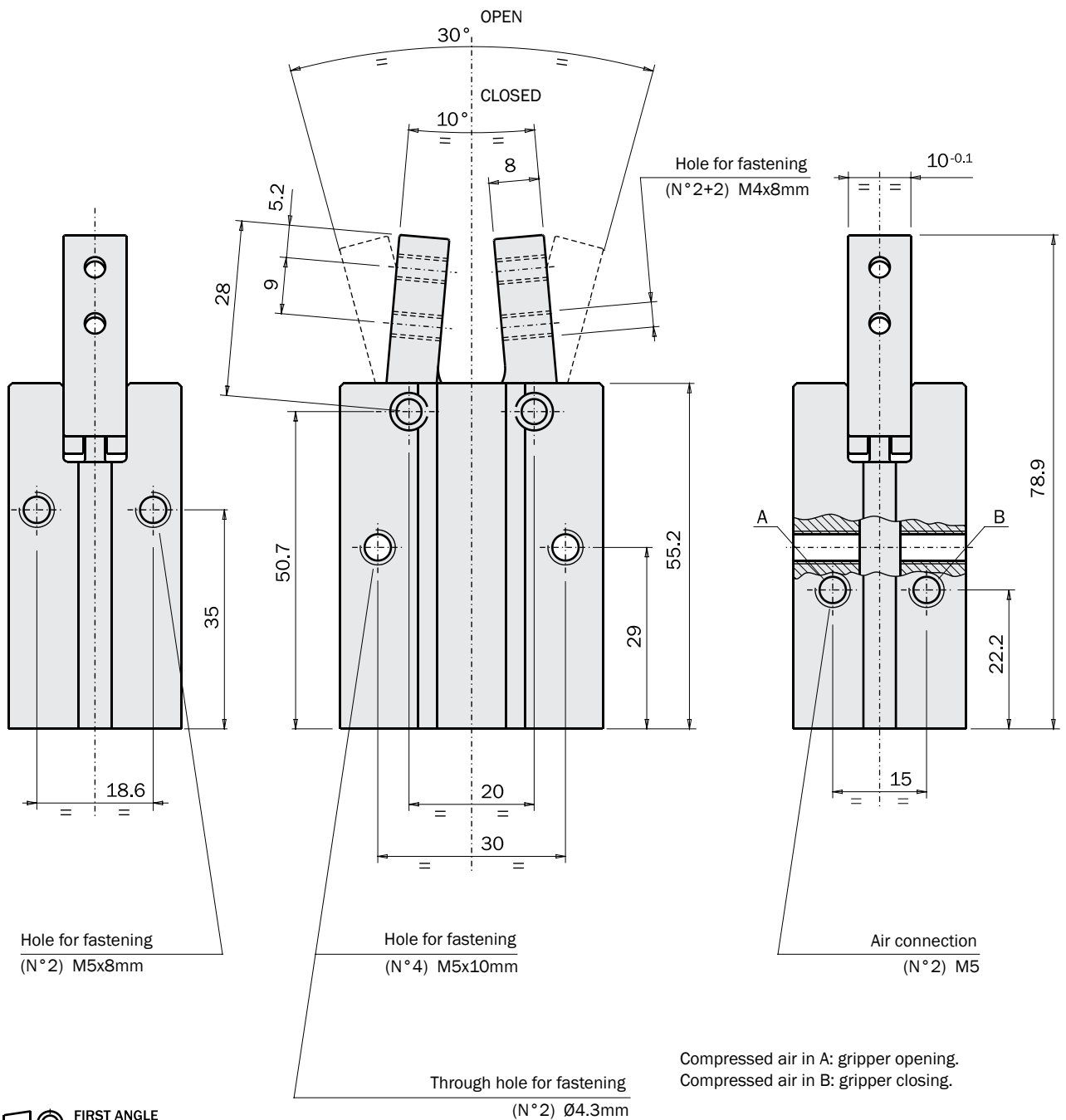
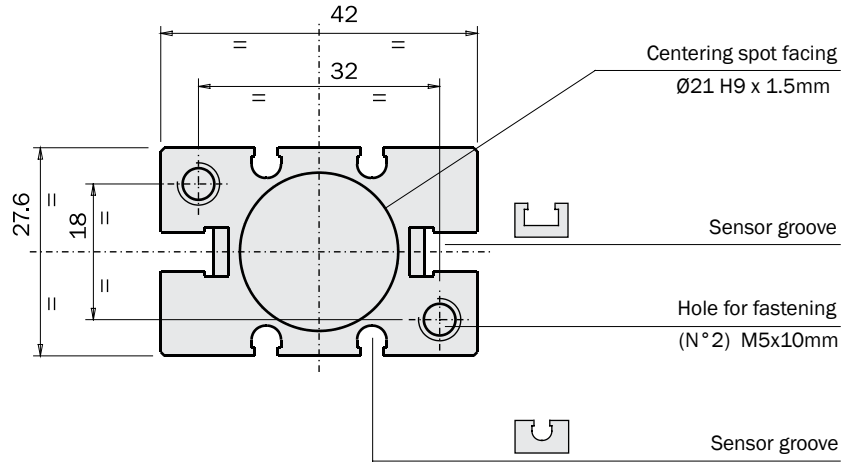
Compressed air in A: gripper opening.
Compressed air in B: gripper closing.



Rotary Units
Quick Changer
Profiles and Brackets
Grippers
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Suspensions
Nippers
Robot Kit
Options
Sensors

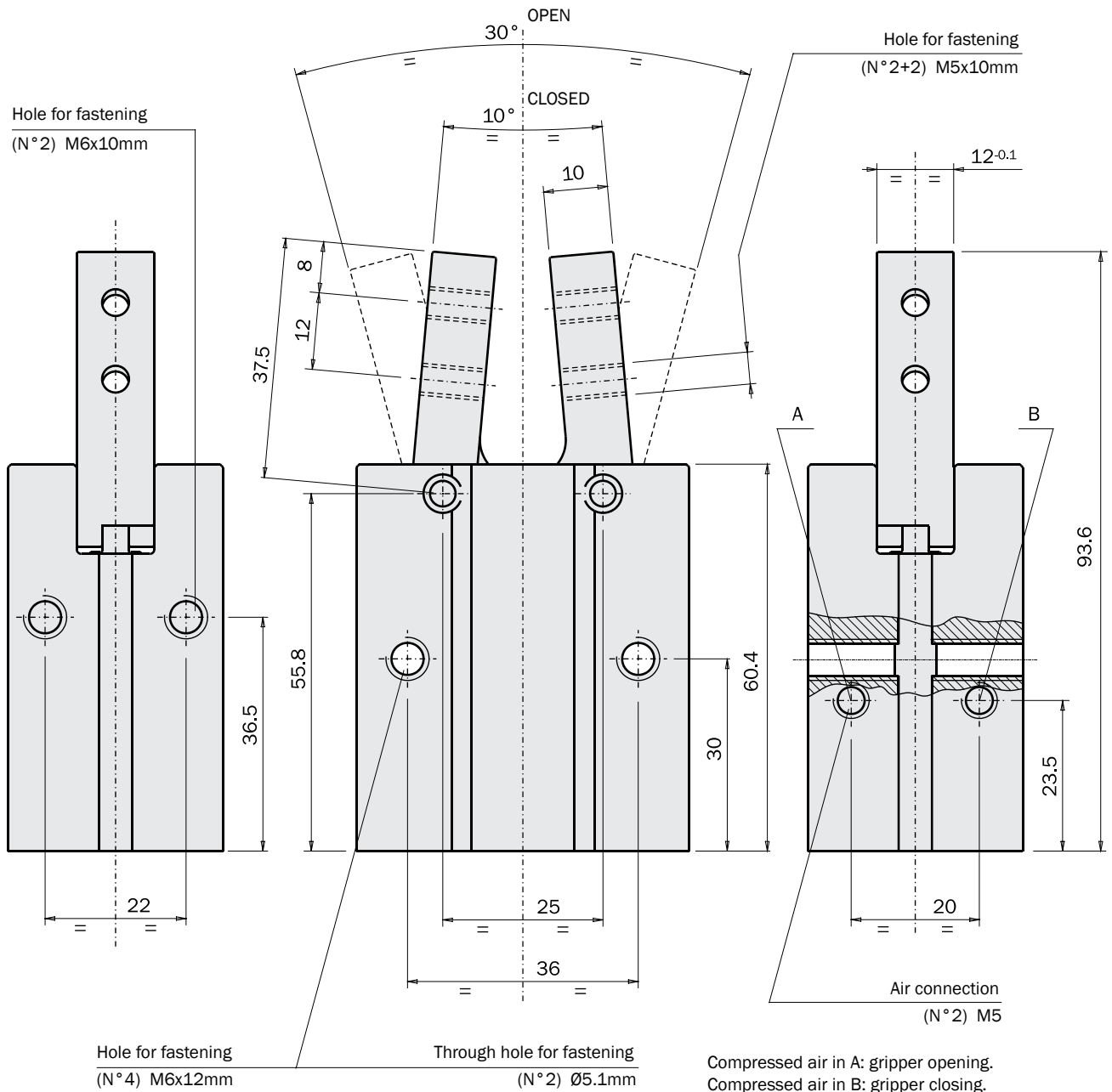
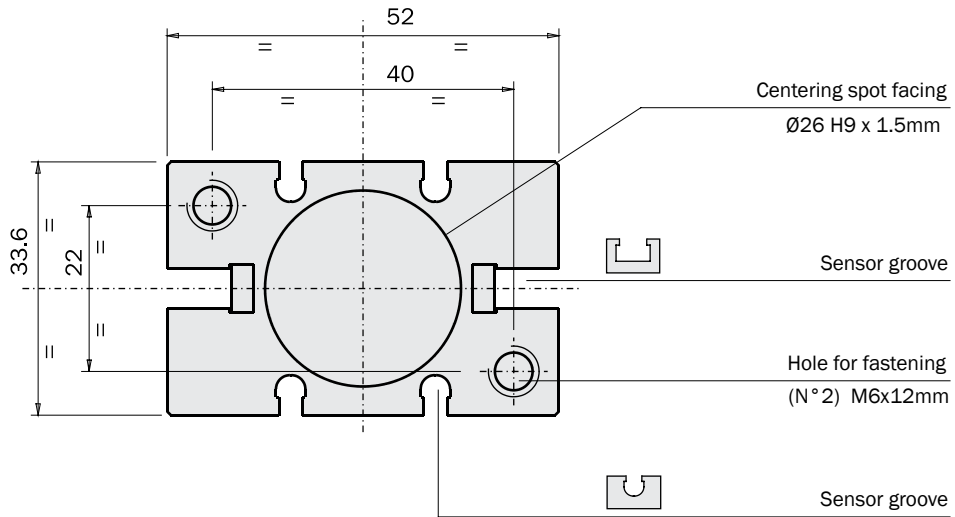
Dimensions (mm)

GW-20



FIRST ANGLE PROJECTION

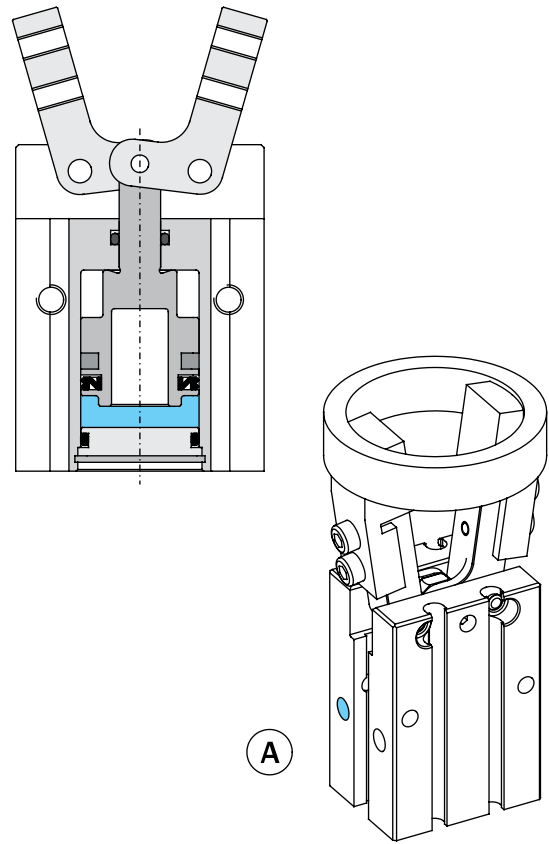
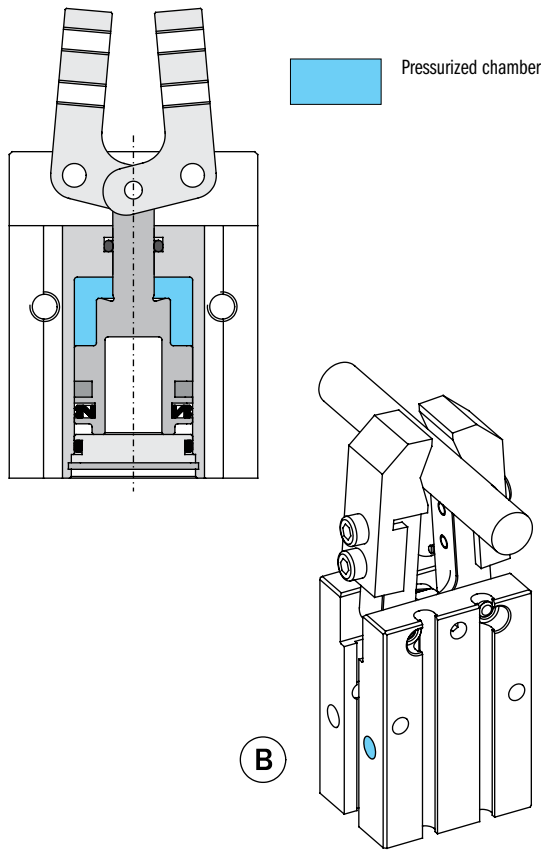
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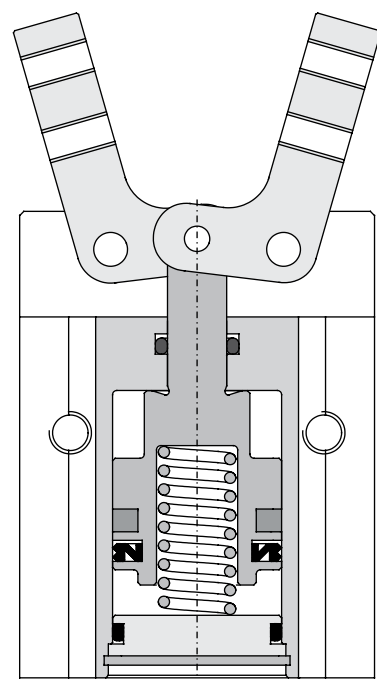
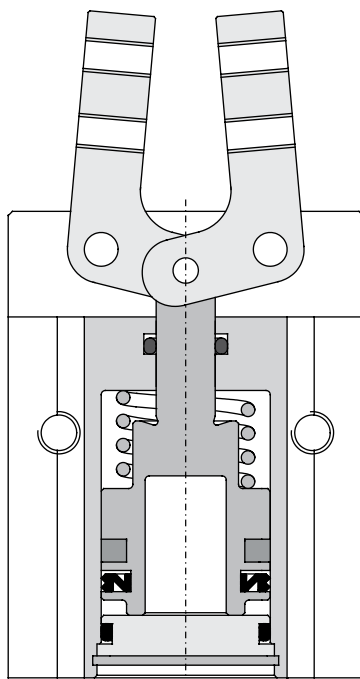
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Gripping

The gripper is double-acting for either internal (A) or external (B) gripping applications. The opening force is higher.



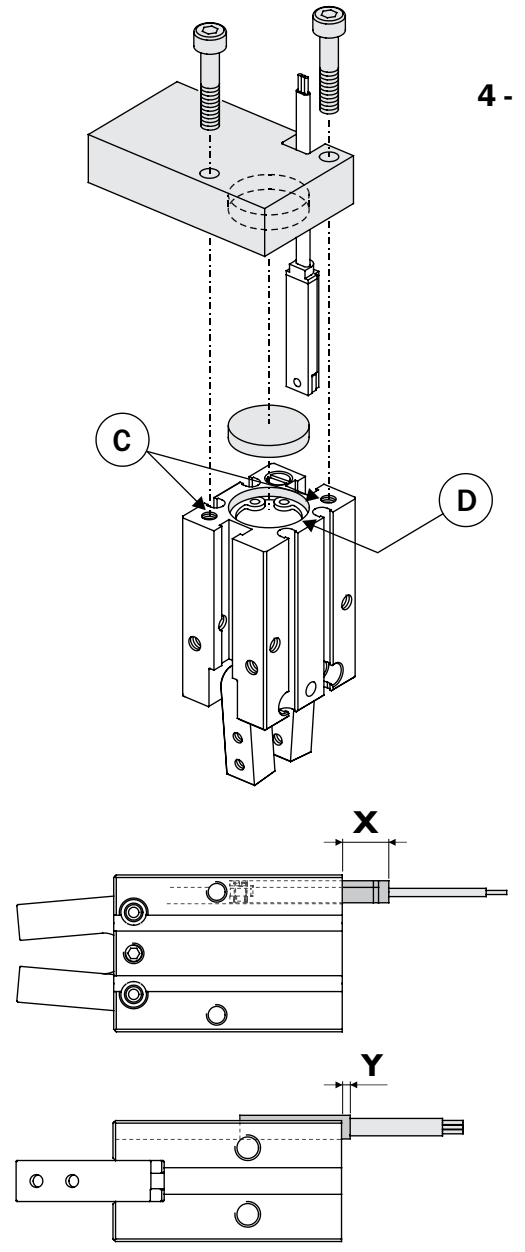
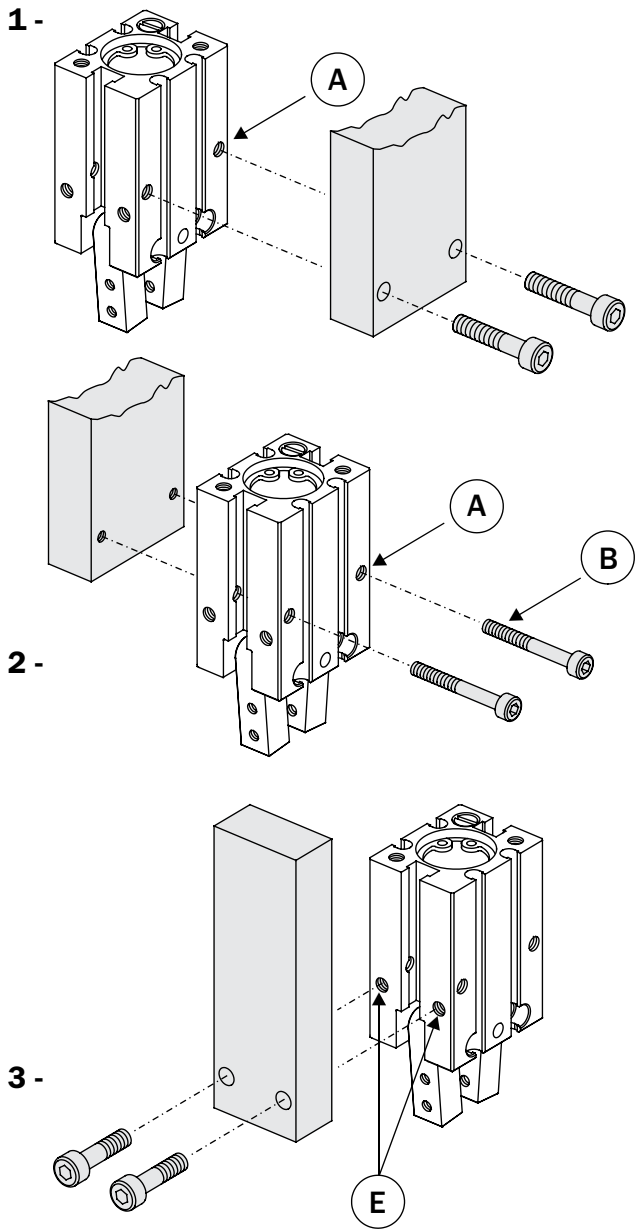
It is also available, on request, with a closing (-NC) or opening (-NO) spring, providing, after a pressure black-out, about one fourth of the output force at 6 bar.



Fastening

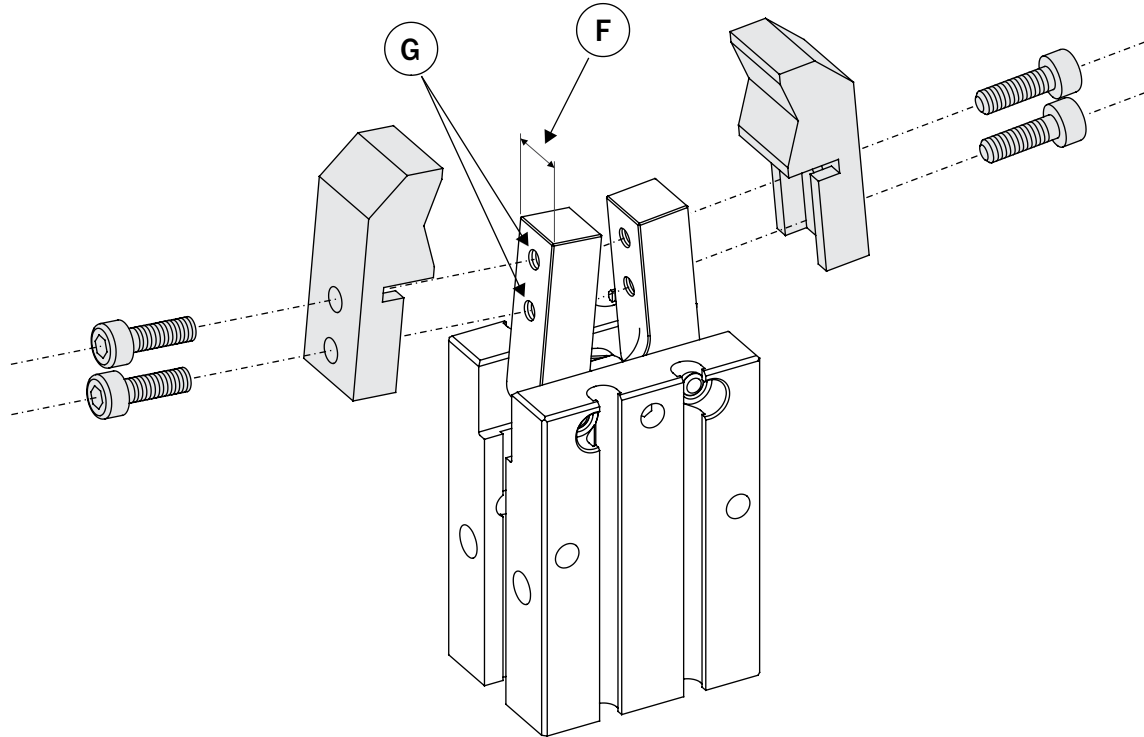
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

- 1 - To fasten the gripper on the wider side, use a plate with two through holes and two screws to be screwed on the threaded holes (A) on the gripper housing.
- 2 - It is possible to fasten the gripper on the wider side also with two screws (B) passing through the threaded holes (A). In this case sensors on the T-slot could be unusable.
- 3 - To fasten the gripper on the narrow side, two screws passing through the holes on the plate, must be screwed into the threaded holes (E) on the gripper housing.
- 4 - The gripper can be fastened on the bottom as well, using two screws passing through the holes on the plate and screwed into the threaded holes (C) on the gripper housing. For the reference use a centering disc in the spot face (D). In this case the necessary room for sensor must be provided (X and Y).



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The gripping tools must be as short and light as possible.
 They must be fastened by two screws in the threaded holes (G).
 For a precise positioning on the jaw use the calibrated dimension (F).

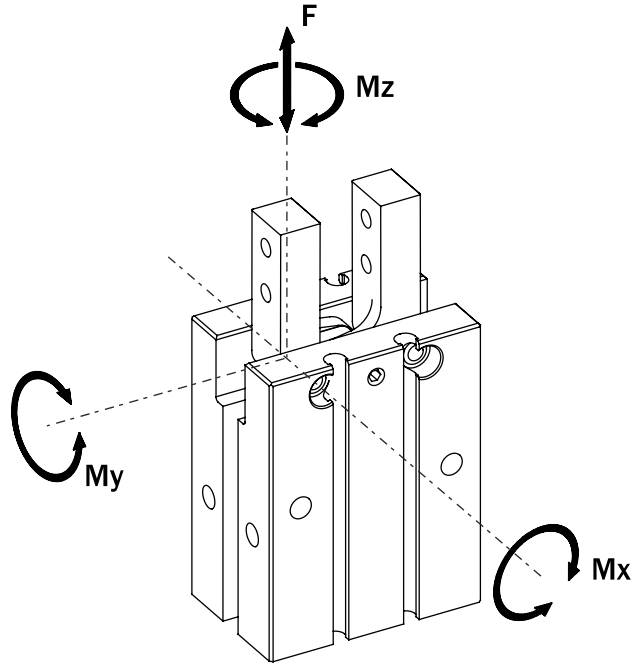


| | GW-10 | GW-16 | GW-20 | GW-25 |
|---|------------------------|----------------------|-----------------------|-----------------------|
| A | M3x5.5 mm | M4x8 mm | M5x10 mm | M6x12 mm |
| B | M2.5x22 mm | M3x30 mm | M4x35 mm | M5x45 mm |
| C | M3x6 mm | M4x8 mm | M5x10 mm | M6x12 mm |
| D | Ø11H9 x 1.5 mm | Ø17H9 x 1.5 mm | Ø21H9 x 1.5 mm | Ø26H9 x 1.5 mm |
| E | M3x6 mm | M4x6.5 mm | M5x8 mm | M6x10 mm |
| F | 6.4 ^{-0.1} mm | 8 ^{-0.1} mm | 10 ^{-0.1} mm | 12 ^{-0.1} mm |
| G | M2.5x4 mm | M3x7 mm | M4x8 mm | M5x10 mm |

| | GW-10 | GW-16 | GW-20 | GW-25 |
|----|-----------------|------------------|------------------|------------------|
| SC | / | X=2 mm | X=0 mm | X=0 mm |
| SL | X=10 mm + cable | X=10 mm + cable | X=10 mm + cable | X=10 mm + cable |
| SN | X=2 mm | X=Y=3 mm | X=Y=3 mm | X=Y=2 mm |
| SS | X=2 mm + cable | X=Y=3 mm + cable | X=Y=3 mm + cable | X=Y=2 mm + cable |

Safety loads

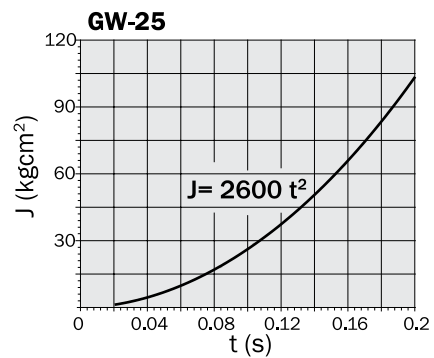
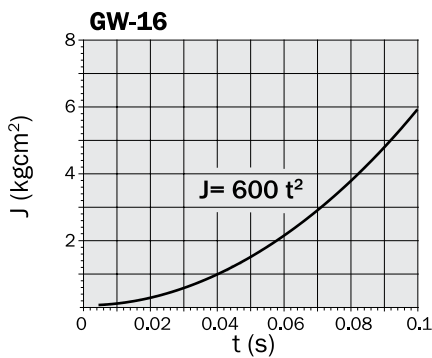
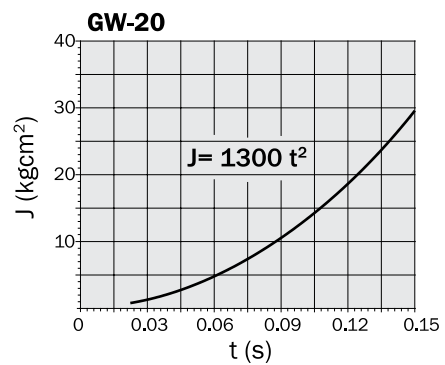
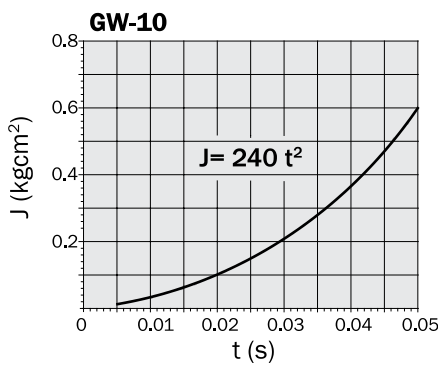
Check the table for maximum permitted loads.
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.
 F, Mx, My, Mz, are maximum permitted static loads.
 Static means with motionless jaws.



| | GW-10 | GW-16 | GW-20 | GW-25 |
|----|--------|--------|--------|--------|
| F | 40 N | 60 N | 100 N | 100 N |
| Mx | 0.4 Nm | 1.2 Nm | 1.5 Nm | 2.2 Nm |
| My | 0.5 Nm | 0.9 Nm | 2.2 Nm | 2.2 Nm |
| Mz | 0.5 Nm | 0.9 Nm | 2.2 Nm | 2.2 Nm |

Speed adjustment

The graphs show the maximum permitted moment of inertia on each gripping tool (J), as a factor of the opening or closing time (t).
 Use flow controllers (not supplied) to get the proper speed.

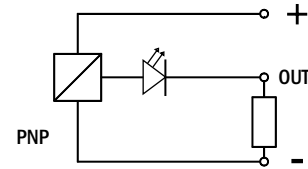


Sensors

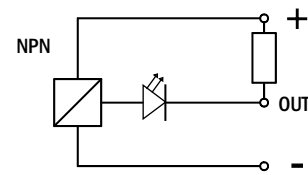
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnet on the piston inside.

Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use sensors:



Magneto-resistive



| | | | | GW-10 | GW-16 | | GW-20 | | GW-25 | |
|----------|-----|------------------------|---------|-------|-------|-------|-------|-------|-------|-------|
| | | | | ⌋ | ⌋ | ⌋ | ⌋ | ⌋ | ⌋ | ⌋ |
| SL4N225G | PNP | 2.5m cable | \$27.20 | ☑ | ☐ | ☑ | ☐ | ☑ | ☐ | ☑ |
| SL4M225G | NPN | 2.5m cable | \$27.20 | ☑ | ☐ | ☑ | ☐ | ☑ | ☐ | ☑ |
| SL3N203G | PNP | M8 snap plug connector | \$31.16 | ☑ | ☐ | ☑ | ☐ | ☑ | ☐ | ☑ |
| SL3M203G | NPN | M8 snap plug connector | \$31.16 | ☑ | ☐ | ☑ | ☐ | ☑ | ☐ | ☑ |
| 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 | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) |
| SS4M225G | NPN | 2.5m cable | \$27.20 | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) |
| SS3N203G | PNP | M8 snap plug connector | \$31.16 | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) |
| SS3M203G | NPN | M8 snap plug connector | \$31.16 | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) | ☑ | ☑ (1) |

(1) Must buy the adapter K-SENS separately.

