



**CATALOG**

**2022**



# How to use this Gimatic from EMI Catalog:

Using this interactive catalog is easy - just like paging through the paper catalog – but with added benefits. Hotlinks in the table of contents and product sections make navigation easy and fast. You can also search by keyword or part number. Bookmark your favorite items, add comments, print, and share pages. Once you find the item you want, click the part number and an e-commerce pop-up will let you login and add items to your cart.



Clicking this logo on the right hand pages directs you back to the front index.

Clicking the side tabs direct you back to that section's index page.

Rotary Units


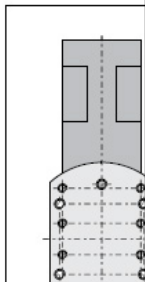
Quick Changer

Profiles and Brackets

## RBT

### Pneumatic tilt units for EOATs, series RBT


- 90° rotation (1).
- Two rubber adjustable end-strokes (2).
- High lifting torque.
- Safety lock (3), except RBT30.
- Optional magnetic sensors.







Pricing for all components that EMI offers are found online. Interactive links have been added that direct you to EMI e-commerce where you can add the item to your cart. Product pages include additional information, 360° views and CAD file downloads.

|                          | GS-10   | GS-16 | GS-20       | GS-25 | GS-32 | GS-40     |
|--------------------------|---|-------|-------------|-------|-------|-----------|
| Medium                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |       |             |       |       |           |
| Operating pressure range | 2.5 ÷ 8 bar   |       | 1.5 ÷ 8 bar |       |       | 1 ÷ 8 bar |

Product Detail



#### 6325 Gimatic Parallel Gripper GS-10

A reliable, maintenance-free gripper with many different options for fastening. GS Grippers feature a patented backlash adjusting system. Great grip force, quality, price, and value! Once you try these grippers, you'll probably standardize on using these for all of your robotic EOAT needs.

Custom 3D printed gripper fingers are available, Contact EOAT Engineering today!

Item #: GS 10  
\$142.00 Each

Quantity:

[Add To Cart](#)

Available: In Stock  
[Technical Specifications](#)  
[Additional Specifications](#)  
[CAD File Download](#)  
[Exploded View & Parts List](#)  
[360 Degree View](#)



## LEADER IN QUALITY AND INNOVATION

Flexibility, skill and technology make Gimatic a cutting-edge company. This is the winning strategy adopted by Gimatic, a strategy that is known and appreciated worldwide. What makes it a competitive business is its continuous desire to grow, as is shown by its constant investment, with part of its annual turnover ploughed back into research and development year-in, year-out, to expand its business all over the world. Gimatic can rely on a well-organised, highly reliable capillary network of distributors and sister companies, which is essential to guaranteeing a continuous flow of new products. It is a sales network that not only markets Gimatic products, but which also collects the user's requests and builds a specific solution for the given need. Gimatic is also synonymous of quality, a characteristic guaranteed by the use of innovative, technologically advanced machinery and close-knit control procedures monitoring both components and finished products.



## End-Of-Arm Tooling

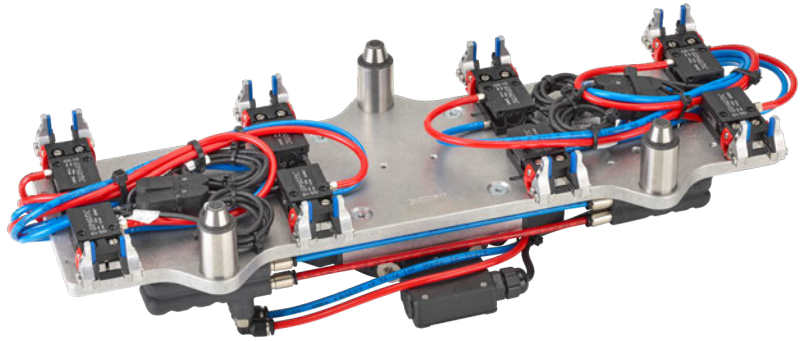
What is an EOAT?

It is the frame (with all the necessary components) mounted on a robot for unloading the hydraulic moulding machine.

Its functions are:

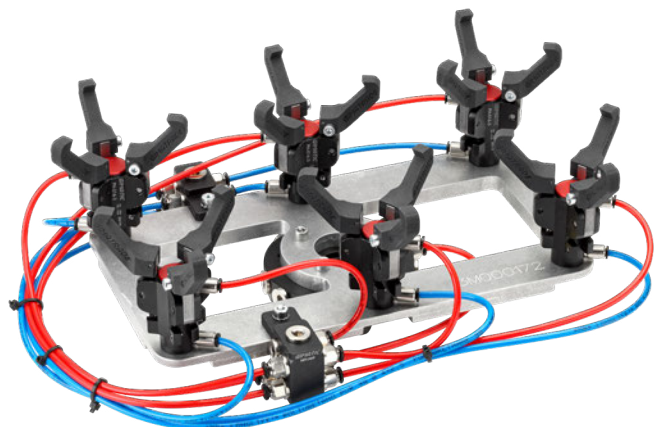
- to extract the piece from the die;
- to grip the piece firmly;
- to cut it from the sprues;
- to grip the sprues after the cut;
- to discharge the sprues into the recycler;
- to place the piece without sprue onto a pallet or conveyor belt.

Handling of injection system components.



Handling of soft silicone covers

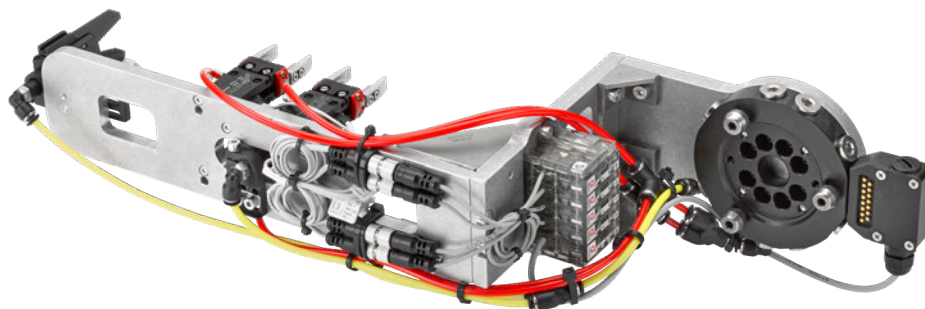
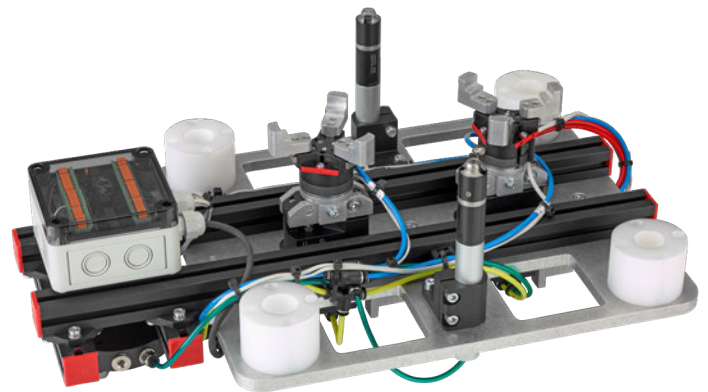
Handling of post-moulded spectacle lenses with PN-016-3 grippers and customised 3D-printed gripper fingers.





Handling of aluminium drawer units: custom solution with VG.CF mark-free suction cups in HNBR, EJ-XPRO vacuum pump with built-in control logic and decentralized pumps for feeding VG.IS suction cups for handling the protection interlayer.

Gripping and loading a copper ring into the mould with a TH three-jaw gripper, on the opposite side of the EOAT for gripping and unloading the co-moulded bearing.



Handling of co-moulded material.  
Gripping and loading plastic components into the mould, handling the finished product after the overmoulding and rubber coating processes.  
Keypad for Automotive control unit

# Our EOATS



## QUICK CHANGER

- > Manual or automatic
- > With or without air control valves
- > Inherently safe



## TILT UNITS

- > The most complete range on the market with capacities from 60g to 60kg



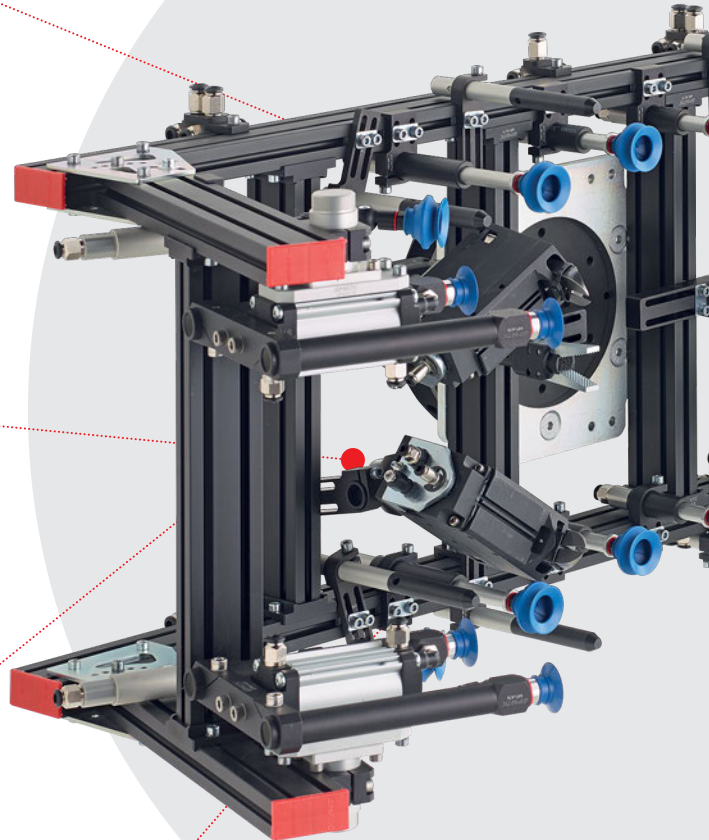
## PROFILES AND BRACKETS

- > High positioning accuracy between profile and bracket
- > High joint rigidity
- > All the degrees of freedom needed to reach each position



## SENSORS

- > Magnetic, inductive, optical, ultrasonic
- > For complete and secure monitoring of all EOAT functions
- > Various sensor boxes to manage the logic of the signals received from the sensors





### **NIPPERS**

- > Scissor or thrust-cut type
- > Integrated sensors
- > Interchangeable blades
- > Integrated heating system



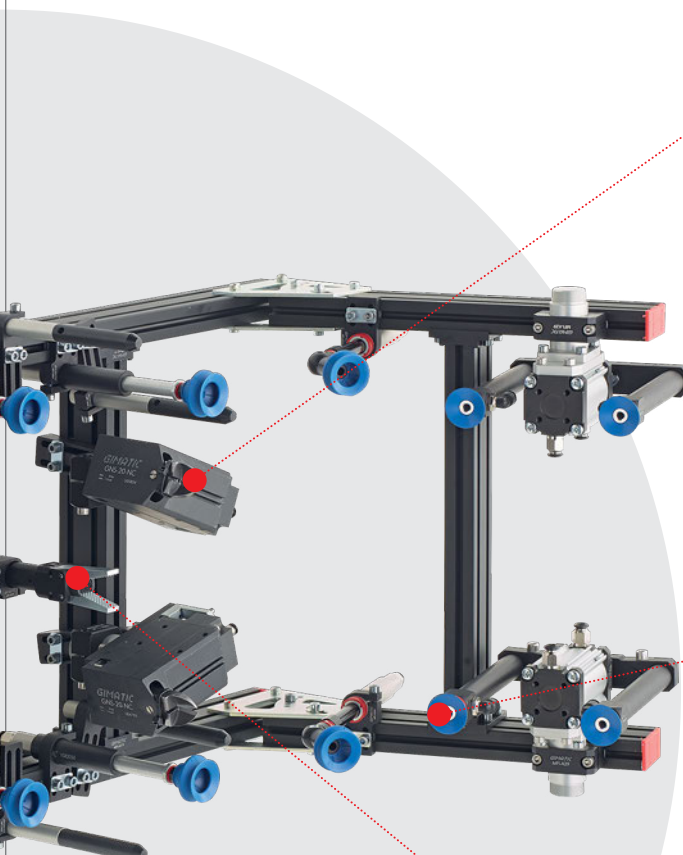
### **SUSPENSIONS AND VACUUM**

- > Lightweight suspensions with integrated, protected spring
- > Lubricant-free
- > Mark-free suction cups
- > Vacuum pumps with blow-off and energy saving




### **GRIPPERS**

- > The widest range in the Plastics market: parallel, angular, 3-jaw, expansion and magnetic grippers
- > Exclusive and patented concepts



**+2.500**  
**EOATS**  
*installed per year*

**awix**<sup>TM</sup>

 A business of BARNES



**Rotary units**



20

**Quick changer**



52

**Profiles and brackets**



116

**Grippers**



200

**Linear actuators**



476

**Suspensions**



518

**Nippers**



552

**Robot-kit**



[Click for Quick Navigation](#)



570

**Options**



582

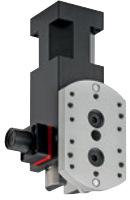
**Sensors**



592

## Rotary units

20



22

### RBT

Tilt units



28

### OFN

Pneumatic tilt unit for small EOATs



30

### RT

Swivelling units



34

### R

Swivelling units



42

### MRE

Electric rotary actuators



48

### ITSC

Rotary indexing tables

## Quick changer

52



54

### QC

Quick changer



95

### SQC

Square quick changer



80

### MCQC

Electrical connection modules for QC



106

### EQC

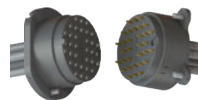
Electric quick changer



90

### QC75

Quick changer for collaborative robots



113

### ECQC

Electrical connection modules for EQC



94

### SQM/SQP

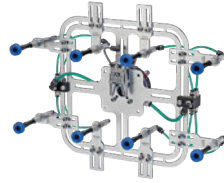
Quick changer with suspension

**Profiles and brackets**

116



118  
**EM**  
Beams



198  
**PLA**  
Plate for EOAT



122  
**MFI**  
Universal mounting clamps



199  
**MCD**  
Mini compensator



184  
**MFP**  
Plastic Fastening Modules



187  
**MFM**  
Metal Fastening Modules

**Grippers**

200



202  
**AGG**  
Gripper for engagement



232  
**BB**  
Non-self-centering sprue grippers in zamak



204  
**AA**  
Self-centering sprue grippers



234  
**DD**  
Self-centering sprue grippers



209  
**DC**  
Sprue gripper



244  
**GW**  
2-jaw radial-acting grippers



210  
**PB**  
Non-self-centering sprue grippers



254  
**PN**  
2-jaw & 3-jaw radial-acting grippers



260  
**TFA**  
2-jaw radial-acting grippers



326  
**MGX**  
2-jaw parallel grippers



264  
**MPBM**  
2-jaw angular electric grippers



330  
**MG**  
2-jaw parallel grippers



268  
**PS**  
2-jaw radial-acting grippers



336  
**GM**  
2-jaw parallel grippers



270  
**PS-P**  
2-jaw radial-acting grippers



342  
**SX**  
2-jaw parallel grippers



274  
**GX-S**  
2-jaw radial-acting grippers



348  
**PE**  
2-jaw parallel grippers



280  
**PT**  
Needle gripper



356  
**DH**  
2-jaw parallel grippers



284  
**SGP-S**  
2-jaw parallel grippers



370  
**SP**  
2-jaw parallel grippers



296  
**GS**  
2-jaw parallel grippers



376  
**JP**  
2-jaw parallel grippers



310  
**SZ**  
2-jaw parallel grippers



378  
**HS**  
2-jaw parallel grippers



318  
**PQ**  
2-jaw parallel grippers



382  
**X**  
Self-centering pneumatic grippers



388  
**MPPM**  
2-jaw parallel electric grippers



392  
**KIT-GMP-G**  
Cleanroom gripping solution



396  
**MPXM**  
2-jaw parallel electric grippers



400  
**MPLM**  
2-jaw parallel electric grippers



404  
**KIT-GMPLM3240**  
Cleanroom gripping solution



408  
**TGP**  
3-jaw self-centring pneumatic gripper



410  
**T**  
3-jaw self-centering grippers



412  
**TH**  
3-jaw self-centering grippers



432  
**SXT**  
3-jaw self-centering grippers



440  
**MPTM**  
3-jaw self-centering electric grippers



444  
**MFD / MFU**  
Air Hands



451  
**IFU**  
ID expansion micro grippers



452  
**OFD**  
One finger elastic module



454  
**OF**  
Grippers for clamping



466  
**OFP**  
Angular grippers for clamping with finger in polymer



470  
**OFX**  
Perpendicular grippers for clamping



472  
**MAG**  
Magnetic gripper



478  
**OFL**  
*Short stroke cylinder*



500  
**Z**  
*Slides*



480  
**OFB**  
*Guided cylinder*



510  
**ZJ**  
*Double stroke slide*



484  
**OFC**  
*Mini cylinders*



512  
**ZG**  
*Slides for GN pneumatic nippers*



490  
**ZL**  
*Pneumatic slides for the EOATs*



514  
**VAQ**  
*Vacuum actuator*



496  
**ZE-P**  
*Slides*

Suspensions



520  
**VS-INTRO**  
*Vacuum cup suspensions*



523  
**VSC**  
*Threaded-body non-rotative telescopic suspensions*



522  
**VSL**  
*Smooth-body non-rotative telescopic suspensions*



524  
**VSR**  
*Smooth-body rotative suspensions*

- |   |   |  |   |
|---|---|--|---|
|    | <p>525<br/><b>VSRT</b><br/><i>Threaded-body rotative suspensions</i></p>                              |   | <p>536<br/><b>VSNF</b><br/><i>Non-rotative suspensions, with smooth body and brake</i></p>    |
|    | <p>526<br/><b>VSE</b><br/><i>Smooth-body non-rotative suspensions with integral elbow arms</i></p>    |    | <p>537<br/><b>VSNTF</b><br/><i>Non-rotative suspensions, with threaded body and brake</i></p> |
|    | <p>527<br/><b>VSET</b><br/><i>Threaded-body non-rotative suspensions with integral elbow arms</i></p> |   | <p>538<br/><b>VSRF</b><br/><i>Rotative suspensions, with smooth body and brake</i></p>        |
|    | <p>528<br/><b>VVX</b><br/><i>Non-rotative heavy duty stainless suspensions</i></p>                    |    | <p>539<br/><b>VSRTF</b><br/><i>Rotative suspensions, with threaded body and brake</i></p>     |
|   | <p>529<br/><b>VSRTG</b><br/><i>Rotative stainless suspensions with threaded body</i></p>              |   | <p>540<br/><b>VAB</b><br/><i>Ball joint</i></p>   |
|  | <p>530<br/><b>VSNG</b><br/><i>Smooth-body non-rotative telescopic suspensions</i></p>                 |  | <p>542<br/><b>AF</b><br/><i>Threaded nipples</i></p>  |
|  | <p>531<br/><b>VSNTG</b><br/><i>Threaded-body non-rotative suspensions</i></p>                         |  | <p>544<br/><b>VAM</b><br/><i>Elbow arms</i></p>   |
|  | <p>532<br/><b>VSS</b><br/><i>Telescopic self-retracting suspensions</i></p>                           |  | <p>545<br/><b>VAC</b><br/><i>Elbow arms</i></p>   |
|  | <p>533<br/><b>VSD</b><br/><i>Non-rotative suspensions with smooth-body and adjustable clamp</i></p>   |  | <p>546<br/><b>VSX</b><br/><i>Spring rod</i></p>   |
|  | <p>534<br/><b>VSF-INTRO</b><br/><i>Vacuum suspensions and ball joints with brake</i></p>              |  | <p>548<br/><b>VMK</b><br/><i>Universal suspensions</i></p>                                    |



554  
**GNB**  
*Blade holder*



564  
**GN**  
*Air nipper actuators*



555  
**CH102**  
*Temperature regulator*



566  
**G.N**  
*Blades for GN pneumatic nippers*



556  
**GN-**  
*Thrust Cut Nippers*



569  
**JG**  
*Fingers for GN pneumatic nippers*



558  
**GNS**  
*Air nipper actuators*



572  
**KIT-UR-G**  
*2-jaw electric gripper with plastic cover and capacitor box (kit for UR robot)*



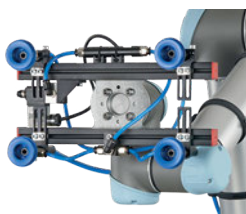
575  
**KIT-UR-EQC20**  
*Electric tool changer with electric connector (kit for UR robots)*



573  
**KIT-UR-J**  
*Parallelogram electric gripper with built-in capacitor box (kit for UR robot)*



576  
**KIT-UR-QC**  
*Manual quick changer with electric connector (kit for UR robot)*



574  
**KIT-UR-V**  
*End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for UR robot)*



577  
**KIT-UR-QC75**  
*Manual quick changer with electric connector (kit for UR robot)*

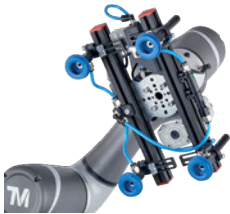




**578**  
**KIT-TM-J**  
 Parallelogram electric gripper with built-in capacitor box (kit for TM robot)



**580**  
**KIT-TM-QC75**  
 Manual quick changer with electric connector (kit for TM robot)



**579**  
**KIT-TM-V**  
 End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for TM robot)



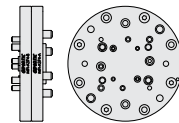
**581**  
**KIT-TM-EQC20**  
 End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for TM robot)

**Options**

582



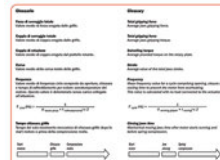
**584**  
**VITE**  
 Nuts



**590**  
**A-MECHA**  
 Accessories



**586**  
**CAP BOX**  
 Accessories



**591**  
**GLO**  
 Glossary



**588**  
**MECHA**  
 Technology and options



594  
**SENSORS-INTRO**



598  
**SS-G**  
Magnetic sensors for C slots with axial cable output



600  
**SN-G**  
Magnetic sensors for C slots with angular cable output



602  
**SSY-G**  
Magnetic sensors for C slots with low hysteresis



604  
**SSQ-G**  
Magnetic sensors for C-slots with very low hysteresis



606  
**PRO-SS-G**  
Programmable magnetic sensors with axial cable output



608  
**PRO-SN-G**  
Programmable magnetic sensors with angular cable output



610  
**PRO-SN-HS**  
Programmable magnetic sensors for SGP-S grippers



612  
**PRO-SSR**  
Programmable magnetic sensors



614  
**SL-G**  
Magnetic sensors for T slots with axial insertion



616  
**CB-G**  
Magnetic sensors for dovetail slots



618  
**SM-G**  
Magnetic sensors with tie-rods



620  
**SM-G-IP68**  
IP68 magnetic sensors with tie-rods



622  
**SI**  
Inductive sensors



624  
**SOQ**  
Photo sensors



626  
**SR-G**  
Touch sensors



628  
**SB**  
Sensor box



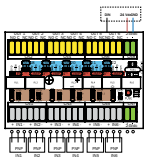
648  
**K**  
Slot adapters



636  
**SBM**  
Modular sensor box



649  
**SWP**  
Mounting clamps for microcylinders

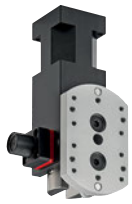


640  
**SB-APPLICATION EXAMPLE**  
Sensor boxes - application examples



650  
**CF**  
Electrical connectors

666  
General conditions of sale



**RBT**  
*Tilt units*



**R**  
*Swivelling units*



**OFN**  
*Pneumatic tilt unit for small EOATs*



**MRE**  
*Electric rotary actuators*



**RT**  
*Swivelling units*



**ITSC**  
*Rotary indexing tables*



**Click for Quick Navigation**



A business of BARNES

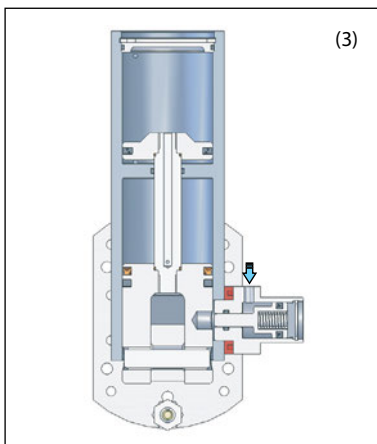
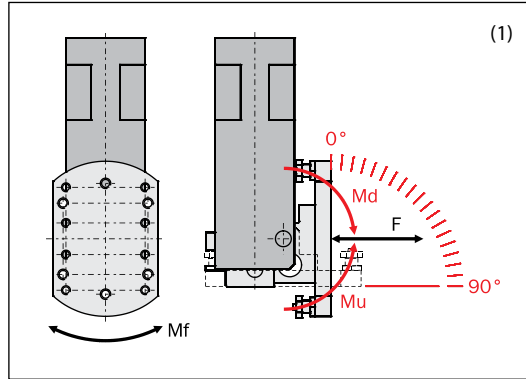
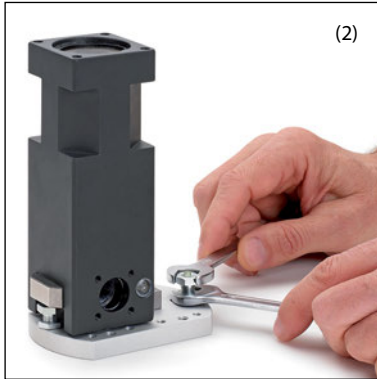
**ROTARY UNITS**

---



## Pneumatic tilt units for EOATs, series RBT

- 90° rotation (1).
- Two rubber adjustable end-strokes (2).
- High lifting torque.
- Safety lock (3), except RBT30.
- Optional magnetic sensors.



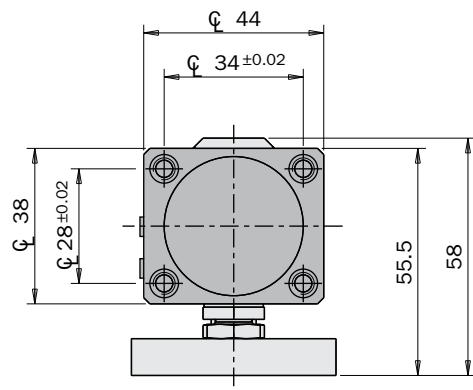
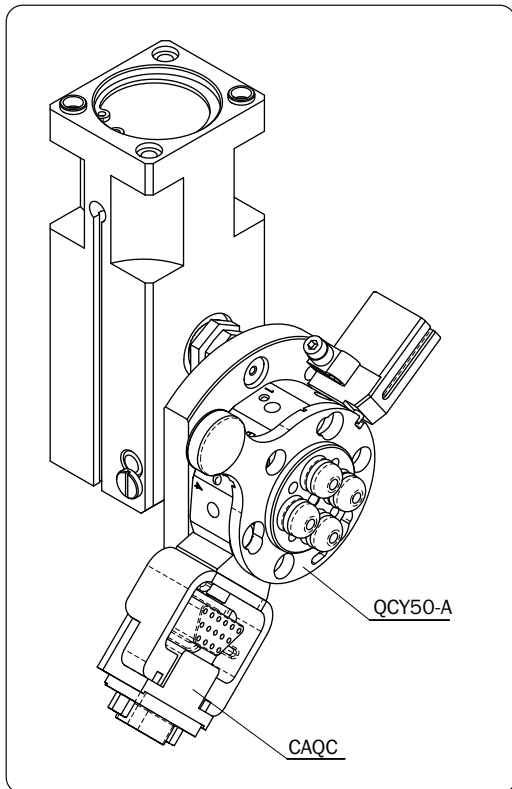
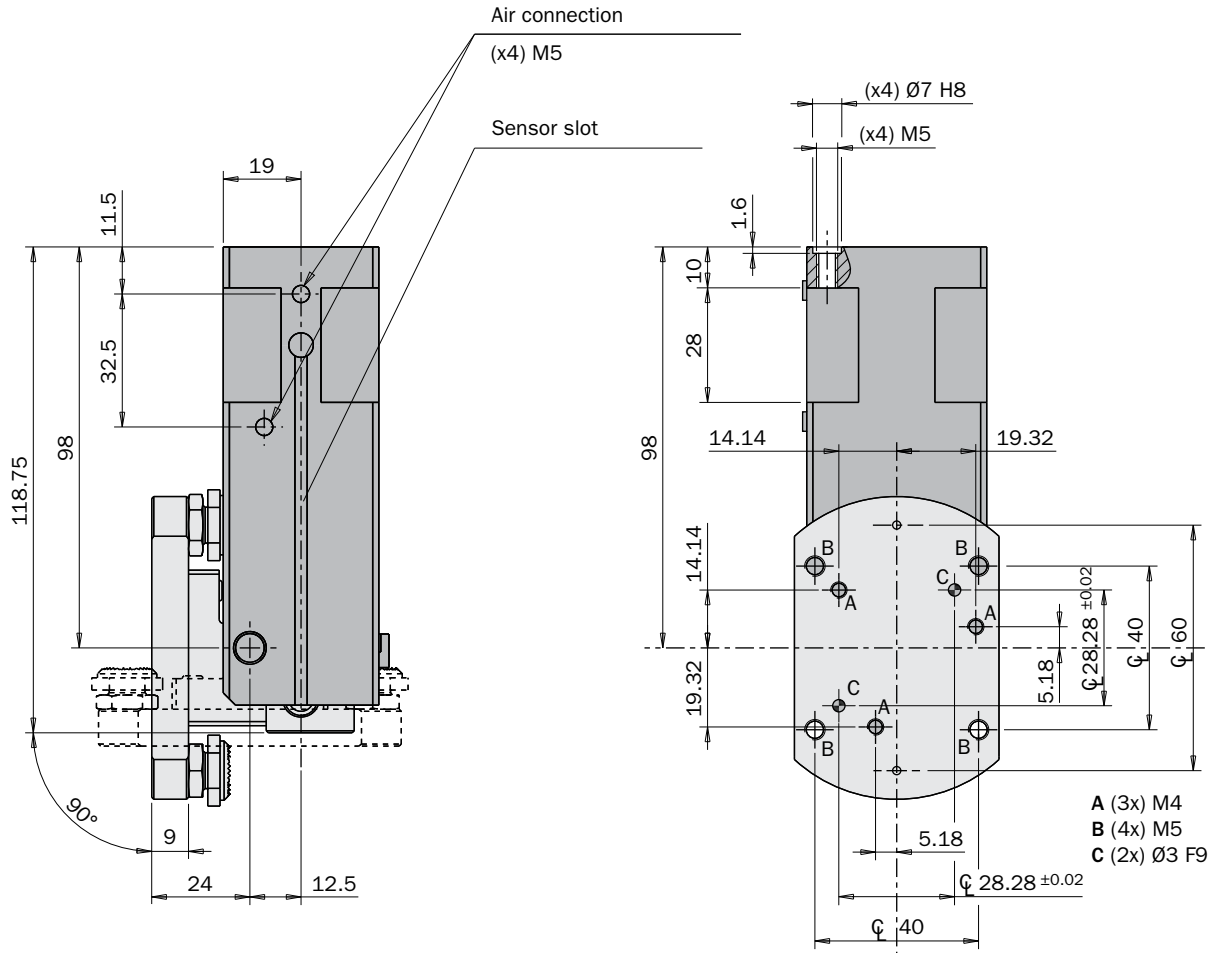
|                               | RBT30   | RBT40               | RBT50               | RBT63               | RBT80               |
|-------------------------------|---|---------------------|---------------------|---------------------|---------------------|
| Medium                        | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |                     |                     |
| Pressure range                | 2 ÷ 8 bar   |                     |                     |                     |                     |
| Unlock pressure               | -   | > 3.5 bar           |                     |                     |                     |
| Temperature range             | 5 ÷ 60 °C.  |                     |                     |                     |                     |
| Tilt angle                    | 90°   |                     |                     |                     |                     |
| End stroke adjustment         | ± 2°  |                     |                     |                     |                     |
| Cycle air consumption         | 56 cm <sup>3</sup>  | 142 cm <sup>3</sup> | 266 cm <sup>3</sup> | 462 cm <sup>3</sup> | 983 cm <sup>3</sup> |
| Lift torque at 6 bar (90° 0°) | > 9 Nm  | > 24 Nm             | > 45 Nm             | > 78 Nm             | > 174 Nm            |
| Drop torque at 6 bar (0° 90°) | > 4 Nm  | > 11 Nm             | > 22 Nm             | > 42 Nm             | > 84 Nm             |
| Allowed load                  | 50 N  | 100 N               | 200 N               | 300 N               | 600 N               |
| Allowed moment                | 3 Nm  | 7 Nm                | 12 Nm               | 30 Nm               | 75 Nm               |
| Weight                        | 520 g   | 1050 g              | 1600 g              | 2600 g              | 6500 g              |

[Click for Pricing & Add to Cart](#)

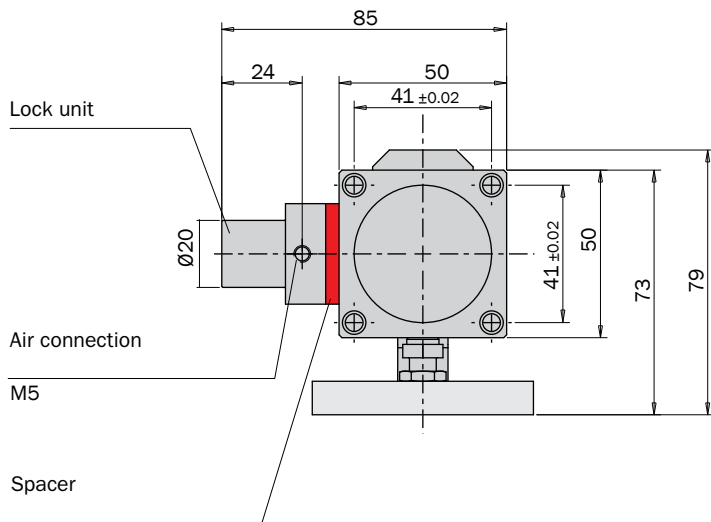
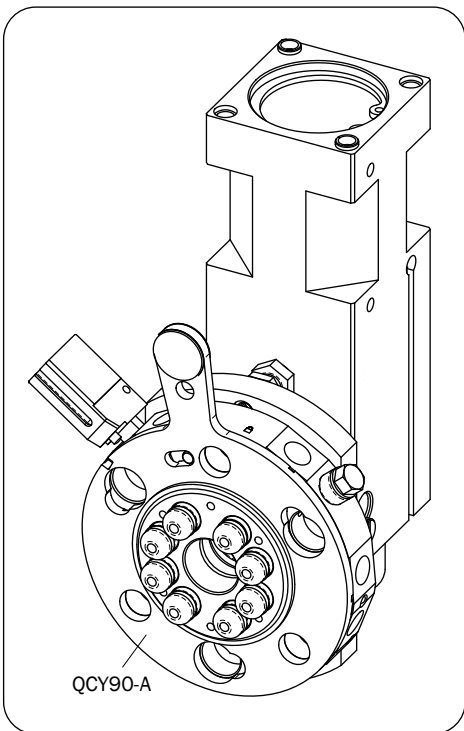
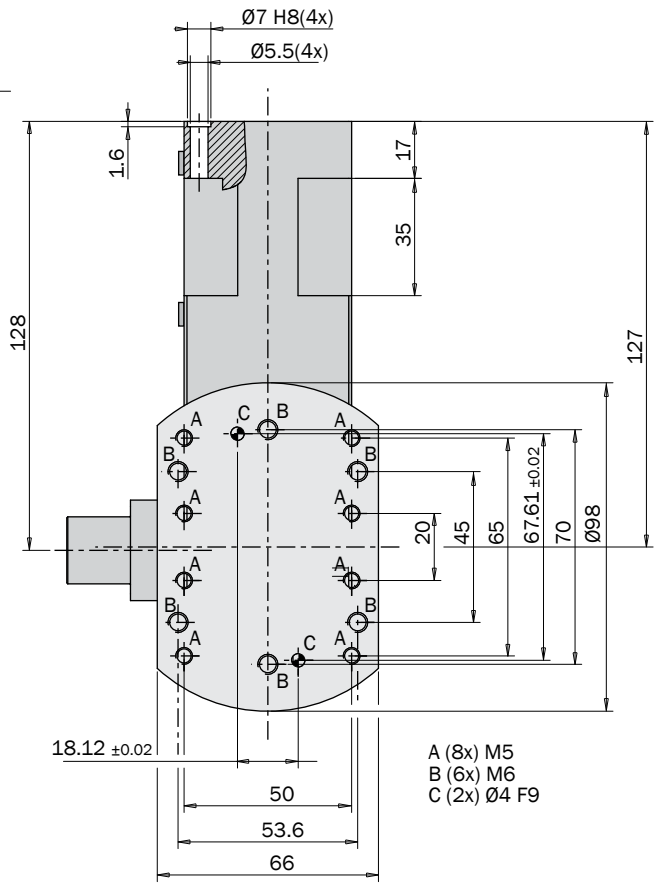
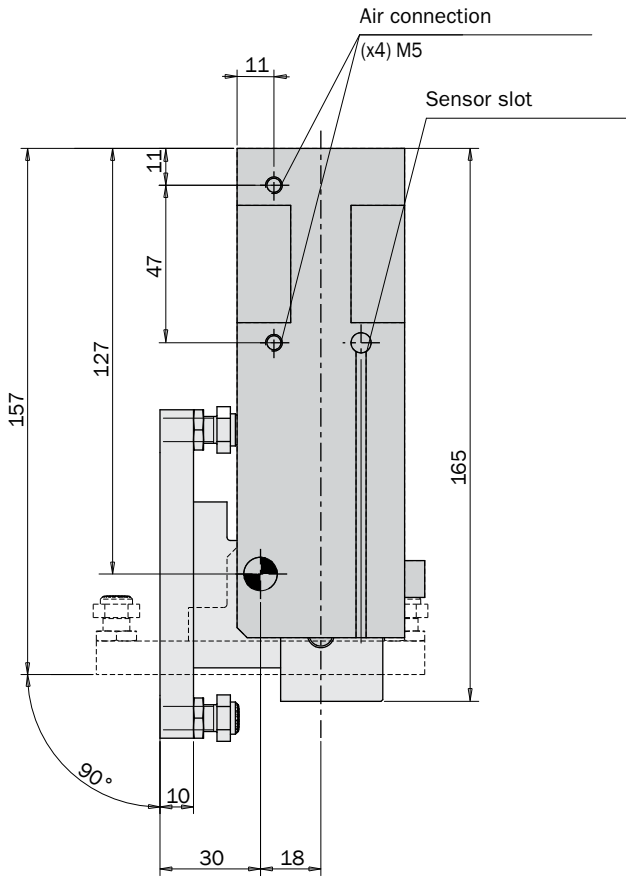


**Dimensions (mm)**

**RBT30**



FIRST ANGLE PROJECTION



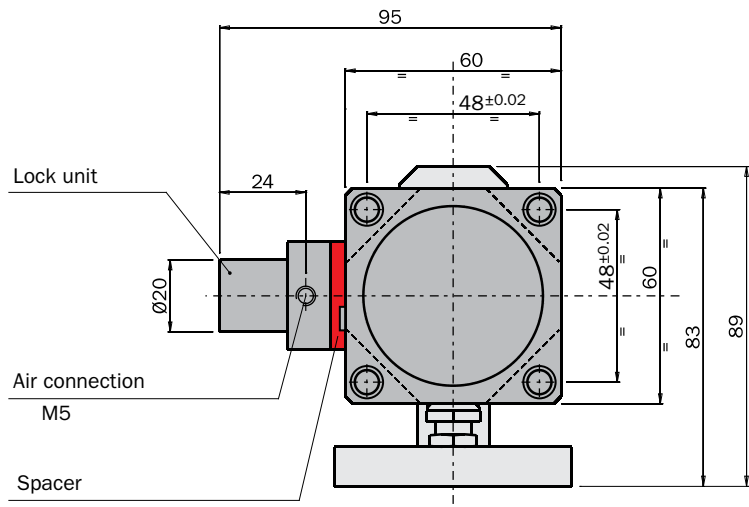
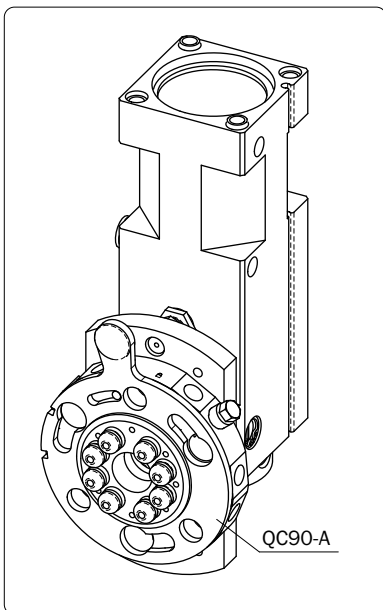
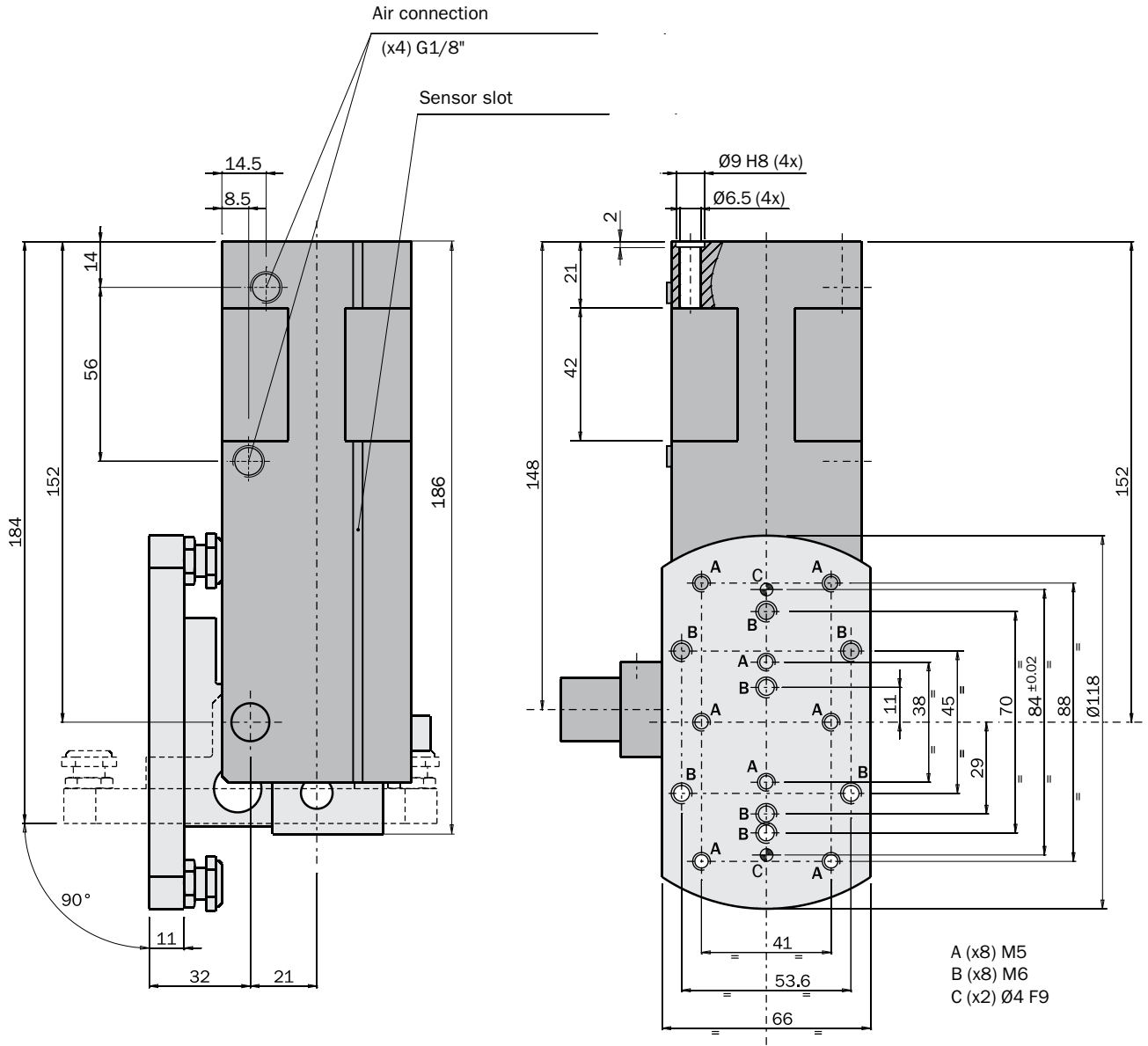
FIRST ANGLE PROJECTION

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

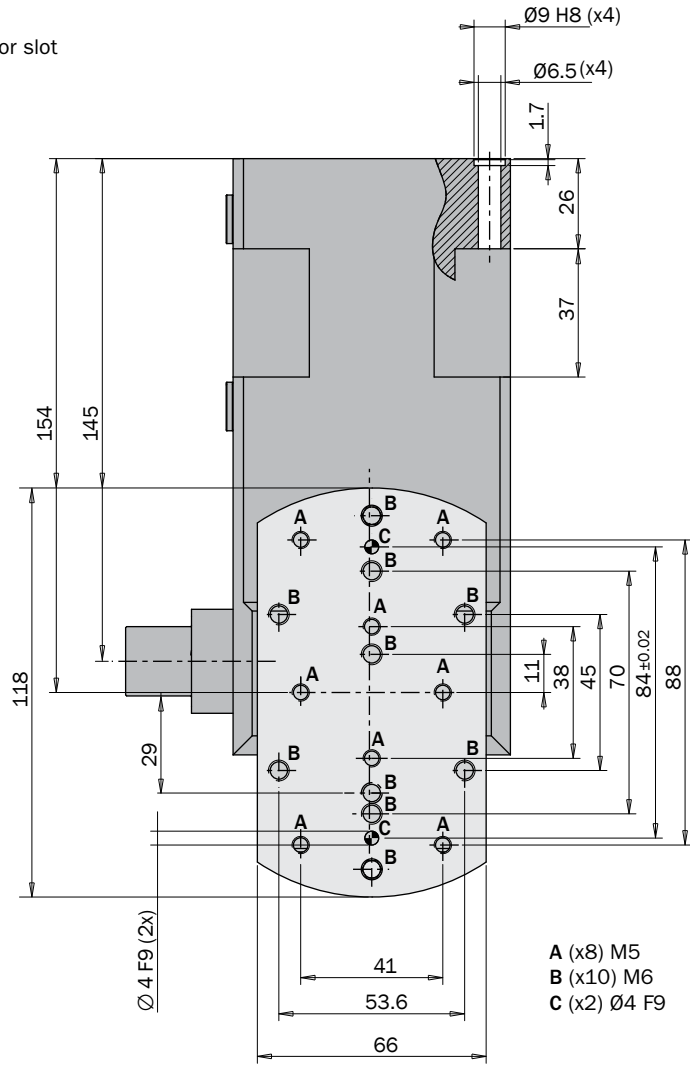
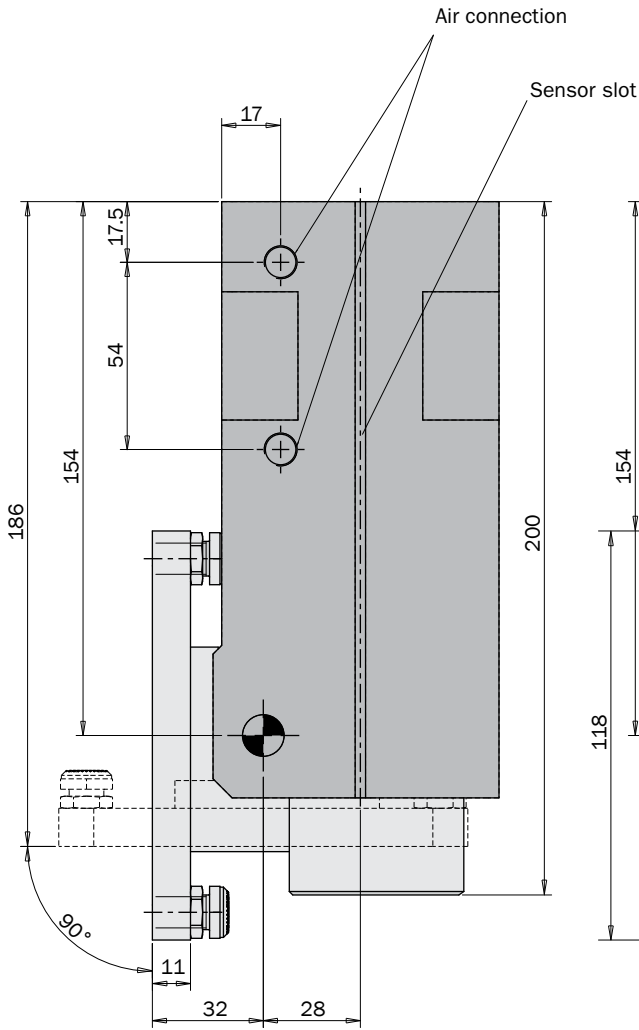


**Dimensions (mm)**

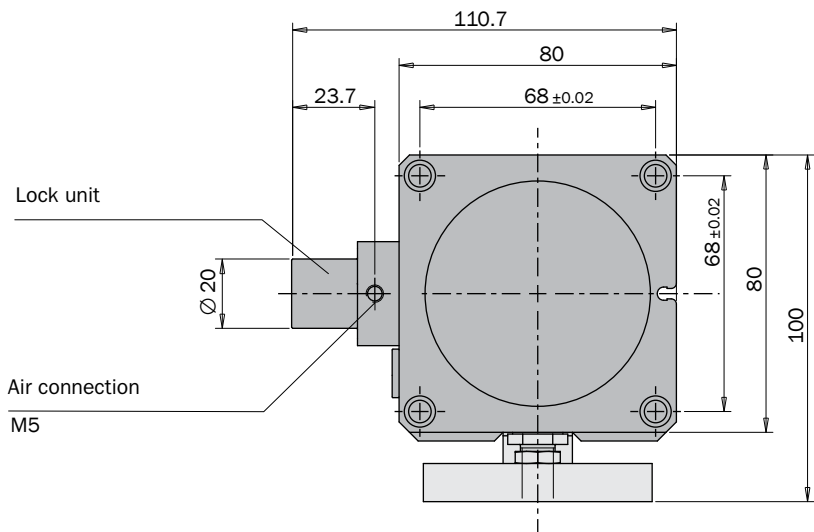
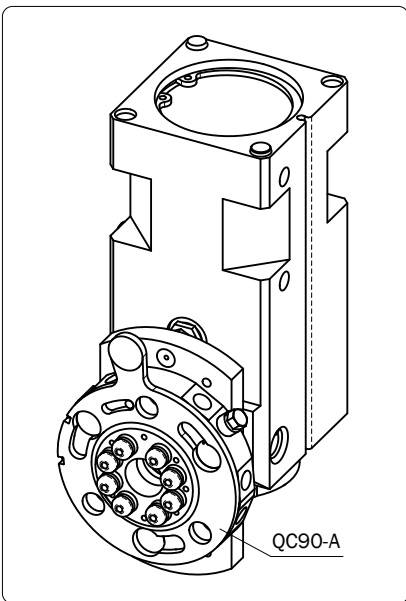
**RBT50**



FIRST ANGLE PROJECTION



- A (x8) M5
- B (x10) M6
- C (x2) Ø4 F9

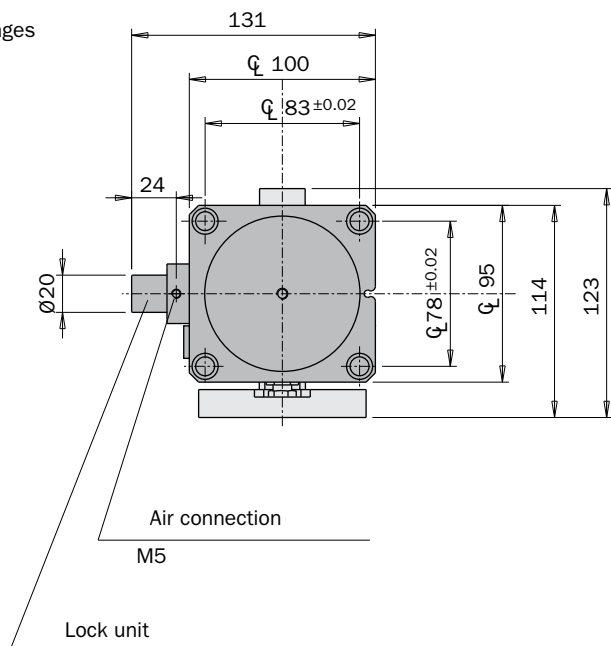
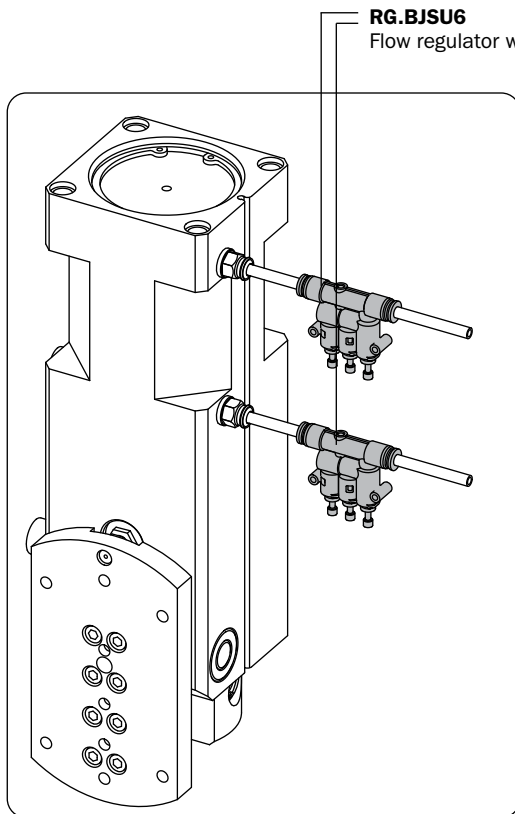
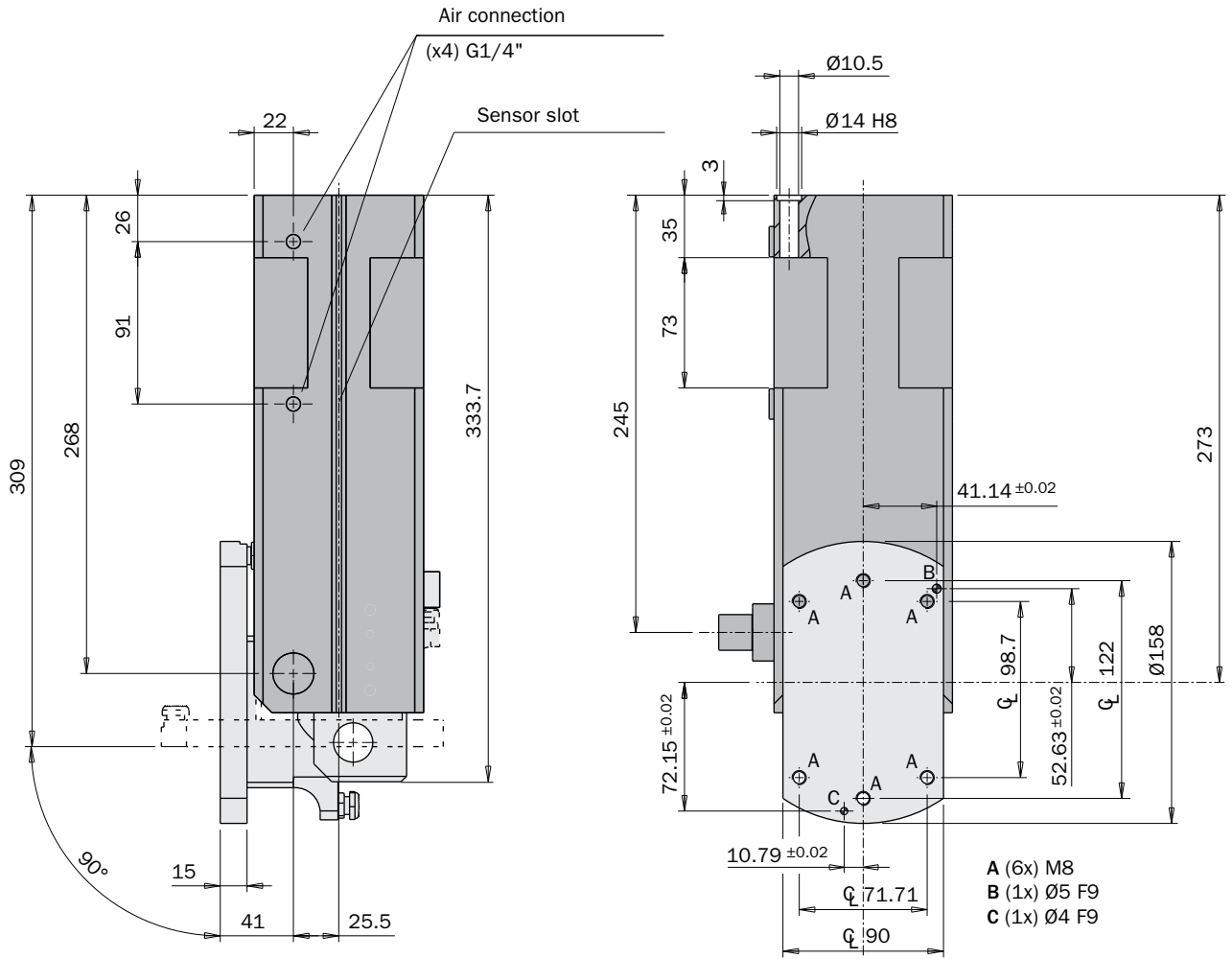


FIRST ANGLE PROJECTION

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

**Dimensions (mm)**

**RBT80**



FIRST ANGLE PROJECTION

**Pneumatic tilt unit for small EOATs, series OFN**

- 90° rotation.
- Single- or double-acting operation (SD).
- Several mounting accessories.
- Optional magnetic sensors, to be fitted with an SWP external clamp, or directly into the slot (SD).

| OFN...     | SWP...  |
|------------|---------|
| OFN20-90   | SWP-020 |
| OFN30-90   | SWP-030 |
| OFN20-90SD | -       |
| OFN30-90SD | -       |

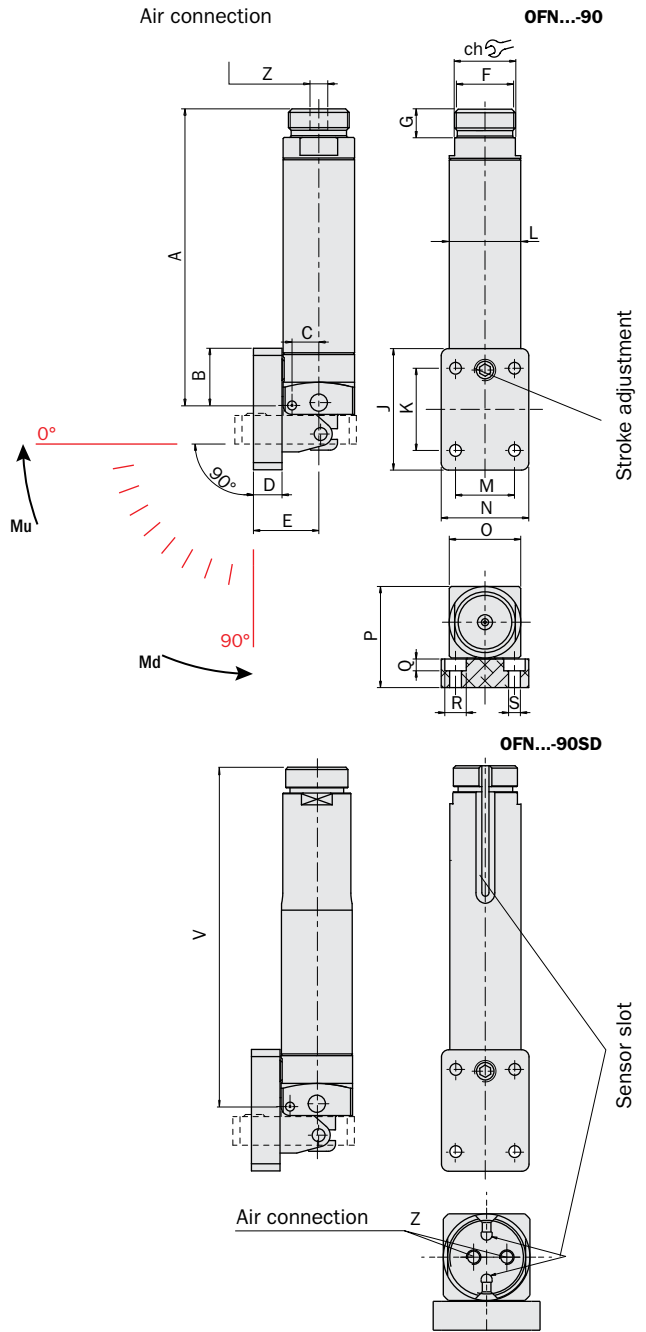


|                               | OFN20-90  | OFN20-90SD           | OFN30-90             | OFN30-90SD           |
|-------------------------------|---|----------------------|----------------------|----------------------|
| Medium                        | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                      |                      |                      |
| Pressure range                | 2.5 ÷ 8 bar   | 1.5 ÷ 8 bar          | 2.5 ÷ 8 bar          | 1.5 ÷ 8 bar          |
| Temperature range             | 5 ÷ 60 °C.  |                      |                      |                      |
| Tilt angle                    | 90°   |                      |                      |                      |
| Cycle air consumption         | 3.52 cm <sup>3</sup>                                      | 5.53 cm <sup>3</sup> | 12.9 cm <sup>3</sup> | 19.6 cm <sup>3</sup> |
| Lift torque at 6 bar (90° 0°) | 70 Ncm  | 80 Ncm               | 300 Ncm              | 300 Ncm              |
| Drop torque at 6 bar (0° 90°) | 15 Ncm  | 40 Ncm               | 30 Ncm               | 150 Ncm              |
| Weight                        | 75 g  | 88 g                 | 210 g                | 260 g                |

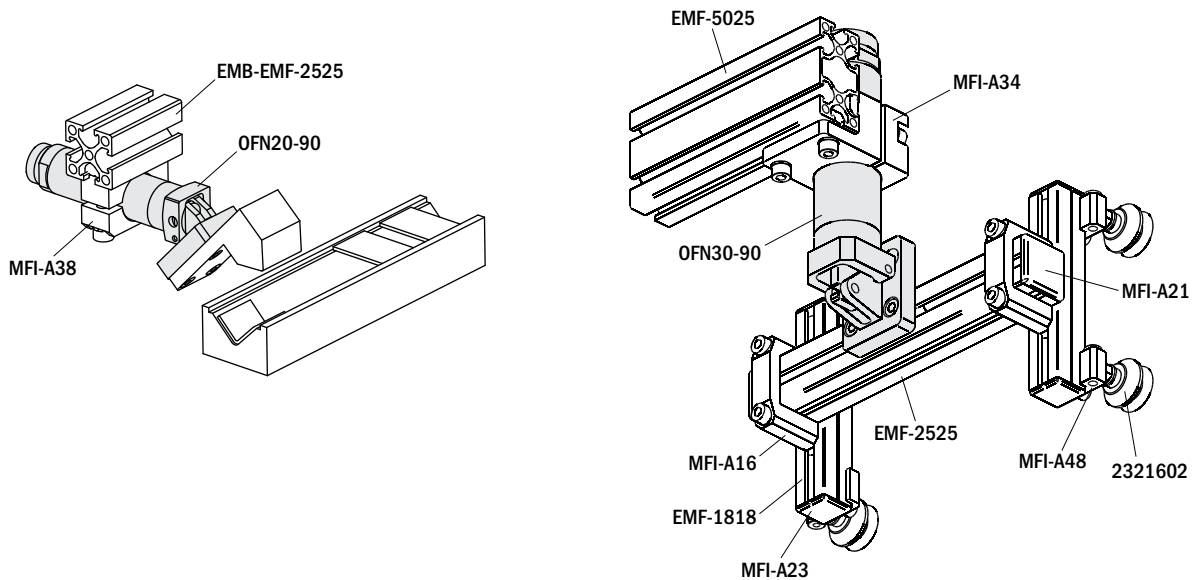
**Dimensions (mm)**



|   | OFN20-90 | OFN20-90SD | OFN30-90 | OFN30-90SD |
|---|----------|------------|----------|------------|
| A | 83       | -          | 119      | -          |
| B | 16       | -          | 18.5     | -          |
| C | 7.5      | -          | 11       | -          |
| D | 8        | -          | 10       | -          |
| E | 18.3     | -          | 25.3     | -          |
| F | M17x1    | -          | M27x1    | -          |
| G | 8        | -          | 11       | -          |
| J | 34       | -          | 46       | -          |
| K | 23       | -          | 25       | -          |
| L | 20       | -          | 30       | -          |
| M | 16.5     | -          | 25       | -          |
| N | 24.5     | -          | 37       | -          |
| O | 20       | -          | 30       | -          |
| P | 28.3     | -          | 40.3     | -          |
| Q | 3.3      | -          | 5.3      | -          |
| R | 6        | -          | 10       | -          |
| S | 3.3      | -          | 5.3      | -          |
|   | 17       | -          | 27       | -          |
| V | -        | 103.5      | -        | 144        |
| Z | M5       | M3         | M5       | M5         |



**Application example**



**Pneumatic swivelling units series RT**

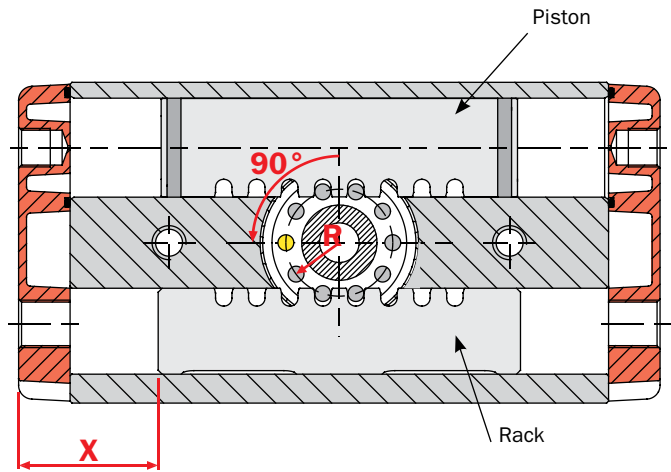
- Rack and pinion movement.
- Continuously adjustable stroke.
- Large ball bearings on the shaft.
- Through hole in the pinion.
- Optional rubber bumpers (FGD) or hydraulic shock-absorber.
- Optional intermediate stopper (RTD).
- Optional proximity magnetic sensors.



|   | RT-10   | RT-12               | RT-20              | RT-25              | RT-35              | RT-45               | RT-63               |
|---|---|---------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Medium  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                    |                    |                    |                     |                     |
| Pressure range                                  | 1.5 ÷ 8 bar   |                     |                    |                    |                    |                     |                     |
| Temperature range                               | 5° ÷ 60°C.  |                     |                    |                    |                    |                     |                     |
| Maximum swivelling angle                        | 190°  |                     |                    |                    |                    |                     |                     |
| Theoretical torque at 6 bar                     | 28 Ncm  | 56 Ncm              | 198 Ncm            | 397 Ncm            | 779 Ncm            | 1669 Ncm            | 3926 Ncm            |
| Maximum working frequency                       | 3 Hz  | 3 Hz                | 2 Hz               | 2 Hz               | 2 Hz               | 2 Hz                | 1 Hz                |
| Swivelling time without load                    | 0.05 s  | 0.06 s              | 0.11 s             | 0.19 s             | 0.08 s             | 0.16 s              | 0.23 s              |
| Cycle air consumption                           | 3.3 cm <sup>3</sup>                                       | 6.3 cm <sup>3</sup> | 23 cm <sup>3</sup> | 45 cm <sup>3</sup> | 92 cm <sup>3</sup> | 230 cm <sup>3</sup> | 520 cm <sup>3</sup> |
| Max repeatability tolerance with shock-absorber | 0.02°   | 0.02°               | 0.02°              | 0.02°              | 0.02°              | 0.02°               | 0.02°               |
| Weight  | 235 g   | 560 g               | 965 g              | 1680 g             | 2475 g             | 5250 g              | 8185 g              |

**End stroke accessories**

For the stroke adjustment you can use hydraulic shock-absorbers, rubber bumpers (FGD) or only grub screws according to the kinetic energy the unit has to bear.  
NEVER USE THE SWIVELLING UNIT WITHOUT STROKE ADJUSTERS.

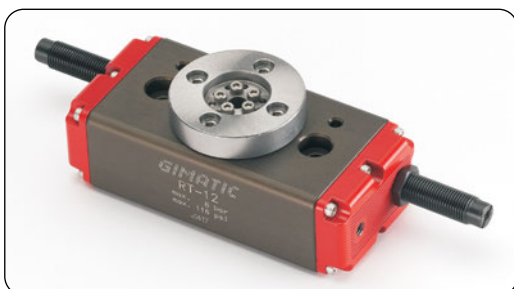


The table shows the codes of the suitable shock-absorbers. The bumpers (FGD) are Gimatic products.

|                                 |             | RT-10             | RT-12             | RT-20                          | RT-25                          | RT-35                     | RT-45             | RT-63                      |
|---------------------------------|-------------|-------------------|-------------------|--------------------------------|--------------------------------|---------------------------|-------------------|----------------------------|
|                                 |             | M8x1              | M10x1             | M12x1                          | M12x1                          | M14x1.5                   | M20x1.5           | M25x1.5                    |
| Shock-absorbers for heavy loads | ACE ENIDINE | MC10MH -          | TK10M-1-SP18482   | MC75M3-NB-111 PM15MF-3-SP33881 | MC75M3-NB-111 PM15MF-3-SP33881 | MC150MH2 PM25MC-3-SP34780 | MC225MH2 PM50MC-2 | MC600MH2 PM100MF-3-SP37330 |
| Shock-absorbers for light loads | ACE ENIDINE | MC10ML PMX8MC-3   | MC25M-NB TK10M-4  | MC75M2-NB ECO15MF-2            | MC75M3-NB ECO15MF-2            | -                         | -                 | -                          |
| Rubber bumpers                  |             | FGD0830 (L=30 mm) | FGD1030 (L=30 mm) | FGD1235 (L=35 mm)              | -                              | -                         | -                 | -                          |
|                                 |             | 6                 | 8.25              | 10.5                           | 13.5                           | 13.5                      | 17.5              | 21                         |
|                                 |             | 18.5              | 24                | 27.5                           | 35.5                           | 37                        | 53.5              | 60                         |
|                                 |             | 0.1047            | 0.1417            | 0.1802                         | 0.2317                         | 0.2296                    | 0.2976            | 0.3571                     |

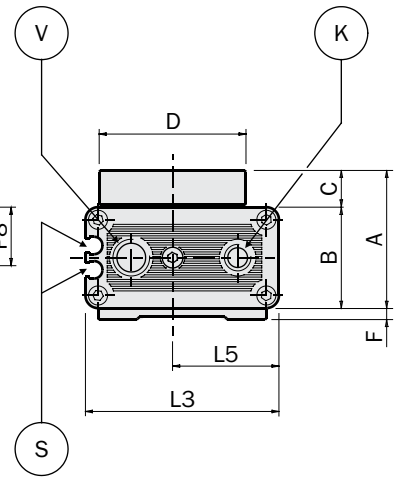
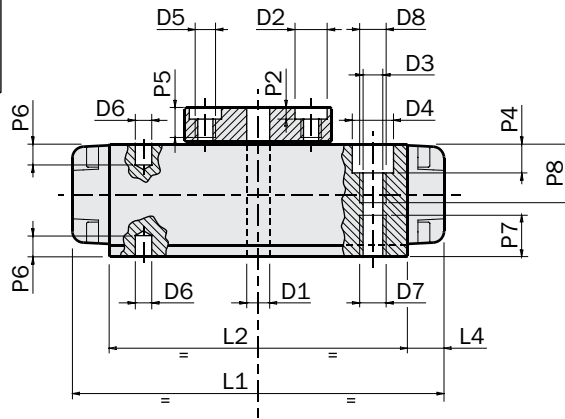
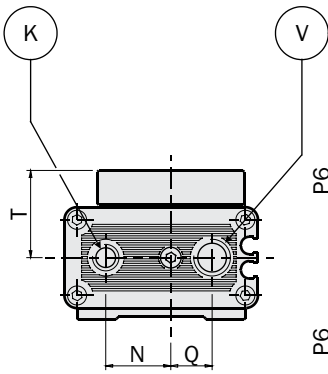
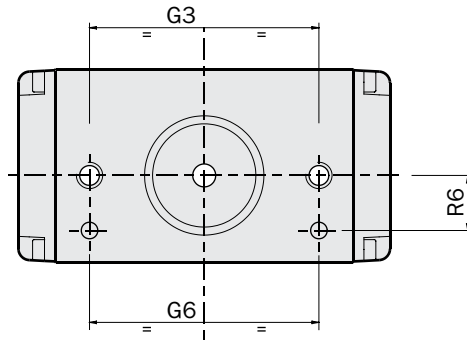
Where:  
R is the pinion radius;  
 $X_{90^\circ}$  is the minimum length of the end-stroke device to reduce the unit stroke to 90°;  
 $\Delta X \nabla 1^\circ$  is the rack stroke each one degree pinion rotation.

By the accessories in the previous table, it is possible to reduce the unit stroke to 90°.  
If a larger stroke reduction is requested, it is necessary to check if a longer end-stroke device must be used.  
Example:  
If a 70° rotation angle is requested by RT-63, the dimension X will have to be:  $60+(20 \times 0.3571)=67.1\text{mm}$ .

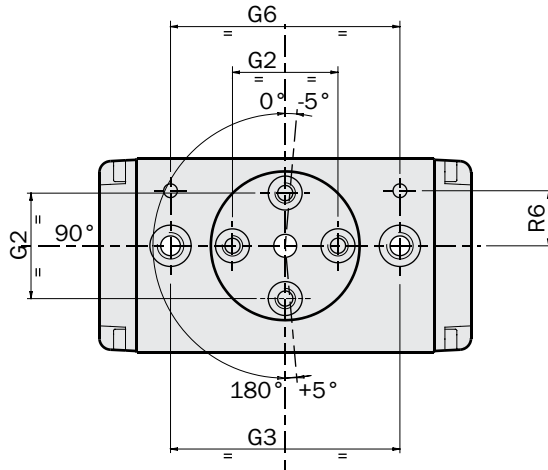


Dimensions (mm)

FIRST ANGLE PROJECTION



D1



**D1** Through hole

**K** Threaded hole for air connection

**V** Threaded hole for stroke adjuster

**S** SS and SN series sensor groove

**D2** Hole for centering sleeve

**D3** Through hole for the unit fastening

**D5** Threaded hole for fastening

**D6** Dowel pin hole

**D7** Threaded hole for the unit fastening



**Dimensions (mm)**

|    | RT-10    | RT-12      | RT-20      | RT-25    | RT-35    | RT-45     | RT-63     |
|----|----------|------------|------------|----------|----------|-----------|-----------|
| A  | 29.75    | 42         | 49         | 59       | 71       | 90.5      | 108.5     |
| B  | 21.75    | 32         | 39         | 45       | 57       | 72        | 90        |
| C  | 8        | 10         | 10         | 14       | 14       | 18.5      | 18.5      |
| D  | Ø32      | Ø45        | Ø45        | Ø65      | Ø65      | Ø100      | Ø100      |
| D1 | Ø5       | Ø6         | Ø8         | Ø10      | Ø12      | Ø18       | Ø20       |
| D2 | Ø7 H8    | Ø7 H8      | Ø7 H8      | Ø9 H8    | Ø9 H8    | Ø15 H8    | Ø15 H8    |
| D3 | Ø4.3     | Ø5.2       | Ø5.2       | Ø6.8     | Ø6.8     | Ø10.5     | Ø10.5     |
| D4 | Ø9       | Ø11        | Ø11        | Ø15      | Ø15      | Ø19       | Ø19       |
| D5 | M4       | M4         | M4         | M5       | M5       | M8        | M8        |
| D6 | Ø3 H8    | Ø4 H8      | Ø4 H8      | Ø6 H8    | Ø6 H8    | Ø8 H8     | Ø8 H8     |
| D7 | M5       | M6         | M6         | M8       | M8       | M12       | M12       |
| D8 | M5       | M6         | M6         | M8       | M8       | M12       | M12       |
| F  | 2.75     | -          | -          | -        | -        | -         | -         |
| G2 | 23 ±0.02 | 31.5 ±0.02 | 31.5 ±0.02 | 50 ±0.02 | 50 ±0.02 | 76 ±0.02  | 76 ±0.02  |
| G3 | 50       | 59         | 72         | 86       | 86       | 140       | 140       |
| G6 | 50 ±0.02 | 59 ±0.02   | 72 ±0.02   | 86 ±0.02 | 86 ±0.02 | 140 ±0.02 | 140 ±0.02 |
| K  | M5       | M5         | M5         | 1/8      | 1/8      | 1/4       | 1/4       |
| L1 | 81       | 108        | 130        | 162      | 170      | 230       | 265       |
| L2 | 65       | 88         | 110        | 136      | 140      | 180       | 215       |
| L3 | 38       | 50         | 65         | 81       | 100      | 120       | 150       |
| L4 | 8        | 10         | 10         | 13       | 15       | 25        | 25        |
| L5 | 19       | 25         | 32.5       | 40.5     | 53       | 64        | 87        |
| N  | 10       | 13         | 16         | 24       | 28.5     | 37        | 48.5      |
| P2 | 2.5      | 2.5        | 2.5        | 3        | 3        | 3.5       | 3.5       |
| P4 | 6        | 6          | 6          | 10       | 10       | 13        | 13        |
| P5 | 6.5      | 8          | 8          | 12       | 12       | 16        | 16        |
| P6 | 3        | 4          | 4          | 6        | 6        | 8         | 8         |
| P7 | 24.5     | 12         | 12         | 14       | 18       | 24        | 24        |
| P8 | 24.5     | 12         | 12         | 14       | 18       | 24        | 24        |
| Q  | 9        | 13         | 16         | 20.5     | 22       | 26        | 27        |
| R6 | 12 ±0.02 | 13 ±0.02   | 13 ±0.02   | 25 ±0.02 | 25 ±0.02 | 30 ±0.02  | 30 ±0.02  |
| V  | M8x1     | M10x1      | M12x1      | M12x1    | M14x1.5  | M20x1.5   | M25x1.5   |
| T  | 19       | 26         | 29.5       | 36.5     | 42.5     | 54.5      | 63.5      |

## 2 position pneumatic swivelling units (series R)

- Hannover IF Design Award 1999 winner.
- Modular with Gimapick system.
- Suitable for 90° or 180° rotation angles.
- Shock-absorbers.
- Ball bearings.
- Integrated rotating distributor of compressed air.
- Air feeding possible directly from the fixing plate.
- Optional magnetic sensors.



|                              | R20   |                    | R32                |                    | R63                 |                     |
|------------------------------|---|--------------------|--------------------|--------------------|---------------------|---------------------|
| Medium                       | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                     |                     |
| Pressure range               | 2 ÷ 8 bar   |                    |                    |                    |                     |                     |
| Temperature range            | 5° ÷ 60°C.  |                    |                    |                    |                     |                     |
| Swivelling angle             | 90°   | 180°               | 90°                | 180°               | 90°                 | 180*                |
| Air consumption              | 8 cm <sup>3</sup>   | 14 cm <sup>3</sup> | 16 cm <sup>3</sup> | 28 cm <sup>3</sup> | 115 cm <sup>3</sup> | 174 cm <sup>3</sup> |
| Swivelling time without load | 0.09 s  | 0.17 s             | 0.08 s             | 0.15 s             | 0.2 s               | 0.3 s               |
| Maximum working frequency    | 1 Hz  |                    | 0.5 Hz             |                    | 0.5 Hz              |                     |
| Theoretical torque at 6 bar  | 1131 Nmm  |                    | 4343 Nmm           |                    | 22444 Nmm           |                     |
| 180° angle adjustment        | ± 8°  |                    | ± 8°               |                    | ± 8°                |                     |
| Repetition accuracy          | 0.02°   |                    | 0.02°              |                    | 0.02°               |                     |
| Weight                       | 400 g   |                    | 1000 g             |                    | 3400 g              |                     |

**Rotation angle**

The units R20, R32 and R63 are supplied with one end-stroke block (F) in the seat (D).

In this configuration they get a 180° rotation angle.

However a second block is supplied in the product packaging: mounting it in the seat (E), it reduces the stroke at 90°.

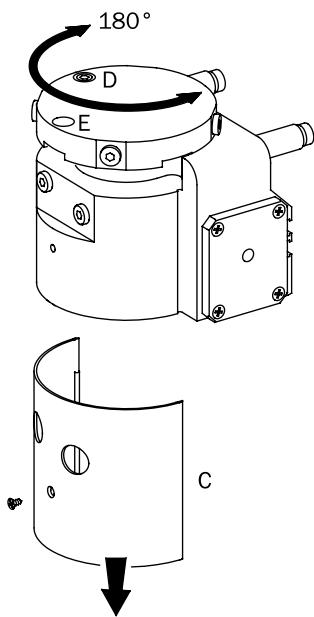
It is necessary to remove the protection (C), before mounting the second block.

Glue the screw of the second block by an anaerobic adhesive (medium resistance).

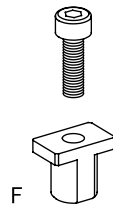
At the end the rotation angle can be furthermore adjusted changing the position of the shock-absorbers (A), after loosening the nuts (B).

Each shock-absorber can change the end-stroke position of about ±4°.

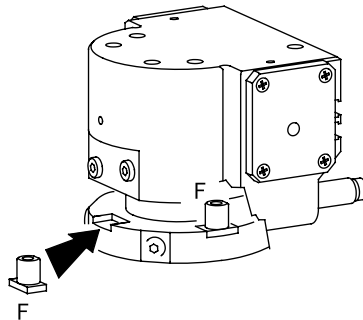
1



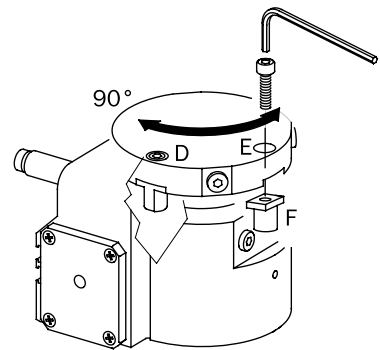
2



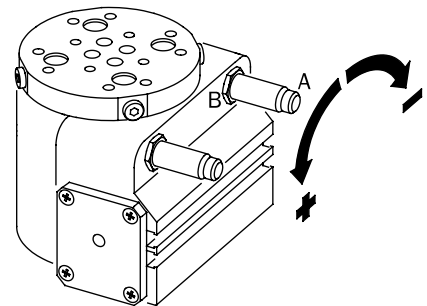
3



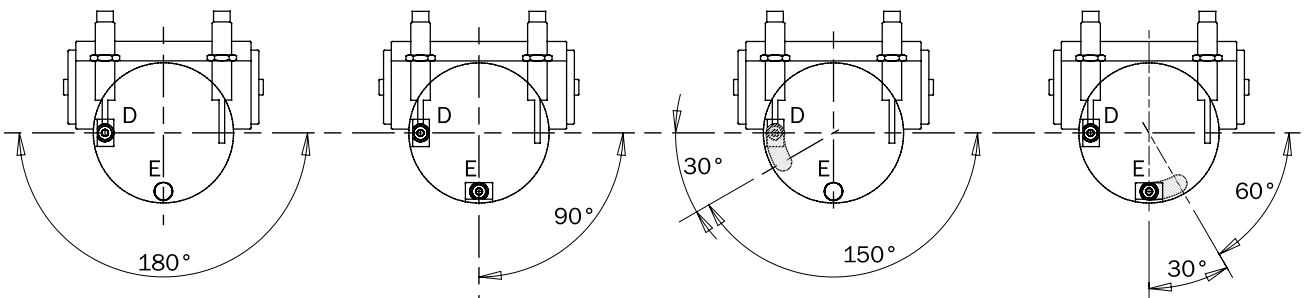
4



5



To get other angles, it is necessary to build end-stroke blocks (not supplied) with a proper shape.



### 3 position pneumatic swivelling units (series R)

- Hannover IF Design Award 1999 winner.
- Modular with Gimapick system.
- Suitable for 90° and 180° rotation angles.
- Damped end-stroke in every position.
- Ball bearings.
- Compact design.
- Air feeding possible directly from the fixing plate.
- Optional magnetic sensors.



|                              | R21   |                    | R33                |                    | R64                 |                     |
|------------------------------|---|--------------------|--------------------|--------------------|---------------------|---------------------|
| Medium                       | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                     |                     |
| Pressure range               | 3 ÷ 8 bar   |                    |                    |                    |                     |                     |
| Temperature range            | 5° ÷ 60°C.  |                    |                    |                    |                     |                     |
| Swivelling angle             | 90°   | 180°               | 90°                | 180°               | 90°                 | 180*                |
| Air consumption              | 8 cm <sup>3</sup>   | 14 cm <sup>3</sup> | 16 cm <sup>3</sup> | 28 cm <sup>3</sup> | 115 cm <sup>3</sup> | 174 cm <sup>3</sup> |
| Swivelling time without load | 0.09 s  | 0.17 s             | 0.08 s             | 0.15 s             | 0.2 s               | 0.3 s               |
| Maximum working frequency    | 2 Hz  |                    | 1 Hz               |                    | 0.5 Hz              |                     |
| Theoretical torque at 6 bar  | 1131 Nmm  |                    | 4343 Nmm           |                    | 22444 Nmm           |                     |
| 180° angle adjustment        | ± 8°  |                    | ± 8°               |                    | ± 8°                |                     |
| Repetition accuracy          | 0.02°   |                    | 0.02°              |                    | 0.02°               |                     |
| Weight                       | 500 g   |                    | 1200 g             |                    | 3200 g              |                     |

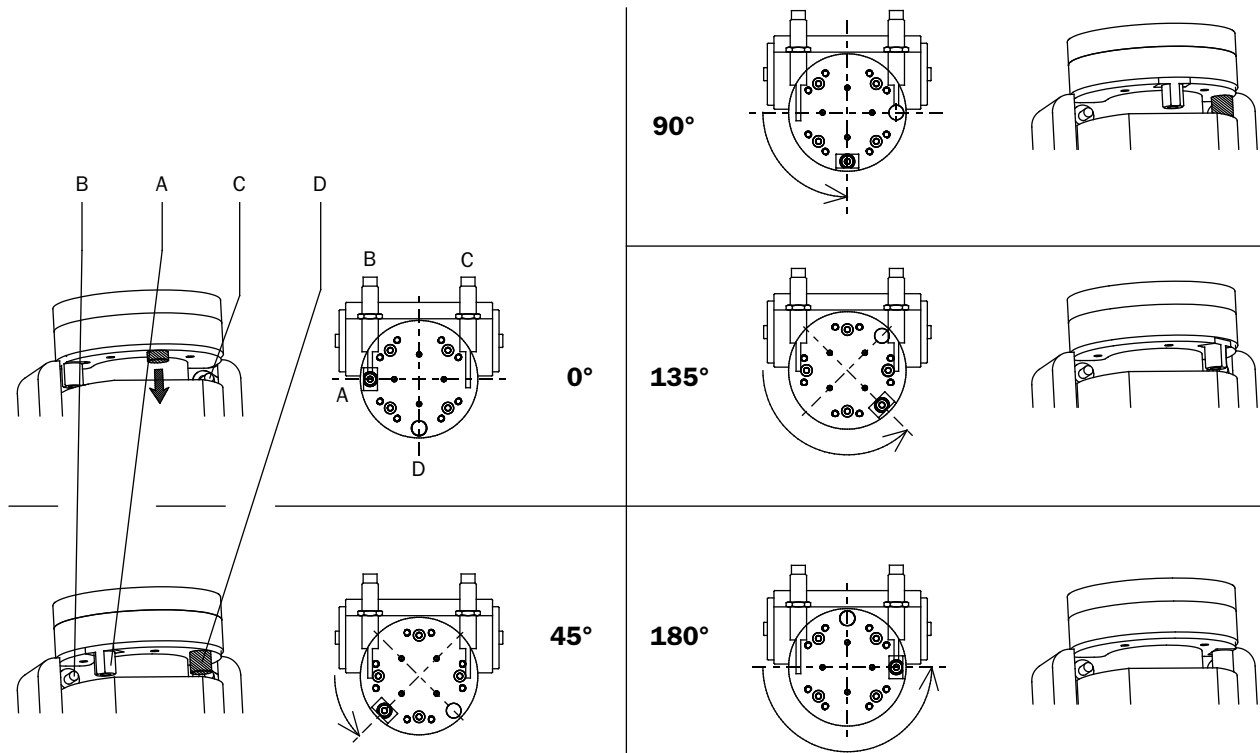
**Rotation angle**

R21, R33 and R64 are swivelling units with three positions: 0°, 90° and 180°.

These movements are possible:

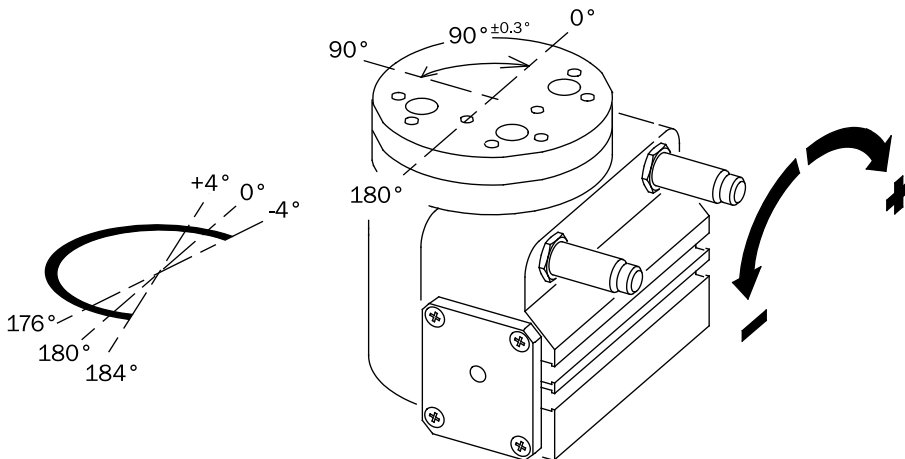
- From 0° to 180°.
- From 180° to 0°.
- From 0° to 90°.
- From 90° to 0°.
- From 90° to 180°, before to retract the moving block (D), the pressure must be balanced on both sides of the piston. The direct rotation from 180° to 90° is not possible.

The fixed block (A) gives the end-stroke at 0° against the shock-absorber (B) and at 180° against the shock-absorber (C), the moving block (D) at 90° against the shock-absorber (C). The moving block (D) can't be put out between 70° to 180°.



You can adjust of about  $\pm 4^\circ$  on both sides the 180° angle, by the shock-absorbers.

It is not possible to adjust the 90° (tolerance  $\pm 0.3^\circ$ ) angle.



Dimensions (mm)



Hole for fastening

Hole for fastening

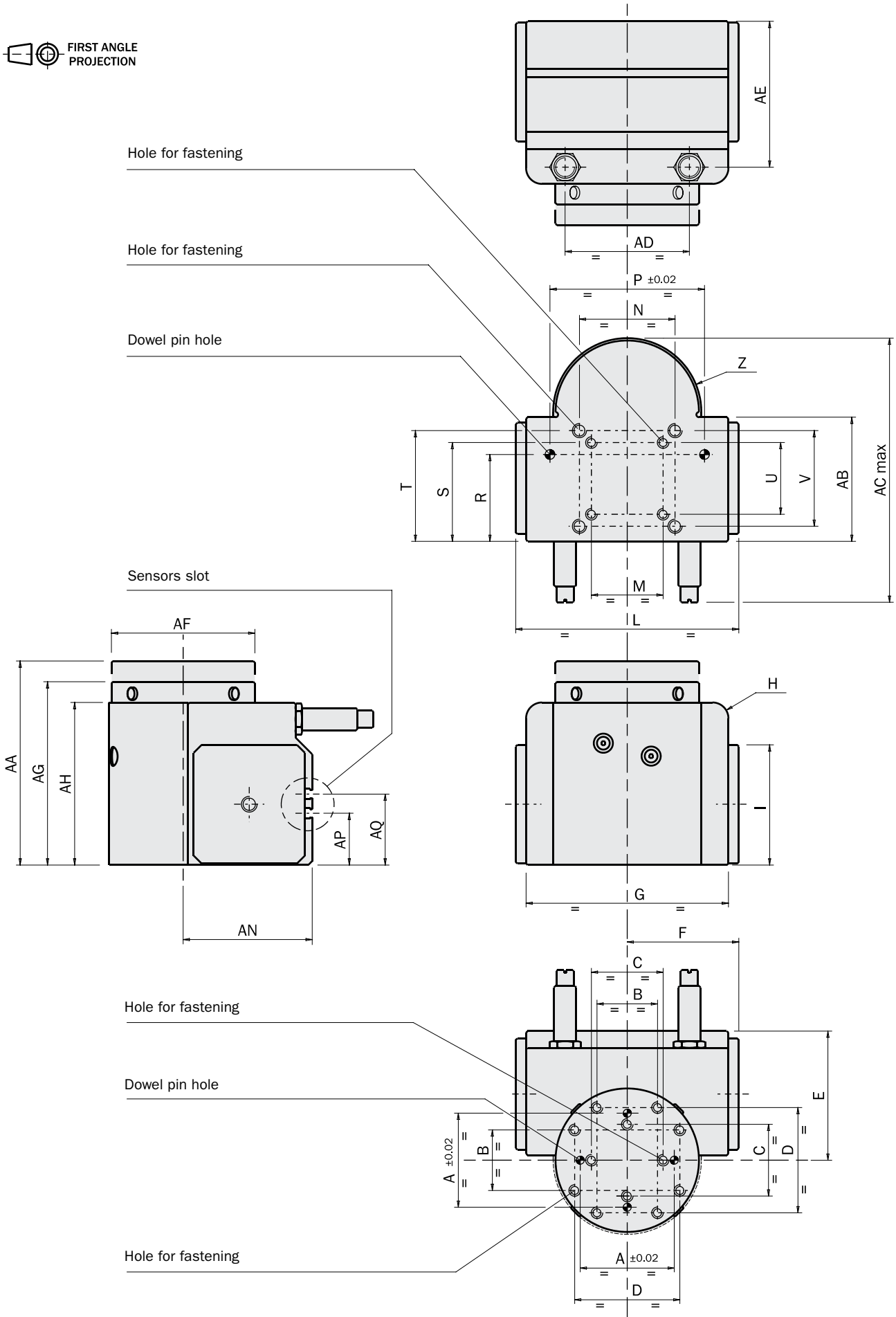
Dowel pin hole

Sensors slot

Hole for fastening

Dowel pin hole

Hole for fastening



**Dimensions (mm)**

|    | <b>R20</b> | <b>R21</b> | <b>R32</b> | <b>R33</b> | <b>R63</b> | <b>R64</b> |
|----|------------|------------|------------|------------|------------|------------|
| A  | 30.4       | 30.4       | 30.4       | 30.4       | 59         | 59         |
| B  | 21         | 21         | 27         | 27         | 38         | 38         |
| C  | -          | -          | -          | -          | 45         | 45         |
| D  | 37         | 37         | 48         | 48         | 66         | 66         |
| E  | 32         | 32         | 47         | 47         | 81         | 81         |
| F  | 35         | 35         | 49         | 49         | 70         | 70         |
| G  | 64.5       | 64.5       | 90         | 90         | 127        | 127        |
| H  | R 5        | R 5        | R 8        | R 8        | R 10       | R 10       |
| I  | 36         | 36         | 44.5       | 44.5       | 75.4       | 75.4       |
| L  | 70         | 70         | 98         | 98         | 140        | 140        |
| M  | -          | -          | -          | -          | 45         | 45         |
| N  | 34         | 34         | 45         | 45         | 60         | 60         |
| P  | 30.4       | 30.4       | 30.4       | 30.4       | 97         | 97         |
| R  | 32         | 32         | 47         | 47         | 54.5       | 54.5       |
| S  | -          | -          | -          | -          | 62         | 62         |
| T  | 40.5       | 40.5       | 52.5       | 52.5       | 69.5       | 69.5       |
| U  | -          | -          | -          | -          | 45         | 45         |
| V  | 34         | 34         | 45         | 45         | 60         | 60         |
| Z  | R 26       | R 26       | R 36       | R 36       | R 46.5     | R 46.5     |
| AA | -          | 71         | -          | 92         | -          | 134        |
| AB | 30.4       | 30.4       | 45         | 45         | 77.9       | 77.9       |
| AC | 75         | 75         | 105        | 105        | 170        | 170        |
| AD | 42         | 42         | 60         | 60         | 78         | 78         |
| AE | 43         | 43         | 59         | 59         | 91.5       | 91.5       |
| AF | Ø50        | Ø50        | Ø70        | Ø72        | Ø90        | Ø90        |
| AG | 59         | -          | 78         | -          | 115        | -          |
| AH | 51         | 51         | 67.5       | 67.5       | 102        | 102        |
| AI | -          | -          | -          | -          | M6x12 mm   | M6x12 mm   |
| AN | 32         | 32         | 47         | 47         | 81         | 81         |
| AP | 14         | 14         | 20.5       | 20.5       | 40         | 40         |
| AQ | 23         | 23         | 29.5       | 29.5       | -          | -          |
| AR | -          | -          | -          | -          | M6x10 mm   | M6x10 mm   |
| AS | M4x8 mm    | M4x8 mm    | M6x10 mm   | M6x10 mm   | M8x14 mm   | M8x14 mm   |
| AT | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø6 H8x8 mm | Ø6 H8x8 mm |
| AV | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø3 H8x6 mm | Ø5 H8x8 mm | Ø5 H8x8 mm |
| AZ | M3x6 mm    | M3x6 mm    | M4x10 mm   | M4x10 mm   | M6x12 mm   | M6x12 mm   |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

Sensors

Dimensions (mm)



Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

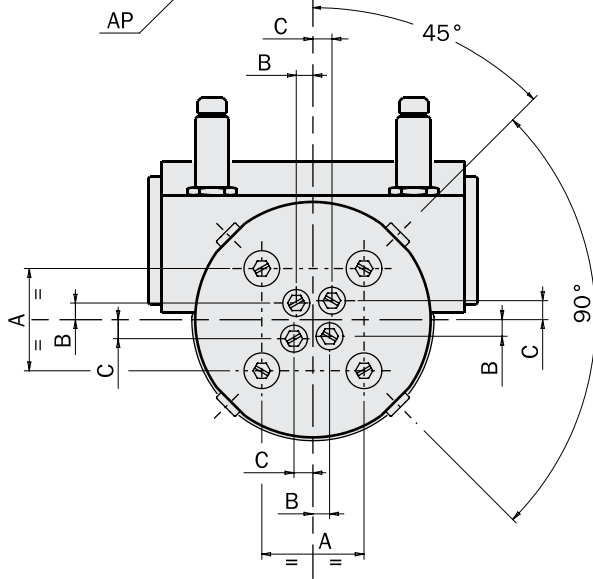
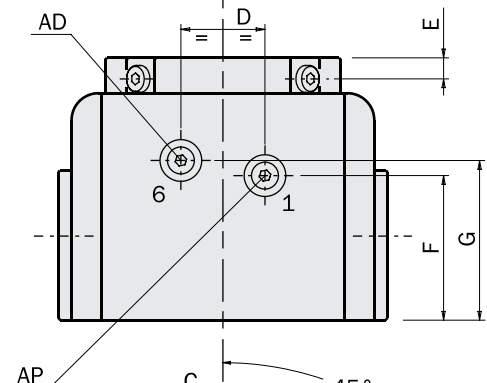
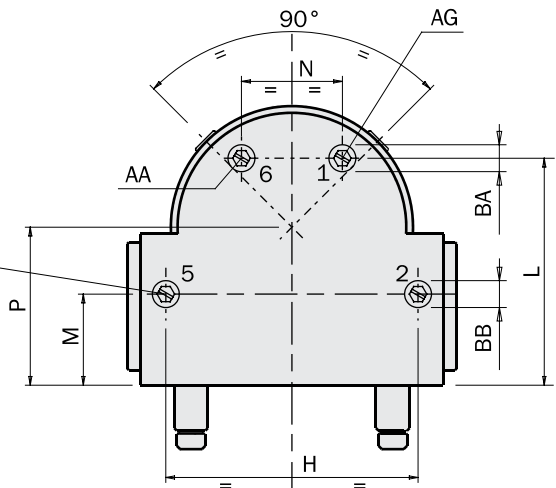
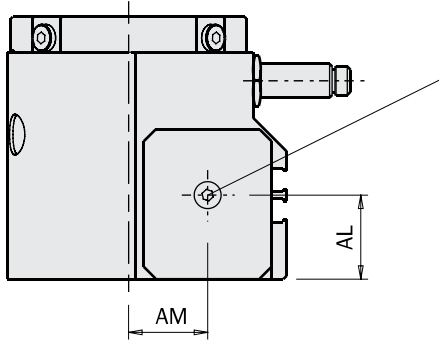
Robot Kit

Options

Sensors

N° 2 AB (5 - 2)

N° 2 AU (5 - 2)



Outlet of direct feeding

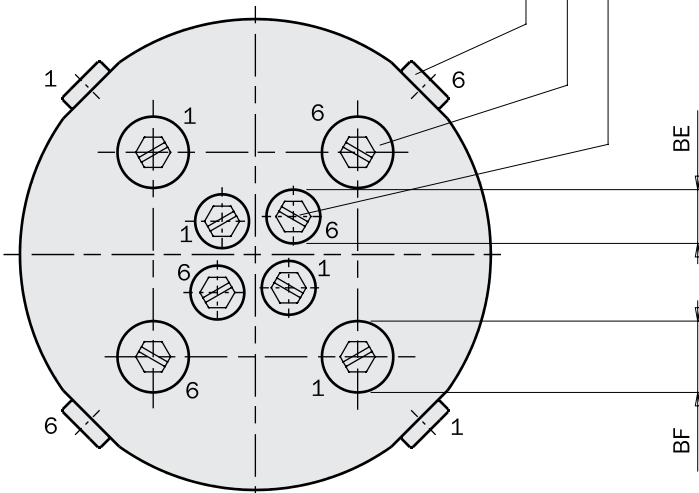
N° 4 AE (1 - 6)

Outlet of direct feeding

N° 4 AF (1 - 6)

Outlet of direct feeding

N° 4 AC (1 - 6)



The air ports identified with the same number are communicating

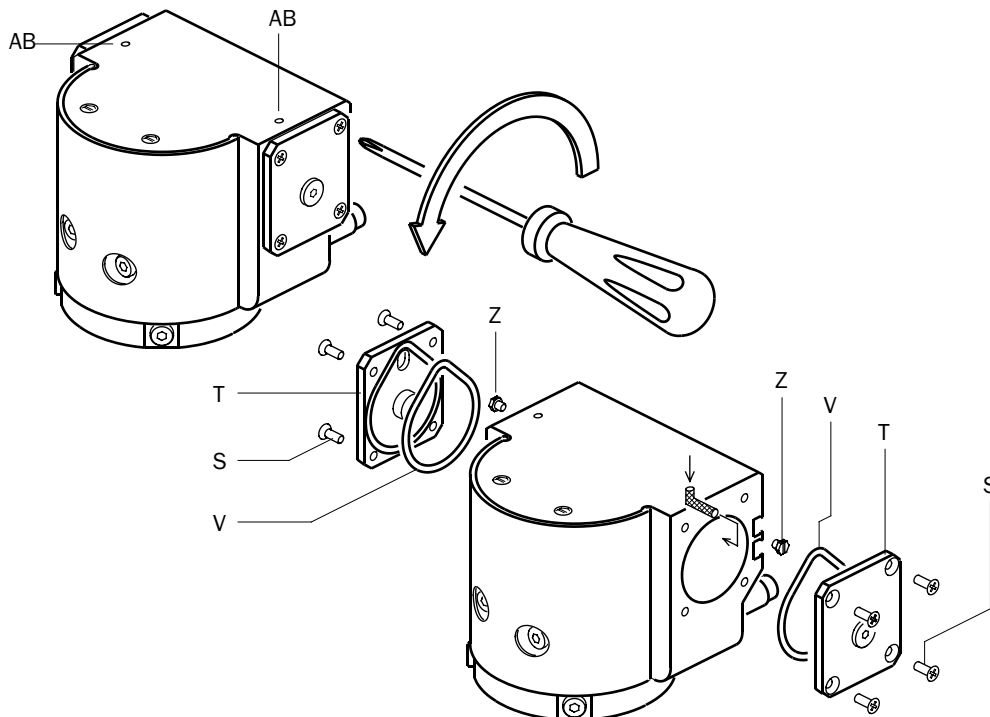


**Dimensions (mm)**

|    | R20        | R21  | R32        | R33  | R63        | R64   |
|----|------------|------|------------|------|------------|-------|
| A  | 24         | -    | 30.4       | -    | 48         | -     |
| B  | 2.7        | -    | 4.9        | -    | 6.2        | -     |
| C  | 3.4        | -    | 5.7        | -    | 7.25       | -     |
| D  | 13         | 13   | 25         | 25   | 30         | 30    |
| E  | 4.5        | -    | 6.25       | -    | 7.5        | -     |
| F  | 32         | 32   | 43         | 43   | 68.35      | 68.35 |
| G  | 37.7       | -    | 47.5       | -    | 76.45      | -     |
| H  | 52         | 52   | 75         | 75   | 109        | 109   |
| L  | 46         | 46   | 67.5       | 67.5 | 103.5      | 103.5 |
| M  | 17         | 17   | 27.1       | 27.1 | 39.5       | 39.5  |
| N  | 13         | 13   | 30         | 30   | 30         | 30    |
| P  | 32         | 32   | 47         | 47   | 81         | 81    |
| AA | M3         | -    | M3         | -    | M5         | -     |
| AB | M3         | M3   | Ø2         | Ø2   | M3         | M3    |
| AC | M3         | -    | M5         | -    | M5         | -     |
| AD | M3         | -    | M5         | -    | M5         | -     |
| AE | M3         | -    | M3         | -    | M3         | -     |
| AF | M3         | -    | M3         | -    | M3         | -     |
| AG | M3         | M3   | M3         | M3   | M5         | M5    |
| AL | 18.5       | 18.5 | 25         | 25   | 38.15      | 38.15 |
| AM | 15         | 15   | 23.5       | 23.5 | 41.5       | 41.5  |
| AP | M3         | M3   | M5         | M5   | M5         | M5    |
| AU | M5         | M5   | M5         | M5   | G 1/8      | G 1/8 |
| BA | Ø6         | Ø6   | Ø6         | Ø6   | Ø9         | Ø9    |
| BB | Ø6         | Ø6   | -          | -    | Ø6         | Ø6    |
| BE | Ø5.5       | -    | Ø6         | -    | Ø6         | -     |
| BF | Ø9.4x1.3mm | -    | Ø9.4x1.3mm | -    | Ø9.4x1.3mm | -     |

**Warning**

The direct feeding of the rotary units R32 and R33 from the bottom air ports (AB) is possible only removing the plugs (Z) placed behind the covers (T). Reassembling the covers pay attention to the correct position of the gaskets (V), before placing the screws (S).



**2 position electrical rotary actuator**

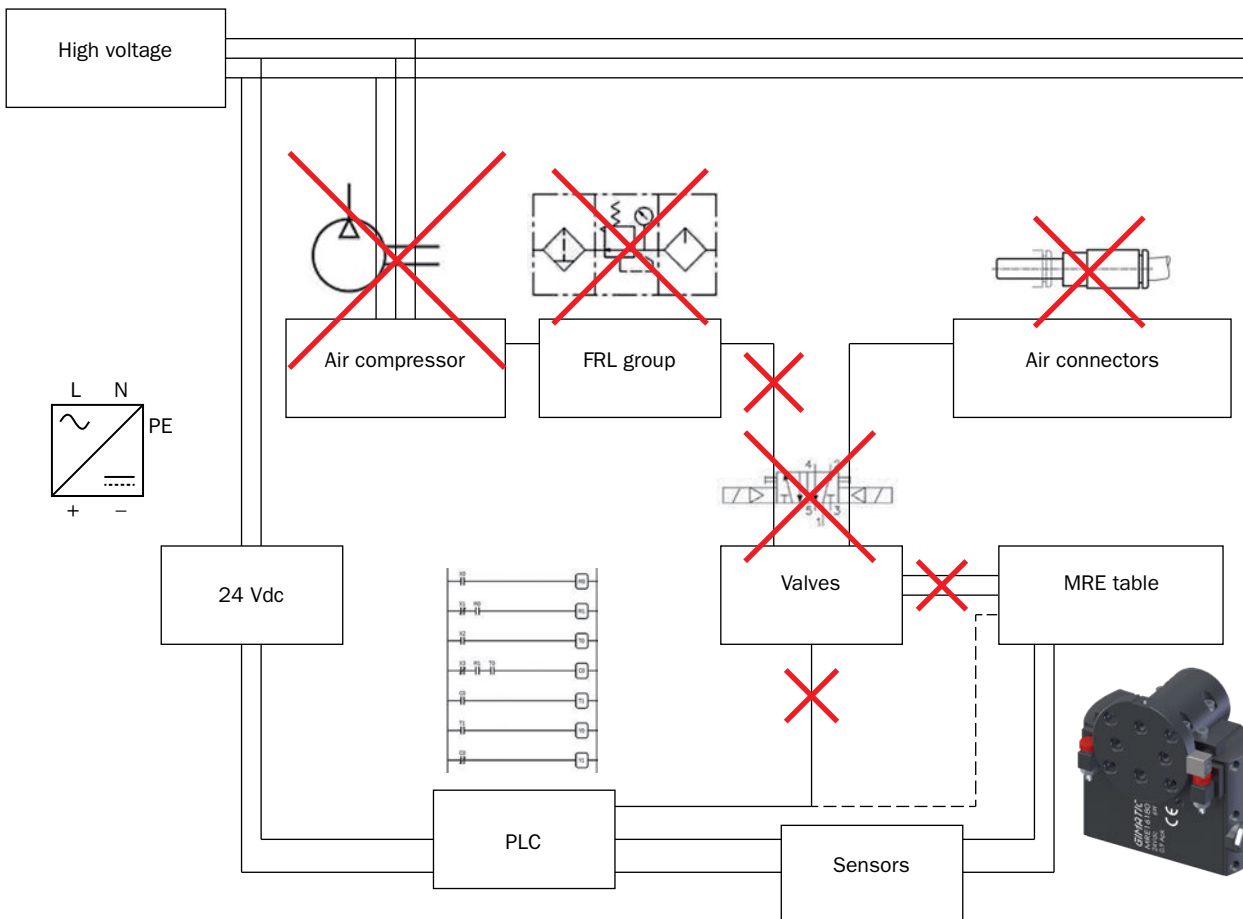
- Suitable for 90° or 180° rotation angle mechanically set.
- Plug & play user friendly gripper.
- No electricity consumption when actuator is in position.
- No programming required.
- Guarantee of position kept in the event of power blackout.
- Long life Brushless motor (Brushless DC).
- Motor drive integrated in the actuator.
- 24 Vdc Low Voltage Power Supply.
- M8x1, 3 poles standard connection.
- Controllable by PLC as a pneumatic valve.
- Ball bearings.
- Fiber-carbon gear reduction.
- 10 million cycle maintenance-free.
- Weight-dimensions-force best trade off.
- Compatible with MPPM electric grippers.
- Optional inductive sensors.

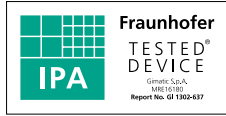


MRE16180

MRE25180

MRE32180





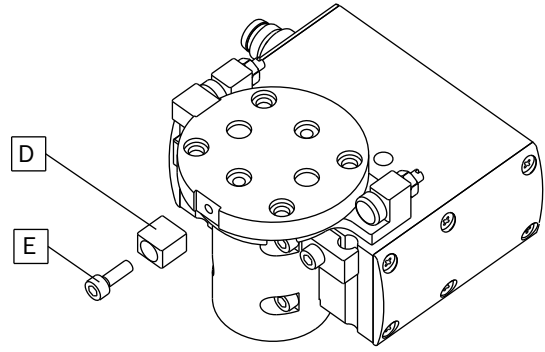
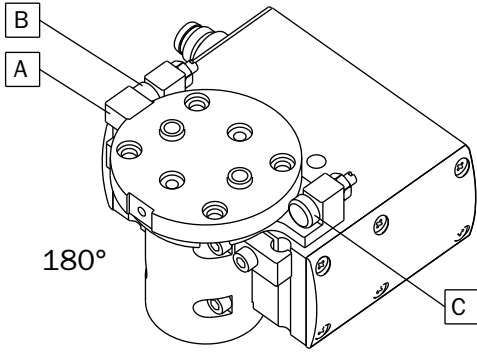
|  | MRE16180                                   |         | MRE25180             |         | MRE32180             |         |
|--|--|---------|----------------------|---------|----------------------|---------|
| Swivelling torque                            | 45 Ncm                                     |         | 80 Ncm               |         | 138 Ncm              |         |
| Swivelling angle                             | 90°  | 180°    | 90°                  | 180°    | 90°                  | 180°    |
| Frequency at an ambient temperature of 30°C  | 0.61 Hz                                    | 0.60 Hz | 1.46 Hz              | 0.91 Hz | 0.83 Hz              | 0.62 Hz |
| Swivelling time without load                 | 0.12 s                                     | 0.35 s  | 0.22 s               | 0.44 s  | 0.15 s               | 0.35 s  |
| Working actuator time                        | 0.35 s                                     | 0.57 s  | 0.33 s               | 0.55 s  | 0.36 s               | 0.57 s  |
| Duty cycle at an ambient temperature of 30°C | 46%  | 66%     | 99%                  | 100%    | 39%                  | 79%     |
| 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                          | 0.04°                                      |         | 0.04°                |         | 0.04°                |         |
| Operating temperature                        | 5 ÷ 60°C                                   |         | 5 ÷ 60°C             |         | 5 ÷ 60°C             |         |
| Environmental Degree                         | IP54                                       |         | IP54                 |         | IP54                 |         |
| Noise level                                  | < 70 dB                                    |         | < 70 dB              |         | < 70 dB              |         |
| Mass (motor included)                        | 195 g                                      |         | 400 g                |         | 738 g                |         |
| Maximum inertial load                        | 6 kgcm <sup>2</sup>                        |         | 15 kgcm <sup>2</sup> |         | 20 kgcm <sup>2</sup> |         |
| ISO14644-1 Clean Room Certification          | CLASS 6                                    |         | -                    |         | -                    |         |
| Reference standards                          | EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1 |         |                      |         |                      |         |
| Technology and options                       | Page 594 - 595                             |         |                      |         |                      |         |

**Rotation angle**

MRE electrical rotary actuators are able to swivel to 90° or 180°.

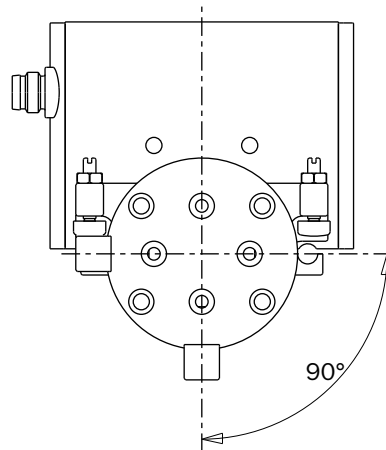
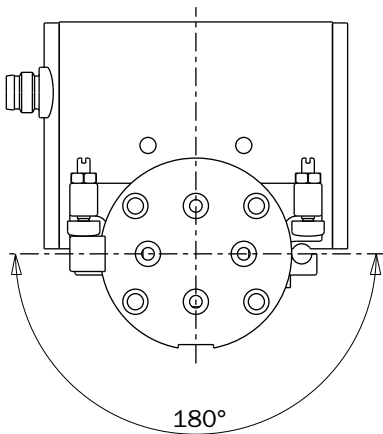
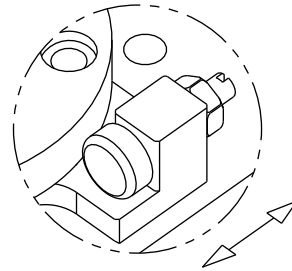
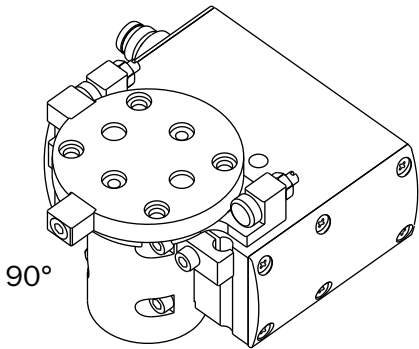
The fixed block (A) gives the 0° position against the mechanical stopper (B) and the 180° position against the mechanical stopper (C), while the moving block (D) gives 90° position against the mechanical stopper (C).

Extreme positions can be adjusted by +/- 4° on each side, by acting on the mechanical stoppers.



1 2

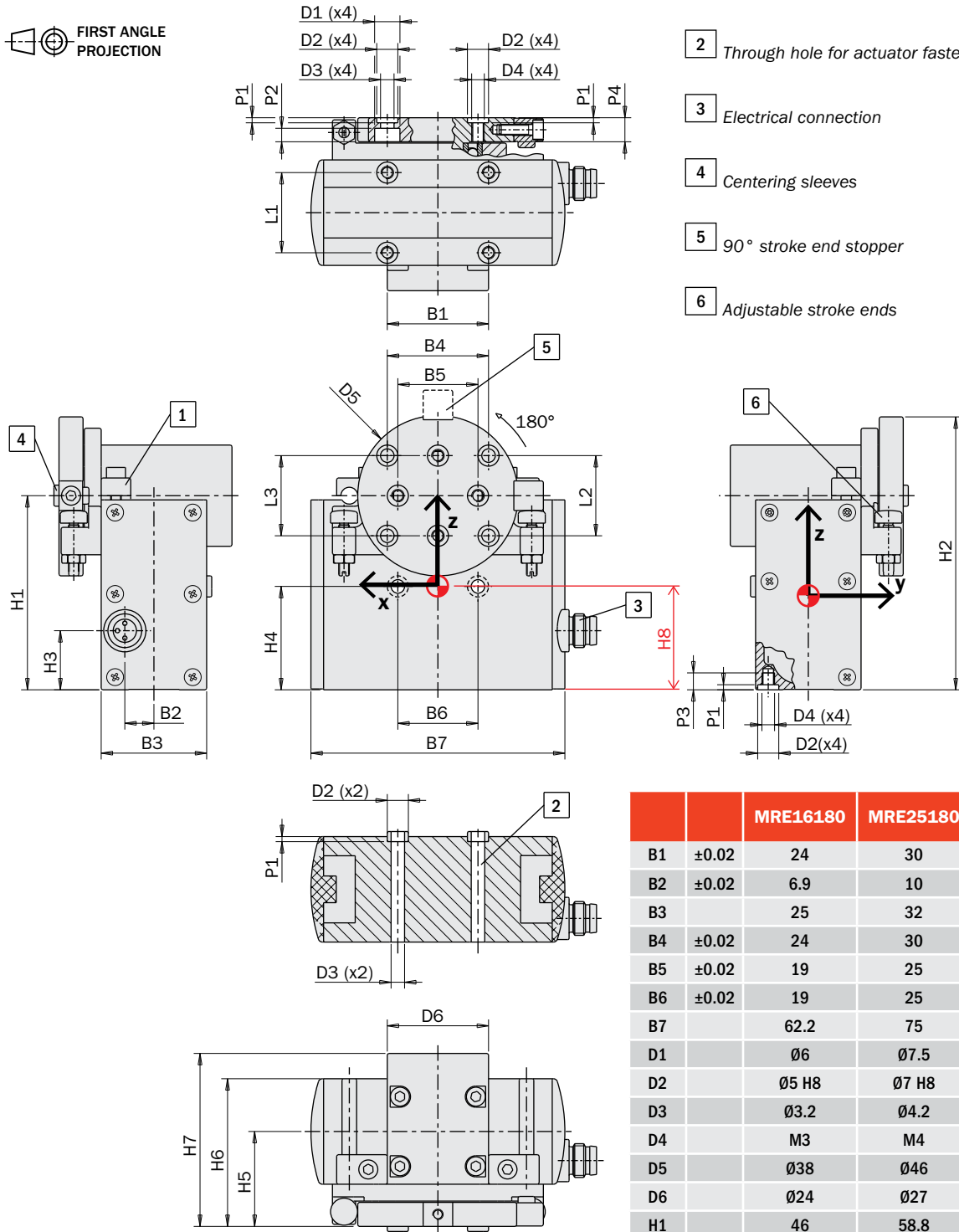
3



The moment of inertia of the load must be lower than 6/15/20 kgcm<sup>2</sup>. Excessive kinetic energy can damage the table and compromise its operation.

**Dimensions (mm)**

FIRST ANGLE PROJECTION



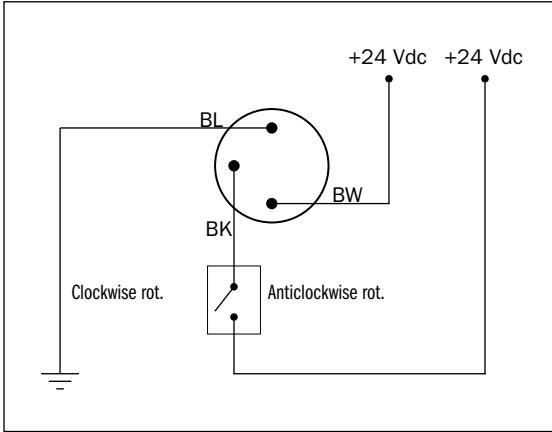
- 1 Inductive sensor bracket
- 2 Through hole for actuator fastening
- 3 Electrical connection
- 4 Centering sleeves
- 5 90° stroke end stopper
- 6 Adjustable stroke ends

|    |       | MRE16180 | MRE25180 | MRE32180 |
|----|-------|----------|----------|----------|
| B1 | ±0.02 | 24       | 30       | 36       |
| B2 | ±0.02 | 6.9      | 10       | 11       |
| B3 |       | 25       | 32       | 35       |
| B4 | ±0.02 | 24       | 30       | 36       |
| B5 | ±0.02 | 19       | 25       | 30       |
| B6 | ±0.02 | 19       | 25       | 30       |
| B7 |       | 62.2     | 75       | 89       |
| D1 |       | Ø6       | Ø7.5     | Ø9       |
| D2 |       | Ø5 H8    | Ø7 H8    | Ø7 H8    |
| D3 |       | Ø3.2     | Ø4.2     | Ø5.2     |
| D4 |       | M3       | M4       | M5       |
| D5 |       | Ø38      | Ø46      | Ø55      |
| D6 |       | Ø24      | Ø27      | Ø31      |
| H1 |       | 46       | 58.8     | 67.5     |
| H2 |       | 65       | 81.8     | 95       |
| H3 |       | 14       | 17       | 19       |
| H4 | ±0.02 | 24.5     | 32       | 38       |
| H5 |       | 22.5     | 28.5     | 33       |
| H6 |       | 35       | 43.5     | 50.5     |
| H7 |       | 41       | 52       | 60       |
| H8 |       | 31.5     | 41       | 48       |
| L1 | ±0.02 | 19       | 24       | 26       |
| L2 | ±0.02 | 19       | 24       | 26       |
| L3 | ±0.02 | 19       | 25       | 30       |
| P1 |       | 1.2      | 1.5      | 1.5      |
| P2 | +0.1  | 3.2      | 4.1      | 5        |
| P3 |       | 4        | 6        | 8        |
| P4 |       | 5.7      | 7.2      | 8.7      |

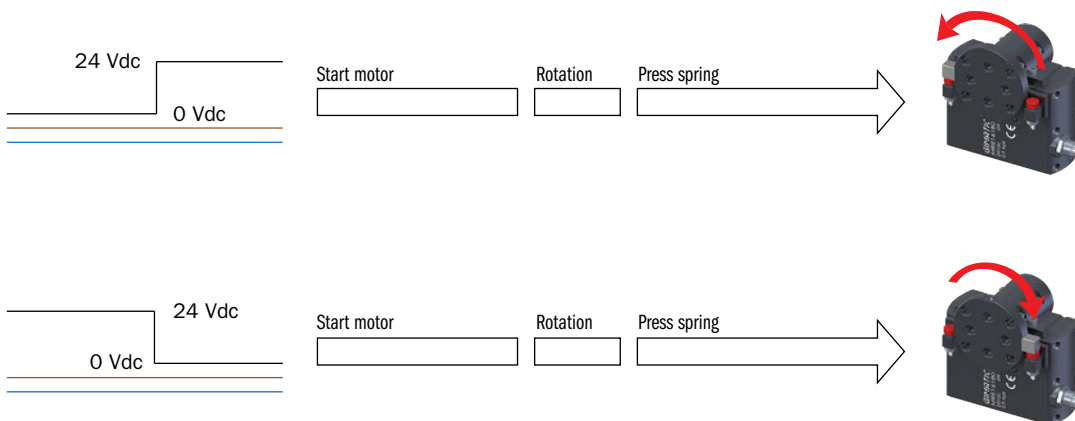
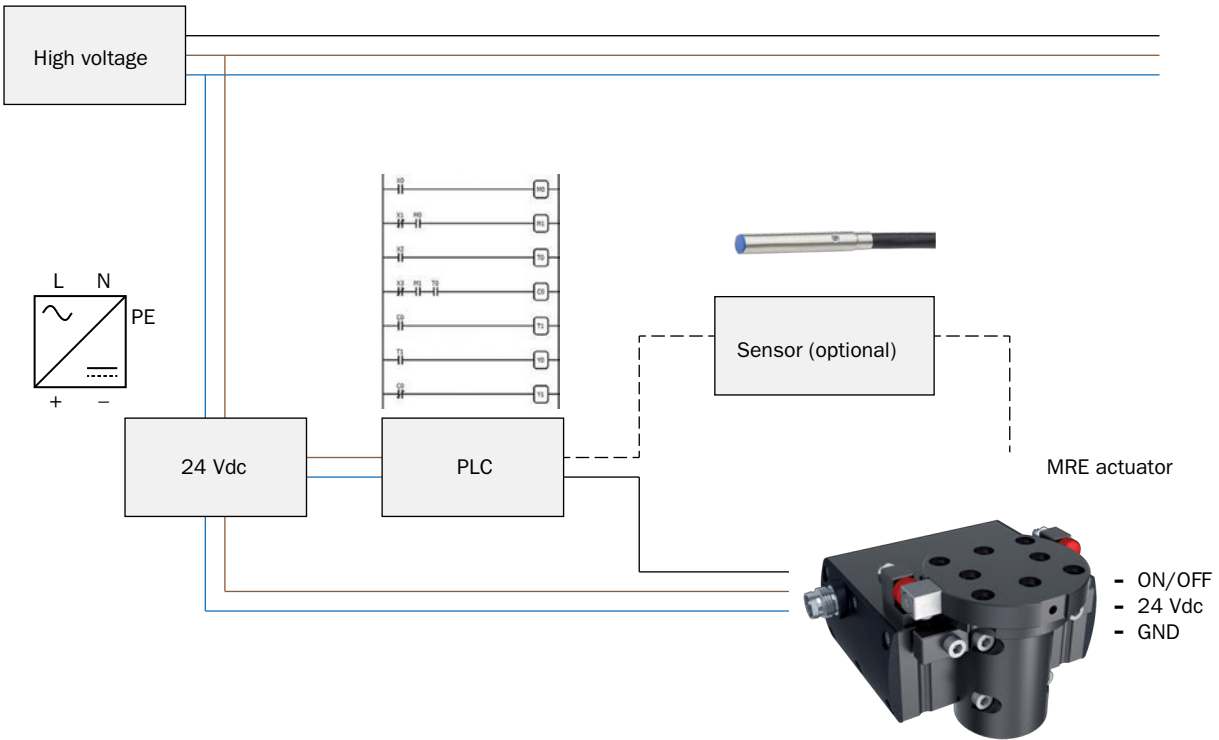
**Electrical connection**

The rotary actuator is equipped with a 3-pole M8 connector for the 24Vdc power supply and the swiveling signal.

No further electronics is necessary to drive the actuator.



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



**Fitting the rotary actuator**

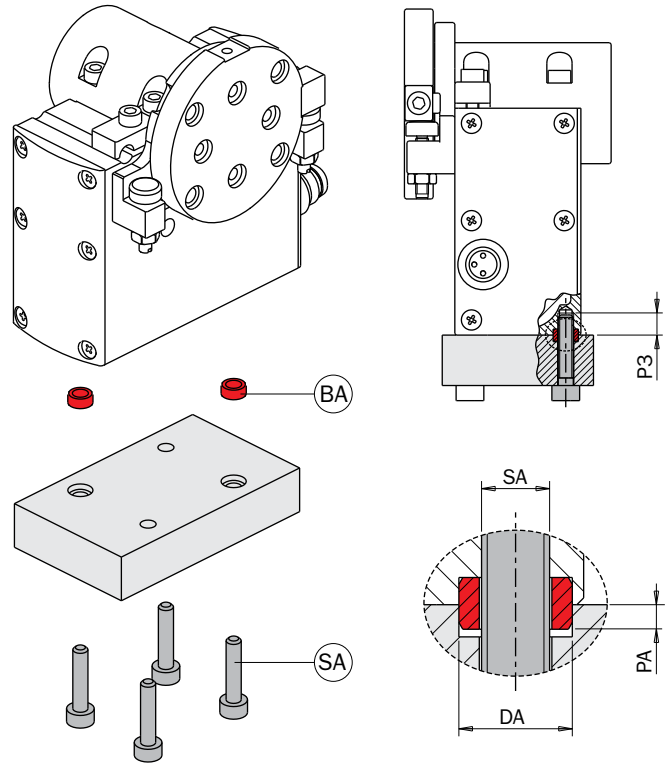
The rotary actuator can be fitted in a fixed position or to moving parts.

When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.

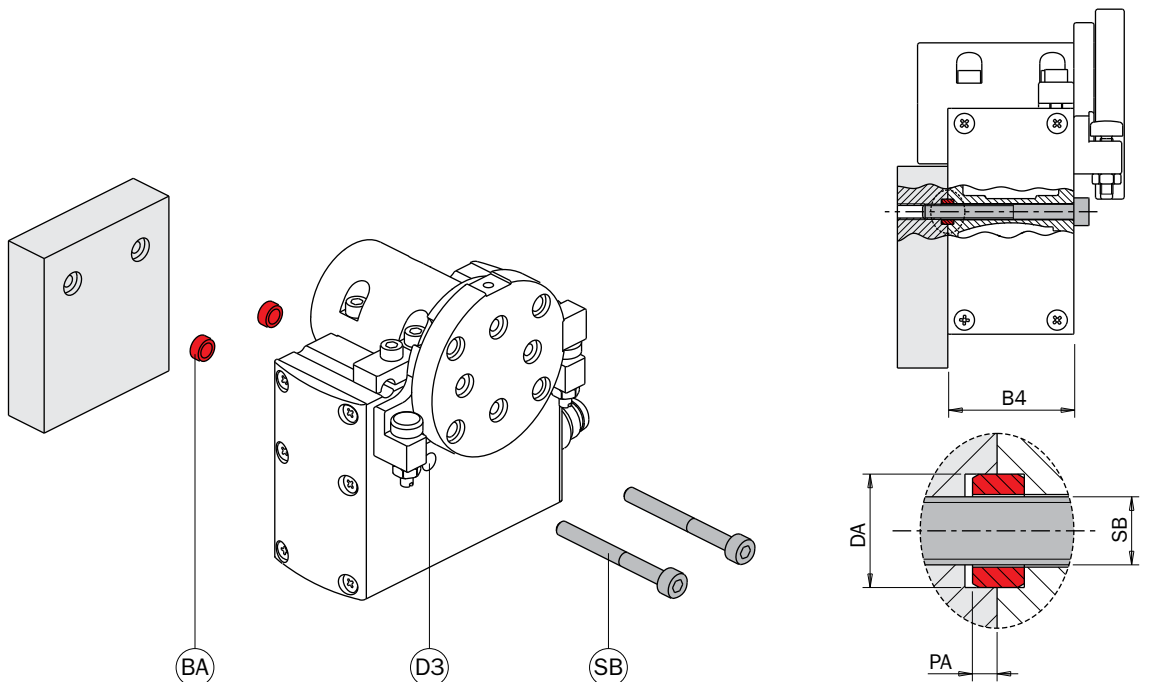
- To fasten the actuator by its base, use four through-screws (SA) through the mounting plate and screw it to the unit.
- To fasten the actuator by its side, use two screws (SB) in the through-holes (D3).

In every case, use the two centering sleeves (BA) supplied in the package. Follow the dimensions (DA and PA) given in the table for their seats in the mounting plate.

|    | MRE16180 | MRE25180 | MRE32180 |
|----|----------|----------|----------|
| B4 | 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       |



2 centering rings (BA) for the disc and 2 centering sleeves (BA) for the body are supplied in the package.



## Pneumatic indexing tables (series ITSC)

- Available in two sizes with 4, 6 or 8 positions.
- Available clockwise or counter clockwise (ending A).
- High torque.
- Suitable for heavy loads.
- Through hole for cables and hoses.
- Reduced weight and overall dimensions.



ITSC-16...



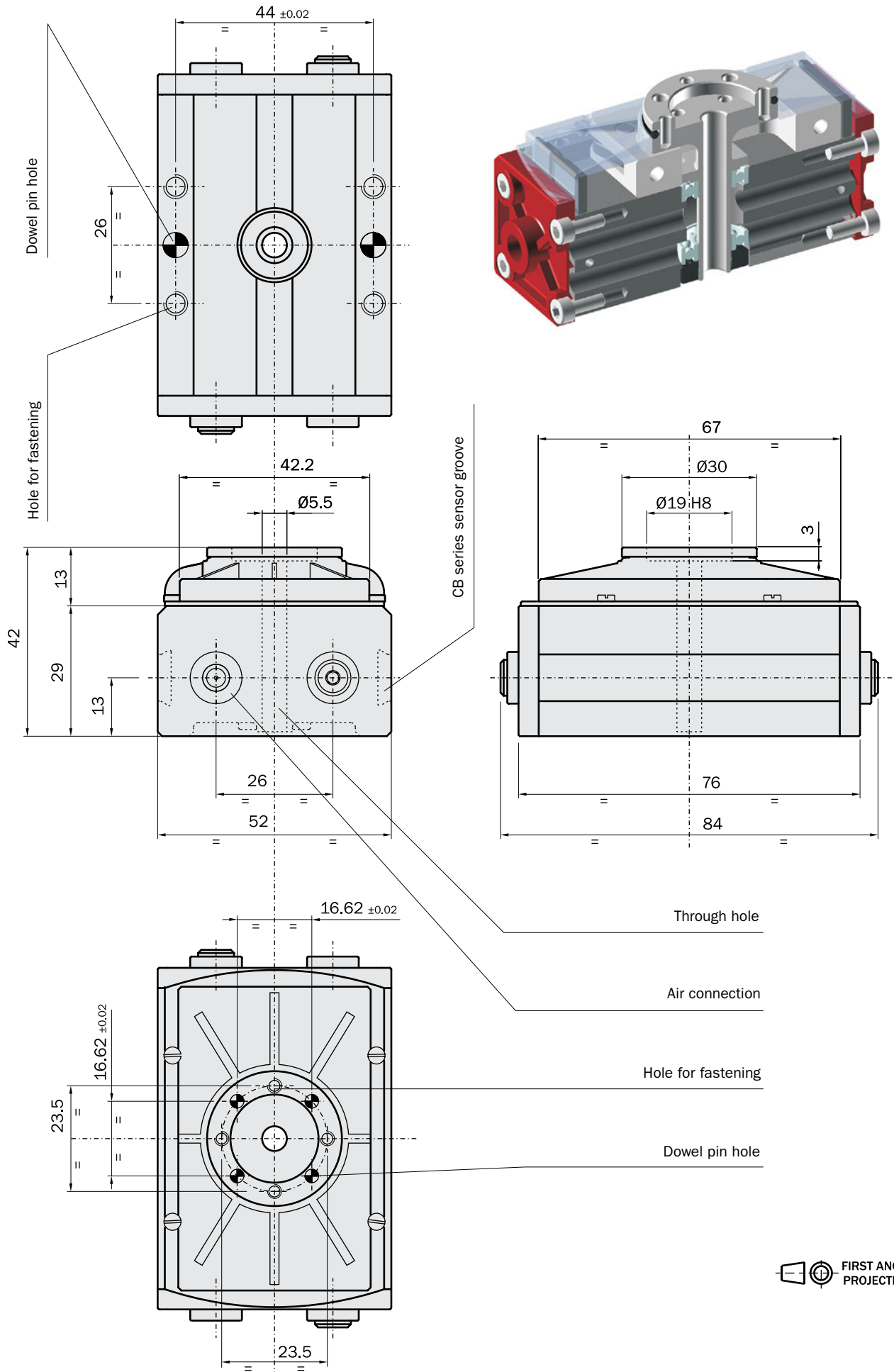
ITSC-45...

|                                  | ITSC-164<br>ITSC-164A                                     | ITSC-166<br>ITSC-166A     | ITSC-168<br>ITSC-168A     | ITSC-454<br>ITSC-454A       | ITSC-456<br>ITSC-456A       | ITSC-458<br>ITSC-458        |
|----------------------------------|---|---------------------------|---------------------------|-----------------------------|-----------------------------|-----------------------------|
| Medium                           | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                           |                           |                             |                             |                             |
| Pressure range                   | 2.5 ÷ 8 bar   |                           |                           |                             |                             |                             |
| Temperature range                | 5° ÷ 60°C.  |                           |                           |                             |                             |                             |
| Swivelling angle                 | 4x90°   | 6x60°                     | 8x45°                     | 4x90°                       | 6x60°                       | 8x45°                       |
| Theoretical torque at 6 bar      | 1364<br>Nmm   | 1672<br>Nmm               | 1814<br>Nmm               | 22902<br>Nmm                | 26442<br>Nmm                | 28208<br>Nmm                |
| Air consumption                  | 8 cm <sup>3</sup><br>x90°                                 | 7 cm <sup>3</sup><br>x60° | 7 cm <sup>3</sup><br>x45° | 159 cm <sup>3</sup><br>x90° | 146 cm <sup>3</sup><br>x60° | 136 cm <sup>3</sup><br>x45° |
| Indexing time without load       | 0.10 s<br>x90°  | 0.08 s<br>x60°            | 0.06 s<br>x45°            | 0.15 s<br>x90°              | 0.12 s<br>x60°              | 0.09 s<br>x45°              |
| Angular precision                | ± 0.12°   | ± 0.12°                   | ± 0.12°                   | ± 0.12°                     | ± 0.12°                     | ± 0.12°                     |
| Positioning repeatability (360°) | ± 0.02°   | ± 0.02°                   | ± 0.02°                   | ± 0.02°                     | ± 0.02°                     | ± 0.02°                     |
| Weight                           | 320 g   | 320 g                     | 320 g                     | 3740 g                      | 3740 g                      | 3960 g                      |

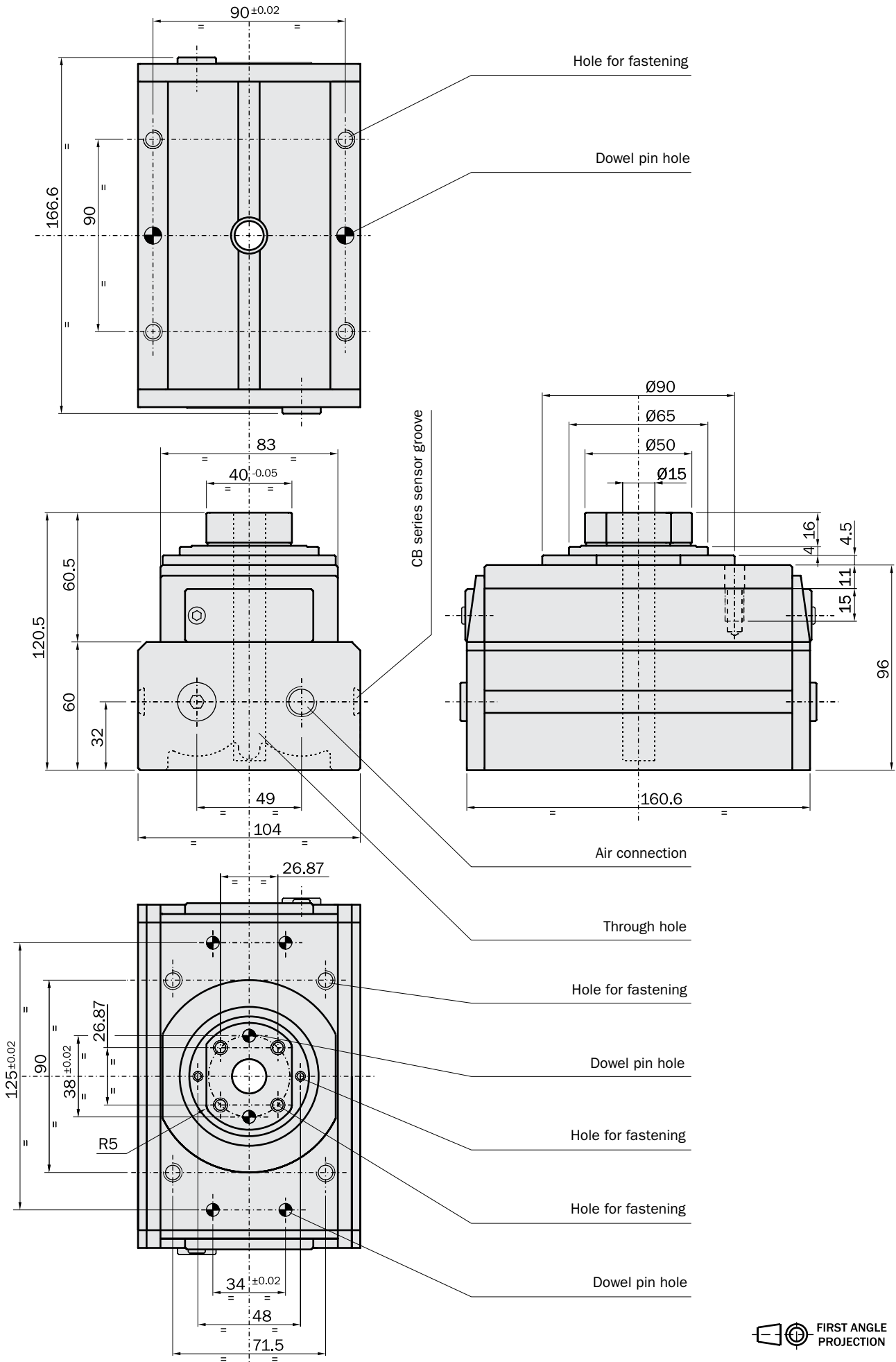


**Dimensions (mm)**

**ITSC-16...**

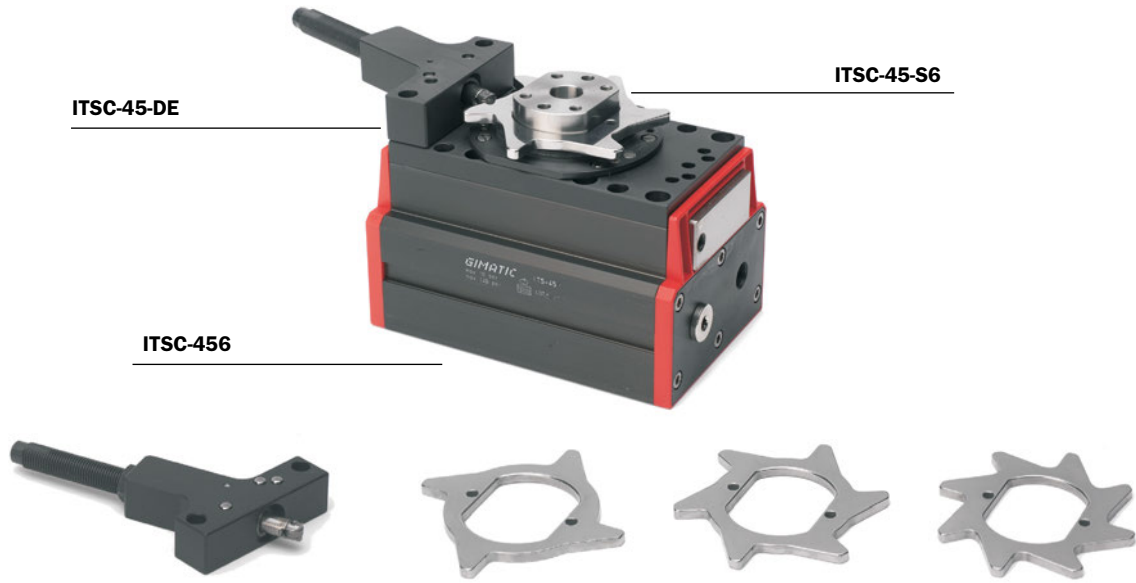


FIRST ANGLE PROJECTION



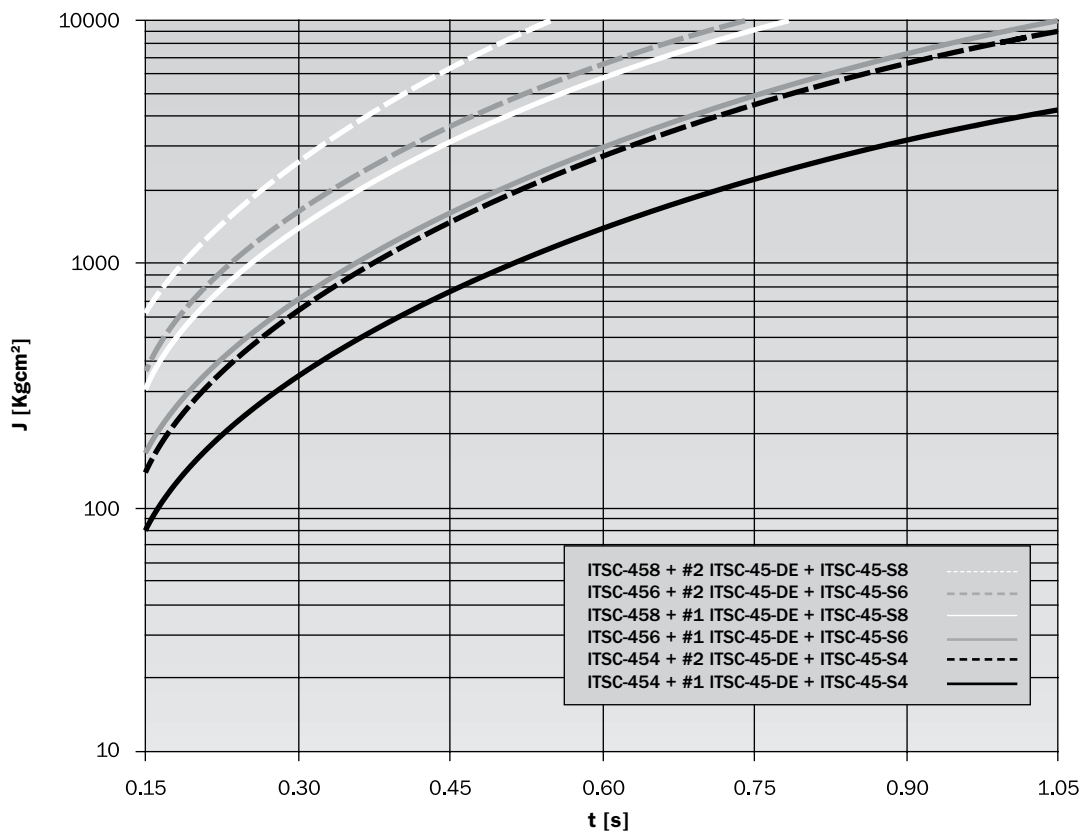
**Shock-absorbers**

Accessories for ITSC-45... are available to dissipate kinetic energy by means of one or two shock-absorbers. They allow shorter indexing times.



|             | ITSC-45-DE                  | ITSC-45-S4             | ITSC-45-S6             | ITSC-45-S8             |
|-------------|-----------------------------|------------------------|------------------------|------------------------|
| Description | Shock-absorber with housing | 4-cam crown            | 6-cam crown            | 8-cam crown            |
| Weight      | 290 g                       | 90 g                   | 105 g                  | 120 g                  |
| To use on:  | ITSC-45...                  | ITSC-454<br>ITSC-454-A | ITSC-456<br>ITSC-456-A | ITSC-458<br>ITSC-458-A |

**Kinetic energy**





**QC**  
Quick changer



**SQC**  
Square quick changer



**MCQC**  
Electrical connection modules for QC



**EQC**  
Electric quick changer



**QC75**  
Quick changer for collaborative robots



**ECQC**  
Electrical connection modules for EQC



**SQM/SQP**  
Quick changer with suspension



[Click for Quick Navigation](#)

**QUICK CHANGER**

---



**Quick changer**

- Easy replacement of the EOAT on the robot.
- Suitable also with vacuum ports.
- Avoids mistakes in pneumatic and electrical connections.
- 4, 8, 10 or 12 pneumatic connections.
- 15 electrical connections.
- The two parts (robot side and gripper side) are supplied separately.
- The robot side QCX unit can also cut off the compressed air with a safety air valve.
- The robot side QCY unit cuts off the compressed air automatically during disengagement.
- Optional LOQC lock unit.

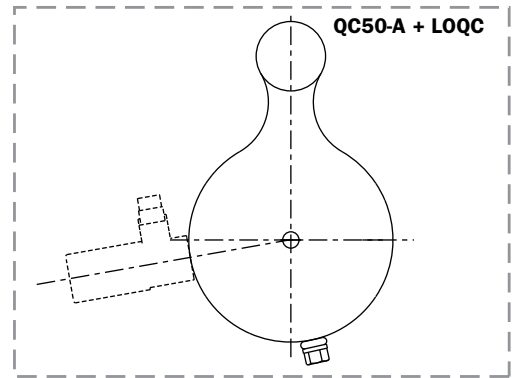
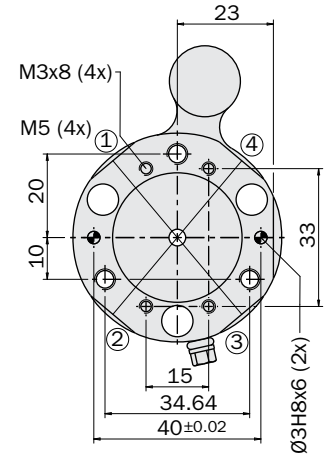
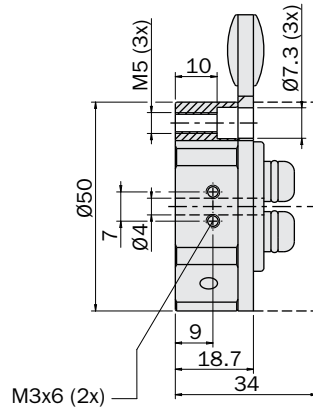
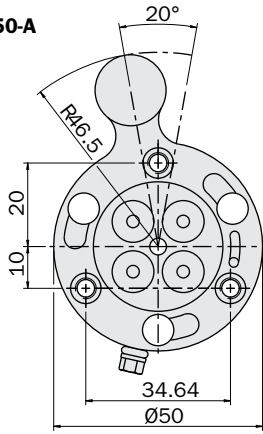


|   |          | 50  | 90                 | 150                  | 160                  | 200                  |
|---|----------|---|--------------------|----------------------|----------------------|----------------------|
| Medium  |          | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                      |                      |                      |
| Pressure range                                |          | -1 ÷ 6 bar  |                    |                      |                      |                      |
| Temperature range                             |          | 5 ÷ 60 °C   |                    |                      |                      |                      |
| Robot side quick changer                      | QC...-A  | QC50-A<br>(103 g)   | QC90-A<br>(318 g)  | QC150-A<br>(1123 g)  | QC160-A<br>(1200 g)  | QC200-A<br>(2640 g)  |
| Robot side quick changer with safety valve    | QCX...-A | -   | QCX90-A<br>(595 g) | QCX150-A<br>(2200 g) | QCX160-A<br>(2200 g) | QCX200-A<br>(4900 g) |
| Robot side quick changer with automatic valve | QCY...-A | QCY50-A<br>(133 g)  | QCY90-A<br>(350 g) | QCY150-A<br>(1180 g) | -                    | QCY200-A<br>(2700 g) |
| Universal gripper side quick changer          | QC...-B  | QC50-B<br>(65 g)  | QC90-B<br>(227 g)  | QC150-B<br>(827 g)   | QC160-B<br>(900 g)   | QC200-B<br>(1890 g)  |
| Quick changer on gripper side, with flange    | QCP...-B | QCP50-B<br>(110 g)  | QCP90-B<br>(315 g) | QCP150-B<br>(1090 g) | QCP160-B<br>(1150 g) | QCP200-B<br>(2400 g) |
| Gripper side quick changer, specific for QCY  | QCY...-B | -   | -                  | QCY150-B<br>(862 g)  | -                    | QCY200-B<br>(1875 g) |

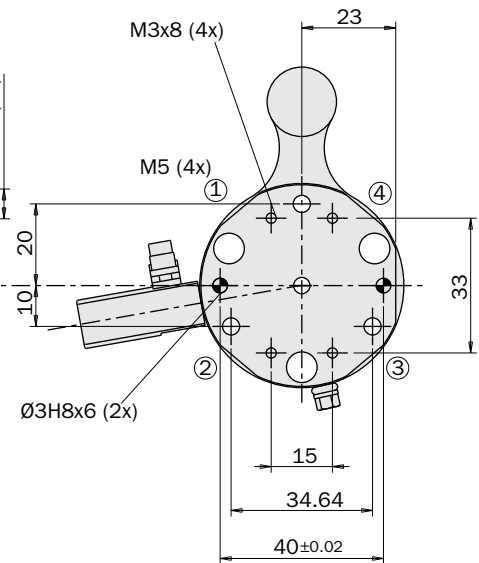
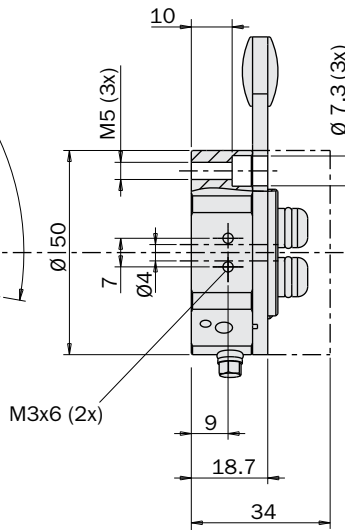
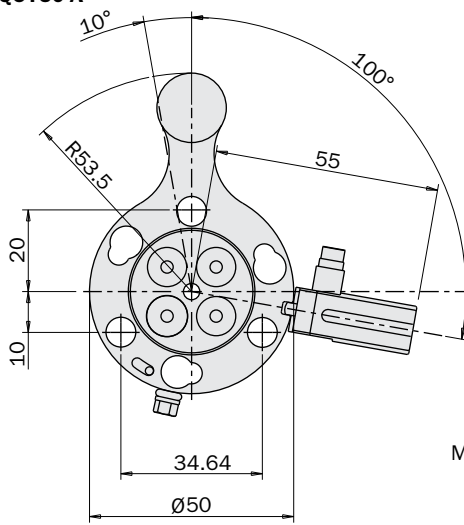
**Click for Pricing & Add to Cart**

**Dimensions (mm)**

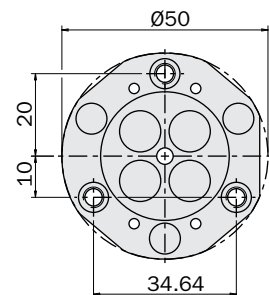
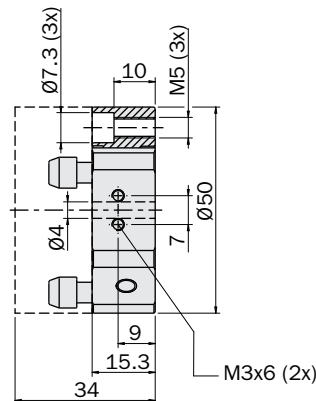
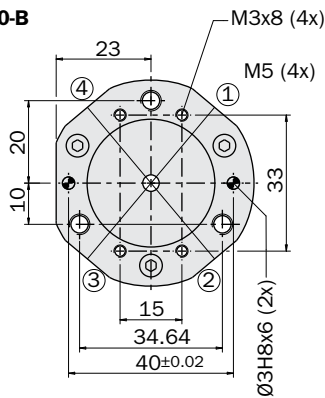
**QC50-A**



**QCY50-A**



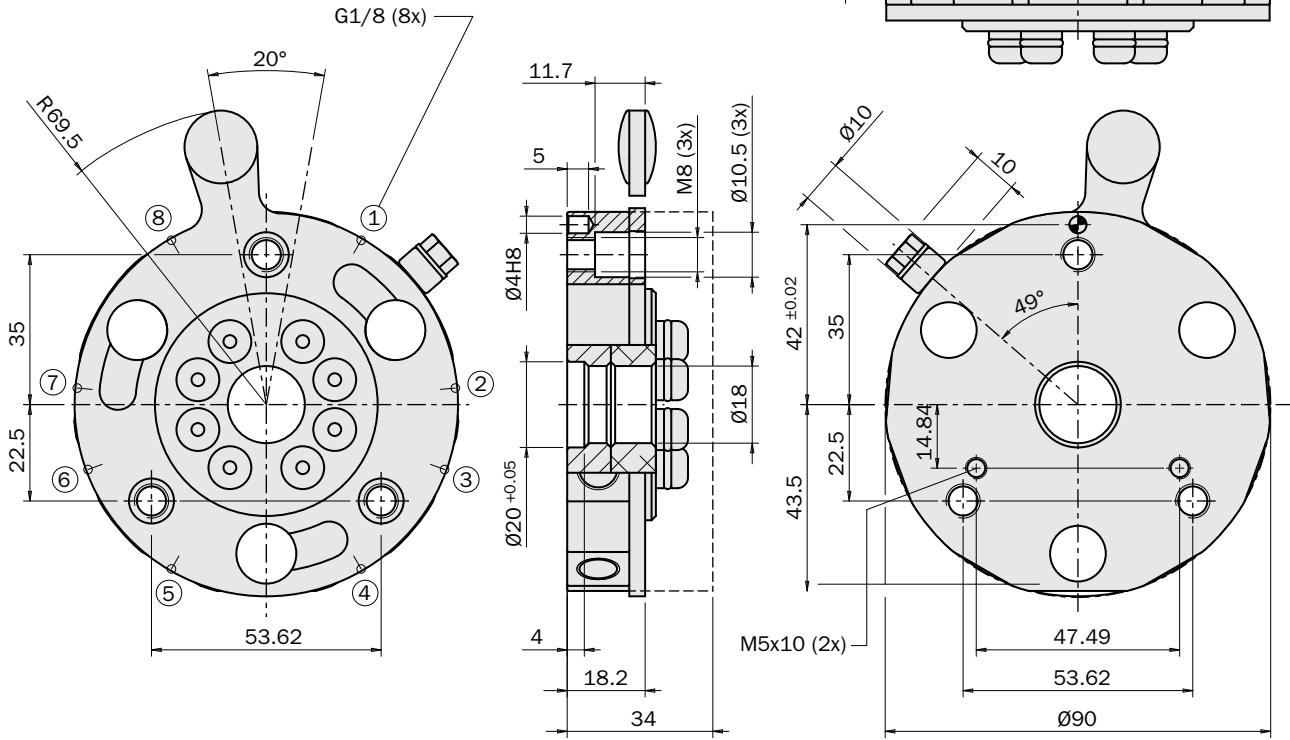
**QC50-B**



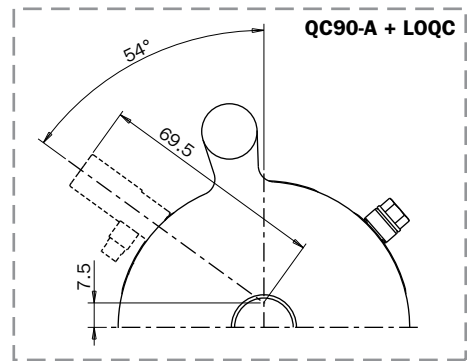
FIRST ANGLE PROJECTION

Dimensions (mm)

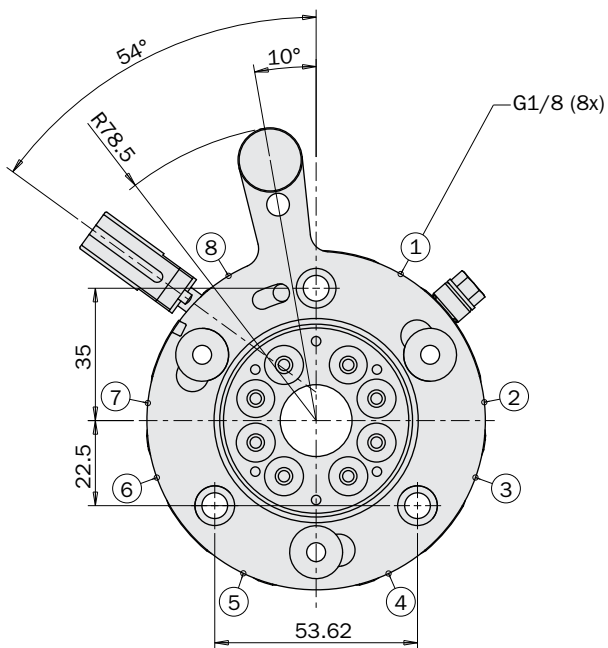
QC90-A



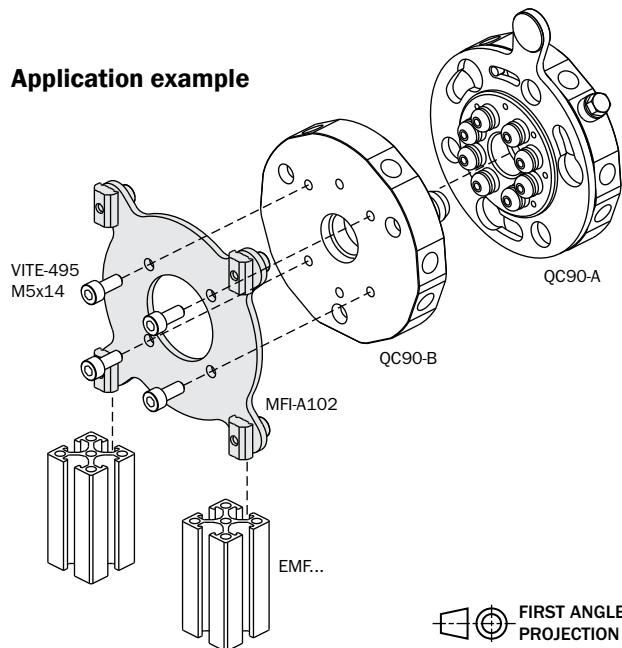
FIRST ANGLE PROJECTION



QCY90-A



Application example

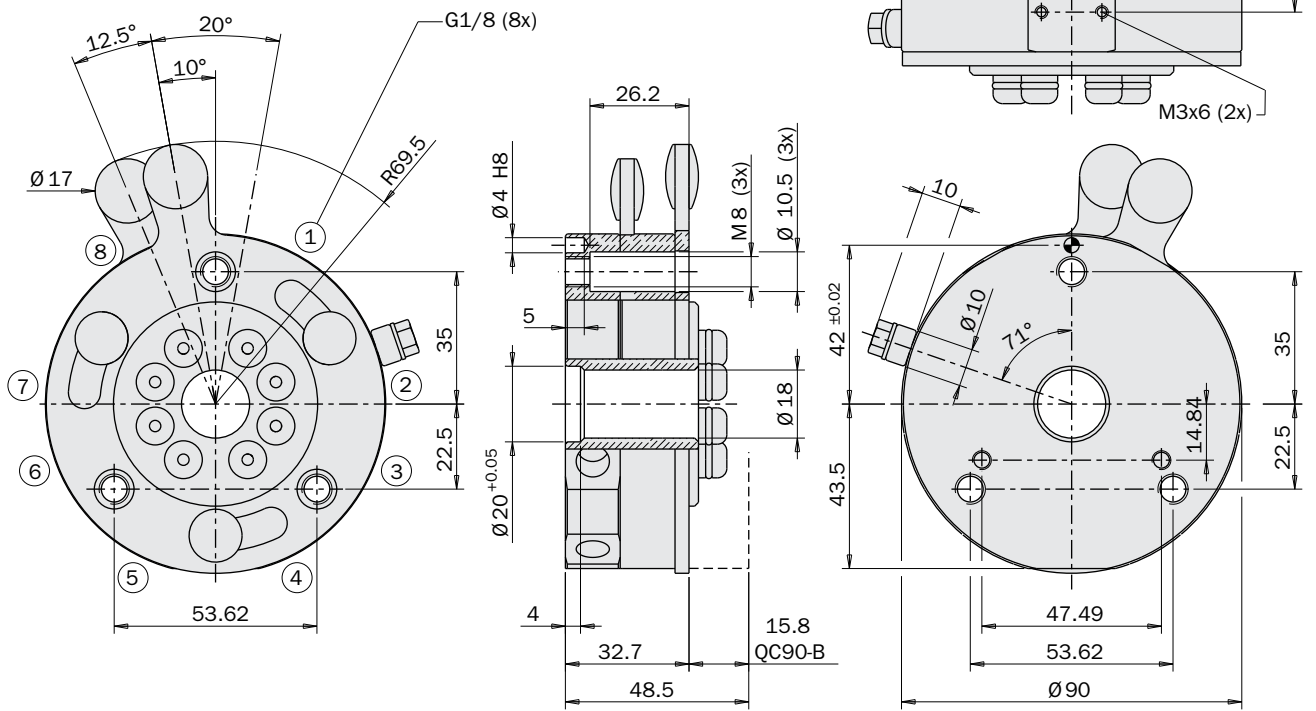


FIRST ANGLE PROJECTION



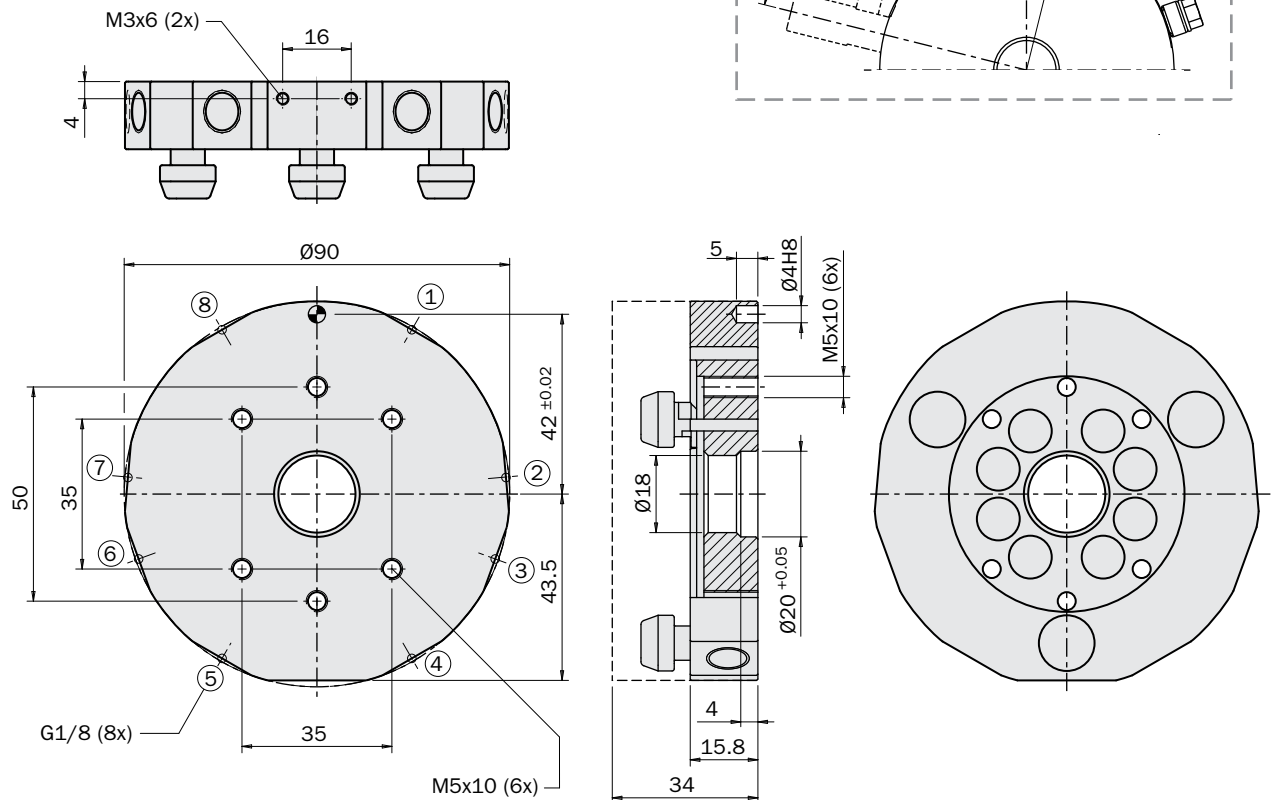
**Dimensions (mm)**

**QCX90-A**



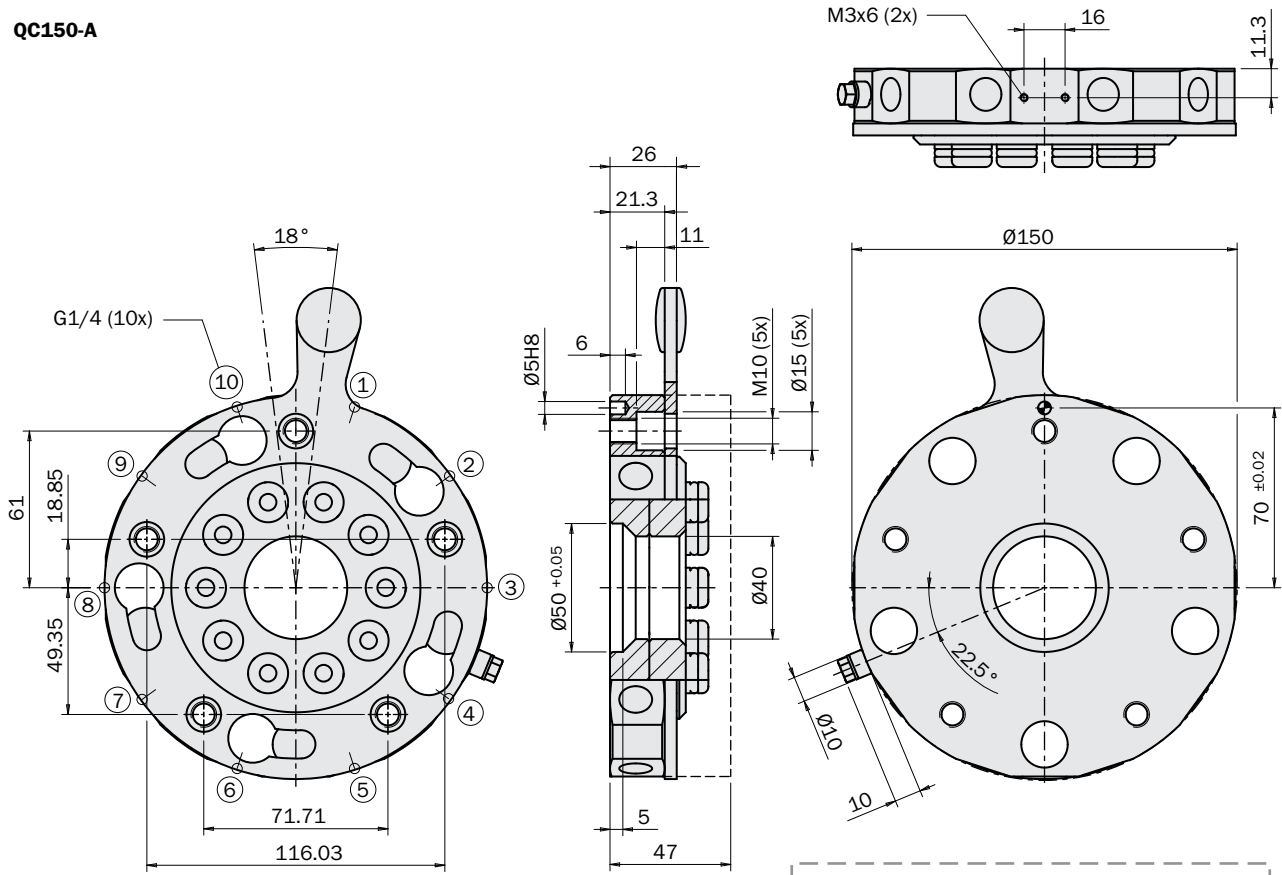
FIRST ANGLE PROJECTION

**QC90-B**

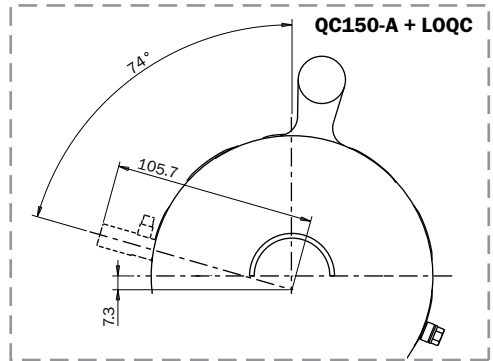
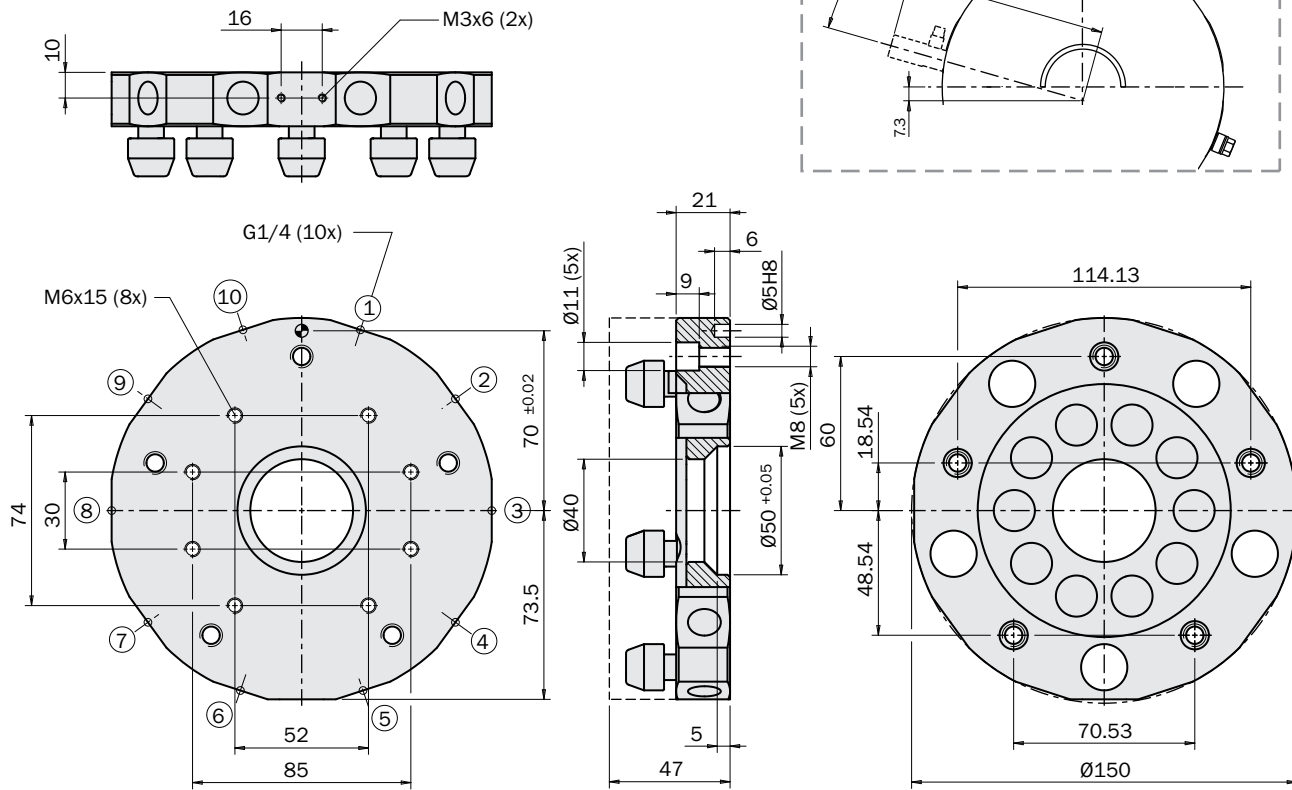


Dimensions (mm)

QC150-A



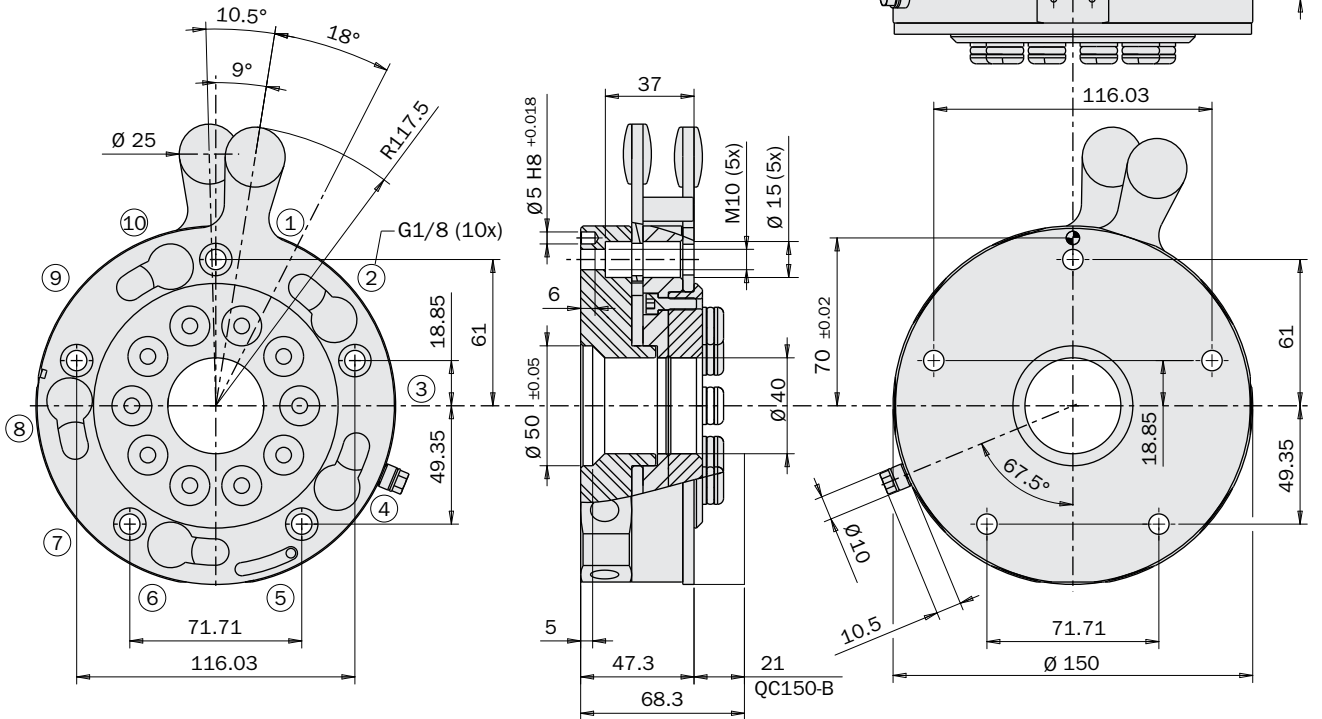
QC150-B / QCY150-B



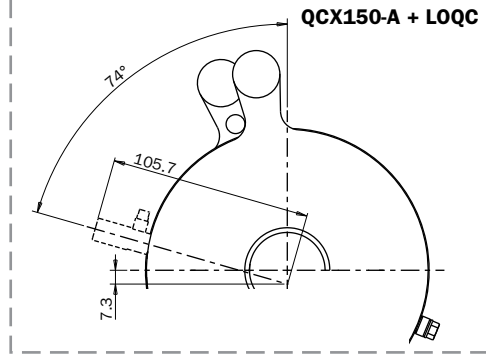
FIRST ANGLE PROJECTION

**Dimensions (mm)**

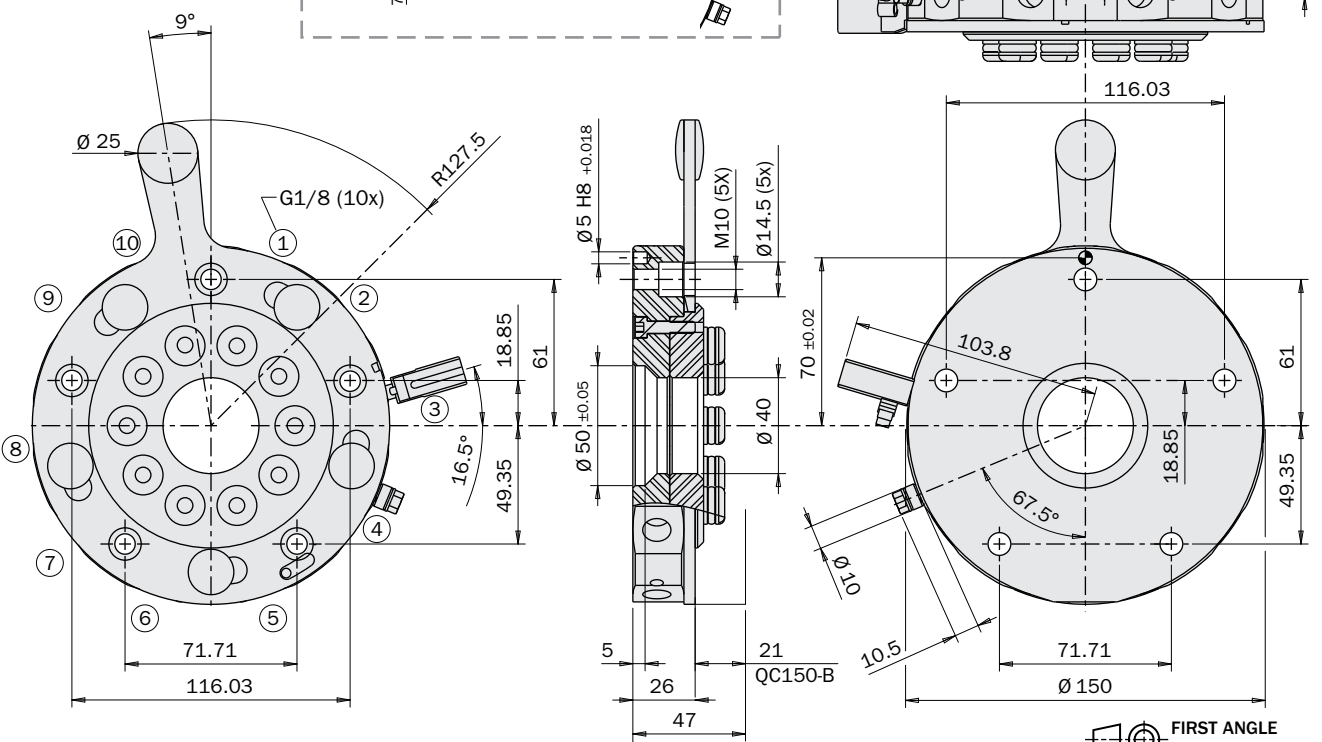
**QCX150-A**



**QCX150-A + LOQC**



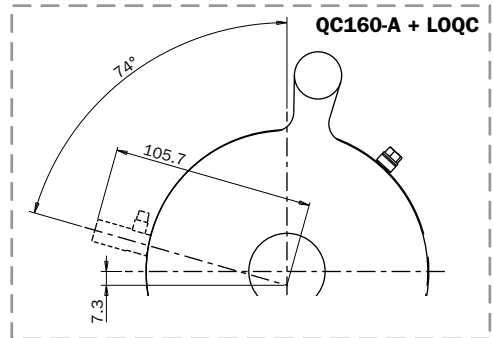
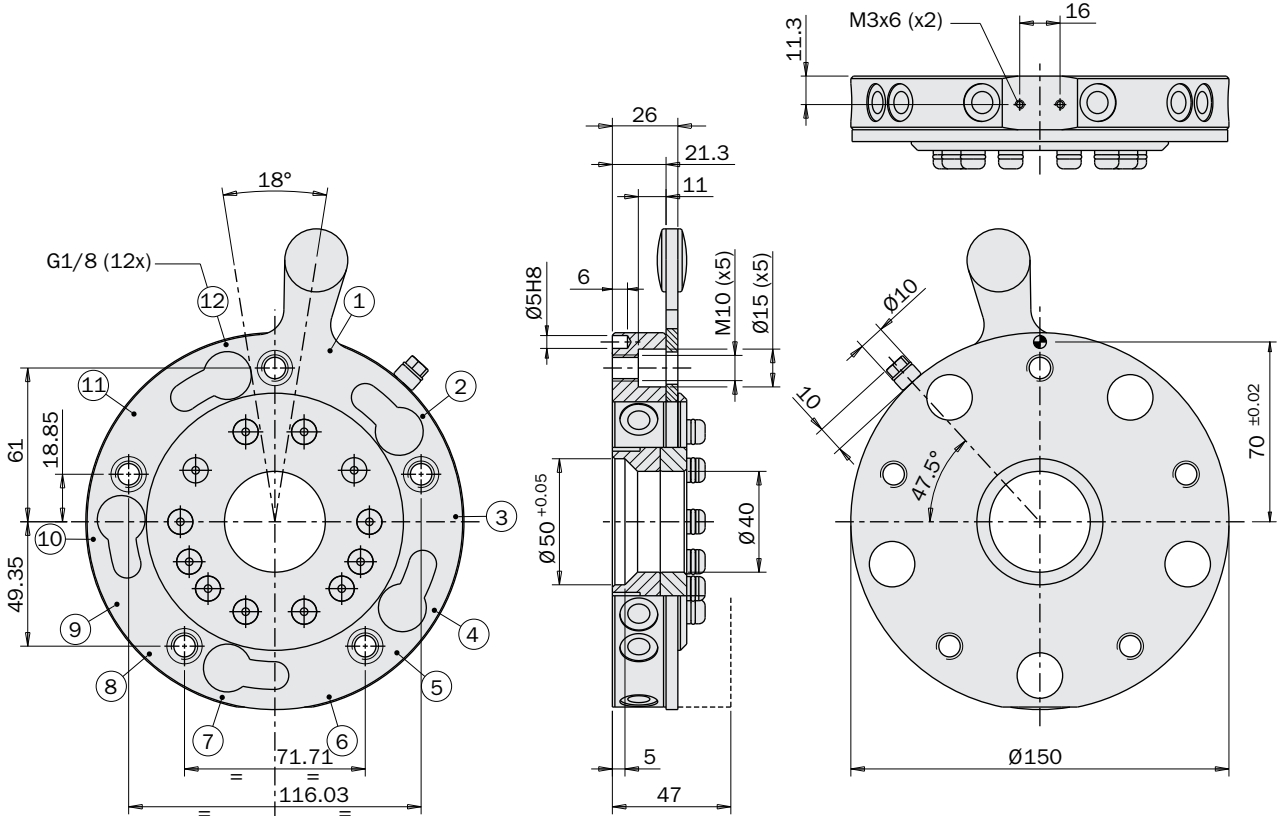
**QCY150-A**



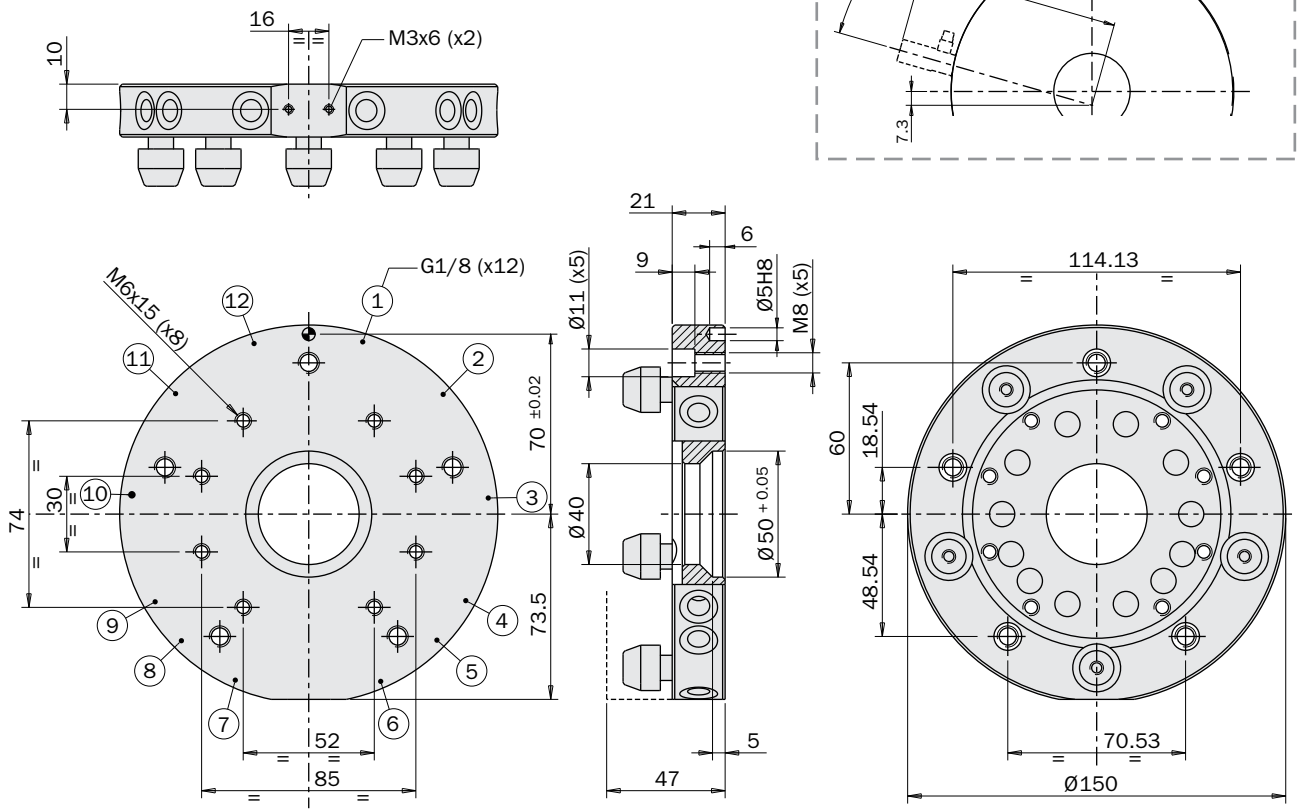
FIRST ANGLE PROJECTION

Dimensions (mm)

QC160-A



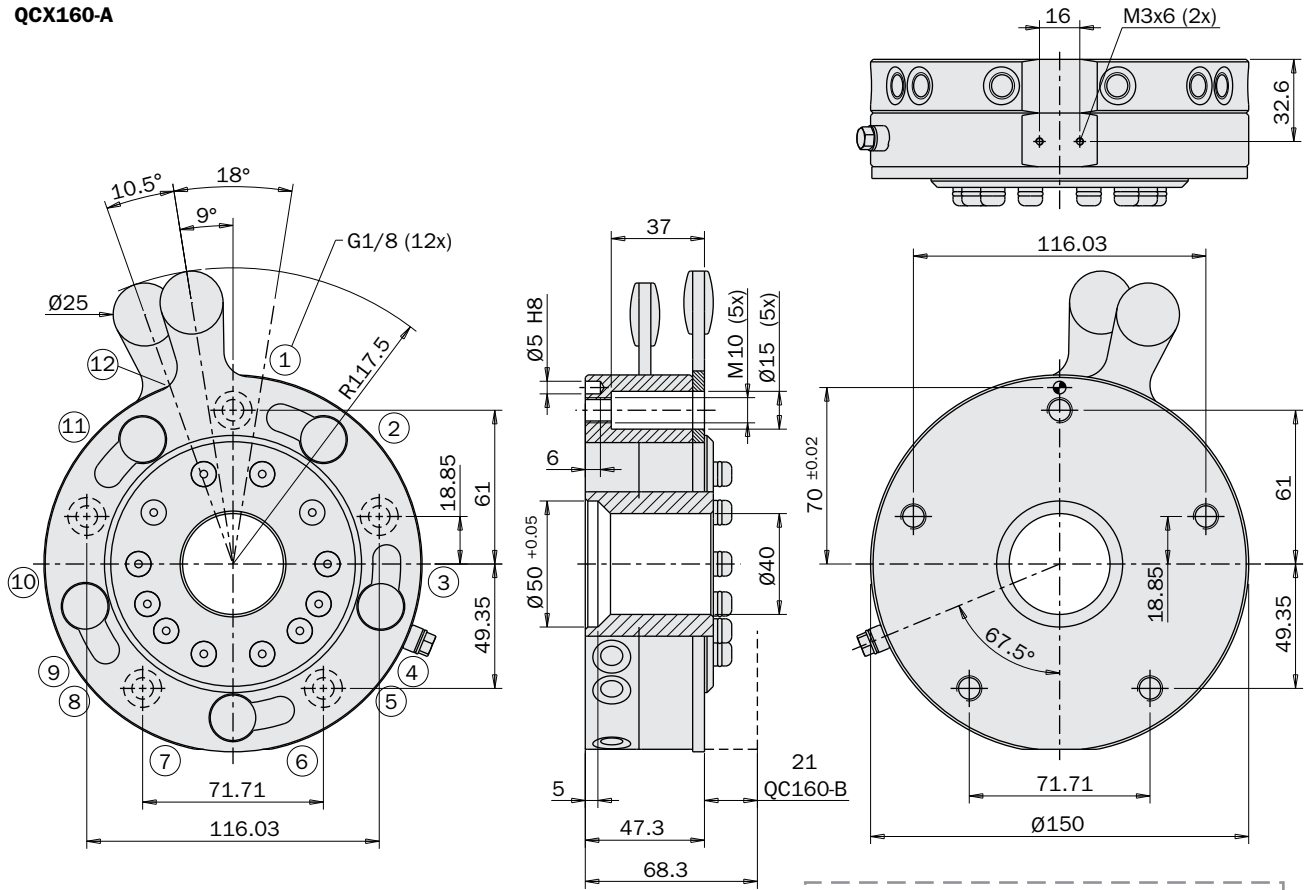
QC160-B



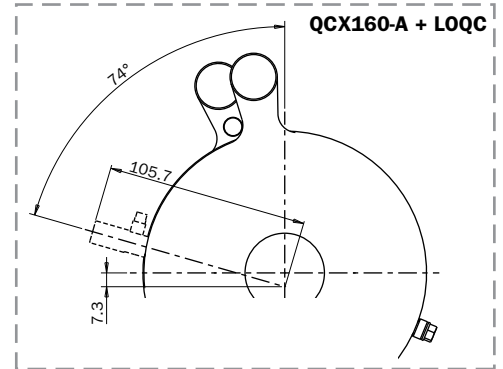
FIRST ANGLE PROJECTION

**Dimensions (mm)**

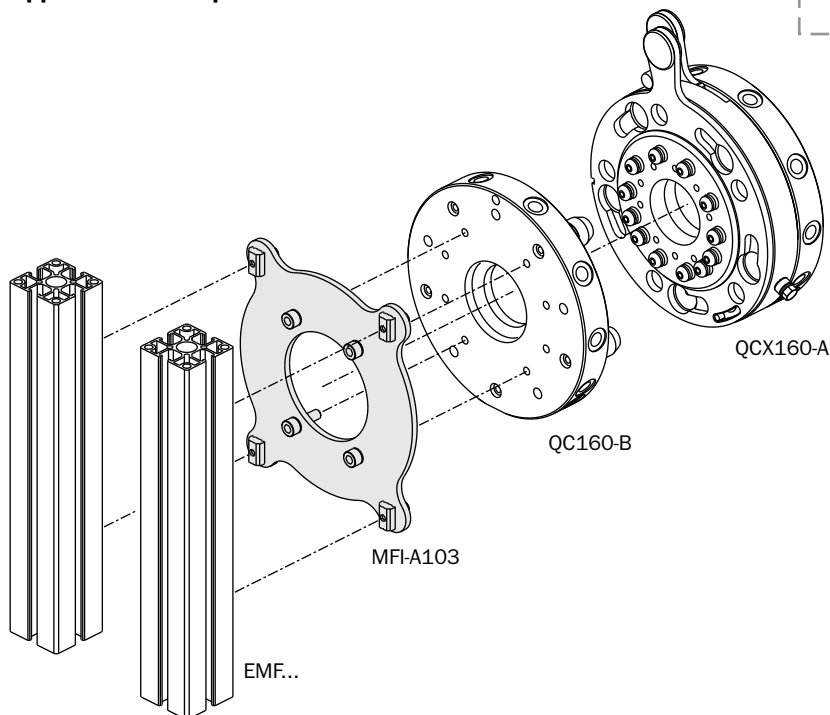
**QCX160-A**



FIRST ANGLE PROJECTION

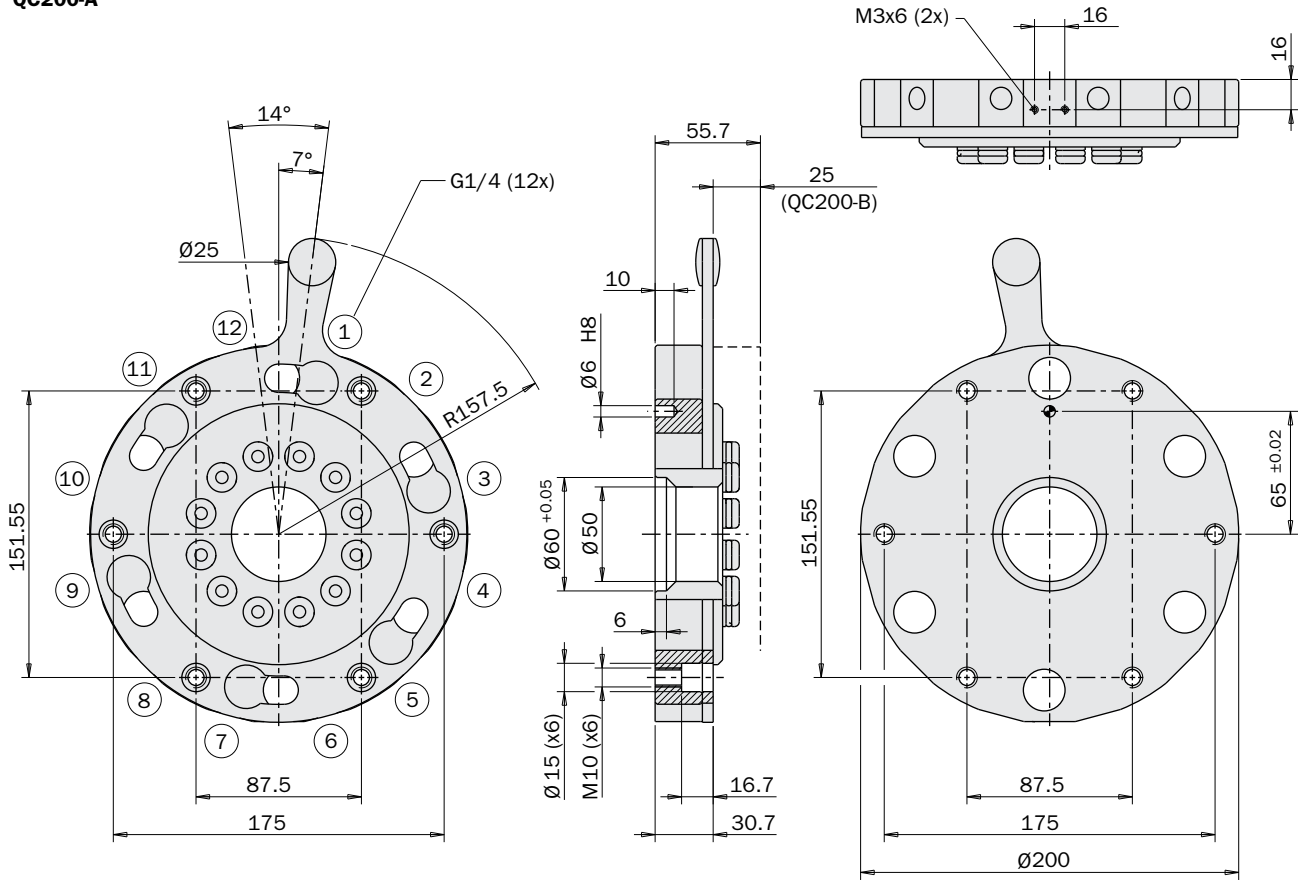


**Application example**

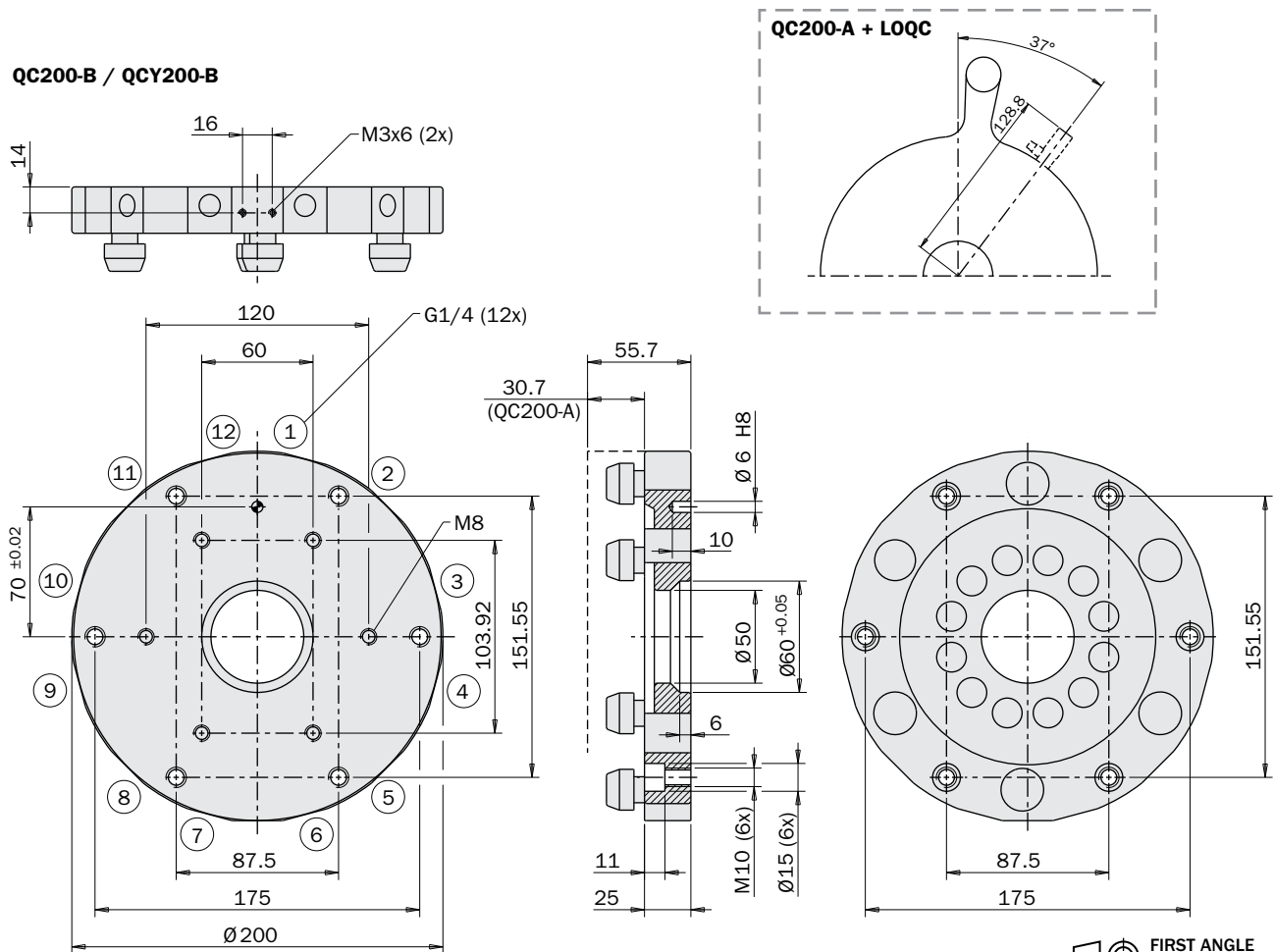


Dimensions (mm)

QC200-A



QC200-B / QCY200-B

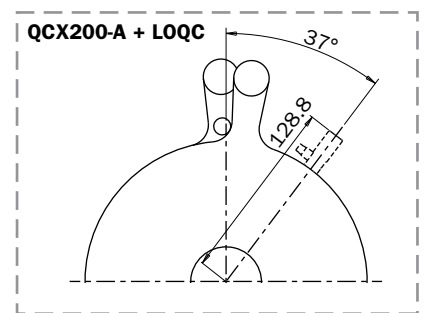
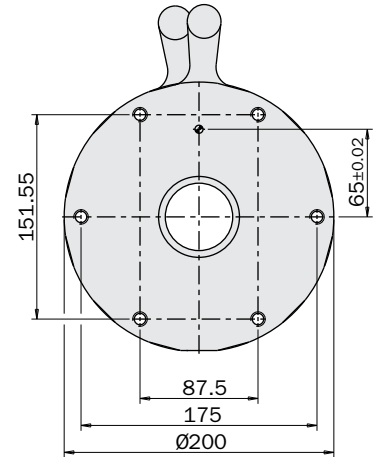
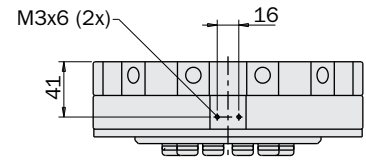
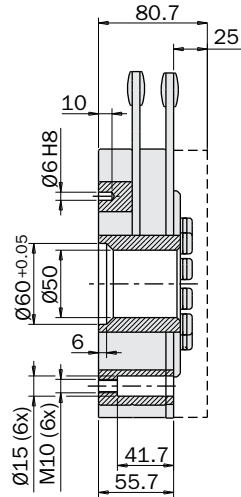
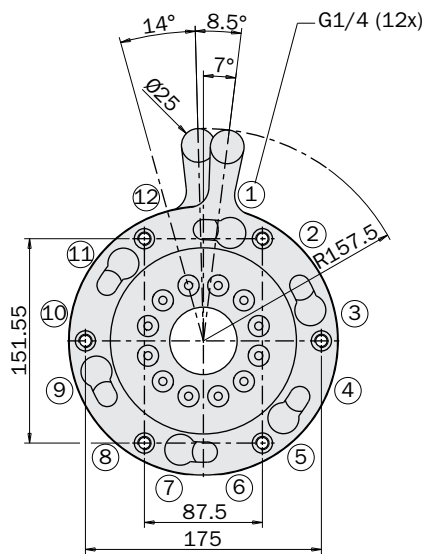


FIRST ANGLE PROJECTION

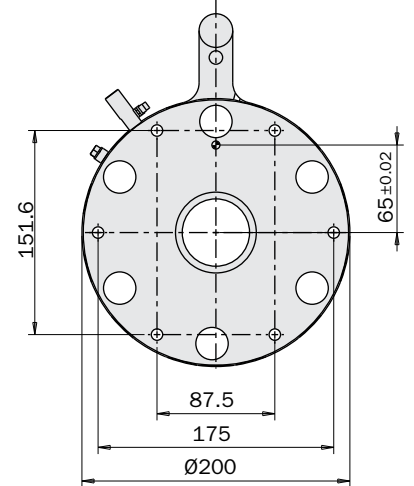
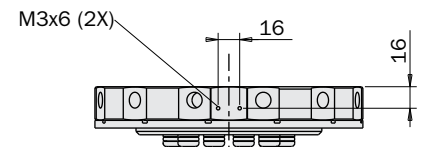
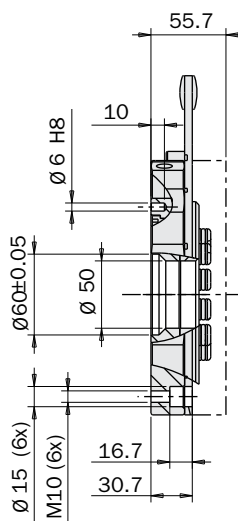
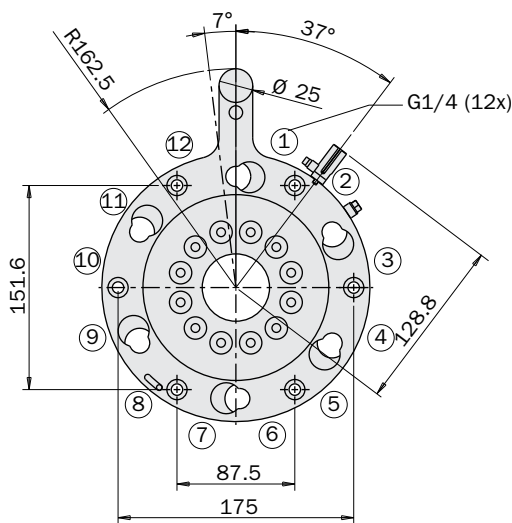
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Dimensions (mm)**

**QCX200-A**



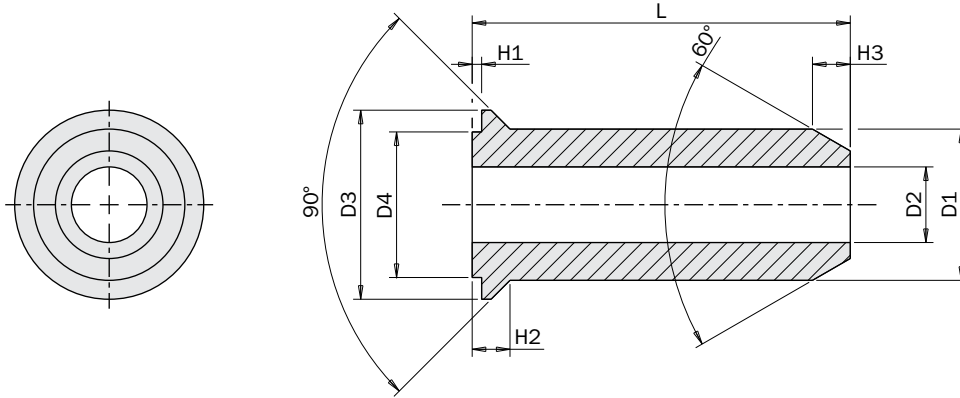
**QCY200-A**



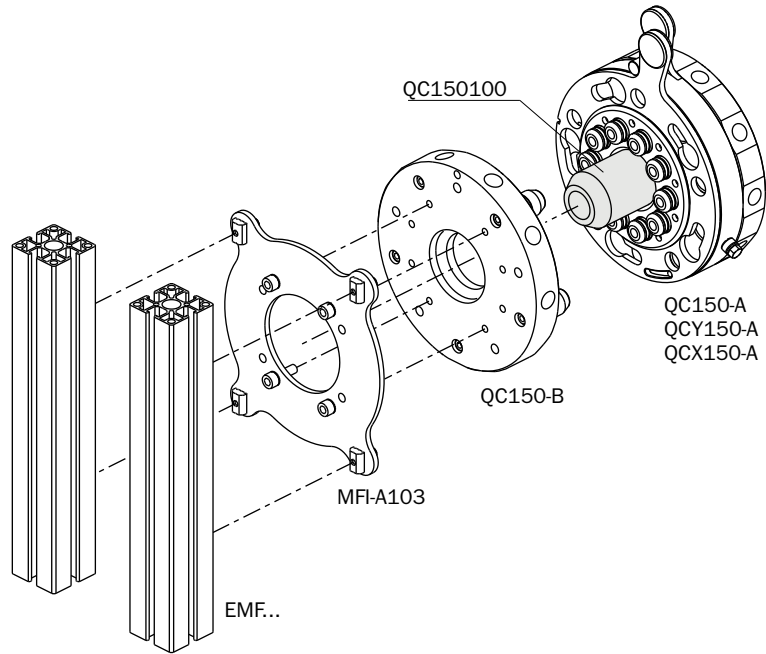
FIRST ANGLE PROJECTION

**Centering pin**

- To be positioned on the robot side.
- It helps the manual centering of heavy EOATs.

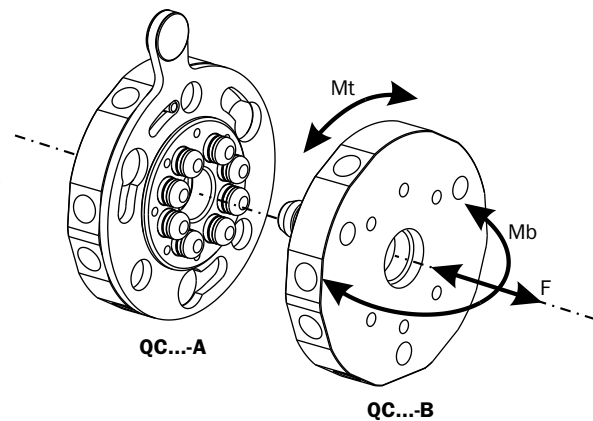


|    | QC9065 | QC150100 | QC200120 |
|----|--------|----------|----------|
| L  | 65     | 100      | 120      |
| H1 | 2      | 2.5      | 3        |
| H2 | 5      | 10       | 11       |
| H3 | 5      | 10       | 15       |
| D1 | Ø18    | Ø40      | Ø50      |
| D2 | Ø8     | Ø20      | Ø25      |
| D3 | Ø20    | Ø50      | Ø60      |
| D4 | Ø14    | Ø38.5    | Ø43.5    |



**Safety loads**

|       | QC50  | QC90   | QC150  | QC160  | QC200   |
|-------|-------|--------|--------|--------|---------|
| F     | 350 N | 1400 N | 3000 N | 3000 N | 9000 N  |
| Mt    | 30 Nm | 180 Nm | 600 Nm | 600 Nm | 2000 Nm |
| Mb    | 15 Nm | 100 Nm | 350 Nm | 350 Nm | 1350 Nm |
| m (*) | 5 kg  | 20 kg  | 50 kg  | 50 kg  | 150 kg  |



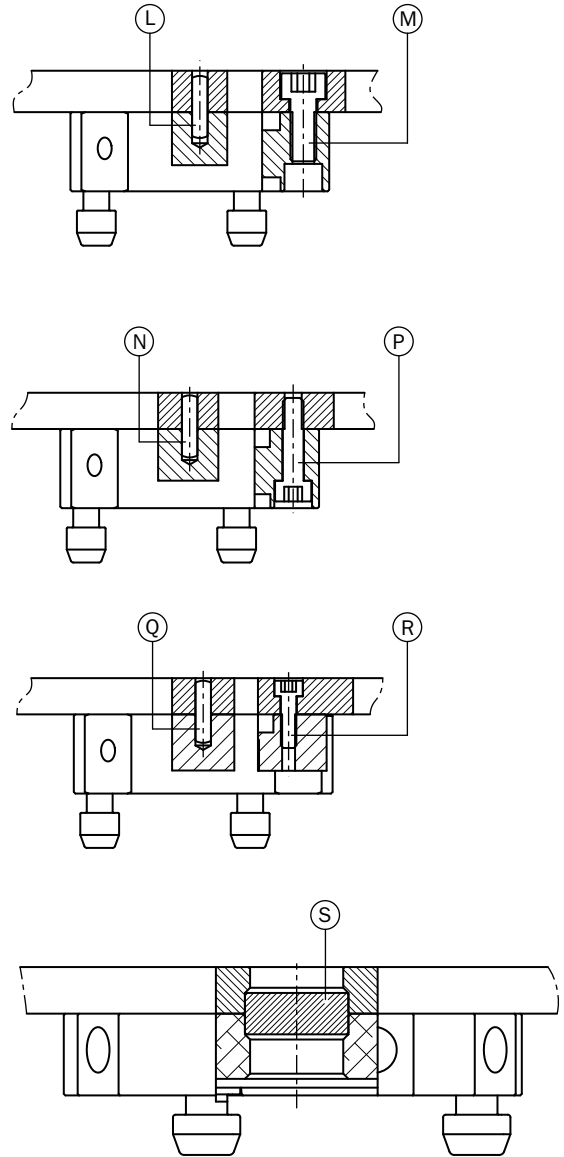
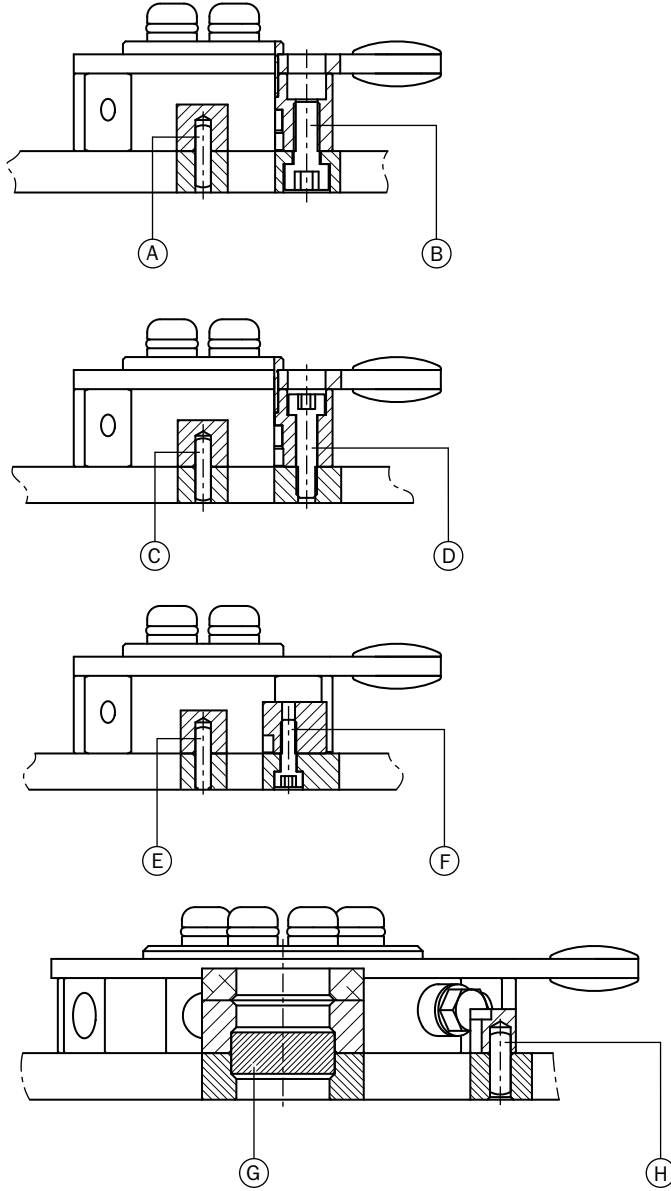
(\*) Maximum recommended load



**Fastening**

Robot side

Gripper side



|   | QC50-A<br>QCY50-A | QC90-A<br>QCX90-A<br>QCY90-A | QC150-A<br>QCX150-A<br>QCY150-A | QC160-A<br>QCX160-A | QC200-A<br>QCX200-A<br>QCY200-A |
|---|-------------------|------------------------------|---------------------------------|---------------------|---------------------------------|
| A | Ø3 (2x)           | -                            | -                               | -                   | -                               |
| B | M5 (3x)           | M8 (3x)                      | M10 (5x)                        | M10 (5x)            | M10 (6x)                        |
| C | Ø3 (2x)           | -                            | -                               | -                   | -                               |
| D | M4 (3x)           | M6 (3x)                      | M8 (5x)                         | M8 (5x)             | M8 (6x)                         |
| E | Ø3 (2x)           | -                            | -                               | -                   | -                               |
| F | M3 (4x)           | M5 (2x)                      | -                               | -                   | -                               |
| G | -                 | Ø20                          | Ø50                             | Ø50                 | Ø60                             |
| H | -                 | Ø4 (1x)                      | Ø5 (1x)                         | -                   | Ø6 (1x)                         |

|   | QC50-B  | QC90-B  | QC150-B<br>QCY150-B | QC160-B | QC200-B<br>QCY200-B |
|---|---------|---------|---------------------|---------|---------------------|
| L | Ø3 (2x) | -       | -                   | -       | Ø6 (1x)             |
| M | M5 (3x) | -       | M8 (5x)             | M8 (5x) | M10 (6x)            |
| N | Ø3 (2x) | -       | -                   | -       | -                   |
| P | M4 (3x) | -       | M6 (5x)             | M6 (5x) | M8 (6x)             |
| Q | Ø3 (2x) | -       | -                   | -       | -                   |
| R | M3 (4x) | M5 (6x) | M6 (8x)             | M6 (8x) | M8 (6x)             |
| S | -       | Ø20     | Ø50                 | Ø50     | Ø60                 |

**QCX**

**Robot side quick changer with safety valve**

QCX is equipped with an integrated air valve, which automatically closes the compressed air (or vacuum) flow before the system is completely disengaged (4).

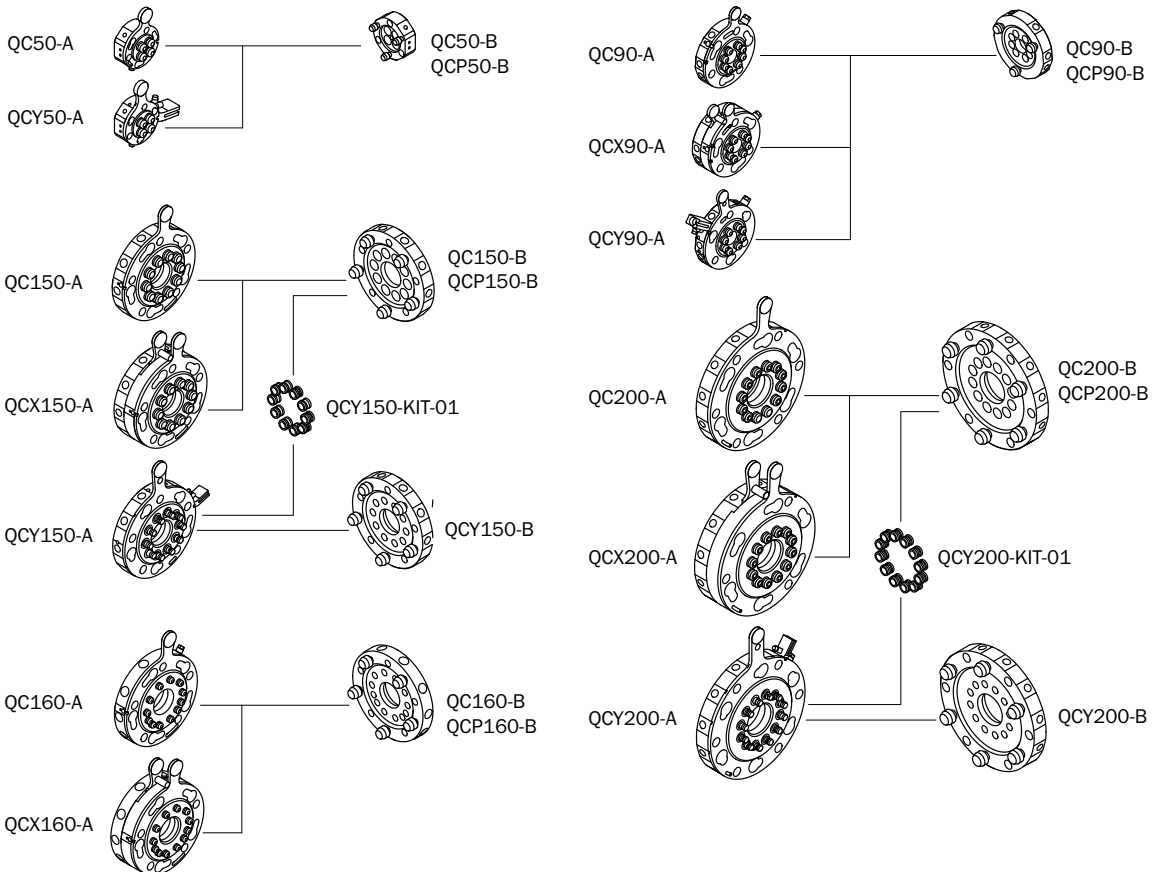
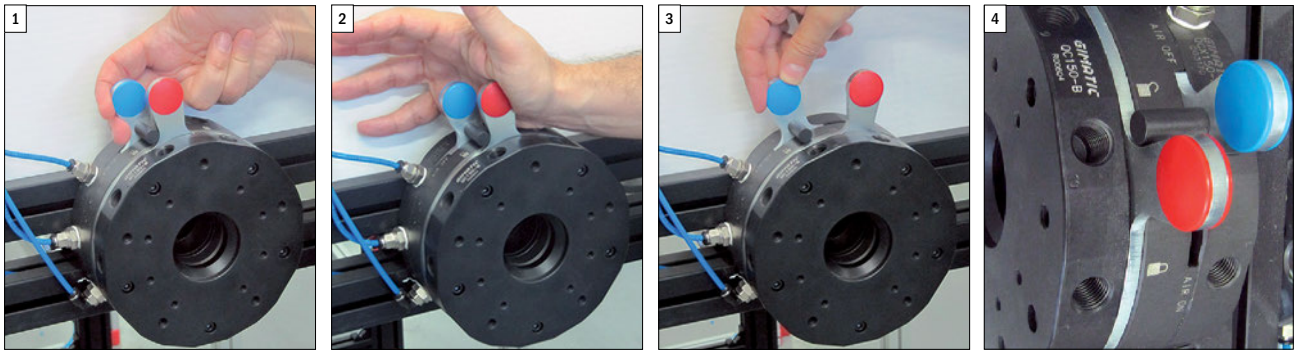
It is not possible to open the air flow, if the flange is not engaged (1).

The red handle disengages the flange, but also move the blue handle by the black pin which closes the air (2).

When engaged the air flow can be controlled (on/off) by the blue handle (3).

This rotating tap valve solves all the problems of ball valve systems: the high pushing force necessary for engaging and the uncontrolled movements of the actuators when disengaging.

QCX perfectly fit with QC...-B and it has the same mounting pattern of a QC...-A, but with a larger thickness.



**QCY**

**Robot side quick changer with automatic valve**

The QCY features a built-in air valve, which automatically cuts off the compressed air flow (or vacuum) before the system is completely disengaged.

The opening of the compressed air flow (or vacuum) is also automatic and follows the complete engagement.

Therefore, unlike the QCX, a single handle is sufficient. This reduces the dimensions of the QCY which is interchangeable with the QC...-A and compatible with the QC...-B.

Also this valve is with rotating tap and therefore does not require a high pushing force for the engagement and does not cause uncontrolled movements during the disengagement. An exhaust circuit connects the pneumatic tools on the QC...-B with the external atmosphere before the disengagement is completed.

**QCY-KIT**

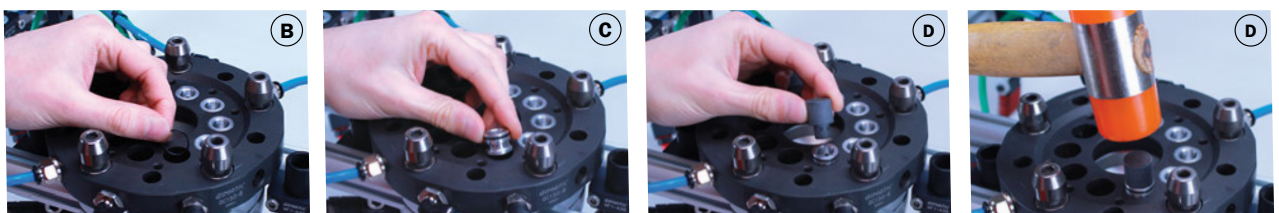
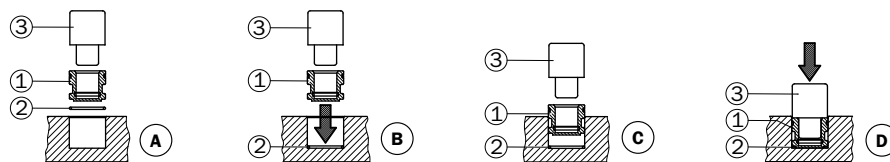
The transformation KIT makes the QC150-B and QC200-B models compatible with the new QCY150-A and QCY200-A quick changers.

ATTENTION: the QC...-B will no longer be compatible with the QC...-A and QCX...-A models after assembling the transformation KIT.

| QCY...-A | QC...-B           | KIT           |
|----------|-------------------|---------------|
| QCY150-A | QC150-B, QCP150-B | QCY150-KIT-01 |
| QCY200-A | QC200-B, QCP200-B | QCY200-KIT-01 |

Assembly procedure:

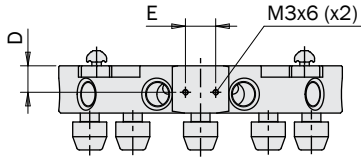
- Place the EOAT on a surface that ensures its stability.
- Clean the holes of the QC...-B from the presence of any grease.
- Introduce the o-rings (2) present in the KIT into each holes of the QC...-B, making sure that they are inserted fully (as shown in the Pic. B).
- Insert the reduction bushing (1) with the open side facing up on the hole of the QC...-B (as shown in the Pic. C).
- Place the insertion pin (3) in the KIT into the reduction bushing.
- Using a plastic hammer, insert the bushing into the QC...-B taking care to keep it perpendicular during the operation (as shown in the Pic. D). An excess portion of the o-ring could be cut off during the operation.
- Make sure that the reduction bushing (1) is in contact with the bottom of the hole: it must not protrude from the plane of the QC...-B.
- Repeat the previous steps to assemble the other reduction bushings in the remaining holes of the QC...-B.



QCP

Gripper side quick changer with integrated flange

- The interface for the aluminum beams is integrated.
- Reduced weight.
- Reduced backlash.
- Same dimensions.

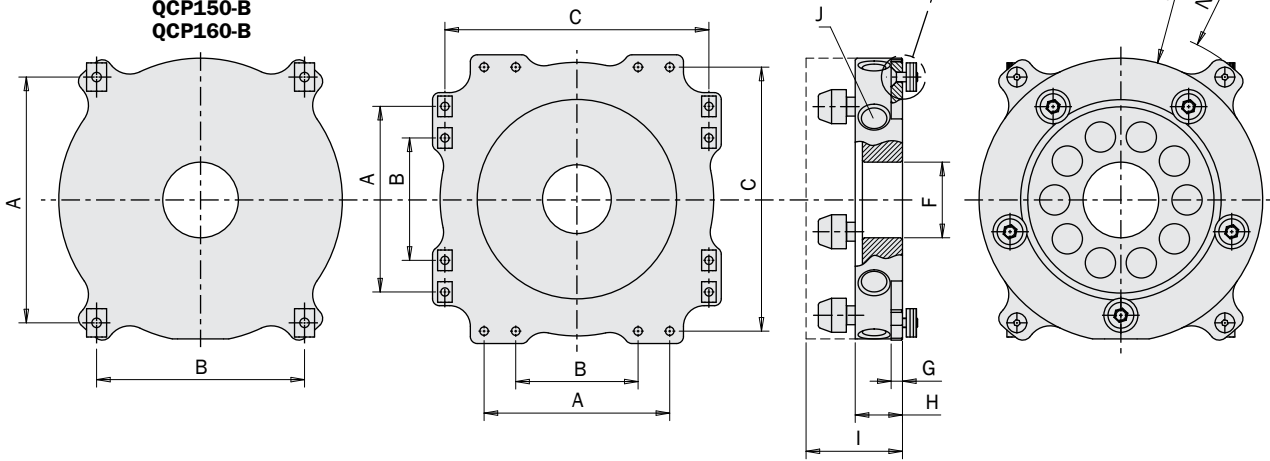


QCP90-B

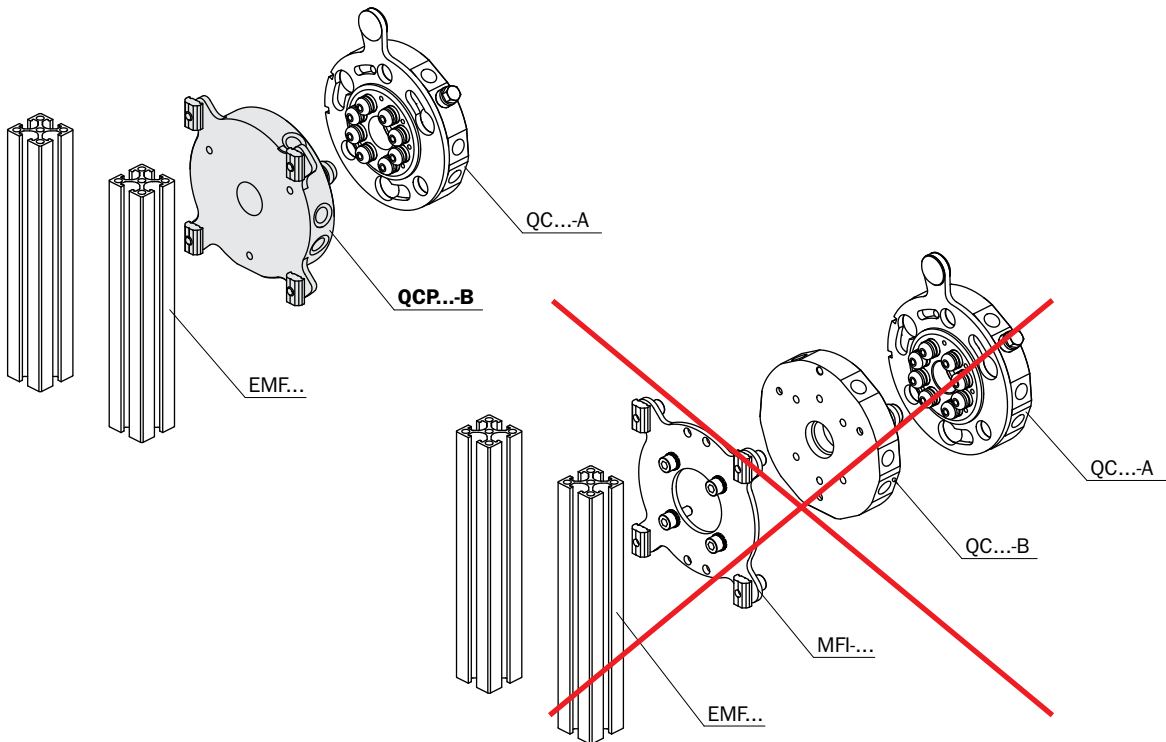


QCP50-B  
QCP90-B  
QCP150-B  
QCP160-B

QCP200-B



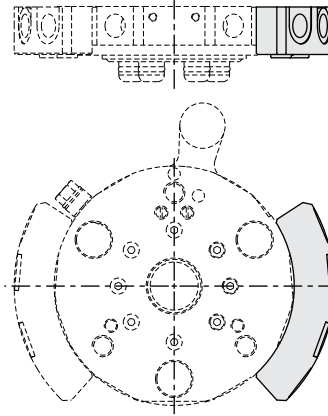
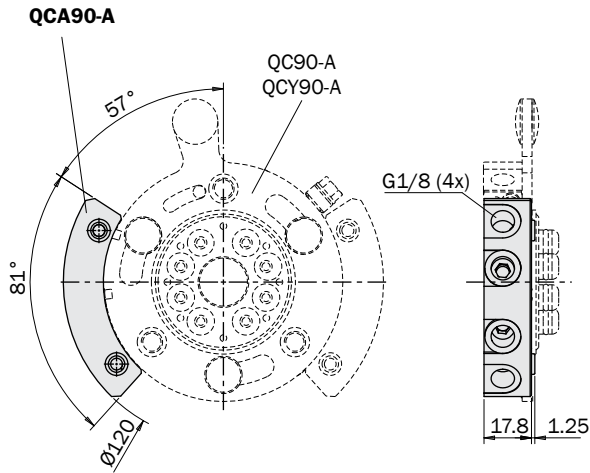
|          | A   | B   | C   | D  | E  | F   | G | H    | I  | J          | K        | L   | M    | N     | Weight |
|----------|-----|-----|-----|----|----|-----|---|------|----|------------|----------|-----|------|-------|--------|
| QCP50-B  | 50  | 32  | -   | 13 | 7  | Ø4  | 4 | 19.3 | 38 | M5 (x4)    | M4 (x4)  | 7.4 | Ø50  | Ø71.5 | 110 g  |
| QCP90-B  | 76  | 76  | -   | 7  | 16 | Ø18 | 4 | 18.8 | 37 | G1/8 (x8)  | M5 (x4)  | 7.4 | Ø90  | Ø99.5 | 315 g  |
| QCP150-B | 130 | 110 | -   | 14 | 16 | Ø40 | 6 | 25   | 51 | G1/4 (x10) | M5 (x4)  | 7.4 | Ø150 | Ø183  | 1092 g |
| QCP160-B | 130 | 110 | -   | 14 | 16 | Ø40 | 6 | 25   | 51 | G1/8 (x12) | M5 (x4)  | 7.4 | Ø150 | Ø183  | 1150 g |
| QCP200-B | 135 | 89  | 192 | 22 | 16 | Ø50 | 8 | 33   | 64 | G1/4 (x12) | M6 (x16) | 7.4 | Ø200 | Ø257  | 2400 g |



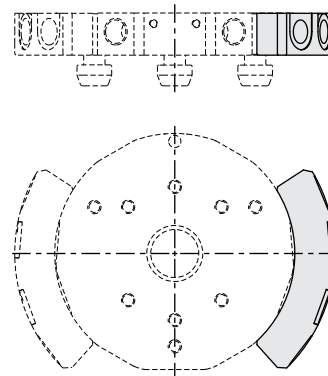
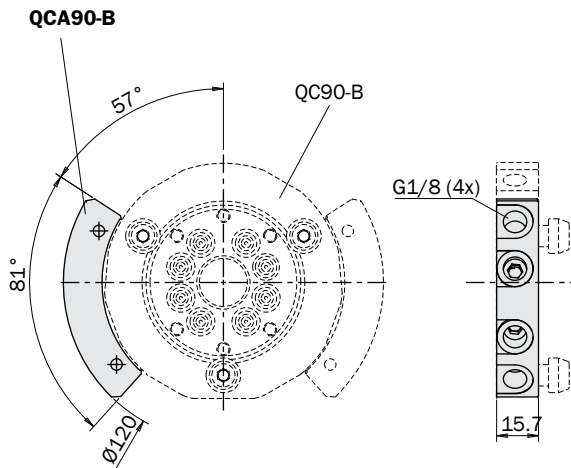
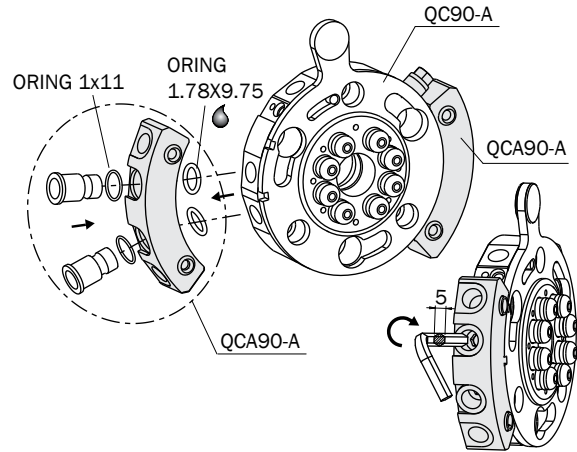
**QCA**

**Additional air ports**

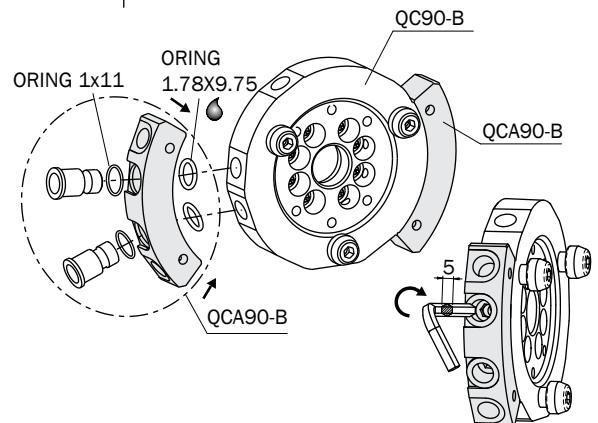
- Accessories for adding 2 or 4 extra air ports.
- The two parts (robot side and gripper side) are supplied separately.
- The accessory can be used on the left or on the right side.
- Suitable for vacuum and compressed air.
- Two high-flow air ports for each accessory.



|        |                |
|--------|----------------|
|        | <b>QCA90-A</b> |
| Weight | 53 g           |



|        |                |
|--------|----------------|
|        | <b>QCA90-B</b> |
| Weight | 53 g           |

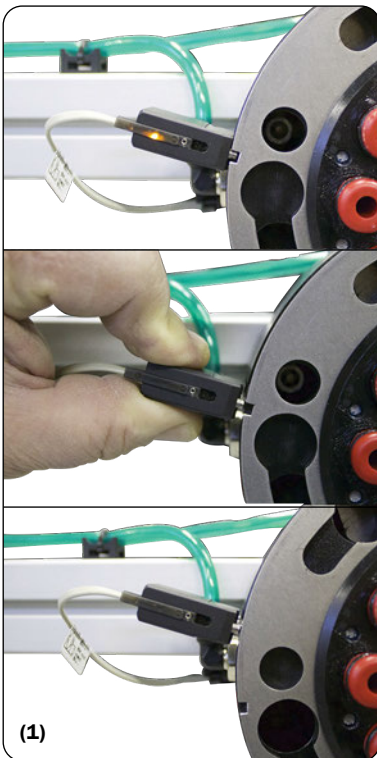


**LOQC**

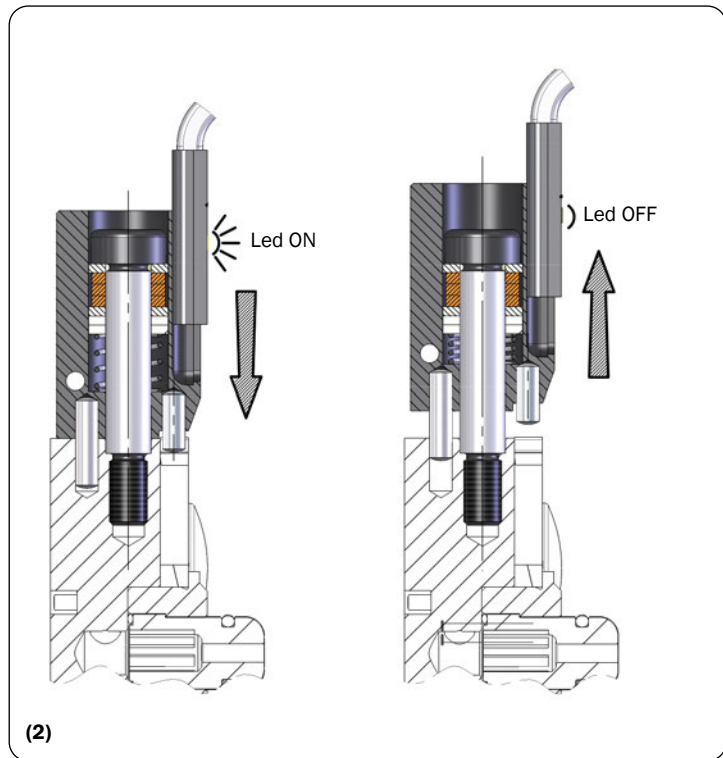
**Lock unit for QC quick changers**

- Option suitable for QC50-A, QC90-A, QC150-A, QC160-A, QC200-A, QCX90-A, QCX150-A, QCX160-A, QCX200-A.
- Standard on QCY50-A, QCY90-A, QCY150-A, QCY200-A.
- It prevents accidental falling of the EOAT.
- Mechanical safety: it locks the handle of the quick changer, only when correctly engaged (1).
- Electrical safety: it emits an electric signal, only when locked (2). This signal will give the consent to the movement of the robot. In the case of incorrect engagement, or destructive impact on the LOQC, or electrical fault of the sensor, the signal drops out and the robot stops.
- Magnetic (SS type) (3) or inductive (SI type) (4) sensor supplied a part.

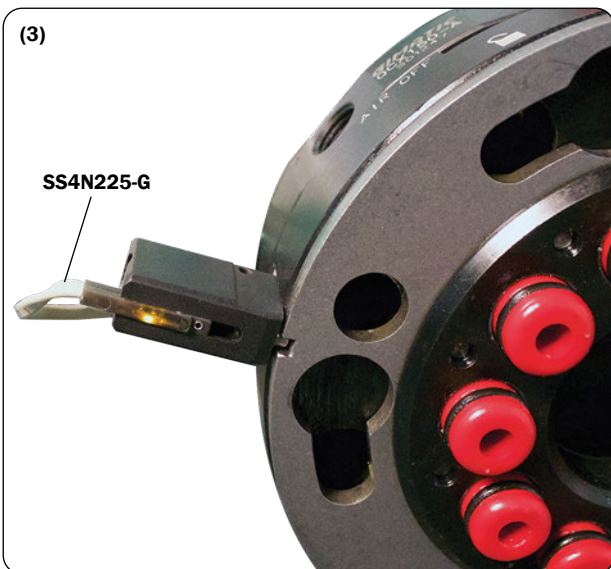
| <b>LOQC</b> |      |
|-------------|------|
| Weight      | 20 g |



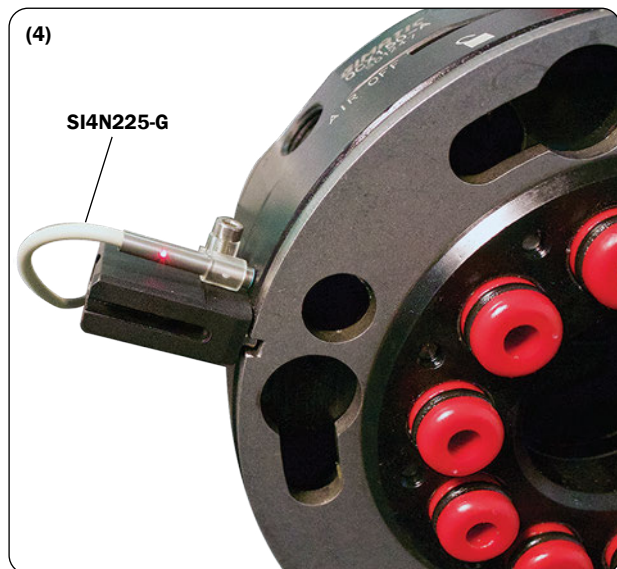
(1)



(2)



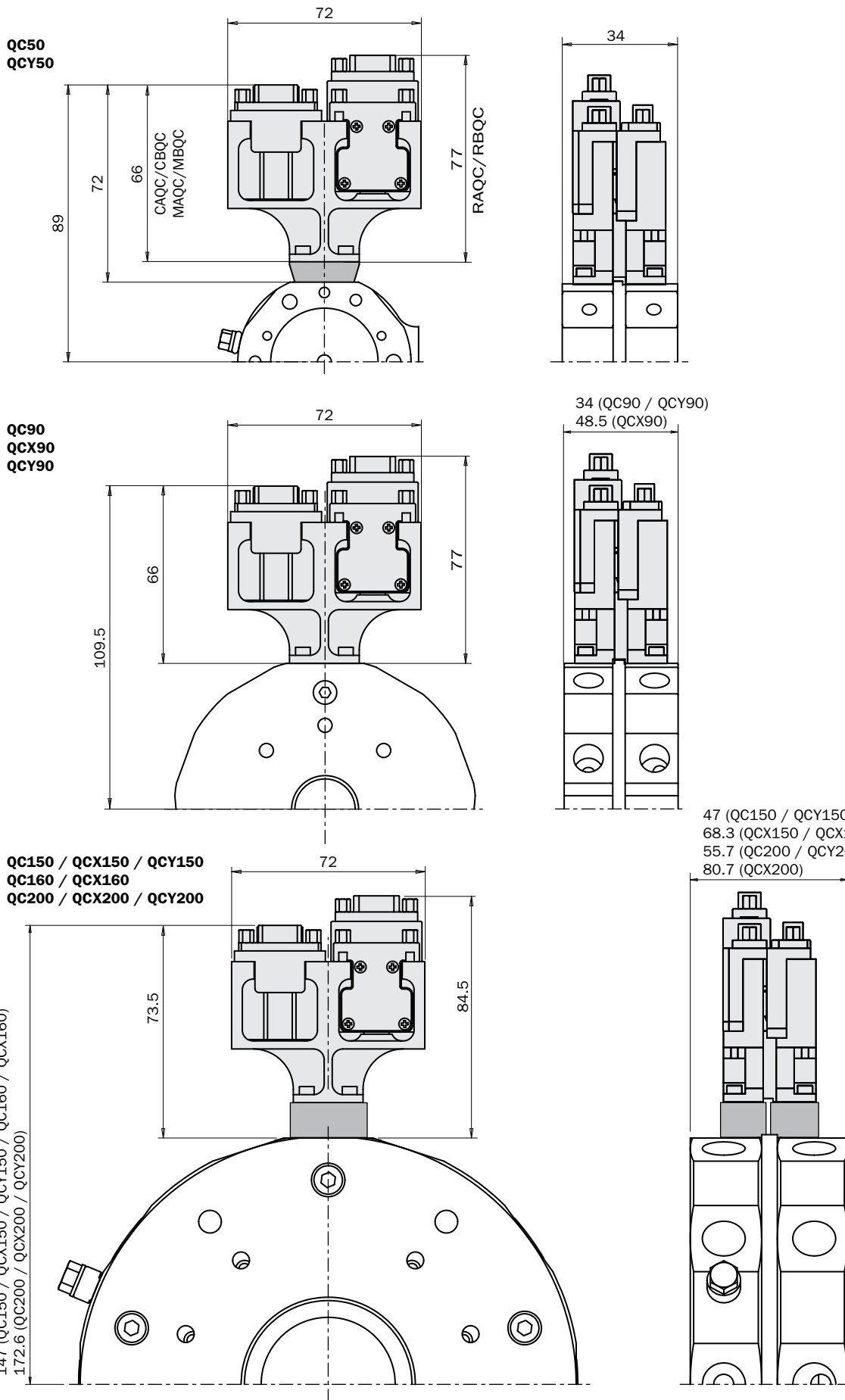
(3)



(4)

**Mounting bracket**

CQC-012 (robot side).  
CQC-013 (gripper side).



**Mounting bracket**

CQC-017 (robot side).  
CQC-013 (gripper side).

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

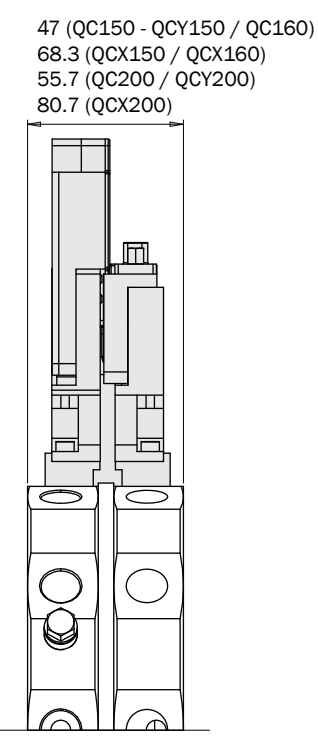
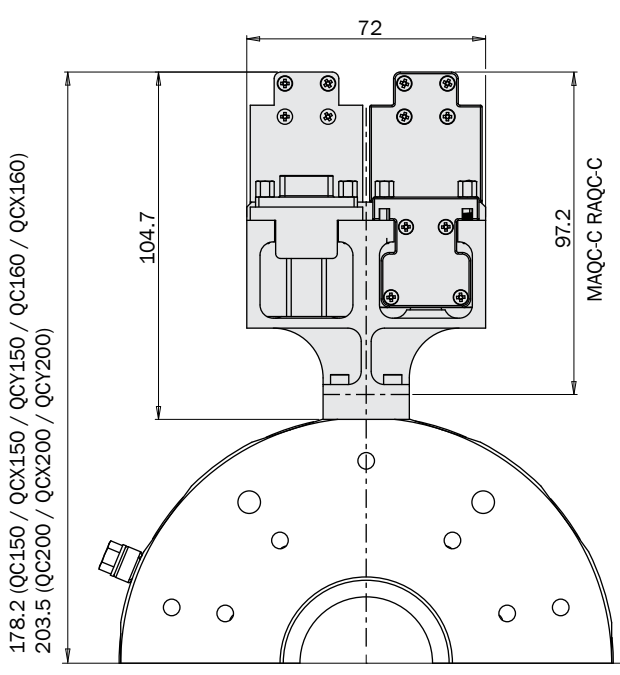
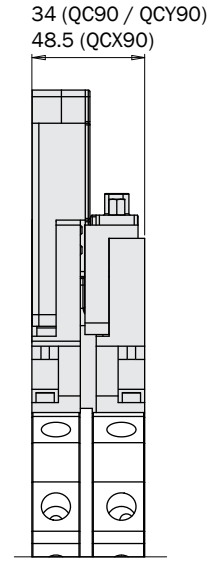
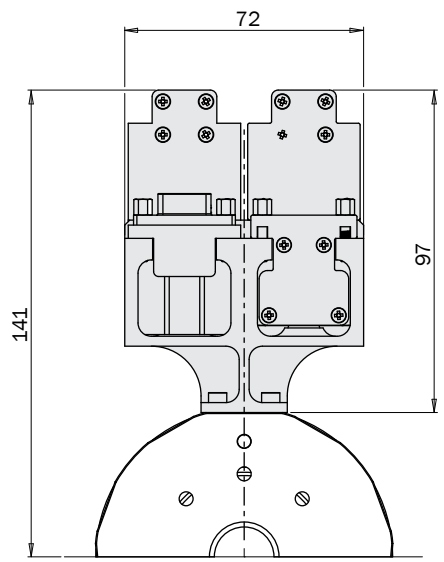
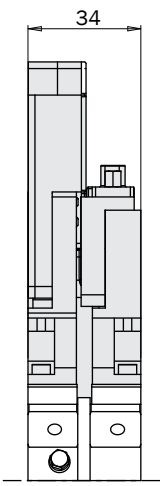
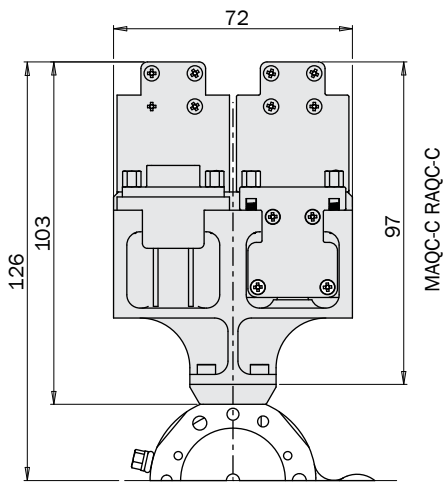
Suspensions

Nippers

Robot Kit

Options

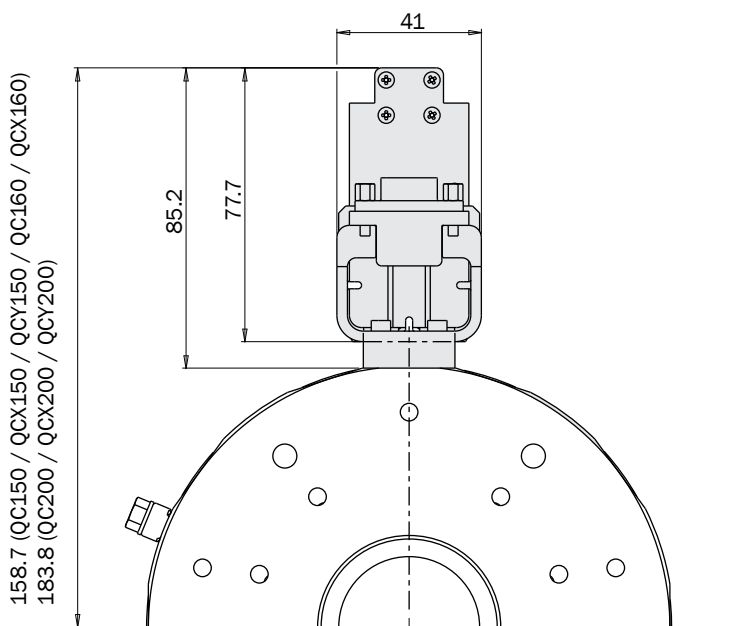
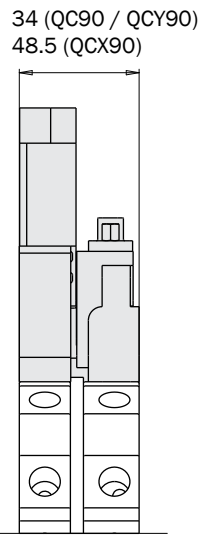
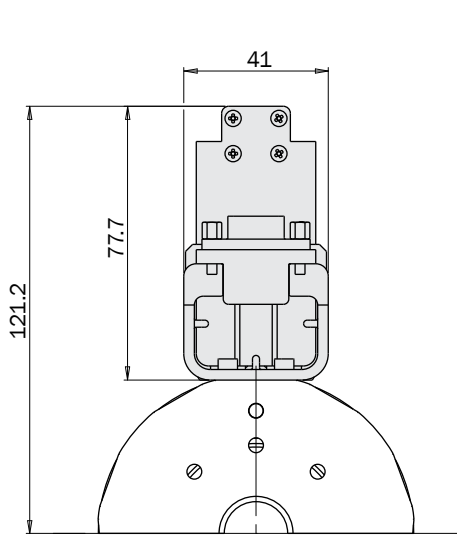
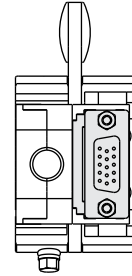
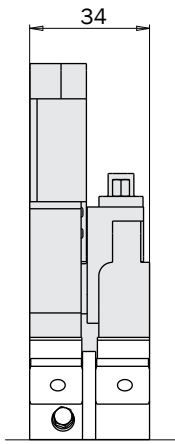
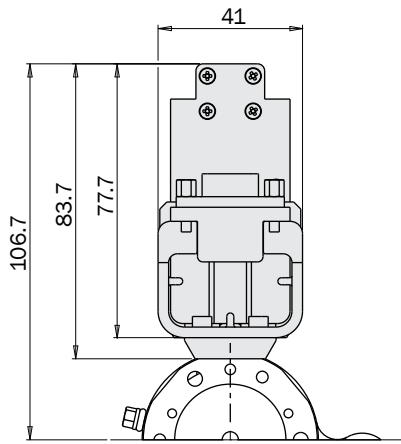
Sensors





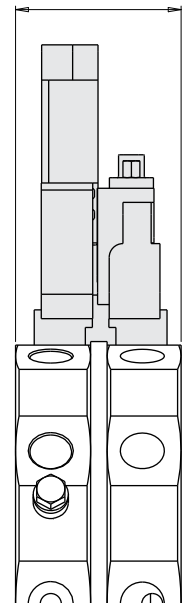
**Mounting bracket**

CQC-019 (robot side).  
CQC-013 (gripper side).



158.7 (QC150 / QCX150 / QCY150 / QC160 / QCX160)  
183.8 (QC200 / QCX200 / QCY200)

47 (QC150 / QCY150 / QC160)  
68.3 (QCX150 / QCX160)  
55.7 (QC200 / QCY200)  
80.7 (QCX200)

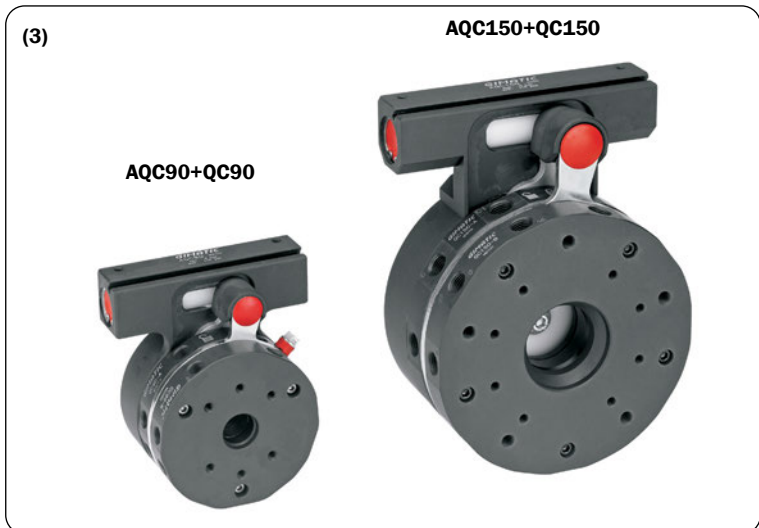
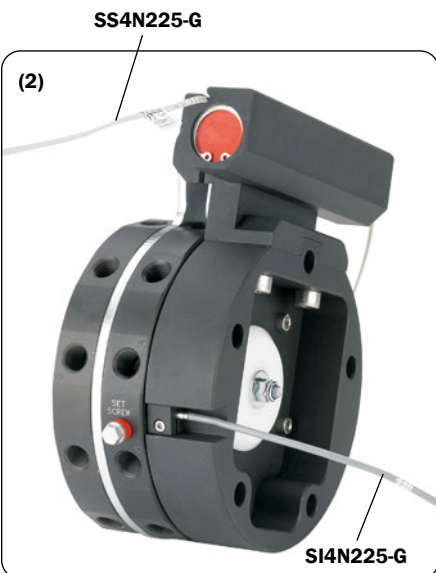
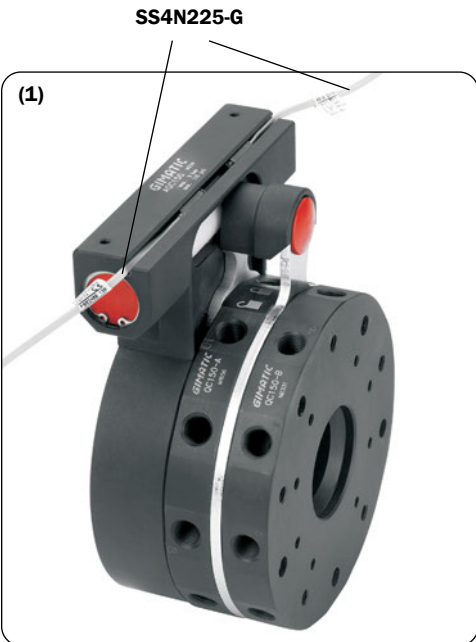


**AQC**

**Pneumatic actuator for quick changer QC**

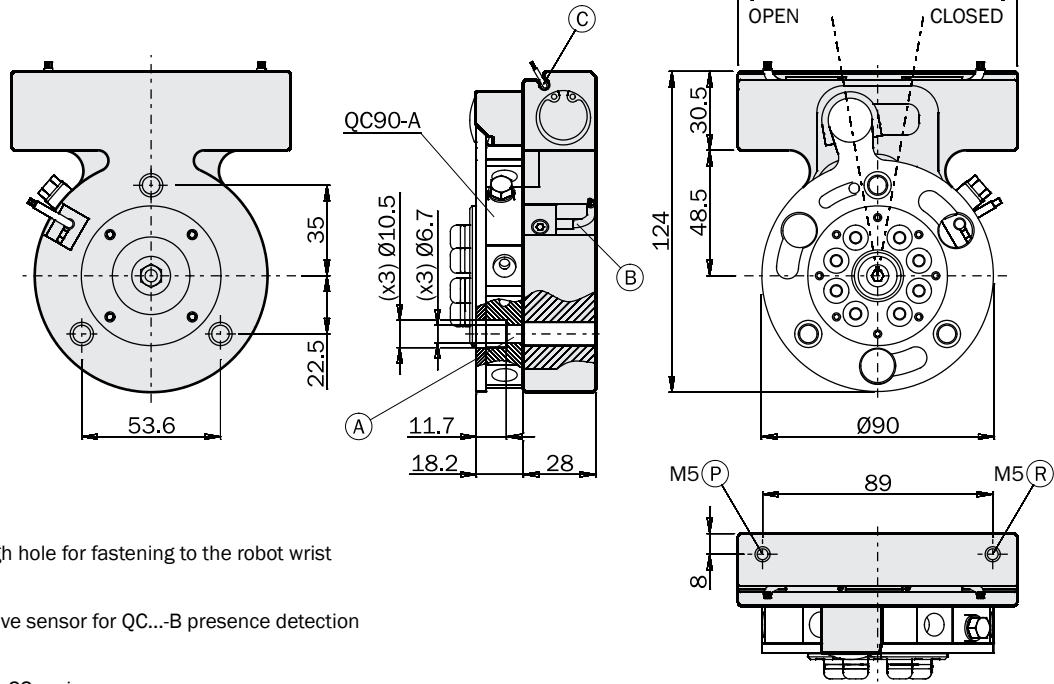
- Optional sensors series SS-G to detect the piston position (1) and optional sensors series SI4 to detect the proximity of the QC...-B gripper side (2).
- Compatible with QC90-A and QC150-A without LOQC (3).

|        | AQC90 | AQC150 |
|--------|-------|--------|
| Weight | 560 g | 1480 g |



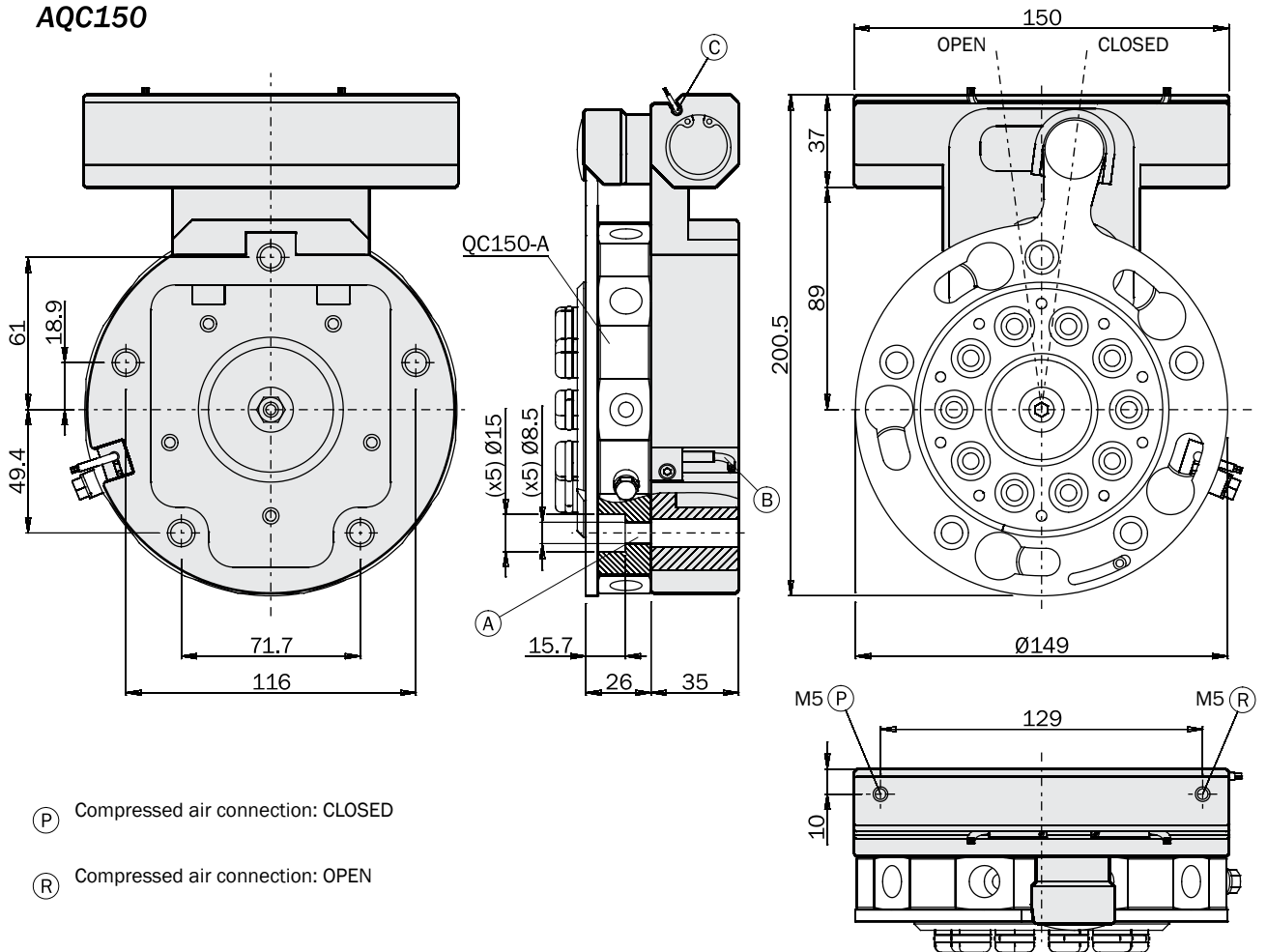
**Dimensions (mm)**

**AQC90**



- (A) Through hole for fastening to the robot wrist
- (B) Inductive sensor for QC...-B presence detection
- (C) Slot for SS series sensors

**AQC150**



- (P) Compressed air connection: CLOSED
- (R) Compressed air connection: OPEN



QC50-B Storage

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

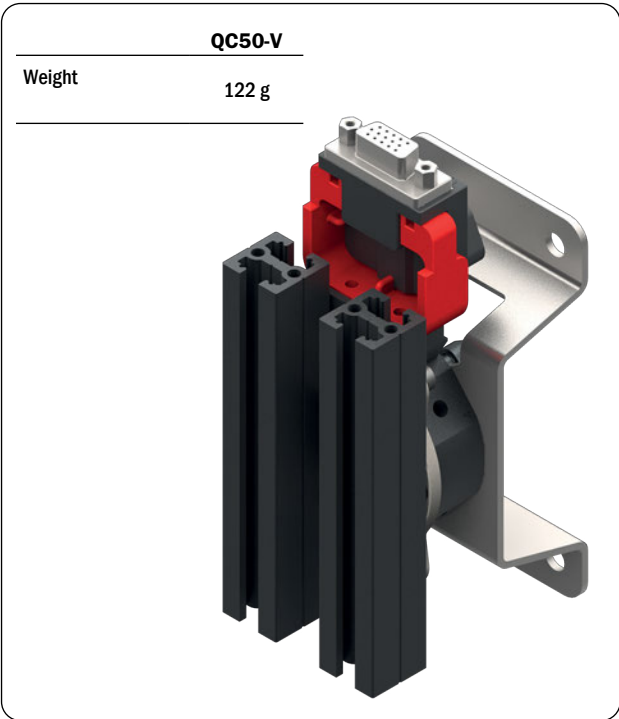
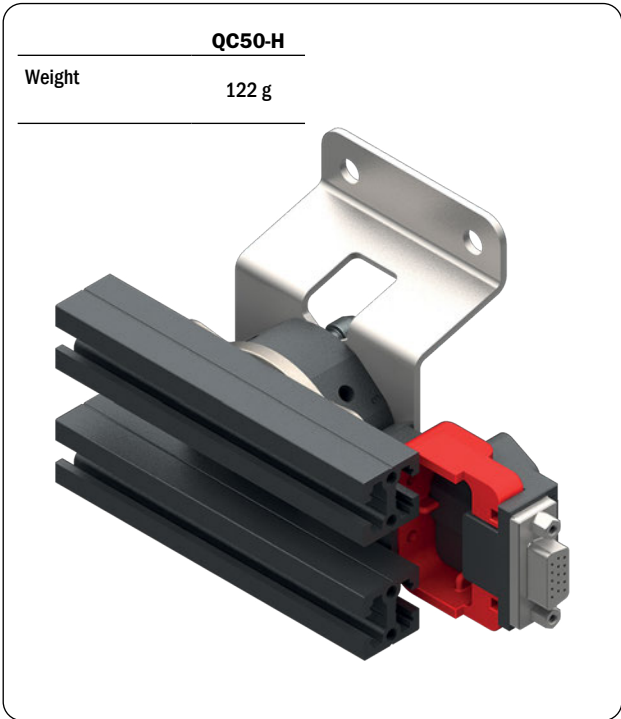
Suspensions

Nippers

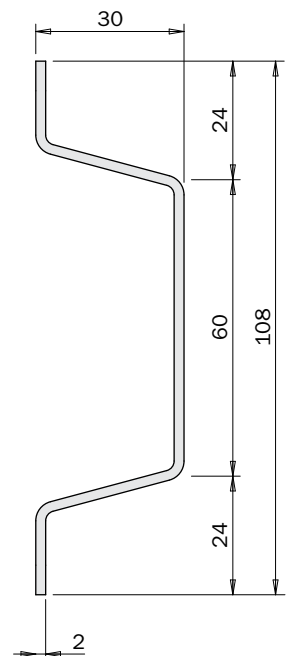
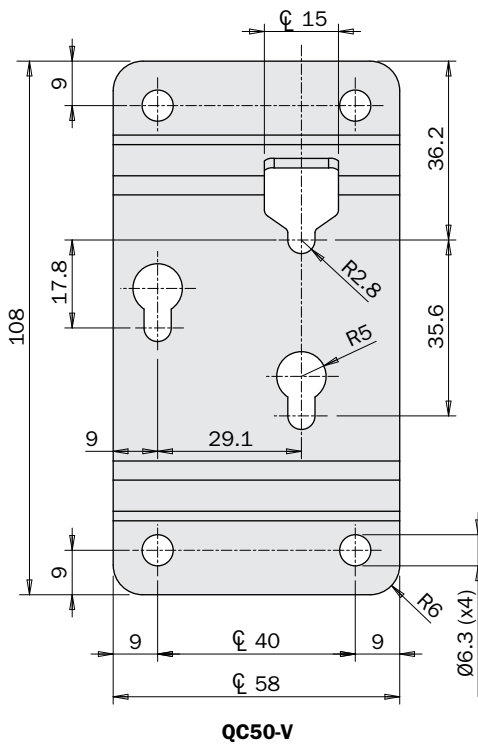
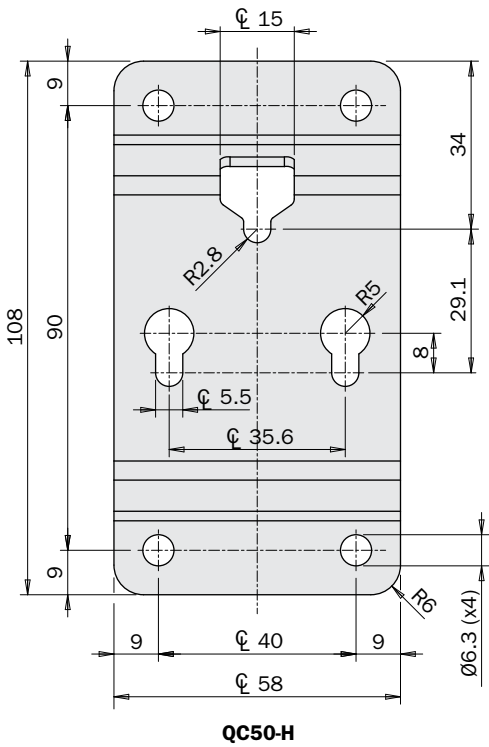
Robot Kit

Options

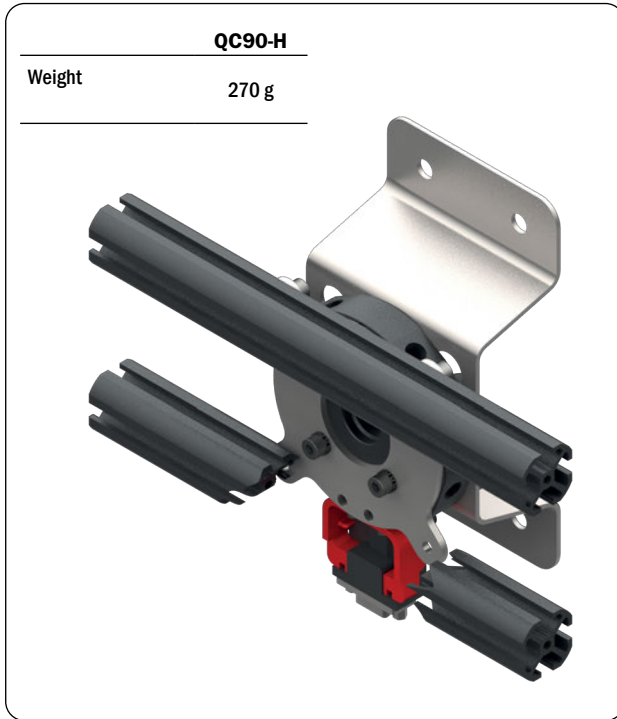
Sensors



Dimensions (mm)

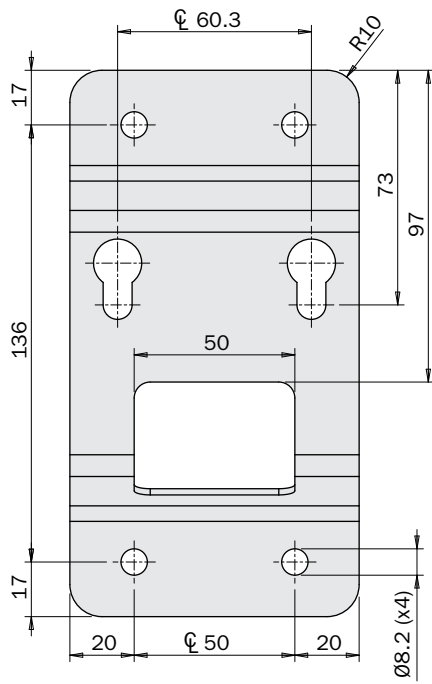


**QC90-B Storage**

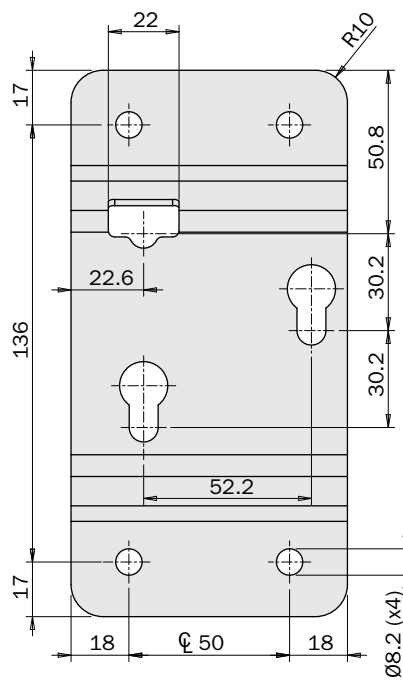


**Dimensions (mm)**

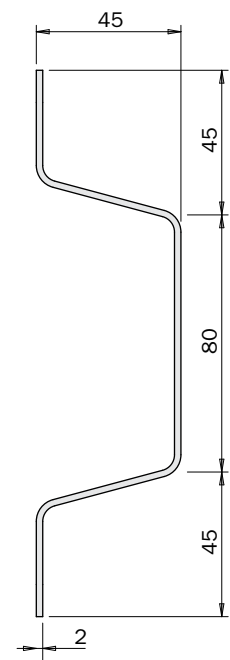
FIRST ANGLE PROJECTION



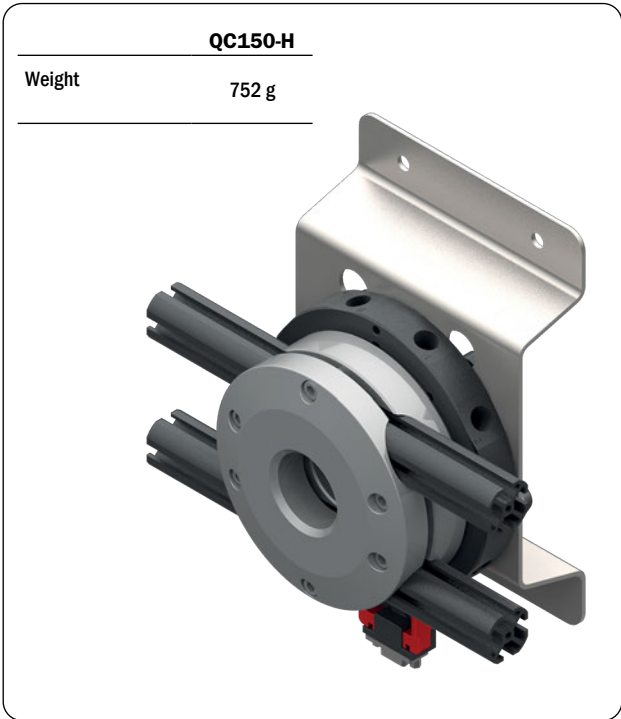
**QC90-H**



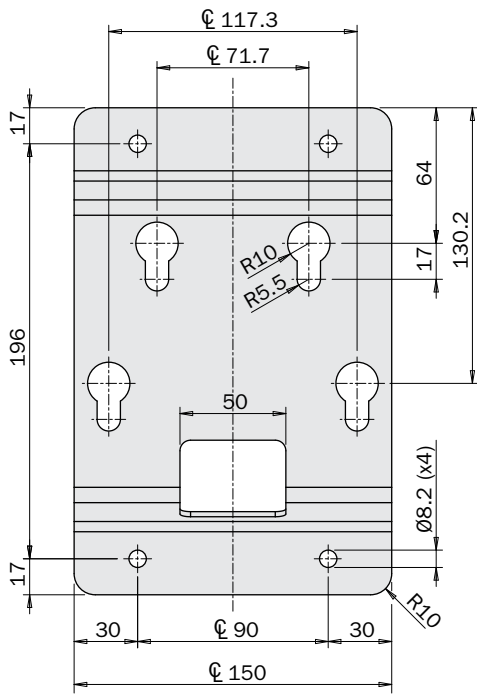
**QC90-V**



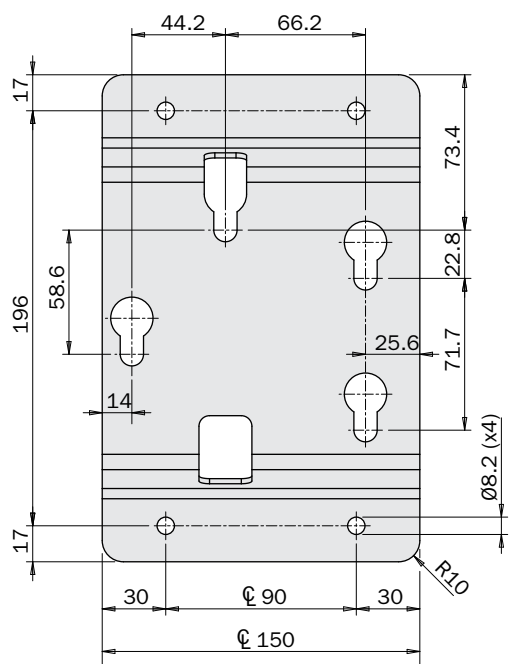
QC150-B/QC160-B Storage



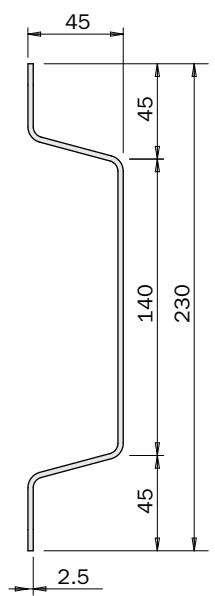
Dimensions (mm)



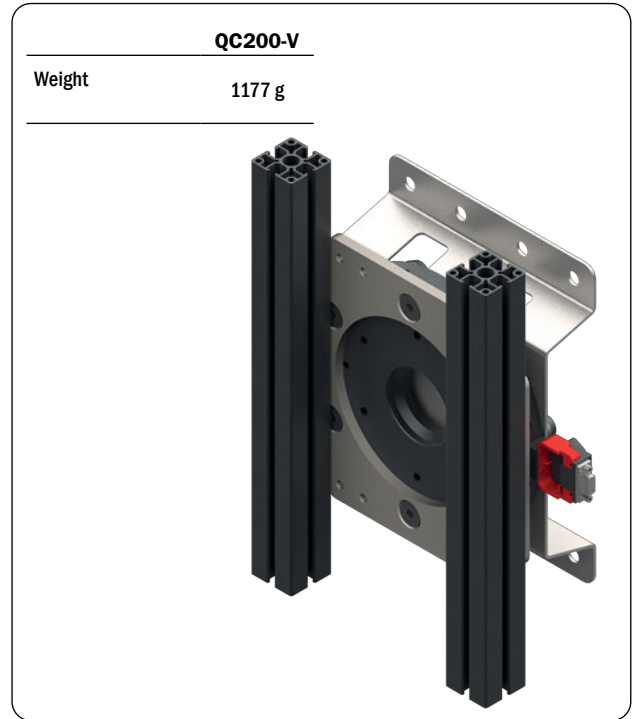
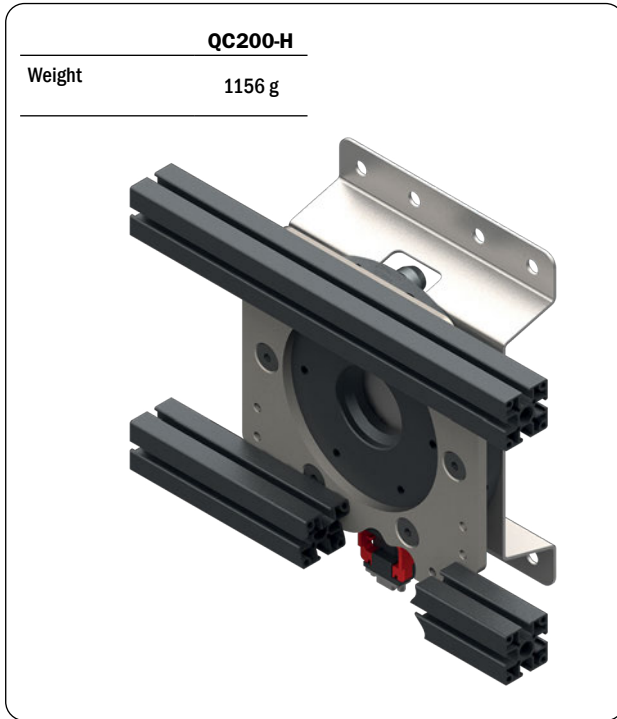
**QC150-H**



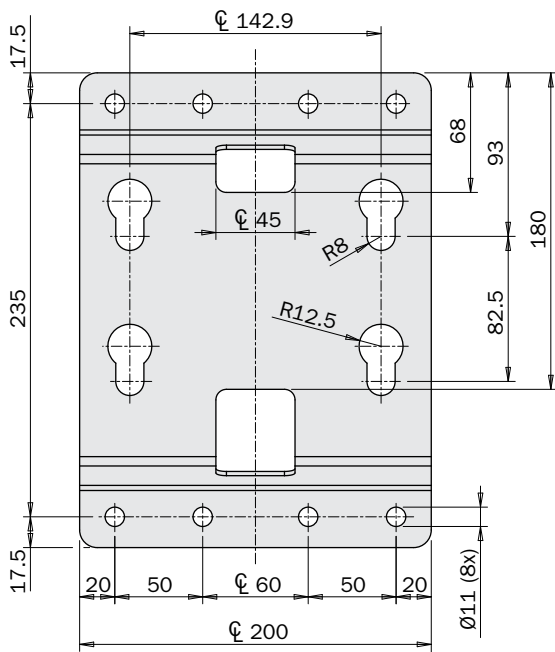
**QC150-V**



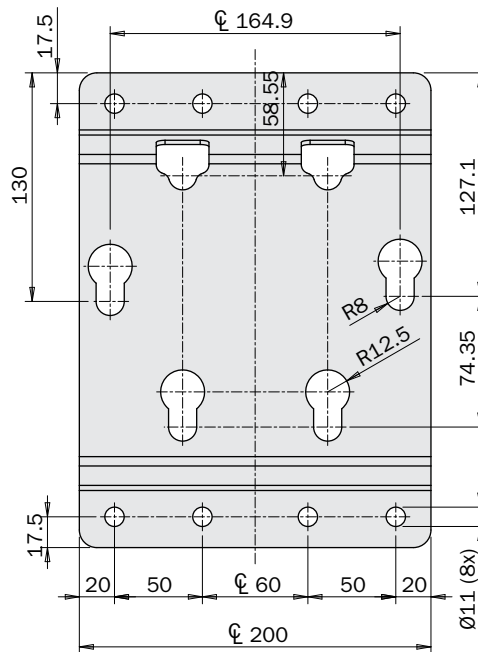
**QC200-B Storage**



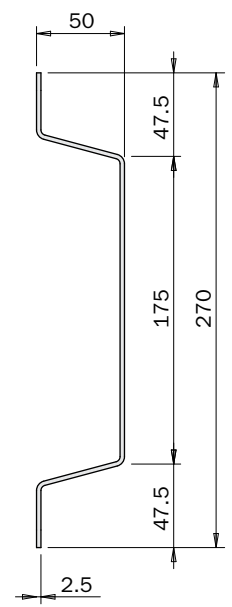
**Dimensions (mm)**



**QC200-H**

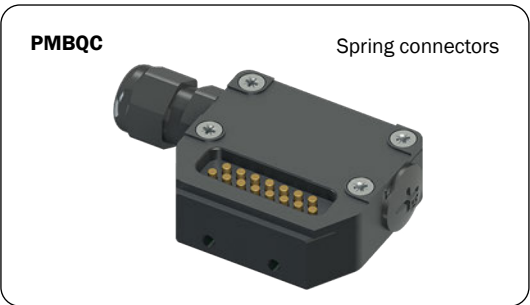
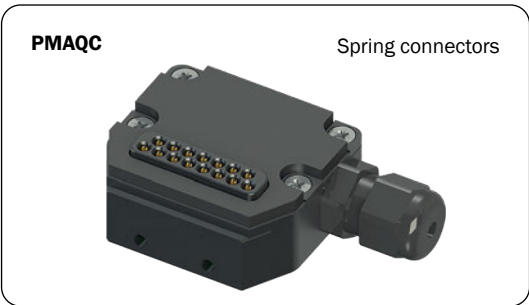


**QC200-V**



**Electrical connection module**

- 15 pins Ø1 mm.
- The two parts are supplied separately:  
PMAQC/PAQC/MAQC/CAQC - robot side;  
PMBQC/PBQC/MBQC/CBQC - gripper side.



|                                 | CAQC  | CBQC | MAQC | MBQC | PAQC    | PBQC | PMAQC | PMBQC |
|---------------------------------|---|------|------|------|---------|------|-------|-------|
| I/O connection type             | 15 pins D-SUB - High density connector - VGA type |      |      |      | 15 pins |      |       |       |
| Working Current                 | 2A (0.5A absolute value with CEQC-A, CEQC-B)      |      |      |      | 3A      |      | 0.5   |       |
| Break down voltage              | 0 ÷ 250 Vac                                       |      |      |      |         |      |       |       |
| Temperature range               | -55°C ÷ +105°C                                    |      |      |      |         |      |       |       |
| Contact                         | Gold plated                                       |      |      |      |         |      |       |       |
| Maximum conductor cross-section |   |      |      |      | AWG28   |      |       |       |
| Maximum cable outer diameter    |   |      |      |      | 7 mm    |      |       |       |

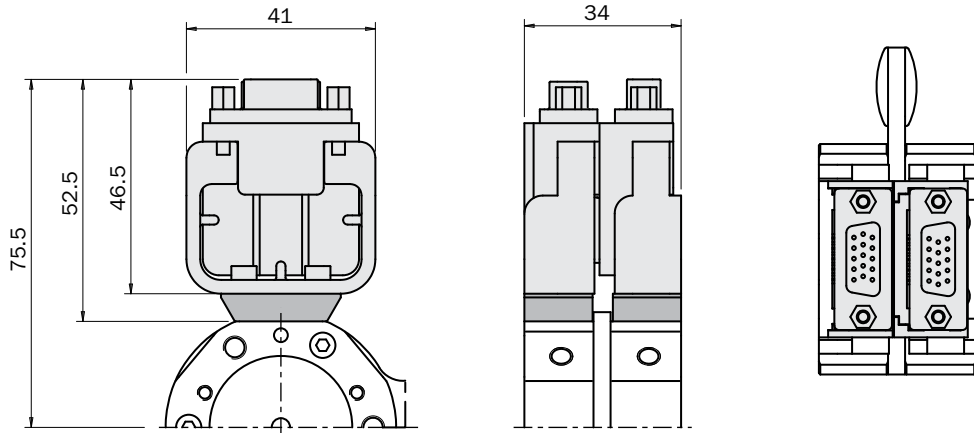
Rotary Units  
 Quick Changer  
 Profiles and Brackets  
 Grippers  
 Linear Actuators  
 Suspensions  
 Nippers  
 Robot Kit  
 Options  
 Sensors



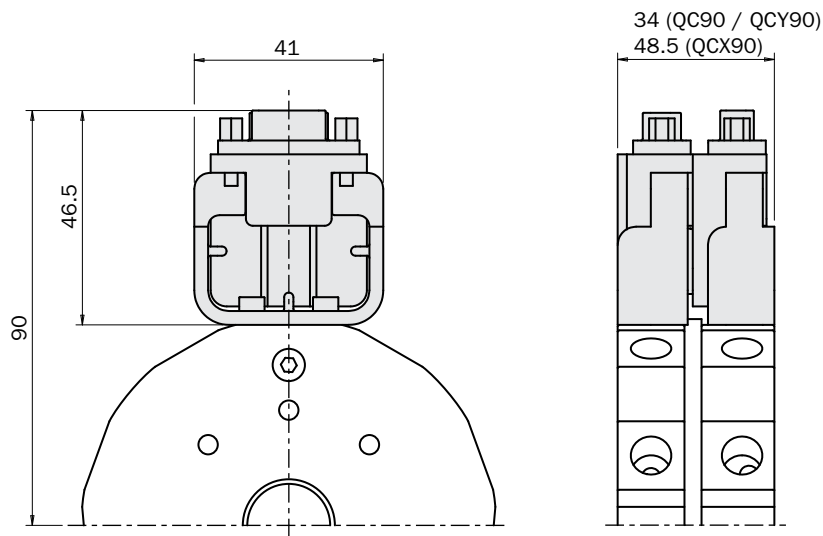
**Dimensions (mm)**

FIRST ANGLE PROJECTION

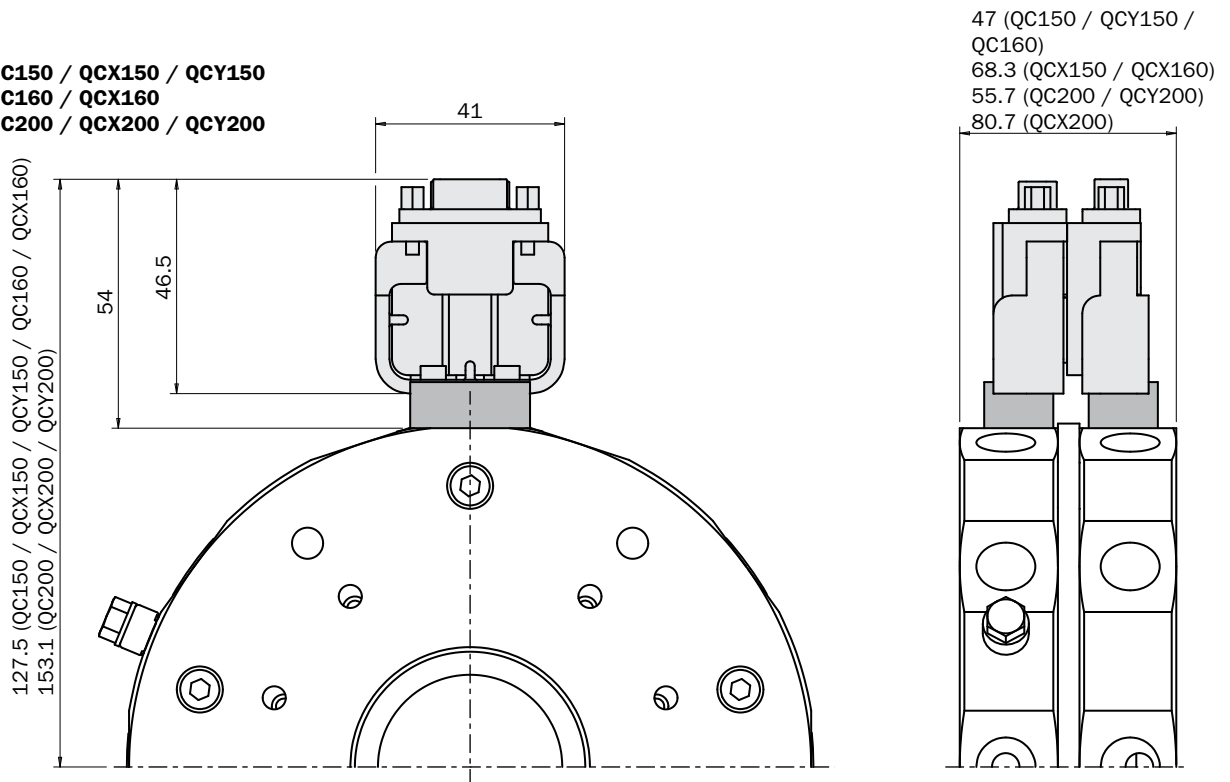
**QC50  
QCY50**



**QC90  
QCX90  
QCY90**



**QC150 / QCX150 / QCY150  
QC160 / QCX160  
QC200 / QCX200 / QCY200**



Fastening

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

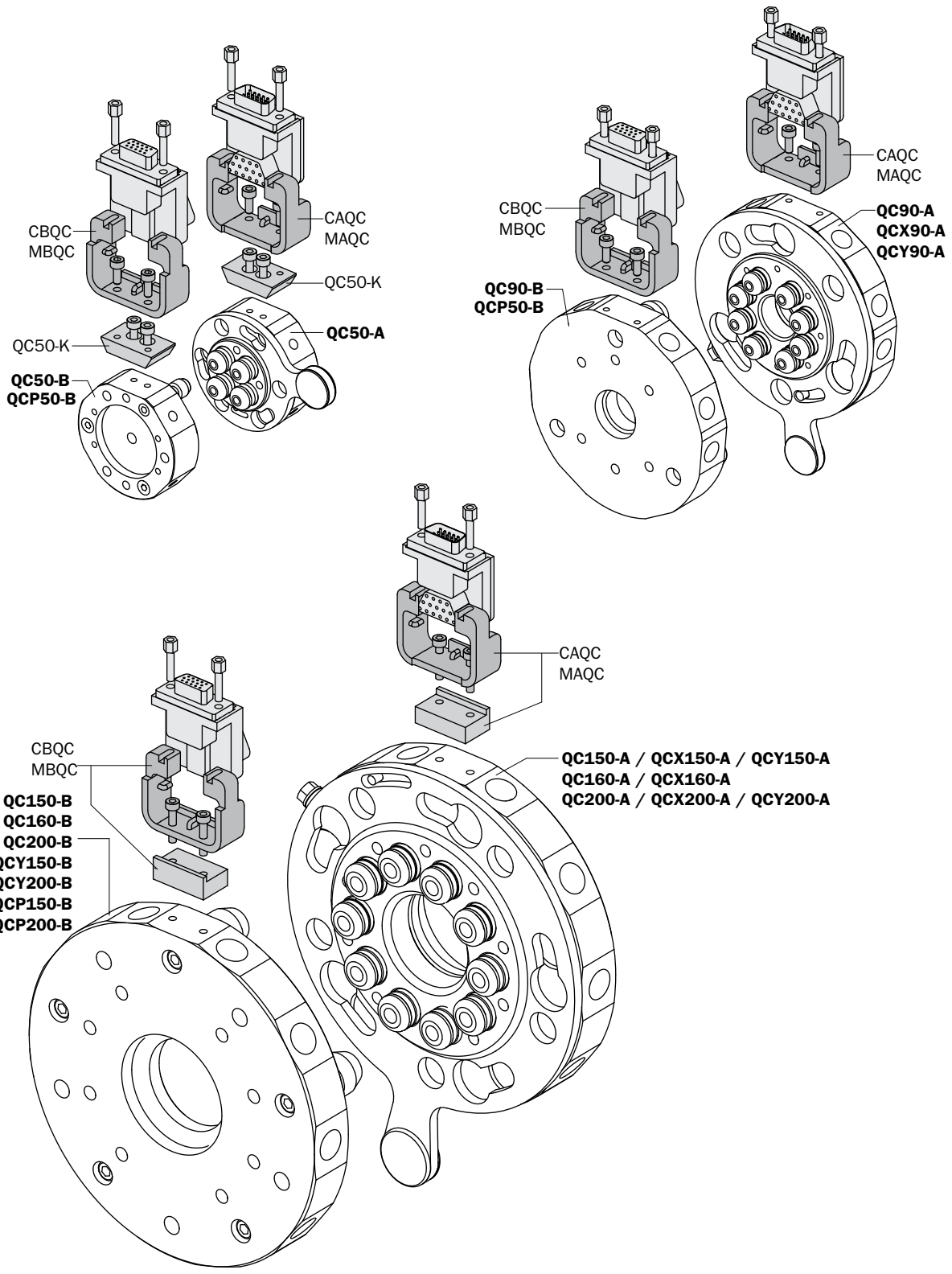
Suspensions

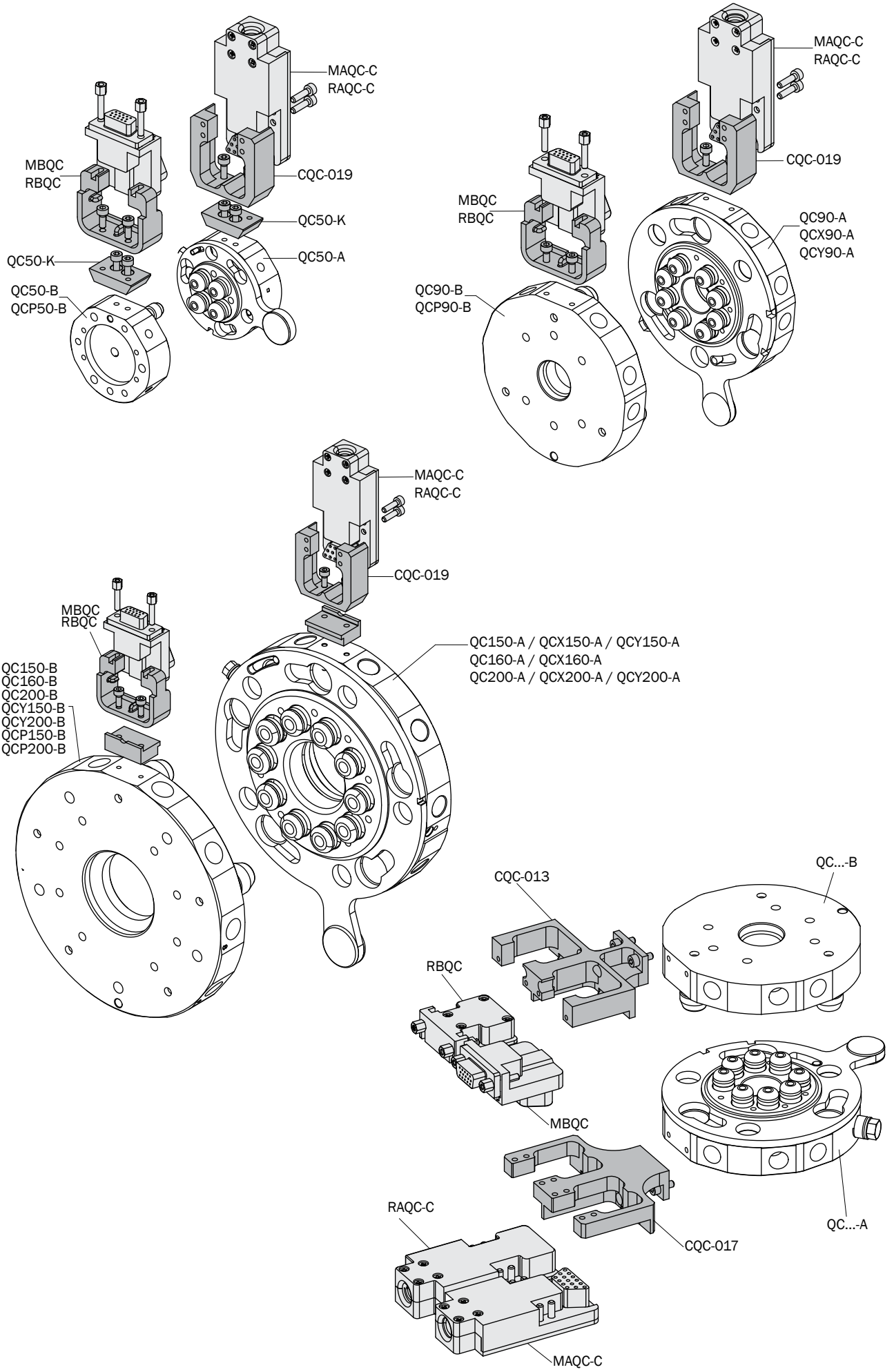
Nippers

Robot Kit

Options

Sensors

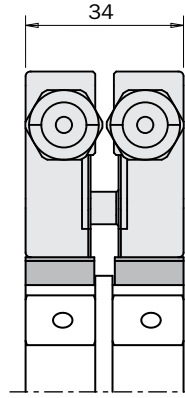
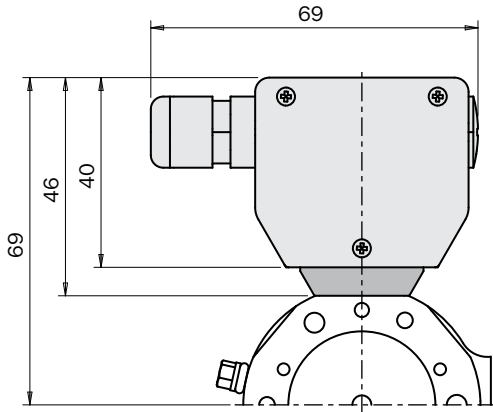




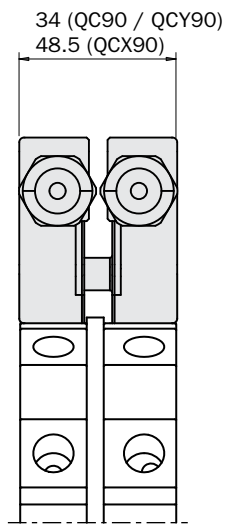
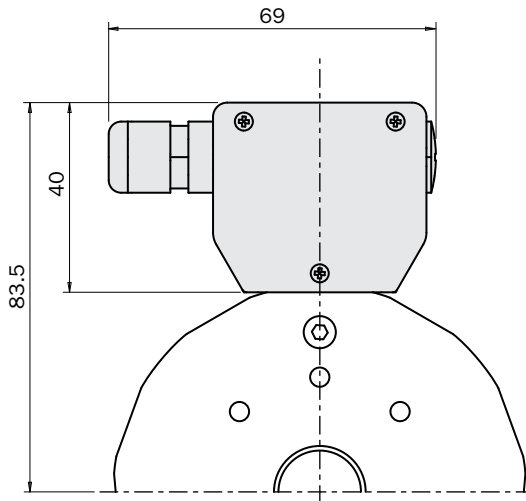
Dimensions (mm)

FIRST ANGLE PROJECTION

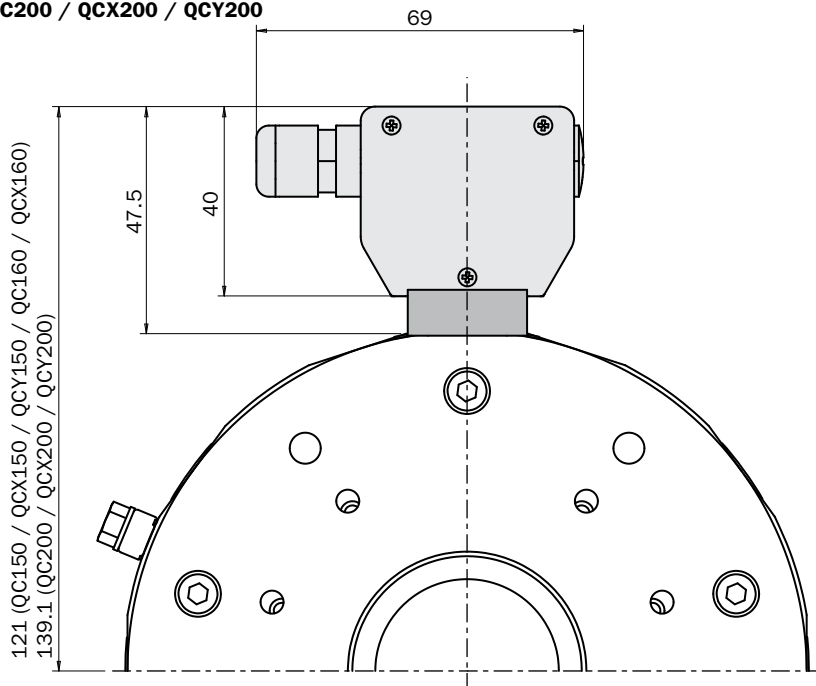
QC50  
QCY50



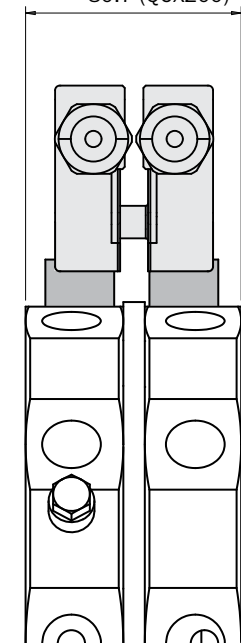
QC90  
QCX90  
QCY90



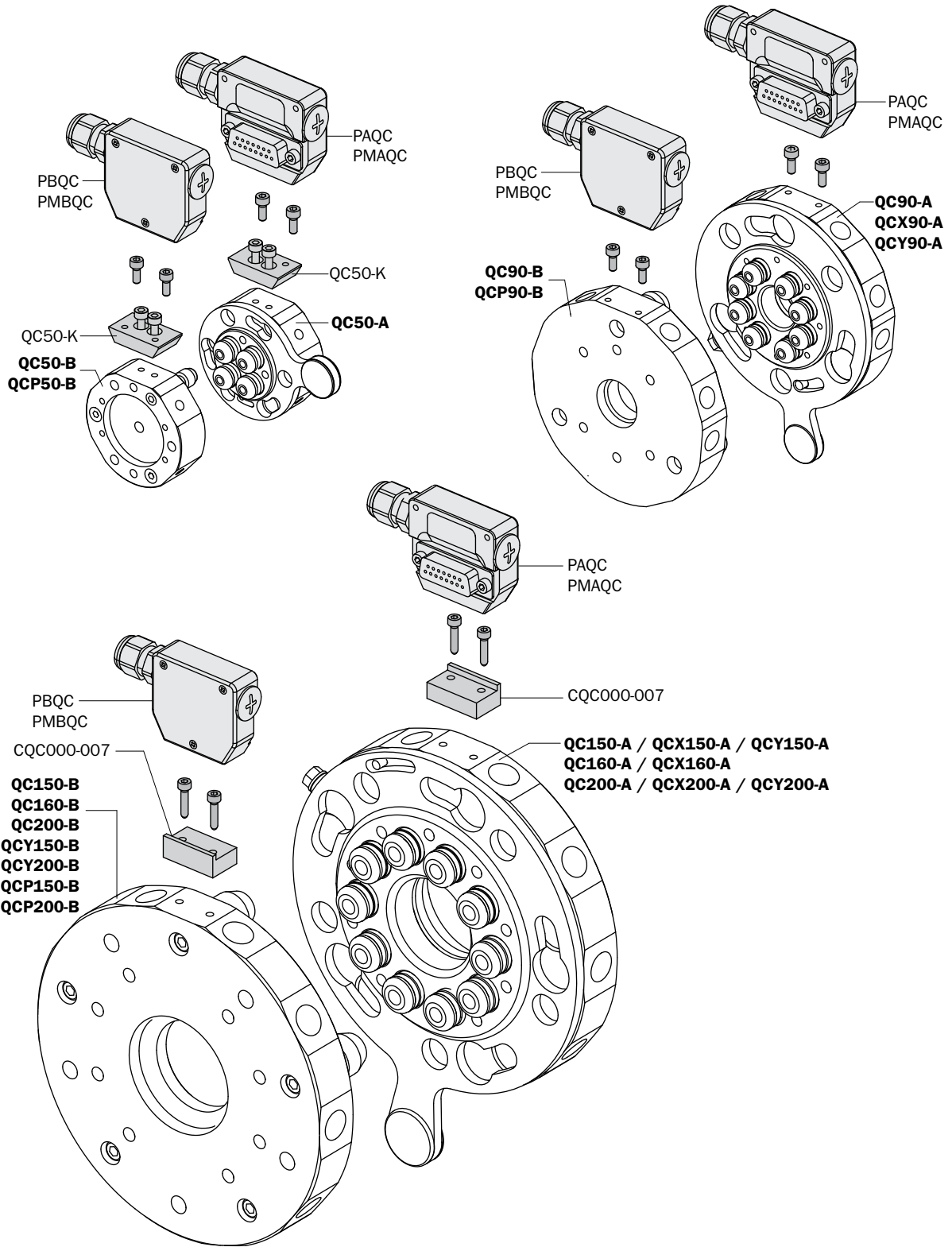
QC150 / QCX150 / QCY150  
QC160 / QCX160  
QC200 / QCX200 / QCY200



47 (QC150 / QCY150 / QC160)  
68.3 (QCX150 / QCX160)  
55.7 (QC200 / QCY200)  
80.7 (QCX200)

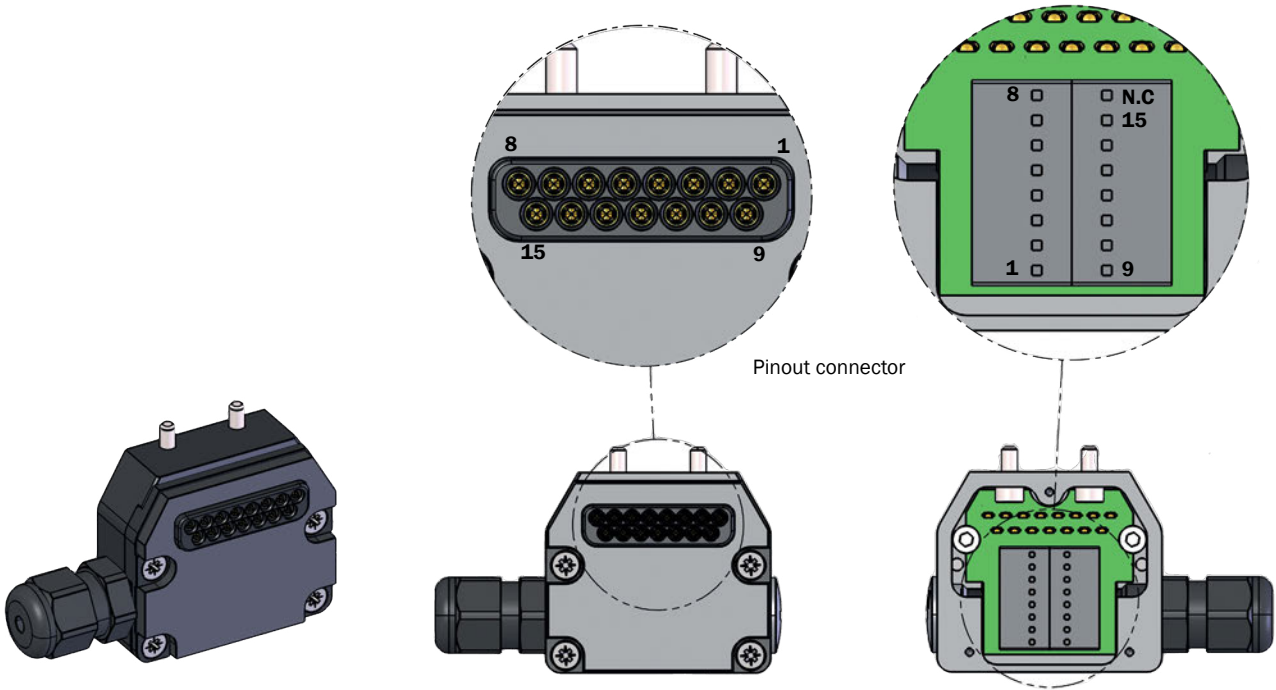


**Fastening**



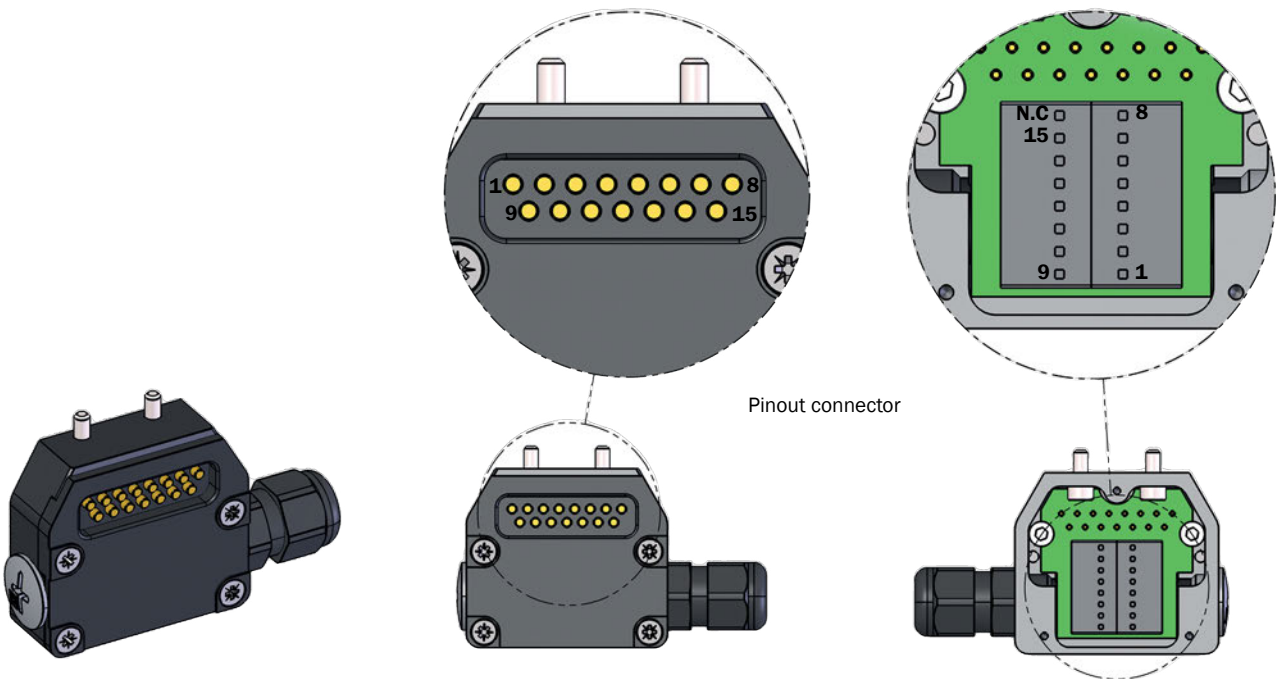
PMAQC

Female electrical connector



PMBQC

Female electrical connector



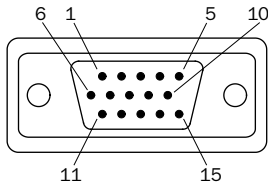
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**RAQC / RBQC**

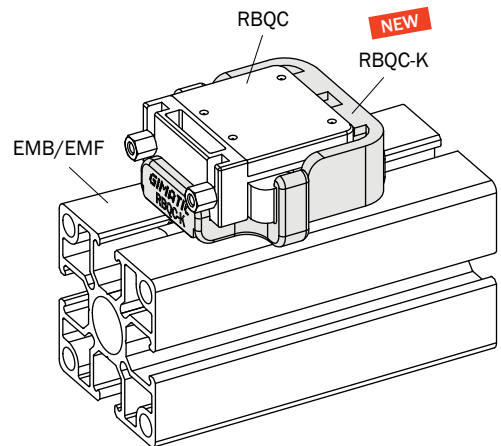
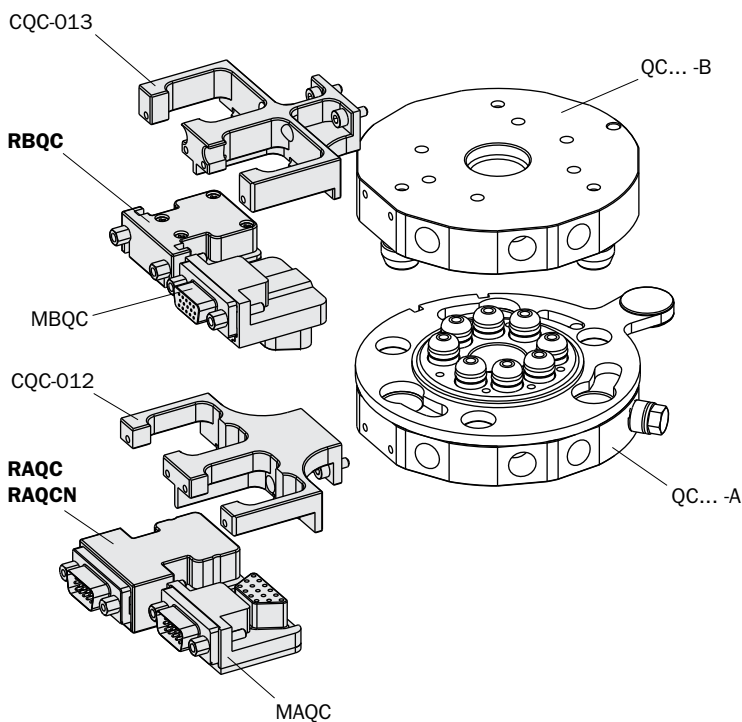
RFID identification modules.

System for automatic recognition of gripping tool composed of a RFID reader (RAQC) and a memory TAG (RBQC).

- Up to 255 identifiable tools.
- Binary coding of tools by means of 8 digital outputs 24 Vdc.
- Digital input to counting tool cycles execution.
- Generation of a maintenance warning signal once the tool reaches the preset number of cycles.
- I/O quick change by VGA connector.
- Memorization of tool technical data.
- User data memory available.
- The two parts are supplied separately:  
RAQC - robot side (Reader);  
RBQC - tool side (TAG).

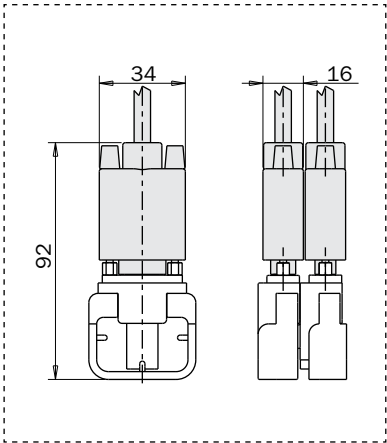
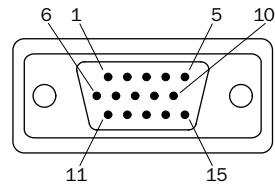
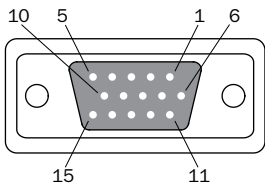
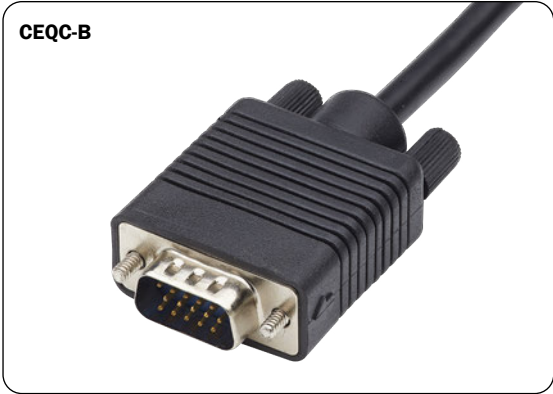
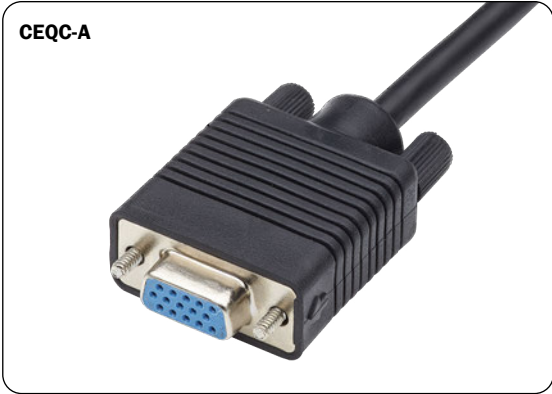


|   |       |    |            |    |           |
|---|-------|----|------------|----|-----------|
| 1 | DOUT1 | 6  | 24 Vdc     | 11 | DOUT5     |
| 2 | DOUT2 | 7  | DOUT_CNT   | 12 | DOUT6     |
| 3 | N/C   | 8  | DOUT3      | 13 | DOUT7     |
| 4 | GND   | 9  | DOUT_FAULT | 14 | DOUT8     |
| 5 | N/C   | 10 | DOUT4      | 15 | DIN_COUNT |



**CEQC-A, CEQC-B**

The male and female cables required for the secondary electrical connection are supplied separately.



|    |               |
|----|---------------|
| 01 | Orange        |
| 02 | Yellow        |
| 03 | Deep Green    |
| 04 | Blue          |
| 05 | Light Green   |
| 06 | Brown         |
| 07 | Brown / White |
| 08 | Red           |

|    |               |
|----|---------------|
| 09 | Red / White   |
| 10 | Pink          |
| 11 | Violet        |
| 12 | Gray          |
| 13 | White         |
| 14 | Black         |
| 15 | Black / White |

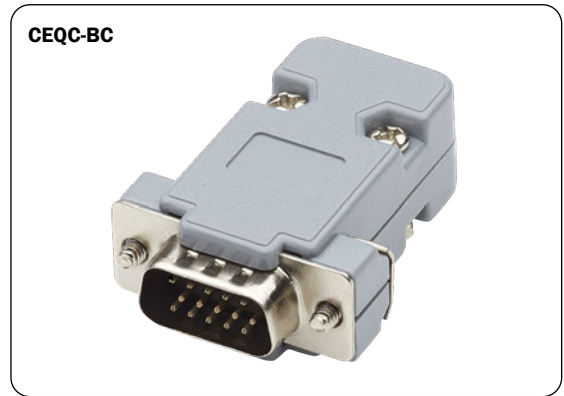
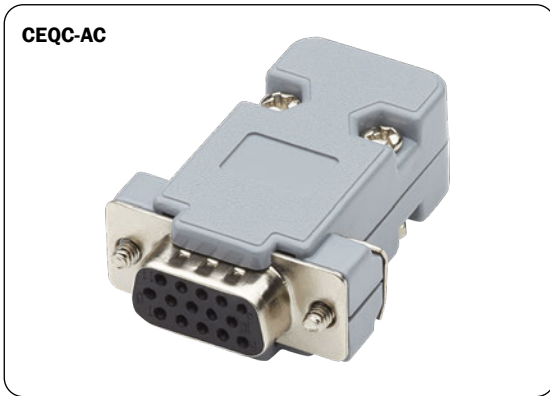
|                     | CEQC-A                                    | CEQC-B |
|---------------------|---|--------|
| I/O connection type | 15-pin D-SUB - VGA type                   |        |
| Cable length        | 1500 mm                                   |        |
| Insulation          | PVC                                       |        |
| Shield              | 100% aluminum - Mylar foil - 28 to 26 AWG |        |
| Sheath              | Black PVC                                 |        |
| Temperature range   | -55°C ÷ +105°C                            |        |
| Voltage range       | 0 ÷ 250 Vac                               |        |
| Max current         | 0.5 A                                     |        |

Rotary Units  
Quick Changer  
Profiles and Brackets  
Gripters  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors



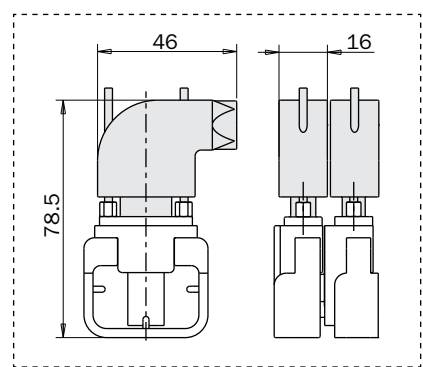
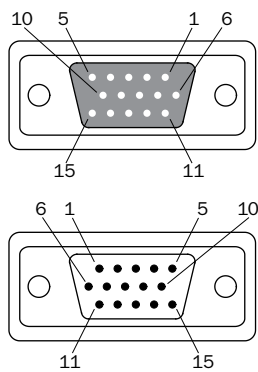
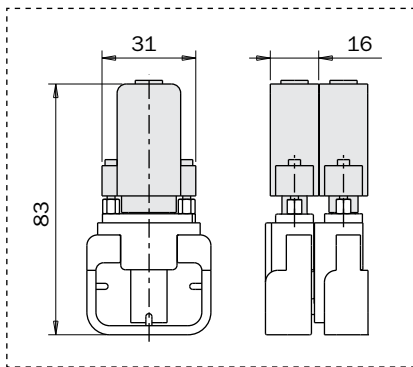
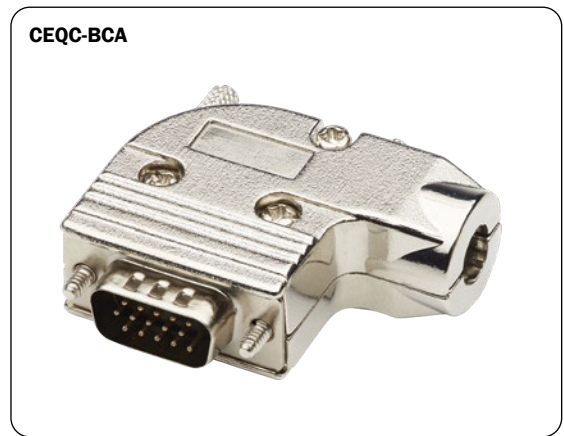
**CEQC-AC / CEQC-BC**

The male and female solder connectors are supplied separately.



**CEQC-ACA / CEQC-BCA**

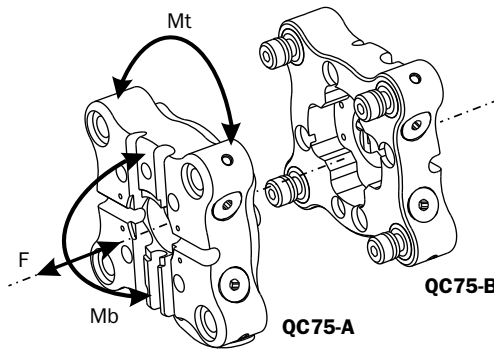
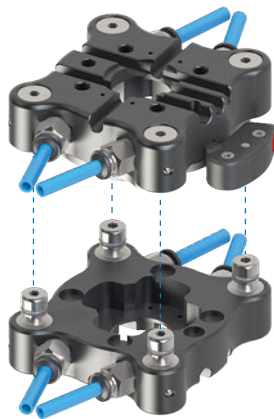
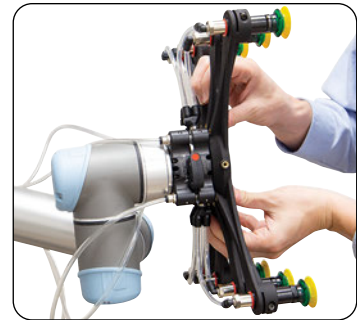
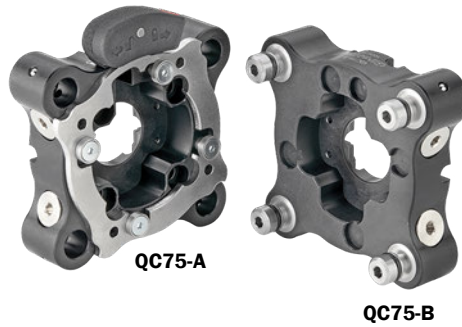
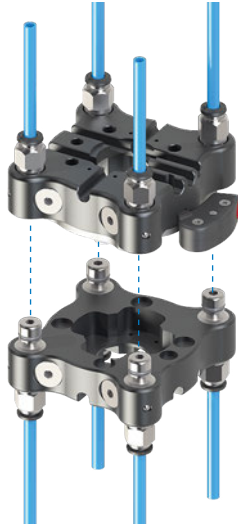
The angular male and female solder connectors are supplied separately.



|                                 | CEQC-AC                 | CEQC-BC | CEQC-ACA | CEQC-BCA |
|---------------------------------|-------------------------|---------|----------|----------|
| I/O connection type             | 15-pin D-SUB - VGA type |         |          |          |
| Contacts                        | Copper                  |         |          |          |
| Insulation                      | Polyester               |         |          |          |
| Temperature range               | -20°C ÷ +80°C           |         |          |          |
| Voltage range                   | 0 ÷ 300 Vac             |         |          |          |
| Max current                     | 3A                      |         |          |          |
| Maximum conductor cross-section | AWG28                   |         |          |          |
| Maximum cable outer diameter    | 7 mm                    |         |          |          |

## Quick changer for collaborative robots

- Streamlined surfaces.
- ISO 9409-1-50-4-M6 mounting pattern.
- Through hole in the middle for the optional electric connections.
- 4 integrated air ports in the pins.
- In-line or perpendicular output of the air hoses.
- The two parts (robot side and gripper side) are supplied separately.



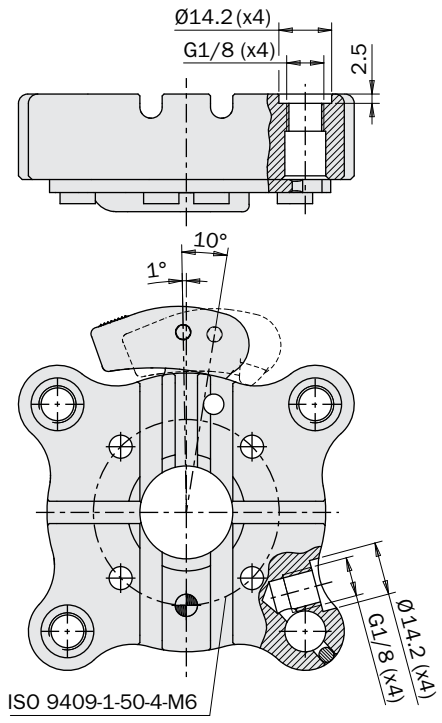
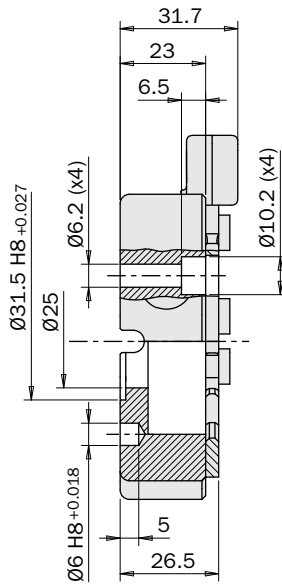
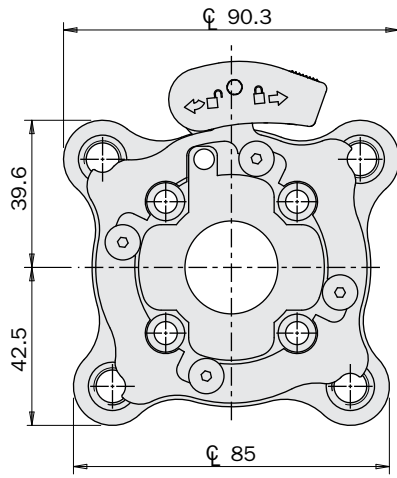
[Click for Pricing & Add to Cart](#)



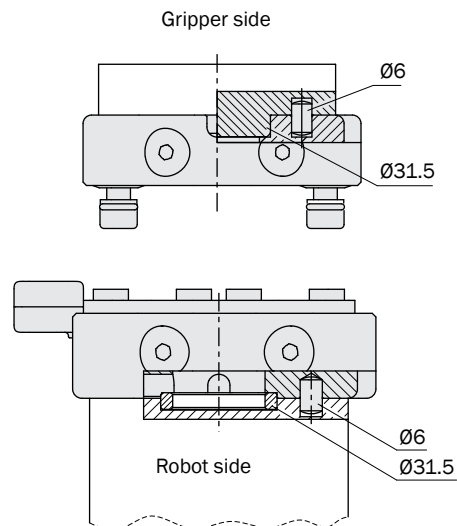
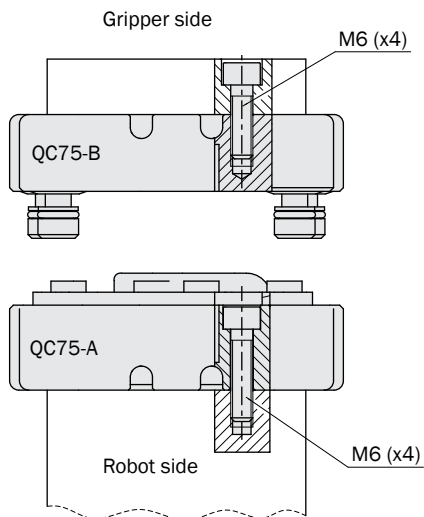
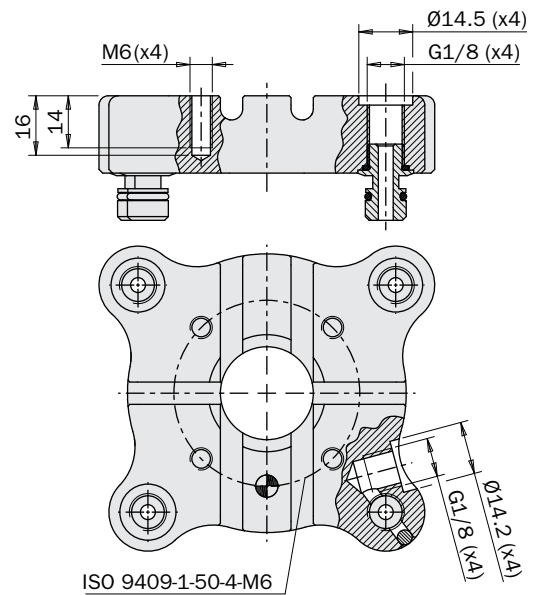
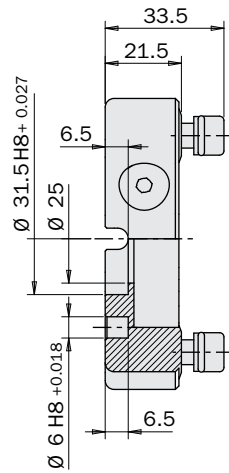
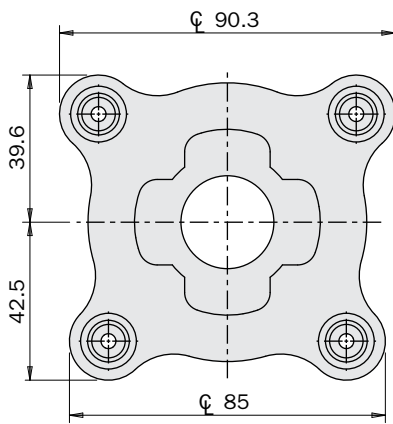
|                          | QC75-A  | QC75-B                       |
|--------------------------|---|------------------------------|
|                          | Robot side quick changer                                  | Quick changer (gripper side) |
| Medium                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                              |
| Pressure range           | -1 ÷ 8 bar  |                              |
| Temperature range        | 5 ÷ 60 °C   |                              |
| Weight                   | 300 g   | 260 g                        |
| F                        | 1000 N  |                              |
| Mt                       | 150 Nm  |                              |
| Mb                       | 50 Nm   |                              |
| Maximum recommended load | 20 Kg   |                              |

**Dimensions (mm)**

**QC75-A**



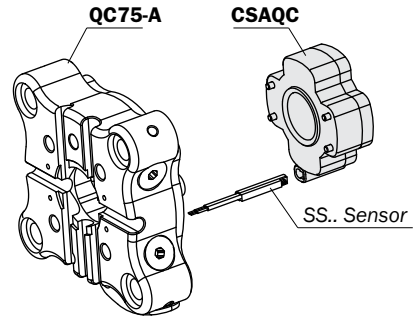
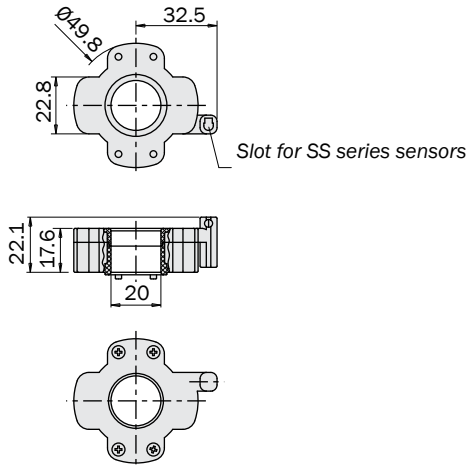
**QC75-B**



## CSAQC (Robot side)

- Sensor holding box for the locking confirmation.

|        | CSAQC |
|--------|-------|
| Weight | 15 g  |

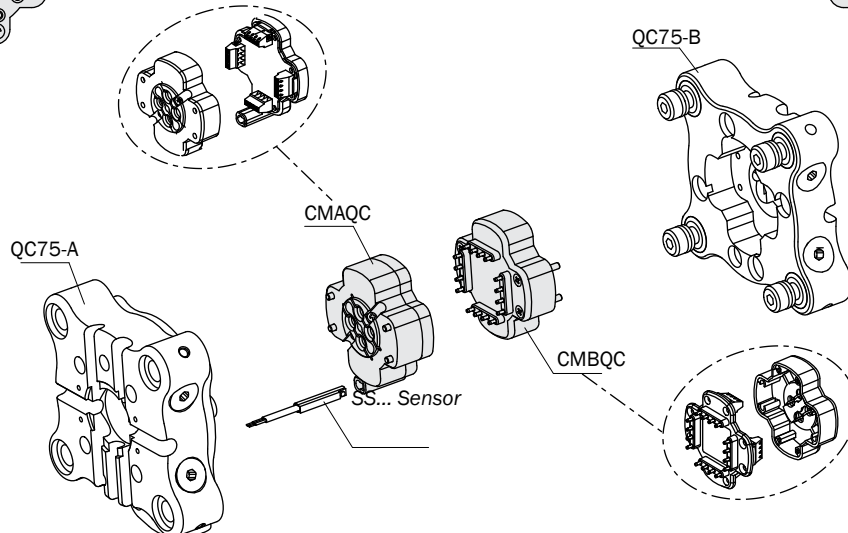
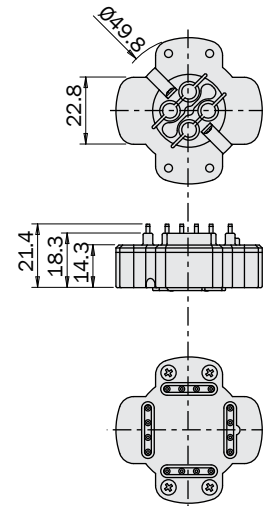
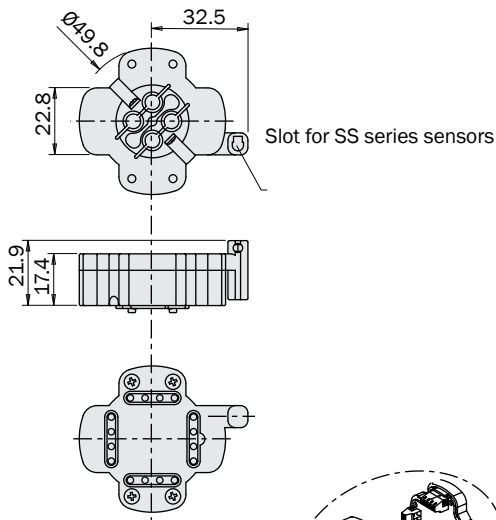


## CMAQC (Robot side) + CMBQC (Gripper side)

- The two parts are supplied separately.
- 16 reconfigurable electric lines with screw terminals.
- 16 spring connectors.
- Sensor slot for the locking confirmation in CMAQC.

|        | CMAQC |
|--------|-------|
| Weight | 19 g  |

|        | CMBQC |
|--------|-------|
| Weight | 19 g  |

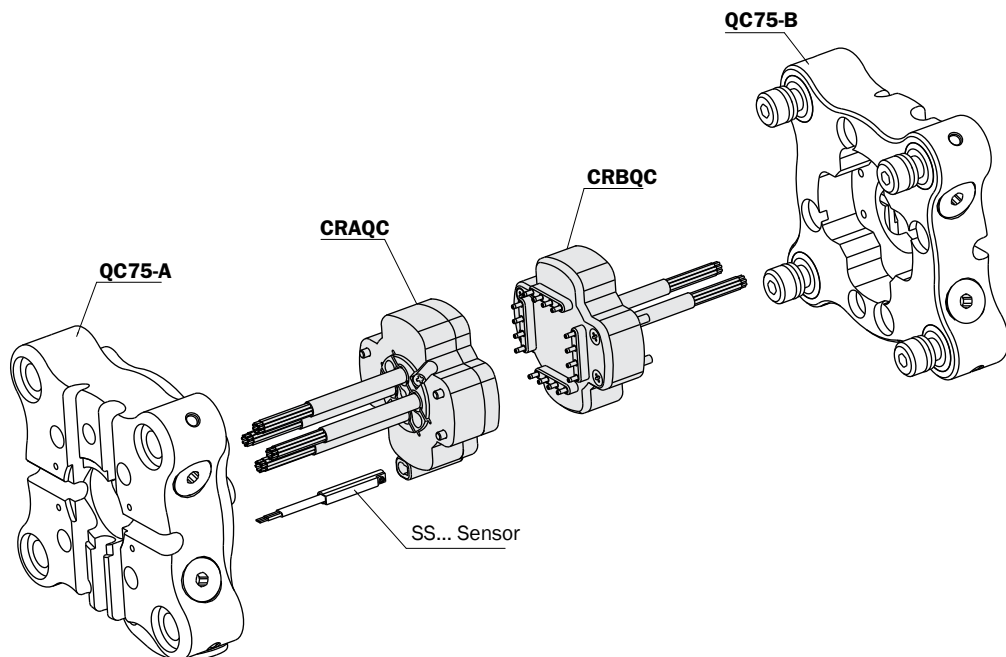
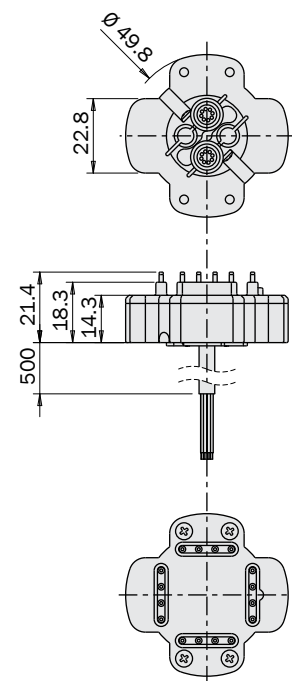
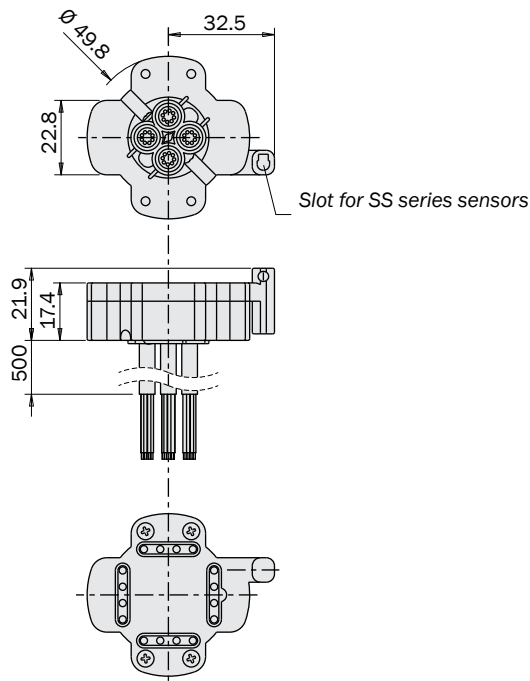


**CRAQC (Robot side) + CRBQC (Gripper side)**

- The two parts are supplied separately.
- 16 available prewired electric lines.
- 16 spring connectors.
- Sensor slot for the locking confirmation in CRAQC.
- RFID prewired (2 additional 8-pole cables) reader in CRAQC.
- TAG in CRBQC for the gripper recognition.

| <b>CRAQC</b> |       |
|--------------|-------|
| Weight       | 140 g |

| <b>CRBQC</b> |      |
|--------------|------|
| Weight       | 80 g |

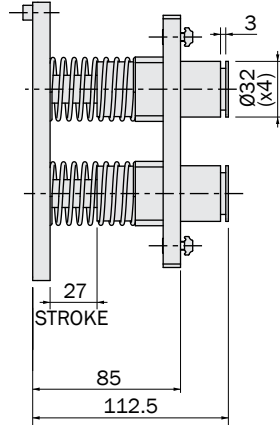
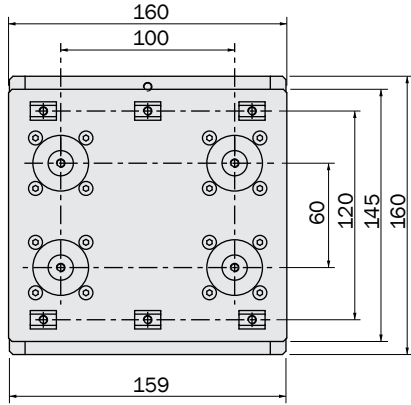


**Gripper side quick-changer with suspension**

- SQM160-B with hard springs (optional soft springs).
- SQP160-B with soft springs (optional hard springs) and double-acting pneumatic cylinder.
- Ready to enable 90° plate rotation [1].
- Suitable for SQC160-A, MFI-A42, QC150-B, QC160-B.

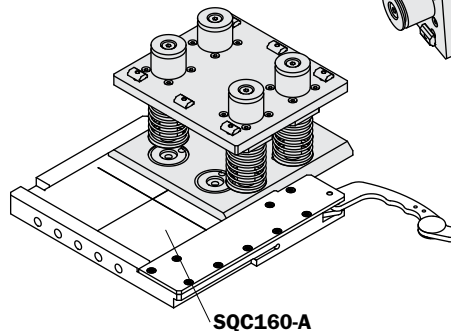
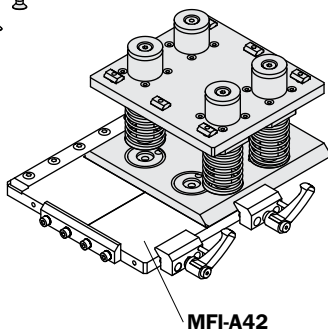
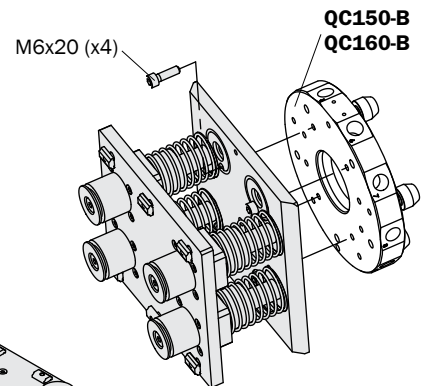
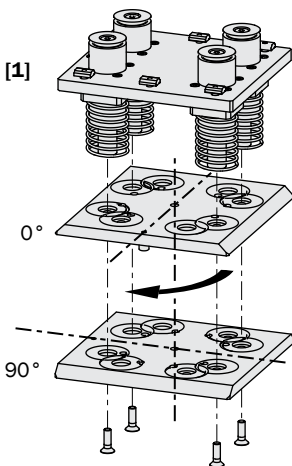
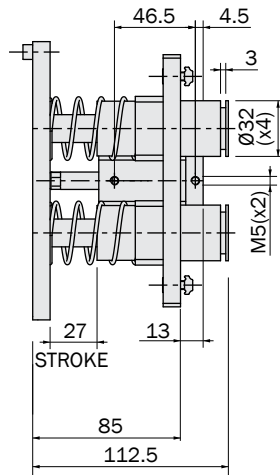
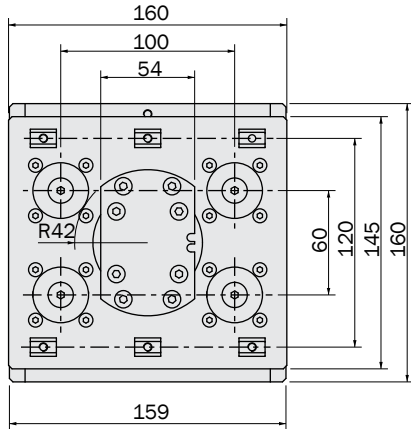
**SQM160-B**

|        |        |
|--------|--------|
| Weight | 2634 g |
|--------|--------|



**SQP160-B**

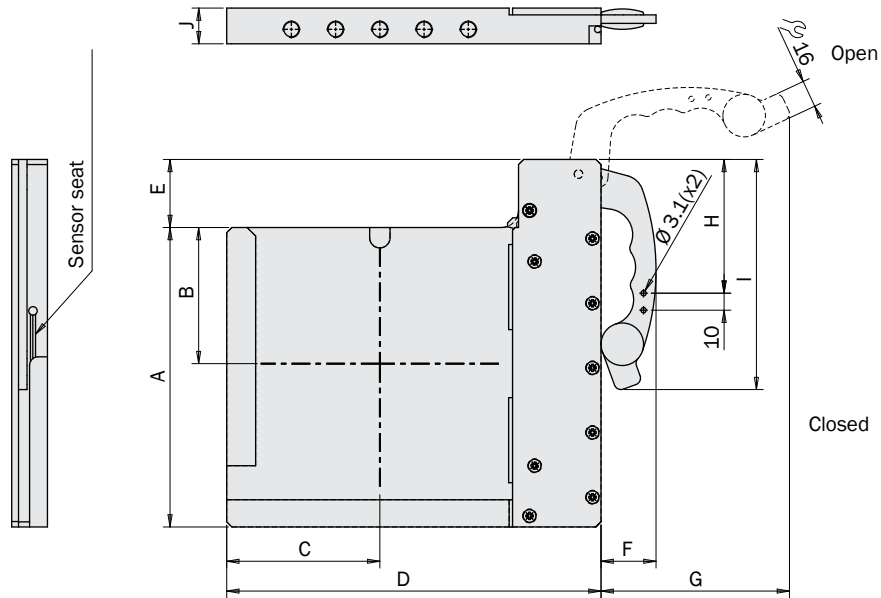
|        |        |
|--------|--------|
| Weight | 2898 g |
|--------|--------|



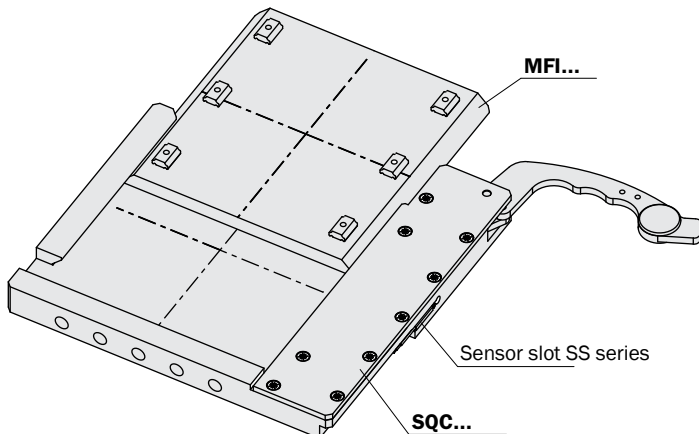
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Square quick changer (robot side)**

- One handle only.
- Intrinsically safe.
- Closed-state detection system by magnetic sensor (optional).



|               | SQC100-A | SQC160-A | SQC250-A |
|---------------|----------|----------|----------|
| <b>A</b>      | 110      | 176      | 270      |
| <b>B</b>      | 50       | 80       | 125      |
| <b>C</b>      | 57       | 90       | 150      |
| <b>D</b>      | 147      | 220      | 325      |
| <b>E</b>      | 5.5      | 40       | 40       |
| <b>F</b>      | 28       | 32.3     | 32.3     |
| <b>G</b>      | 76.6     | 110.8    | 110.8    |
| <b>H</b>      | 55.5     | 78.6     | 78.6     |
| <b>I</b>      | 100      | 135.3    | 135.3    |
| <b>J</b>      | 19       | 21       | 20       |
| <b>Weight</b> | 770 g    | 2050 g   | 3720 g   |
| <b>MFI..</b>  | MFI-A41  | MFI-A43  | MFI-A363 |



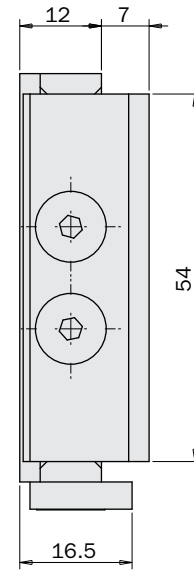
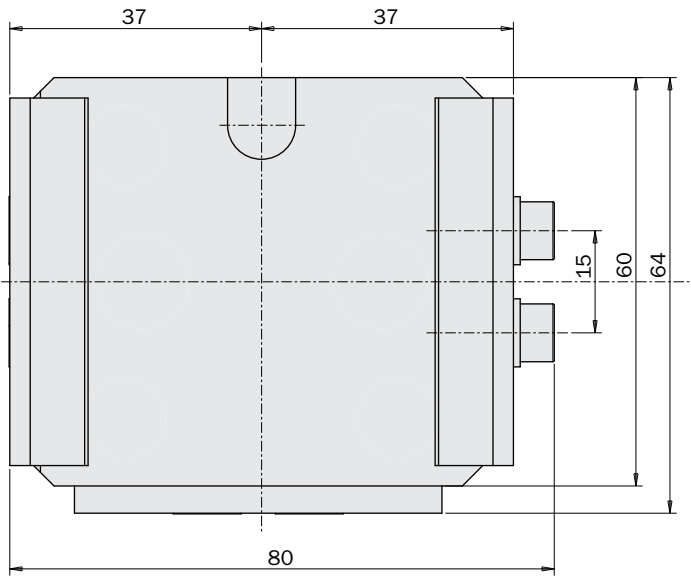
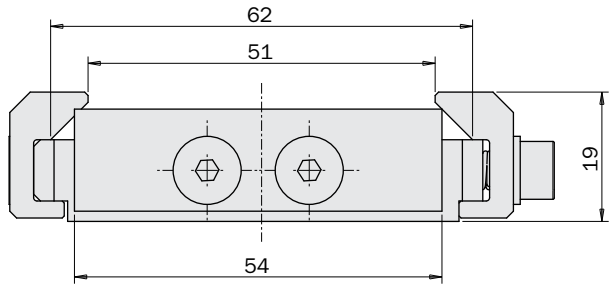
| The optional sensor are: |     |                        |
|--------------------------|-----|------------------------|
| SS4N225-G                | PNP | 2.5m cable             |
| SS4M225-G                | NPN |                        |
| SS3N203-G                | PNP | M8 snap plug connector |
| SS3M203-G                | NPN |                        |

Quick changer (robot side)

MFI-A343

FIRST ANGLE PROJECTION

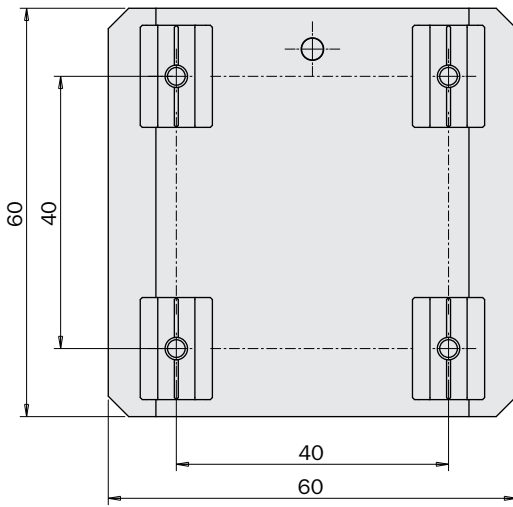
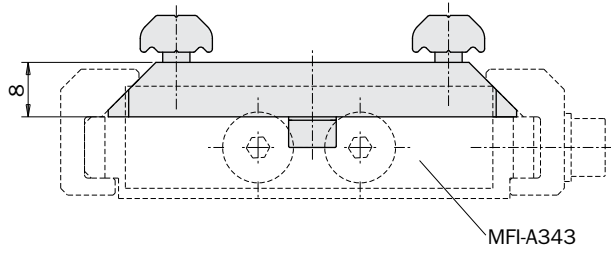
Weight 170 g





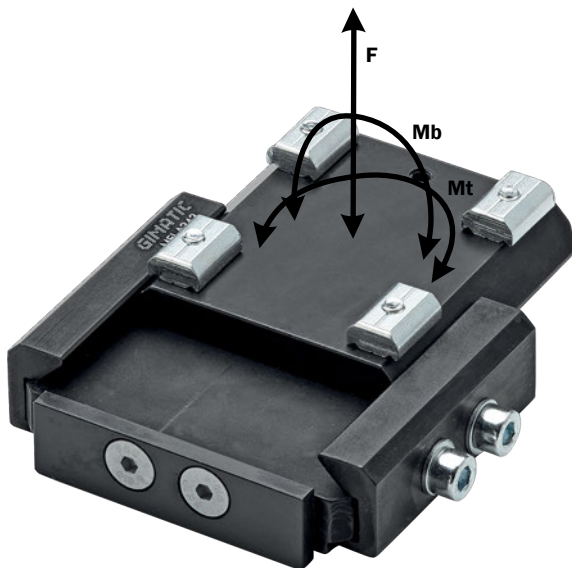
**Quick changer (gripper side)**

FIRST ANGLE PROJECTION



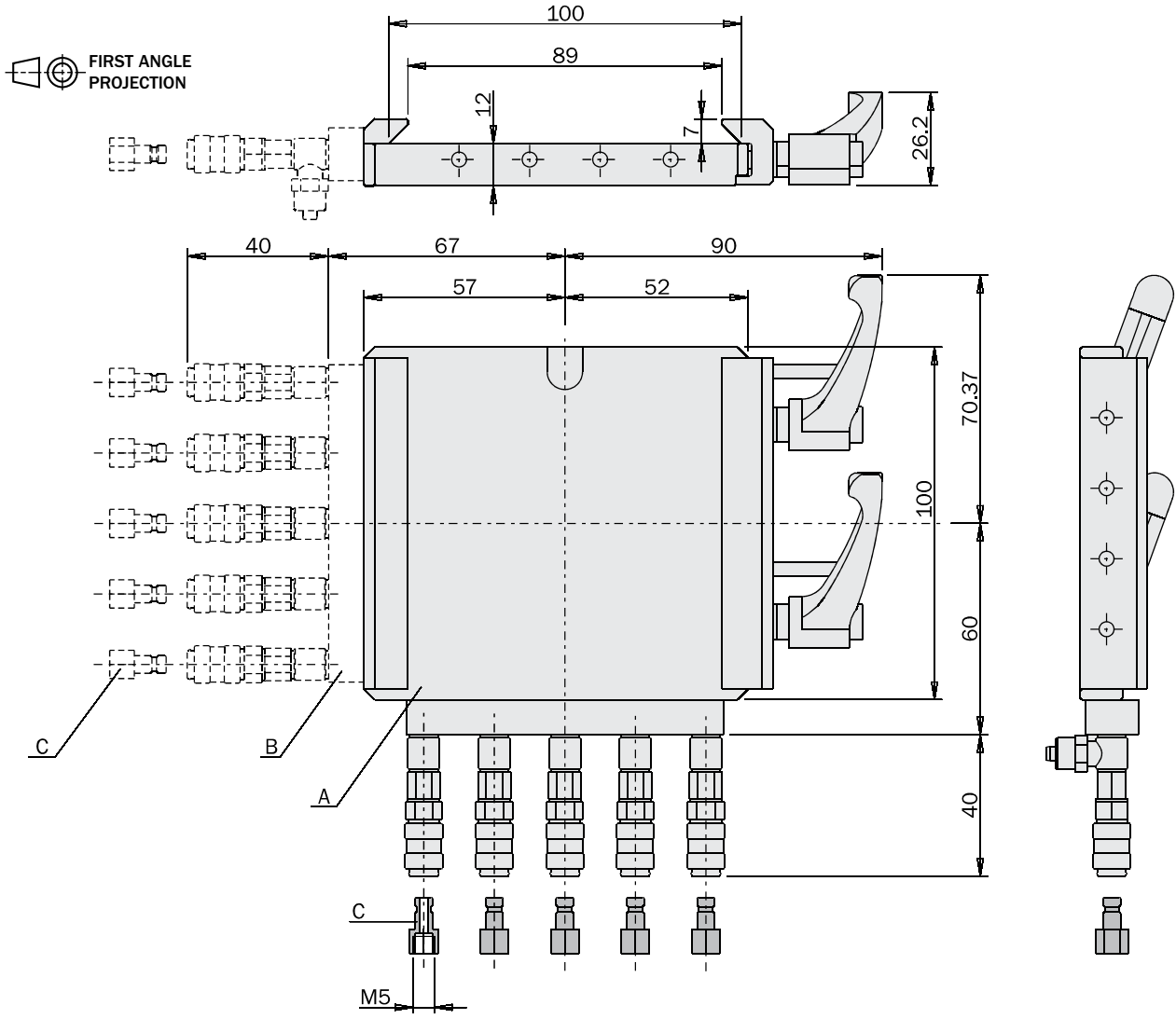
|        |                 |
|--------|-----------------|
|        | <b>MFI-A344</b> |
| Weight | 65 g            |

**Safety loads**



|                   |                 |
|-------------------|-----------------|
| Robot side        | <b>MFI-A343</b> |
| Gripper side      | <b>MFI-A344</b> |
| Suggested payload | 3kg             |
| F                 | 60N             |
| Mt                | 9Nm             |
| Mb                | 6Nm             |

Quick changer (robot side)



|        | MFI-A40 | MFI-A130 | MFI-A133 | MFI-A135 |
|--------|---------|----------|----------|----------|
| Weight | 500 g   | 620 g    | 140 g    | 17 g     |

MFI-A40



A  
MFI-A130



B  
MFI-A133



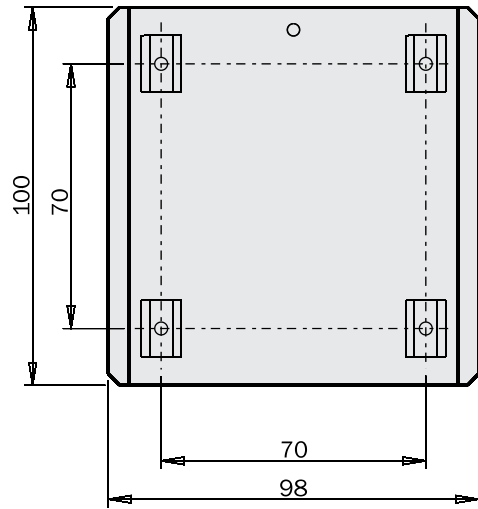
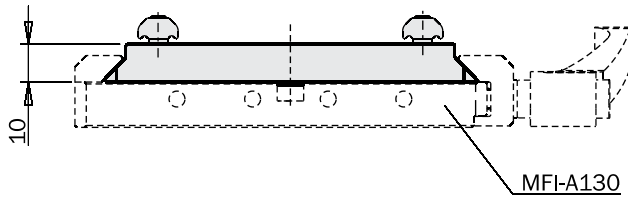
C  
MFI-A135



Quick coupling (5 pieces)

**Quick changer (gripper side)**

FIRST ANGLE PROJECTION



**MFI-A41**

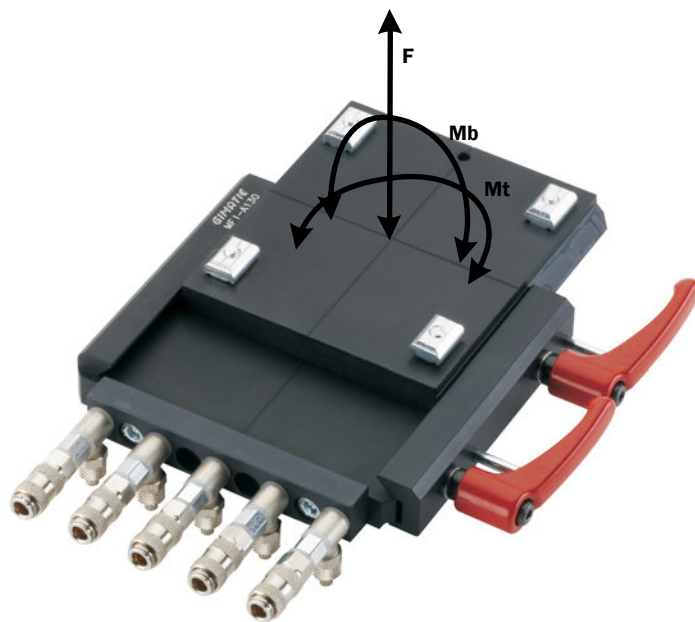
Weight **270 g**



**Click for Pricing & Add to Cart**



**Safety loads**



1-Handle robot side **SQC100-A**

2-Handle robot side **MFI-A40**

Gripper side **MFI-A41**

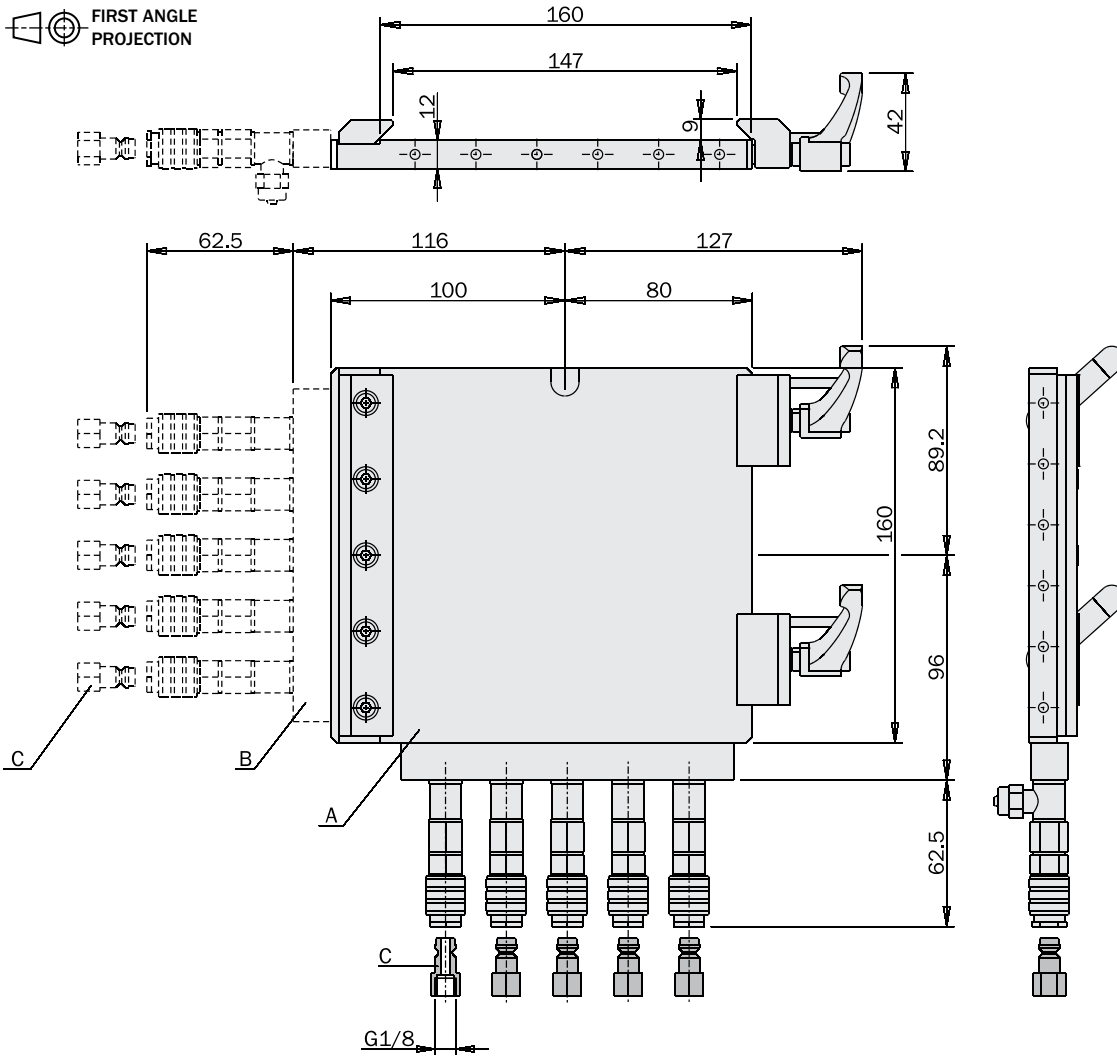
Suggested payload **10kg**

F **200N**

Mt **45Nm**

Mb **30Nm**

Quick changer (robot side)

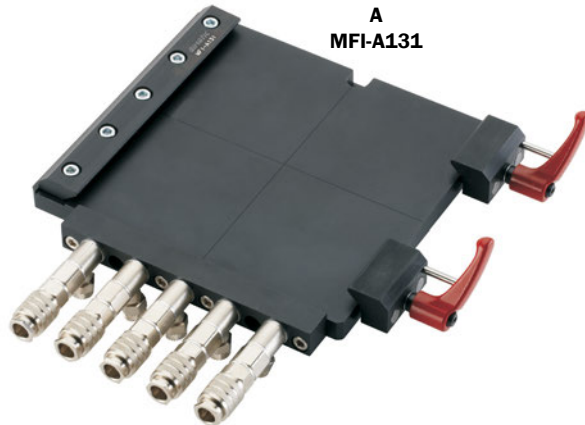


|        | MFI-A42 | MFI-A131 | MFI-A132 | MFI-A134 |
|--------|---------|----------|----------|----------|
| Weight | 1270 g  | 1650 g   | 450 g    | 40 g     |

MFI-A42



A  
MFI-A131



B  
MFI-A132



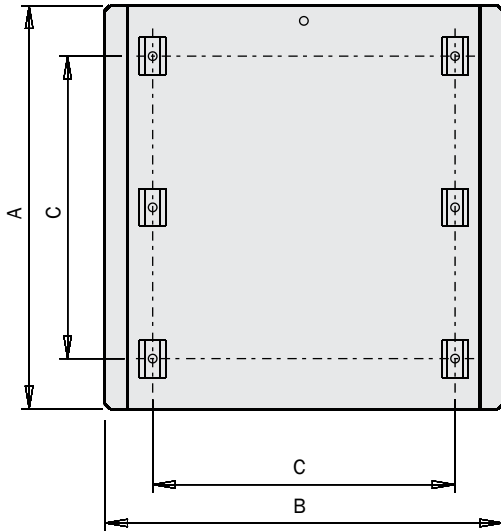
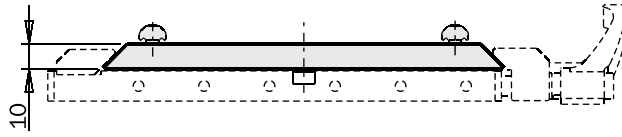
C  
MFI-A134



Quick coupling (5 pieces)

**Quick changer (gripper side)**

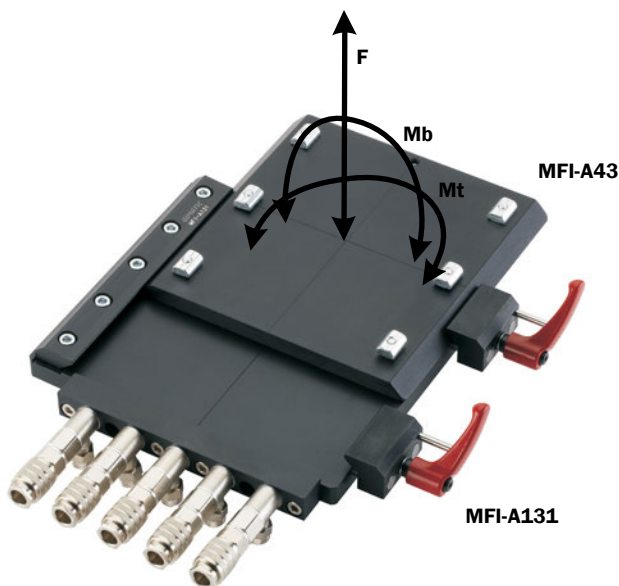
FIRST ANGLE PROJECTION



|        | <b>MFI-A43</b> | <b>MFI-A363</b> |
|--------|----------------|-----------------|
| Weight | 670 g          | 1600 g          |
| A      | 160 mm         | 250 mm          |
| B      | 159 mm         | 249 mm          |
| C      | 120 mm         | 200 mm          |



**Safety loads**

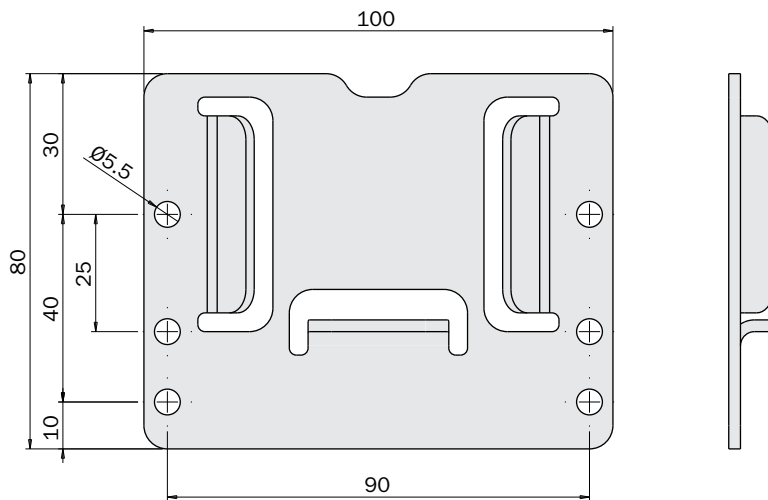


|                     |                 |                 |
|---------------------|-----------------|-----------------|
| 1-Handle robot side | <b>SQC160-A</b> | <b>SQC250-A</b> |
| 2-Handle robot side | <b>MFI-A42</b>  | -               |
| Gripper side        | <b>MFI-A43</b>  | <b>MFI-A363</b> |
| Suggested payload   | 20kg            | 40kg            |
| F                   | 400N            | 800N            |
| Mt                  | 120Nm           | 300Nm           |
| Mb                  | 80Nm            | 200Nm           |

**EOAT storage MFI-A344-H**  
 (to be used with MFI-A344, 60x60mm)



**Dimensions (mm)**



|        |                   |
|--------|-------------------|
|        | <b>MFI-A344-H</b> |
| Weight | 136 g             |

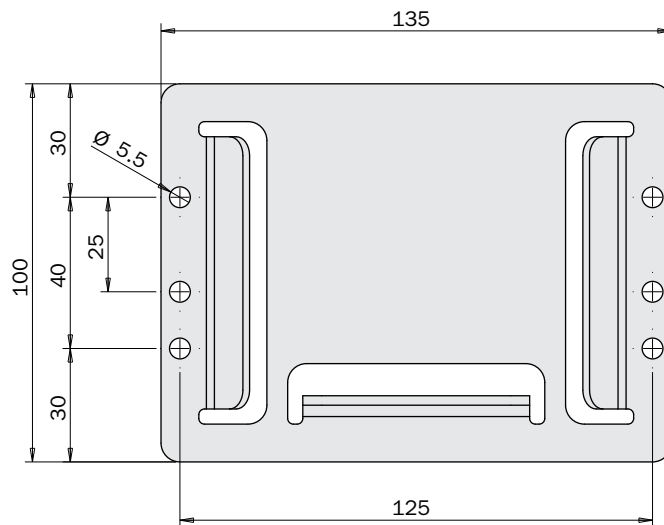
FIRST ANGLE PROJECTION

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

**EOAT storage MFI-A41-H**  
(to be used with MFI-A41, 98x100mm)



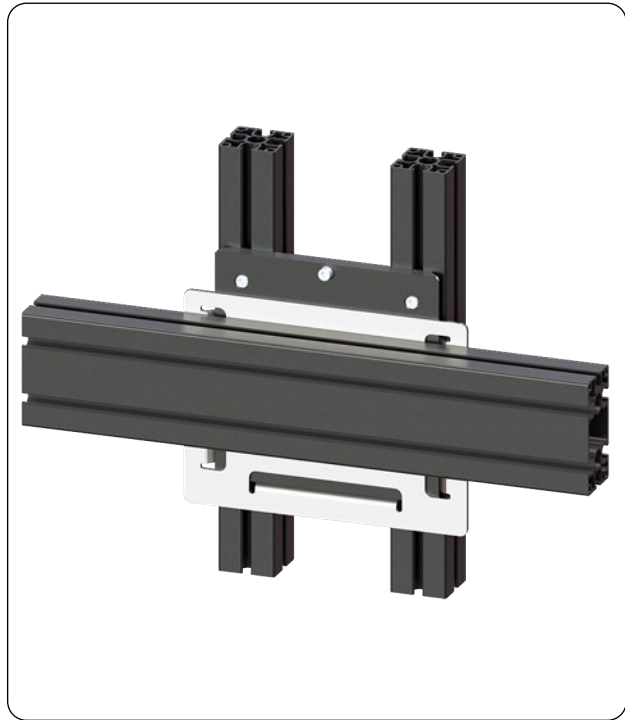
**Dimensions (mm)**



|        | <b>MFI-A41-H</b> |
|--------|------------------|
| Weight | 238 g            |

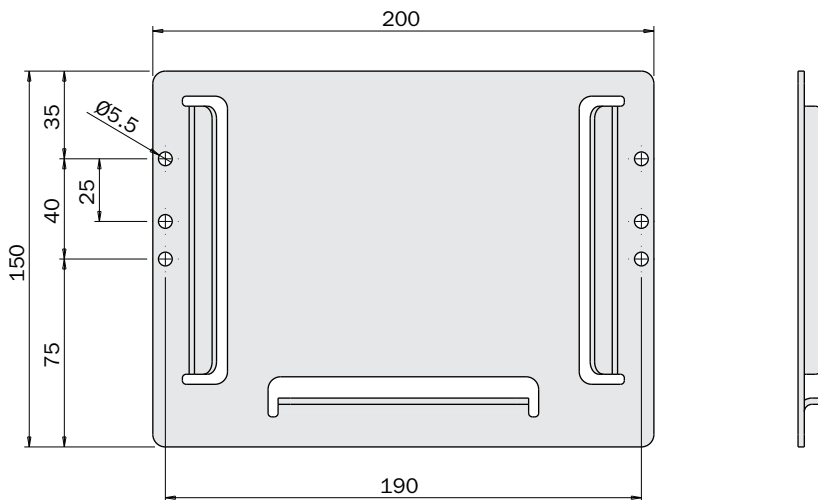
FIRST ANGLE PROJECTION

**EOAT storage MFI-A43-H**  
 (to be used with MFI-A43, 158x160mm)



**Dimensions (mm)**

|        | <b>MFI-A43-H</b> |
|--------|------------------|
| Weight | 547 g            |



FIRST ANGLE PROJECTION

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





## Electric quick changer

The EQC electric quick changer is available for applications that need automatic change of the gripping element.

This system consists of an active part (side A) and a passive mechanical tool plate (side B).

The active part is usually connected to a robot's wrist while one or more flanges are connected to the interchangeable gripping elements.

- Fully automatic version.
- Plug & Play system.
- Designed to collaborative robot application.
- Optional flange ISO 9409 to interface directly with robot.
- Power cable with 8-pin M8x1 connector, length 200 mm.
- 24 Vdc low voltage supply.
- Up to 6 user pneumatic connections.
- Optional electric connectors to be positioned in the central through hole.

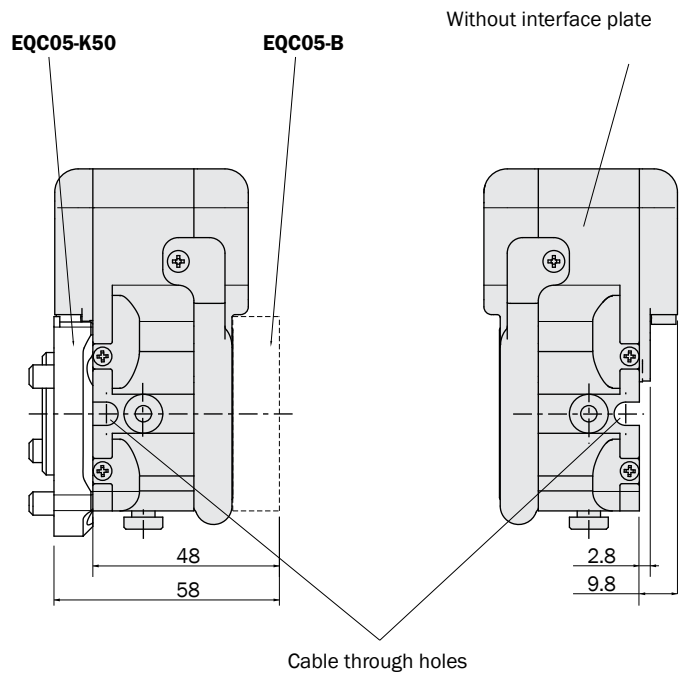
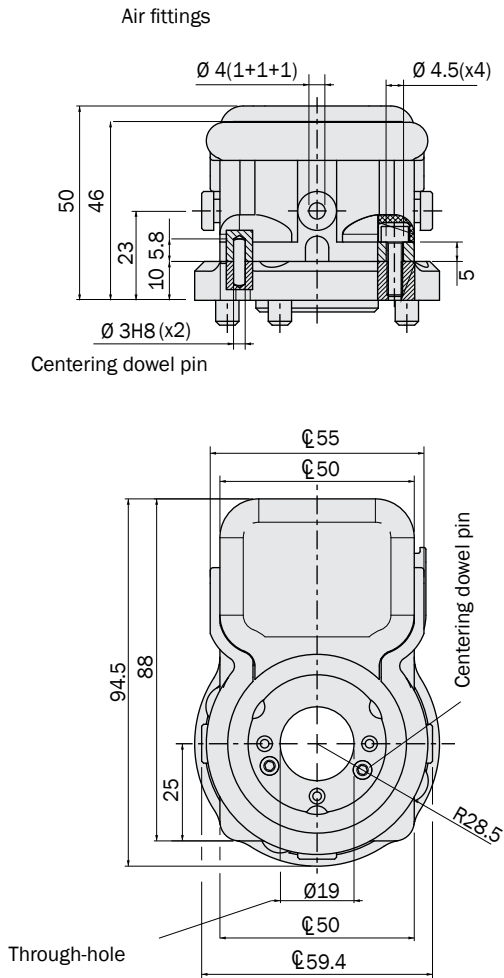


COMING SOON

|   | EQC05                    | EQC05N | EQC20                      | EQC20N | EQC100                     | EQC100N |
|---|--------------------------|--------|----------------------------|--------|----------------------------|---------|
| Mass of the master plate (EQCxx-A)                    | 500 g                    |        | 810 g                      |        | 2700 g                     |         |
| Weight of the tool plate (EQCxx-B)                    | 100 g                    |        | 210 g                      |        | 720 g                      |         |
| Coupling / uncoupling time                            | 0.5 s                    |        | 1 s                        |        | 1 s                        |         |
| Maximum coupling distance                             | 0.5 mm                   |        | 1 mm                       |        | 2 mm                       |         |
| Torsional misalignment                                | ± 2°                     |        | ± 2°                       |        | ± 2.5°                     |         |
| Planar misalignment (R)                               | 1 mm                     |        | 2 mm                       |        | 2.5 mm                     |         |
| Repeatability   | 0.01 mm                  |        | 0.01 mm                    |        | 0.01 mm                    |         |
| Protection rating                                     | IP40                     |        | IP54                       |        | IP54                       |         |
| Load capacity   | 5 kg                     |        | 20 kg                      |        | 100 kg                     |         |
| Allowed temperature range                             |                          |        | 5-60 °C                    |        |                            |         |
| Pneumatic supply (integrated)                         | Ø4 (x3)                  |        | Ø6 (x6)                    |        | Ø8 (x6)                    |         |
| Interchangeability                                    |                          |        | X-Y: 0.1 mm<br>Z: 0.1 mm   |        |                            |         |
| Repeatability   |                          |        | X-Y: 0.02 mm<br>Z: 0.02 mm |        |                            |         |
| Moment of inertia Z-axis (Center of the robot flange) | 3745 g · cm <sup>2</sup> |        | 13082 g · cm <sup>2</sup>  |        | 109158 g · cm <sup>2</sup> |         |
| Moment of inertia Z-axis (Center of the robot flange) | 338 g · cm <sup>2</sup>  |        | 1719 g · cm <sup>2</sup>   |        | 21370 g · cm <sup>2</sup>  |         |

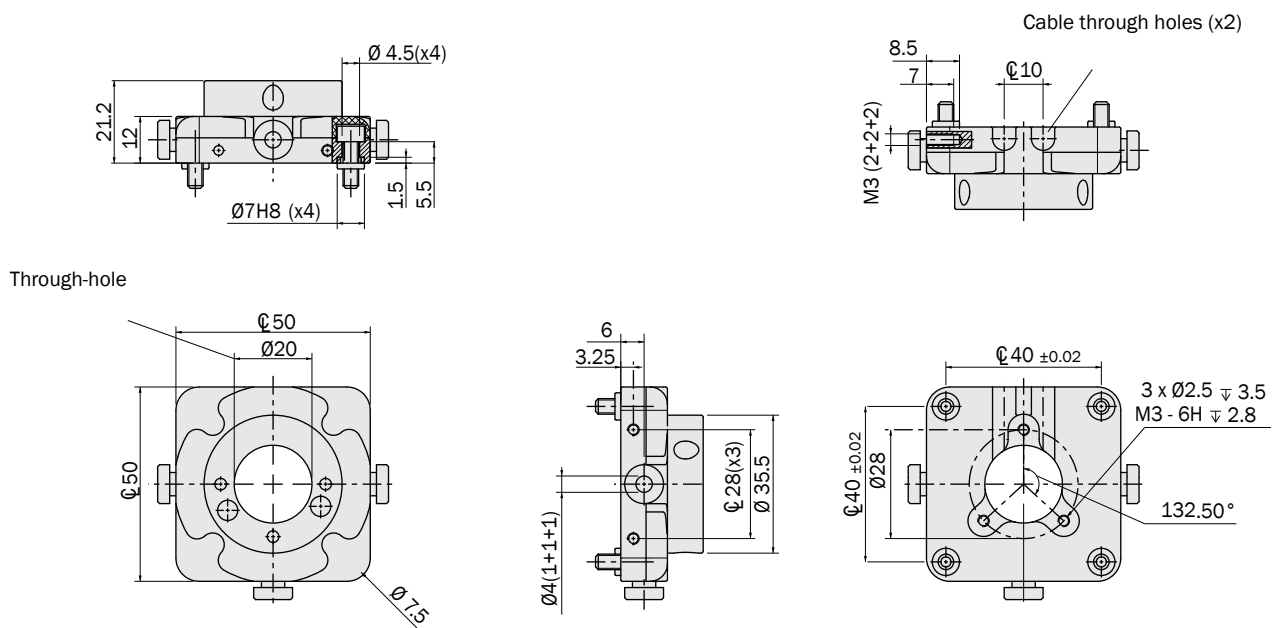
**Dimensions (mm)**

**EQC05-A**  
**EQC05N-A**

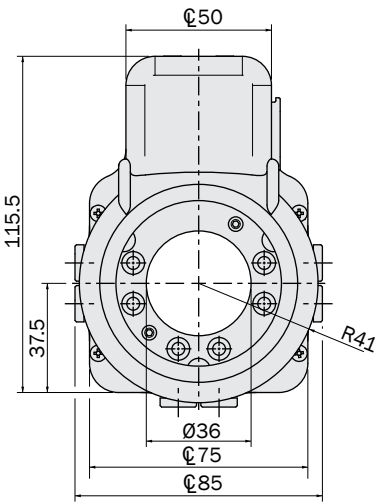
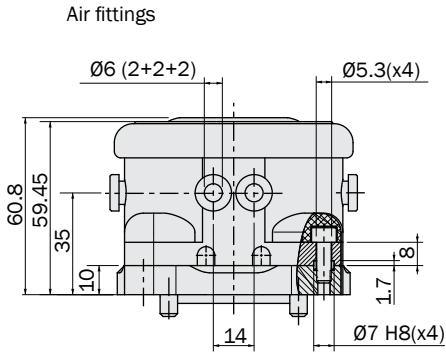


**Dimensions (mm)**

**EQC05-B**



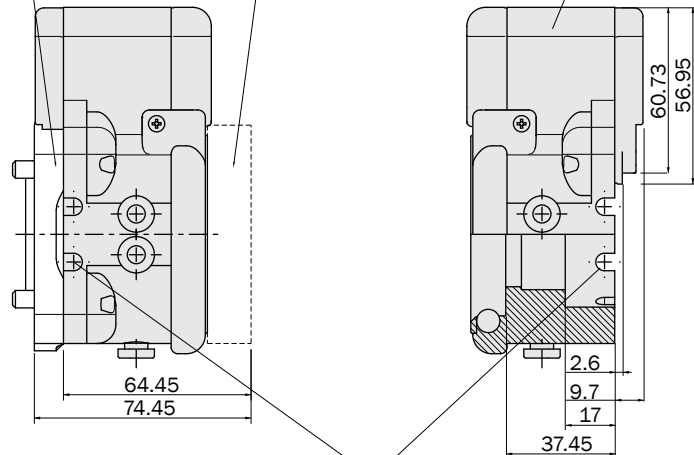
Dimensions (mm)



EQC20-K63

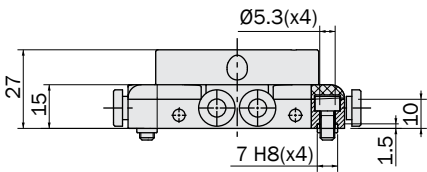
EQC20-B

Without interface plate

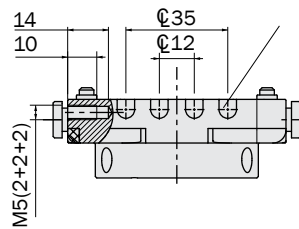


Cable through holes (2+2+2)

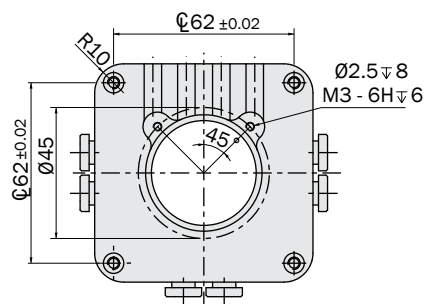
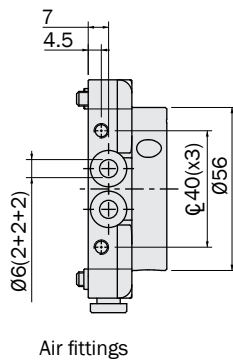
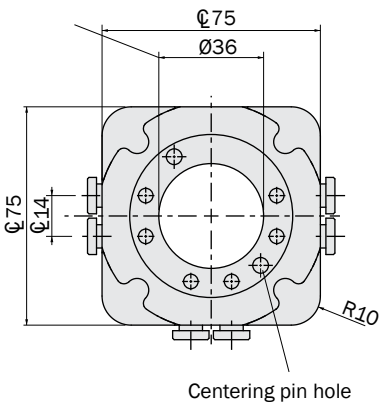
Dimensions (mm)



Cable through holes (x4)

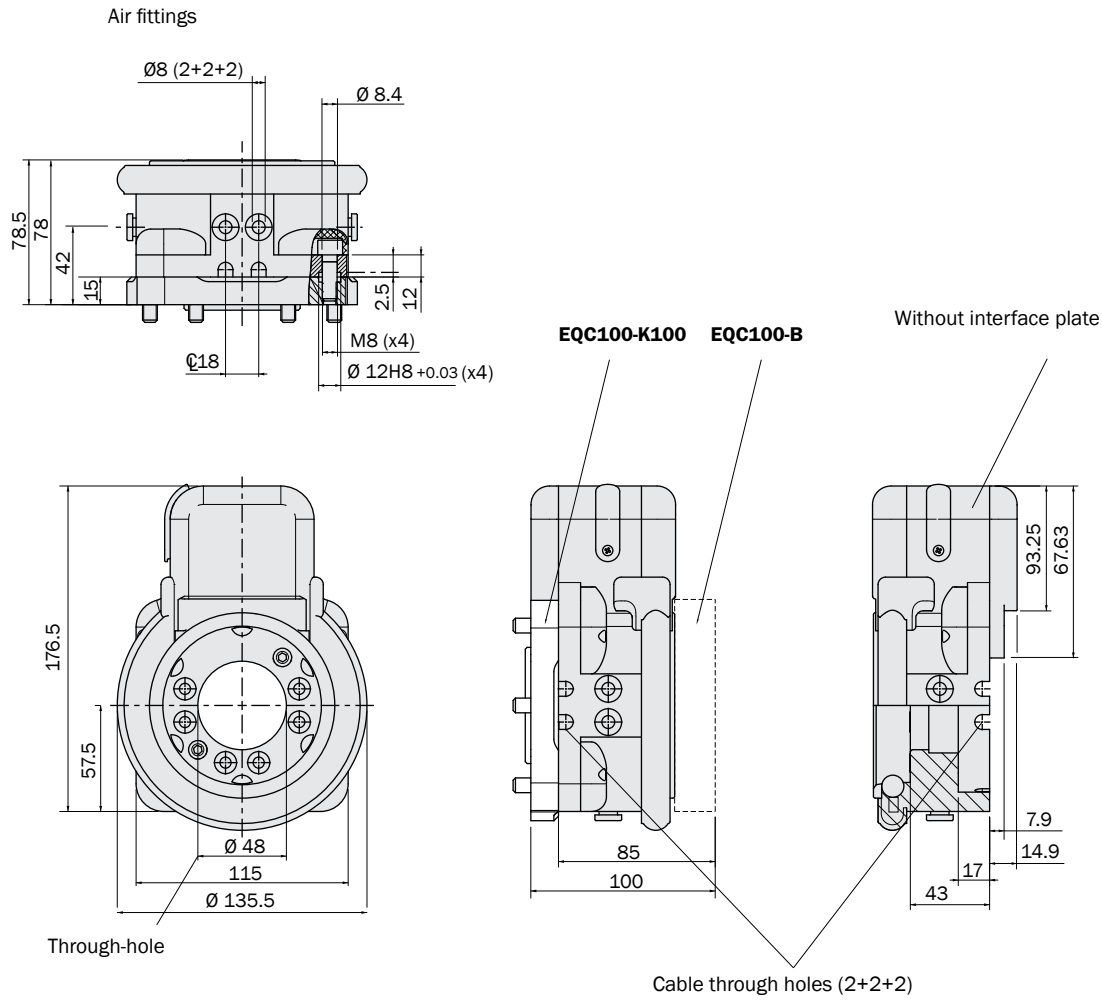


Through-hole



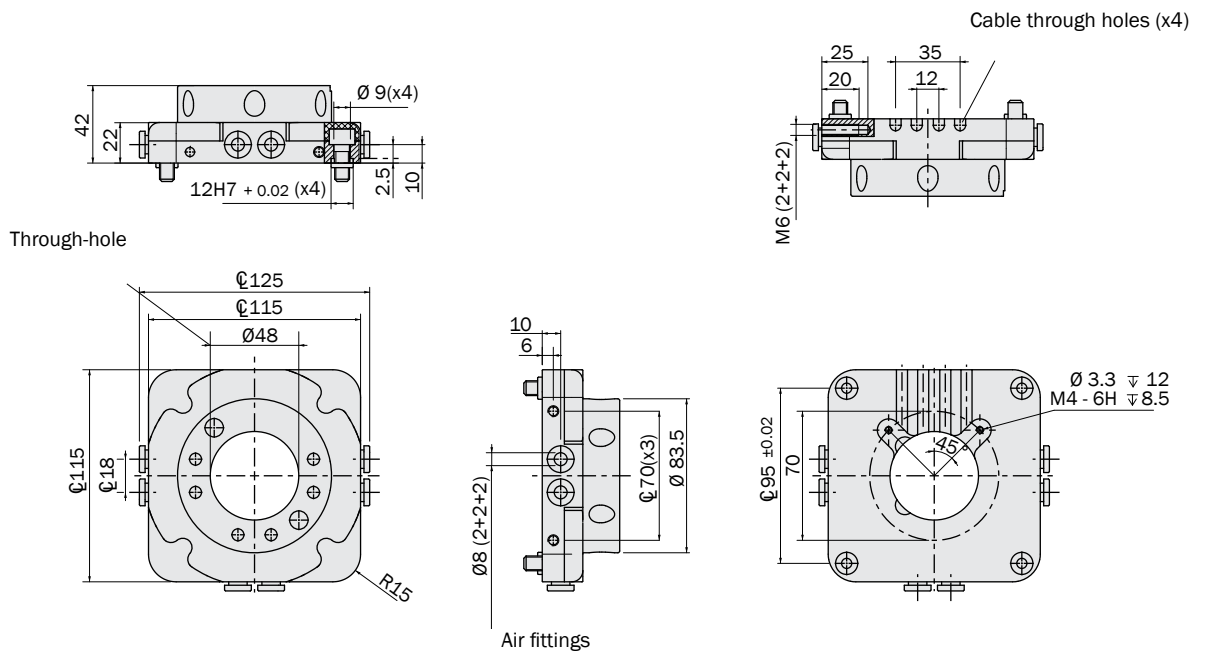
**Dimensions (mm)**

**EQC100-A  
EQC100N-A**



**Dimensions (mm)**

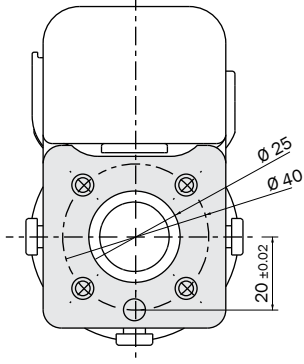
**EQC100-B**



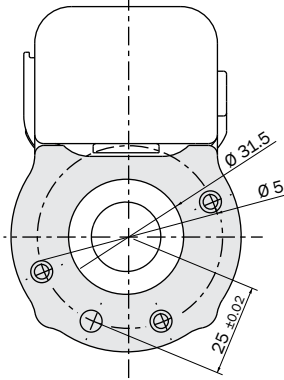
Robot interface plates ISO 9409

EQC05-A/ EQC05N-A

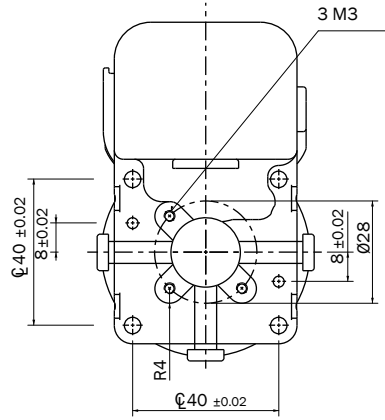
**EQC05-K40**  
ISO 9409-1-40-4-M6



**EQC05-K50**  
ISO 9409-1-50-4-M6

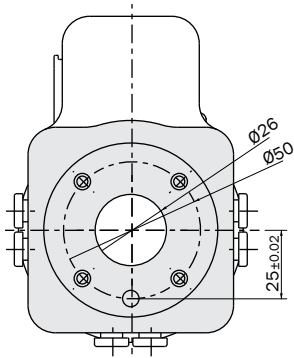


Without interface plate

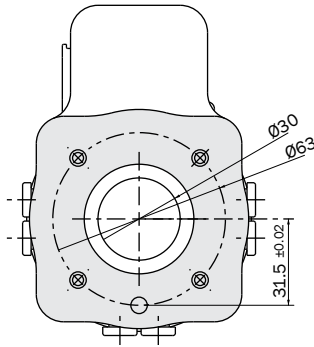


EQC20-A/ EQC20N-A

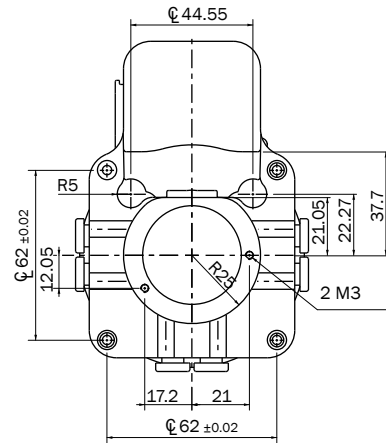
**EQC20-K50**  
ISO 9409-1-50-4-M6



**EQC20-K63**  
ISO 9409-1-63-4-M6

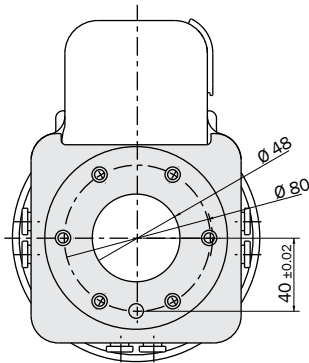


Without interface plate

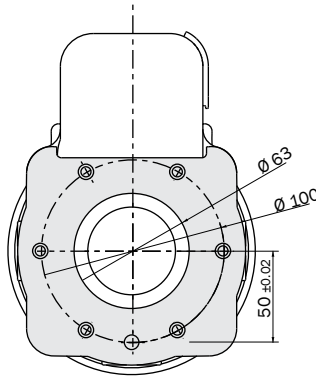


EQC100-A/ EQC100N-A

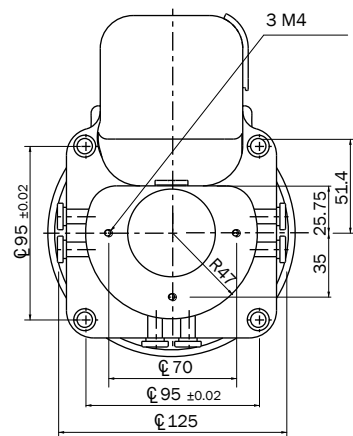
**EQC100-K80**  
ISO 9409-1-80-6-M8



**EQC100-K100**  
ISO 9409-1-100-6-M8



Without interface plate

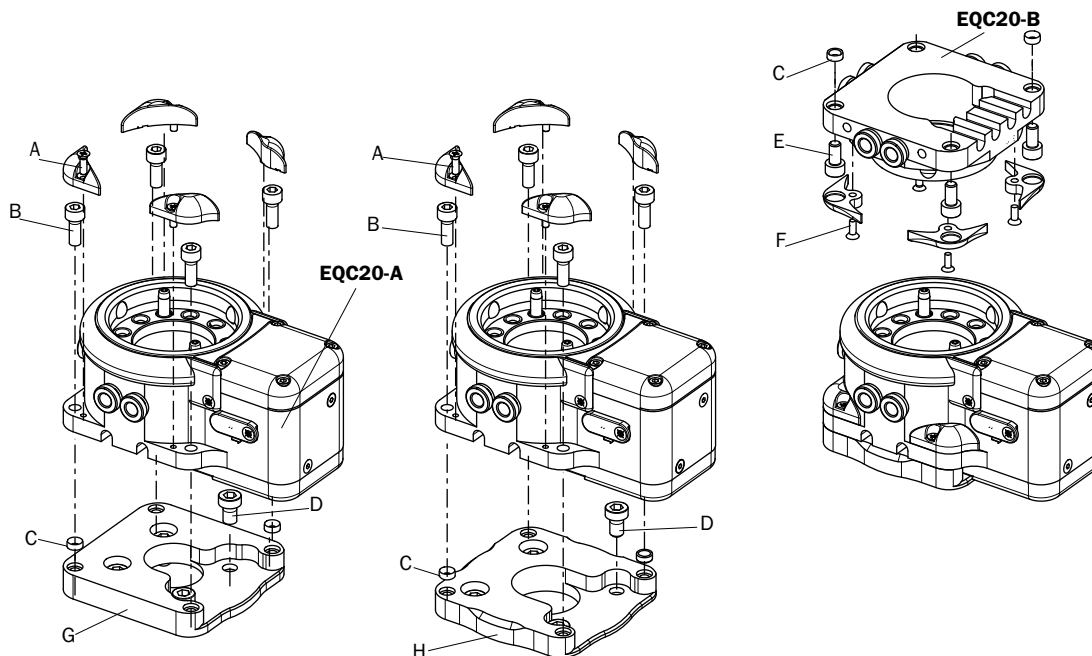


Sensors Options Robot Kit Nippers Suspensions Linear Actuators Grippers Profiles and Brackets Quick Changer Rotary Units

**Fastening**

The active part of the quick changer can only be fastened on the bottom using four screws.  
 The tool plate, B, can be fastened on the load in a similar manner.  
 For proper centering of parts A and B, use the two bushes (C) supplied in the package.

**Example with EQC20-A**

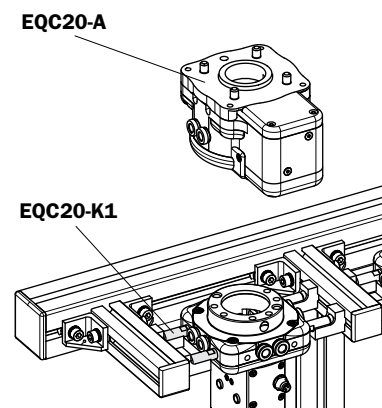
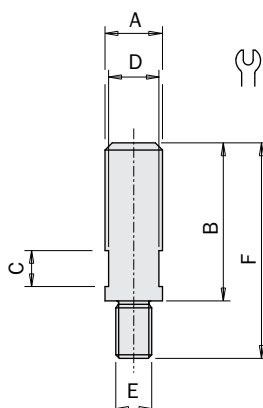


|   | EQC05-A/ EQC05N-A              | EQC20-A/EQC20N-A               | EQC100-A/EQC100N-A                |
|---|--------------------------------|--------------------------------|-----------------------------------|
| A | TSP M2.5X6 DIN965              | TSP M3X10 DIN 965A             | M3X14 DIN7985A                    |
| B | TCEI M4X14 DIN 912             | TCEI M5X14 DIN912              | TCEI M8X25 DIN 912                |
| C | Ø 3X12 DIN 6325                | 390677 Ø7xØ5.3x3               | 354236 Ø12xØ8.4x5                 |
| D | TCEI M6X10 DIN 7984            | TCEI M6x10 DIN 7984            | TCEI M8X16 DIN 912                |
| E | TCEI M4 DIN912                 | TCEI M5 DIN912                 | TCEI M8 DIN912                    |
| F | TSP M2.5X8 DIN965A             | TSP M3x8 DIN 965A              | TSP M4X16 DIN965A                 |
| G | EQC05-K50 (ISO 9409-1-50-4-M6) | EQC20-K63 (ISO 9409-1-63-4-M6) | EQC100-K100 (ISO 9409-1-100-6-M6) |
| H | EQC05-K40 (ISO 9409-1-404M6)   | EQC20-K50 (ISO 9409-1-50-5-M6) | EQC100-K63 (ISO 9409-1-63-6-M6)   |

**Kit pin for storage (optional)**

The pins required for storage of the tool plate when not in use are supplied separately.

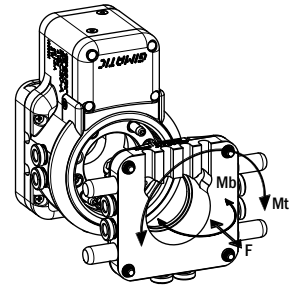
|   | EQC05-K1 | EQC20-K1 | EQC100-K1 |
|---|----------|----------|-----------|
| A | D7       | D8       | D12       |
| B | 15       | 22       | 52        |
| C | 4+1      | 5+1      | 8+1       |
| D | 6        | 7        | 10        |
| E | M4       | M5       | M6        |
| F | 20       | 30       | 70        |
|   | 5        | 7        | 10        |



## Safety loads

Check the table for the maximum loads allowed. Excessive forces or torques can damage the system, cause operation problems and endanger the safety of the operator.

|    | EQC05-A/ EQC05N-A | EQC20-A/ EQC20N-A | EQC100-A/ EQC100N-A |
|----|-------------------|-------------------|---------------------|
| Mt | 8 Nm              | 150 Nm            | 600 Nm              |
| Mb | 8 Nm              | 100 Nm            | 400 Nm              |
| F  | 500 N             | 2000 N            | 8000 N              |



## Main electrical connection

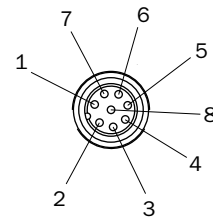
The electrical quick changer is equipped with an 8-poles M8 male connector that provides a 24Vdc power supply for the locking/unlocking command and for the connection of the digital outputs that identify the coupled and uncoupled system status. No additional external electronic control system is required. The major size of this electric tool changer (EQC100-A / EQC100N-A) has an additional input (IN SECURE) that must remain enabled (connected to 24vdc) to allow the operation of the product. No additional external electronic control system is required.

### EQC05-A / EQC20-A

|   |          |                   |
|---|----------|-------------------|
| 1 | White /  | N/C               |
| 2 | Brown /  | N/C               |
| 3 | Green /  | OUT CLOSED (PNP)  |
| 4 | Yellow / | OUT OPENED (PNP)  |
| 5 | Grey /   | 24 Vdc            |
| 6 | Pink /   | OPEN/CLOSE (PNP)* |
| 7 | Blue /   | N/C               |
| 8 | Red /    | GND               |

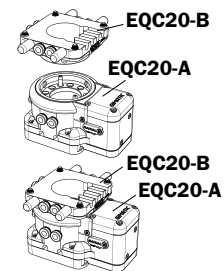
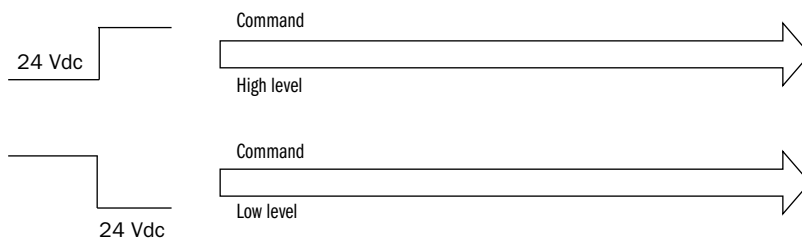
### EQC100-A

|   |          |                   |
|---|----------|-------------------|
| 1 | White /  | N/C               |
| 2 | Brown /  | N/C               |
| 3 | Green /  | OUT CLOSED (PNP)  |
| 4 | Yellow / | OUT OPENED (PNP)  |
| 5 | Grey /   | 24 Vdc            |
| 6 | Pink /   | OPEN/CLOSE (PNP)* |
| 7 | Blue /   | IN SECURE         |
| 8 | Red /    | GND               |



\*For EQC05N-A, EQC20N-A and EQC100N versions the type command is NPN

## Command example with EQC20-A (type command: PNP)



Low: coupling command High: uncoupling command

For NPN versions the logic is inverse.

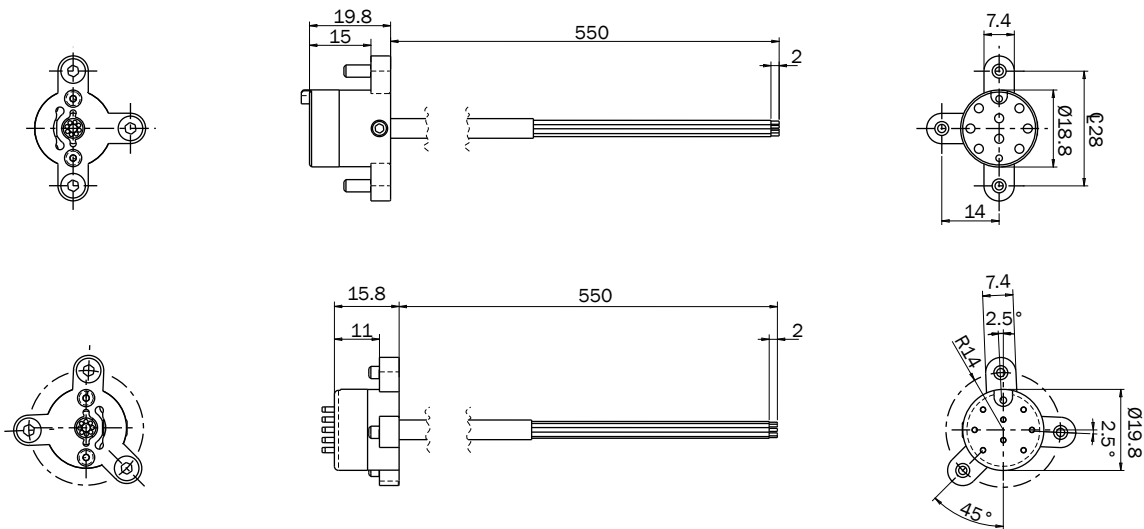
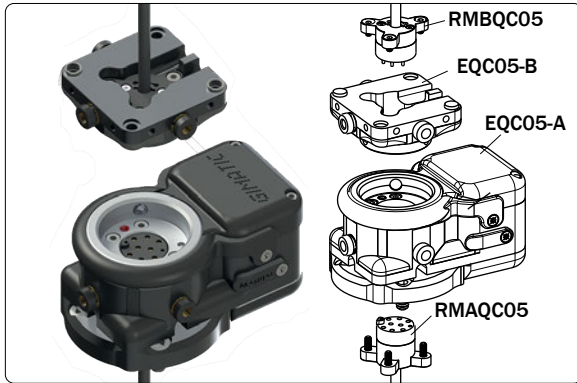
|                             | EQC05-A                         | EQC05N-A | EQC20-A                        | EQC20N-A | EQC100-A                     | EQC100N-A |
|-----------------------------|---------------------------------|----------|--------------------------------|----------|------------------------------|-----------|
| Electrical connection       | M8, 8-pole                      |          |                                |          |                              |           |
| Power supply                | 24 Vdc ± 10% 0.35 Arms, 0.8 Apk |          | 24 Vdc ± 10% 0.5 Arms, 1.2 Apk |          | 24 Vdc ± 10% 1.5 Arms, 6 Apk |           |
| PNP digital inputs          | PNP                             | NPN      | PNP                            | NPN      | PNP                          | NPN       |
| Output initialisation delay | 200 ms                          |          |                                |          |                              |           |



**Electrical connection module: RMAQC05/  
RMBQC05 (optional for EQC05)**

- Electrical connection module for EQC05 quick changer.
- 8 electrical spring connections.
- 1 output with pre-wired cable.

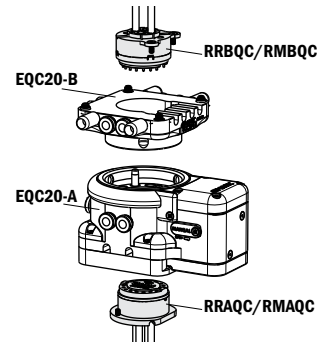
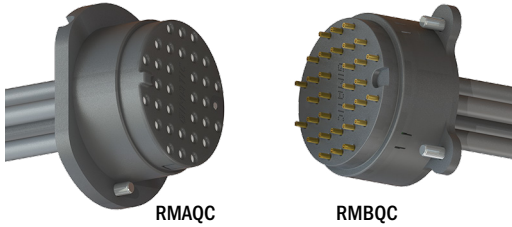
**Application example**



|                            | RMAQC05                            | RMBQC05 |
|----------------------------|------------------------------------|---------|
| Number of user connections | 8                                  |         |
| Contact coating            | Gold-plating                       |         |
| Type of contact            | Female                             | Male    |
| Rated voltage              | 24 Vdc                             |         |
| Max current per contact    | 1 A                                |         |
| Operating temperature      | 5/60°C                             |         |
| IP rating                  | IP40                               |         |
| Electrical connection      | 1 cable (8 x 0.14mm <sup>2</sup> ) |         |
| Cable length               | 500mm                              |         |
| Cable insulation           | PUR                                |         |
| Cable sheath               | PUR                                |         |
| Weight                     | 70g                                |         |

**Electrical connection module: RMAQC/RMBQC (optional for EQC20)**

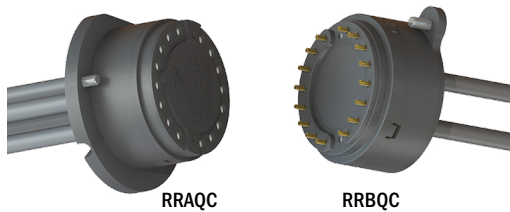
- Electric connection module.
- 32 electrical connection.
- Feeler pin with self-clearing heads.
- Output: four 8-pole cable x 0.14 mm<sup>2</sup>
- The two parts are supplied separately:  
RMAQC – robot side;  
RMBQC - frame side.



**RRAQC/RRBQC (optional)**

RFID identification modules + Electric connection module.  
System for automatic recognition of gripping tool composed of a RFID reader (RRAQC) and memory TAG (RRBQC).

- Up to 255 identifiable tools.
- Binary coding of tools by means of 8 digital outputs 24 Vdc.
- Digital input to counting tool cycles execution.
- Generation of a maintenance warning signal once the tool reaches the preset number of cycles.
- Memorization of tool technical data.
- User data memory available.
- 16 pins connections.
- Feeler pin with self-clearing heads.
- RFID module output: two 8-pole cable x 0.14 mm<sup>2</sup>.
- Electric connection module output: two 8-pole cable x 0.14 mm<sup>2</sup>.
- The two parts are supplied separately:  
RRAQC – robot side (Reader) [NPN: RRAQCN];  
RRBQC – frame side (TAG).
- Communication also through your smartphone thanks to the new app “Gimatic Android App”.

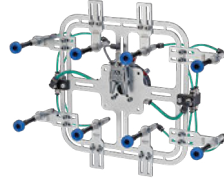


|                         | RRAQC/RRBQC  | RMAQC/RMBQC |
|-------------------------|--|-------------|
| User connections number | 16   | 32          |
| RFID                    | Yes  | No          |
| Connections             | 8 x 0.14 mm <sup>2</sup> 4 cable (cable diameter 4.8 mm) |             |
| Maximum contact current | 1 A  |             |
| Nominal tension         | 24 Vdc ± 10%   |             |
| Contacts                | Self-cleaning spring contacts, gold-plated               |             |
| Temperature range       | 5 ÷ 60°C   |             |





**EM** **NEW**  
Beams



**PLA**  
Plate for EOAT



**MFI** **NEW**  
Universal mounting clamps



**MCD**  
Mini compensator



**MFP**  
Plastic Fastening Modules



**MFM**  
Metal Fastening Modules



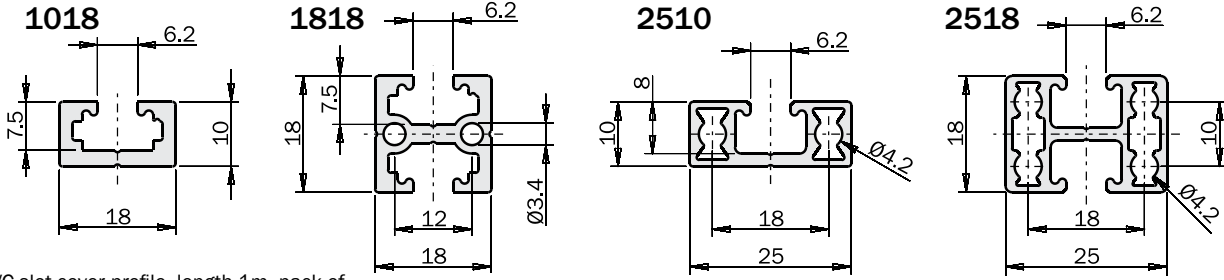
**Click for Quick Navigation**

**PROFILES AND BRACKETS**

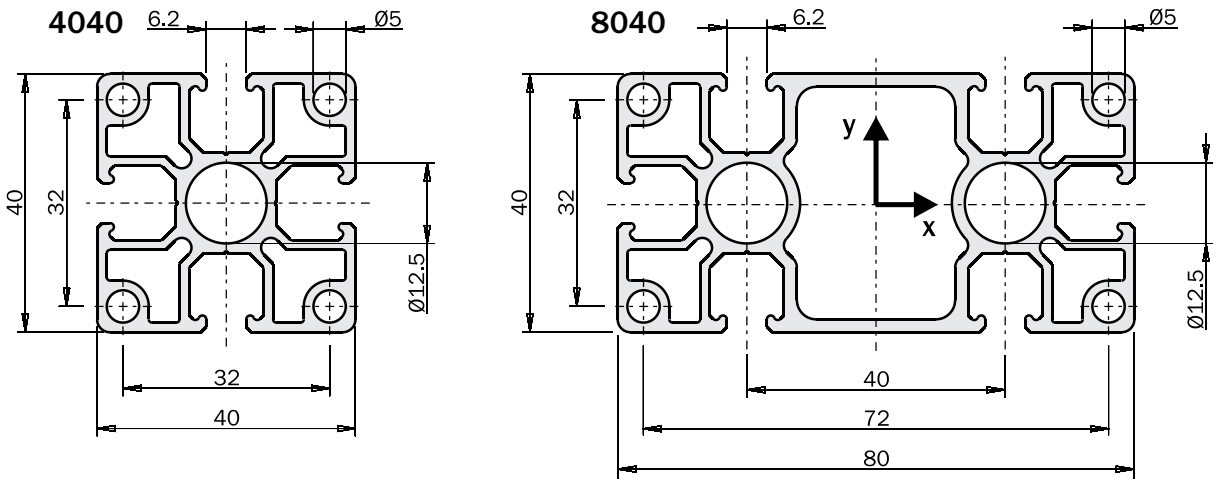
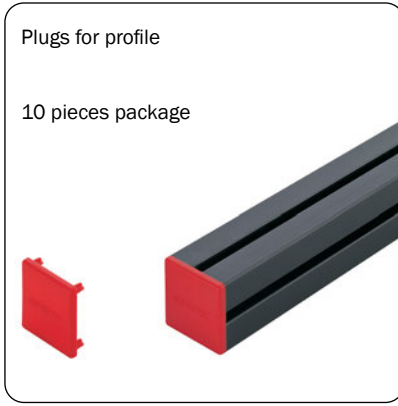
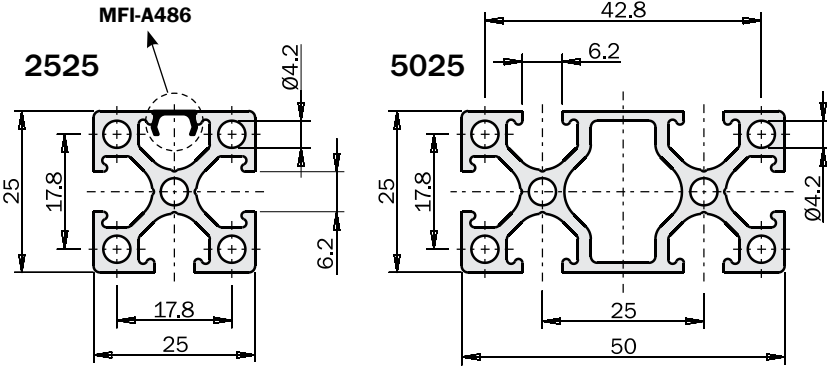
---





Square beams

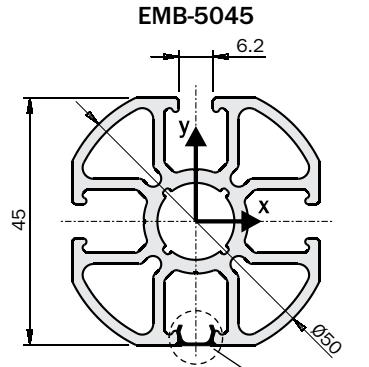
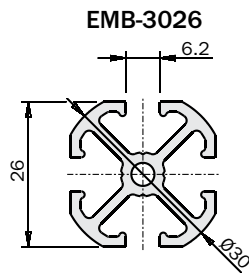
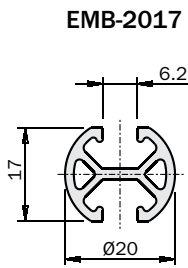


PVC slot cover profile, length 1m, pack of 20 pieces

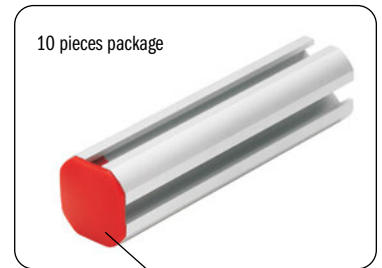
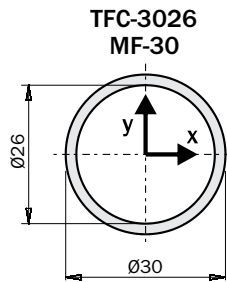
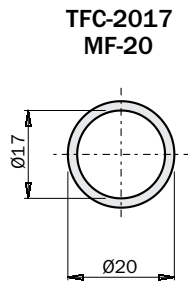


|   |   | Length | Weight | Ix<br>[mm <sup>4</sup> ] | Iy<br>[mm <sup>4</sup> ] | Plugs   | Iz<br>[mm <sup>4</sup> ] |
|---|---|--------|--------|--------------------------|--------------------------|---------|--------------------------|
|  |  | 1 m    | 250 g  | 1084                     | 3855                     | MFI-A24 | 4940                     |
| <b>EMB-1018-1000</b>  | <b>EMF-1018-1000</b>  | 2 m    | 500 g  | 1084                     | 3855                     | MFI-A24 | 4940                     |
| <b>EMB-1018-2000</b>  | <b>EMF-1018-2000</b>  | 1 m    | 400 g  | 4381                     | 6245                     | MFI-A23 | 10627                    |
| <b>EMB-1818-1000</b>  | <b>EMF-1818-1000</b>  | 2 m    | 800 g  | 4381                     | 6245                     | MFI-A23 | 10627                    |
| <b>EMB-1818-2000</b>  | <b>EMF-1818-2000</b>  | 1 m    | 280 g  | 1305                     | 7300                     | MFI-A27 | 8605                     |
| <b>EMB-2510-1000</b>  | <b>EMF-2510-1000</b>  | 2 m    | 560 g  | 1305                     | 7300                     | MFI-A27 | 8605                     |
| <b>EMB-2510-2000</b>  | <b>EMF-2510-2000</b>  | 1 m    | 400 g  | 5647                     | 11544                    | MFI-A28 | 17191                    |
| <b>EMB-2518-1000</b>  | <b>EMF-2518-1000</b>  | 2 m    | 800 g  | 5647                     | 11544                    | MFI-A28 | 17191                    |
| <b>EMB-2518-2000</b>  | <b>EMF-2518-2000</b>  | 1 m    | 610 g  | 16298                    | 16289                    | MFI-A21 | 32302                    |
| <b>EMB-2525-1000</b>  | <b>EMF-2525-1000</b>  | 2 m    | 1220 g | 16298                    | 16289                    | MFI-A21 | 32302                    |
| <b>EMB-2525-2000</b>  | <b>EMF-2525-2000</b>  | 1 m    | 1040 g | 28882                    | 111103                   | MFI-A22 | 139483                   |
| <b>EMB-5025-1000</b>  | <b>EMF-5025-1000</b>  | 2 m    | 2080 g | 28882                    | 111103                   | MFI-A22 | 139483                   |
| <b>EMB-5025-2000</b>  | <b>EMF-5025-2000</b>  | 1 m    | 1300 g | 86387                    | 86387                    | MFI-A25 | 172773                   |
| <b>EMB-4040-1000</b>  | <b>EMF-4040-1000</b>  | 2 m    | 2600 g | 86387                    | 86387                    | MFI-A25 | 172773                   |
| <b>EMB-4040-2000</b>  | <b>EMF-4040-2000</b>  | 1 m    | 2180 g | 155462                   | 587130                   | MFI-A26 | 742592                   |
| <b>EMB-8040-1000</b>  | <b>EMF-8040-1000</b>  | 2 m    | 4360 g | 155462                   | 587130                   | MFI-A26 | 742592                   |
| <b>EMB-8040-2000</b>  | <b>EMF-8040-2000</b>  |        |        |                          |                          |         |                          |

**Round beams**



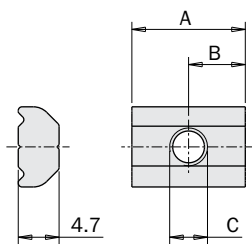
**MFI-A486**  
PVC slot cover profile, length 1m, pack of 20 pieces



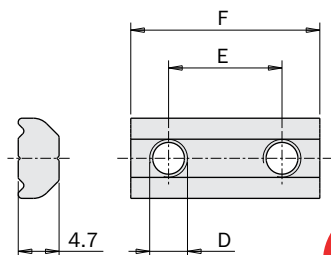
|                      | Material         |     | Length | Weight |        |        | Plugs   |
|----------------------|------------------|-----|--------|--------|--------|--------|---------|
| <b>EMB-2017-1000</b> | Aluminum         | 67  | 1 m    | 340 g  | 2534   | 5003   | MFP-K29 |
| <b>EMB-2017-2000</b> | Aluminum         | 67  | 2 m    | 680 g  | 2534   | 5003   | MFP-K29 |
| <b>EMB-3026-1000</b> | Aluminum         | 67  | 1 m    | 700 g  | 15842  | 15842  | MFP-K28 |
| <b>EMB-3026-2000</b> | Aluminum         | 67  | 2 m    | 1400 g | 15842  | 15842  | MFP-K28 |
| <b>EMB-5045-1000</b> | Aluminum         | 67  | 1 m    | 1665 g | 100773 | 100773 | MFP-K50 |
| <b>EMB-5045-2000</b> | Aluminum         | 67  | 2 m    | 3330 g | 100773 | 100773 | MFP-K50 |
| <b>MF-20-1000</b>    | Aluminum         | 67  | 1 m    | 230 g  | 3754   | 3754   | MFP-K22 |
| <b>MF-20-2000</b>    | Aluminum         | 67  | 2 m    | 460 g  | 3754   | 3754   | MFP-K22 |
| <b>MF-30-1000</b>    | Aluminum         | 67  | 1 m    | 444 g  | 17329  | 17329  | MFP-K21 |
| <b>MF-30-2000</b>    | Aluminum         | 67  | 2 m    | 888 g  | 17329  | 17329  | MFP-K21 |
| <b>TFC-2017-1000</b> | Carbon composite | 105 | 1 m    | 130 g  | 3754   | 3754   | MFP-K22 |
| <b>TFC-2017-1500</b> | Carbon composite | 105 | 1.5 m  | 195 g  | 3754   | 3754   | MFP-K22 |
| <b>TFC-2017-2000</b> | Carbon composite | 105 | 2 m    | 260 g  | 3754   | 3754   | MFP-K22 |
| <b>TFC-3026-1000</b> | Carbon composite | 105 | 1 m    | 260 g  | 17329  | 17329  | MFP-K21 |
| <b>TFC-3026-1500</b> | Carbon composite | 105 | 1.5 m  | 390 g  | 17329  | 17329  | MFP-K21 |
| <b>TFC-3026-2000</b> | Carbon composite | 105 | 2 m    | 520 g  | 17329  | 17329  | MFP-K21 |

**T-Nuts**

(material: steel)



|                | A [mm] | B [mm] | C [mm] | Weight |
|----------------|--------|--------|--------|--------|
| <b>MFI-177</b> | 15     | 7.5    | M4     | 5 g    |
| <b>MFI-025</b> | 15     | 7.5    | M5     | 5 g    |
| <b>MFI-178</b> | 15     | 7.5    | M6     | 5 g    |



|  | D [mm] | E [mm] | F [mm] | Weight |
|--|--------|--------|--------|--------|
| <b>MFI-003</b>   | M4     | 8      | 16     | 5 g    |
| <b>MFI-006</b>   | M5     | 10     | 20     | 7 g    |
| <b>MFI-523</b>   | M5     | 14     | 25     | 9 g    |
| <b>MFI-009</b>   | M5     | 15     | 25     | 9 g    |
| <b>MFI-148</b>   | M5     | 17     | 25     | 9 g    |
| <b>MFI-016</b>   | M5     | 22     | 32     | 11 g   |
| <b>MFI-027</b>   | M5     | 25     | 35     | 13 g   |
| <b>MFI-055</b>   | M5     | 28     | 38     | 14 g   |
| <b>MFI-050</b>   | M5     | 30     | 40     | 15 g   |
| <b>MFI-029</b>   | M5     | 35     | 45     | 16 g   |
| <b>MFI-020</b>   | M5     | 40     | 50     | 18 g   |
| <b>MFI-043</b>   | M5     | 50     | 60     | 22 g   |
| <b>MFI-022</b>   | M5     | 60     | 70     | 26 g   |
| <b>MFI-045</b>   | M5     | 90     | 100    | 38 g   |
| <b>MFI-555</b> <span style="background-color: #ff0000; color: white; padding: 2px;">NEW</span> | M6     | 20     | 32     | 11 g   |

Click for Pricing & Add to Cart



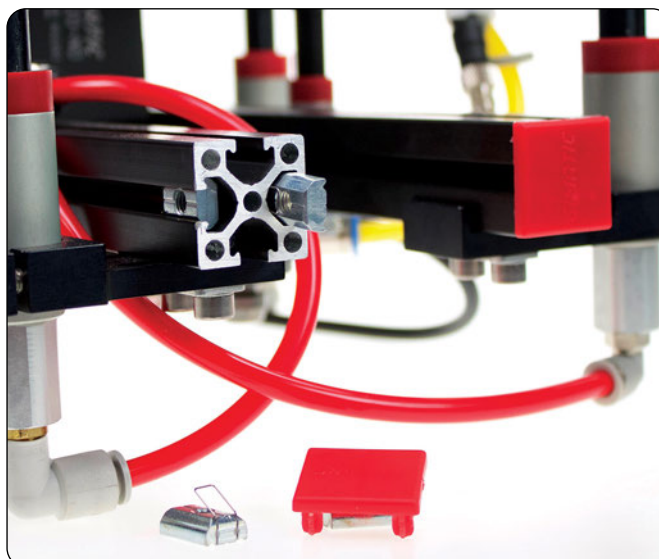
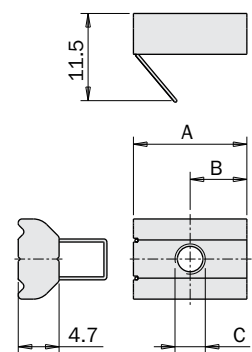
**Spring nuts**

They hold the position in the slot without slipping during assembly.

Suitable for the beams:

- EMB-5045
- EMB-3026
- EMB/EMF-8040
- EMB/EMF-4040
- EMB/EMF-5025
- EMB/EMF-2525
- EMB/EMF-2518
- EMB/EMF-2510

|                 | A [mm] | B [mm] | C [mm] | Weight |
|-----------------|--------|--------|--------|--------|
| <b>MFI-A329</b> | 15     | 7.5    | M4     | 5 g    |
| <b>MFI-A331</b> | 15     | 7.5    | M5     | 5 g    |



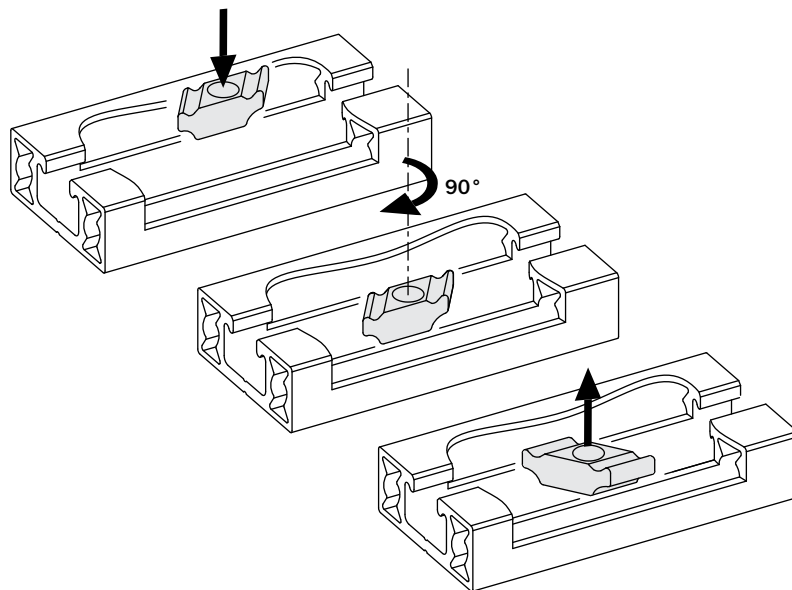
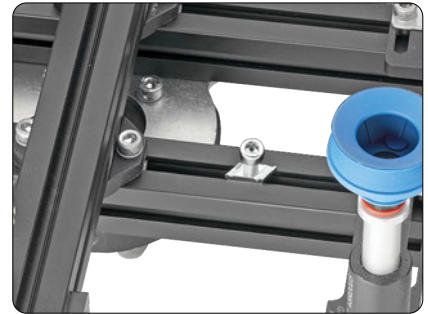
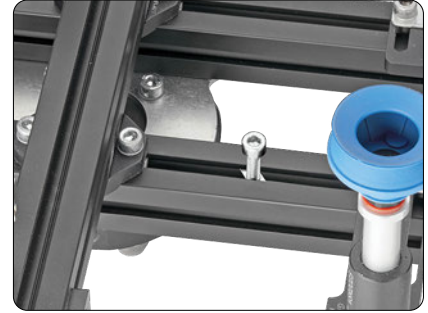
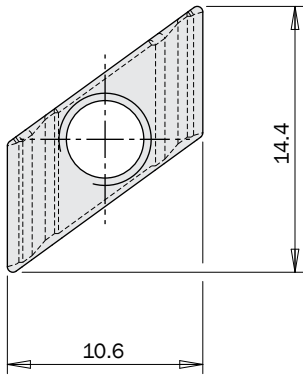
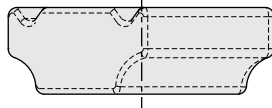
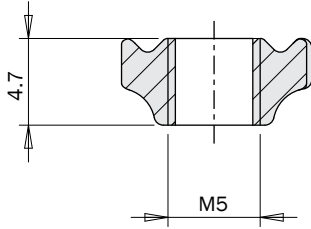


**Last-minute nut**

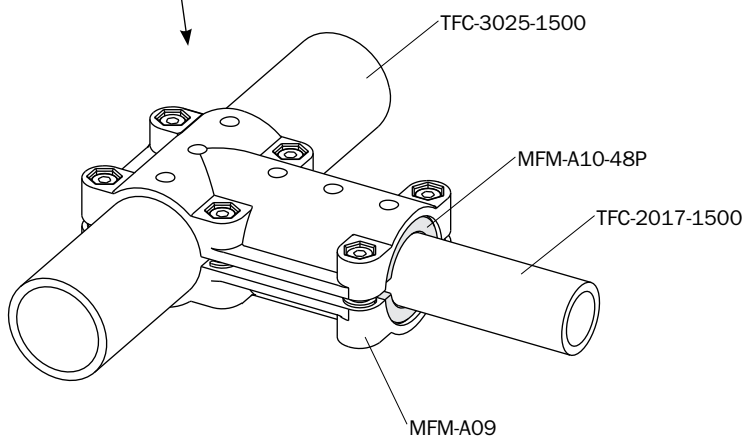
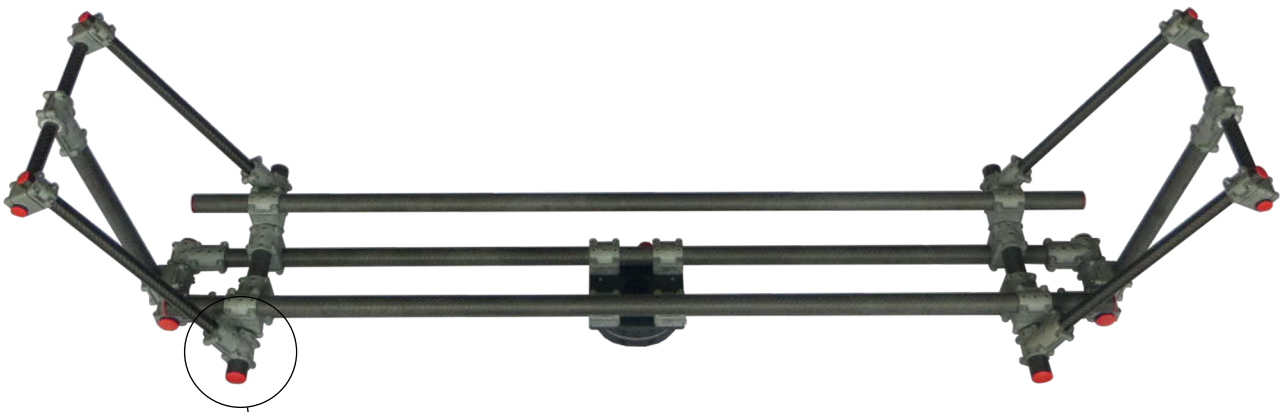
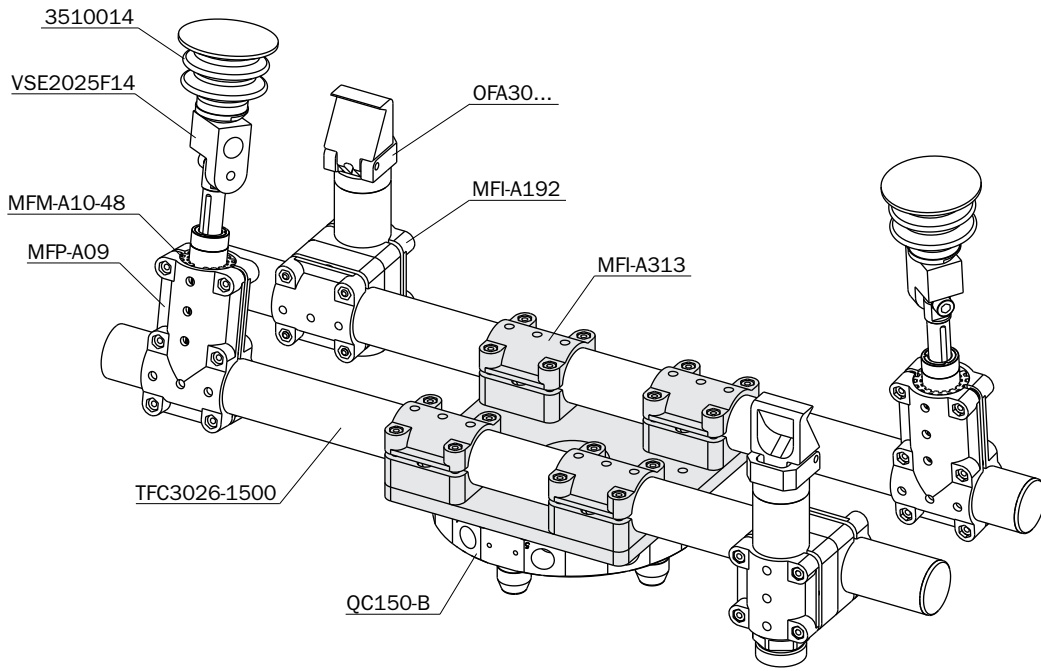
(material: steel)

To be used when you need to add something to an already assembled EOAT.

|                | A  | Weight |
|----------------|----|--------|
| <b>MFI-477</b> | M5 | 2 g    |
| <b>MFI-489</b> | M4 |        |
| <b>MFI-490</b> | M3 |        |

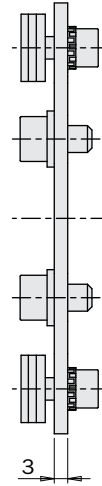
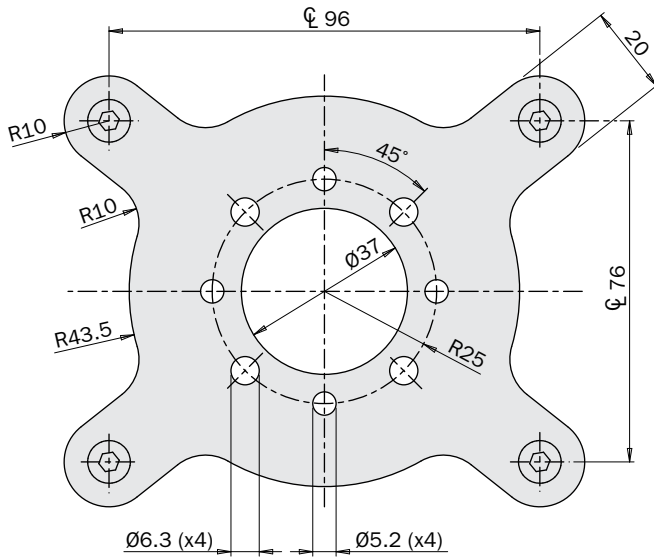


Application example with TFC



**Interface 96x76 mm for E0AT mounting on ISO 9409-1-50-4-M6 wrist or on QC90-B**

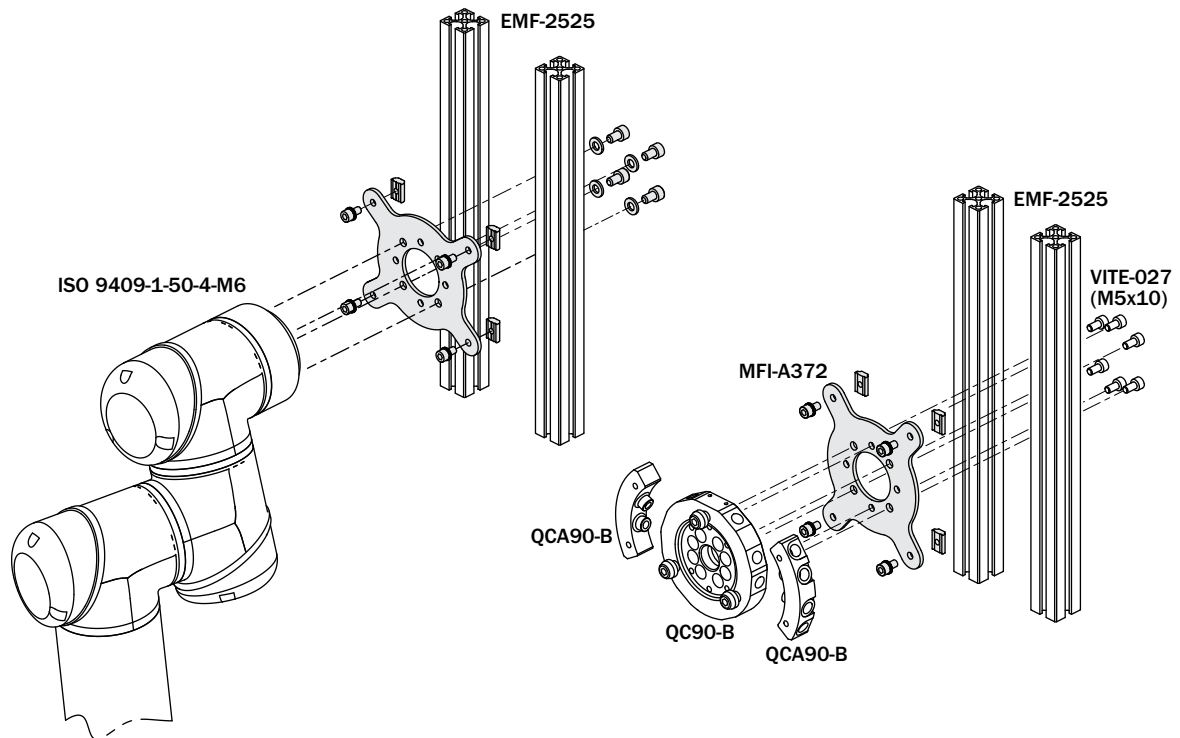
(kit with screws)  
(material: steel)



|        |                 |
|--------|-----------------|
|        | <b>MFI-A372</b> |
| Weight | 218 g           |

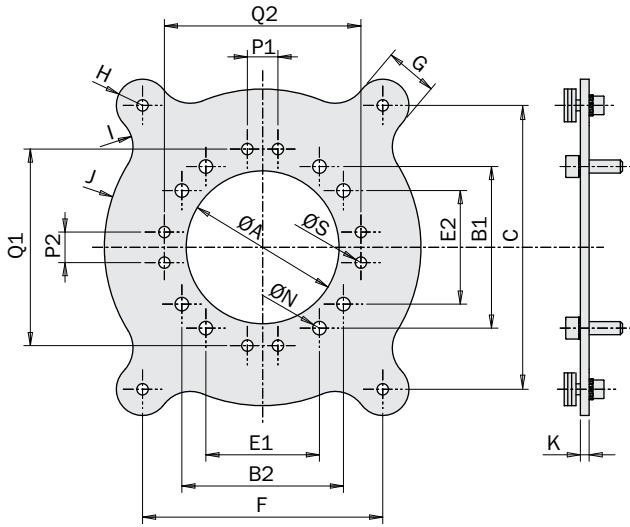


**Application example**



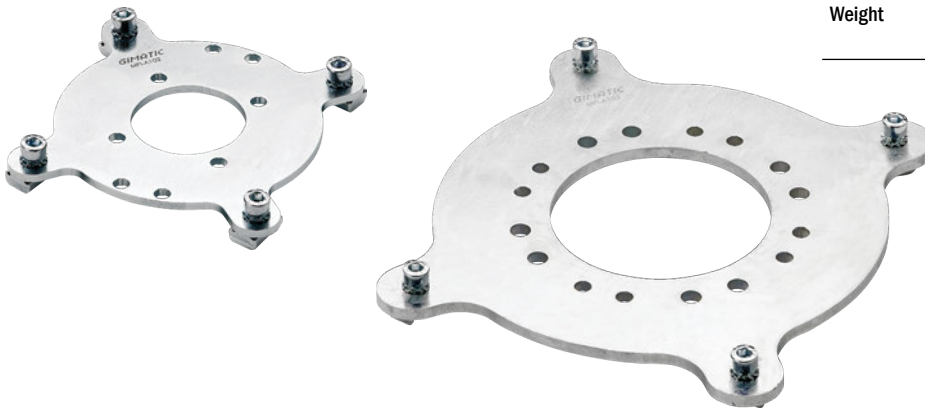
**Interface for QC quick changer**

(kit with screws)

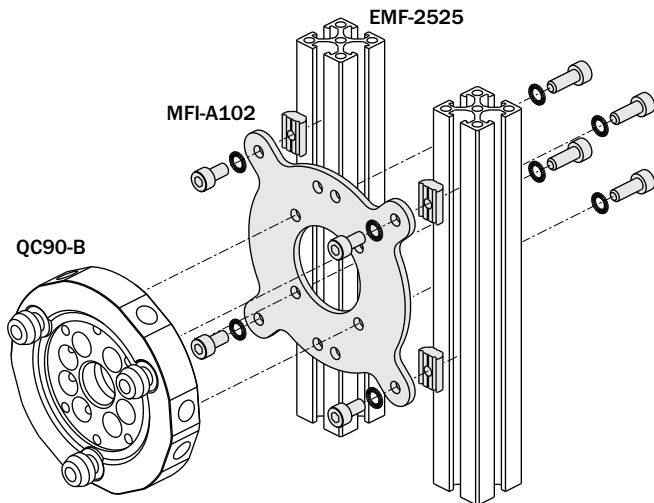


FIRST ANGLE PROJECTION

|         | MFI-A102 | MFI-A103           |
|---------|----------|--------------------|
| A [mm]  | Ø37      | Ø70                |
| B1 [mm] | 35       | 74                 |
| B2 [mm] | -        | 74                 |
| C [mm]  | 76       | 130                |
| E1 [mm] | 35       | 52                 |
| E2 [mm] | -        | 52                 |
| F [mm]  | 76       | 110                |
| G [mm]  | 16       | 24                 |
| H [mm]  | 8        | 12                 |
| I [mm]  | 6        | 15                 |
| J [mm]  | 43.5     | 72.5               |
| K [mm]  | 3        | 4                  |
| N [mm]  | Ø5.2     | Ø6.2               |
| P1 [mm] | 14       | 14                 |
| P2 [mm] | -        | 14                 |
| Q1 [mm] | 78       | 90                 |
| Q2 [mm] | -        | 90                 |
| S [mm]  | Ø5.2     | Ø5.2               |
| QC...-B | QC90-B   | QC150-B<br>QC160-B |
| Weight  | 190 g    | 540 g              |

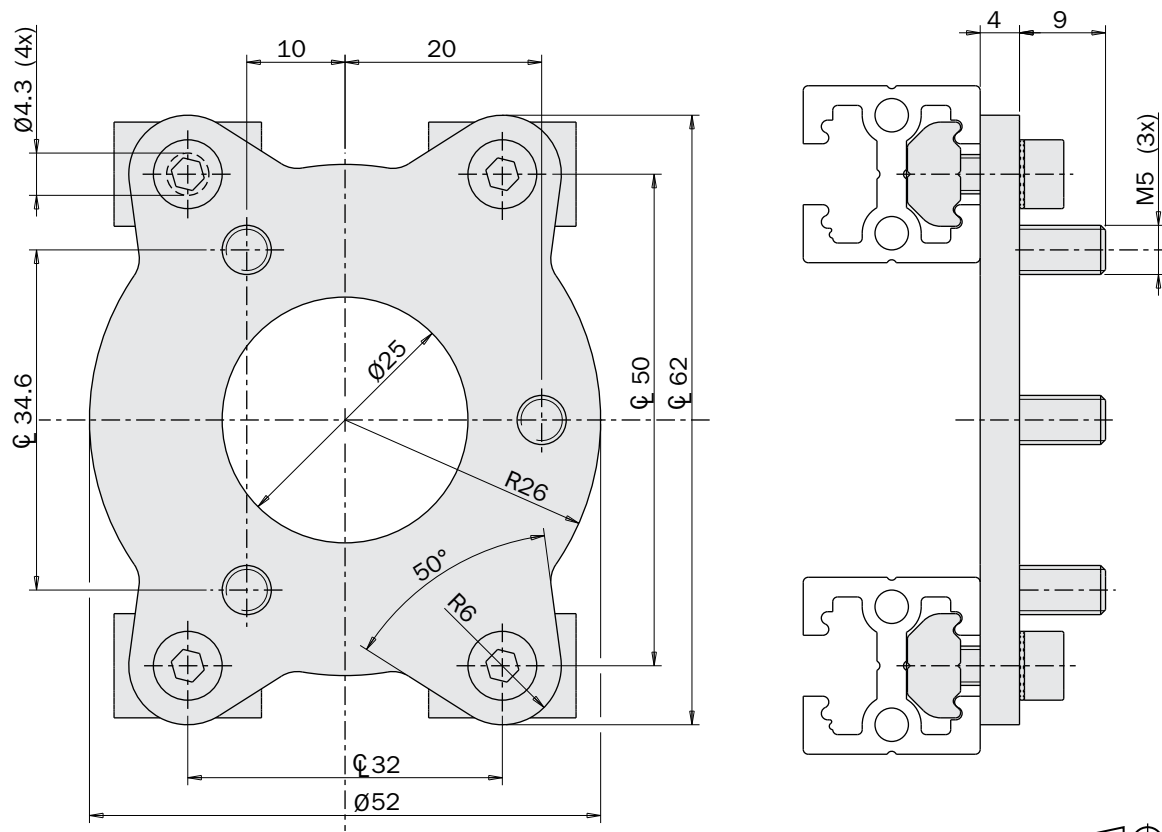


**Application example**



**Interface for QC quick changer**

(kit with screws)



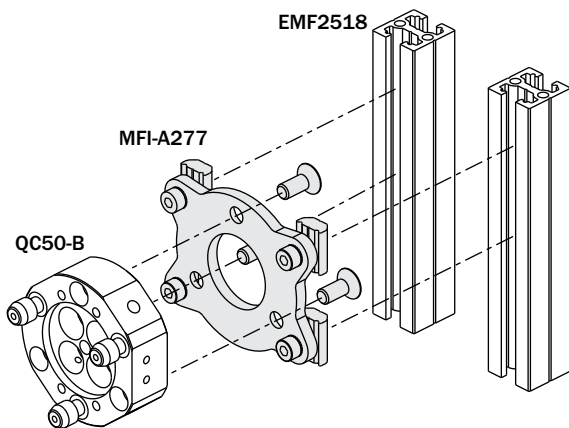
FIRST ANGLE PROJECTION



**Click for Pricing & Add to Cart**

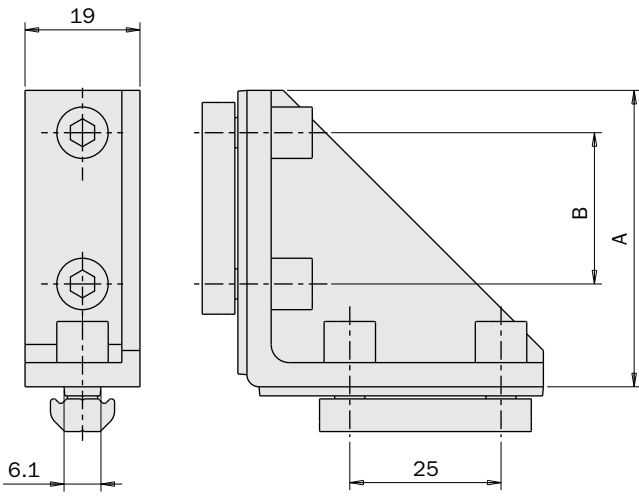
| <b>MFI-A277</b> |        |
|-----------------|--------|
| QC...-B         | QC50-B |
| Weight          | 90 g   |

**Application example**

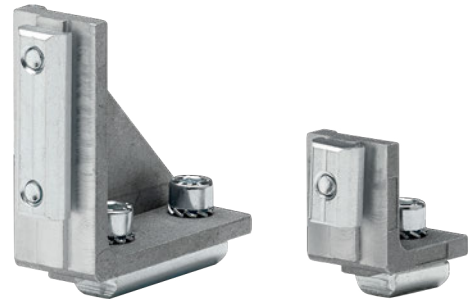


**Angle bracket for profiles**

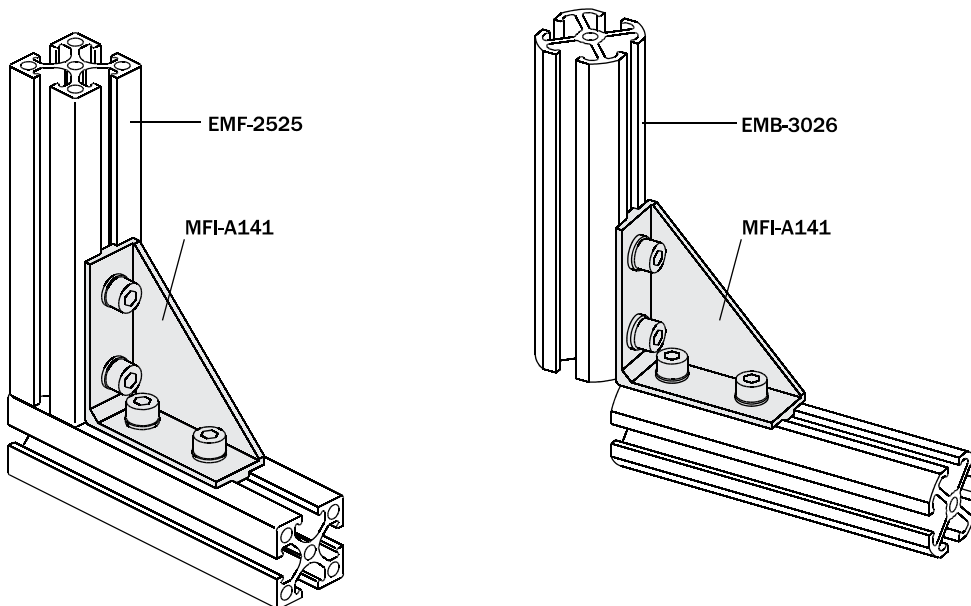
(kit with screws)



|        | MFI-A140 | MFI-A141 |
|--------|----------|----------|
| A [mm] | 24.5     | 49       |
| B [mm] | -        | 25       |
| Weight | 33 g     | 82 g     |



**Application example**

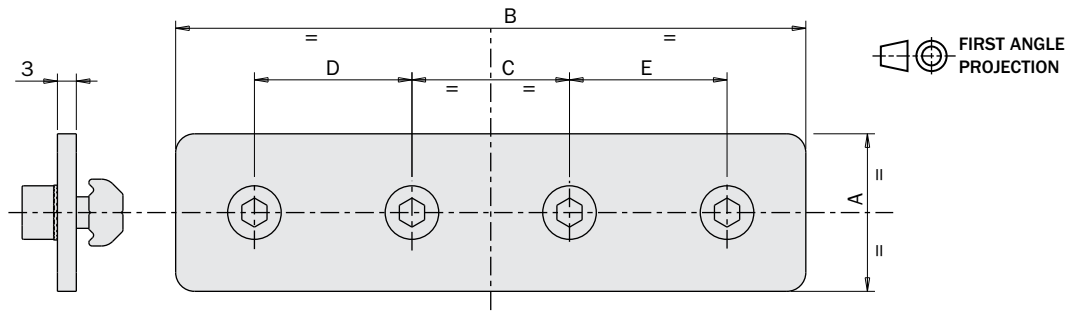


**Straight fixing plate**

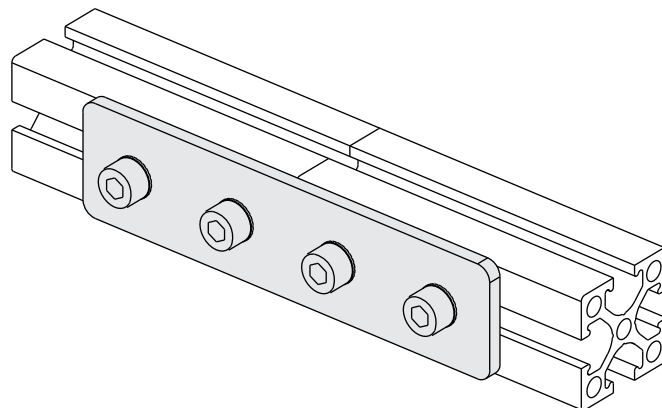
(kit with screws)



|                  | MFI-A226 | MFI-A227 | MFI-A228 |
|------------------|----------|----------|----------|
| A [mm]           | 25       | 25       | 40       |
| B [mm]           | 50       | 100      | 160      |
| C [mm]           | 25       | 25       | 40       |
| D [mm]           | -        | 25       | 40       |
| E [mm]           | -        | 25       | 40       |
|                  | 2510     | 2510     | -        |
|                  | 2518     | 2518     | -        |
| Compatible with: | 2525     | 2525     | -        |
|                  | 5025     | 5025     | -        |
|                  | -        | -        | 4040     |
|                  | -        | -        | 8040     |
| Weight           | 45 g     | 95 g     | 195 g    |



**Application example**

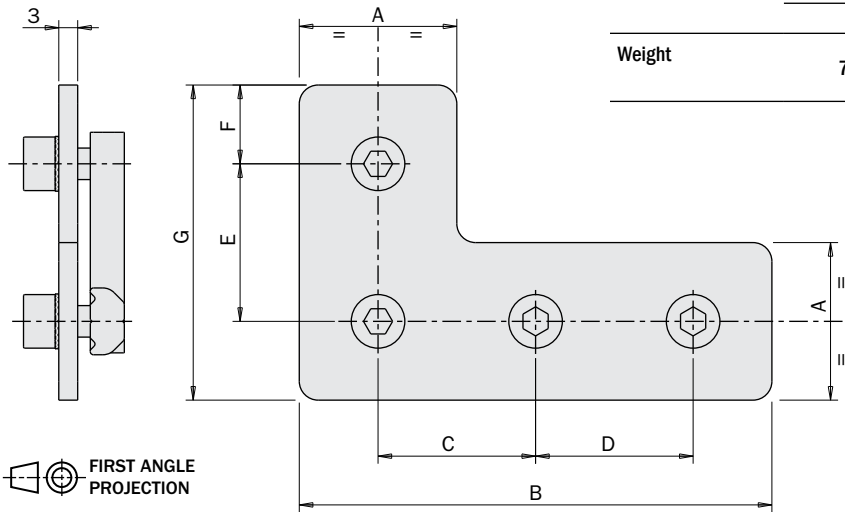


**L-shaped fixing plate**

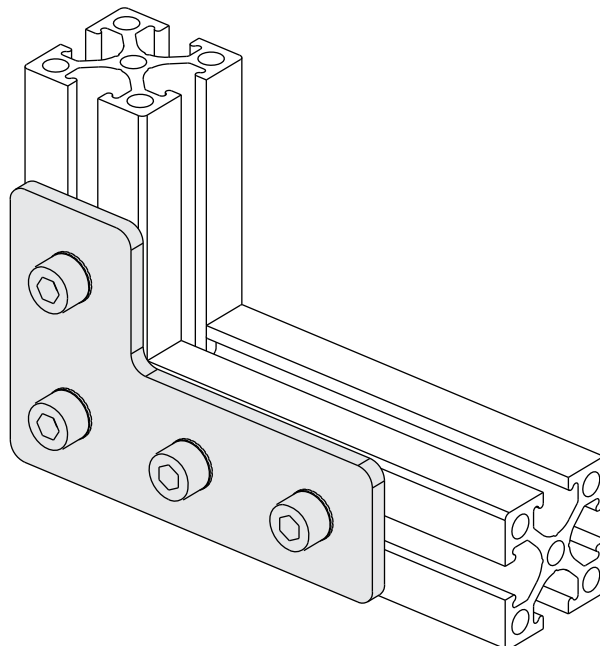
(kit with screws)  
(material: steel)



|                  | MFI-A232 | MFI-A233 | MFI-A234 |
|------------------|----------|----------|----------|
| A [mm]           | 25       | 25       | 40       |
| B [mm]           | 50       | 75       | 120      |
| C [mm]           | 25       | 25       | 40       |
| D [mm]           | -        | 25       | 40       |
| E [mm]           | 25       | 25       | 40       |
| F [mm]           | 12.5     | 12.5     | 20       |
| G [mm]           | 50       | 50       | 80       |
|                  | 2510     | 2510     | -        |
|                  | 2518     | 2518     | -        |
| Compatible with: | 2525     | 2525     | -        |
|                  | 5025     | 5025     | -        |
|                  | -        | -        | 4040     |
|                  | -        | -        | 8040     |
| Weight           | 70 g     | 104 g    | 200 g    |



**Application example**

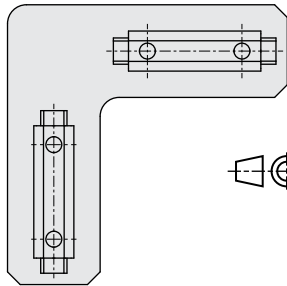
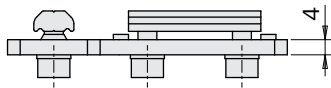
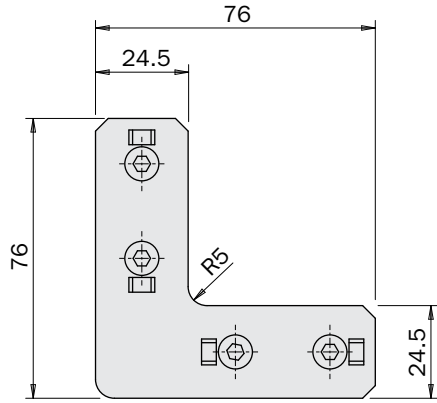




**L-shaped aluminium fixing plate**

(material: aluminium)

- Integrated centering keys, for a backlash-free mounting of two perpendicular extruded beams.
- Pyramidal keys, for an easy sliding in the beam slots during the assembly.
- Kit with screws.

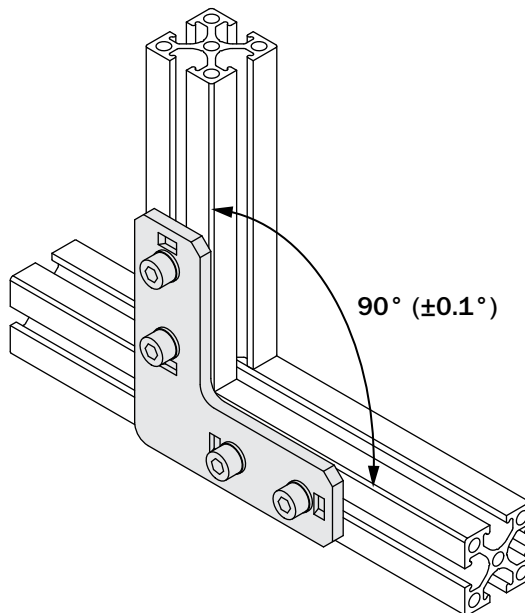


FIRST ANGLE PROJECTION

|        |                 |
|--------|-----------------|
|        | <b>MFI-A353</b> |
| Weight | 68 g            |



**Application example**

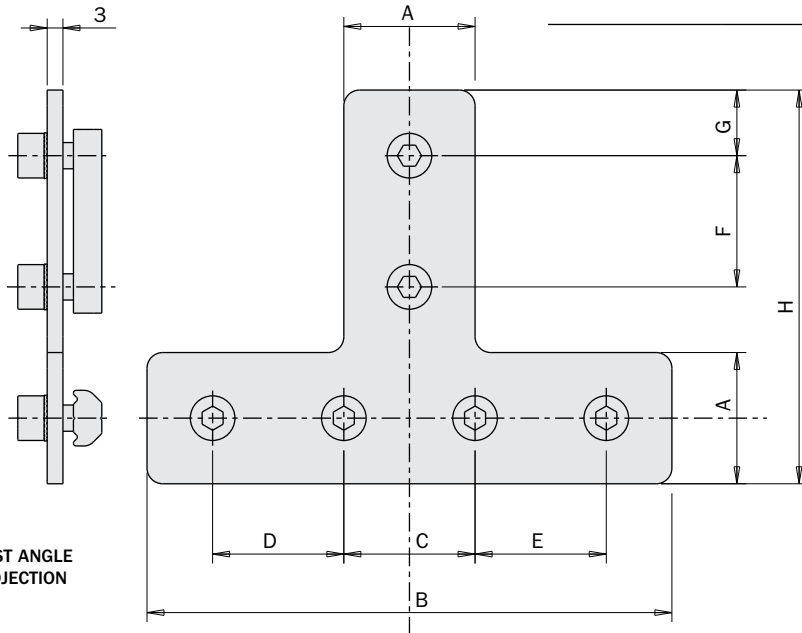


**T-shaped fixing plate**

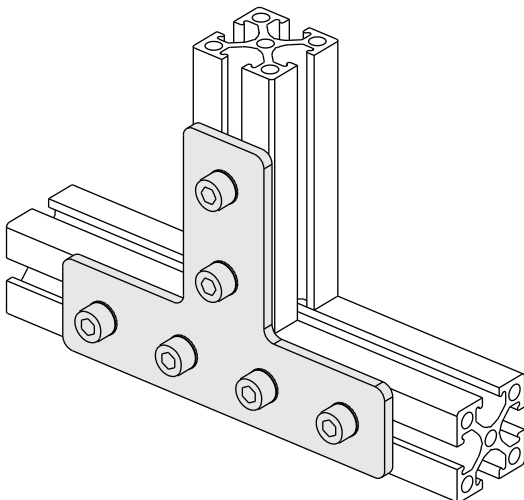
(kit with screws)  
(material: steel)



|                  | MFI-A229 | MFI-A230 | MFI-A231 |
|------------------|----------|----------|----------|
| A [mm]           | 25       | 25       | 40       |
| B [mm]           | 50       | 100      | 120      |
| C [mm]           | 25       | 25       | 90       |
| D [mm]           | -        | 25       | -        |
| E [mm]           | -        | 25       | -        |
| F [mm]           | 25       | 25       | 40       |
| G [mm]           | 12.5     | 12.5     | 15       |
| H [mm]           | 75       | 75       | 110      |
|                  | 2510     | 2510     | -        |
|                  | 2518     | 2518     | -        |
| Compatible with: | 2525     | 2525     | -        |
|                  | 5025     | 5025     | -        |
|                  | -        | -        | 4040     |
|                  | -        | -        | 8040     |
| Weight           | 95 g     | 145 g    | 250 g    |

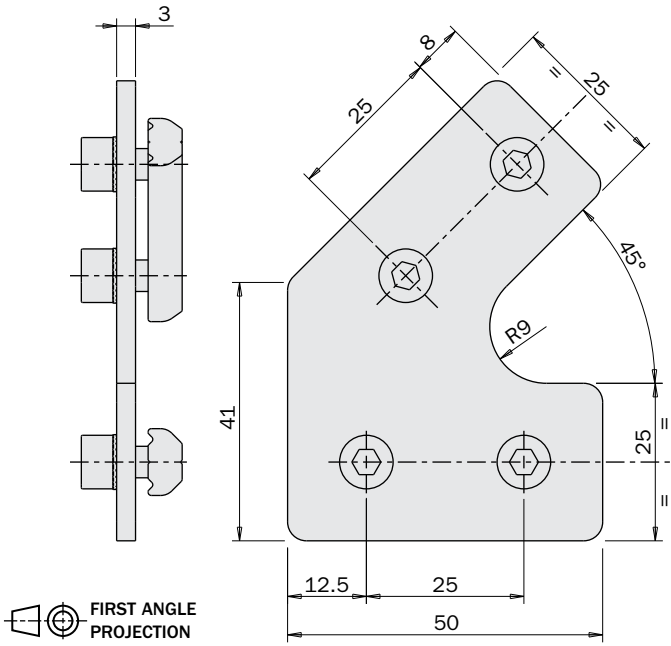


**Application example**



**45° fixing plate**

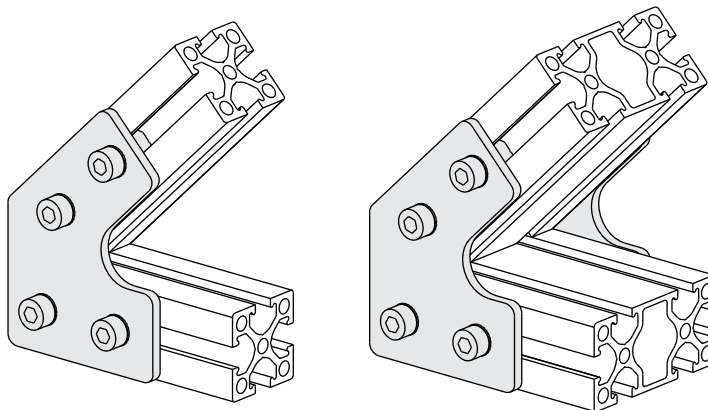
(kit with screws)  
(material: steel)



|        |                 |
|--------|-----------------|
|        | <b>MFI-A221</b> |
| Weight | 100 g           |

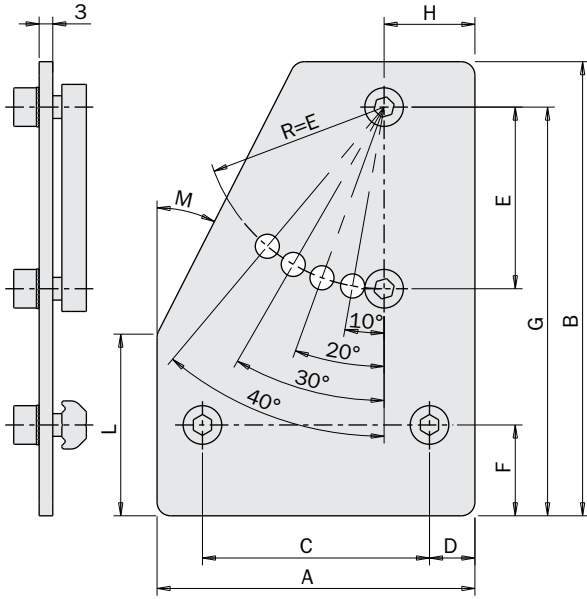


**Application example**



**Fixing plate with adjustable angle**

(kit with screws)  
(material: steel)



|        | MFI-A222 | MFI-A224 |
|--------|----------|----------|
| A [mm] | 60       | 70       |
| B [mm] | 85       | 100      |
| C [mm] | 40       | 50       |
| D [mm] | 10       | 10       |
| E [mm] | 40       | 40       |
| F [mm] | 12.5     | 20       |
| G [mm] | 76       | 90       |
| H [mm] | 12.5     | 20       |
| L [mm] | 25       | 40       |
| M [mm] | 30°      | 27°      |

Compatible with:

|      |      |
|------|------|
| 2510 | -    |
| 2518 | -    |
| 2525 | -    |
| 5025 | -    |
| -    | 4040 |
| -    | 8040 |

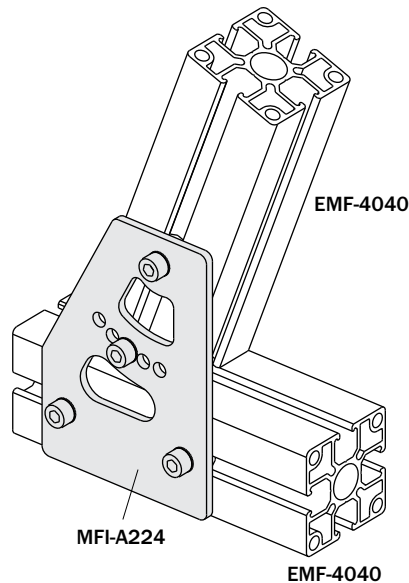
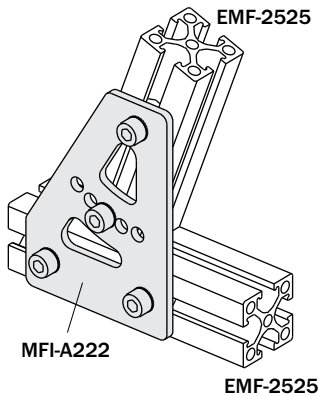
Weight

|       |       |
|-------|-------|
| 130 g | 175 g |
|-------|-------|

FIRST ANGLE PROJECTION

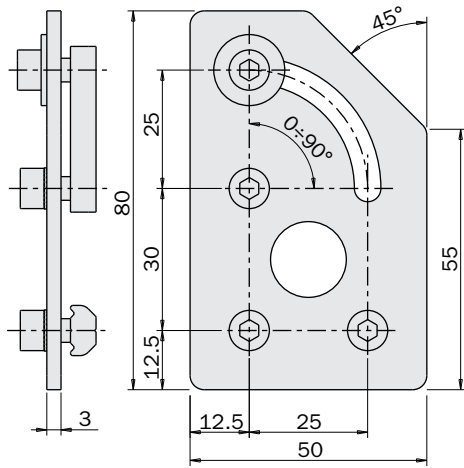


**Application example**



**Fixing plate with adjustable angle**

(kit with screws)  
(material: steel)

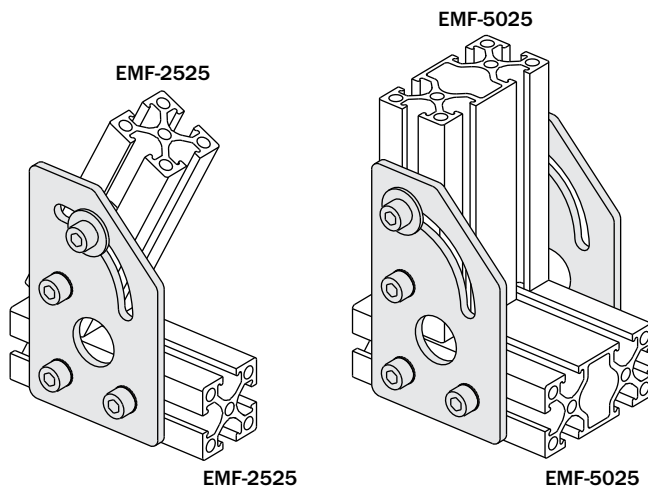


FIRST ANGLE PROJECTION

|        |                 |
|--------|-----------------|
|        | <b>MFI-A225</b> |
| Weight | 115 g           |



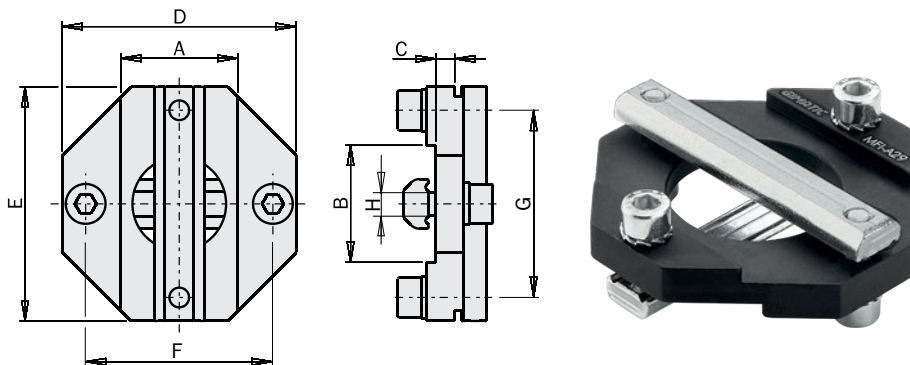
**Application example**



**Cross mounting bracket for profiles**

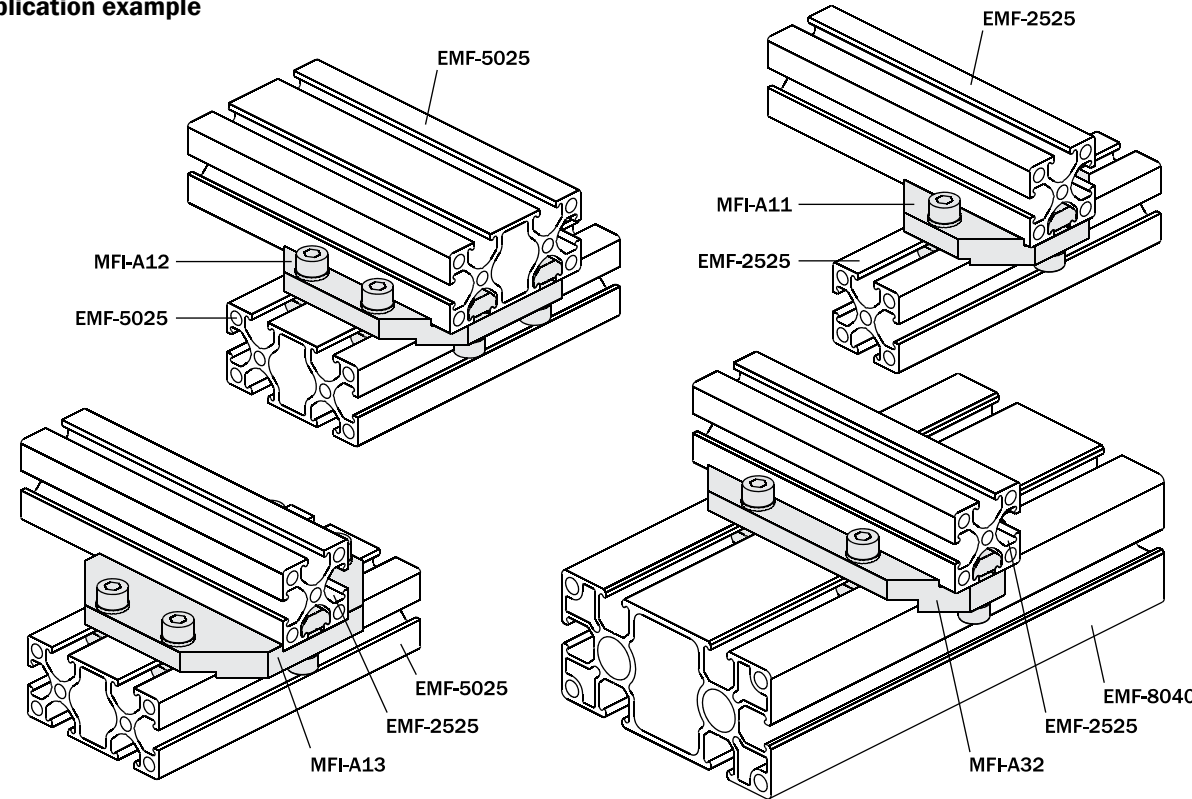
(kit with screws)  
(material: aluminium)

FIRST ANGLE PROJECTION



|          | MFI -A175 | MFI -A265 | MFI -A11 | MFI -A12 | MFI -A13 | MFI -A29 | MFI -A29-H | MFI -A30 | MFI -A31 | MFI -A32 | MFI -A33 |
|----------|-----------|-----------|----------|----------|----------|----------|------------|----------|----------|----------|----------|
| A [mm]   | 18        | 18        | 25       | 50       | 25       | 40       | 40         | 80       | 40       | 25       | 25       |
| B [mm]   | 18        | 25        | 25       | 50       | 50       | 40       | 40         | 80       | 80       | 80       | 40       |
| C [mm]   | 2         | 4         | 4        | 4        | 4        | 4        | 4          | 4        | 4        | 4        | 4        |
| D [mm]   | 38        | 38        | 45       | 70       | 45       | 60       | 60         | 100      | 60       | 45       | 45       |
| E [mm]   | 38        | 45        | 45       | 70       | 70       | 60       | 60         | 100      | 100      | 100      | 60       |
| F [mm]   | 28        | 35        | 35       | 60       | 35       | 50       | 50         | 90       | 50       | 35       | 35       |
| G [mm]   | 28        | 35        | 35       | 60       | 60       | 50       | 50         | 90       | 90       | 90       | 50       |
| H [mm]   | M5        | M5        | M5       | M5       | M5       | M5       | M6         | M5       | M5       | M5       | M5       |
| EMF-1018 | ☑         | ☑         | ☐        | ☐        | ☐        | ☐        | ☐          | ☐        | ☐        | ☐        | ☐        |
| EMF-1818 | ☑         | ☑         | ☐        | ☐        | ☐        | ☐        | ☐          | ☐        | ☐        | ☐        | ☐        |
| EMF-2510 | ☐         | ☑         | ☑        | ☐        | ☑        | ☐        | ☐          | ☐        | ☐        | ☑        | ☑        |
| EMF-2518 | ☐         | ☑         | ☑        | ☐        | ☑        | ☐        | ☐          | ☐        | ☐        | ☑        | ☑        |
| EMF-2525 | ☐         | ☑         | ☑        | ☐        | ☑        | ☐        | ☐          | ☐        | ☐        | ☑        | ☑        |
| EMF-5025 | ☐         | ☑         | ☑        | ☑        | ☑        | ☐        | ☐          | ☐        | ☐        | ☑        | ☑        |
| EMF-4040 | ☐         | ☐         | ☐        | ☐        | ☐        | ☑        | ☑          | ☐        | ☑        | ☐        | ☑        |
| EMF-8040 | ☐         | ☐         | ☐        | ☐        | ☐        | ☑        | ☑          | ☑        | ☑        | ☑        | ☑        |
| Weight   | 40 g      | 60 g      | 75 g     | 170 g    | 155 g    | 85 g     | 85 g       | 255 g    | 175 g    | 140 g    | 75 g     |

**Application example**

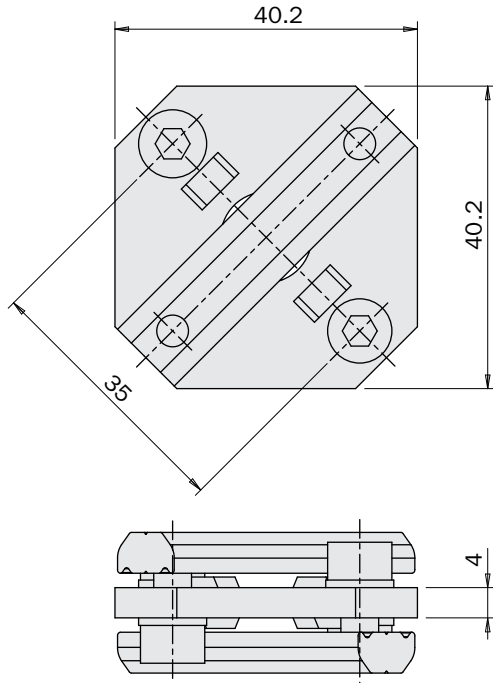


Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Cross mounting aluminium bracket**

(material: aluminium)

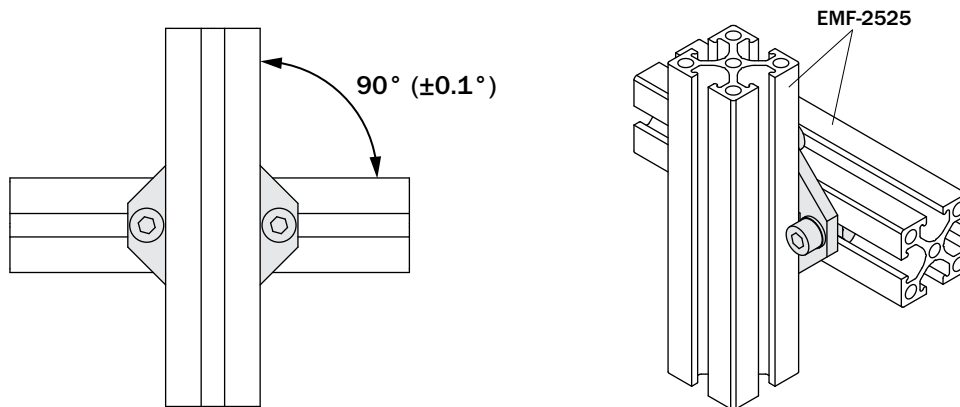
- Integrated centering keys, for a backlash-free mounting of two perpendicular extruded beams.
- Pyramidal keys, for an easy sliding in the beam slots during the assembly.
- Kit with screws.



|        |                 |
|--------|-----------------|
|        | <b>MFI-A356</b> |
| Weight | 57 g            |

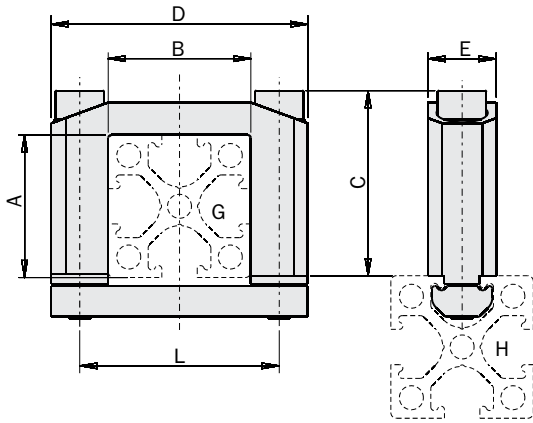


**Application example**



**Cross (square) joint connector**

(kit with screws)  
(material: aluminium)

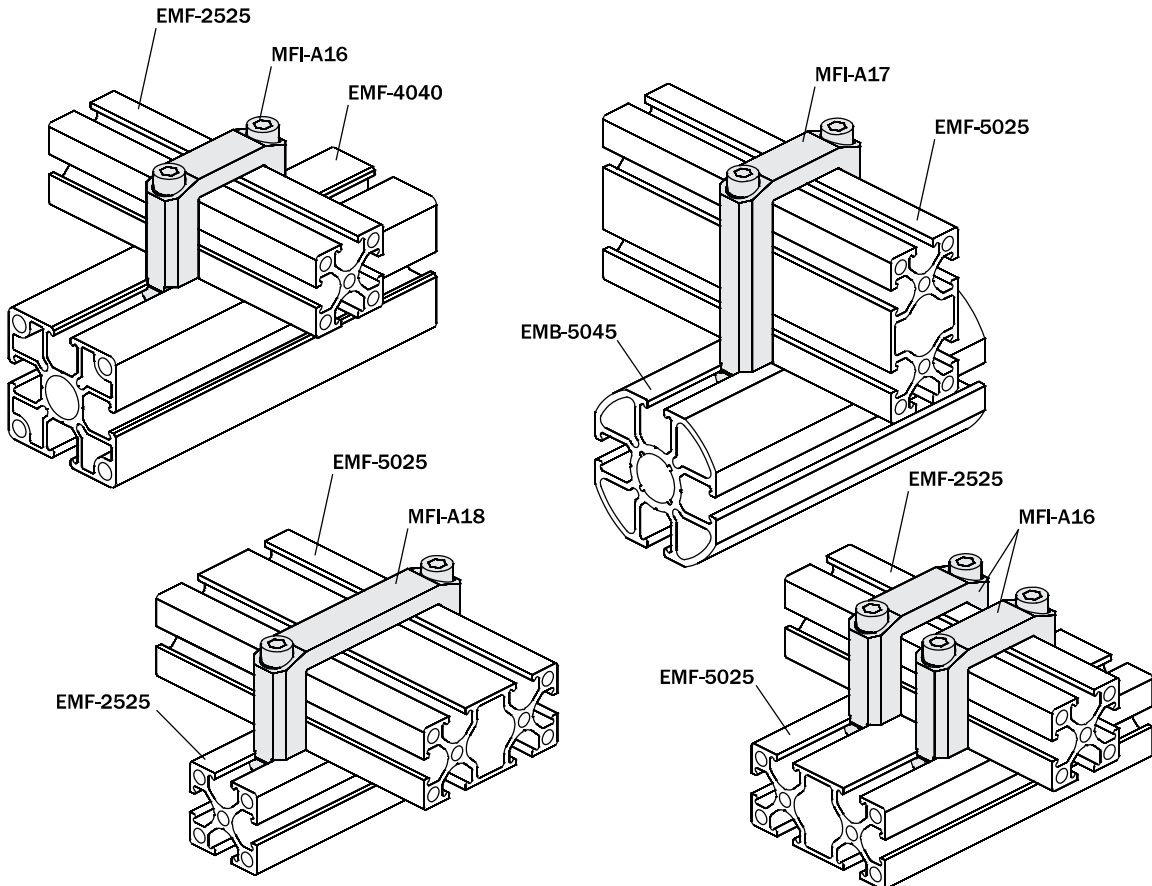


FIRST ANGLE PROJECTION



|        | MFI-A244 | MFI-A16  | MFI-A17  | MFI-A18  |
|--------|----------|----------|----------|----------|
| A [mm] | 18       | 25       | 50       | 25       |
| B [mm] | 18       | 25       | 25       | 50       |
| C [mm] | 29       | 32       | 57       | 32       |
| D [mm] | 38       | 45       | 45       | 70       |
| E [mm] | 12       | 12       | 12       | 12       |
| G      | EMF-1818 | EMF-2525 | EMF-5025 | EMF-5025 |
|        | EMF-1818 | -        | -        | -        |
|        | EMF-2518 | -        | -        | -        |
|        | EMF-2510 | EMF-2510 | -        | -        |
|        | EMF-2518 | EMF-2518 | -        | -        |
| H      | EMF-2525 | EMF-2525 | EMF-2525 | EMF-2525 |
|        | EMF-5025 | EMF-5025 | EMF-5025 | EMF-5025 |
|        | EMF-4040 | EMF-4040 | EMF-4040 | EMF-4040 |
|        | EMF-8040 | EMF-8040 | EMF-8040 | EMF-8040 |
|        | EMB-3026 | EMB-3026 | EMB-3026 | EMB-3026 |
|        | EMB-5045 | EMB-5045 | EMB-5045 | EMB-5045 |
| L [mm] | 28       | 35       | 35       | 60       |
| Weight | 41 g     | 45 g     | 65 g     | 50 g     |

**Application example**



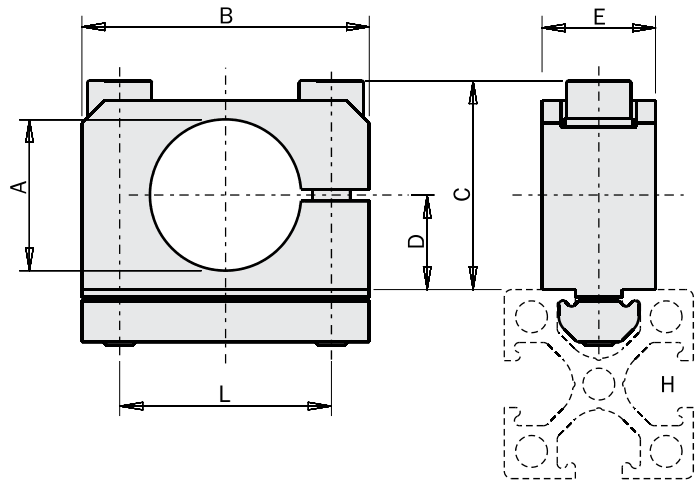
Rotary Units  
Quick Changer  
Profiles and Brackets  
Gripters  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors



**Cross (round) joint connector**

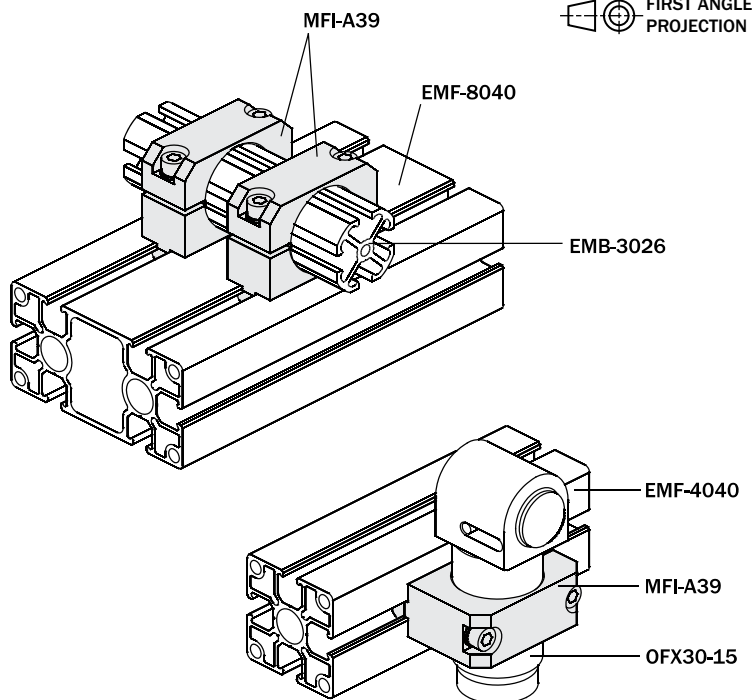
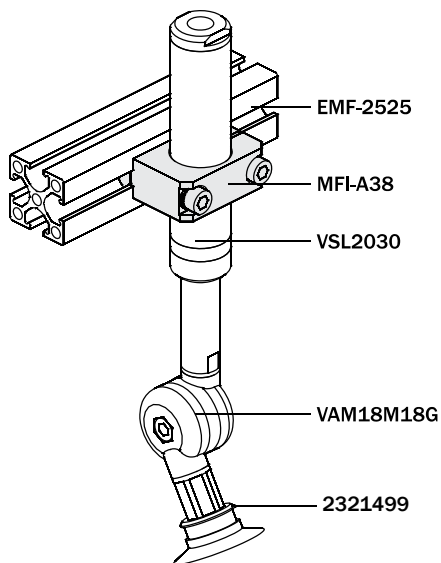
(kit with screws)  
(material: aluminium)

|        |      | MFI-A156 | MFI-A37  | MFI-A38  | MFI-A39  |
|--------|------|----------|----------|----------|----------|
| A      | [mm] | Ø10      | Ø14      | Ø20      | Ø30      |
| B      | [mm] | 25       | 32       | 38       | 50       |
| C      | [mm] | 18.5     | 23       | 28       | 34       |
| D      | [mm] | 7        | 9        | 12.5     | 17       |
| E      | [mm] | 10       | 12       | 15       | 20       |
|        |      | EMF-1018 | -        | -        | -        |
|        |      | EMF-1818 | -        | -        | -        |
|        |      | EMF-2510 | EMF-2510 | -        | -        |
|        |      | EMF-2518 | EMF-2518 | -        | -        |
|        |      | EMF-2525 | EMF-2525 | EMF-2525 | EMF-2525 |
| H      |      | EMF-5025 | EMF-5025 | EMF-5025 | EMF-5025 |
|        |      | EMF-4040 | EMF-4040 | EMF-4040 | EMF-4040 |
|        |      | EMF-8040 | EMF-8040 | EMF-8040 | EMF-8040 |
|        |      | EMB-2017 | -        | -        | -        |
|        |      | EMB-3026 | EMB-3026 | EMB-3026 | EMB-3026 |
|        |      | EMB-5045 | EMB-5045 | EMB-5045 | EMB-5045 |
| L      | [mm] | 17       | 22       | 28       | 40       |
| Weight |      | 15 g     | 32 g     | 45 g     | 75 g     |



FIRST ANGLE PROJECTION

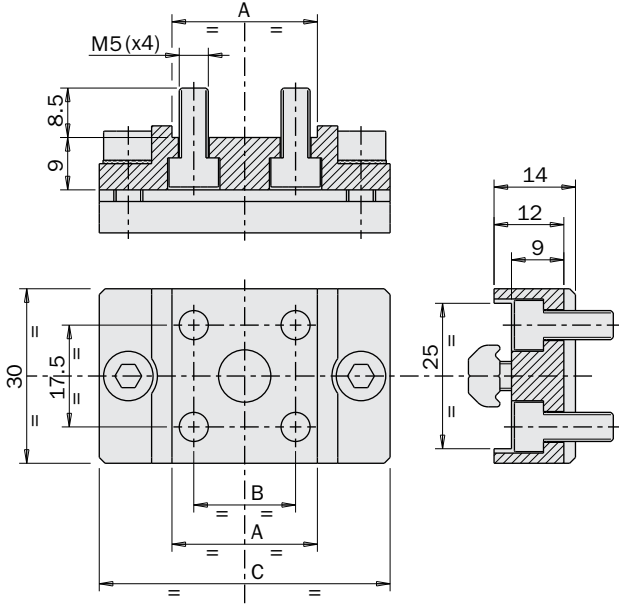
**Application example**



**Vertical fastening of the profiles**

(kit with screws)  
(material: aluminium)

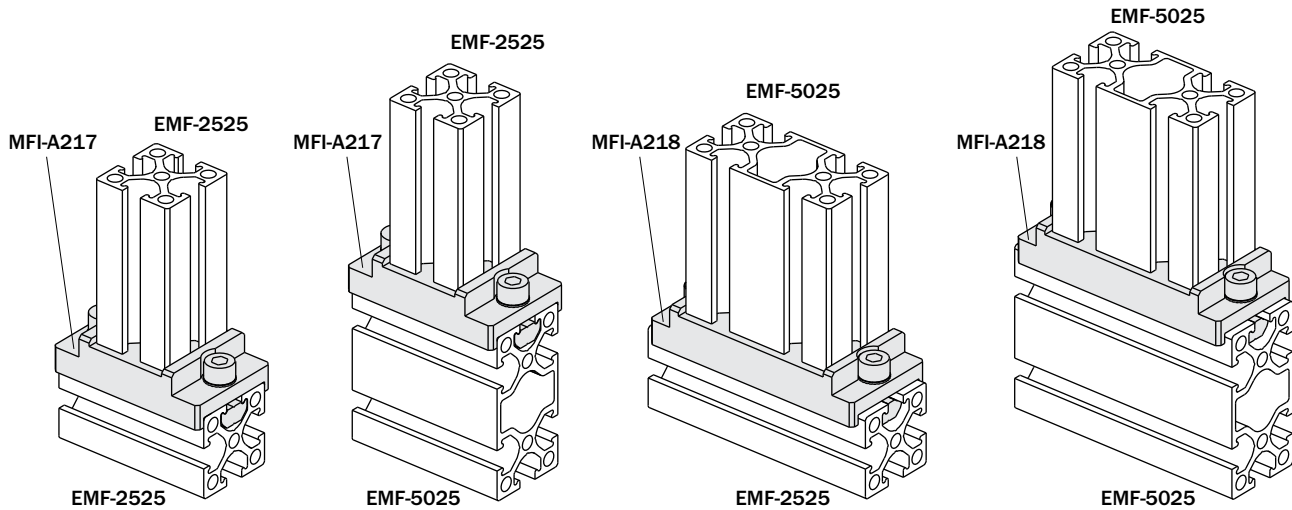
FIRST ANGLE PROJECTION



|                  | MFI-A217           | MFI-A218 |
|------------------|--------------------|----------|
| A [mm]           | 25                 | 50       |
| B [mm]           | 17.5               | 42.5     |
| C [mm]           | 50                 | 70       |
| Compatible with: | EMB-2525, EMF-2525 |          |
|                  | EMB-5025, EMF-5025 |          |
| Weight           | 65 g               | 85 g     |



**Application example**

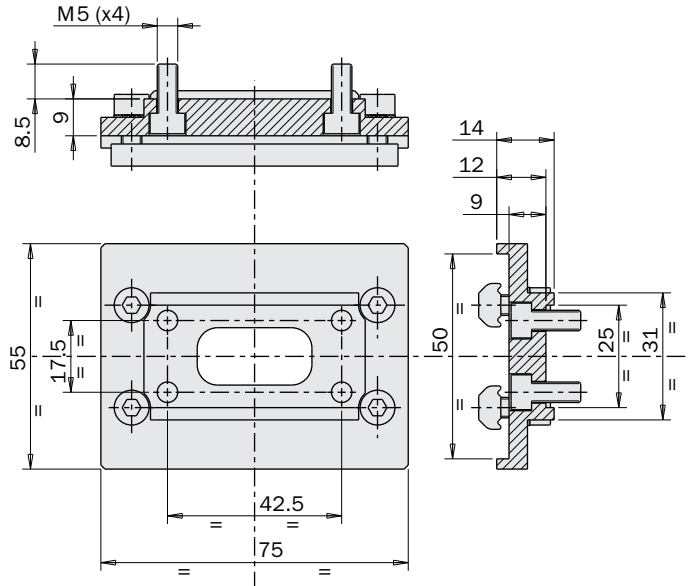
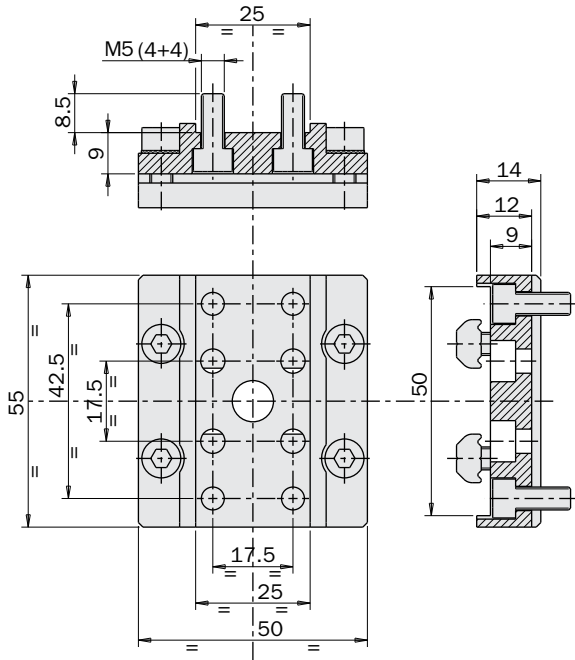


**Vertical fastening of the profiles**

(kit with screws)  
(material: aluminium)

|        | <b>MFI-A219</b> |
|--------|-----------------|
| Weight | 110 g           |

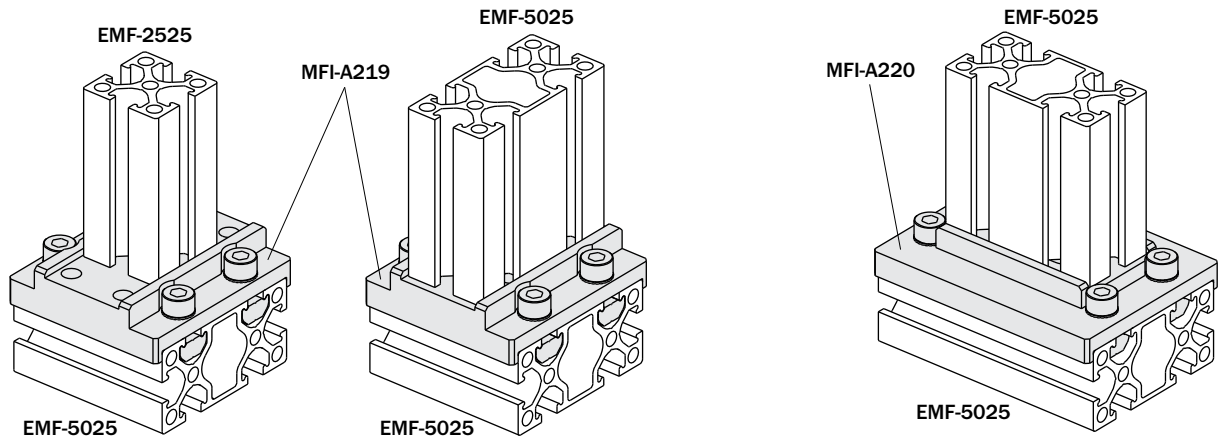
|        | <b>MFI-A220</b> |
|--------|-----------------|
| Weight | 140 g           |



FIRST ANGLE PROJECTION



**Application example**

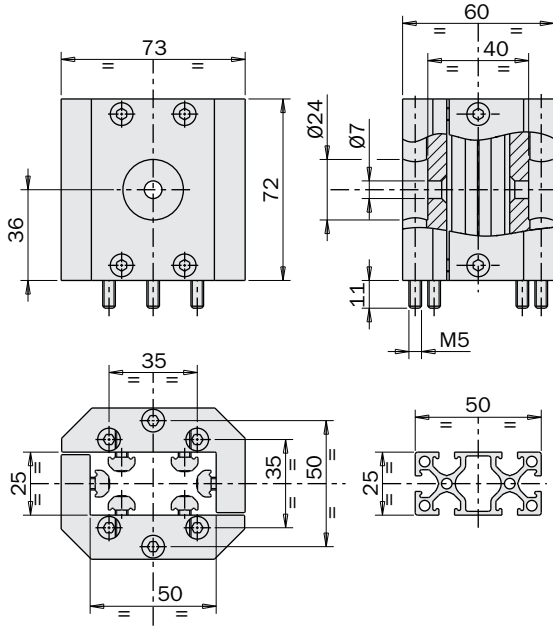


**Interface for square profile/Quick Changer**

(kit with screws)  
(material: aluminium)

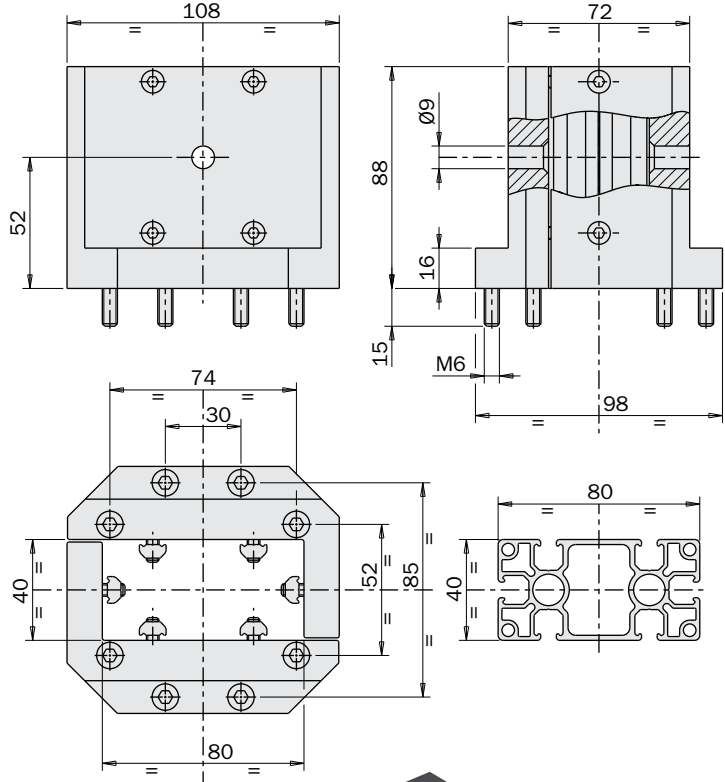
**MFI-A254**

Weight 680 g



**MFI-A255**

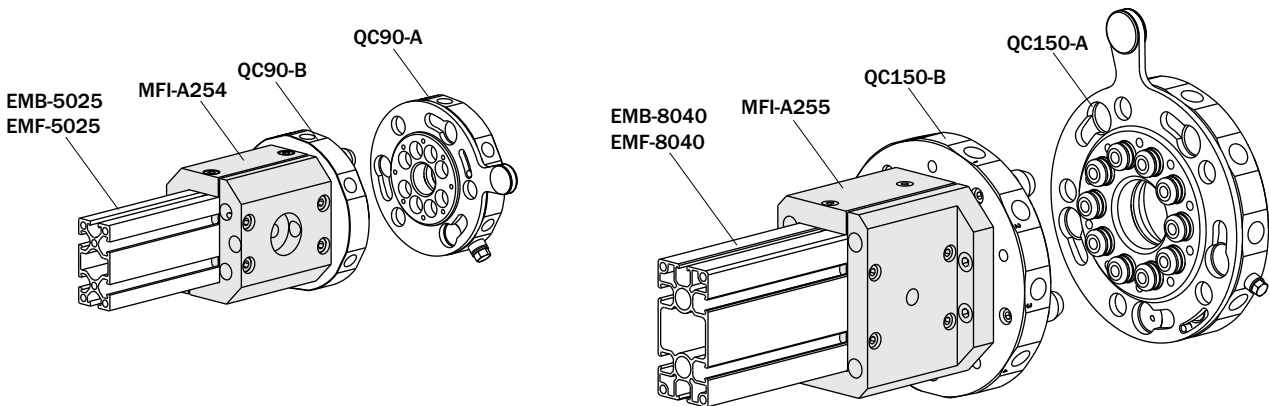
Weight 1300 g



FIRST ANGLE PROJECTION



**Application example**



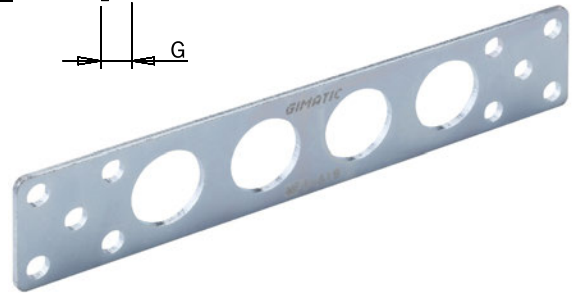
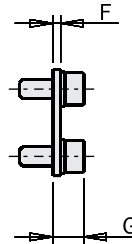
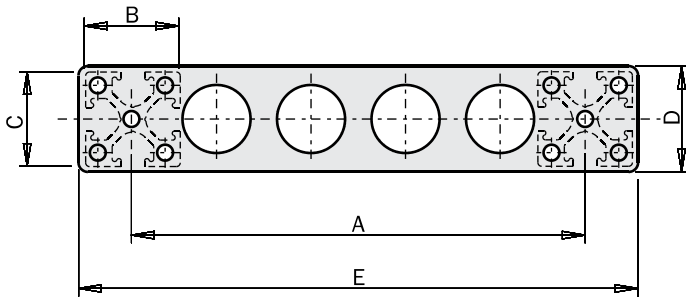
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Flat straight connector**

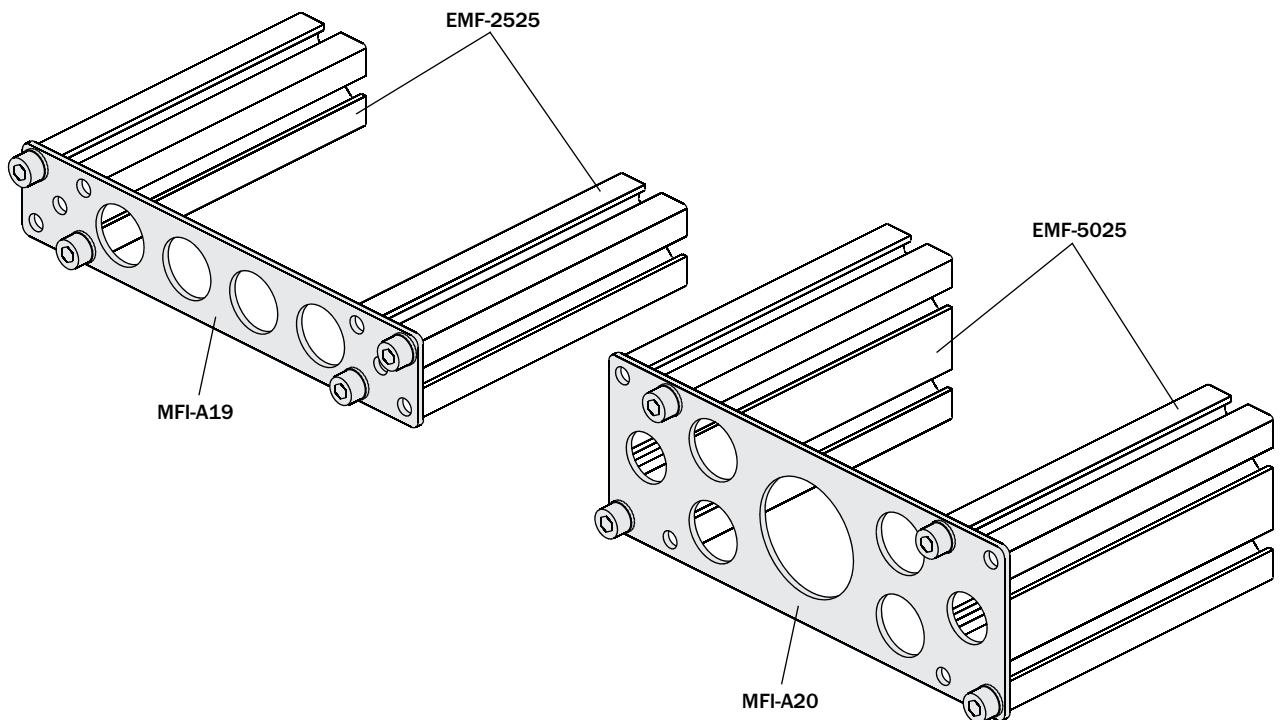
(kit with screws)  
(material: steel)

|                  | MFI-A101 | MFI-A19  | MFI-A201 | MFI-A20  |
|------------------|----------|----------|----------|----------|
| A [mm]           | 76       | 120      | 130      | 120      |
| B [mm]           | 25       | 25       | 25       | 25       |
| C [mm]           | 25       | 25       | 25       | 50       |
| D [mm]           | 28       | 28       | 28       | 53       |
| E [mm]           | 104      | 148      | 158      | 148      |
| F [mm]           | 2        | 2        | 2        | 2        |
| G [mm]           | 8        | 8        | 8        | 8        |
| Compatible with: | EMF-2525 | EMF-2525 | EMF-2525 | EMF-5025 |
| Weight           | 50 g     | 60 g     | 65 g     | 100 g    |

FIRST ANGLE PROJECTION



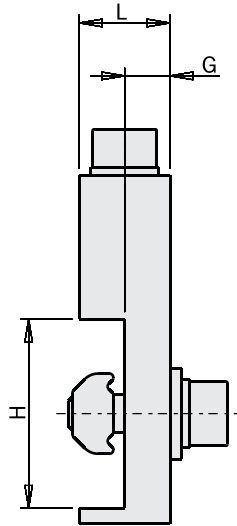
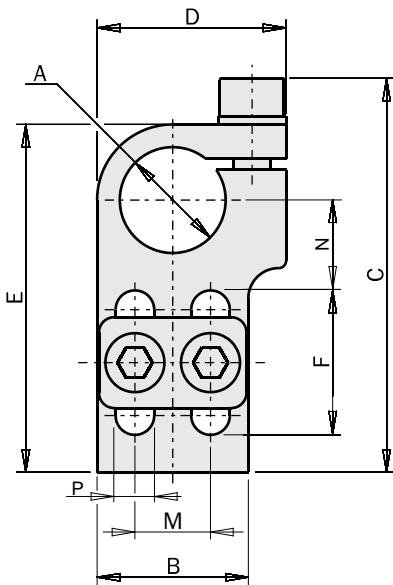
**Application example**



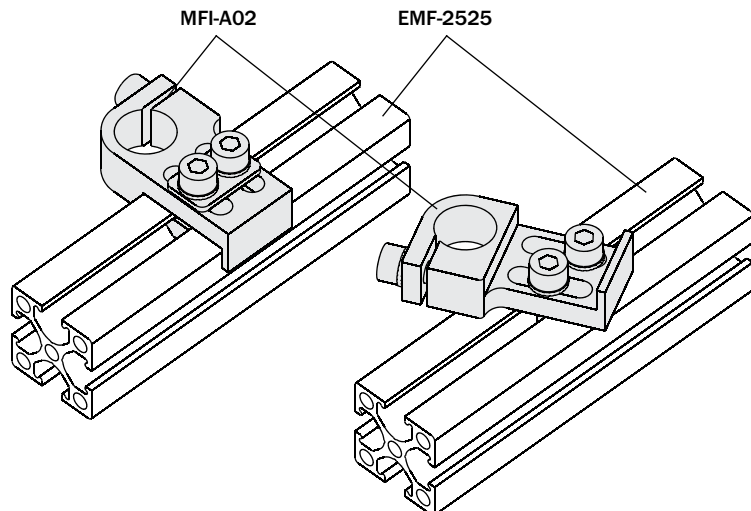
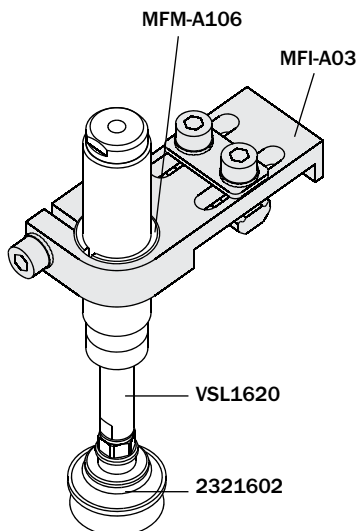
**Mounting bracket**

(kit with screws)  
(material: aluminium)

|                  | MFI-A01              | MFI-A270                                     | MFI-A02                                      | MFI-A204                                     | MFI-A03              |
|------------------|----------------------|--|--|--|----------------------|
| A [mm]           | Ø10                  | Ø10  | Ø14  | Ø20  | Ø20                  |
| B [mm]           | 16                   | 16   | 20   | 25   | 25                   |
| C [mm]           | 43                   | 49   | 52.1   | 57.1   | 74.1                 |
| D [mm]           | 20                   | 20   | 25   | 30   | 30                   |
| E [mm]           | 38                   | 44   | 46   | 51.5   | 68                   |
| F [mm]           | 14.2                 | 18.2   | 19.2   | 19.2   | 27.2                 |
| G [mm]           | 4.5                  | 4.5  | 6  | 6.2  | 6                    |
| H [mm]           | 18                   | 25   | 25   | 25   | 40                   |
| L [mm]           | 8                    | 8  | 12   | 12   | 12                   |
| M [mm]           | 8                    | 8  | 10   | 15   | 15                   |
| N [mm]           | 12.4                 | 12.9   | 11.9   | 14.9   | 19.4                 |
| P [mm]           | 4.1                  | 4.1  | 5.1  | 5.1  | 5.1                  |
| Compatible with: | EMF-1018<br>EMF-1818 | EMF-2510<br>EMF-2518<br>EMF-2525<br>EMF-5025 | EMF-2510<br>EMF-2518<br>EMF-2525<br>EMF-5025 | EMF-2510<br>EMF-2518<br>EMF-2525<br>EMF-5025 | EMF-4040<br>EMF-8040 |
| Weight           | 20 g                 | 21 g   | 34 g   | 45 g   | 48 g                 |



**Application example**



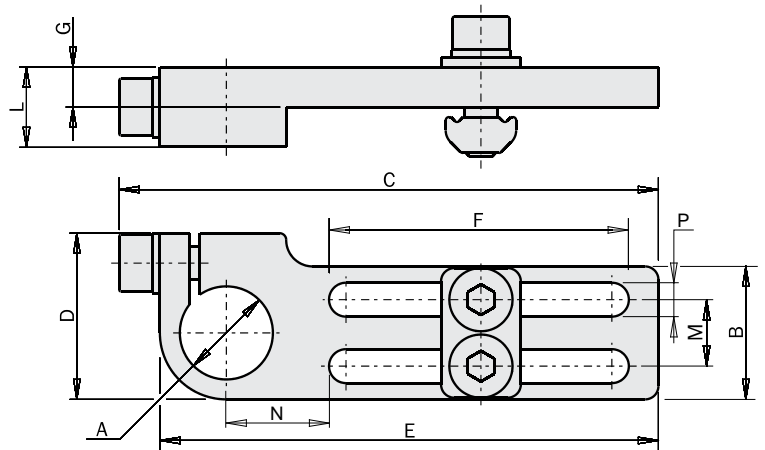
**Mounting bracket**

(kit with screws)  
(material: aluminium)

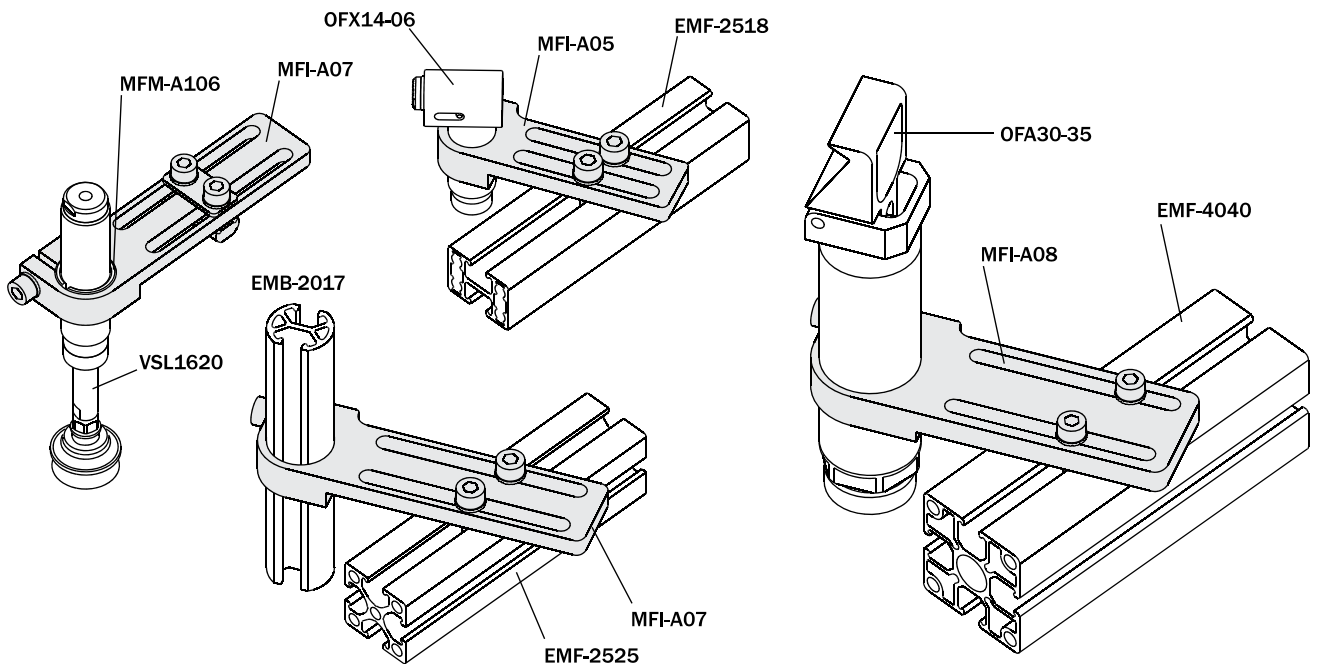
[Click for Pricing & Add to Cart](#)



|                  | MFI-A04  | MFI-A05  | MFI-A06  | MFI-A07  | MFI-A08  |
|------------------|----------|----------|----------|----------|----------|
| A [mm]           | Ø10      | Ø14      | Ø14      | Ø20      | Ø30      |
| B [mm]           | 16       | 20       | 20       | 25       | 35       |
| C [mm]           | 75       | 81.1     | 91.1     | 111.1    | 121.1    |
| D [mm]           | 20       | 25       | 25       | 30       | 42       |
| E [mm]           | 70       | 75       | 85       | 105      | 115      |
| F [mm]           | 42.2     | 45.2     | 55.2     | 65.2     | 65.5     |
| G [mm]           | 4.5      | 6        | 6        | 6        | 8        |
| L [mm]           | 8        | 12       | 12       | 12       | 12       |
| M [mm]           | 8        | 10       | 10       | 15       | 20       |
| N [mm]           | 13.9     | 15.4     | 15.4     | 21.4     | 26.5     |
| P [mm]           | 4.1      | 5.1      | 5.1      | 5.1      | 8        |
| Compatible with: | EMF-1018 | EMF-1018 | EMF-1018 | -        | -        |
|                  | EMF-1818 | EMF-1818 | EMF-1818 | -        | -        |
|                  | EMF-2510 | EMF-2510 | EMF-2510 | EMF-2510 | EMF-2510 |
|                  | EMF-2518 | EMF-2518 | EMF-2518 | EMF-2518 | EMF-2518 |
|                  | EMF-2525 | EMF-2525 | EMF-2525 | EMF-2525 | EMF-2525 |
|                  | EMF-5025 | EMF-5025 | EMF-5025 | EMF-5025 | EMF-5025 |
|                  | -        | EMF-4040 | EMF-4040 | EMF-4040 | EMF-4040 |
|                  | -        | EMF-8040 | EMF-8040 | EMF-8040 | EMF-8040 |
|                  | EMB-2017 | EMB-2017 | EMB-2017 | -        | -        |
|                  | EMB-3026 | EMB-3026 | EMB-3026 | EMB-3026 | EMB-3026 |
| EMB-5045         | EMB-5045 | EMB-5045 | EMB-5045 | EMB-5045 |          |
| Weight           | 23 g     | 38 g     | 40 g     | 55 g     | 95 g     |



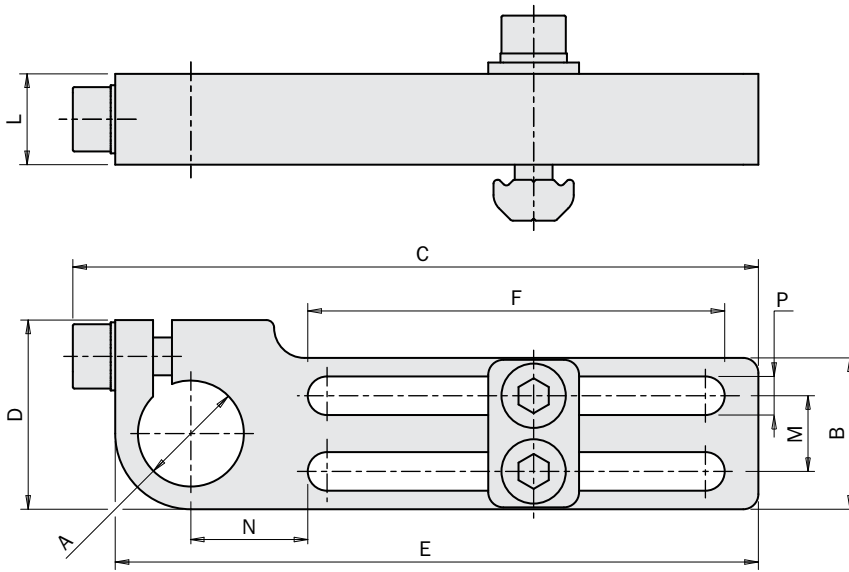
**Application example**



**Heavy duty mounting bracket**

(kit with screws)  
(material: aluminium)

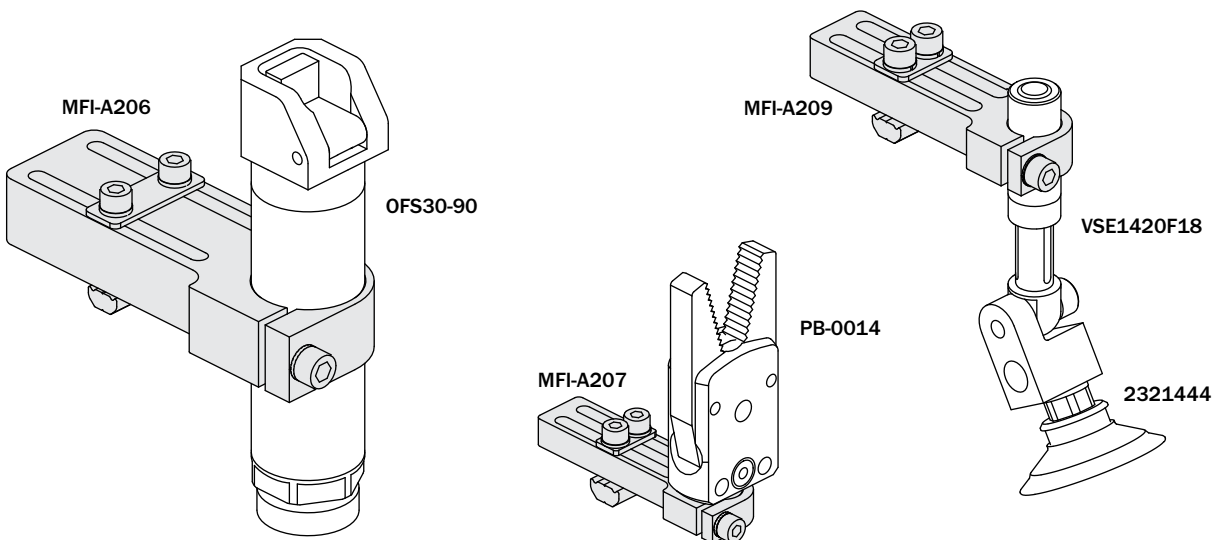
|        |      | MFI-A207 | MFI-A209 | MFI-A205 | MFI-A206 |
|--------|------|----------|----------|----------|----------|
| A      | [mm] | Ø10      | Ø14      | Ø20      | Ø30      |
| B      | [mm] | 16       | 20       | 25       | 35       |
| C      | [mm] | 75       | 90.6     | 110.6    | 122.2    |
| D      | [mm] | 20       | 25       | 30       | 42       |
| E      | [mm] | 70       | 85       | 105      | 115      |
| F      | [mm] | 44.2     | 55.2     | 65.2     | 65.5     |
| L      | [mm] | 8.3      | 12       | 15       | 20       |
| M      | [mm] | 8        | 10       | 15       | 20       |
| N      | [mm] | 13.9     | 15.4     | 21.4     | 26.5     |
| P      | [mm] | 4.1      | 5.1      | 5.1      | 8        |
| Weight |      | 30 g     | 60 g     | 85 g     | 175 g    |



FIRST ANGLE PROJECTION



**Application example**



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

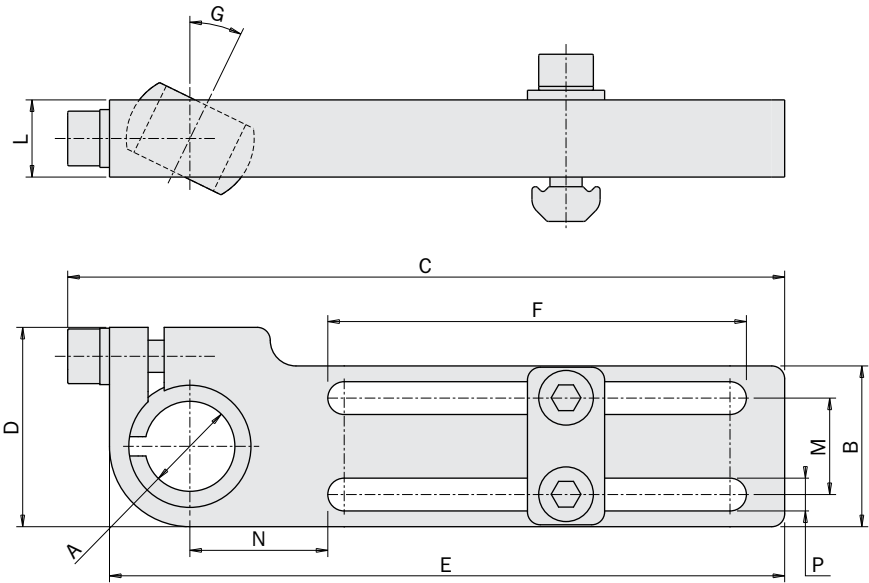


**Heavy-duty mounting bracket with ball joint**

(kit with screws)  
(material: aluminium)

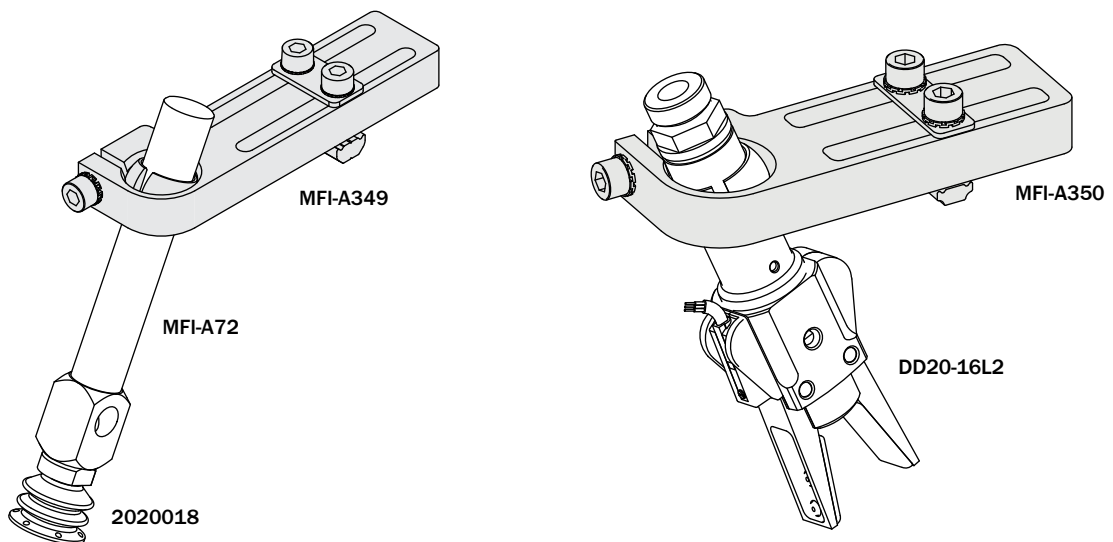


|        | MFI-A348 | MFI-A349 | MFI-A350 |
|--------|----------|----------|----------|
| A [mm] | Ø10      | Ø14      | Ø20      |
| B [mm] | 20       | 25       | 35       |
| C [mm] | 89.5     | 111.5    | 121.8    |
| D [mm] | 25       | 30       | 42       |
| E [mm] | 85       | 105      | 115      |
| F [mm] | 55.2     | 65.2     | 65.5     |
| G      | 0-26°    | 0-26°    | 0-26°    |
| L [mm] | 8.3      | 12       | 15       |
| M [mm] | 10       | 15       | 20       |
| N [mm] | 15.4     | 21.4     | 26.5     |
| P [mm] | 5.1      | 5.1      | 8        |
| Weight | 45 g     | 86 g     | 160 g    |



FIRST ANGLE PROJECTION

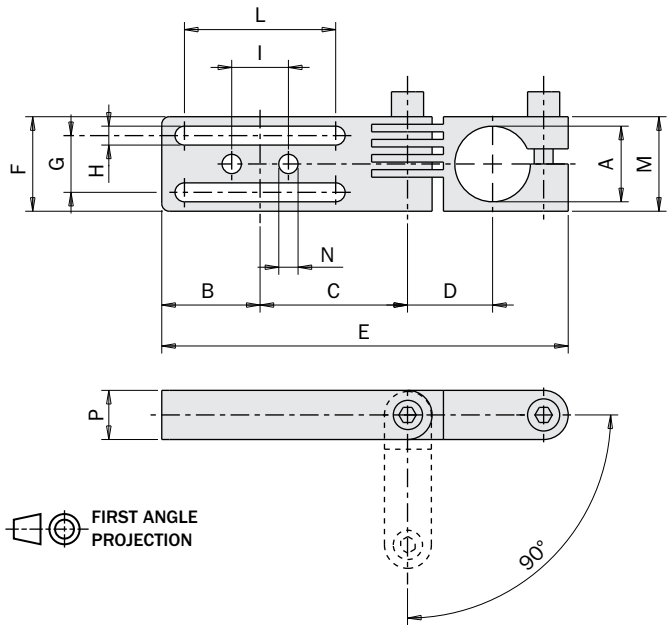
**Application example**



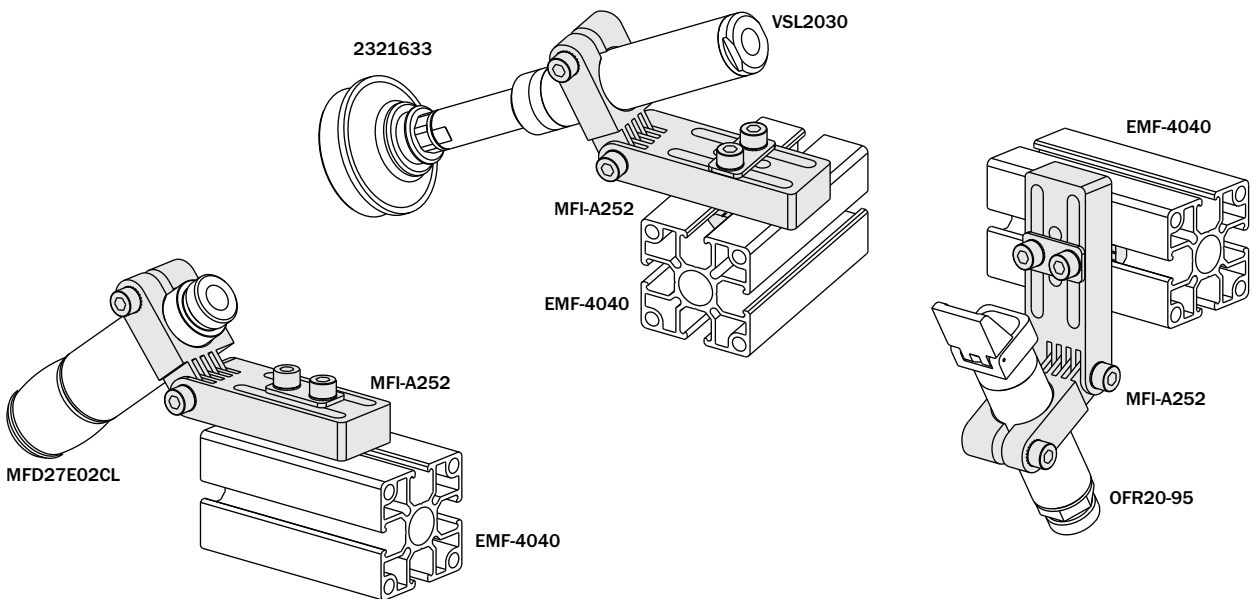
**Slotted angular bracket**

(kit with screws)  
(material: aluminium)

|        |      | MFI-A250 | MFI-A251 | MFI-A252 | MFI-A253 |
|--------|------|----------|----------|----------|----------|
| A      | [mm] | Ø10      | Ø14      | Ø20      | Ø30      |
| B      | [mm] | 15       | 21       | 26       | 32       |
| C      | [mm] | 23       | 31       | 39       | 49       |
| D      | [mm] | 14       | 17.5     | 22.5     | 29       |
| E      | [mm] | 64.5     | 85.5     | 107.5    | 136.5    |
| F      | [mm] | 16       | 25       | 25       | 36       |
| G      | [mm] | 8        | 15       | 15       | 22       |
| H      | [mm] | 4.1      | 5.1      | 5.1      | 5.1      |
| I      | [mm] | -        | 15       | 15       | 22       |
| L      | [mm] | 20       | 30       | 40       | 50       |
| M      | [mm] | 16       | 20       | 25       | 36       |
| N      | [mm] | -        | Ø5.1     | Ø5.1     | Ø5.1     |
| P      | [mm] | 9        | 11       | 13       | 16       |
| Weight |      | 30 g     | 50 g     | 90 g     | 185 g    |



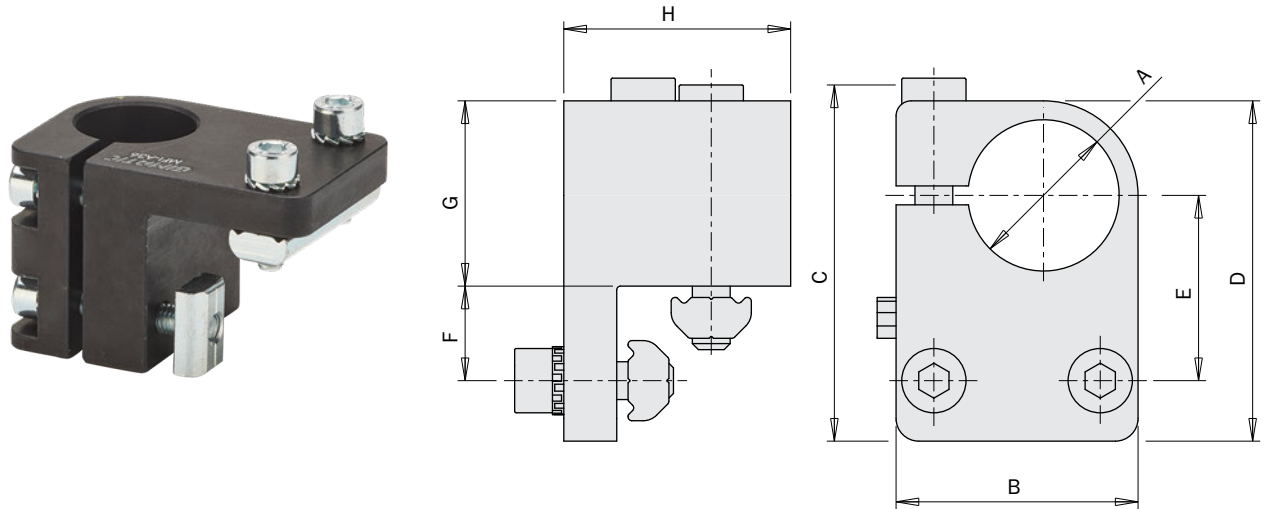
**Application example**



**Mounting bracket**

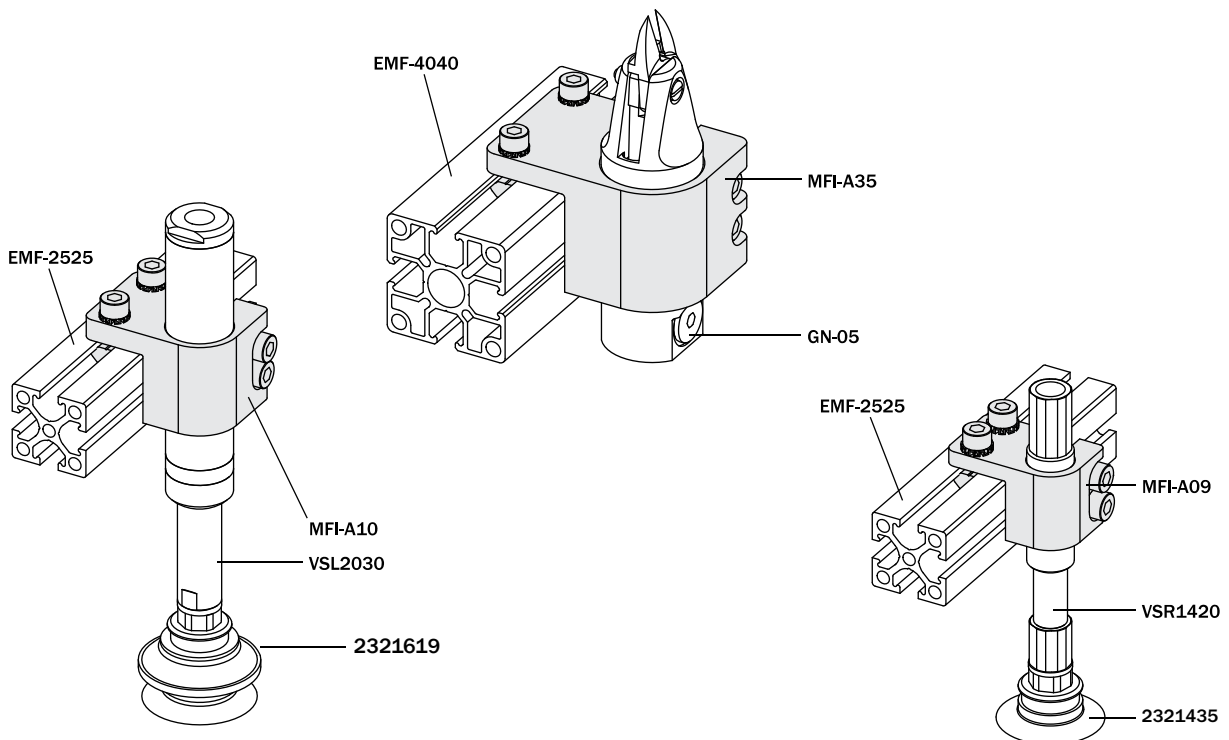
(kit with screws)  
(material: aluminium)

|                  | MFI-A09              | MFI-A10              | MFI-A36              | MFI-A36-H            | MFI-A34              | MFI-A35              | MFI-A35-H            |
|------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| A [mm]           | Ø14                  | Ø20                  | Ø20                  | Ø20                  | Ø30                  | Ø30                  | Ø30                  |
| B [mm]           | 25                   | 32                   | 35                   | 47                   | 40                   | 45                   | 47                   |
| C [mm]           | 42.6                 | 47.6                 | 54.1                 | 64.7                 | 53.1                 | 64.1                 | 64.7                 |
| D [mm]           | 40                   | 45                   | 54.5                 | 65.5                 | 55                   | 65.5                 | 65.5                 |
| E [mm]           | 22                   | 24.5                 | 33                   | 35                   | 29.5                 | 39                   | 39                   |
| F [mm]           | 12.5                 | 12.5                 | 20                   | 20                   | 12.5                 | 20                   | 20                   |
| G [mm]           | 19.5                 | 24.5                 | 26.5                 | 37.5                 | 34.5                 | 37.5                 | 37.5                 |
| H [mm]           | 25                   | 30                   | 35                   | 40                   | 30                   | 40                   | 40                   |
| Compatible with: | EMF-2525<br>EMF-5025 | EMF-2525<br>EMF-5025 | EMF-4040<br>EMF-8040 | EMF-4040<br>EMF-8040 | EMF-2525<br>EMF-5025 | EMF-4040<br>EMF-8040 | EMF-4040<br>EMF-8040 |
| Weight           | 50 g                 | 70 g                 | 95 g                 | 209 g                | 90 g                 | 150 g                | 168 g                |



**Application example**

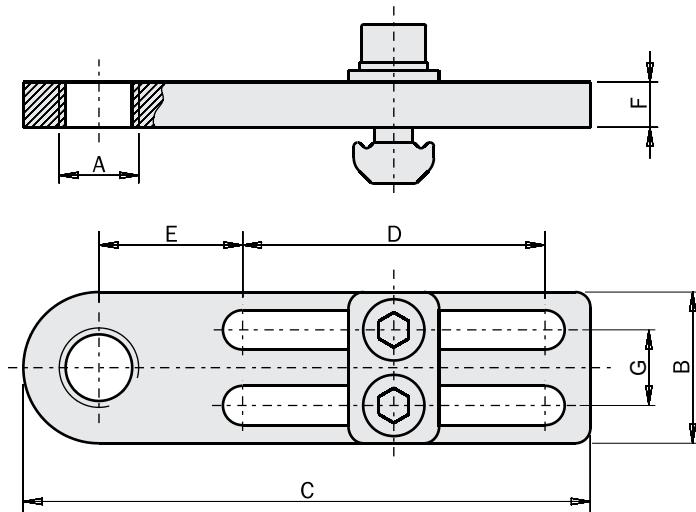
FIRST ANGLE PROJECTION



**Mounting bracket**

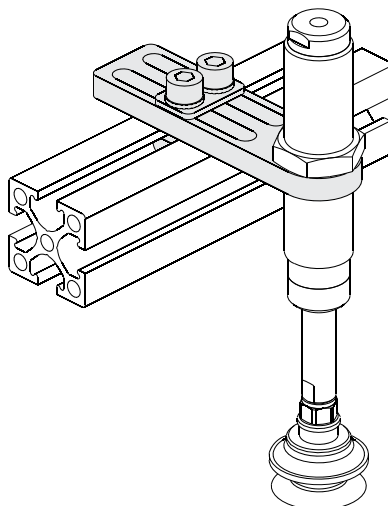
(kit with screws)  
(material: aluminium)

|                 | A<br>[mm] | B<br>[mm] | C<br>[mm] | D<br>[mm] | E<br>[mm] | F<br>[mm] | G<br>[mm] | Weight |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| <b>MFI-A104</b> | G1/8"     | 20        | 75        | 40        | 19        | 6         | 10        | 25 g   |
| <b>MFI-A105</b> | G1/8"     | 25        | 105       | 60        | 26.5      | 6         | 15        | 42 g   |
| <b>MFI-A106</b> | M10x1     | 20        | 75        | 40        | 19        | 6         | 10        | 30 g   |
| <b>MFI-A107</b> | M10x1     | 25        | 105       | 60        | 26.5      | 6         | 15        | 40 g   |
| <b>MFI-A266</b> | M12x1     | 20        | 75        | 40        | 19        | 6         | 10        | 30 g   |
| <b>MFI-A267</b> | M12x1     | 25        | 105       | 60        | 26.5      | 6         | 15        | 47 g   |
| <b>MFI-A108</b> | M14x1     | 20        | 75        | 40        | 19        | 6         | 10        | 20 g   |
| <b>MFI-A109</b> | M14x1     | 25        | 105       | 60        | 26.5      | 6         | 15        | 40 g   |
| <b>MFI-A210</b> | M14x1.5   | 25        | 75        | 40        | 19        | 6         | 10        | 20 g   |
| <b>MFI-A211</b> | M14x1.5   | 25        | 105       | 60        | 26.5      | 6         | 15        | 40 g   |
| <b>MFI-A110</b> | M16x1     | 20        | 75        | 40        | 19        | 6         | 10        | 20 g   |
| <b>MFI-A111</b> | M16x1     | 25        | 105       | 60        | 26.5      | 6         | 15        | 40 g   |
| <b>MFI-A112</b> | M20x1.5   | 25        | 75        | 40        | 19        | 6         | 15        | 30 g   |
| <b>MFI-A113</b> | M20x1.5   | 25        | 105       | 60        | 26.5      | 6         | 15        | 35 g   |
| <b>MFI-A269</b> | M25x1.5   | 30        | 115       | 60        | 34        | 8         | 15        | 67 g   |



FIRST ANGLE PROJECTION

**Application example**



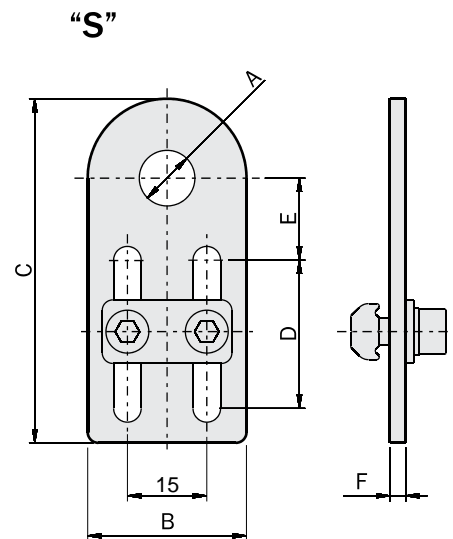
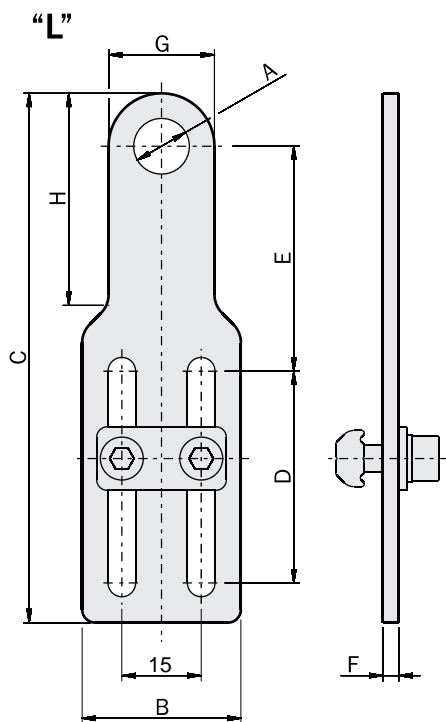
**Mounting bracket**

(kit with screws)  
(material: steel)

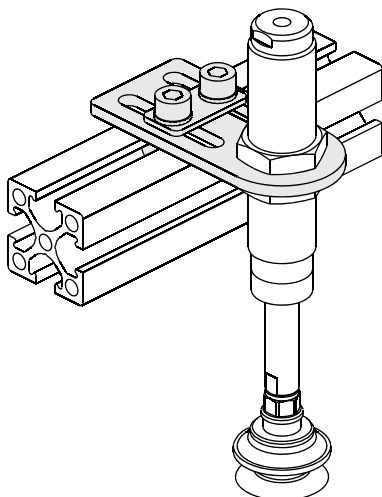
|  | Type            | A [mm] | B [mm] | C [mm] | D [mm] | E [mm] | F [mm] | G [mm] | H [mm] | Weight |      |
|--|-----------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
|  | <b>MFI-A116</b> | L      | Ø10.5  | 30     | 100    | 40     | 42.5   | 3      | 20     | 38     | 60 g |
|  | <b>MFI-A117</b> | L      | Ø12.5  | 30     | 100    | 40     | 42.5   | 3      | 20     | 38     | 60 g |
|  | <b>MFI-A118</b> | L      | Ø14.5  | 30     | 100    | 40     | 42.5   | 3      | 24     | 38     | 60 g |
|  | <b>MFI-A119</b> | L      | Ø16.5  | 30     | 100    | 40     | 42.5   | 3      | 30     | -      | 65 g |
|  | <b>MFI-A120</b> | L      | Ø20.5  | 30     | 100    | 40     | 42.5   | 3      | 30     | -      | 60 g |
|  | <b>MFI-A121</b> | S      | Ø10.5  | 30     | 65     | 28     | 15.5   | 3      | -      | -      | 45 g |
|  | <b>MFI-A122</b> | S      | Ø12.5  | 30     | 65     | 28     | 15.5   | 3      | -      | -      | 45 g |
|  | <b>MFI-A123</b> | S      | Ø14.5  | 30     | 65     | 28     | 15.5   | 3      | -      | -      | 45 g |
|  | <b>MFI-A124</b> | S      | Ø16.5  | 30     | 65     | 28     | 15.5   | 3      | -      | -      | 45 g |
|  | <b>MFI-A125</b> | S      | Ø20.5  | 30     | 65     | 28     | 15.5   | 3      | -      | -      | 40 g |



**Click for Pricing & Add to Cart**



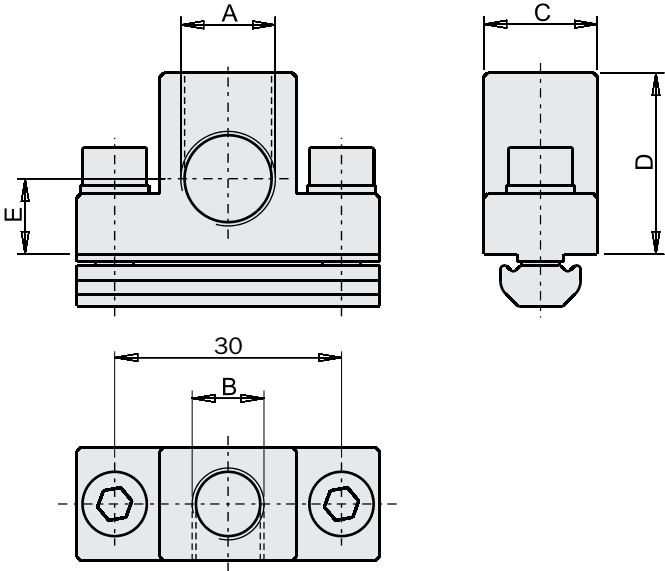
**Application example**



**Direct connector for vacuum cup**

(kit with screws)  
(material: aluminium)

**NEW**

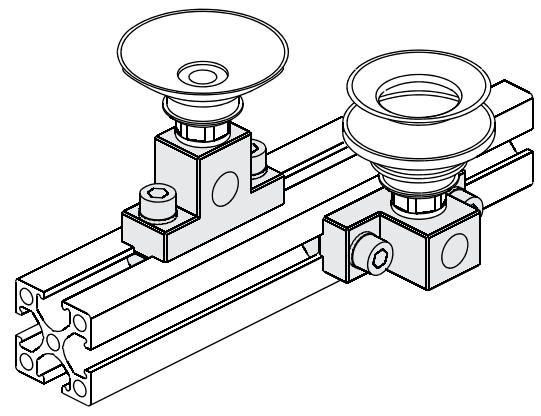


|          | MFI-A46  | MFI-A47  | MFI-A508 |
|----------|----------|----------|----------|
| A [mm]   | G1/8"    | G1/4"    | G3/8"    |
| B [mm]   | G1/8"    | G1/8"    | G3/8"    |
| C [mm]   | 15       | 15       | 35       |
| D [mm]   | 24       | 24       | 34       |
| E [mm]   | 12       | 10       | 12       |
| EMF-1018 | -        | -        | -        |
| EMF-1818 | -        | -        | -        |
| EMF-2510 | EMF-2510 | EMF-2510 | EMF-2510 |
| EMF-2518 | EMF-2518 | EMF-2518 | EMF-2518 |
| EMF-2525 | EMF-2525 | EMF-2525 | EMF-2525 |
| EMF-5025 | EMF-5025 | EMF-5025 | EMF-5025 |
| EMF-4040 | EMF-4040 | EMF-4040 | EMF-4040 |
| EMF-8040 | EMF-8040 | EMF-8040 | EMF-8040 |
| EMB-2017 | -        | -        | -        |
| EMB-3026 | EMB-3026 | EMB-3026 | EMB-3026 |
| EMB-5045 | EMB-5045 | EMB-5045 | EMB-5045 |
| Weight   | 42 g     | 40 g     | 100 g    |

Compatible with:



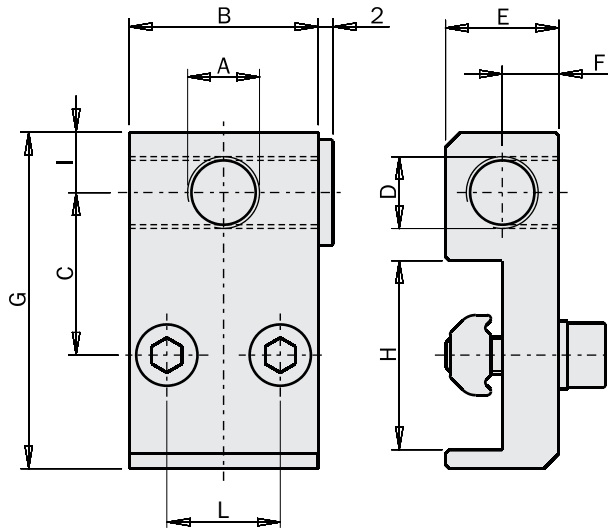
**Application example**



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

**Mounting bracket for vacuum cup**

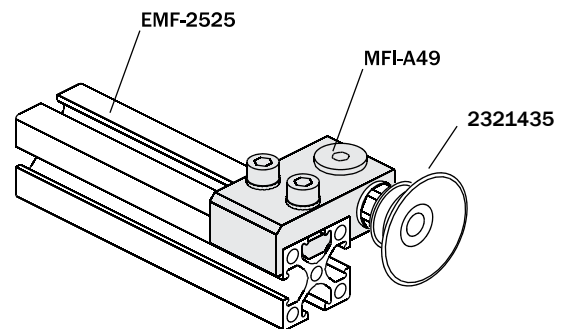
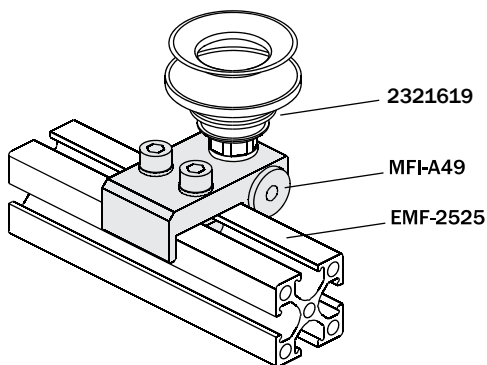
(kit with screws)  
(material: aluminium)



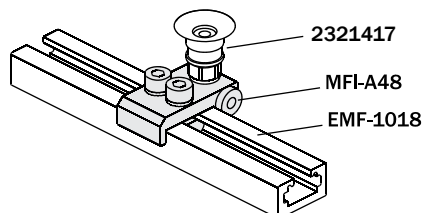
|                  | <b>MFI-A48</b> | <b>MFI-A49</b> | <b>MFI-A50</b> |
|------------------|----------------|----------------|----------------|
| A [mm]           | M5             | G1/8"          | G1/4"          |
| B [mm]           | 16             | 25             | 25             |
| C [mm]           | 13.5           | 21.5           | 21.5           |
| D [mm]           | M5             | G1/8"          | G1/8"          |
| E [mm]           | 8              | 15             | 15             |
| F [mm]           | 4              | 7.5            | 7.5            |
| G [mm]           | 29             | 44.5           | 46.5           |
| H [mm]           | 18             | 25             | 25             |
| I [mm]           | 4.3            | 8              | 10             |
| L [mm]           | 8              | 15             | 15             |
| Compatible with: | EMF-1818       | EMF-2510       | EMF-2510       |
|                  | EMF-1018       | EMF-2518       | EMF-2518       |
|                  | -              | EMF-2525       | EMF-2525       |
|                  | -              | EMF-5025       | EMF-5025       |
| Weight           | 15 g           | 45 g           | 45 g           |



**Application example**

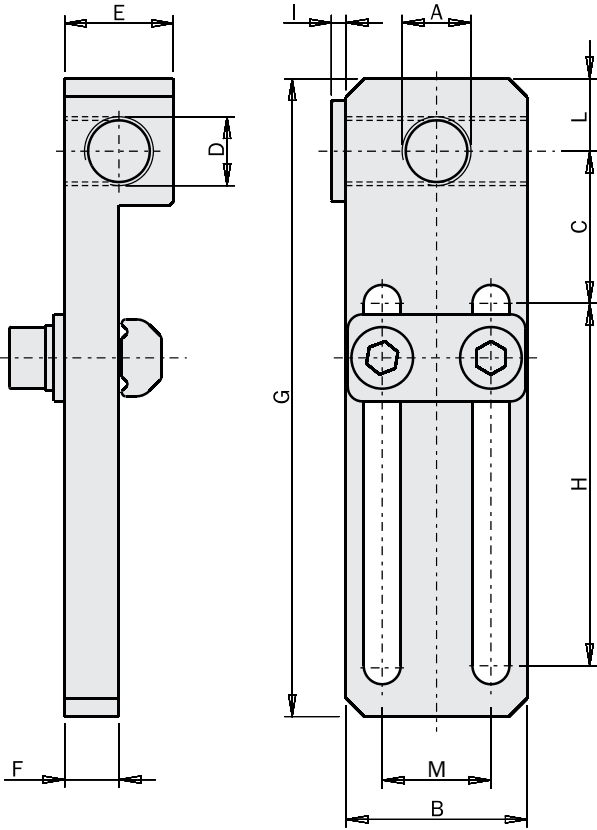


Only for MFI-A48 and MFI-A49



**Direct connector for vacuum cup**

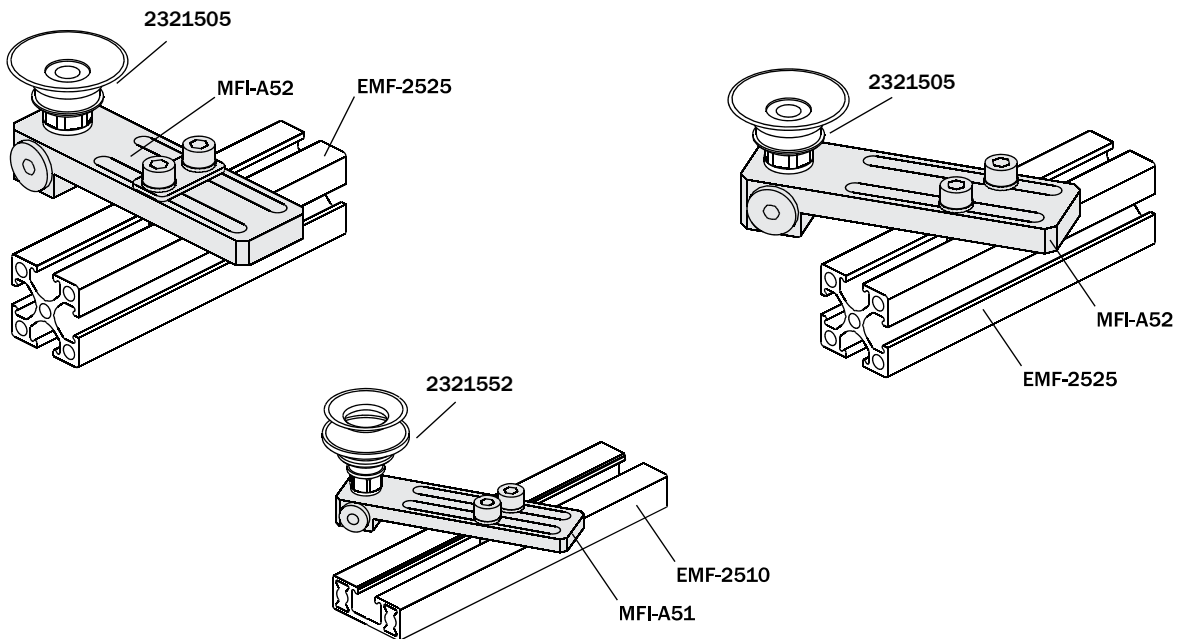
(kit with screws)  
(material: aluminium)



|                  | MFI-A51  | MFI-A52  | MFI-A53  |
|------------------|----------|----------|----------|
| A [mm]           | M5       | G1/8"    | G1/4"    |
| B [mm]           | 16       | 25       | 25       |
| C [mm]           | 14       | 21       | 21       |
| D [mm]           | M5       | G1/8"    | G1/8"    |
| E [mm]           | 8        | 15       | 15       |
| F [mm]           | 4        | 7.5      | 7.5      |
| G [mm]           | 65       | 88       | 88       |
| H [mm]           | 40       | 50       | 50       |
| I [mm]           | 2        | 2        | 2        |
| L [mm]           | 6        | 10       | 10       |
| M [mm]           | 8        | 15       | 15       |
| Compatible with: | EMF-1018 | EMF-1018 | EMF-1018 |
|                  | EMF-1818 | EMF-1818 | EMF-1818 |
|                  | EMF-2510 | EMF-2510 | EMF-2510 |
|                  | EMF-2518 | EMF-2518 | EMF-2518 |
|                  | EMF-2525 | EMF-2525 | EMF-2525 |
|                  | EMF-5025 | EMF-5025 | EMF-5025 |
|                  | -        | EMF-4040 | EMF-4040 |
|                  | -        | EMF-8040 | EMF-8040 |
| Weight           | EMB-2017 | EMB-2017 | EMB-2017 |
|                  | EMB-3026 | EMB-3026 | EMB-3026 |
|                  | EMB-5045 | EMB-5045 | EMB-5045 |
|                  | 20 g     | 60 g     | 60 g     |



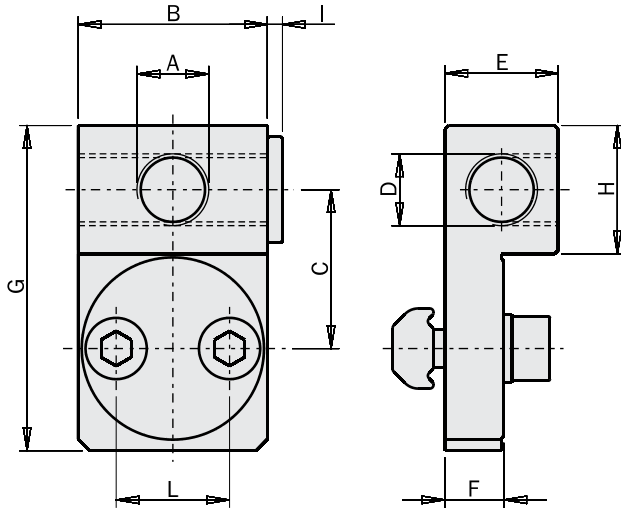
**Application example**





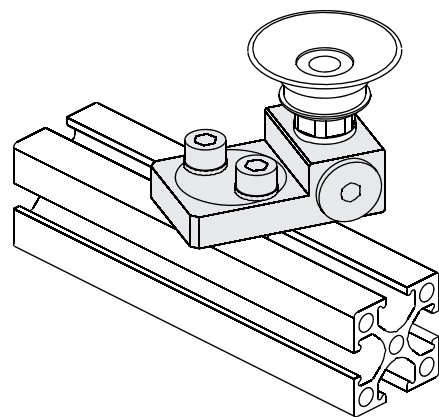
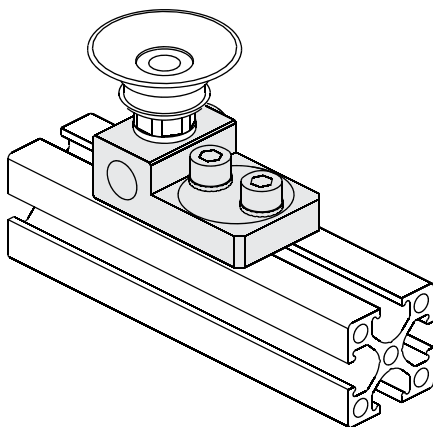
**Mounting bracket for vacuum cup**

(kit with screws)  
(material: aluminium)



|                  | MFI-A54  | MFI-A55  | MFI-A56  |
|------------------|----------|----------|----------|
| A [mm]           | M5       | G1/8"    | G1/4"    |
| B [mm]           | 16       | 25       | 25       |
| C [mm]           | 13       | 21       | 21       |
| D [mm]           | M5       | G1/8"    | G1/8"    |
| E [mm]           | 10       | 15       | 15       |
| F [mm]           | 5.3      | 7.8      | 7.8      |
| G [mm]           | 28       | 43       | 43       |
| H [mm]           | 10       | 17       | 17       |
| I [mm]           | 2        | 2        | 2        |
| L [mm]           | 8        | 15       | 15       |
| Compatible with: | EMF-1018 | -        | -        |
|                  | EMF-1818 | -        | -        |
|                  | EMF-2510 | EMF-2510 | EMF-2510 |
|                  | EMF-2518 | EMF-2518 | EMF-2518 |
|                  | EMF-2525 | EMF-2525 | EMF-2525 |
|                  | EMF-5025 | EMF-5025 | EMF-5025 |
|                  | -        | EMF-4040 | EMF-4040 |
|                  | -        | EMF-8040 | EMF-8040 |
|                  | EMB-2017 | EMB-2017 | EMB-2017 |
|                  | EMB-3026 | EMB-3026 | EMB-3026 |
| EMB-5045         | EMB-5045 | EMB-5045 |          |
| Weight           | 15 g     | 45 g     | 42 g     |

**Application example**

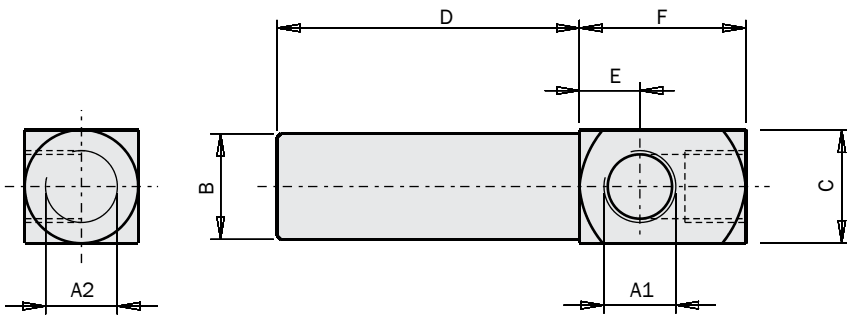


**Leg for vacuum cup**

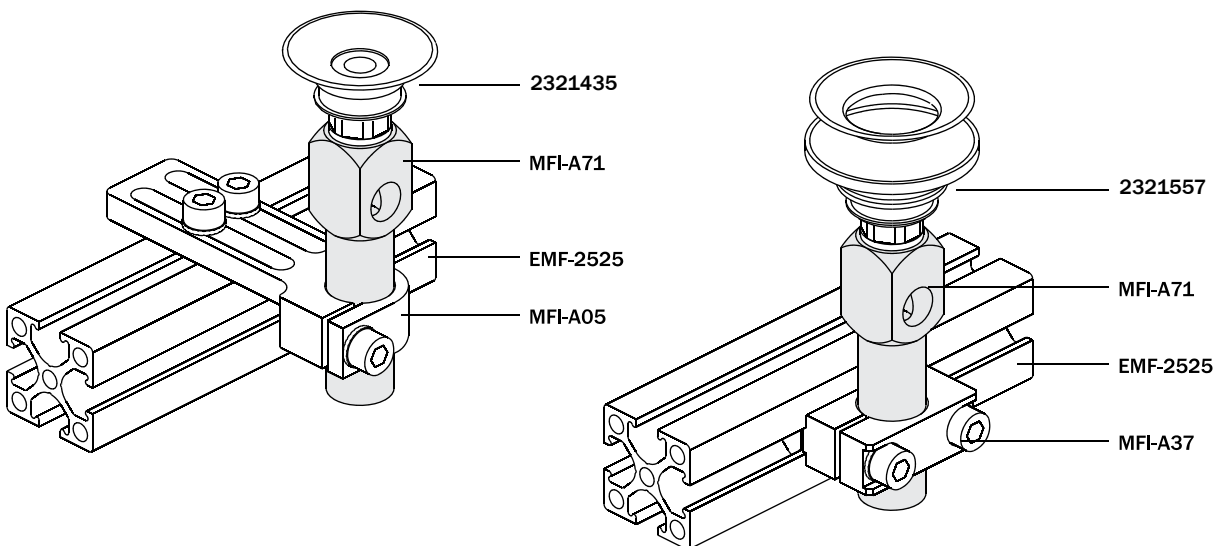
(material: aluminium)

|         | MFI-A170 | MFI-A171 | MFI-A172 | MFI-A71 | MFI-A72 | MFI-A73 | MFI-A74 | MFI-A75 | MFI-A76 |
|---------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| A1 [mm] | M5       | M5       | M5       | G1/8"   | G1/8"   | G1/8"   | G1/8"   | G1/8"   | G1/8"   |
| A2 [mm] | M5       | M5       | M5       | G1/8"   | G1/8"   | G1/8"   | G1/4"   | G1/4"   | G1/4"   |
| B [mm]  | Ø10      | Ø10      | Ø10      | Ø14     | Ø14     | Ø14     | Ø20     | Ø20     | Ø20     |
| C [mm]  | 11       | 11       | 11       | 15      | 15      | 15      | 20      | 20      | 20      |
| D [mm]  | 30       | 60       | 90       | 40      | 80      | 120     | 50      | 100     | 150     |
| E [mm]  | 6        | 6        | 6        | 8       | 8       | 8       | 8       | 8       | 8       |
| F [mm]  | 16       | 16       | 16       | 22      | 22      | 22      | 23      | 23      | 23      |
| Weight  | 11 g     | 17 g     | 23.5 g   | 18.5 g  | 42.5 g  | 59 g    | 59 g    | 101 g   | 98.5 g  |

FIRST ANGLE PROJECTION



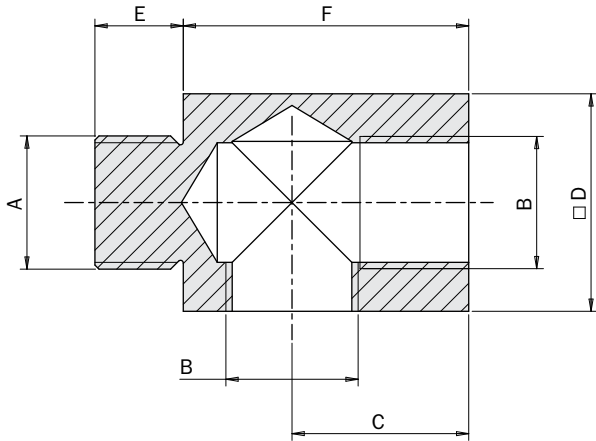
**Application example**



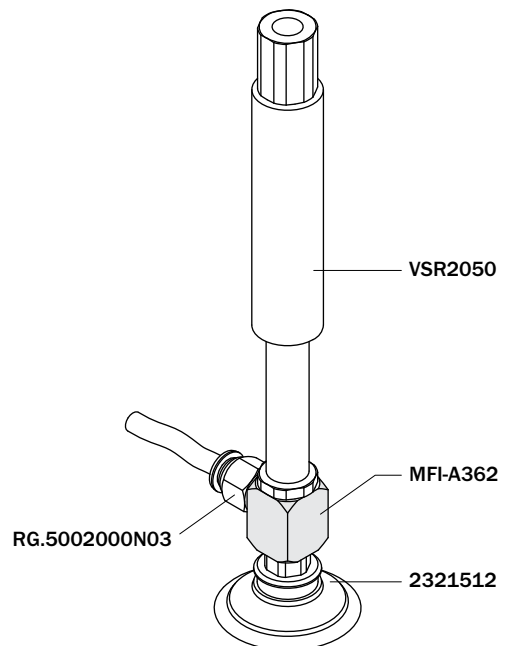
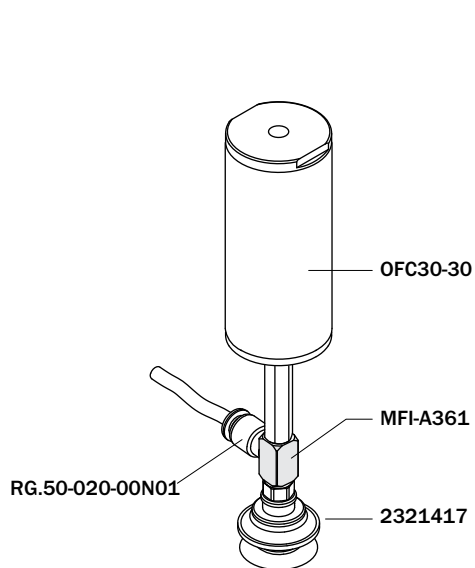
**Mounting adapter for vacuum cup**

(material: aluminium)

|        | MFI-A361 | MFI-A362 | MFI-A364 | MFI-A365 |
|--------|----------|----------|----------|----------|
| A [mm] | M5       | G1/8     | M4       | M3       |
| B [mm] | M5       | G1/8     | M5       | M5       |
| C [mm] | 8        | 13       | 8        | 8        |
| D [mm] | 8        | 16       | 8        | 8        |
| E [mm] | 5        | 6.5      | 5        | 4        |
| F [mm] | 14       | 21       | 12       | 12       |
| Weight | 2.2 g    | 11.6 g   | 1.8 g    | 1.6 g    |



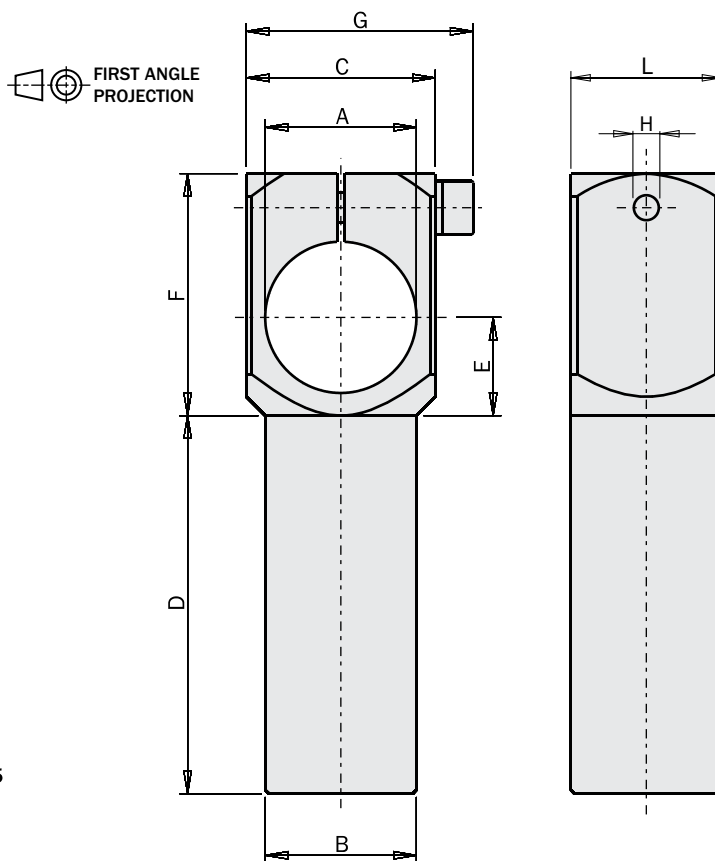
**Application example**



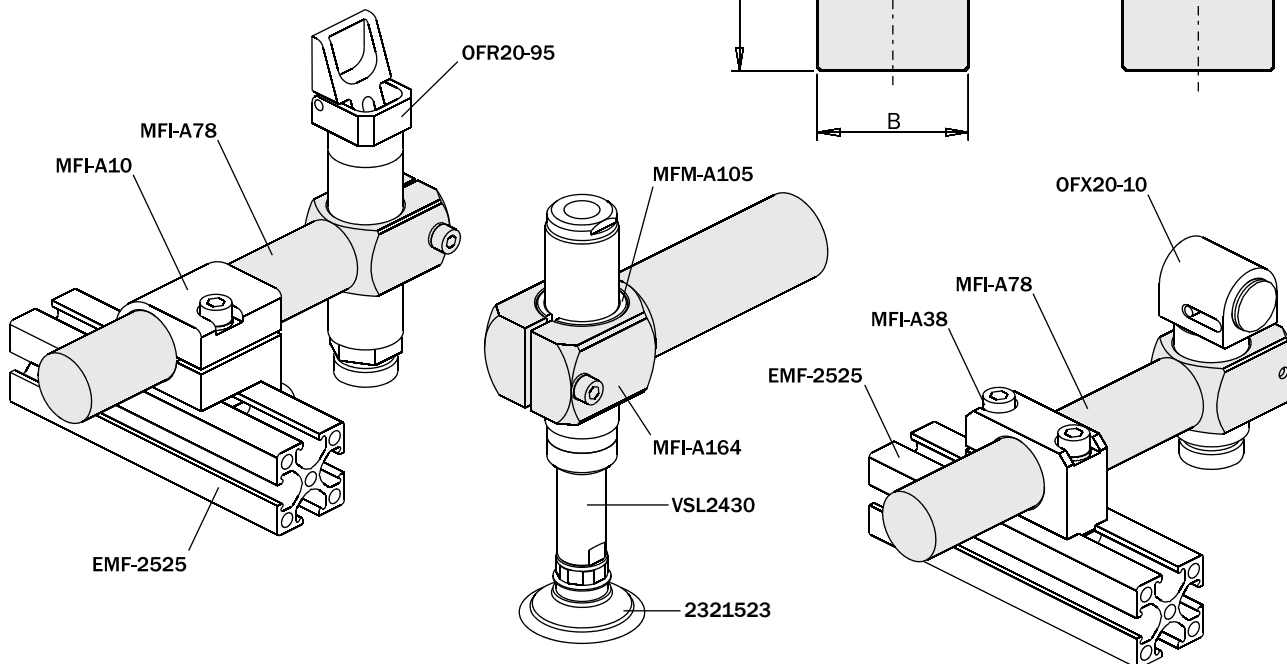
**Clamp leg**

(kit with screws)  
(material: aluminium)

|            | A<br>[mm] | B<br>[mm] | C<br>[mm] | D<br>[mm] | E<br>[mm] | F<br>[mm] | G<br>[mm] | H<br>[mm] | L<br>[mm] | Weight  |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| MFI-A158   | Ø10       | Ø10       | 14        | 30        | 7         | 19        | 19        | M4        | 10        | 13 g    |
| MFI-A159   | Ø10       | Ø10       | 14        | 60        | 7         | 19        | 19        | M4        | 10        | 19.5 g  |
| MFI-A160   | Ø10       | Ø10       | 14        | 90        | 7         | 19        | 19        | M4        | 10        | 26 g    |
| MFI-A161   | Ø14       | Ø14       | 18        | 40        | 10        | 26        | 24        | M5        | 14        | 31 g    |
| MFI-A162   | Ø14       | Ø14       | 18        | 80        | 10        | 26        | 24        | M5        | 14        | 48 g    |
| MFI-A163   | Ø14       | Ø14       | 18        | 120       | 10        | 26        | 24        | M5        | 14        | 50 g    |
| MFI-A77    | Ø20       | Ø20       | 25        | 50        | 13        | 32        | 32        | M6        | 20        | 45 g    |
| MFI-A78    | Ø20       | Ø20       | 25        | 100       | 13        | 32        | 32        | M6        | 20        | 70 g    |
| MFI-A79    | Ø20       | Ø20       | 25        | 150       | 13        | 32        | 32        | M6        | 20        | 112 g   |
| MFI-A164   | Ø30       | Ø30       | 40        | 80        | 19        | 44        | 46        | M6        | 30        | 238.5 g |
| MFI-A165   | Ø30       | Ø30       | 40        | 140       | 19        | 44        | 46        | M6        | 30        | 353 g   |
| MFI-A165-H | Ø30       | Ø30       | 40        | 140       | 19        | 44        | 46        | 2xM6      | 40        | 282 g   |
| MFI-A166   | Ø30       | Ø30       | 40        | 200       | 19        | 44        | 46        | M6        | 30        | 467.5 g |
| MFI-A166-H | Ø30       | Ø30       | 40        | 210       | 19        | 44        | 46        | 2xM6      | 40        | 528 g   |



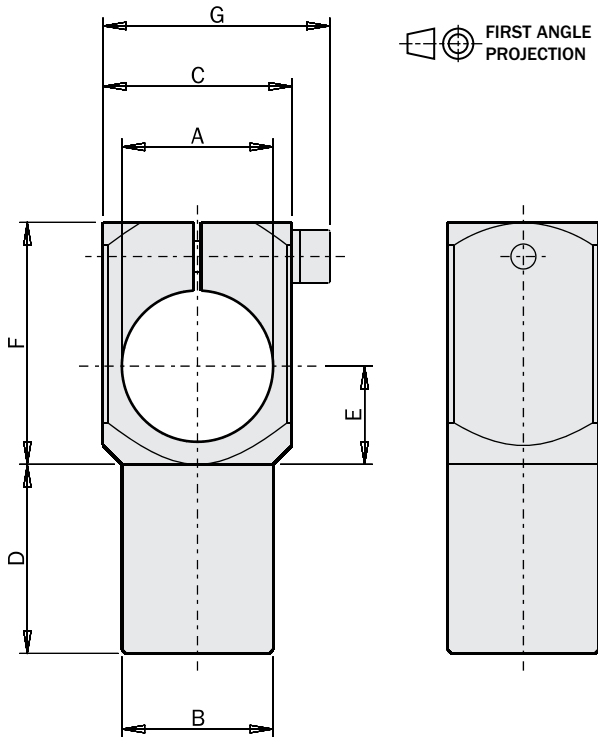
**Application example**



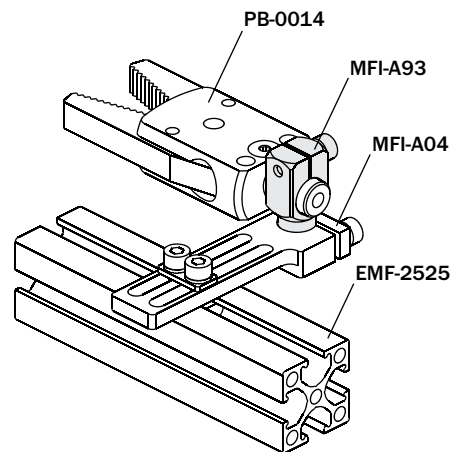
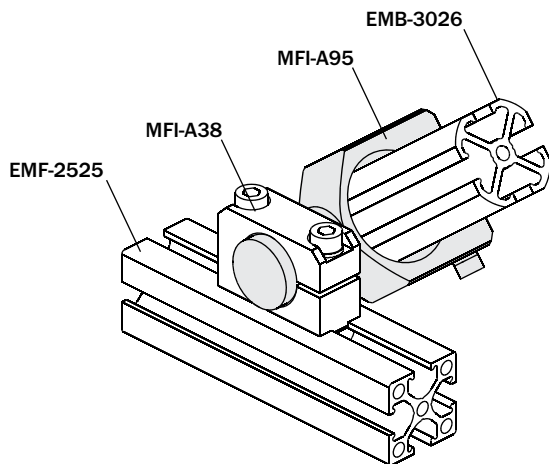
**Clamp leg**

(kit with screws)  
(material: aluminium)

|        |      | MFI-A93 | MFI-A157 | MFI-A94 | MFI-A95 |
|--------|------|---------|----------|---------|---------|
| A      | [mm] | Ø10     | Ø14      | Ø20     | Ø30     |
| B      | [mm] | Ø10     | Ø14      | Ø20     | Ø20     |
| C      | [mm] | 14x10   | 18x14    | 25x20   | 40x20   |
| D      | [mm] | 15      | 20       | 25      | 25      |
| E      | [mm] | 7       | 10       | 13      | 19      |
| F      | [mm] | 19      | 26       | 32      | 44      |
| G      | [mm] | 19      | 24       | 30      | 45      |
| Weight |      | 10 g    | 23 g     | 50 g    | 78 g    |



**Application example**

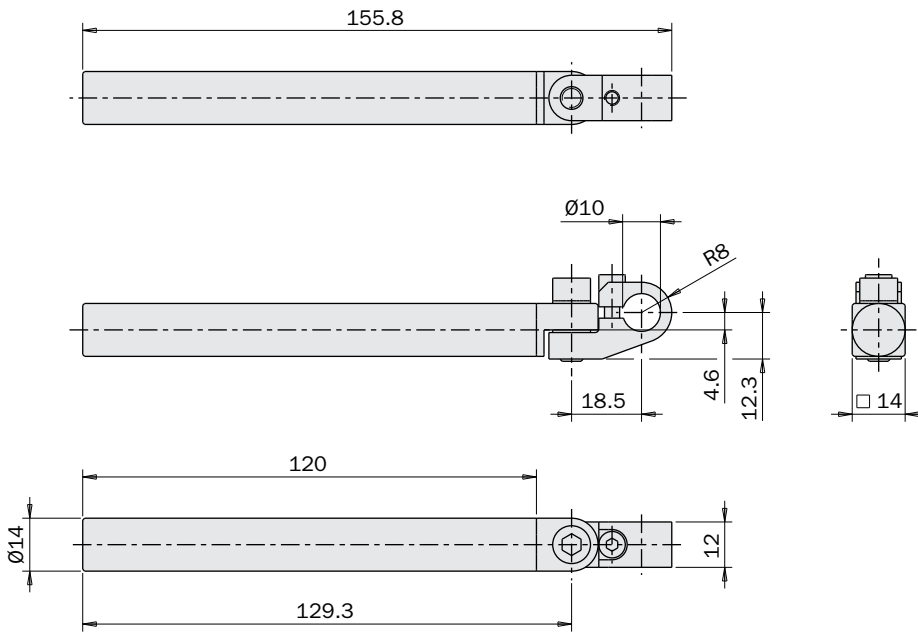


**Heavy duty clamp leg**

(kit with screws)  
(material: aluminium)

**MFI-A332**

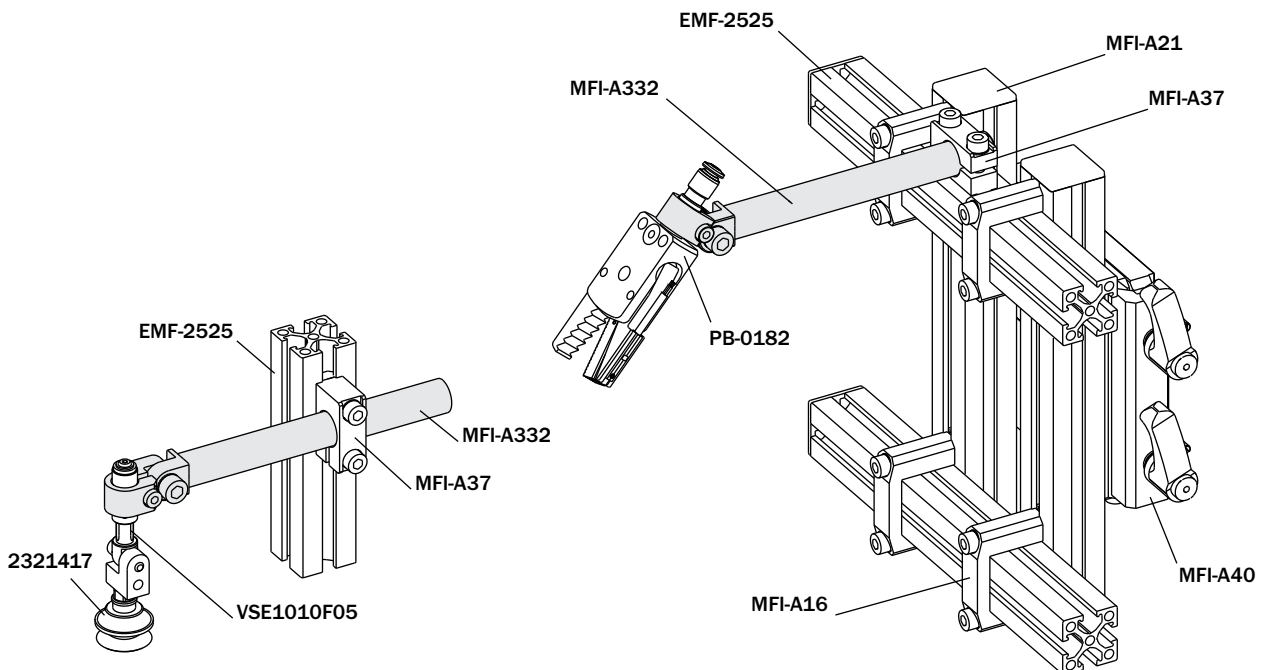
Weight 72 g



FIRST ANGLE PROJECTION



**Application example**



**Side manifold block (1 channel)**

(kit with screws)  
(material: aluminium)



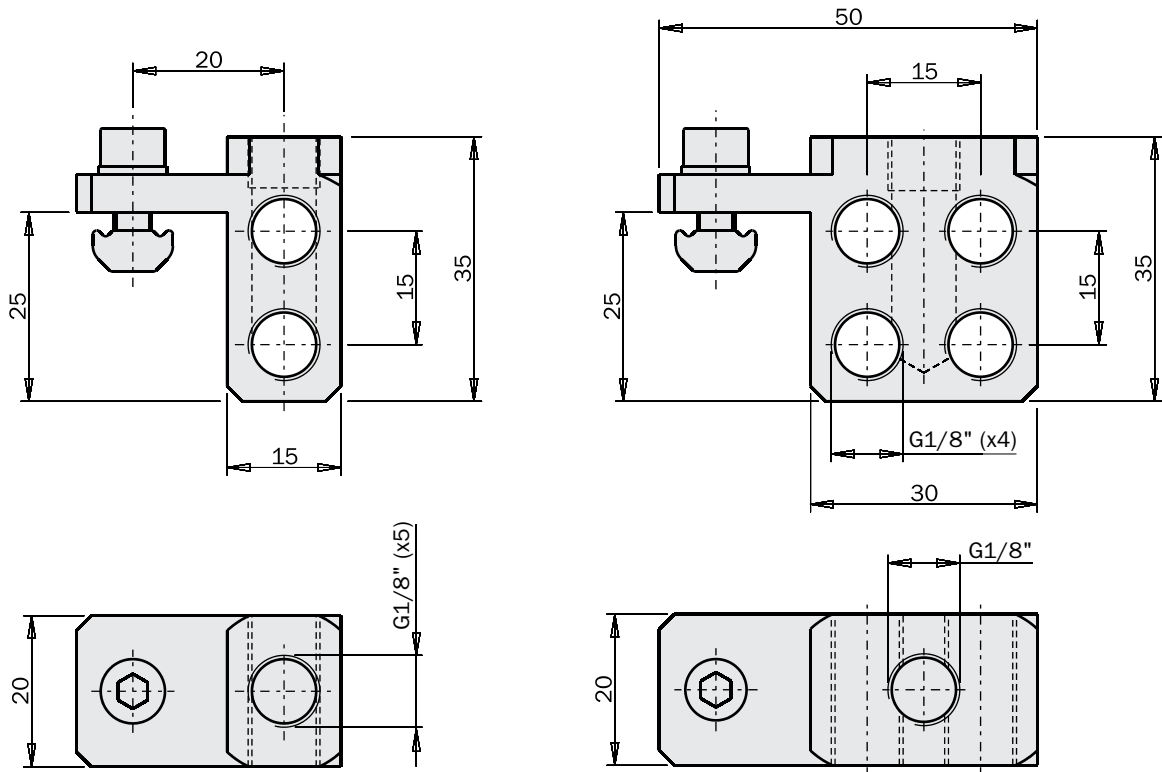
**G1/8" (x5)**



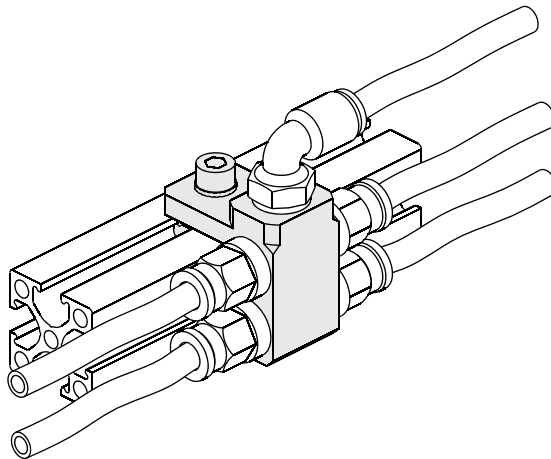
**G1/8" (x9)**

|                  | <b>MFI-A68</b> | <b>MFI-A69</b> |
|------------------|----------------|----------------|
| Compatible with: | EMF-2518       | EMF-2518       |
|                  | EMF-2525       | EMF-2525       |
|                  | EMF-5025       | EMF-5025       |
| Weight           | 30 g           | 50 g           |

FIRST ANGLE PROJECTION



**Application example**



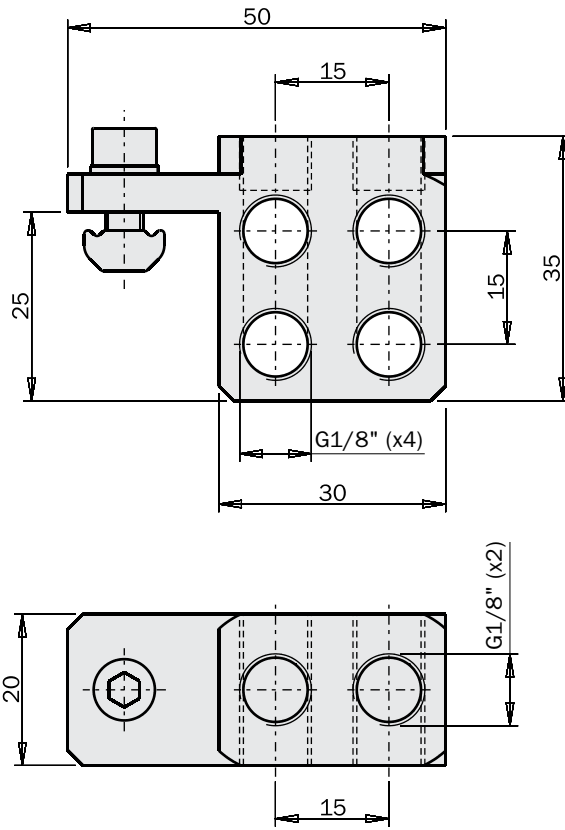
**Side manifold block (2 channels)**

(kit with screws)  
(material: aluminium)

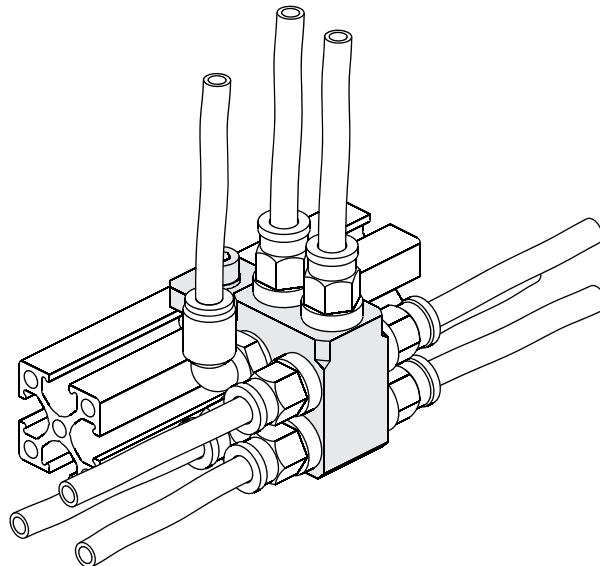


|                  |                |
|------------------|----------------|
|                  | <b>MFI-A70</b> |
| Compatible with: | EMF-2518       |
|                  | EMF-2525       |
|                  | EMF-5025       |
| Weight           | 48 g           |

FIRST ANGLE PROJECTION



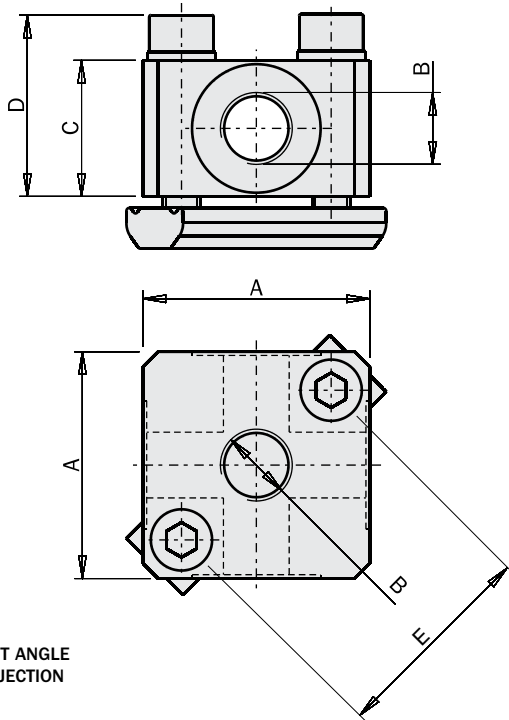
**Application example**





**Manifold block**

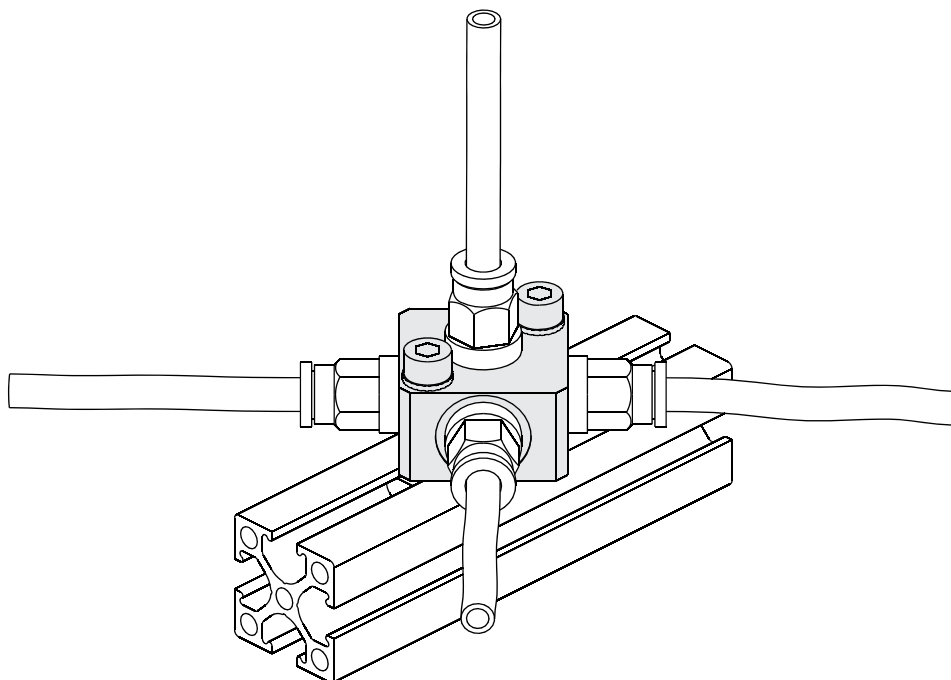
(kit with screws)  
(material: aluminium)



|        | MFI-A66    | MFI-A67    |
|--------|------------|------------|
| A [mm] | 30         | 40         |
| B [mm] | (x5) G1/8" | (x5) G1/4" |
| C [mm] | 18         | 20         |
| D [mm] | 24         | 23         |
| E [mm] | 28         | 35         |
| Weight | 50 g       | 80 g       |



**Application example**



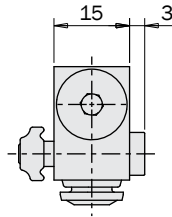
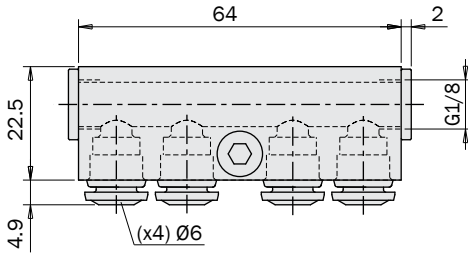
**Universal distributor blocks (1 channel)**

(material: aluminium)

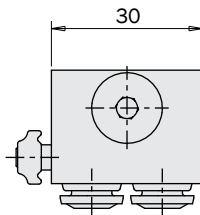
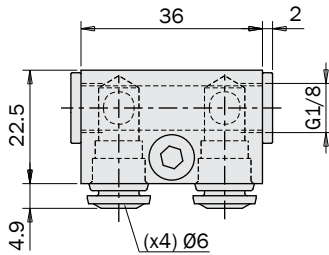
- Suitable for all EMB/EMF beams.
- Adjustable in any position.
- Built-in air fittings.
- Last-minute nut included.

Weight

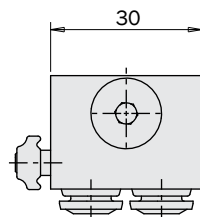
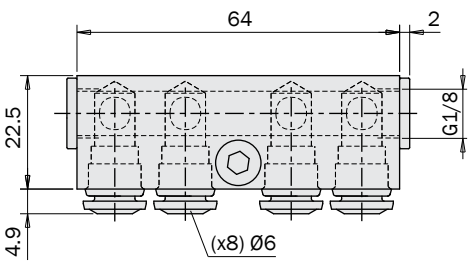
|                 |       |
|-----------------|-------|
| <b>MFI-A379</b> | 60 g  |
| <b>MFI-A380</b> | 70 g  |
| <b>MFI-A381</b> | 110 g |
| <b>MFI-A384</b> | 90 g  |



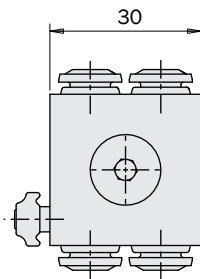
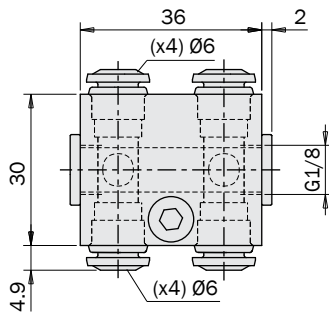
**MFI-A379**



**MFI-A380**

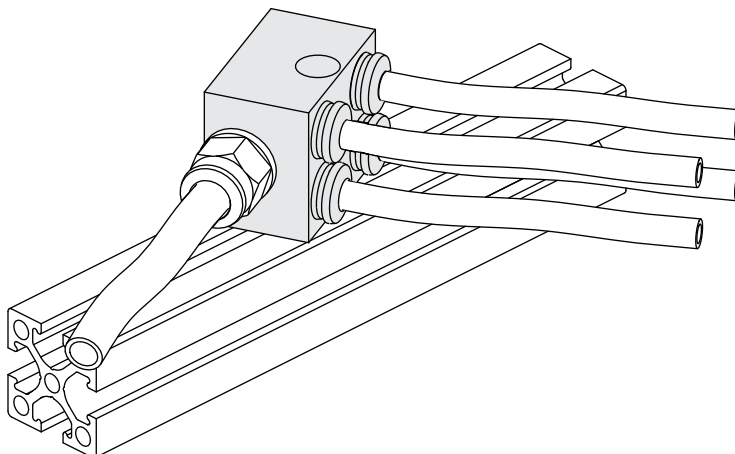


**MFI-A381**



**MFI-A384**

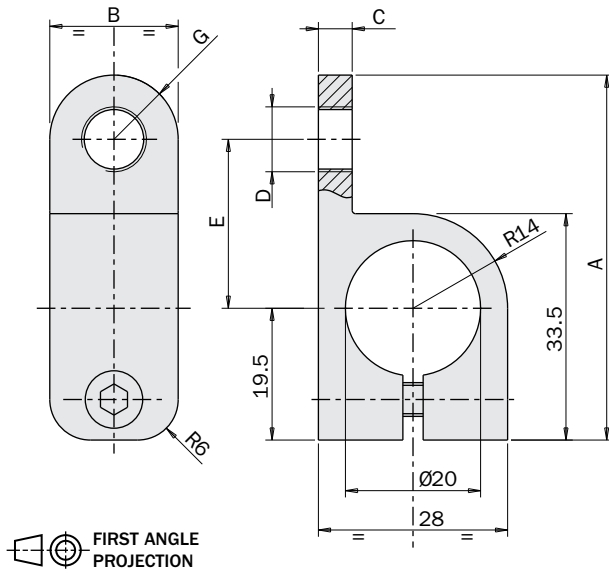
**Application example**



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

**Swivelling support**

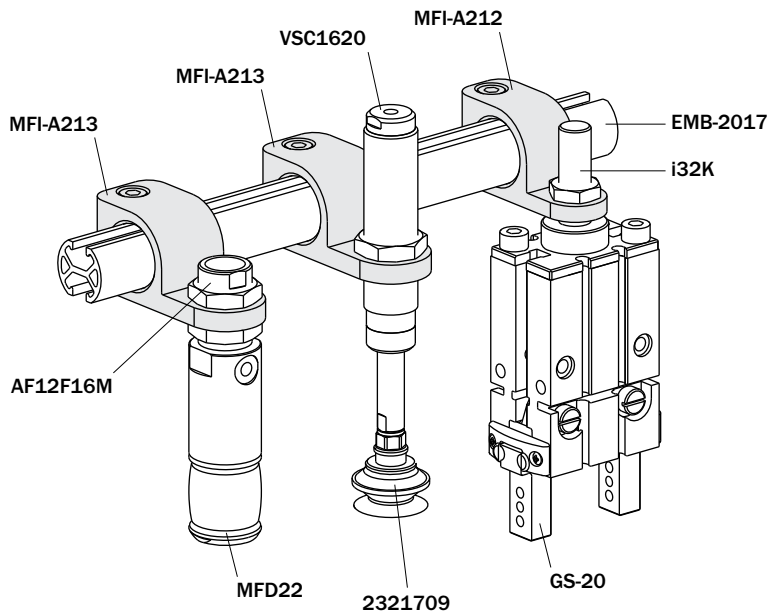
(kit with screws)  
(material: aluminium)



|        | MFI-A212 | MFI-A213 |
|--------|----------|----------|
| A [mm] | 53.5     | 60.5     |
| B [mm] | 19       | 24       |
| C [mm] | 5        | 6        |
| D [mm] | G1/8"    | M16x1    |
| E [mm] | 25       | 29       |
| G [mm] | R9.5     | R12      |
| Weight | 30 g     | 40 g     |



**Application example**

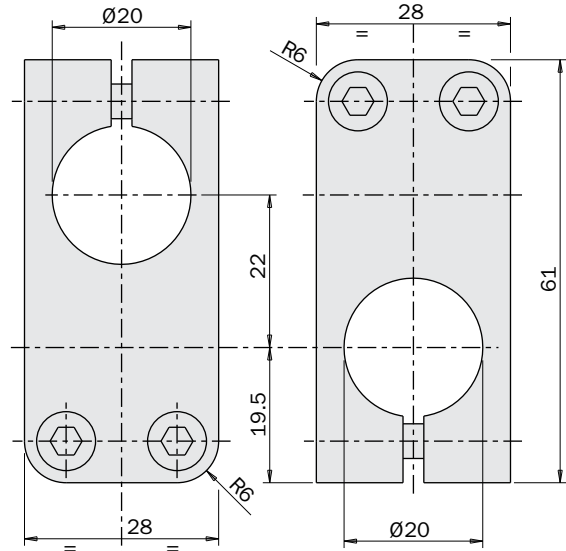
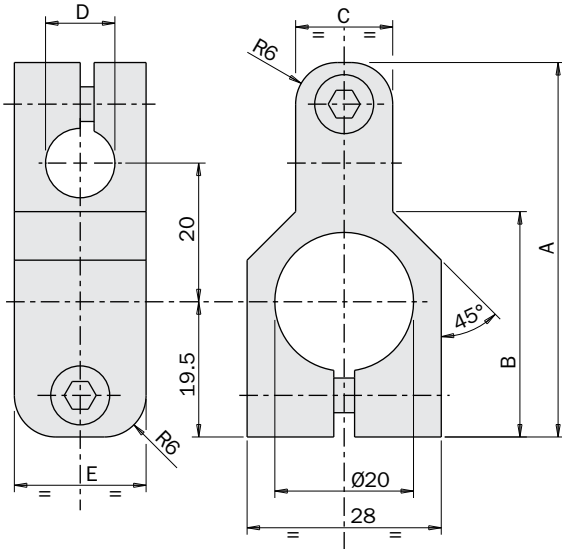


**Cross connection block**

(kit with screws)  
(material: aluminium)

|        | MFI-A214 | MFI-A215 |
|--------|----------|----------|
| A [mm] | 54       | 56       |
| B [mm] | 32.5     | 30.5     |
| C [mm] | 14       | 18       |
| D [mm] | Ø10      | Ø14      |
| E [mm] | 19       | 22       |
| Weight | 40 g     | 45 g     |

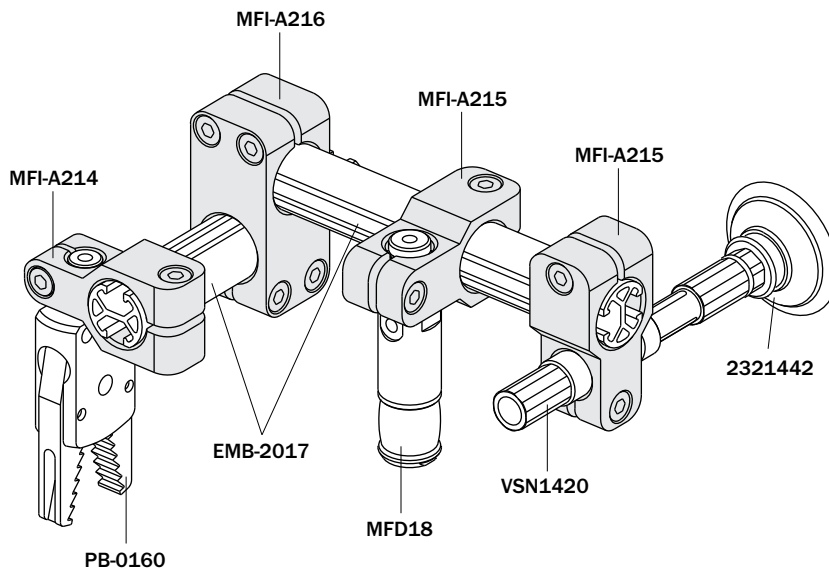
| MFI-A216 |      |
|----------|------|
| Weight   | 70 g |



FIRST ANGLE PROJECTION



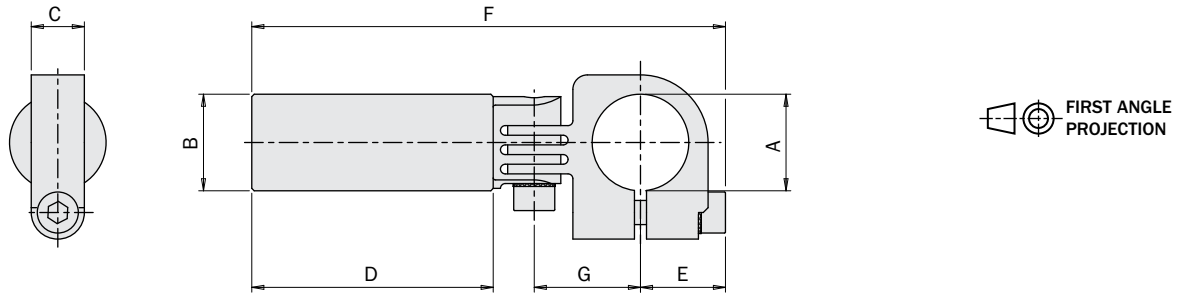
**Application example**



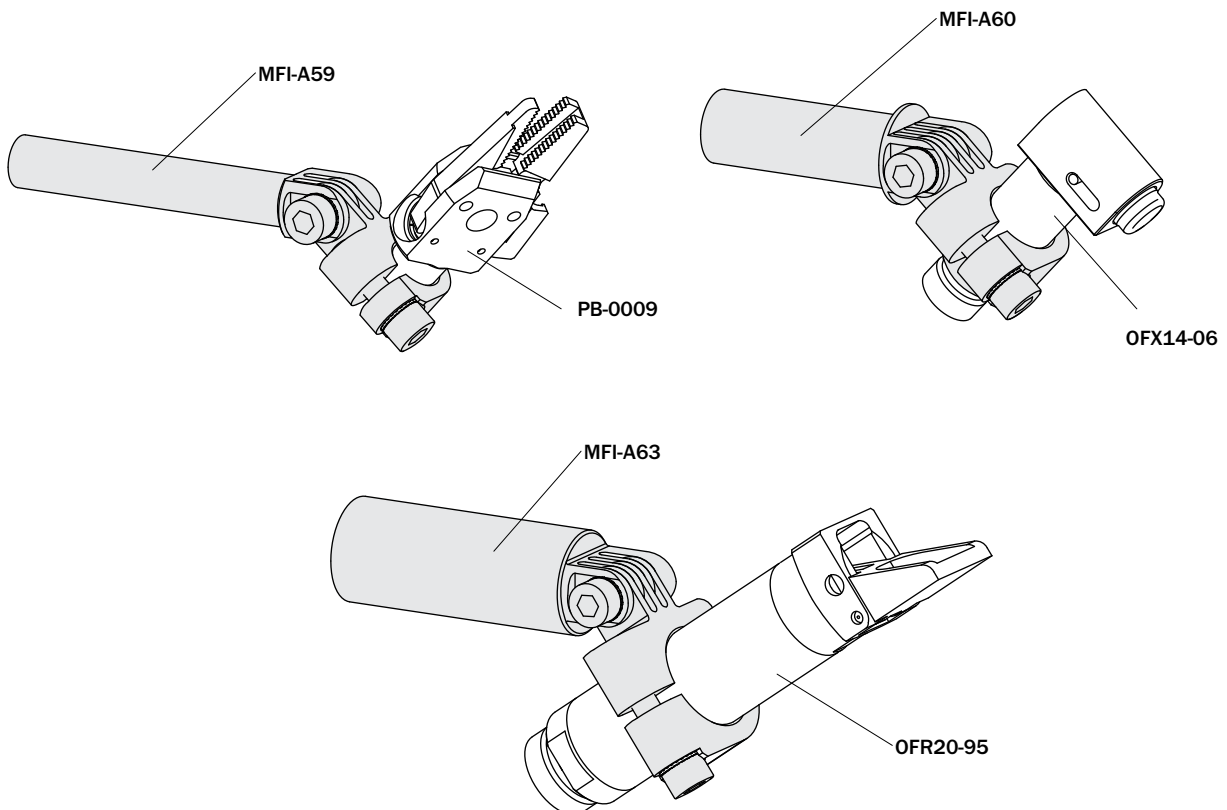
**Elbow arm**

(kit with screws)  
(material: aluminium)

|        | MFI-A59 | MFI-A60 | MFI-A61 | MFI-A62 | MFI-A63 | MFI-A64 | MFI-A65 | MFI-A167 | MFI-A168 | MFI-A169 |
|--------|---------|---------|---------|---------|---------|---------|---------|----------|----------|----------|
| A [mm] | Ø10     | Ø14     | Ø14     | Ø14     | Ø20     | Ø20     | Ø20     | Ø30      | Ø30      | Ø30      |
| B [mm] | Ø10     | Ø14     | Ø14     | Ø14     | Ø20     | Ø20     | Ø20     | Ø30      | Ø30      | Ø30      |
| C [mm] | 11      | 11      | 11      | 11      | 11      | 11      | 11      | 16       | 16       | 16       |
| D [mm] | 60      | 40      | 80      | 120     | 50      | 100     | 150     | 80       | 140      | 200      |
| E [mm] | 12.5    | 15      | 15      | 15      | 18.5    | 18.5    | 18.5    | 24.7     | 24.7     | 24.7     |
| F [mm] | 99.5    | 82.5    | 124     | 164     | 100     | 150     | 200     | 146      | 206      | 266      |
| G [mm] | 18.5    | 19      | 19      | 19      | 23      | 23      | 23      | 31       | 31       | 31       |
| Weight | 33 g    | 43 g    | 60 g    | 77 g    | 75 g    | 117 g   | 160 g   | 230 g    | 344.5 g  | 459 g    |



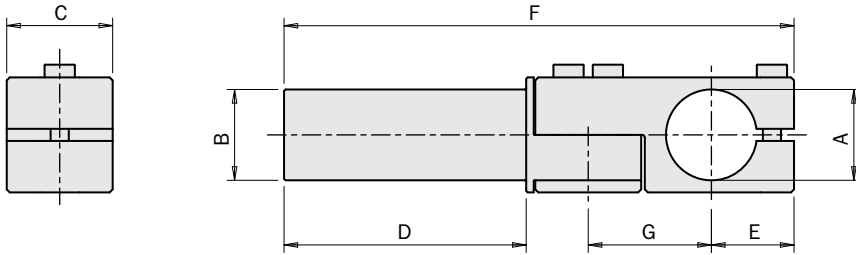
**Application example**



**Heavy duty elbow arm**

(kit with screws)  
(material: aluminium)

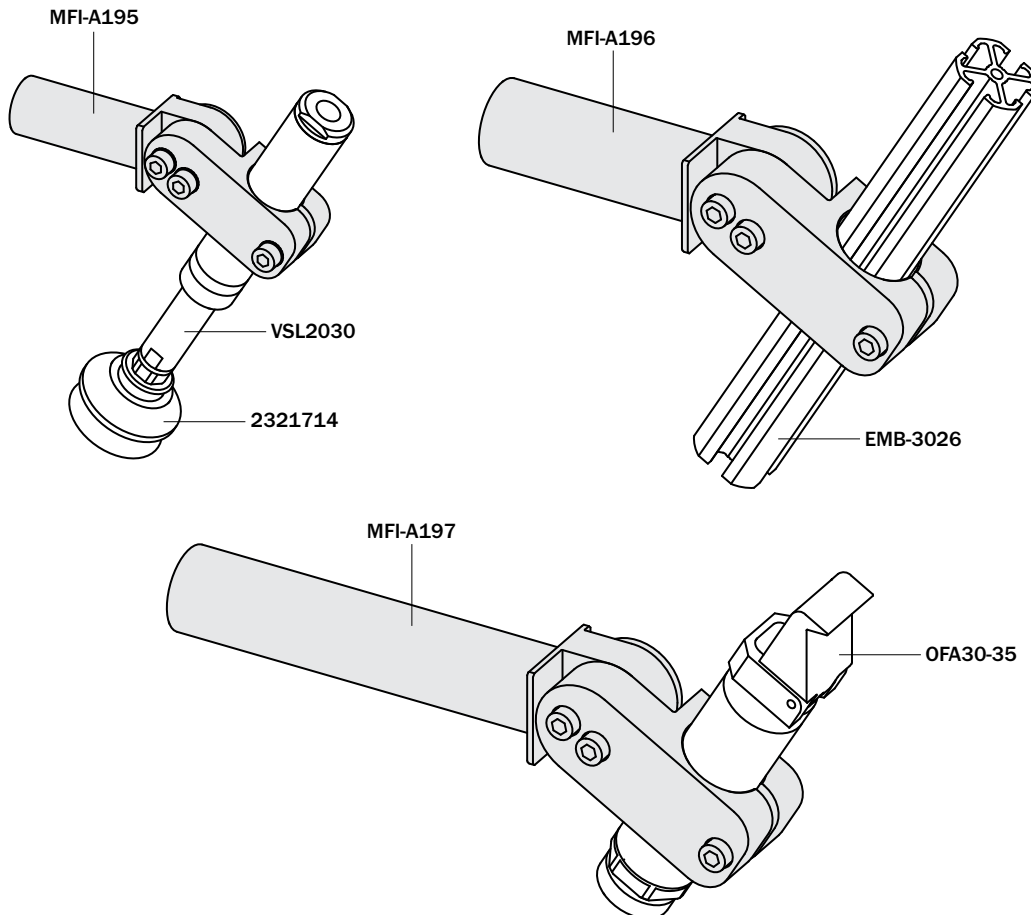
|        |      | MFI-A195 | MFI-A199 | MFI-A200 | MFI-A196 | MFI-A197 | MFI-A198 |
|--------|------|----------|----------|----------|----------|----------|----------|
| A      | [mm] | Ø20      | Ø20      | Ø20      | Ø30      | Ø30      | Ø30      |
| B      | [mm] | Ø20      | Ø20      | Ø20      | Ø30      | Ø30      | Ø30      |
| C      | [mm] | 25       | 25       | 25       | 35       | 35       | 35       |
| D      | [mm] | 50       | 100      | 150      | 80       | 140      | 200      |
| E      | [mm] | 19.5     | 19.5     | 19.5     | 27.3     | 27.3     | 27.3     |
| F      | [mm] | 113.5    | 163.5    | 213.5    | 168.5    | 228.5    | 288.5    |
| G      | [mm] | 28.7     | 28.7     | 28.7     | 40.7     | 40.7     | 40.7     |
| Weight |      | 132.5 g  | 175 g    | 217 g    | 393.5 g  | 482.5 g  | 597 g    |



FIRST ANGLE PROJECTION



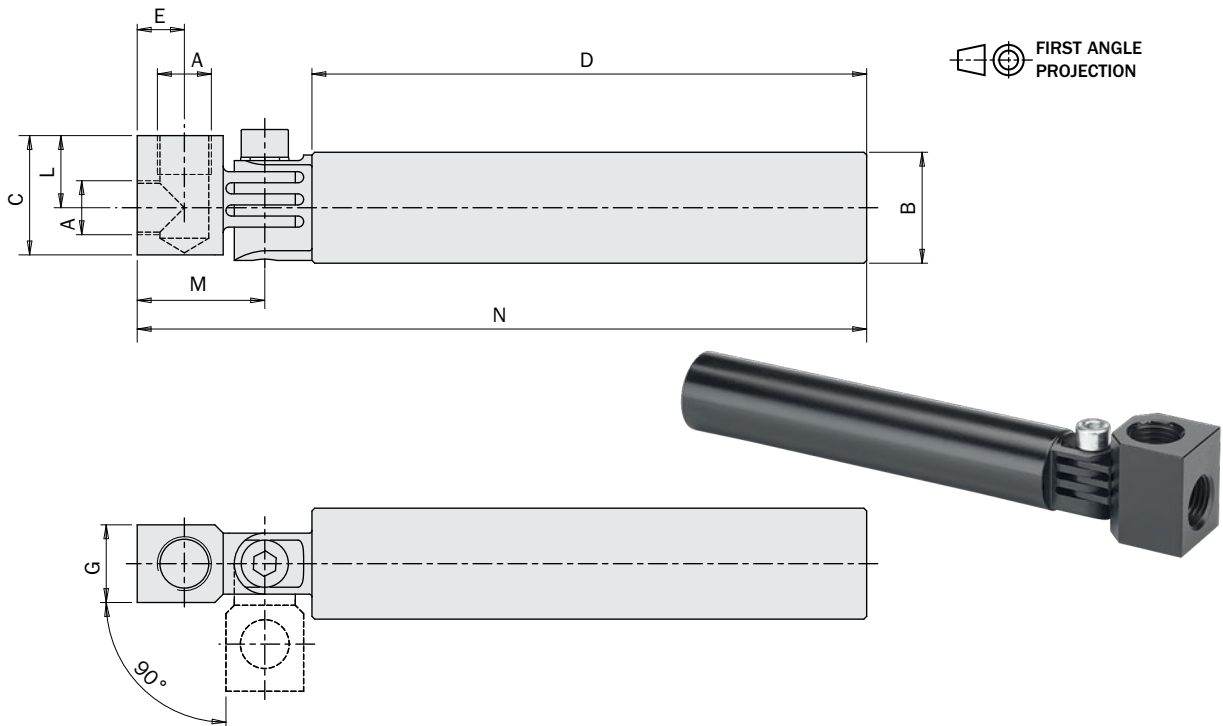
**Application example**



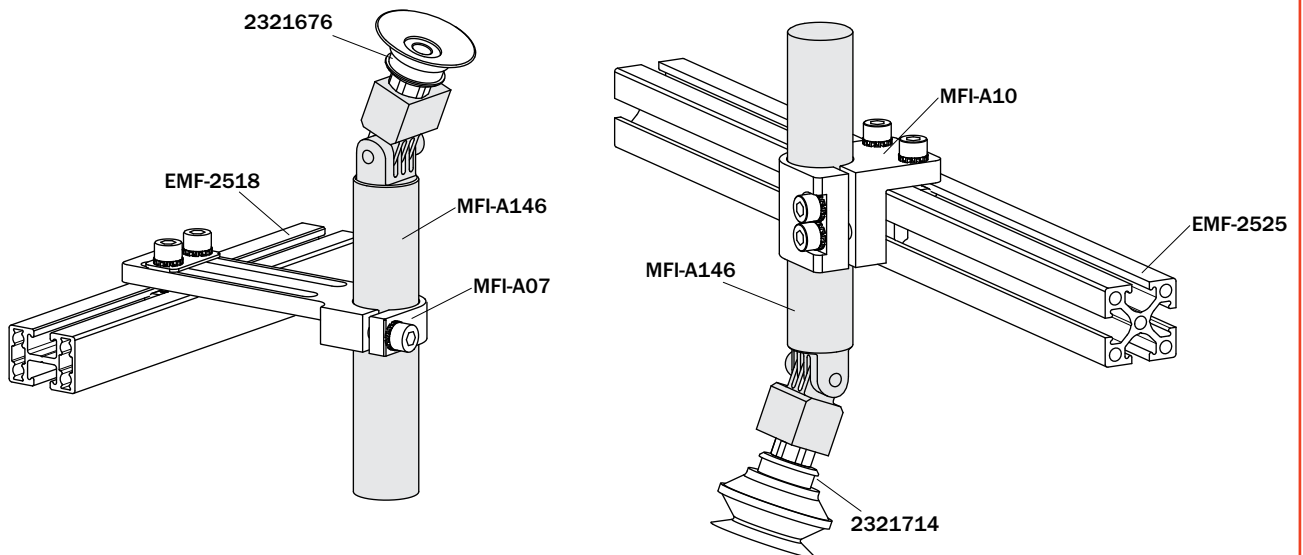
**Elbow arm for vacuum cup**

(kit with screws)  
(material: aluminium)

|  | A      | B<br>[mm] | C<br>[mm] | D<br>[mm] | E<br>[mm] | G<br>[mm] | L<br>[mm] | M<br>[mm] | N<br>[mm] | Weight  |
|--|--------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|
| <b>MFI-A142</b>  | M5     | Ø10       | 16        | 60        | 5.5       | 12        | 8.5       | 18        | 86.5      | 27 g    |
| <b>MFI-A143</b>  | M5     | Ø10       | 16        | 90        | 5.5       | 12        | 8.5       | 18        | 116.5     | 33 g    |
| <b>MFI-A144</b>  | G1/8"  | Ø14       | 21.5      | 80        | 8.5       | 14        | 13        | 23        | 113       | 54 g    |
| <b>MFI-A145</b>  | G1/8"  | Ø14       | 21.5      | 120       | 8.5       | 14        | 13        | 23        | 153       | 71 g    |
| <b>MFI-A146</b>  | G1/8"  | Ø20       | 21.5      | 100       | 8.5       | 14        | 13        | 23        | 131.5     | 104.5 g |
| <b>MFI-A147</b>  | G1/8"  | Ø20       | 21.5      | 150       | 8.5       | 14        | 13        | 23        | 181.5     | 147 g   |
| <b>MFI-A148</b>  | G1/4"  | Ø20       | 26        | 100       | 12        | 20        | 15.5      | 28.5      | 137       | 115.6 g |
| <b>MFI-A149</b>  | G1/4"  | Ø20       | 26        | 150       | 12        | 20        | 15.5      | 28.5      | 187       | 158 g   |
| <b>MFI-A507</b> <span style="background-color: #f00; color: white; padding: 2px;">NEW</span> | G 3/8" | Ø30       | 34        | 200       | 21        | 24        | 19.5      | 42.5      | 253       | 450 g   |



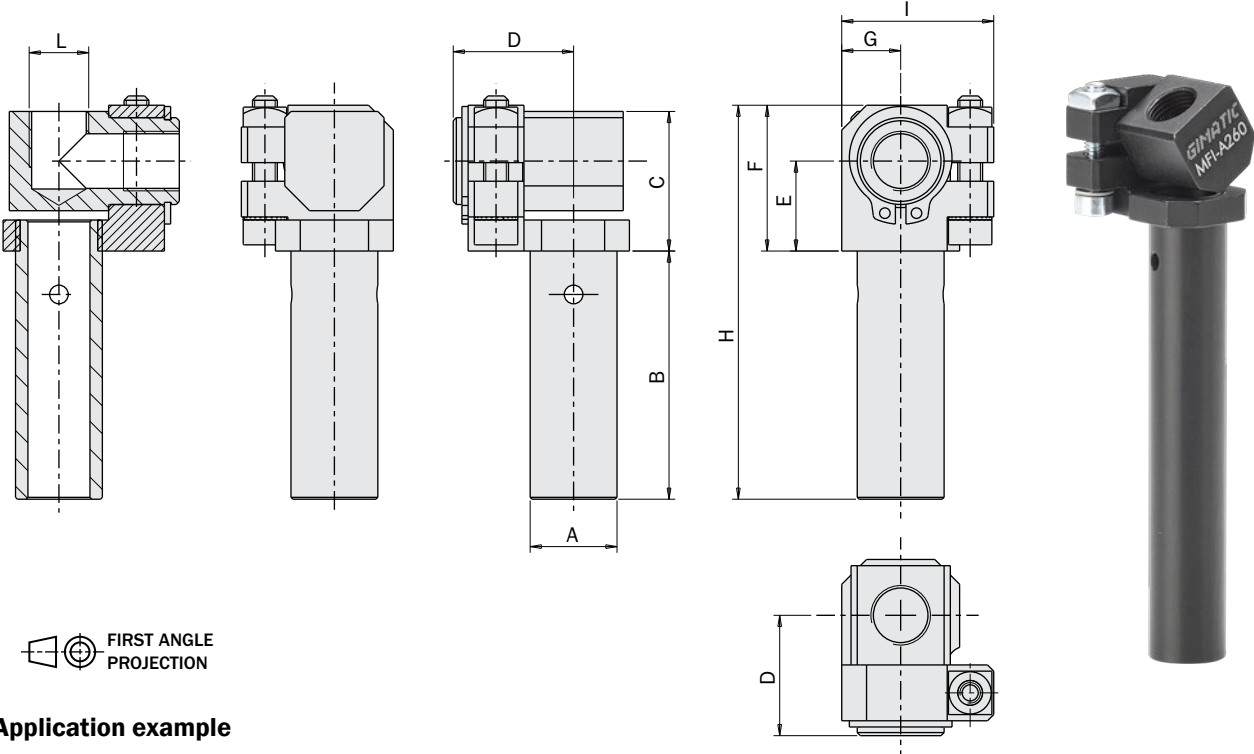
**Application example**



**Elbow arm for vacuum cup clamping**

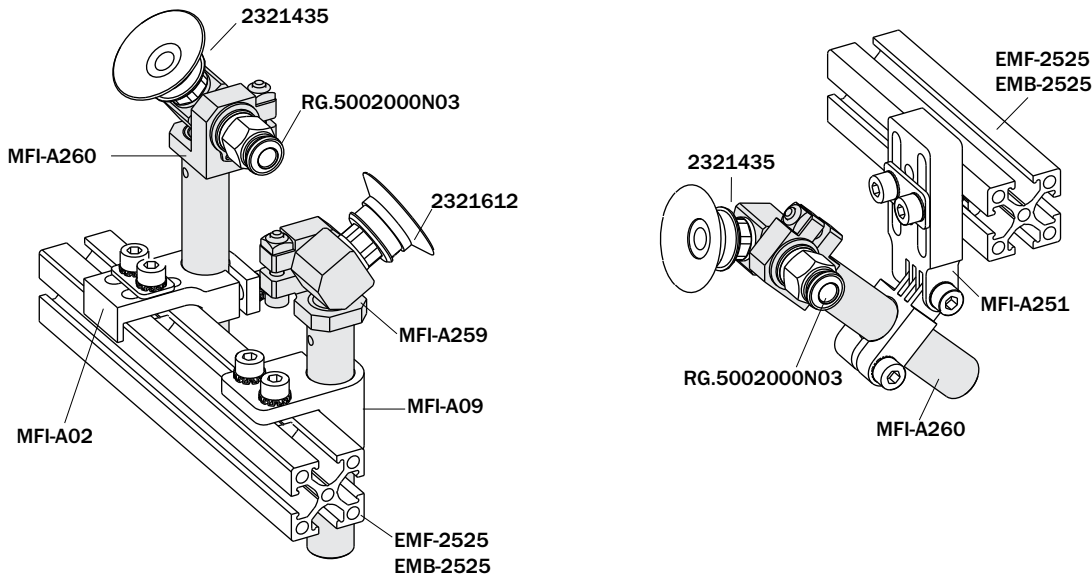
(kit with screws)  
(material: aluminium)

|                 | A<br>[mm] | B<br>[mm] | C<br>[mm] | D<br>[mm] | E<br>[mm] | F<br>[mm] | G<br>[mm] | H<br>[mm] | I<br>[mm] | L<br>[mm] | Weight |
|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------|
| <b>MFI-A256</b> | Ø10       | 30        | 17        | 14.5      | 11        | 18        | 7         | 48        | 18.5      | M5        | 14 g   |
| <b>MFI-A257</b> | Ø10       | 60        | 17        | 14.5      | 11        | 18        | 7         | 78        | 18.5      | M5        | 17 g   |
| <b>MFI-A258</b> | Ø10       | 90        | 17        | 14.5      | 11        | 18        | 7         | 108       | 18.5      | M5        | 20 g   |
| <b>MFI-A259</b> | Ø14       | 40        | 22.5      | 19.4      | 14.5      | 23.5      | 9.5       | 63.5      | 24.5      | G1/8"     | 32 g   |
| <b>MFI-A260</b> | Ø14       | 80        | 22.5      | 19.4      | 14.5      | 23.5      | 9.5       | 103.5     | 24.5      | G1/8"     | 40 g   |
| <b>MFI-A261</b> | Ø14       | 120       | 22.5      | 19.4      | 14.5      | 23.5      | 9.5       | 143.5     | 24.5      | G1/8"     | 48 g   |
| <b>MFI-A290</b> | Ø20       | 50        | 28        | 23.3      | 18        | 30        | 12        | 80        | 33        | G1/8"     | 63 g   |
| <b>MFI-A291</b> | Ø20       | 100       | 28        | 23.3      | 18        | 30        | 12        | 130       | 33        | G1/8"     | 78 g   |
| <b>MFI-A292</b> | Ø20       | 150       | 28        | 23.3      | 18        | 30        | 12        | 180       | 33        | G1/8"     | 93 g   |
| <b>MFI-A262</b> | Ø20       | 50        | 30.5      | 23.3      | 18        | 30        | 12        | 80        | 30        | G1/4"     | 58 g   |
| <b>MFI-A263</b> | Ø20       | 100       | 30.5      | 23.3      | 18        | 30        | 12        | 130       | 30        | G1/4"     | 73 g   |
| <b>MFI-A264</b> | Ø20       | 150       | 30.5      | 23.3      | 18        | 30        | 12        | 180       | 30        | G1/4"     | 88 g   |



FIRST ANGLE PROJECTION

**Application example**





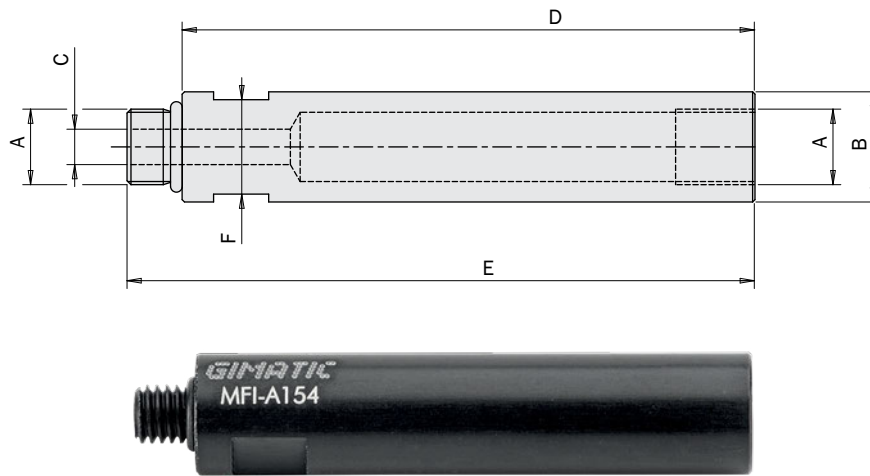
**Extension tube with air lead**

(material: aluminium)

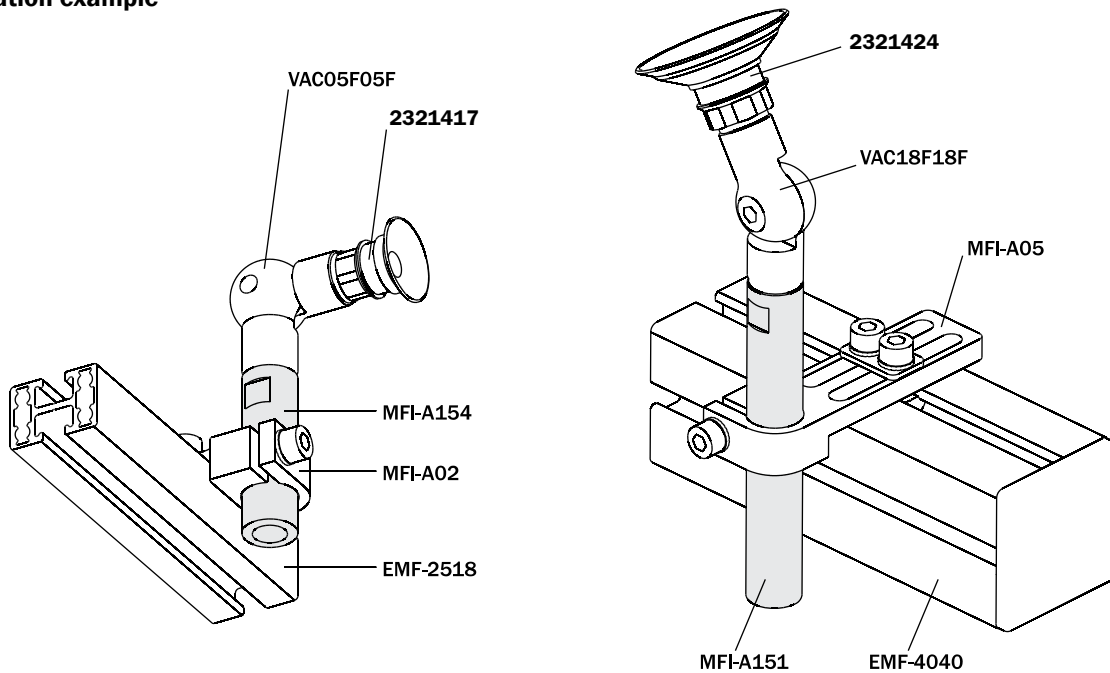
**NEW**

|        | MFI-A154 | MFI-A155 | MFI-A150 | MFI-A151 | MFI-A152 | MFI-A153 | MFI-A506 |
|--------|----------|----------|----------|----------|----------|----------|----------|
| A [mm] | M5       | M5       | G1/8"    | G1/8"    | G1/4"    | G1/4"    | G 3/8"   |
| B [mm] | Ø10      | Ø10      | Ø14      | Ø14      | Ø20      | Ø20      | Ø30      |
| C [mm] | Ø2       | Ø2       | Ø4.5     | Ø4.5     | Ø6.5     | Ø6.5     | Ø10      |
| D [mm] | 45       | 90       | 45       | 90       | 45       | 90       | 150      |
| E [mm] | 50       | 95       | 52       | 97       | 53       | 98       | 159      |
| F [mm] | 8        | 8        | 12       | 12       | 17       | 17       | 22       |
| Weight | 10 g     | 15 g     | 15 g     | 25 g     | 30 g     | 55 g     | 210 g    |

FIRST ANGLE PROJECTION



**Application example**



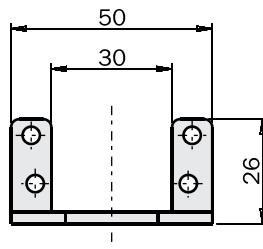
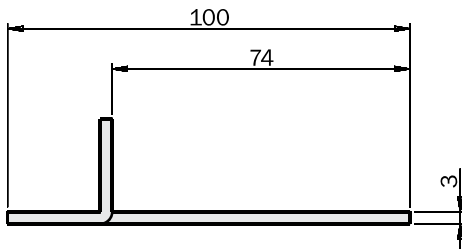
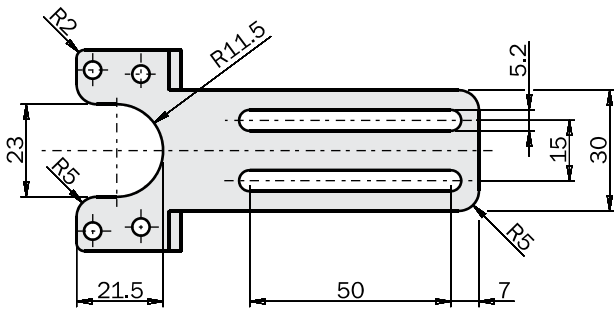
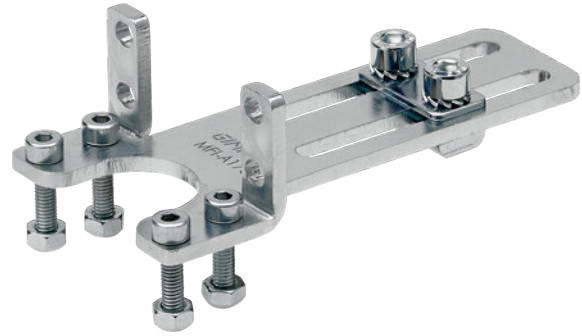
**OFF20 gripper mounting bracket, to use with profile**

(kit with screws)  
(material: steel)

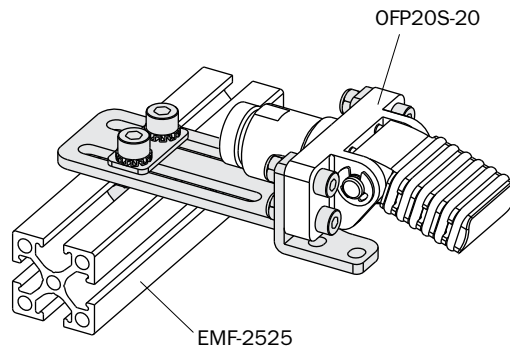
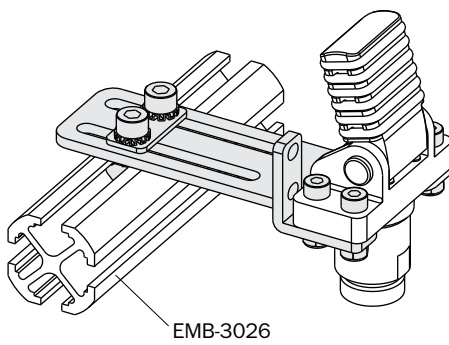
**MFI-A176**

Weight 95 g

FIRST ANGLE PROJECTION

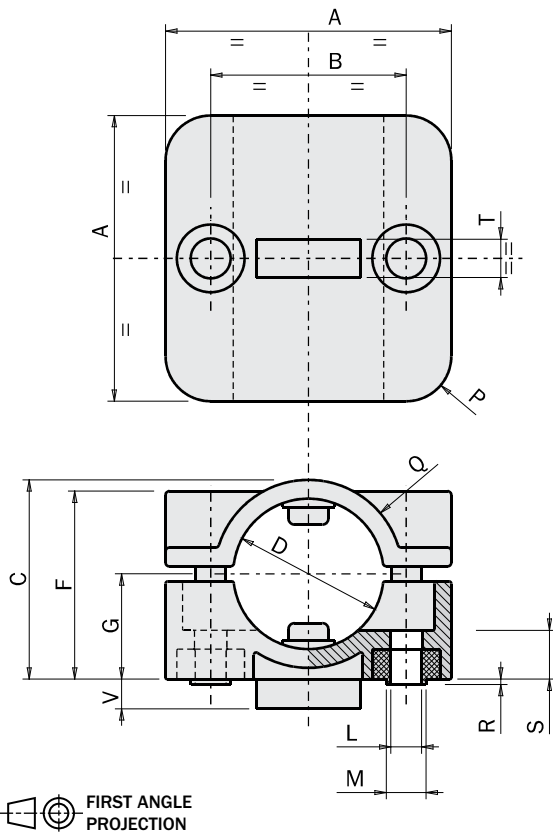


**Application example**



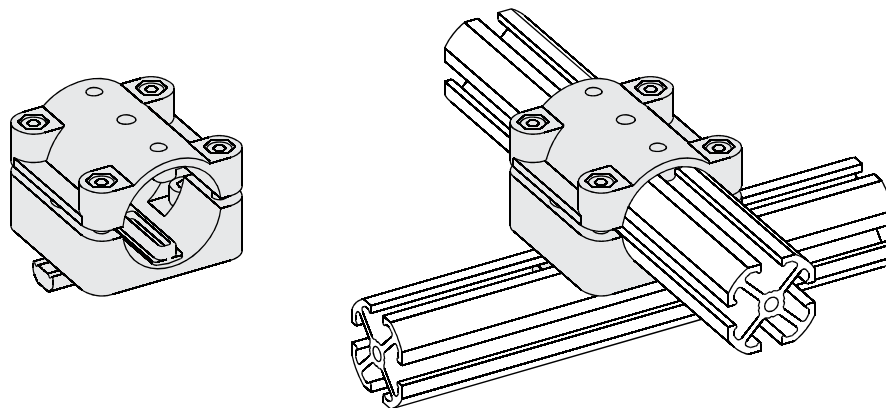
**Locking kit in technopolymer for extruded profile**

(kit with screws)  
(material: PA66)



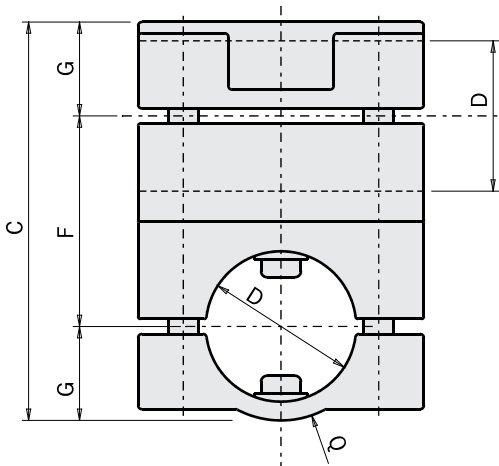
|        | MFI-A188 | MFI-A189 |
|--------|----------|----------|
| A [mm] | 38       | 48       |
| B [mm] | 26       | 36       |
| C [mm] | 26.5     | 36.5     |
| D [mm] | Ø20      | Ø30      |
| F [mm] | 25       | 32       |
| G [mm] | 14       | 18.5     |
| L [mm] | Ø4.1     | Ø5.1     |
| M [mm] | Ø5.3     | Ø6.4     |
| P [mm] | 6        | 6        |
| Q [mm] | 12.5     | 12.5     |
| R [mm] | 0.7      | 1        |
| S [mm] | 6.5      | 6.5      |
| T [mm] | -        | -        |
| V [mm] | -        | -        |
| Weight | 48 g     | 77 g     |

**Application example**

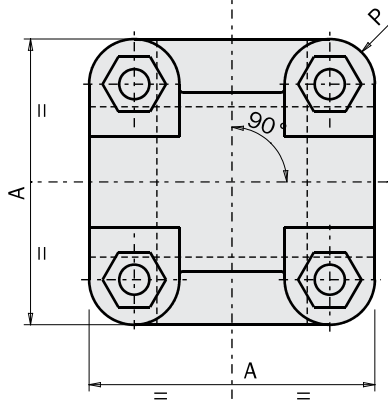


**Locking kit in technopolymer for double extruded profile**

(kit with screws)  
(material: PA66)

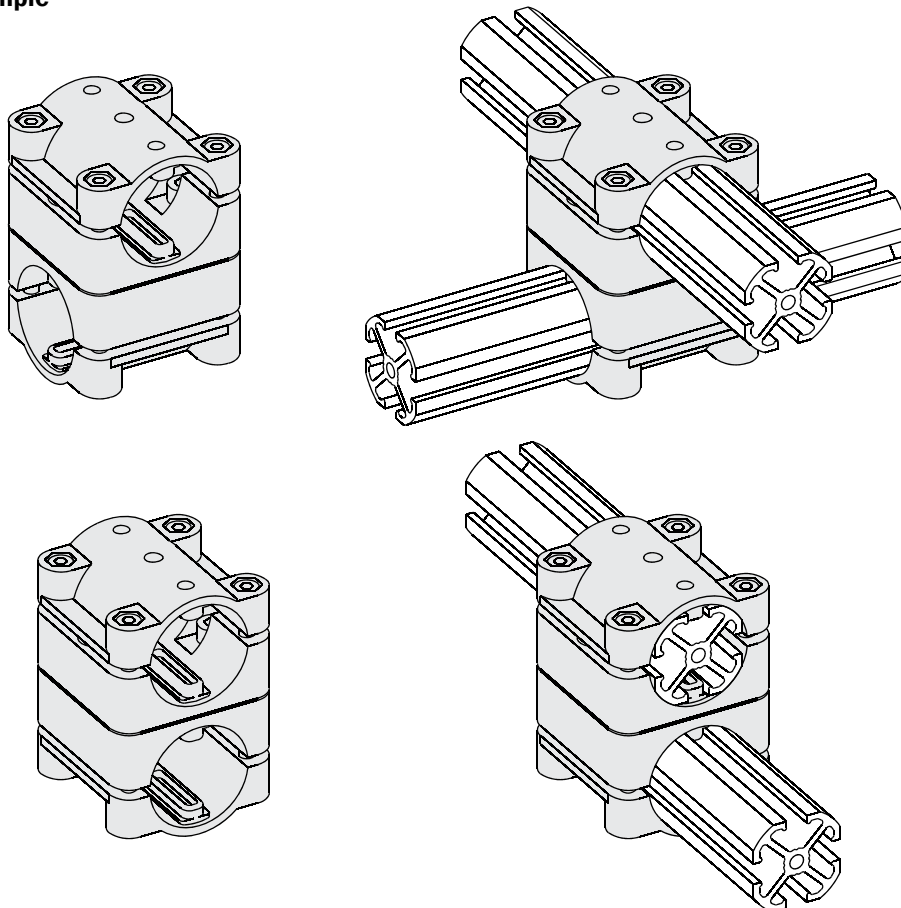


|        | MFI-A191 | MFI-A192 |
|--------|----------|----------|
| A [mm] | 38       | 48       |
| C [mm] | 53       | 73       |
| D [mm] | Ø20      | Ø30      |
| F [mm] | 28       | 37       |
| G [mm] | 12.5     | 18       |
| P [mm] | 6        | 6        |
| Q [mm] | 12.5     | 18       |
| Weight | 77 g     | 122 g    |



FIRST ANGLE PROJECTION

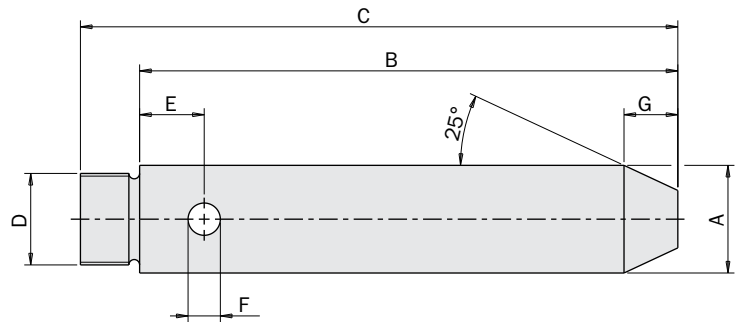
**Application example**



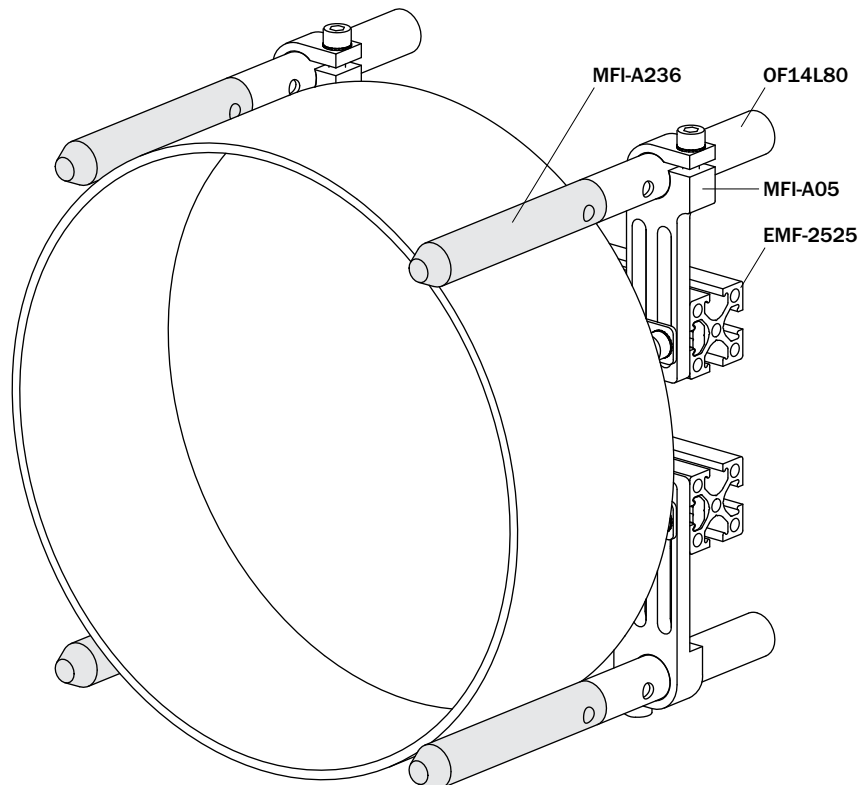
**Threaded centering pin**

(material: POM)

|        | MFI-A235 | MFI-A236 | MFI-A237 | MFI-A238 |
|--------|----------|----------|----------|----------|
| A [mm] | Ø10      | Ø14      | Ø20      | Ø30      |
| B [mm] | 60       | 80       | 100      | 100      |
| C [mm] | 68       | 88       | 111      | 113      |
| D [mm] | M8x1     | M12x1    | M17x1    | M27x1    |
| E [mm] | 6        | 8        | 12       | 15       |
| F [mm] | Ø3.5     | Ø5       | Ø6       | Ø8       |
| G [mm] | 5        | 7        | 10       | 14       |
| Weight | 7 g      | 20 g     | 45 g     | 104 g    |



**Application example**

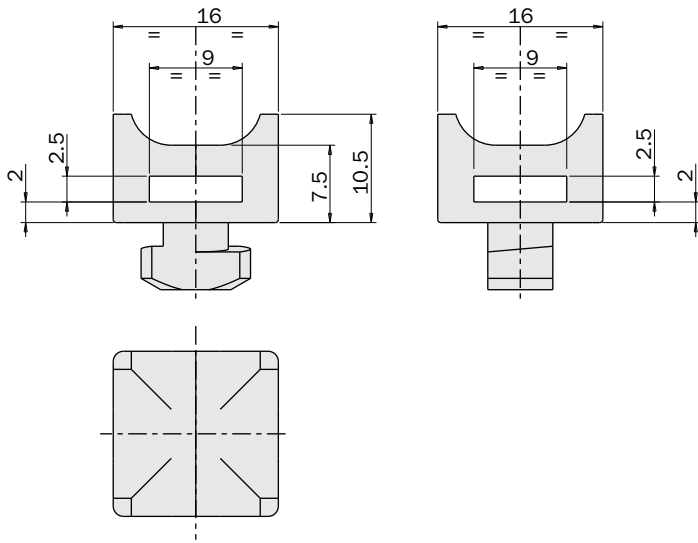


**Hose mounting bracket**

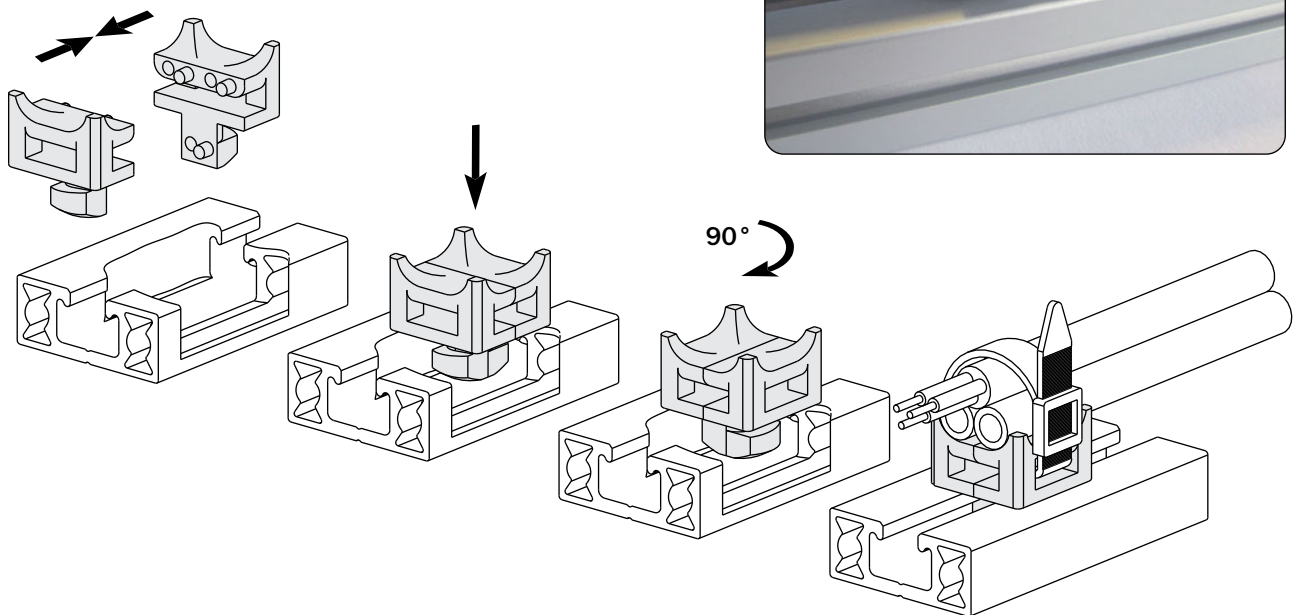
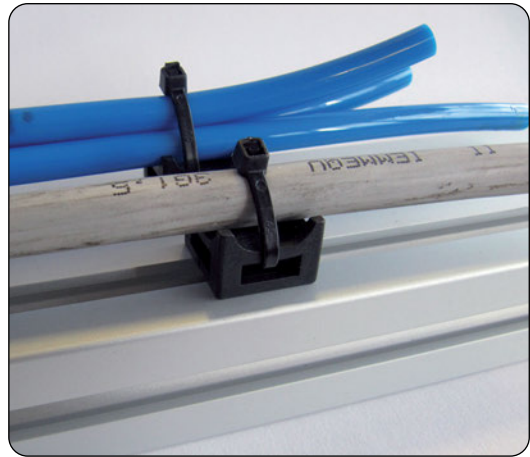
(10 pieces package)  
(material: PA66)

**MFI-A239**

Weight 20 g

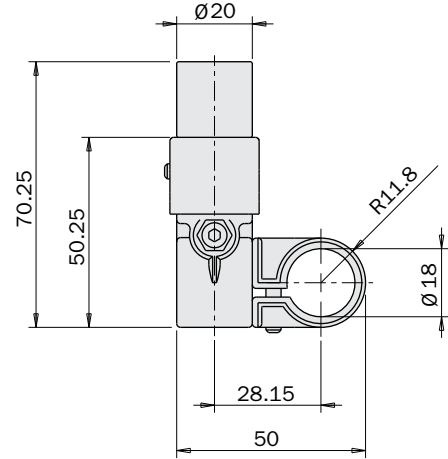
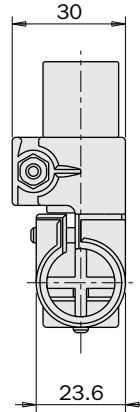
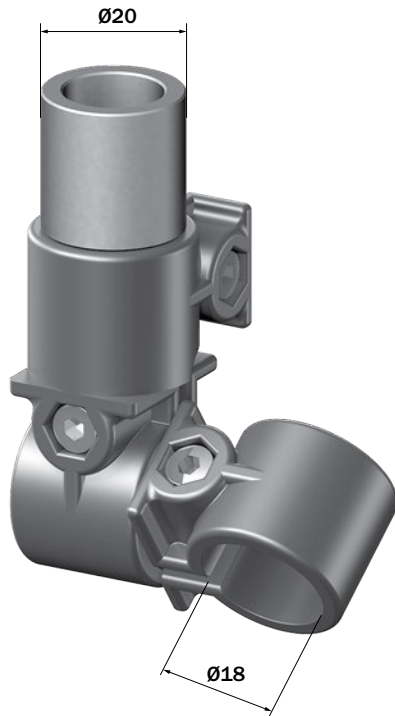


**Application example**



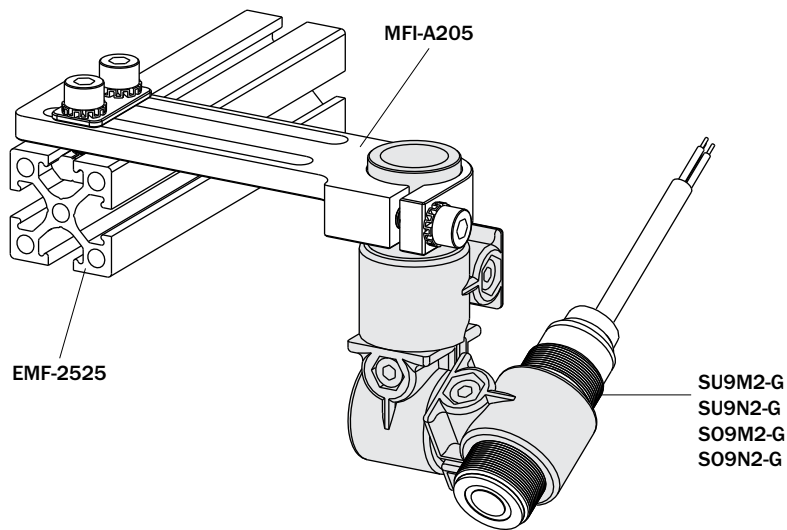
**Sensor holder Ø18**

(material: PA66 and aluminium)



|        |                 |
|--------|-----------------|
|        | <b>MFI-A310</b> |
| Weight | 47 g            |

**Application example**

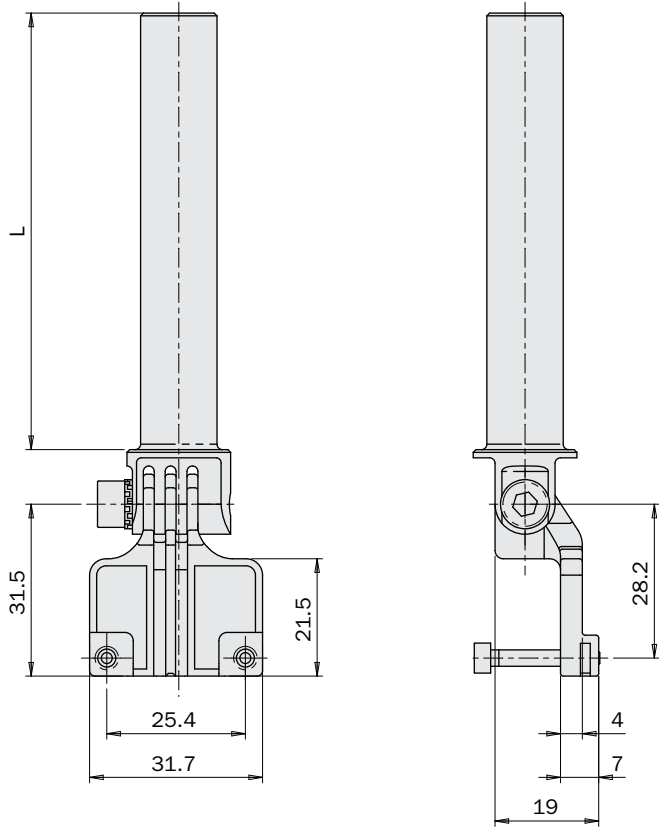


**Mounting bracket for optical sensors**

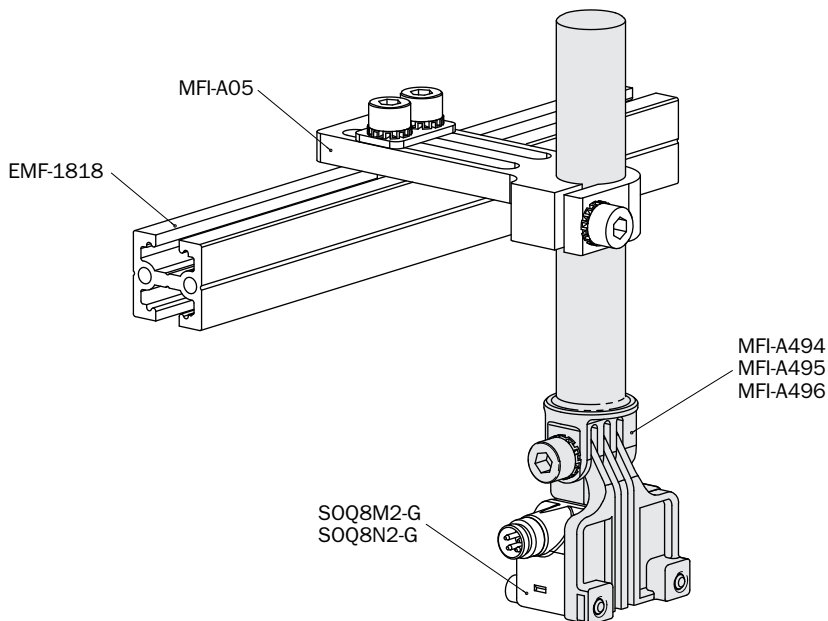
(kit with screws)



|        | MFI-A494 | MFI-A495 | MFI-A496 |
|--------|----------|----------|----------|
| L [mm] | 40       | 80       | 120      |
| Weight | 41 g     | 58 g     | 75 g     |



**Application example**

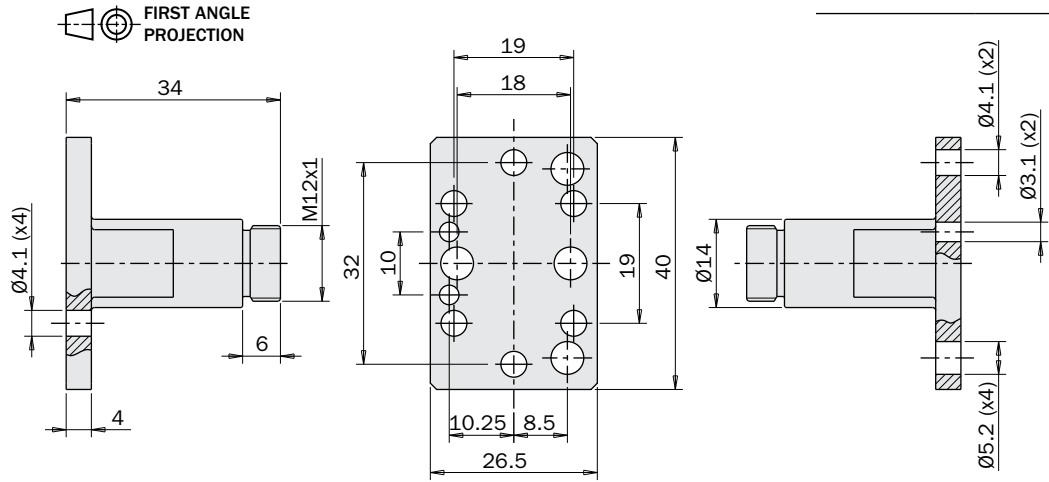




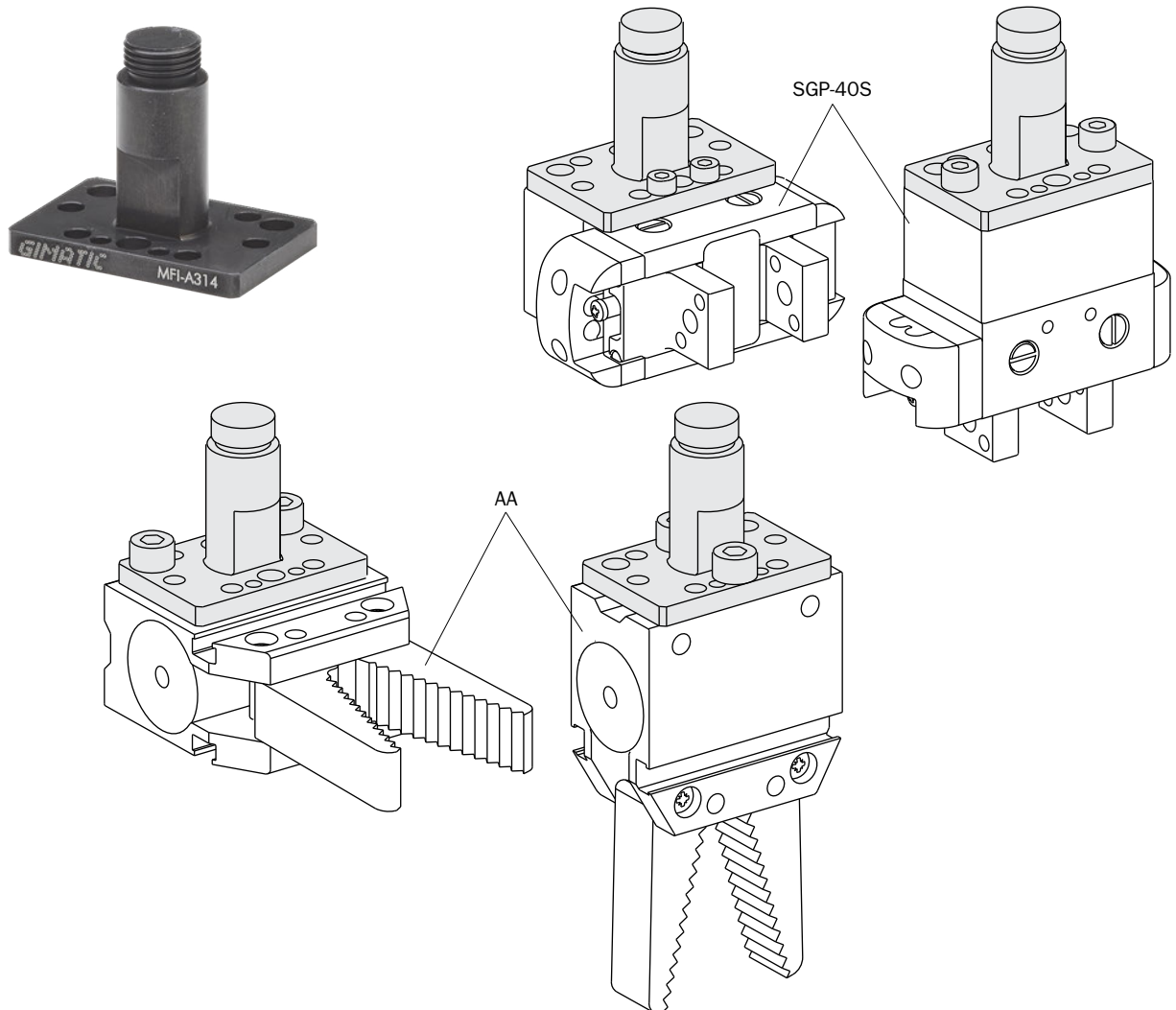
**Gripper mounting bracket**

(kit with screws)  
(material: aluminium)

|        |                 |
|--------|-----------------|
|        | <b>MFI-A314</b> |
| for    | AA / SGP-40S    |
| Weight | 25 g            |



**Application example**



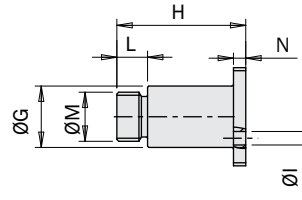
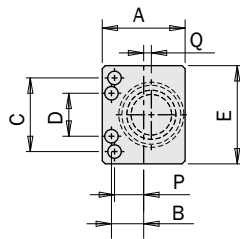
**Gripper mounting bracket**

(kit with screws)  
(material: aluminium)

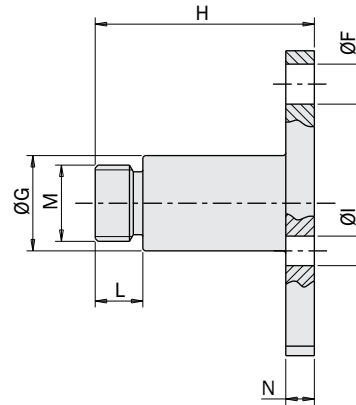
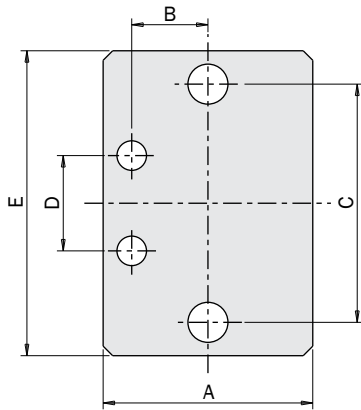


|        | MFI-A502 | MFI-A317 | MFI-A316 | MFI-A315 | MFI-A503 |
|--------|----------|----------|----------|----------|----------|
| for    | SGP-16S  | SGP-20S  | SGP-25S  | SGP-32S  | SGP-50S  |
| A [mm] | 13.5     | 16       | 18       | 22       | 30       |
| B [mm] | 5.25     | 5.5      | 6        | 8        | /        |
| C [mm] | 12       | 15       | 20       | 25       | 40       |
| D [mm] | 7        | 8        | 10       | 10       | /        |
| E [mm] | 16       | 20       | 26       | 32       | 50       |
| F [mm] | /        | Ø2.6     | Ø3.1     | Ø4.2     | Ø5.2     |
| G [mm] | Ø10      | Ø10      | Ø10      | Ø10      | Ø20      |
| H [mm] | 21       | 21       | 22       | 23       | 39       |
| I [mm] | Ø2.2     | Ø2.6     | Ø3.1     | Ø3.1     | /        |
| L [mm] | 5        | 5        | 5        | 5        | 8        |
| M [mm] | M8x1     | M8x1     | M8x1     | M8x1     | M17x1    |
| N [mm] | 2        | 2        | 3        | 3        | 4        |
| P [mm] | 4.75     | /        | /        | /        | /        |
| Q [mm] | 1.25     | /        | /        | /        | /        |
| Weight | 4.67 g   | 11 g     | 9 g      | 7 g      | 43.25 g  |

**MFI-A502**

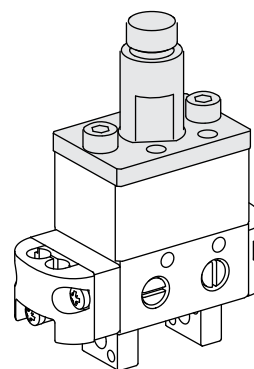
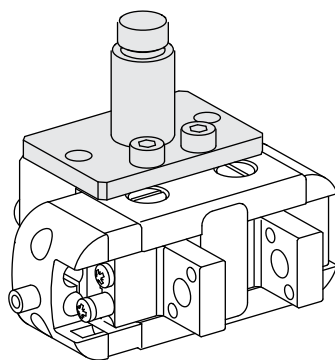


**MFI-A315  
MFI-A316  
MFI-A317  
MFI-A503**



**Application example**

FIRST ANGLE PROJECTION



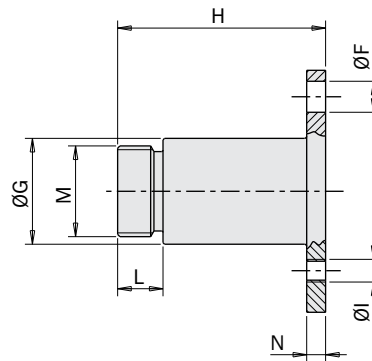
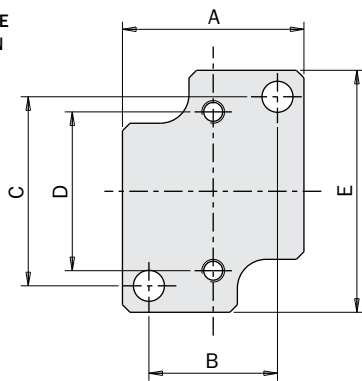
**Gripper mounting bracket**

(kit with screws)  
(material: aluminium)

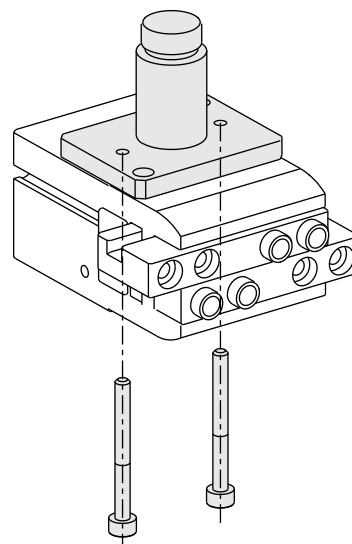
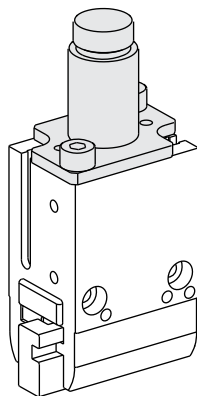


|        | MFI-A318 | MFI-A319 | MFI-A320 |
|--------|----------|----------|----------|
| for    | PQ1608   | PQ2012   | PQ2516   |
| A [mm] | 19.5     | 24       | 28       |
| B [mm] | 14       | 17       | 21       |
| C [mm] | 20       | 25       | 29       |
| D [mm] | 17       | 21       | 24       |
| E [mm] | 25.5     | 32       | 36       |
| F [mm] | Ø3.1     | Ø4.2     | Ø4.2     |
| G [mm] | Ø10      | Ø14      | Ø14      |
| H [mm] | 22       | 27.5     | 29       |
| I [mm] | M2.5     | M3       | M3       |
| L [mm] | 5        | 6        | 6        |
| M [mm] | M8x1     | M12x1    | M12x1    |
| N [mm] | 3        | 2.5      | 4        |
| Weight | 11 g     | 18 g     | 20 g     |

FIRST ANGLE PROJECTION



**Application example**

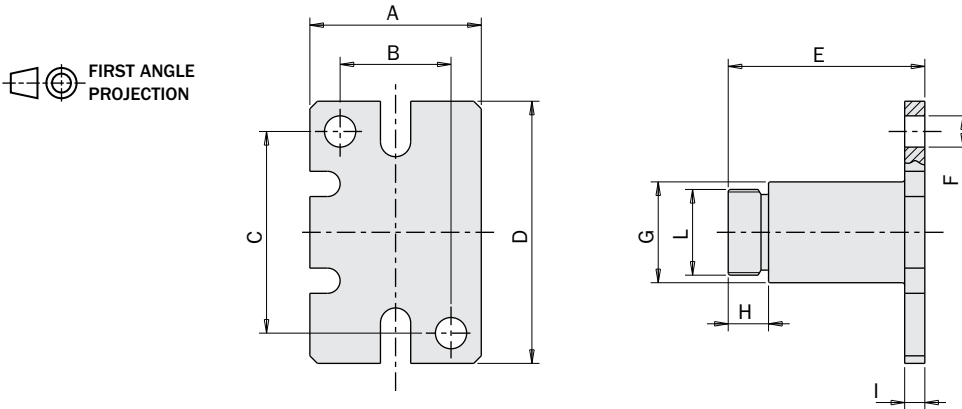


**Gripper mounting bracket**

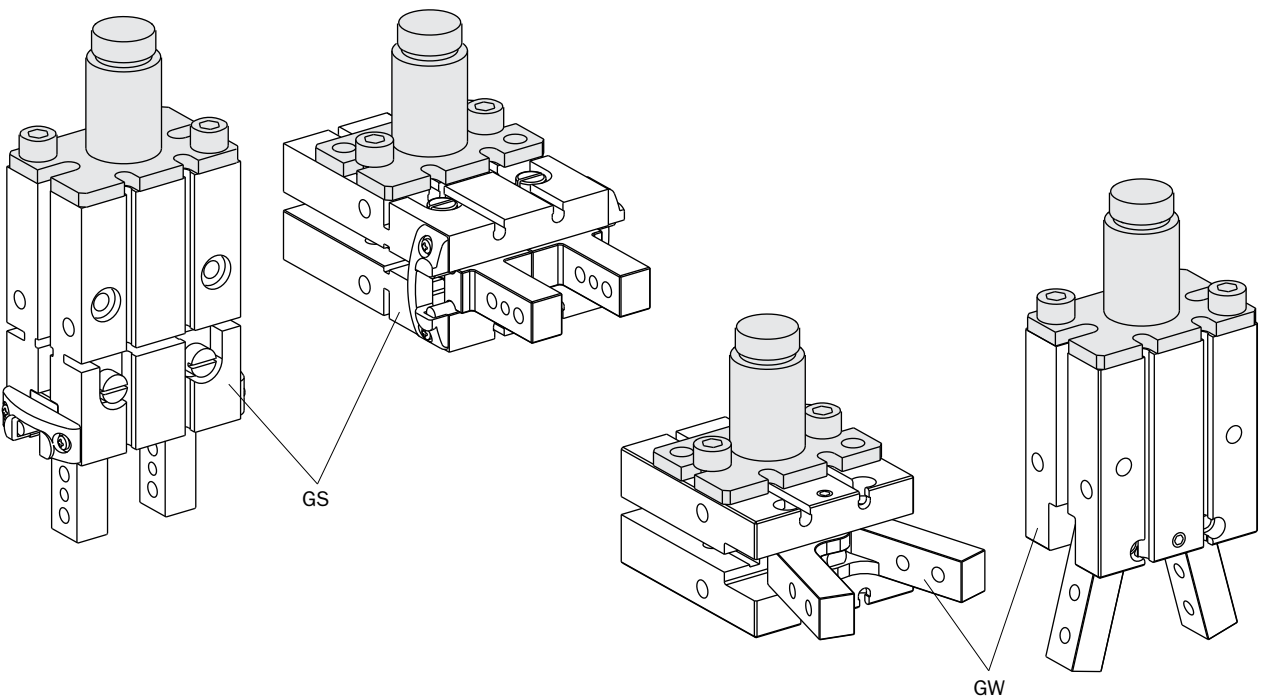
(kit with screws)  
(material: aluminium)



|        | MFI-A321      | MFI-A322      | MFI-A323      | MFI-A324      |
|--------|---------------|---------------|---------------|---------------|
| for    | GS-10 / GW-10 | GS-16 / GW-16 | GS-20 / GW-20 | GS-25 / GW-25 |
| A [mm] | 17.5          | 24            | 28            | 34            |
| B [mm] | 12            | 15            | 18            | 22            |
| C [mm] | 18            | 22            | 32            | 40            |
| D [mm] | 23.5          | 31            | 42            | 52            |
| E [mm] | 21            | 26.5          | 30            | 39            |
| F [mm] | Ø3.1          | Ø4.1          | Ø5.2          | Ø6.2          |
| G [mm] | Ø10           | Ø14           | Ø14           | Ø20           |
| H [mm] | 5             | 6             | 6             | 8             |
| I [mm] | 2             | 2.5           | 4             | 4             |
| L [mm] | M8x1          | M12x1         | M12x1         | M17x1         |
| Weight | 8 g           | 18 g          | 29 g          | 57 g          |

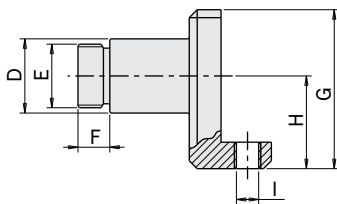


**Application example**



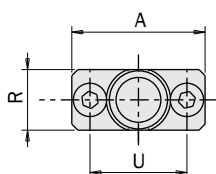
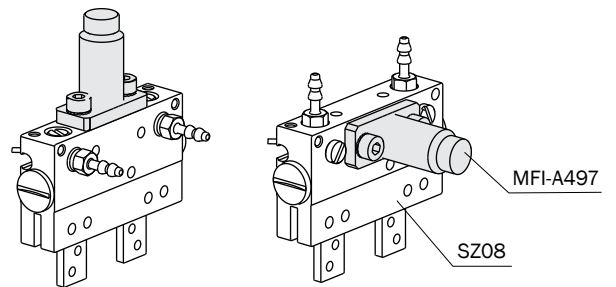
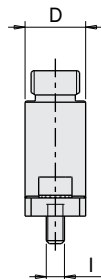
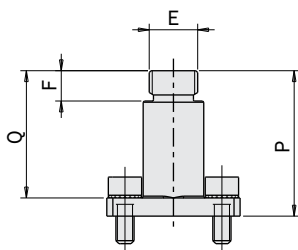
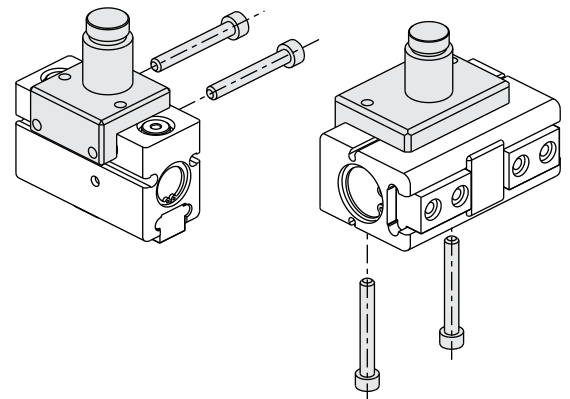
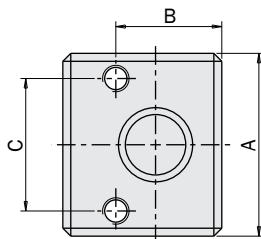
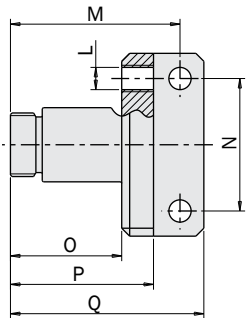
**Gripper mounting bracket**

(kit with screws)  
(material: aluminium)



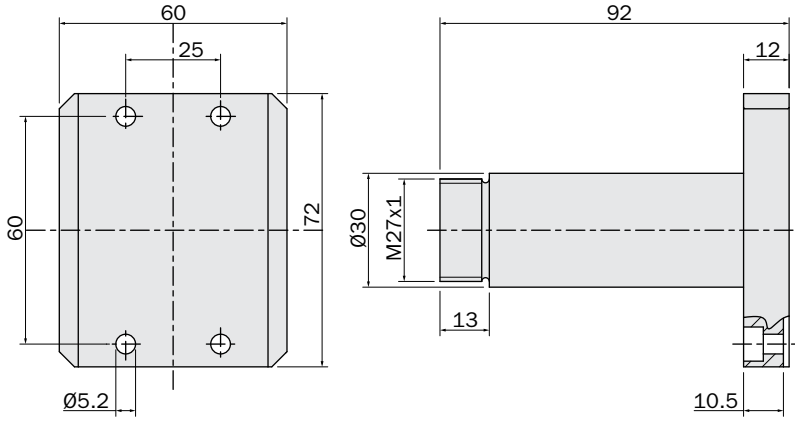
|        | MFI-A497 | MFI-A325 | MFI-A326 | MFI-A499 | MFI-A327 |
|--------|----------|----------|----------|----------|----------|
| for    | SZ08     | SZ12     | SZ16     | SZ20     | SZ25     |
| A [mm] | 22       | 29       | 34.5     | 50       | 62       |
| B [mm] | -        | 17       | 20       | 25       | 30       |
| C [mm] | 16       | 22       | 25       | 40       | 50       |
| D [mm] | Ø10      | Ø14      | Ø14      | Ø20      | Ø20      |
| E [mm] | M8x1     | M12x1    | M12x1    | M17x1    | M17x1    |
| F [mm] | 5        | 6        | 6        | 8        | 8        |
| G [mm] | -        | 28       | 30       | 38       | 45       |
| H [mm] | -        | 17       | 17.5     | 23       | 26.5     |
| I [mm] | M3       | M4       | M5       | M5       | M6       |
| L [mm] | -        | M4       | M5       | M5       | M6       |
| M [mm] | -        | 32       | 32       | 42       | 46       |
| N [mm] | -        | 22       | 25       | 40       | 50       |
| O [mm] | -        | 21       | 21       | 29       | 29       |
| P [mm] | 24       | 27       | 27       | 37       | 39       |
| Q [mm] | 21       | 35.5     | 36.5     | 49       | 52       |
| R [mm] | 10       | -        | -        | -        | -        |
| Weight | 8 g      | 33 g     | 41 g     | 90 g     | 140 g    |

FIRST ANGLE PROJECTION



**Interface for ZJ slide**

(kit with screws)  
(material: aluminium)

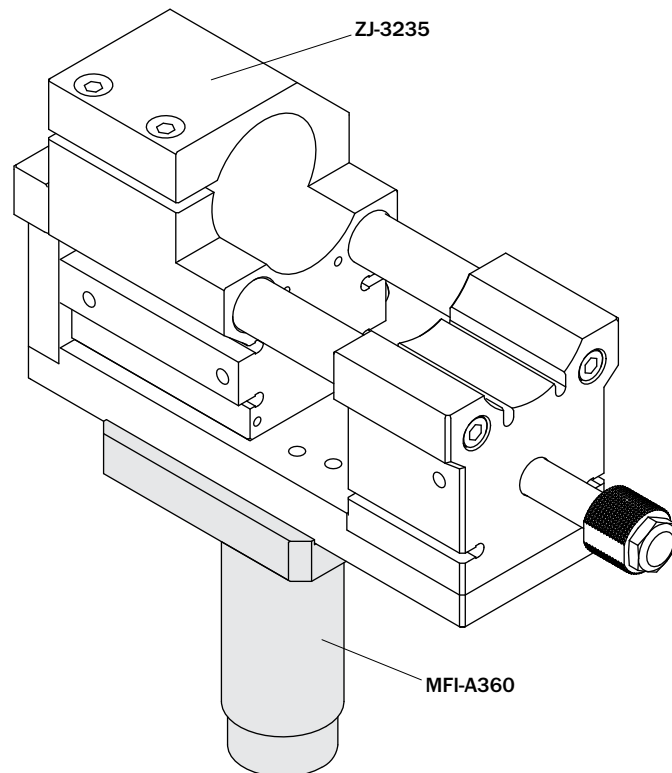


FIRST ANGLE PROJECTION

|        |                 |
|--------|-----------------|
|        | <b>MFI-A360</b> |
| for    | ZJ-3235         |
| Weight | 220 g           |

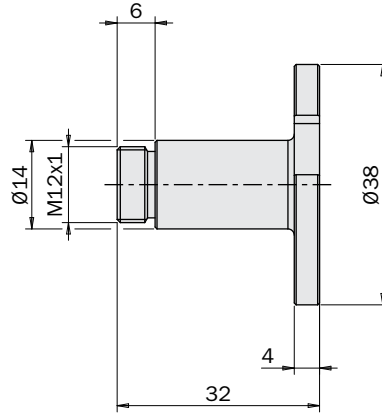
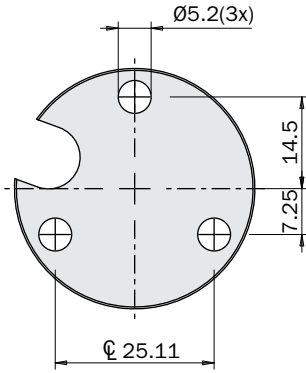


**Application example**



**Interface for TGP20**

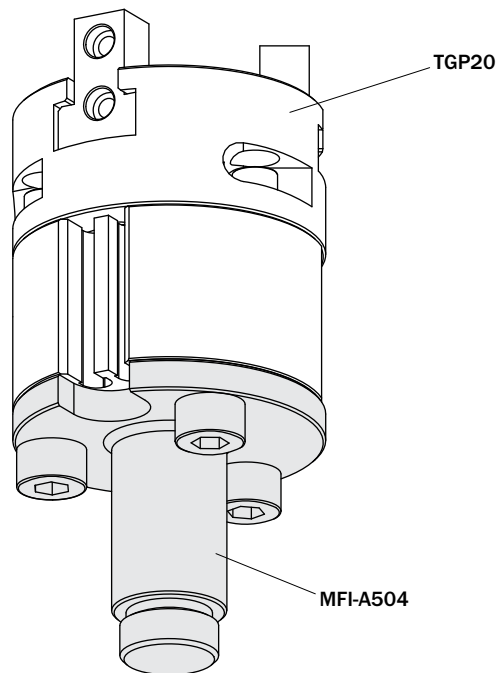
(kit with screws)  
(material: aluminium)



|        |                 |
|--------|-----------------|
|        | <b>MFI-A504</b> |
| for    | TGP20           |
| Weight | 32 g            |

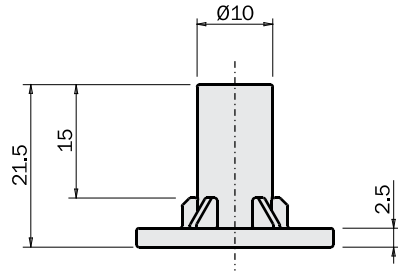
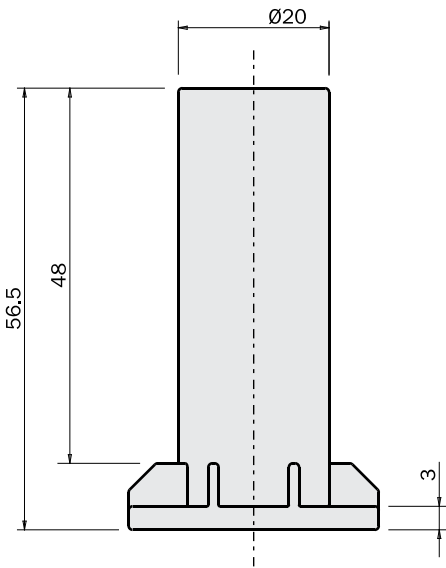
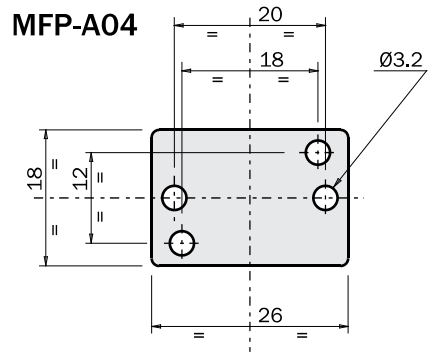
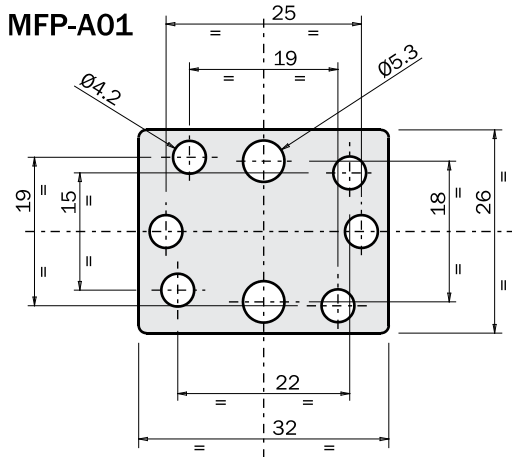


**Application example**



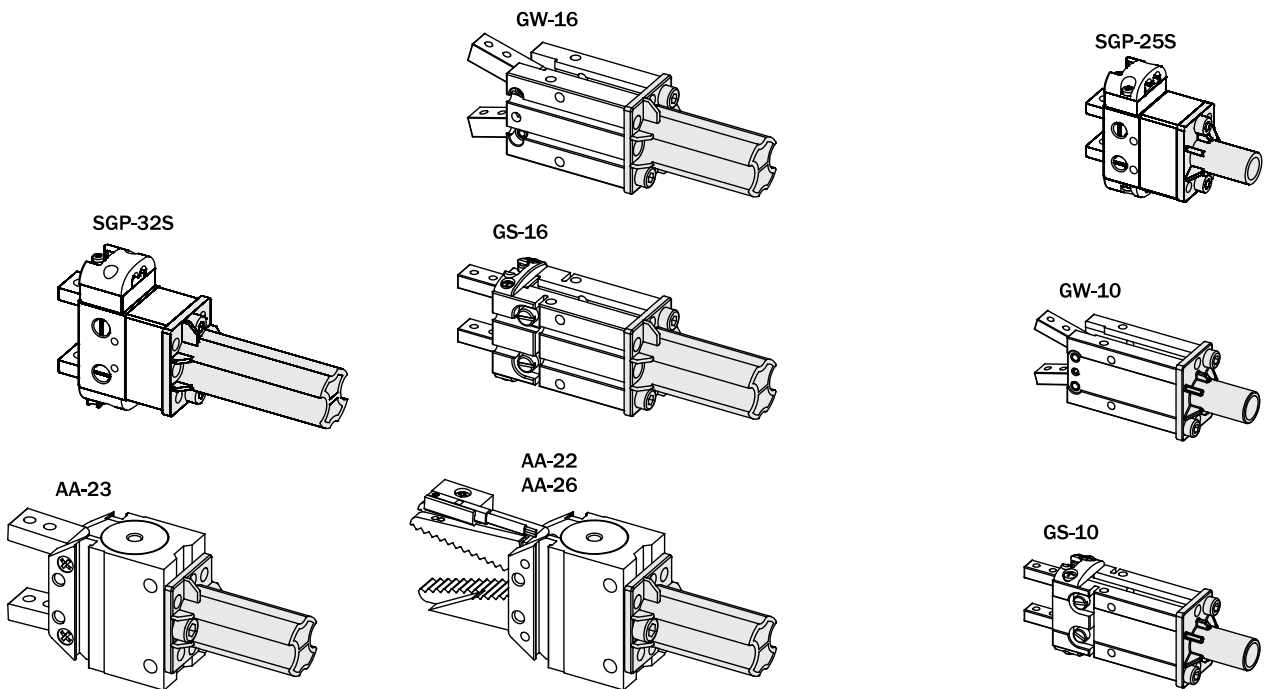
**Polymer mounting bracket for gripper**

(kit with screws)  
(material: PA66)



|        | MFP-A01 | MFP-A04 |
|--------|---------|---------|
| Weight | 26 g    | 5 g     |

**Application example**

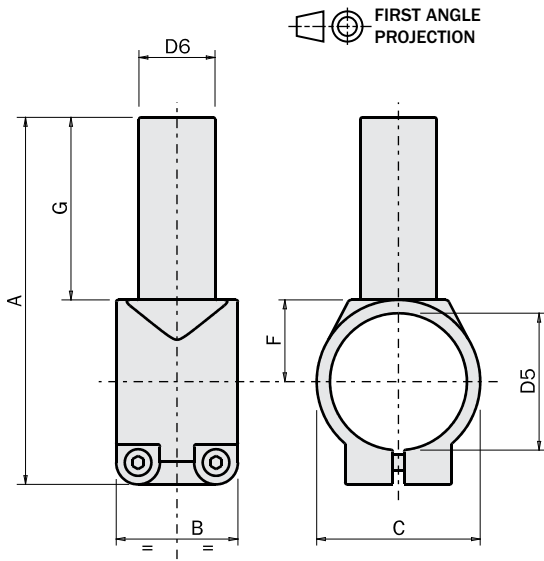


Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors



**Polymer mounting bracket**

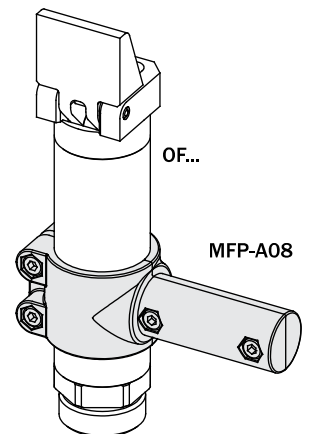
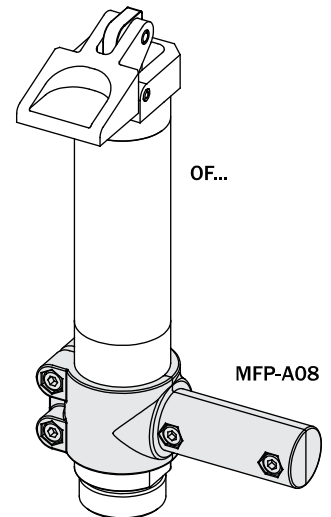
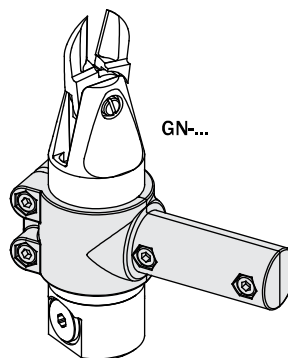
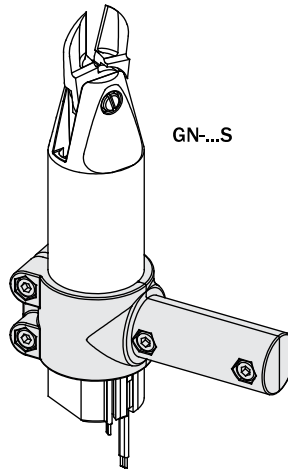
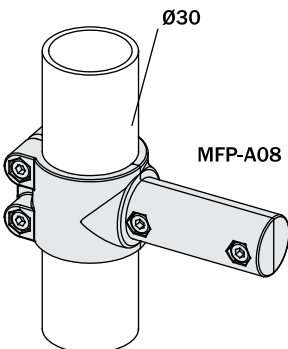
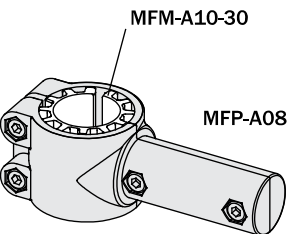
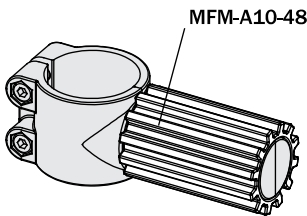
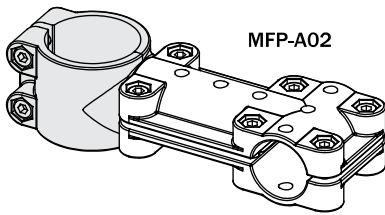
(2 half-pieces + screws)  
(material: PA66)



|         | MFP-A05 | MFP-A06 | MFP-A07 | MFP-A08 |
|---------|---------|---------|---------|---------|
| A [mm]  | 96.5    | 107.5   | 118.5   | 90      |
| B [mm]  | 32      | 36      | 40      | 30      |
| C [mm]  | Ø43     | Ø52.6   | Ø64     | Ø36     |
| D5 [mm] | Ø36     | Ø45     | Ø56     | Ø30     |
| D6 [mm] | Ø20     | Ø20     | Ø20     | Ø20     |
| F [mm]  | 21.5    | 26.3    | 32      | 18      |
| G [mm]  | 48      | 48      | 48      | 48      |
| Weight  | 54 g    | 65 g    | 82 g    | 48 g    |

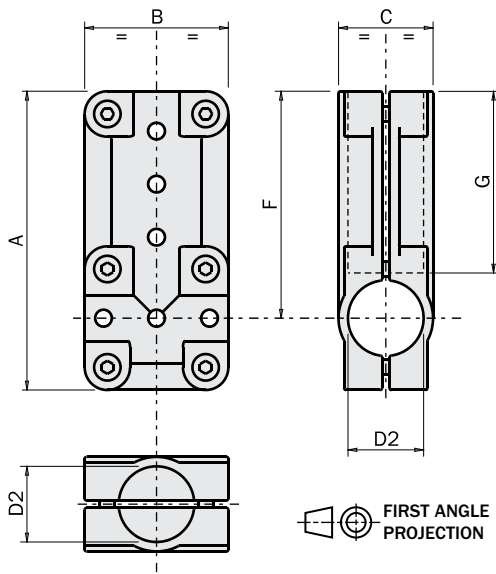


**Application example**



**Polymer T connector**

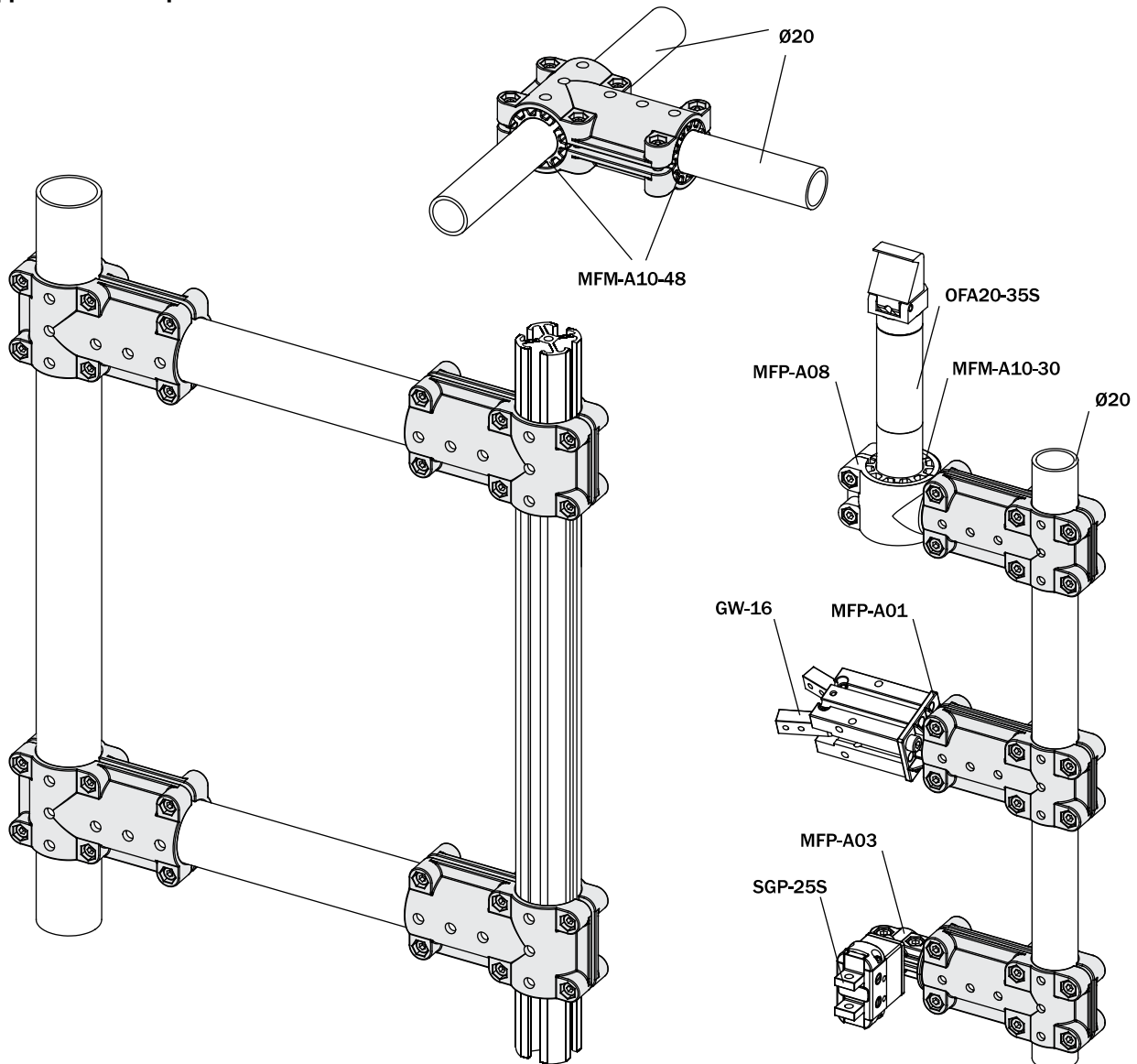
(2 half-pieces + screws)  
(material: PA66)



|         | MFP-A02 | MFP-A09 |
|---------|---------|---------|
| A [mm]  | 79      | 90      |
| B [mm]  | 38      | 48      |
| C [mm]  | 25      | 36      |
| D2 [mm] | Ø20     | Ø30     |
| F [mm]  | 60      | 66      |
| G [mm]  | 48      | 48      |
| Weight  | 53 g    | 82 g    |



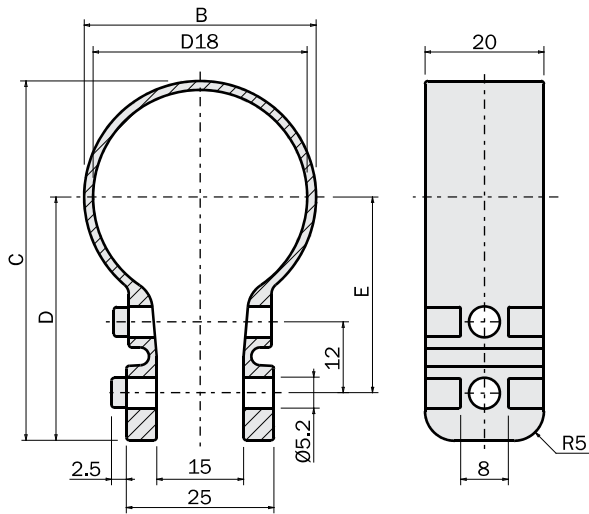
**Application example**



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

**Steel mounting bracket**

(kit with screws)  
(material: steel)

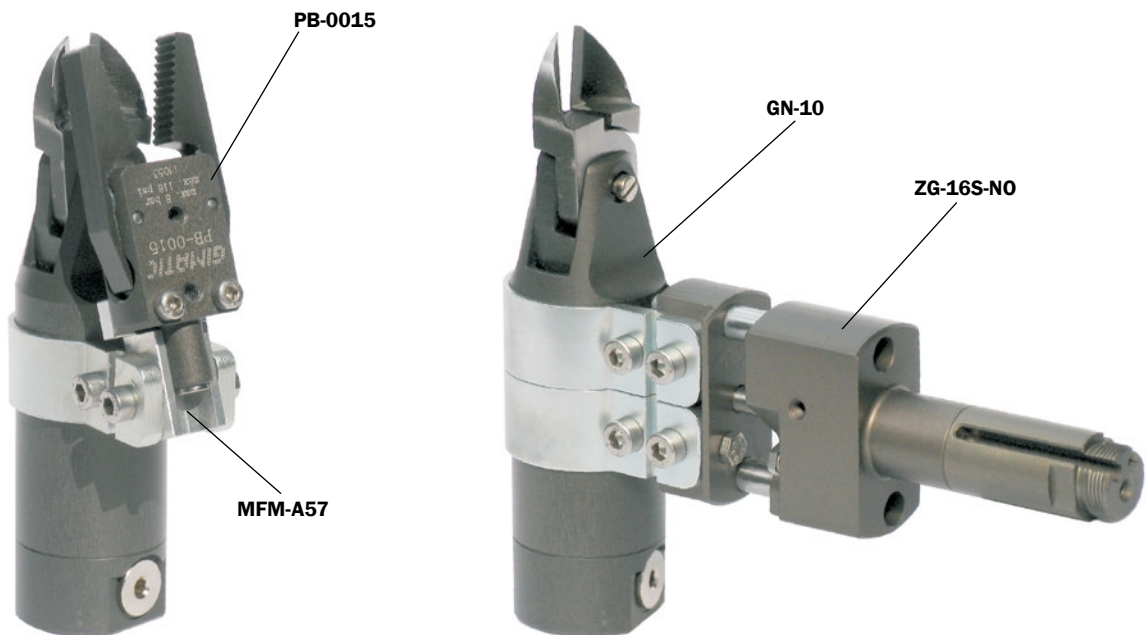


|          | MFM-A30 | MFM-A36 | MFM-A45 | MFM-A56 |
|----------|---------|---------|---------|---------|
| D18 [mm] | Ø30     | Ø36     | Ø45     | Ø56     |
| B [mm]   | Ø33     | Ø39     | Ø48     | Ø60     |
| C [mm]   | 55      | 60.5    | 70      | 83.5    |
| D [mm]   | 38.5    | 41      | 46      | 53.5    |
| E [mm]   | 30.5    | 33      | 38      | 45.5    |
| Weight   | 69 g    | 75 g    | 80 g    | 102 g   |



FIRST ANGLE PROJECTION

**Application example**



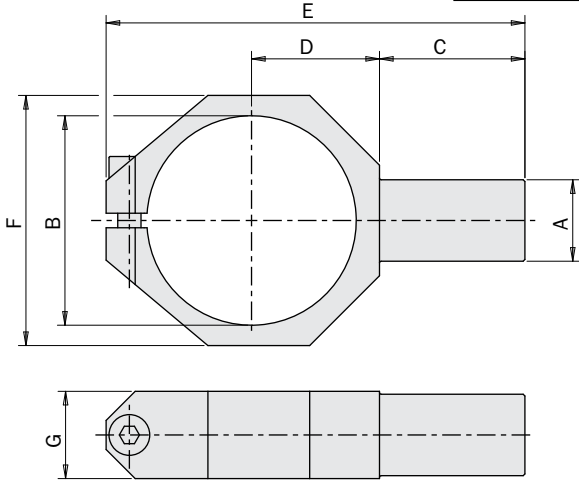
**Aluminium mounting bracket**

(kit with screws)  
(material: aluminium)

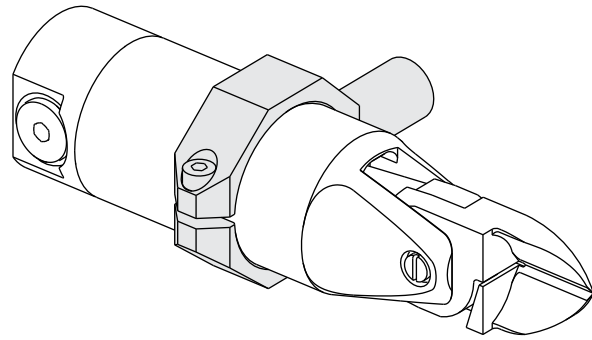
[Click for Pricing & Add to Cart](#)



|        | MFM-A110 | MFM-A110-H | MFM-A111 | MFM-A112 | MFM-A11 |
|--------|----------|------------|----------|----------|---------|
| A [mm] | Ø14      | Ø20        | Ø20      | Ø20      | Ø30     |
| B [mm] | Ø36      | Ø36        | Ø45      | Ø56      | Ø75     |
| C [mm] | 25       | 50         | 35       | 40       | 48      |
| D [mm] | 22       | 22         | 28       | 33       | 41      |
| E [mm] | 72       | 99.5       | 94.5     | 111      | 138     |
| F [mm] | 43       | 43         | 53       | 65       | 83      |
| G [mm] | 15       | 20         | 20       | 25       | 40      |
| Weight | 35g      | 88 g       | 80 g     | 123 g    | 308 g   |

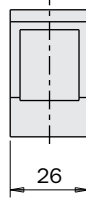
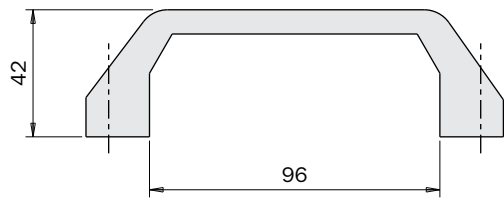


FIRST ANGLE PROJECTION

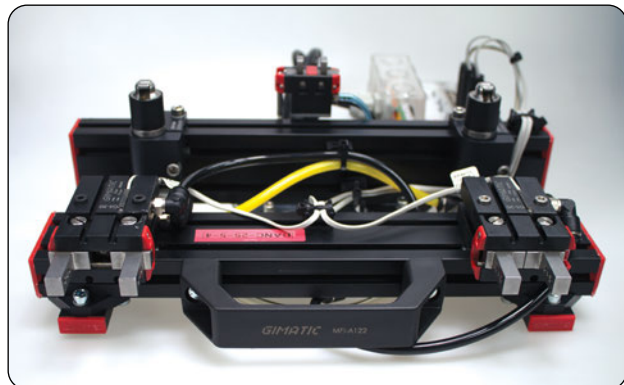
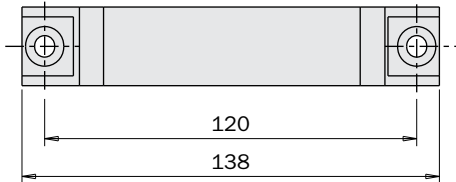


**EOAT handle**

(kit with last-minute nuts)  
(material: POM)

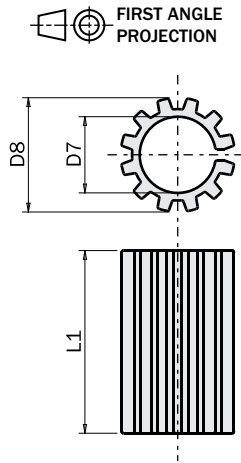


|        | MFM-A122 |
|--------|----------|
| Weight | 60 g     |



**Adapter**

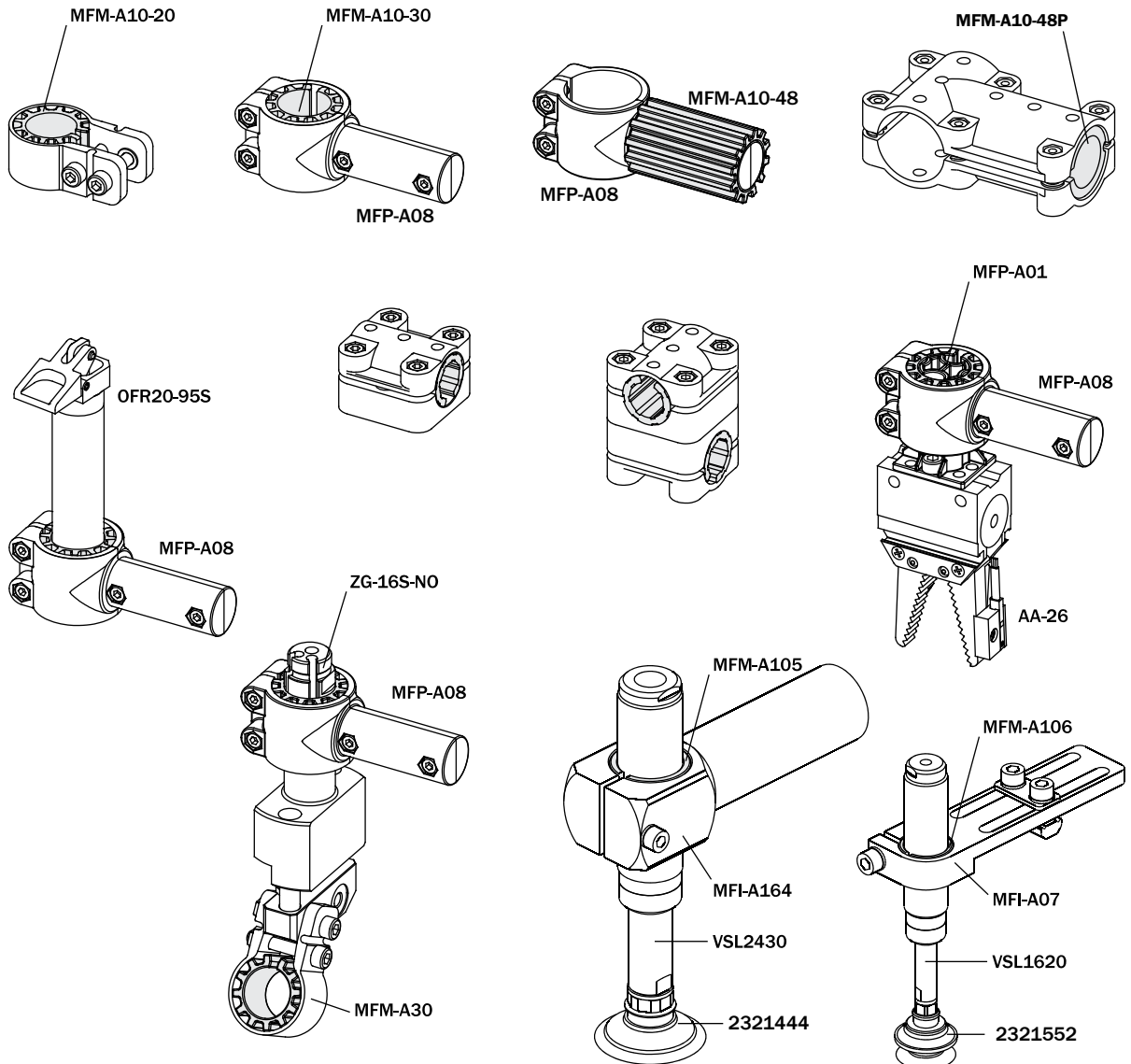
(material: aluminium)



|                    | D7<br>[mm] | D8<br>[mm] | L1<br>[mm] | Weight |
|--------------------|------------|------------|------------|--------|
| <b>MFM-A120</b>    | Ø10        | Ø14        | 13         | 3 g    |
| <b>MFM-A114</b>    | Ø12        | Ø14        | 14         | 2 g    |
| <b>MFM-A55-38</b>  | Ø14        | Ø20        | 38         | 16 g   |
| <b>MFM-A55-48</b>  | Ø14        | Ø20        | 48         | 19 g   |
| <b>MFM-A106</b>    | Ø16        | Ø20        | 12         | 5 g    |
| <b>MFM-A115</b>    | Ø16        | Ø20        | 20         | 6 g    |
| <b>MFM-A10-20</b>  | Ø20        | Ø30        | 20         | 13 g   |
| <b>MFM-A10-30</b>  | Ø20        | Ø30        | 30         | 21 g   |
| <b>MFM-A10-48</b>  | Ø20        | Ø30        | 48         | 33 g   |
| <b>MFM-A10-48P</b> | Ø20        | Ø30        | 48         | 24 g   |
| <b>MFM-A105</b>    | Ø24        | Ø30        | 12         | 8 g    |
| <b>MFM-A116</b>    | Ø25        | Ø30        | 30         | 17 g   |
| <b>MFM-A96</b>     | Ø30        | Ø50        | 65         | 240 g  |

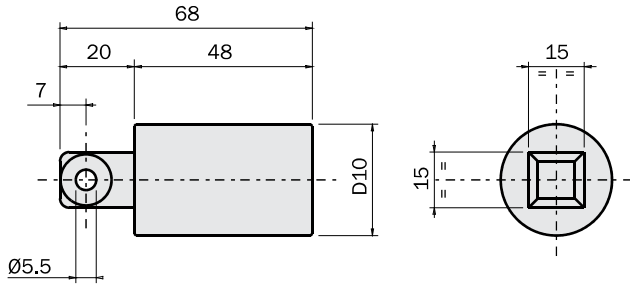


**Application example**



**Hinge with stud**

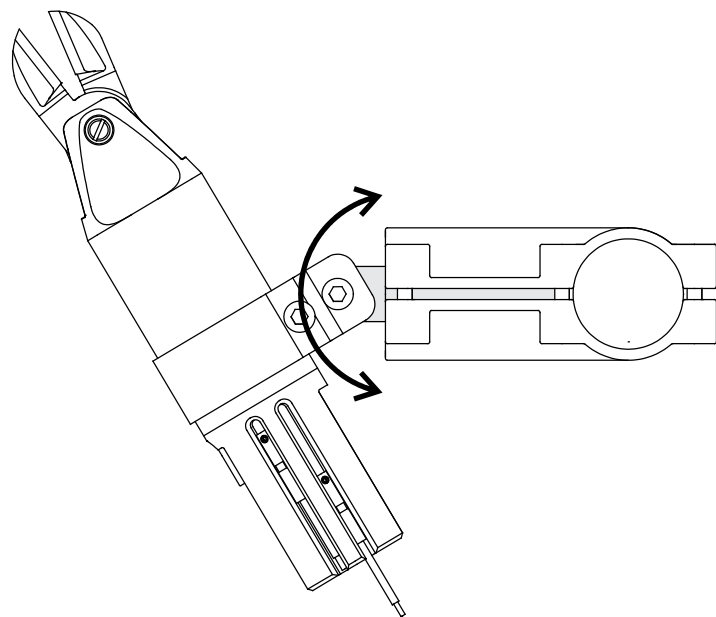
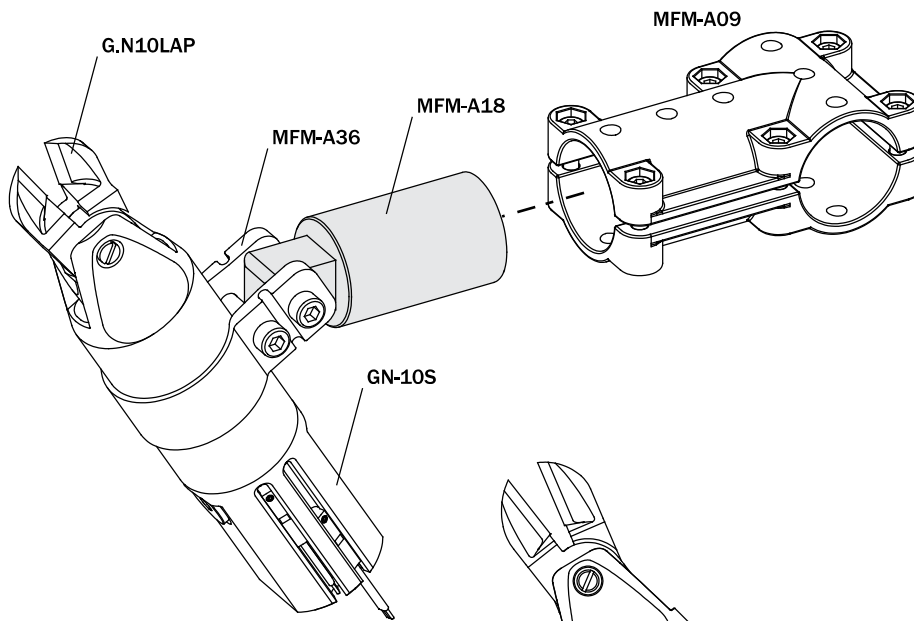
(material: aluminium)



|        | MFM-A17 | MFM-A18 |
|--------|---------|---------|
| D10    | Ø20 mm  | Ø30 mm  |
| Weight | 56 g    | 106 g   |

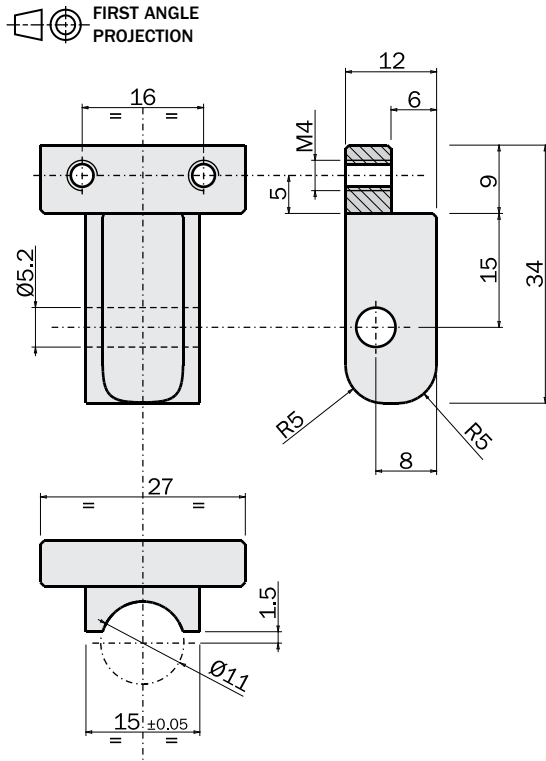


**Application example**



**PB mounting connector**

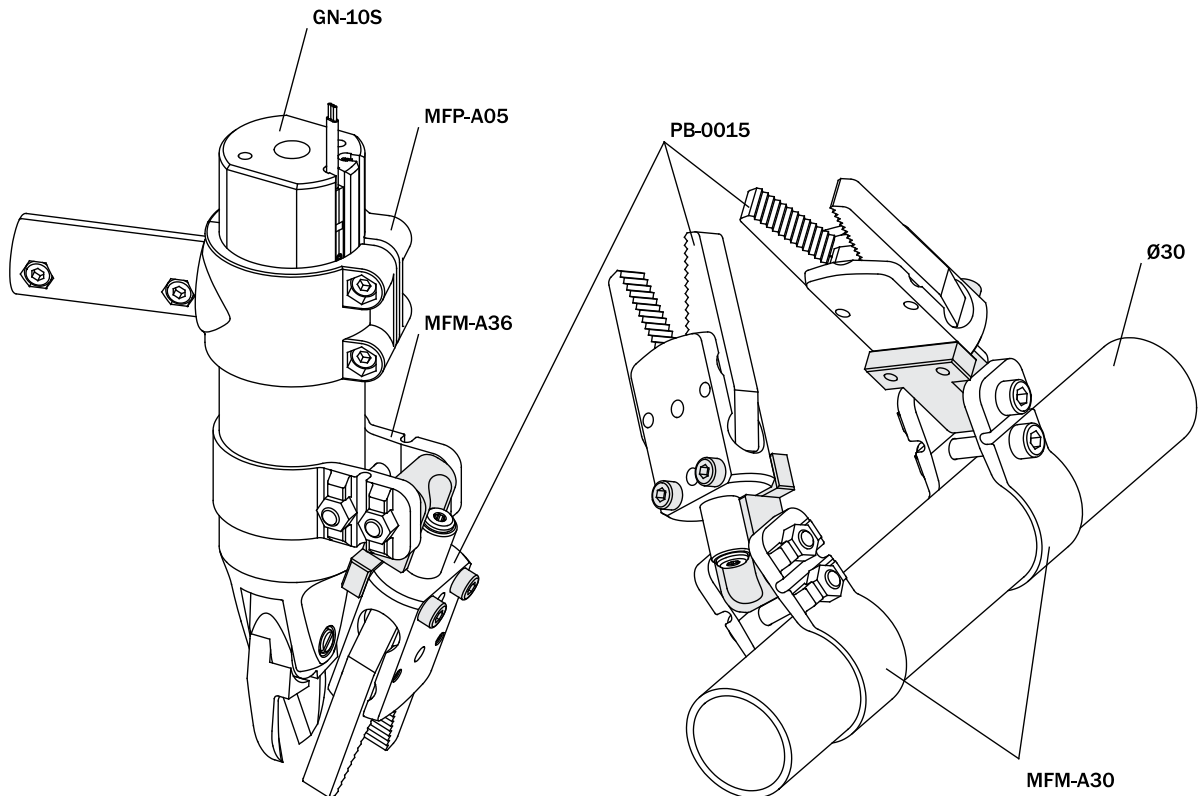
(kit with screws)  
(material: aluminium)



|        |                |
|--------|----------------|
|        | <b>MFM-A57</b> |
| Weight | 25 g           |

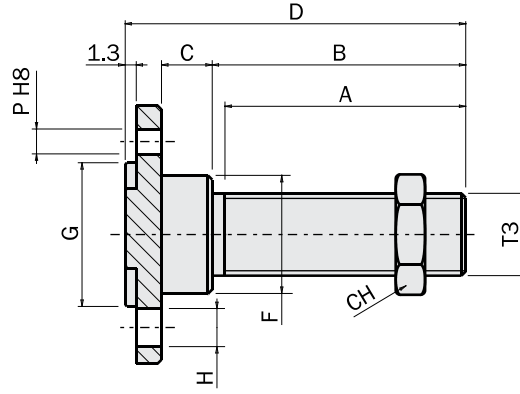
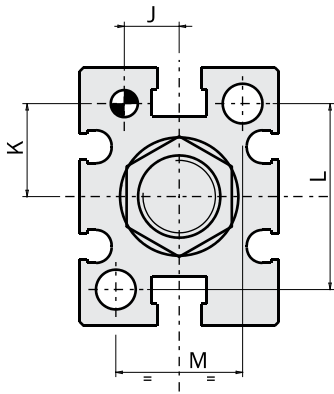


**Application example**



**Interface for grippers**

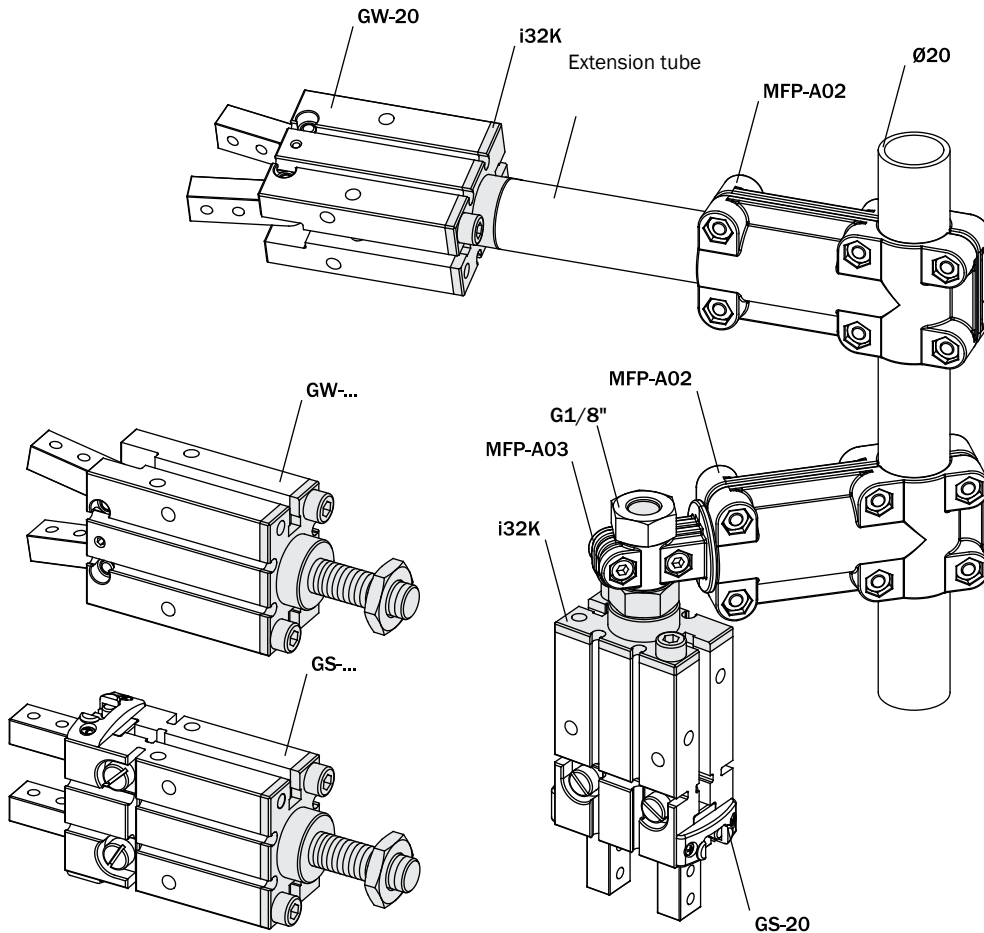
(kit with screws)  
(material: aluminium)



|    |      | i30K  | i31K  | i32K  | i33K  |
|----|------|-------|-------|-------|-------|
| A  | [mm] | 25    | 28.5  | 28.5  | 28.5  |
| B  | [mm] | 25    | 30    | 30    | 30    |
| C  | [mm] | 5     | 6     | 7     | 8     |
| CH | [mm] | 14    | 14    | 14    | 17    |
| D  | [mm] | 34.3  | 40.3  | 41.3  | 44.3  |
| T3 | [mm] | G1/8" | G1/8" | G1/8" | M15x1 |
| F  | [mm] | Ø10   | Ø14   | Ø20   | Ø20   |
| G  | [mm] | Ø11   | Ø17   | Ø21   | Ø26   |
| H  | [mm] | Ø3.3  | Ø4.5  | Ø5.5  | Ø6.5  |
| J  | [mm] | 5.2   | 6.5   | 7.5   | 10    |
| K  | [mm] | 7.6   | 11    | 16    | 21    |
| L  | [mm] | 18    | 22    | 32    | 40    |
| M  | [mm] | 12    | 15    | 18    | 22    |
| P  | [mm] | Ø2 H8 | Ø3 H8 | Ø4 H8 | Ø4 H8 |

| for    | GS-10/GW-10 | GS-16/GW-16 | GS-20/GW-20 | GS-25/GW-25 |
|--------|-------------|-------------|-------------|-------------|
| Weight | 9 g         | 14 g        | 14 g        | 43 g        |

**Application example**

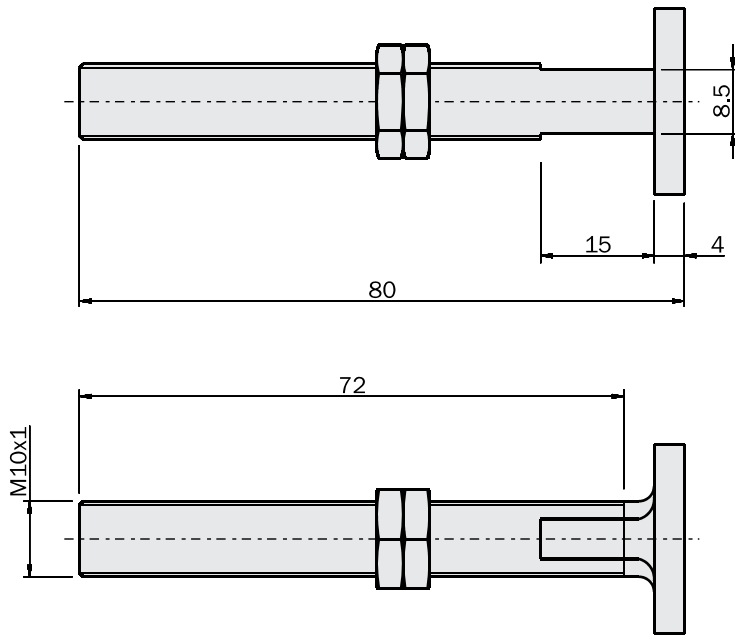


Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors



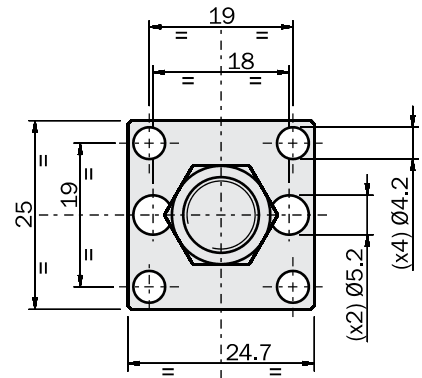
**Interface for grippers**

(kit with screws)  
(material: steel)

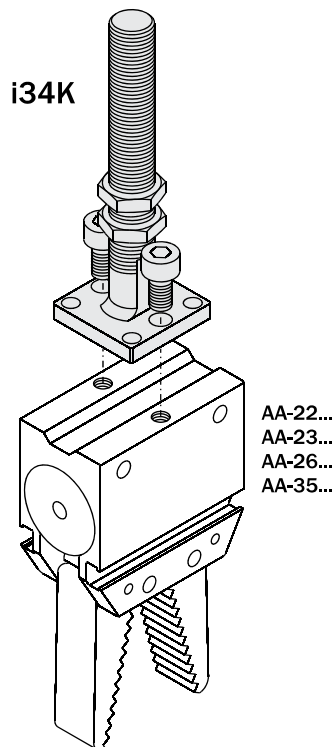


|        |             |
|--------|-------------|
|        | <b>i34K</b> |
| Weight | 65 g        |

FIRST ANGLE PROJECTION

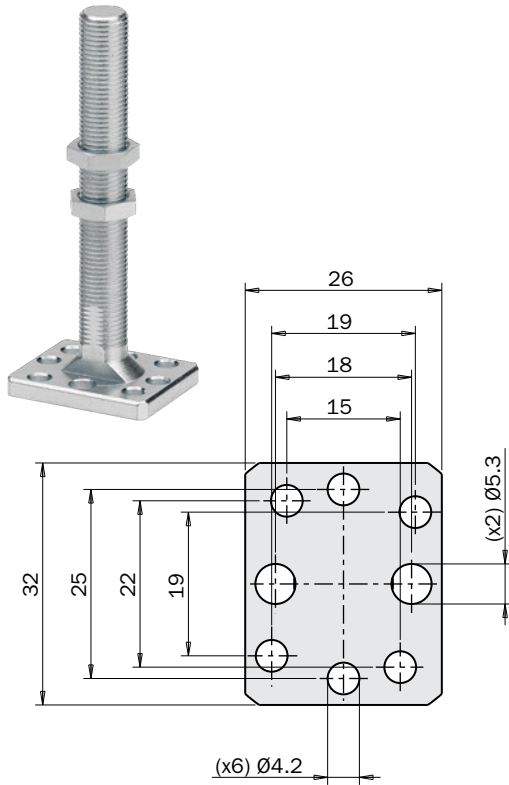


**Application example**

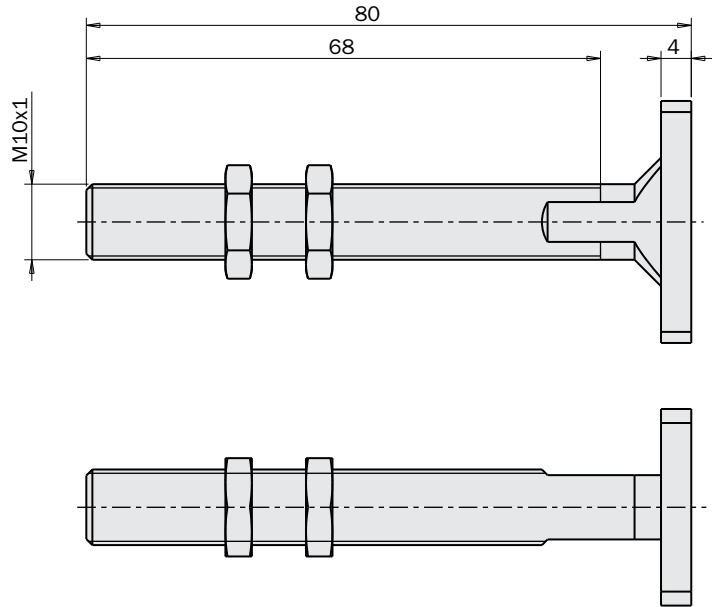


**Interface for grippers**

(material: steel)

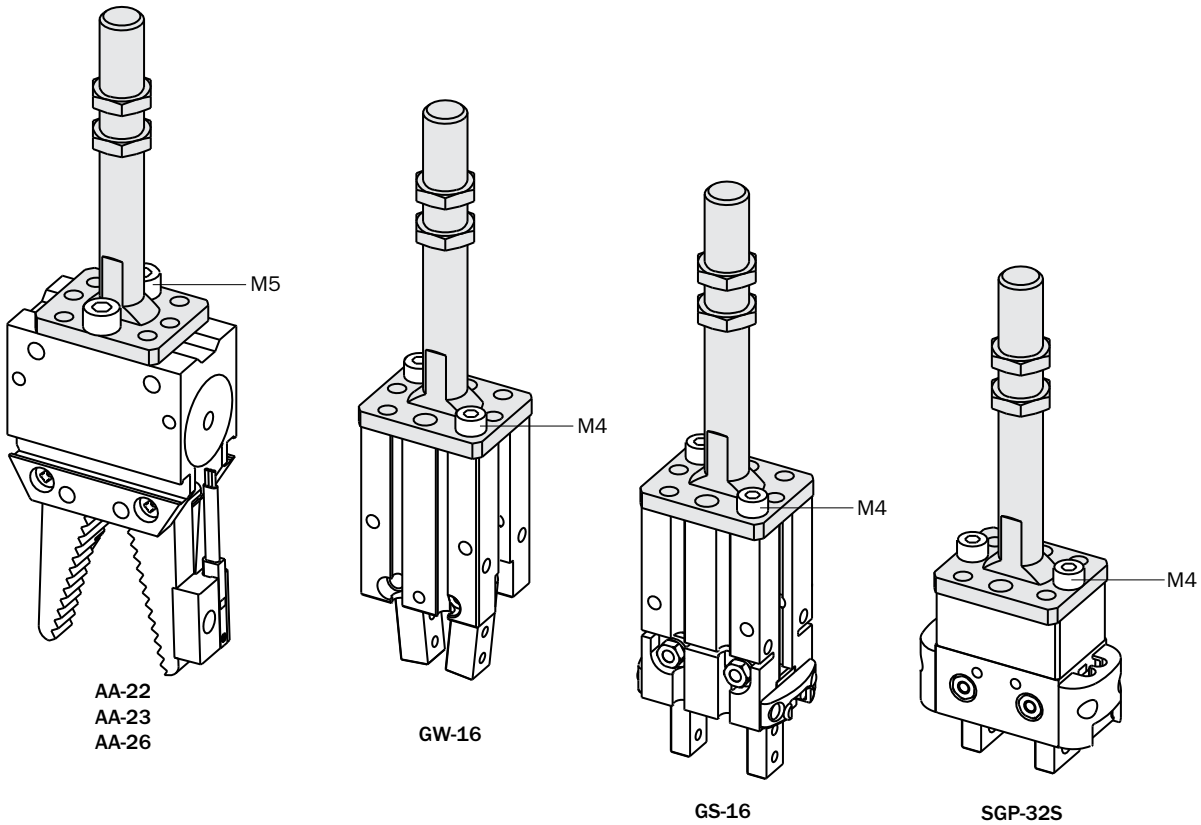


|        |             |
|--------|-------------|
|        | <b>i37K</b> |
| Weight | 85 g        |



FIRST ANGLE PROJECTION

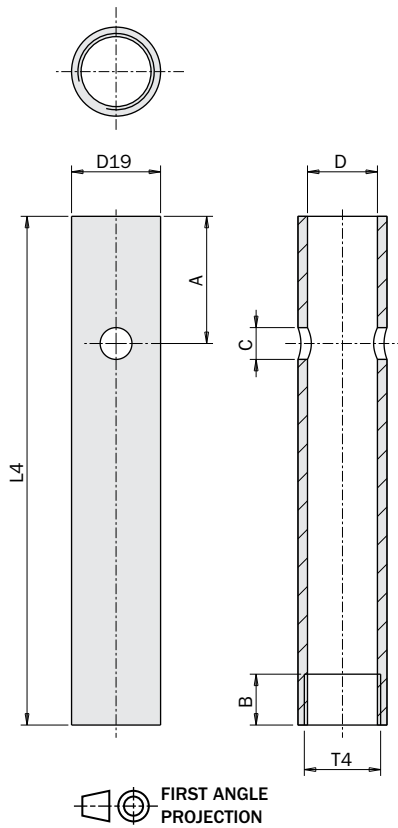
**Application example**



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

**Extension tube**

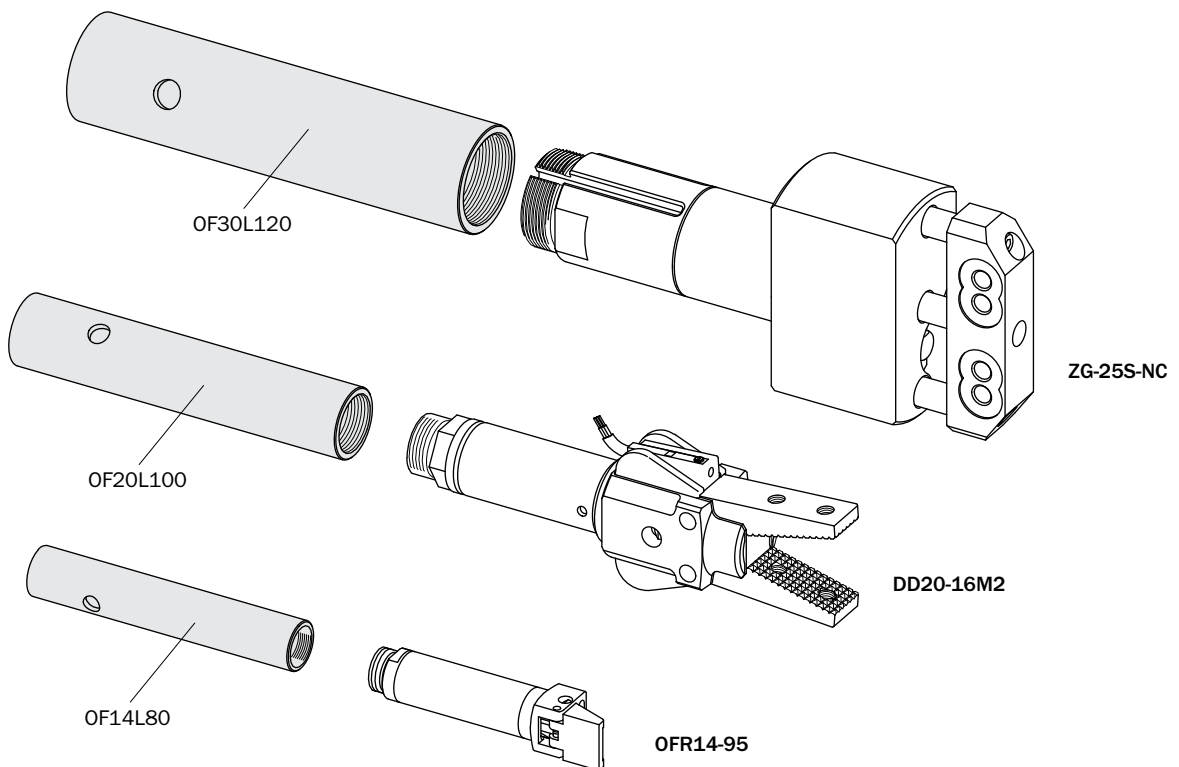
(material: aluminium)



|          | OF10L60 | OF14L80 | OF20L100 | OF20L250 | OF30L120 | OF30L250 |
|----------|---------|---------|----------|----------|----------|----------|
| A [mm]   | 15      | 20      | 25       | 125      | 30       | 125      |
| B [mm]   | 8       | 8       | 12       | 12       | 14       | 14       |
| C [mm]   | Ø3.5    | Ø5      | Ø6       | Ø6       | Ø8       | Ø8       |
| D [mm]   | Ø7      | Ø11     | Ø16      | Ø16      | Ø25      | Ø25      |
| D19 [mm] | Ø10     | Ø14     | Ø20      | Ø20      | Ø30      | Ø30      |
| L4 [mm]  | 60      | 80      | 100      | 250      | 120      | 250      |
| T4 [mm]  | M8x1    | M12x1   | M17x1    | M17x1    | M27x1    | M27x1    |
| Weight   | 7 g     | 10 g    | 30 g     | 76 g     | 65 g     | 145 g    |



**Application example**

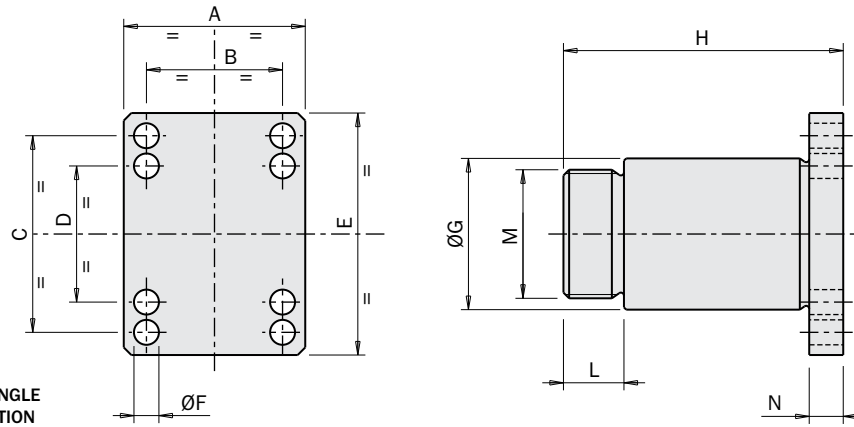


**GNS nipper mounting bracket**

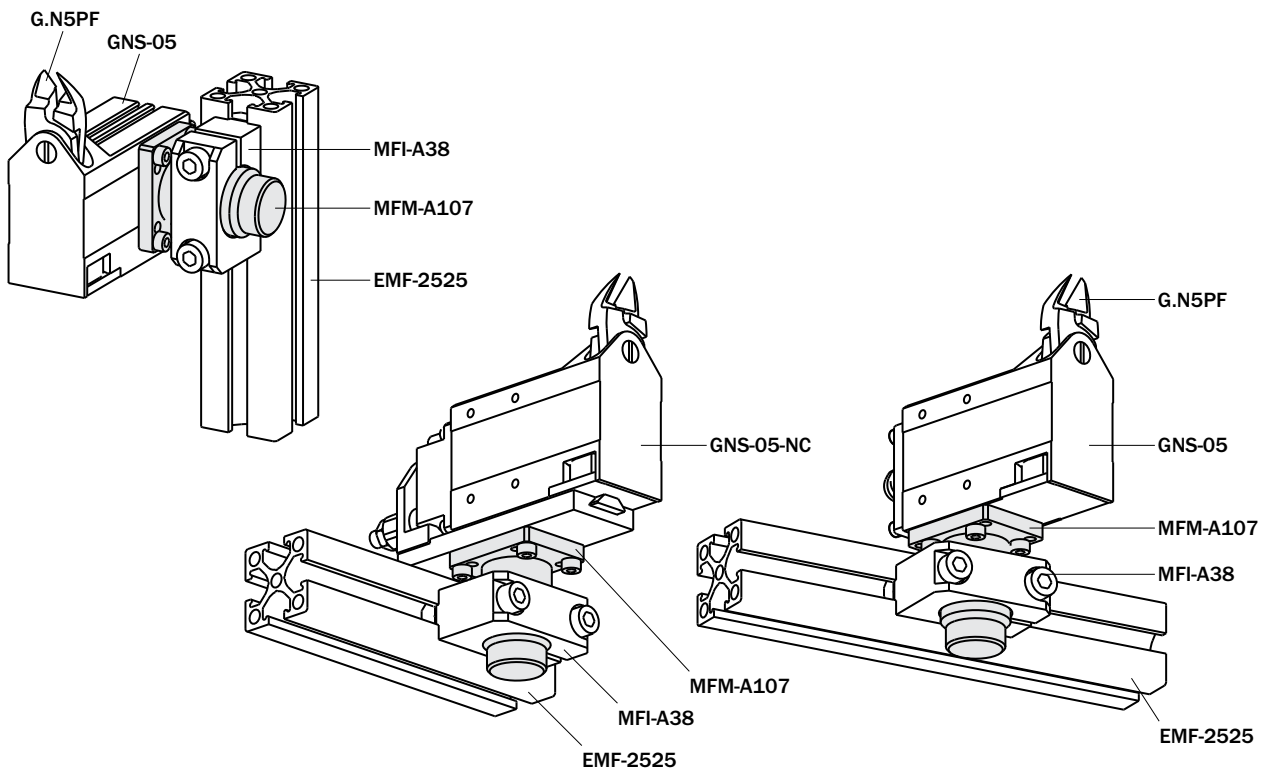
(kit with screws)  
(material: aluminium)



|        | MFM-A107  | MFM-A108  | MFM-A109  |
|--------|-----------|-----------|-----------|
| A [mm] | 24        | 32        | 39        |
| B [mm] | 18        | 24        | 30        |
| C [mm] | 26        | 32        | 40        |
| D [mm] | 18        | -         | -         |
| E [mm] | 32        | 39        | 48        |
| F [mm] | Ø3.3 (x8) | Ø4.3 (x4) | Ø5.3 (x4) |
| G [mm] | Ø20       | Ø20       | Ø30       |
| H [mm] | 37        | 39        | 55        |
| L [mm] | 8         | 8         | 11        |
| M [mm] | M17x1     | M17x1     | M27x1     |
| N [mm] | 4.5       | 5.5       | 6.5       |
| for    | GNS-05    | GNS-10    | GNS-20    |
| Weight | 30 g      | 35 g      | 100 g     |



**Application example**

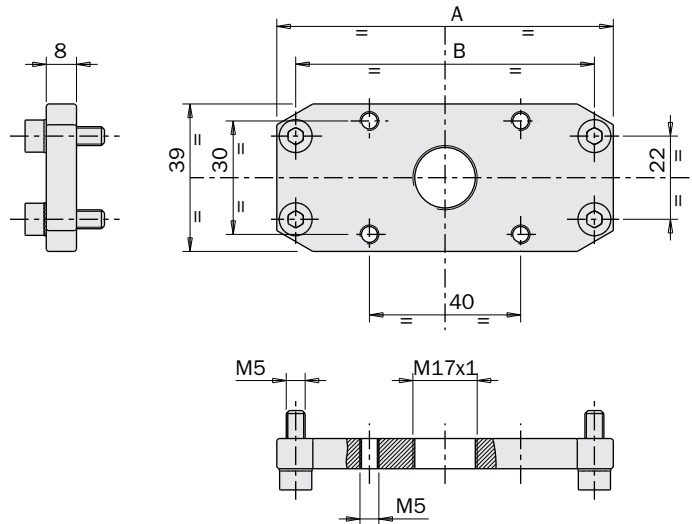
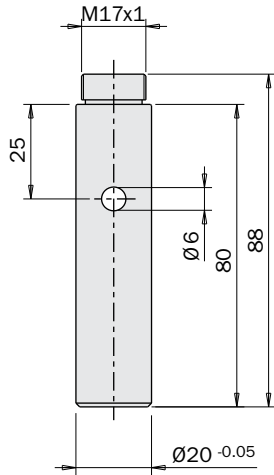


**Interfaces for guided cylinder**

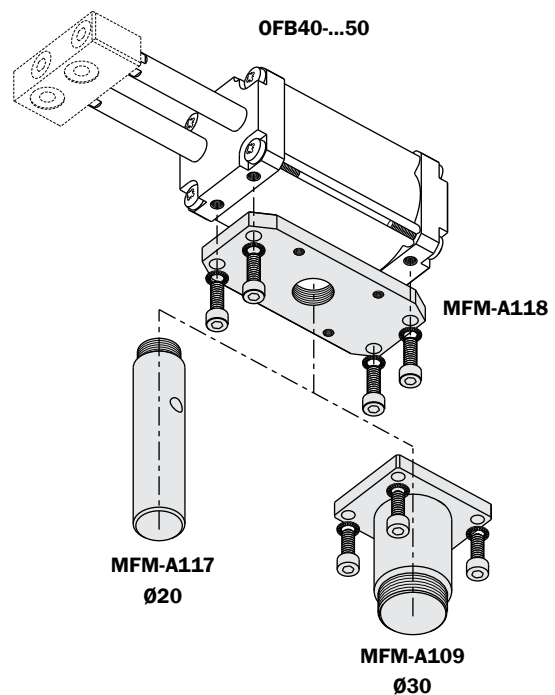
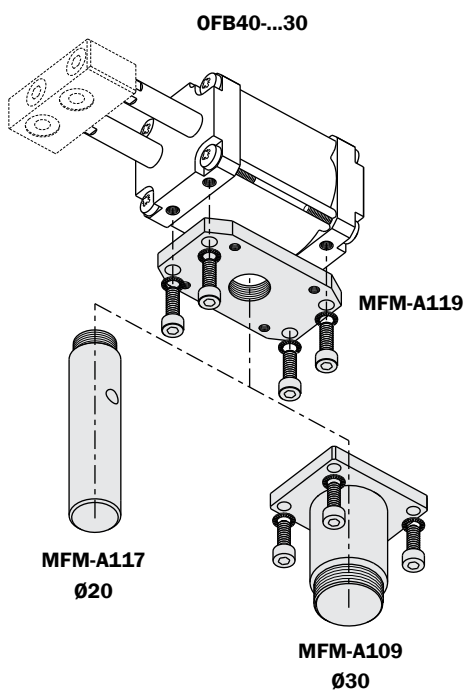
(kit with screws)  
(material: aluminium)

|        | <b>MFM-A117</b> |
|--------|-----------------|
| Weight | 70 g            |

|        | <b>MFM-A118</b> | <b>MFM-A119</b> |
|--------|-----------------|-----------------|
| A [mm] | 89              | 69              |
| B [mm] | 79              | 59              |
| for    | OFB40-...50     | OFB40-...30     |
| Weight | 80 g            | 60 g            |



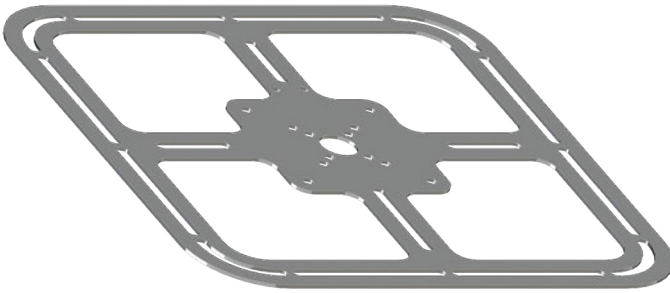
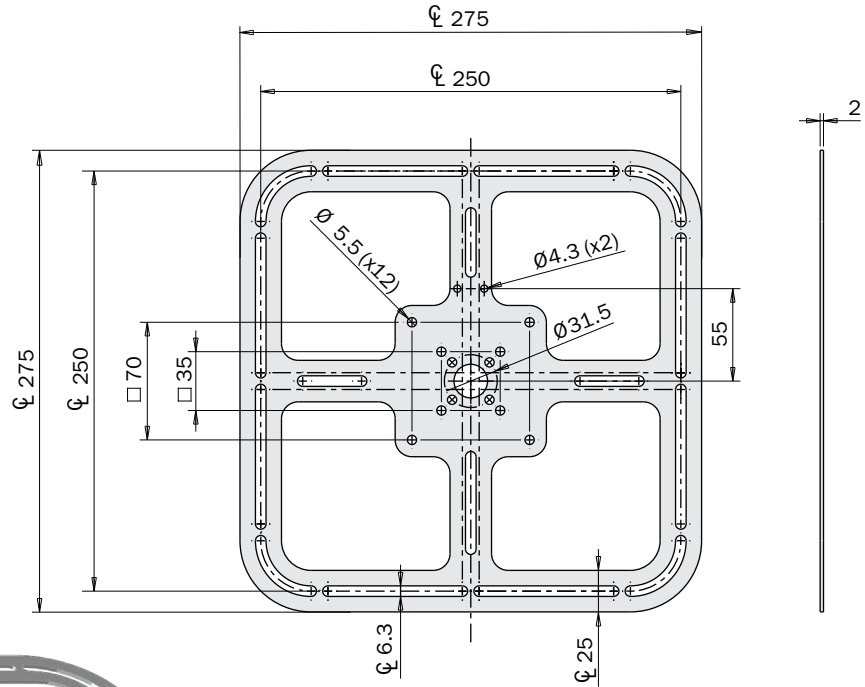
**Application example**



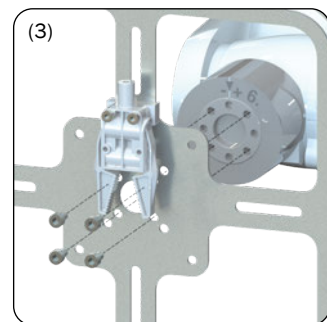
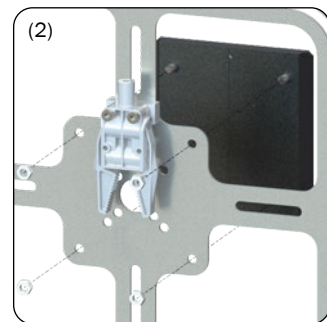
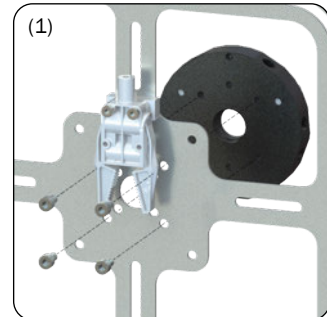
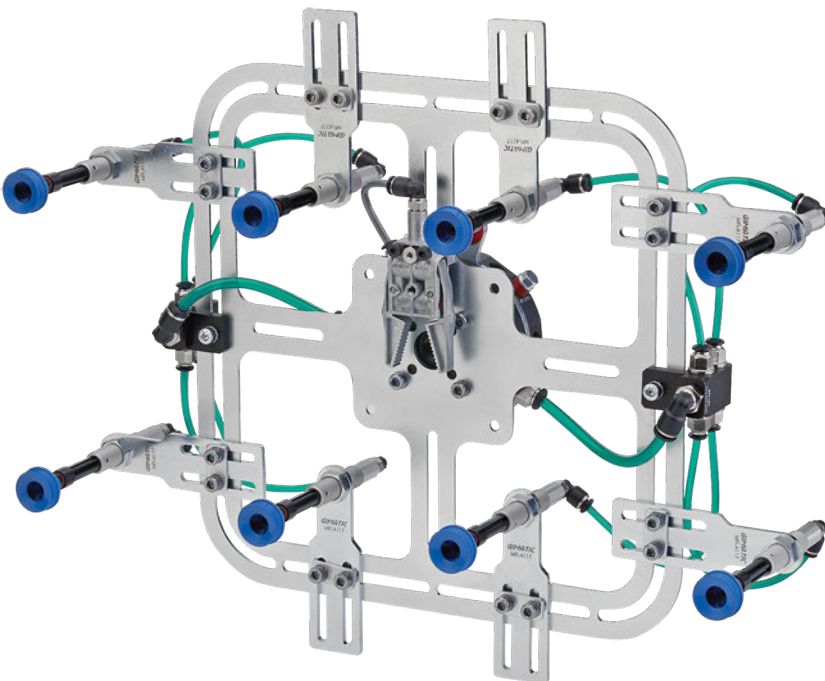
**Basic EOAT plate 250x250**

- Laser cut in zinc plated steel.
- Drilled mounting patterns for QC90-B (1), MFI-A41 (2), IS09409-1 (3).
- Suitable for the MFI brackets and nuts.

|        |                |
|--------|----------------|
|        | <b>PLA2525</b> |
| Weight | 485 g          |



**Application example**

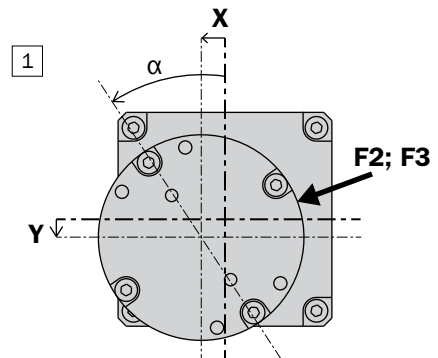
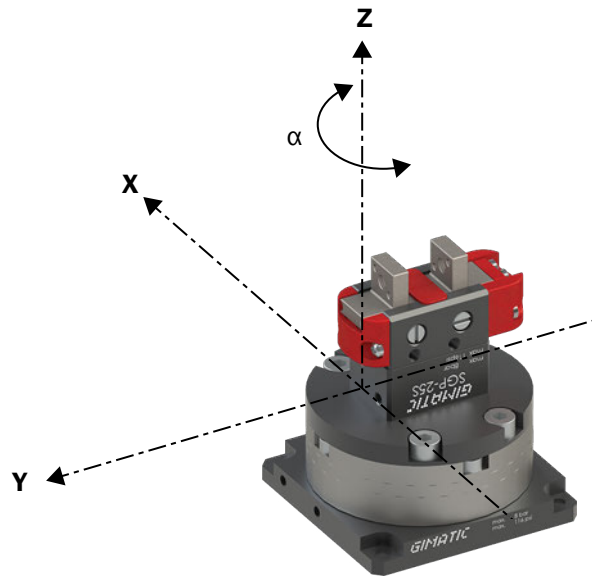
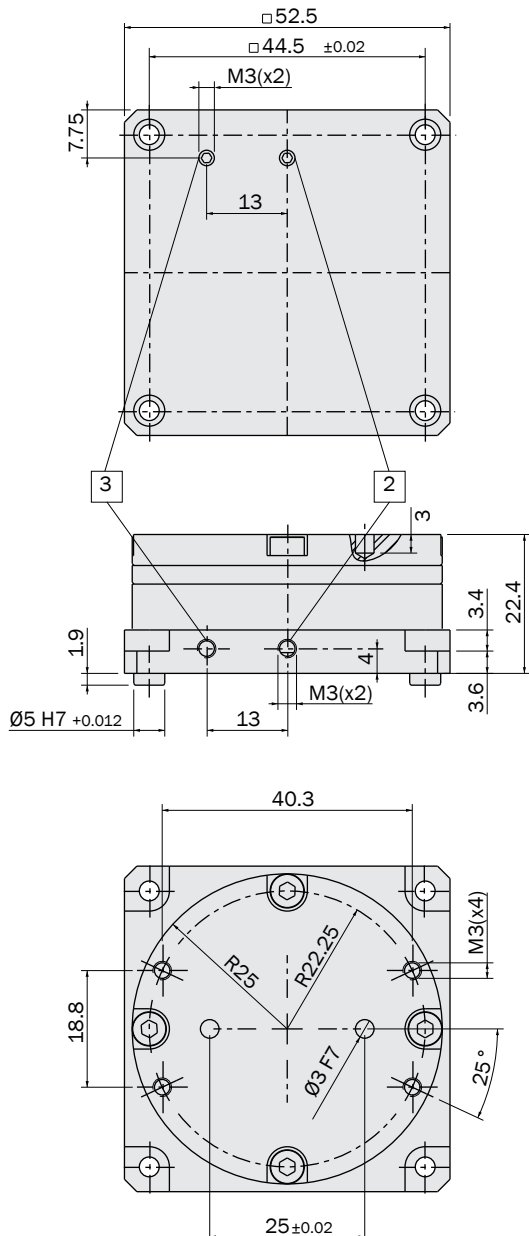


**Mini compliance device, for small grippers**

- X-Y and angle  $\alpha$  compliance [1].
- Rigid in Z direction.
- One air lead to get the central zero position [2].
- Another air lead to lock in any offset position [3].



|                                      |                    | MCD124        |
|--------------------------------------|--------------------|---------------|
| Weight                               |                    | 204 g         |
| Maximum radial compliance            | $\sqrt{X^2 + Y^2}$ | 1 mm          |
| Maximum angular compliance           | $\alpha$           | 10°           |
| Locking force in central position    | F2                 | 200 N (6 bar) |
| Locking force in off-centre position | F3                 | 20 N (6 bar)  |





**AGG**  
Gripper for engagement



**GX-S**  
2-jaw radial-acting grippers



**AA**  
Self-centering sprue grippers



**PT**  
Needle gripper



**PB**  
Non-self-centering sprue grippers



**SGP-S**  
2-jaw parallel grippers



**BB**  
Non-self-centering sprue grippers in zamak



**GS**  
2-jaw parallel grippers



**DD**  
Self-centering sprue grippers



**SZ**  
2-jaw parallel grippers



**GW**  
2-jaw radial-acting grippers



**PQ**  
2-jaw parallel grippers



**PN**  
2-jaw & 3-jaw radial-acting grippers



**MGX**  
2-jaw parallel grippers



**TFA**  
2-jaw radial-acting grippers



**MG / GM**  
2-jaw parallel grippers



**MPBM**  
2-jaw angular electric grippers



**SX**  
2-jaw parallel grippers



**PS / PS-P**  
2-jaw radial-acting grippers



**PE**  
2-jaw parallel grippers



Click for Quick Navigation





**DH**  
2-jaw parallel grippers



**SP**  
2-jaw parallel grippers



**JP**  
2-jaw parallel grippers



**HS**  
2-jaw parallel grippers



**X**  
Self-centering pneumatic grippers



**MPPM**  
2-jaw parallel electric grippers



**MPXM**  
2-jaw parallel electric grippers



**MPLM**  
2-jaw parallel electric grippers



**MPLF**  
Self-centering 2-jaw servo-electric parallel gripper with long stroke



**TGP**  
3-jaw self-centring pneumatic gripper



**T**  
3-jaw self-centering grippers



**TH**  
3-jaw self-centering grippers



**SXT**  
3-jaw self-centering grippers



**MPTM**  
3-jaw self-centering electric grippers



**MFD / MFU**  
Air Hands



**IFU**  
ID expansion micro grippers



**OFD**  
One finger elastic module



**OF**  
Grippers for clamping



**OFF**  
Angular grippers for clamping with finger in polymer



**OFX**  
Perpendicular grippers for clamping



**MAG**  
Magnetic gripper

## Gripper for engagement

The AGG is used to provide a precise centering between the robot and the mould.

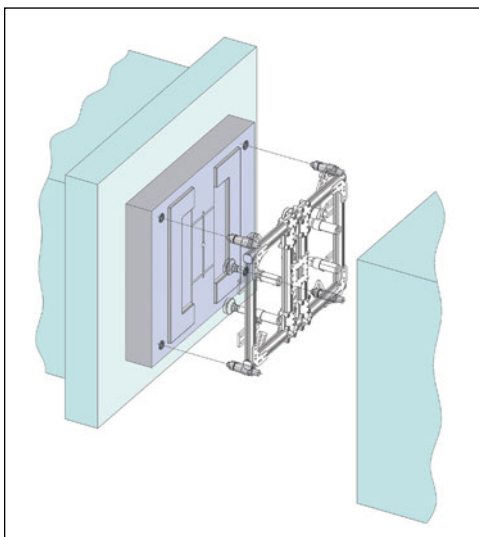
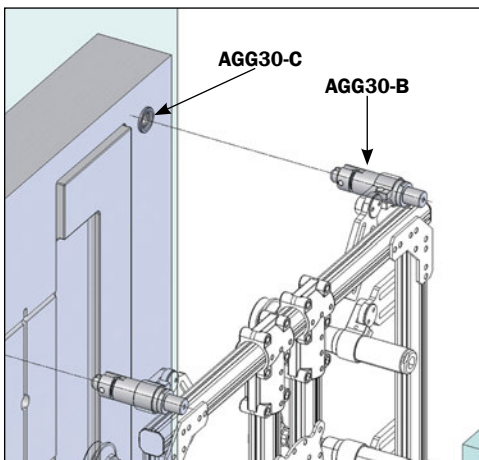
This is necessary when metal inserts must be placed in the mould, before the plastic injection.

The gripper AGG...-B is fitted on the EOAT, while the steel bushing AGG...-C is fitted on the mould.

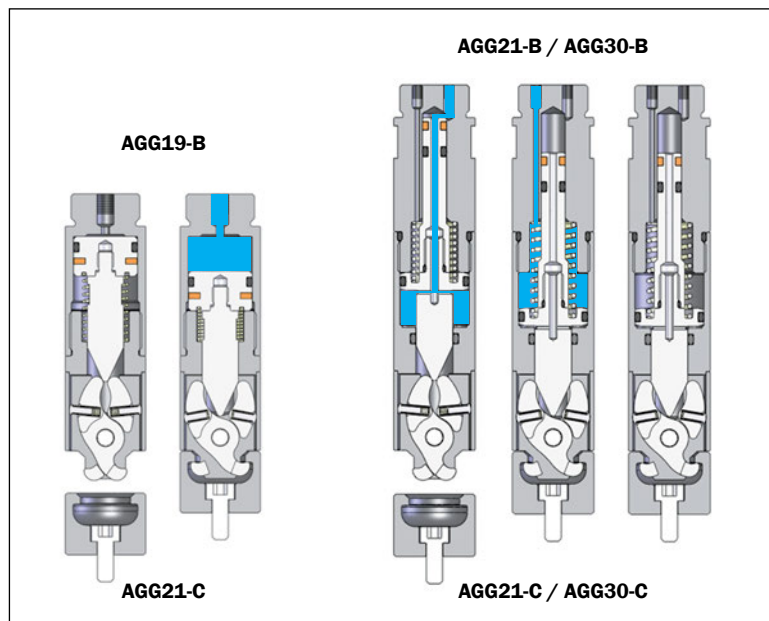
Once the robot has approached the mould, the gripper is pressurized, thus it closes and engages the bushing.

AGG21-B and AGG30-B are double-acting with a safety spring to keep the gripper engaged even without compressed air (NC).

AGG19-B is single-acting with reset spring (NO).



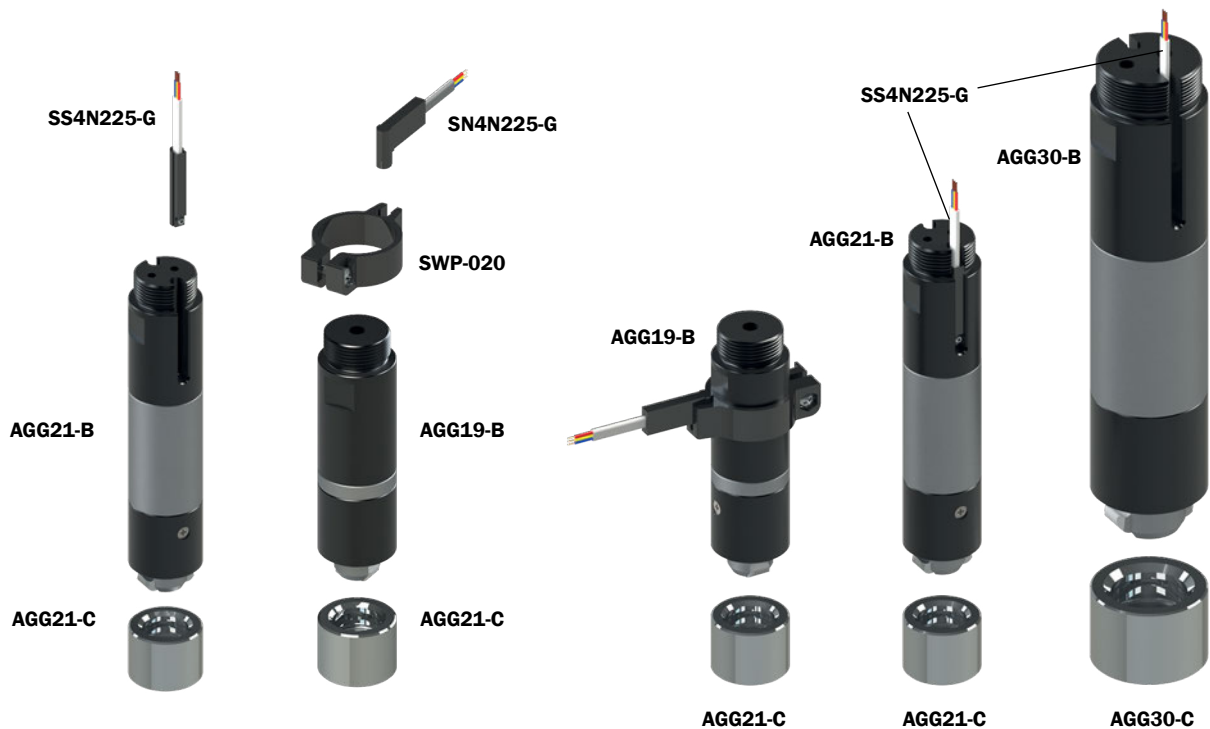
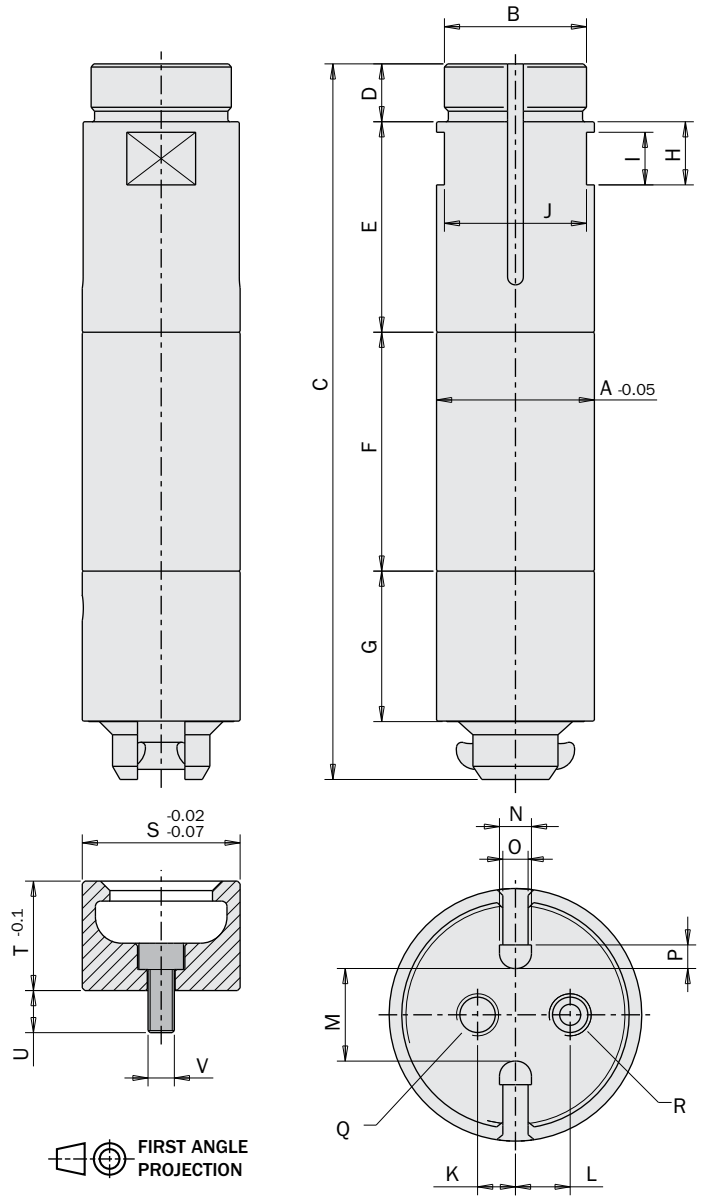
|  | AGG19-B        | AGG21-B        | AGG30-B          |
|--|----------------|----------------|------------------|
| Maximum axial load without compressed air before releasing | 0 N            | 600 N          | 1400 N           |
| Maximum axial load with compressed air before breakage     | 2000 N         | 2000 N         | 5000 N           |
| Pressure range   | 2 ÷ 8 bar (NO) | 4 ÷ 8 bar (NC) | 4.5 ÷ 8 bar (NC) |
| Temperature range  | 5 ÷ 60 °C.     |                |                  |



**Dimensions (mm)**

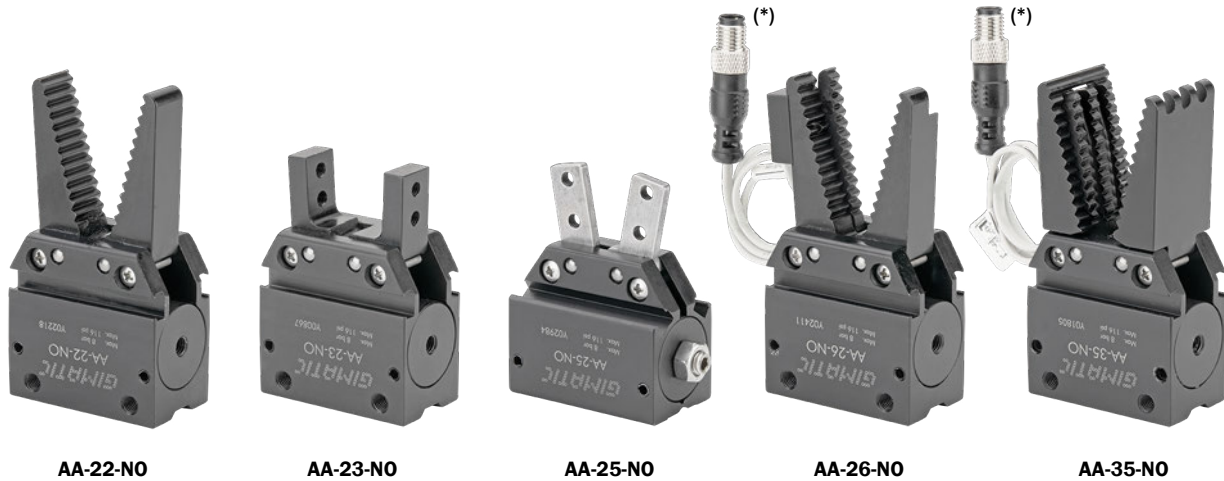
|        | AGG19-B | AGG21-B | AGG30-B |
|--------|---------|---------|---------|
| A      | Ø20     | Ø20     | Ø30     |
| B      | M17x1   | M17x1   | M27x1   |
| C      | 70.5    | 96.5    | 136     |
| D      | 8       | 8       | 11      |
| E      | 32      | 28      | 40      |
| F      | 4       | 34      | 45.4    |
| G      | 19.5    | 19.5    | 28.6    |
| H      | 10      | 10      | 12      |
| I      | 8       | 8       | 10      |
| J      | 18      | 18      | 27      |
| K      | 0       | 2.8     | 4.5     |
| L      | -       | 4.6     | 6.5     |
| M      | -       | 6       | 11      |
| N      | -       | 3.8     | 3.8     |
| O      | -       | 3       | 3       |
| P      | -       | 2.8     | 2.8     |
| Q      | M5      | M3      | M5      |
| R      | -       | M3      | M5      |
| Weight | 85 g    | 115 g   | 390 g   |

|        | AGG21-C | AGG30-C |
|--------|---------|---------|
| S      | Ø20     | Ø30     |
| T      | 15.3    | 20.8    |
| U      | 6.7     | 8       |
| V      | M4      | M5      |
| Weight | 25 g    | 75 g    |



## 2-jaw self-centering angular pneumatic sprue gripper series AA

- Double acting or spring open (-NO).
- Very high gripping force related to the weight and dimensions.
- Different options for fastening.
- Optional magnetic sensors.
- Food grade grease FDA-H1.



AA-22-NO

AA-23-NO

AA-25-NO

AA-26-NO

AA-35-NO

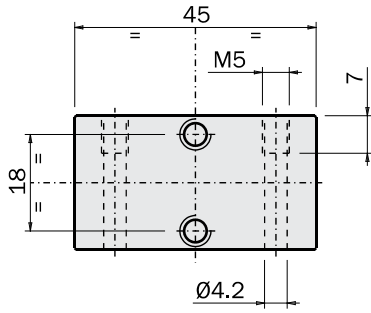
(\*)

The sensor SS3N203-G is included

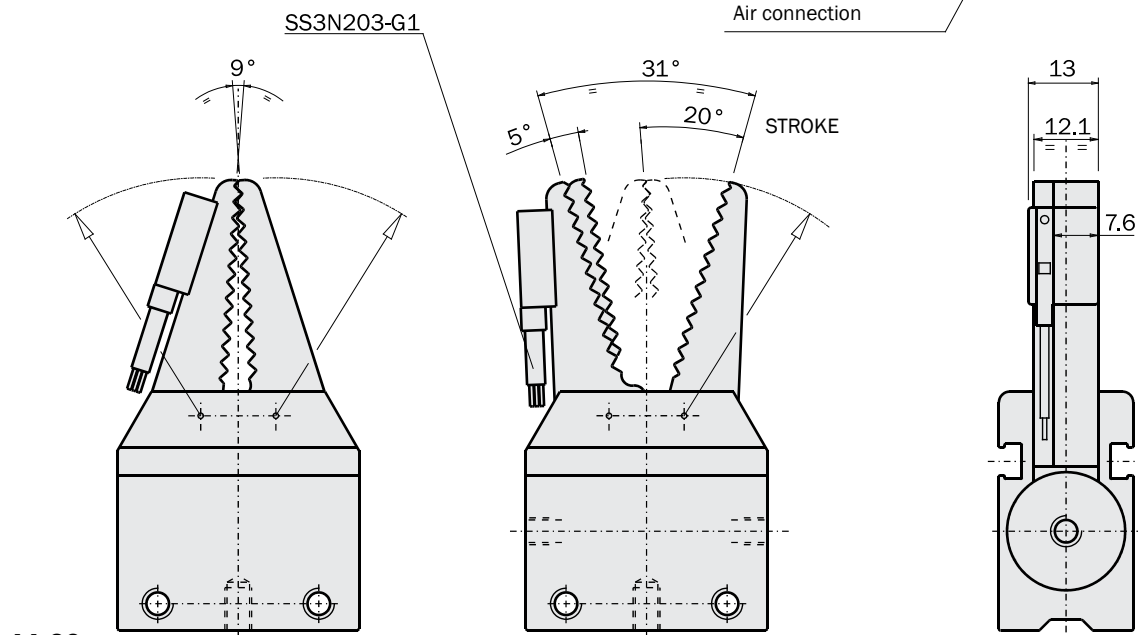
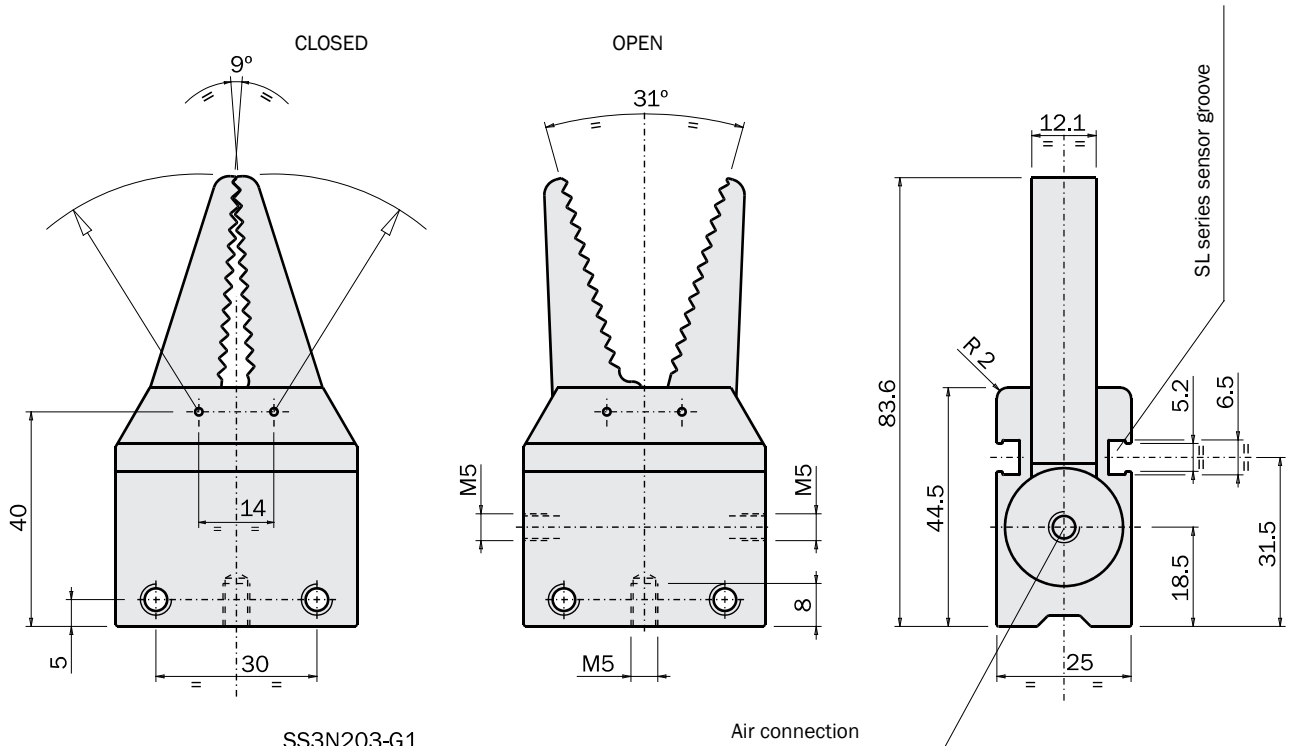
|                                  | AA-22   | AA-22-NO          | AA-23             | AA-23-NO<br>AA-25-NO | AA-26             | AA-26-NO          | AA-35             | AA-35-NO          |
|----------------------------------|---|-------------------|-------------------|----------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                           | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                      |                   |                   |                   |                   |
| Pressure range                   | 2.5 ÷ 8 bar   |                   |                   |                      |                   |                   |                   |                   |
| Temperature range                | 5 ÷ 60 °C.  |                   |                   |                      |                   |                   |                   |                   |
| Stroke                           | 2 x 20°   |                   |                   |                      |                   |                   |                   |                   |
| Closing torque at 6 bar each jaw | 150 Ncm   | 125 Ncm           | 150 Ncm           | 125 Ncm              | 150 Ncm           | 125 Ncm           | 150 Ncm           | 125 Ncm           |
| Total closing torque at 6 bar    | 300 Ncm   | 250 Ncm           | 300 Ncm           | 250 Ncm              | 300 Ncm           | 250 Ncm           | 300 Ncm           | 250 Ncm           |
| Opening torque at 6 bar each jaw | 150 Ncm   | 175 Ncm           | 150 Ncm           | 175 Ncm              | 150 Ncm           | 175 Ncm           | 150 Ncm           | 175 Ncm           |
| Total opening torque at 6 bar    | 300 Ncm   | 350 Ncm           | 300 Ncm           | 350 Ncm              | 300 Ncm           | 350 Ncm           | 300 Ncm           | 350 Ncm           |
| Opening torque at 0 bar each jaw | 0 Ncm   | 25 Ncm            | 0 Ncm             | 25 Ncm               | 0 Ncm             | 25 Ncm            | 0 Ncm             | 25 Ncm            |
| Total opening torque at 0 bar    | 0 Ncm   | 50 Ncm            | 0 Ncm             | 50 Ncm               | 0 Ncm             | 50 Ncm            | 0 Ncm             | 50 Ncm            |
| Maximum working frequency        | 2 Hz  | 2 Hz              | 2 Hz              | 2 Hz                 | 2 Hz              | 2 Hz              | 2 Hz              | 2 Hz              |
| Cycle air consumption            | 5 cm <sup>3</sup>   | 2 cm <sup>3</sup> | 5 cm <sup>3</sup> | 2 cm <sup>3</sup>    | 5 cm <sup>3</sup> | 2 cm <sup>3</sup> | 5 cm <sup>3</sup> | 2 cm <sup>3</sup> |
| Closing time without load        | 0.02 s  | 0.02 s            | 0.02 s            | 0.02 s               | 0.02 s            | 0.02 s            | 0.02 s            | 0.02 s            |
| Weight                           | 115 g   | 115 g             | 100 g             | 100 g                | 120 g             | 120 g             | 140 g             | 140 g             |

**Dimensions (mm)**

**AA-22**  
**AA-22-NO**  
**AA-26**  
**AA-26-NO**



**AA-22**

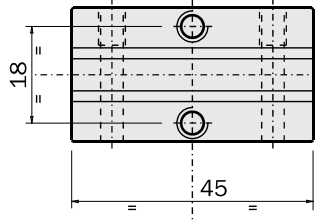


**AA-26**

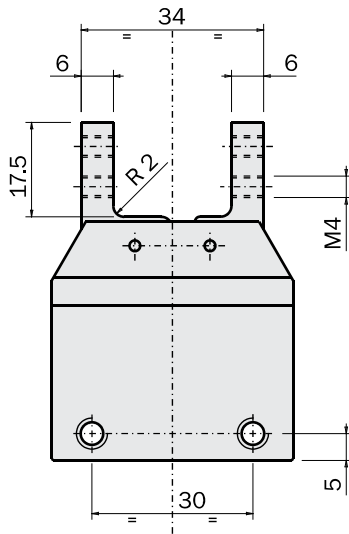
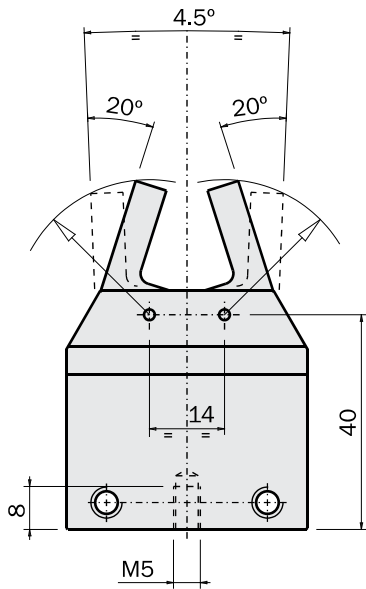


Dimensions (mm)

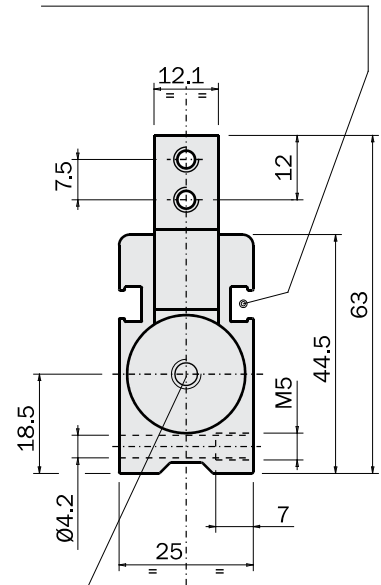
AA-23  
AA-23-NO



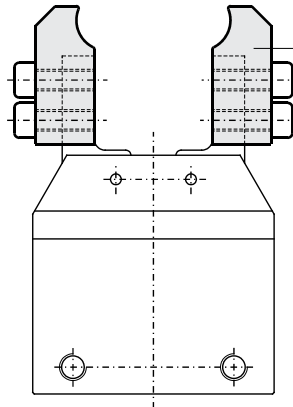
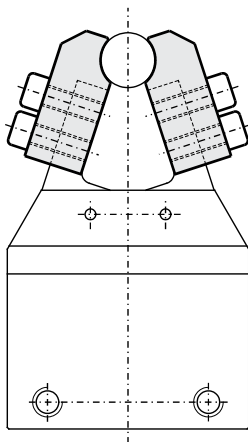
OPEN



SL series sensor groove



Air connection



Gripping tool (not supplied)

FIRST ANGLE  
PROJECTION

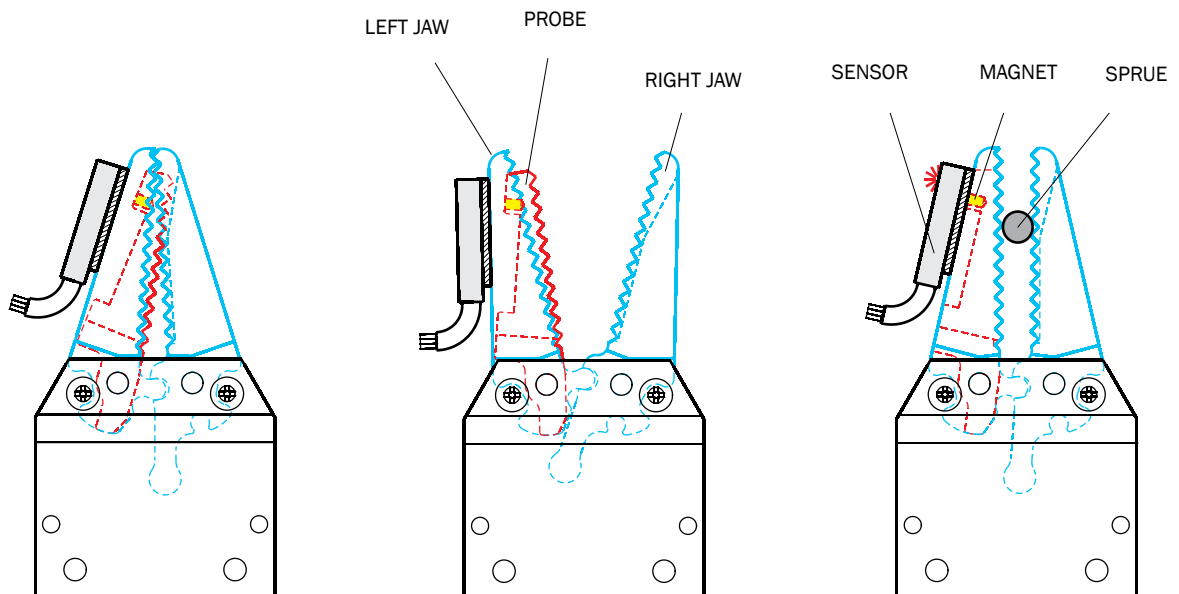
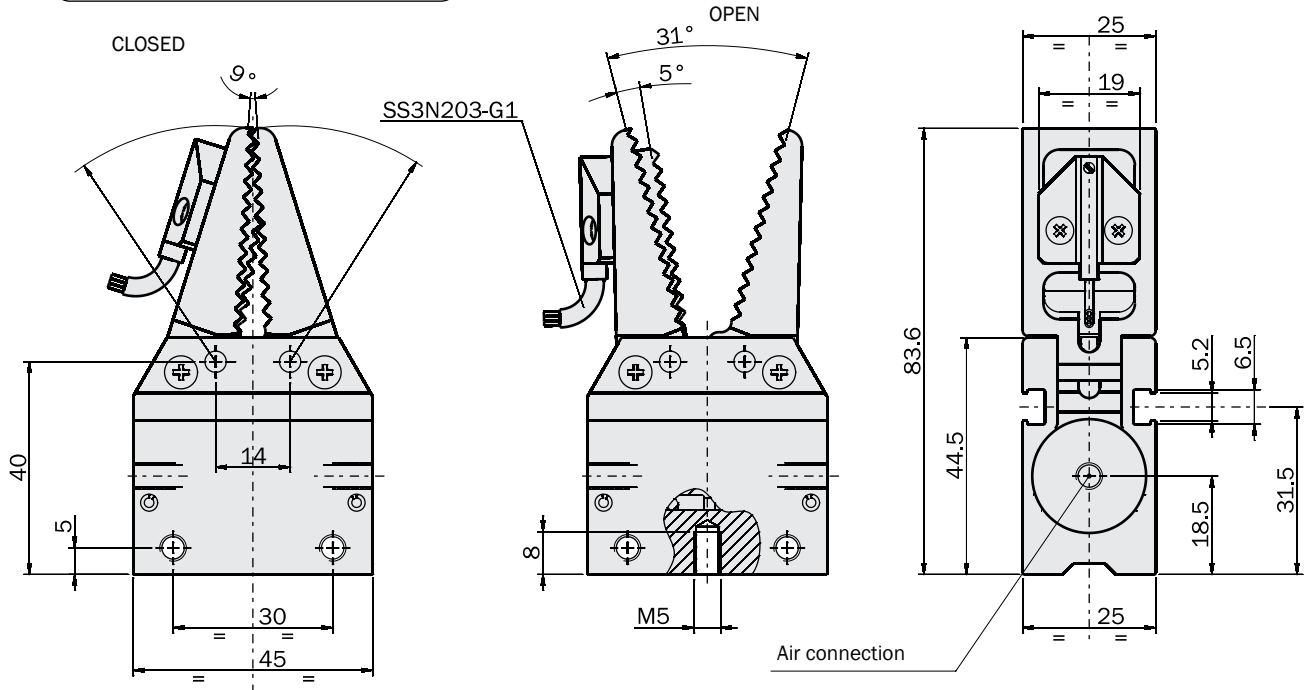
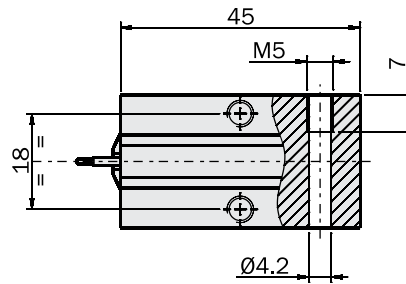
**Dimensions (mm)**

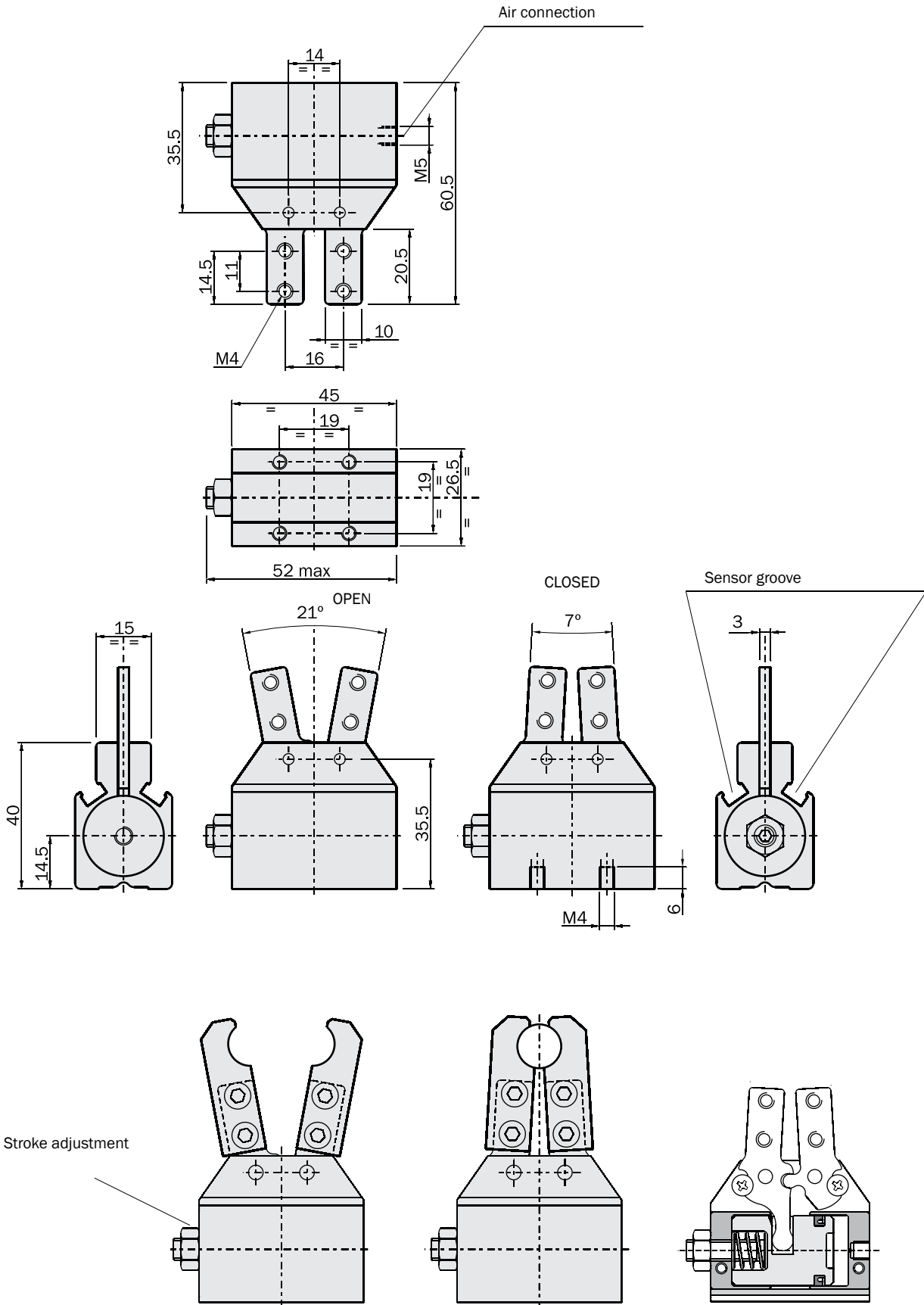
**AA-35**  
**AA-35-NO**

Wider, grooved fingers for a better gripping



FIRST ANGLE PROJECTION



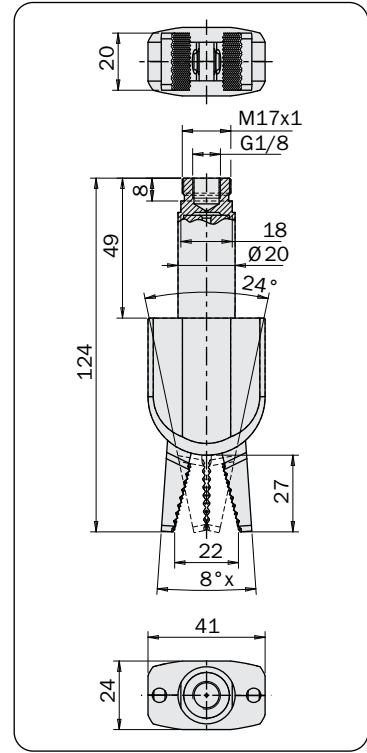
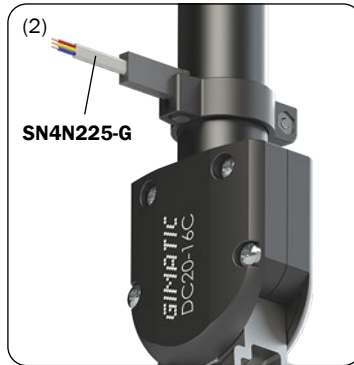
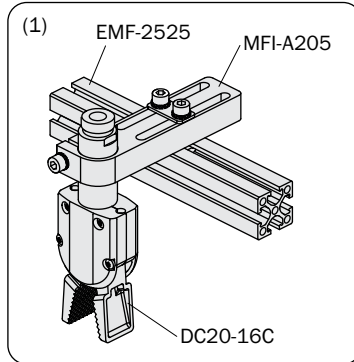


FIRST ANGLE PROJECTION



**2-jaw self-centering angular pneumatic gripper, series DC**

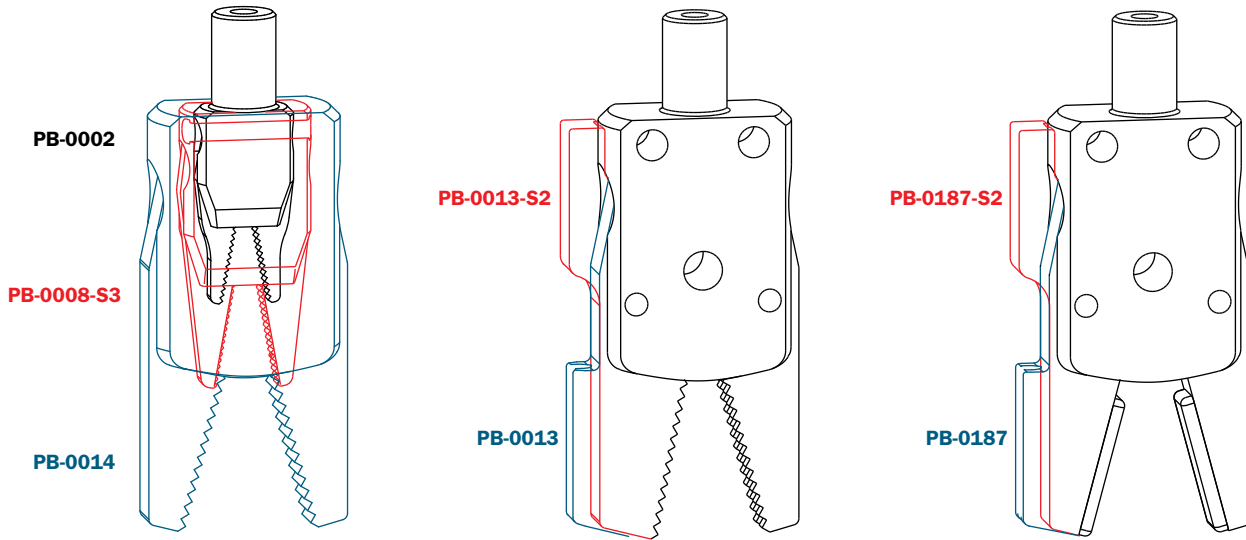
- Single acting with spring opening.
- Several mounting accessories (1).
- Steel jaws.
- Plastic-steel-aluminium composite body.
- FDA-H1 food-grade grease.
- Optional sensors and clamps (2).



|                                  | <b>DC20-16C</b>   |
|----------------------------------|---|
| Medium                           | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |
| Pressure range                   | 2 ÷ 8 bar   |
| Temperature range                | 5 ÷ 60 °C.  |
| Stroke                           | 2 x 15°   |
| Closing torque at 6 bar each jaw | 300 Ncm   |
| Total closing torque at 6 bar    | 600 Ncm   |
| Opening torque at 0 bar each jaw | 20 Ncm  |
| Total opening torque at 0 bar    | 40 Ncm  |
| Maximum working frequency        | 2 Hz  |
| Cycle air consumption            | 3.6 cm <sup>3</sup>                                       |
| Closing time                     | 0.02 s  |
| Weight                           | 148 g   |

### 2-jaw non-selfcentering angular pneumatic sprue gripper series PB

- FDA-H1 food-grade grease.
- Three available sizes with piston bore 6mm, 8mm, 12mm.
- Sensor on the tip of the jaw, or on the tail.
- Jaws with teeth (for sprue gripping), or with pads (for soft contact).
- Jaws in aluminium or steel.



|   | PB-0002   | NEW PB-0007-S3 | NEW PB-0008-S3 | PB-0013 | NEW PB-0013-S2 | PB-0014 | PB-0015        | PB-0017 | PB-0160<br>PB-0181<br>PB-0182 | PB-0180 | NEW PB-0180-SV | NEW PB-0180-S2 | PB-0187 | NEW PB-0187-S2 | NEW PB-0187-SV |
|---|---|----------------|----------------|---------|----------------|---------|----------------|---------|-------------------------------|---------|----------------|----------------|---------|----------------|----------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                |                |         |                |         |                |         |                               |         |                |                |         |                |                |
| Pressure range                              | 4 ÷ 8 bar   |                |                |         |                |         |                |         |                               |         |                |                |         |                |                |
| Temperature range                           | 5 ÷ 60 °C.  |                |                |         |                |         |                |         |                               |         |                |                |         |                |                |
| Weight                                      | 7 g   | 17 g           | 18 g           | 55 g    | 64 g           | 50 g    | 50 g           | 45 g    | 75 g                          | 60 g    | 74 g           | 70 g           | 58 g    | 62 g           |                |
| Stroke                                      | 2x10°   |                |                | 2x15°   |                |         | 2x16°          |         | 2x15°                         |         |                |                |         |                |                |
| Cycle air consumption                       | 0.3 cm³   |                |                | 1.2 cm³ |                |         | 1.5 cm³        |         | 1.2 cm³                       |         |                |                |         |                |                |
| Closing gripping torque at 6 bar each jaw   | 10 Ncm  | 24 Ncm         |                | 80 Ncm  |                |         | 60 Ncm         |         | 80 Ncm                        |         |                |                |         |                |                |
| Opening gripping torque (at 6 bar) each jaw | 1 Ncm   | 2 Ncm          |                | 5 Ncm   |                |         | 5 Ncm (25 Ncm) |         | 5 Ncm                         |         |                |                |         |                |                |
| Maximum working frequency                   | 3 Hz  |                |                |         |                |         |                |         |                               |         |                |                |         |                |                |
| Closing time without load                   | 0.01 s  |                |                |         |                |         |                |         |                               |         |                |                |         |                |                |

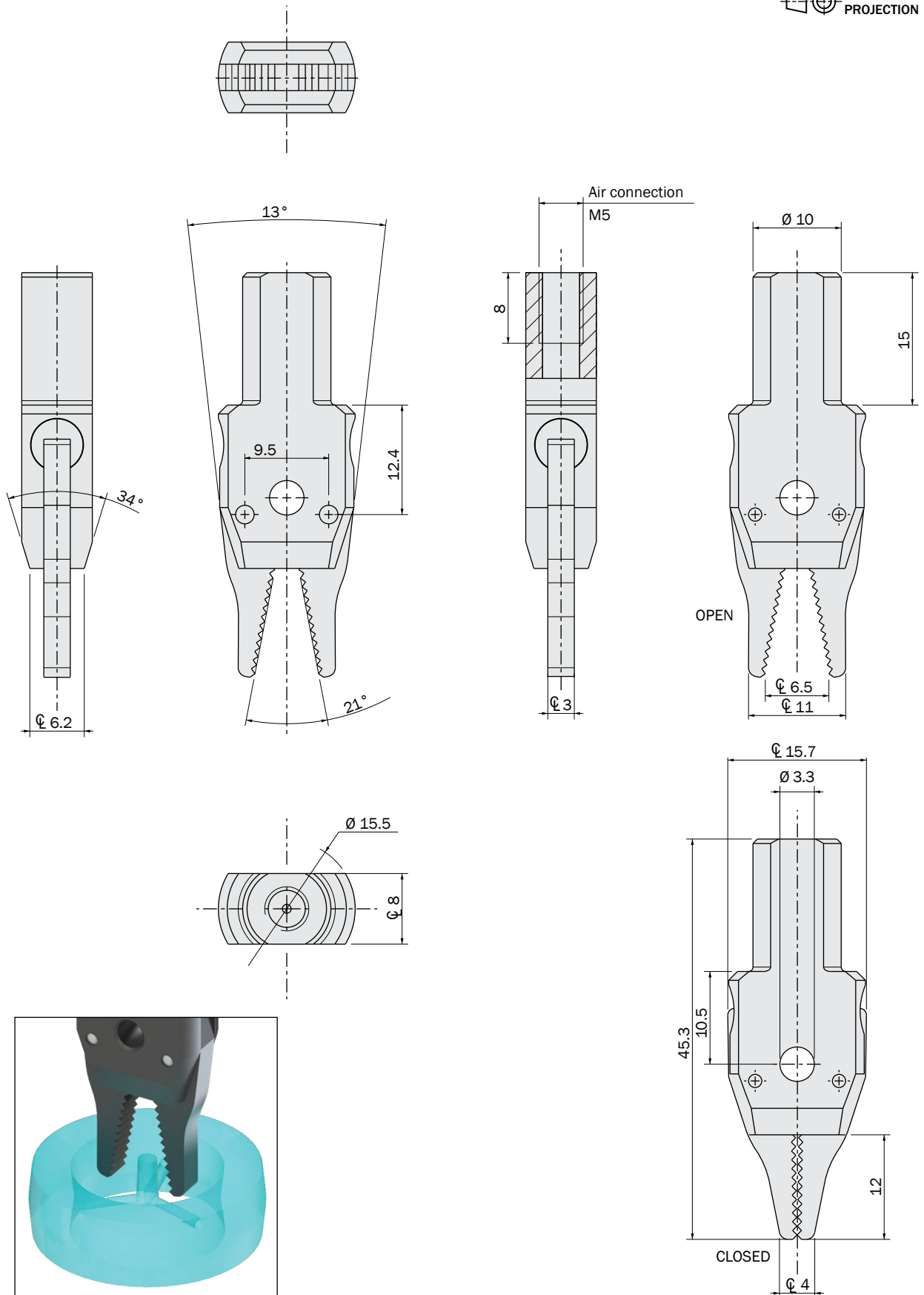
Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

**PB-0002**

- Piston bore: 6mm.
- 8mm thickness.
- Single-acting with opening spring.

**Dimensions (mm)**

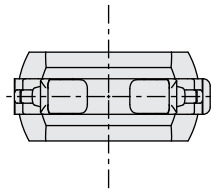
FIRST ANGLE PROJECTION



**PB-0007-S3**

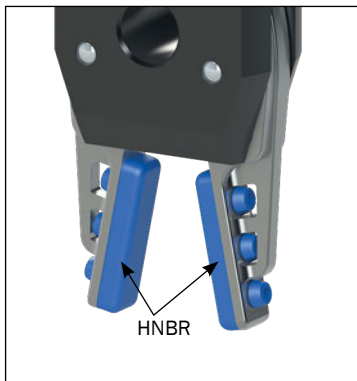
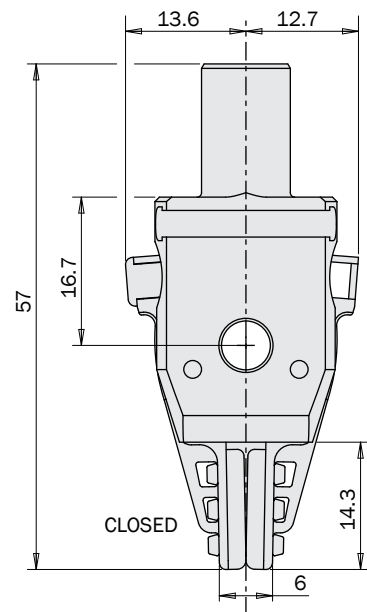
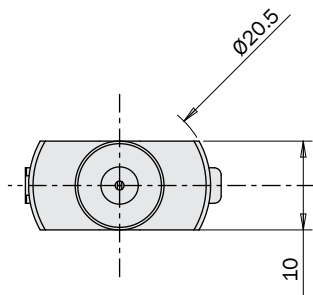
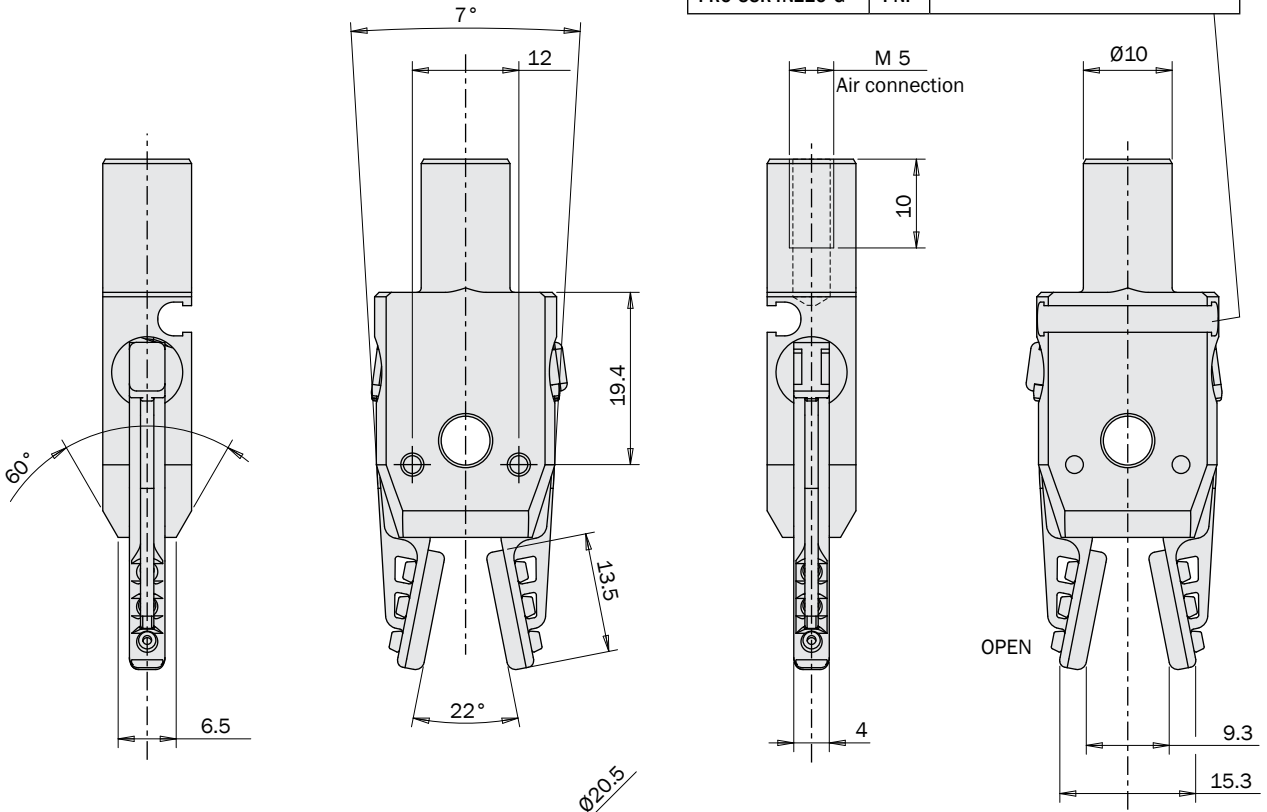
- Piston bore: 8mm.
- Single-acting with opening spring.
- Rubber (HNBR) pads for a soft contact.
- Ready for PRO-SSR programmable magnetic sensor.
- Minimum detectable thickness: 2mm.

**Dimensions (mm)**



**The optional sensor are:**

|                |     |                        |
|----------------|-----|------------------------|
| PRO-SSR3M215-G | NPN | M8 snap plug connector |
| PRO-SSR3N215-G | PNP |                        |
| PRO-SSR4M225-G | NPN | 2.5m cable             |
| PRO-SSR4N225-G | PNP |                        |

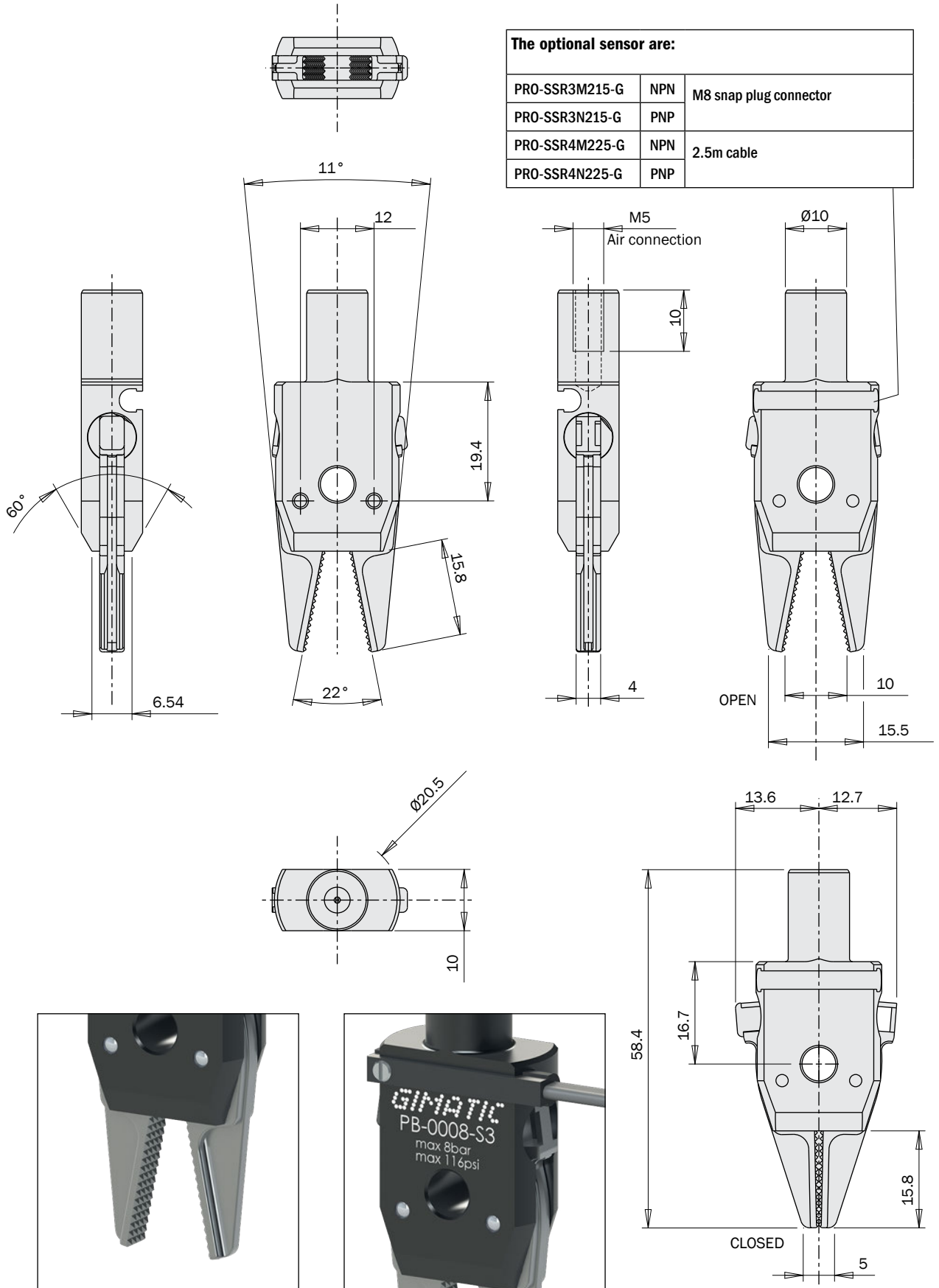


**PB-0008-S3**

- Piston bore: 8mm.
- Single-acting with opening spring.
- Ready for PRO-SSR programmable magnetic sensor.
- Minimum detectable thickness: 2mm.

**Dimensions (mm)**

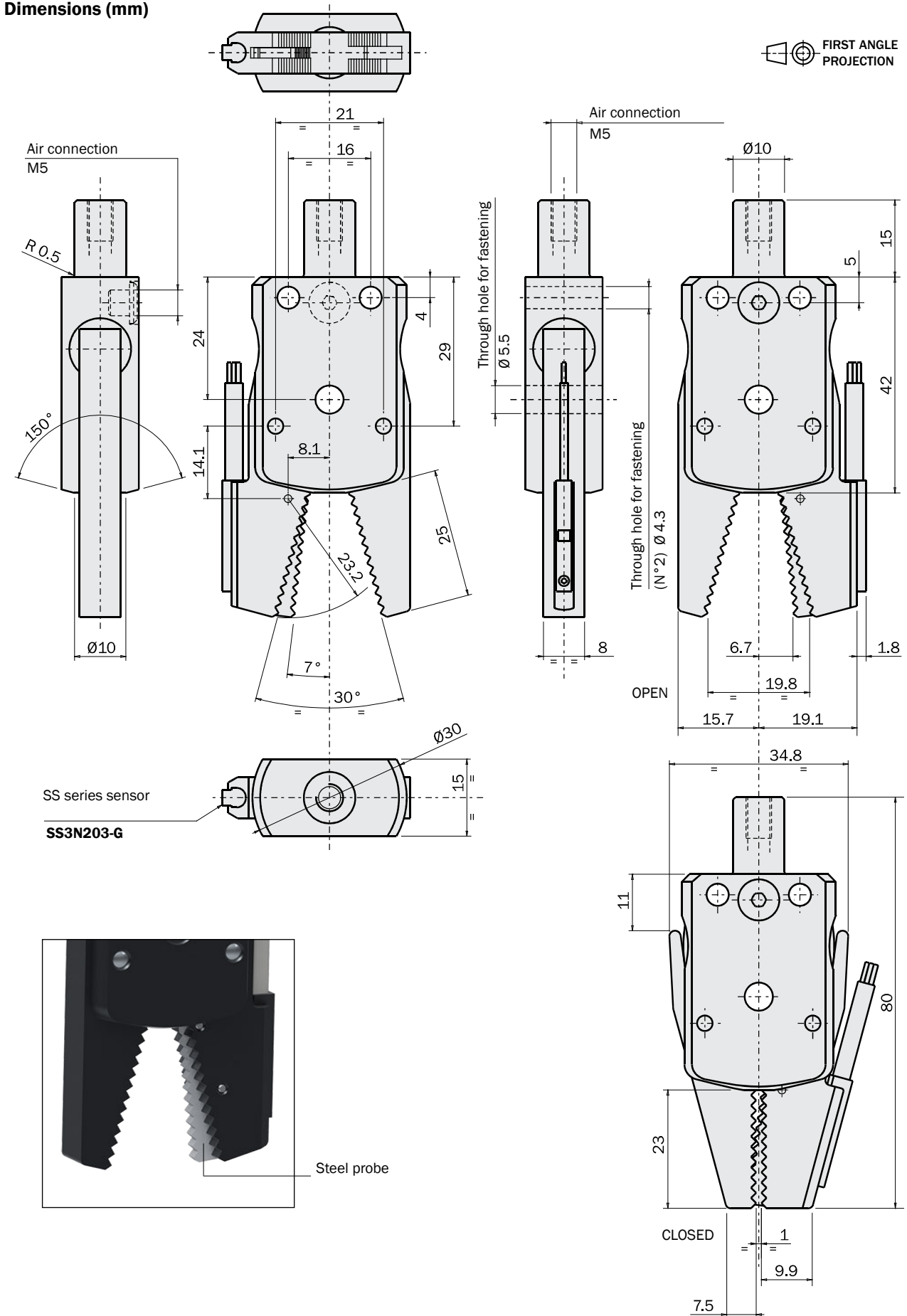
FIRST ANGLE PROJECTION



**PB-0013**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Sensor SS3N203-G included and fitted to the tip of the jaw.

**Dimensions (mm)**



FIRST ANGLE PROJECTION

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

**PB-0013S2**

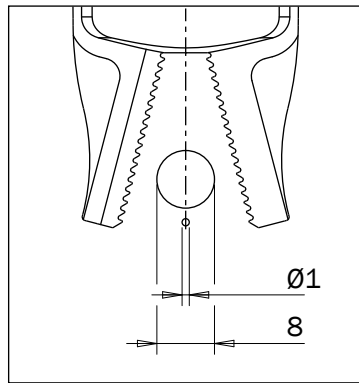
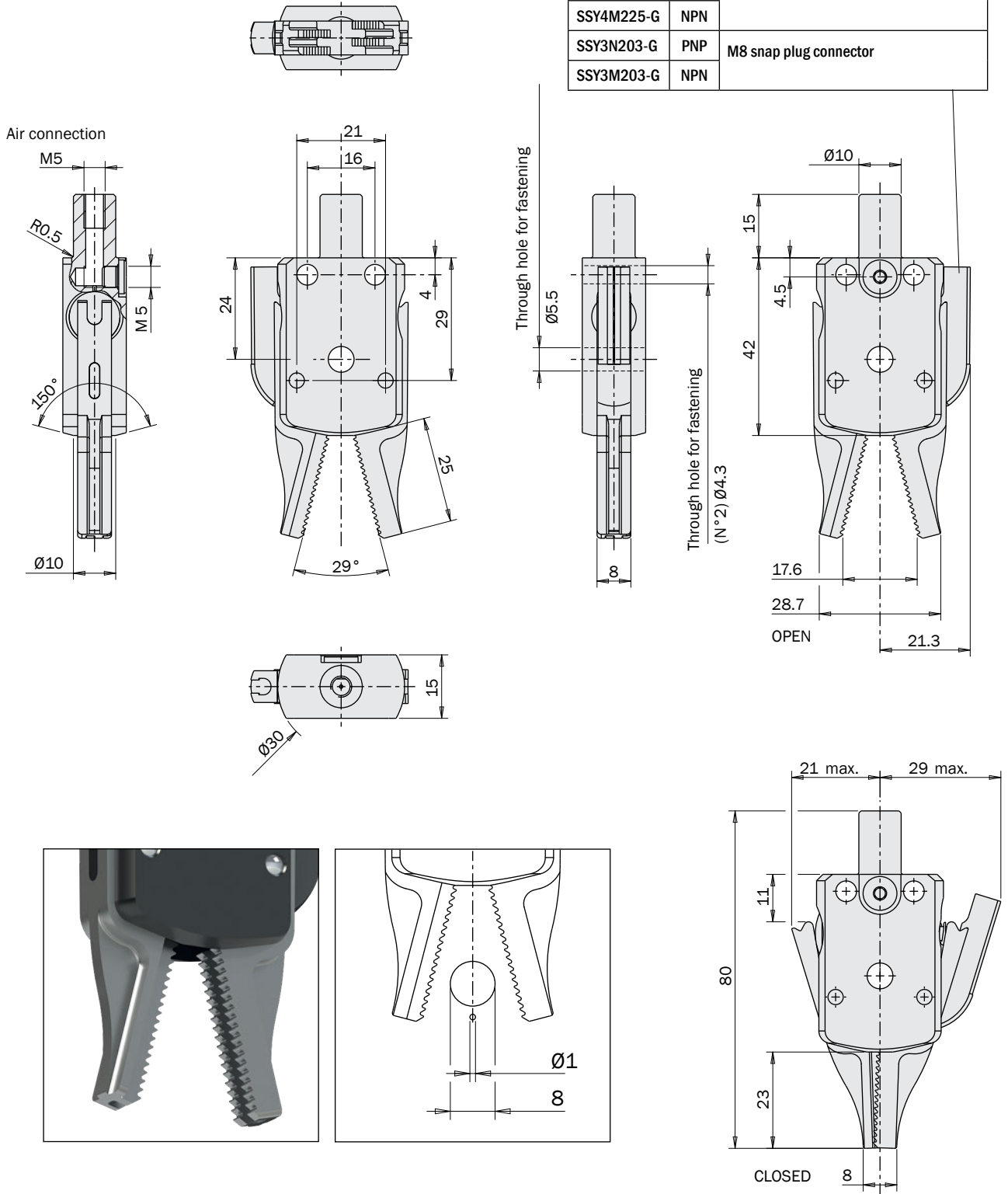
- Piston bore: 12mm.
- Single-acting with opening spring.
- Optional magnetic sensor SSY with reduced encumbrance in the grip area.

**Dimensions (mm)**



**The optional sensor are:**

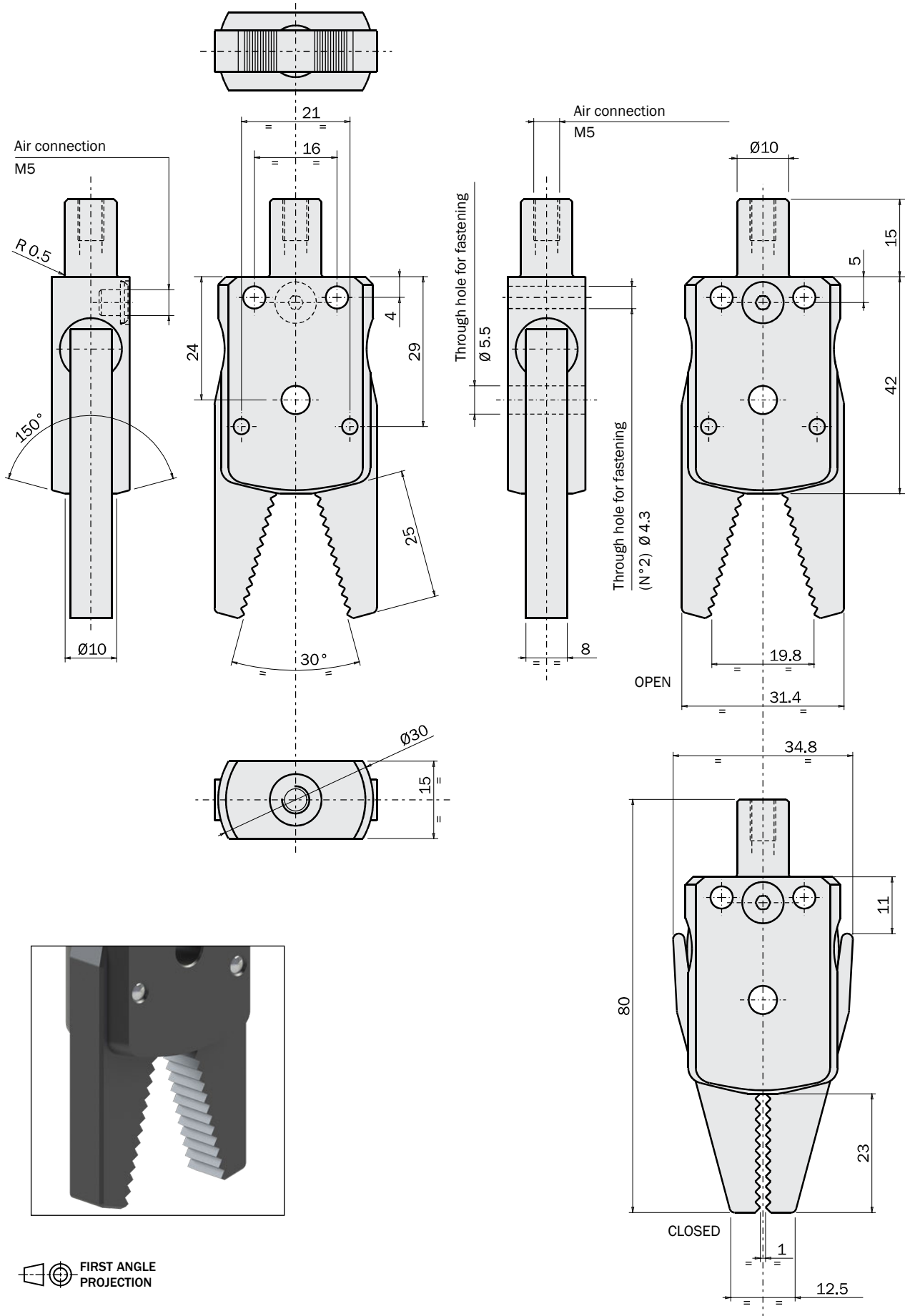
|            |     |                        |
|------------|-----|------------------------|
| SSY4N225-G | PNP | 2.5m cable             |
| SSY4M225-G | NPN |                        |
| SSY3N203-G | PNP | M8 snap plug connector |
| SSY3M203-G | NPN |                        |



**PB-0014**

- Piston bore: 12mm.
- Single-acting with opening spring.

**Dimensions (mm)**



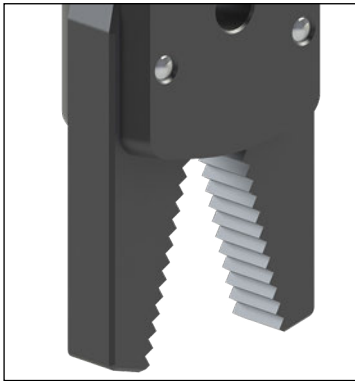
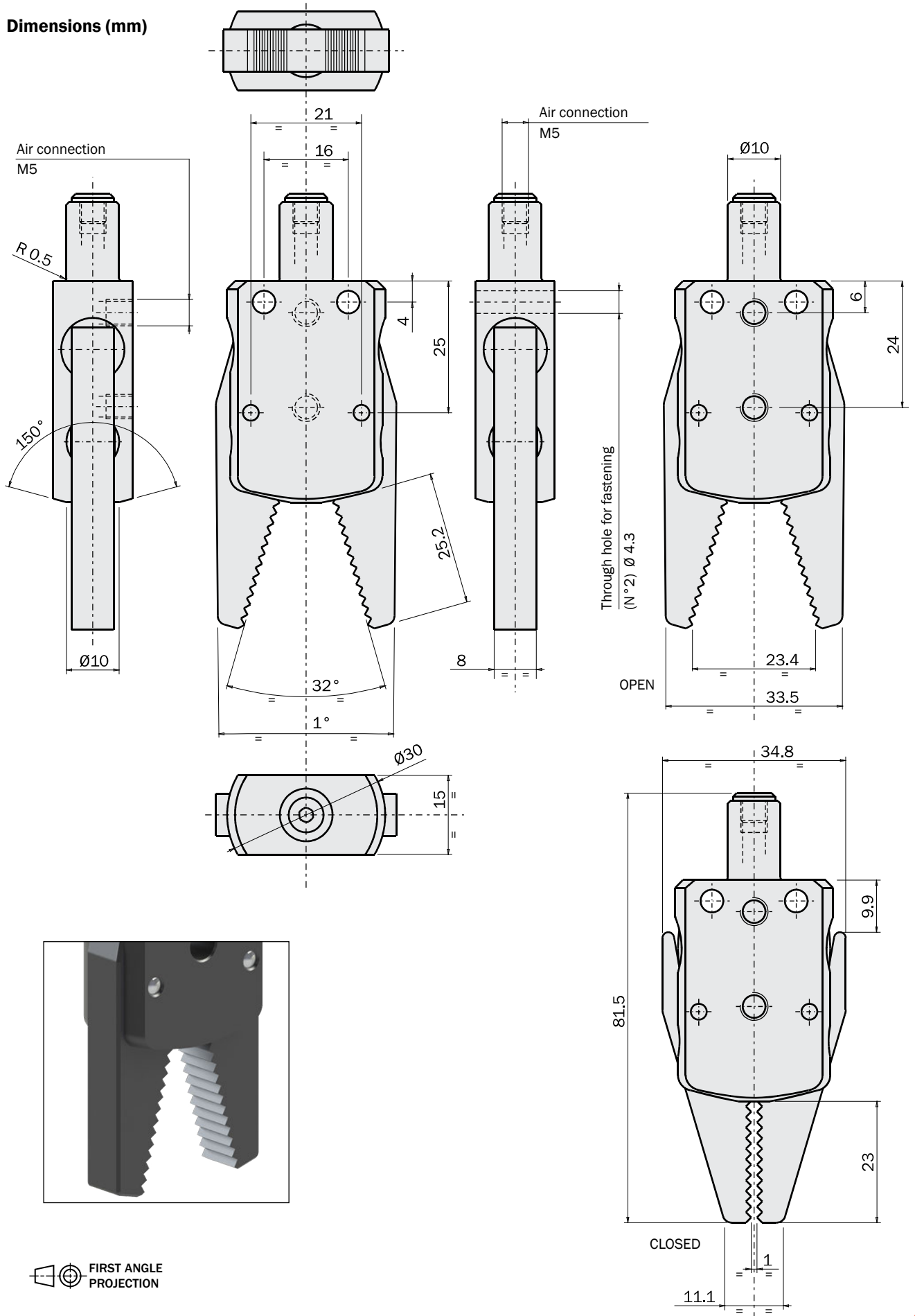
FIRST ANGLE PROJECTION



**PB-0015**

- Piston bore: 12mm.
- Double-acting with opening spring.

**Dimensions (mm)**

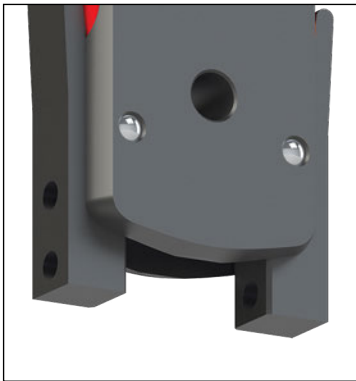
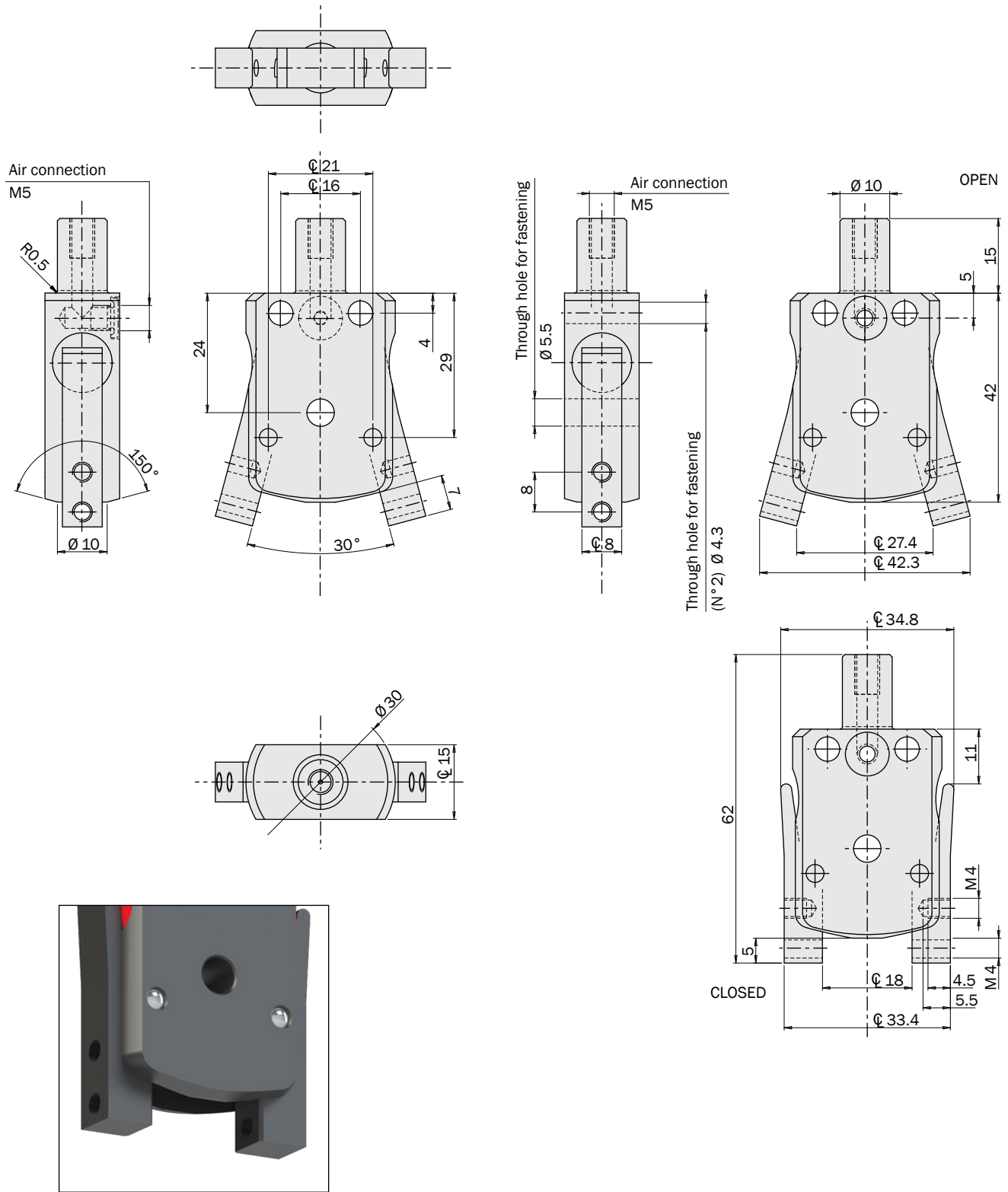


FIRST ANGLE PROJECTION

**PB-0017**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Custom jaws.

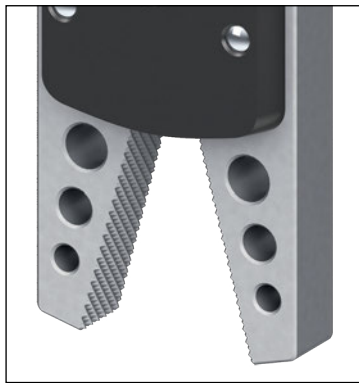
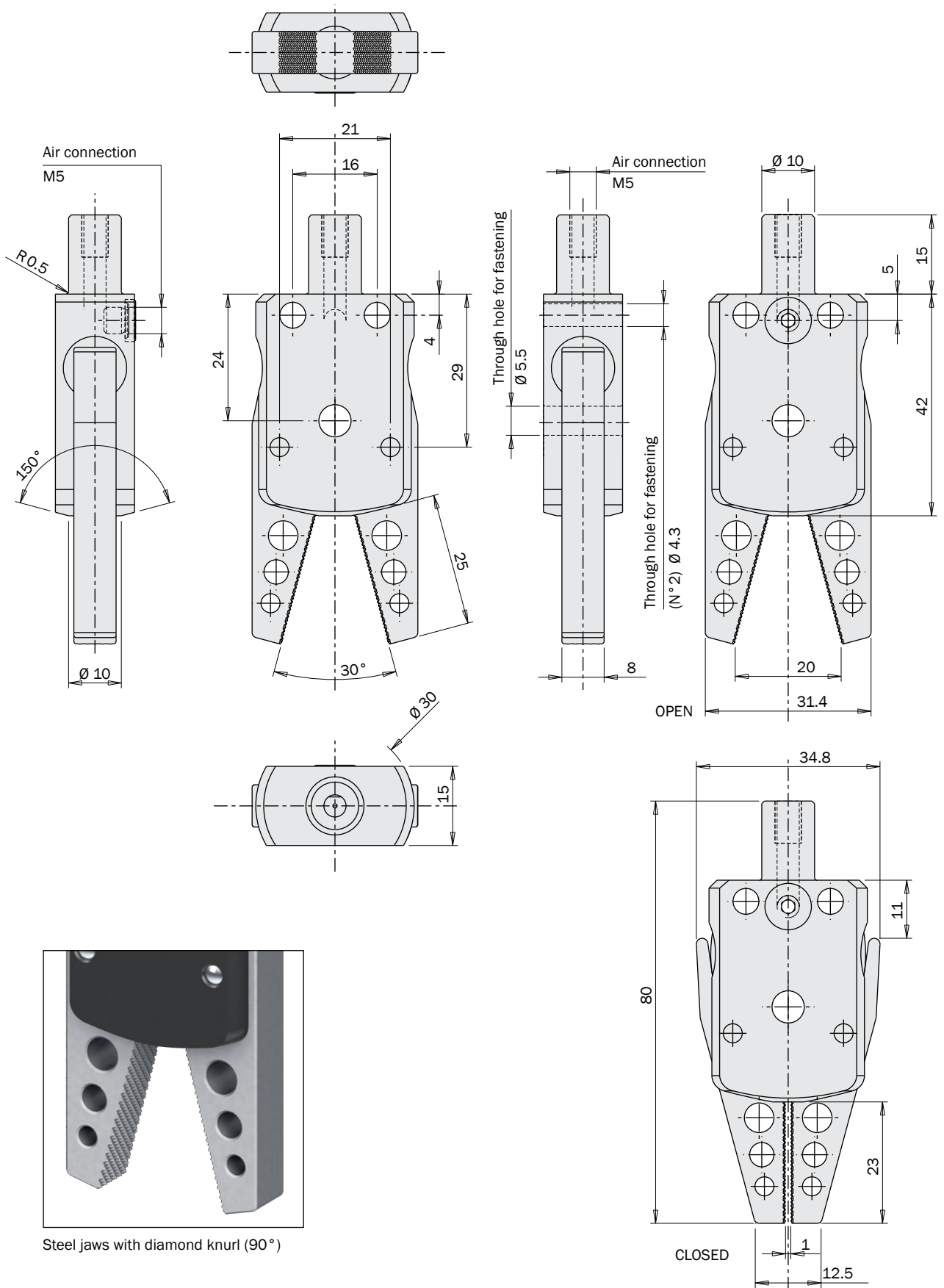
**Dimensions (mm)**



**PB-0140**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Steel jaws.

**Dimensions (mm)**



Steel jaws with diamond knurl (90°)



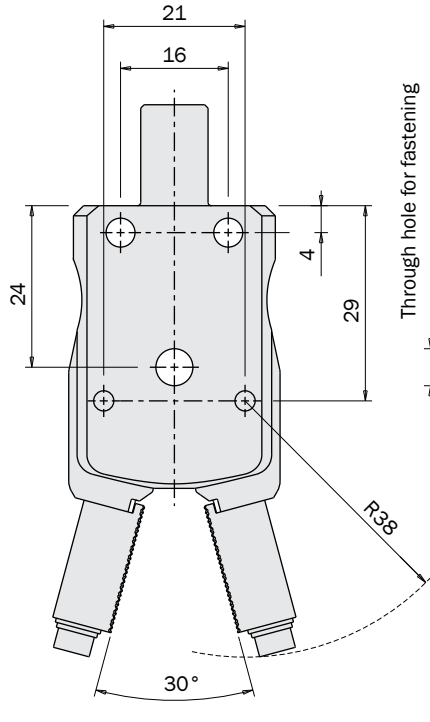
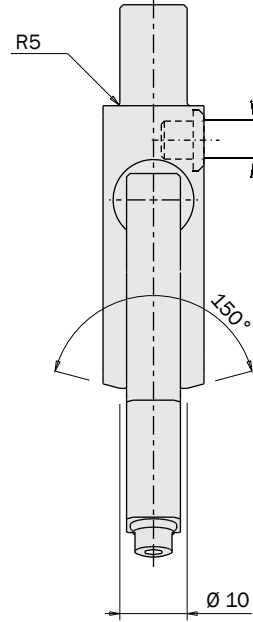
**PB-0150**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Swiveling jaws for conical sprues.

**Dimensions (mm)**

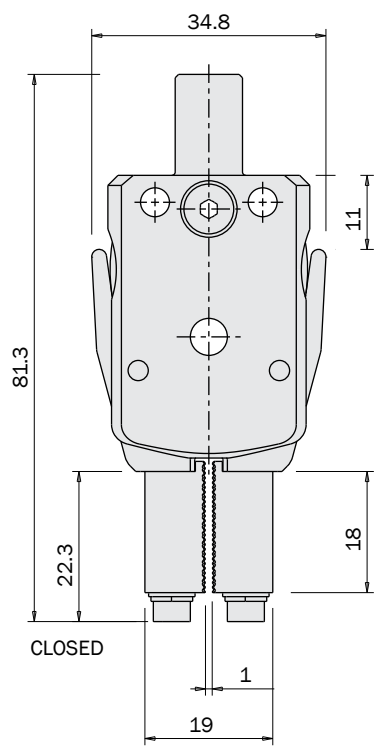
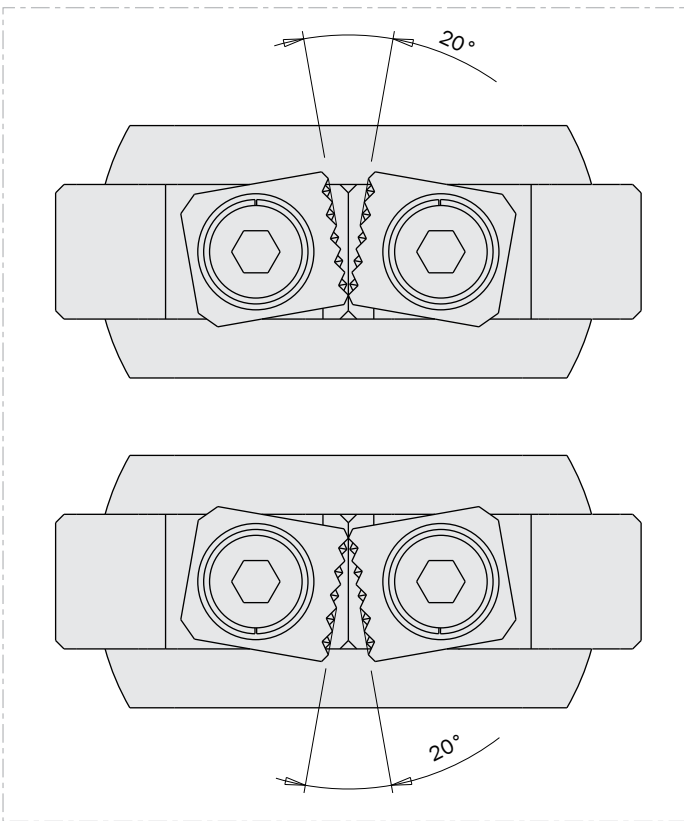
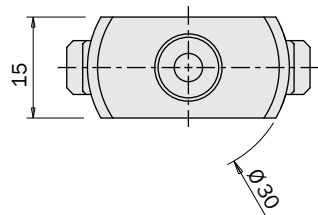
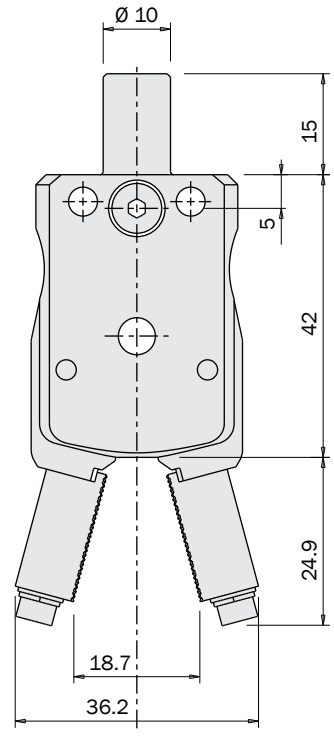
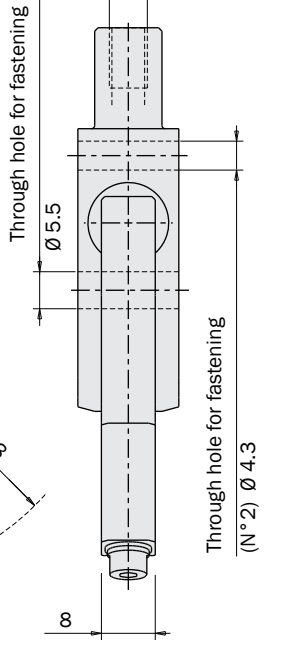
Air connection

M5



Air connection

M5

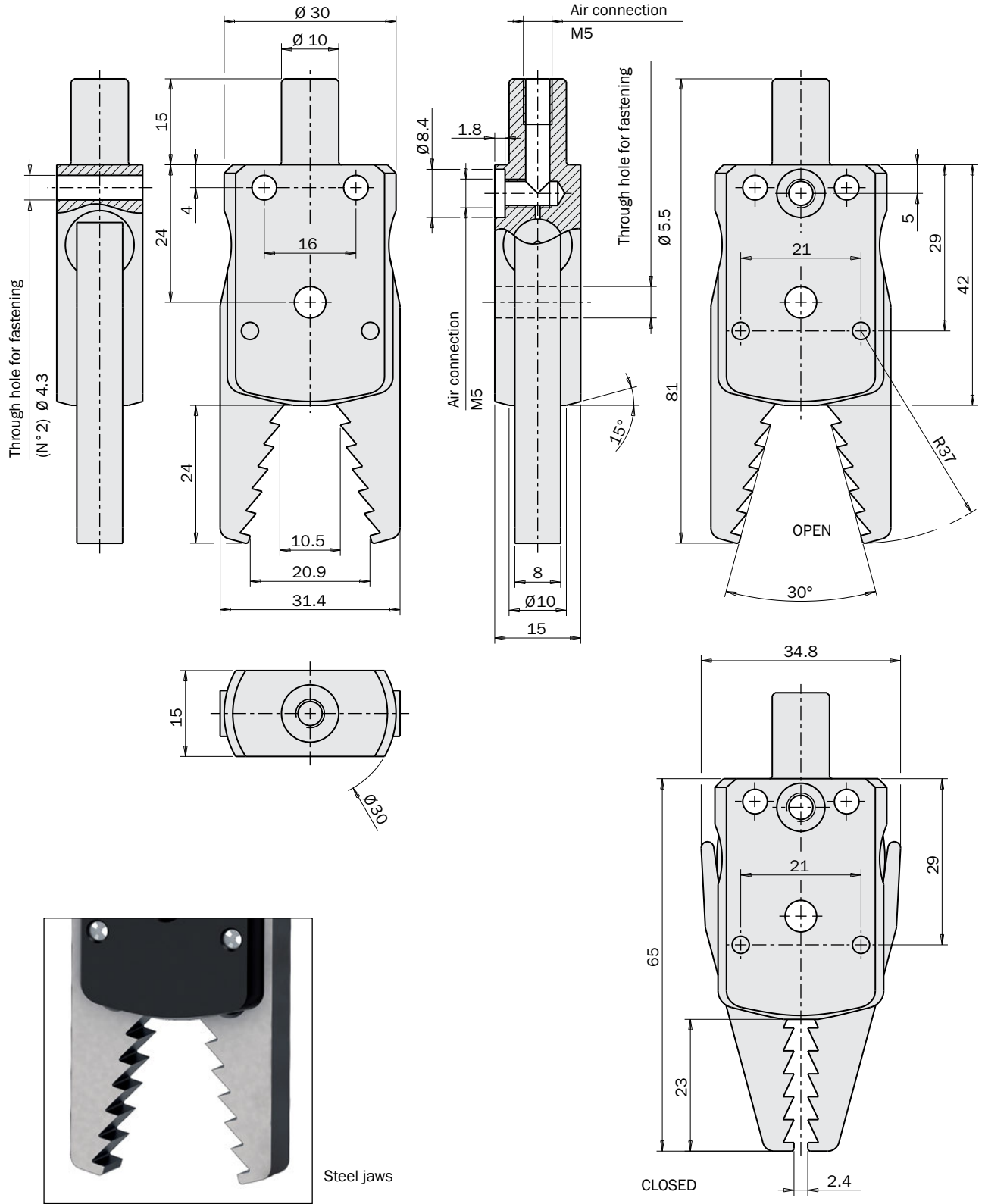


FIRST ANGLE PROJECTION

**PB-0160**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Steel jaws.

**Dimensions (mm)**

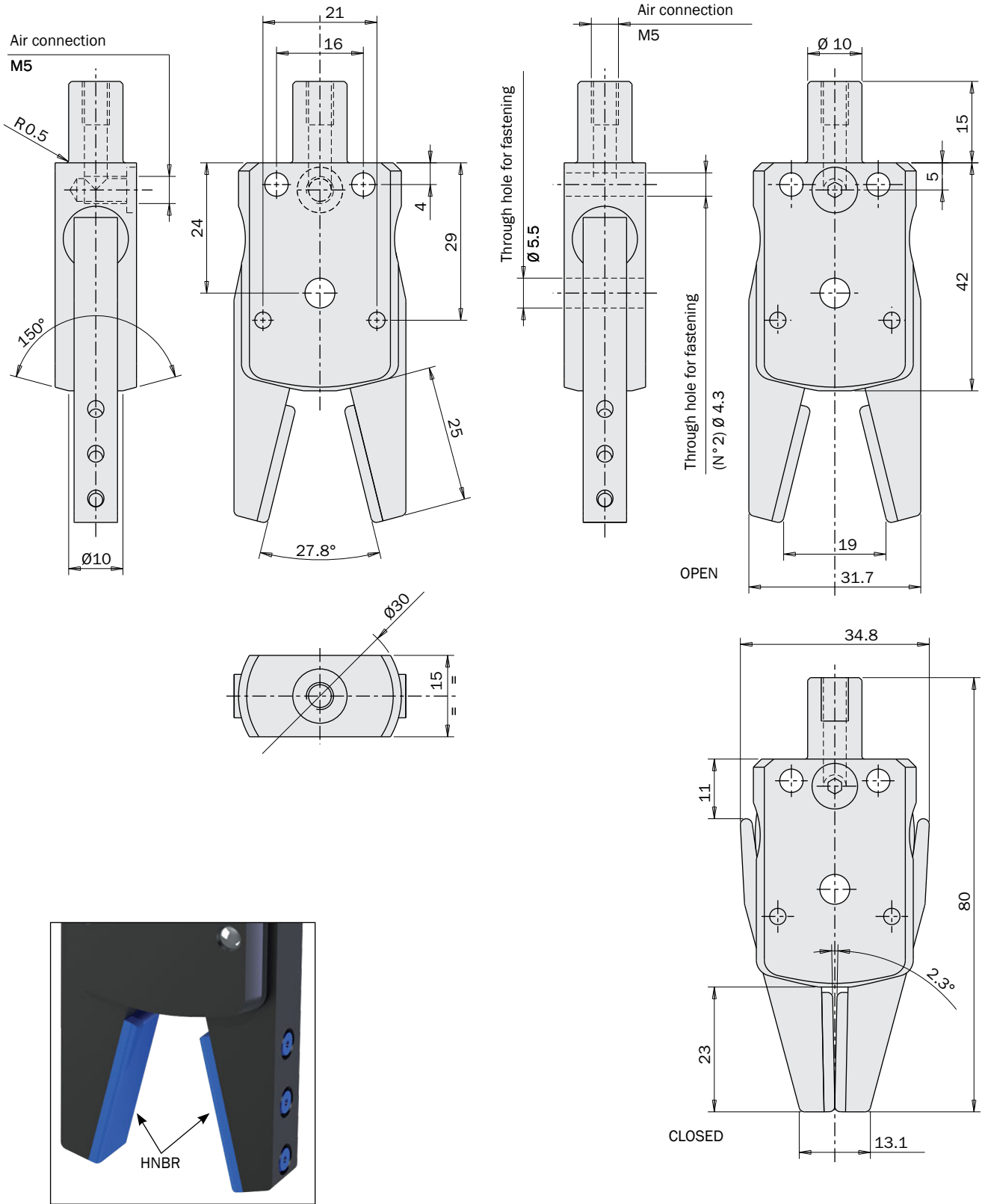


FIRST ANGLE PROJECTION

**PB-0170**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Rubber (HNBR) pads for a soft contact.

**Dimensions (mm)**



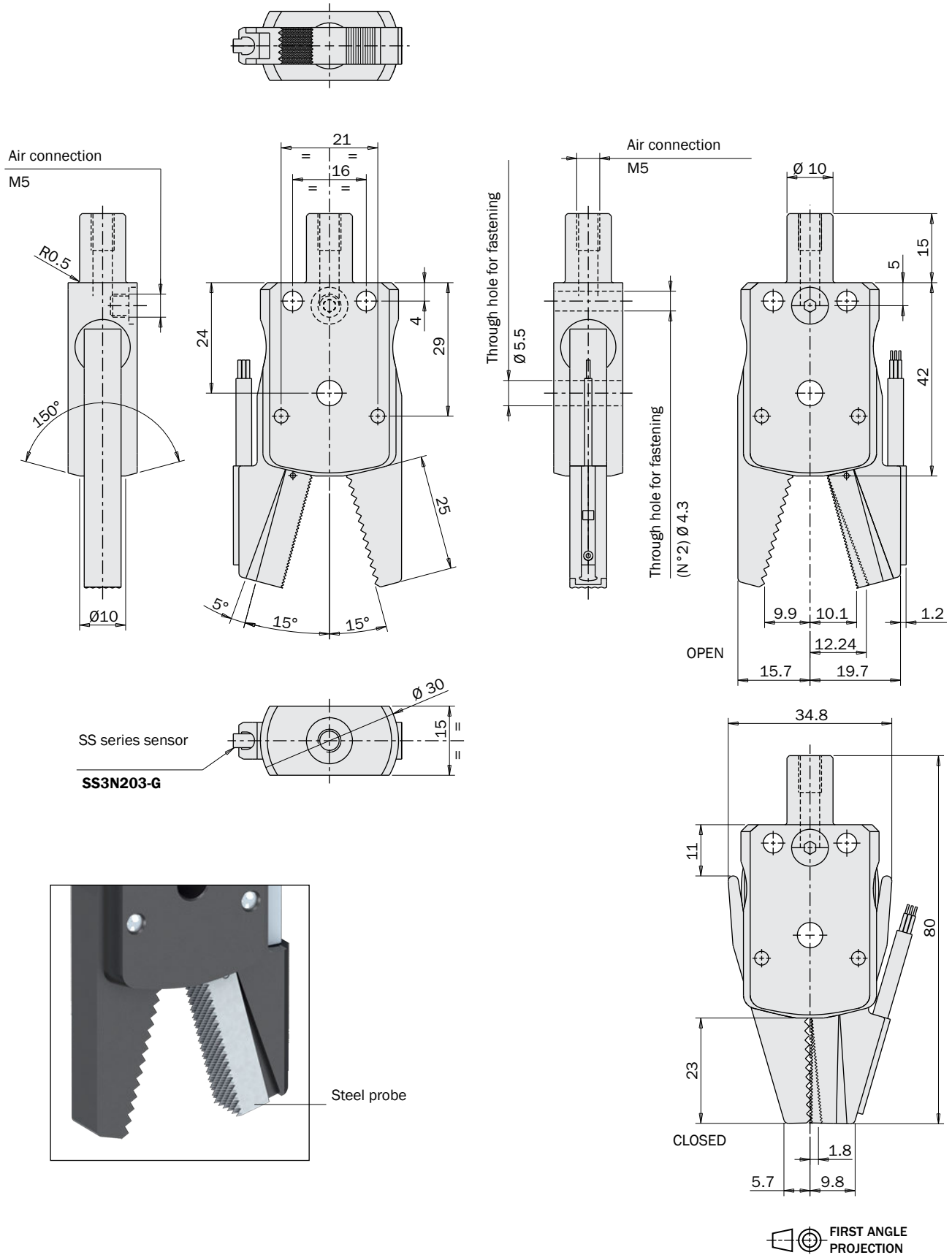
FIRST ANGLE PROJECTION

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

**PB-0180**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Sensor SS3N203-G included and fitted to the tip of the jaw.
- Steel probe.

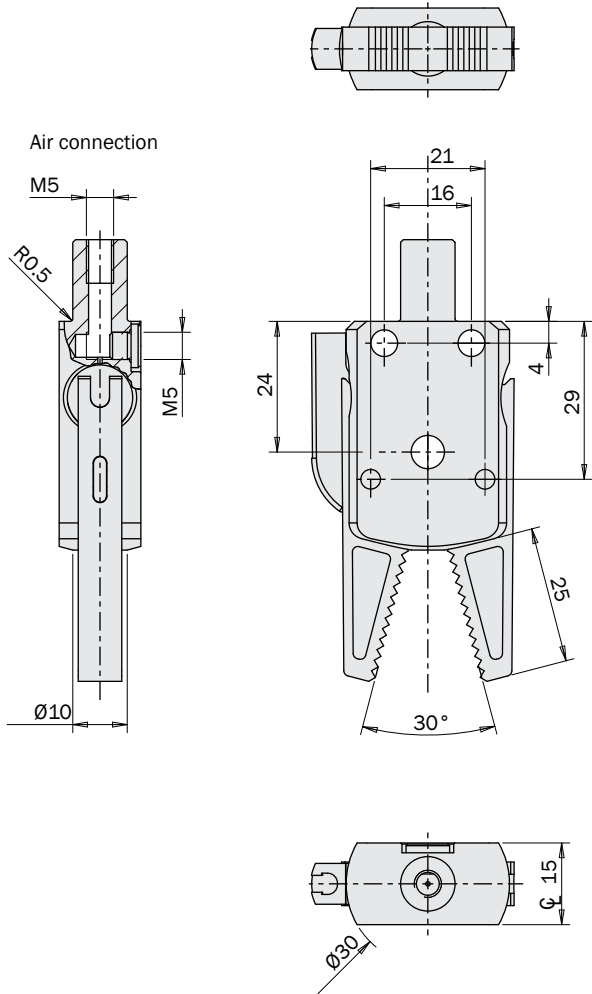
**Dimensions (mm)**



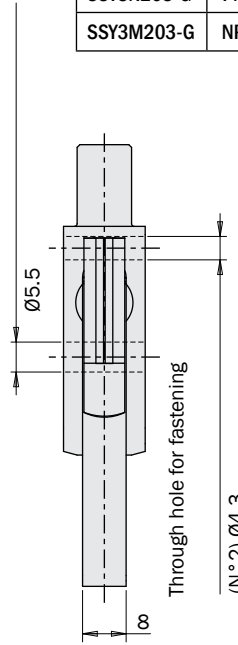
**PB-0180-S2**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Optional magnetic sensor SSY with reduced encumbrance in the grip area.

**Dimensions (mm)**

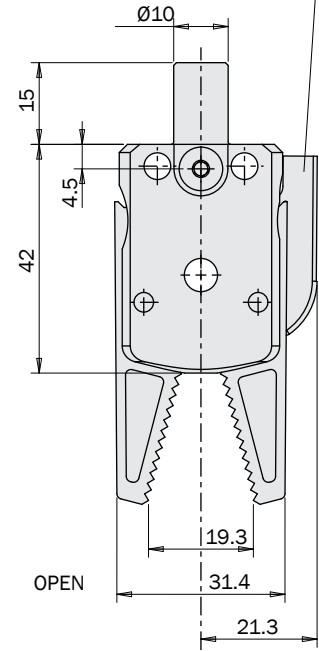


Through hole for fastening

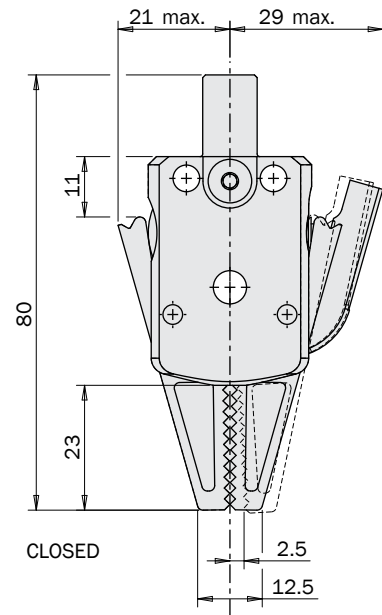
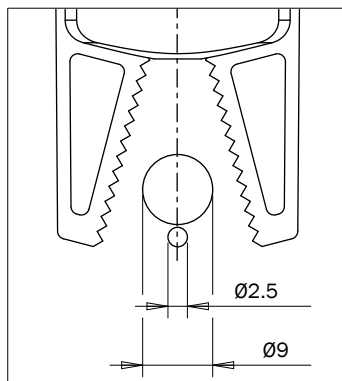
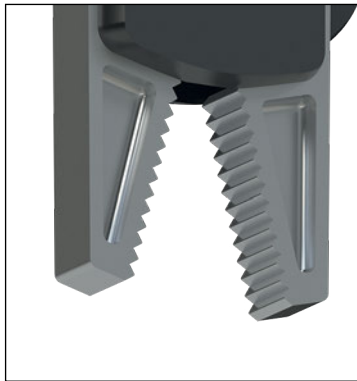


Through hole for fastening

(N°2) Ø4.3



OPEN



CLOSED

**The optional sensor are:**

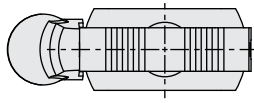
|            |     |                        |
|------------|-----|------------------------|
| SSY4N225-G | PNP | 2.5m cable             |
| SSY4M225-G | NPN |                        |
| SSY3N203-G | PNP | M8 snap plug connector |
| SSY3M203-G | NPN |                        |



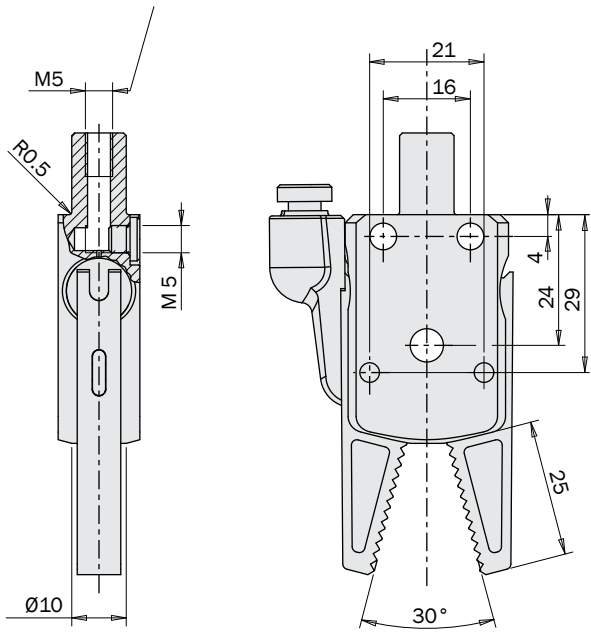


**PB-0180-SV**

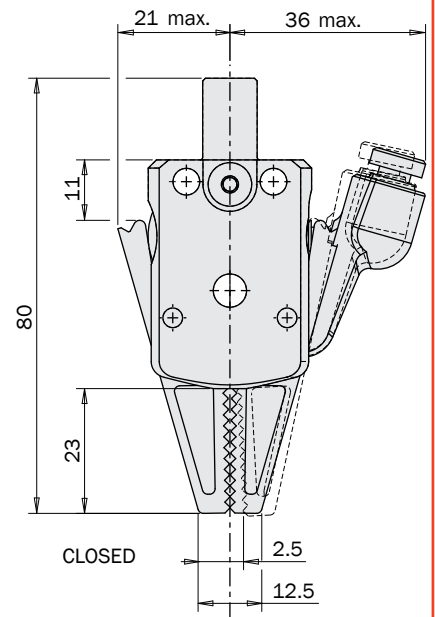
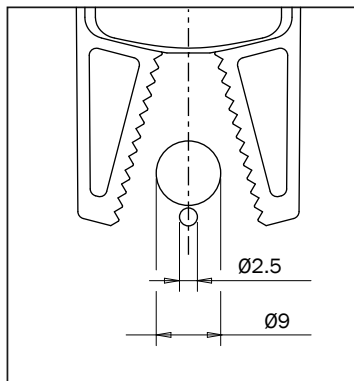
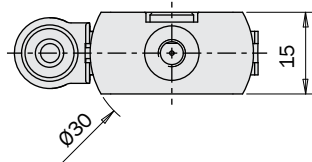
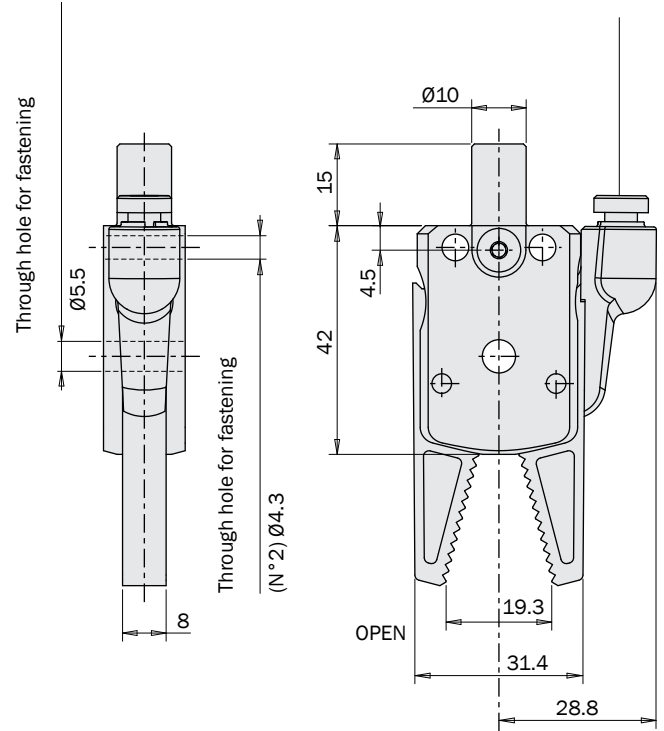
- Piston bore: 12mm.
- Single-acting with opening spring.
- Grip detection by vacuum sensor



Compressed air connection (gripper closing)



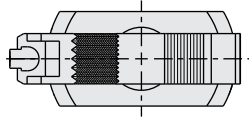
Vacuum connection (remote vacuum switch)



PB-0181

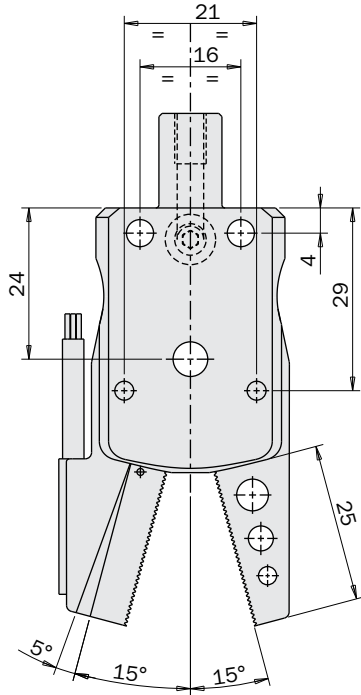
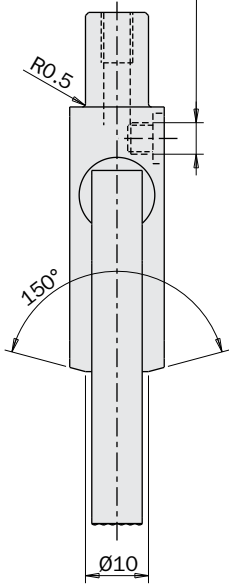
- Piston bore: 12mm.
- Single-acting with opening spring.
- Sensor SS3N203-G included and fitted to the tip of the jaw.
- Steel jaw and probe.

Dimensions (mm)



Air connection

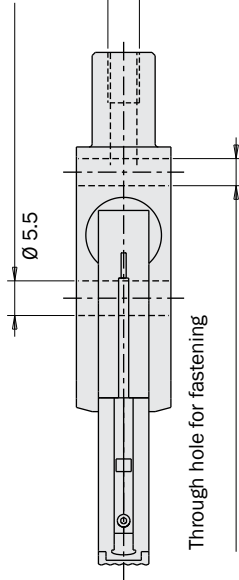
M5



Through hole for fastening

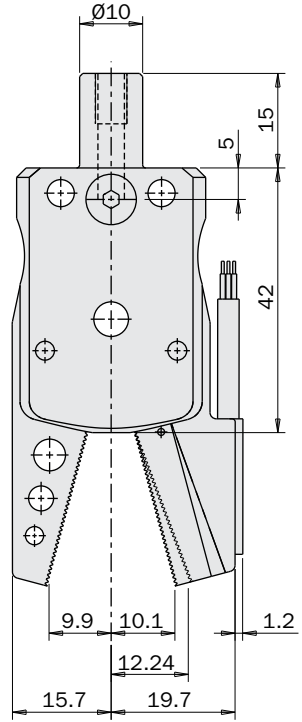
Air connection

M5



Through hole for fastening

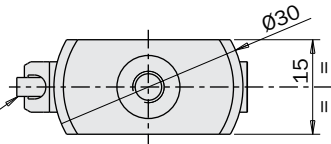
(N°2) Ø 4.3



OPEN

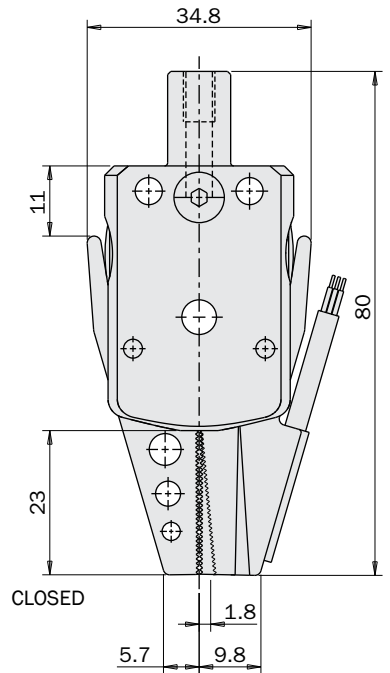
SS series sensor

SS3N203-G



Steel jaw

Steel probe



CLOSED

FIRST ANGLE PROJECTION

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

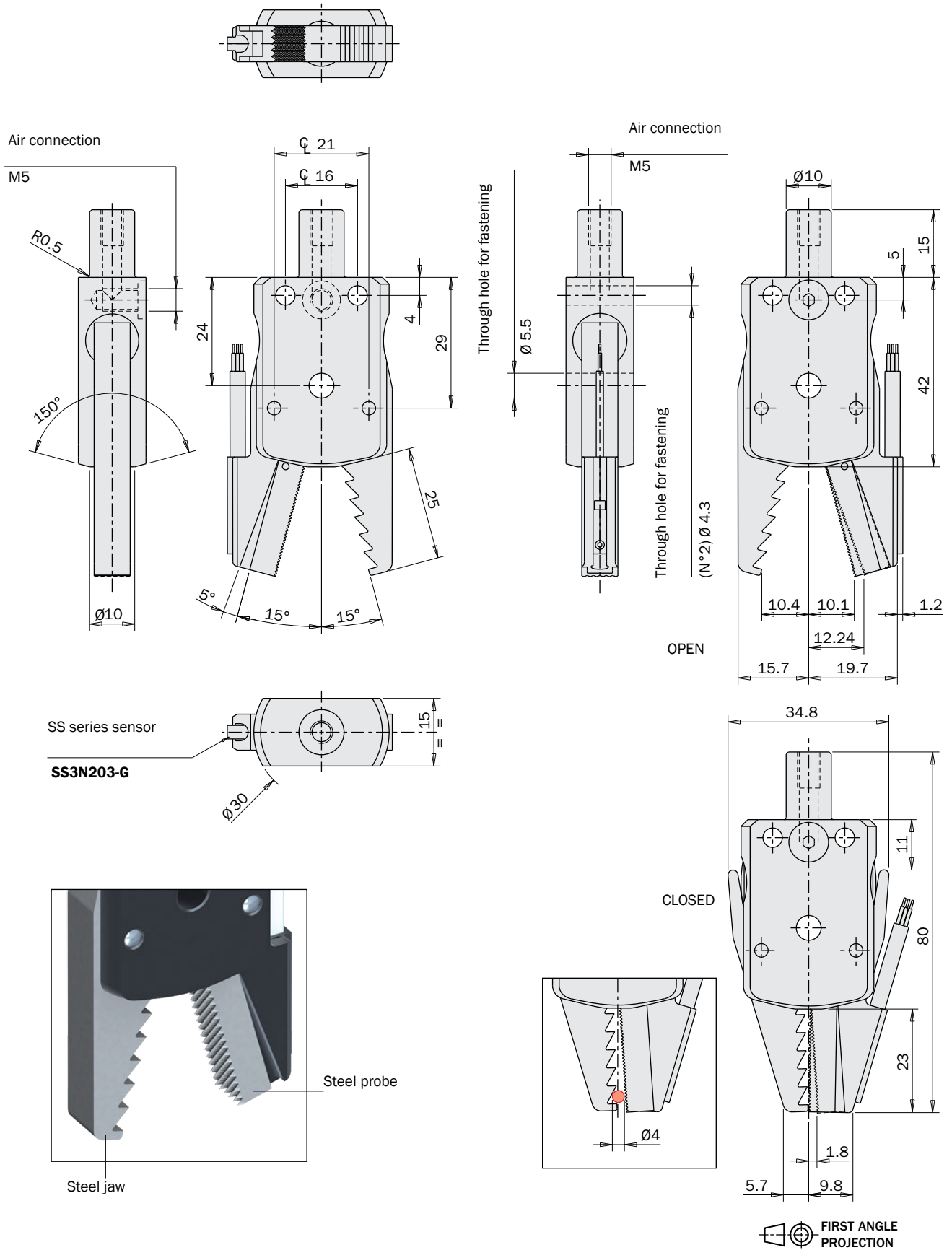
Options

Sensors

**PB-0182**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Sensor SS3N203-G included and fitted to the tip of the jaw.
- Steel jaw and probe.

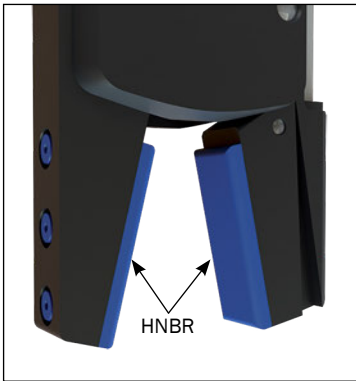
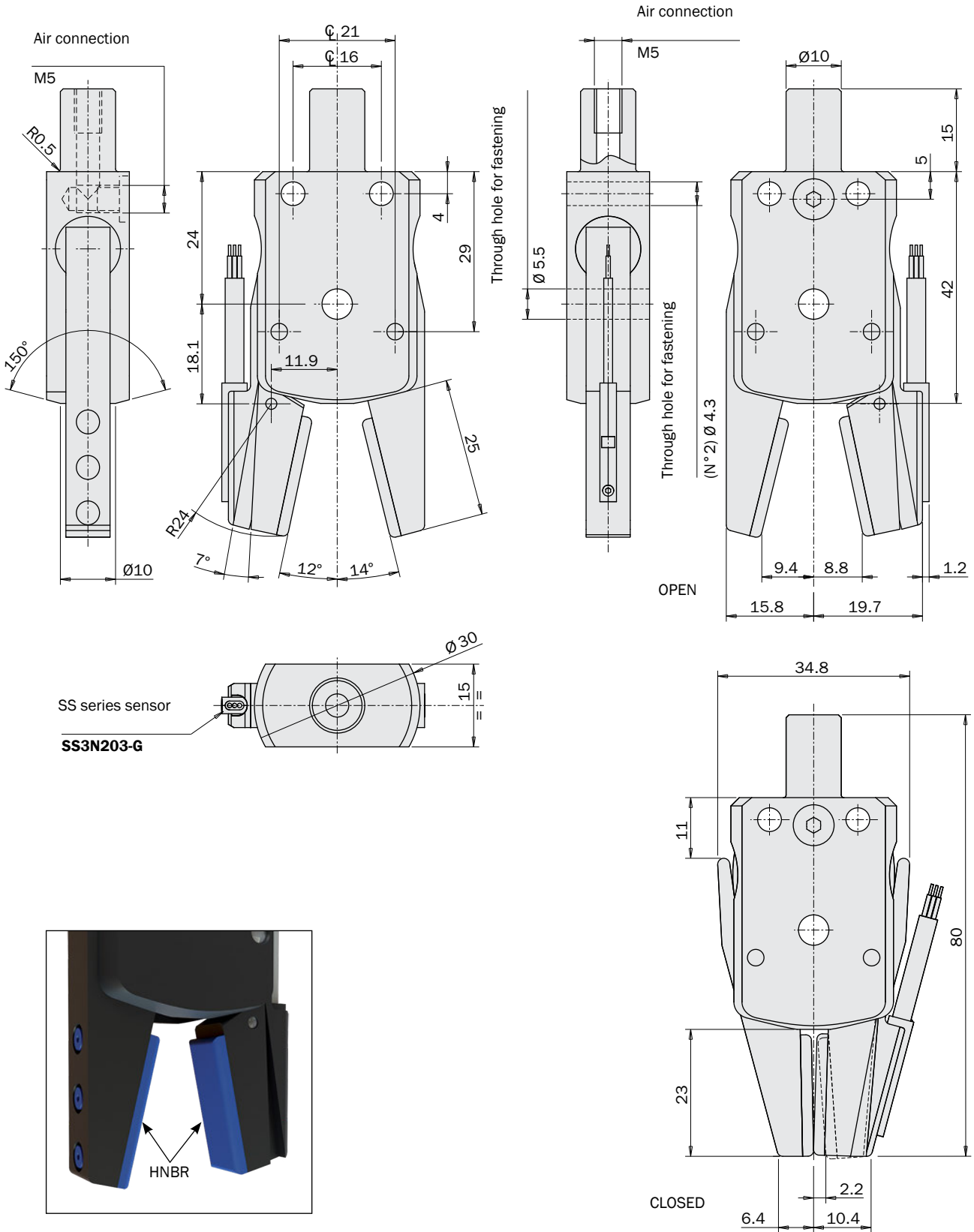
**Dimensions (mm)**



**PB-0187**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Rubber (HNBR) pads for a soft contact.
- Sensor SS3N203-G included and fitted to the tip of the jaw.

**Dimensions (mm)**

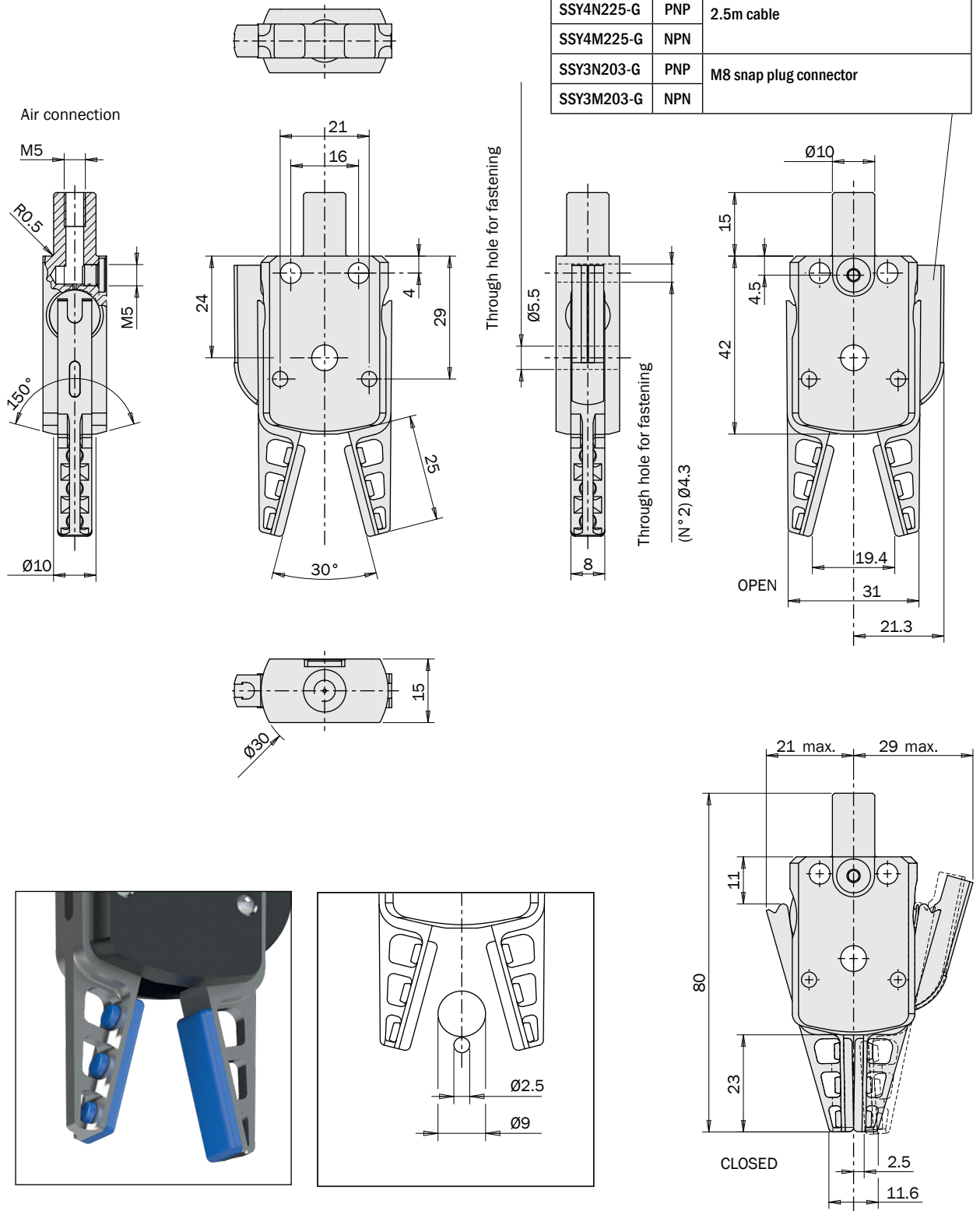


FIRST ANGLE PROJECTION

**PB-0187-S2**

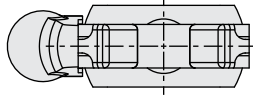
- Piston bore: 12mm.
- Single-acting with opening spring.
- Rubber (HNBR) pads for a soft contact.
- Optional magnetic sensor SSY with reduced encumbrance in the grip area.

**Dimensions (mm)**



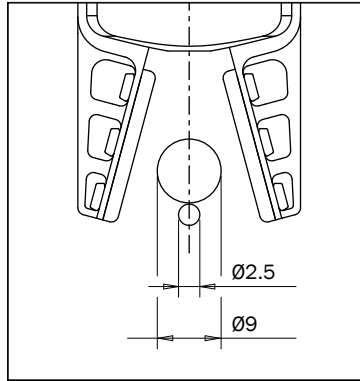
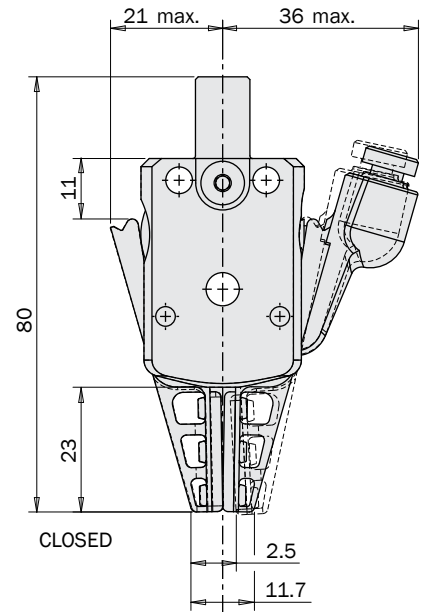
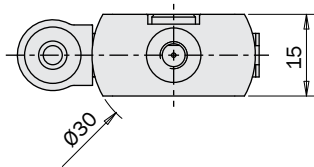
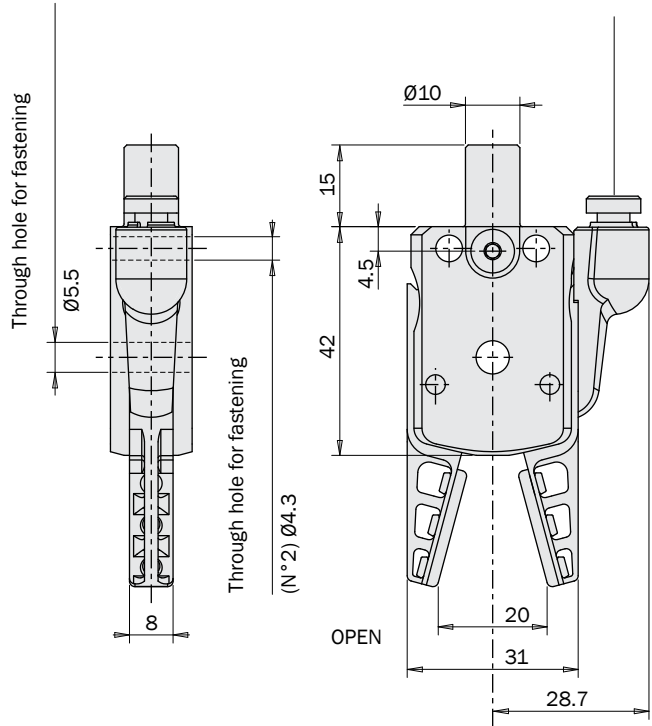
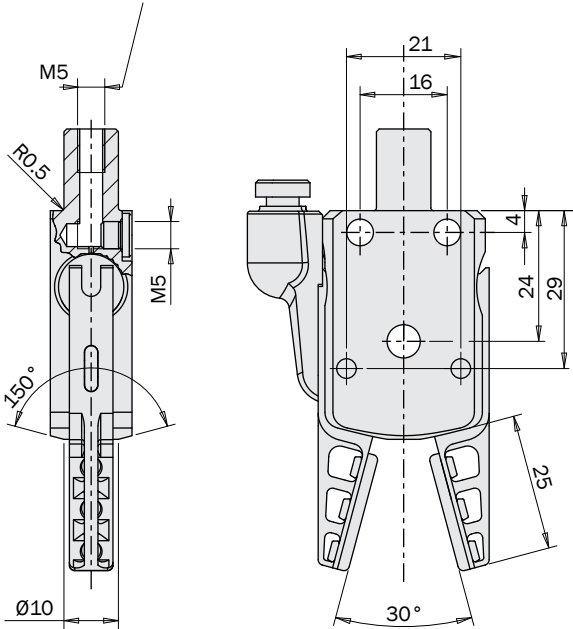
**PB-0187-SV**

- Piston bore: 12mm.
- Single-acting with opening spring.
- Grip detection by vacuum sensor



Compressed air connection (gripper closing)

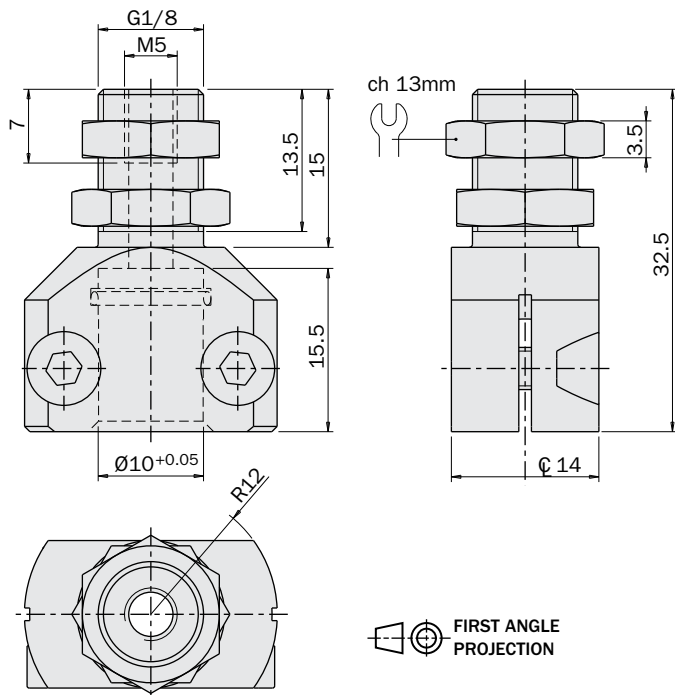
Vacuum connection (remote vacuum switch)



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

**Adapter fitting for PB grippers**

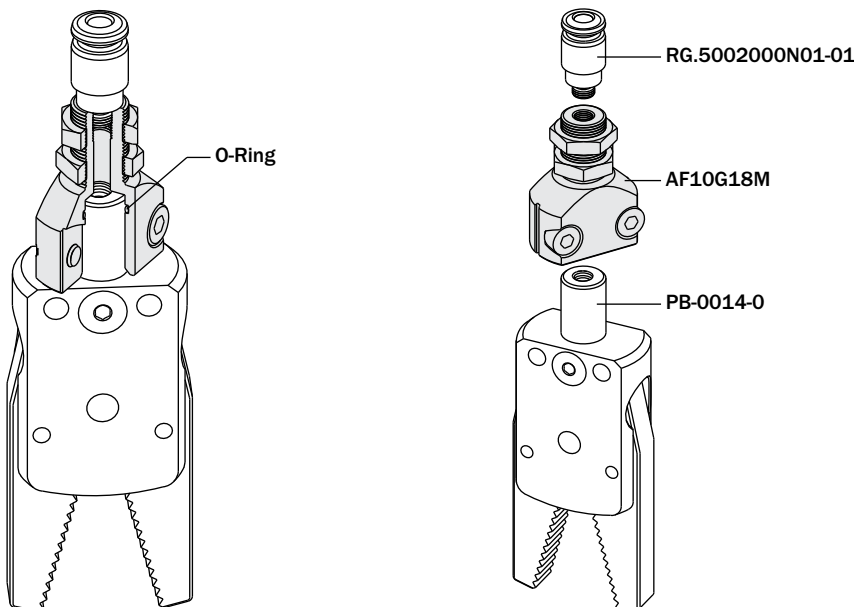
(Not for PB-0002)



|               |                 |
|---------------|-----------------|
|               | <b>AF10G18M</b> |
| <b>Weight</b> | <b>18 g</b>     |

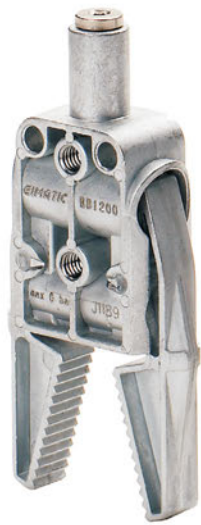


**Application example**



**2-jaw non-selfcentering angular pneumatic sprue gripper series BB**

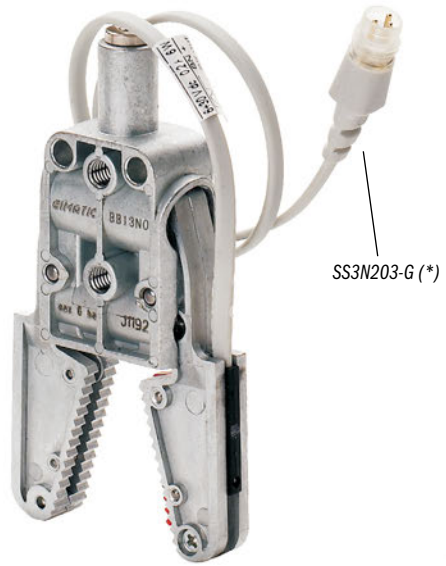
- BB-12-00 double-acting.
- BB-12-NO normally open.
- BB-13-NO normally open with sensor.
- Housing and jaws die-casted in zinc alloy (zamak).
- Flat profile.
- Two fastening options.
- Food grade grease FDA-H1.



**BB-12-00**



**BB-12-NO**



**BB-13-NO**

(\*)  
The sensor SS3N203-G is included.

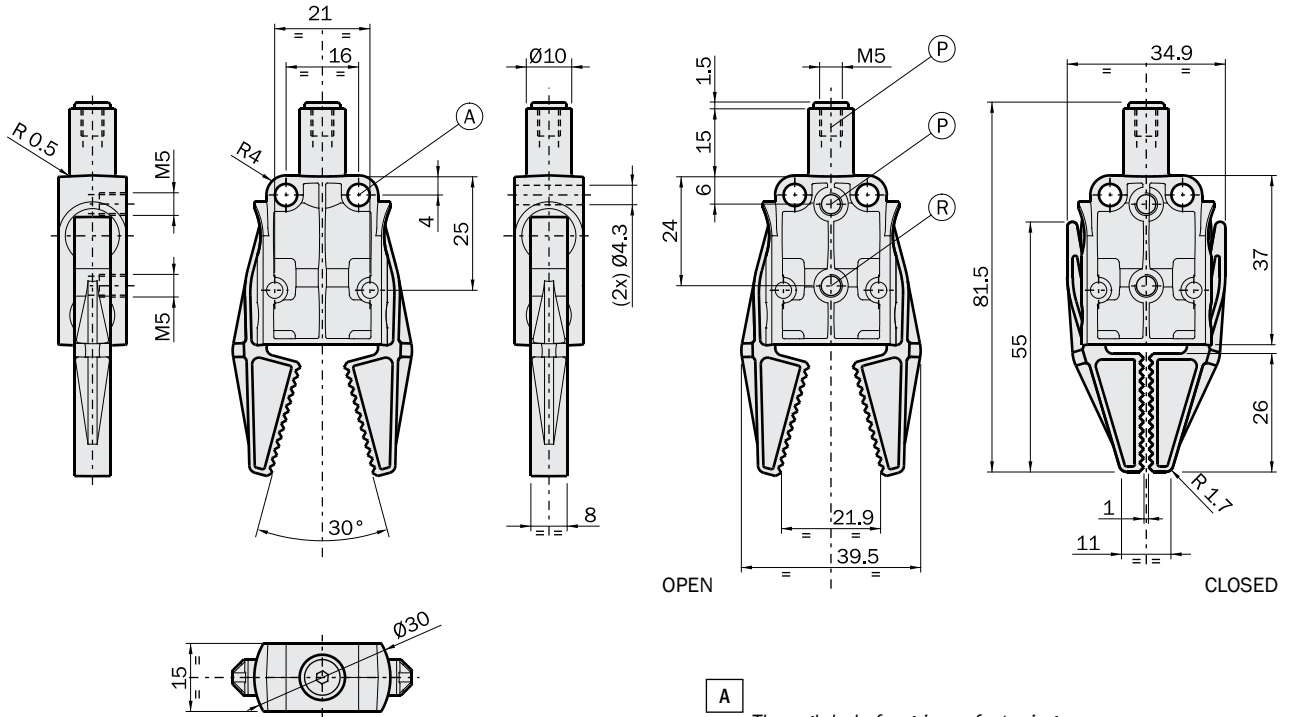
|   | BB-12-00   | BB-12-NO            | BB-13-NO            |
|---|--|---------------------|---------------------|
| Medium                                    | Filtered, lubricated / non lubricated compressed air |                     |                     |
| Pressure range                            | 2.5 ÷ 8 bar  |                     |                     |
| Temperature range                         | 5 ÷ 60 °C.   |                     |                     |
| Stroke                                    | 2 x 15°  |                     |                     |
| Closing gripping torque at 6 bar each jaw | 65 Ncm   | 60 Ncm              | 60 Ncm              |
| Opening gripping torque at 6 bar each jaw | 20 Ncm   | -                   | -                   |
| Opening gripping torque at 0 bar each jaw | -  | 5 Ncm               | 5 Ncm               |
| Maximum working frequency                 | 3 Hz   | 3 Hz                | 3 Hz                |
| Cycle air consumption                     | 1.5 cm <sup>3</sup>                                  | 1.1 cm <sup>3</sup> | 1.1 cm <sup>3</sup> |
| Closing time without load                 | 0.01 s   | 0.01 s              | 0.01 s              |
| Weight                                    | 75 g   | 77 g                | 90 g                |

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



**Dimensions (mm)**

**BB-12-00**  
**BB-12-NO**

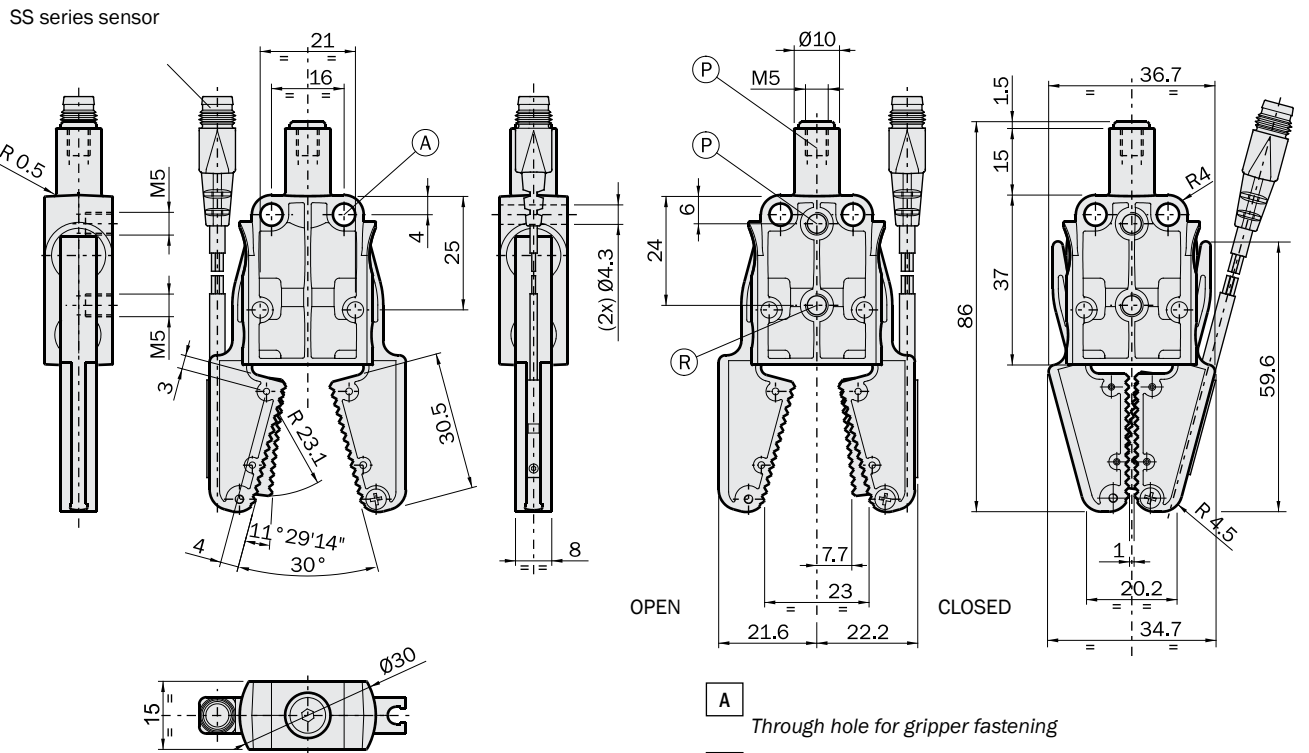


FIRST ANGLE PROJECTION

- A** Through hole for gripper fastening
- P** Compressed air in P: gripper closing
- R** Compressed air in R: gripper opening

**Dimensions (mm)**

**BB-13-NO**



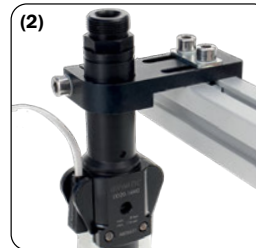
FIRST ANGLE PROJECTION

- A** Through hole for gripper fastening
- P** Compressed air in P: gripper closing
- R** Compressed air in R: gripper opening

## 2-jaw self-centering angular pneumatic gripper, series DD

- New concept with retracted sensor and smaller dimensions in the grip area.
- Optional magnetic sensors (1).
- The sensor is ON only when something is gripped.
- Single acting with spring opening.
- Very high closing force.
- Several mounting accessories (2).
- Steel jaws.
- FDA-H1 food-grade grease.
- Protection against the entry of small foreign bodies (3).
- Heavy-duty end-strokes.

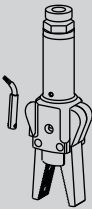

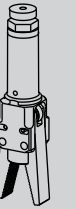
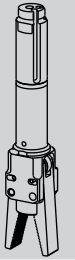
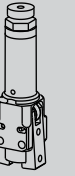
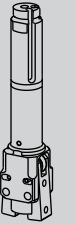
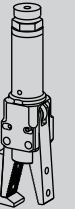
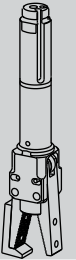
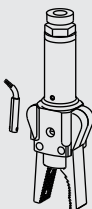
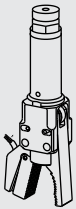
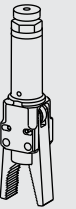
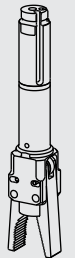

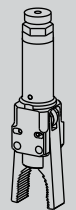
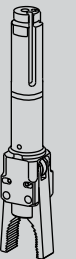
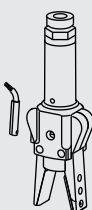
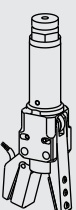
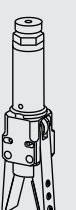
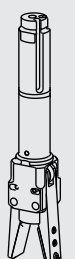
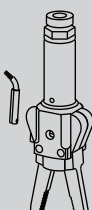
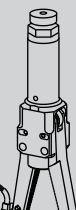
|           |     |                        |
|-----------|-----|------------------------|
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |



|                                  | NEW   | NEW       | NEW       | NEW       | NEW       | NEW       | NEW       |
|----------------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
|                                  | DD20-16MV   | DD20-16LV | DD20-16M2 | DD20-16L2 | DD20-16E2 | DD20-16W2 | DD20-16B2 |
| Medium                           | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |           |           |           |           |           |           |
| Pressure range                   | 3.5 ÷ 8 bar   |           |           |           |           |           |           |
| Temperature range                | 5 ÷ 60 °C.  |           |           |           |           |           |           |
| Stroke                           | 2 x 15°   |           |           |           |           |           |           |
| Closing torque at 6 bar each jaw | 300 Ncm   |           |           |           |           |           |           |
| Total closing torque at 6 bar    | 600 Ncm   |           |           |           |           |           |           |
| Opening torque at 0 bar each jaw | 20 Ncm  |           |           |           |           |           |           |
| Total opening torque at 0 bar    | 40 Ncm  |           |           |           |           |           |           |
| Maximum working frequency        | 2 Hz  |           |           |           |           |           |           |
| Cycle air consumption            | 3.6 cm <sup>3</sup>                                       |           |           |           |           |           |           |
| Closing time without load        | 0.03 s  |           |           |           |           |           |           |
| Weight                           | 119 g   | 116 g     | 114 g     | 110 g     | 123 g     | 118 g     | 140 g     |

**Change to the new version**

The old DD grippers will be discontinued, however the new ones are compatible. Outer dimensions are the same and all the finger options are still available. The old scheme had versions with sensor (either on the finger tip or on the body tail) and versions without sensor. The new scheme enables to use the same gripper with or without sensor. Moreover, the sensor can be chosen amongst the PNP/NPN and cable/connector versions.

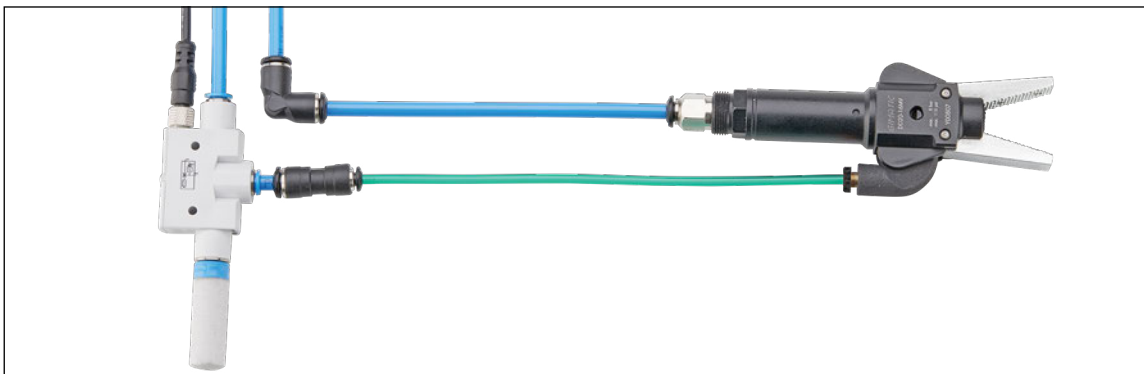
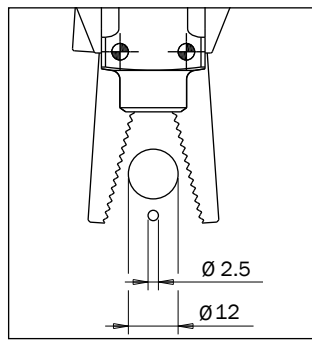
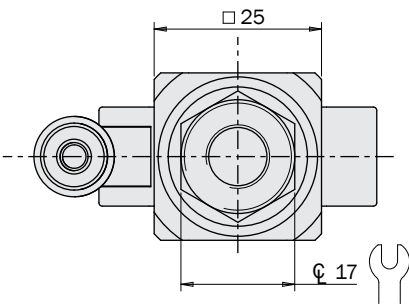
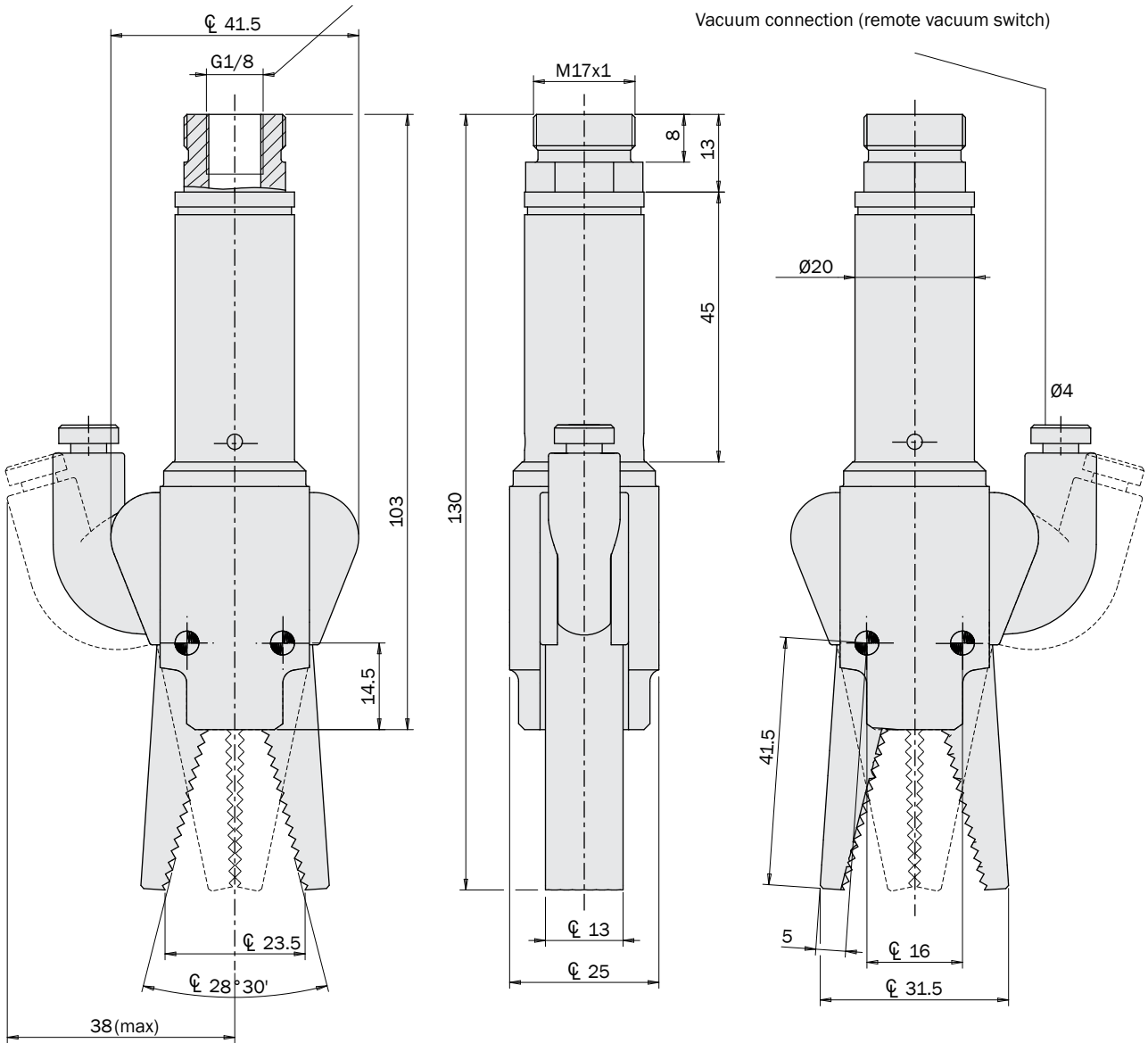
| New version   | Old version  |   |   |  |   |  |   |
|---|--|---|---|--|---|--|---|
| <p><b>DD20-16M2</b></p>    | <p><b>DD20-16M</b></p>    | <p><b>DD20-16R</b></p>     | <p><b>DD20-16RS</b></p>    | <p><b>DD20-16A</b></p>  | <p><b>DD20-16AS</b></p>  | <p><b>DD20-16T</b></p>  | <p><b>DD20-16TS</b></p>  |
| <p><b>DD20-16W2</b></p>   | <p><b>DD20-16W</b></p>   | <p><b>DD20-16K</b></p>    | <p><b>DD20-16KS</b></p>   |  |   |  |   |
| <p><b>DD20-16E2</b></p>  | <p><b>DD20-16E</b></p>  | <p><b>DD20-16ES</b></p>  |   |  |   |  |   |
| <p><b>DD20-16L2</b></p>  | <p><b>DD20-16L</b></p>  | <p><b>DD20-16P</b></p>   | <p><b>DD20-16PS</b></p>  |  |   |  |   |
| <p><b>DD20-16B2</b></p>  | <p><b>DD20-16B</b></p>  |   |   |  |   |  |   |

Dimensions (mm)

DD20-16MV

Compressed air connection (gripper closing)

Vacuum connection (remote vacuum switch)

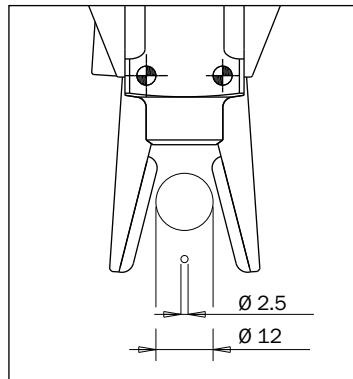
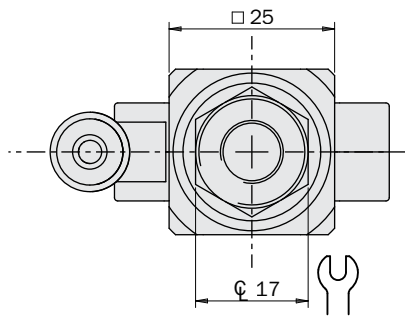
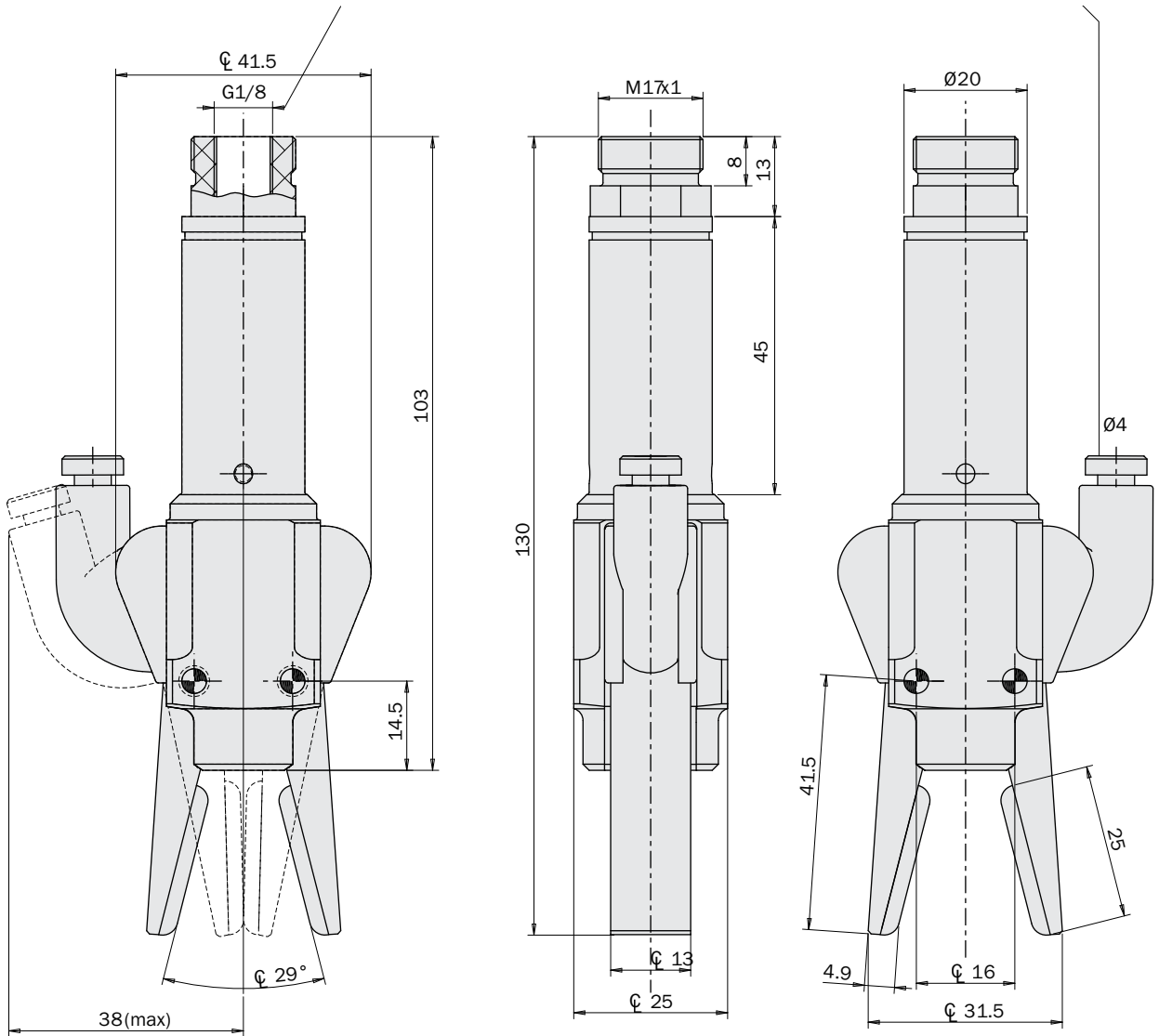


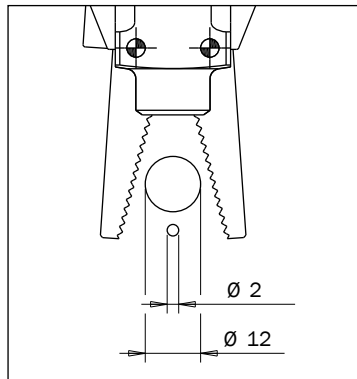
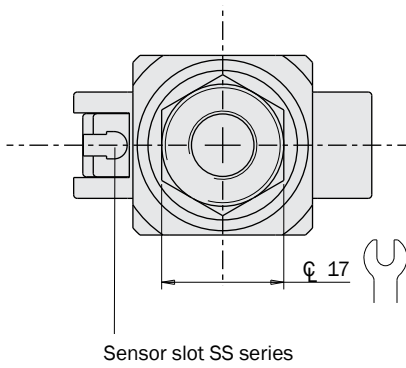
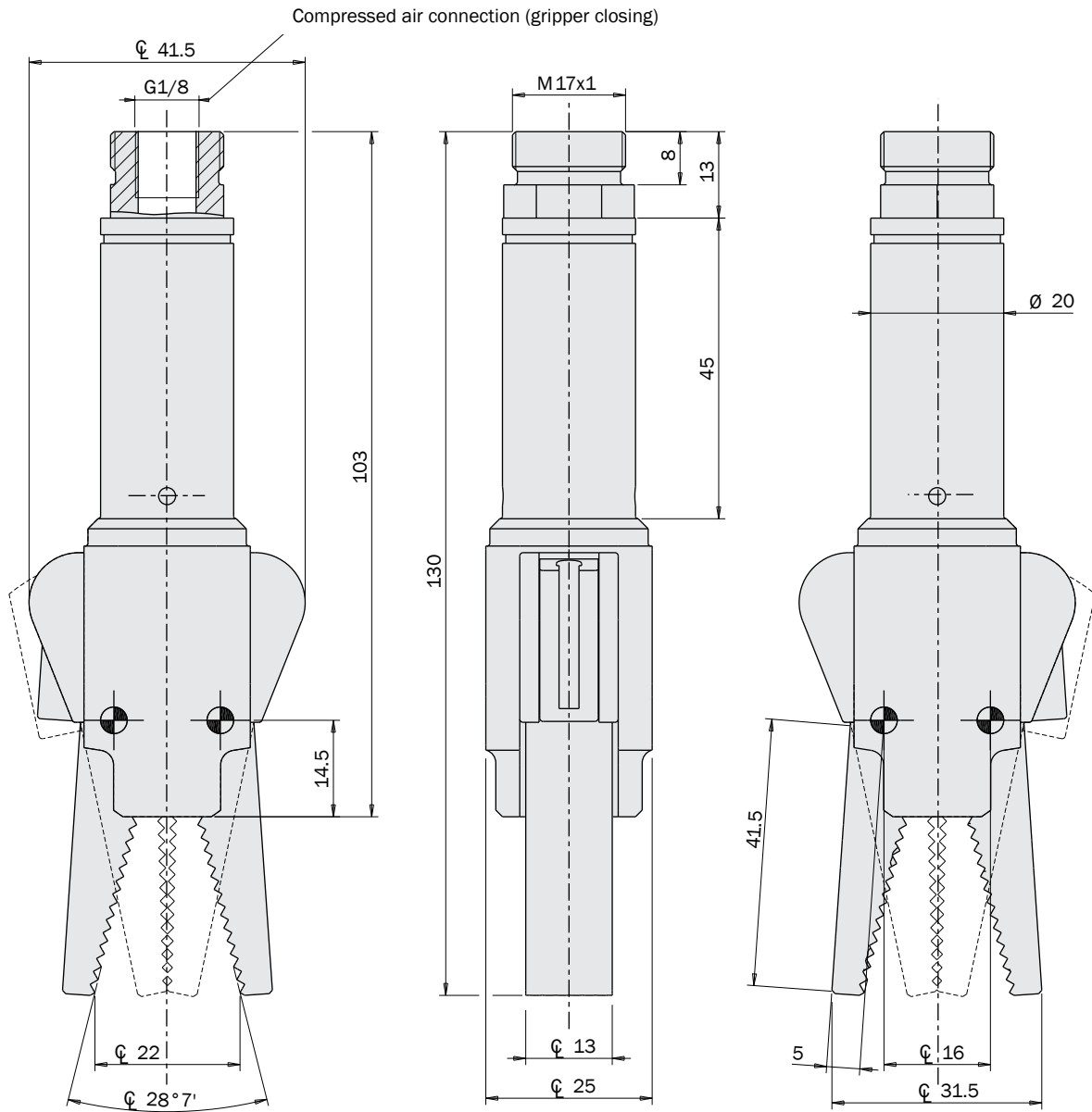
**Dimensions (mm)**

**DD20-16LV**

Compressed air connection (gripper closing)

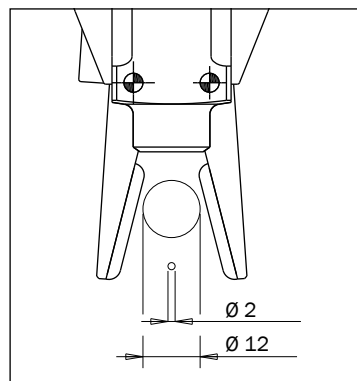
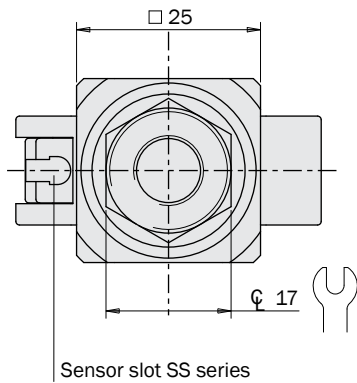
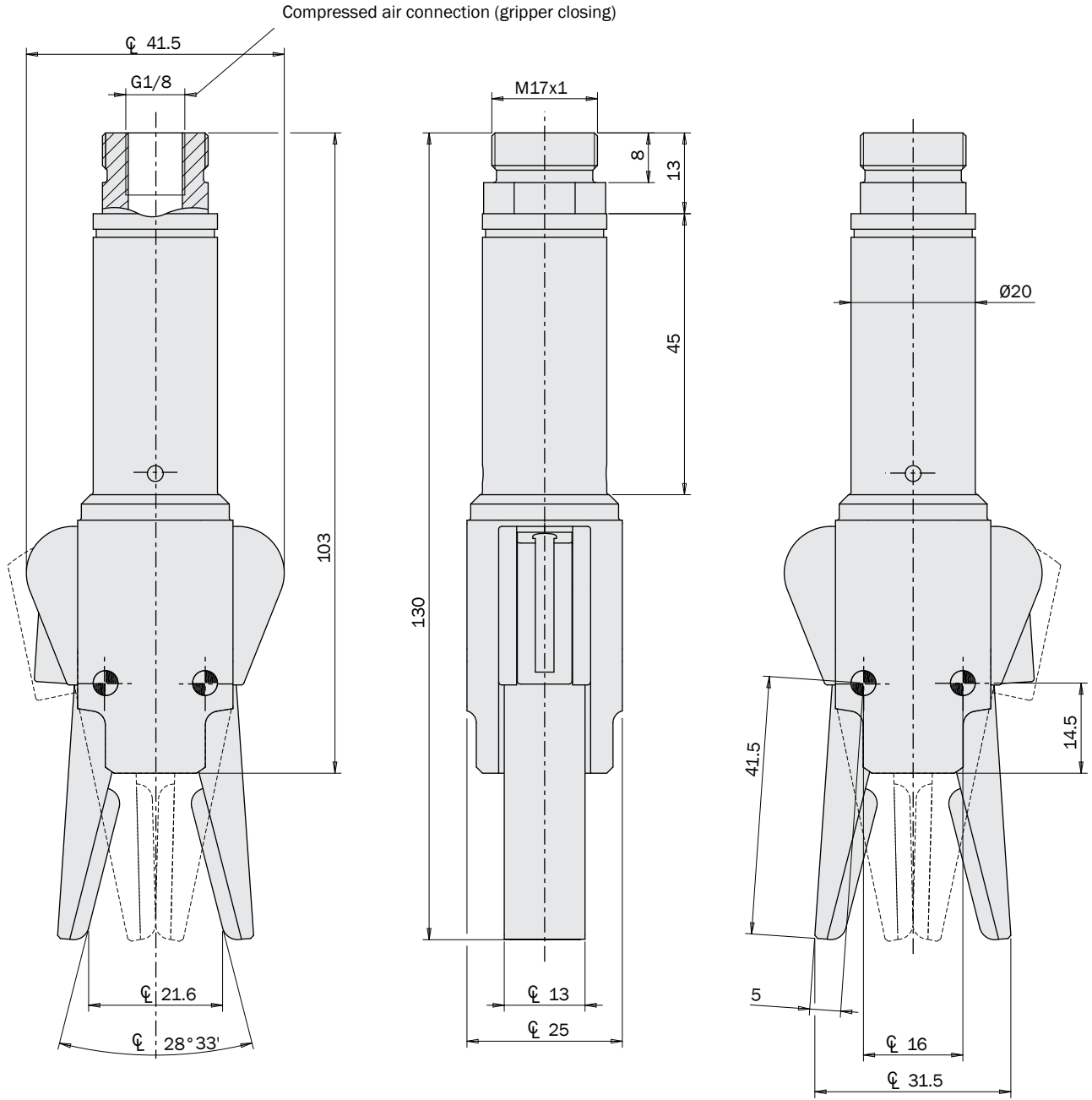
Vacuum connection (remote vacuum switch)

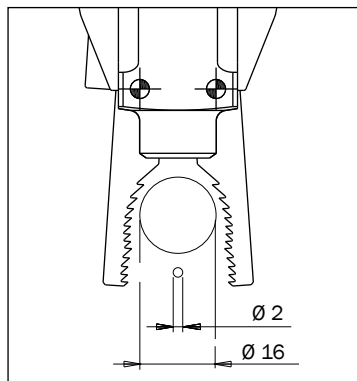
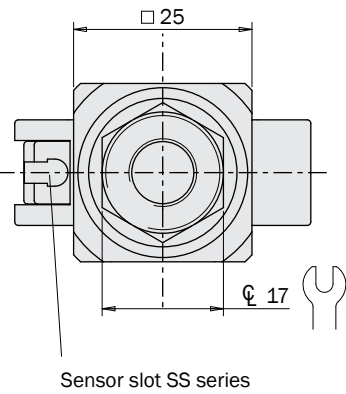
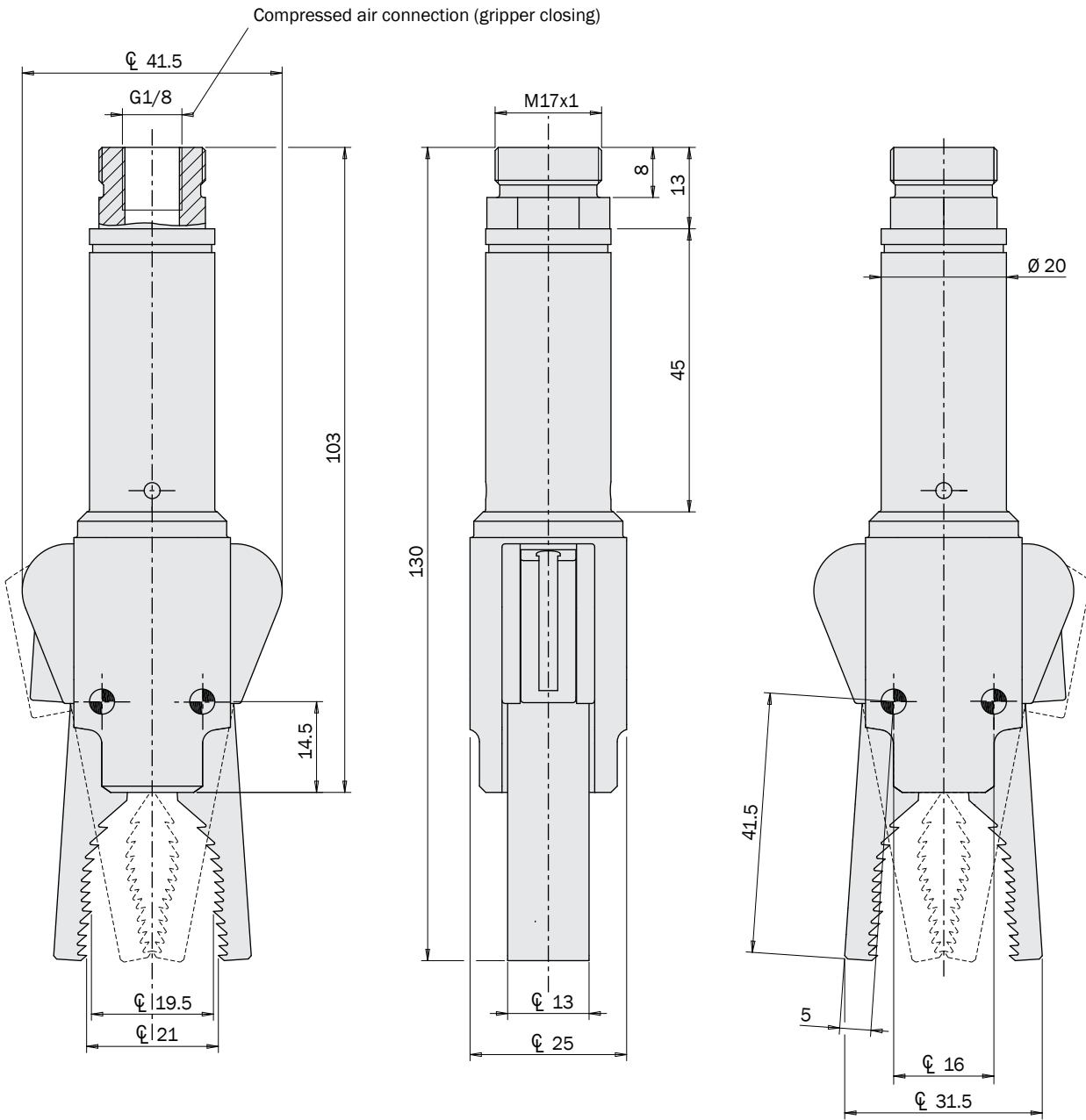




**Dimensions (mm)**

**DD20-16L2**

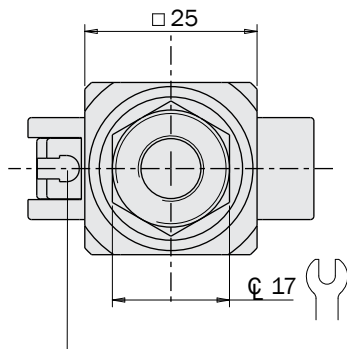
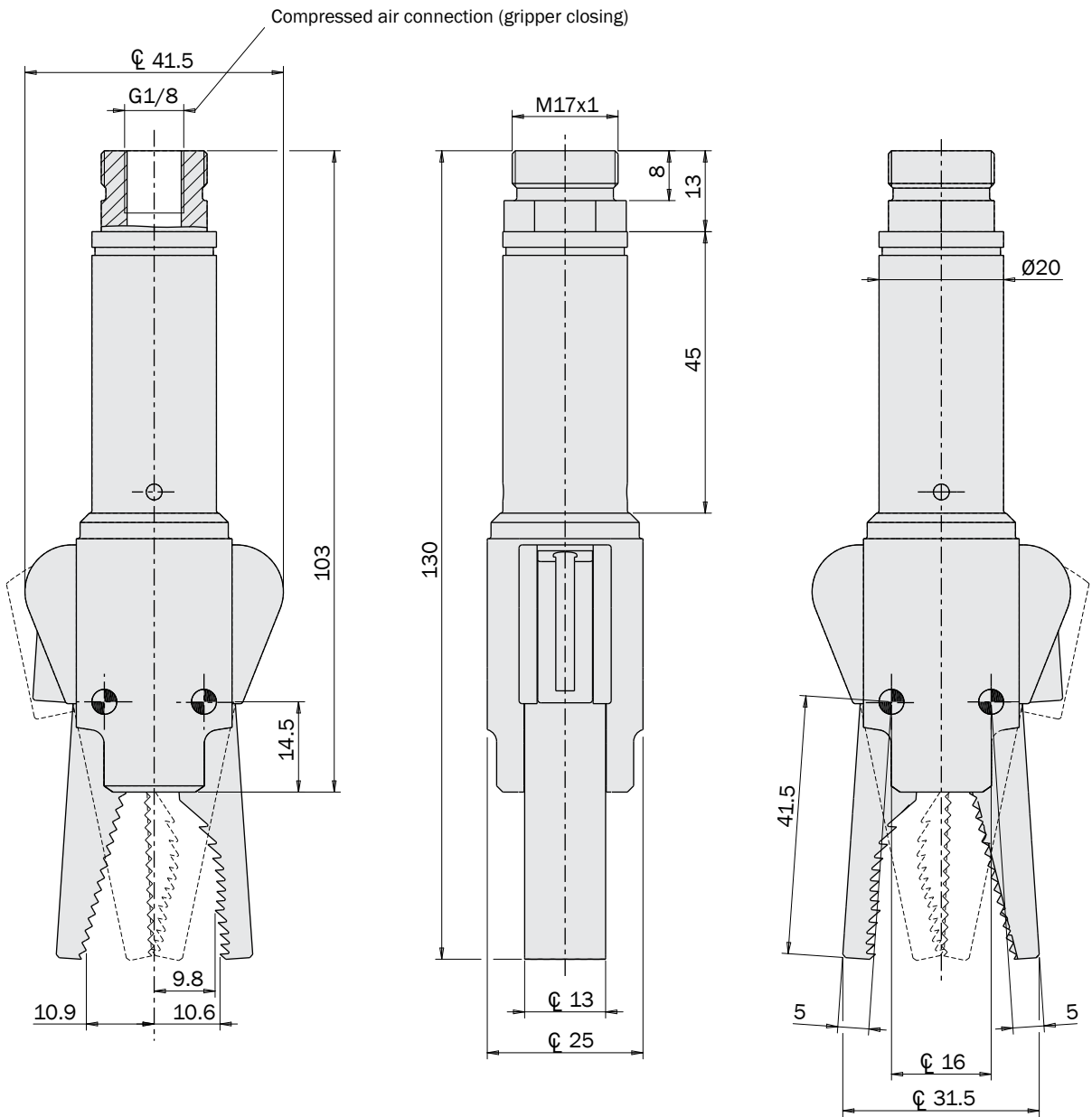




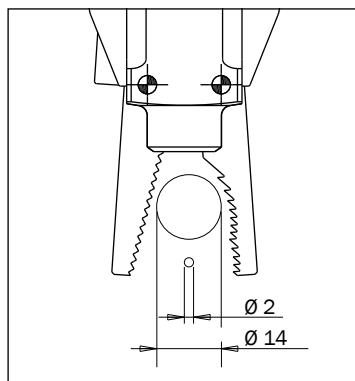


**Dimensions (mm)**

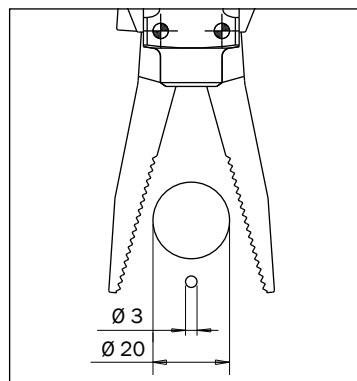
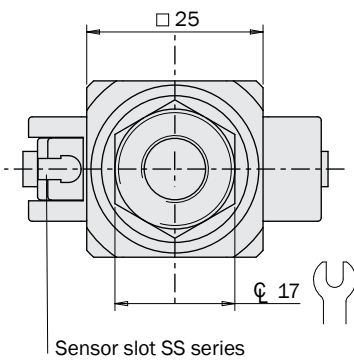
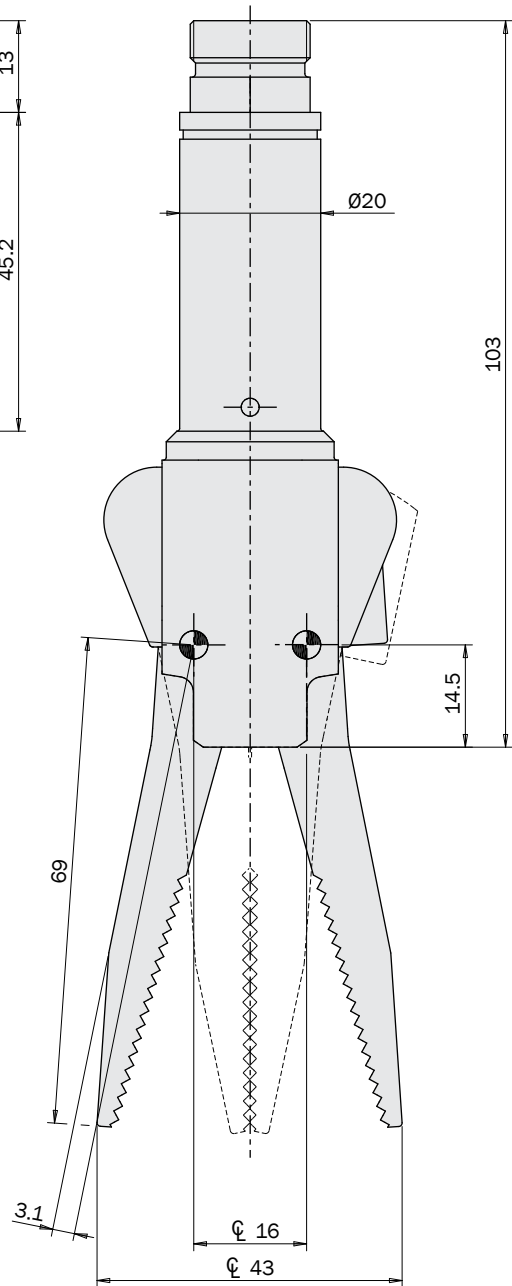
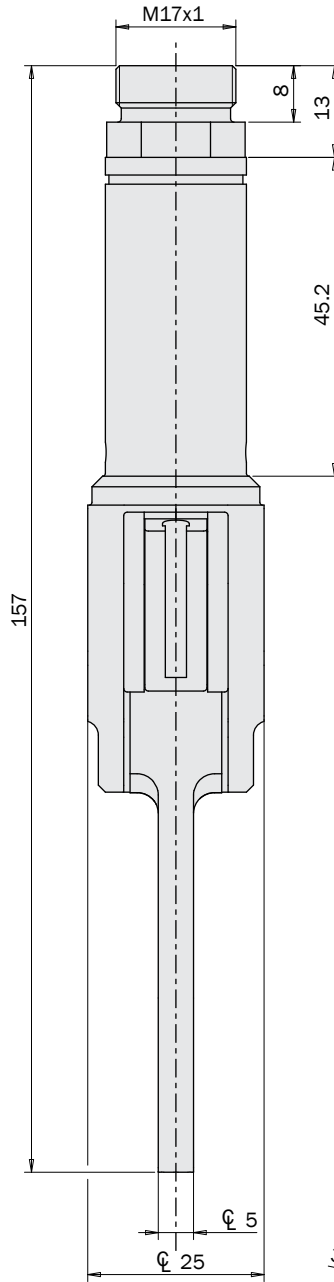
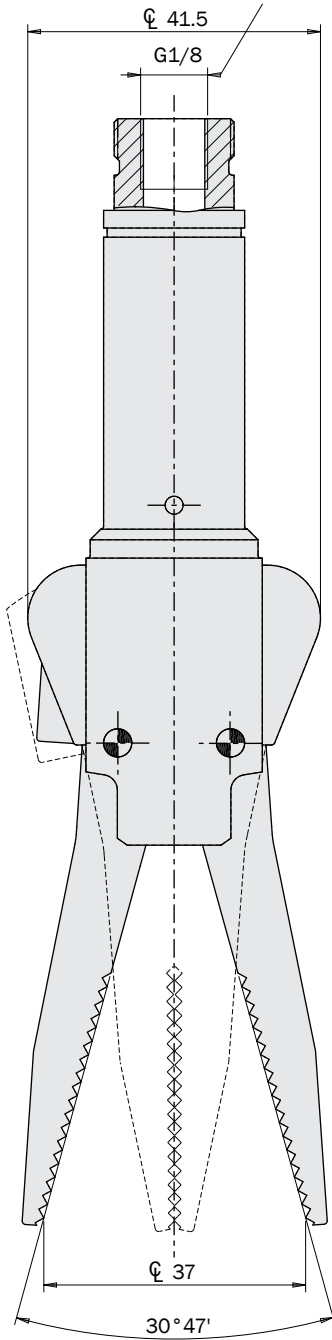
**DD20-16W2**



Sensor slot SS series



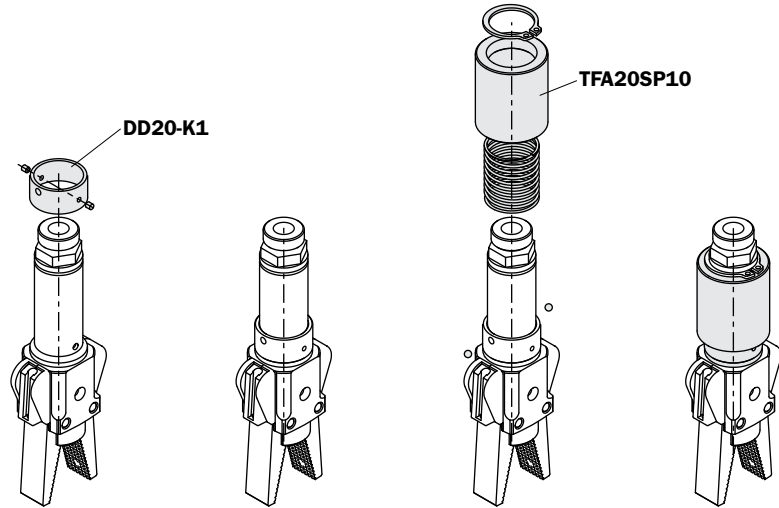
Compressed air connection (gripper closing)



**Accessories**

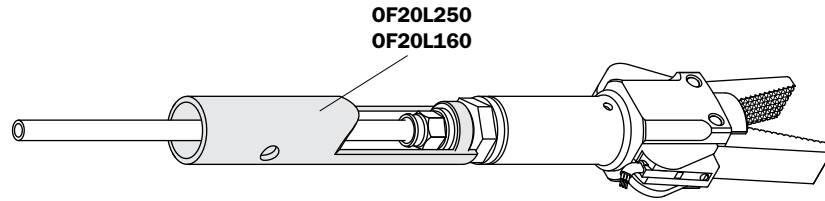
**DD20-K1 + TFA20SP10**

Suspension



**OF20L...**

Extension tube



**DD20-16...**

Spare pad for DD20-16L2



**DD20-16P-13**  
HNBR 60Sh.A

**DD20-16P-13F**  
HNBR 60Sh.A  
Flocked

**DD20-16P-10**  
TPU 70Sh.A

**DD20-16P-17**  
PU 70Sh.A

**3D...**  
Customised with the new 3D printing  
service (PA12)

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

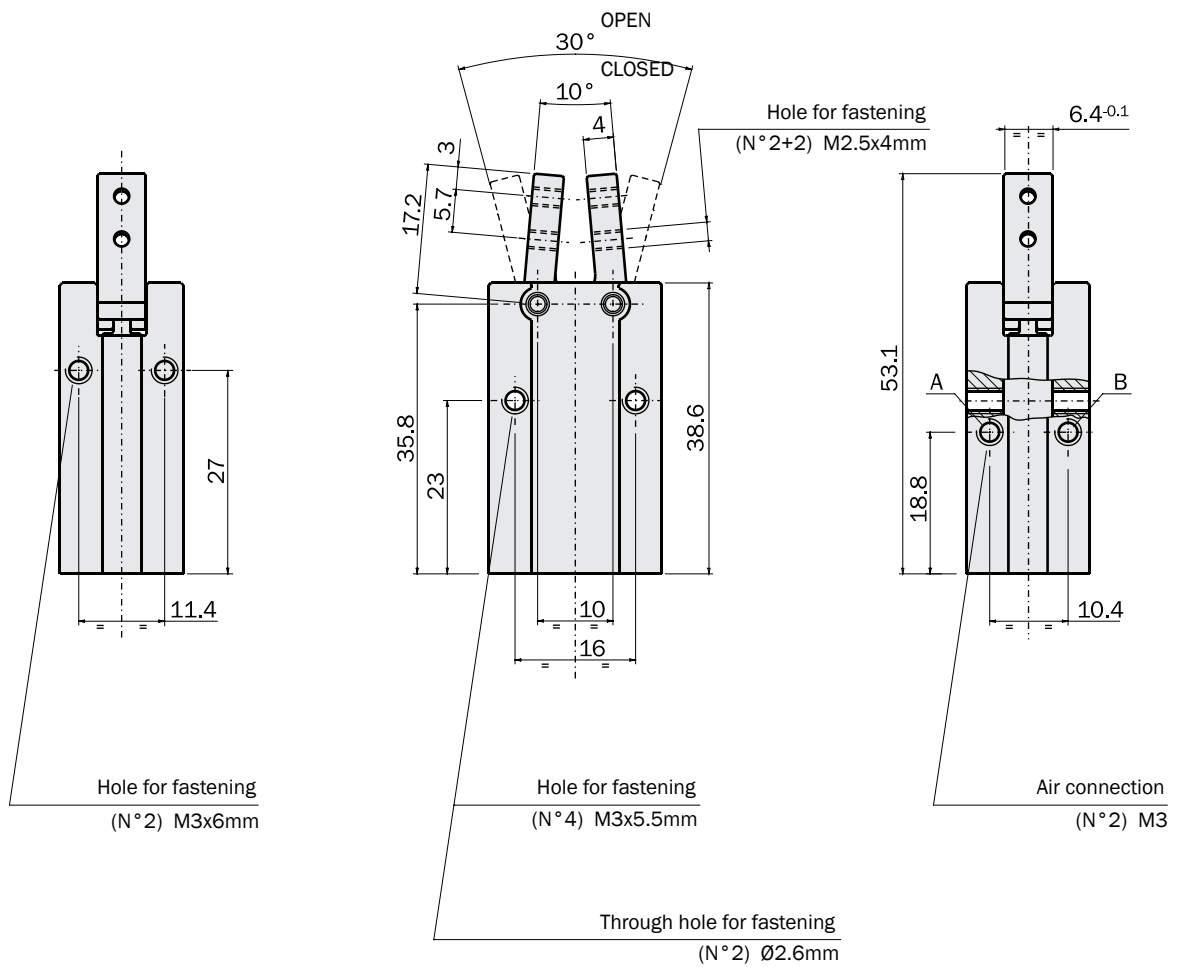
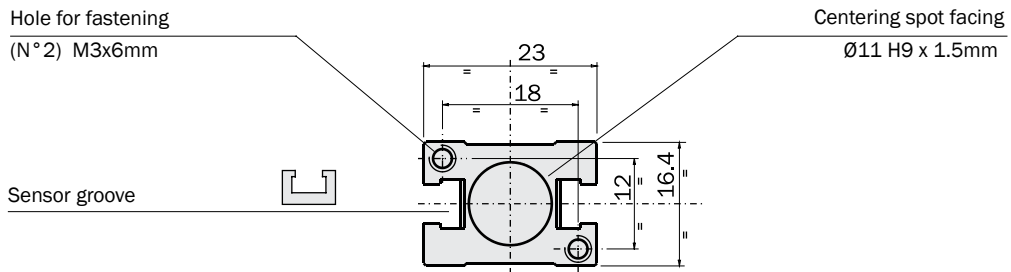
- Double acting.
- Long life and reliability, maintenance free.
- Various options for fastening.
- Optional proximity magnetic sensors.
- Spring closed (-NC) or spring open (-NO) option.
- FDA-H1 food-grade grease.



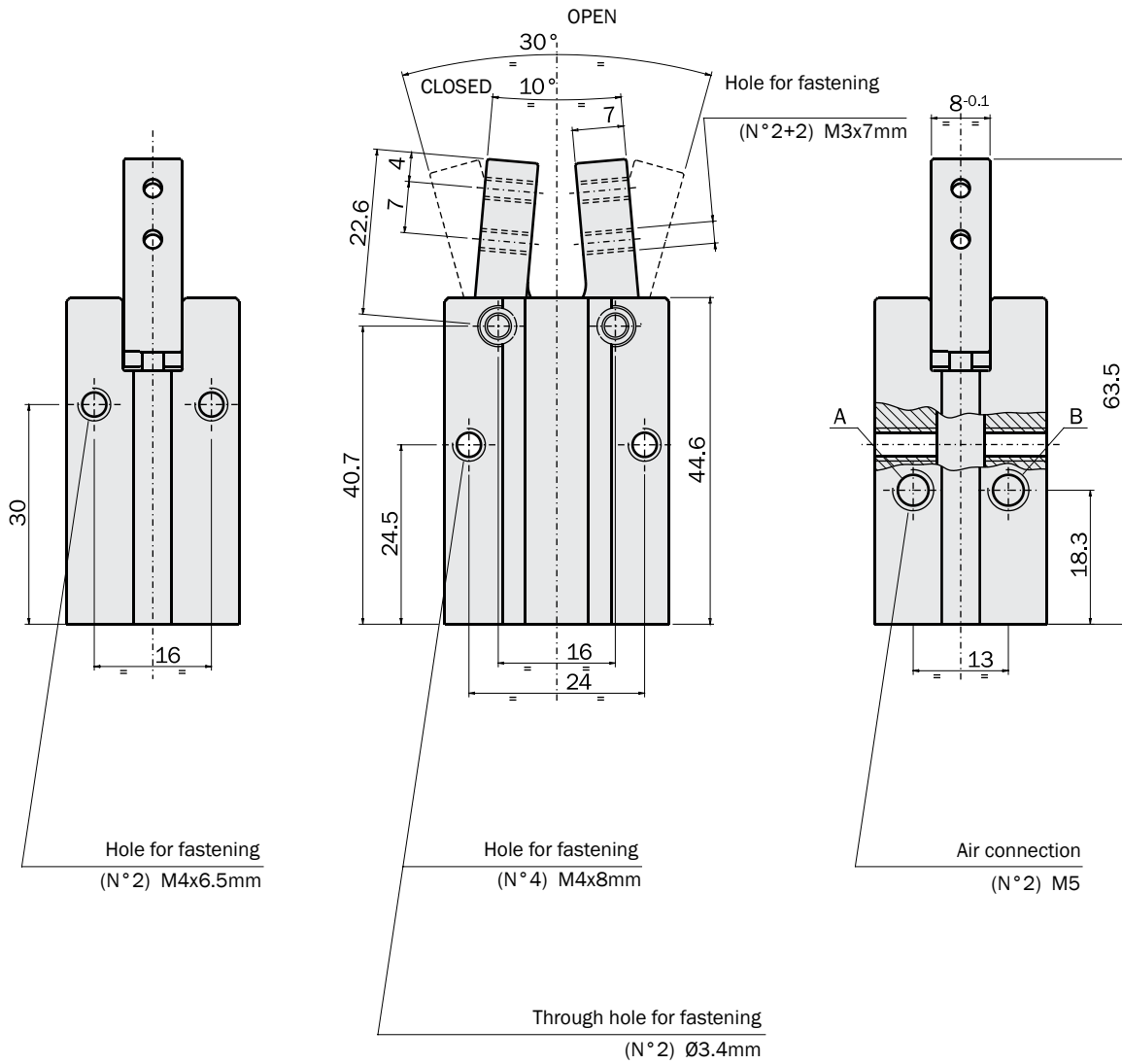
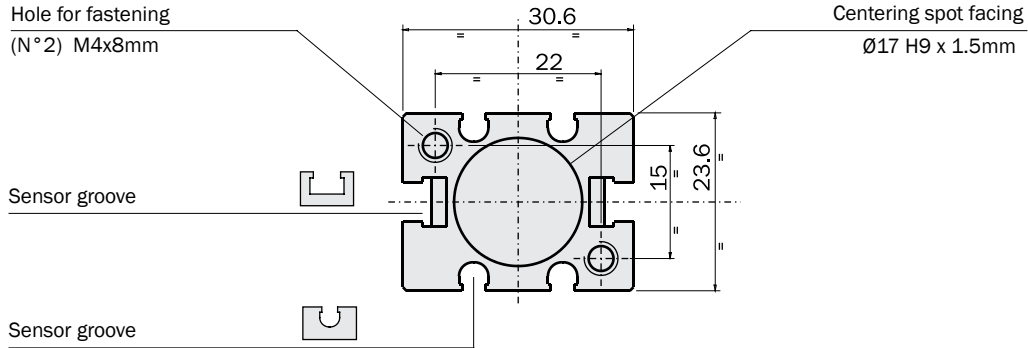
|                                     | GW-10   | GW-16             | GW-20             | GW-25              |
|-------------------------------------|---|-------------------|-------------------|--------------------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [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 <sup>3</sup>                                       | 3 cm <sup>3</sup> | 6 cm <sup>3</sup> | 11 cm <sup>3</sup> |
| 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.



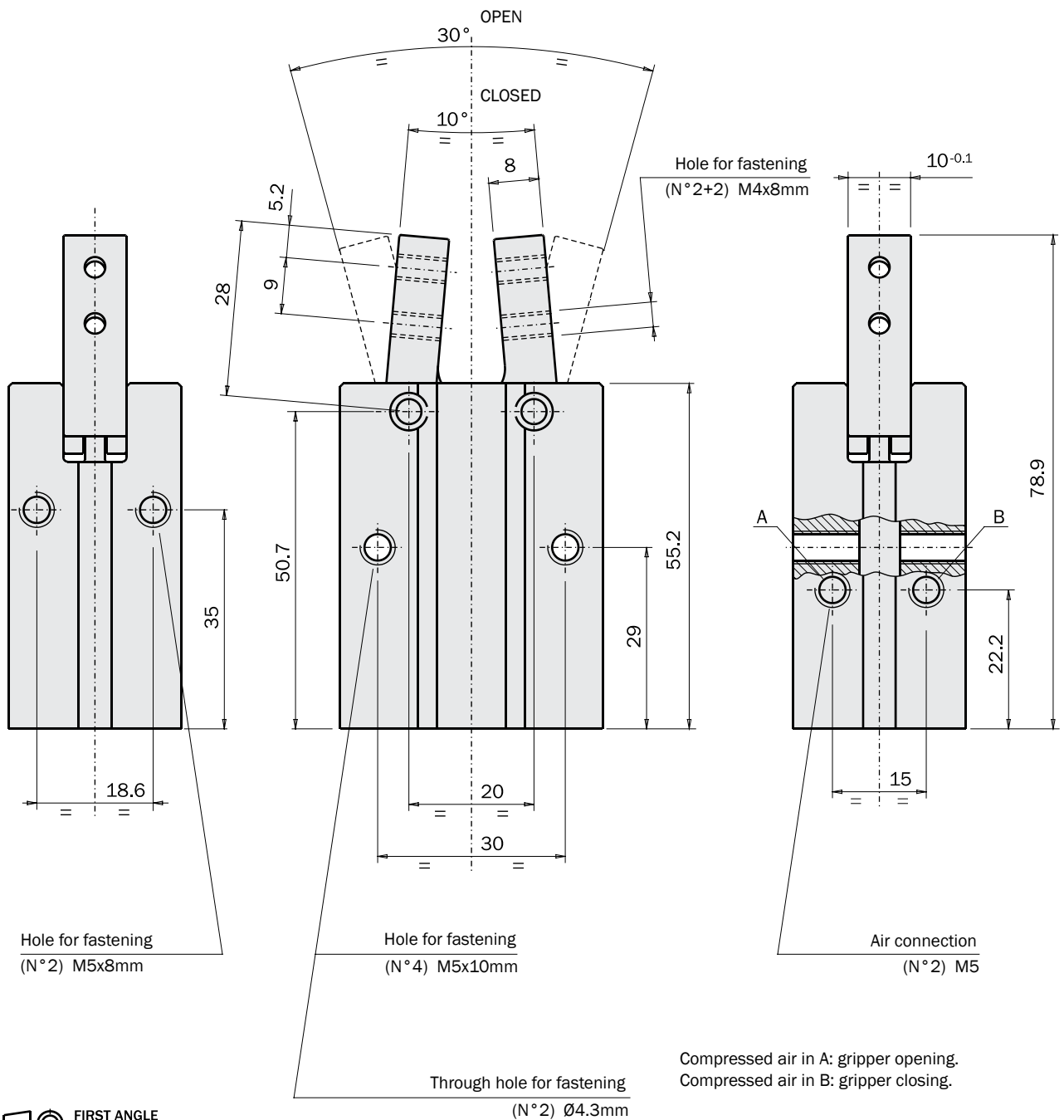
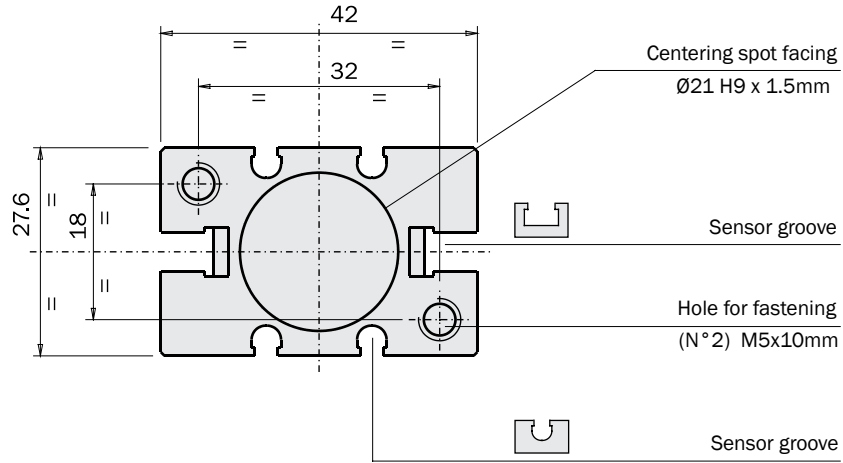
Compressed air in A: gripper opening.  
Compressed air in B: gripper closing.



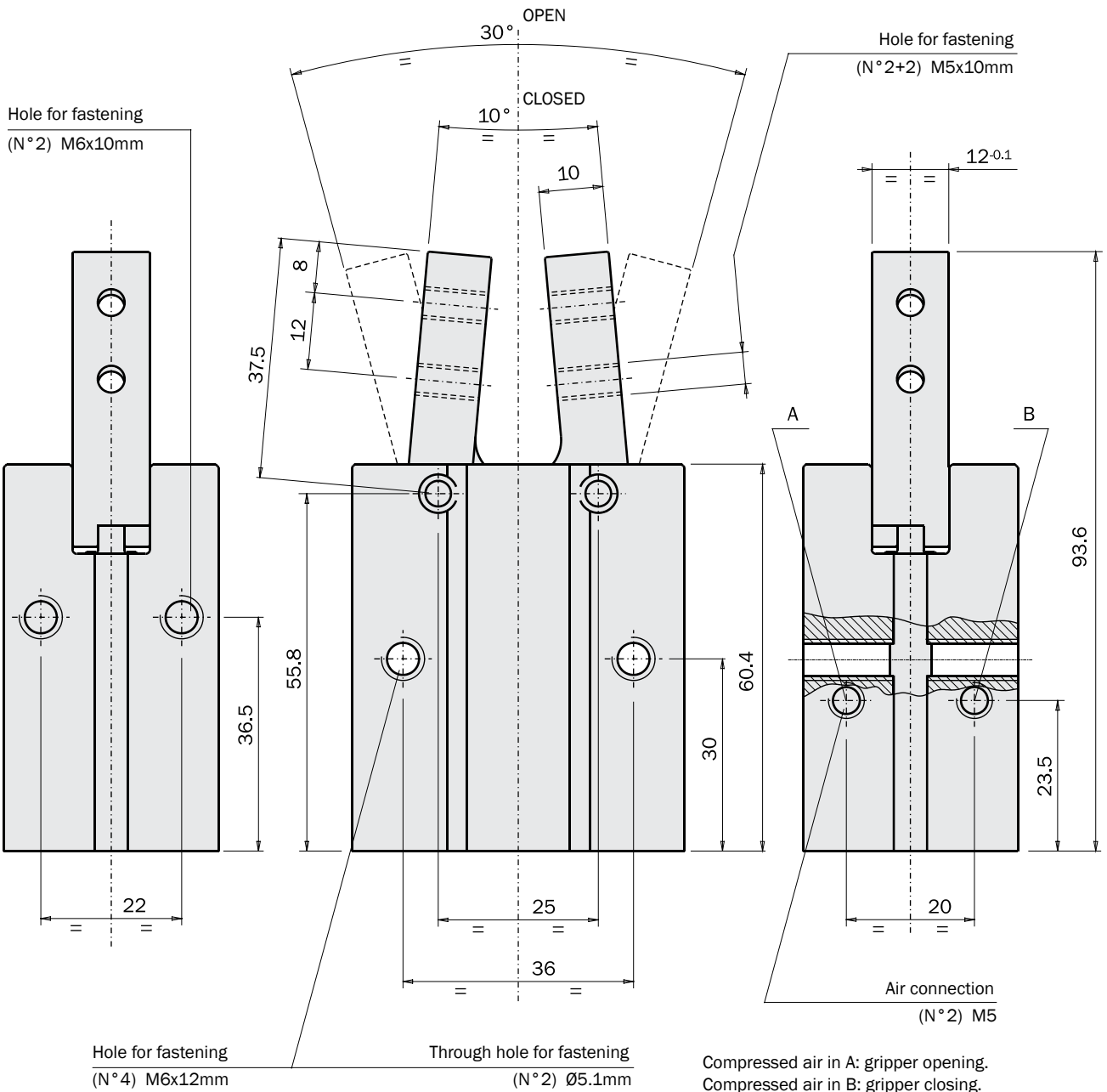
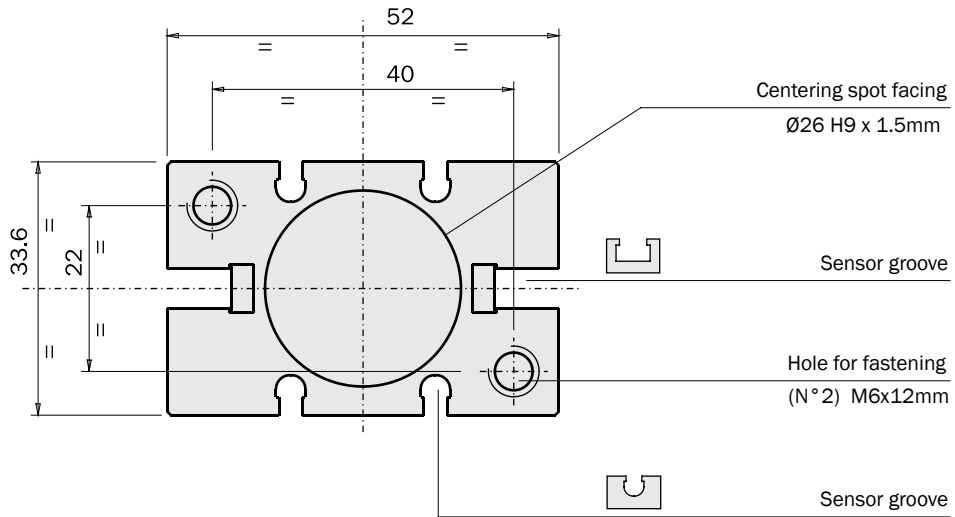
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Dimensions (mm)**

**GW-20**



FIRST ANGLE PROJECTION

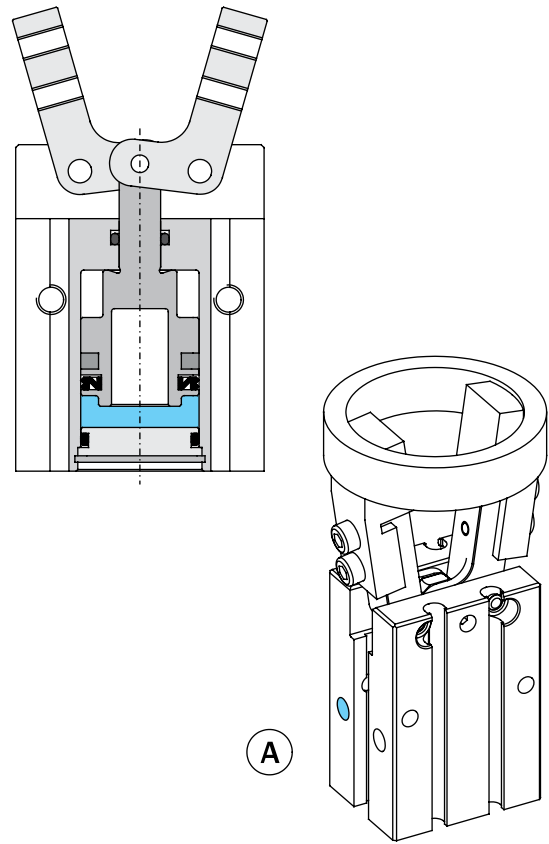
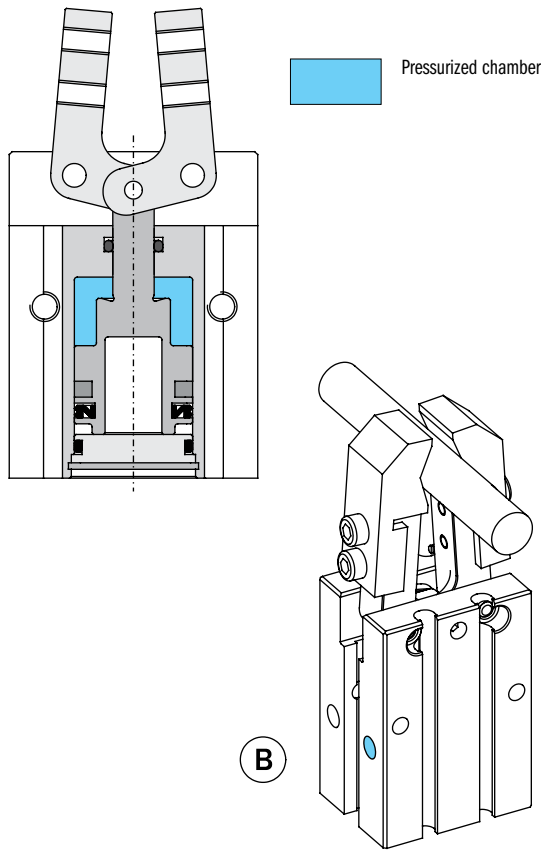


Compressed air in A: gripper opening.  
Compressed air in B: gripper closing.

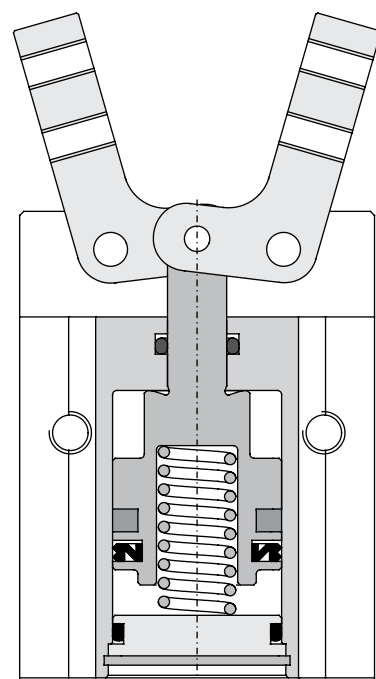
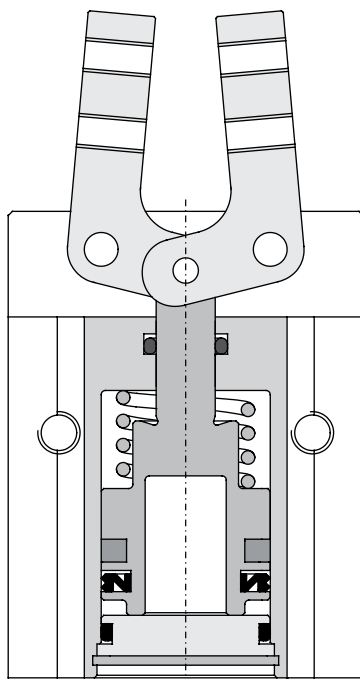


**Gripping**

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



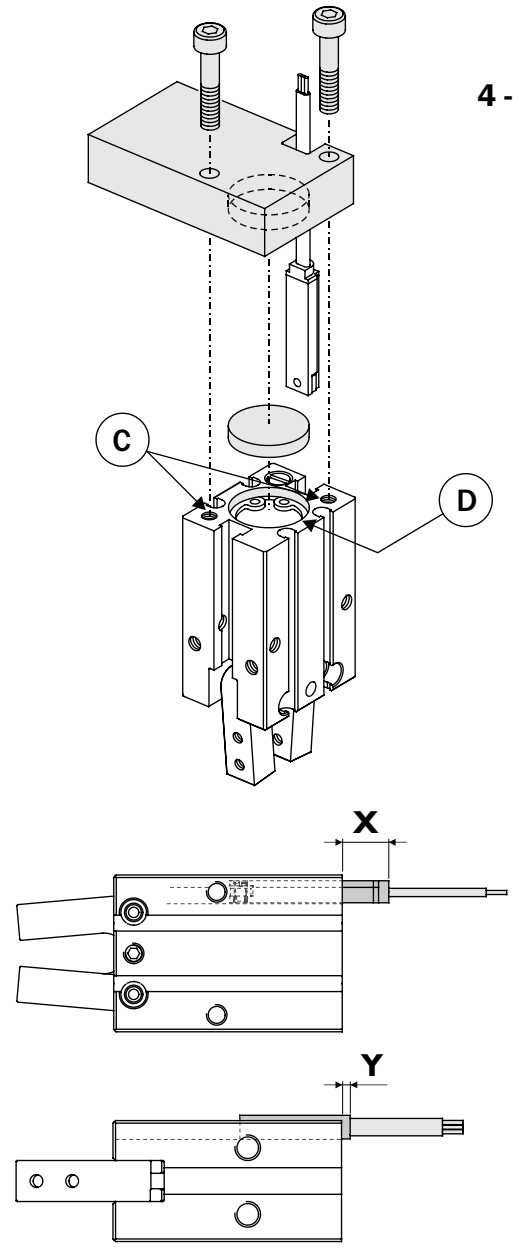
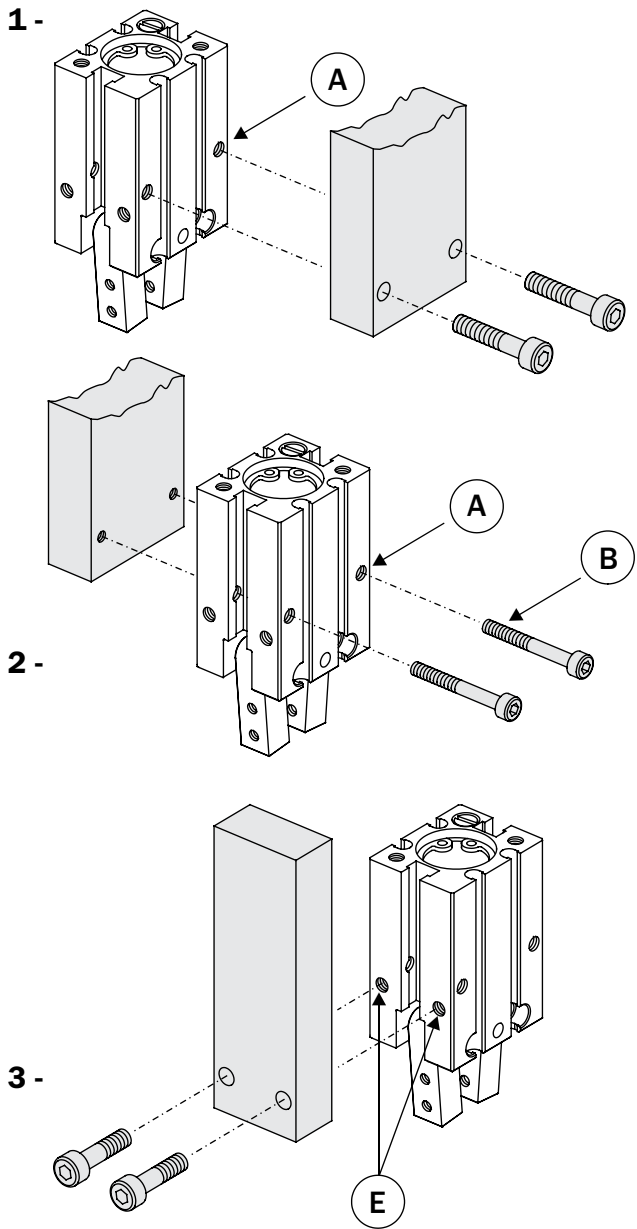
It is also available, on request, with a closing (-NC) or opening (-NO) spring, providing, after a pressure black-out, about one fourth of the output force at 6 bar.



**Fastening**

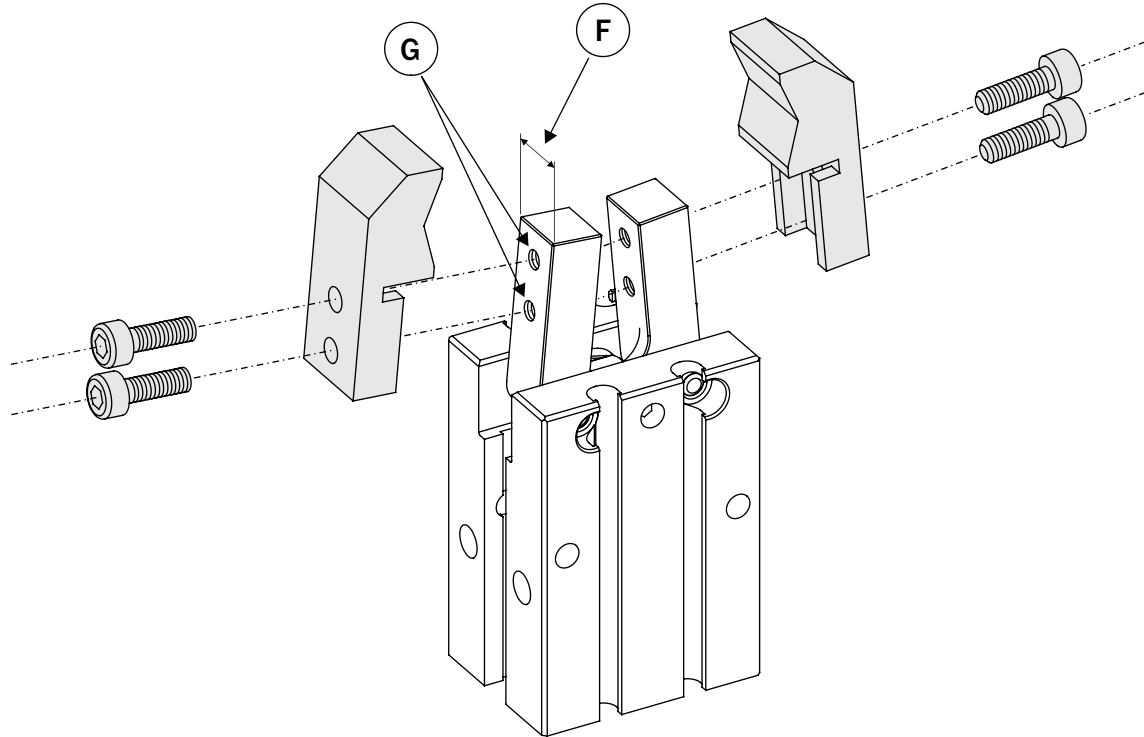
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

- 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).



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

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).

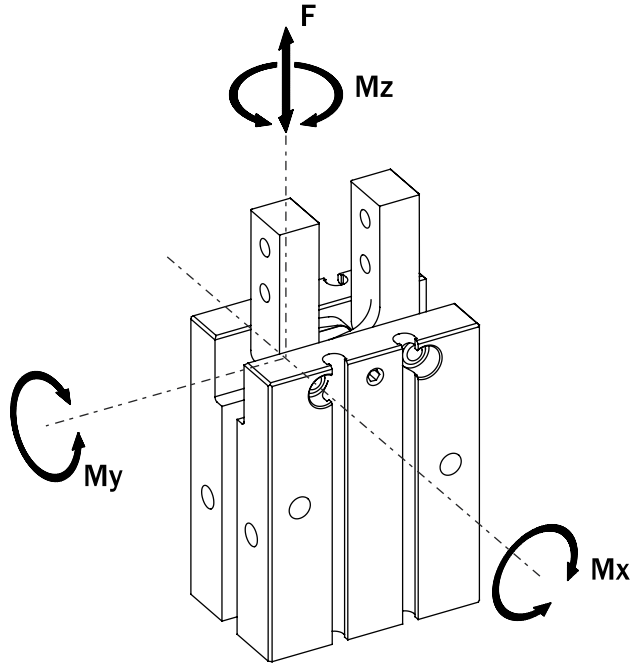


|   | GW-10                  | GW-16                | GW-20                 | GW-25                 |
|---|------------------------|----------------------|-----------------------|-----------------------|
| A | M3x5.5 mm              | M4x8 mm              | M5x10 mm              | M6x12 mm              |
| 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 <sup>-0.1</sup> mm | 8 <sup>-0.1</sup> mm | 10 <sup>-0.1</sup> mm | 12 <sup>-0.1</sup> 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**

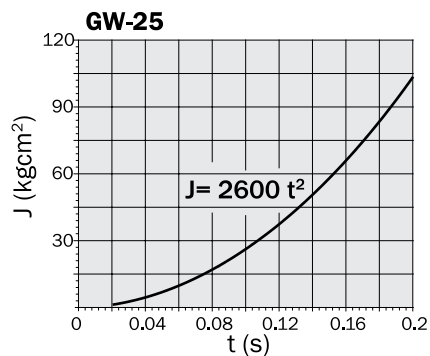
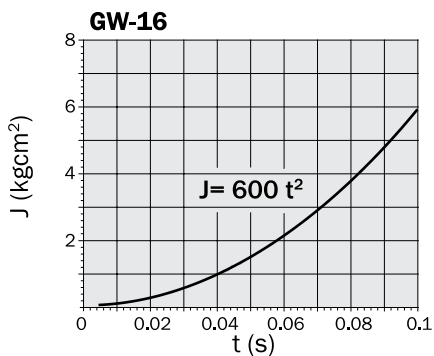
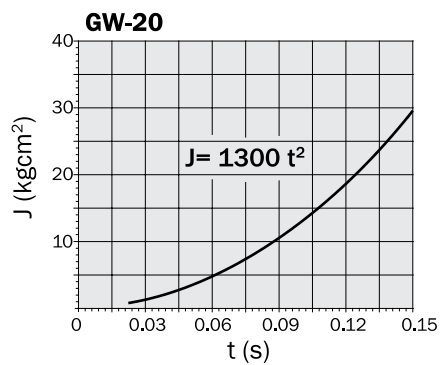
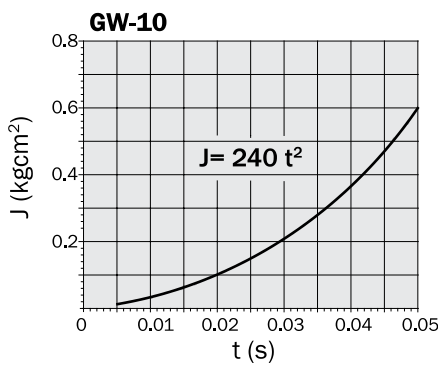
Check the table for maximum permitted loads.  
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.  
 F, Mx, My, Mz, are maximum permitted static loads.  
 Static means with motionless jaws.



|    | 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.

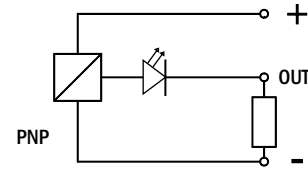
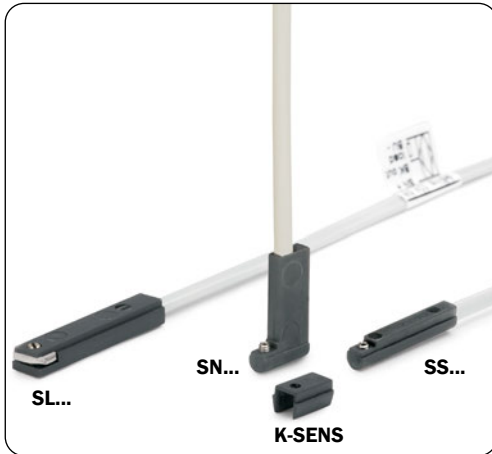


**Sensors**

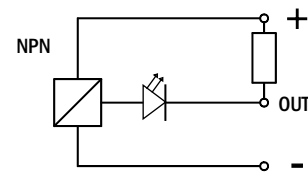
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnet on the piston inside.

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

Use sensors:

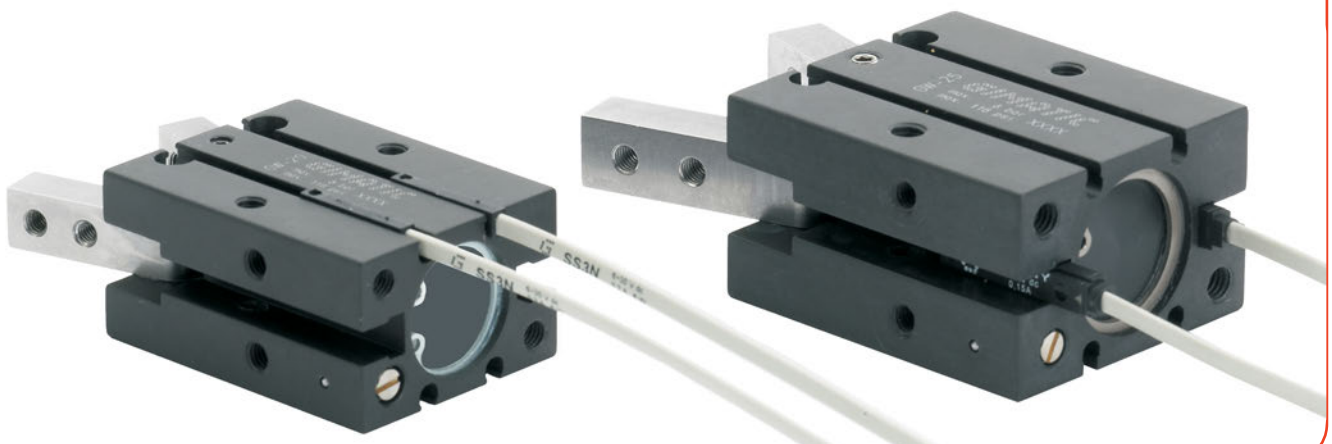


Magneto-resistive



|          |     |                        |         | 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.



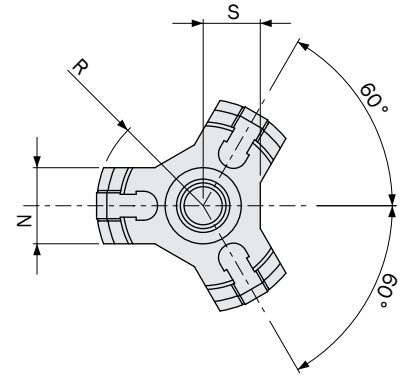
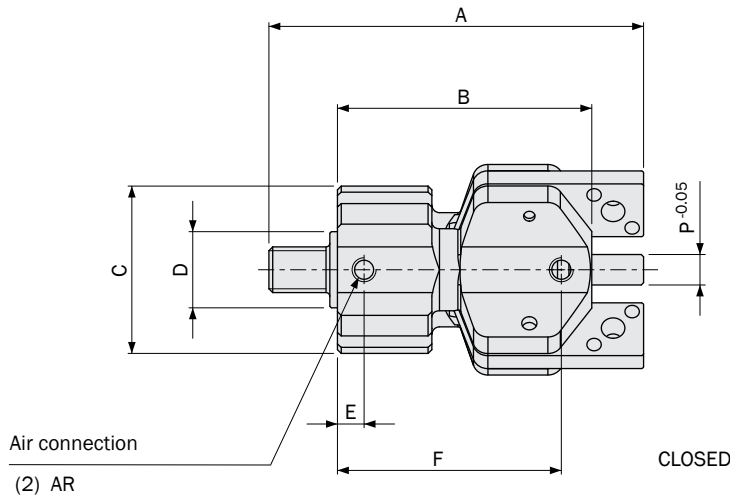
**Self-centering angular pneumatic grippers**

- Double acting.
- High efficiency and reliability due to the lack of driving parts.
- 2 or 3 jaws.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.

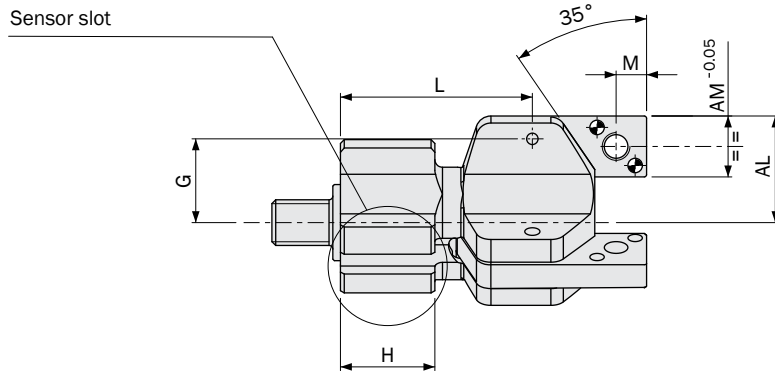


|   | PN-010-3  | PN-010-2 | PN-016-3             | PN-016-2 | PN-025-3             | PN-025-2 | PN-040-3             | PN-040-2 |
|---|---|----------|----------------------|----------|----------------------|----------|----------------------|----------|
| Design                                      | Self - centering angular motion gripper                   |          |                      |          |                      |          |                      |          |
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |          |                      |          |                      |          |                      |          |
| Compressed air control range                | 2 ÷ 8 bar   |          |                      |          |                      |          |                      |          |
| Stroke                                      | 3 x 19°   | 2 x 19°  | 3 x 19°              | 2 x 19°  | 3 x 19°              | 2 x 19°  | 3 x 19°              | 2 x 19°  |
| Permitted temperature range                 | 5 ÷ 60°C.   |          |                      |          |                      |          |                      |          |
| Maximum gripper torque at 6 bar on each jaw | 10 Ncm  | 15 Ncm   | 38 Ncm               | 57 Ncm   | 166 Ncm              | 249 Ncm  | 434 Ncm              | 651 Ncm  |
| Total gripper torque at 6 bar               | 30 Ncm  |          | 114 Ncm              |          | 498 Ncm              |          | 1302 Ncm             |          |
| Closing time at 6 bar without load          | 0.02 s  |          | 0.03 s               |          | 0.06 s               |          | 0.1 s                |          |
| Maximum working frequency at 6 bar          | 3 Hz  |          |                      |          | 2 Hz                 |          | 1 Hz                 |          |
| Air consumption for cycle at 6 bar          | 0.49 cm <sup>3</sup>                                      |          | 2.61 cm <sup>3</sup> |          | 10.8 cm <sup>3</sup> |          | 41.1 cm <sup>3</sup> |          |
| Repetition accuracy                         | 0.1°  |          |                      |          | 0.1°                 |          |                      |          |
| Weight                                      | 36 g  | 33 g     | 110 g                | 100 g    | 410 g                | 960 g    | 1070 g               | 940 g    |

**Dimensions (mm)**

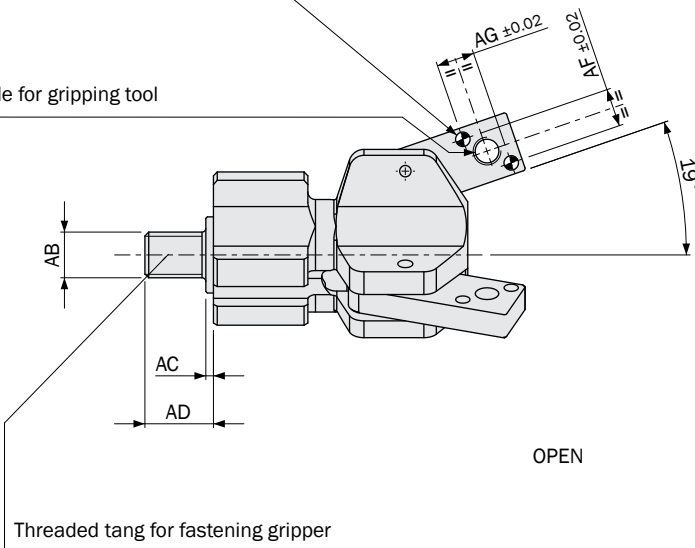


FIRST ANGLE PROJECTION



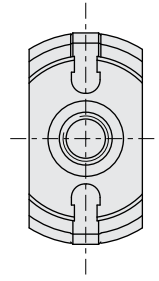
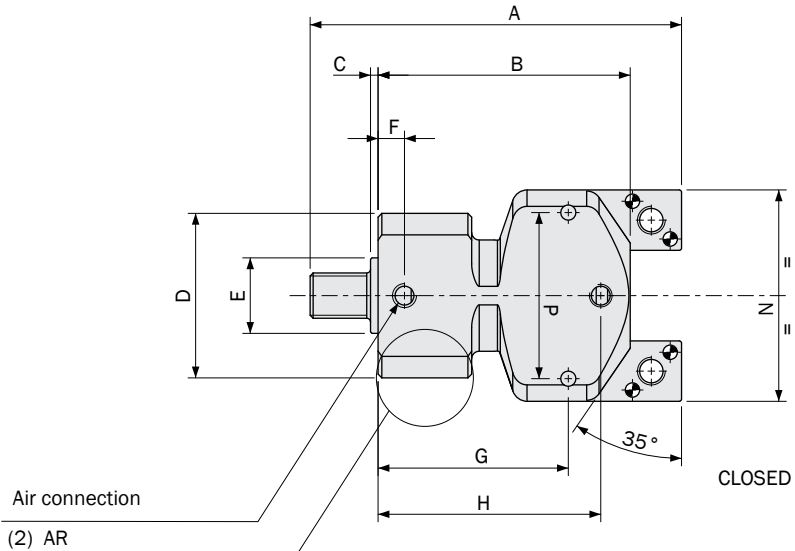
Dowel pin hole for gripping tool  
(2+2+2) AT

Threaded hole for gripping tool  
(1+1+1) AS

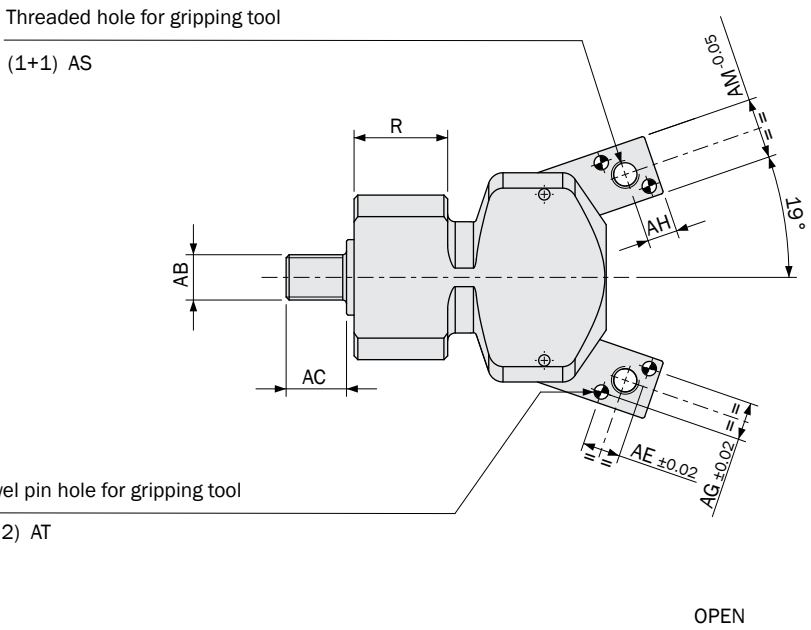
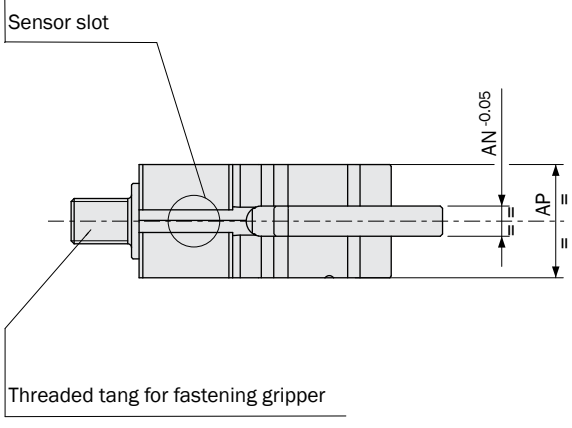


|    | PN-010-3 | PN-016-3 |
|----|----------|----------|
| A  | 49.2     | 70.5     |
| B  | 33.4     | 48.2     |
| C  | Ø22      | Ø28.8    |
| D  | Ø10 h8   | Ø10 h8   |
| E  | 3.5      | 4.5      |
| F  | 29.4     | 41       |
| G  | 11       | 17.5     |
| H  | 12.4     | 19.5     |
| L  | 25.2     | 36       |
| M  | 4        | 5.5      |
| N  | 10       | 15       |
| P  | 4        | 6        |
| R  | Ø28      | Ø44      |
| S  | 7.5      | 11       |
| AB | M6       | M8       |
| AC | 1        | 1        |
| AD | 9        | 12.5     |
| AF | 5        | 8        |
| AG | 5        | 7        |
| AL | 14       | 22       |
| AM | 8        | 12       |
| AR | M3       | M5       |
| AS | M3       | M4       |
| AT | Ø1.5 H8  | Ø2 H8    |

Dimensions (mm)



FIRST ANGLE PROJECTION

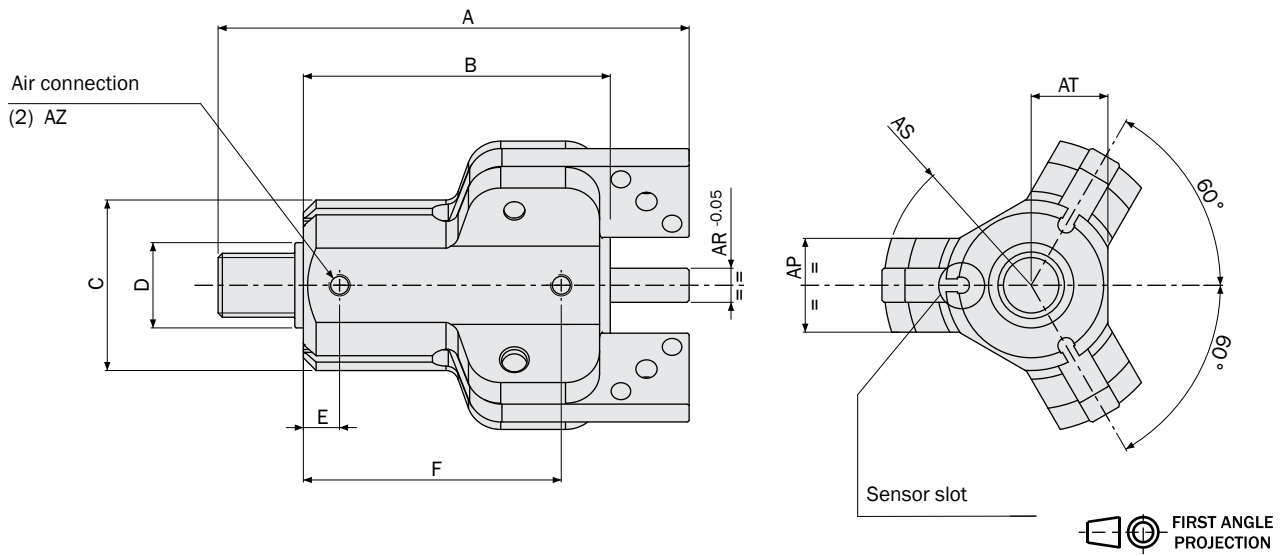


|    | PN-010-2 | PN-016-2 |
|----|----------|----------|
| A  | 49.2     | 70.5     |
| B  | 33.4     | 48.2     |
| C  | 1        | 1        |
| D  | Ø22      | Ø28.8    |
| E  | Ø10 h8   | Ø10 h8   |
| F  | 3.5      | 4.5      |
| G  | 25.2     | 36       |
| H  | 29.5     | 41       |
| N  | 28       | 44       |
| P  | 22       | 35       |
| R  | 12.4     | 19.5     |
| AB | M6       | M8       |
| AC | 8        | 11.5     |
| AE | 5        | 7        |
| AG | 5        | 8        |
| AH | 4        | 5.5      |
| AM | 8        | 12       |
| AN | 4        | 6        |
| AP | 15       | 22       |
| AR | M3       | M5       |
| AS | M3       | M4       |
| AT | Ø1.5 H8  | Ø2 H8    |
| AV | Ø28      | Ø44      |

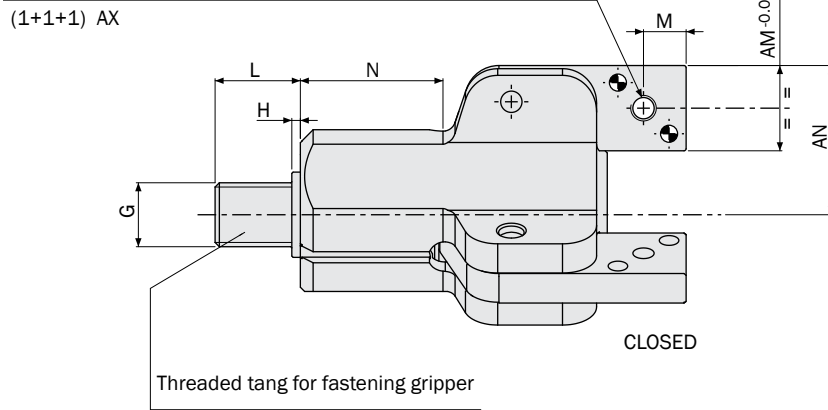
Rotary Units  
 Quick Changer  
 Profiles and Brackets  
 Grippers  
 Linear Actuators  
 Suspensions  
 Nippers  
 Robot Kit  
 Options  
 Sensors



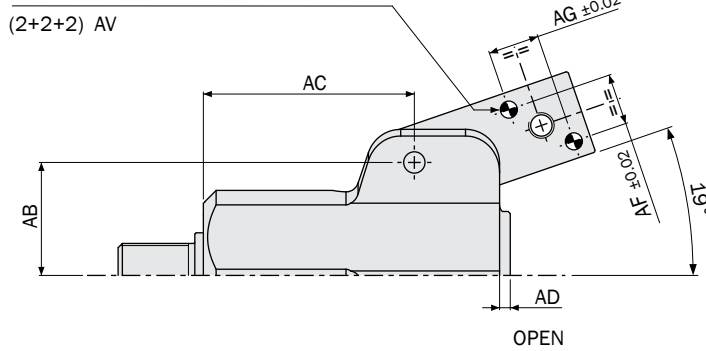
**Dimensions (mm)**



**Threaded hole for gripping tool**

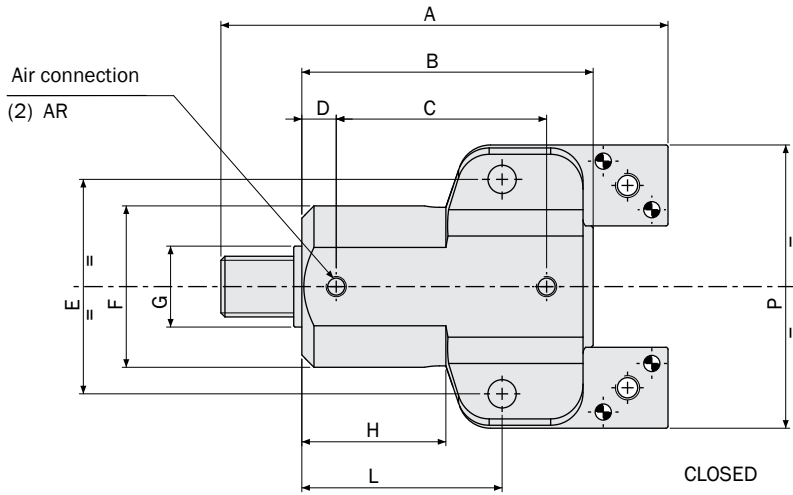


**Dowel pin hole for gripping tool**

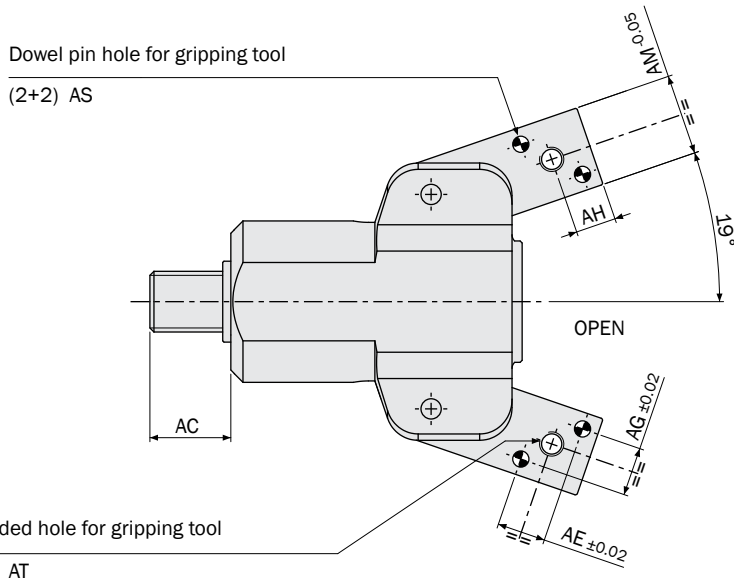
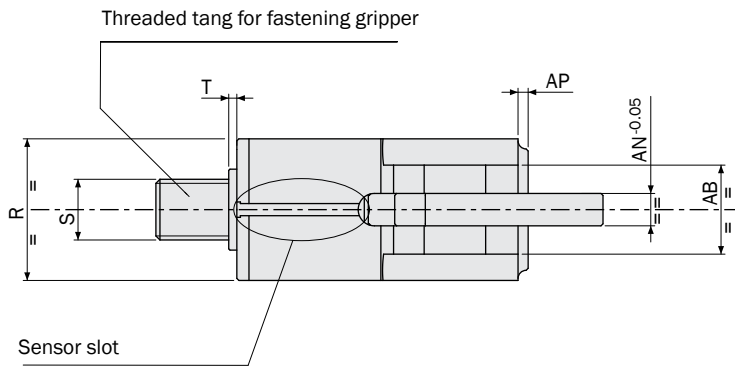


|    | PN-025-3 | PN-040-3 |
|----|----------|----------|
| A  | 110.5    | 150      |
| B  | 72       | 102      |
| C  | Ø40      | Ø60      |
| D  | Ø20 f7   | Ø30 f7   |
| E  | 8.5      | 12       |
| F  | 60.5     | 85       |
| G  | M15x1    | M20x1    |
| H  | 2        | 3        |
| L  | 20       | 28       |
| M  | 10       | 12       |
| N  | 33.5     | 44.2     |
| AB | 26.5     | 39.5     |
| AC | 49.5     | 74       |
| AD | 2.5      | 6.5      |
| AF | 12       | 15       |
| AG | 12       | 15       |
| AM | 20       | 24       |
| AN | 35       | 48.5     |
| AP | 22       | 25       |
| AR | 8        | 10       |
| AS | Ø69      | Ø97      |
| AT | 18       | 28       |
| AV | Ø4 H8    | Ø5 H8    |
| AX | M6       | M8       |
| AZ | M5       | 1/8 Gas  |

Dimensions (mm)



FIRST ANGLE PROJECTION



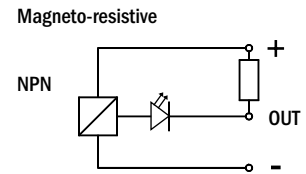
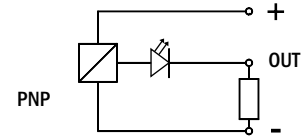
|    | PN-025-2 | PN-040-2 |
|----|----------|----------|
| A  | 110.5    | 150      |
| B  | 72       | 102      |
| C  | 52       | 73       |
| D  | 8.5      | 12       |
| E  | 53       | 79       |
| F  | Ø40      | Ø60      |
| G  | Ø20 f7   | Ø30 f7   |
| H  | 35.6     | 44.2     |
| L  | 49.5     | 74       |
| P  | 70       | 97       |
| R  | 35       | 56       |
| S  | M15x1    | M20x1    |
| T  | 2        | 3        |
| AB | 22       | 25       |
| AC | 20       | 28       |
| AE | 12       | 15       |
| AG | 12       | 19.5     |
| AH | 10       | 12       |
| AM | 20       | 24       |
| AN | 8        | 10       |
| AP | 2.5      | 6.5      |
| AR | M5       | 1/8 Gas  |
| AS | Ø4 H8    | Ø5 H8    |
| AT | M6       | M8       |
| AV | Ø69      | Ø97      |

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

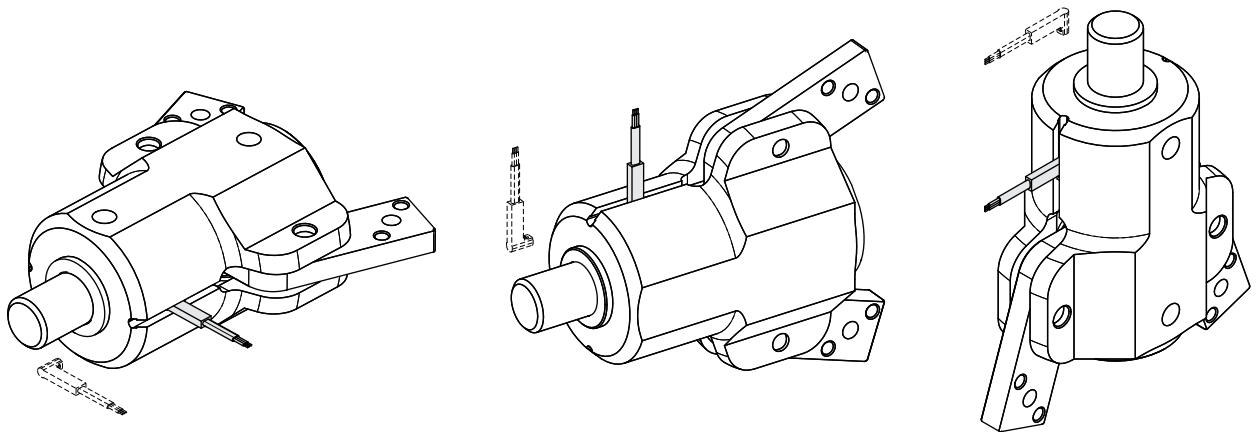
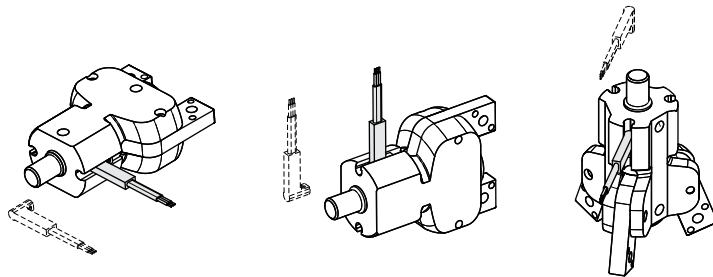
**Sensors**

The operating position is detected by proximity magnetic sensors, fitted in the guides of the gripper's body. These sensors detect the position by means of a magnet placed on the piston.

| SN4N225-G | PNP | 2.5m cable             |
|-----------|-----|------------------------|
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN |                        |



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



**2-jaw self-centering angular mini gripper, series TFA**

- Single acting with spring opening.
- Several mounting accessories.
- Optional suspension kit (1).
- FDA-H1 food-grade grease.



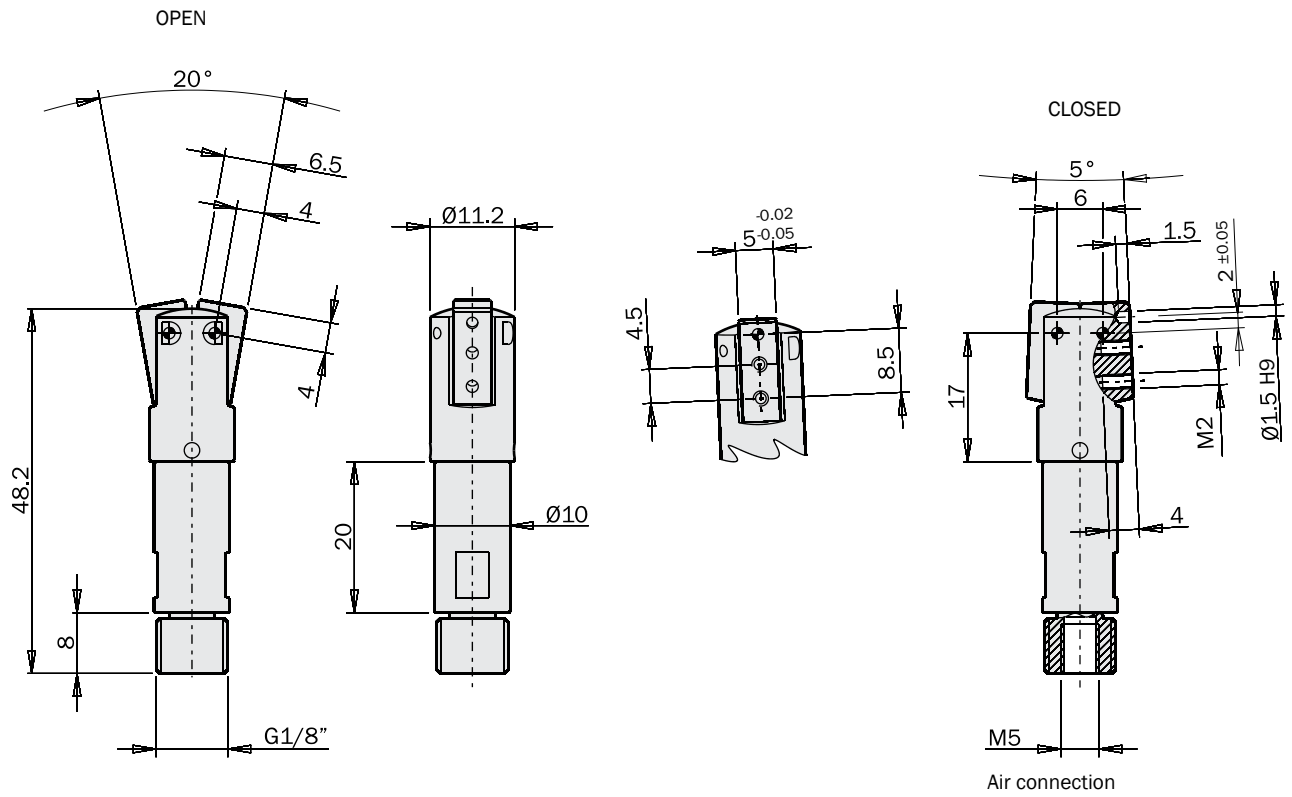
|                                  | TFA10-25  | TFA14-25            | TFA20-25<br>TFA20-25S                |
|----------------------------------|---|---------------------|--------------------------------------|
| Medium                           | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                                      |
| Pressure range                   | 2.5 ÷ 8 bar   |                     |                                      |
| Temperature range                | 5 ÷ 60 °C.  |                     |                                      |
| Stroke                           | 2 x 12.5°   |                     |                                      |
| Closing torque at 6 bar each jaw | 17 Ncm  | 48 Ncm              | 215 Ncm                              |
| Total closing torque at 6 bar    | 34 Ncm  | 96 Ncm              | 430 Ncm                              |
| Opening torque at 0 bar each jaw | 0.5 Ncm   | 0.8 Ncm             | 1.3 Ncm                              |
| Total opening torque at 0 bar    | 1 Ncm   | 1.6 Ncm             | 2.6 Ncm                              |
| Maximum working frequency        | 2 Hz  | 2 Hz                | 2 Hz                                 |
| Cycle air consumption            | 0.2 cm <sup>3</sup>                                       | 0.5 cm <sup>3</sup> | 2 cm <sup>3</sup>                    |
| Weight                           | 12 g  | 30 g                | 95 g (TFA20-25)<br>120 g (TFA20-25S) |

(1)

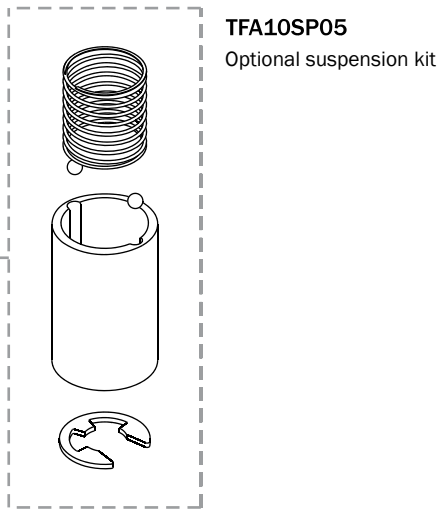
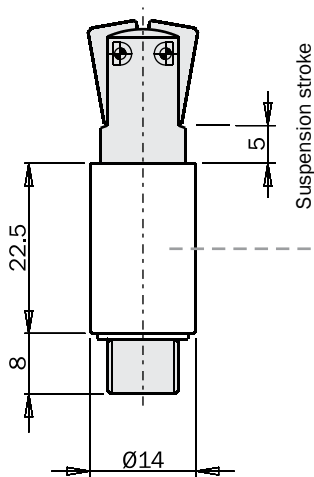
|              | TFA10SP05   | TFA14SP05   | TFA20SP10   |
|--------------|-------------|-------------|-------------|
| Spring force | 1.9 ÷ 2.2 N | 3.0 ÷ 3.5 N | 4.1 ÷ 6.7 N |
| Weight       | 10 g        | 35 g        | 85 g        |

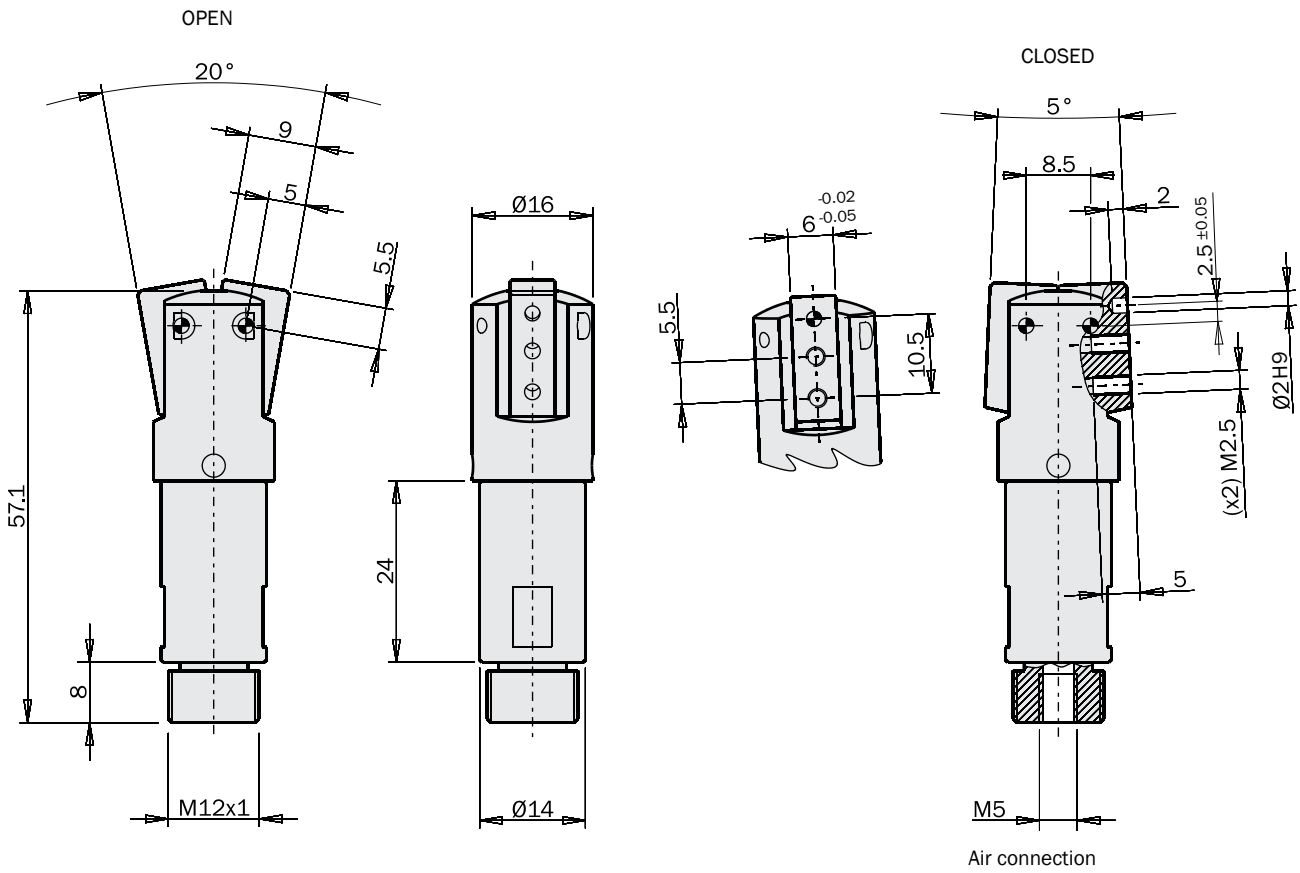
**Dimensions (mm)**

**TFA10-25**

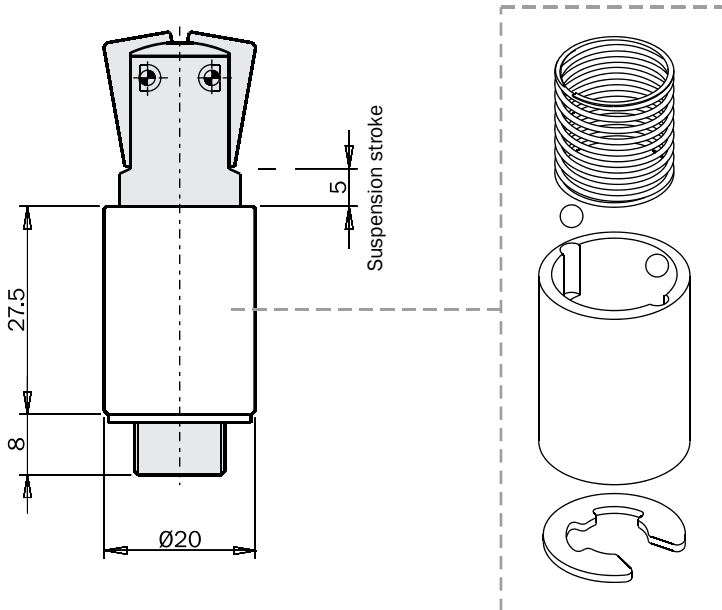


Gripper + Suspension





Gripper + Suspension

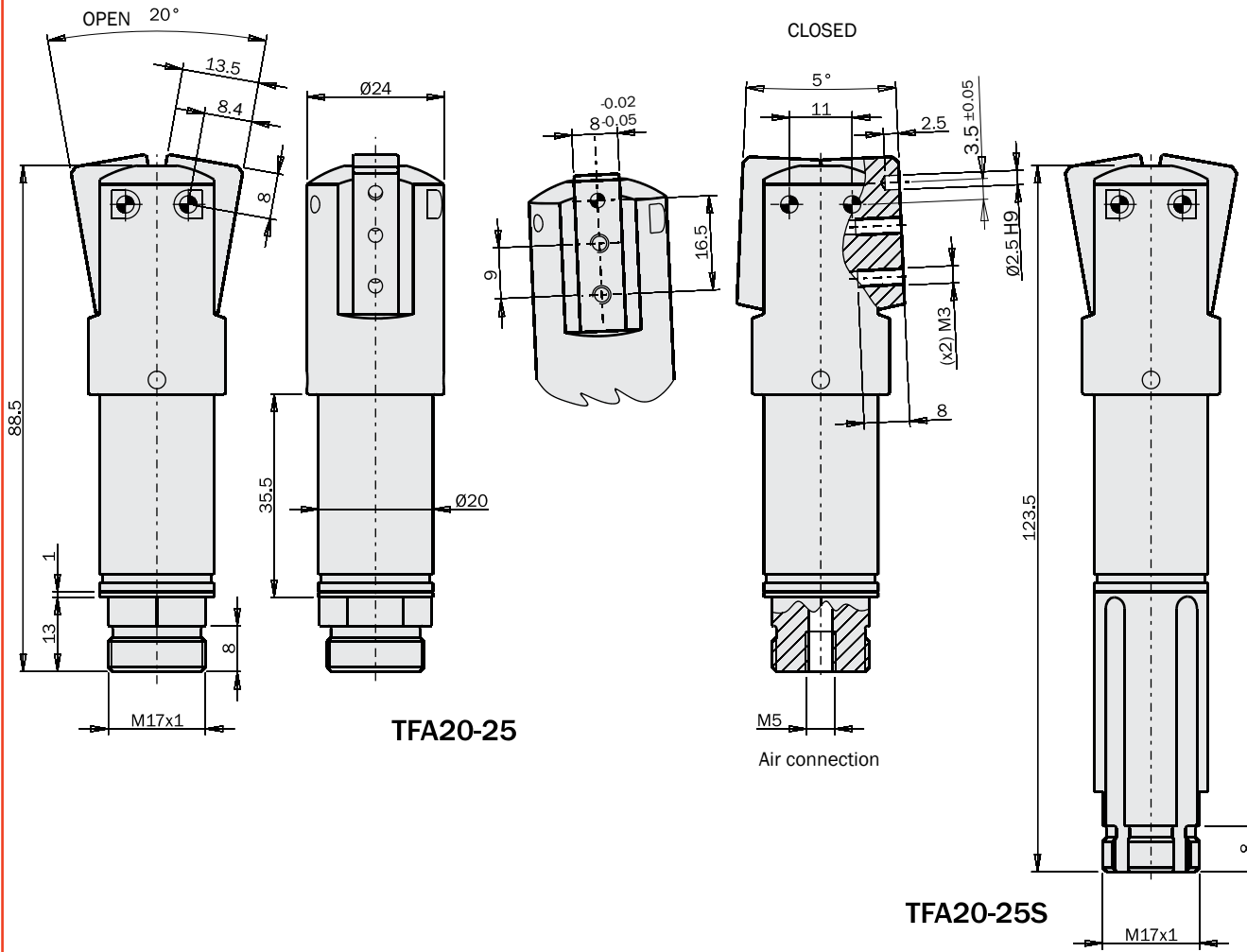


**TFA14SP05**  
Optional suspension kit

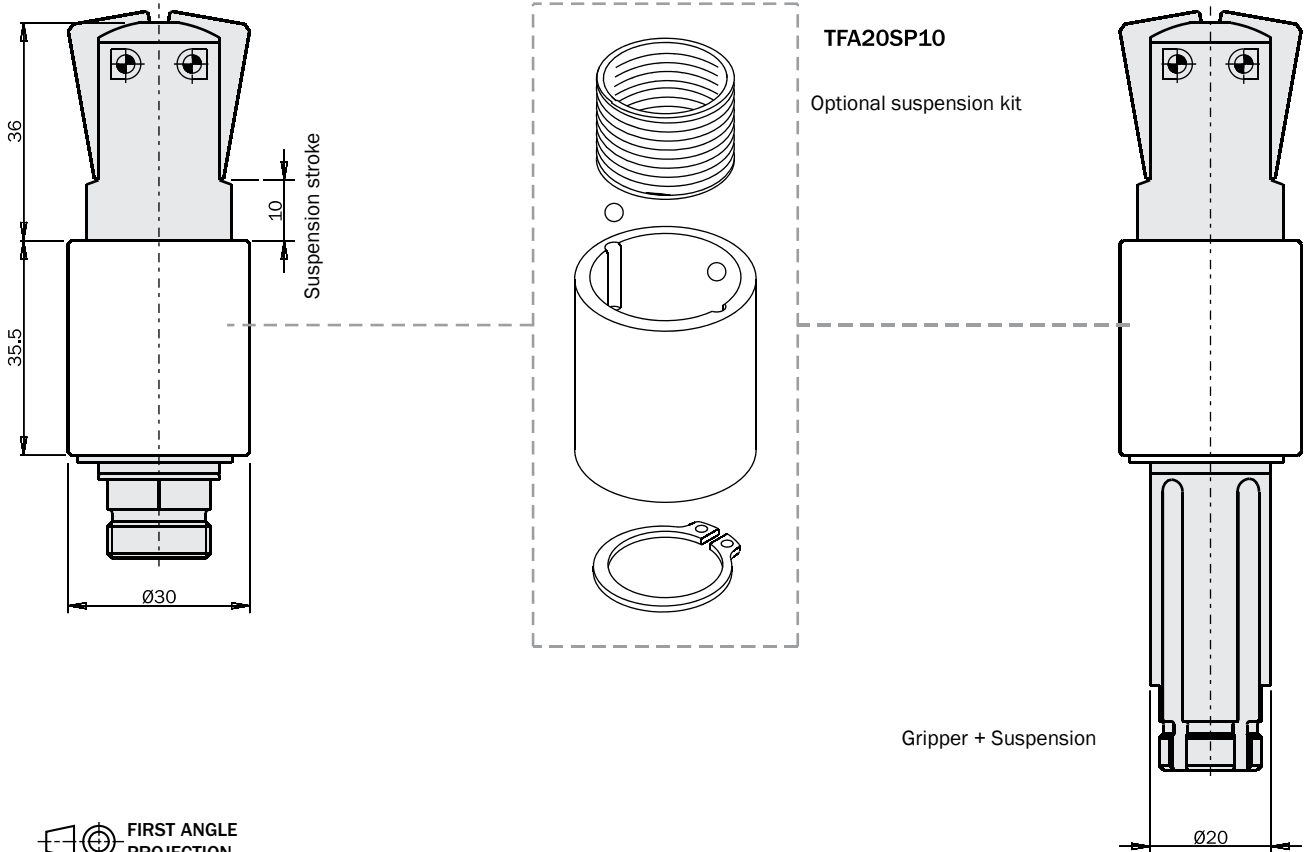


**Dimensions (mm)**

**TFA20-25**  
**TFA20-25S**



Gripper + Suspension

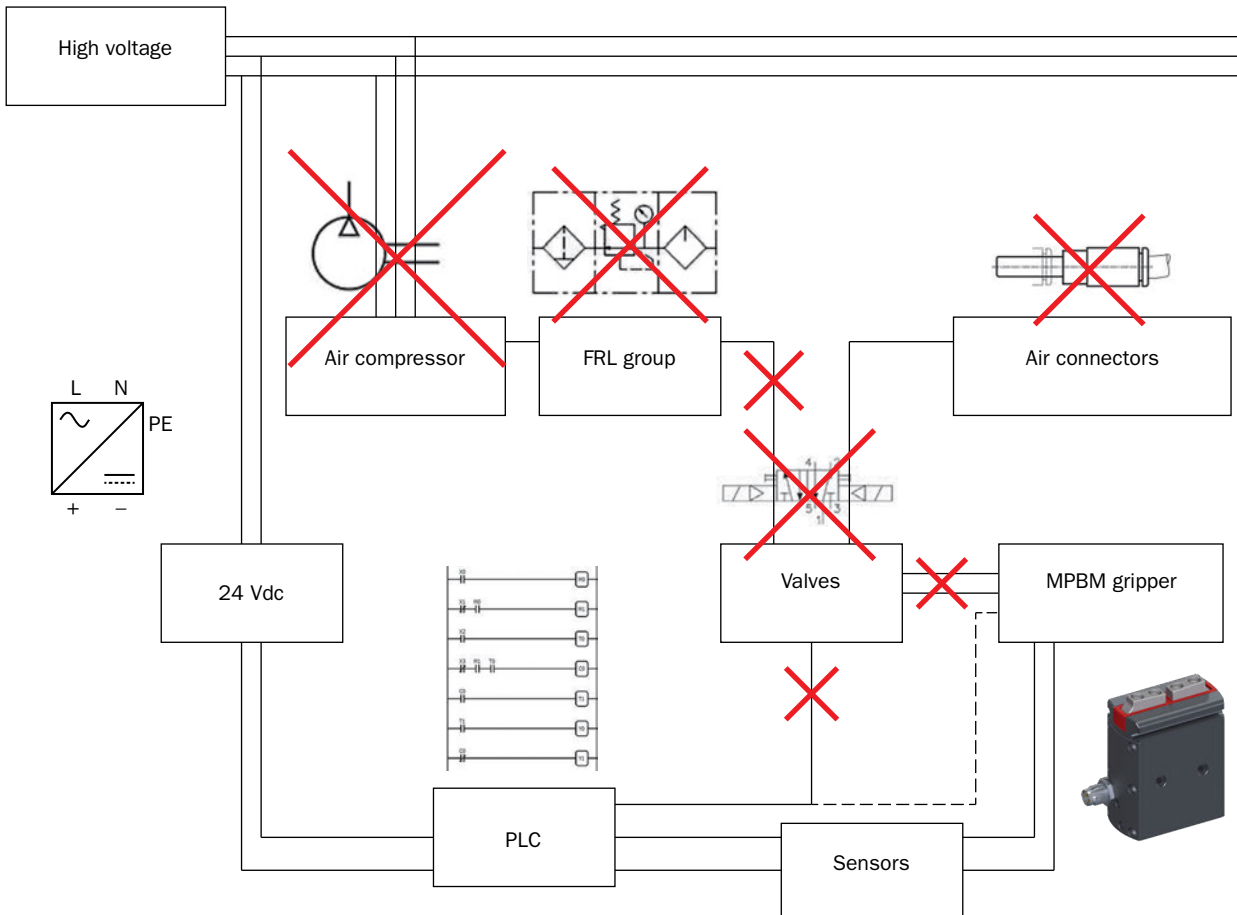


FIRST ANGLE PROJECTION

09/2022

## 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.
- 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               |
|--|--|------------------------|------------------------|
| Total gripping torque                        | 68 Ncm                                     | 151 Ncm                | 277 Ncm                |
| Stroke                                       | 2x23° (±2°)                                | 2x23° (±2°)            | 2x23° (±2°)            |
| Frequency at an ambient temperature of 30°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 30°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                        | 5° ÷ 60°C                                  | 5° ÷ 60°C              | 5° ÷ 60°C              |
| Environmental Degree                         | IP54                                       | IP54                   | IP54                   |
| 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 <sup>2</sup> | 1.72 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jyy  | 0.53 kgcm <sup>2</sup> | 2.18 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jzz  | 0.23 kgcm <sup>2</sup> | 0.94 kgcm <sup>2</sup> |
| Technology and options                       | Page 594 - 595                             |                        |                        |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

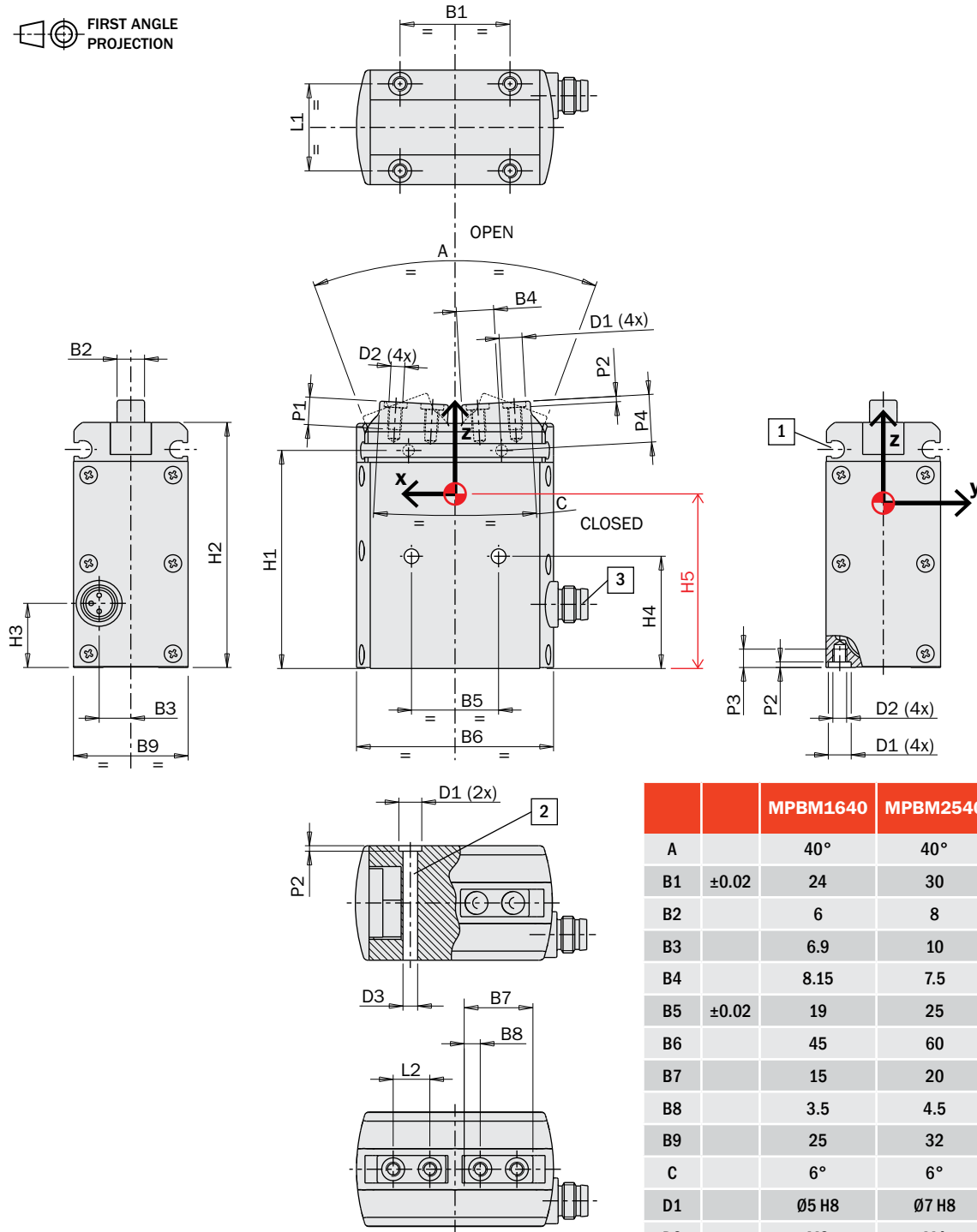
Robot Kit

Options

Sensors

## Dimensions (mm)

FIRST ANGLE PROJECTION



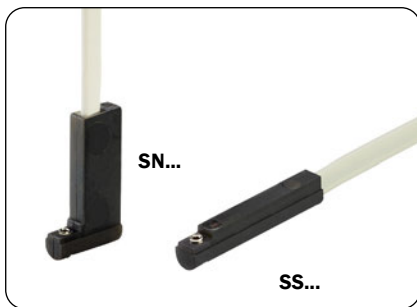
- 1** Magnetic sensor slot
- 2** Through hole for gripper fastening
- 3** Electrical connection

|    |       | 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       |

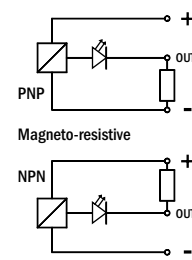
**Sensors**

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

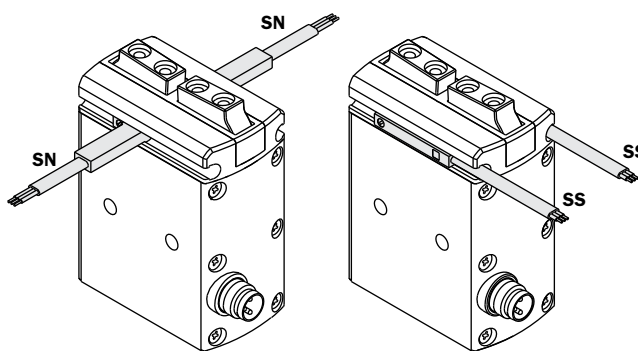
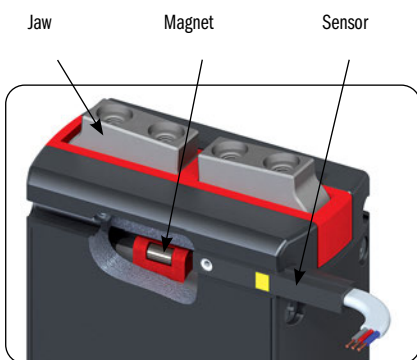
For details, see the "Accessories" section.



|                        |     |                        |
|------------------------|-----|------------------------|
| SN4N225-G<br>SS4N225-G | PNP | 2.5m cable             |
| SN4M225-G<br>SS4M225-G | NPN | 2.5m cable             |
| SN3N203-G<br>SS3N203-G | PNP | M8 snap plug connector |
| SN3M203-G<br>SS3M203-G | NPN | M8 snap plug connector |



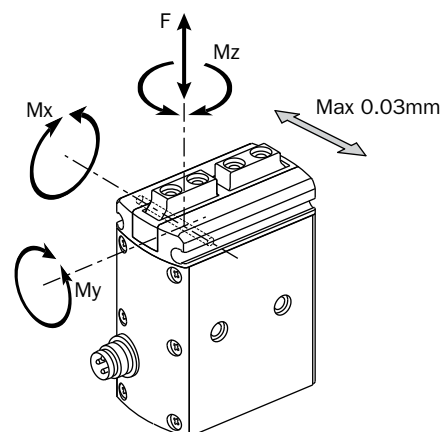
They are all provided with a 3-wire flat cable and a LED.



**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.  $F_s$ ,  $M_x$ ,  $M_y$ ,  $M_z$  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               |
| $M_x$ | 0.5 Nm                | 1 Nm                | 2.5 Nm              |
| $M_y$ | 1 Nm                  | 2 Nm                | 5 Nm                |
| $M_z$ | 1 Nm                  | 2 Nm                | 5 Nm                |
| $J$   | 0.4 kgcm <sup>2</sup> | 2 kgcm <sup>2</sup> | 5 kgcm <sup>2</sup> |

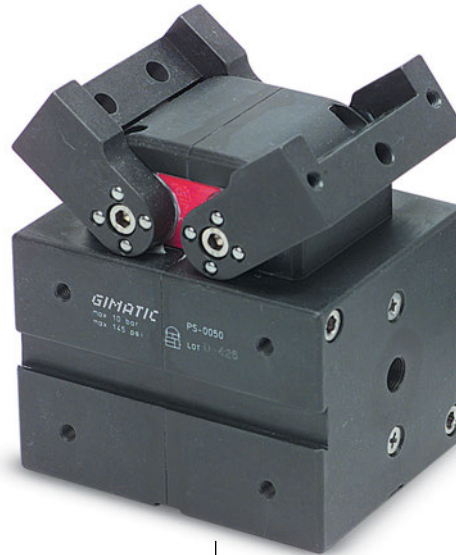


**2-jaw self-centering radial pneumatic gripper (series PS)**

- Double acting radial motion.
- The gripping force is totally available on both directions from 0° to 90°.
- Light weight, due to its alloy construction.
- Rugged construction.
- Well protected against dusty environment.
- FDA-H1 food-grade grease.



PS-0030



PS-0050

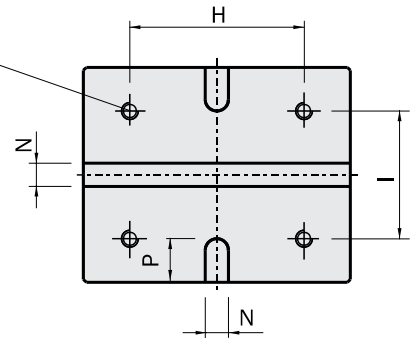
|                                      | PS-0030   | PS-0050             |
|--------------------------------------|---|---------------------|
| Medium                               | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |
| Operating pressure range             | 2 ÷ 8 bar   |                     |
| Operating temperature range          | 5 ÷ 60 °C.  |                     |
| Stroke                               | 2 x 91°   |                     |
| Gripping torque at 6 bar on each jaw | 200 Ncm   | 600 Ncm             |
| Total gripping torque at 6 bar       | 400 Ncm   | 1200 Ncm            |
| Maximum working frequency            | 2 Hz  | 1 Hz                |
| Cycle air consumption                | 37 cm <sup>3</sup>  | 105 cm <sup>3</sup> |
| Closing time without load            | 0.08 s  | 0.1 s               |
| Repetition accuracy                  | 0.1°  | 0.1°                |
| Weight                               | 750 g   | 1100 g              |

**Dimensions (mm)**



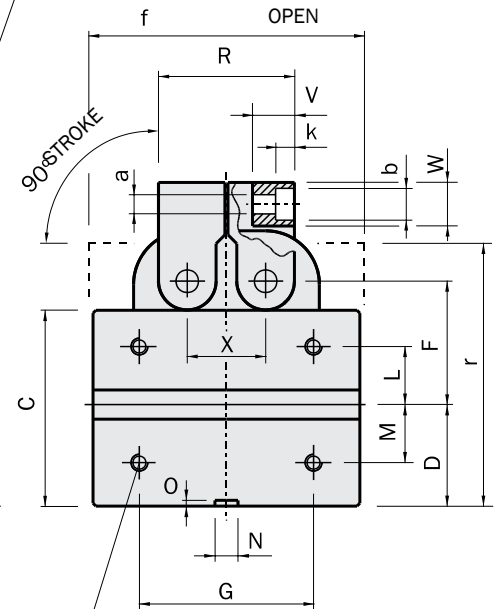
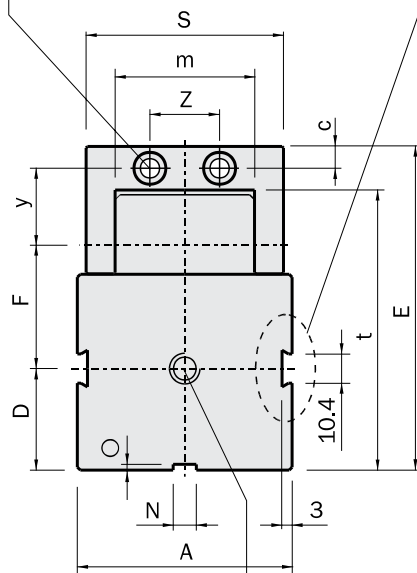
|   | PS-0030            | PS-0050            |
|---|--------------------|--------------------|
| A | 49                 | 74                 |
| B | 81                 | 92                 |
| C | 45                 | 67.5               |
| D | 24                 | 35                 |
| E | 83                 | 111.5              |
| F | 30                 | 42.5               |
| G | 50                 | 60                 |
| H | 65                 | 60                 |
| I | 39                 | 44                 |
| L | 11.5               | 20                 |
| M | 13.5               | 20                 |
| N | 6 <sup>+0.05</sup> | 8 <sup>+0.05</sup> |
| O | 2                  | 2                  |
| P | 12.5               | 15                 |
| Q | M4x8               | M5x10              |
| R | 41.8               | 46.8               |
| S | 48                 | 68                 |
| T | 38                 | 58                 |
| U | 10.2               | 11.5               |
| V | 12.4               | 14.4               |
| Z | 20                 | 24                 |
| J | M4x5               | M5x8               |
| a | Ø5.5               | Ø6.6               |
| b | Ø9                 | Ø11                |
| c | 6                  | 7.5                |
| d | 1/8 Gas            | 1/8 Gas            |
| e | 6.4                | 7.2                |
| f | 82                 | 95                 |
| g | M4x10              | M5x15              |
| h | Ø5H8x12            | Ø6H8x15            |
| m | 31                 | 48                 |
| q | 20.3               | 22.8               |
| r | 65.5               | 90.5               |
| t | 70.5               | 96                 |
| k | 5.5                | 6.5                |
| y | 23                 | 26.5               |
| w | 12                 | 15                 |
| x | 24                 | 27                 |

Threaded hole for gripper fastening  
(N°4) Q



Sensor groove

Dowel pin hole for gripping tool

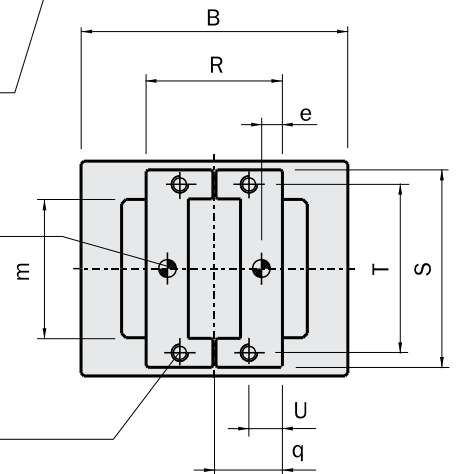


Air connection  
(N°2) d

Threaded hole for gripper fastening  
(N°4+4) J

Dowel pin hole for gripping tool  
(N°1+1) h

Dowel pin hole for gripping tool  
(N°2+2) g



**2-jaw self-centering radial pneumatic gripper (series PS-P)**

- Double acting radial motion.
- The gripping force is totally available on both directions from 0° to 90°.
- Lightweight, being totally in light alloy.
- Flat profile.
- Well protected against dusty environment.
- As more than two sensors can be mounted, versatile operating is possible.
- FDA-H1 food-grade grease.



PS-0016-P



PS-0025-P

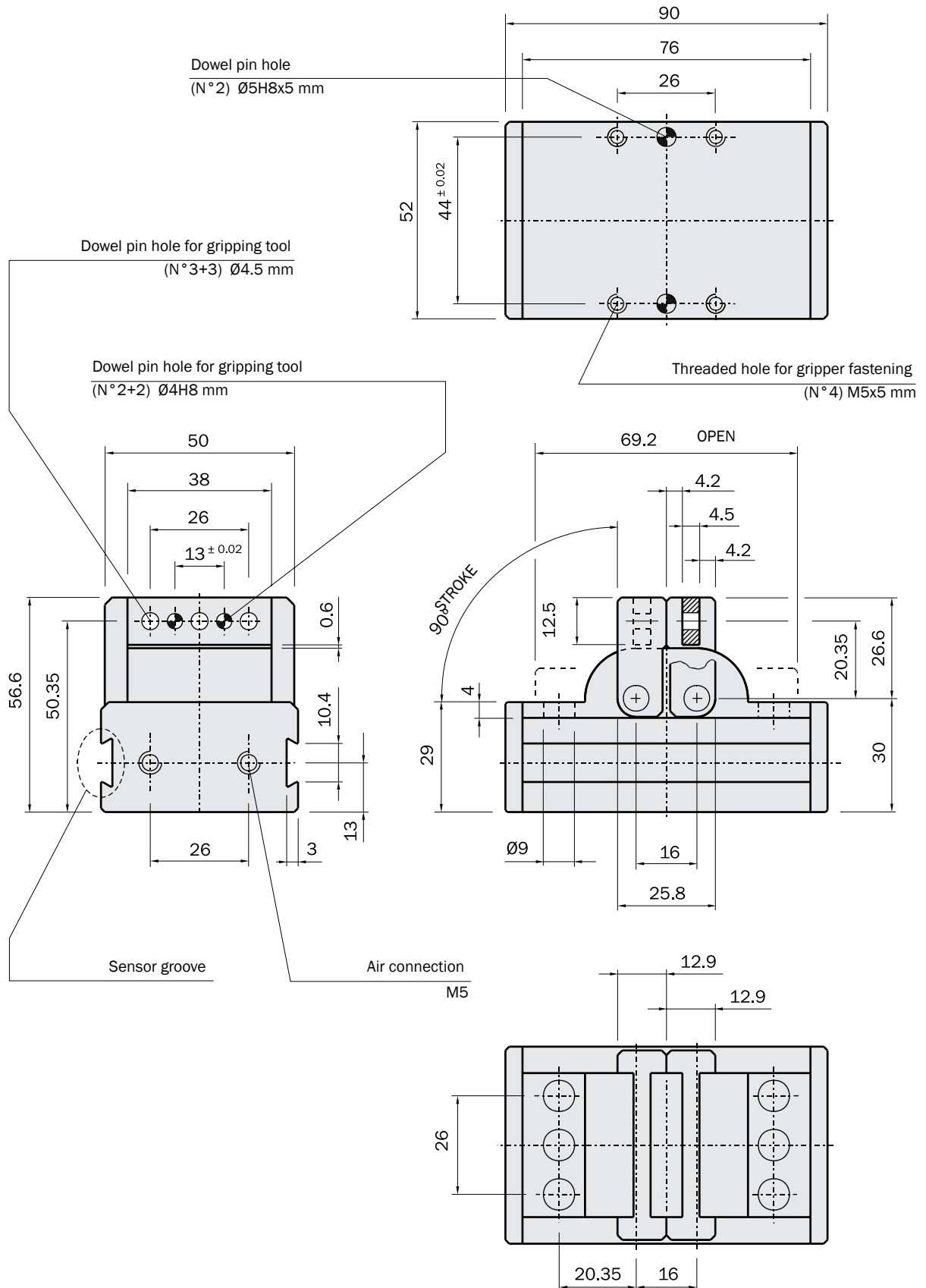


PS-0045-P

|                                      | PS-0016-P   | PS-0025-P          | PS-0045-P           |
|--------------------------------------|---|--------------------|---------------------|
| 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.  |                    |                     |
| Stroke                               | 2 x 90°   |                    |                     |
| Gripping torque at 6 bar on each jaw | 100 Ncm   | 280 Ncm            | 1800 Ncm            |
| Total gripping torque at 6 bar       | 200 Ncm   | 560 Ncm            | 3600 Ncm            |
| Maximum working frequency            | 2 Hz  | 2 Hz               | 1 Hz                |
| Cycle air consumption                | 16 cm <sup>3</sup>  | 57 cm <sup>3</sup> | 382 cm <sup>3</sup> |
| Closing time without load            | 0.06 s  | 0.09 s             | 0.15 s              |
| Repetition accuracy                  | 0.1°  | 0.1°               | 0.1°                |
| Weight                               | 320 g   | 650 g              | 2700 g              |

**Dimensions (mm)**

**PS-0016-P**





Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

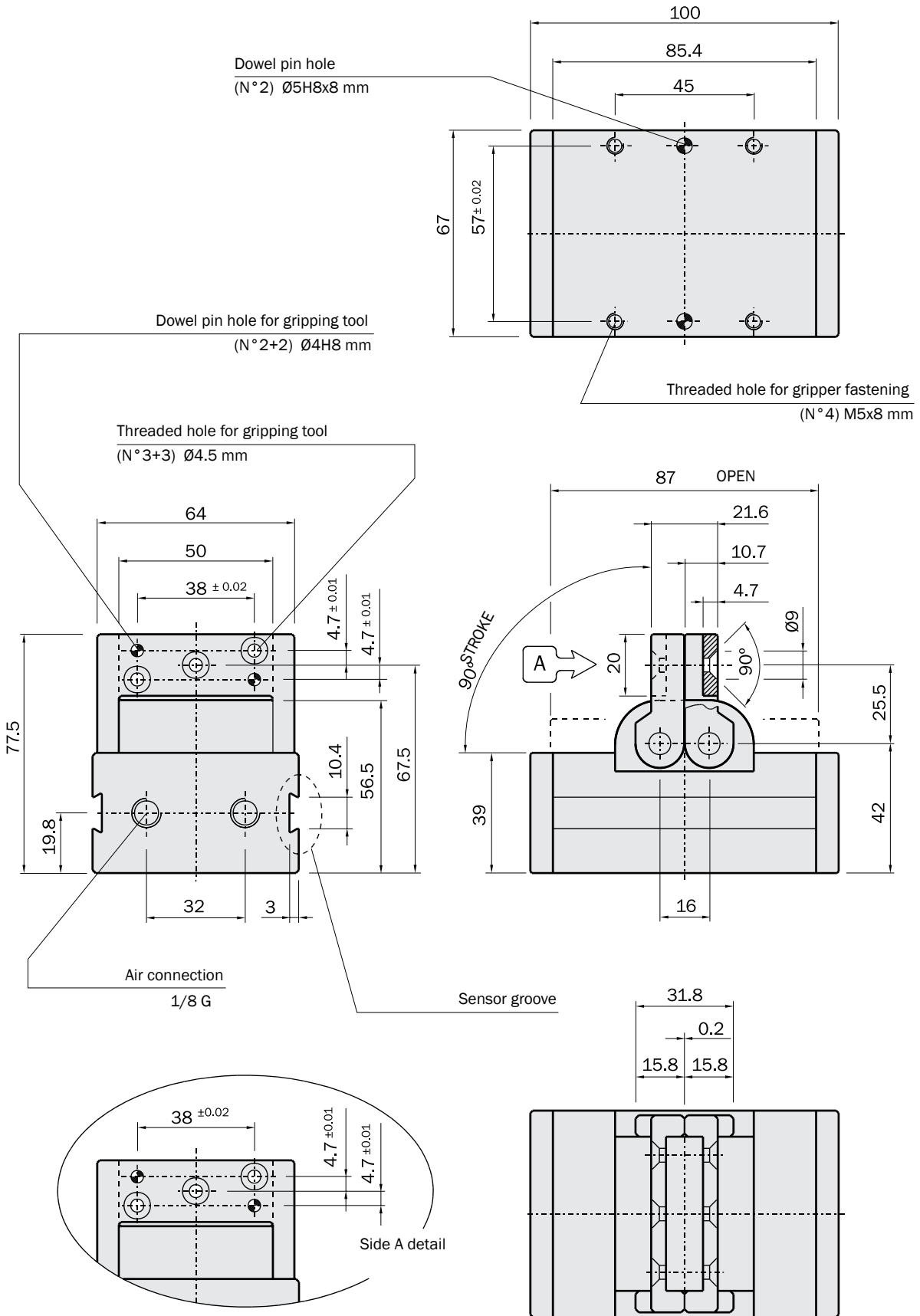
Suspensions

Nippers

Robot Kit

Options

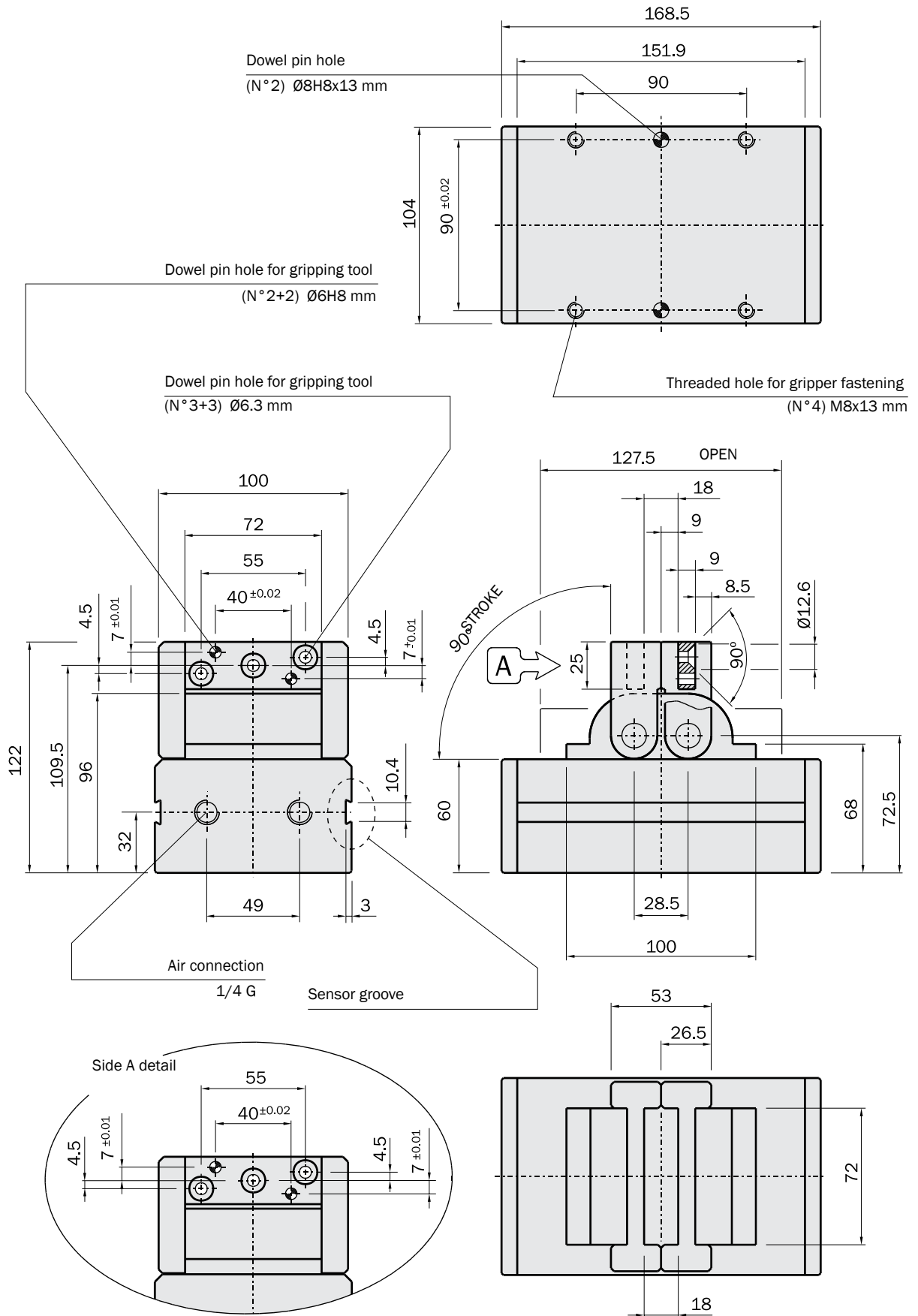
Sensors





**Dimensions (mm)**

**PS-0045-P**



## 2-jaw self centering radial pneumatic gripper (series GX-S)

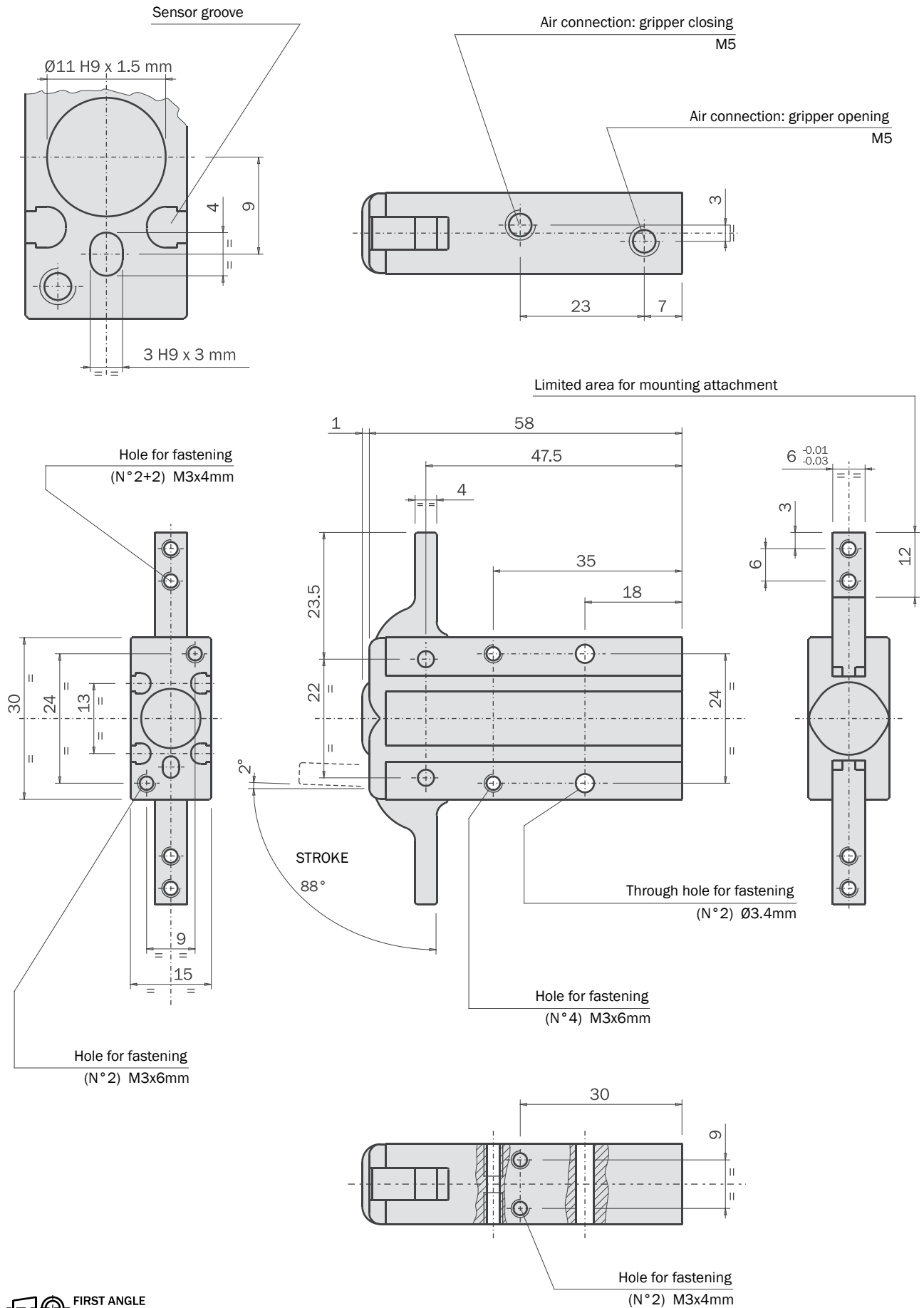
- Double acting.
- Very high gripping force at the end of the closing stroke.
- Long life and reliability, maintenance free.
- Various options for fastening.
- Optional proximity magnetic sensors.
- FDA-H1 food-grade grease.



|   | GX-10S  | GX-16S            | GX-20S             | GX-25S             |
|---|---|-------------------|--------------------|--------------------|
| 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 maximum torque at 6 bar on each jaw | 35 Ncm  | 120 Ncm           | 230 Ncm            | 430 Ncm            |
| Opening maximum total torque at 6 bar       | 70 Ncm  | 240 Ncm           | 460 Ncm            | 860 Ncm            |
| Closing maximum torque at 6 bar on each jaw | 26 Ncm  | 105 Ncm           | 210 Ncm            | 400 Ncm            |
| Closing maximum total torque at 6 bar       | 52 Ncm  | 210 Ncm           | 420 Ncm            | 800 Ncm            |
| Stroke                                      | 2x90°   | 2x90°             | 2x90°              | 2x90°              |
| Maximum working frequency                   | 2 Hz  | 2 Hz              | 2 Hz               | 2 Hz               |
| Cycle air consumption                       | 2 cm <sup>3</sup>   | 6 cm <sup>3</sup> | 11 cm <sup>3</sup> | 22 cm <sup>3</sup> |
| Closing time without load                   | 0.04 s  | 0.08 s            | 0.10 s             | 0.08 s             |
| Repetition accuracy                         | 0.05°   | 0.05°             | 0.05°              | 0.05°              |
| Weight                                      | 70 g  | 140 g             | 290 g              | 510 g              |

**Dimensions (mm)**

**GX-10S**



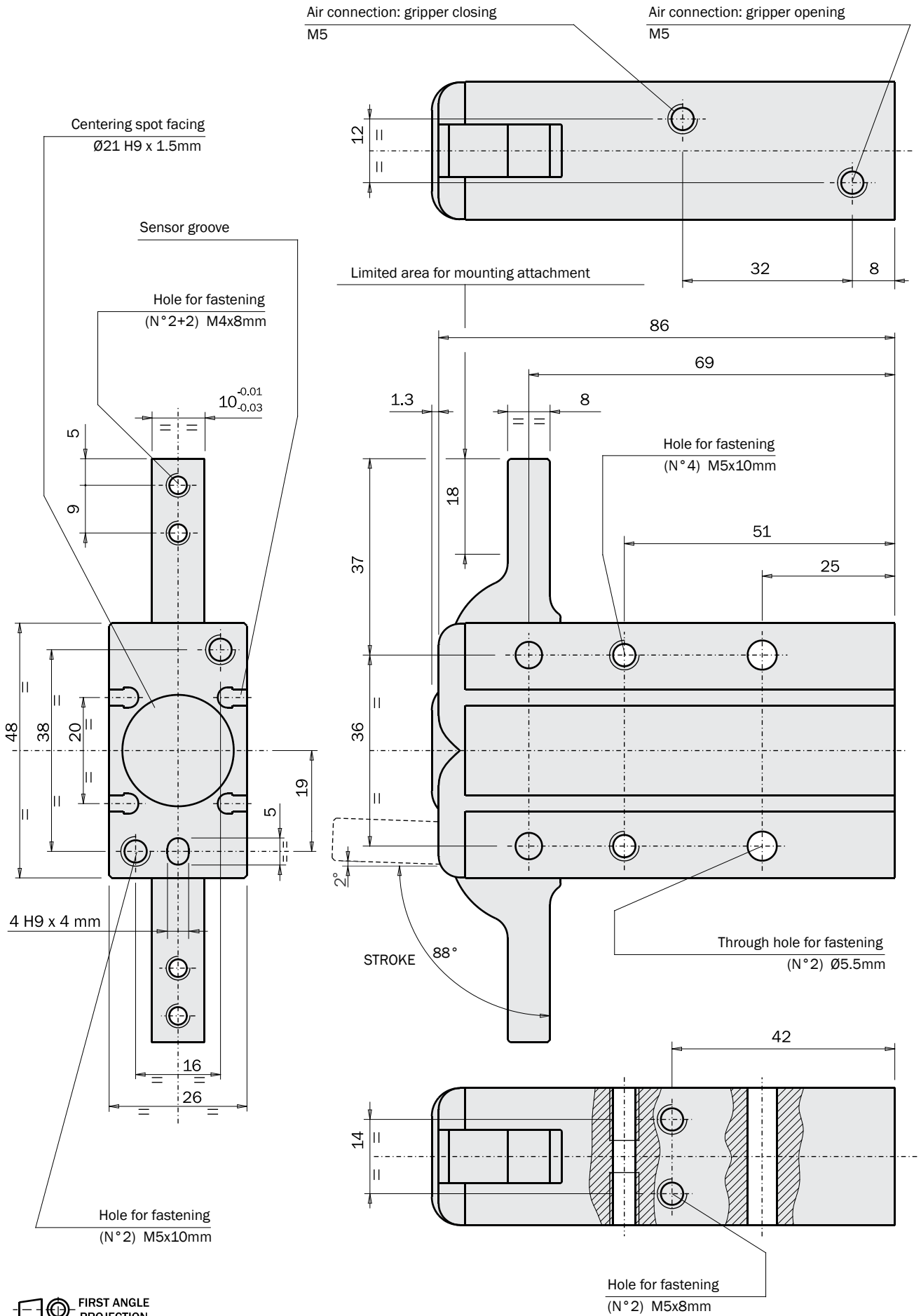
FIRST ANGLE PROJECTION

09/2022



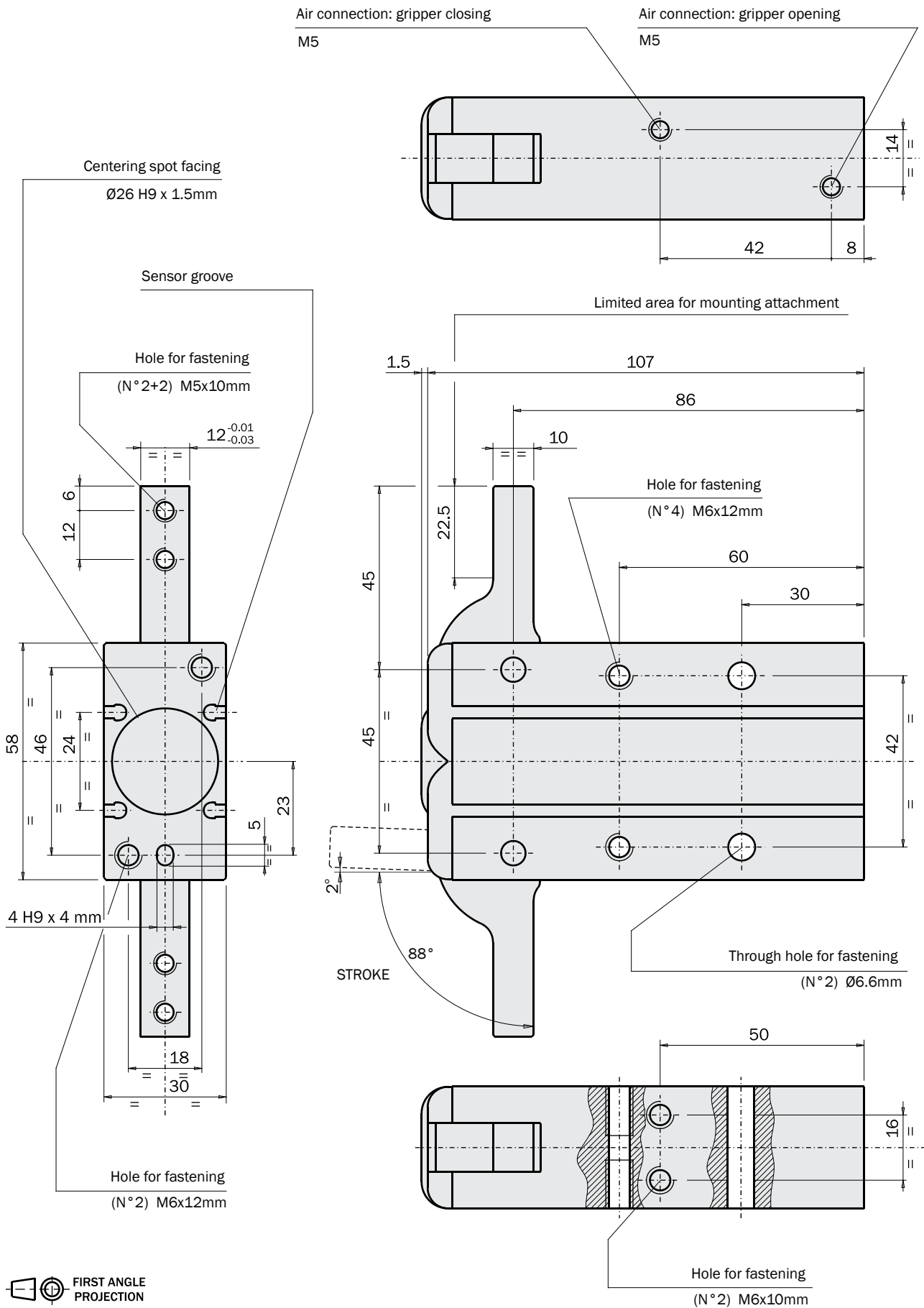
**Dimensions (mm)**

**GX-20S**



FIRST ANGLE PROJECTION

09/2022

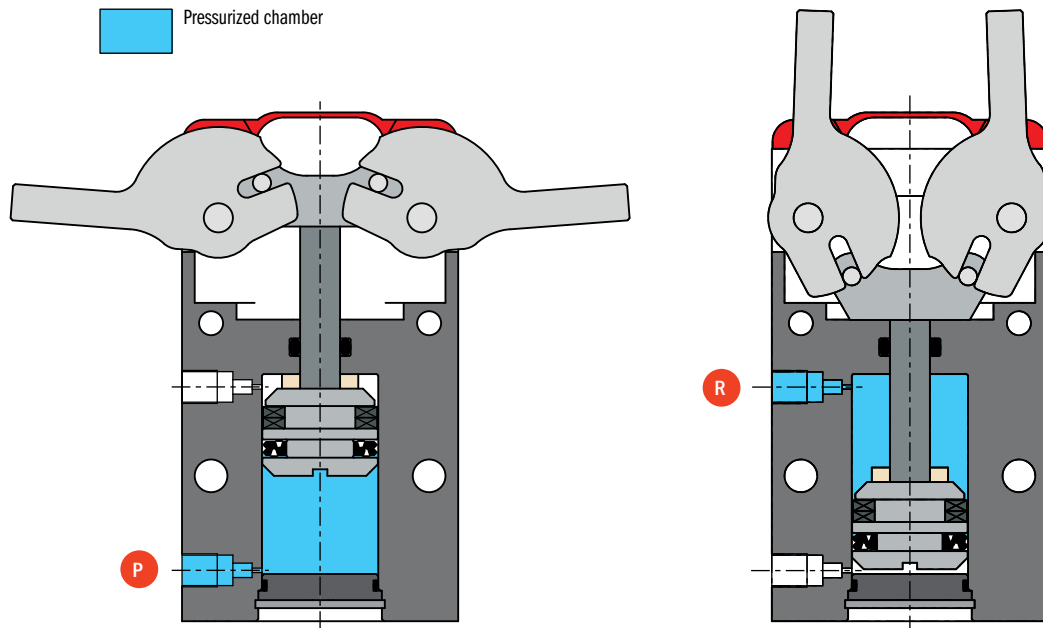


FIRST ANGLE PROJECTION

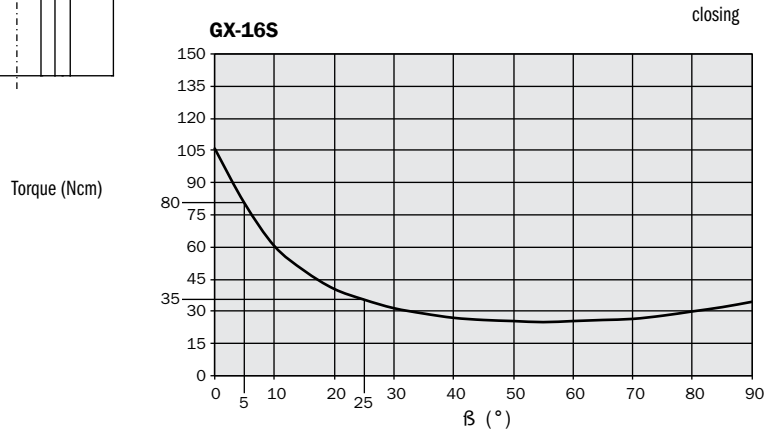
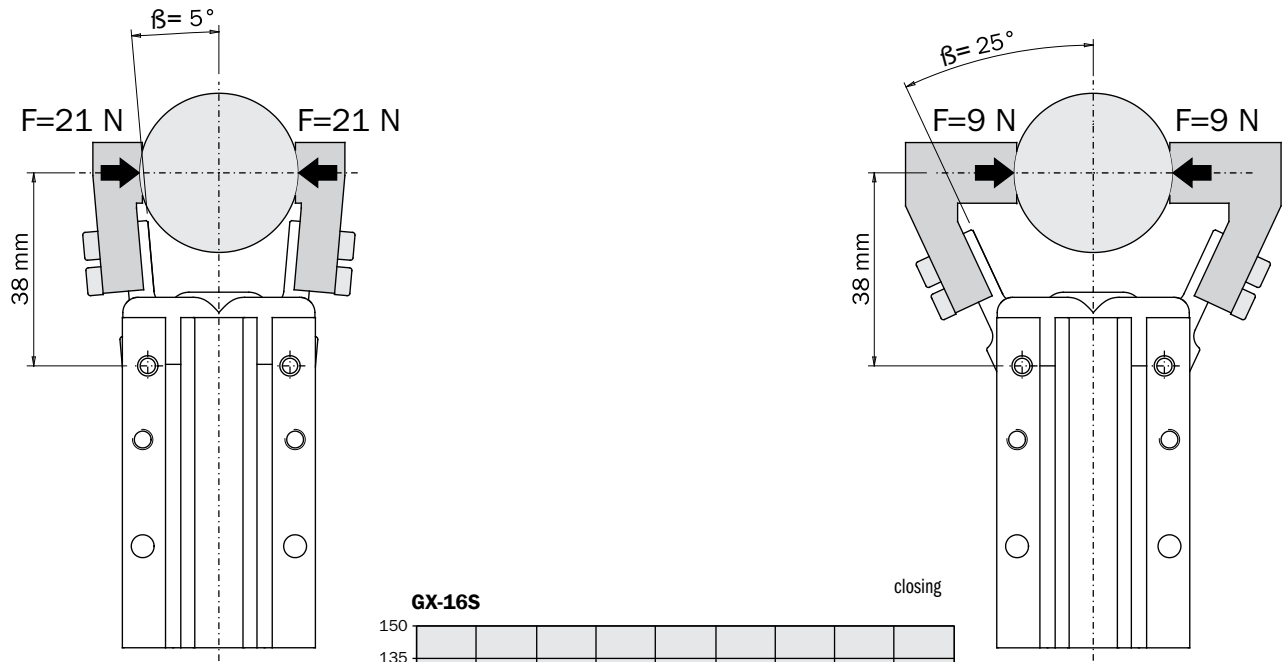
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Gripping**

As the gripper has a double acting motion, it can be used like internal or external gripping.

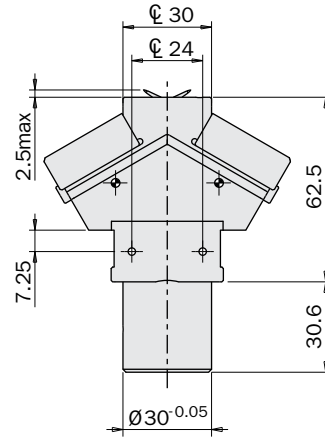
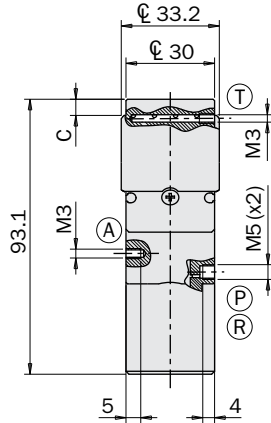
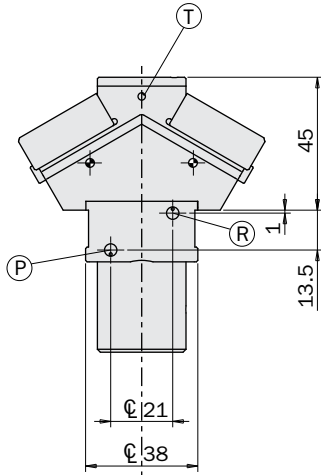


The gripping force depends on the shape of the gripping tools.



**Self-centering pneumatic needle gripper series PT**

- 4 needles (PT25) or 8 needles (PT28) with 2mm diameter.
- Suitable for plastics, textile and food industry.
- Double acting.
- Needle simultaneous stroke adjustment (1).
- Several mounting accessories (2).
- PT25: Large through hole (3).
- PT28: Blow-off port (T) for cleaning and releasing.
- PT28: Pad in PTFE (4) for hot surface contact.
- PT28: Optional magnetic sensors (5).

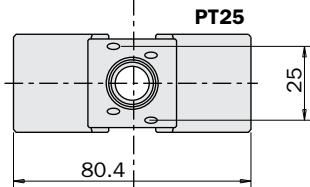
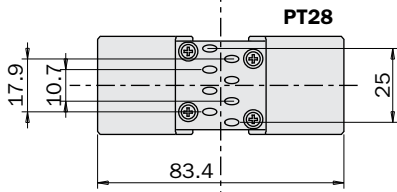


(A) Hole for fastening

(P) Needles in

(T) Air connection

(R) Needles out

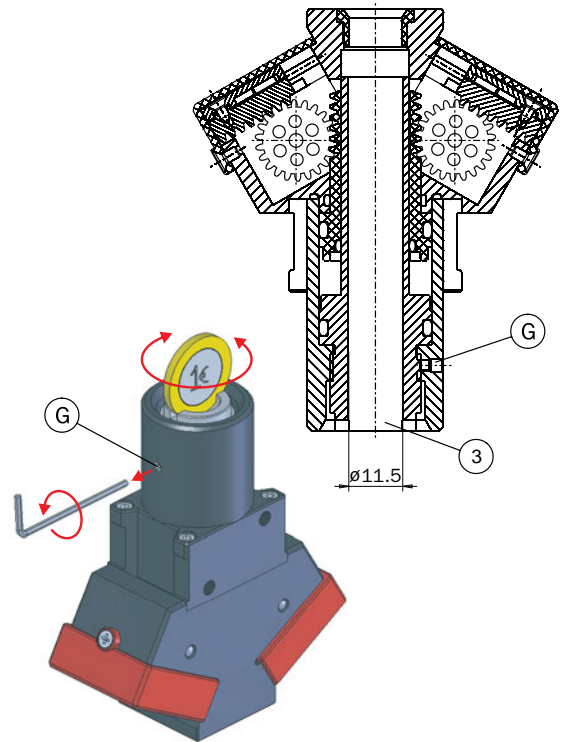
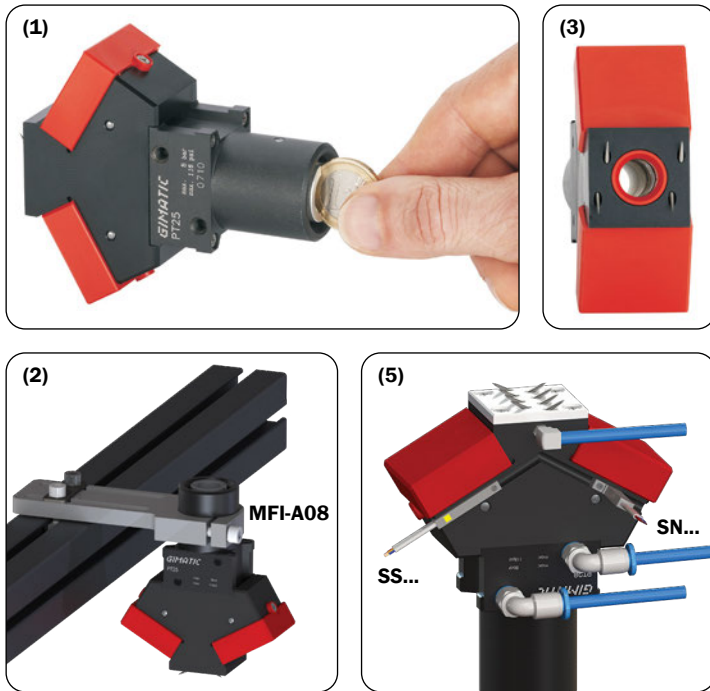


|                                       | PT25  | PT28  |
|---------------------------------------|---|-------|
| Medium                                | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |       |
| Pressure range                        | 3 ÷ 8 bar   |       |
| Temperature range                     | 5° ÷ 60 °C.   |       |
| Opening total gripping force at 6 bar | 90 N  |       |
| Needle stroke                         | 1 ÷ 7 mm  |       |
| Cycle air consumption                 | 3.5 cm <sup>3</sup>                                       |       |
| Weight                                | 165 g   | 182 g |



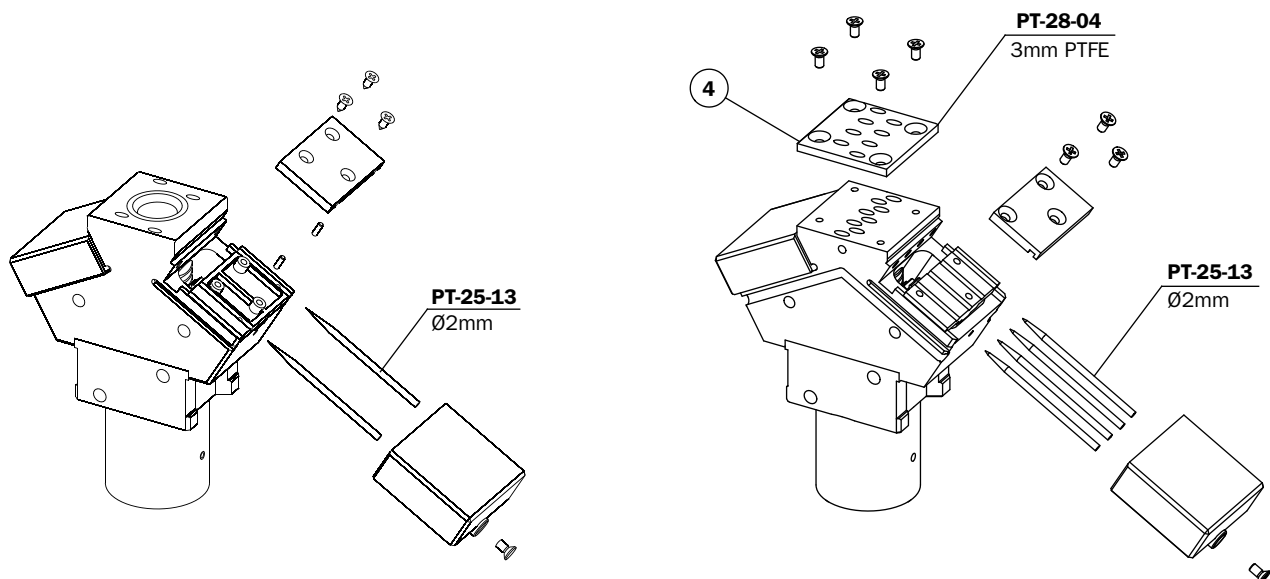
**Stroke adjustment**

The gripper is self-centering.  
Therefore the piston end-stroke determines the stroke of all needles.  
It is possible to adjust this stroke, by an 1-euro coin, after the grub screw (G) has been loosened.



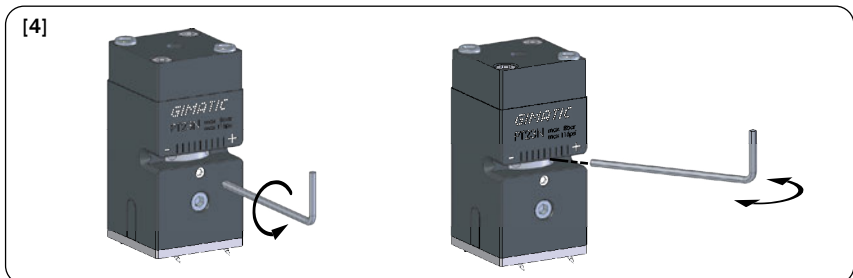
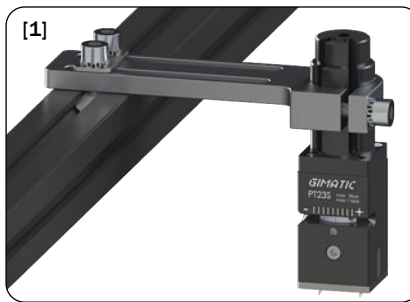
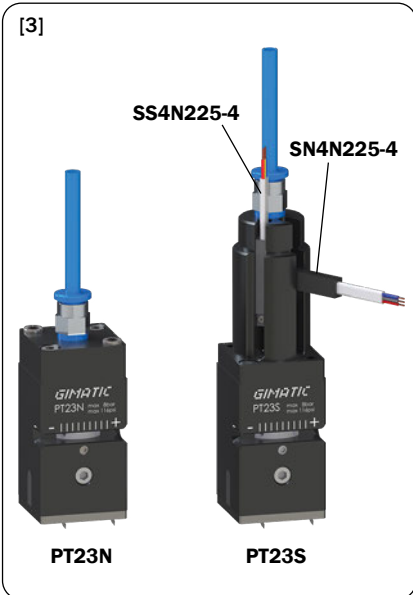
**Maintenance**

The needles can be easily replaced, when necessary.  
The ordering code of one needle is PT-25-13.  
After five million cycles re-lubricate the gripper.  
Suggested grease: BERULUB FG-H 2 SL  
(Lubricant NSF H1 Registration No. 135919).



### Self-centering pneumatic needle mini-gripper series PT

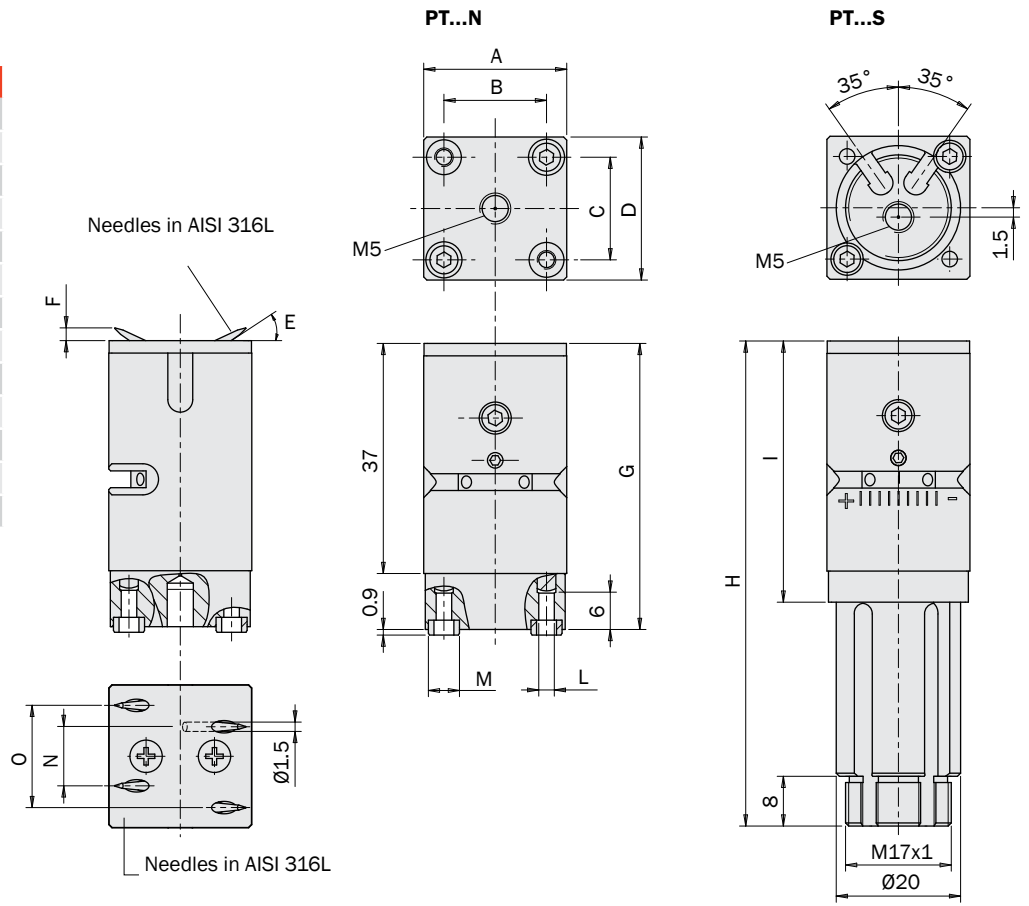
- 4 needles with diameter 1.5mm.
- Suitable for plastics, textile and food industry.
- Single acting (normally closed).
- Needle simultaneous stroke adjustment[4].
- PT23S and PT30S: clamp mounting [1].
- PT23A3 PT23N and PT30N: plate mounting [2].
- Optional magnetic sensors for PT23S and PT30S [3].
- PT23A3 with side air parts [5].



|                                       | PT23A3  | PT23N               | PT23S | PT30N | PT30S               |
|---------------------------------------|---|---------------------|-------|-------|---------------------|
| Medium                                | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |       |       |                     |
| Pressure range                        | 3 ÷ 8 bar   |                     |       |       |                     |
| Temperature range                     | 5° ÷ 60 °C.   |                     |       |       |                     |
| Opening total gripping force at 6 bar |   | 40 N                |       |       | 50 N                |
| Needle stroke                         |   | 0 ÷ 4 mm            |       |       | 0 ÷ 7 mm            |
| Cycle air consumption                 |   | 0.6 cm <sup>3</sup> |       |       | 1.1 cm <sup>3</sup> |
| Weight                                | 63 g  | 74 g                | 92 g  | 115 g | 134 g               |

**Dimensions (mm)**

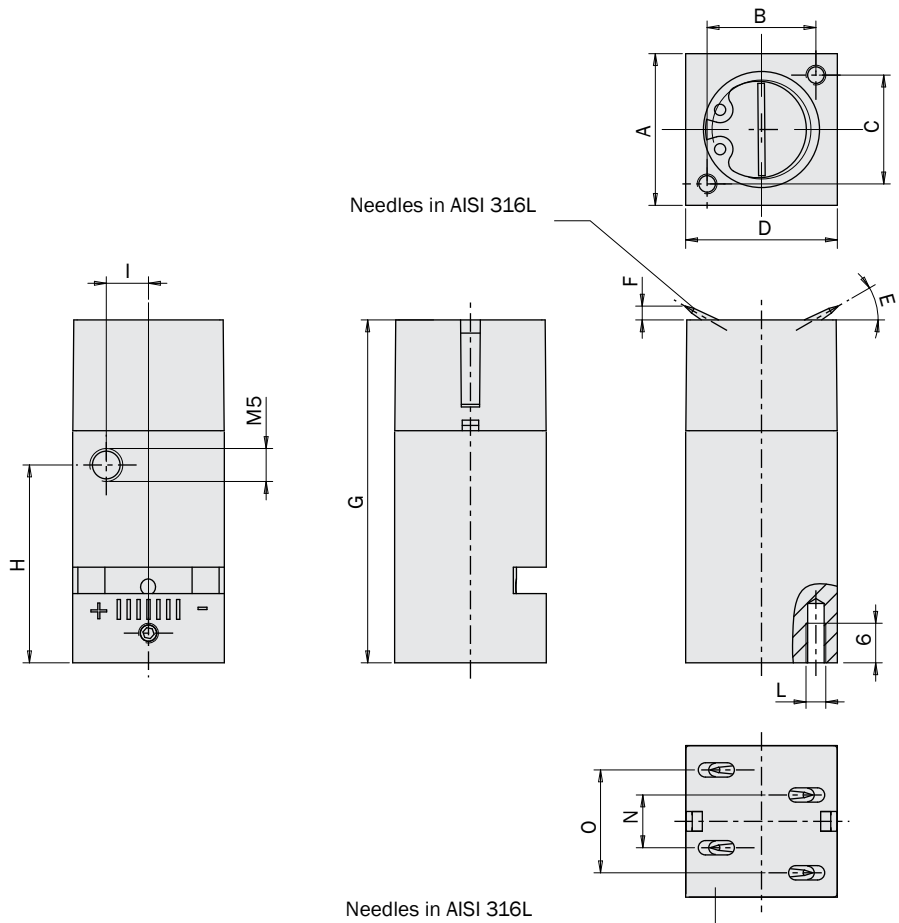
|   | PT23...   | PT30..    |
|---|-----------|-----------|
| A | 23        | 28        |
| B | 16.5      | 18        |
| C | 16.5      | 18        |
| D | 23        | 28        |
| E | 30°       | 35°       |
| F | 0÷2       | 0÷4       |
| G | 46.5      | 54        |
| H | 78.5      | 87.5      |
| I | 42.5      | 51.5      |
| L | M3(x2)    | M4(2x)    |
| M | 5 h8 (x2) | 7 h8 (2x) |
| N | 9.5       | 9         |
| O | 16.5      | 18        |



FIRST ANGLE PROJECTION

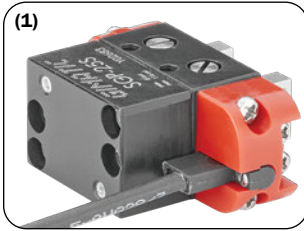
**Dimensions (mm)**

|   | PT23A3 |
|---|--------|
| A | 23     |
| B | 16.5   |
| C | 16.5   |
| D | 23     |
| E | 30°    |
| F | 1÷2    |
| G | 52     |
| H | 30     |
| I | 6.4    |
| L | M3(x2) |
| M | -      |
| N | 8      |
| O | 15.6   |



## 2-jaw parallel self-centering pneumatic gripper (series SGP-S)

- Double acting.
- Backlash adjusting system.
- High performance in small dimensions.
- The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.
- Various fastening and air feeding options.
- Ready for PRO-SN...HS (1) programmable magnetic sensor.
- Prepared for adjustable inductive sensors.
- Food grade grease FDA-H1.



|   | SGP-16S   | SGP-20S             | SGP-25S             | SGP-32S             | SGP-40S             | SGP-50S            |
|---|---|---------------------|---------------------|---------------------|---------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |                     |                     |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                     |                     | 2 ÷ 8 bar           |                     |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                     |                     |                     |                     |                    |
| Opening gripping force at 6 bar on each jaw | 16 N  | 23 N                | 52 N                | 67 N                | 80 N                | 145 N              |
| Opening total gripping force at 6 bar       | 32 N  | 46 N                | 104 N               | 134 N               | 160 N               | 290 N              |
| Closing gripping force at 6 bar on each jaw | 14 N  | 20 N                | 47 N                | 60 N                | 73 N                | 126 N              |
| Closing total gripping force at 6 bar       | 28 N  | 40 N                | 94 N                | 120 N               | 146 N               | 252 N              |
| Total stroke                                | 3 mm  | 4 mm                | 6 mm                | 8 mm                | 12 mm               | 16 mm              |
| Maximum working frequency                   | 3 Hz  | 3 Hz                | 3 Hz                | 3 Hz                | 2 Hz                | 2 Hz               |
| Cycle air consumption                       | 0.2 cm <sup>3</sup>                                       | 0.5 cm <sup>3</sup> | 1.4 cm <sup>3</sup> | 2.4 cm <sup>3</sup> | 4.5 cm <sup>3</sup> | 10 cm <sup>3</sup> |
| Closing time without load                   | 0.02 s  | 0.02 s              | 0.02 s              | 0.02 s              | 0.05 s              | 0.05 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm             | 0.02 mm             | 0.02 mm             | 0.02 mm             | 0.02 mm            |
| Weight                                      | 19 g  | 33 g                | 43 g                | 86 g                | 170 g               | 250 g              |

**Sensors**

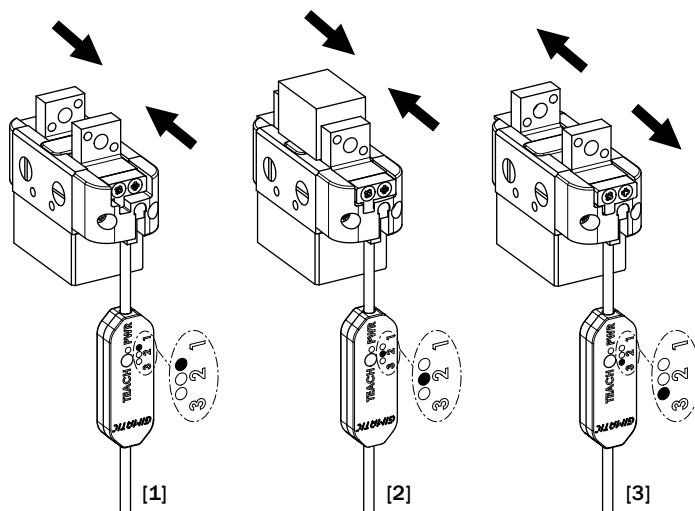
The operating position can be checked by one 3 - outputs programmable sensor (not included), detecting the position of the magnet on the right jaw.

**The recommended sensors for the grippers SGP-20S/25S/32S/40S/50S are:**

|                 |     |                        |
|-----------------|-----|------------------------|
| PRO-SN4N225HS-G | PNP | 2.5m cable             |
| PRO-SN4M225HS-G | NPN |                        |
| PRO-SN3N215HS-G | PNP | M8 snap plug connector |
| PRO-SN3M215HS-G | NPN |                        |

**The recommended sensors for the gripper SGP-16S are:**

|               |     |                        |
|---------------|-----|------------------------|
| PRO-SN4N225-G | PNP | 2.5m cable             |
| PRO-SN4M225-G | NPN |                        |
| PRO-SN3N215-G | PNP | M8 snap plug connector |
| PRO-SN3M215-G | NPN |                        |



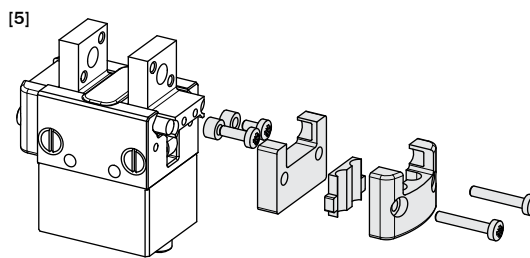
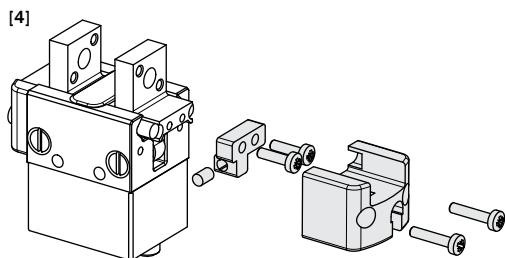
The detected positions can be adjusted by a teaching procedure, so that 3 digital outputs can be:  
 Output 1 - totally closed gripper [1];  
 Output 2 - gripped part intermediate position [2];  
 Output 3 - totally open gripper [3].

**Upgrade**

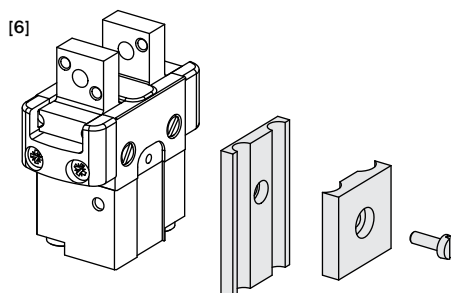
Old grippers can be upgraded in order to use the new teachable sensor [4].

**Downgrade**

New grippers can be downgraded in order to use the inductive sensors [5 and 6].



|         | Upgrade [4] | Downgrade [5] | Downgrade [6] |
|---------|-------------|---------------|---------------|
| SGP-16S | -           | -             | SGP-16S-KD    |
| SGP-20S | SGP-20S-KU  | SGP-20S-KD    | -             |
| SGP-25S | SGP-25S-KU  | SGP-25S-KD    | -             |
| SGP-32S | SGP-32S-KU  | SGP-32S-KD    | -             |
| SGP-40S | SGP-40S-KU  | SGP-40S-KD    | -             |
| SGP-50S | -           | SGP-50S-KD    | -             |



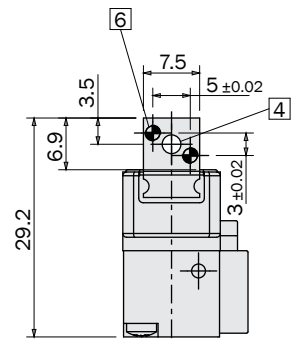
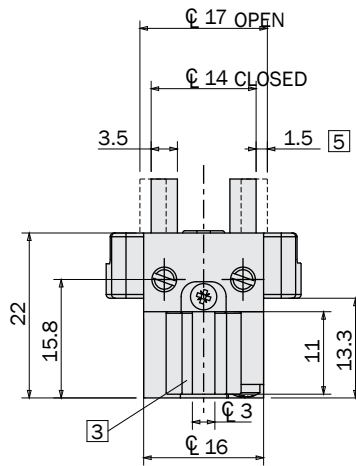
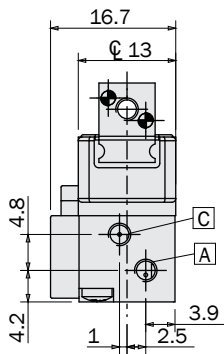
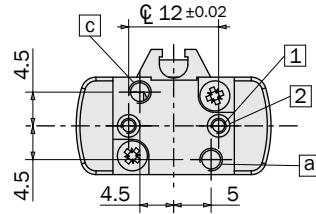
1 (N°2) M2x2.8mm  
Hole for fastening

2 (N°2) Ø3H8x1.2mm  
Hole for fastening

3 Magnetic sensor slot (PRO-SN/SS)

4 M3  
Through hole for fastening

5 Stroke each jaw



6 Ø1.5H8x3.5mm  
Dowel pin hole

7 (N°2) M2x1.5mm  
Hole for fastening

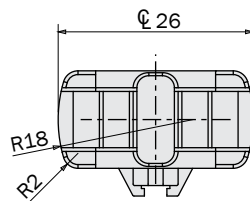
8 (N°2) Ø3H8x1.5mm  
Hole for fastening

a M2.5  
Compressed air in a: gripper opening

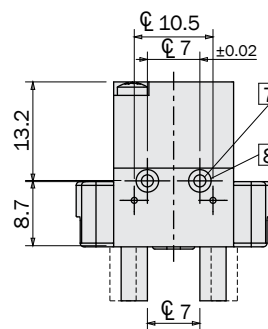
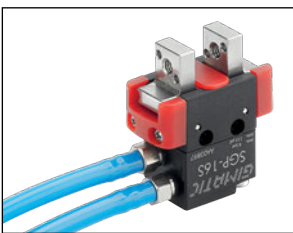
A M3  
Compressed air in A: gripper opening

c M2.5  
Compressed air in c: gripper closing

C M3  
Compressed air in C: gripper closing

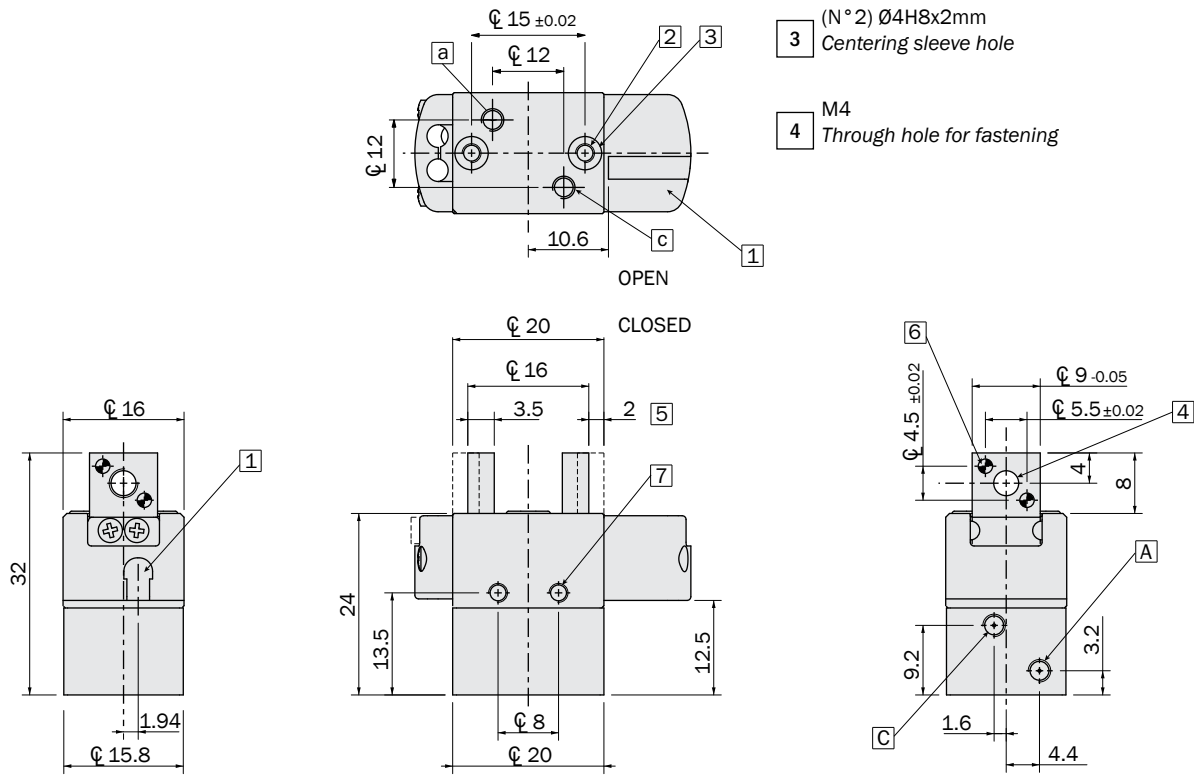


Straight M3 fitting



**Dimensions (mm)**

**SGP-20S**



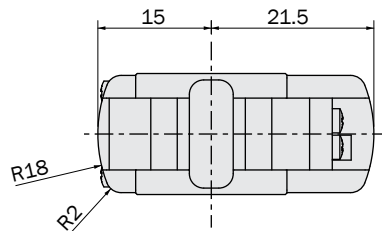
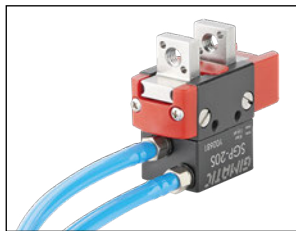
**1** Hole for programmable sensor PRO-SN ...HS

**2** (N° 2) M2.5x6mm  
Hole for fastening

**3** (N° 2) Ø4H8x2mm  
Centering sleeve hole

**4** M4  
Through hole for fastening

Straight M3 fitting



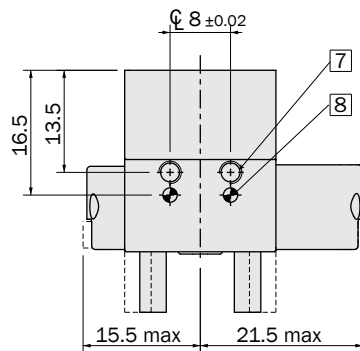
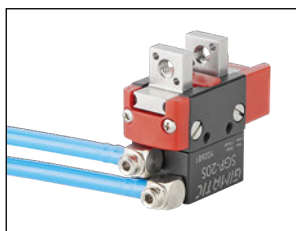
**5** Stroke each jaw

**6** Ø1.5H8x3.5mm  
Dowel pin hole

**7** (N° 2) M2.5x4mm  
Hole for fastening

**8** Ø1.5H8x3mm  
Dowel pin hole

Adjustable M3 fitting



**a** M2.5  
Compressed air in a: gripper opening

**A** M3  
Compressed air in A: gripper opening

**c** M2.5  
Compressed air in c: gripper closing

**C** M3  
Compressed air in C: gripper closing



Dimensions (mm)

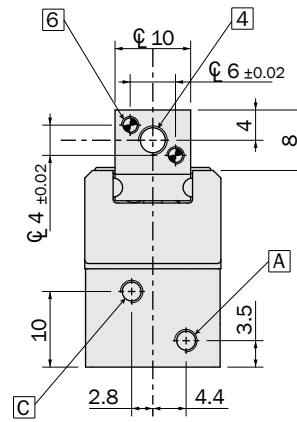
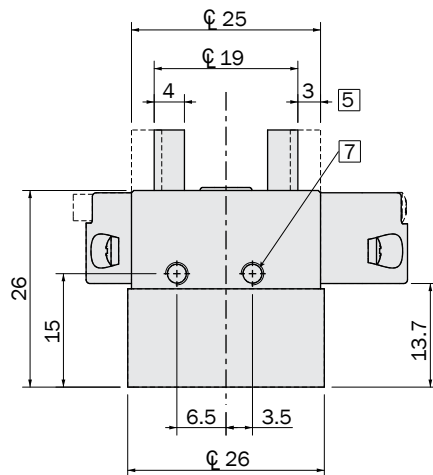
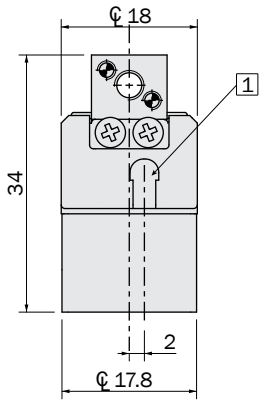
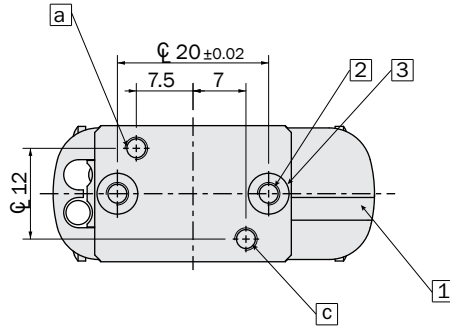
1 Hole for programmable sensor  
PRO-SN...HS

2 (N°2) M3x7mm  
Hole for fastening

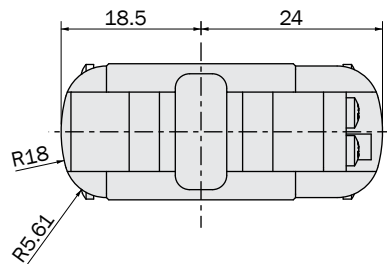
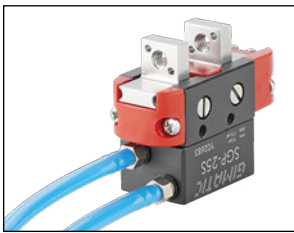
3 (N°2) Ø5H8x2.4mm  
Centering sleeve hole

4 M4  
Through hole for fastening

5 Stroke each jaw



Straight M3 fitting



6 Ø1.5H8x4mm  
Dowel pin hole

7 (N°2) M3x5mm  
Hole for fastening

8 Ø2H8x4mm  
Dowel pin hole

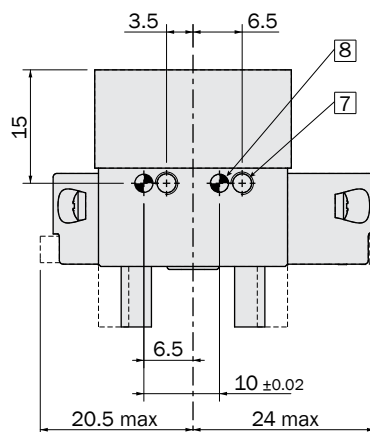
a M3  
Compressed air in a: gripper opening

A M3  
Compressed air in A: gripper opening

c M3  
Compressed air in c: gripper closing

C M3  
Compressed air in C: gripper closing

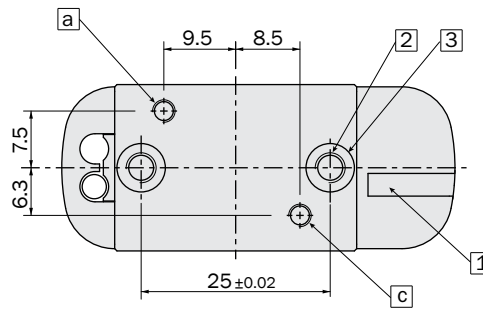
Adjustable M3 fitting



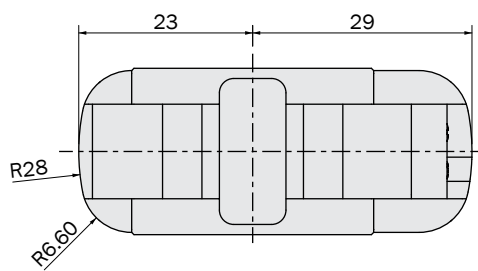
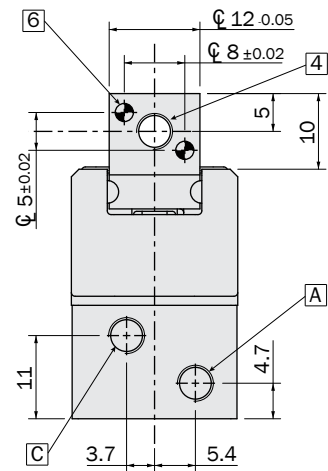
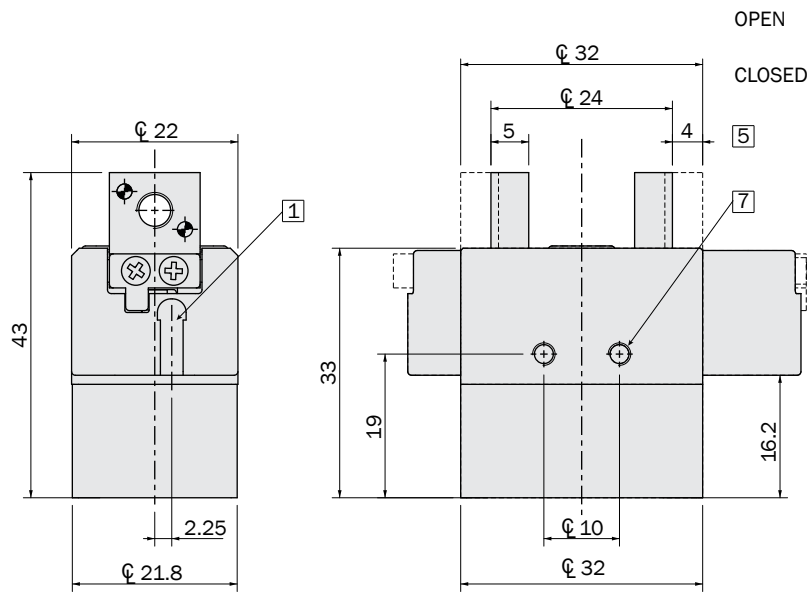


**Dimensions (mm)**

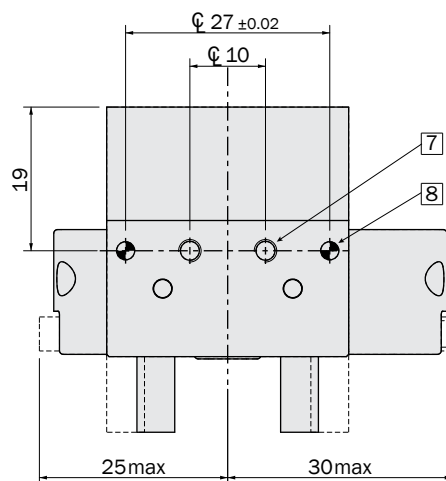
**SGP-32S**



- 1** Hole for programmable sensor PRO-SN...HS
- 2** (N°2) M4x7.5mm Hole for fastening
- 3** (N°2) Ø6H8x2.9mm Centering sleeve hole



- 4** M5 Through hole for fastening
- 5** Stroke each jaw
- 6** Ø2H8x5mm Dowel pin hole
- 7** (N°2) M3x5mm Hole for fastening



- 8** Ø2H8x5mm Dowel pin hole
- a** M3 Compressed air in a: gripper opening
- A** M5 Compressed air in A: gripper opening
- c** M3 Compressed air in c: gripper closing
- C** M5 Compressed air in C: gripper closing



Dimensions (mm)

1 Hole for programmable sensor  
PRO-SN...HS

2 (N°2) M4x9.5mm  
Hole for fastening

3 (N°2) Ø6H8x2.9mm  
Centering sleeve hole

4 M5  
Through hole for fastening

5 Stroke each jaw

6 Ø2.5H8x6mm  
Dowel pin hole

7 (N°2) M3x5mm  
Hole for fastening

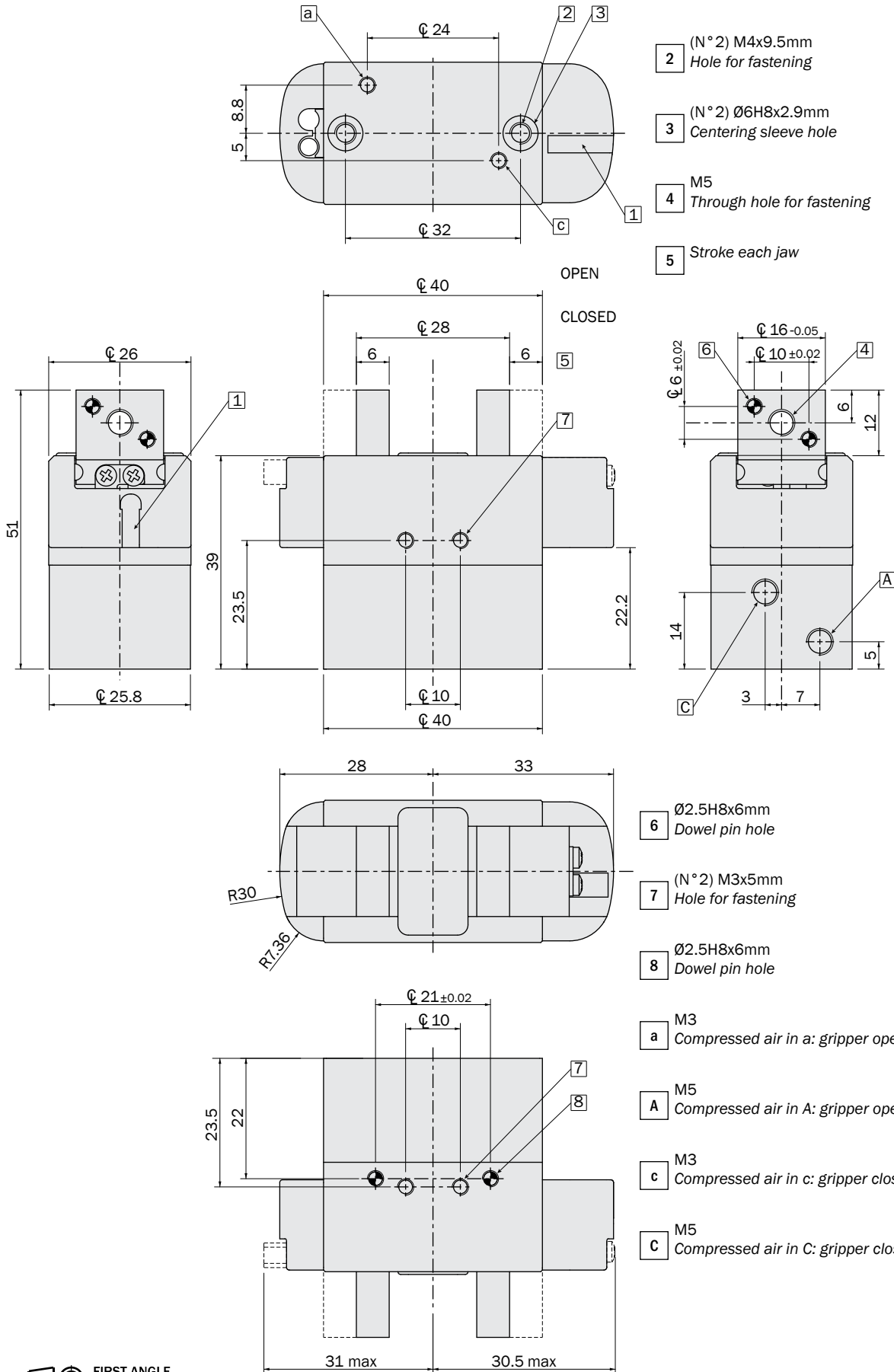
8 Ø2.5H8x6mm  
Dowel pin hole

a M3  
Compressed air in a: gripper opening

A M5  
Compressed air in A: gripper opening

c M3  
Compressed air in c: gripper closing

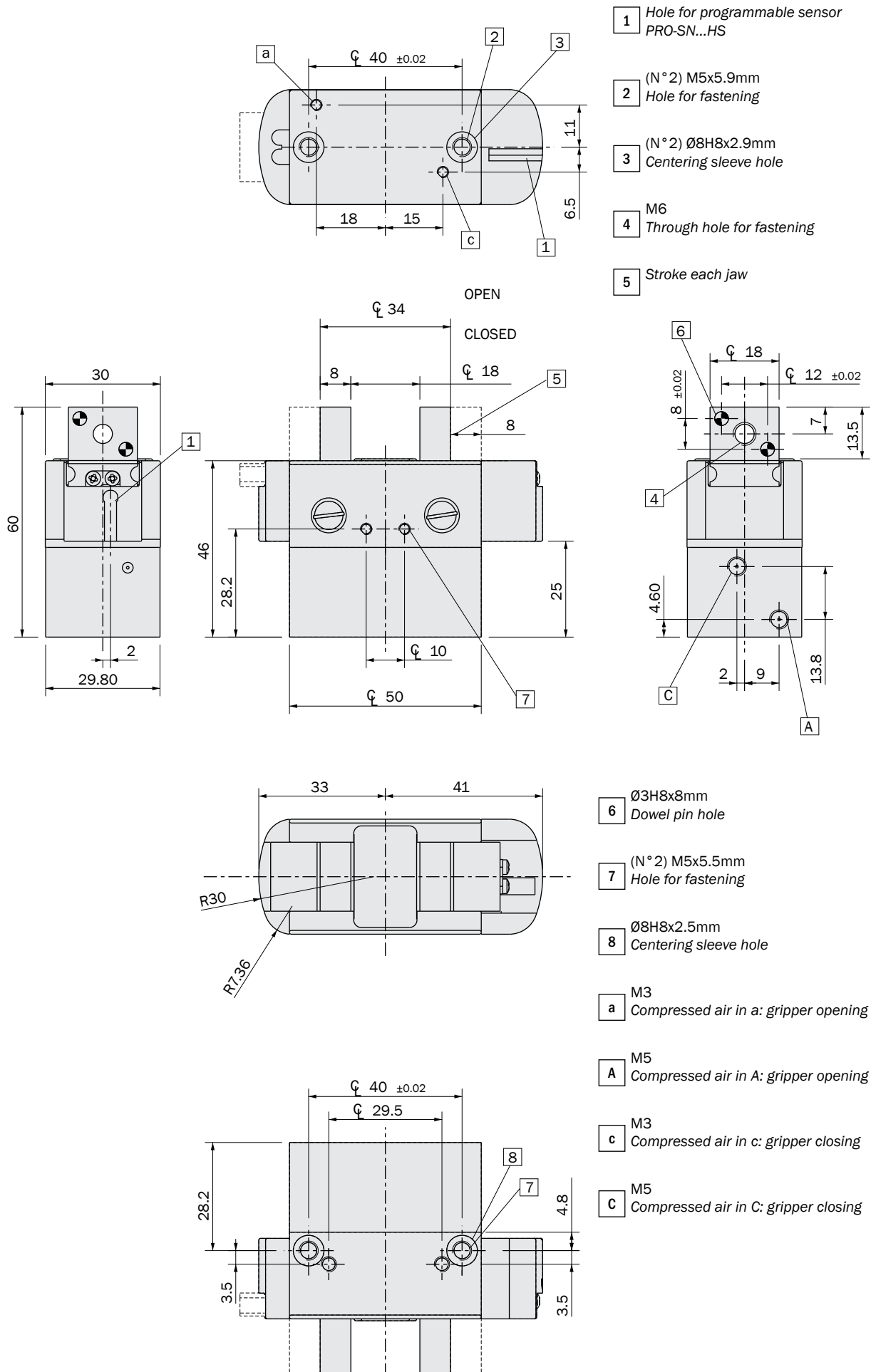
C M5  
Compressed air in C: gripper closing



FIRST ANGLE  
PROJECTION

**Dimensions (mm)**

**SGP-50S**



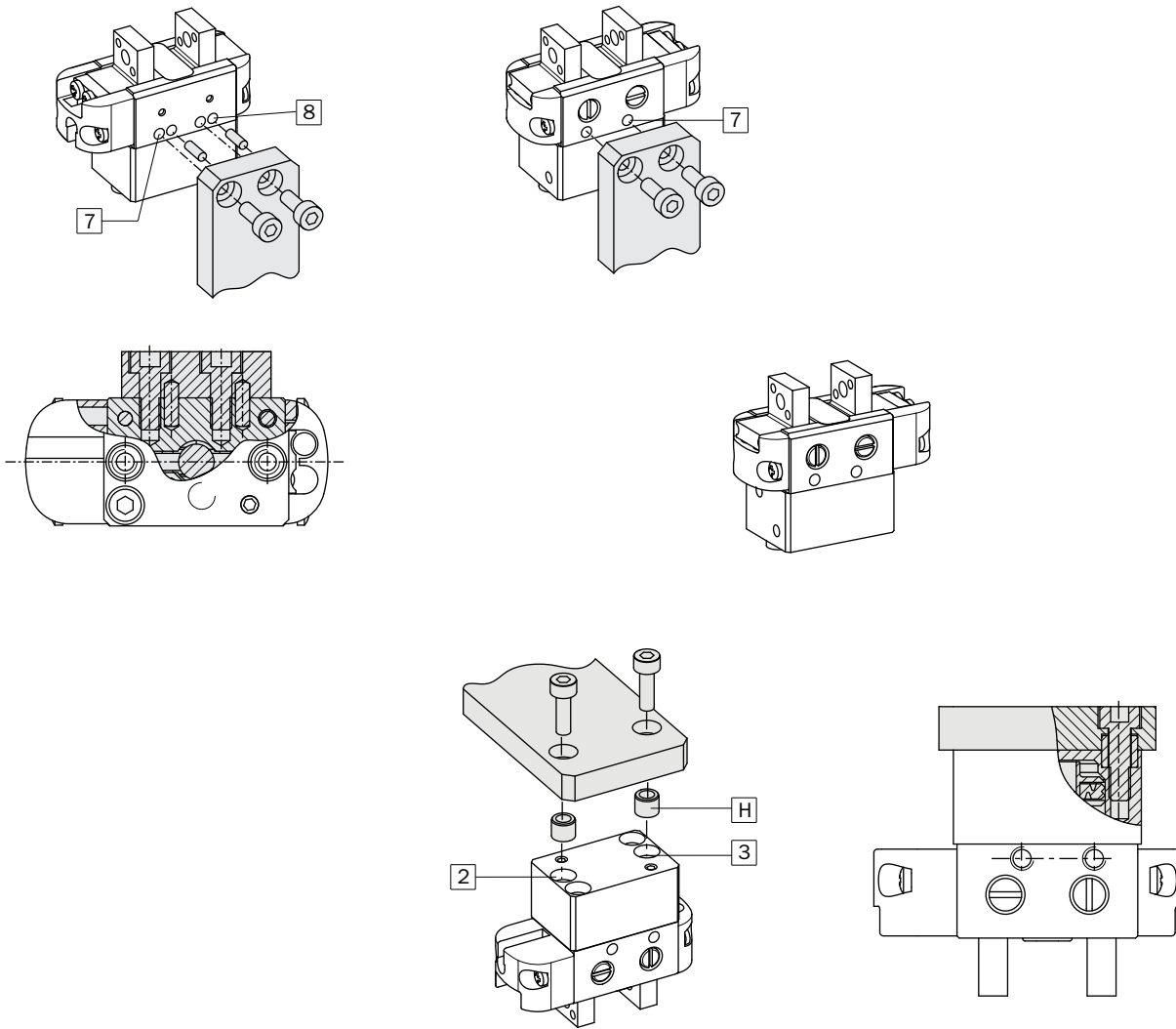
- 1** Hole for programmable sensor PRO-SN...HS
- 2** (N°2) M5x5.9mm Hole for fastening
- 3** (N°2) Ø8H8x2.9mm Centering sleeve hole
- 4** M6 Through hole for fastening
- 5** Stroke each jaw

- 6** Ø3H8x8mm Dowel pin hole
- 7** (N°2) M5x5.5mm Hole for fastening
- 8** Ø8H8x2.5mm Centering sleeve hole
- a** M3 Compressed air in a: gripper opening
- A** M5 Compressed air in A: gripper opening
- c** M3 Compressed air in c: gripper closing
- C** M5 Compressed air in C: gripper closing

## 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.

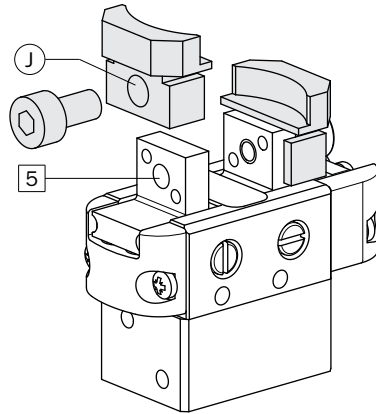
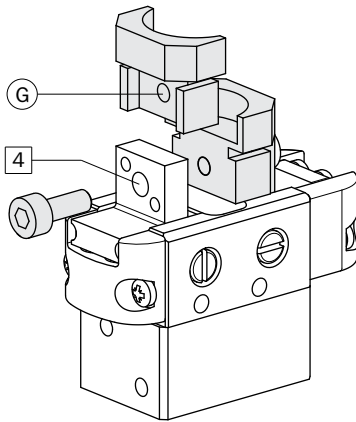
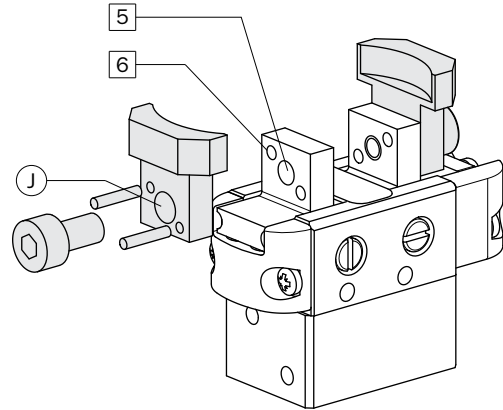
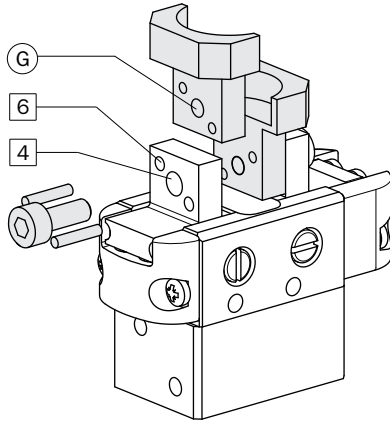
- To fasten the gripper on one side, use a plate with two through holes and two screws to be screwed on the threaded holes **7**. They are on both sides of the gripper housing. The dowel pin holes **8** are on one only side.
- To fasten gripper to base use two screws passing through the holes in the plate and screwed in the threaded holes **2**. Use also the two centering sleeves (H) supplied in the packaging, in the calibrated holes **3**.



|          | SGP-20S               | SGP-25S                | SGP-32S                | SGP-40S                |
|----------|-----------------------|------------------------|------------------------|------------------------|
| H        | Ø4h8 x Ø2.6 x 4 mm    | Ø5h7 x Ø3.2 x 4.4 mm   | Ø6h7 x Ø4.2 x 5.3 mm   | Ø6h7 x Ø4.2 x 5.3 mm   |
| G        | M3                    | M3                     | M4                     | M4                     |
| F        | 9 <sup>-0.05</sup> mm | 10 <sup>-0.05</sup> mm | 12 <sup>-0.05</sup> mm | 16 <sup>-0.05</sup> mm |
| <b>2</b> | M2.5x6 mm             | M3x7 mm                | M4x7.5 mm              | M4x9.5 mm              |
| <b>3</b> | Ø4H8 x 2 mm           | Ø5H8 x 2.4 mm          | Ø6H8 x 2.9 mm          | Ø6H8 x 2.9 mm          |
| <b>7</b> | M2.5x4 mm             | M3x5 mm                | M3x5 mm                | M3x5 mm                |
| <b>8</b> | Ø1.5H8 x 3 mm         | Ø2H8 x 4 mm            | Ø2H8 x 5 mm            | Ø2.5H8 x 6 mm          |

The gripping tools must be as short and light as possible. They must be fastened by one screw in the through hole **4** to be screwed in the threaded hole (G) in the gripping tool. Or on the contrary, by a screw passing through (J) and tightened in **5**.

For a precise positioning on the jaw use the calibrated dimension (F), or the dowel pin holes **6**.

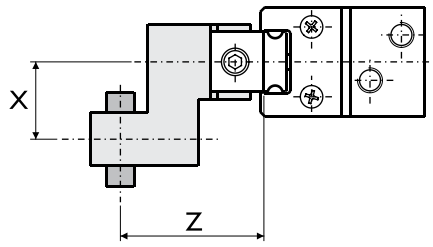


|                   | SGP-20S               | SGP-25S                | SGP-32S                | SGP-40S                |
|-------------------|-----------------------|------------------------|------------------------|------------------------|
| <b>4</b> <b>5</b> | M4                    | M4                     | M5                     | M5                     |
| <b>6</b>          | Ø1.5H8 x 3.5 mm       | Ø1.5H8 x 4 mm          | Ø2H8 x 5 mm            | Ø2.5H8 x 6 mm          |
| <b>G</b>          | M3                    | M3                     | M4                     | M4                     |
| <b>F</b>          | 9 <sup>-0.05</sup> mm | 10 <sup>-0.05</sup> mm | 12 <sup>-0.05</sup> mm | 16 <sup>-0.05</sup> mm |
| <b>J</b>          | Ø4.3 mm               | Ø4.3 mm                | Ø5.3 mm                | Ø5.3 mm                |

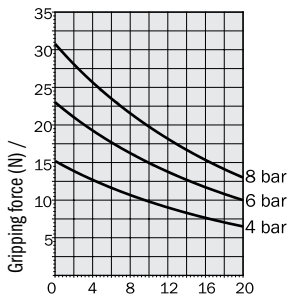
**Gripping force**

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

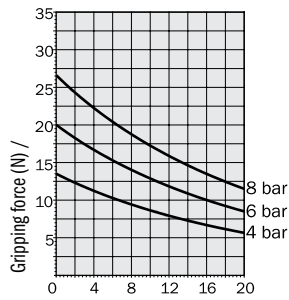
**The force shown in these graphs refers to one jaw. The total force is double.**



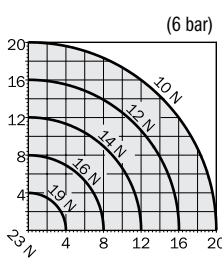
**SGP-20S** opening



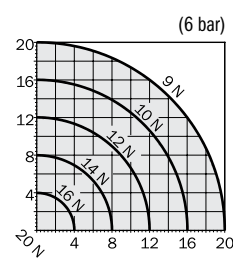
closing



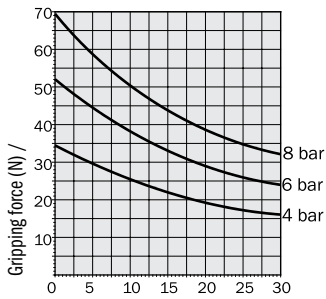
opening



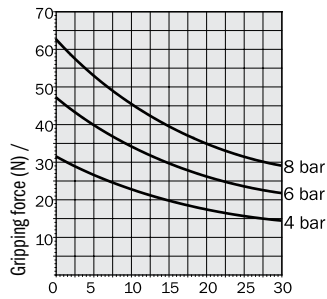
closing



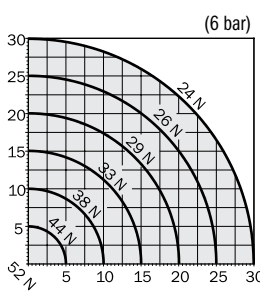
**SGP-25S** opening



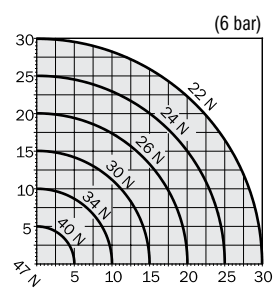
closing



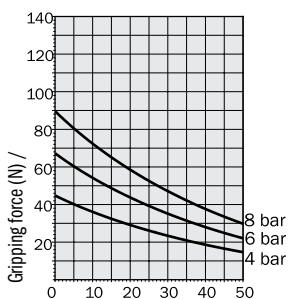
opening



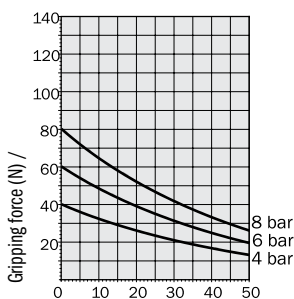
closing



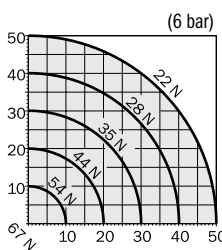
**SGP-32S** opening



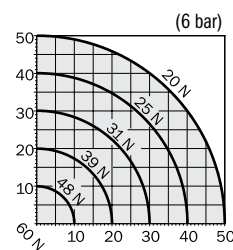
closing



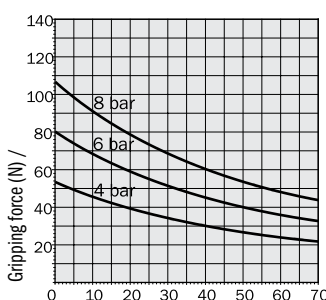
opening



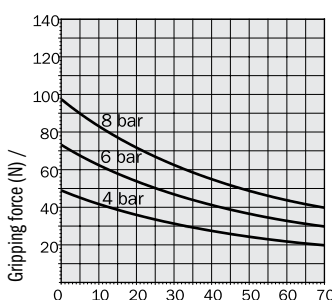
closing



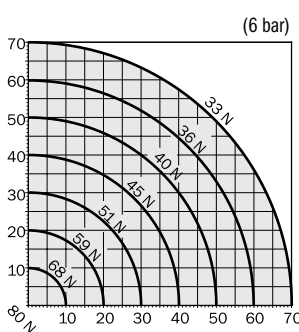
**SGP-40S** opening



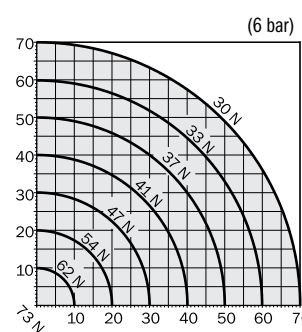
closing



opening

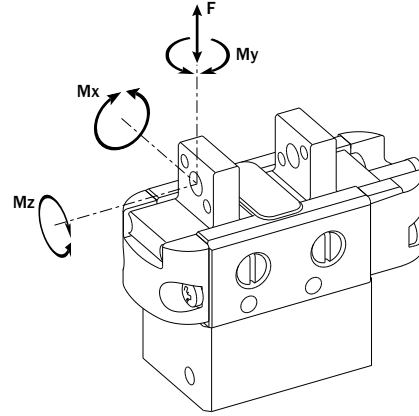


closing



**Safety loads**

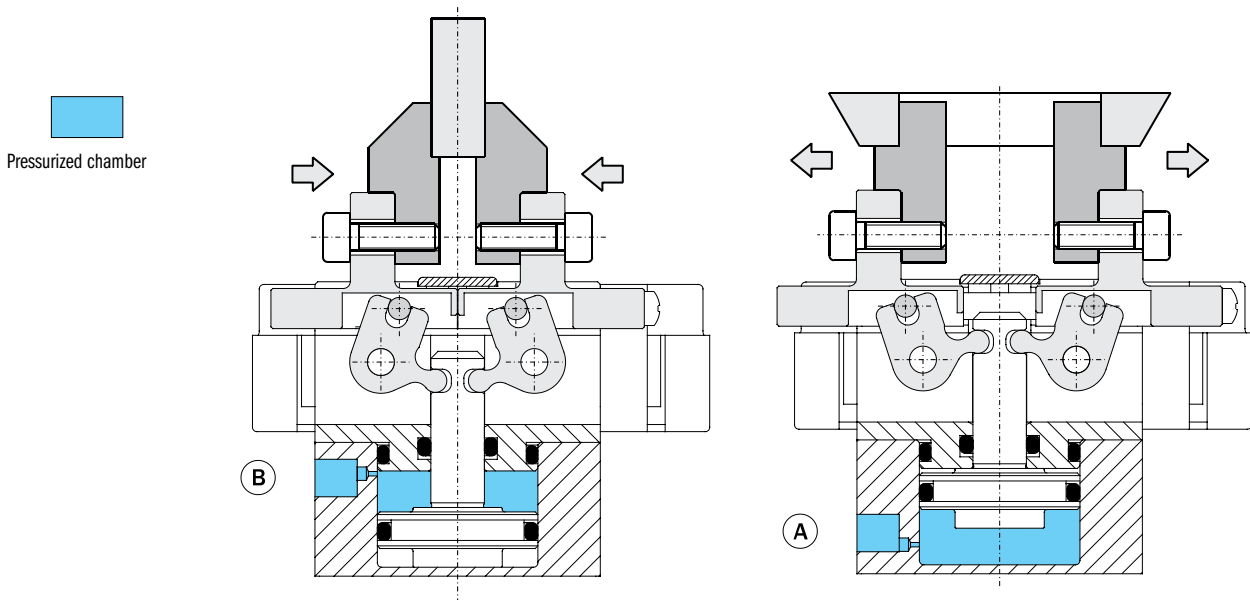
Check the table for maximum permitted loads.  
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.  
 F s, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws.  
 F d, Mx d, My d, Mz d, are maximum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



|         | SGP-20S | SGP-25S | SGP-32S | SGP-40S |
|---------|---------|---------|---------|---------|
| F s     | 30 N    | 50 N    | 70 N    | 120 N   |
| Mx s    | 1 Nm    | 2 Nm    | 4 Nm    | 6 Nm    |
| My s    | 1 Nm    | 2 Nm    | 4 Nm    | 6 Nm    |
| Mz s    | 1 Nm    | 2 Nm    | 4 Nm    | 6 Nm    |
| F d     | 0.3 N   | 0.5 N   | 0.7 N   | 1.2 N   |
| Mx d    | 1 Ncm   | 2 Ncm   | 4 Ncm   | 6 Ncm   |
| My d    | 1 Ncm   | 2 Ncm   | 4 Ncm   | 6 Ncm   |
| Mz d    | 1 Ncm   | 2 Ncm   | 4 Ncm   | 6 Ncm   |
| m 0.2s  | 30 g    | 50 g    | 70 g    | 120 g   |
| m 0.05s | 10 g    | 20 g    | 30 g    | 40 g    |
| m 0.02s | 7 g     | 15 g    | 20 g    | -       |
| m 0.01s | 5 g     | 10 g    | -       | -       |

**Gripping**

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



**2-jaw parallel self-centering pneumatic gripper (series GS)**

- Double acting.
- Exclusive backlash adjusting system.
- 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.

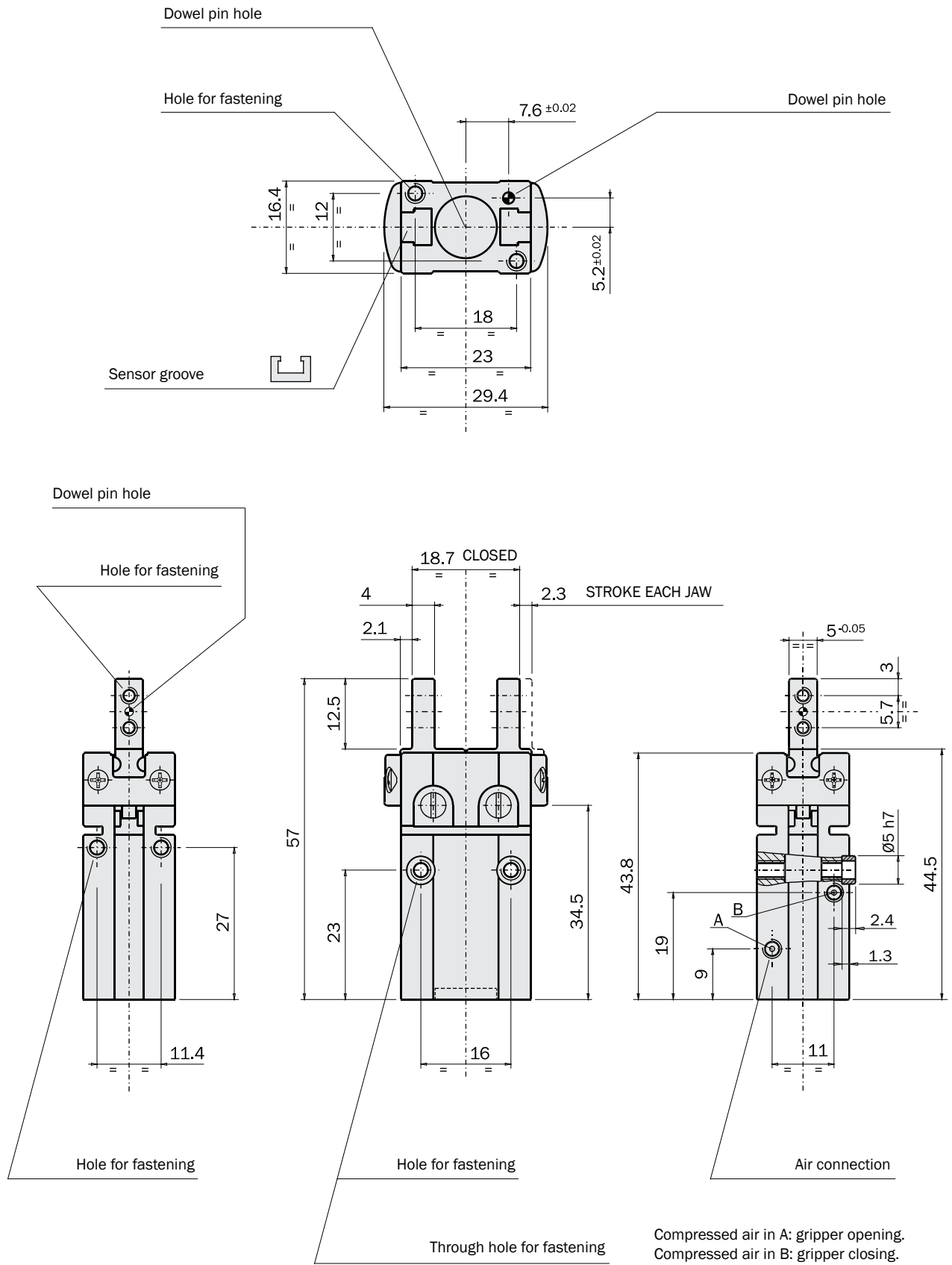


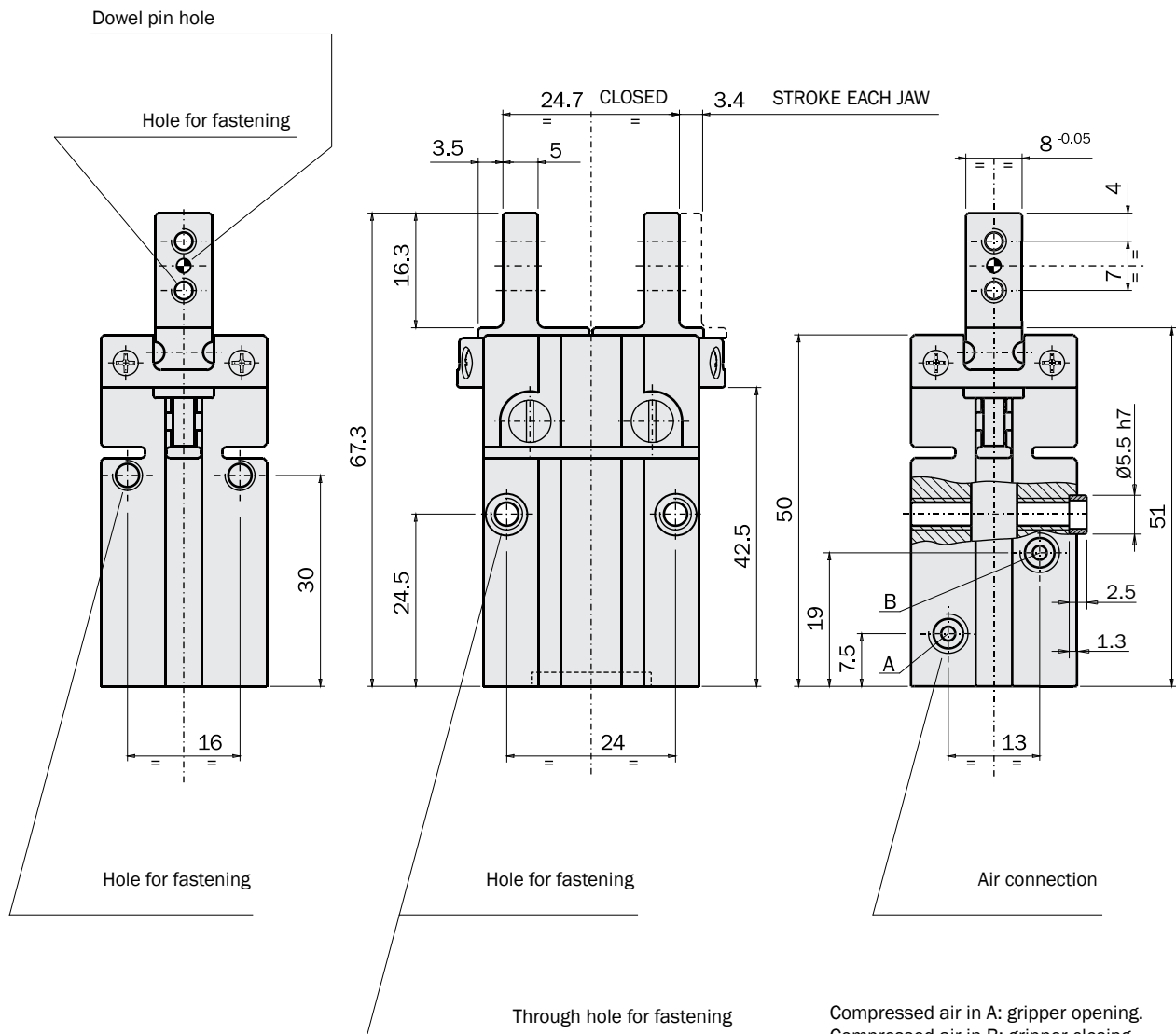
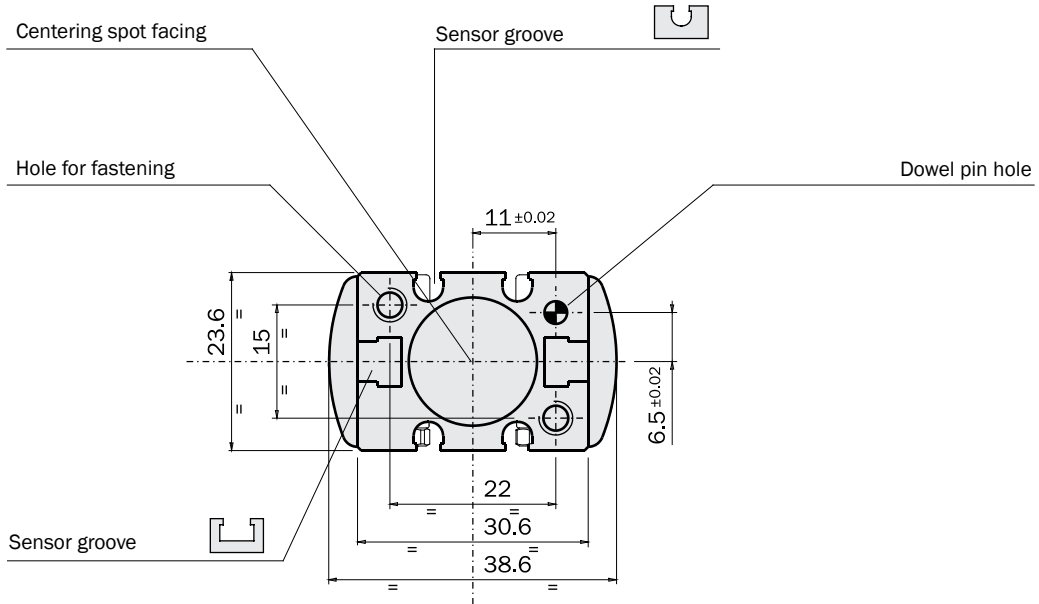
|   | GS-10   | GS-16             | GS-20             | GS-25              | GS-32              | GS-40              |
|---|---|-------------------|-------------------|--------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                    |                    |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   | 1.5 ÷ 8 bar       |                   |                    | 1 ÷ 8 bar          |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                   |                   |                    |                    |                    |
| Opening gripping force at 6 bar on each jaw | 18 N  | 50 N              | 106 N             | 141 N              | 250 N              | 350 N              |
| Opening total gripping force at 6 bar       | 36 N  | 100 N             | 212 N             | 282 N              | 500 N              | 700 N              |
| Closing gripping force at 6 bar on each jaw | 14 N  | 43 N              | 93 N              | 127 N              | 215 N              | 307 N              |
| Closing total gripping force at 6 bar       | 28 N  | 86 N              | 186 N             | 254 N              | 430 N              | 614 N              |
| Total stroke                                | 4.6 mm  | 6.8 mm            | 10.4 mm           | 14.4 mm            | 22 mm              | 30 mm              |
| Maximum working frequency                   | 3 Hz  | 3 Hz              | 2 Hz              | 2 Hz               | 2 Hz               | 2 Hz               |
| Cycle air consumption                       | 0.7 cm <sup>3</sup>                                       | 3 cm <sup>3</sup> | 7 cm <sup>3</sup> | 14 cm <sup>3</sup> | 28 cm <sup>3</sup> | 61 cm <sup>3</sup> |
| Closing time without load                   | 0.01 s  | 0.02 s            | 0.05 s            | 0.07 s             | 0.09 s             | 0.12 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm           | 0.02 mm           | 0.02 mm            | 0.02 mm            | 0.02 mm            |
| Weight                                      | 45 g  | 98 g              | 207 g             | 365 g              | 645 g              | 1155 g             |



**Dimensions (mm)**

**GS-10**



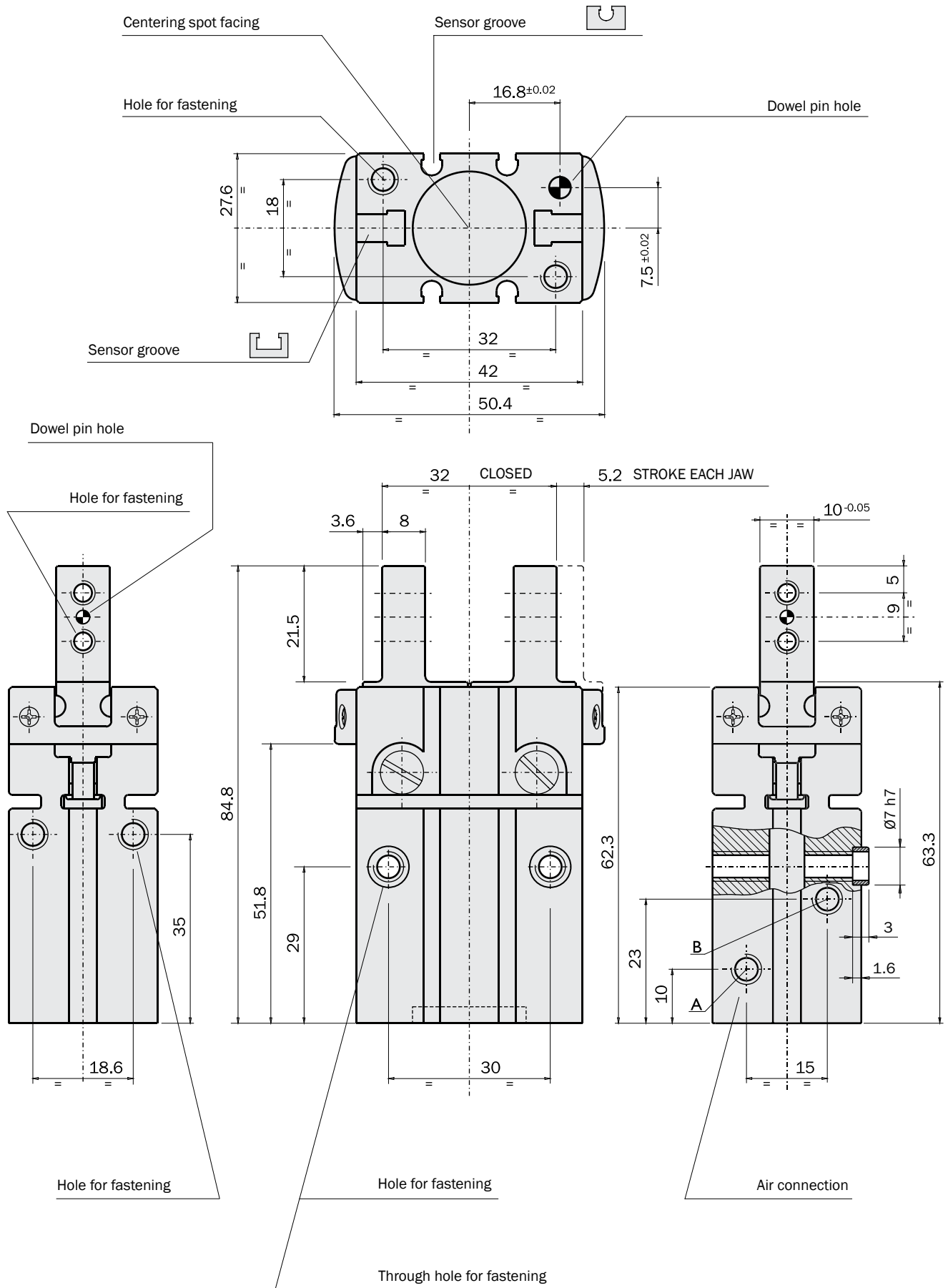


Compressed air in A: gripper opening.  
Compressed air in B: gripper closing.

FIRST ANGLE PROJECTION

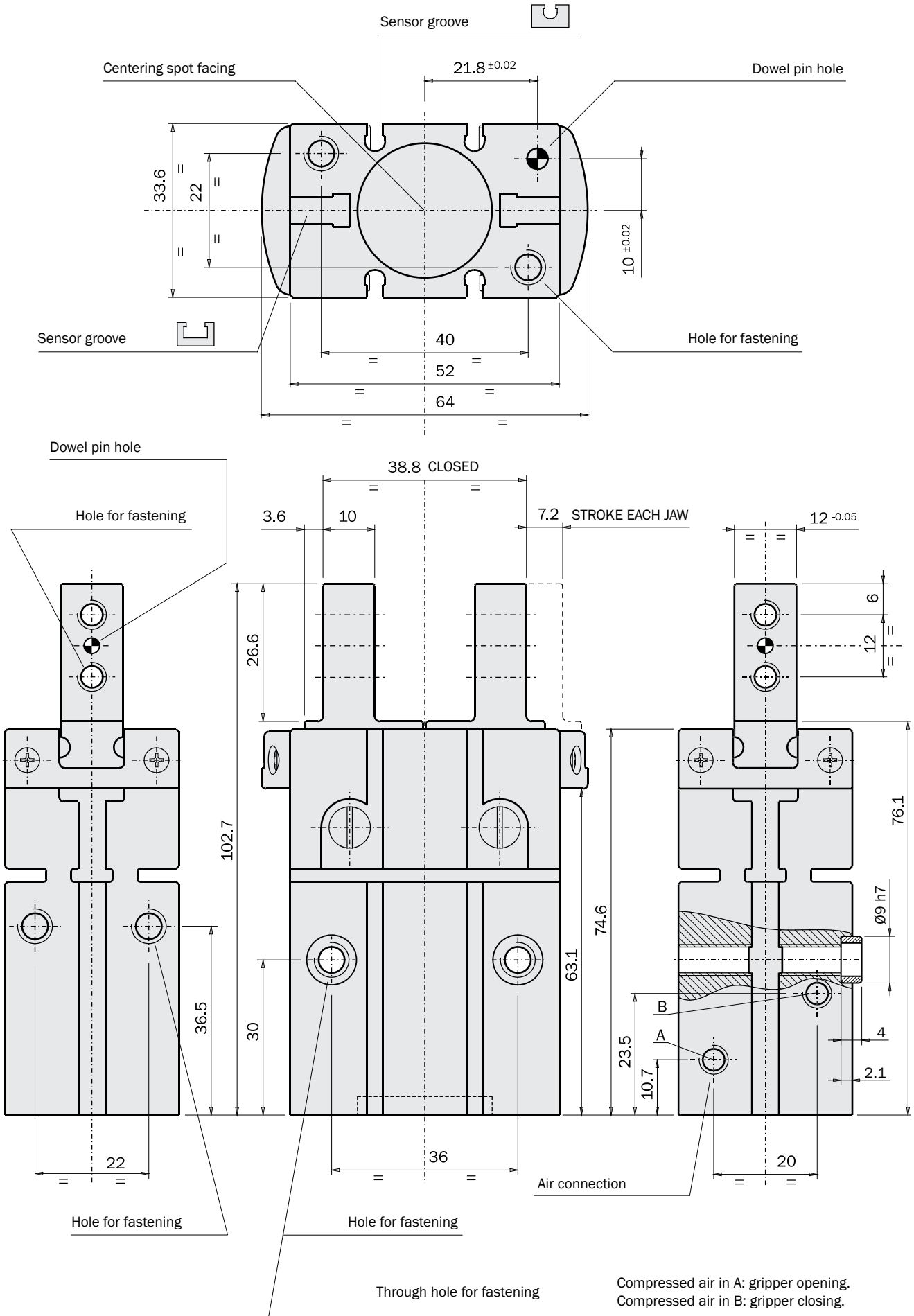
**Dimensions (mm)**

**GS-20**



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

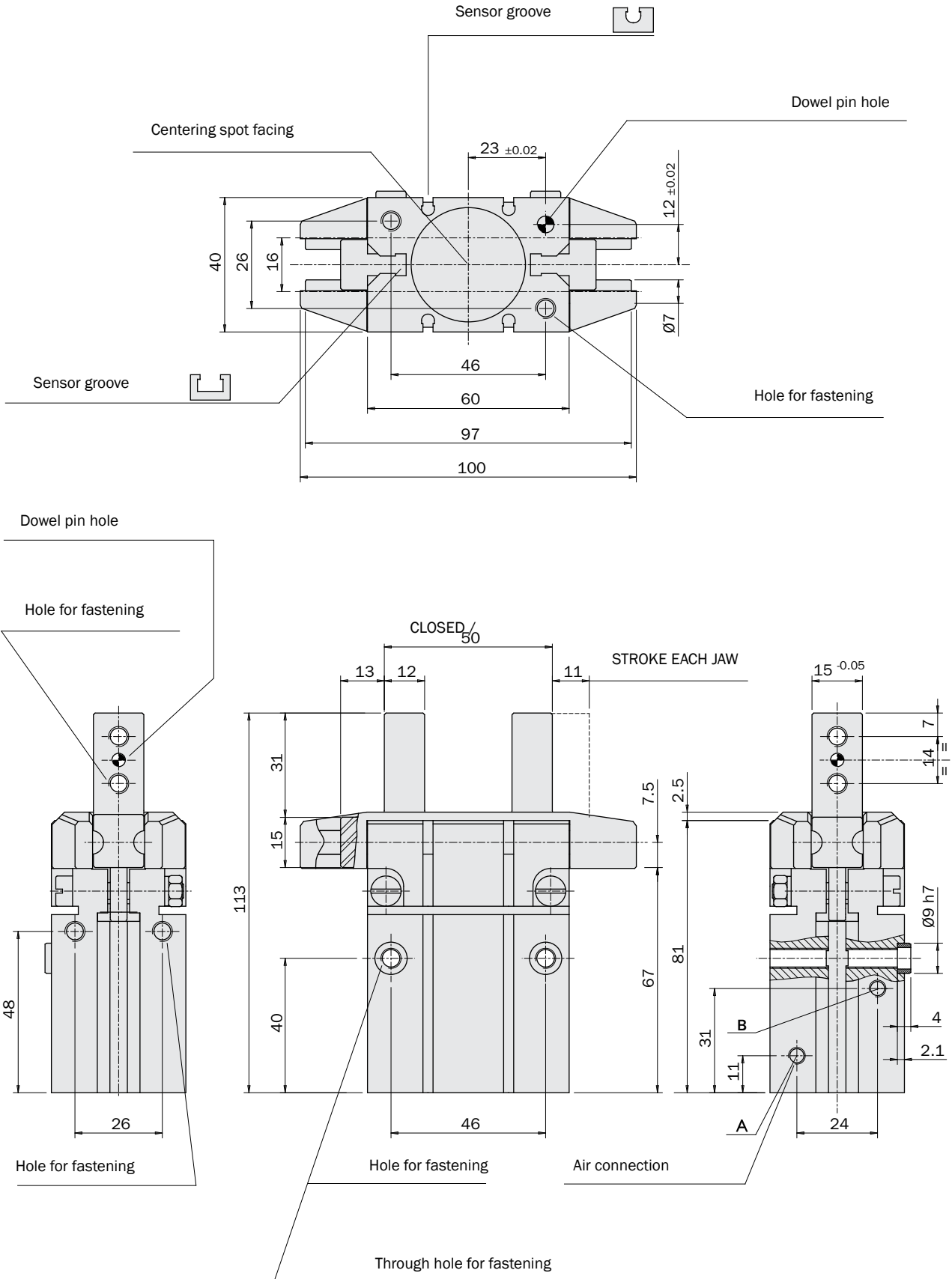




FIRST ANGLE PROJECTION

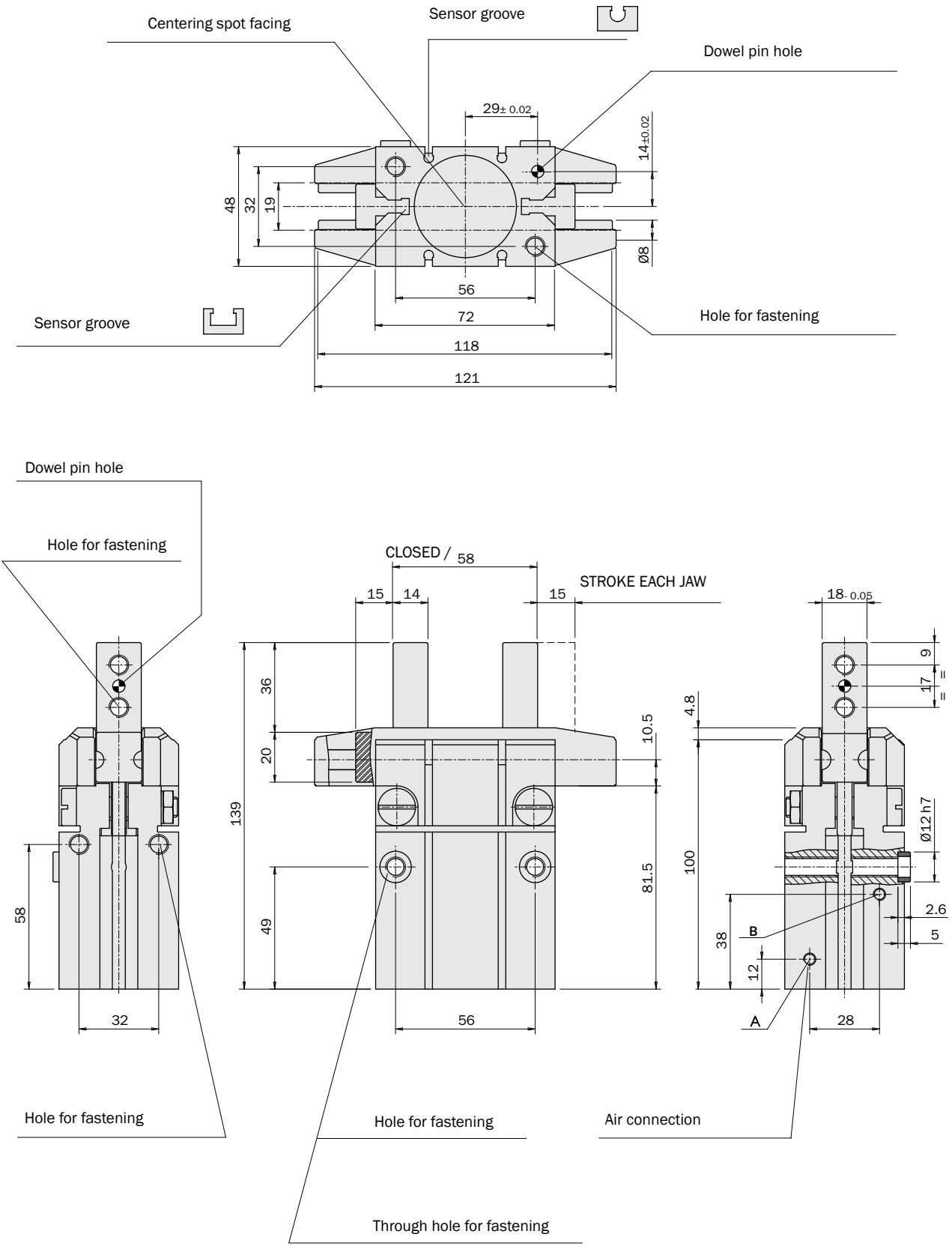
**Dimensions (mm)**

**GS-32**



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



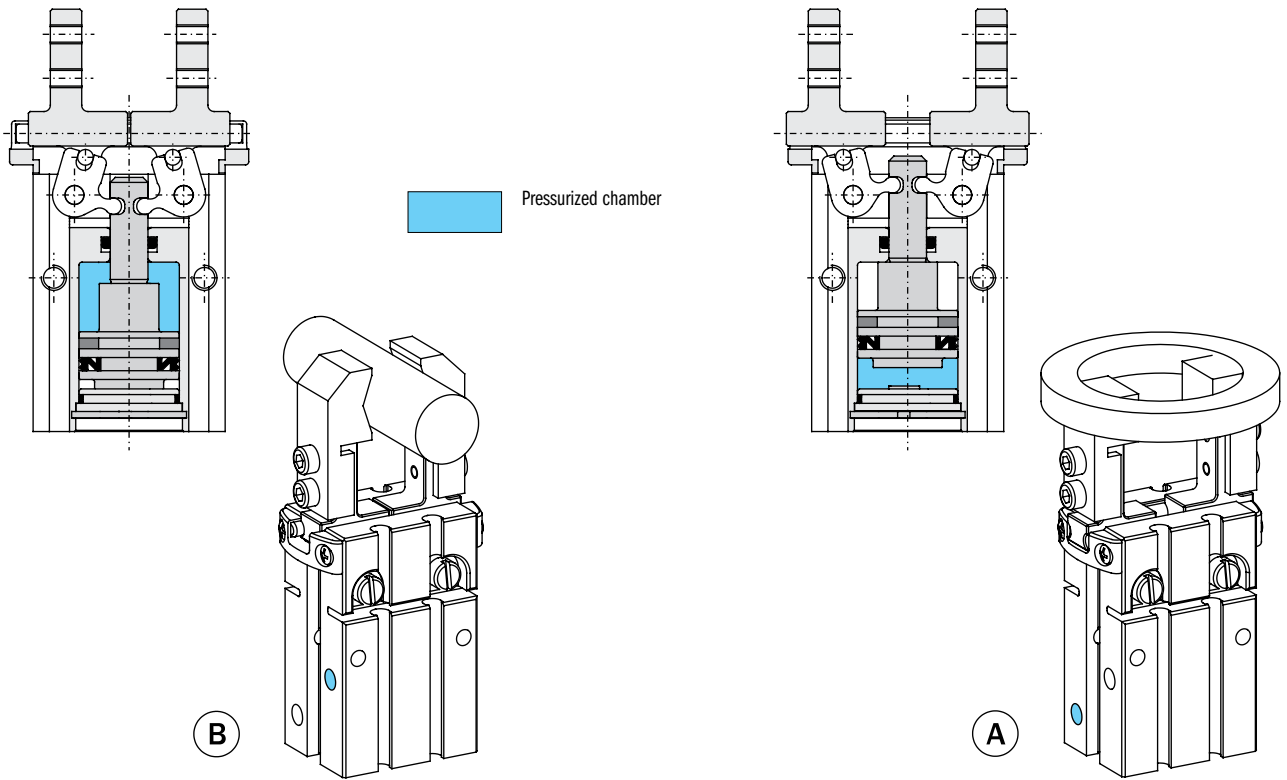


Compressed air in A: gripper opening.  
Compressed air in B: gripper closing.

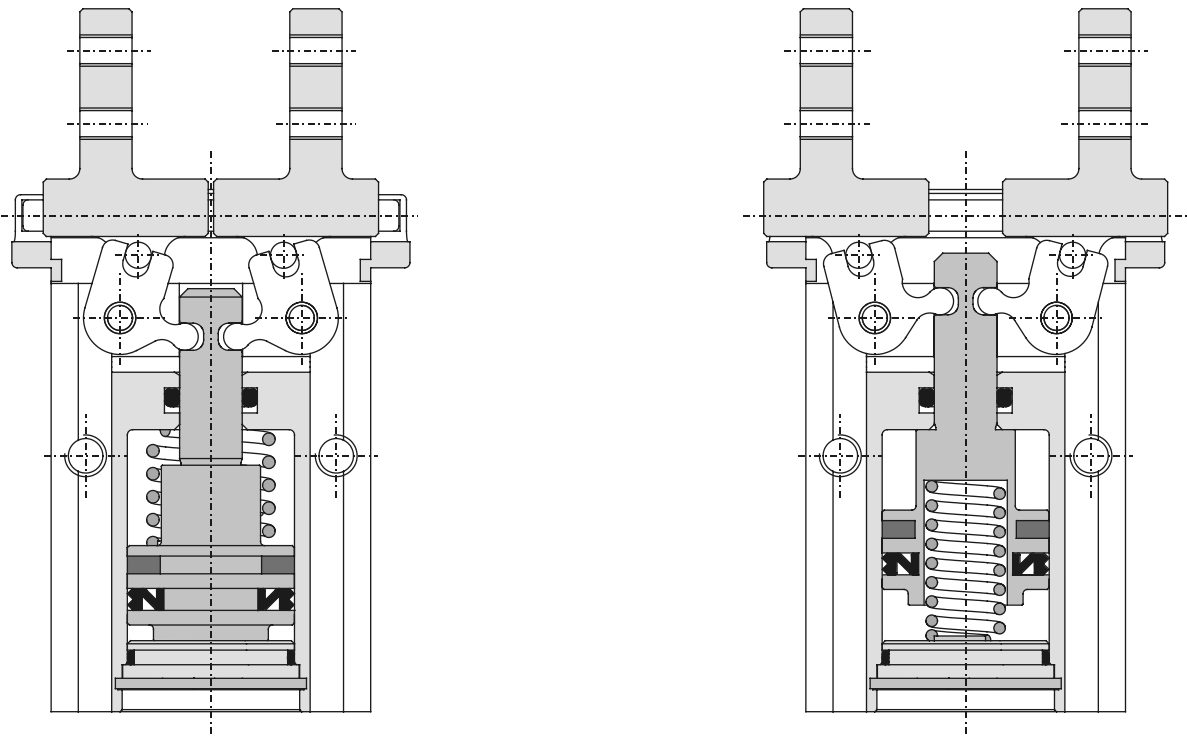


**Gripping**

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



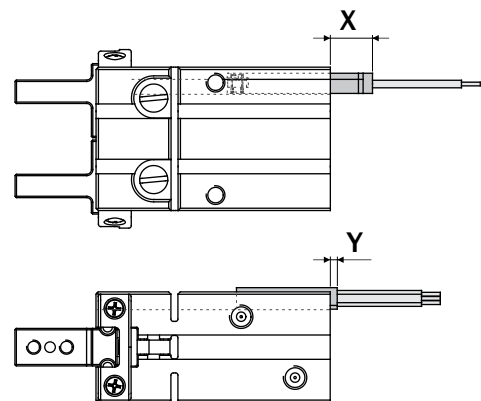
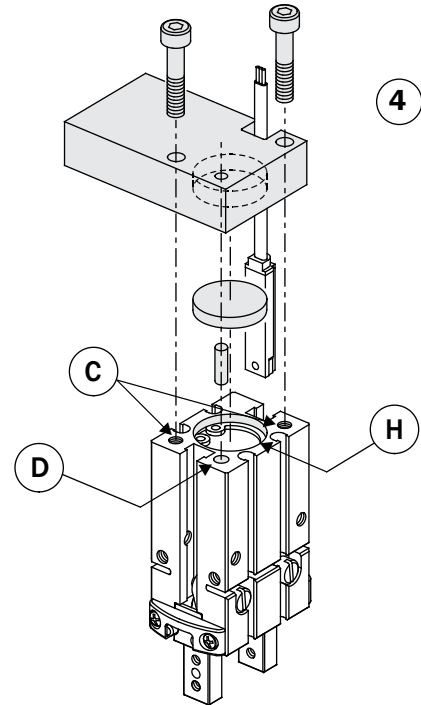
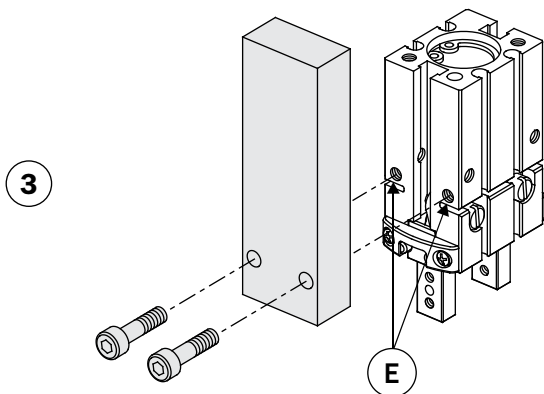
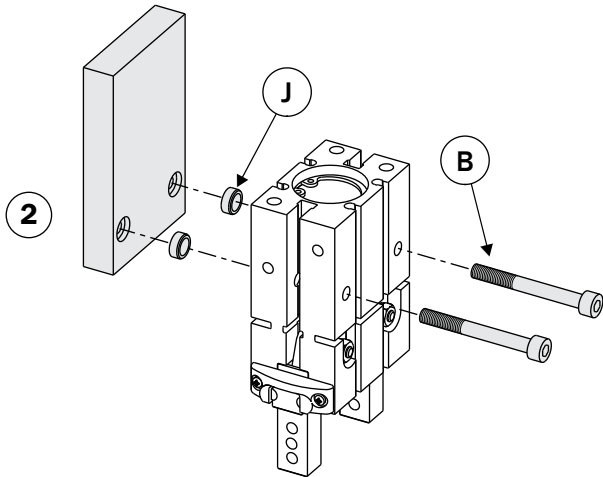
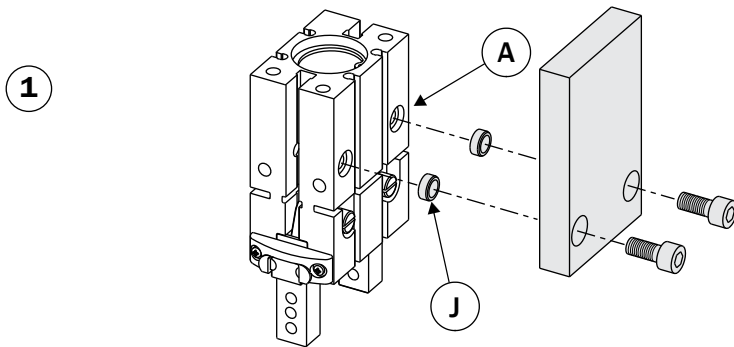
It is also available, on request, with a closing (-NC) or opening (-NO) spring.



**Fastening**

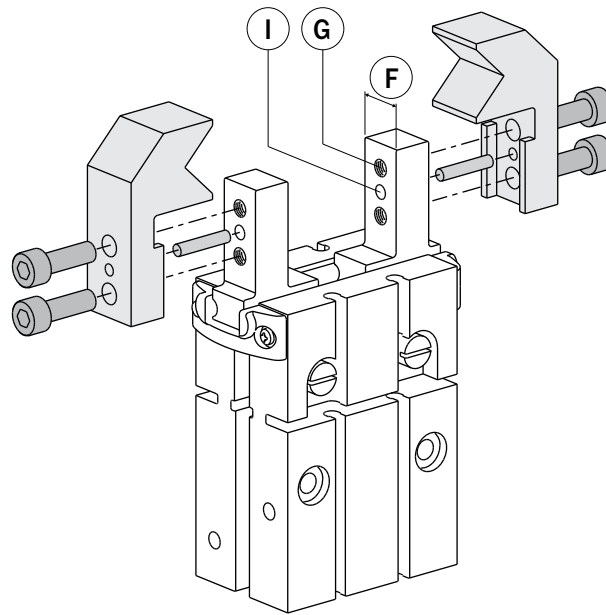
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia over the gripper and its load.

- 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.  
Use 2 centering sleeves (J), where available.
- 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.  
Use 2 centering sleeves (J), where available.
- 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 pin on the dowel pin hole (D) and a centering disc in the spot face (H). In this case the necessary room for sensor must be provided (X and Y).





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



|   | GS-10                 | GS-16                 | GS-20                  | GS-25                  | GS-32                  | GS-40                       |
|---|-----------------------|-----------------------|------------------------|------------------------|------------------------|-----------------------------|
| A | M3x5.5 mm             | M4x8 mm               | M5x10 mm               | M6x12 mm               | M6x12 mm               | M8x21 mm                    |
| B | M2.5x22 mm            | M3x30 mm              | M4x35 mm               | M5x45 mm               | M5x50 mm               | M6x60 mm                    |
| C | M3x6 mm               | M4x8 mm               | M5x10 mm               | M6x12 mm               | M6x12 mm               | M8x17 mm                    |
| D | Ø2H9 x 3 mm           | Ø3H9 x 3 mm           | Ø4H9 x 4 mm            | Ø4H9 x 4 mm            | Ø5H9 x 5 mm            | Ø5H9 x 5 mm                 |
| E | M3x6 mm               | M4x4.5 mm             | M5x8 mm                | M6x10 mm               | M6x10 mm               | M8x21 mm                    |
| F | 5 <sup>-0.05</sup> mm | 8 <sup>-0.05</sup> mm | 10 <sup>-0.05</sup> mm | 12 <sup>-0.05</sup> mm | 15 <sup>-0.05</sup> mm | 18 <sup>-0.05</sup> mm      |
| G | M2.5x4 mm             | M3x5 mm               | M4x8 mm                | M5x10 mm               | M6x12 mm               | M8x14 mm                    |
| H | Ø11H9 x 2 mm          | Ø17H9 x 2 mm          | Ø21H9 x 3 mm           | Ø26H9 x 3.5 mm         | Ø34H9 x 4 mm           | Ø41 <sup>+0.02</sup> x 3 mm |
| I | Ø1.5H8 x 4 mm         | Ø2H8 x 5 mm           | Ø2.5H8 x 8 mm          | Ø3H8 x 10 mm           | Ø4H8 x 12 mm           | Ø5H8 x 14 mm                |

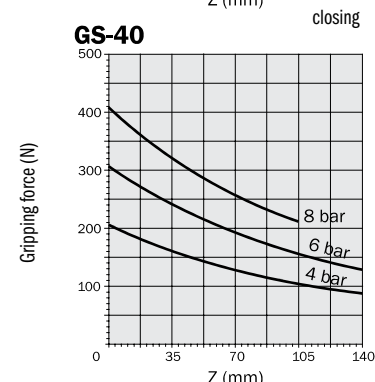
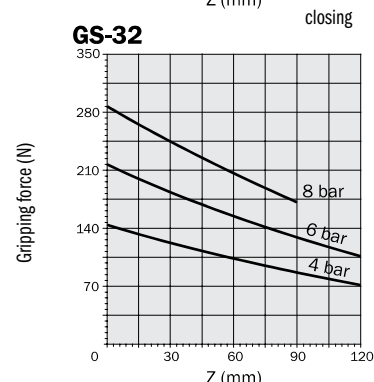
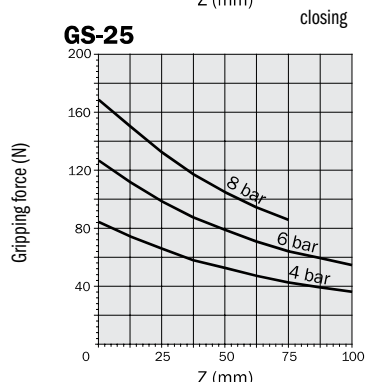
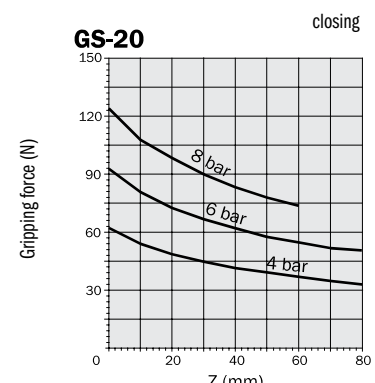
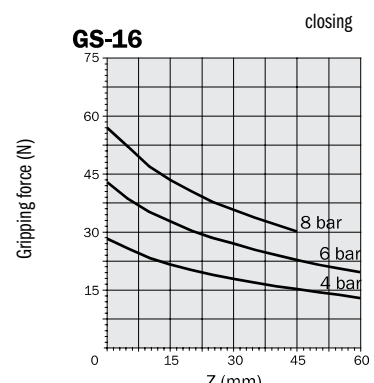
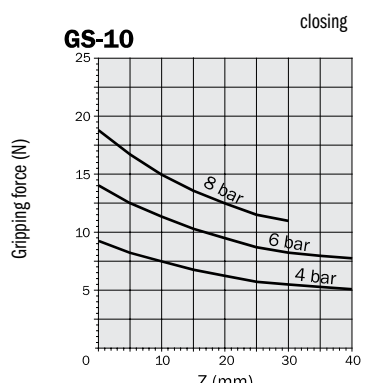
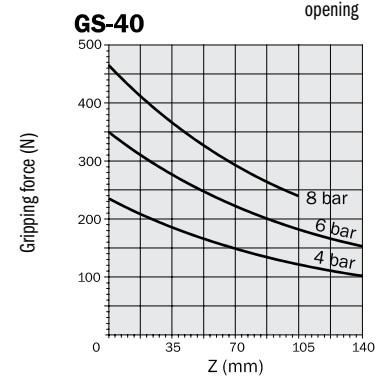
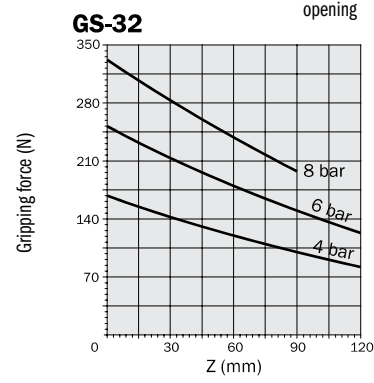
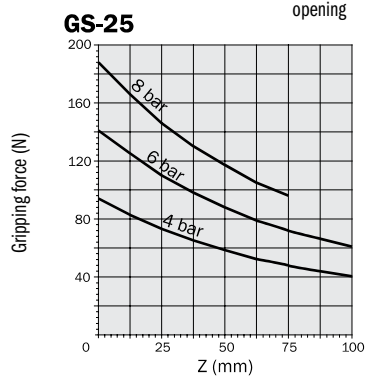
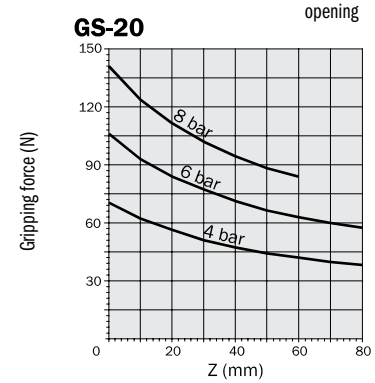
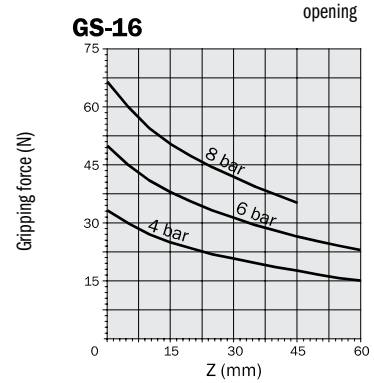
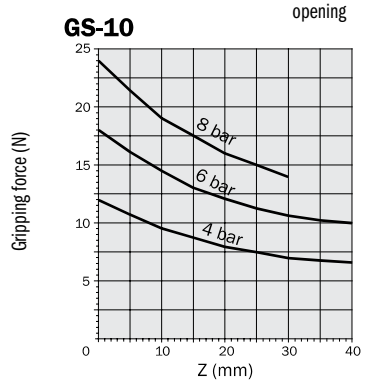
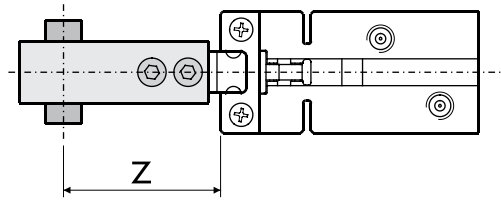
Sensors

|    |                 |                  |                  |                  |                |                |
|----|-----------------|------------------|------------------|------------------|----------------|----------------|
| SC | -               | X=2 mm           | X=0 mm           | X=0 mm           | X=0 mm         | X=0 mm         |
| SL | X=10 mm + cable | X=10 mm + cable  | X=9 mm + cable   | X=7 mm + cable   | X=7 mm + cable | X=7 mm + cable |
| SN | -               | X=0 mm           | X=0 mm           | X=0 mm           | X=0 mm         | X=0 mm         |
| SS | X=2 mm + cable  | X=Y=3 mm + cable | X=Y=1 mm + cable | X=Y=1 mm + cable | cable          | cable          |

**Gripping force**

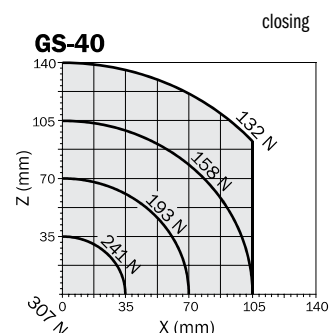
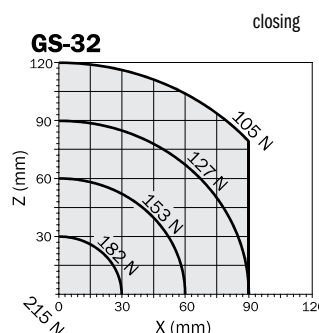
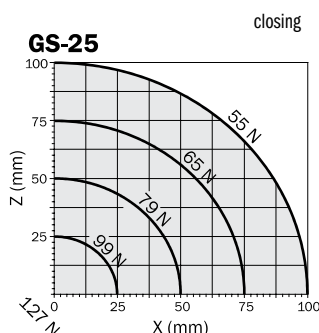
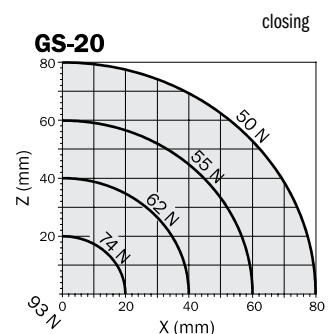
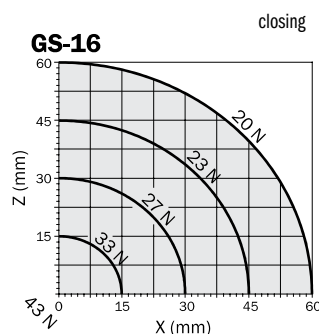
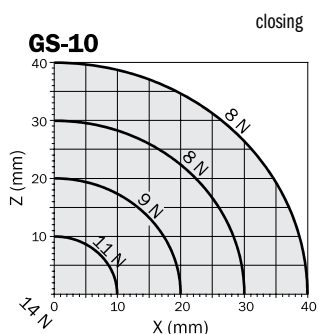
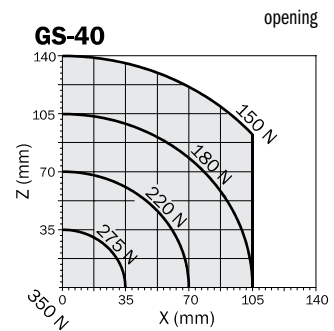
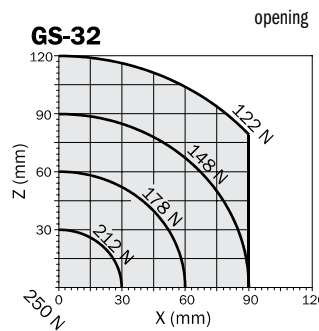
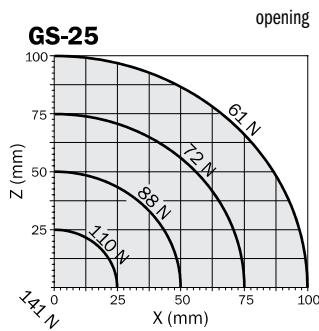
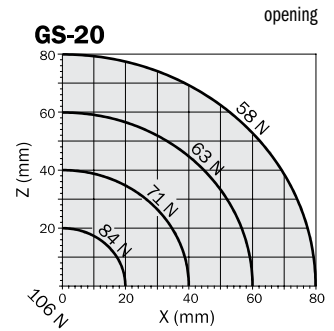
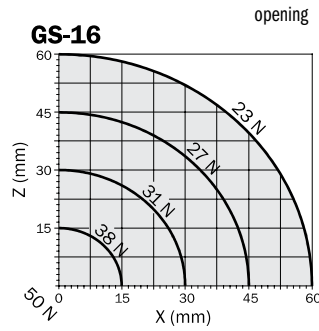
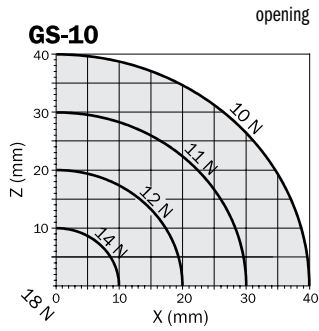
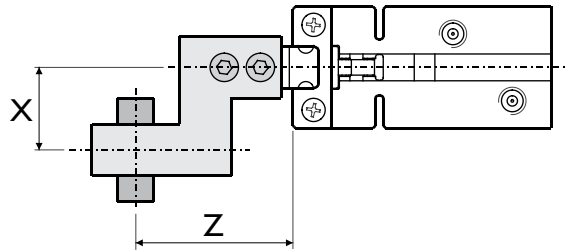
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.

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



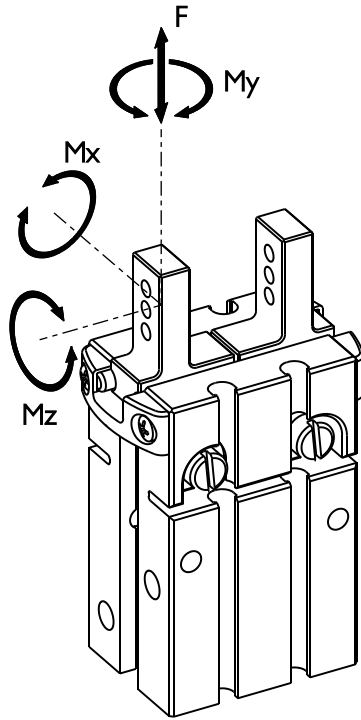
**Gripping force**

The graphs show the gripping force on each jaw, as a function of the gripping tool length Z and the overhanging X at 6 bar.



**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.



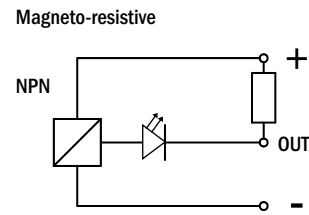
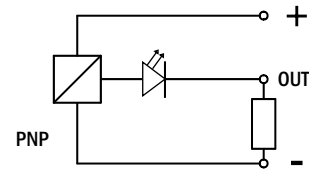
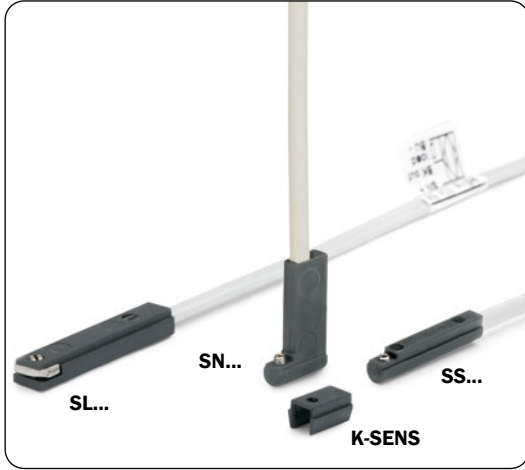
|         | GS-10   | GS-16   | GS-20 | GS-25 | GS-32  | GS-40  |
|---------|---------|---------|-------|-------|--------|--------|
| $F_s$   | 25 N    | 50 N    | 75 N  | 125 N | 200 N  | 300 N  |
| $M_x_s$ | 0.4 Nm  | 1.5 Nm  | 5 Nm  | 8 Nm  | 18 Nm  | 30 Nm  |
| $M_y_s$ | 0.4 Nm  | 1.5 Nm  | 5 Nm  | 8 Nm  | 12 Nm  | 20 Nm  |
| $M_z_s$ | 0.4 Nm  | 1.5 Nm  | 5 Nm  | 8 Nm  | 18 Nm  | 30 Nm  |
| $F_d$   | 0.4 N   | 0.8 N   | 1.5 N | 2.5 N | 3.5 N  | 4.5 N  |
| $M_x_d$ | 0.4 Ncm | 1.5 Ncm | 5 Ncm | 8 Ncm | 18 Ncm | 30 Ncm |
| $M_y_d$ | 0.4 Ncm | 1.5 Ncm | 5 Ncm | 8 Ncm | 18 Ncm | 30 Ncm |
| $M_z_d$ | 0.4 Ncm | 1.5 Ncm | 5 Ncm | 8 Ncm | 18 Ncm | 30 Ncm |
| m 0.2s  | 40 g    | 80 g    | 150 g | 250 g | 350 g  | 450 g  |
| m 0.12s | 35 g    | 65 g    | 125 g | 200 g | 250 g  | 300 g  |
| m 0.09s | 30 g    | 55 g    | 100 g | 150 g | 200 g  | -      |
| m 0.07s | 25 g    | 45 g    | 75 g  | 100 g | -      | -      |
| m 0.05s | 20 g    | 35 g    | 50 g  | -     | -      | -      |
| m 0.02s | 15 g    | 25 g    | -     | -     | -      | -      |
| m 0.01s | 10 g    | -       | -     | -     | -      | -      |

**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.

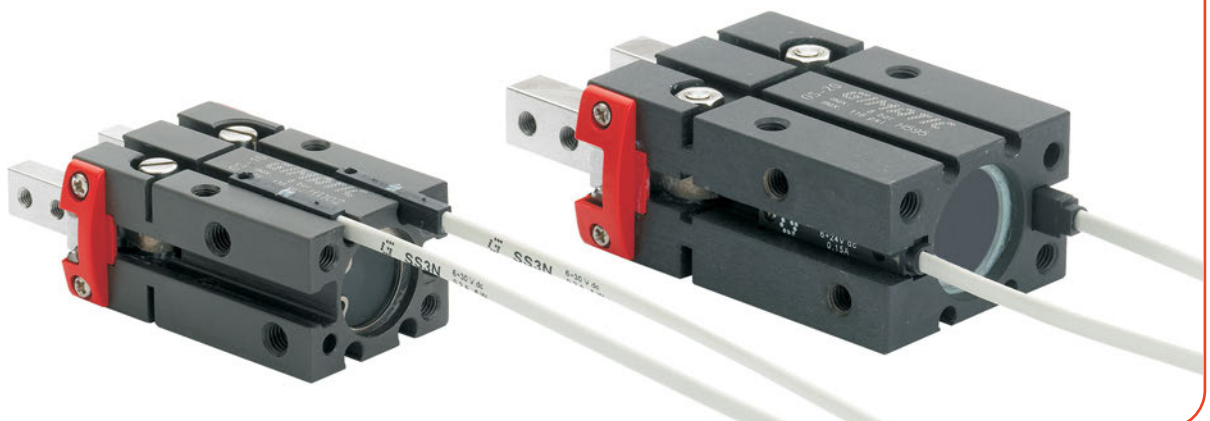
Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use sensors:



|          |     |                        |         | GS-10                                   | GS-16 / GS-20 / GS-25 / GS-32 / GS-40                                       |
|----------|-----|------------------------|---------|---|---|
| SL4N225G | PNP | 2.5m cable             | \$27.20 | <input checked="" type="checkbox"/>     | <input type="checkbox"/> <input checked="" type="checkbox"/>                |
| SL4M225G | NPN | 2.5m cable             | \$27.20 | <input checked="" type="checkbox"/>     | <input type="checkbox"/> <input checked="" type="checkbox"/>                |
| SL3N203G | PNP | M8 snap plug connector | \$31.16 | <input checked="" type="checkbox"/>     | <input type="checkbox"/> <input checked="" type="checkbox"/>                |
| SL3M203G | NPN | M8 snap plug connector | \$31.16 | <input checked="" type="checkbox"/>     | <input type="checkbox"/> <input checked="" type="checkbox"/>                |
| SN4N225G | PNP | 2.5m cable             | \$27.20 | <input type="checkbox"/>                | <input checked="" type="checkbox"/> <input type="checkbox"/>                |
| SN4M225G | NPN | 2.5m cable             | \$27.20 | <input type="checkbox"/>                | <input checked="" type="checkbox"/> <input type="checkbox"/>                |
| SN3N203G | PNP | M8 snap plug connector | \$31.16 | <input type="checkbox"/>                | <input checked="" type="checkbox"/> <input type="checkbox"/>                |
| SN3M203G | NPN | M8 snap plug connector | \$31.16 | <input type="checkbox"/>                | <input checked="" type="checkbox"/> <input type="checkbox"/>                |
| SS4N225G | PNP | 2.5m cable             | \$27.20 | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1) |
| SS4M225G | NPN | 2.5m cable             | \$27.20 | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1) |
| SS3N203G | PNP | M8 snap plug connector | \$31.16 | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1) |
| SS3M203G | NPN | M8 snap plug connector | \$31.16 | <input checked="" type="checkbox"/> (1) | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> (1) |

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



## 2-jaw parallel self-centering pneumatic gripper (series SZ)

- Double acting.
- Available with normally closed or normally open spring on request.
- Various options for fastening and feeding.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.
- Stainless steel jaws.



|   | SZ08  | SZ12              | SZ16              | SZ20              | SZ25               | SZ32               | SZ40               |
|---|---|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                    |                    |                    |
| Operating pressure range                    | 2 ÷ 8 bar   |                   |                   | 1 ÷ 8 bar         |                    |                    |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                   |                   |                   |                    |                    |                    |
| Opening gripping force at 6 bar on each jaw | 14 N  | 25 N              | 45 N              | 75 N              | 115 N              | 190 N              | 310 N              |
| Opening total gripping force at 6 bar       | 28 N  | 50 N              | 90 N              | 150 N             | 230 N              | 380 N              | 620 N              |
| Closing gripping force at 6 bar on each jaw | 14 N  | 25 N              | 45 N              | 75 N              | 115 N              | 190 N              | 310 N              |
| Closing total gripping force at 6 bar       | 28 N  | 50 N              | 90 N              | 150 N             | 230 N              | 380 N              | 620 N              |
| Total stroke                                | 7 mm  | 8 mm              | 12 mm             | 16 mm             | 20 mm              | 25 mm              | 30 mm              |
| Maximum working frequency                   | 3 Hz  | 3 Hz              | 3 Hz              | 2 Hz              | 2 Hz               | 2 Hz               | 2 Hz               |
| Cycle air consumption                       | 0.5 cm <sup>3</sup>                                       | 1 cm <sup>3</sup> | 3 cm <sup>3</sup> | 7 cm <sup>3</sup> | 12 cm <sup>3</sup> | 24 cm <sup>3</sup> | 48 cm <sup>3</sup> |
| Opening / Closing time without load         | 0.02 s  | 0.02 s            | 0.03 s            | 0.05 s            | 0.06 s             | 0.08 s             | 0.10 s             |
| Weight                                      | 35 g  | 101 g             | 164 g             | 337 g             | 474 g              | 783 g              | 1214 g             |

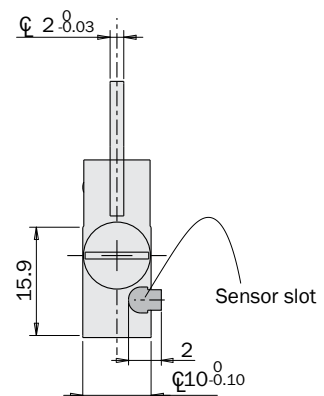
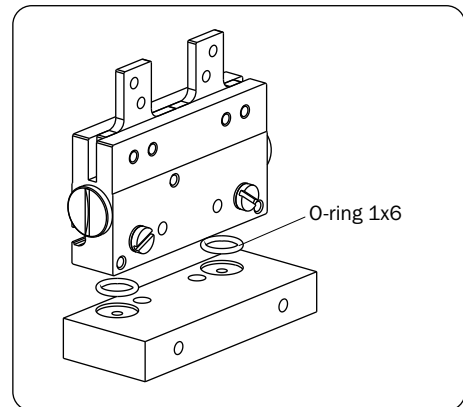
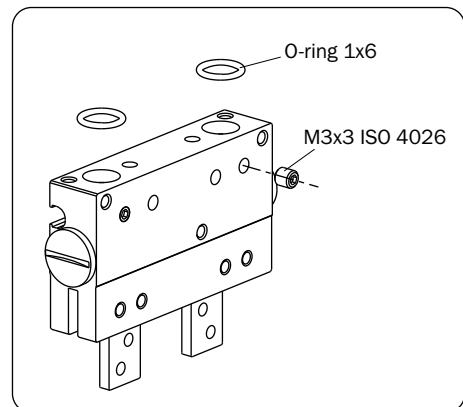
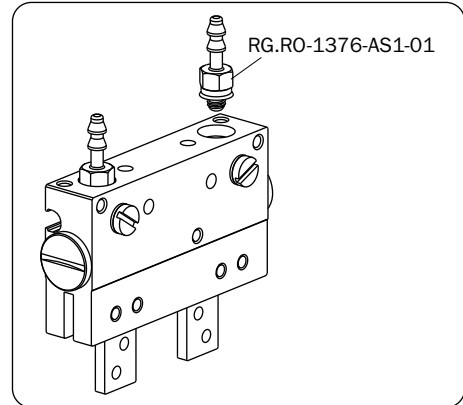
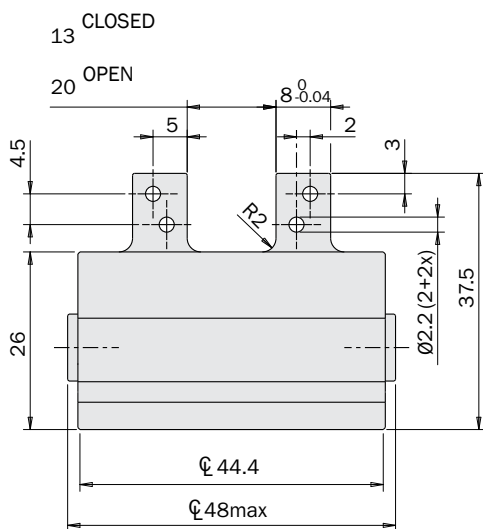
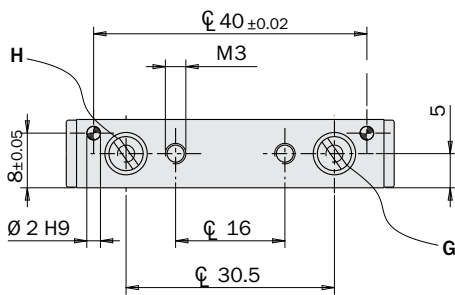
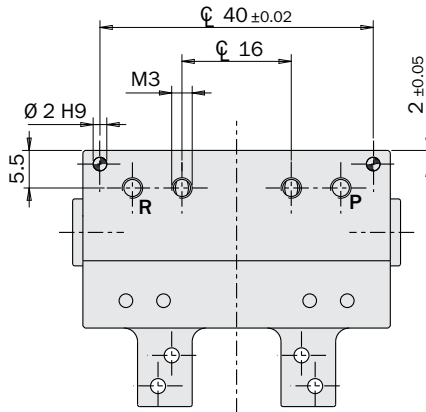
**Dimensions (mm)**

**SZ08**

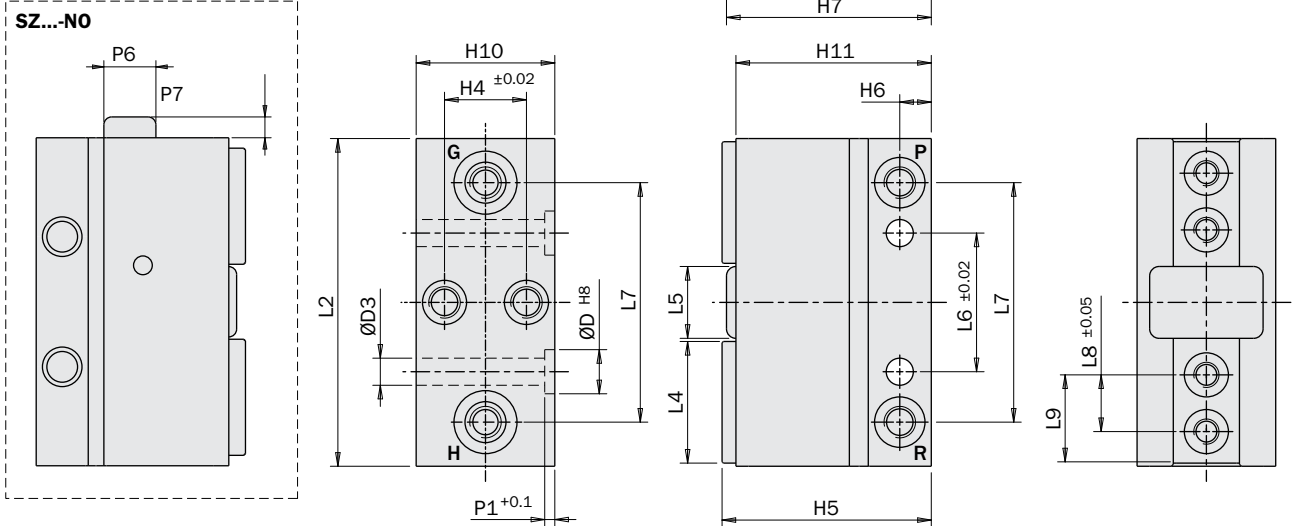


**G P** Compressed air in G/P: gripper opening

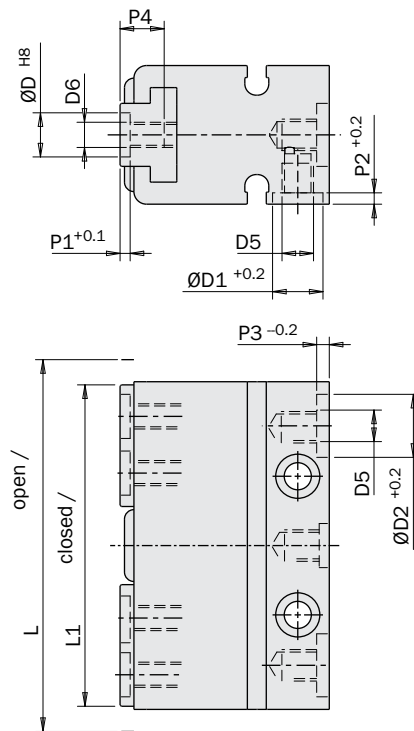
**H R** Compressed air in H/R: gripper closing



## Dimensions (mm)



|          | SZ12 | SZ16 | SZ20 | SZ25 | SZ32  | SZ40  |
|----------|------|------|------|------|-------|-------|
| D H8     | Ø7   | Ø7   | Ø7   | Ø9   | Ø9    | Ø12   |
| D1 +0.2  | Ø8   | Ø8   | Ø8   | Ø8   | Ø15.6 | Ø15.6 |
| D2 +0.2  | Ø10  | Ø10  | Ø10  | Ø10  | Ø19   | Ø19   |
| D3       | Ø4.3 | Ø5.3 | Ø5.3 | Ø6.3 | Ø6.3  | Ø8.3  |
| D4       | M5   | M5   | M5   | M6   | M6    | M8    |
| D5       | M5   | M5   | M5   | M5   | 1/8"G | 1/8"G |
| D6       | M4   | M5   | M5   | M6   | M6    | M8    |
| H4 +0.02 | 13   | 15   | 20   | 24   | 29    | 35    |
| H5       | 33.2 | 40.2 | 46   | 55   | 70.5  | 78.5  |
| H6       | 5    | 5    | 5    | 7    | 7     | 9     |
| H7       | 32.5 | 38.5 | 44.5 | 53   | 68.5  | 76.5  |
| H8       | 9    | 12   | 14   | 15   | 19    | 19    |
| H10      | 22   | 25   | 30   | 37   | 42    | 51    |
| H11      | 31   | 37   | 43   | 51.5 | 67    | 75    |
| L        | 59   | 71   | 86   | 102  | 117   | 146   |
| L1       | 51   | 59   | 70   | 82   | 92    | 116   |
| L2       | 52   | 63   | 78   | 92   | 105   | 130   |
| L4       | 19.3 | 22.3 | 24   | 29.8 | 32.3  | 41.8  |
| L5       | 11.4 | 13.5 | 21.4 | 21.4 | 26.4  | 31.4  |
| L6 ±0.02 | 22   | 25   | 40   | 50   | 55    | 70    |
| L7       | 38   | 45   | 62   | 73   | 84    | 104   |
| L8 ±0.05 | 9    | 12   | 14   | 16   | 18    | 24    |
| L9       | 14   | 17   | 19   | 23   | 25    | 33    |
| L10      | 18   | 19   | 29   | 29   | 34    | 37    |
| L11      | 10   | 11.5 | 14   | 18   | 20    | 22    |
| P1 +0.1  | 1.6  | 1.6  | 1.6  | 2.1  | 2.1   | 2.6   |
| P2 +0.2  | 1.8  | 1.8  | 1.8  | 1.8  | 3     | 3     |
| P3 -0.2  | 2    | 2    | 2    | 2    | 1.3   | 1.3   |
| P4       | 6.5  | 9    | 10   | 14   | 15    | 16    |
| P5       | 6.5  | 6.5  | 6.5  | 11   | 11    | 15    |
| P6       | Ø6.5 | Ø10  | Ø15  | Ø19  | Ø23.9 | -     |
| P7       | 0.7  | 4    | 3.4  | 2.1  | 1.7   | -     |



Ⓓ5 Air connection

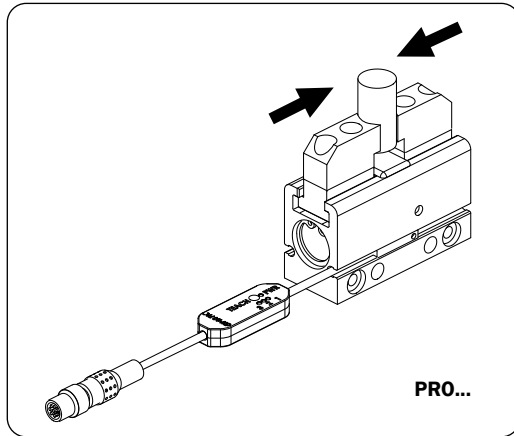
Ⓓ Ⓓ P Compressed air in G/P: gripper opening

Ⓓ Ⓓ H R Compressed air in H/R: gripper closing



**Sensors**

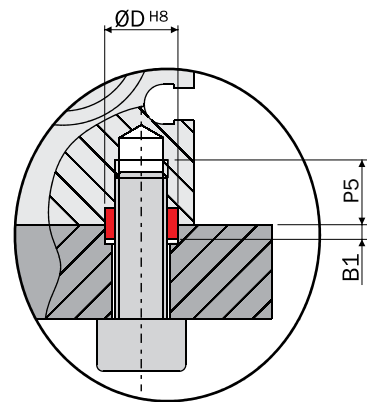
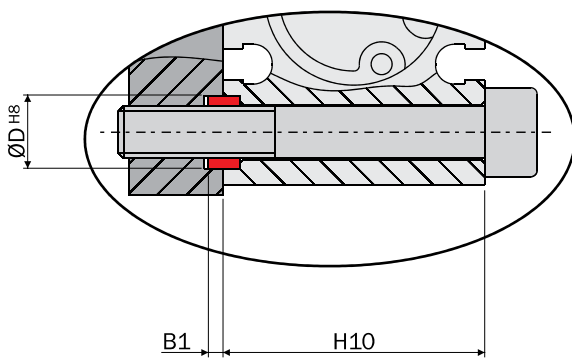
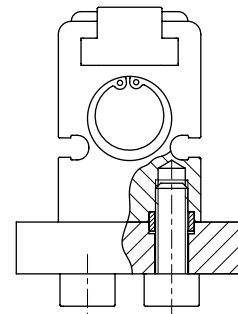
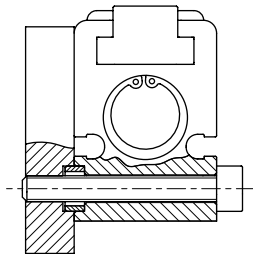
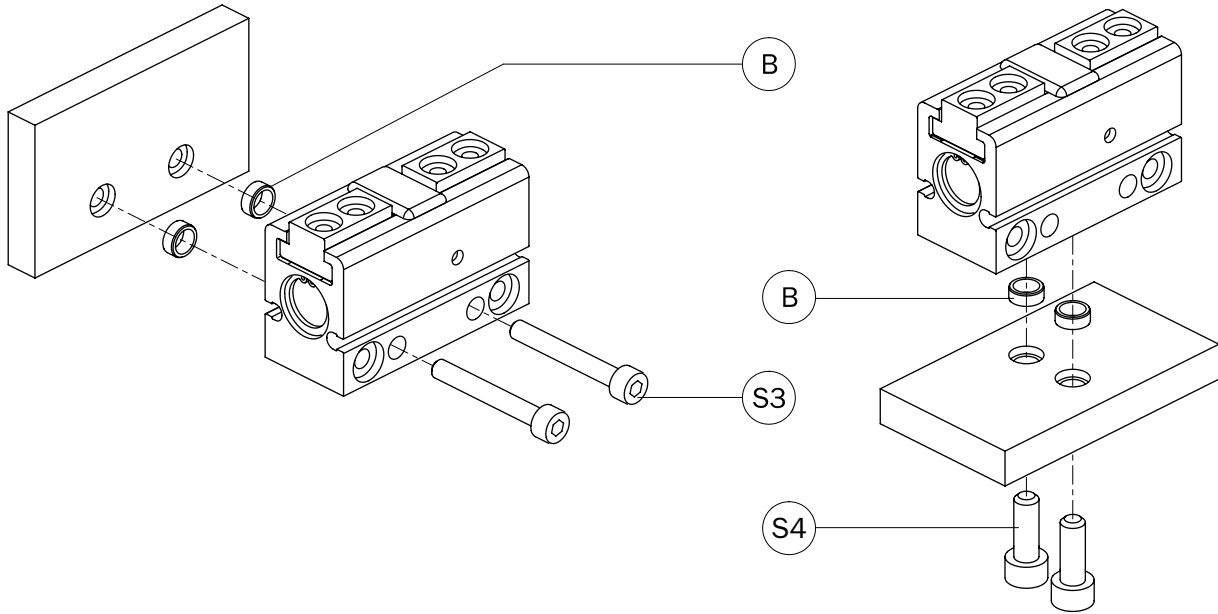
The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston. Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.



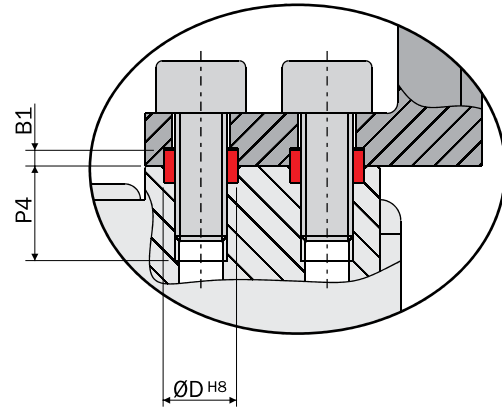
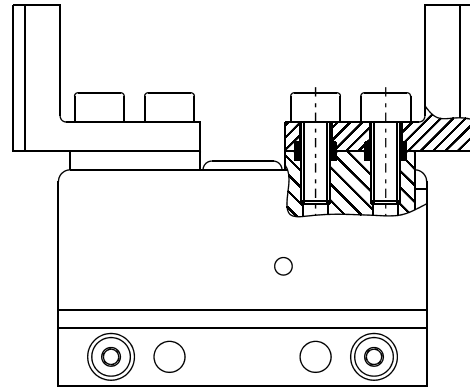
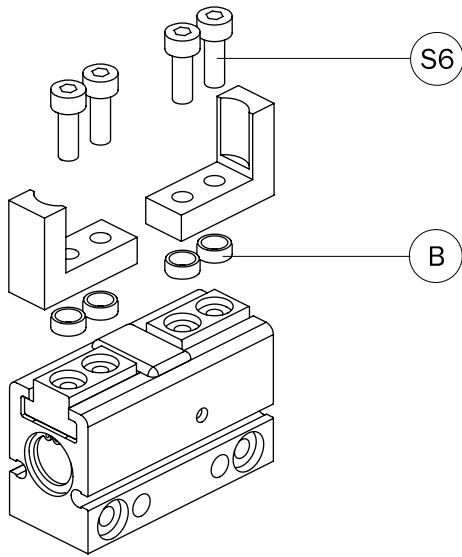
| Code           | OUTPUT       | Connection             | Type                 |
|----------------|--------------|------------------------|----------------------|
| PRO-SN3M215-G  | 3 output NPN | M8 snap plug connector | Programmable         |
| PRO-SN3N215-G  | 3 output PNP | 2.5m cable             |                      |
| PRO-SN4M225-G  | 3 output NPN |                        |                      |
| PRO-SN4N225-G  | 3 output PNP |                        |                      |
| PRO-SS3M215-G  | 3 output NPN | M8 snap plug connector | Programmable         |
| PRO-SS3N215-G  | 3 output PNP | 2.5m cable             |                      |
| PRO-SS4M225-G  | 3 output NPN |                        |                      |
| PRO-SS4N225-G  | 3 output PNP |                        |                      |
| PRO-SSR3M215-G | 3 output NPN | M8 snap plug connector | Programmable         |
| PRO-SSR3N215-G | 3 output PNP | 2.5m cable             |                      |
| PRO-SSR4M225-G | 3 output NPN |                        |                      |
| PRO-SSRN225-G  | 3 output PNP |                        |                      |
| SN4N225-G      | 1 output PNP | 2.5m cable             | Standard hysteresis  |
| SN4M225-G      | 1 output NPN | M8 snap plug connector |                      |
| SN3N203-G      | 1 output PNP |                        |                      |
| SN3M203-G      | 1 output NPN |                        |                      |
| SS4N225-G      | 1 output PNP | 2.5m cable             | Standard hysteresis  |
| SS4M225-G      | 1 output NPN | M8 snap plug connector |                      |
| SS3N203-G      | 1 output PNP |                        |                      |
| SS3M203-G      | 1 output NPN |                        |                      |
| SSY3M203-G     | 1 output PNP | M8 snap plug connector | Reduced hysteresis   |
| SSY3N203-G     | 1 output NPN | 2.5m cable             |                      |
| SSY4M225-G     | 1 output PNP |                        |                      |
| SSY4N225-G     | 1 output NPN |                        |                      |
| SSQ3M203-G     | 1 output PNP | M8 snap plug connector | Ultra low hysteresis |
| SSQ3N203-G     | 1 output NPN | 2.5m cable             |                      |
| SSQ4M225-G     | 1 output PNP |                        |                      |
| SSQ4N225-G     | 1 output NPN |                        |                      |

**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.  
 It can be fastened to one side or to the base.  
 Use 2 screws (S3 or S4) and 2 centering sleeves (B).



The gripping tools must be as short and light as possible. They must be fastened by 2 screws (S6) and 2 centering sleeves (B).

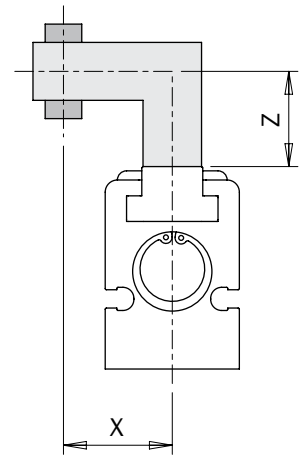


4 centering sleeves (B) for the gripping tools and 2 centering sleeves (B) for the housing are supplied in the packaging.

|     | SZ08 | SZ12                 | SZ16                 | SZ20                 | SZ25                 | SZ32                 | SZ40                  |
|-----|------|----------------------|----------------------|----------------------|----------------------|----------------------|-----------------------|
| B   | -    | $\varnothing 7 H=3$  | $\varnothing 7 H=3$  | $\varnothing 7 H=3$  | $\varnothing 9 H=4$  | $\varnothing 9 H=4$  | $\varnothing 12 H=5$  |
| B1  | -    | 1.4                  | 1.4                  | 1.4                  | 1.9                  | 1.9                  | 2.4                   |
| D   | -    | $\varnothing 7^{H8}$ | $\varnothing 7^{H8}$ | $\varnothing 7^{H8}$ | $\varnothing 9^{H8}$ | $\varnothing 9^{H8}$ | $\varnothing 12^{H8}$ |
| S3  | M3   | M4                   | M5                   | M5                   | M6                   | M6                   | M8                    |
| S4  | M3   | M5                   | M5                   | M5                   | M6                   | M6                   | M8                    |
| P5  | -    | 6.5                  | 6.5                  | 6.5                  | 11                   | 11                   | 15                    |
| H10 | -    | 22                   | 25                   | 30                   | 37                   | 42                   | 51                    |
| S6  | M2   | M4                   | M5                   | M5                   | M6                   | M6                   | M8                    |
| P4  | -    | 6.5                  | 9                    | 10                   | 14                   | 15                   | 16                    |

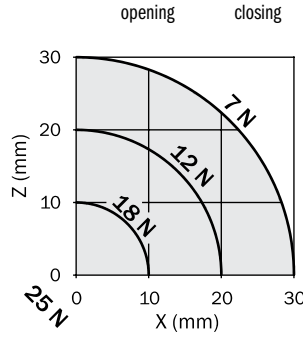
**Gripping force**

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.

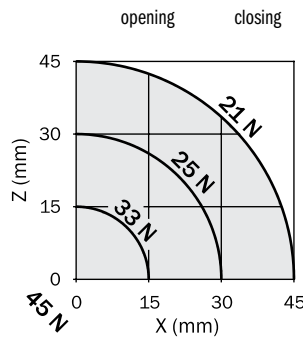
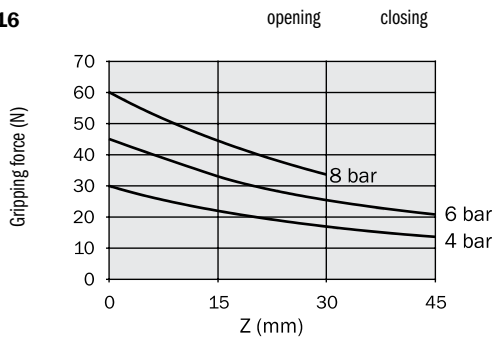


**The force shown in these graphs refers to one jaw. The total force is double.**

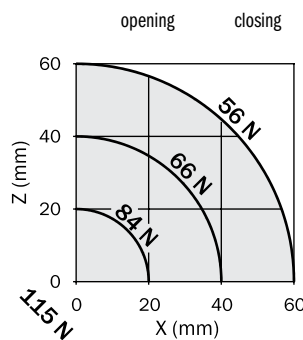
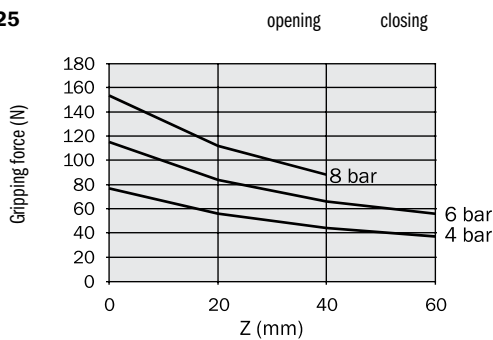
**SZ12**



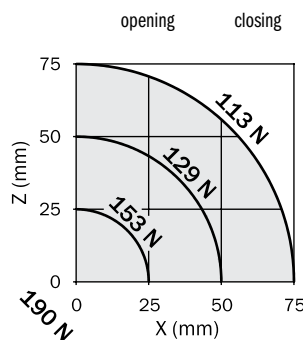
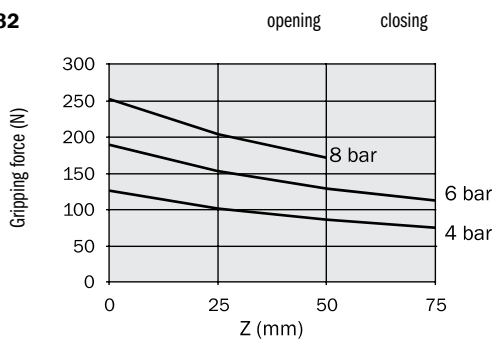
**SZ16**



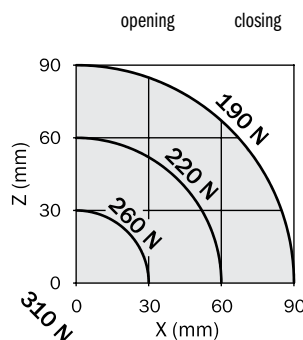
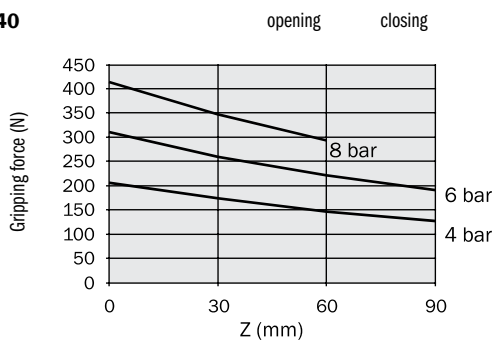
**SZ25**



**SZ32**

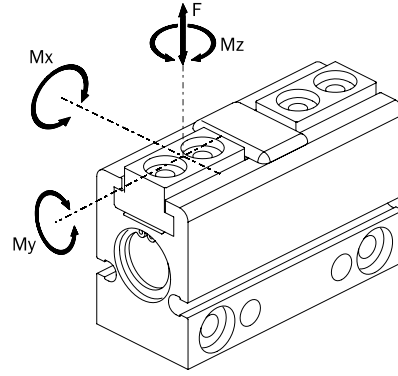


**SZ40**



**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, Mx s, My s, Mz s, are maximum permitted static loads. Static means with motionless jaws. F d, Mx d, My d, Mz 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.



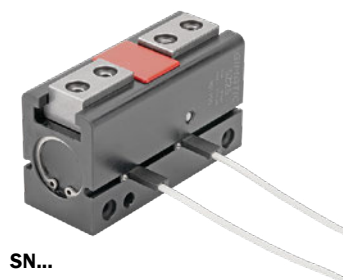
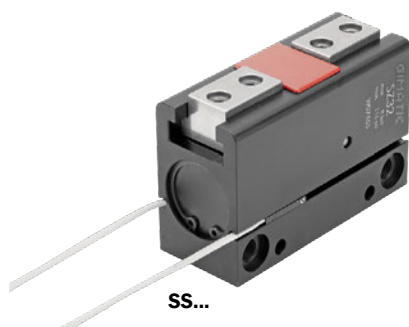
|         | SZ08    | SZ12    | SZ16   | SZ20  | SZ25   | SZ32   | SZ40   |
|---------|---------|---------|--------|-------|--------|--------|--------|
| F s     | 10 N    | 50 N    | 100 N  | 150 N | 200 N  | 400 N  | 700 N  |
| Mx s    | 0.25 Nm | 0.5 Nm  | 2 Nm   | 4 Nm  | 6 Nm   | 18 Nm  | 36 Nm  |
| My s    | 0.25 Nm | 0.3 Nm  | 1.5 Nm | 3 Nm  | 4 Nm   | 12 Nm  | 24 Nm  |
| Mz s    | 0.25 Nm | 0.5 Nm  | 2 Nm   | 4 Nm  | 6 Nm   | 18 Nm  | 36 Nm  |
| F d     | 0.2 N   | 1 N     | 2 N    | 3 N   | 4 N    | 8 N    | 12 Nm  |
| Mx d    | 0.25 Nm | 1 Ncm   | 4 Ncm  | 8 Ncm | 12 Ncm | 24 Ncm | 36 Ncm |
| My d    | 0.25 Nm | 0.8 Ncm | 3 Ncm  | 6 Ncm | 8 Ncm  | 16 Ncm | 24 Ncm |
| Mz d    | 0.25 Nm | 1 Ncm   | 4 Ncm  | 8 Ncm | 12 Ncm | 24 Ncm | 36 Ncm |
| m 0.3s  | -       | -       | -      | -     | -      | 800 g  | 1200 g |
| m 0.2s  | -       | -       | -      | 300g  | 400 g  | 600 g  | 900 g  |
| m 0.10s | -       | -       | 200 g  | 250g  | 320 g  | 400 g  | 600 g  |
| m 0.08s | 20g     | 100 g   | 160 g  | 200g  | 240 g  | 300 g  | -      |
| m 0.06s | 15g     | 80 g    | 120 g  | 150g  | 160 g  | -      | -      |
| m 0.03s | 10g     | 60 g    | 80 g   | -     | -      | -      | -      |
| m 0.02s | 8g      | 40 g    | -      | -     | -      | -      | -      |

**Sensors**

The operating position is detected by proximity magnetic sensors (optional) through a magnet placed on the piston. Therefore, avoid using the gripper in the vicinity of intense magnetic fields or near a large mass of ferromagnetic material as this may cause detection errors.

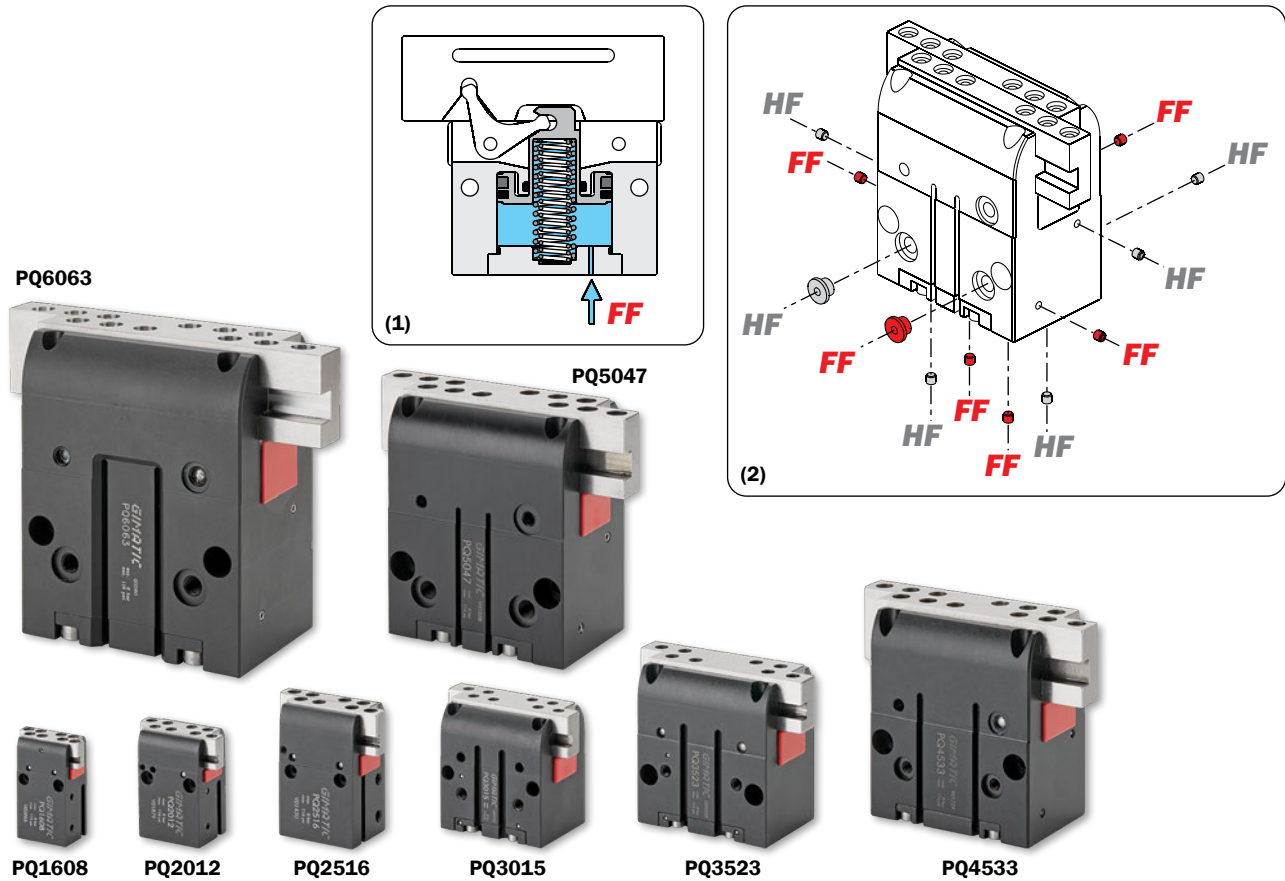
The sensors that can be used are:

| Part#    |     |                        | Price   | SZ12 | SZ16 | SZ25 | SZ32 | SZ40 |
|----------|-----|------------------------|---------|------|------|------|------|------|
| 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 | ☑    | ☑    | ☑    | ☑    | ☑    |



## 2-jaw self-centering pneumatic parallel gripper (series PQ)

- Robust guide.
- Long stroke.
- Integrated springs (1).
- Various fastening and air feeding options (2).
- FDA-H1 food-grade grease.



|  | PQ1608  | PQ2012            | PQ2516            | PQ3015             | PQ3523             | PQ4533             | PQ5047              | PQ6063              |
|--|---|-------------------|-------------------|--------------------|--------------------|--------------------|---------------------|---------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                    |                    |                    |                     |                     |
| Operating pressure range                 | 3.5 ÷ 8 bar   |                   |                   |                    |                    |                    |                     |                     |
| Operating temperature range              | 5 ÷ 100 °C  |                   |                   |                    |                    |                    |                     |                     |
| Gripping force on each jaw (6 bar in FF) | 60 N  | 90 N              | 150 N             | 200 N              | 280 N              | 460 N              | 670 N               | 930 N               |
| Total gripping force (6 bar in FF)       | 120 N   | 180 N             | 300 N             | 400 N              | 560 N              | 920 N              | 1340 N              | 1860 N              |
| Total stroke                             | 8 mm  | 12 mm             | 16 mm             | 15 mm              | 23 mm              | 33 mm              | 47 mm               | 63 mm               |
| Maximum working frequency                | 2 Hz  | 2 Hz              | 2 Hz              | 2 Hz               | 2 Hz               | 1 Hz               | 1 Hz                | 1 Hz                |
| Cycle air consumption                    | 2 cm <sup>3</sup>   | 4 cm <sup>3</sup> | 8 cm <sup>3</sup> | 12 cm <sup>3</sup> | 23 cm <sup>3</sup> | 55 cm <sup>3</sup> | 114 cm <sup>3</sup> | 210 cm <sup>3</sup> |
| Gripping time (air in FF)                | 20 ms   | 40 ms             | 40 ms             | 60 ms              | 60 ms              | 100 ms             | 140 ms              | 190 ms              |
| Release time (air in HF)                 | 20 ms   | 50 ms             | 50 ms             | 110 ms             | 110 ms             | 160 ms             | 230 ms              | 400 ms              |
| Repetition accuracy                      | 0.02 mm   |                   |                   |                    |                    |                    |                     |                     |
| Weight                                   | 63 g  | 110 g             | 200 g             | 330 g              | 610 g              | 1270 g             | 2430 g              | 4900 g              |

**Pneumatic circuit**

Possible problems on a compressed air supply circuit:

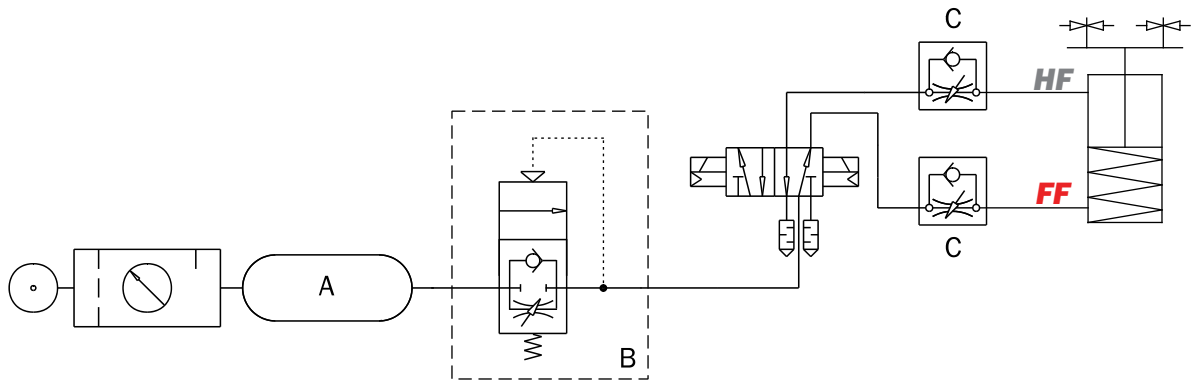
- 1- Pressure variation.
- 2- Pressurizing with empty gripper.
- 3- Excessive operating speed.

Possible solutions:

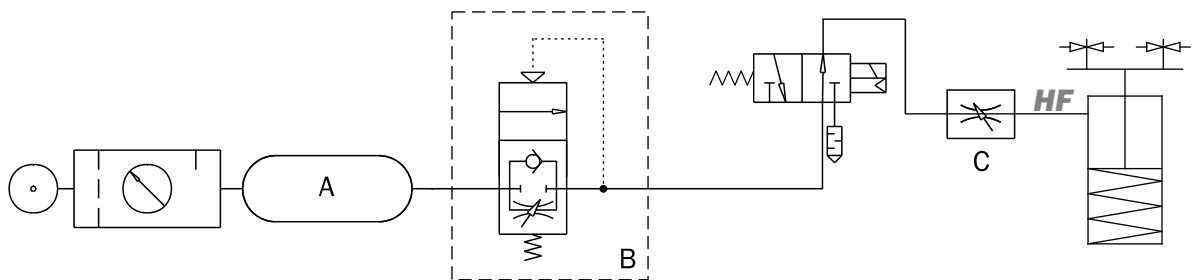
- 1- External air tank (A).
- 2- Start-up valve (B).
- 3- Flow controller (C).

The gripper can operate either in single-effect mode or double-effect mode.

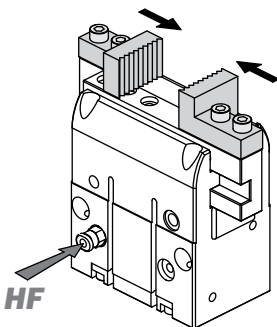
The double-effect mode (see circuit below, with 5/2 valve) is recommended when the highest gripping force is required.



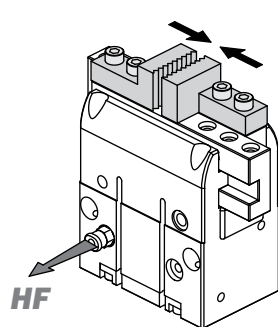
For single-effect operation with reset spring, the pneumatic circuit must be similar to that shown below, with a 3/2 valve.



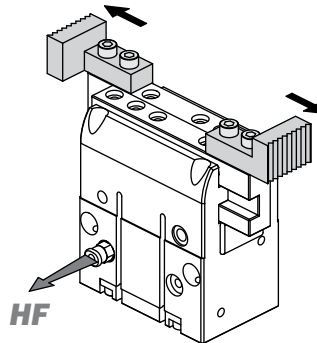
Normally open with outside gripping



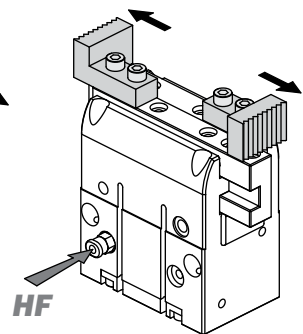
Normally closed with outside gripping



Normally open with inside gripping



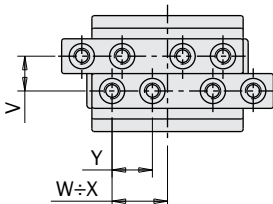
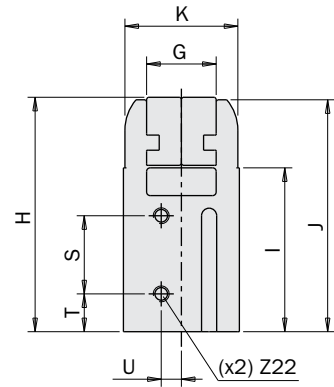
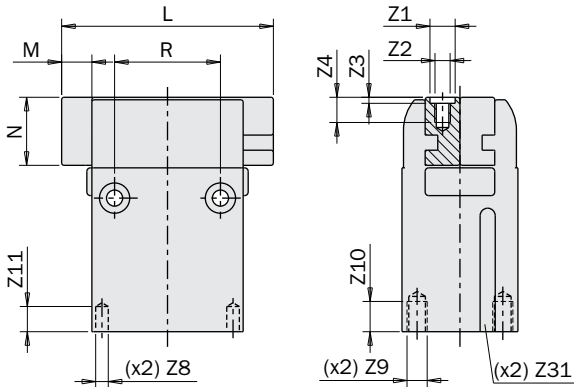
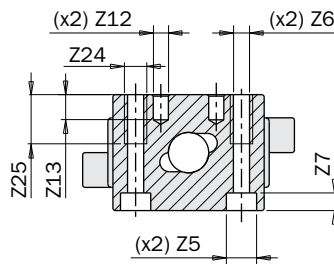
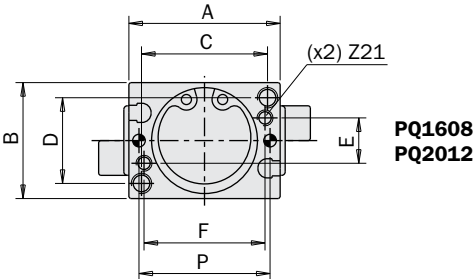
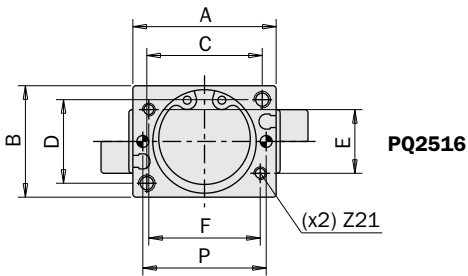
Normally closed with inside gripping



Dimensions (mm)

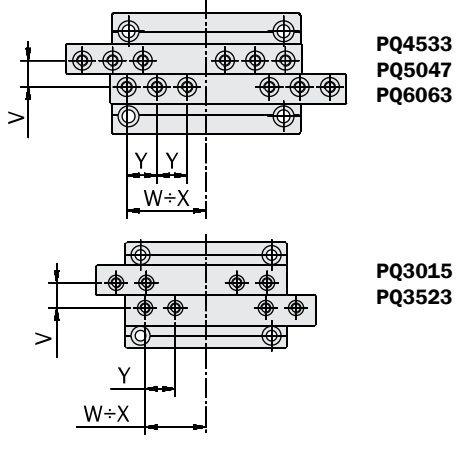
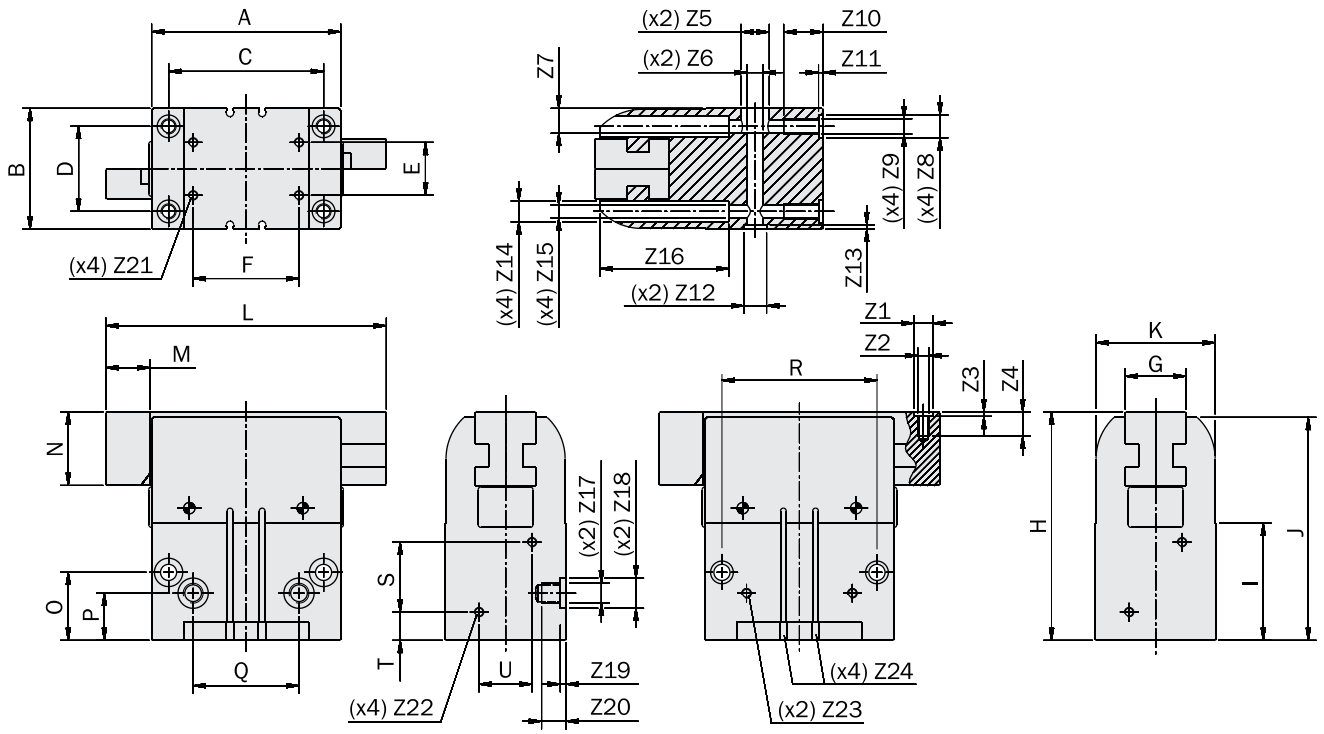
- Z1** Spot face for the centering sleeve of the gripping tool
- Z2** Threaded hole for the gripping tool fastening
- Z6** Through hole for the gripper side fastening
- Z9** Threaded hole for the gripper fastening on the bottom
- Z12** Spot face for the centering sleeve of the gripper body
- Z21** Ports for direct air supply from the bottom
- Z22** Air supply ports
- Z23** Air supply ports
- Z31** Magnetic sensor slots

|          | PQ1608 | PQ2012  | PQ2516 |
|----------|--------|---------|--------|
| A        | 24     | 30      | 36     |
| B        | 18     | 23      | 28     |
| C±0.02   | 20     | 25      | 29     |
| D±0.02   | 14     | 17      | 21     |
| E        | 6.6    | 8       | 16     |
| F        | 20     | 25      | 28     |
| G        | 11     | 13.8    | 16     |
| H        | 44     | 46.5    | 57     |
| I        | 32.5   | 32.5    | 37.5   |
| J        | 43.5   | 46      | 56     |
| K        | 17.5   | 22.4    | 27     |
| L        | 32     | 42      | 52     |
| M        | 4      | 6       | 8      |
| N        | 11     | 13.5    | 18     |
| O±0.02   | 26     | 26.5    | 28.5   |
| P        | 21     | 26      | 31     |
| Q        | 7.5    | 8.5     | 11     |
| R±0.02   | 17     | 21      | 24     |
| S        | 13.5   | 15.3    | 16     |
| T        | 7      | 7.5     | 8      |
| U        | 3.7    | 4       | 8      |
| V        | 5.5    | 6.9     | 8      |
| W        | 13     | 17      | 21     |
| X        | 9      | 11      | 13     |
| Y±0.02   | 6      | 8       | 9      |
| Z1       | Ø5 H8  | Ø5 H8   | Ø6 H8  |
| Z2       | M3     | M3      | M4     |
| Z3       | 1.2    | 1.2     | 2.5    |
| Z4       | 4      | 5       | 7.5    |
| Z5       | Ø5     | Ø6      | Ø6     |
| Z6       | Ø2.6   | Ø3.2    | Ø3.2   |
| Z7       | 3      | 3.5     | 3.5    |
| Z8       | Ø2 H7  | Ø2.5 H7 | Ø3 H7  |
| Z9       | M3     | M4      | M4     |
| Z10      | 5      | 6       | 6      |
| Z11      | 3      | 5       | 5      |
| Z12      | Ø2 H7  | Ø2.5 H7 | Ø3 H7  |
| Z13      | 3      | 5       | 5      |
| Z21      | M2     | M2.5    | M3     |
| Z22      | M3     | M3      | M5     |
| Z23      | M2.5   | M3      | M3     |
| Z24      | M3     | M4      | M4     |
| Z25      | 7      | 7       | 7      |
| Z30±0.02 | 9      | 11      | 12     |





**Dimensions (mm)**



|         | PQ3015 | PQ3523 | PQ4533 | PQ5047 | PQ6063 |
|---------|--------|--------|--------|--------|--------|
| A       | 50     | 64     | 80     | 100    | 125    |
| B       | 38     | 42     | 50     | 64     | 80     |
| C ±0.02 | 42     | 52     | 66     | 82     | 100    |
| D ±0.02 | 27     | 32     | 38     | 45     | 56     |
| E       | 20     | 18     | 26     | 28     | 34     |
| F       | 28     | 36     | 44     | 56     | 70     |
| G       | 20     | 24     | 28     | 32     | 42     |
| H       | 55     | 70     | 93     | 121    | 156    |
| I       | 30     | 38     | 45     | 62     | 85     |
| J       | 53     | 68     | 90     | 118    | 153    |
| K       | 37.6   | 41.6   | 49     | 63     | 79     |
| L       | 65.5   | 87.5   | 118.5  | 148.5  | 191.5  |
| M       | 7.5    | 11.5   | 16.5   | 23.5   | 31.5   |
| N       | 18     | 22     | 33     | 39     | 45     |
| O ±0.02 | 25     | 22     | 34     | 36     | 55     |
| P       | 17     | 25     | 24     | 25     | 40     |
| Q       | 28     | 35     | 44     | 56     | 70     |
| R ±0.02 | 42     | 52     | 66     | 82     | 100    |
| S       | -      | -      | -      | 37     | 44     |
| T       | -      | -      | -      | 15     | 24     |
| U       | -      | -      | -      | 28     | 34     |
| V       | 8      | 10     | 12     | 14     | 16     |
| W       | 24.8   | 35.7   | 52.2   | 65.6   | 79.8   |
| X       | 17.3   | 24.2   | 35.7   | 42     | 48.3   |
| Y ±0.02 | 10     | 12     | 14     | 16     | 20     |
| Z1      | Ø5 H8  | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 |
| Z2      | M3     | M4     | M5     | M6     | M6     |
| Z3      | 1.2    | 2.5    | 2.5    | 2.5    | 2.5    |
| Z4      | 7.2    | 9.5    | 11.5   | 13     | 12.5   |
| Z5      | Ø6     | Ø9     | Ø11    | Ø15    | Ø15    |
| Z6      | Ø3.5   | Ø5.2   | Ø6.6   | Ø8.5   | Ø8.5   |
| Z7      | 10     | 10     | 9      | 13.2   | 17     |
| Z8      | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 | Ø12 H8 |
| Z9      | M4     | M5     | M6     | M8     | M8     |
| Z10     | 10.5   | 14     | 18     | 21     | 22.5   |
| Z11     | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    |
| Z12     | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 | Ø12 H8 |
| Z13     | 2.5    | 2.5    | 2.5    | 2.5    | 2.5    |
| Z14     | Ø6     | Ø7.5   | Ø9     | Ø11    | Ø11    |
| Z15     | Ø3.3   | Ø4.2   | Ø5     | Ø6.8   | Ø6.8   |
| Z16     | 22     | 38     | 45     | 68     | 82     |
| Z17     | M5     | M5     | M5     | G1/8"  | G1/8"  |
| Z18     | -      | -      | Ø10    | Ø16    | Ø18    |
| Z19     | -      | -      | 2.5    | 3      | 3      |
| Z20     | 5      | 5      | 9.3    | 13     | 16.3   |
| Z21     | M3     | M4     | M5     | M5     | M5     |
| Z22     | -      | -      | -      | M5     | M5     |
| Z23     | M5     | M5     | M5     | M5     | M5     |

- Z1** Spot face for the centering sleeve of the gripping tool
- Z2** Threaded hole for the gripping tool fastening
- Z6** Through hole for the gripper side fastening
- Z9** Threaded hole for the gripper fastening on the bottom
- Z12** Spot face for the centering sleeve of the gripper body
- Z15** Through hole for the gripper fastening on the bottom
- Z17** Main port for air fittings
- Z21** Ports for direct air supply from the bottom
- Z22** Air supply ports
- Z23** Air supply ports
- Z24** Magnetic sensor slots

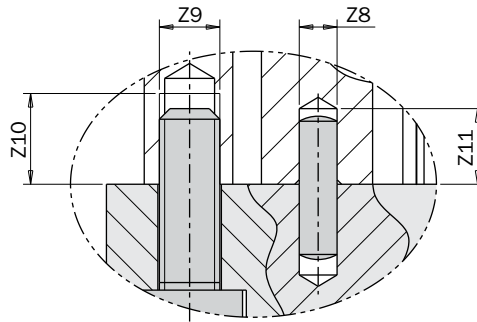
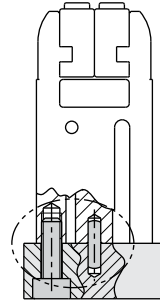
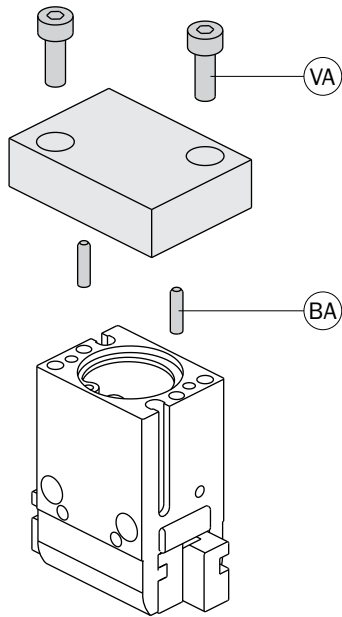
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

### Gripper fastening

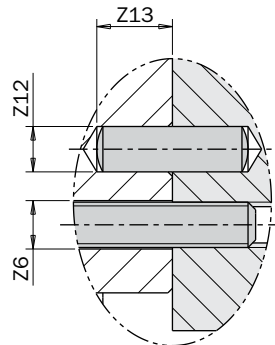
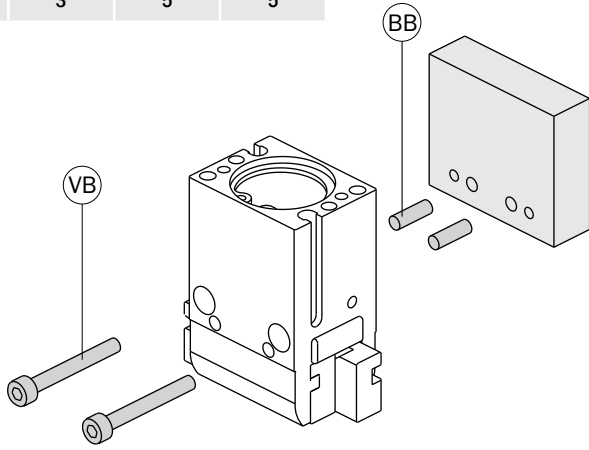
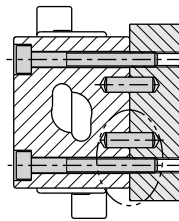
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected.

The gripper can be mounted from the bottom using two screws (VA) and two dowel pins (BA).

It can also be mounted on the side using two screws (VB) and two dowel pins (BB).



|     | PQ1608  | PQ2012  | PQ2516 |
|-----|---------|---------|--------|
| Z6  | Ø2.6    | Ø3.2    | Ø3.2   |
| Z8  | Ø2 H7   | Ø2.5 H7 | Ø3 H7  |
| Z9  | M3      | M4      | M4     |
| Z10 | 5       | 6       | 6      |
| Z11 | 3       | 5       | 5      |
| Z12 | Ø2.5 H7 | Ø3 H7   | Ø3 H7  |
| Z13 | 3       | 5       | 5      |



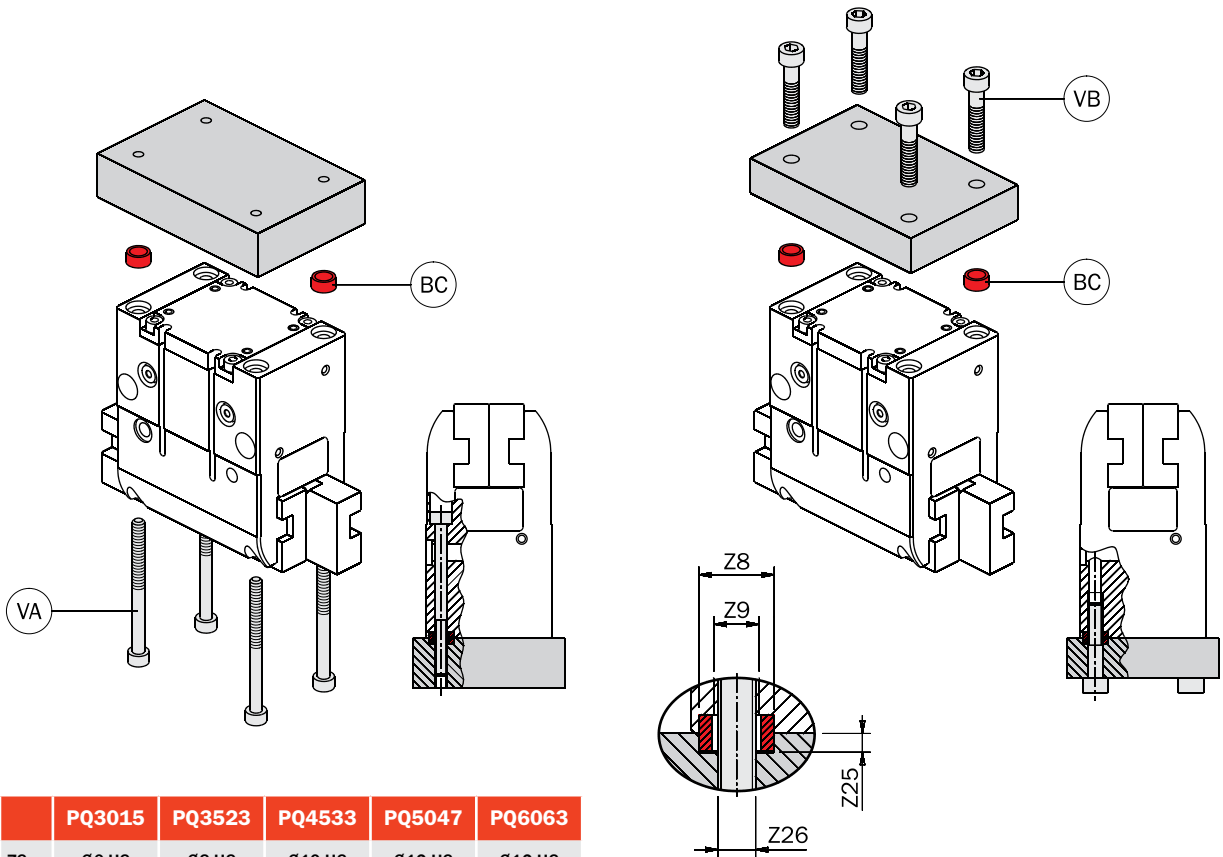
**Gripper fastening**

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.

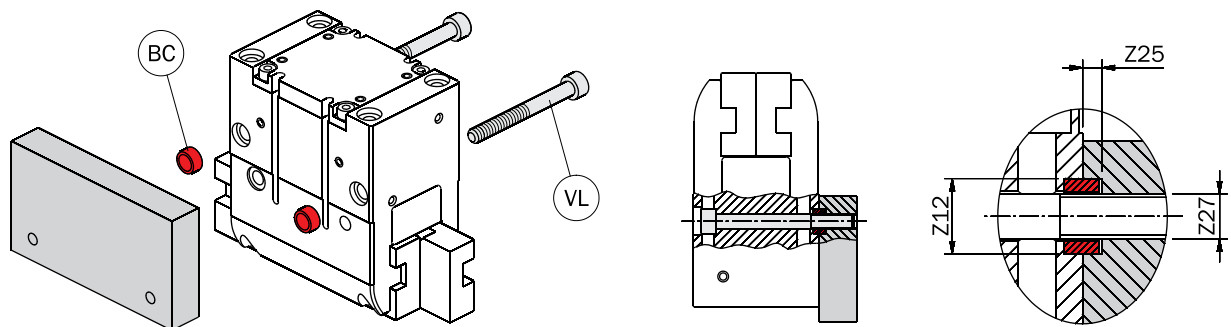
The gripper can be fastened either from the top or from the bottom.

4 centering sleeves for the gripping tools (BD) and 2 centering sleeves for the body (BC) are supplied in the package.

The gripper can also be fastened on one side by 2 screws (VL) and 2 centering sleeves (BC).



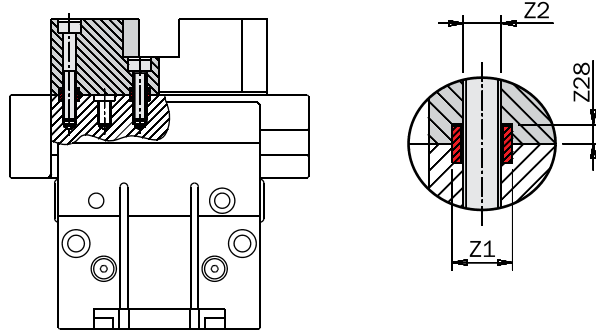
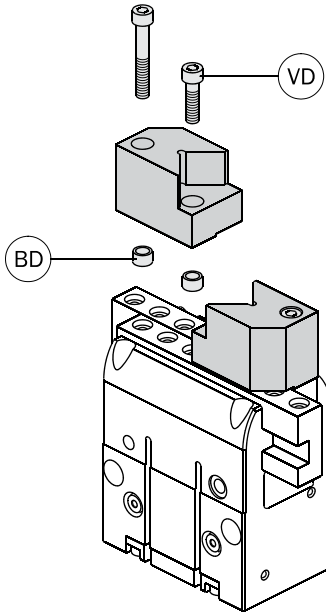
|     | PQ3015 | PQ3523 | PQ4533 | PQ5047 | PQ6063 |
|-----|--------|--------|--------|--------|--------|
| Z8  | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 | Ø12 H8 |
| Z9  | M4     | M5     | M6     | M8     | M8     |
| Z12 | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 | Ø12 H8 |
| Z25 | 2.8    | 2.5    | 2.5    | 2.5    | 2.5    |
| Z26 | M3     | M4     | M5     | M6     | M6     |
| Z27 | M3     | M5     | M6     | M8     | M8     |



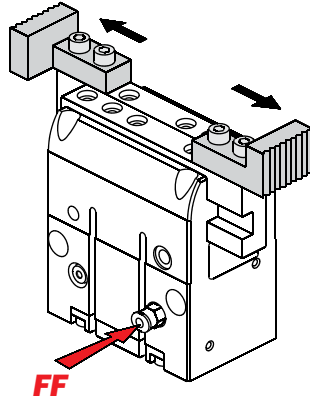
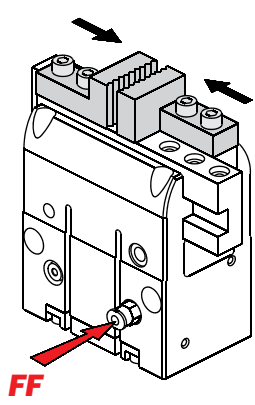
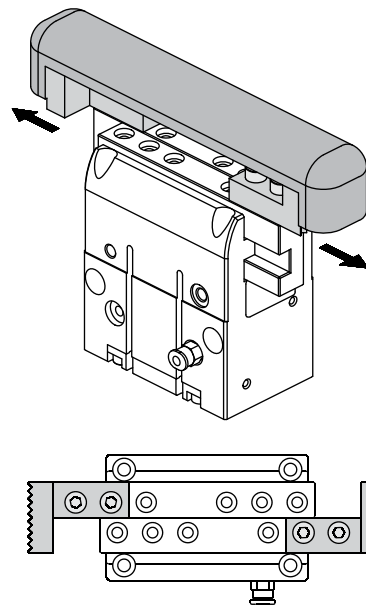
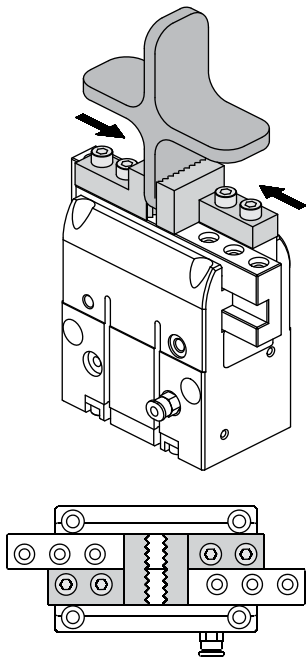
### Fitting the gripping tools

The gripping tools must be as short and light as possible. They must be fastened by 2 screws (VD) and 2 centering sleeves (BD).

To achieve the maximum gripping force, the gripping tools should be fastened as shown in the pictures below, depending on whether the gripper is used for outside or inside gripping.



|     | PQ1608 | PQ2012 | PQ2516 | PQ3015 | PQ3523 | PQ4533 | PQ5047 | PQ6063 |
|-----|--------|--------|--------|--------|--------|--------|--------|--------|
| Z1  | Ø5 H8  | Ø5 H8  | Ø6 H8  | Ø5 H8  | Ø6 H8  | Ø8 H8  | Ø10 H8 | Ø12 H8 |
| Z2  | M3     | M3     | M4     | M3     | M4     | M5     | M6     | M6     |
| Z28 | 1.2    | 1.2    | 2.5    | 1.2    | 2.8    | 2.5    | 2.5    | 2.5    |

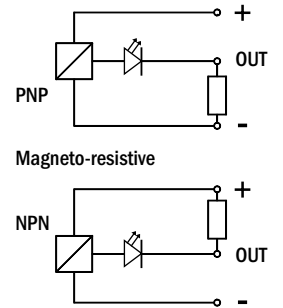


**Sensors**

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.

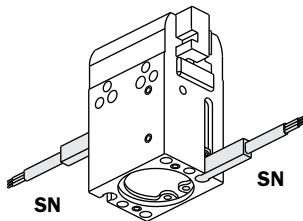
The sensors that can be used are:

|          |     |                        |         | PQ16<br>PQ20<br>PQ25 | PQ30  | PQ35<br>PQ45<br>PQ50<br>PQ60 |
|----------|-----|------------------------|---------|----------------------|-------|------------------------------|
| 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) | ☑                            |
| SS4M225G | NPN | 2.5m cable             | \$27.20 | ☐                    | ☑ (1) | ☑                            |
| SS3N203G | PNP | M8 snap plug connector | \$31.16 | ☐                    | ☑ (1) | ☑                            |
| SS3M203G | NPN | M8 snap plug connector | \$31.16 | ☐                    | ☑ (1) | ☑                            |

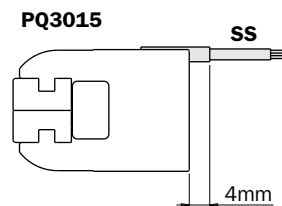
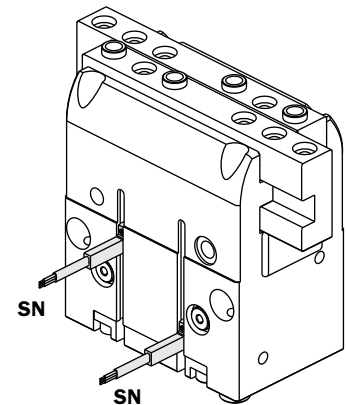
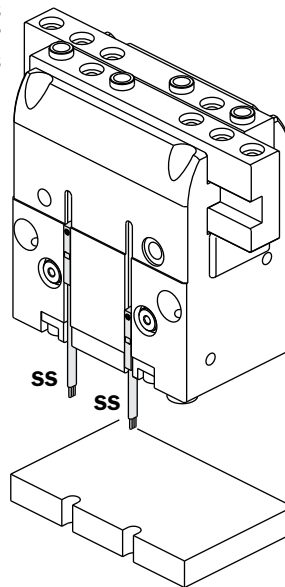


They are all provided with a 3-wire flat cable and a LED.

**PQ1608  
PQ2012  
PQ2516**



**PQ3015  
PQ3523  
PQ4533  
PQ5047  
PQ6063**



(1) On the PQ3015 the SS sensors protude 4mm.

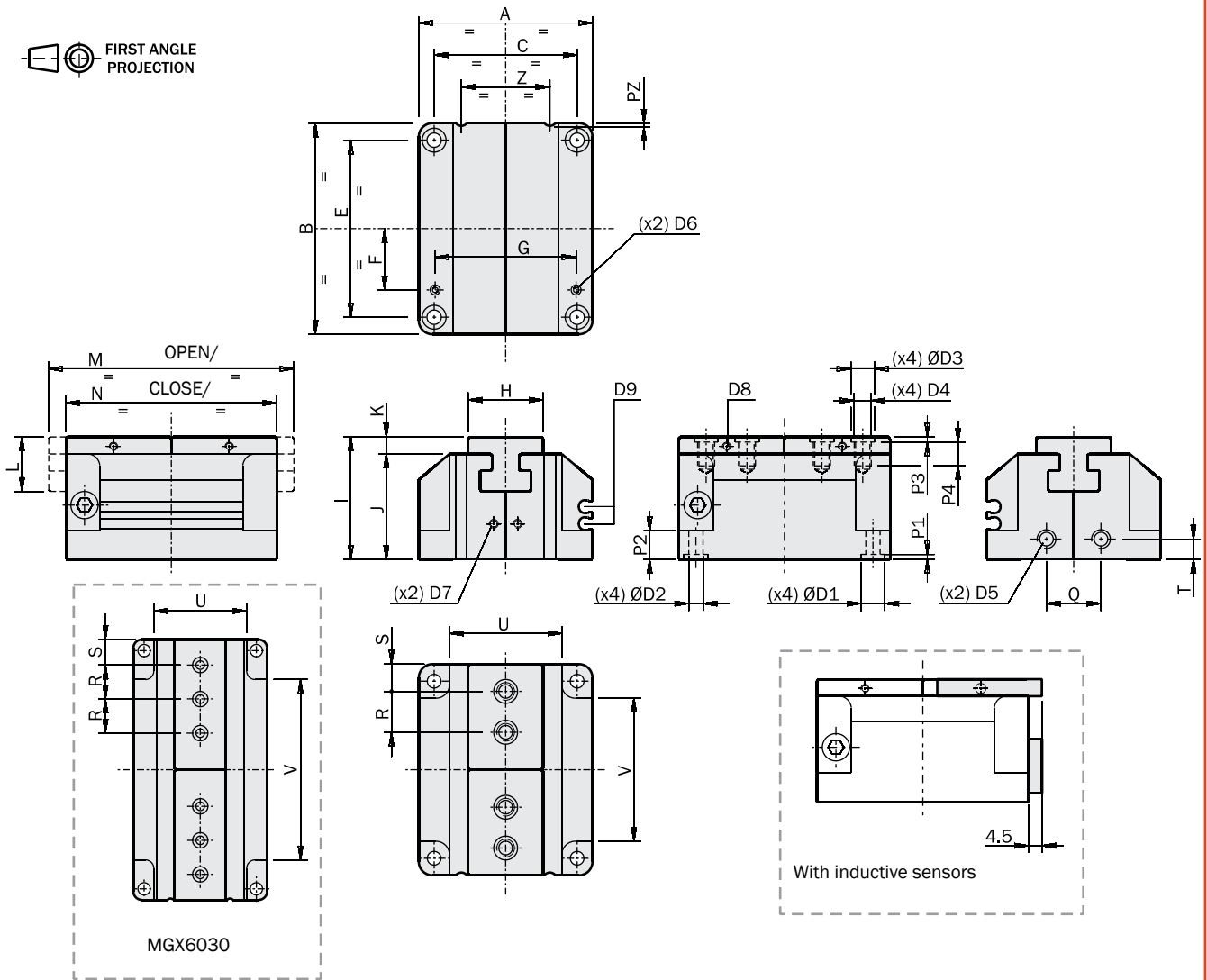
## 2-jaw parallel self-centering pneumatic gripper series MGX

- Flat profile.
- Robust guide.
- High gripping force.
- Small weight and dimensions.
- High dimensional accuracy.
- Spring closed (-NC) or spring open (-NO) option.
- FDA-H1 food-grade grease.



|                                     | MGX2005   | MGX2508            | MGX3210            | MGX3214            | MGX4015            | MGX5020            | MGX6030             |
|-------------------------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |                     |
| Operating pressure range            | 1.5 ÷ 8 bar   |                    |                    |                    |                    |                    |                     |
| Operating temperature range         | 5° ÷ 50°C.  |                    |                    |                    |                    |                    |                     |
| Gripping force at 6 bar on each jaw | 90 N  | 145 N              | 230 N              | 160 N              | 375 N              | 650 N              | 830 N               |
| Total gripping force at 6 bar       | 180 N   | 290 N              | 460 N              | 320 N              | 750 N              | 1300 N             | 1660 N              |
| Total stroke                        | 5 mm  | 8 mm               | 10 mm              | 14.6 mm            | 15 mm              | 20 mm              | 30 mm               |
| Maximum working frequency           | 3 Hz  | 3 Hz               | 3 Hz               | 3 Hz               | 2 Hz               | 2 Hz               | 2 Hz                |
| Cycle air consumption               | 5 cm <sup>3</sup>   | 10 cm <sup>3</sup> | 22 cm <sup>3</sup> | 22 cm <sup>3</sup> | 48 cm <sup>3</sup> | 86 cm <sup>3</sup> | 169 cm <sup>3</sup> |
| Opening / Closing time without load | 7 ms  | 10 ms              | 20 ms              | 20 ms              | 50 ms              | 70 ms              | 140 ms              |
| Repetition accuracy                 | 0.02 mm   | 0.02 mm            | 0.02 mm            | 0.02 mm            | 0.02 mm            | 0.02 mm            | 0.02 mm             |
| Weight                              | 95 g  | 150 g              | 270 g              | 270 g              | 545 g              | 900 g              | 1525 g              |

**Dimensions (mm)**



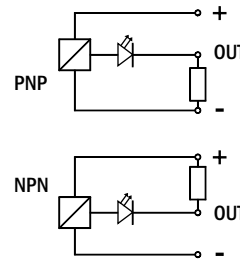
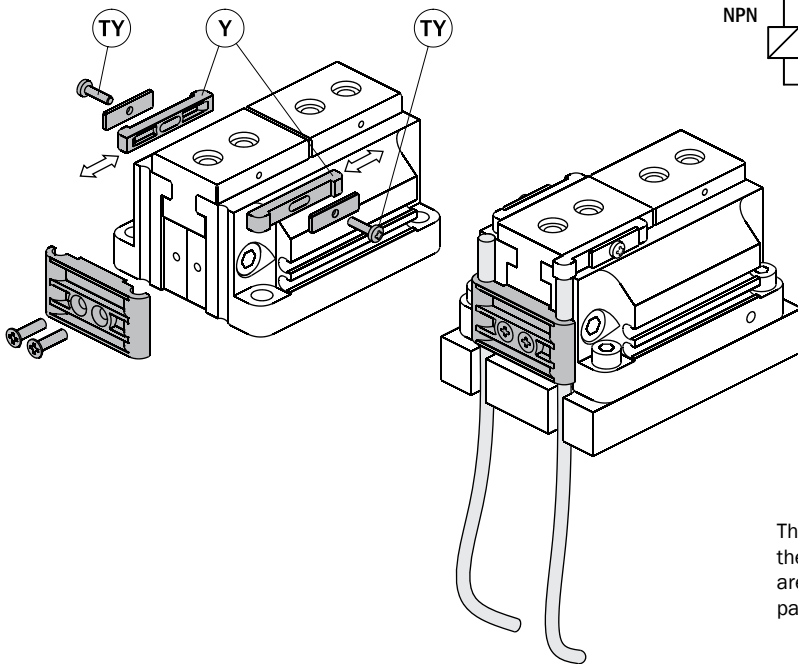
|    |       | MGX2005 | MGX2508 | MGX3210 | MGX3214 | MGX4015 | MGX5020 | MGX6030 |
|----|-------|---------|---------|---------|---------|---------|---------|---------|
| A  |       | 35.8    | 42      | 51      | 51      | 61.2    | 70      | 78.6    |
| B  |       | 44      | 55      | 62      | 62      | 93      | 118     | 153     |
| C  | ±0.04 | 28.3    | 33      | 42      | 42      | 51      | 58      | 66      |
| D1 |       | Ø5 H7   | Ø7 H7   | Ø7 H7   | Ø7 H7   | Ø7 H7   | Ø9 H7   | Ø9 H7   |
| D2 |       | Ø3.2    | Ø4.2    | Ø4.2    | Ø4.2    | Ø5.2    | Ø6.2    | Ø6.2    |
| D3 |       | Ø5 H7   | Ø7 H7   | Ø7 H7   | Ø7 H7   | Ø9 H7   | Ø12 H7  | Ø9 H7   |
| D4 |       | M3      | M4      | M5      | M5      | M6      | M8      | M6      |
| D5 |       | M5      | M5      | M5      | M5      | M5      | G1/8"   | G1/8"   |
| D6 |       | M3      | M3      | M3      | M3      | M3      | M3      | M3      |
| E  | ±0.02 | 36.5    | 46      | 52      | 52      | 80      | 105     | 140     |
| F  |       | 12.5    | 15.5    | 18      | 18      | 27.5    | 37      | 43.5    |
| G  |       | 27.2    | 33.6    | 41.4    | 41.4    | 49.6    | 58.6    | 67.6    |
| H  | ±0.05 | 14      | 16      | 22      | 22      | 25      | 28      | 30      |
| I  |       | 26      | 28.5    | 36      | 36      | 42      | 49      | 58      |
| J  |       | 22      | 24      | 31      | 31      | 37      | 43      | 51      |
| K  |       | 4       | 4.5     | 5       | 5       | 5       | 6       | 7       |
| L  |       | 11.2    | 12.7    | 16      | 16      | 20      | 25      | 29      |
| M  |       | 49      | 63      | 72      | 76      | 108     | 138     | 183     |
| N  |       | 44      | 55      | 62      | 62      | 93      | 118     | 153     |
| P1 |       | 1.2     | 1.5     | 1.5     | 1.5     | 1.5     | 2       | 2       |
| P2 |       | 5.5     | 6       | 8.4     | 8.4     | 9       | 10      | 13.5    |
| P3 |       | 1.2     | 1.5     | 1.5     | 1.5     | 2       | 2.5     | 2.5     |
| P4 |       | 5       | 5.2     | 7       | 7       | 9       | 12      | 12      |
| Q  |       | 11      | 12      | 16      | 16      | 31.2    | 32      | 40      |
| R  | ±0.02 | 9       | 10      | 12      | 12      | 12      | 24      | 20      |
| S  |       | 5.5     | 6       | 8       | 8       | 12.5    | 14      | 15      |
| T  |       | 5.8     | 6       | 6       | 6       | 6       | 8       | 8       |
| U  |       | 20.8    | 24      | 33      | 33      | 41.2    | 46      | 54.6    |
| V  |       | 29      | 37      | 42      | 42      | 65      | 88      | 106     |
| Z  |       | 17      | 20      | 26      | 26      | 30      | 33      | 35      |
| PZ |       | 0.5     | 0.5     | 0.8     | 0.8     | 0.8     | 0.8     | 0.8     |

## Sensors

The operating position can be checked by magnetic sensors (optional), detecting the magnet of the piston, or by inductive sensors (optional), detecting the ball (SY) in the appendix (Y). Two adjustable appendices can be mounted on the jaw using the supplied screws (TY).  
Use 4mm diameter inductive sensors.

Ordering codes of the inductive sensors:

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

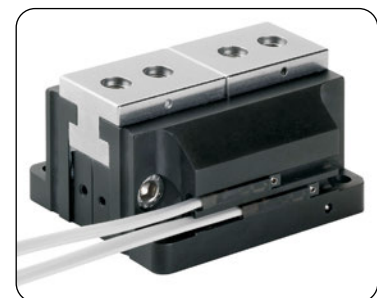
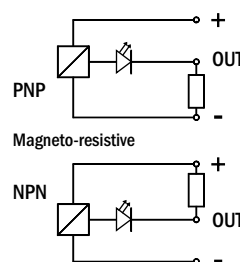


The accessories to fix the inductive sensors are supplied in the packaging.



The magnetic sensors from Gimatic are the codes:

| SS4N225-G | PNP | 2.5m cable             |
|-----------|-----|------------------------|
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |





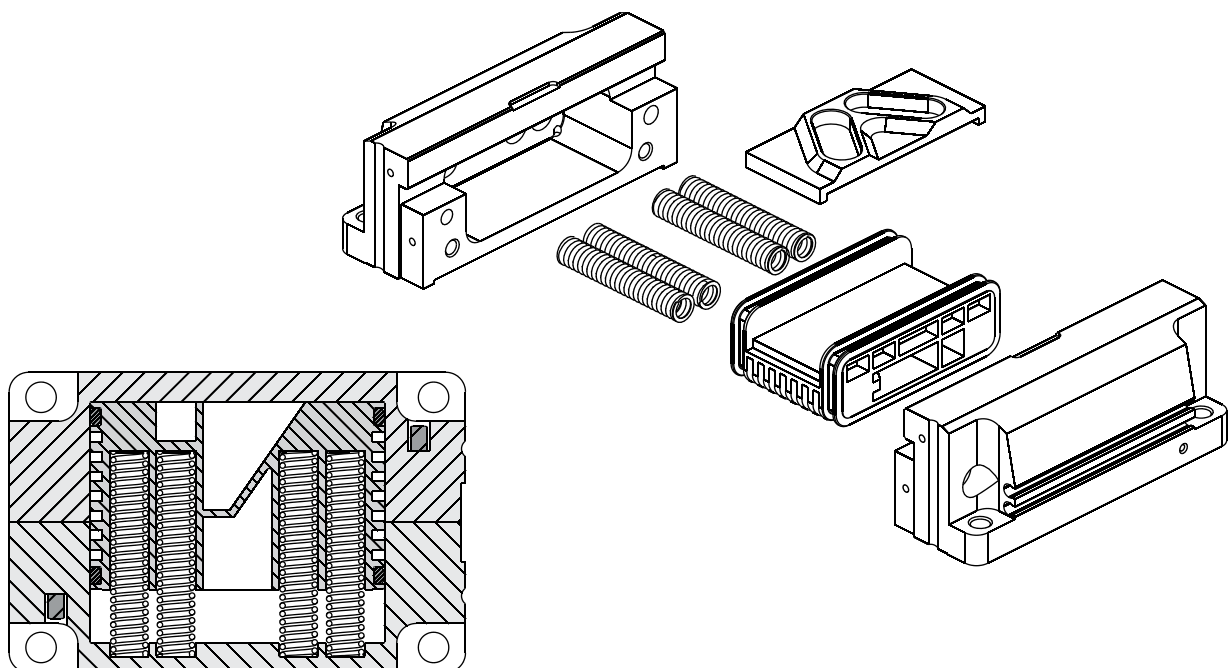
**Spring option**

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.

|                                 | MGX2005-NC | MGX2508-NC | MGX3210-NC | MGX3214-NC | MGX4015-NC | MGX5020-NC | MGX6030-NC  |
|---------------------------------|------------|------------|------------|------------|------------|------------|-------------|
| Closing force at 6 bar each jaw | 114÷121 N  | 179÷195 N  | 285÷306 N  | 199÷213 N  | 467÷510 N  | 792÷871 N  | 1016÷1110 N |
| Opening force at 6 bar each jaw | 59÷66 N    | 95÷111 N   | 154÷175 N  | 107÷122 N  | 240÷283 N  | 429÷508 N  | 550÷644 N   |
| Closing force at 0 bar each jaw | 24÷31 N    | 34÷50 N    | 55÷76 N    | 38÷53 N    | 92÷135 N   | 142÷221 N  | 186÷280 N   |
| Opening force at 0 bar each jaw | 0 N        | 0 N        | 0 N        | 0 N        | 0 N        | 0 N        | 0 N         |

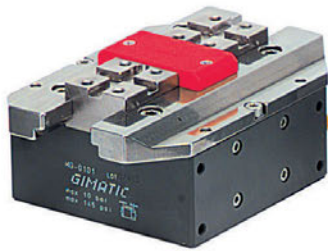
|                                 | MGX2005-NO | MGX2508-NO | MGX3210-NO | MGX3214-NO | MGX4015-NO | MGX5020-NO | MGX6030-NO  |
|---------------------------------|------------|------------|------------|------------|------------|------------|-------------|
| Closing force at 6 bar each jaw | 59÷66 N    | 95÷111 N   | 154÷175 N  | 107÷122 N  | 240÷283 N  | 429÷508 N  | 550÷644 N   |
| Opening force at 6 bar each jaw | 114÷121 N  | 179÷195 N  | 285÷306 N  | 199÷213 N  | 467÷510 N  | 792÷871 N  | 1016÷1110 N |
| Closing force at 0 bar each jaw | 0 N        | 0 N        | 0 N        | 0 N        | 0 N        | 0 N        | 0 N         |
| Opening force at 0 bar each jaw | 24÷31 N    | 34÷50 N    | 55÷76 N    | 38÷53 N    | 92÷135 N   | 142÷221 N  | 186÷280 N   |

In the spring versions the maximum gripping tool length should be 20% shorter.  
 In the spring versions the minimum operating pressure is 3.5bar.



**2-jaw parallel self-centering pneumatic gripper (series MG)**

- Double acting.
- The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.
- Wide choice of gripping force and stroke length options.
- The gripping force is constant on both directions along total stroke.
- Flat profile.
- Prepared for mounting inductive sensors.
- FDA-H1 food-grade grease.



MG-0100



MG-0101



MG-0102



MG-0103



MG-0075



MG-0076



MG-0077



MG-0050



MG-0051



MG-0052



MG-0025



MG-0026



MG-0027



MG-0010



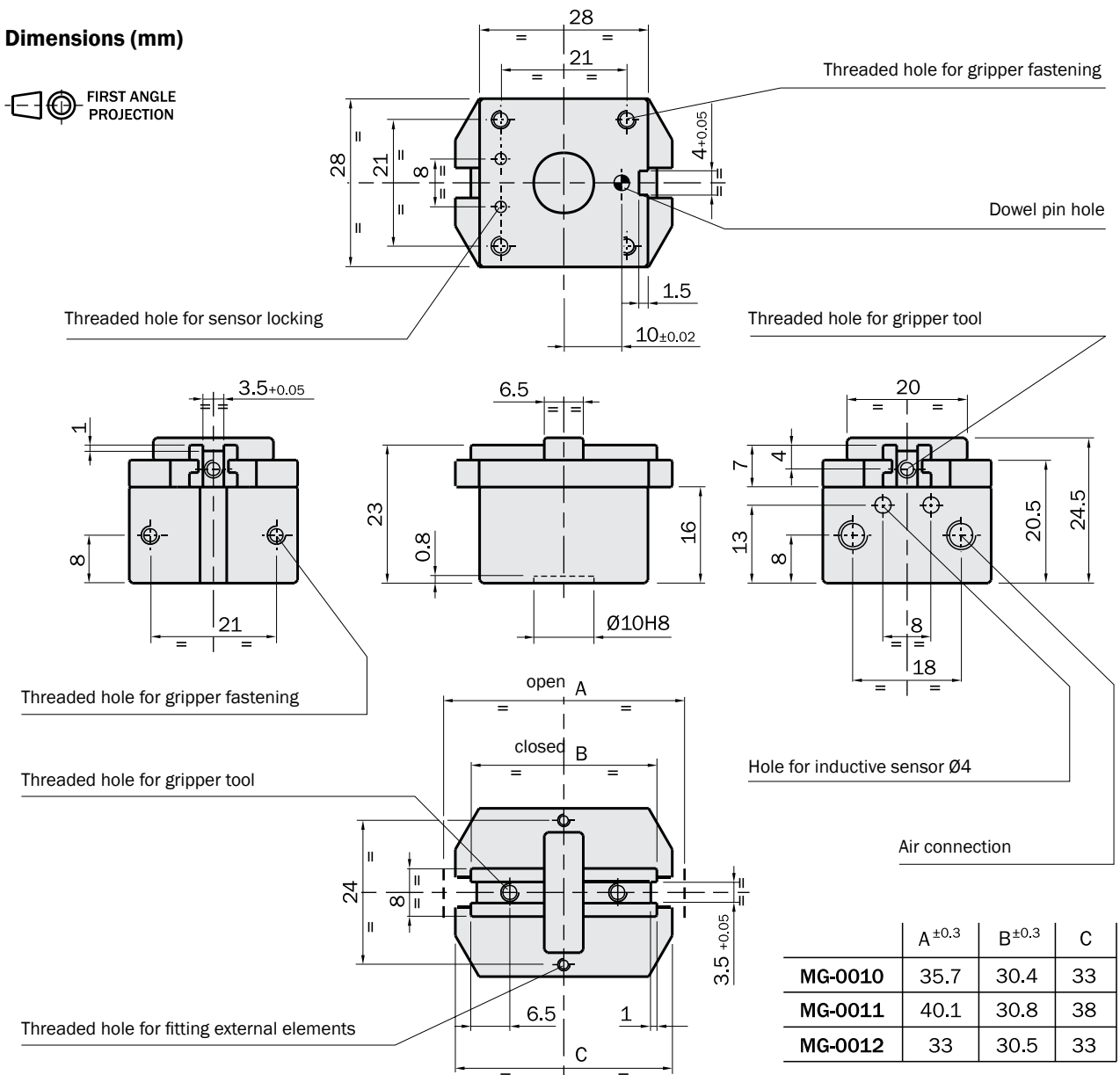
MG-0011



MG-0012

|                                     | MG-0010   | MG-0011 | MG-0012 |
|-------------------------------------|---|---------|---------|
| 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.  |         |         |
| Gripping force at 6 bar on each jaw | 35 N  | 18 N    | 70 N    |
| Total gripping force at 6 bar       | 70 N  | 36 N    | 140 N   |
| Total stroke                        | 5.3 mm  | 9.3 mm  | 2.5 mm  |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 1.5 cm <sup>3</sup>                                       |         |         |
| Closing time without load           | 0.03 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 60 g  | 65 g    | 60 g    |

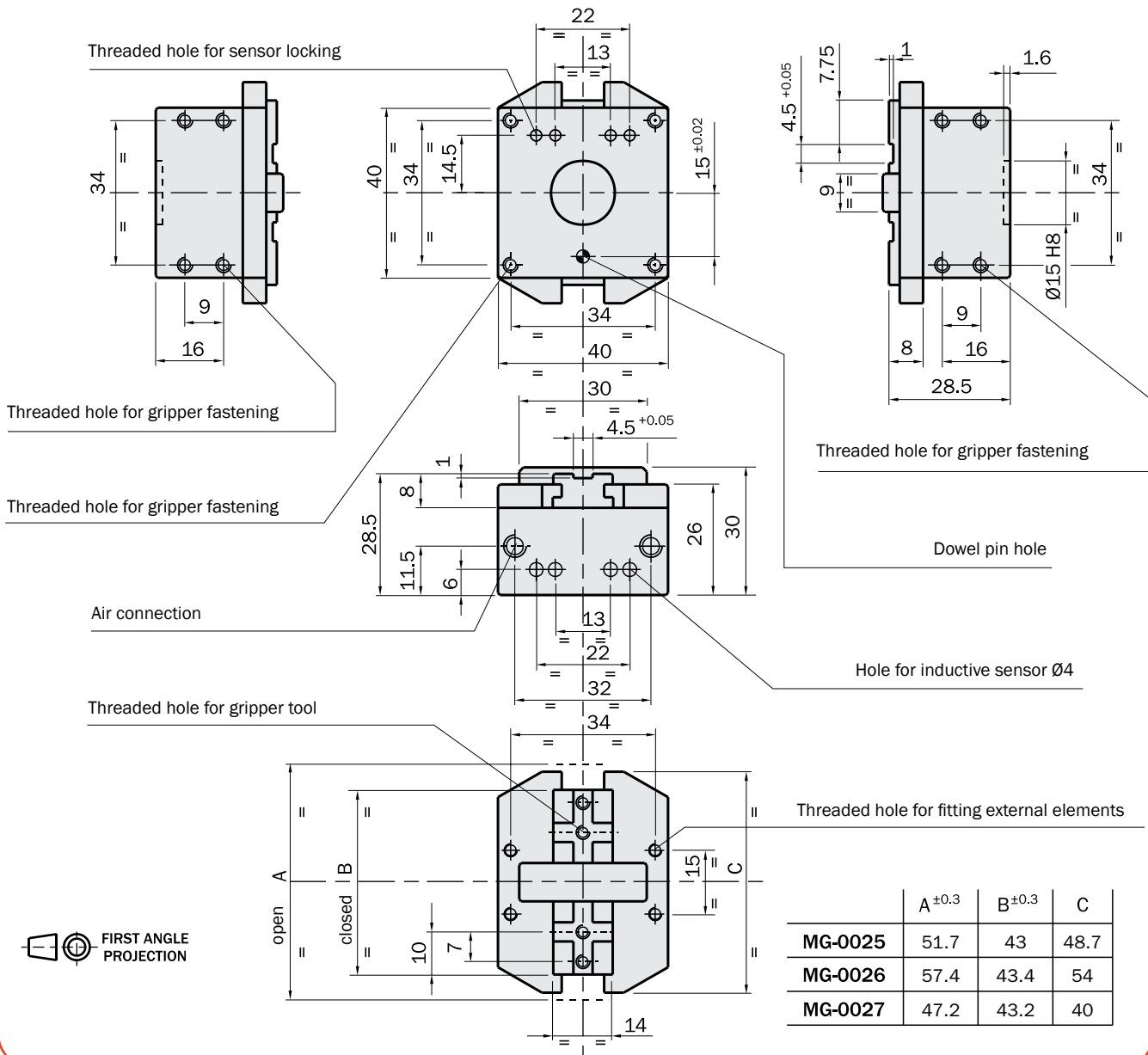
**Dimensions (mm)**



|         | A±0.3 | B±0.3 | C  |
|---------|-------|-------|----|
| MG-0010 | 35.7  | 30.4  | 33 |
| MG-0011 | 40.1  | 30.8  | 38 |
| MG-0012 | 33    | 30.5  | 33 |

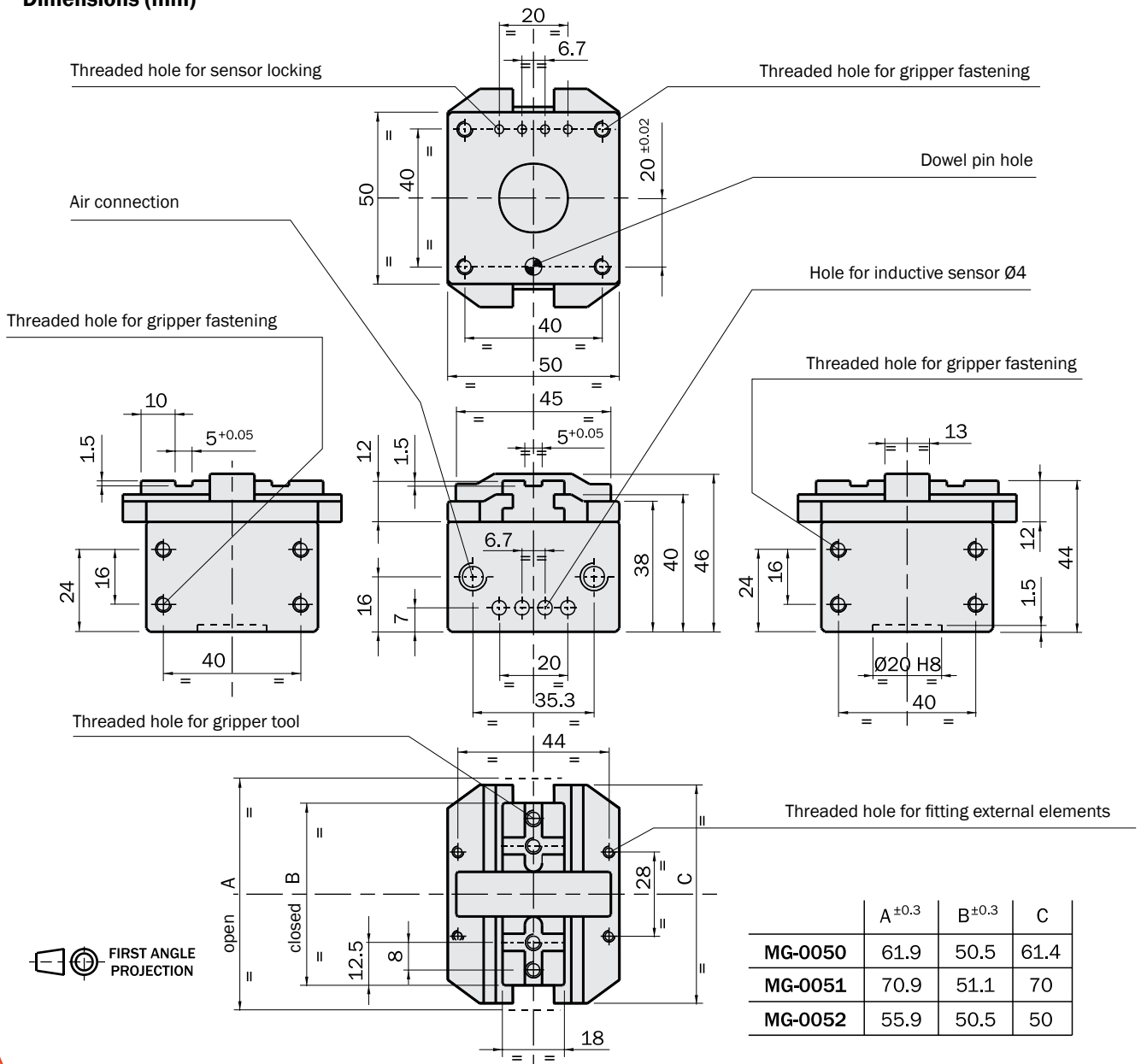
|                                     | MG-0025   | MG-0026 | MG-0027 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Operating pressure range            | 2÷8 bar   |         |         |
| Operating temperature range         | 5÷60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 70 N  | 40 N    | 130 N   |
| Total gripping force at 6 bar       | 140 N   | 80 N    | 260 N   |
| Total stroke                        | 8.7 mm  | 14 mm   | 4 mm    |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 3.4 cm <sup>3</sup>                                       |         |         |
| Closing time without load           | 0.05 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 160 g   | 170 g   | 150 g   |

**Dimensions (mm)**



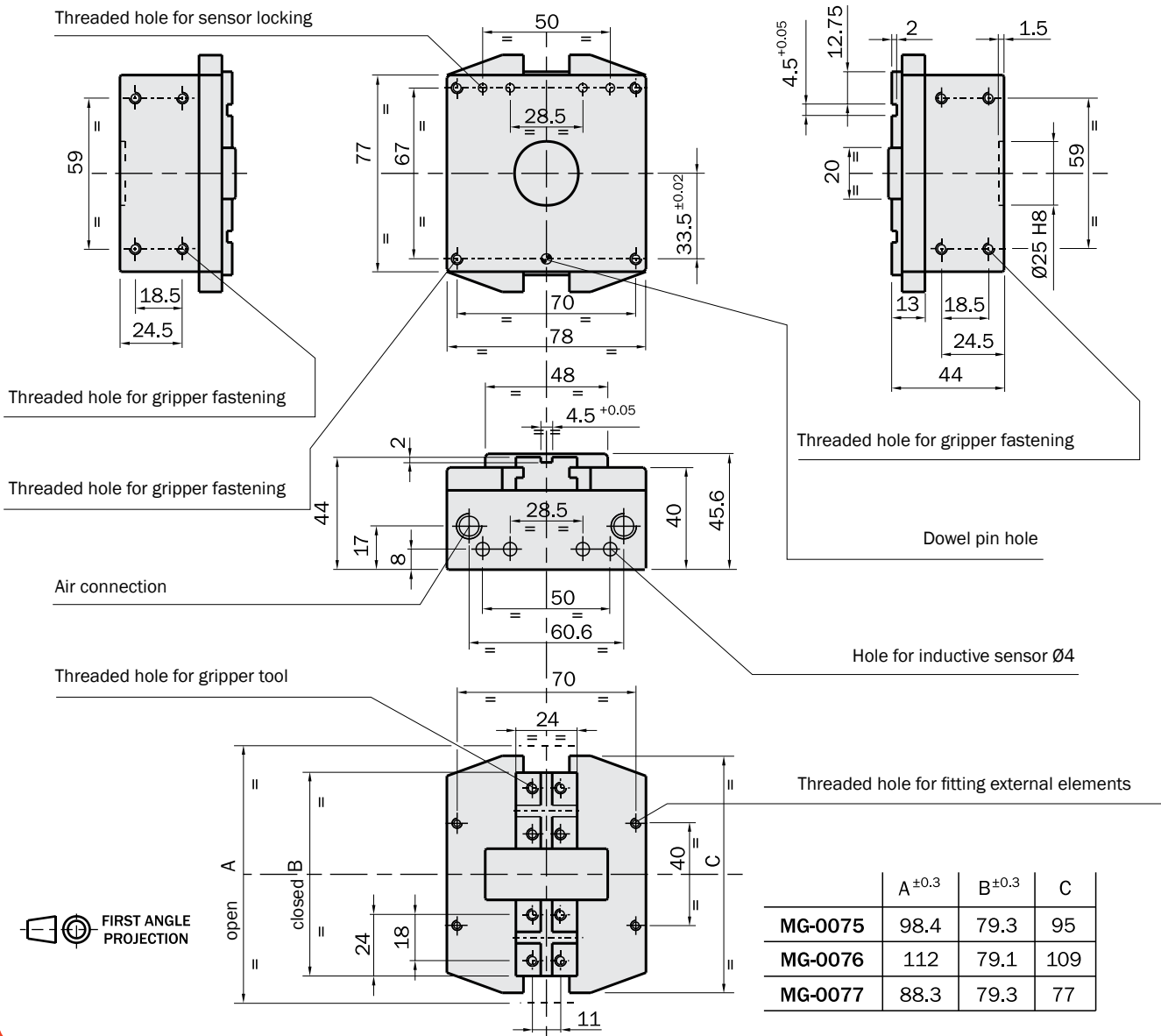
|                                     | MG-0050   | MG-0051 | MG-0052 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Operating pressure range            | 2÷8 bar   |         |         |
| Operating temperature range         | 5÷60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 160 N   | 90 N    | 300 N   |
| Total gripping force at 6 bar       | 320 N   | 180 N   | 600 N   |
| Total stroke                        | 11.4 mm   | 19.8 mm | 5.4 mm  |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 12 cm <sup>3</sup>  |         |         |
| Closing time without load           | 0.09 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 370 g   | 380 g   | 350 g   |

**Dimensions (mm)**



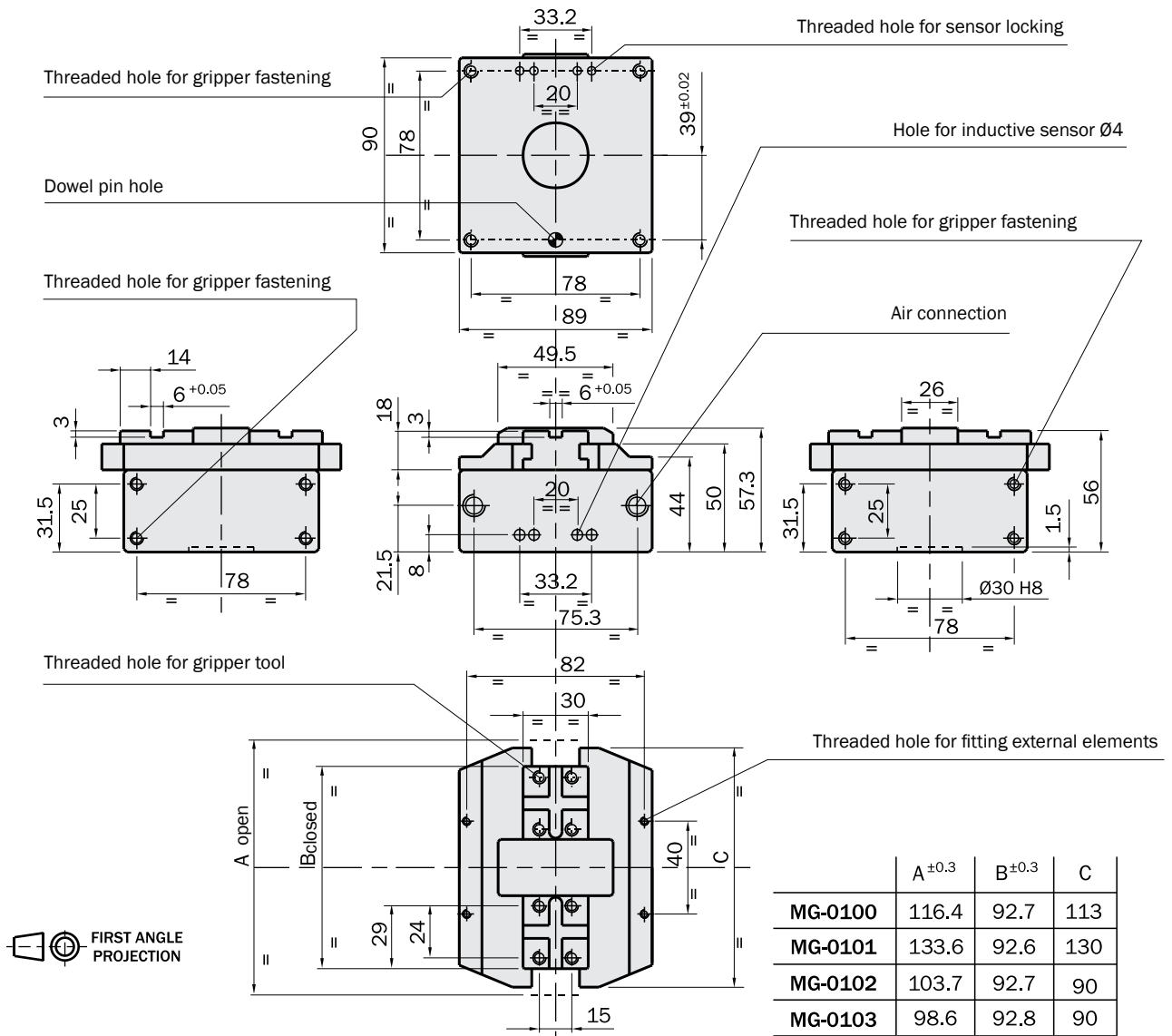
|                                     | MG-0075   | MG-0076 | MG-0077 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Operating pressure range            | 2÷8 bar   |         |         |
| Operating temperature range         | 5÷60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 250 N   | 160 N   | 540 N   |
| Total gripping force at 6 bar       | 500 N   | 320 N   | 1080 N  |
| Total stroke                        | 19.1 mm   | 32.9 mm | 9 mm    |
| Maximum working frequency           | 2 Hz  |         |         |
| Cycle air consumption               | 34 cm <sup>3</sup>  |         |         |
| Closing time without load           | 0.14 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 940 g   | 980 g   | 900 g   |

Dimensions (mm)



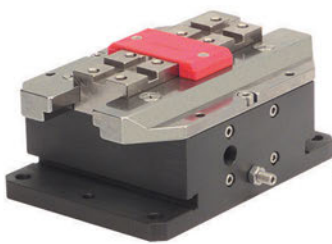
|                                     | MG-0100   | MG-0101 | MG-0102 | MG-0103 |
|-------------------------------------|---|---------|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |         |
| Operating pressure range            | 2÷8 bar   |         |         |         |
| Operating temperature range         | 5÷60 °C.  |         |         |         |
| Gripping force at 6 bar on each jaw | 450 N   | 210 N   | 770 N   | 1200 N  |
| Total gripping force at 6 bar       | 900 N   | 420 N   | 1540 N  | 2400 N  |
| Total stroke                        | 23.7 mm   | 41 mm   | 11 mm   | 5.8 mm  |
| Maximum working frequency           | 2 Hz  |         |         |         |
| Cycle air consumption               | 61 cm <sup>3</sup>  |         |         |         |
| Closing time without load           | 0.14 s  |         |         |         |
| Repetition accuracy                 | 0.02mm  |         |         |         |
| Weight                              | 1500 g  | 1600 g  | 1400 g  | 1400 g  |

**Dimensions (mm)**

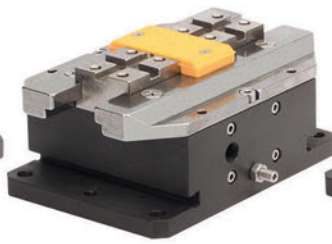


**2-jaw parallel self-centering pneumatic gripper (series GM)**

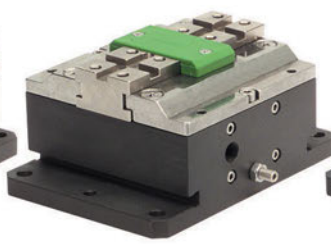
- Double acting.
- The rugged construction lends itself to heavy duty applications for a trouble free long life without maintenance.
- Wide choice of stroke length and gripping force options.
- The gripping force is constant on both directions along the total stroke.
- Flat profile.
- Easy fastening by through holes on the flange.
- Stroke adjustment.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



**GM-0100**



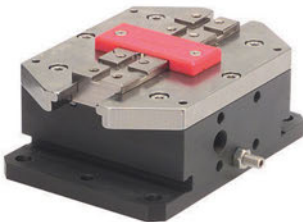
**GM-0101**



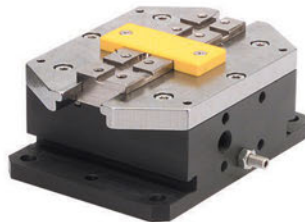
**GM-0102**



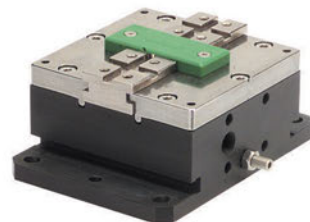
**GM-0103**



**GM-0075**



**GM-0076**



**GM-0077**



**GM-0050**



**GM-0051**



**GM-0052**



**GM-0025**



**GM-0026**



**GM-0027**



**GM-0010**



**GM-0011**

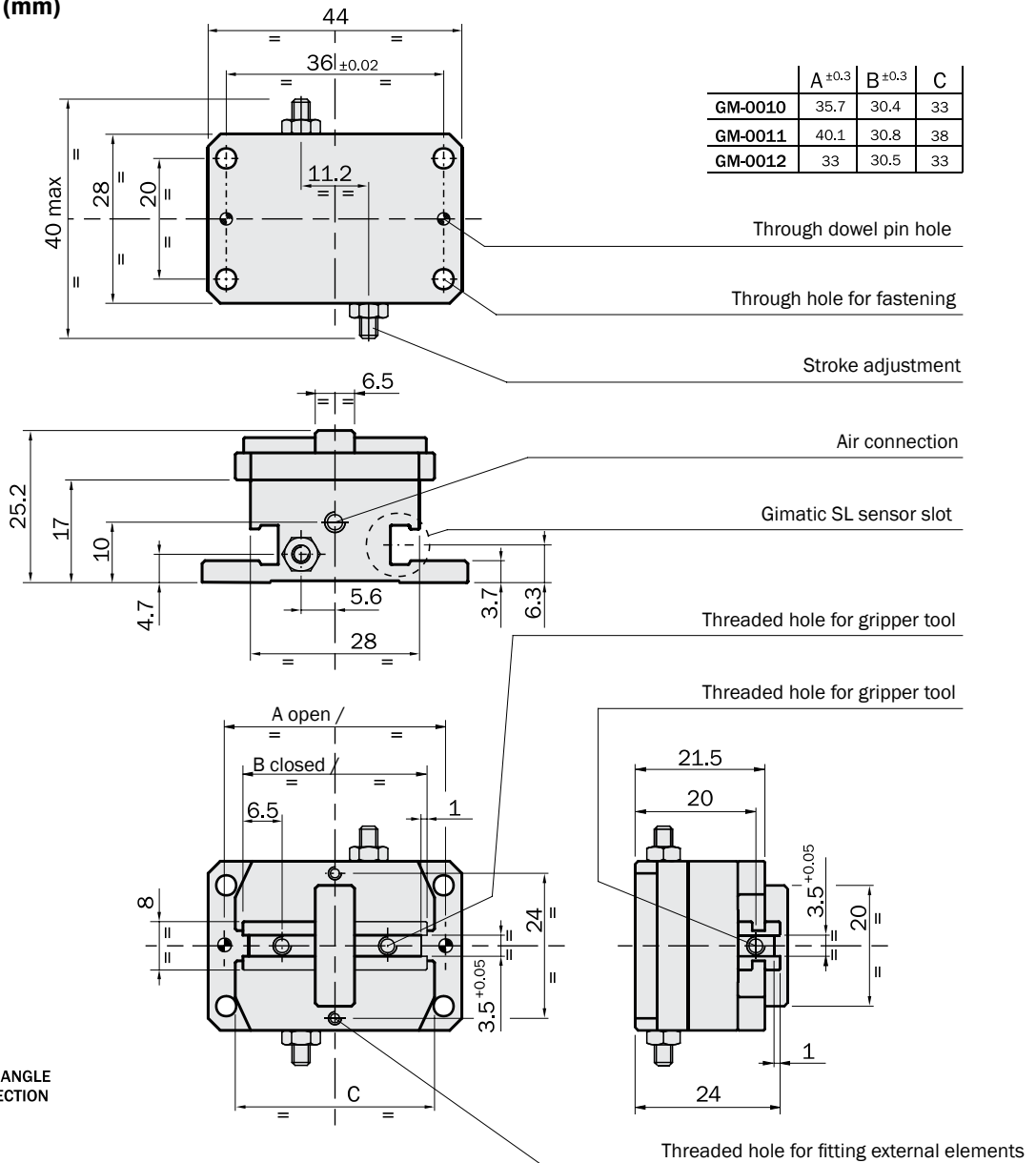


**GM-0012**



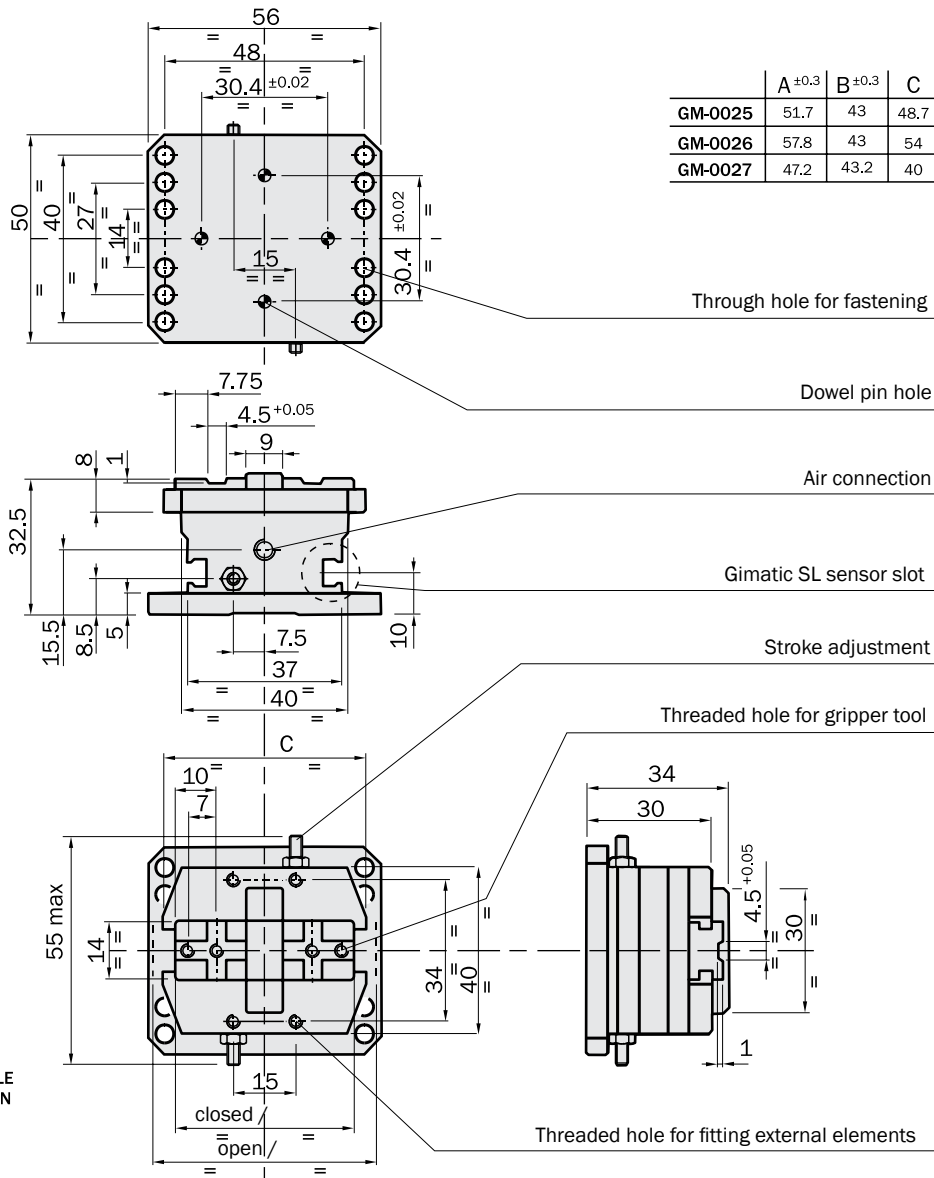
|                                     | GM-0010   | GM-0011 | GM-0012 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Pressure range                      | 2+8 bar   |         |         |
| Temperature range                   | 5+60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 35 N  | 18 N    | 70 N    |
| Total gripping force at 6 bar       | 70 N  | 36 N    | 140 N   |
| Total stroke                        | 5.3 mm  | 9.3 mm  | 2.5 mm  |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 1.5 cm <sup>3</sup>                                       |         |         |
| Closing time without load           | 0.03 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 70 g  | 75 g    | 70 g    |

**Dimensions (mm)**



|                                     | GM-0025   | GM-0026 | GM-0027 |
|-------------------------------------|---|---------|---------|
| 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.  |         |         |
| Gripping force at 6 bar on each jaw | 70 N  | 40 N    | 130 N   |
| Total gripping force at 6 bar       | 140 N   | 80 N    | 260 N   |
| Total stroke                        | 8.7 mm  | 14.8 mm | 4 mm    |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 3.4 cm <sup>3</sup>                                       |         |         |
| Closing time without load           | 0.05 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 200 g   | 210 g   | 190 g   |

Dimensions (mm)

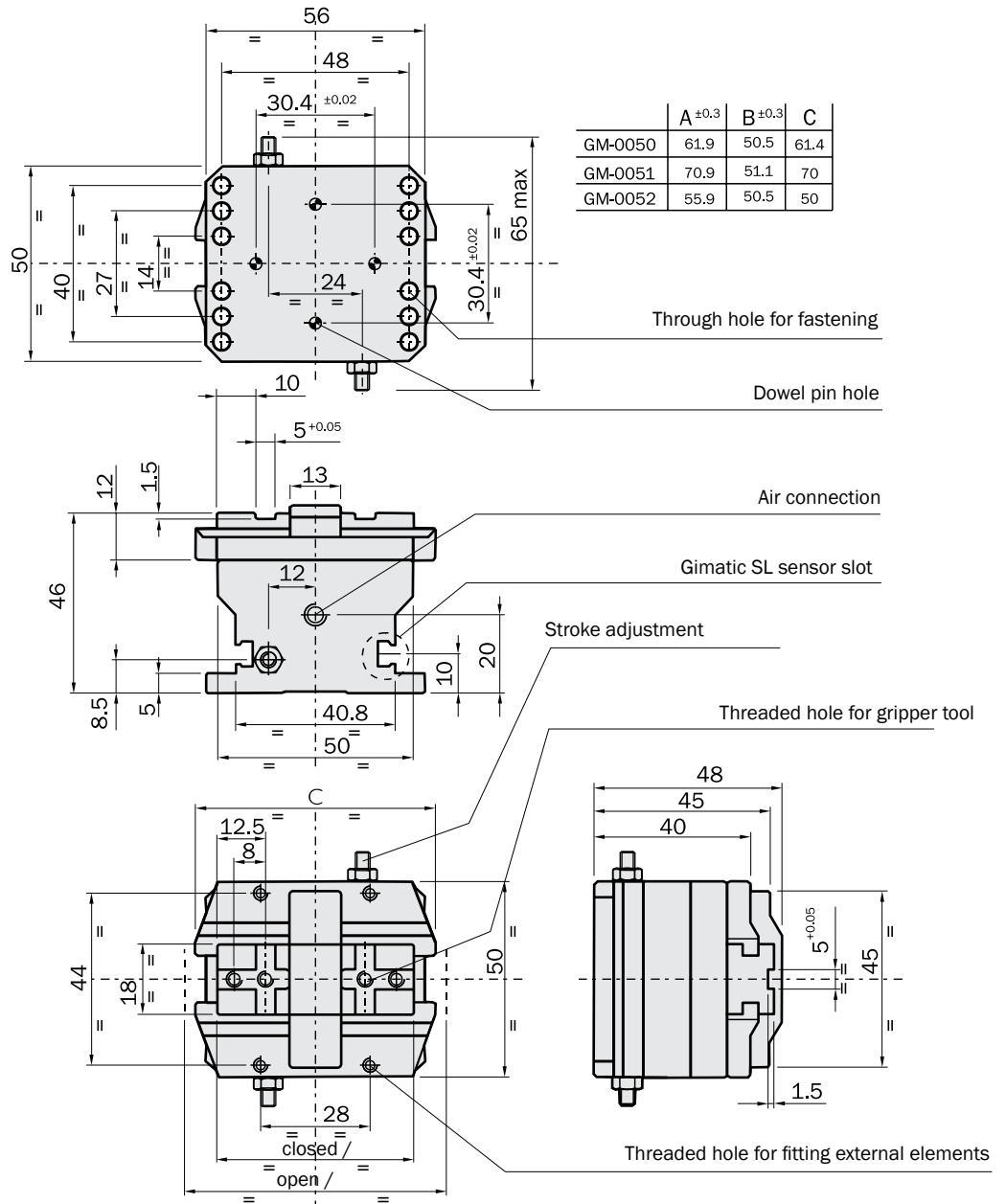


|         | A ±0.3 | B ±0.3 | C    |
|---------|--------|--------|------|
| GM-0025 | 51.7   | 43     | 48.7 |
| GM-0026 | 57.8   | 43     | 54   |
| GM-0027 | 47.2   | 43.2   | 40   |



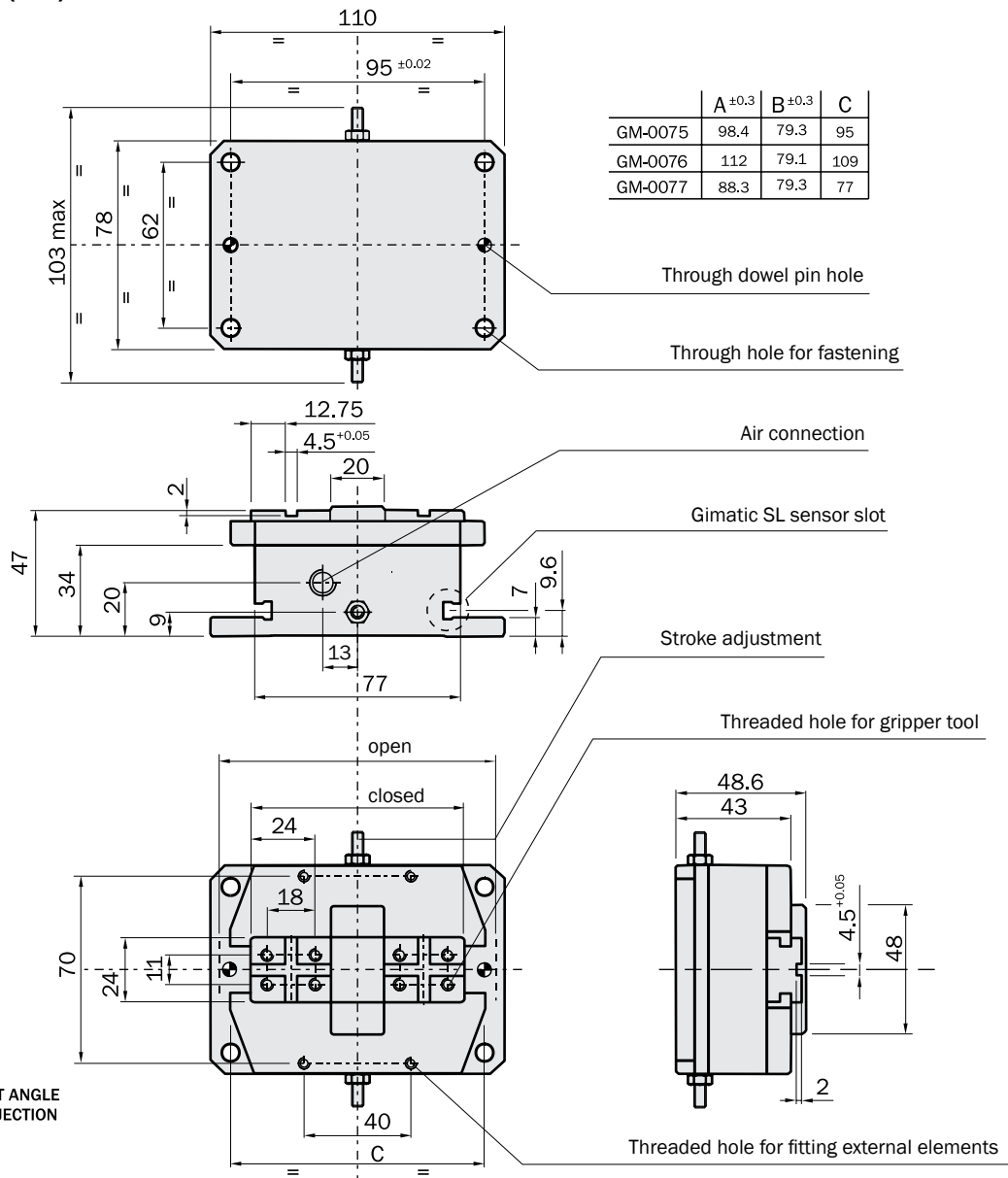
|                                     | GM-0050   | GM-0051 | GM-0052 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Pressure range                      | 2÷8 bar   |         |         |
| Temperature range                   | 5÷60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 160 N   | 90 N    | 300 N   |
| Total gripping force at 6 bar       | 320 N   | 180 N   | 600 N   |
| Total stroke                        | 11.4 mm   | 19.8 mm | 5.4 mm  |
| Maximum working frequency           | 3 Hz  |         |         |
| Cycle air consumption               | 12 cm <sup>3</sup>  |         |         |
| Closing time without load           | 0.09 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 370 g   | 380 g   | 350 g   |

**Dimensions (mm)**



|                                     | GM-0075   | GM-0076 | GM-0077 |
|-------------------------------------|---|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |
| Pressure range                      | 2÷8 bar   |         |         |
| Temperature range                   | 5÷60 °C.  |         |         |
| Gripping force at 6 bar on each jaw | 250 N   | 160 N   | 540 N   |
| Total gripping force at 6 bar       | 500 N   | 320 N   | 1080 N  |
| Total stroke                        | 19.1 mm   | 32.9 mm | 9 mm    |
| Maximum working frequency           | 2 Hz  |         |         |
| Cycle air consumption               | 34 cm <sup>3</sup>  |         |         |
| Closing time without load           | 0.14 s  |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |
| Weight                              | 1050 g  | 1100 g  | 1000 g  |

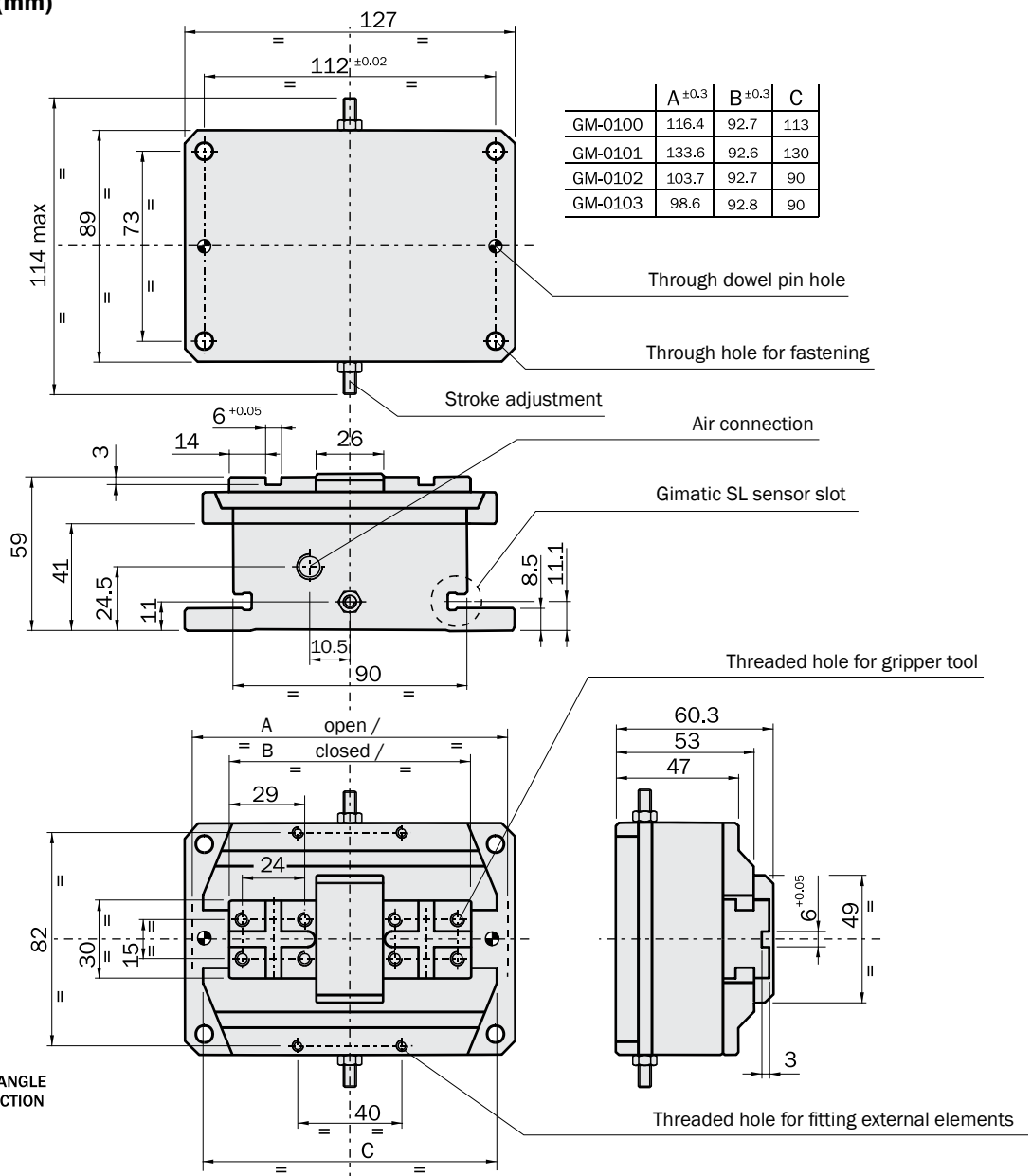
Dimensions (mm)



FIRST ANGLE PROJECTION

|                                     | GM-0100   | GM-0101 | GM-0102 | GM-0103 |
|-------------------------------------|---|---------|---------|---------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |         |         |         |
| Pressure range                      | 2÷8 bar   |         |         |         |
| Temperature range                   | 5÷60 °C.  |         |         |         |
| Gripping force at 6 bar on each jaw | 450 N   | 210 N   | 770 N   | 1200 N  |
| Total gripping force at 6 bar       | 900 N   | 420 N   | 1540 N  | 2400 N  |
| Total stroke                        | 23.7 mm   | 41 mm   | 11 mm   | 5.8 mm  |
| Maximum working frequency           | 2 Hz  |         |         |         |
| Cycle air consumption               | 61 cm <sup>3</sup>  |         |         |         |
| Closing time without load           | 0.14 s  |         |         |         |
| Repetition accuracy                 | 0.02 mm   |         |         |         |
| Weight                              | 1600 g  | 1700 g  | 1600 g  | 1580 g  |

**Dimensions (mm)**



FIRST ANGLE PROJECTION

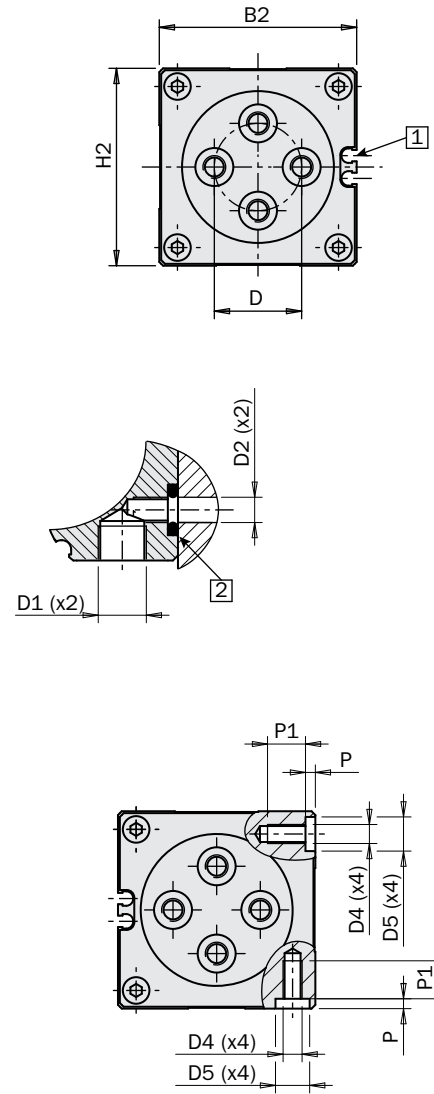
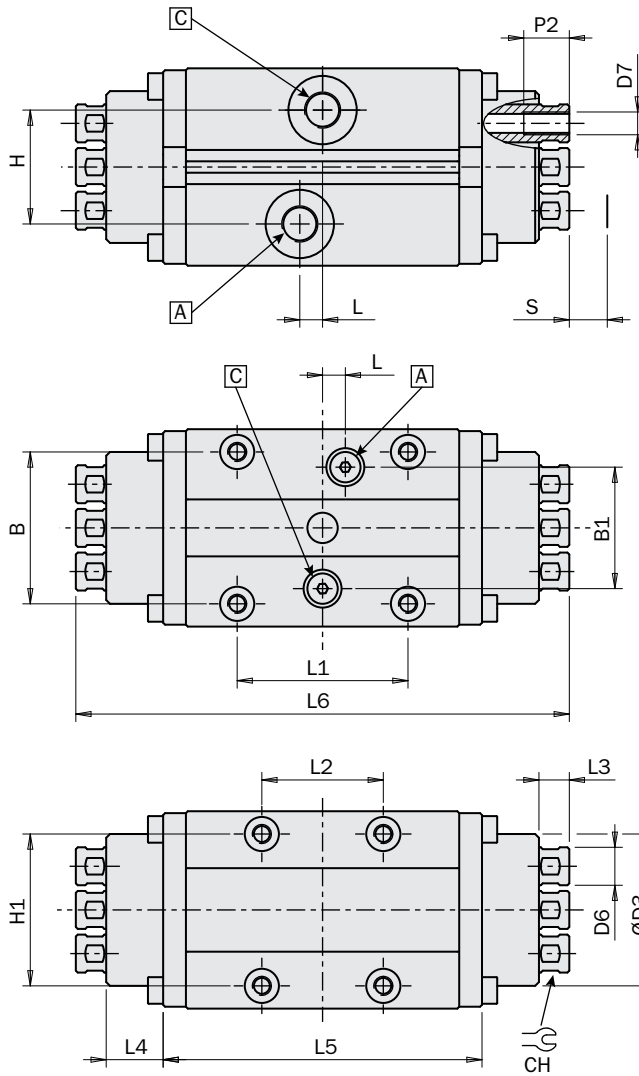
## 2-jaw self-centering pneumatic parallel gripper (series SX)

- 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 <sup>3</sup>  | 20 cm <sup>3</sup> | 50 cm <sup>3</sup> | 95 cm <sup>3</sup> | 115 cm <sup>3</sup> | 220 cm <sup>3</sup> | 230 cm <sup>3</sup> | 450 cm <sup>3</sup> |
| 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

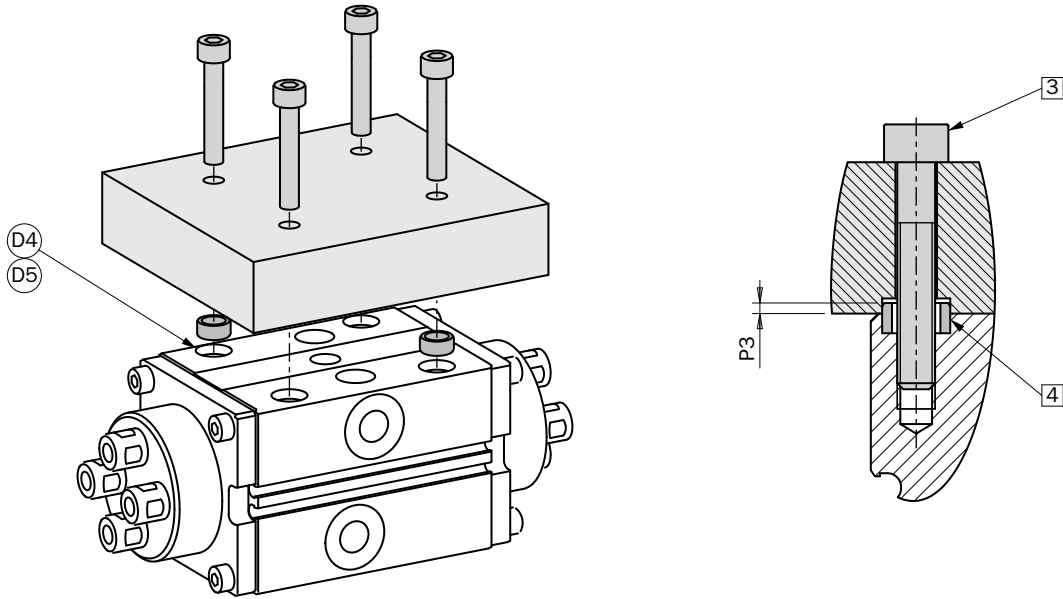
C

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).

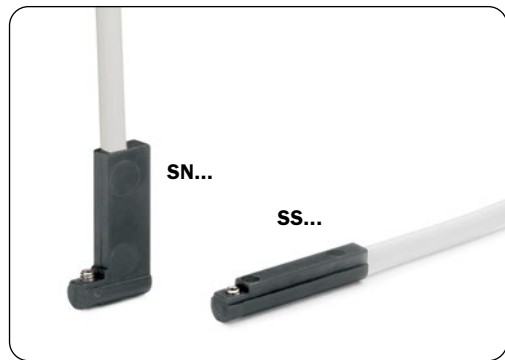


|     | SX25                | SX40                | SX50                | SX63                |
|-----|---------------------|---------------------|---------------------|---------------------|
| [3] | M4                  | M5                  | M6                  | M8                  |
| [4] | Ø7h7 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 <sup>-0.2</sup> | 1.4 <sup>-0.2</sup> | 1.4 <sup>-0.2</sup> | 2.4 <sup>-0.2</sup> |

**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:



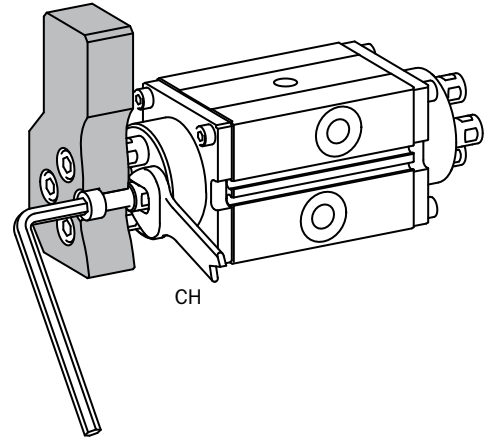
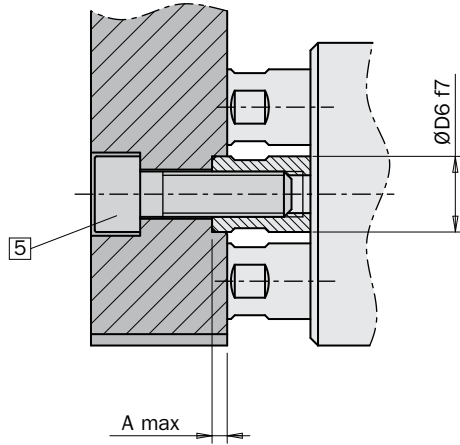
|          |     |                        | SX | Price   |
|----------|-----|------------------------|----|---------|
| SN4N225G | PNP | 2.5m cable             | ☑  | \$27.20 |
| SN4M225G | NPN | 2.5m cable             | ☑  | \$27.20 |
| SN3N203G | PNP | M8 snap plug connector | ☑  | \$31.16 |
| SN3M203G | 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**

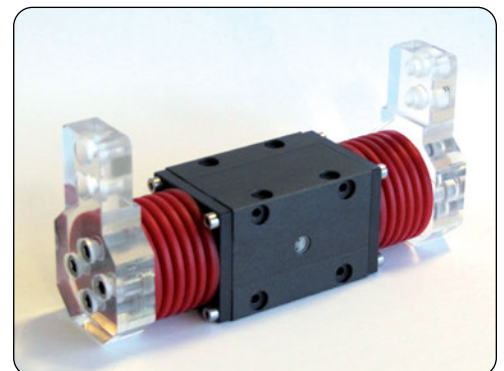
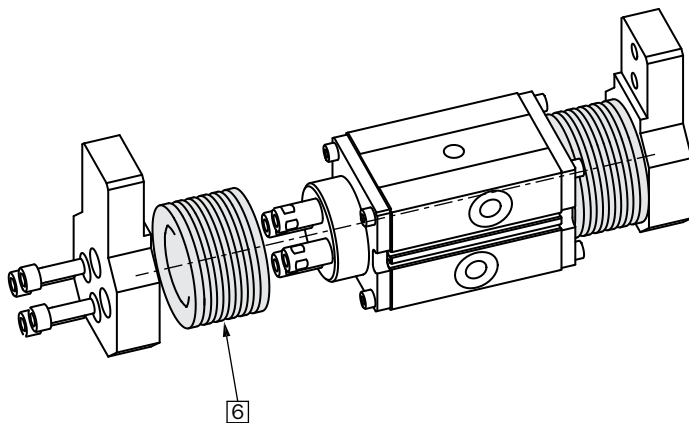
This gripper has no jaws and the gripping tools have to be fastened directly on the columns.  
 The gripping tools must be as short and light as possible.  
 They must be fastened with four screws [5] in the threaded holes (D7) of the columns.  
 Drill centering holes for two of the four columns (D6).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

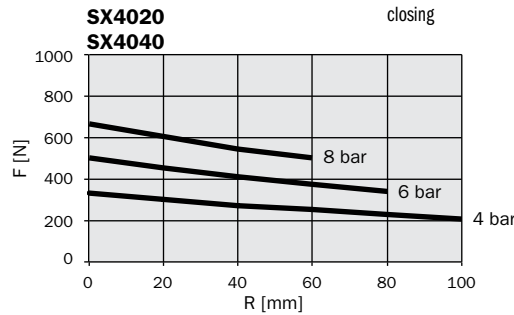
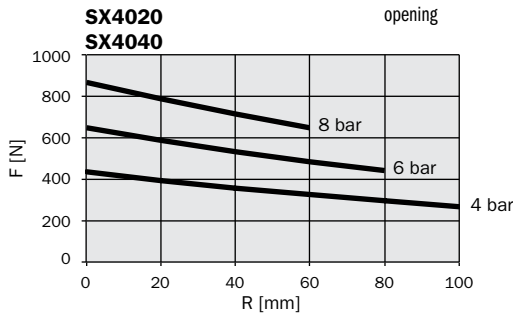
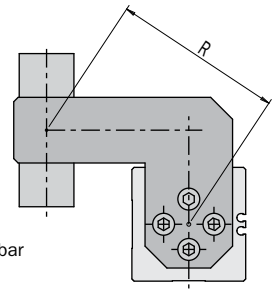
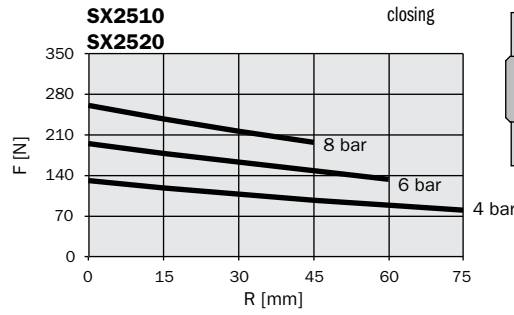
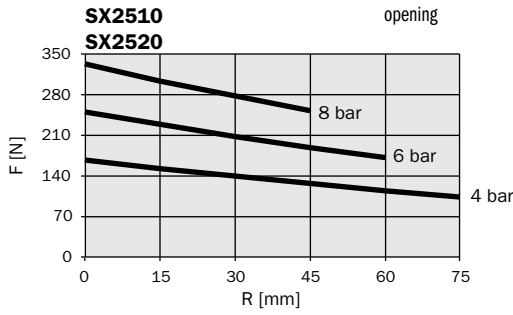
An optional bellow in silicone [6] is available to protect columns.  
 Code SX25S01 for the gripper SX2510.  
 Code SX40S01 for the gripper SX4020.  
 Code SX50S01 for the gripper SX5030.  
 Code SX63S01 for the gripper SX6340.

| Part#   |
|---------|
| SX25S01 |
| SX40S01 |
| SX50S01 |
| SX63S01 |

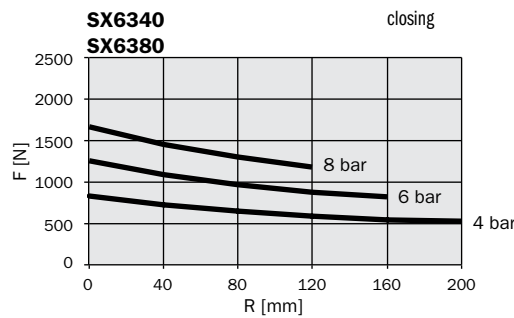
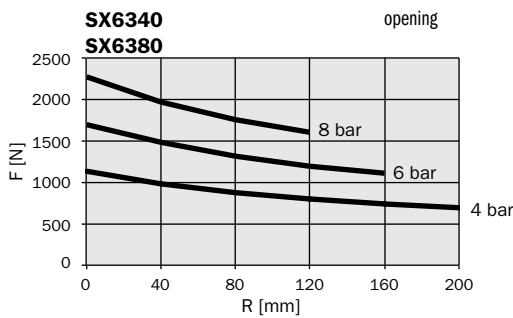
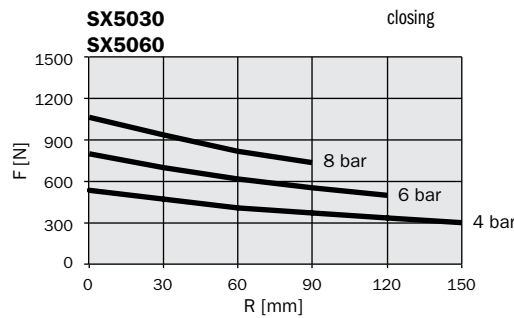
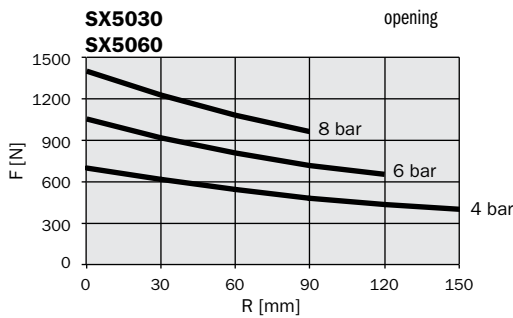


**Gripping force**

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.**

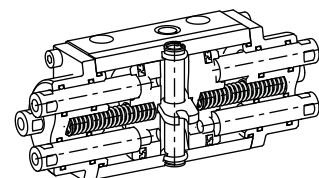


F [N]  
Gripping force

**Spring option**

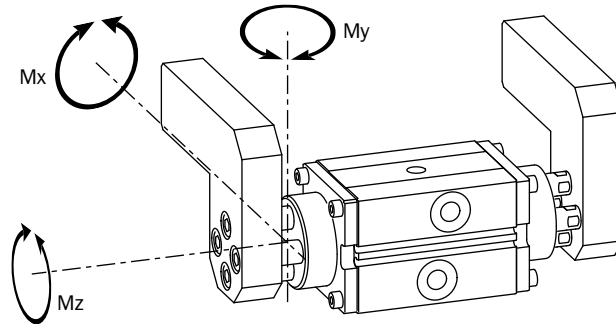
A version with a normally closed (-NC) spring is also available, on request. In the case of a pressure black-out, the spring provides about one tenth of the output force at 6 bar.

|                                    | 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**

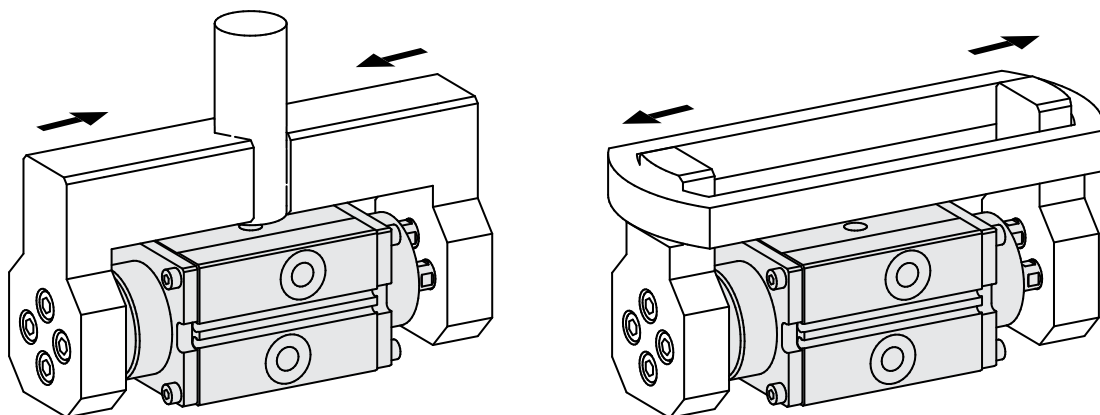
Check the table for maximum permitted loads.  
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.  
 $M_x s$ ,  $M_y s$ ,  $M_z s$ , are the maximum permitted static loads, that is when the jaws are still.  
 $M_x d$ ,  $M_y d$ ,  $M_z d$ , 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.



**2-jaw parallel self-centering pneumatic gripper (series PE)**

- Double acting (single acting upon request for PE-25... and PE-45...).
- High efficiency and reliability due to the lack of driving parts.
- Wide choice of stroke length options.
- The gripping force is constant on both directions along total stroke.
- Light weight; due to its alloy construction.
- FDA-H1 food-grade grease.



PE-4580



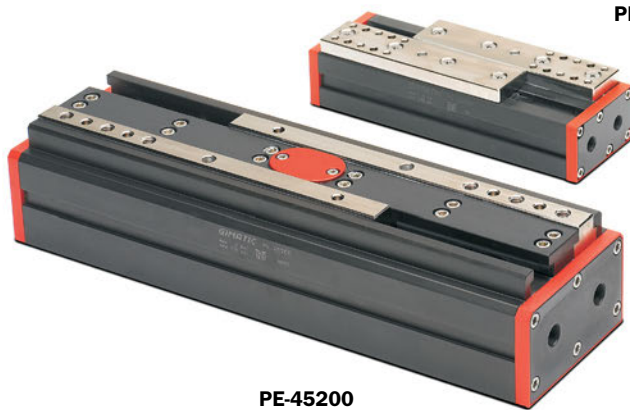
PE-4560



PE-4540



PE-4520



PE-45200

PE-25100



PE-25200



PE-2560



PE-2540



PE-2520



PE-16200



PE-16150



PE-1680



PE-1640



PE-1625



PE-1610

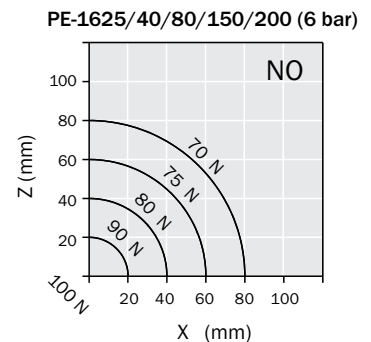
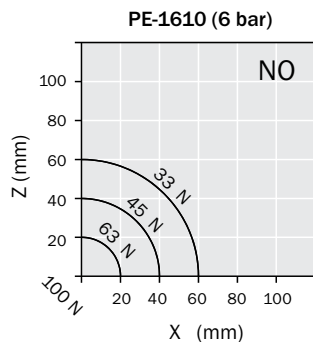
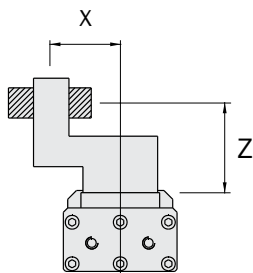
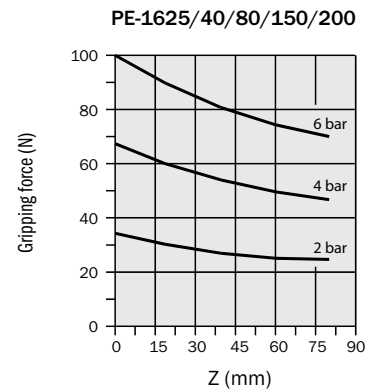
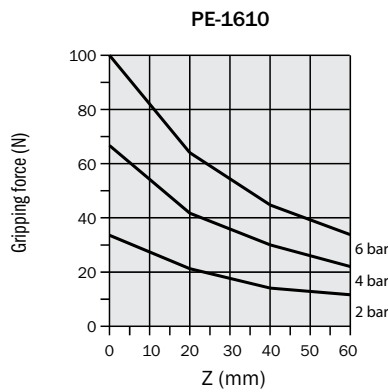
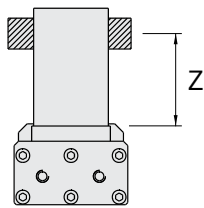
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

|                                     | PE-1610   | PE-1625            | PE-1640            | PE-1680            | PE-16150           | PE-16200           |
|-------------------------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| 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.  |                    |                    |                    |                    |                    |
| Gripping force at 6 bar on each jaw | 100 N   |                    |                    |                    |                    |                    |
| Total gripping force at 6 bar       | 200 N   |                    |                    |                    |                    |                    |
| Stroke                              | 2x5 mm  | 2x12.5 mm          | 2x20 mm            | 2x40 mm            | 2x75 mm            | 2x100 mm           |
| Maximum working frequency           | 3 Hz  | 2 Hz               | 2 Hz               | 2 Hz               | 1 Hz               | 1 Hz               |
| Cycle air consumption               | 7 cm <sup>3</sup>   | 14 cm <sup>3</sup> | 21 cm <sup>3</sup> | 39 cm <sup>3</sup> | 71 cm <sup>3</sup> | 97 cm <sup>3</sup> |
| Closing time without load           | 0.02 s  | 0.05 s             | 0.1 s              | 0.2 s              | 0.4 s              | 0.5 s              |
| Repetition accuracy                 | 0.03 mm   | 0.03 mm            | 0.03 mm            | 0.03 mm            | 0.03 mm            | 0.03 mm            |
| Weight                              | 200 g   | 250 g              | 350 g              | 500 g              | 900 g              | 1200 g             |

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

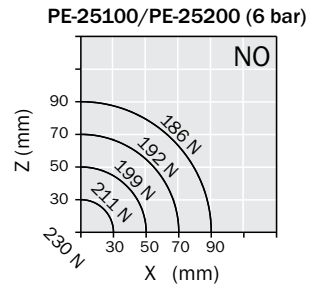
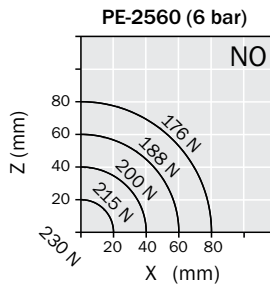
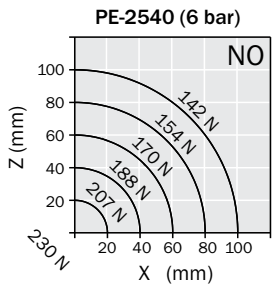
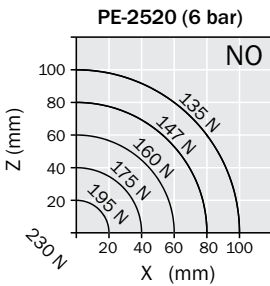
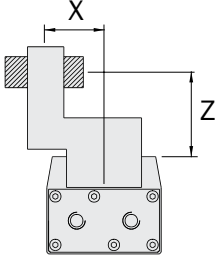
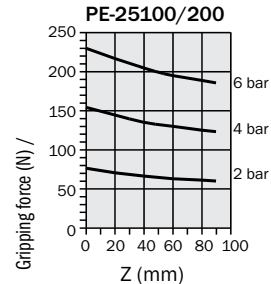
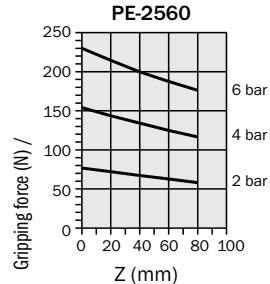
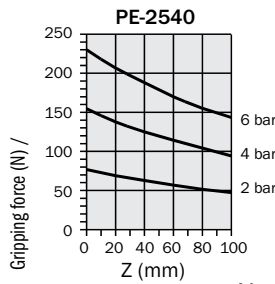
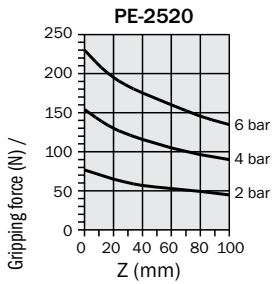
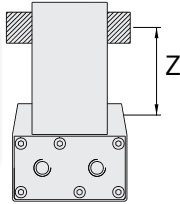


|                                     | PE-2520   | PE-2540            | PE-2560             | PE-25100            | PE-25200            |
|-------------------------------------|---|--------------------|---------------------|---------------------|---------------------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                     |                     |                     |
| Operating pressure range            | 2÷8 bar   |                    |                     |                     |                     |
| Operating temperature range         | 5÷60 °C.  |                    |                     |                     |                     |
| Gripping force at 6 bar on each jaw | 230 N   |                    |                     |                     |                     |
| Total gripping force at 6 bar       | 460 N   |                    |                     |                     |                     |
| Stroke                              | 2x10 mm   | 2x20 mm            | 2x30 mm             | 2x50 mm             | 2x100 mm            |
| Maximum working frequency           | 3 Hz  | 2 Hz               | 2 Hz                | 1 Hz                | 1 Hz                |
| Cycle air consumption               | 44 cm <sup>3</sup>  | 74 cm <sup>3</sup> | 102 cm <sup>3</sup> | 146 cm <sup>3</sup> | 263 cm <sup>3</sup> |
| Closing time without load           | 0.02 s  | 0.04 s             | 0.06 s              | 0.08 s              | 0.17 s              |
| Repetition accuracy                 | 0.04 mm   | 0.04 mm            | 0.04 mm             | 0.04 mm             | 0.04 mm             |
| Weight                              | 700 g   | 980 g              | 1285 g              | 1235 g              | 2080 g              |

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

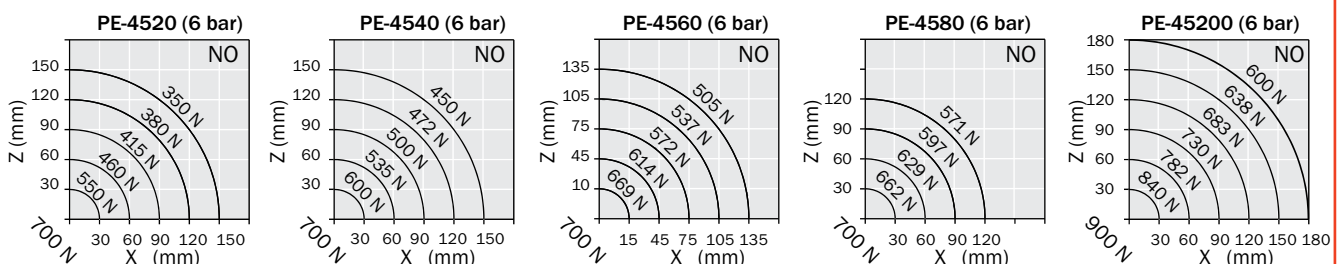
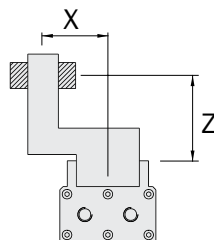
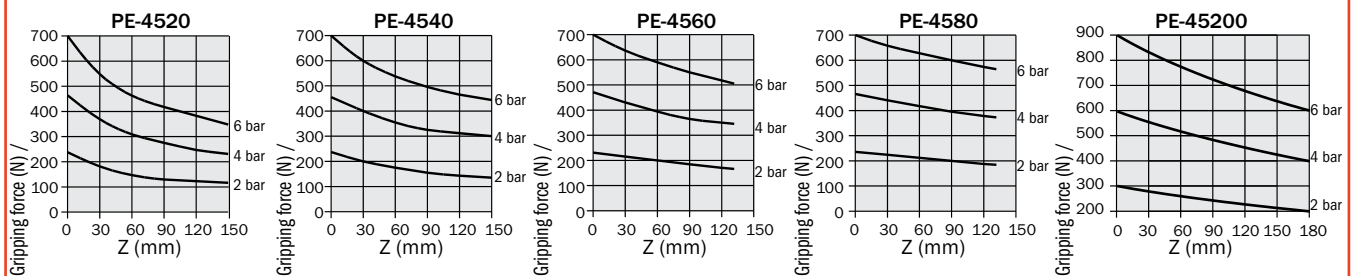
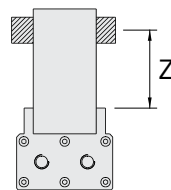


|                                     | PE-4520   | PE-4540             | PE-4560             | PE-4580             | PE-45200            |
|-------------------------------------|---|---------------------|---------------------|---------------------|---------------------|
| Medium                              | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |                     |                     |
| Operating pressure range            | 2÷8 bar   |                     |                     |                     |                     |
| Operating temperature range         | 5÷60 °C.  |                     |                     |                     |                     |
| Gripping force at 6 bar on each jaw | 700 N   | 700 N               | 700 N               | 700 N               | 900 N               |
| Total gripping force at 6 bar       | 1400 N  | 1400 N              | 1400 N              | 1400 N              | 1800 N              |
| Stroke                              | 2x10 mm   | 2x20 mm             | 2x30 mm             | 2x40 mm             | 2x100 mm            |
| Maximum working frequency           | 3 Hz  | 2 Hz                | 1 Hz                | 1 Hz                | 1 Hz                |
| Cycle air consumption               | 132 cm <sup>3</sup>                                       | 208 cm <sup>3</sup> | 257 cm <sup>3</sup> | 371 cm <sup>3</sup> | 940 cm <sup>3</sup> |
| Closing time without load           | 0.05 s  | 0.1 s               | 0.15 s              | 0.2 s               | 0.2 s               |
| Repetition accuracy                 | 0.04 mm   | 0.04 mm             | 0.04 mm             | 0.04 mm             | 0.04 mm             |
| Weight                              | 1840 g  | 2250 g              | 2715 g              | 3300 g              | 3800 g              |

### Gripping force

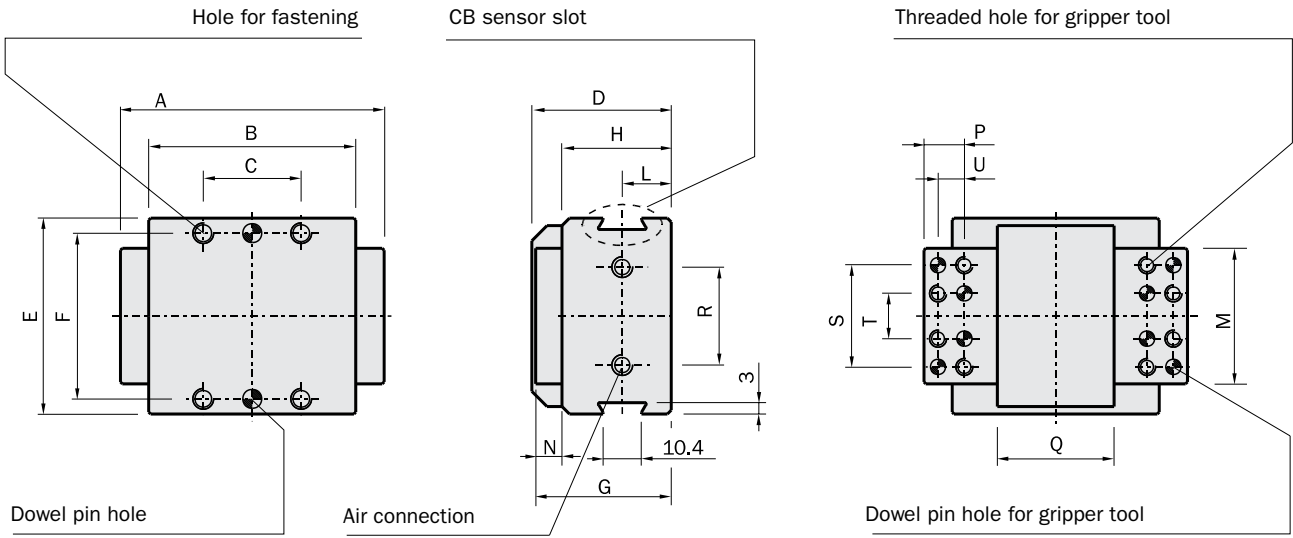
The graphs show the gripping force on each jaw, as a function of the operating pressure, the gripping tool length Z and the overhanging X.

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

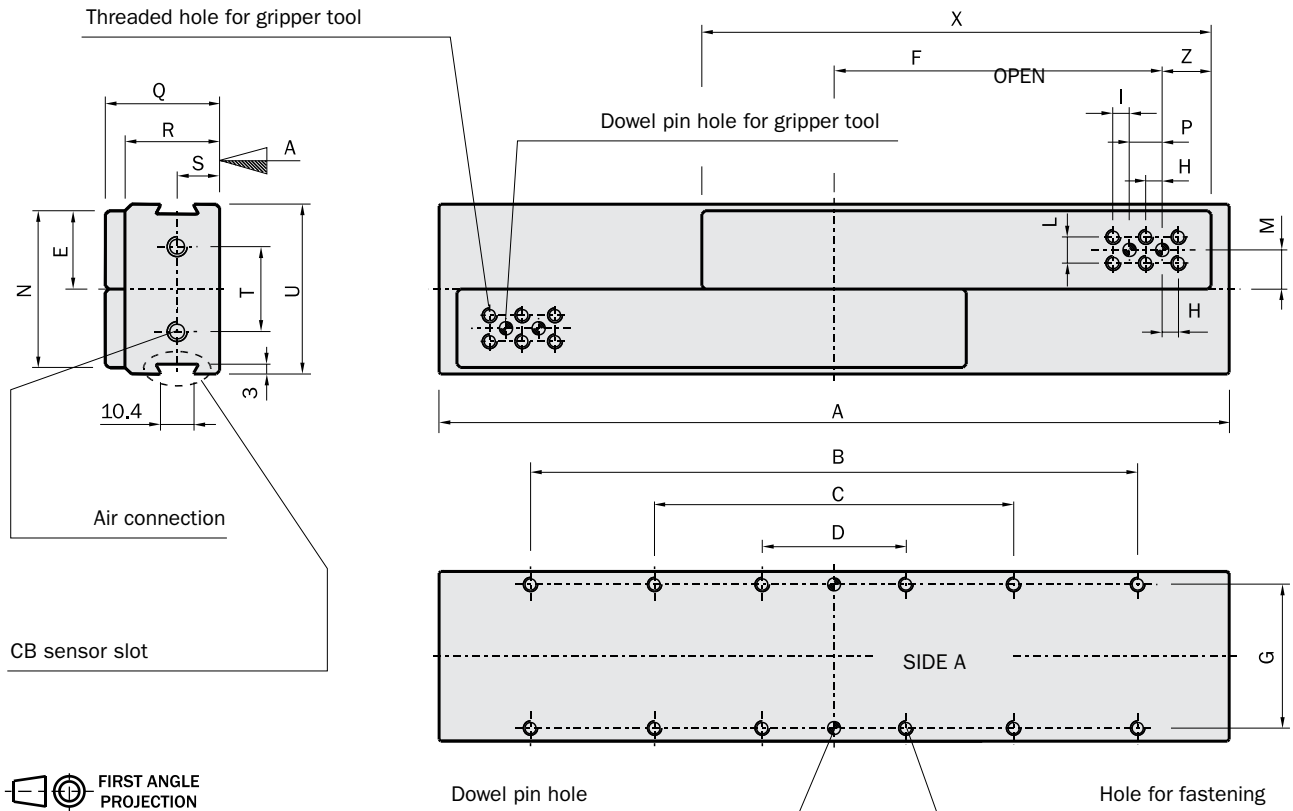


Dimensions (mm)

|         | A  | B  | C  | D  | E  | F<br>±0.02 | G  | H  | L  | M  | N | P     | Q  | R<br>±0.02 | S<br>±0.02 | T<br>±0.02 | U<br>±0.02 |
|---------|----|----|----|----|----|------------|----|----|----|----|---|-------|----|------------|------------|------------|------------|
| PE-1610 | 62 | 60 | 26 | 37 | 52 | 44         | 36 | 29 | 13 | 36 | 7 | 11.75 | 31 | 26         | 27         | 12         | 7          |



|          | A   | B   | C   | D  | E  | F     | G<br>±0.02 | H | I | L  | M  | N  | P<br>±0.02 | Q  | R  | S  | T  | U  | X    | Z    |
|----------|-----|-----|-----|----|----|-------|------------|---|---|----|----|----|------------|----|----|----|----|----|------|------|
| PE-1625  | 70  | -   | -   | 26 | 24 | 12.5  | 44         | 5 | - | 12 | 12 | 48 | 12         | 37 | 29 | 13 | 26 | 52 | 41.5 | 14.5 |
| PE-1640  | 99  | -   | -   | 60 | 24 | 26.5  | 44         | 5 | - | 8  | 12 | 48 | 10         | 37 | 29 | 13 | 26 | 52 | 63   | 15   |
| PE-1680  | 155 | -   | -   | 60 | 24 | 54.5  | 44         | 5 | 5 | 8  | 12 | 48 | 10         | 37 | 29 | 13 | 26 | 52 | 99   | 15   |
| PE-16150 | 263 | -   | 200 | 60 | 24 | 108.5 | 44         | 5 | 5 | 8  | 12 | 48 | 10         | 37 | 29 | 13 | 26 | 52 | 172  | 15   |
| PE-16200 | 337 | 280 | 200 | 60 | 24 | 145.5 | 44         | 5 | 5 | 8  | 12 | 48 | 10         | 37 | 29 | 13 | 26 | 52 | 221  | 15   |

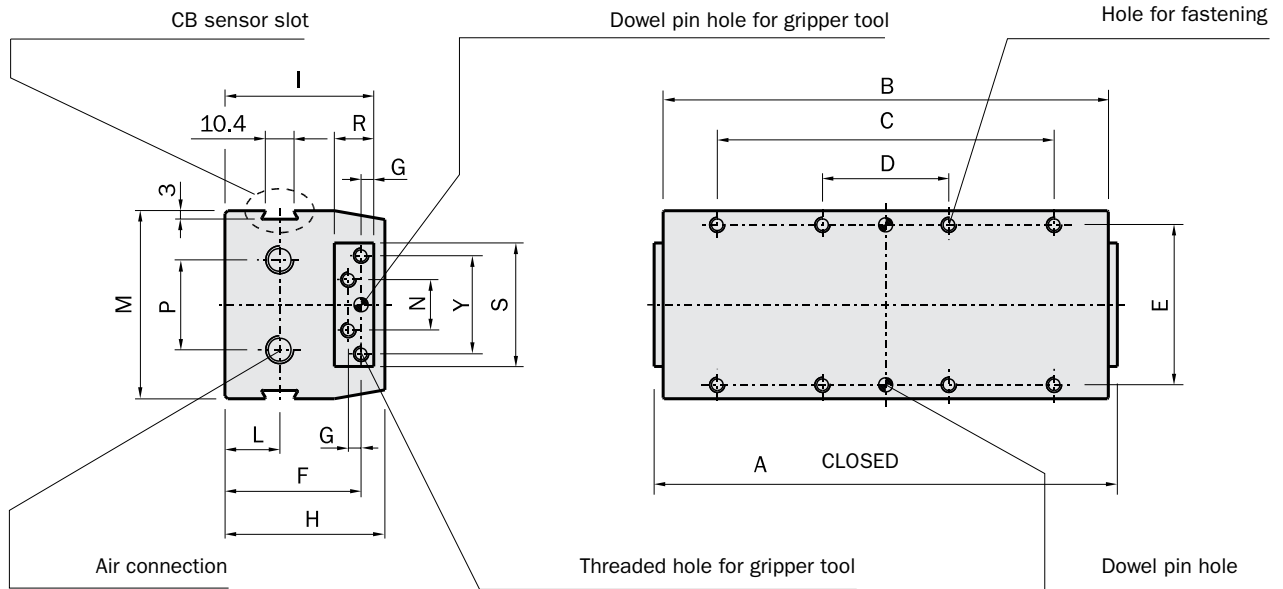


Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

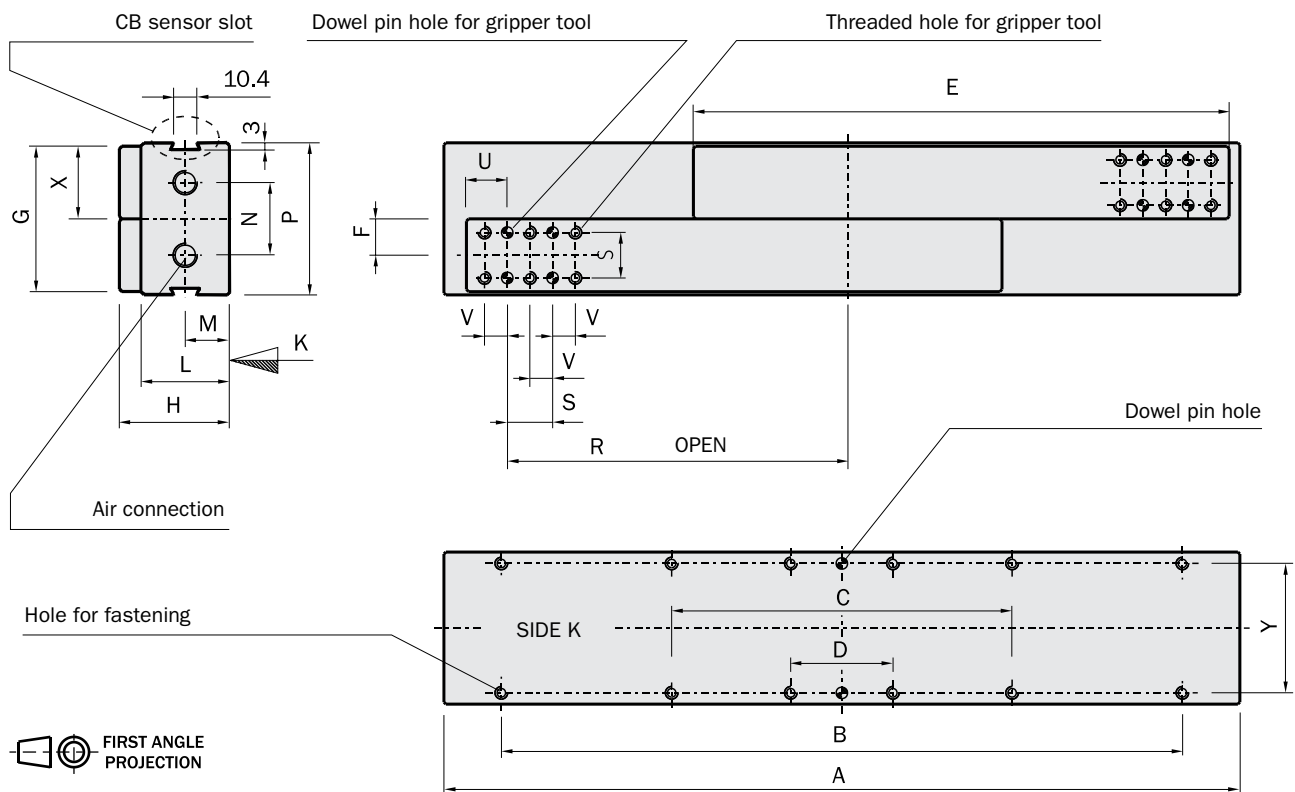


**Dimensions (mm)**

|         | A   | B     | C   | D  | E<br>±0.02 | F    | G<br>±0.02 | H  | I  | L    | M  | N  | P  | Y  | R<br>-0.05 | S<br>-0.05 |
|---------|-----|-------|-----|----|------------|------|------------|----|----|------|----|----|----|----|------------|------------|
| PE-2520 | 90  | 83.6  | -   | 45 | 57         | 48.5 | 4.5        | 57 | 53 | 19.5 | 67 | 18 | 32 | 35 | 14         | 44         |
| PE-2540 | 130 | 123.6 | -   | 45 | 57         | 48.5 | 4.5        | 57 | 53 | 19.5 | 67 | 18 | 32 | 35 | 14         | 44         |
| PE-2560 | 165 | 158.6 | 120 | 45 | 57         | 48.5 | 4.5        | 57 | 53 | 19.5 | 67 | 18 | 32 | 35 | 14         | 44         |



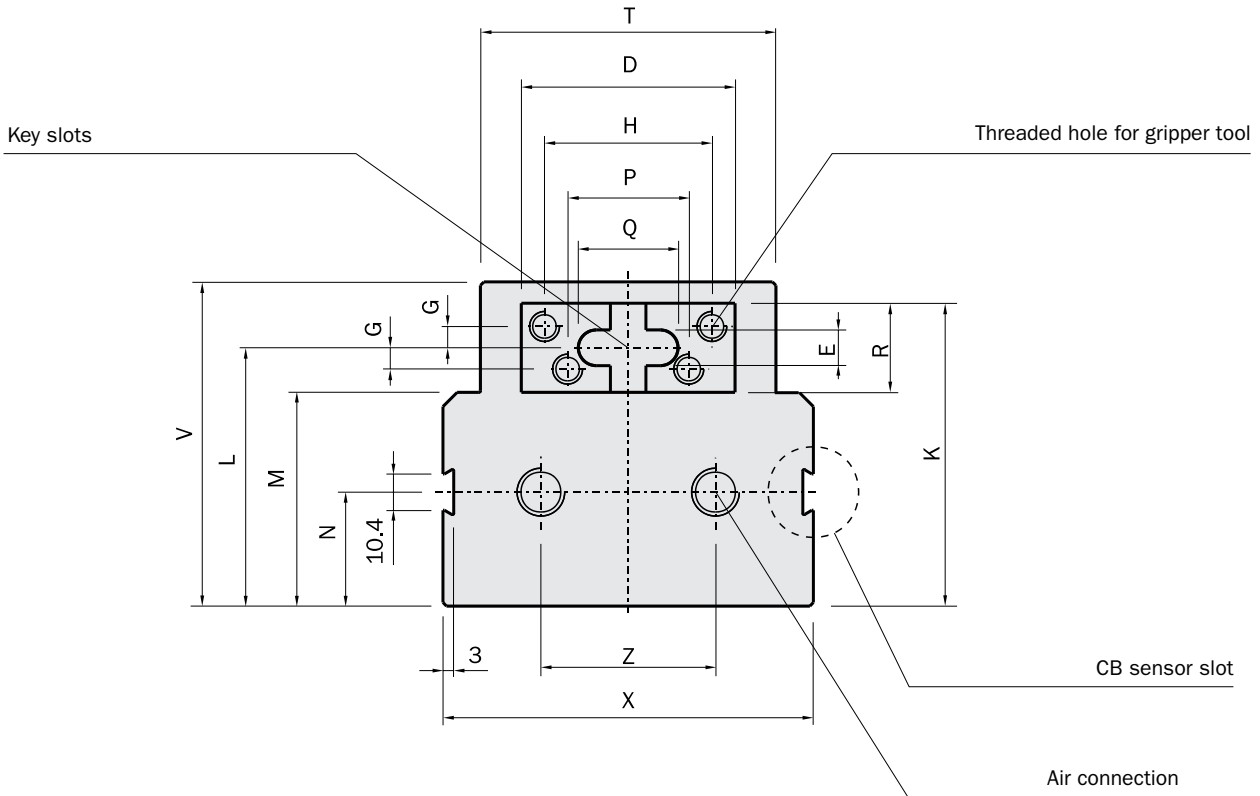
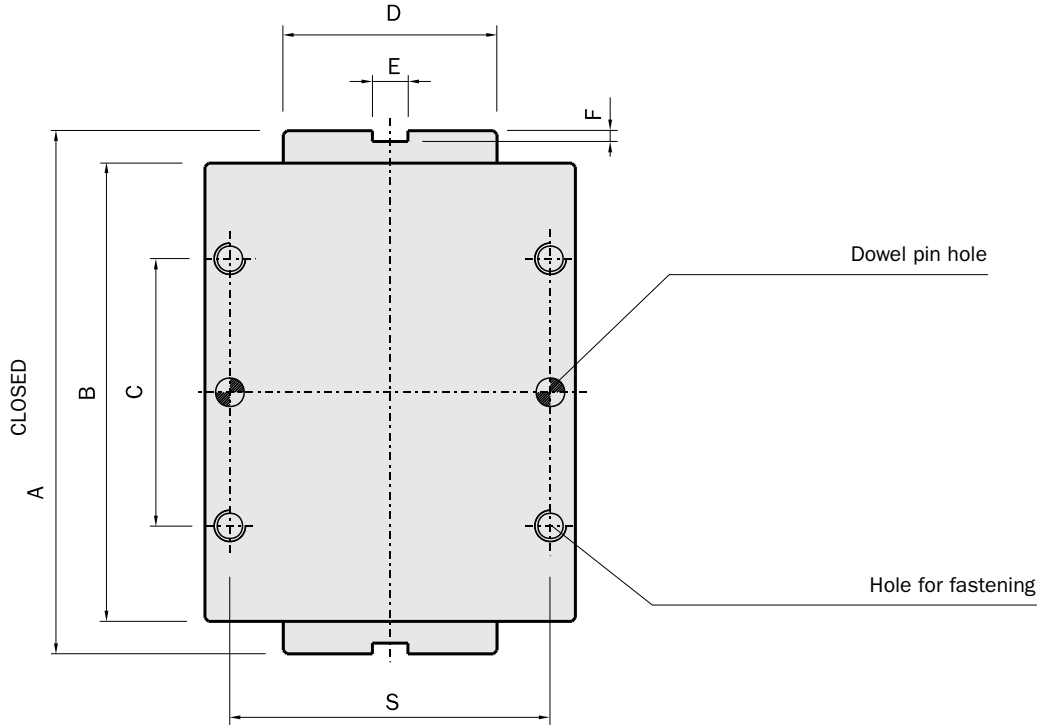
|          | A     | B   | C   | D  | E   | F  | G  | H    | L  | M    | N  | P  | Y<br>±0.02 | R   | S<br>±0.02 | U  | X  | V  |
|----------|-------|-----|-----|----|-----|----|----|------|----|------|----|----|------------|-----|------------|----|----|----|
| PE-25100 | 200.6 | -   | 150 | 45 | 136 | 16 | 64 | 48.5 | 39 | 19.5 | 32 | 67 | 57         | 75  | 20         | 18 | 32 | 10 |
| PE-25200 | 350.6 | 300 | 150 | 45 | 236 | 16 | 64 | 48.5 | 39 | 19.5 | 32 | 67 | 57         | 150 | 20         | 18 | 32 | 10 |



FIRST ANGLE PROJECTION

Dimensions (mm)

|         | A   | B     | C  | D<br>-0.05 | E<br>+0.05 | F | G | H  | L    | M  | N  | P  | Q  | R<br>-0.05 | S<br>±0.02 | T  | V  | X   | K  | Z  |
|---------|-----|-------|----|------------|------------|---|---|----|------|----|----|----|----|------------|------------|----|----|-----|----|----|
| PE-4520 | 110 | 100.6 | 50 | 60         | 10         | 3 | 6 | 47 | 72.5 | 60 | 32 | 34 | 28 | 25         | 90         | 83 | 91 | 104 | 85 | 49 |
| PE-4540 | 140 | 128.6 | 75 | 60         | 10         | 3 | 6 | 47 | 72.5 | 60 | 32 | 34 | 28 | 25         | 90         | 83 | 91 | 104 | 85 | 49 |
| PE-4560 | 170 | 160.6 | 90 | 60         | 10         | 3 | 6 | 47 | 72.5 | 60 | 32 | 34 | 28 | 25         | 90         | 83 | 91 | 104 | 85 | 49 |
| PE-4580 | 210 | 200.6 | 90 | 60         | 10         | 3 | 6 | 47 | 72.5 | 60 | 32 | 34 | 28 | 25         | 90         | 83 | 91 | 104 | 85 | 49 |

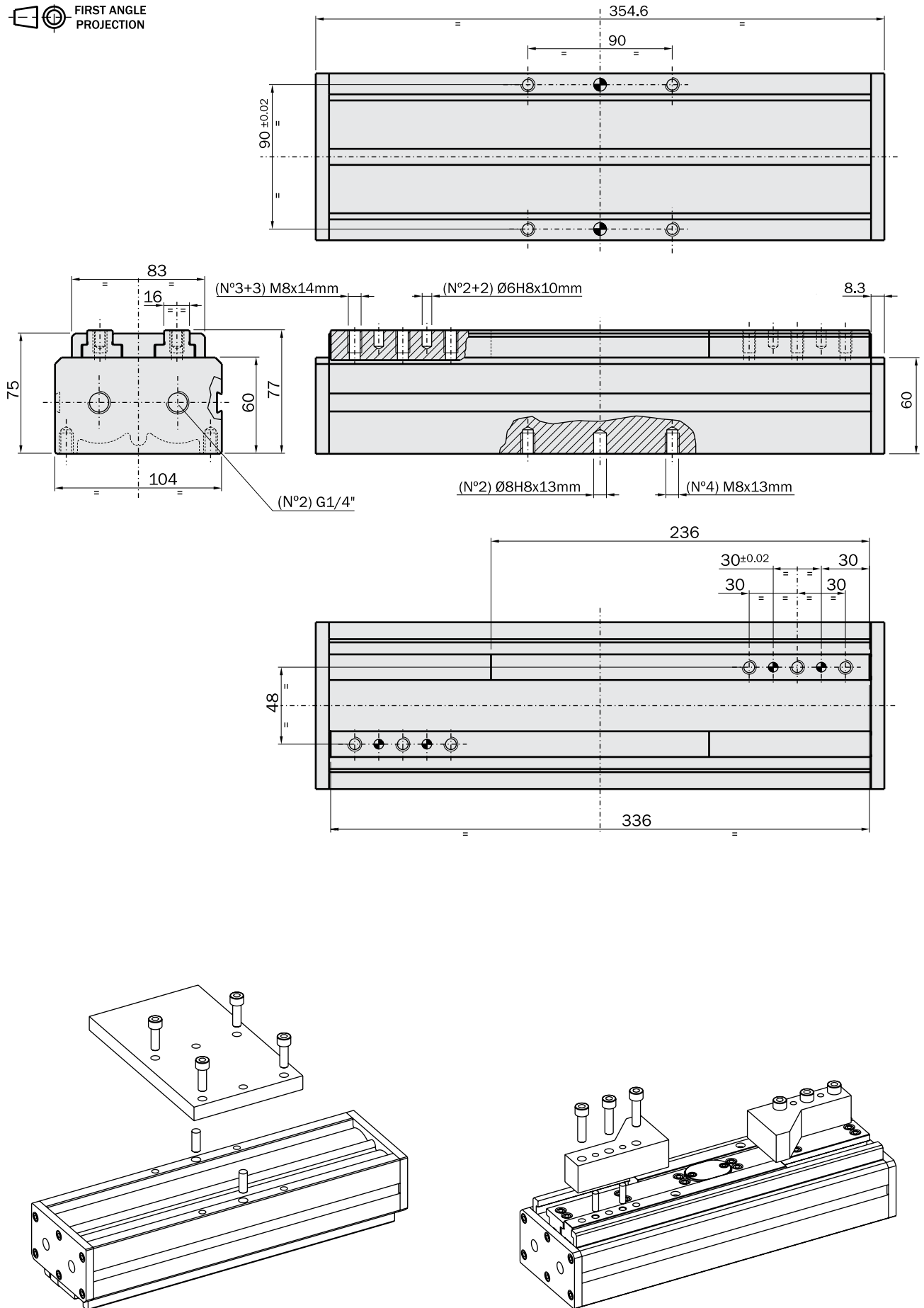


Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Dimensions (mm)**

**PE-45200**

FIRST ANGLE PROJECTION



Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

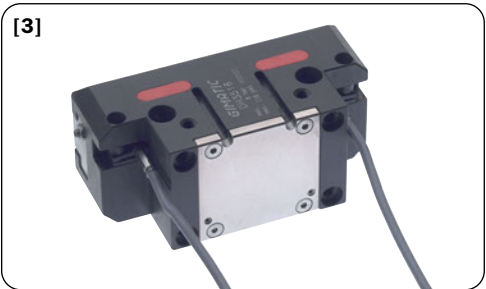
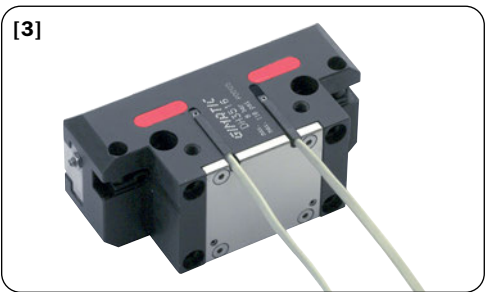
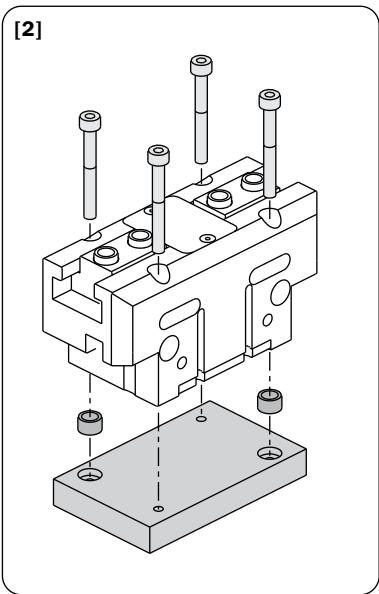
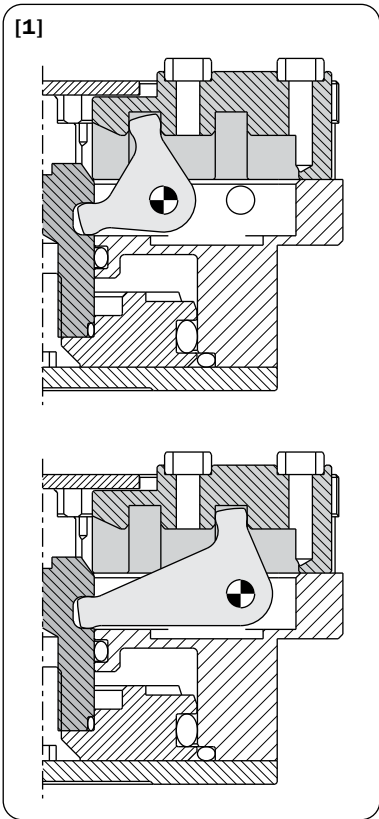
Robot Kit

Options

Sensors

**2-jaw self-centering pneumatic parallel gripper (series DH)**

- Double acting with optional springs (normally closed or normally open).
- Long stroke or short stroke (1).
- Possibility of front fastening with through screws (2).
- High efficiency force transmission (1).
- Optional magnetic or inductive sensors (3).
- FDA-H1 food-grade grease.



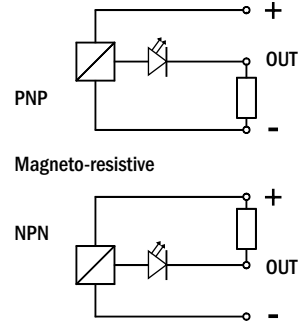
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Sensors (optional)**

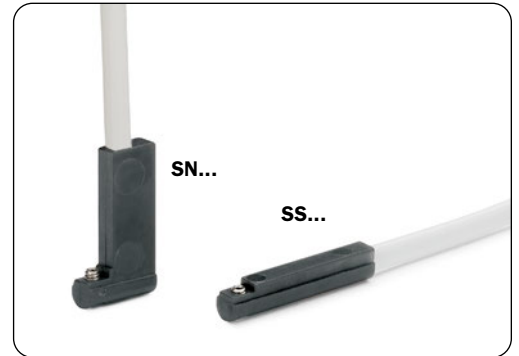
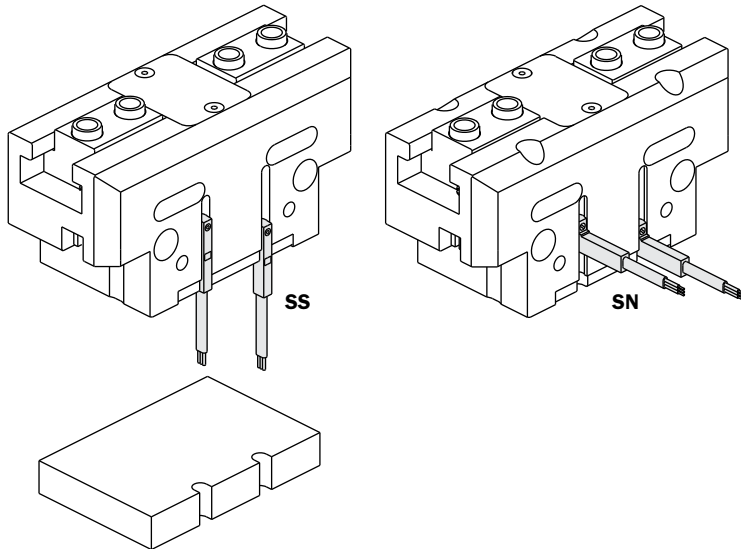
The operating position can be checked by magnetic sensors which detect a magnet on the piston, or by inductive sensors (4mm diameter), which detect a metal part (M) in an adjustable position into the jaw.

The magnetic sensors from Gimatic are the codes:

|           |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN |                        |
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |

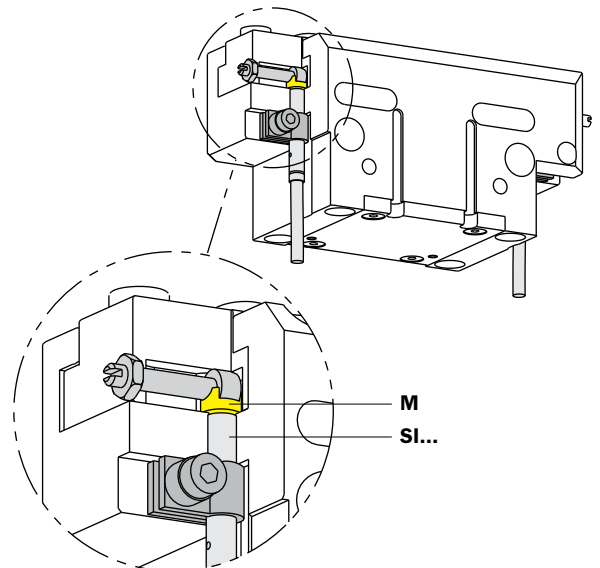
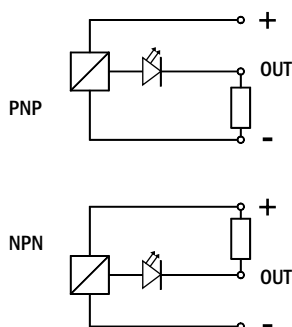


They are all provided with a 3-wire flat cable and a LED.



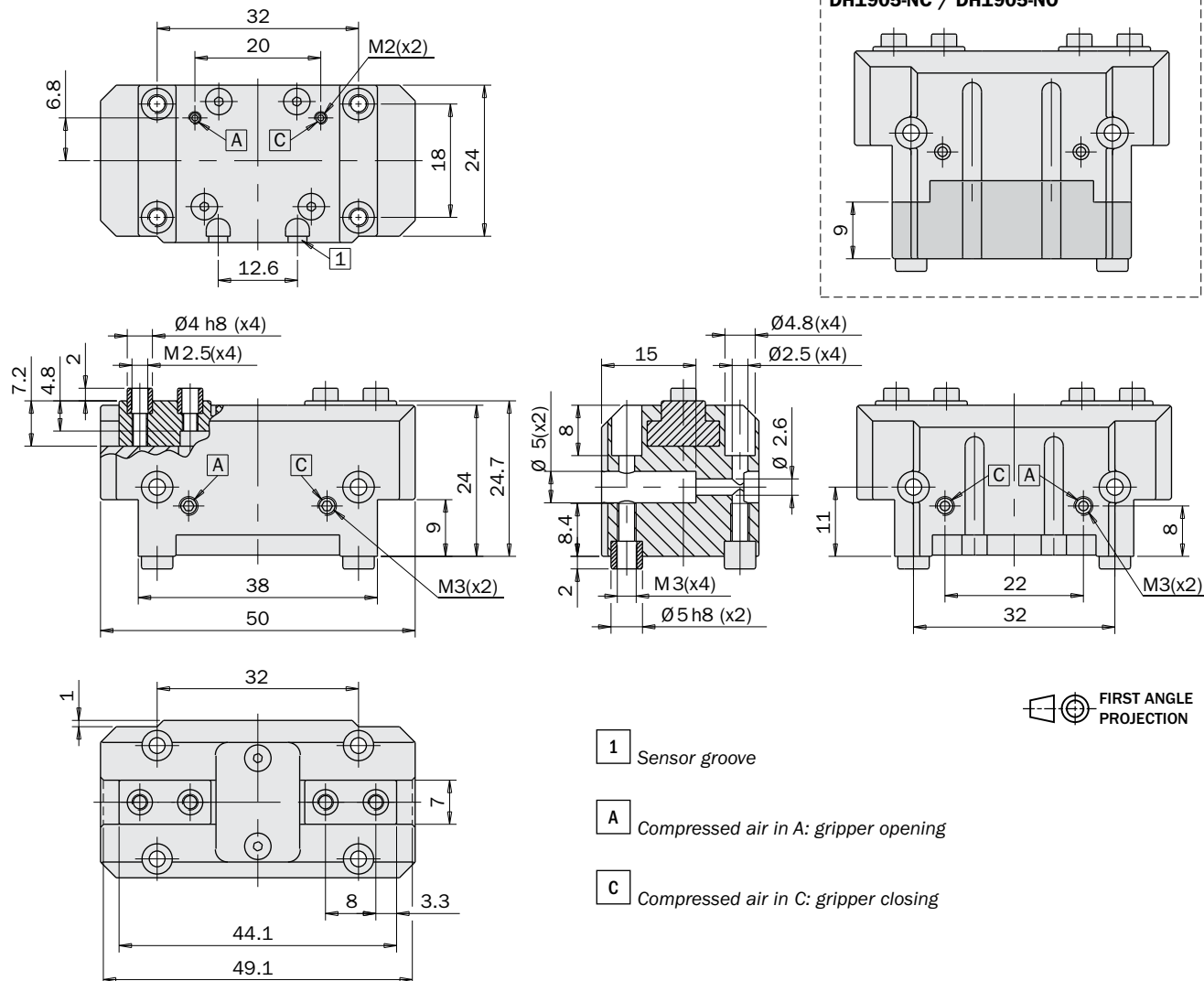
Adjustable inductive sensors (not for DH19 and DH22):

|           |     |            |  |
|-----------|-----|------------|--|
|           |     |            | DH27<br>DH35<br>DH44<br>DH55<br>DH66<br>DH87 |
| SI4M225-G | NPN | 2.5m cable | <input type="checkbox"/>                     |
| SI4N225-G | PNP |            | <input checked="" type="checkbox"/>          |



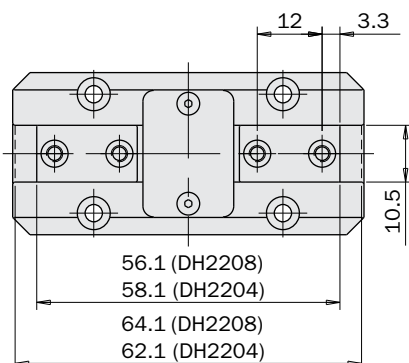
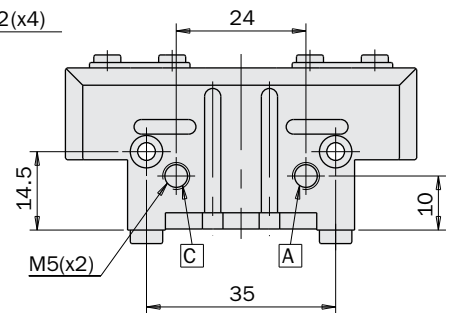
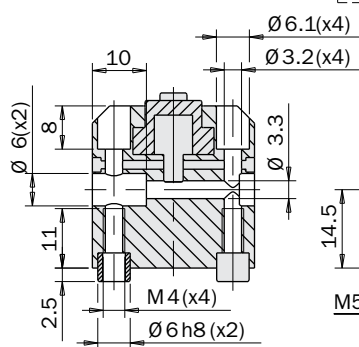
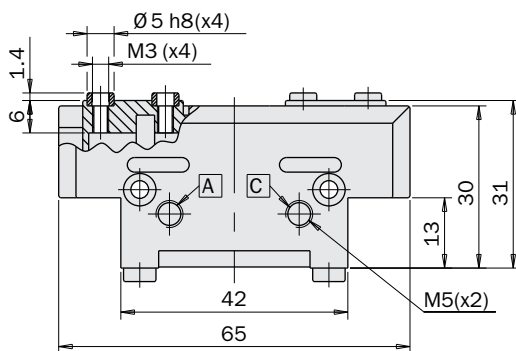
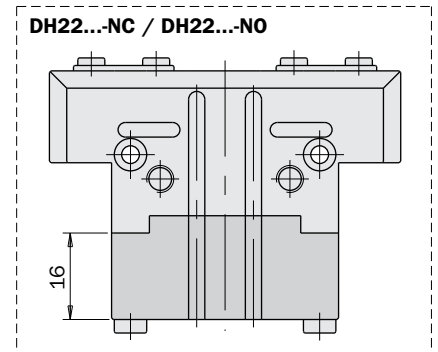
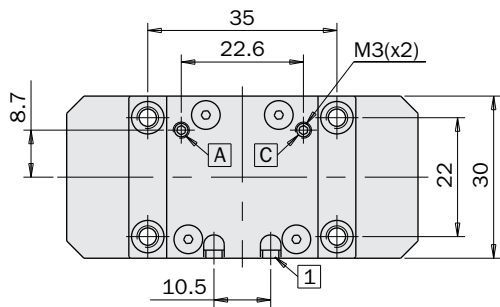
|  | DH1905  | DH1905-NC        | DH1905-NO        |
|--|---|------------------|------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                  |                  |
| Pressure range                           | 2 ÷ 8bar  | 4 ÷ 8bar         | 4 ÷ 8bar         |
| Temperature range                        | 5 ÷ 100°C.  |                  |                  |
| Opening gripping force at 6 bar each jaw | 75N   | 43 ÷ 49N         | 101 ÷ 107N       |
| Opening total gripping force at 6 bar    | 150N  | 86 ÷ 98N         | 202 ÷ 214N       |
| Closing gripping force at 6 bar each jaw | 68N   | 94 ÷ 100N        | 36 ÷ 42N         |
| Closing total gripping force at 6 bar    | 136N  | 188 ÷ 200N       | 72 ÷ 84N         |
| Total stroke (±0.3mm)                    | 5mm   |                  |                  |
| Maximum working frequency                | 3Hz   |                  |                  |
| Cycle air consumption                    | 2cm <sup>3</sup>  | 3cm <sup>3</sup> | 3cm <sup>3</sup> |
| Closing / opening minimum time           | 0.01s / 0.01s   | 0.01s / 0.02s    | 0.02s / 0.01s    |
| Repetition accuracy                      | 0.02mm  |                  |                  |
| Weight                                   | 87g   | 100g             | 98g              |

## Dimensions (mm)



|  | DH2208  | DH2208-NC        | DH2208-NO        | DH2204           | DH2204-NC        | DH2204-NO        |
|--|---|------------------|------------------|------------------|------------------|------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                  |                  |                  |                  |                  |
| Pressure range                           | 2 ÷ 8bar  | 4 ÷ 8bar         | 4 ÷ 8bar         | 2 ÷ 8bar         | 4 ÷ 8bar         | 4 ÷ 8bar         |
| Temperature range                        | 5 ÷ 100°C.  |                  |                  |                  |                  |                  |
| Opening gripping force at 6 bar each jaw | 100N  | 58 ÷ 67N         | 134 ÷ 142N       | 200N             | 116 ÷ 133N       | 267 ÷ 284N       |
| Opening total gripping force at 6 bar    | 200N  | 116 ÷ 134N       | 268 ÷ 284N       | 400N             | 232 ÷ 266N       | 534 ÷ 568N       |
| Closing gripping force at 6 bar each jaw | 90N   | 123 ÷ 132N       | 48 ÷ 56N         | 180N             | 247 ÷ 264N       | 96 ÷ 113N        |
| Closing total gripping force at 6 bar    | 180N  | 246 ÷ 264N       | 96 ÷ 112N        | 360N             | 494 ÷ 528N       | 192 ÷ 226N       |
| Total stroke (±0.3mm)                    | 8mm   |                  |                  | 4mm              |                  |                  |
| Maximum working frequency                | 3Hz   |                  |                  |                  |                  |                  |
| Cycle air consumption                    | 4cm <sup>3</sup>  | 7cm <sup>3</sup> | 7cm <sup>3</sup> | 4cm <sup>3</sup> | 7cm <sup>3</sup> | 7cm <sup>3</sup> |
| Closing / opening minimum time           | 0.02s /<br>0.02s  | 0.02s /<br>0.03s | 0.03s /<br>0.02s | 0.02s /<br>0.02s | 0.02s /<br>0.03s | 0.03s /<br>0.02s |
| Repetition accuracy                      | 0.02mm  | 0.02mm           | 0.02mm           | 0.02mm           | 0.02mm           | 0.02mm           |
| Weight                                   | 148g  | 188g             | 184g             | 150g             | 190g             | 186g             |

**Dimensions (mm)**

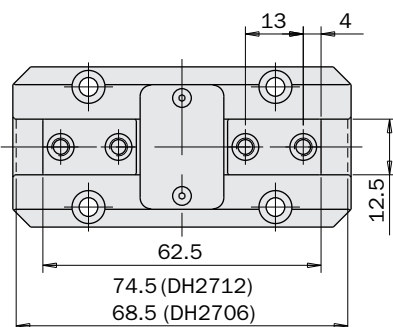
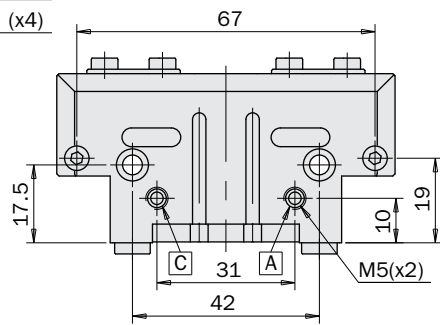
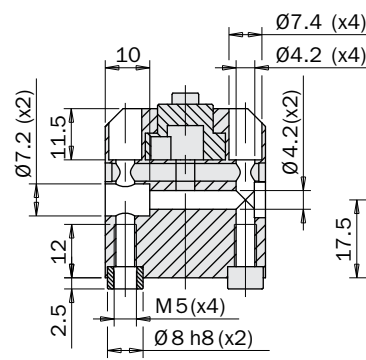
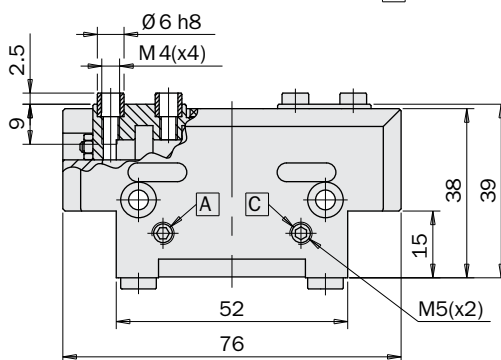
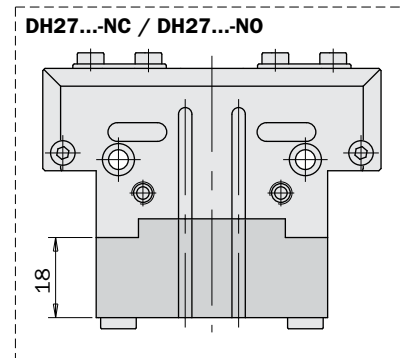
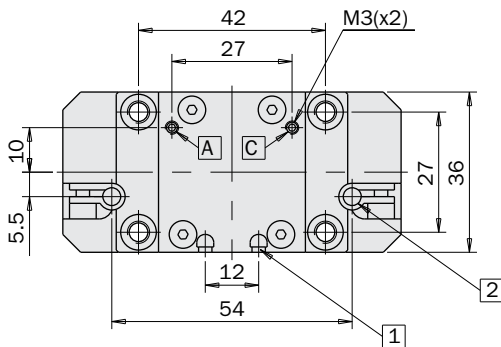


FIRST ANGLE PROJECTION

- 1** Sensor groove
- A** Compressed air in A: gripper opening
- C** Compressed air in C: gripper closing

|  | DH2712  | DH2712-NC         | DH2712-NO         | DH2706           | DH2706-NC         | DH2706-NO         |
|--|---|-------------------|-------------------|------------------|-------------------|-------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                  |                   |                   |
| Pressure range                           | 2 ÷ 8bar  | 4 ÷ 8bar          | 4 ÷ 8bar          | 2 ÷ 8bar         | 4 ÷ 8bar          | 4 ÷ 8bar          |
| Temperature range                        | 5 ÷ 100°C.  |                   |                   |                  |                   |                   |
| Opening gripping force at 6 bar each jaw | 145N  | 85 ÷ 97N          | 194 ÷ 206N        | 290N             | 170 ÷ 194N        | 389 ÷ 413N        |
| Opening total gripping force at 6 bar    | 290N  | 170 ÷ 194N        | 388 ÷ 412N        | 580N             | 340 ÷ 388N        | 778 ÷ 826N        |
| Closing gripping force at 6 bar each jaw | 130N  | 178 ÷ 190N        | 69 ÷ 81N          | 260N             | 356 ÷ 380N        | 138 ÷ 162N        |
| Closing total gripping force at 6 bar    | 260N  | 356 ÷ 380N        | 138 ÷ 162N        | 520N             | 712 ÷ 760N        | 276 ÷ 324N        |
| Total stroke (±0.3mm)                    | 12mm  |                   |                   | 6mm              |                   |                   |
| Maximum working frequency                | 3Hz   |                   |                   |                  |                   |                   |
| Cycle air consumption                    | 9cm <sup>3</sup>  | 13cm <sup>3</sup> | 13cm <sup>3</sup> | 9cm <sup>3</sup> | 13cm <sup>3</sup> | 13cm <sup>3</sup> |
| Closing / opening minimum time           | 0.03s /<br>0.03s  | 0.03s /<br>0.04s  | 0.04s /<br>0.03s  | 0.03s /<br>0.03s | 0.03s /<br>0.04s  | 0.04s /<br>0.03s  |
| Repetition accuracy                      | 0.02mm  |                   |                   |                  |                   |                   |
| Weight                                   | 255g  | 325g              | 315g              | 260g             | 330g              | 320g              |

## Dimensions (mm)

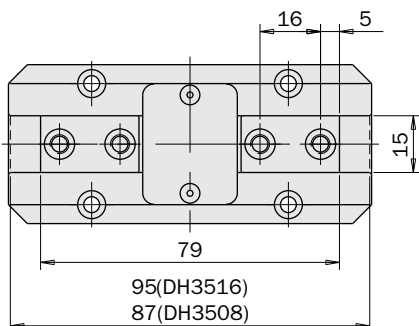
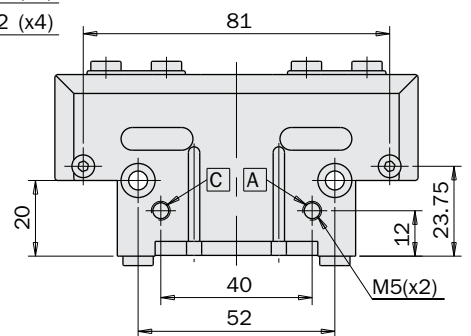
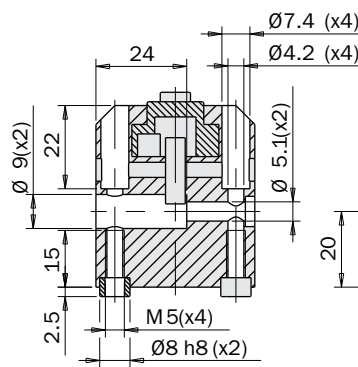
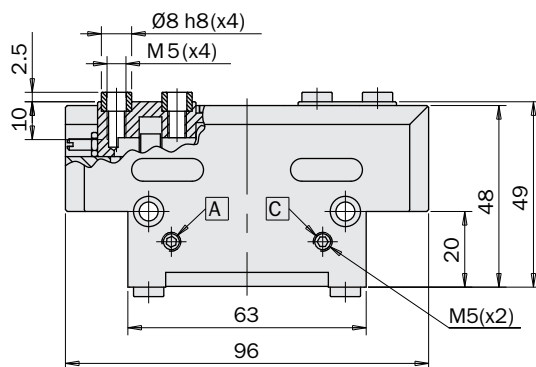
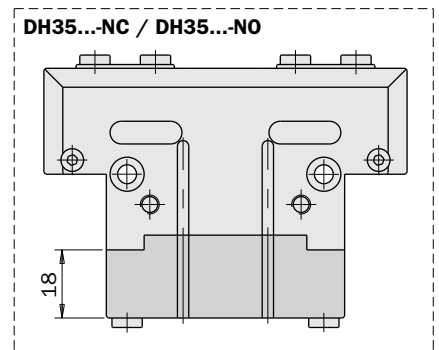
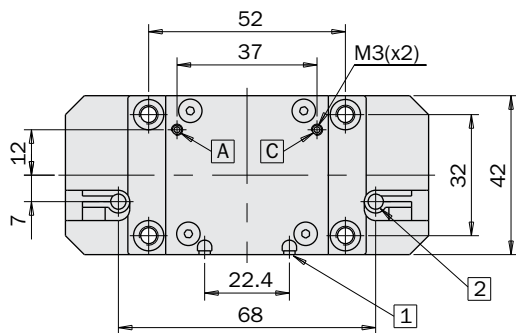


- 1** Sensor groove
- 2** Ø4 inductive sensor holder
- A** Compressed air in A: gripper opening
- C** Compressed air in C: gripper closing



|  | DH3516  | DH3516-NC         | DH3516-NO         | DH3508            | DH3508-NC         | DH3508-NO         |
|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                   |                   |
| Pressure range                           | 1.5 ÷ 8bar  | 4 ÷ 8bar          | 4 ÷ 8bar          | 1.5 ÷ 8bar        | 4 ÷ 8bar          | 4 ÷ 8bar          |
| Temperature range                        | 5 ÷ 100°C.  |                   |                   |                   |                   |                   |
| Opening gripping force at 6 bar each jaw | 250N  | 140 ÷ 177N        | 323 ÷ 360N        | 500N              | 280 ÷ 353N        | 647 ÷ 720N        |
| Opening total gripping force at 6 bar    | 500N  | 280 ÷ 354N        | 646 ÷ 720N        | 1000N             | 560 ÷ 706N        | 1294 ÷ 1440N      |
| Closing gripping force at 6 bar each jaw | 220N  | 298 ÷ 319N        | 122 ÷ 143N        | 440N              | 595 ÷ 639N        | 244 ÷ 287N        |
| Closing total gripping force at 6 bar    | 440N  | 596 ÷ 638N        | 244 ÷ 286N        | 880N              | 1190 ÷ 1278N      | 488 ÷ 574N        |
| Total stroke (±0.3mm)                    | 16mm  |                   |                   | 8mm               |                   |                   |
| Maximum working frequency                | 3Hz   |                   |                   |                   |                   |                   |
| Cycle air consumption                    | 18cm <sup>3</sup>   | 25cm <sup>3</sup> | 25cm <sup>3</sup> | 18cm <sup>3</sup> | 25cm <sup>3</sup> | 25cm <sup>3</sup> |
| Closing / opening minimum time           | 0.03s / 0.03s   | 0.03s / 0.04s     | 0.04s / 0.03s     | 0.03s / 0.03s     | 0.03s / 0.04s     | 0.04s / 0.03s     |
| Repetition accuracy                      | 0.02mm  |                   |                   |                   |                   |                   |
| Weight                                   | 460g  | 550g              | 540g              | 470g              | 560g              | 550g              |

**Dimensions (mm)**

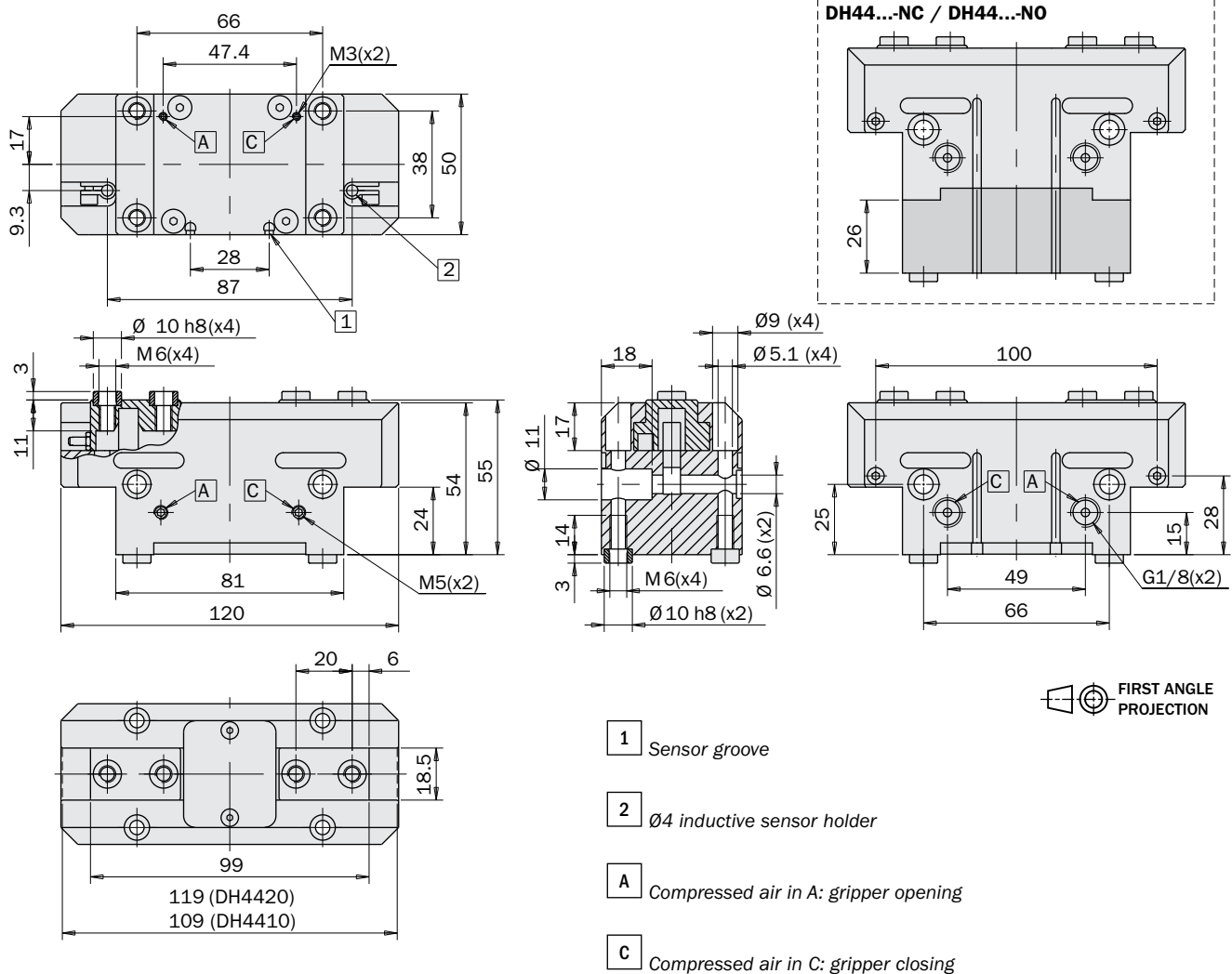


FIRST ANGLE PROJECTION

- 1 Sensor groove
- 2 Ø4 inductive sensor holder
- A Compressed air in A: gripper opening
- C Compressed air in C: gripper closing

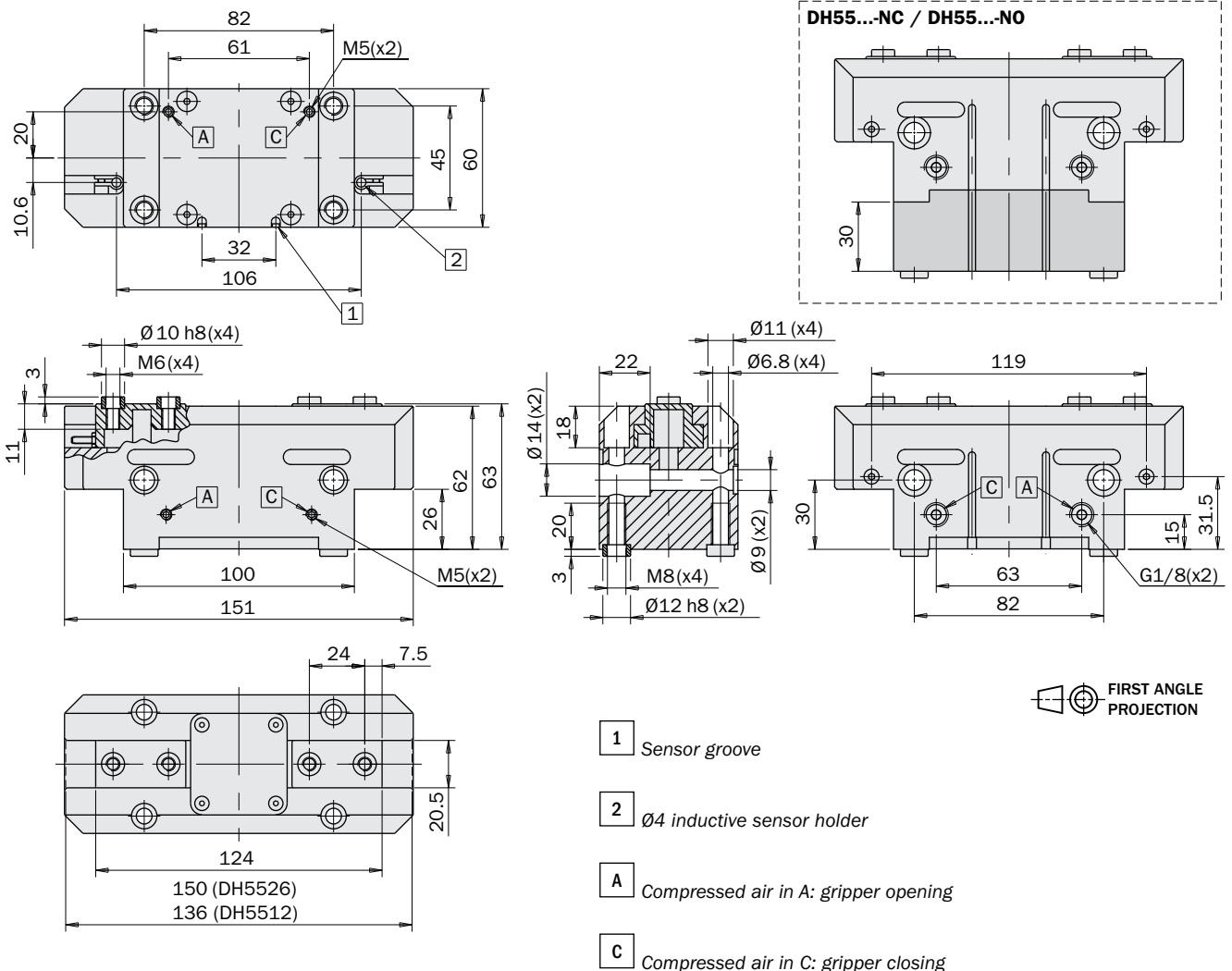
|  | DH4420  | DH4420-NC         | DH4420-NO         | DH4410            | DH4410-NC         | DH4410-NO         |
|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                   |                   |
| Pressure range                           | 1.5 ÷ 8bar  | 4 ÷ 8bar          | 4 ÷ 8bar          | 1.5 ÷ 8bar        | 4 ÷ 8bar          | 4 ÷ 8bar          |
| Temperature range                        | 5 ÷ 100°C.  |                   |                   |                   |                   |                   |
| Opening gripping force at 6 bar each jaw | 405N  | 236 ÷ 298N        | 513 ÷ 575N        | 810N              | 472 ÷ 595N        | 1027 ÷ 1150N      |
| Opening total gripping force at 6 bar    | 810N  | 472 ÷ 596N        | 1026 ÷ 1150N      | 1620N             | 944 ÷ 1190N       | 2054 ÷ 2300N      |
| Closing gripping force at 6 bar each jaw | 365N  | 472 ÷ 534N        | 195 ÷ 257N        | 730N              | 945 ÷ 1068N       | 390 ÷ 513N        |
| Closing total gripping force at 6 bar    | 730N  | 944 ÷ 1068N       | 390 ÷ 514N        | 1460N             | 1890 ÷ 2136N      | 780 ÷ 1026N       |
| Total stroke (±0.3mm)                    | 20mm  |                   |                   | 10mm              |                   |                   |
| Maximum working frequency                | 2Hz   |                   |                   |                   |                   |                   |
| Cycle air consumption                    | 36cm <sup>3</sup>   | 52cm <sup>3</sup> | 52cm <sup>3</sup> | 36cm <sup>3</sup> | 52cm <sup>3</sup> | 52cm <sup>3</sup> |
| Closing / opening minimum time           | 0.08s / 0.08s   | 0.06s / 0.13s     | 0.13s / 0.06s     | 0.08s / 0.08s     | 0.06s / 0.13s     | 0.13s / 0.06s     |
| Repetition accuracy                      | 0.02mm  |                   |                   |                   |                   |                   |
| Weight                                   | 780g  | 990g              | 960g              | 800g              | 1010g             | 980g              |

## Dimensions (mm)



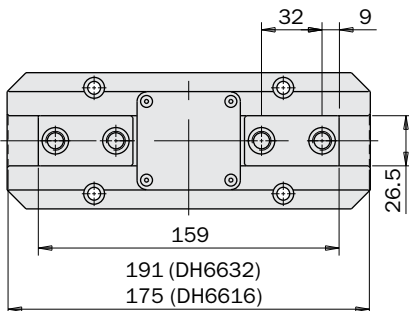
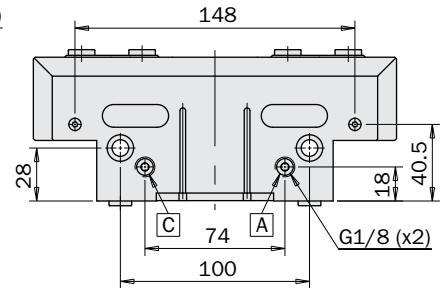
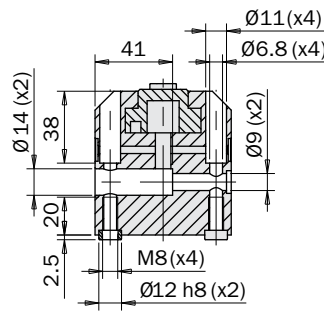
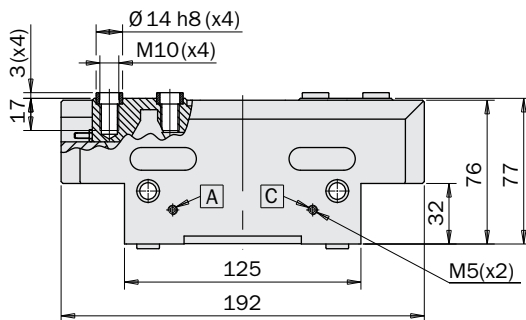
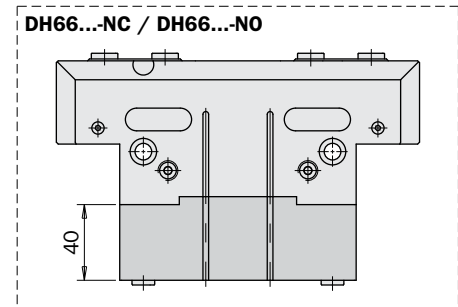
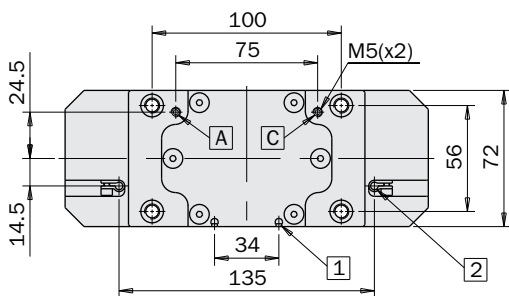
|  | DH5526  | DH5526-NC         | DH5526-NO         | DH5512            | DH5512-NC         | DH5512-NO         |
|--|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                   |                   |
| Pressure range                           | 1.5 ÷ 8bar  | 4 ÷ 8bar          | 4 ÷ 8bar          | 1.5 ÷ 8bar        | 4 ÷ 8bar          | 4 ÷ 8bar          |
| Temperature range                        | 5 ÷ 100°C.  |                   |                   |                   |                   |                   |
| Opening gripping force at 6 bar each jaw | 625N  | 359 ÷ 443N        | 807 ÷ 891N        | 1350N             | 774 ÷ 957N        | 1742 ÷ 1924N      |
| Opening total gripping force at 6 bar    | 1250N   | 718 ÷ 886N        | 1614 ÷ 1782N      | 2700N             | 1548 ÷ 1914N      | 3484 ÷ 3884N      |
| Closing gripping force at 6 bar each jaw | 555N  | 739 ÷ 823N        | 290 ÷ 375N        | 1200N             | 1595 ÷ 1777N      | 627 ÷ 809N        |
| Closing total gripping force at 6 bar    | 1110N   | 1478 ÷ 1646N      | 580 ÷ 750N        | 2400N             | 3190 ÷ 3554N      | 1254 ÷ 1618N      |
| Total stroke (±0.3mm)                    | 26mm  |                   |                   | 12mm              |                   |                   |
| Maximum working frequency                | 2Hz   |                   |                   |                   |                   |                   |
| Cycle air consumption                    | 70cm <sup>3</sup>   | 97cm <sup>3</sup> | 97cm <sup>3</sup> | 70cm <sup>3</sup> | 97cm <sup>3</sup> | 97cm <sup>3</sup> |
| Closing / opening minimum time           | 0.11s / 0.11s   | 0.08s / 0.13s     | 0.13s / 0.08s     | 0.08s / 0.08s     | 0.06s / 0.13s     | 0.13s / 0.06s     |
| Repetition accuracy                      | 0.02mm  |                   |                   |                   |                   |                   |
| Weight                                   | 1350g   | 1750g             | 1700g             | 1370g             | 1770g             | 1720g             |

**Dimensions (mm)**



|  | DH6632  | DH6632-NC          | DH6632-NO          | DH6616             | DH6616-NC          | DH6616-NO          |
|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |
| Pressure range                           | 1.5 ÷ 8bar  | 4 ÷ 8bar           | 4 ÷ 8bar           | 1.5 ÷ 8bar         | 4 ÷ 8bar           | 4 ÷ 8bar           |
| Temperature range                        | 5 ÷ 100°C.  |                    |                    |                    |                    |                    |
| Opening gripping force at 6 bar each jaw | 920N  | 559 ÷ 663N         | 1180 ÷ 1284N       | 1840N              | 1119 ÷ 1326N       | 2361 ÷ 2568N       |
| Opening total gripping force at 6 bar    | 1840N   | 1118 ÷ 1326N       | 2360 ÷ 2568N       | 3680N              | 2238 ÷ 2652N       | 4722 ÷ 5136N       |
| Closing gripping force at 6 bar each jaw | 820N  | 1078 ÷ 1181N       | 457 ÷ 560N         | 1640N              | 2156 ÷ 2363N       | 914 ÷ 1121N        |
| Closing total gripping force at 6 bar    | 1640N   | 2156 ÷ 2362N       | 914 ÷ 1120N        | 3280N              | 4312 ÷ 4726N       | 1828 ÷ 2242N       |
| Total stroke (±0.3mm)                    | 32mm  |                    |                    | 16mm               |                    |                    |
| Maximum working frequency                | 2Hz   |                    |                    |                    |                    |                    |
| Cycle air consumption                    | 127cm <sup>3</sup>  | 178cm <sup>3</sup> | 178cm <sup>3</sup> | 127cm <sup>3</sup> | 178cm <sup>3</sup> | 178cm <sup>3</sup> |
| Closing / opening minimum time           | 0.15s / 0.15s   | 0.12s / 0.18s      | 0.18s / 0.12s      | 0.15s / 0.15s      | 0.12s / 0.18s      | 0.18s / 0.12s      |
| Repetition accuracy                      | 0.02mm  |                    |                    |                    |                    |                    |
| Weight                                   | 2630g   | 3430g              | 3300g              | 2670g              | 3470g              | 3340g              |

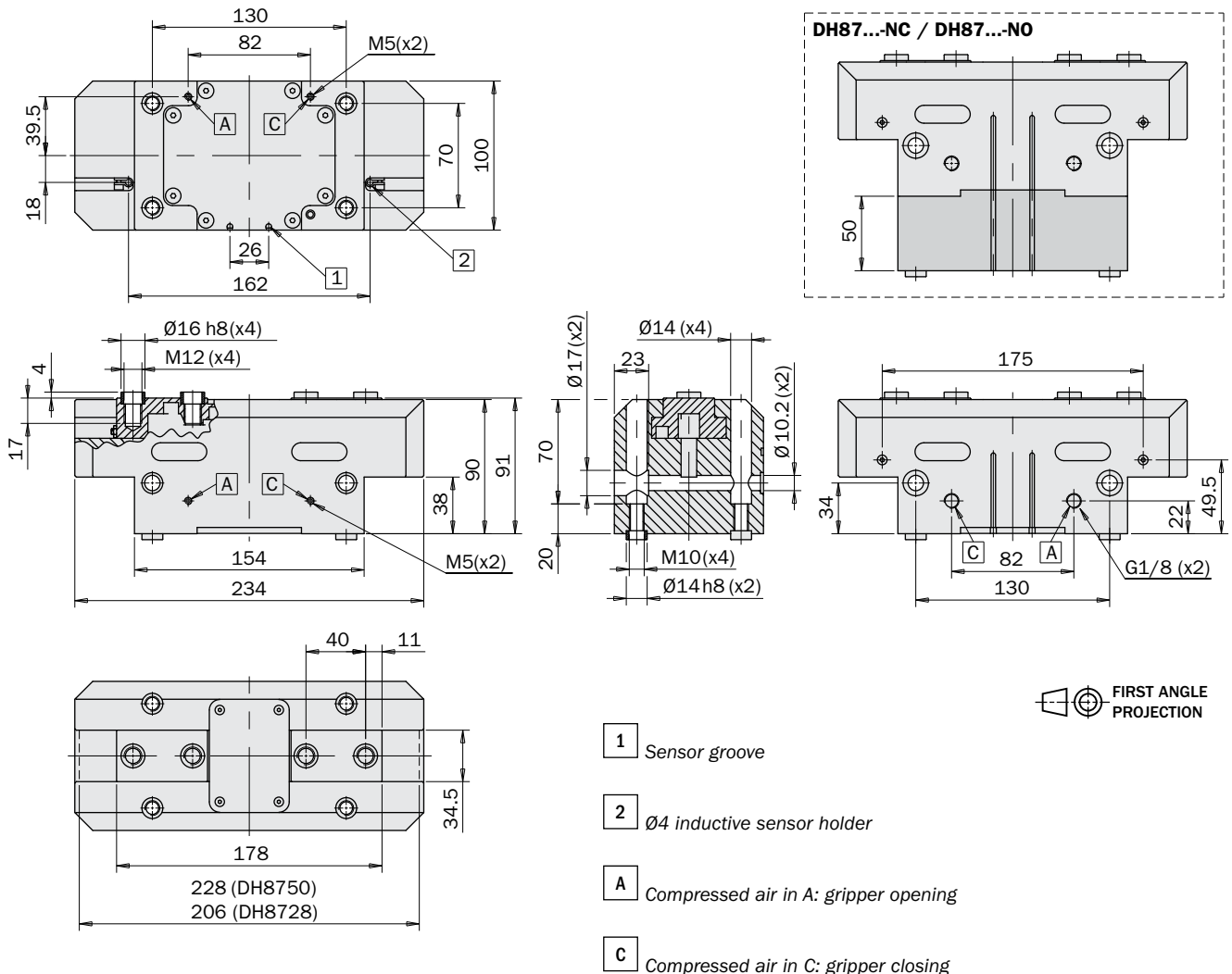
## Dimensions (mm)



- 1** Sensor groove
- 2** Ø4 inductive sensor holder
- A** Compressed air in A: gripper opening
- C** Compressed air in C: gripper closing

|  | DH8750  | DH8750-NC          | DH8750-NO          | DH8728             | DH8728-NC          | DH8728-NO          |
|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Medium                                   | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |
| Pressure range                           | 1.5 ÷ 8bar  | 4 ÷ 8bar           | 4 ÷ 8bar           | 1.5 ÷ 8bar         | 4 ÷ 8bar           | 4 ÷ 8bar           |
| Temperature range                        | 5 ÷ 100°C.  |                    |                    |                    |                    |                    |
| Opening gripping force at 6 bar each jaw | 1560N   | 977 ÷ 1129N        | 1992 ÷ 2144N       | 2750N              | 1720 ÷ 1988N       | 3509 ÷ 3776N       |
| Opening total gripping force at 6 bar    | 3120N   | 1954 ÷ 2258N       | 3984 ÷ 4288N       | 5500N              | 3440 ÷ 3976N       | 7018 ÷ 7552N       |
| Closing gripping force at 6 bar each jaw | 1420N   | 1853 ÷ 2005N       | 837 ÷ 989N         | 2500N              | 3263 ÷ 3531N       | 1475 ÷ 1742N       |
| Closing total gripping force at 6 bar    | 2840N   | 3706 ÷ 4010N       | 1674 ÷ 1978N       | 5000N              | 6526 ÷ 7026N       | 2950 ÷ 3484N       |
| Total stroke (±0.3mm)                    | 50mm  |                    |                    | 28mm               |                    |                    |
| Maximum working frequency                | 1Hz   |                    |                    |                    |                    |                    |
| Cycle air consumption                    | 347cm <sup>3</sup>  | 472cm <sup>3</sup> | 472cm <sup>3</sup> | 347cm <sup>3</sup> | 472cm <sup>3</sup> | 472cm <sup>3</sup> |
| Closing / opening minimum time           | 0.21s / 0.21s   | 0.19s / 0.31s      | 0.31s / 0.19s      | 0.21s / 0.21s      | 0.19s / 0.31s      | 0.31s / 0.19s      |
| Repetition accuracy                      | 0.02mm  |                    |                    |                    |                    |                    |
| Weight                                   | 4990g   | 6920g              | 6750g              | 5050g              | 6980g              | 6810g              |

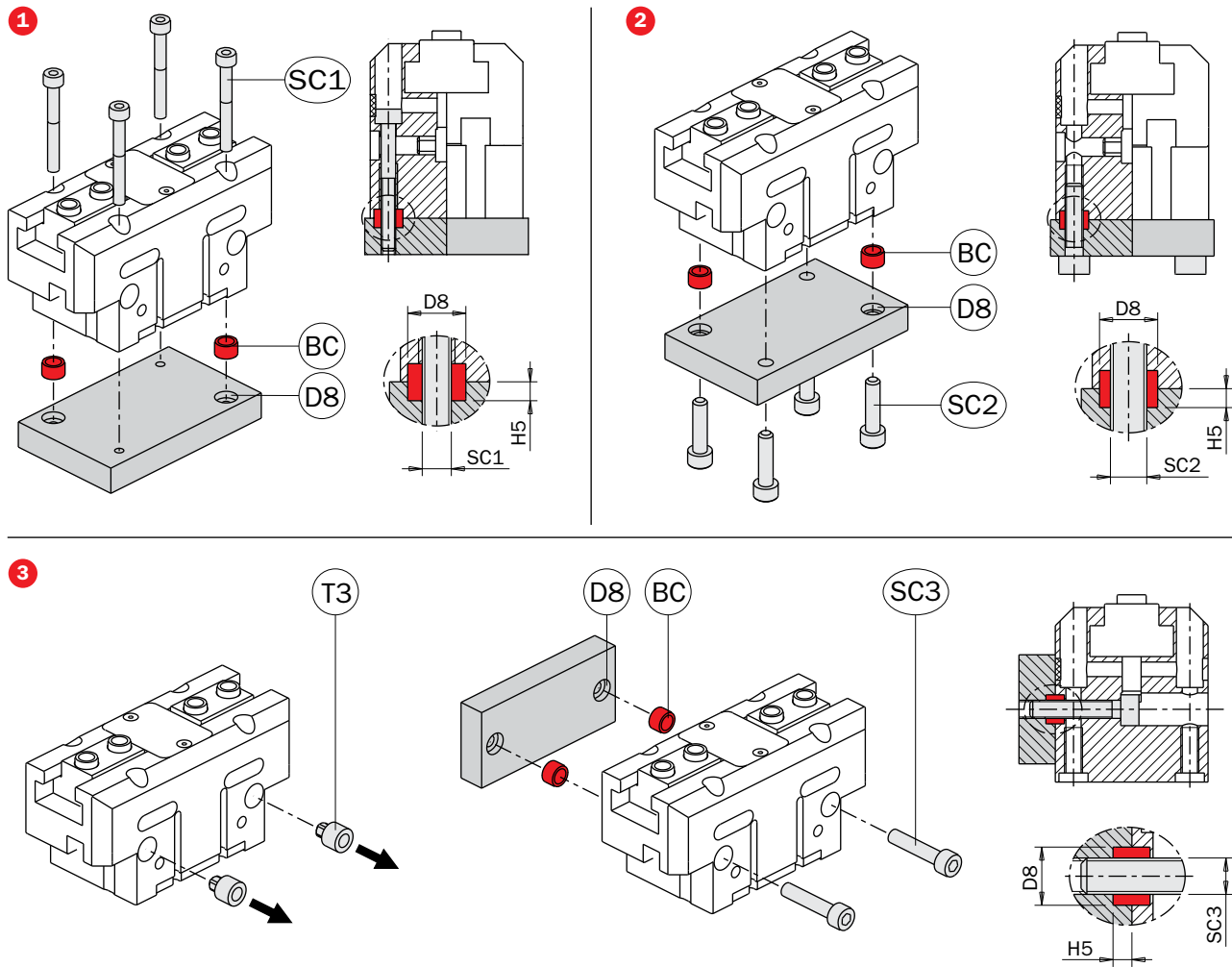
**Dimensions (mm)**



**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.

- 1) To fasten gripper to base, use four screws (SC1) in the through holes.
  - 2) To fasten gripper to base, you can also use four screws (SC2) through the mounting plate, screwed in the gripper.
  - 3) To fasten the gripper side, use two screws (SC3) in the through holes, after removing the protection plugs (T3).
- In every case, put the two centering sleeves (BC), which are supplied in the package. Check the dimensions in the table (D8 and H5) for their housings in the mounting plate.

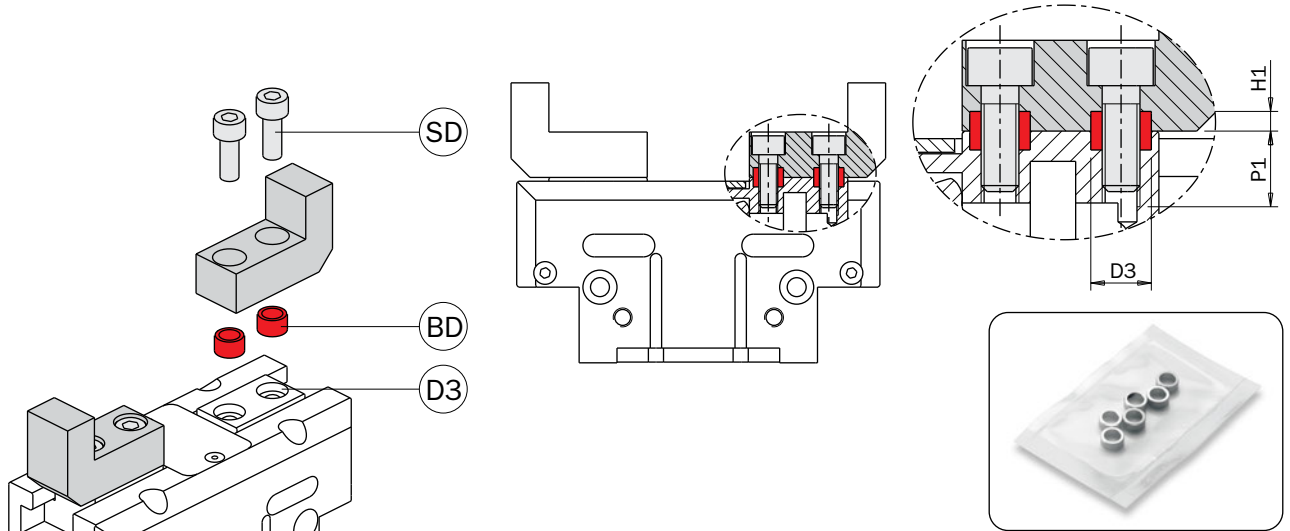


|     |              | DH19... | DH22... | DH27... | DH35... | DH44... | DH55... | DH66... | DH87... |
|-----|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
| D8  | H8           | Ø5      | Ø6      | Ø8      | Ø8      | Ø10     | Ø12     | Ø12     | Ø14     |
| H5  | +0.1<br>+0.2 | 2       | 2.5     | 2.5     | 2.5     | 3       | 3       | 2.5     | 4       |
| SC1 |              | M2.5    | M3      | M4      | M4      | M5      | M6      | M6      | M8      |
| SC2 |              | M3      | M4      | M5      | M5      | M6      | M8      | M8      | M10     |
| SC3 |              | M2.5    | M3      | M4      | M5      | M6      | M8      | M8      | M10     |

**Gripping tool fastening**

The gripping tools must be as short and light as possible. They must be fastened by two screws (SD) and two centering sleeves (BD) in the calibrated holes (D3) of the jaws.

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



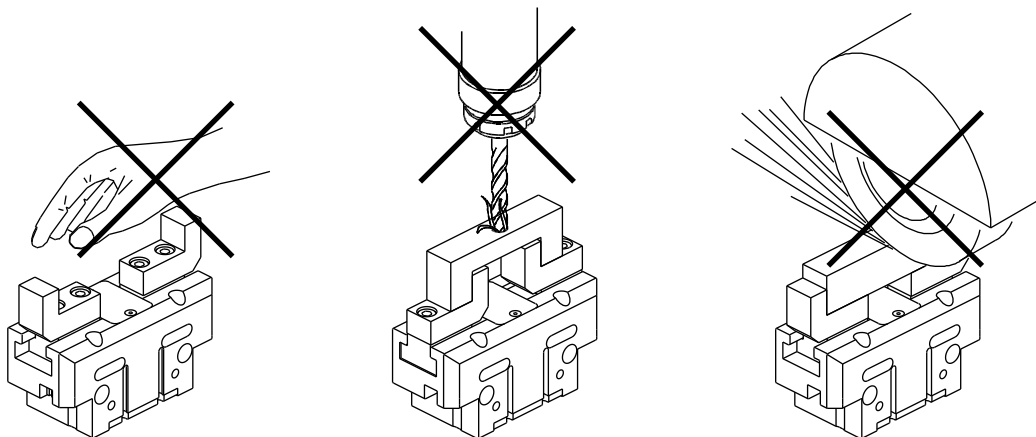
|    |              | DH19... | DH22... | DH27... | DH35... | DH44... | DH55... | DH66... | DH87... |
|----|--------------|---------|---------|---------|---------|---------|---------|---------|---------|
| D3 | H8           | Ø4      | Ø5      | Ø6      | Ø8      | Ø10     | Ø10     | Ø14     | Ø16     |
| H1 | +0.1<br>+0.2 | 2       | 1.4     | 2.5     | 2.5     | 3       | 3       | 3       | 4       |
| P1 |              | 5       | 6       | 8       | 9.5     | 11      | 11      | 17      | 17      |
| SD |              | M2.5    | M3      | M4      | M5      | M6      | M6      | M10     | M12     |

**Cautions**

Avoid the gripper coming into contact with the following media: coolants which cause corrosion, grinding dust or glowing sparks.

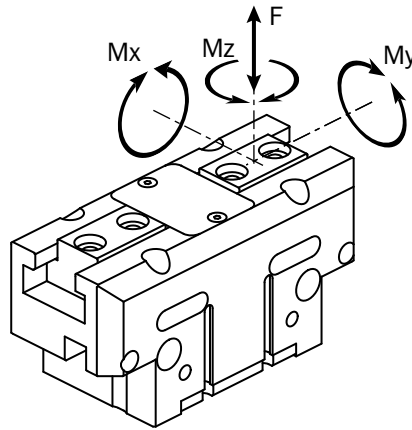
Make sure that nobody can place his/her hand between the gripping tools and there are no objects in the path of the gripper.

The gripper must not run before the whole machine, on which it is mounted, complies with the laws or safety norms of your country.



**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.  
 $m$ , is the maximum permitted weight of each gripping tool, when the gripper works without speed adjustment. If the weight is over the permitted value, it is necessary to decrease the speed of the jaw by using flow controllers (not supplied).



|         | DH1905<br>DH1905-NC<br>DH1905-NO | DH2208<br>DH2208-NC<br>DH2208-NO | DH2204<br>DH2204-NC<br>DH2204-NO | DH2712<br>DH2712-NC<br>DH2712-NO | DH2706<br>DH2706-NC<br>DH2706-NO | DH3516<br>DH3516-NC<br>DH3516-NO | DH3508<br>DH3508-NC<br>DH3508-NO |
|---------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| $F_s$   | 200N                             | 350N                             | 350N                             | 600N                             | 600N                             | 900N                             | 900N                             |
| $M_x_s$ | 2.5Nm                            | 5Nm                              | 7.5Nm                            | 8Nm                              | 13Nm                             | 18Nm                             | 30Nm                             |
| $M_y_s$ | 2.5Nm                            | 7.5Nm                            | 7.5Nm                            | 13Nm                             | 13Nm                             | 30Nm                             | 30Nm                             |
| $M_z_s$ | 2Nm                              | 4Nm                              | 6Nm                              | 6.5Nm                            | 10Nm                             | 15Nm                             | 23Nm                             |
| $F_d$   | 2N                               | 4N                               | 4N                               | 6N                               | 6N                               | 9N                               | 9N                               |
| $M_x_d$ | 0.06Nm                           | 0.12Nm                           | 0.12Nm                           | 0.25Nm                           | 0.25Nm                           | 0.5Nm                            | 0.5Nm                            |
| $M_y_d$ | 0.06Nm                           | 0.12Nm                           | 0.12Nm                           | 0.25Nm                           | 0.25Nm                           | 0.5Nm                            | 0.5Nm                            |
| $M_z_d$ | 0.06Nm                           | 0.12Nm                           | 0.12Nm                           | 0.25Nm                           | 0.25Nm                           | 0.5Nm                            | 0.5Nm                            |
| $m$     | 100g                             | 180g                             | 180g                             | 350g                             | 350g                             | 600g                             | 600g                             |

|         | DH4420<br>DH4420-NC<br>DH4420-NO | DH4410<br>DH4410-NC<br>DH4410-NO | DH5526<br>DH5526-NC<br>DH5526-NO | DH5512<br>DH5512-NC<br>DH5512-NO | DH6632<br>DH6632-NC<br>DH6632-NO | DH6616<br>DH6616-NC<br>DH6616-NO | DH8750<br>DH8750-NC<br>DH8750-NO | DH8728<br>DH8728-NC<br>DH8728-NO |
|---------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| $F_s$   | 1500N                            | 1500N                            | 2500N                            | 2500N                            | 4000N                            | 4000N                            | 7000N                            | 7000N                            |
| $M_x_s$ | 40Nm                             | 60Nm                             | 80Nm                             | 125Nm                            | 145Nm                            | 215Nm                            | 350Nm                            | 400Nm                            |
| $M_y_s$ | 60Nm                             | 60Nm                             | 80Nm                             | 80Nm                             | 145Nm                            | 145Nm                            | 200Nm                            | 200Nm                            |
| $M_z_s$ | 30Nm                             | 45Nm                             | 65Nm                             | 95Nm                             | 115Nm                            | 165Nm                            | 280Nm                            | 300Nm                            |
| $F_d$   | 15N                              | 15N                              | 25N                              | 25N                              | 40N                              | 40N                              | 70N                              | 70N                              |
| $M_x_d$ | 1Nm                              | 1Nm                              | 2Nm                              | 2Nm                              | 4Nm                              | 4Nm                              | 8Nm                              | 8Nm                              |
| $M_y_d$ | 1Nm                              | 1Nm                              | 2Nm                              | 2Nm                              | 4Nm                              | 4Nm                              | 8Nm                              | 8Nm                              |
| $M_z_d$ | 1Nm                              | 1Nm                              | 2Nm                              | 2Nm                              | 4Nm                              | 4Nm                              | 8Nm                              | 8Nm                              |
| $m$     | 1100g                            | 1100g                            | 2100g                            | 2100g                            | 3500g                            | 3500g                            | 6500g                            | 6500g                            |



**Compressed air feeding**

The compressed air feeding can be accomplished by the main lateral air ports on the gripper side, after mounting fittings and hoses (not supplied).

Or the compressed air can be supplied directly by the mounting plate, through O-Rings (not supplied), after removing the plugs.

This is possible with the gripper fastened on the bottom, or on one side, after plugging the main air ports.

Check the dimensions in the table for the housings of the O-Rings in the mounting plate.

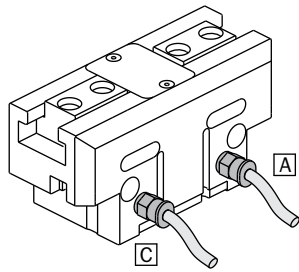
Compressed air in A: gripper opening.

Compressed air in C: gripper closing.

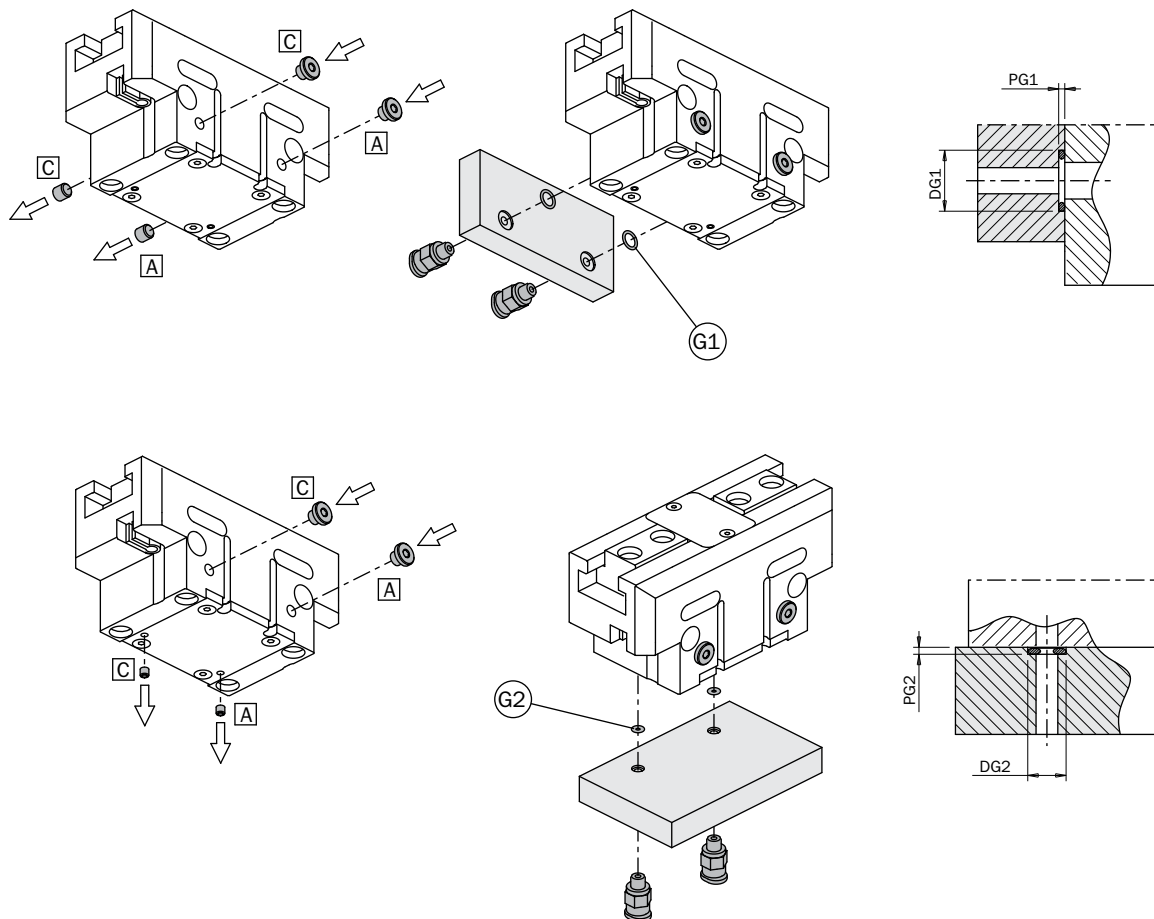
Compressed air must be supplied filtered (5÷40µm), not necessarily lubricated.

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.



|     |      | DH19...               | DH22... | DH27... | DH35...               | DH44...               | DH55... | DH66... | DH87... |  |
|-----|------|-----------------------|---------|---------|-----------------------|-----------------------|---------|---------|---------|--|
| G1  |      | O-Ring 1x3 (GUAR-082) |         |         | O-Ring 1x5 (GUAR-021) |                       |         |         |         |  |
| DG1 | H11  | Ø5 mm                 |         |         | Ø7 mm                 |                       |         |         |         |  |
| PG1 | +0.1 | 0.7 mm                |         |         |                       |                       |         |         |         |  |
| G2  |      | O-Ring 1x3 (GUAR-082) |         |         |                       | O-Ring 1x5 (GUAR-021) |         |         |         |  |
| DG2 | H11  | Ø5 mm                 |         |         |                       | Ø7 mm                 |         |         |         |  |
| PG2 | +0.1 | 0.4 mm                | 0.4 mm  | 0.4 mm  | 0.4 mm                | 0.5 mm                | 0.5 mm  | 0.5 mm  | 0.7 mm  |  |



**2-jaw self-centering parallel pneumatic gripper (series SP)**

- Double-acting drive.
- Backlash adjusting system.
- Maintenance-free long life and reliability.
- Various mounting and feeding options.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



SP-20

SP-25

SP-32

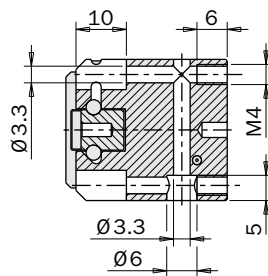
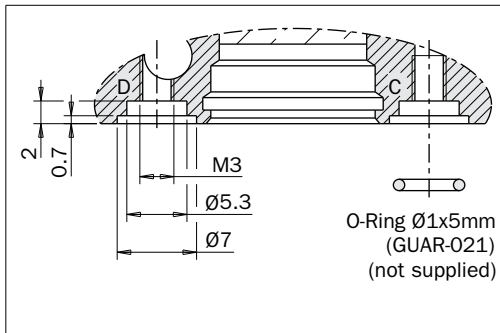
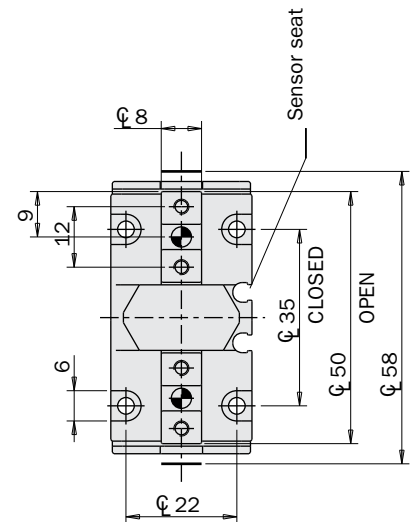
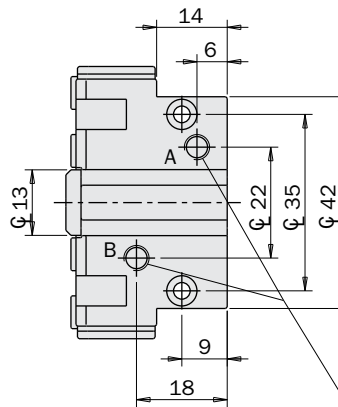
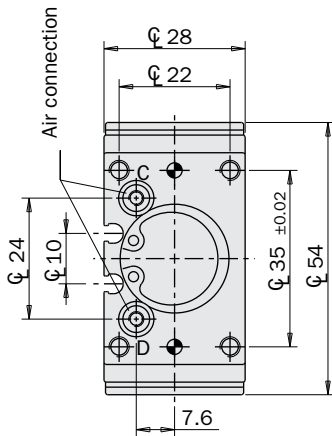
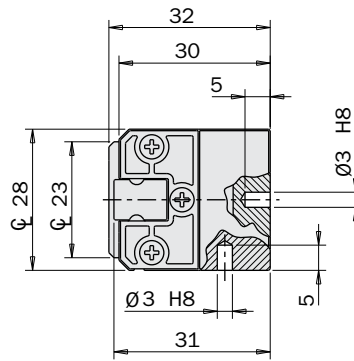
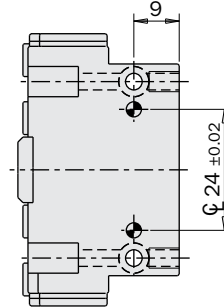
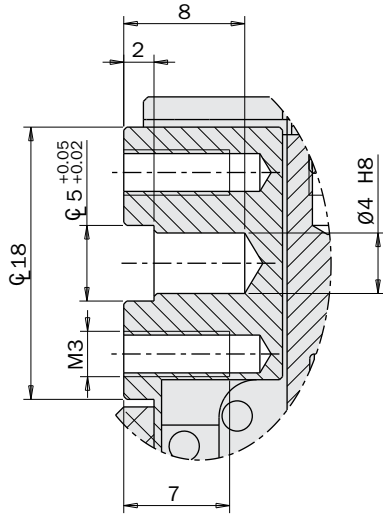
SP-40

|   | SP-20   | SP-25             | SP-32              | SP-40              |
|---|---|-------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                    |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                   |                    |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                   |                    |                    |
| Opening gripping force at 6 bar on each jaw | 70 N  | 120 N             | 220 N              | 350 N              |
| Total opening gripping force at 6 bar       | 140 N   | 240 N             | 440 N              | 700 N              |
| Closing gripping force at 6 bar on each jaw | 65 N  | 110 N             | 200 N              | 320 N              |
| Total closing gripping force at 6 bar       | 130 N   | 220 N             | 400 N              | 640 N              |
| Total stroke (±0.2 mm)                      | 8 mm  | 12 mm             | 16 mm              | 20 mm              |
| Maximum continuous operating frequency      | 3 Hz  | 2 Hz              | 2 Hz               | 2 Hz               |
| Air consumption per cycle                   | 3 cm <sup>3</sup>   | 6 cm <sup>3</sup> | 13 cm <sup>3</sup> | 31 cm <sup>3</sup> |
| Closing time without load                   | 0.03 s  | 0.05 s            | 0.05 s             | 0.05 s             |
| Maximum repeatability tolerance             | ±0.02 mm  | ±0.02 mm          | ±0.02 mm           | ±0.02 mm           |
| Weight                                      | 105 g   | 210 g             | 380 g              | 600 g              |

**Dimensions (mm)**

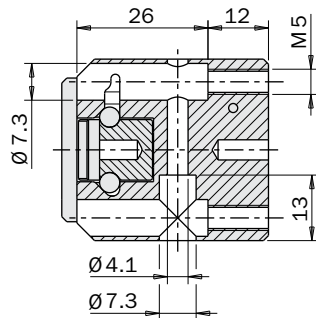
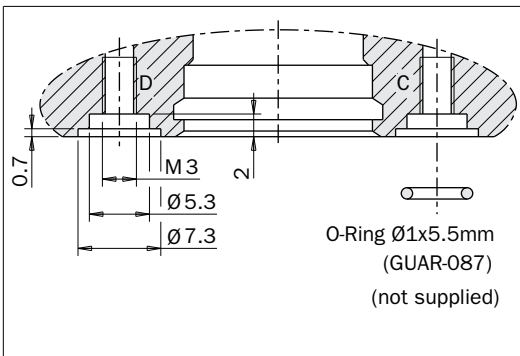
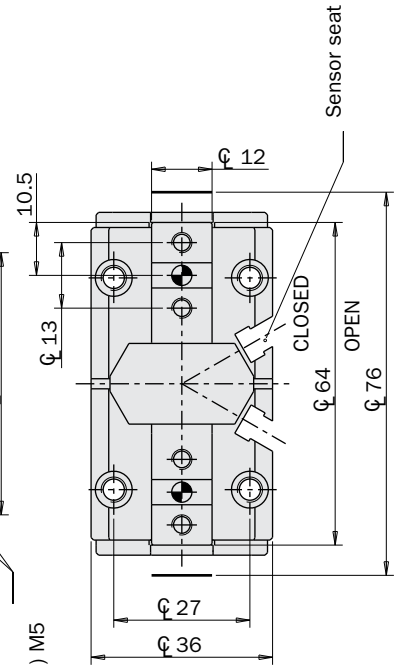
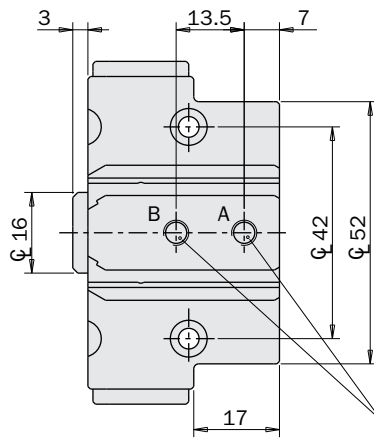
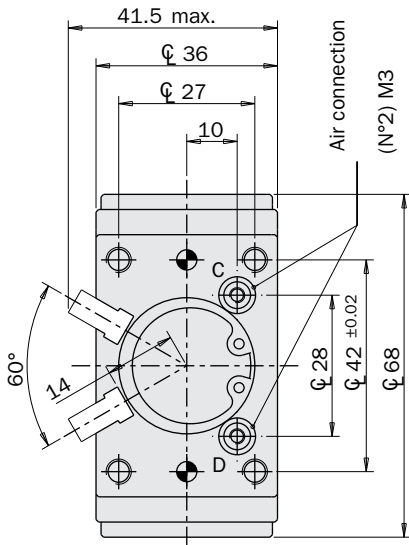
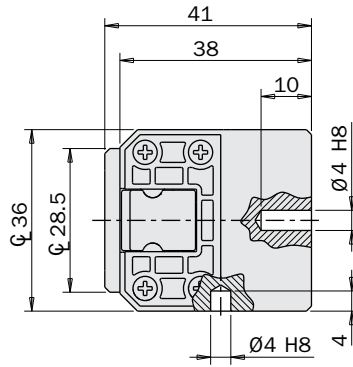
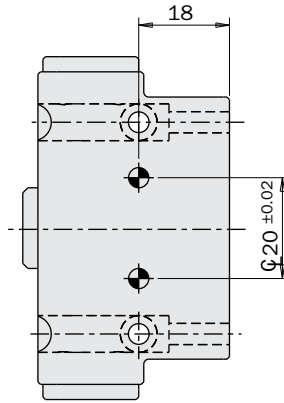
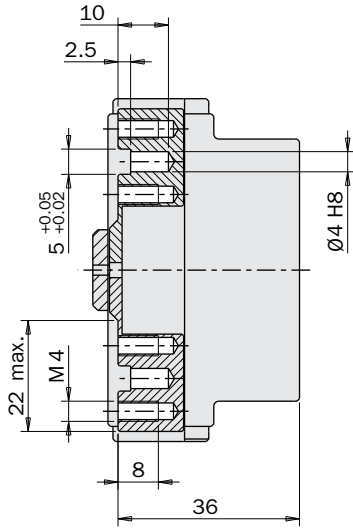
**SP-20**

Jaw cross section



Air connection  
(N°2) M5

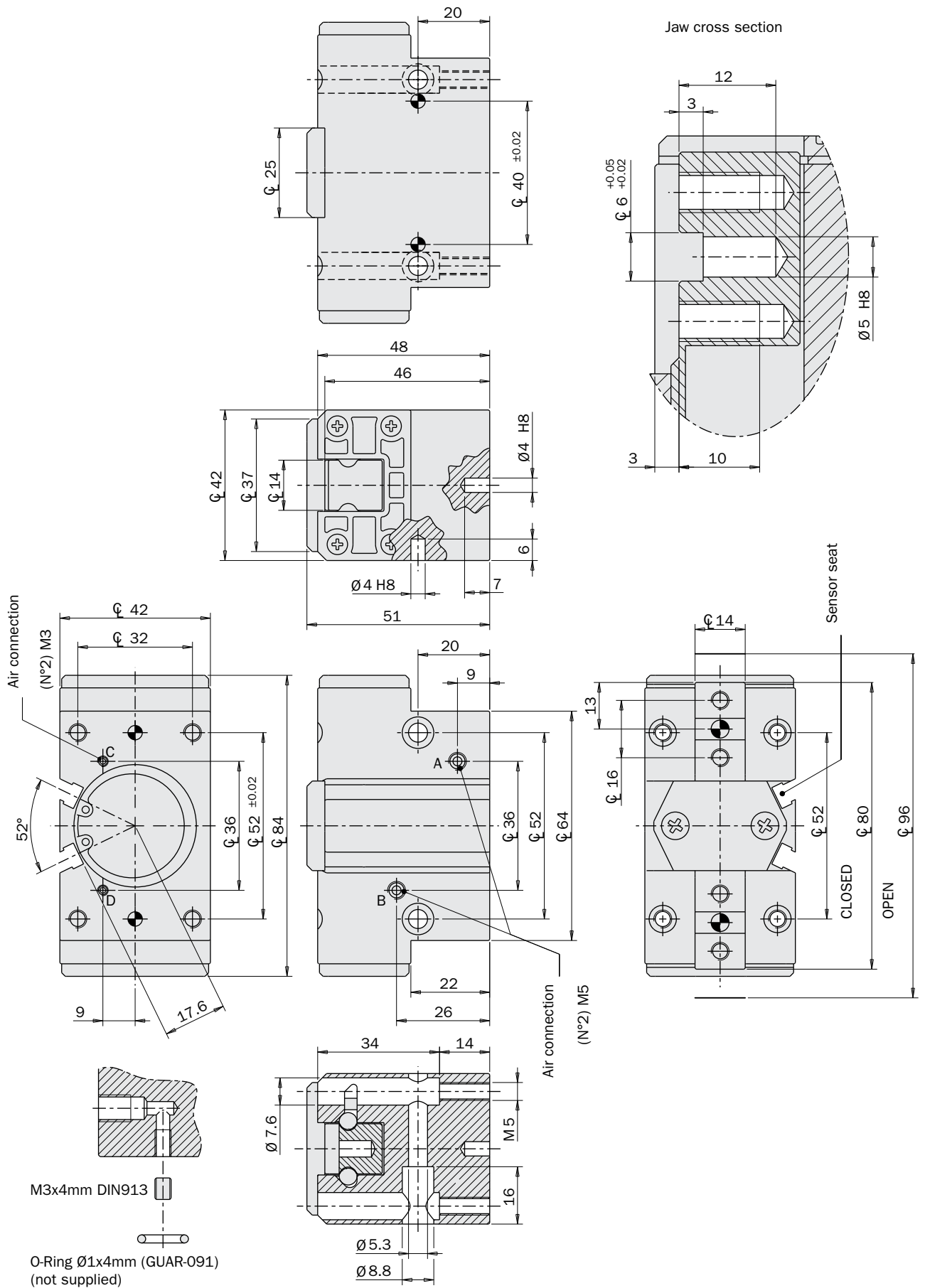
Jaw cross section

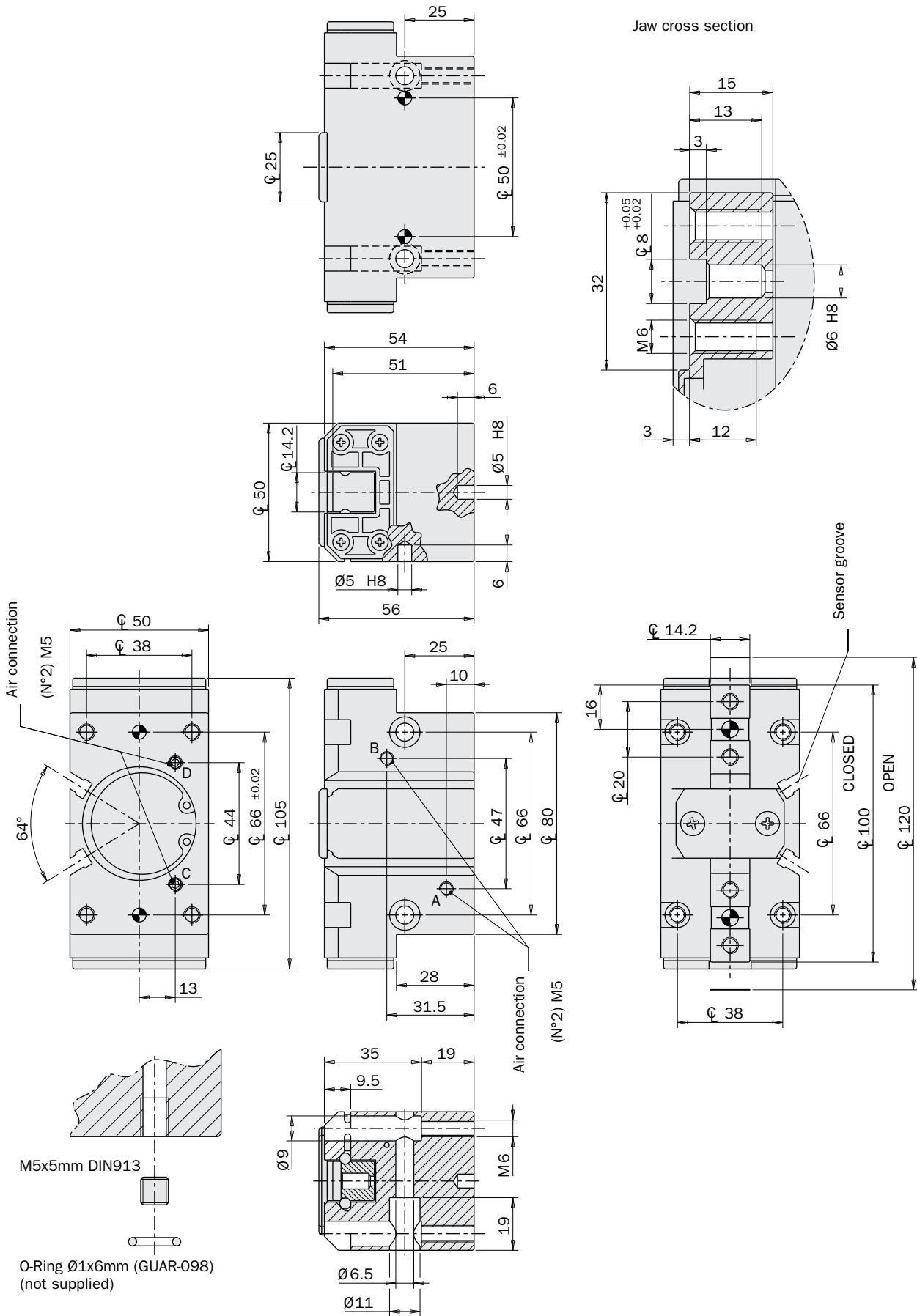


Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

**Dimensions (mm)**

**SP-32**



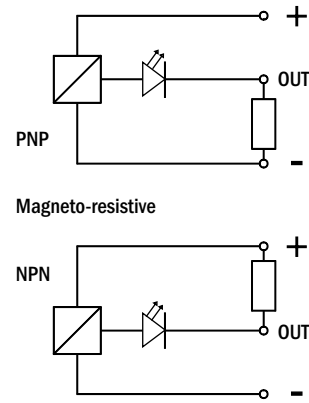


**Sensors**

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:



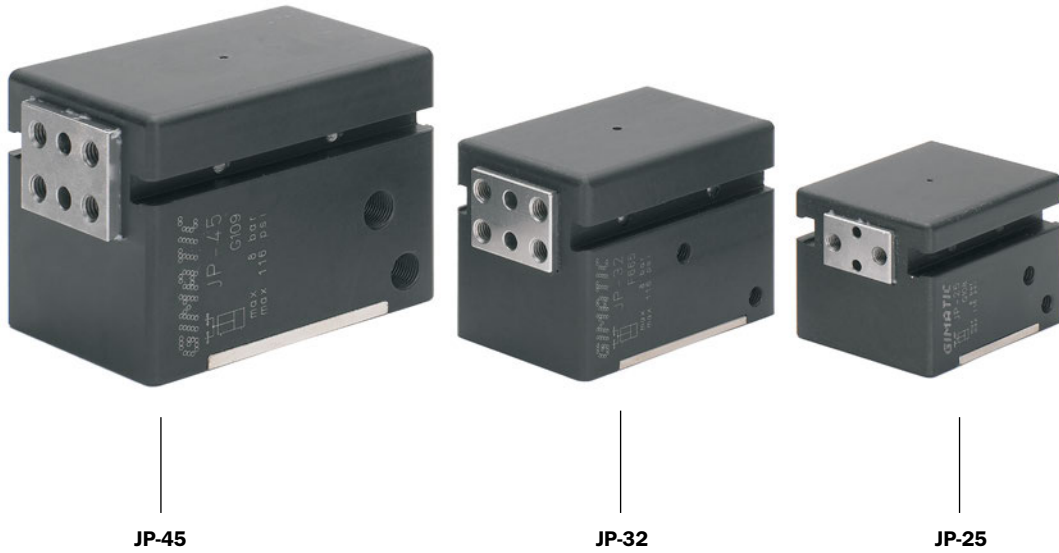
|           |     |              | SP-20<br>⌋                          | SP-25 / SP-32 / SP-40<br>⌋              |
|-----------|-----|--------------|-------------------------------------|---|
| SL4N225-G | PNP | 2.5m cable   | <input type="checkbox"/>            | <input checked="" type="checkbox"/>     |
| SL4M225-G | NPN |              |                                     |   |
| SL3N203-G | PNP | M8 connector | <input type="checkbox"/>            | <input checked="" type="checkbox"/>     |
| SL3M203-G | NPN |              |                                     |   |
| SN4N225-G | PNP | 2.5m cable   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> (*) |
| SN4M225-G | NPN |              |                                     |   |
| SN3N203-G | PNP | M8 connector | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> (*) |
| SN3M203-G | NPN |              |                                     |   |
| SS4N225-G | PNP | 2.5m cable   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> (*) |
| SS4M225-G | NPN |              |                                     |   |
| SS3N203-G | PNP | M8 connector | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> (*) |
| SS3M203-G | NPN |              |                                     |   |

(\*) Using the adapter SS.004.000 supplied with the sensor.



**2-jaw self-centering pneumatic parallel gripper (series JP)**

- Double acting.
- High gripping force.
- Suitable for heavy duty applications.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



JP-45

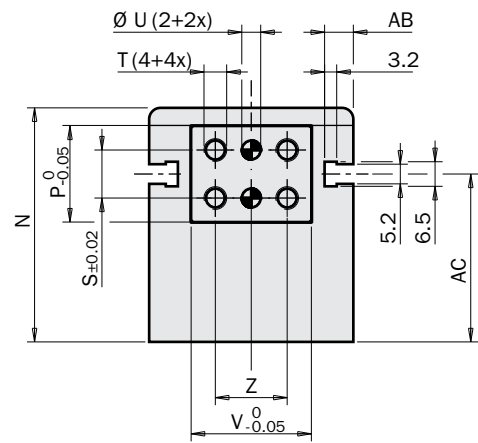
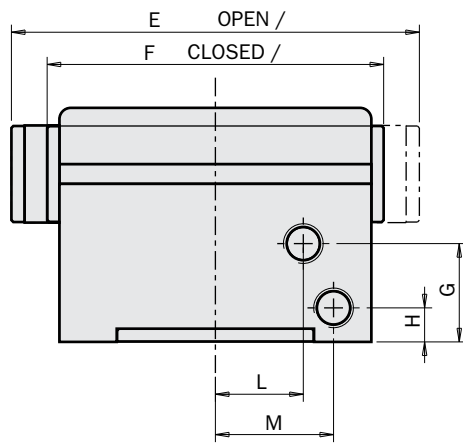
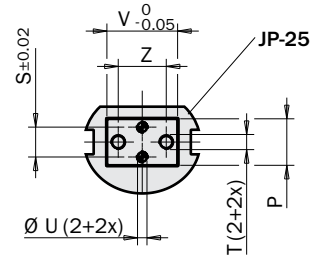
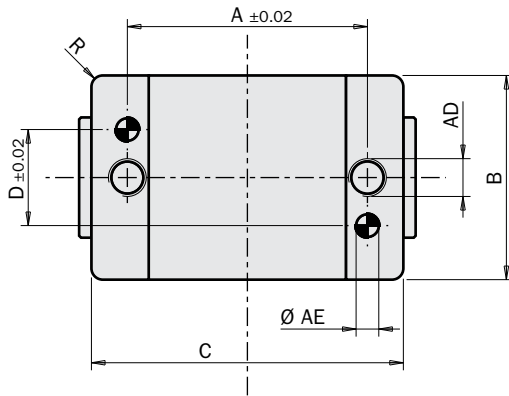
JP-32

JP-25

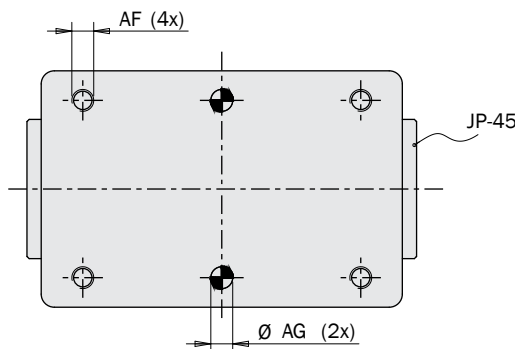
|   | JP-25   | JP-32              | JP-45              |
|---|---|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                    |                    |
| Operating temperature range                 | 5° ÷ 60° C.   |                    |                    |
| Opening gripping force at 6 bar on each jaw | 135 N   | 350 N              | 500 N              |
| Opening total gripping force at 6 bar       | 270 N   | 700 N              | 1000 N             |
| Closing gripping force at 6 bar on each jaw | 120 N   | 300 N              | 465 N              |
| Closing total gripping force at 6 bar       | 240 N   | 600 N              | 930 N              |
| Total stroke                                | 9.5 mm  | 12 mm              | 18.9 mm            |
| Maximum working frequency                   | 3 Hz  | 3 Hz               | 3 Hz               |
| Cycle air consumption                       | 6 cm <sup>3</sup>   | 16 cm <sup>3</sup> | 20 cm <sup>3</sup> |
| Closing time without load                   | 0.02 s  | 0.04 s             | 0.09 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm            | 0.02 mm            |
| Weight                                      | 240 g   | 450 g              | 1050 g             |



**Dimensions (mm)**



|              | A    | B    | C    | D    | E     | F  | G    | H | L    | M    | N    | P    | R | S    | T            | U              | V    | Z    | AB  | AC   | AD           | AE            | AF         | AG              |
|--------------|------|------|------|------|-------|----|------|---|------|------|------|------|---|------|--------------|----------------|------|------|-----|------|--------------|---------------|------------|-----------------|
| <b>JP-25</b> | 38.1 | 38.1 | 50.8 | 25.4 | 63.5  | 54 | 14.8 | 6 | 11.3 | 18.1 | 35.9 | 12.3 | 2 | 7.9  | M4<br>x6.5mm | Ø2.5H8<br>x6mm | 18.7 | 12.7 | 6.2 | 26.3 | M6<br>x12mm  | Ø5H8<br>x6mm  | -          | -               |
| <b>JP-32</b> | 50.8 | 41.3 | 63.5 | 19   | 80    | 68 | 22.5 | 6 | -    | 24   | 47.3 | 18.7 | 3 | 9.5  | M5<br>x10mm  | Ø4H8<br>x10mm  | 25   | 17.5 | 4.6 | 33.2 | M6<br>x12mm  | Ø5H8<br>x6mm  | -          | -               |
| <b>JP-45</b> | 63.5 | 54   | 82.5 | 25.4 | 107.9 | 89 | 26   | 9 | 23.2 | 31.2 | 61.9 | 25.4 | 3 | 12.7 | M6<br>x12mm  | Ø5H8<br>x10mm  | 31.8 | 19   | 7.6 | 44.4 | M10<br>x18mm | Ø6H8<br>x12mm | M5x4<br>mm | Ø5H9x4<br>x12mm |



## 2-jaw parallel self-centering pneumatic gripper (series HS)

- Specially suited for high speed machines.
- Very short closing/opening time.
- Low weight.
- Trouble free long life without maintenance.
- Long stroke.
- Reduced stroke (upon request).
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



**HS-2012**

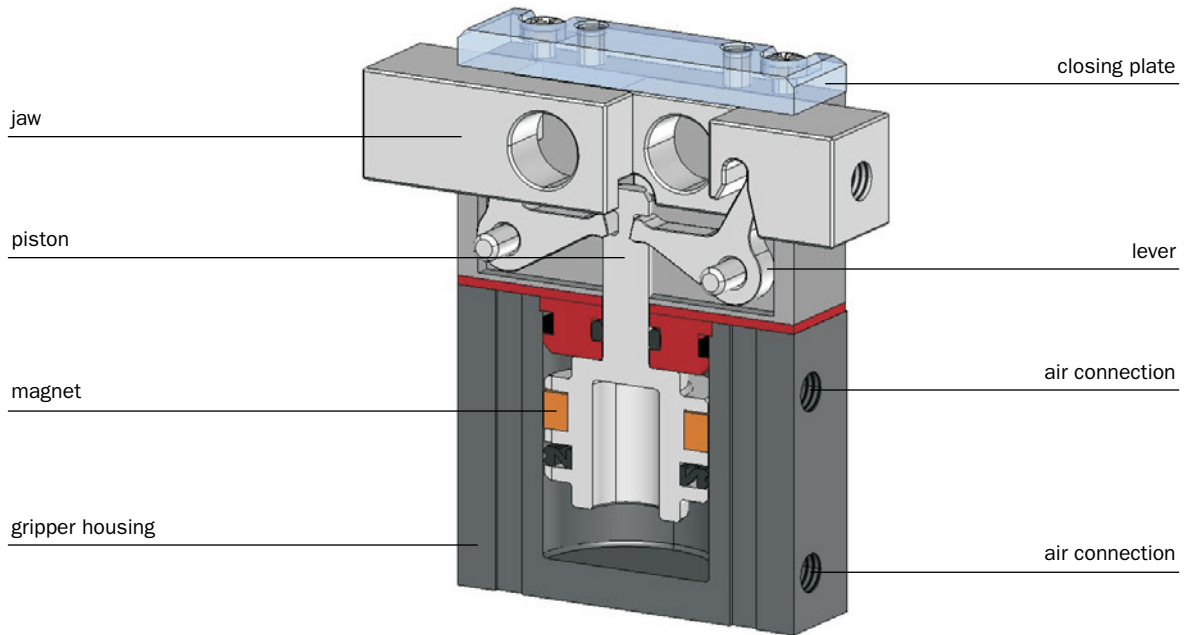


**HS-2518**

|   | HS-2012   | HS-2518            |
|---|---|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                    |
| Opening gripping force at 6 bar on each jaw | 60 N  | 90 N               |
| Opening total gripping force at 6 bar       | 120 N   | 180 N              |
| Closing gripping force at 6 bar on each jaw | 55 N  | 83 N               |
| Closing total gripping force at 6 bar       | 110 N   | 166 N              |
| Total stroke                                | 11.6 mm   | 17.6 mm            |
| Maximum working frequency                   | 6 Hz  | 5 Hz               |
| Cycle air consumption                       | 5 cm <sup>3</sup>   | 12 cm <sup>3</sup> |
| Closing / opening time minimum              | 0.007 s   | 0.018 s            |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm            |
| Weight                                      | 144 g   | 270 g              |

**Lay-out**

The gripper is driven by the piston rod, that operates the jaws by levers.

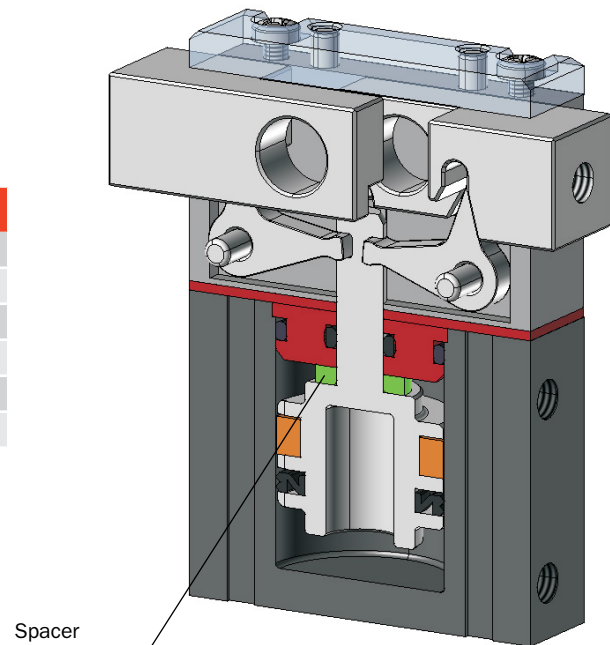


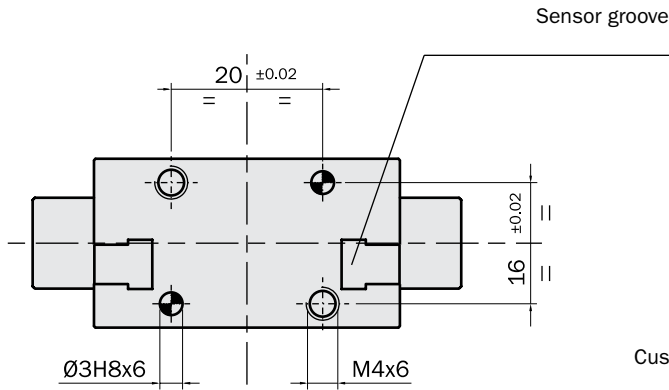
**Stroke reduction**

The stroke can be reduced by spacers which limit the jaw opening. In this way the opening and closing time can be further decreased.

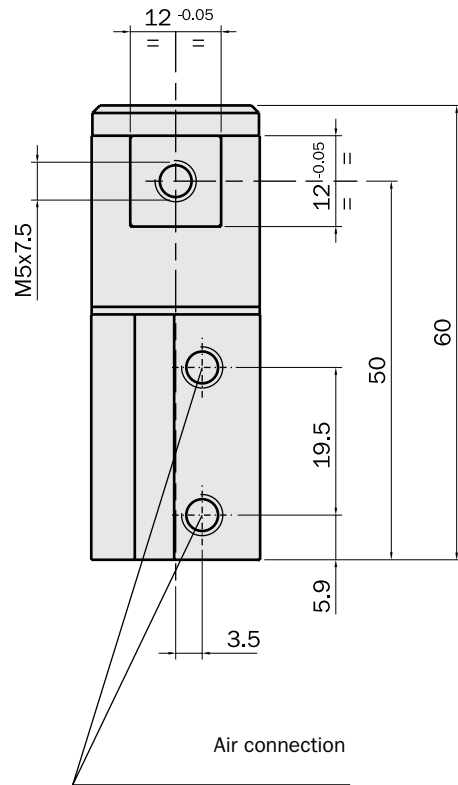
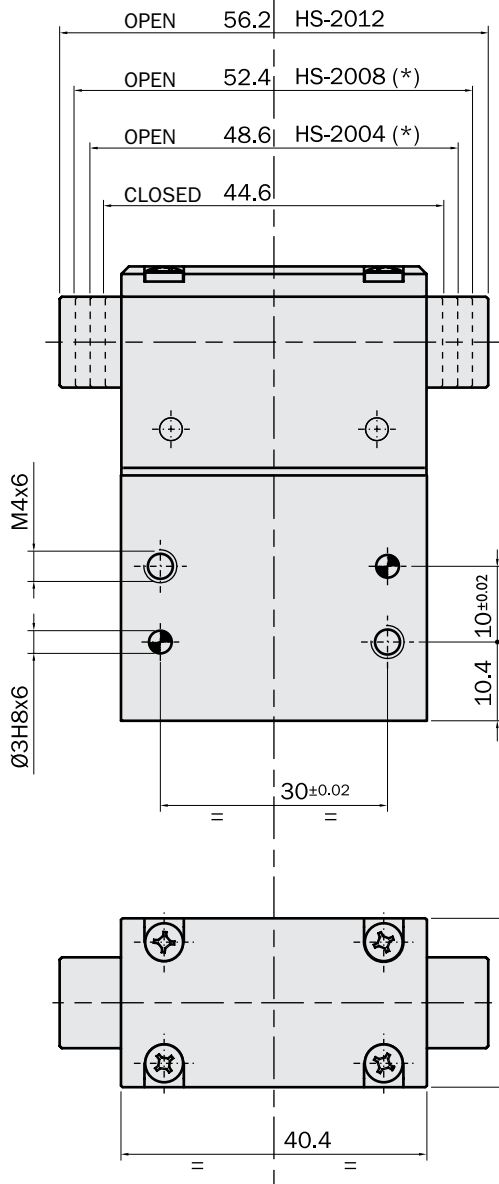
|             | Spacer      | Stroke      |
|-------------|-------------|-------------|
| HS-2012     | /           | 2 x 5.8 mm  |
| HS-2008 (*) | 1 x XP-16-3 | 2 x 3.9 mm  |
| HS-2004 (*) | 2 x XP-16-3 | 2 x 2 mm    |
| HS-2518     | /           | 2 x 8.9 mm  |
| HS-2512 (*) | 1 x XA-26-3 | 2 x 6.1 mm  |
| HS-2506 (*) | 2 x XA-26-3 | 2 x 3.25 mm |

Custom product (consult Factory)



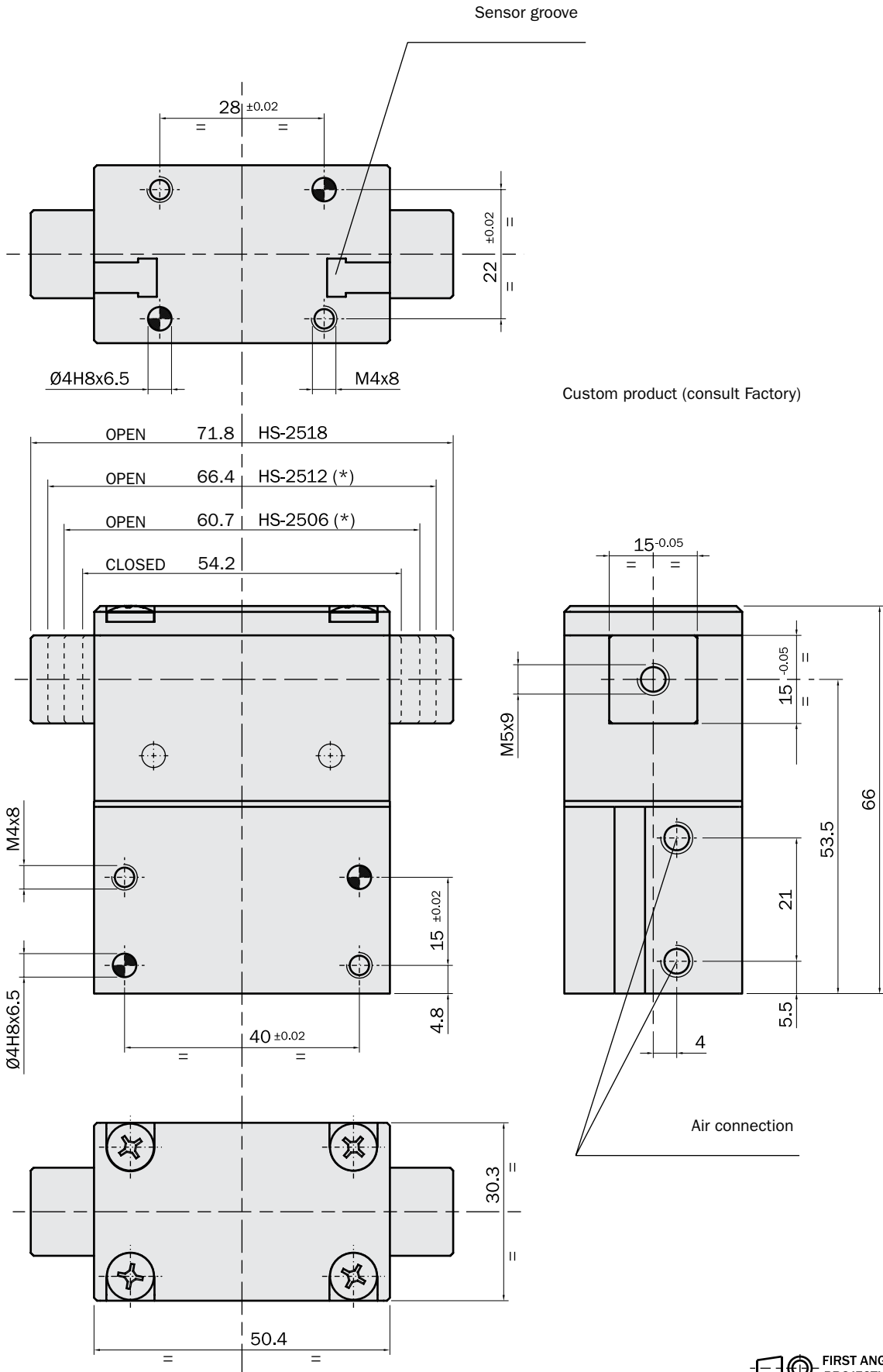


Custom product (consult Factory)



**Dimensions (mm)**

**HS-2518**



FIRST ANGLE PROJECTION

**Self-centering pneumatic gripper (series X)**

- XP-...: 2 jaw parallel gripper.
- XT-...: 3 jaw parallel gripper.
- XA-...: 2 jaw angular gripper.
- XR-...: 2 jaw radial gripper.
- Double acting.
- Excellent cost/performance ratio.
- Light weight, due to its alloy and plastic resin construction.
- Gripper mounting possible on two sides.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



**XR-26**



**XR-20**



**XA-26**



**XA-20**



**XP-26**



**XP-20**



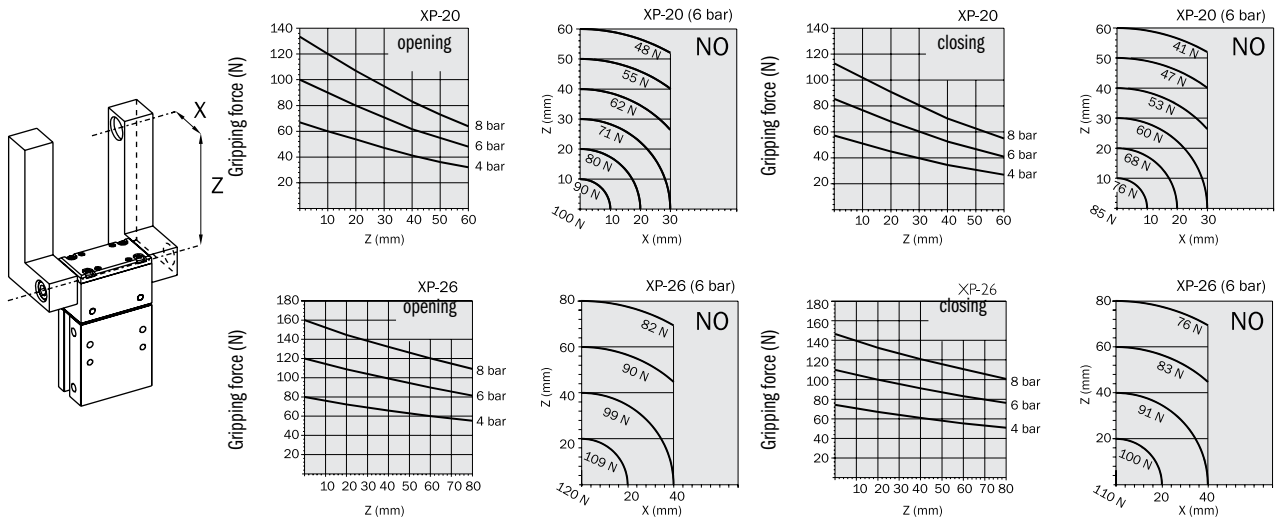
**XT-26**



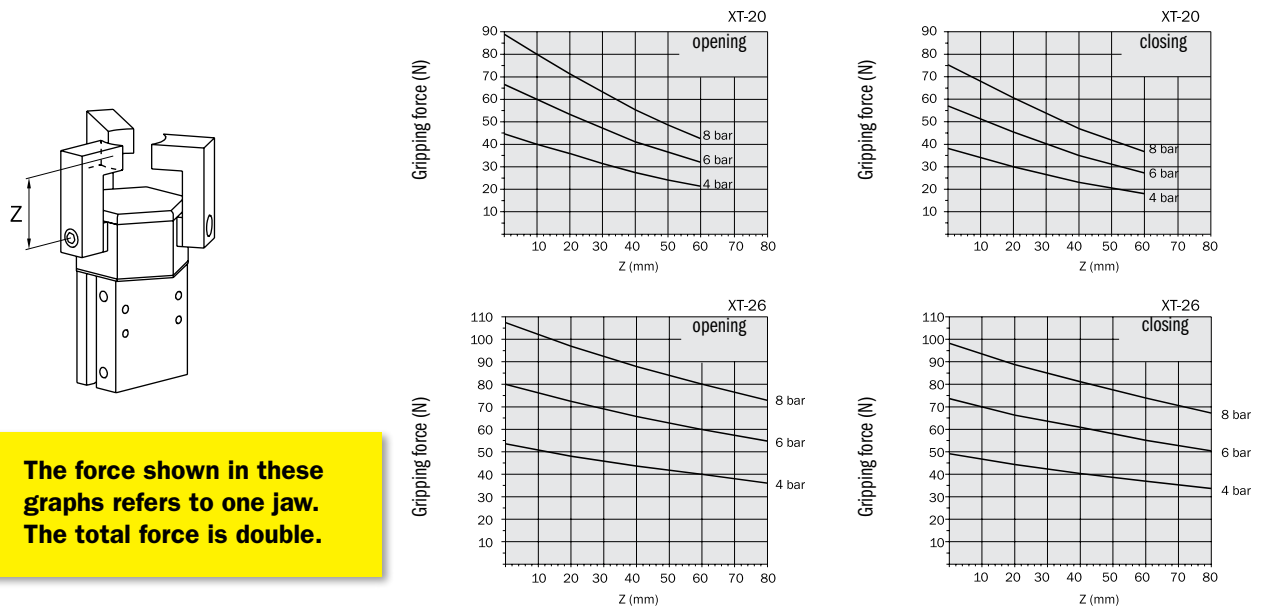
**XT-20**

**Gripping force**

XP... 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.

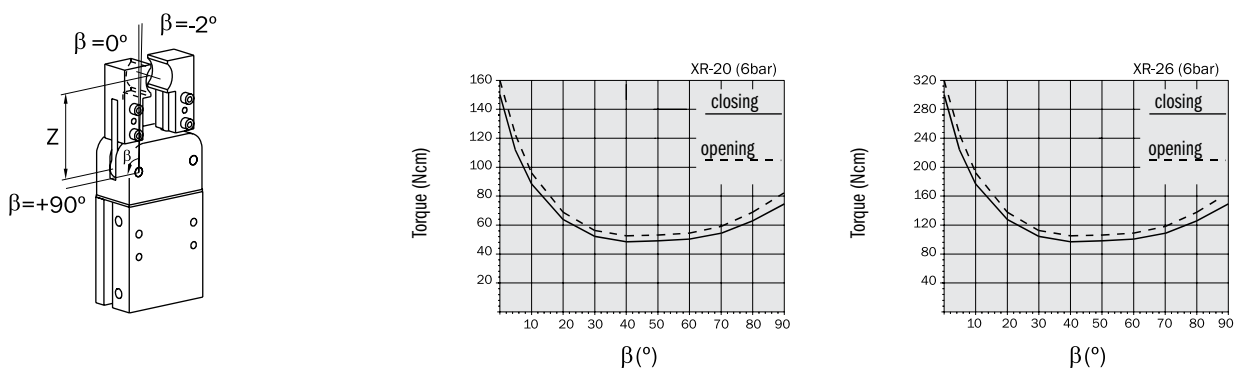


XT... The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.



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

XR... The graphs show the gripping torque on each jaw, as a function of the angular position  $\beta$  of the jaw.

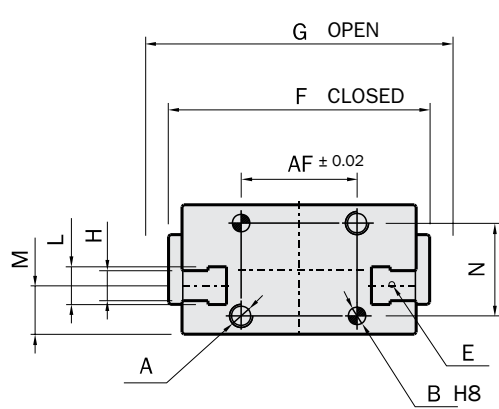


|   | XP-20   | XP-26              |
|---|---|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |
| Operating pressure range                    | 2 ÷ 8 bar   |                    |
| Operating temperature range                 | 5 ÷ 60 °C.  |                    |
| Closing gripping force at 6 bar on each jaw | 85 N  | 110 N              |
| Closing total gripping force at 6 bar       | 170 N   | 220 N              |
| Opening gripping force at 6 bar on each jaw | 100 N   | 120 N              |
| Opening total gripping force at 6 bar       | 200 N   | 240 N              |
| Total stroke                                | 8 mm  | 13.2 mm            |
| Maximum working frequency                   | 3 Hz  | 2 Hz               |
| Cycle air consumption                       | 7 cm <sup>3</sup>   | 12 cm <sup>3</sup> |
| Closing time without load                   | 0.02 s  | 0.05 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm            |
| Weight                                      | 160 g   | 300 g              |

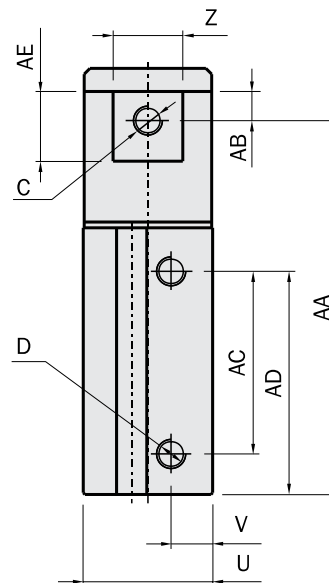
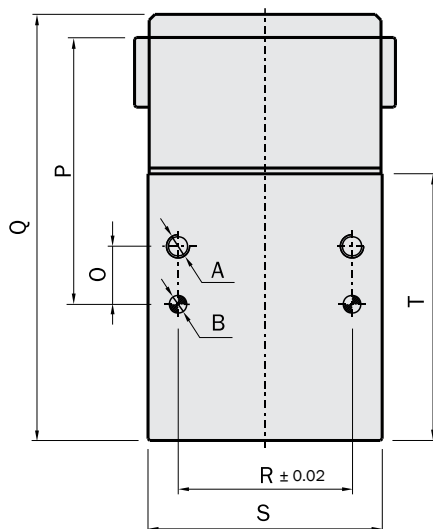
Dimensions (mm)



|    | XP-20             | XP-26 |
|----|-------------------|-------|
| A  | M4x6              | M5x10 |
| B  | Ø3x6              | Ø4x6  |
| C  | M5x8              | M6x9  |
| D  | M5                |       |
| E  | SC - SL - SS - SN |       |
| F  | 44.8              | 54.6  |
| G  | 52.8              | 67.8  |
| H  | 5.2               |       |
| L  | 6.5               |       |
| M  | 8.35              | 11.15 |
| N  | 16                | 21    |
| O  | 10                | 12    |
| P  | 46                | 56    |
| Q  | 73.5              | 77    |
| R  | 30                | 36    |
| S  | 40.4              | 50.4  |
| T  | 46                | 42.8  |
| U  | 22.3              | 30.3  |
| V  | 7.15              | 10.15 |
| Z  | 12                | 15    |
| AA | 64.5              | 65.5  |
| AB | 5                 | 6.5   |
| AC | 31.5              | 30    |
| AD | 38.5              | 36.5  |
| AE | 12                | 15    |
| AF | 20                | 25    |



- A** Threaded hole for fastening
- B** Dowel pin hole
- C** Threaded hole for gripping tool fastening
- D** Air connection
- E** Gimatic sensor slot



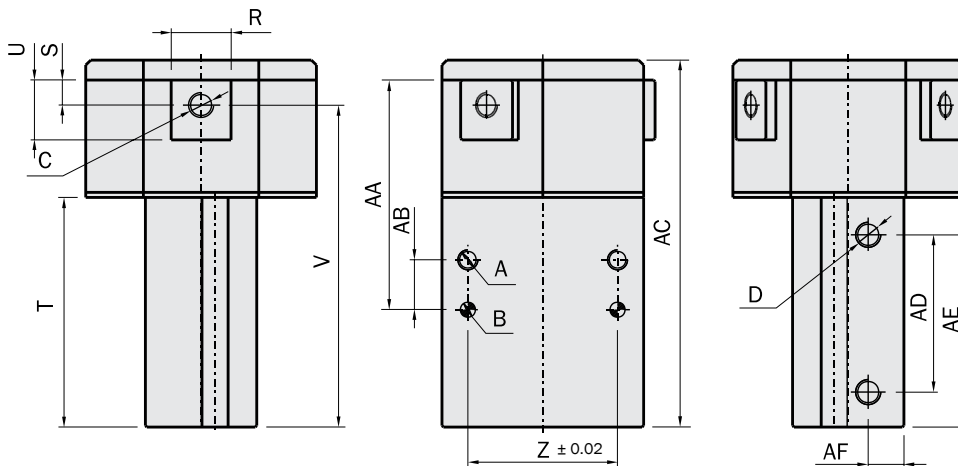
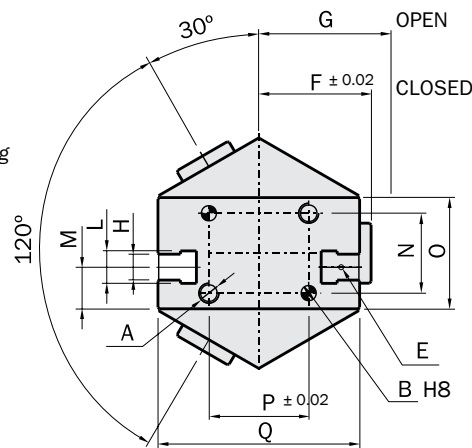


|   | XT-20   | XT-26              |
|---|---|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                    |
| Operating temperature range                 | 5 ÷ 60 °C.  |                    |
| Closing gripping force at 6 bar on each jaw | 57 N  | 73 N               |
| Closing total gripping force at 6 bar       | 171 N   | 219 N              |
| Opening gripping force at 6 bar on each jaw | 67 N  | 80 N               |
| Opening total gripping force at 6 bar       | 201 N   | 240 N              |
| Stroke                                      | 3 x 3.6 mm  | 3 x 6.6 mm         |
| Maximum working frequency                   | 3 Hz  | 2 Hz               |
| Cycle air consumption                       | 7 cm <sup>3</sup>   | 12 cm <sup>3</sup> |
| Closing time without load                   | 0.02 s  | 0.05 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm            |
| Weight                                      | 210 g   | 350 g              |

**Dimensions (mm)**



- A** Threaded hole for fastening
- B** Dowel pin hole
- C** Threaded hole for gripping tool fastening
- D** Air connection
- E** Gimatic sensor slot

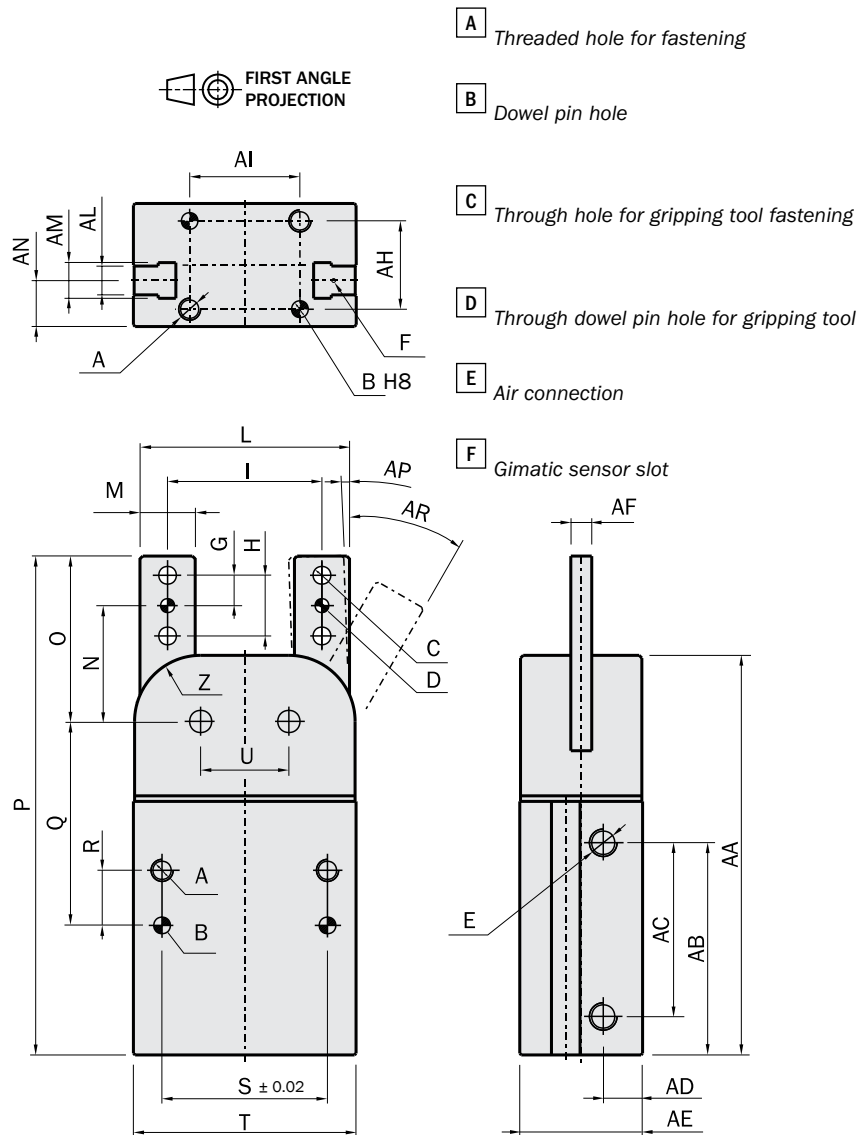


|    | XT-20             | XT-26 |
|----|-------------------|-------|
| A  | M4x6              | M5x10 |
| B  | Ø3x6              | Ø4x6  |
| C  | M5x8              | M6x9  |
| D  | M5                |       |
| E  | SC - SL - SS - SN |       |
| F  | 22.4              | 27.1  |
| G  | 26                | 33.7  |
| H  | 5.2               |       |
| L  | 6.5               |       |
| M  | 8.35              | 11.15 |
| N  | 16                | 21    |
| O  | 22.3              | 30.3  |
| P  | 20                | 25    |
| Q  | 40.4              | 50.4  |
| R  | 12                | 15    |
| S  | 5                 | 6.5   |
| T  | 46                | 42.8  |
| U  | 12                | 15    |
| V  | 64.5              | 65.5  |
| Z  | 30                | 36    |
| AA | 46                | 56    |
| AB | 10                | 12    |
| AC | 73.5              | 77    |
| AD | 31.5              | 30    |
| AE | 38.5              | 36.5  |
| AF | 7.15              | 10.15 |

|                                     | XA-20   | XA-26              |
|-------------------------------------|---|--------------------|
| 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.  |                    |
| Closing torque at 6 bar on each jaw | 46 Ncm  | 79 Ncm             |
| Closing torque force at 6 bar       | 92 Ncm  | 158 Ncm            |
| Opening torque at 6 bar on each jaw | 50 Ncm  | 85 Ncm             |
| Opening torque force at 6 bar       | 100 Ncm   | 170 Ncm            |
| Stroke                              | 2 x 30°   | 2 x 32°            |
| Maximum working frequency           | 3 Hz  | 2 Hz               |
| Cycle air consumption               | 6 cm <sup>3</sup>   | 11 cm <sup>3</sup> |
| Closing time without load           | 0.02 s  | 0.03 s             |
| Repetition accuracy                 | 0.04°   | 0.04°              |
| Weight                              | 140 g   | 250 g              |

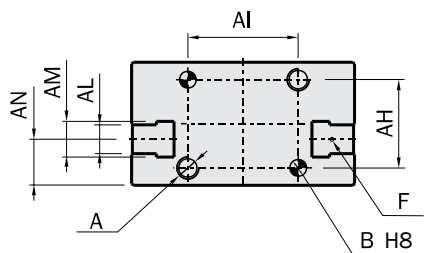
**Dimensions (mm)**

|    | XA-20  | XA-26 |
|----|--------|-------|
| A  | M4x6   | M5x10 |
| B  | Ø3x6   | Ø4x8  |
| C  | Ø3.2   | Ø4.3  |
| D  | Ø2.5H8 | Ø3H8  |
| G  | 5.5    | 6     |
| H  | 11     | 12    |
| I  | 28     | 31    |
| L  | 38     | 45    |
| M  | 10     | 14    |
| N  | 21     | 25.7  |
| O  | 30     | 36.7  |
| P  | 90.5   | 95.1  |
| Q  | 37     | 42.4  |
| R  | 10     | 12    |
| S  | 30     | 36    |
| T  | 40.4   | 50.4  |
| U  | 16     | 19.3  |
| Z  | R=12   | R=16  |
| AA | 72.5   | 73.6  |
| AB | 38.5   | 36.5  |
| AC | 31.5   | 30    |
| AD | 7.15   | 10.15 |
| AE | 22.3   | 30.3  |
| AF | 3.8    | 5.4   |
| AH | 16     | 21    |
| AI | 20     | 25    |
| AL |        | 5.2   |
| AM |        | 6.5   |
| AN | 8.35   | 11.15 |
| AP | 4°     | 2°    |
| AR | 26°    | 30°   |

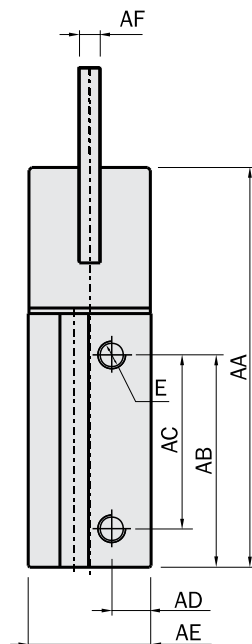
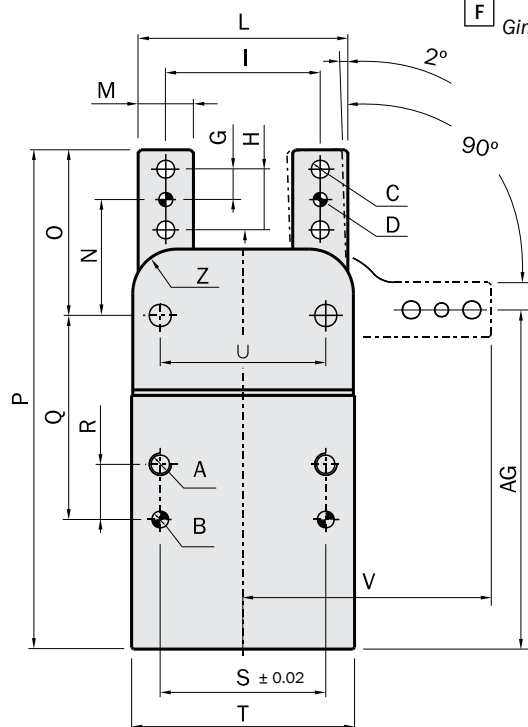


|   | <b>XR-20</b>  | <b>XR-26</b>       |
|---|---|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |
| Operating pressure range                    | 2 ÷ 8 bar   |                    |
| Operating temperature range                 | 5 ÷ 60 °C.  |                    |
| Closing maximum torque at 6 bar on each jaw | 150 Ncm   | 300 Ncm            |
| Opening maximum torque at 6 bar on each jaw | 160 Ncm   | 320 Ncm            |
| Stroke                                      | 2 x 92°   | 2 x 92°            |
| Maximum working frequency                   | 2 Hz  | 2 Hz               |
| Cycle air consumption                       | 11 cm <sup>3</sup>  | 19 cm <sup>3</sup> |
| Closing time without load                   | 0.08 s  | 0.12 s             |
| Repetition accuracy                         | 0.06°   | 0.06°              |
| Weight                                      | 140 g   | 260 g              |

**Dimensions (mm)**



- A** Threaded hole for fastening
- B** Dowel pin hole
- C** Through hole for gripping tool fastening
- D** Through dowel pin hole for gripping tool
- E** Air connection
- F** Gimatic sensor slot



|    | <b>XR-20</b>      | <b>XR-26</b> |
|----|-------------------|--------------|
| A  | M4x6              | M5x10        |
| B  | Ø3x6              | Ø4x8         |
| C  | Ø3.2              | Ø4.3         |
| D  | Ø2.5H8            | Ø3H8         |
| E  | M5                |              |
| F  | SC - SL - SS - SN |              |
| G  | 5.5               | 6            |
| H  | 11                | 12           |
| I  | 28                | 31           |
| L  | 38                | 45           |
| M  | 10                | 14           |
| N  | 21                | 25.7         |
| O  | 30                | 36.7         |
| P  | 90.5              | 95.1         |
| Q  | 37                | 42.4         |
| R  | 10                | 12           |
| S  | 30                | 36           |
| T  | 40.4              | 50.4         |
| U  | 30                | 39           |
| V  | 45                | 56.2         |
| Z  | R=8               |              |
| AA | 72.5              | 73.6         |
| AB | 38.5              | 36.5         |
| AC | 31.5              | 30           |
| AD | 7.15              | 10.15        |
| AE | 22.3              | 30.3         |
| AF | 3.8               | 5.4          |
| AG | 61.5              | 62.4         |
| AH | 16                | 21           |
| AI | 20                | 25           |
| AL | 5.2               |              |
| AM | 6.5               |              |
| AN | 8.35              | 11.15        |

## 2-jaw parallel self-centering electric gripper

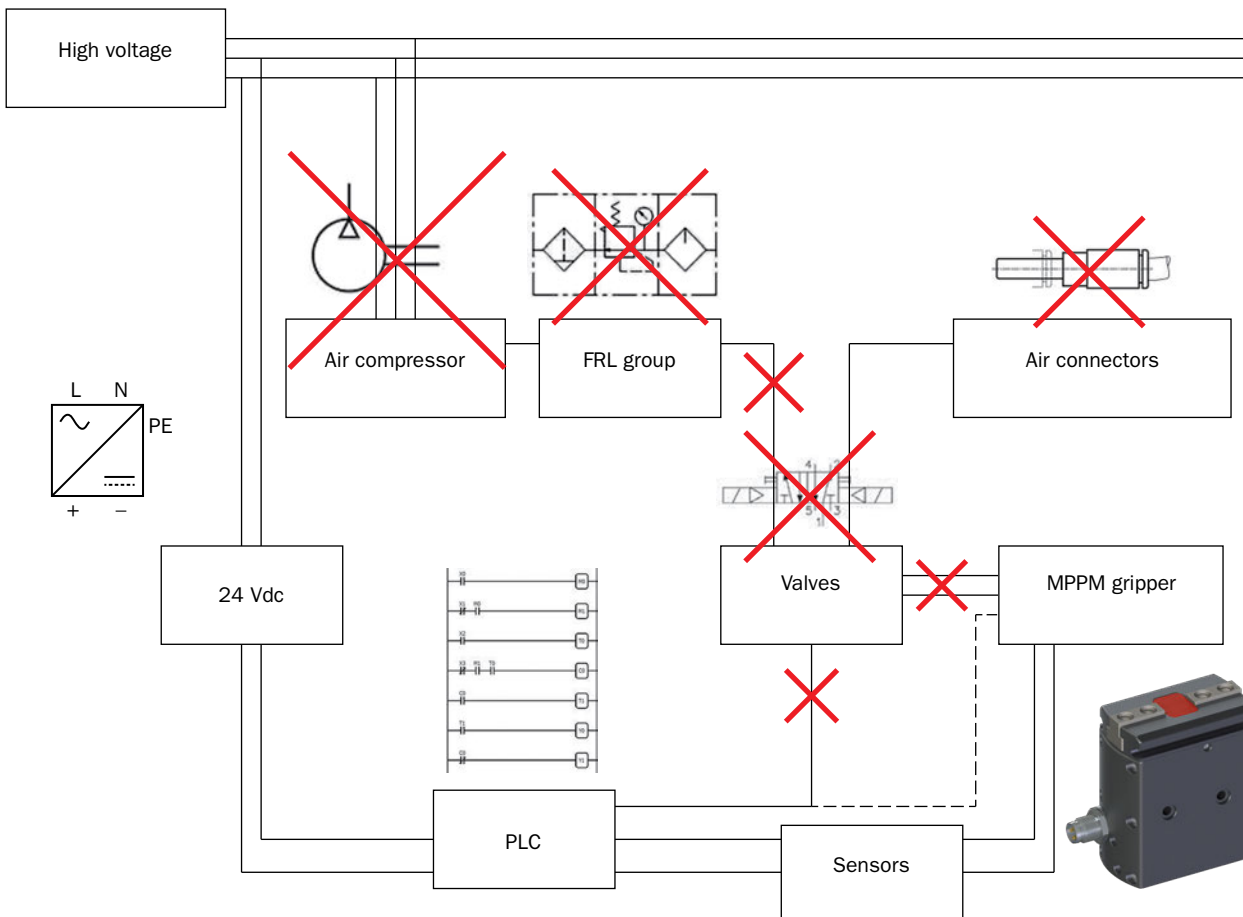
- Plug & play user friendly gripper.
- No electricity consumption when gripper is engaged.
- No programming required.
- Gripper retention guaranteed in event of blackout.
- Self Adapting jaws part.
- Long life Brushless motor (Brushless DC).
- Built-in motor driver.
- 24 Vdc Low Voltage Power Supply.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



MPPM1606

MPPM2508

MPPM3210





|  | MPPM1606                                   | MPPM2508               | MPPM3210               |
|--|--|------------------------|------------------------|
| Total gripping force                         | 67 N                                       | 125 N                  | 245 N                  |
| Stroke                                       | 2x3 mm                                     | 2x4 mm                 | 2x5 mm                 |
| Frequency at an ambient temperature of 30°C  | 1 Hz                                       | 0.91 Hz                | 0.91 Hz                |
| Jaw closing time                             | 0.08 s                                     | 0.121 s                | 0.15 s                 |
| Working gripper time                         | 0.21 s                                     | 0.3 s                  | 0.27 s                 |
| Duty cycle at an ambient temperature of 30°C | 43%  | 55%                    | 50%                    |
| 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                        | 5° ÷ 60°C                                  | 5° ÷ 60°C              | 5° ÷ 60°C              |
| Environmental Degree                         | IP54                                       | IP54                   | IP54                   |
| Noise level                                  | < 70 dB                                    | < 70 dB                | < 70 dB                |
| Mass (motor included)                        | 145 g                                      | 330 g                  | 525 g                  |
| ISO14644-1 Clean Room Certification          | CLASS 4                                    | -                      | -                      |
| Reference standards                          | EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1 |                        |                        |
| Barycentric moment of inertia                | Jxx  | 0.42 kgcm <sup>2</sup> | 1.68 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jyy  | 0.54 kgcm <sup>2</sup> | 2.22 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jzz  | 0.25 kgcm <sup>2</sup> | 1.03 kgcm <sup>2</sup> |
| Technology and options                       | Page 594 - 595                             |                        |                        |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

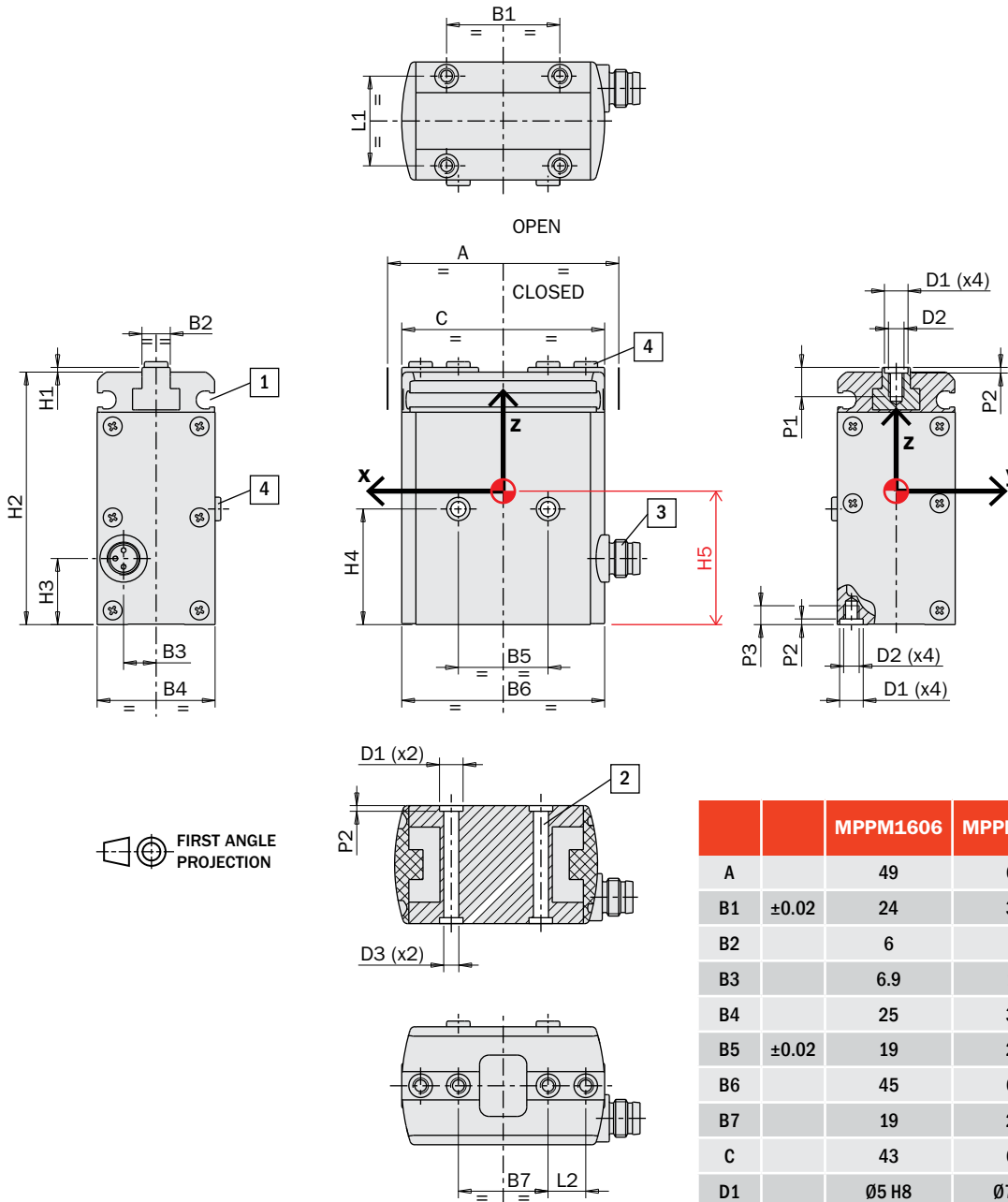
Nippers

Robot Kit

Options

Sensors

## Dimensions (mm)



FIRST ANGLE PROJECTION

**1** Magnetic sensor slot

**2** Through hole for gripper fastening

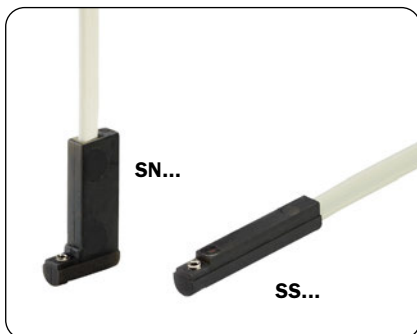
**3** Electrical connection

**4** Centering sleeves

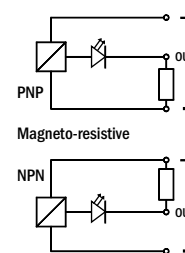
|    |       | MPPM1606 | MPPM2508 | MPPM3210 |
|----|-------|----------|----------|----------|
| A  |       | 49       | 68       | 83       |
| B1 | ±0.02 | 24       | 30       | 36       |
| B2 |       | 6        | 8        | 9        |
| B3 |       | 6.9      | 10       | 11       |
| B4 |       | 25       | 32       | 35       |
| B5 | ±0.02 | 19       | 25       | 30       |
| B6 |       | 45       | 60       | 73       |
| B7 |       | 19       | 26       | 32       |
| C  |       | 43       | 60       | 73       |
| D1 |       | Ø5 H8    | Ø7 H8    | Ø7 H8    |
| D2 |       | M3       | M4       | M5       |
| D3 |       | Ø3.2     | Ø4.2     | Ø5.2     |
| H1 |       | 1        | 1        | 1        |
| H2 |       | 53.5     | 70       | 80       |
| H3 |       | 14       | 17       | 19       |
| H4 | ±0.02 | 24.5     | 32       | 38       |
| H5 |       | 32.5     | 42.6     | 48.4     |
| L1 | ±0.02 | 19       | 24       | 26       |
| L2 | ±0.02 | 8        | 12       | 14       |
| P1 |       | 6.2      | 8        | 8.5      |
| P2 | +0.1  | 1.2      | 1.5      | 1.5      |
| P3 |       | 4        | 6        | 8        |

**Sensors**

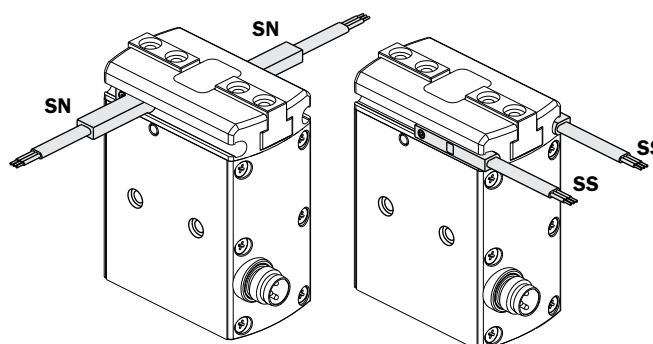
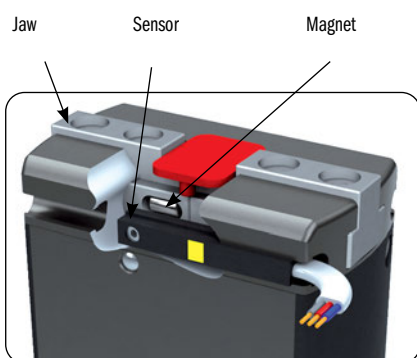
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnets on the jaws inside.  
For details, see the "Accessories" section.



|                        |     |                        |
|------------------------|-----|------------------------|
| SN4N225-G<br>SS4N225-G | PNP | 2.5m cable             |
| SN4M225-G<br>SS4M225-G | NPN | 2.5m cable             |
| SN3N203-G<br>SS3N203-G | PNP | M8 snap plug connector |
| SN3M203-G<br>SS3M203-G | NPN | M8 snap plug connector |



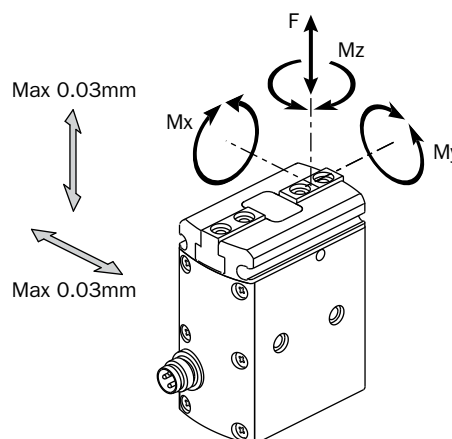
They are all provided with a 3-wire flat cable and a LED.



**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.  
 $F_d, M_x d, M_y d, M_z d$ , are the maximum permitted loads under dynamic conditions, that is with running jaws.  
The following table also shows the maximum permitted load (m) on each gripping tool when the gripper operates at peak performance.  
The picture below shows also the jaw maximum backlash.

|         | MPPM1606 | MPPM2508 | MPPM3210 |
|---------|----------|----------|----------|
| $F_s$   | 60 N     | 120 N    | 200 N    |
| $M_x s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_y s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_z s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $F_d$   | 0.6 N    | 1.2 N    | 2 N      |
| $M_x d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_y d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_z d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| m       | 60 g     | 120 g    | 200 g    |



## Cleanroom Gripping Solution

Gimatic electric grippers can operate in environments characterised by a high standard of cleanliness and hygiene by integrating the KIT-GMP-G. An adapter enables fastening the electric gripper to a robot interface (not included) and protecting its operation by means of a sterilisable silicone cover. The gripping fingers (not included) can be fastened by means of special hygienic stainless steel screws. The system meets the most stringent GMP (Good Manufacturing Practice) cleanliness standards for Grade A and B.

Its main characteristics are:

- Suitable for gripper MPPM1606.
- Compliant with GMP Grade A and B cleanliness standards
- Cover made in Silicone Silpuran® Wacker FDA 21 CFR §177.2600.
- Compatible with hydrogen peroxide (VHP-H2O2) and UV cleaning procedures.
- Complete system with IP65 protection rating.
- The MPPM1606-KIT-GMP kit is certified to ISO14644-1 for ISO 2 cleanrooms, while the single gripper MPPM1606 is certified to ISO14644-1 for ISO 4 cleanrooms. Stainless steel hygienic screws (Novonox).
- Transparent surface that enables reading the LEDs of the internal sensors and the power supply status LEDs.
- Hygienic design surfaces preventing the build-up of bacteria.
- Easy fastening of gripping fingers with anti-rotation system.

[Click for Pricing & Add to Cart](#)



**MPPM1606-KIT-GMP  
AIR CLEANING CLASS 2**



**MPPM1606  
AIR CLEANING CLASS 4**



**IP65  
ENVIRONMENT DEGREE**

**H<sub>2</sub>O<sub>2</sub>  
CLEANING PROCEDURE**

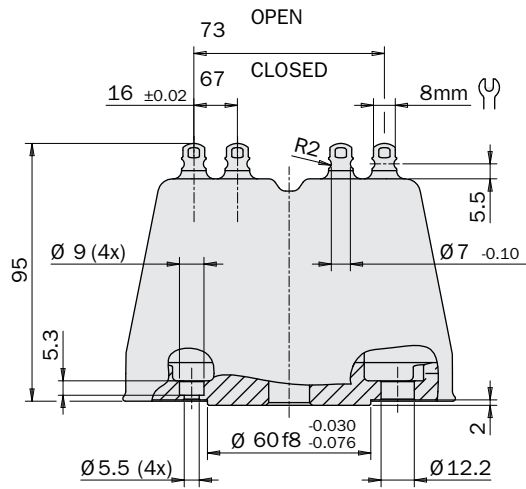
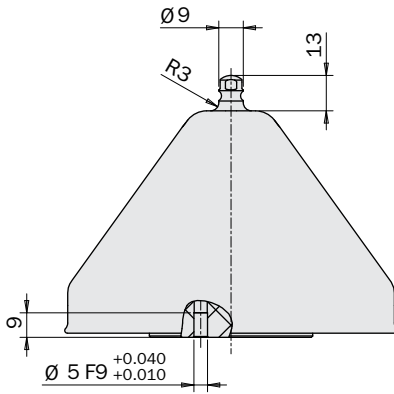
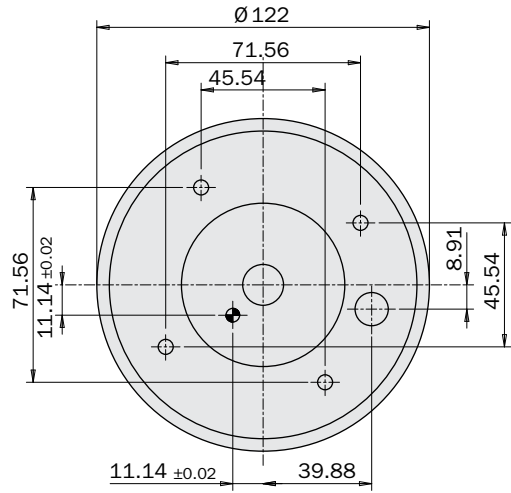
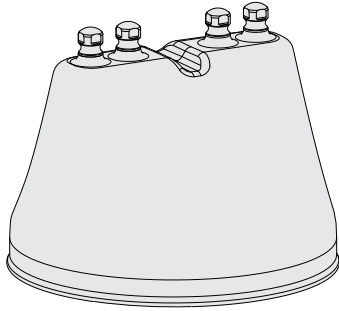
**EMC / CE**



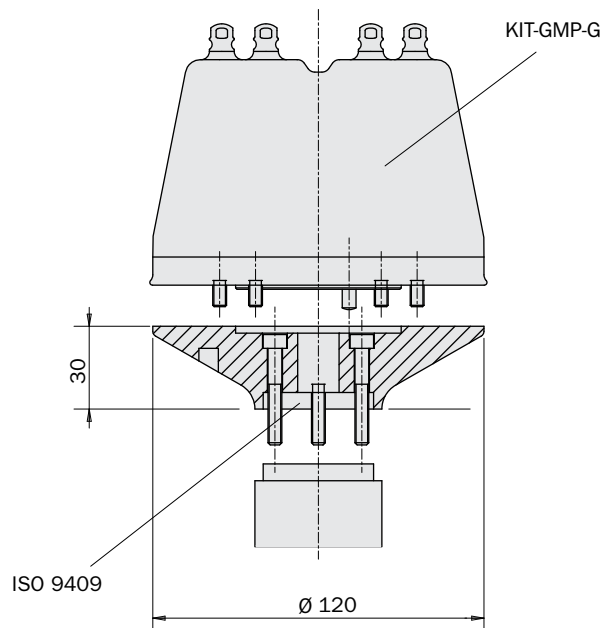
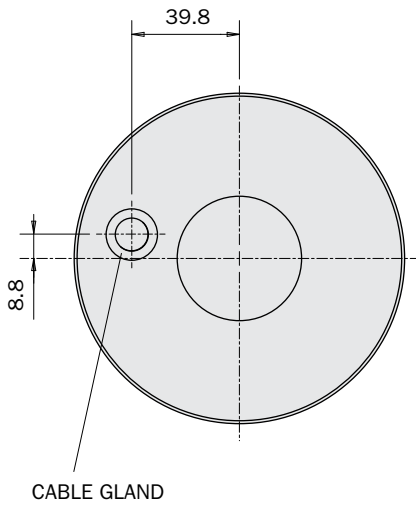


**Dimensions (mm)**

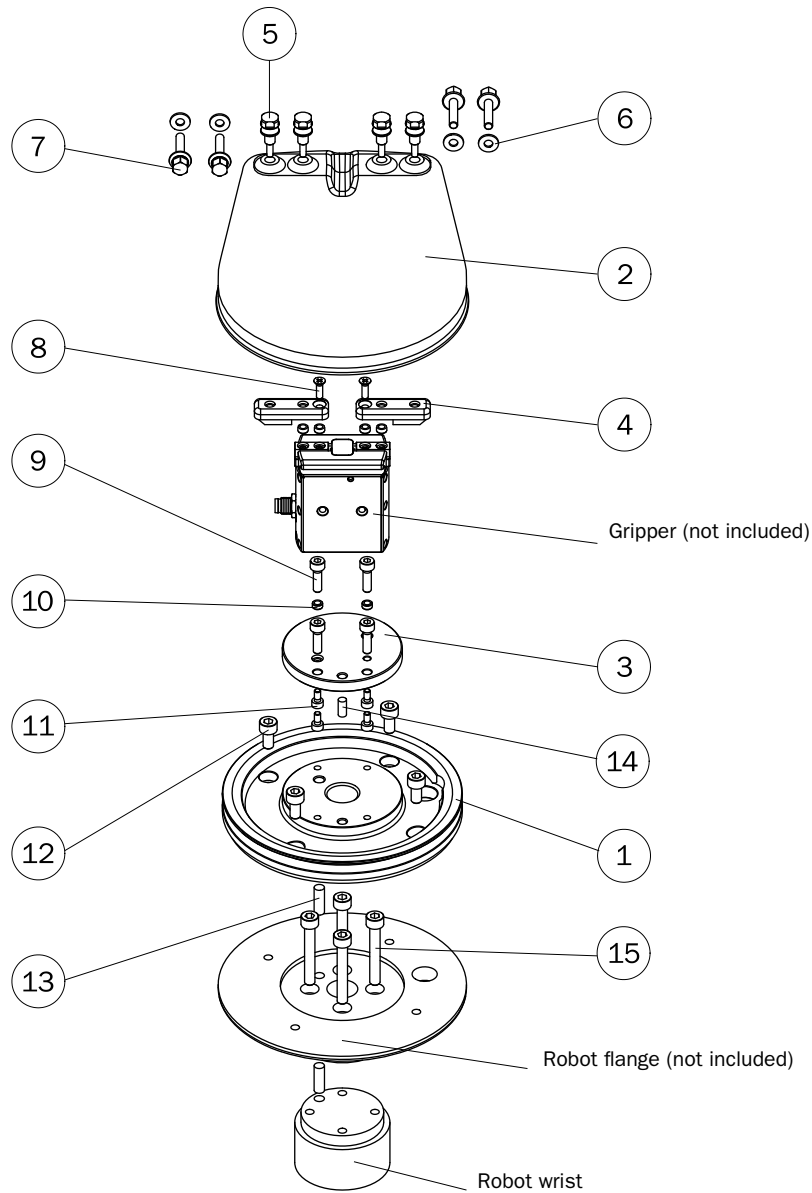
FIRST ANGLE PROJECTION



**Application example**



## Part list

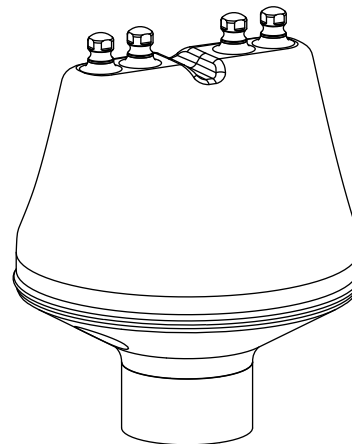
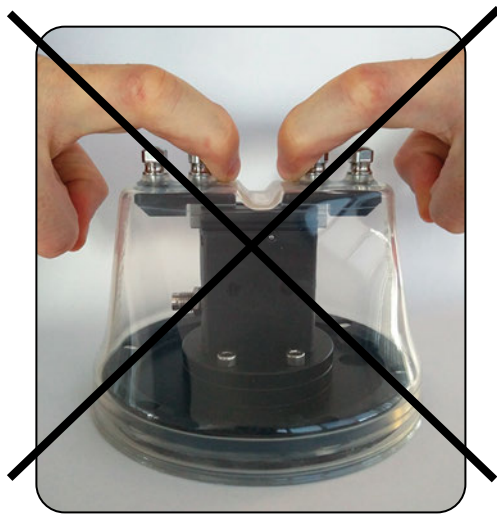
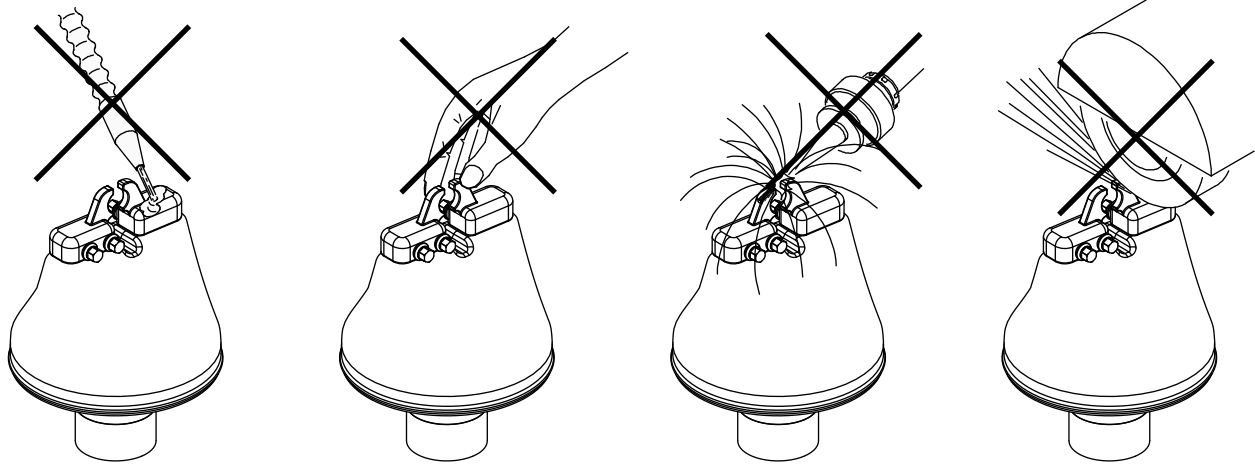


## Included parts

| Part No. | Description                                   | Quantity | Weight    | Part No. |
|----------|---|----------|-----------|----------|
| 1        | Robot interface                               | 1        | 1 x 142 g | 1        |
| 2        | Cover   | 1        | 1 x 86 g  | 2        |
| 3        | Gripper interface                             | 1        | 1 x 41 g  | 3        |
| 4        | Internal jaws                                 | 2        | 2 x 6.2 g | 4        |
| 5        | Pin   | 4        | 4 x 5.3 g | 5        |
| 6        | Hygienic sealing 4.1 x 9.7 (Novonox)          | 4        | 4 x 0.1 g | 6        |
| 7        | Hex head screw polished M4 x 20 (Novonox)     | 4        | 4 x 5.0 g | 7        |
| 8        | Cross recessed flat countersunk head M3x10 A4 | 2        | 2 x 0.5 g | 8        |
| 9        | Hex socket head cap screw M4x14 A4            | 4        | 4 x 1.8 g | 9        |
| 10       | Centering Sleeve Ø5x3.2x2.4                   | 6        | 6 x 0.3 g | 10       |
| 11       | Hex socket head cap screw M3x6 A4             | 4        | 4 x 0.8 g | 11       |
| 12       | Hex socket head cap screw M5x10 A4            | 4        | 4 x 2.9 g | 12       |
| 13       | Dowel pin Ø5x16 (m6)                          | 1        | 2 x 1.7 g | 13       |
| 14       | Dowel pin Ø4x10 (m6)                          | 1        | 1 x 1.5 g | 14       |
| 15       | Hex socket head cap screw M5x35 A4            | 4        | 4 x 6.2 g | 15       |

**Caution**

- Do not place the product in place where it may come in contact with foreign matter such as oil nor in an atmosphere of corrosive gas or flammable gases nor in place near inflammable material.
- Do not install the product near heating element.
- Do not perform wiring nor operate the product with wet hand.
- Do not transfer the product by holding only the cable.
- Do not attempt to force gripper jaws' movement by hand.



**CE Marking reference**

The system is in conformance with:

Directive 2004/108/CE, EN 62233 (2008-04), EN 61000-6-2+EC+IS1 (2005-08; 2005-09; 2005-11), EN 61000-6-3+A1 (2007-01; 2011-03), EN 61000-6-4 (2007-01), EN 55016-2-1+A1 (2004-10; 2005-08), EN 55016-2-3 (2006-12), EN 61000-4-2 (2009-03), EN 61000-4-3+A1+IS1+A2 (2006-05; 2008-02; 2009-02; 2010-07), EN 61000-4-4+A1 (2004-12; 2010-03), EN 61000-4-5 (2006-11), EN 61000-4-6+A1+IS1 (1996-07; 2001-12; 2004-07), EN 61000-4-6 (2009-03), CEI EN 60529 (1997-06).

**IPA Certification reference**

The system has been declared suitable for use in hygienic areas by Fraunhofer IPA Institute as stated in report No. GI 1410-728

## 2-jaw parallel self-centering electric gripper

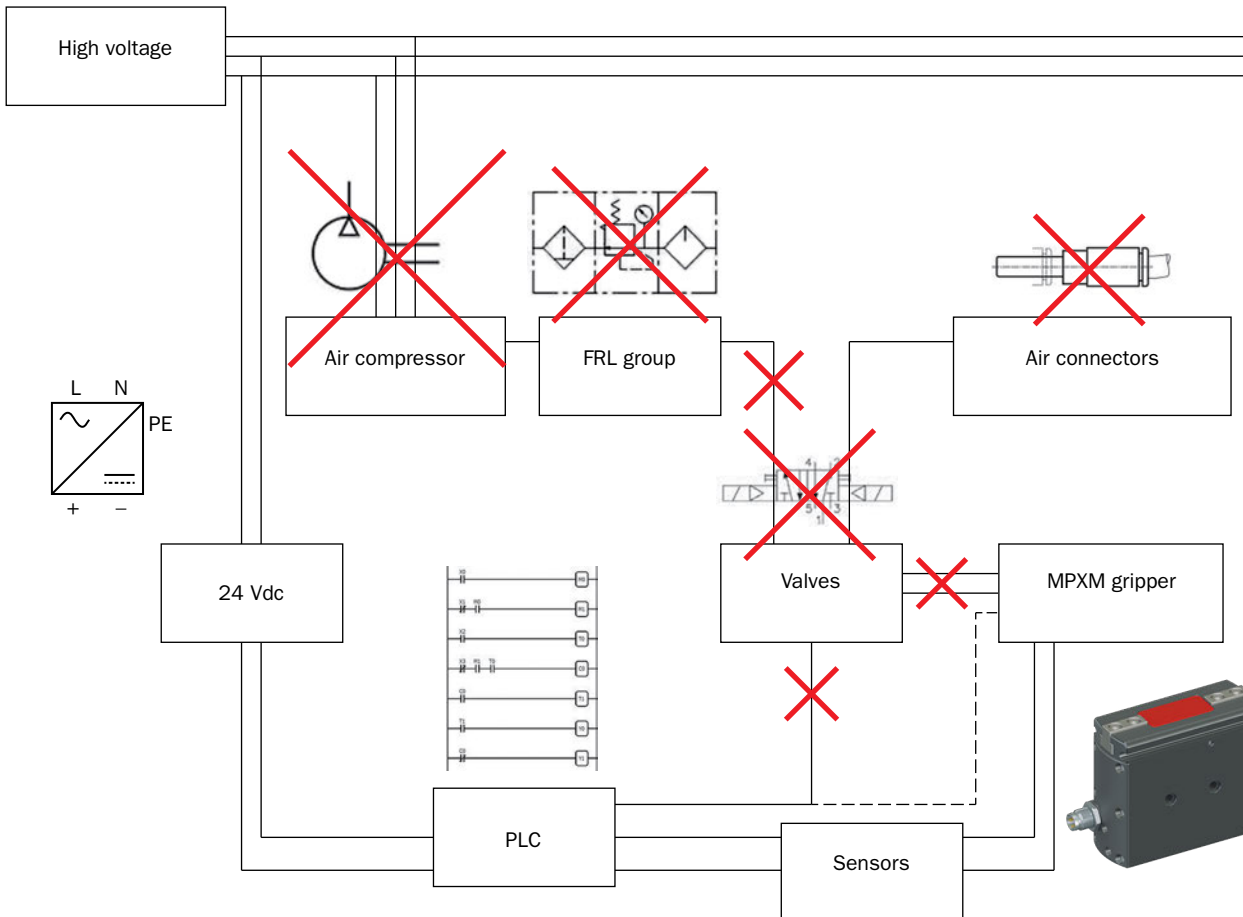
- Plug & play user friendly gripper.
- No electricity consumption when gripper is engaged.
- No programming required.
- Gripper retention guaranteed in event of blackout.
- Self Adapting jaws part.
- Extra stroke.
- Long life Brushless motor (Brushless DC).
- Built-in motor driver.
- 24 Vdc Low Voltage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



MPXM1612

MPXM2516

MPXM3220





|  | MPXM1612                                   | MPXM2516               | MPXM3220               |
|--|--|------------------------|------------------------|
| Total gripping force                         | 68 N                                       | 95 N                   | 215 N                  |
| Stroke                                       | 2x6 mm (±2°)                               | 2x8 mm (±2°)           | 2x10 mm (±2°)          |
| Frequency at an ambient temperature of 30°C  | 0.75 Hz                                    | 1.2 Hz                 | 0.85 Hz                |
| Jaw closing time                             | 0.21 s                                     | 0.19 s                 | 0.23 s                 |
| Working gripper time                         | 0.3 s                                      | 0.28 s                 | 0.3 s                  |
| Duty cycle at an ambient temperature of 30°C | 45%  | 68%                    | 51%                    |
| 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                        | 5° ÷ 60°C                                  | 5° ÷ 60°C              | 5° ÷ 60°C              |
| Environmental Degree                         | IP54                                       | IP54                   | IP54                   |
| Noise level                                  | < 70 dB                                    | < 70 dB                | < 70 dB                |
| Mass (motor included)                        | 184 g                                      | 390 g                  | 604 g                  |
| IPA Clean Room Certification                 | -  | -                      | -                      |
| Reference standards                          | EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1 |                        |                        |
| Barycentric moment of inertia                | Jxx  | 0.55 kgcm <sup>2</sup> | 2.02 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jyy  | 0.93 kgcm <sup>2</sup> | 3.18 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jzz  | 0.55 kgcm <sup>2</sup> | 1.76 kgcm <sup>2</sup> |
| Technology and options                       | Page 594 - 595                             |                        |                        |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

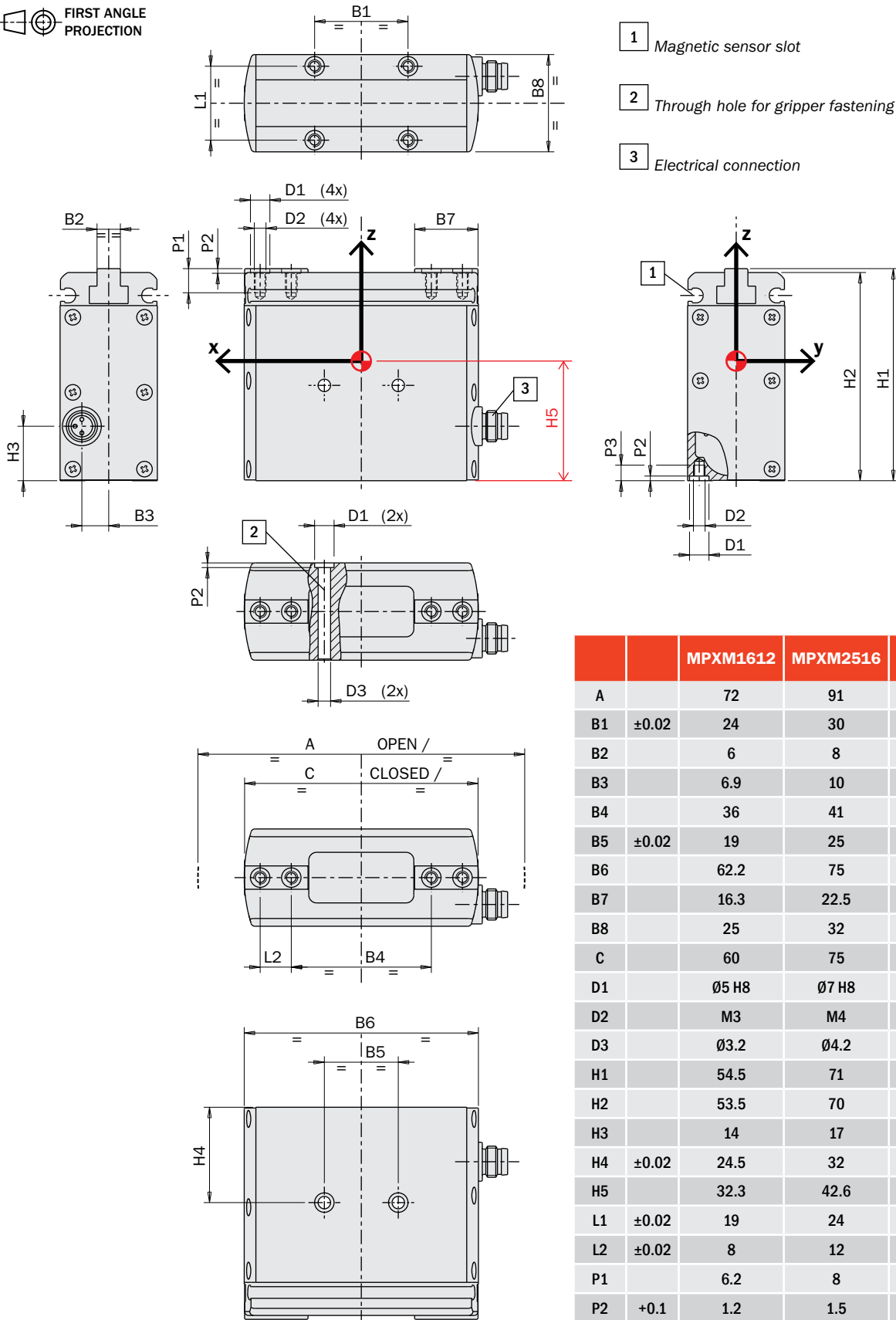
Robot Kit

Options

Sensors

## Dimensions (mm)

FIRST ANGLE PROJECTION

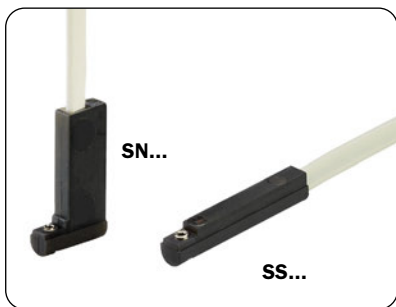


- 1 Magnetic sensor slot
- 2 Through hole for gripper fastening
- 3 Electrical connection

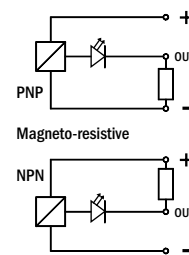
|    |       | MPXM1612 | MPXM2516 | MPXM3220 |
|----|-------|----------|----------|----------|
| A  |       | 72       | 91       | 109      |
| B1 | ±0.02 | 24       | 30       | 36       |
| B2 |       | 6        | 8        | 9        |
| B3 |       | 6.9      | 10       | 11       |
| B4 |       | 36       | 41       | 48       |
| B5 | ±0.02 | 19       | 25       | 30       |
| B6 |       | 62.2     | 75       | 89       |
| B7 |       | 16.3     | 22.5     | 28       |
| B8 |       | 25       | 32       | 35       |
| C  |       | 60       | 75       | 89       |
| D1 |       | Ø5 H8    | Ø7 H8    | Ø7 H8    |
| D2 |       | M3       | M4       | M5       |
| D3 |       | Ø3.2     | Ø4.2     | Ø5.2     |
| H1 |       | 54.5     | 71       | 81       |
| H2 |       | 53.5     | 70       | 80       |
| H3 |       | 14       | 17       | 19       |
| H4 | ±0.02 | 24.5     | 32       | 38       |
| H5 |       | 32.3     | 42.6     | 48.4     |
| L1 | ±0.02 | 19       | 24       | 26       |
| L2 | ±0.02 | 8        | 12       | 14       |
| P1 |       | 6.2      | 8        | 8.5      |
| P2 | +0.1  | 1.2      | 1.5      | 1.5      |
| P3 |       | 4        | 7        | 8        |

**Sensors**

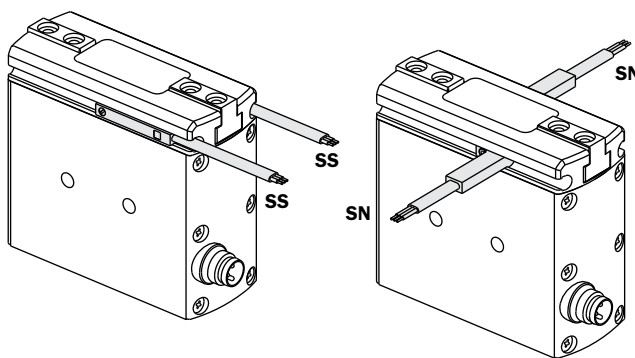
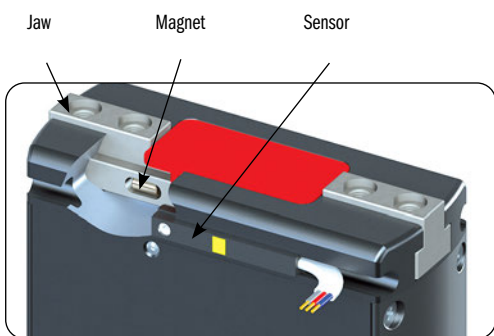
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnets on the jaws inside.  
For details, see the "Accessories" section.



|           |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SS4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN | 2.5m cable             |
| SS4M225-G | NPN | 2.5m cable             |
| SN3N203-G | PNP | M8 snap plug connector |
| SS3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN | M8 snap plug connector |
| SS3M203-G | NPN | M8 snap plug connector |



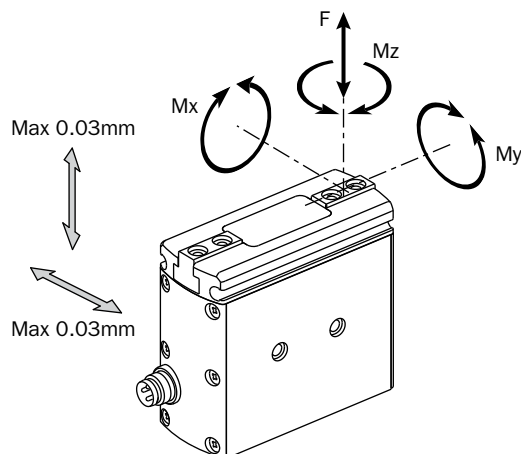
They are all provided with a 3-wire flat cable and a LED.



**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, Mx s, My s, Mz s, are the maximum permitted loads under static conditions, that is with motionless jaws.  
F d, Mx d, My d, Mz d, are the maximum permitted loads under dynamic conditions, that is with running jaws.  
The following table also shows the maximum permitted load (m) on each gripping tool when the gripper operates at peak performance.  
The picture below shows also the jaw maximum backlash.

|      | MPXM1612 | MPXM2516 | MPXM3220 |
|------|----------|----------|----------|
| F s  | 60 N     | 120 N    | 200 N    |
| Mx s | 3 Nm     | 8 Nm     | 20 Nm    |
| My s | 3 Nm     | 8 Nm     | 20 Nm    |
| Mz s | 3 Nm     | 8 Nm     | 20 Nm    |
| F d  | 0.6 N    | 1.2 N    | 2 N      |
| Mx d | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| My d | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| Mz d | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| m    | 60 g     | 120 g    | 200 g    |



## Self-centering 2-jaw electric parallel gripper with long stroke

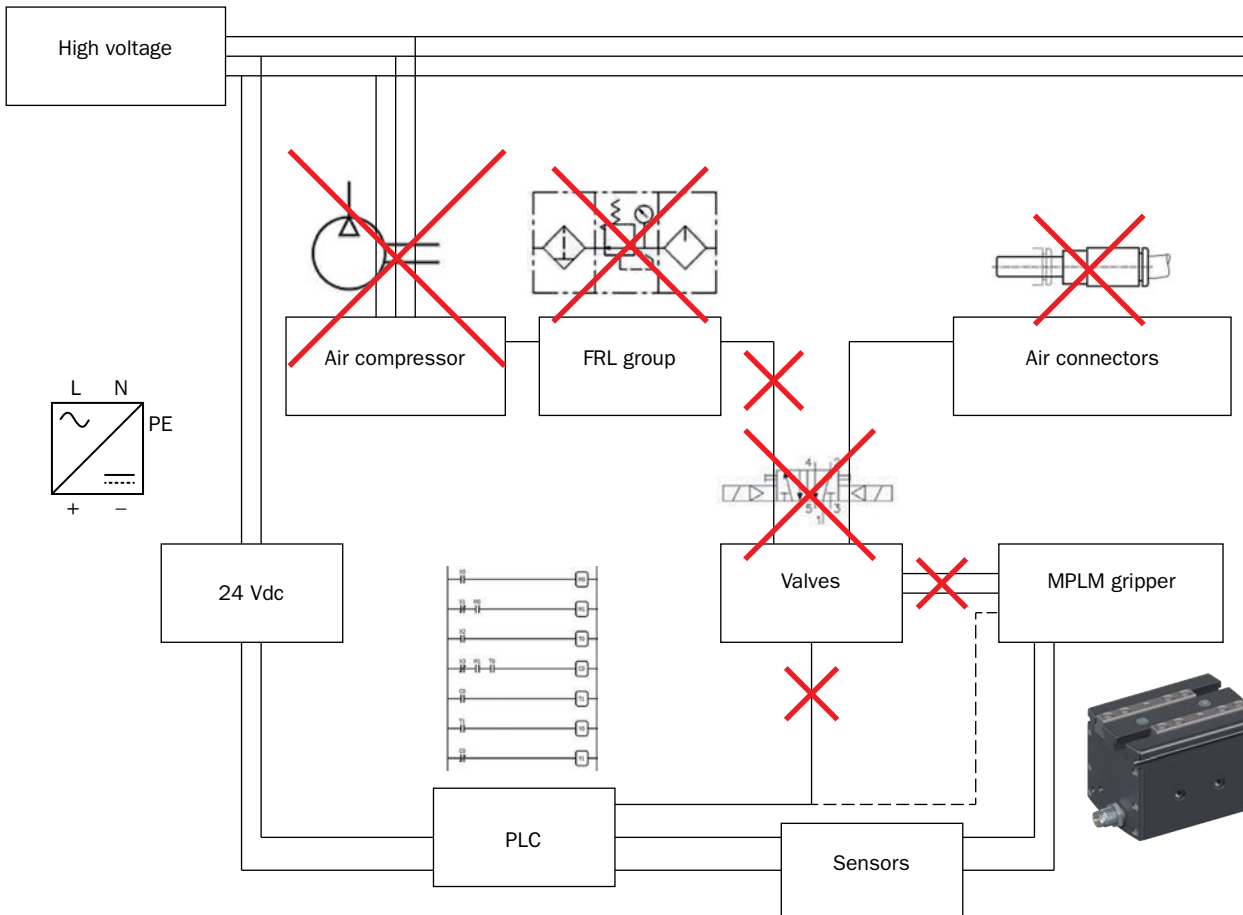
- Plug & play user friendly gripper.
- No electricity consumption when gripper is engaged.
- No programming required.
- Gripper retention guaranteed in event of blackout.
- Self Adapting jaws part.
- Long life Brushless motor (Brushless DC).
- Built-in motor driver.
- 24 Vdc Low Voltage Power Supply.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



MPLM1630

MPLM2535

MPLM3240







|  | MPLM1630                                   | MPLM2535               | MPLM3240               |                        |
|--|--|------------------------|------------------------|------------------------|
| Total gripping force                         | 63 N                                       | 98 N                   | 210 N                  |                        |
| Stroke                                       | 2x15 mm                                    | 2x17.5 mm              | 2x20 mm                |                        |
| Frequency at an ambient temperature of 30°C  | 0.51 Hz                                    | 0.93 Hz                | 0.70 Hz                |                        |
| Jaw closing time                             | 0.37 s                                     | 0.42 s                 | 0.50 s                 |                        |
| Working gripper time                         | 0.52 s                                     | 0.53 s                 | 0.53 s                 |                        |
| Duty cycle at an ambient temperature of 30°C | 54%  | 100%                   | 74%                    |                        |
| 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                        | 5° ÷ 60°C                                  | 5° ÷ 60°C              | 5° ÷ 60°C              |                        |
| Environmental Degree                         | IP54                                       | IP54                   | IP54                   |                        |
| Noise level                                  | < 70 dB                                    | < 70 dB                | < 70 dB                |                        |
| Mass (motor included)                        | 263 g                                      | 500 g                  | 844 g                  |                        |
| IPA Clean Room Certification                 | -  | -                      | -                      |                        |
| Reference standards                          | EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1 |                        |                        |                        |
| Barycentric moment of inertia                | Jxx  | 0.82 kgcm <sup>2</sup> | 2.32 kgcm <sup>2</sup> | 5.1 kgcm <sup>2</sup>  |
| Barycentric moment of inertia                | Jyy  | 1.07 kgcm <sup>2</sup> | 3.03 kgcm <sup>2</sup> | 6.97 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jzz  | 0.98 kgcm <sup>2</sup> | 2.96 kgcm <sup>2</sup> | 6.79 kgcm <sup>2</sup> |
| Technology and options                       | Page 594 - 595                             |                        |                        |                        |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

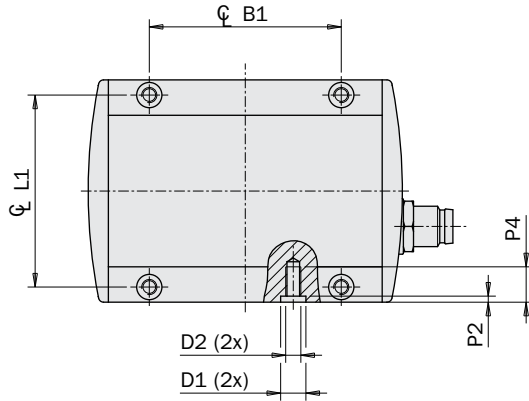
Robot Kit

Options

Sensors

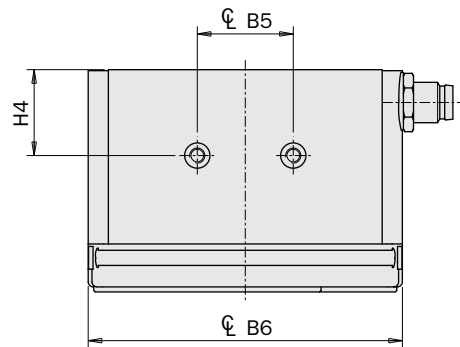
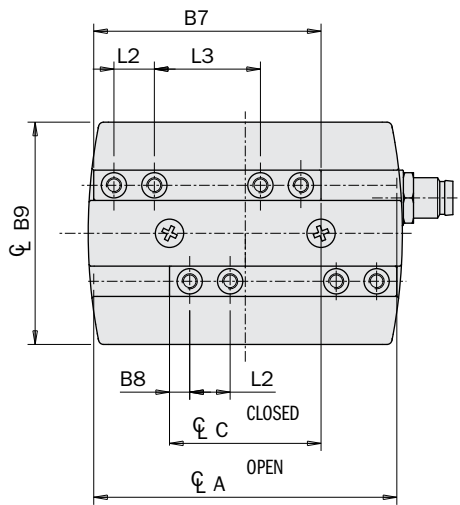
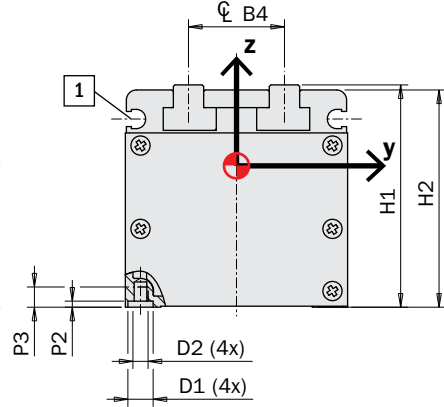
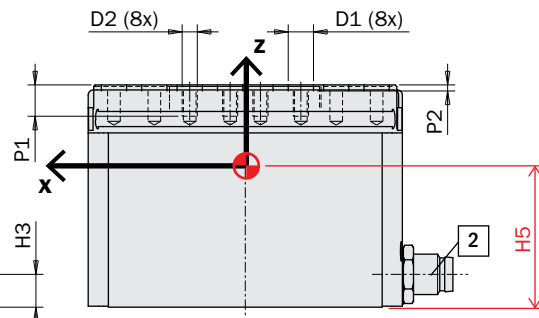
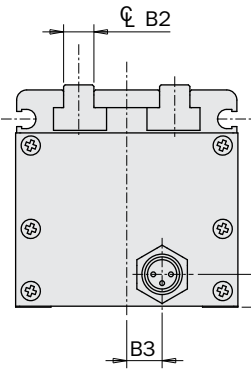
## Dimensions (mm)

FIRST ANGLE PROJECTION



1 Magnetic sensor slot

2 Electrical connection

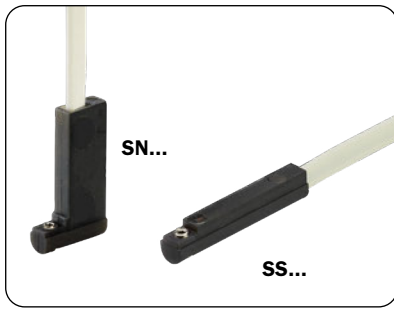


|    |       | MPLM1630 | MPLM2535 | MPLM3240 |
|----|-------|----------|----------|----------|
| A  |       | 60       | 74       | 88       |
| B1 | ±0.02 | 38       | 45       | 54       |
| B2 |       | 6        | 8        | 9        |
| B3 |       | 7        | 17       | 15       |
| B4 |       | 19       | 23       | 28       |
| B5 | ±0.02 | 19       | 25       | 30       |
| B6 |       | 62.2     | 77       | 91       |
| B7 |       | 45       | 56.5     | 68       |
| B8 |       | 4        | 5        | 6.5      |
| B9 |       | 44       | 54       | 62       |
| C  |       | 30       | 39       | 48       |
| D1 |       | Ø5 H8    | Ø7 H8    | Ø7 H8    |
| D2 |       | M3       | M4       | M5       |
| H1 |       | 44       | 54       | 62       |
| H2 |       | 43       | 53       | 61       |
| H3 |       | 6.5      | 11.7     | 9.5      |
| H4 | ±0.02 | 17       | 19.5     | 23       |
| H5 |       | 26.6     | 32.2     | 36.7     |
| L1 | ±0.02 | 38       | 45       | 54       |
| L2 | ±0.02 | 8        | 12       | 14       |
| L3 |       | 21       | 22.5     | 27       |
| P1 |       | 6.2      | 8        | 8.5      |
| P2 | +0.1  | 1.2      | 1.5      | 1.5      |
| P3 |       | 4        | 6        | 8        |
| P4 |       | 7        | 6        | 14       |

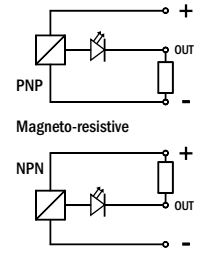
**Sensors**

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

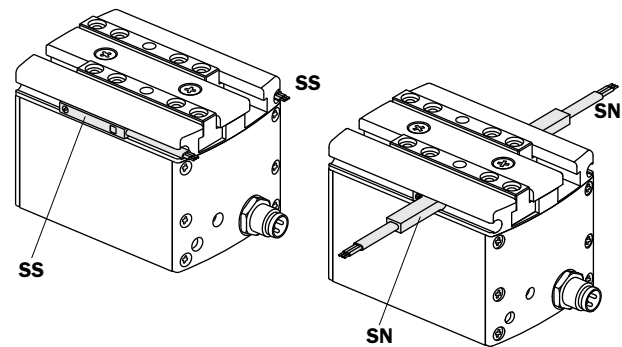
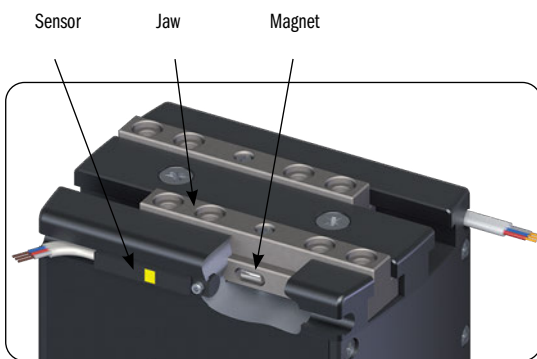
For details, see the "Accessories" section.



|           |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SS4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN | 2.5m cable             |
| SS4M225-G | NPN | 2.5m cable             |
| SN3N203-G | PNP | M8 snap plug connector |
| SS3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN | M8 snap plug connector |
| SS3M203-G | NPN | M8 snap plug connector |



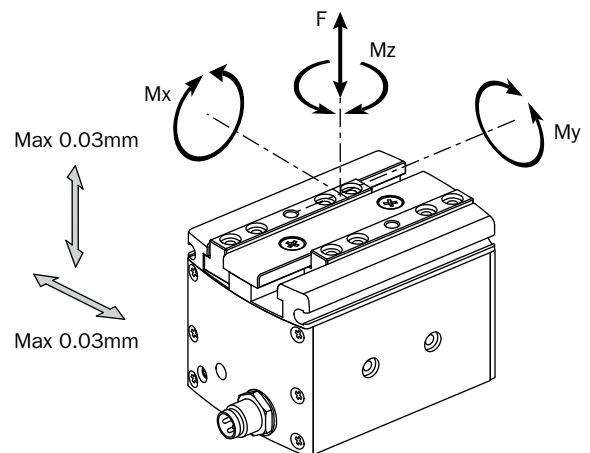
They are all provided with a 3-wire flat cable and a LED.



**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.  $F_d, M_x d, M_y d, M_z d$ , are the maximum permitted loads under dynamic conditions, that is with running jaws. The following table also shows the maximum permitted load (m) on each gripping tool when the gripper operates at peak performance. The picture below shows also the jaw maximum backlash.

|         | MPLM1630 | MPLM2535 | MPLM3240 |
|---------|----------|----------|----------|
| $F_s$   | 60 N     | 120 N    | 180 N    |
| $M_x s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_y s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_z s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $F_d$   | 0.6 N    | 1.2 N    | 2 N      |
| $M_x d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_y d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_z d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| m       | 60 g     | 120 g    | 200 g    |



## Cleanroom Gripping Solution








Gimatic electric grippers can operate in environments characterised by a high standard of cleanliness and hygiene by integrating the KIT-GMPLM3240. An adapter enables fastening the electric gripper to a robot interface (not included) and protecting its operation by means of a sterilisable silicone cover. The gripping fingers (not included) can be fastened by means of special hygienic stainless steel screws. The systems meets the most stringent GMP (Good Manufacturing Practice) cleanliness standards for Grade A and B.

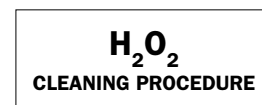
Its main characteristics are:

- Suitable for the MPLM3240 (1), MPLF3270 (2) and MPCF3270 (3) grippers.
- Compliant with GMP Grade A and B cleanliness standards.
- Cover made in Silicone Silpuran® Wacker FDA 21 CFR §177.2600.
- Compatible with hydrogen peroxide (VHP-H<sub>2</sub>O<sub>2</sub>) and UV cleaning procedures.
- Complete system with IP65 protection rating.
- ISO14644-1 certification for ISO 5 cleanrooms.
- Stainless steel hygienic screws (Novonox).
- Transparent surface that enables reading the LEDs of the internal sensors and the power supply status LEDs.
- Hygienic design surfaces preventing the build-up of bacteria.
- Easy fastening of gripping fingers with anti-rotation system.

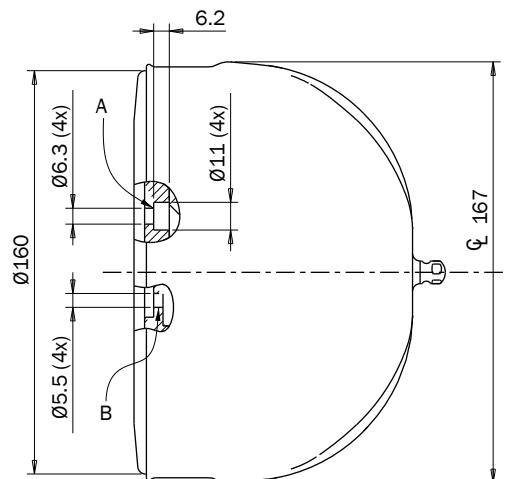
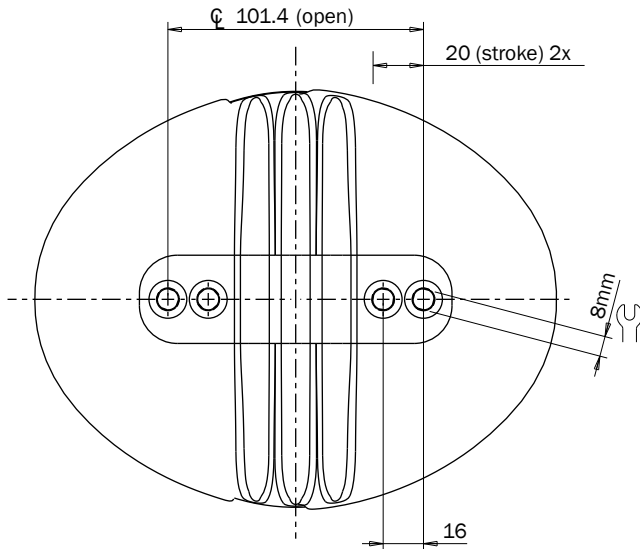
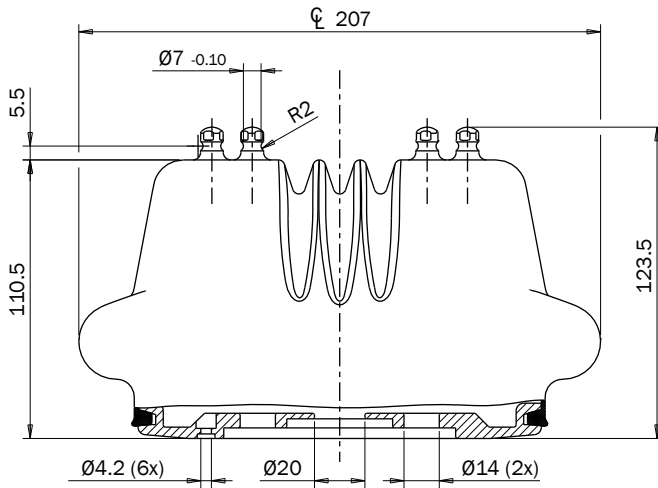
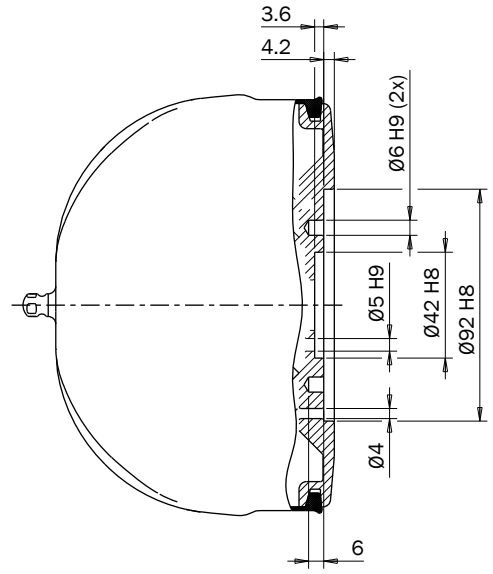
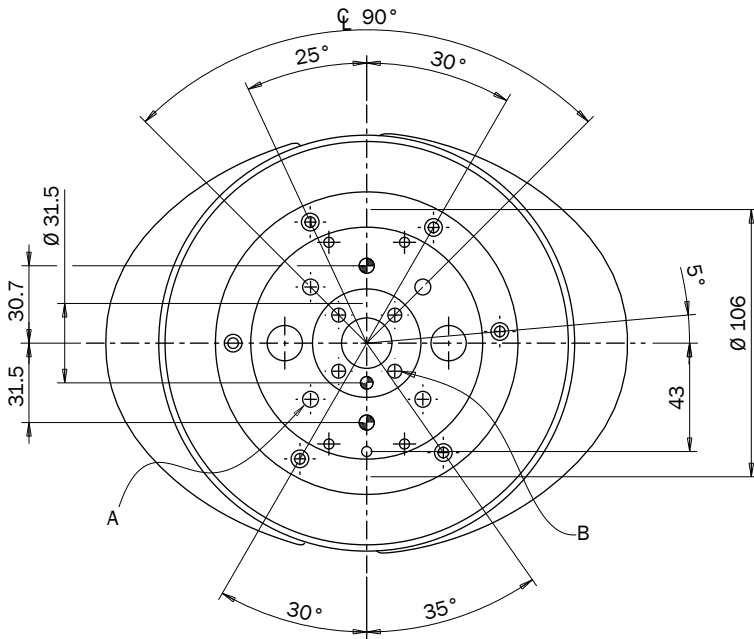
[Click for Pricing & Add to Cart](#)



|   |     |  |   |   |
|---|-----|--|---|---|
|  <p><b>KIT-GMPLM3240</b></p> | (1) |  <p><b>MPLM3240</b></p> | + |  <p><b>MPLM32-KIT-02</b></p> |
|   | (2) |  <p><b>MPLF3270</b></p> | + |  <p><b>MPLF-KIT-02</b></p>   |
|   | (3) |  <p><b>MPCF3270</b></p> | + |  <p><b>MPCF-KIT-01</b></p>   |

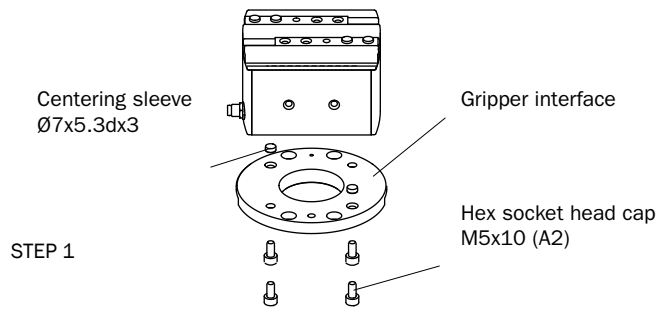


**Dimensions (mm)**

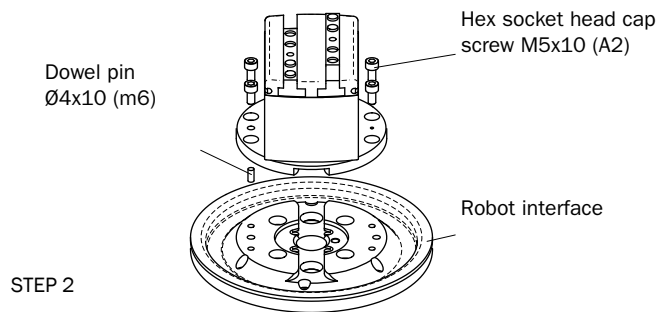


## Assembly

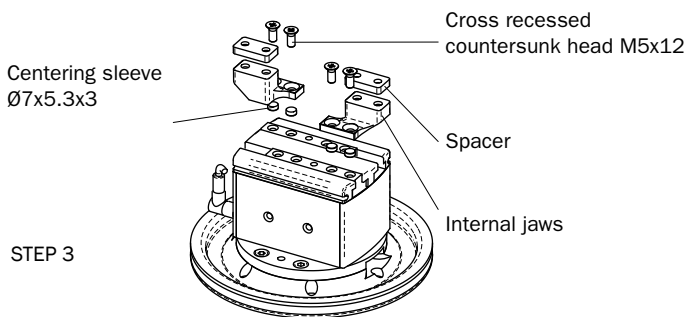
- Mount the gripper (not included in the KIT-GMPLM3240 box) onto the gripper interface using the hex socket head cap screws and the centering sleeves included in the box and forming the gripper subsystem.



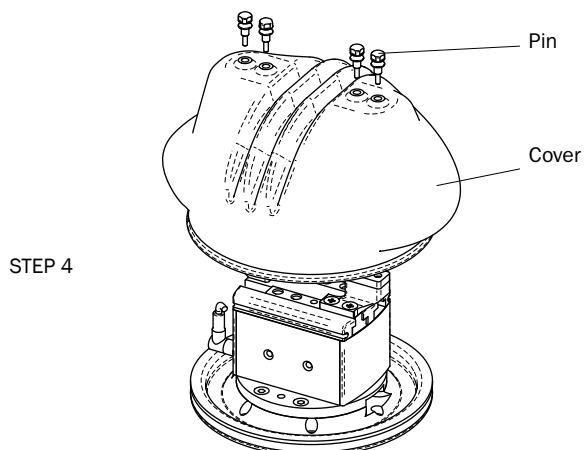
- Connect the female M8 connector to the gripper and eventually drive the cable below the gripper interface along the central groove of the robot interface (depending on the application constraint and commissioning of the robot).
- Fix gripper subsystem onto the robot interface using the screws and the centering pin forming the gripper subassembly.
- Maximum clamping torque of the screws = 1.5 Nm.



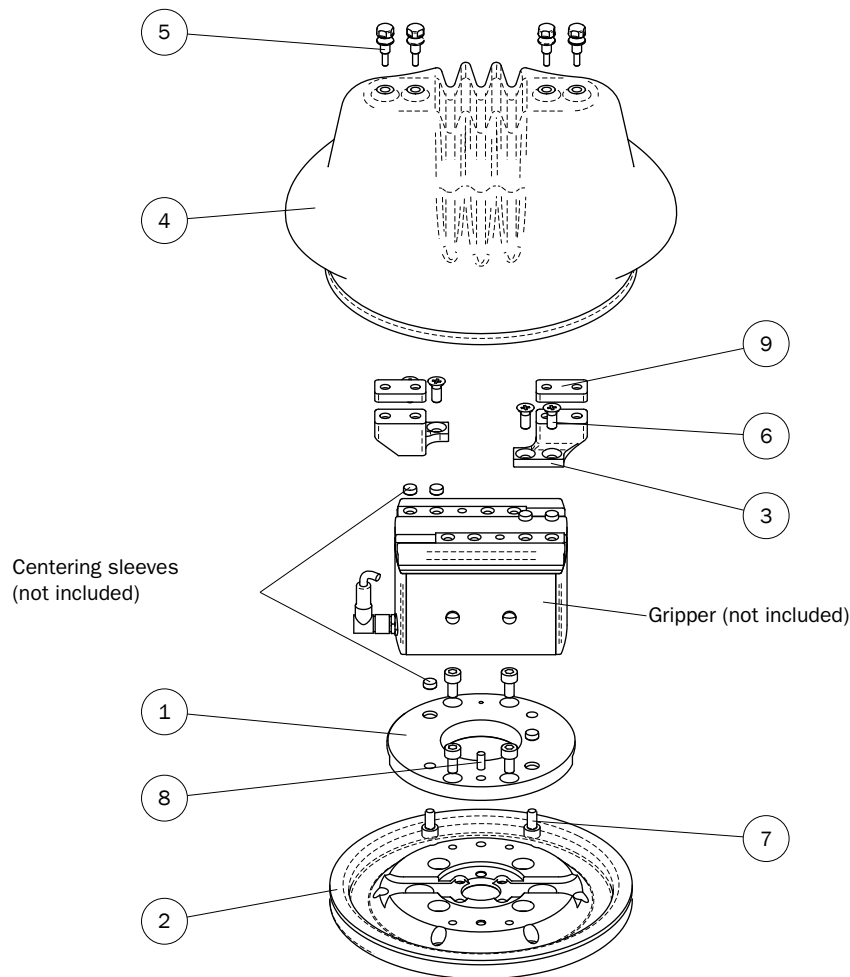
- Fix the internal jaws and the spacers using the cross recessed countersunk head screws and the centering sleeves included in the box.



- Finally, install the silicon cover and the external pins. Pay attention the silicon cover is correctly in place inside the circular groove of the robot interface all around the part.



**Part list**



**Included parts**

| Part No. | Description  | Quantity | Weight | Order No. |
|----------|--|----------|--------|-----------|
| 1        | Gripper interface                                  | 1        | 120 g  | 1         |
| 2        | Robot interface                                    | 1        | 400 g  | 2         |
| 3        | Internal jaws                                      | 2        | 20 g   | 3         |
| 4        | Cover  | 1        | 152 g  | 4         |
| 5        | Pin  | 4        | 5.3 g  | 5         |
| 6        | Cross recessed flat countersunk head m5x12 inox a2 | 4        | 2 g    | 6         |
| 7        | Hex socket head cap M5x10 inox a2                  | 8        | 2.9 g  | 7         |
| 8        | Dowel pin ø4x10 (m6)                               | 1        | 1.5 g  | 8         |
| 9        | Spacer   | 2        | 1 g    | 9         |

**CE Marking reference**

The system is in conformance with:

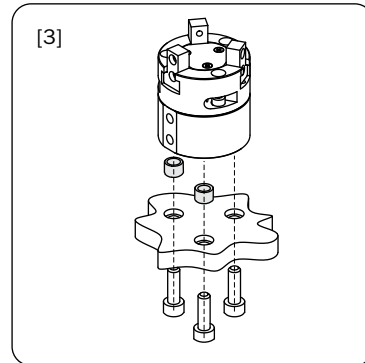
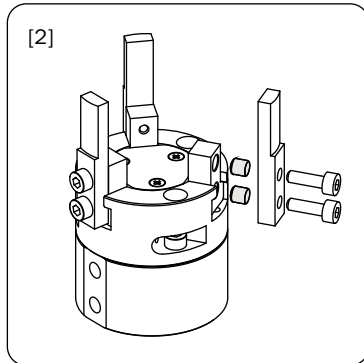
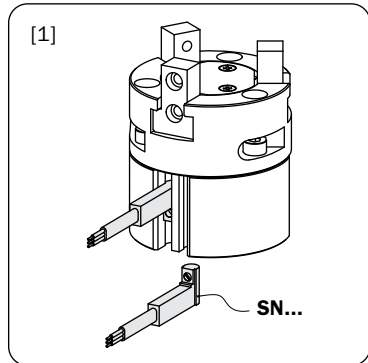
Directive 2004/108/CE, EN 62233 (2008-04), EN 61000-6-2+EC+IS1 (2005-08; 2005-09; 2005-11), EN 61000-6-3+A1 (2007-01; 2011-03), EN 61000-6-4 (2007-01), EN 55016-2-1+A1 (2004-10; 2005-08), EN 55016-2-3 (2006-12), EN 61000-4-2 (2009-03), EN 61000-4-3+A1+IS1+A2 (2006-05; 2008-02; 2009-02; 2010-07), EN 61000-4-4+A1 (2004-12; 2010-03), EN 61000-4-5 (2006-11), EN 61000-4-6+A1+IS1 (1996-07; 2001-12; 2004-07), EN 61000-4-6 (2009-03), CEI EN 60529 (1997-06).

**IPA Certification reference**

The system has been declared suitable for use in hygienic areas by Fraunhofer IPA Institute as stated in report No. GI 1904-1109.

**3-jaw self-centring pneumatic gripper - TGP20**

- Double-acting drive.
- Also available with spring open (TGP20-NO).
- Optional magnetic sensors [1].
- FDA-H1 food-grade grease.
- Supplied with centring sleeves for jaws [2] and body [3].



Use sensors:

|           |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | Snap M8 plug connector |
| SN3M203-G | NPN |                        |



TGP20



TGP20-NO

|   | TGP20   | TGP20-NO  |
|---|---|-----------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |           |
| Operating pressure range                    | 2 ÷ 8 bar   | 4 ÷ 8 bar |
| Operating temperature range                 | 5° ÷ 100°C  |           |
| Opening gripping force at 6 bar on each jaw | 55 N  | 65 N      |
| Closing gripping force at 6 bar on each jaw | 46 N  | 36 N      |
| Opening total gripping force at 6 bar       | 165 N   | 195 N     |
| Closing total gripping force at 6 bar       | 138 N   | 108 N     |
| Stroke                                      | 3x4 mm  |           |
| Maximum working frequency                   | 3 Hz  | 2 Hz      |
| Cycle air consumption                       | 3 cm <sup>3</sup>   |           |
| Closing time without load                   | 0.02 s  | 0.03 s    |
| Repetition accuracy                         | 0.02 mm   |           |
| Weight                                      | 132 g   | 133 g     |

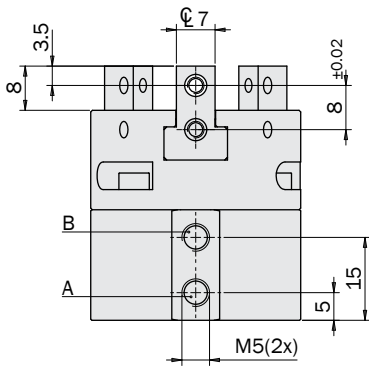
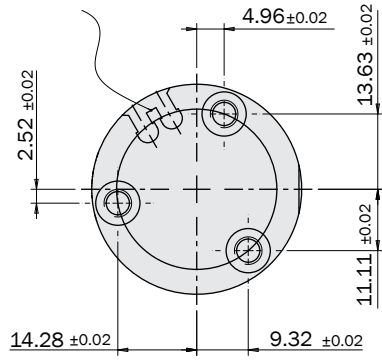
Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors



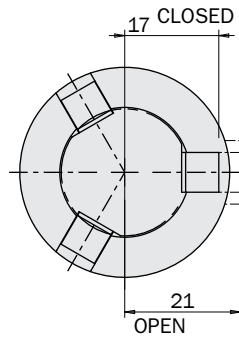
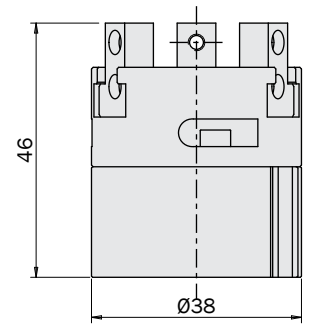
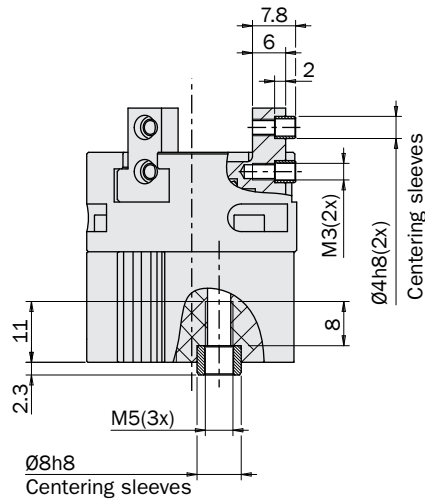
**Dimensions (mm)**



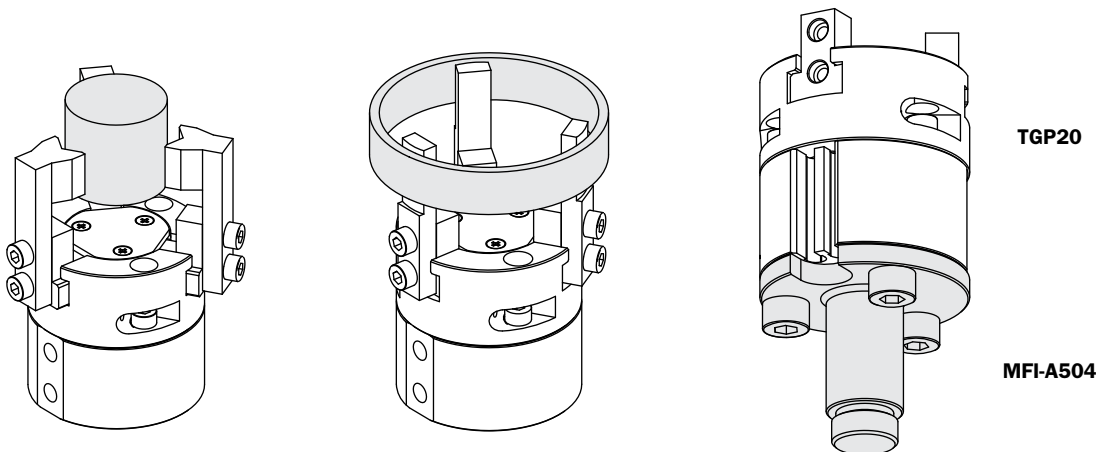
Sensor slot SN series



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



**Application example**



### 3-jaw self-centring pneumatic gripper (series T)

- Modular with Gimapick system.
- Double acting.
- Air feeding possible directly from the fixing plate.
- Possibility to mount it on front with through screws.
- High gripping force with low weight.
- Optional magnetic sensors.
- FDA-H1 food-grade grease.



T63



T40

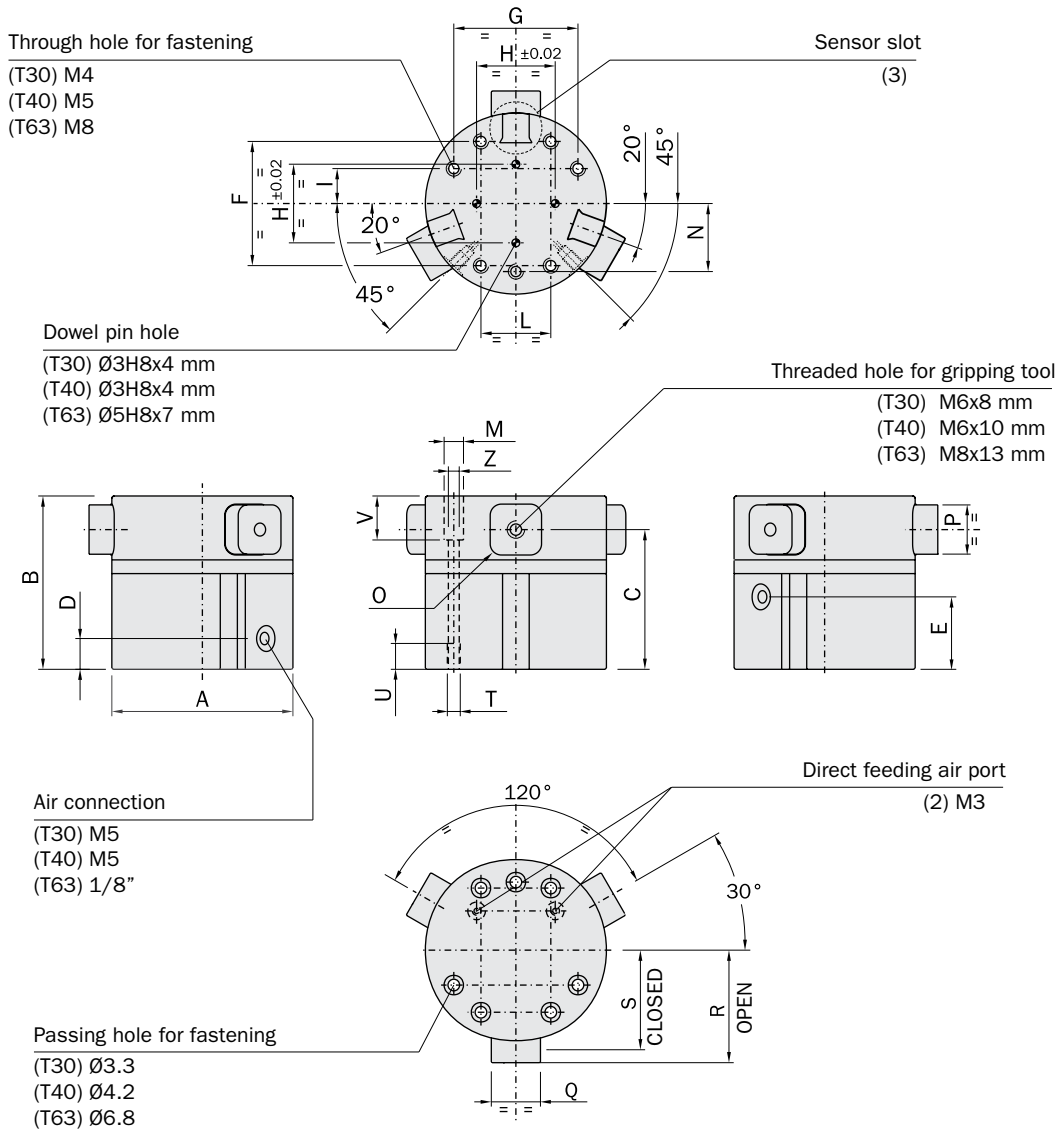


T30

|   | T30   | T40                | T63                |
|---|---|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |
| Operating pressure range                    | 2.5 ÷ 8 bar   |                    |                    |
| Operating temperature range                 | 5° ÷ 60°C.  |                    |                    |
| Opening gripping force at 6 bar on each jaw | 115 N   | 200 N              | 480 N              |
| Closing gripping force at 6 bar on each jaw | 105 N   | 180 N              | 440 N              |
| Opening total gripping force at 6 bar       | 345 N   | 600 N              | 1440 N             |
| Closing total gripping force at 6 bar       | 315 N   | 540 N              | 1320 N             |
| Stroke                                      | 3x3 mm  | 3x5 mm             | 3x9 mm             |
| Maximum working frequency                   | 4 Hz  | 3 Hz               | 2 Hz               |
| Cycle air consumption                       | 12 cm <sup>3</sup>  | 19 cm <sup>3</sup> | 94 cm <sup>3</sup> |
| Closing time without load                   | 0.01 s  | 0.01 s             | 0.05 s             |
| Repetition accuracy                         | 0.02 mm   | 0.02 mm            | 0.02 mm            |
| Weight                                      | 325 g   | 745 g              | 1680 g             |

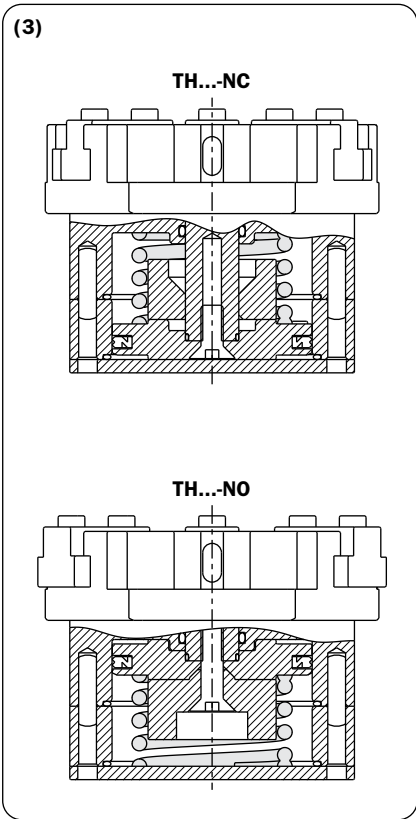
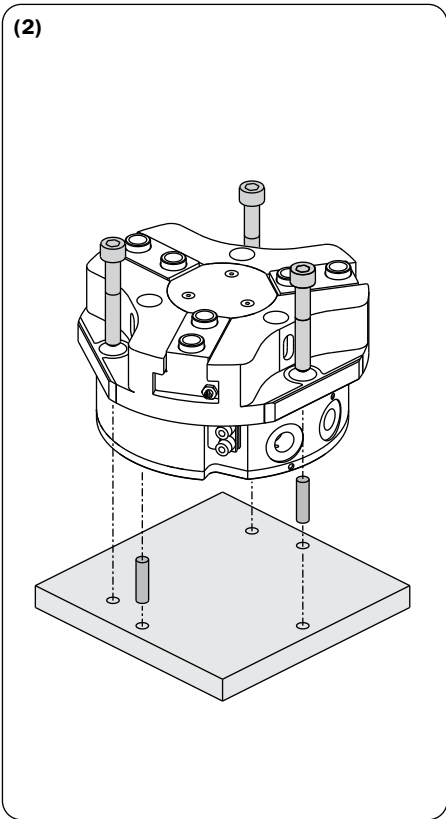
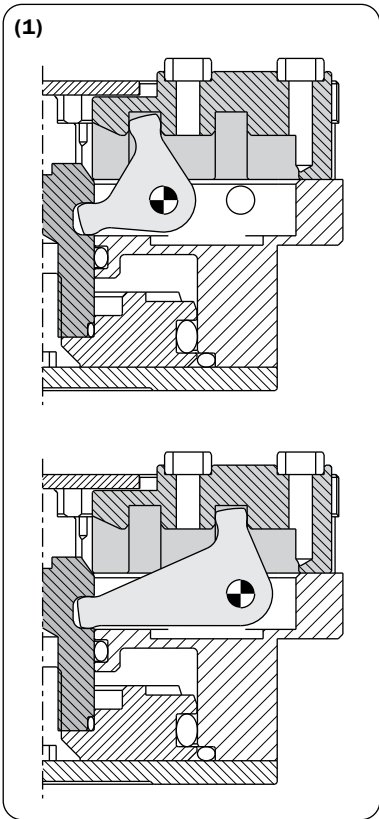
**Dimensions (mm)**

|     | A   | B    | C    | D    | E  | F  | G  | H<br>±0.02 | I    | L  | M     | N    | O | P<br>-0.05 | Q<br>-0.05 | R    | S    | T  | U  | V    | Z    |
|-----|-----|------|------|------|----|----|----|------------|------|----|-------|------|---|------------|------------|------|------|----|----|------|------|
| T30 | Ø50 | 59   | 49.5 | 8    | 27 | 37 | -  | 30.4       | -    | 21 | Ø6    | -    | 3 | 14         | 14         | 30.5 | 27.5 | M4 | 8  | 14   | Ø3.3 |
| T40 | Ø70 | 67   | 54   | 11.9 | 28 | 48 | 48 | 30.4       | 13.5 | 27 | Ø7.5  | 26.3 | 4 | 19         | 19         | 43.6 | 38.5 | M5 | 10 | 17   | Ø4.2 |
| T63 | Ø90 | 90.5 | 72.8 | 12   | 38 | 66 | -  | 59         | -    | 38 | Ø10.5 | -    | 5 | 26         | 26         | 60.6 | 51.5 | M8 | 16 | 28.5 | Ø6.8 |



**3-jaw self-centring pneumatic gripper (series TH)**

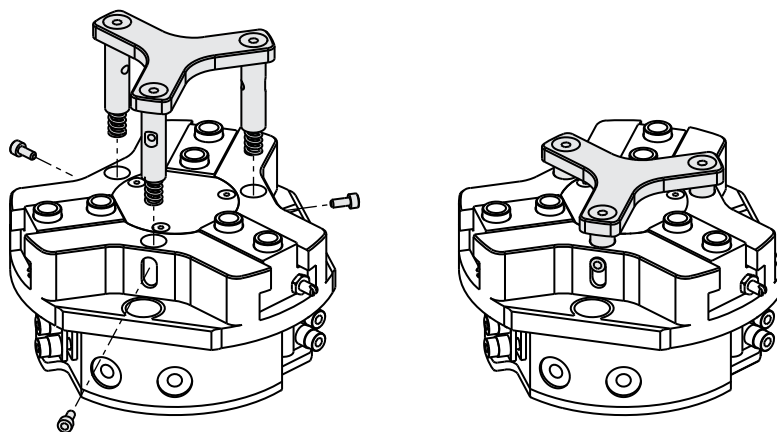
- Double acting with optional springs (normally closed or normally open) (3).
- Long stroke or short stroke (1).
- Possibility of front fastening with through screws (2).
- High efficiency force transmission (1).
- Optional magnetic or inductive sensors.
- FDA-H1 food-grade grease.



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

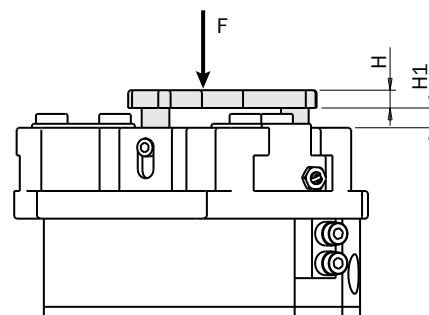
**Optional pusher**

This accessory can be installed in the TH grippers, to hold the payload during the gripper release, by a pushing force F. As an example, when the chuck of a machining equipment is loaded. It is supplied disassembled, with the codes in the table below.



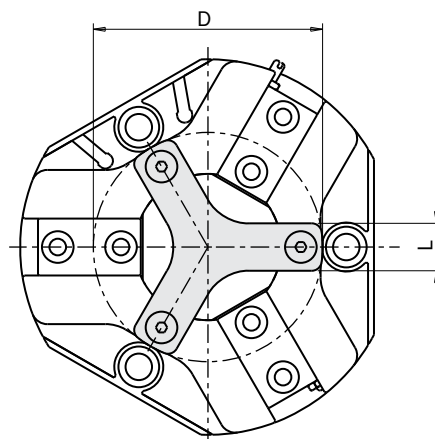
**Force**

|   | TH27K | TH33K | TH45K | TH54K | TH76K | TH96K | TH125K |
|---|-------|-------|-------|-------|-------|-------|--------|
| F | 10N   | 15N   | 20N   | 30N   | 50N   | 100N  | 200N   |



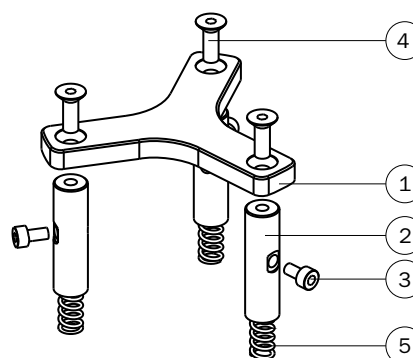
**Dimensions (mm)**

|    | TH27K | TH33K | TH45K | TH54K | TH76K | TH96K | TH125K |
|----|-------|-------|-------|-------|-------|-------|--------|
| D  | Ø28   | Ø37   | Ø44   | Ø58   | Ø74   | Ø86   | Ø118   |
| H  | 3.5   | 4     | 4     | 4.5   | 5.5   | 5.5   | 6      |
| H1 | 0÷2.5 | 0÷3   | 0÷4   | 0÷5   | 0÷5   | 0÷6   | 0÷6    |
| L  | 6.5   | 8     | 10    | 12    | 14    | 16    | 19     |
| m  | 10g   | 20g   | 30g   | 50g   | 100g  | 170g  | 285g   |



**Part list**

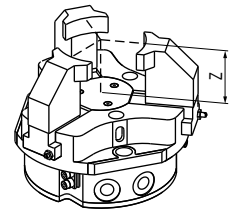
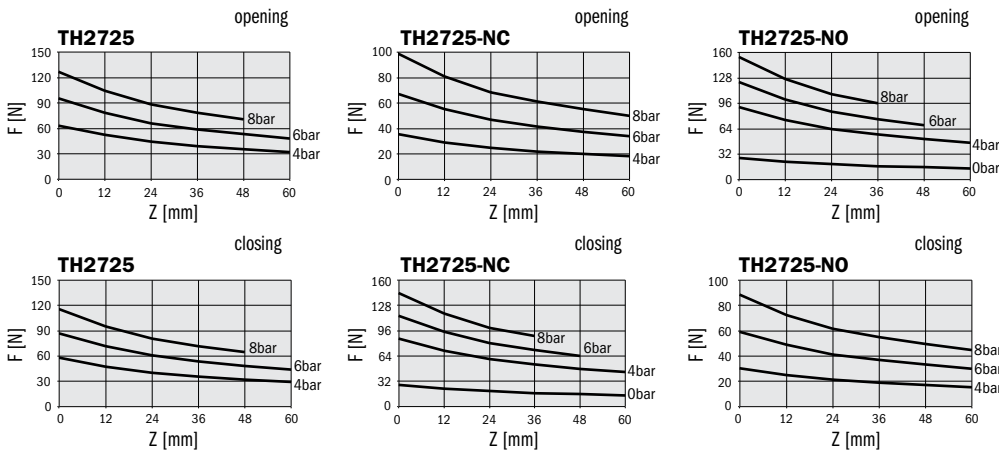
|   | TH27K                         | TH33K                        | TH45K                       | TH54K                        | TH76K                        | TH96K                        | TH125K                       |
|---|-------------------------------|------------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| 1 | TH2725-14                     | TH3304-15                    | TH4506-09                   | TH5408-22                    | TH7610-10                    | TH9613-10                    | TH12516-17                   |
| 2 | TH2725-15                     | TH3304-14                    | TH4506-10                   | TH5408-23                    | TH7610-11                    | TH9613-11                    | TH12516-18                   |
| 3 | VITE-434<br>M1.6x3<br>DIN7985 | VITE-435<br>M2x4<br>DIN7985  | VITE-436<br>M2x5<br>DIN912  | VITE-217<br>M2.5x6<br>DIN912 | VITE-017<br>M3x6<br>DIN912   | VITE-009<br>M4x8<br>DIN912   | VITE-275<br>M4x8<br>DIN912   |
| 4 | VITE-068<br>M2x6<br>DIN965    | VITE-170<br>M2.5x6<br>DIN965 | VITE-306<br>M3x8<br>DIN7991 | VITE-305<br>M4x8<br>DIN7991  | VITE-437<br>M4x12<br>DIN7991 | VITE-438<br>M5x12<br>DIN7991 | VITE-438<br>M5x12<br>DIN7991 |
| 5 | TH2725-16                     | TH3304-16                    | TH4506-11                   | TH5408-24                    | TH7610-12                    | TH9613-12                    | TH12516-19                   |



|   | TH2725  | TH2725-NC        | TH2725-NO        |
|---|---|------------------|------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                  |                  |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar       | 3.5 ÷ 8bar       |
| Operating temperature range                 | 5 ÷ 100°C.  |                  |                  |
| Opening gripping force on each jaw at 6 bar | 95N   | 65 ÷ 70N         | 121 ÷ 125N       |
| Opening total gripping force at 6 bar       | 285N  | 195 ÷ 210N       | 363 ÷ 375N       |
| Closing gripping force on each jaw at 6 bar | 87N   | 112 ÷ 117N       | 57 ÷ 61N         |
| Closing total gripping force at 6 bar       | 261N  | 336 ÷ 351N       | 171 ÷ 183N       |
| Stroke                                      | 3x2.5mm   | 3x2.5mm          | 3x2.5mm          |
| Maximum working frequency                   | 3Hz   | 3Hz              | 3Hz              |
| Cycle air consumption                       | 3cm <sup>3</sup>  | 6cm <sup>3</sup> | 6cm <sup>3</sup> |
| Closing / opening minimum time              | 0.02s / 0.02s   | 0.01s / 0.02s    | 0.03s / 0.01s    |
| Repetition accuracy                         | 0.02mm  | 0.02mm           | 0.02mm           |
| Weight                                      | 117g  | 140g             | 139g             |

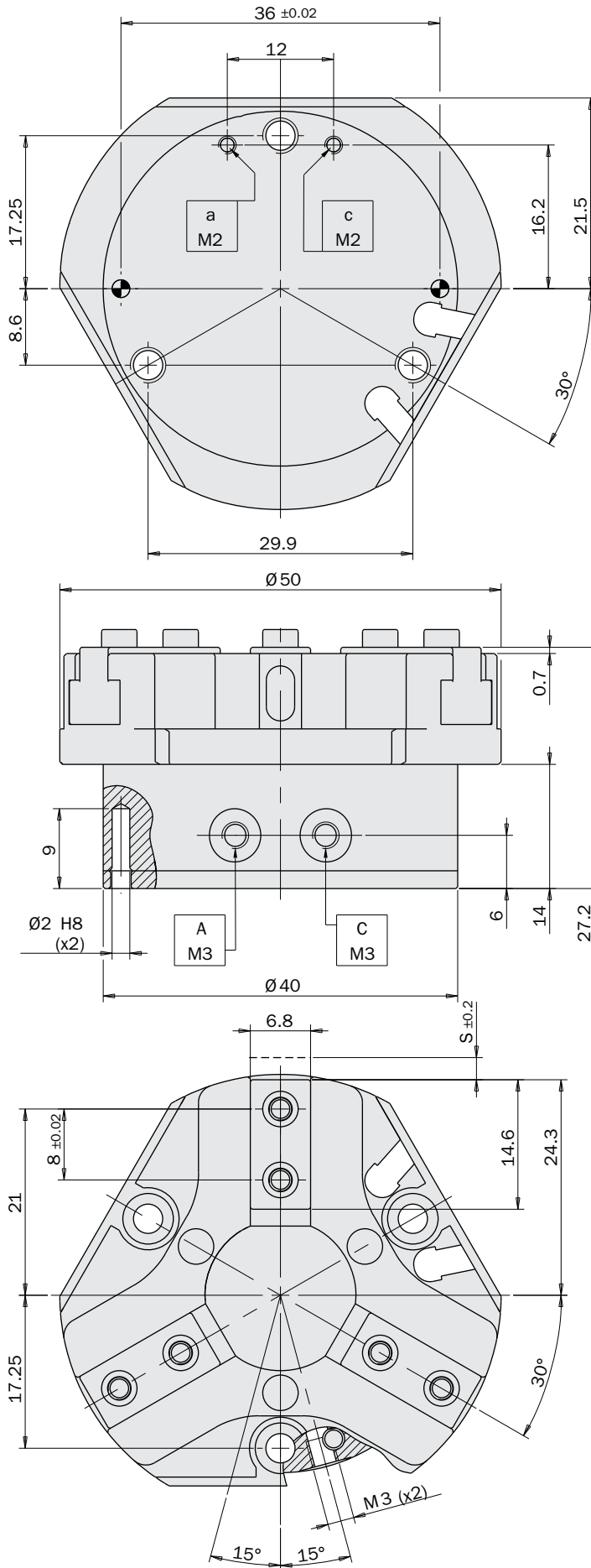
### Gripping force

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

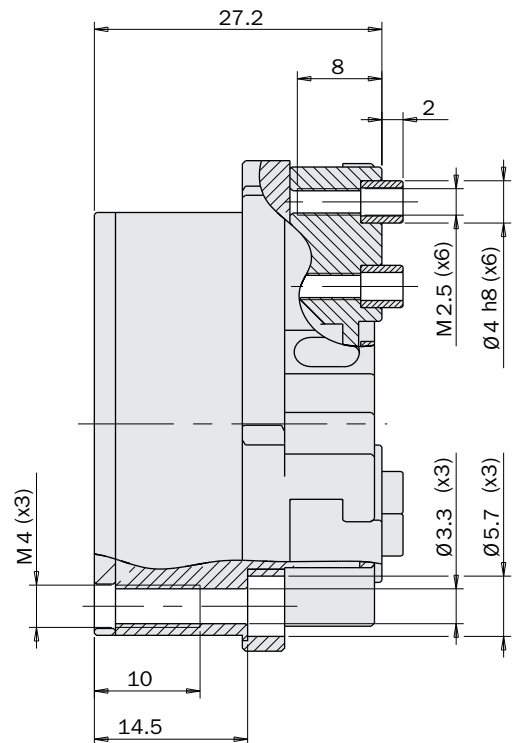
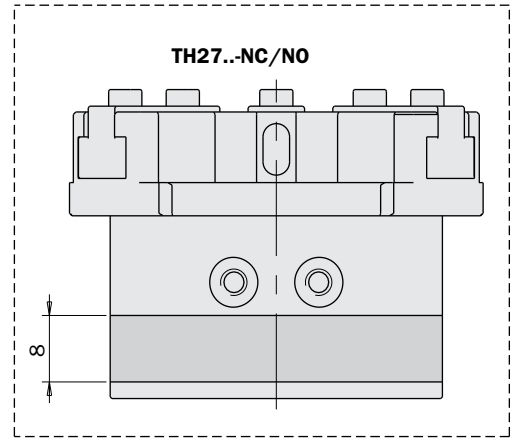


**The force shown in these graphs refers to one jaw. The total force is triple.**

**Dimensions (mm)**



|   | TH2725  | TH2725-NC | TH2725-NO |
|---|---------|-----------|-----------|
| S | 3x2.5mm | 3x2.5mm   | 3x2.5mm   |

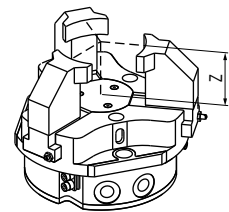
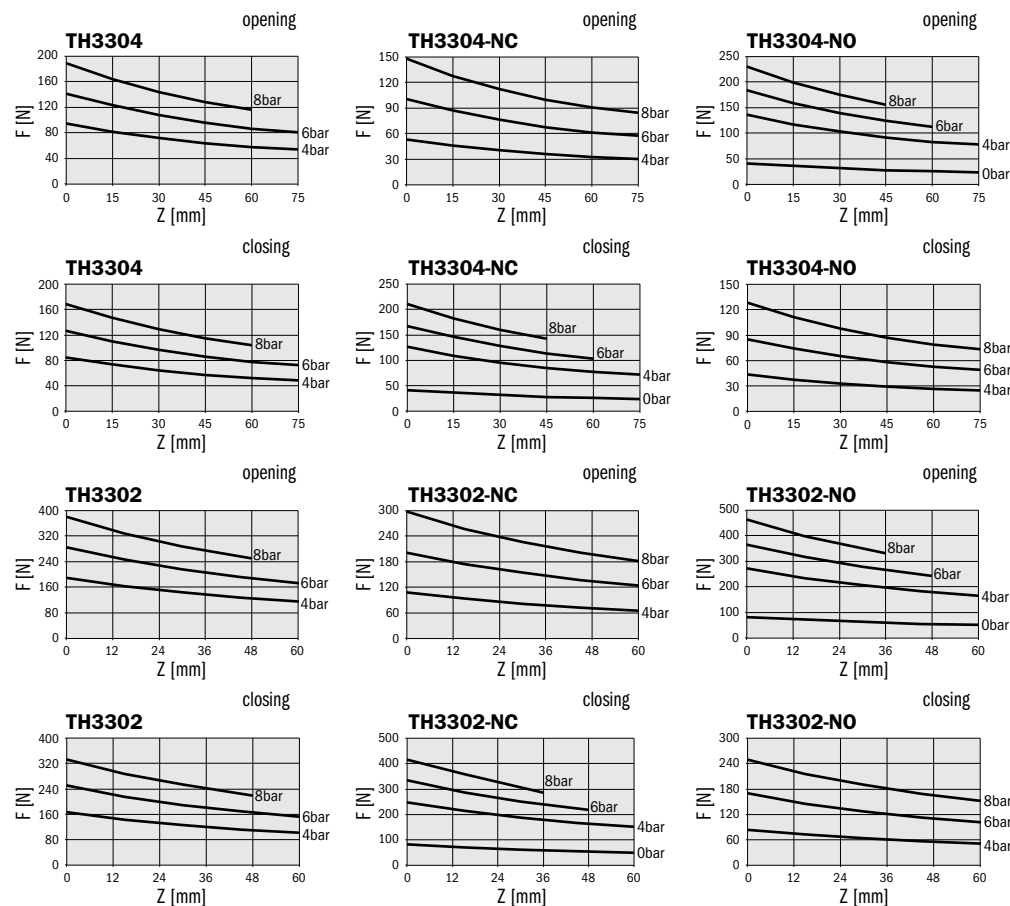


FIRST ANGLE PROJECTION

|   | TH3304  | TH3304-NC         | TH3304-NO         | TH3302           | TH3302-NC         | TH3302-NO         |
|---|---|-------------------|-------------------|------------------|-------------------|-------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                  |                   |                   |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        | 1.5 ÷ 8bar       | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        |
| Operating temperature range                 | 5 ÷ 100°C.  |                   |                   |                  |                   |                   |
| Opening gripping force on each jaw at 6 bar | 142N  | 97 ÷ 106N         | 179 ÷ 188N        | 285N             | 192 ÷ 210N        | 358 ÷ 375N        |
| Opening total gripping force at 6 bar       | 426N  | 291 ÷ 318N        | 537 ÷ 564N        | 855N             | 576 ÷ 630N        | 1074 ÷ 1125N      |
| Closing gripping force on each jaw at 6 bar | 127N  | 164 ÷ 172N        | 81 ÷ 90N          | 250N             | 326 ÷ 344N        | 161 ÷ 179N        |
| Closing total gripping force at 6 bar       | 381N  | 492 ÷ 516N        | 243 ÷ 270N        | 750N             | 978 ÷ 1032N       | 483 ÷ 537N        |
| Stroke                                      | 3x4mm   | 3x4mm             | 3x4mm             | 3x2mm            | 3x2mm             | 3x2mm             |
| Maximum working frequency                   | 3Hz   | 3Hz               | 3Hz               | 3Hz              | 3Hz               | 3Hz               |
| Cycle air consumption                       | 8cm <sup>3</sup>  | 13cm <sup>3</sup> | 13cm <sup>3</sup> | 8cm <sup>3</sup> | 13cm <sup>3</sup> | 13cm <sup>3</sup> |
| Closing / opening minimum time              | 0.02s / 0.02s   | 0.02s / 0.02s     | 0.02s / 0.02s     | 0.02s / 0.02s    | 0.02s / 0.02s     | 0.02s / 0.02s     |
| Repetition accuracy                         | 0.02mm  | 0.02mm            | 0.02mm            | 0.02mm           | 0.02mm            | 0.02mm            |
| Weight                                      | 237g  | 293g              | 285g              | 240g             | 296g              | 288g              |

### Gripping force

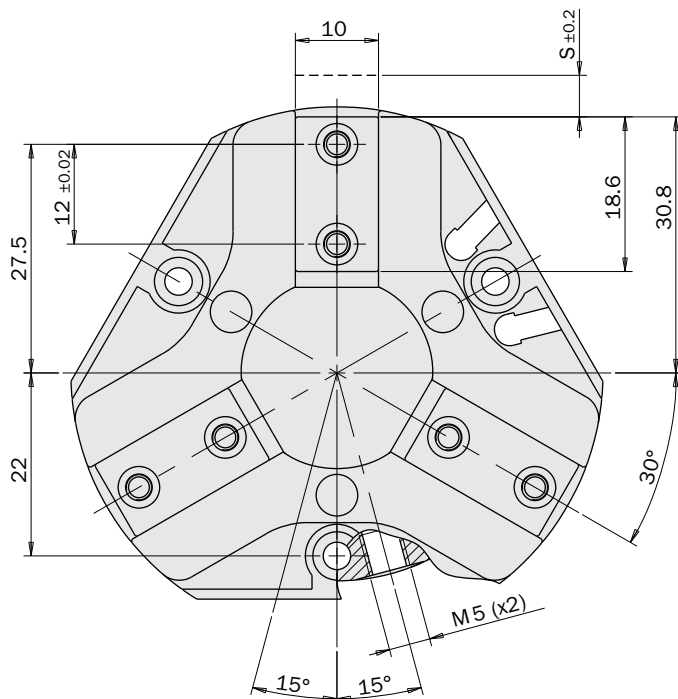
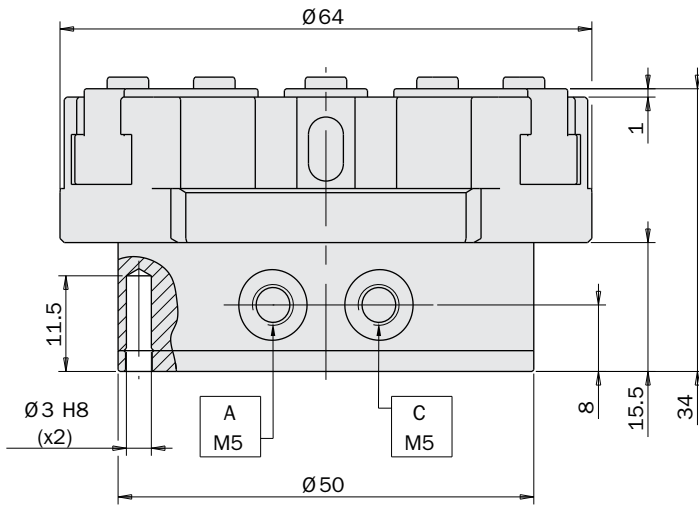
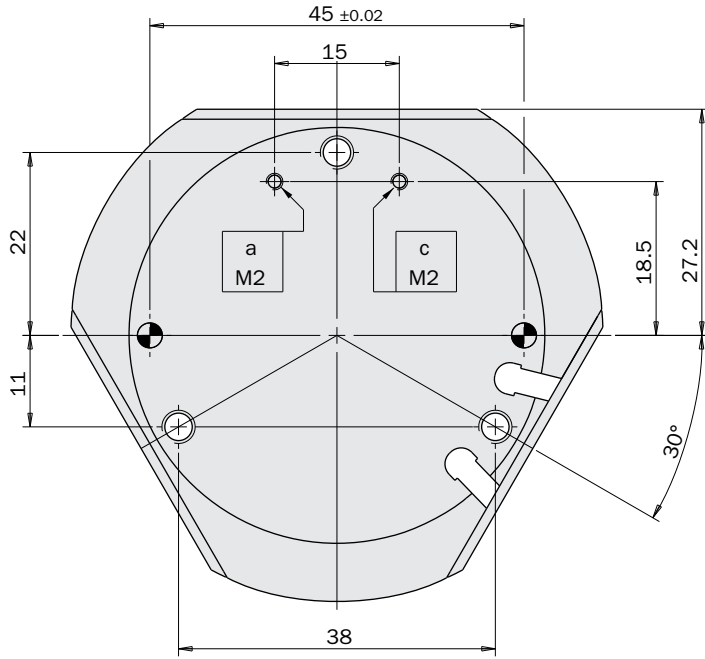
The graphs show the gripping force (F) on each jaw, as a function of the operating pressure and the gripping tool length Z.



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



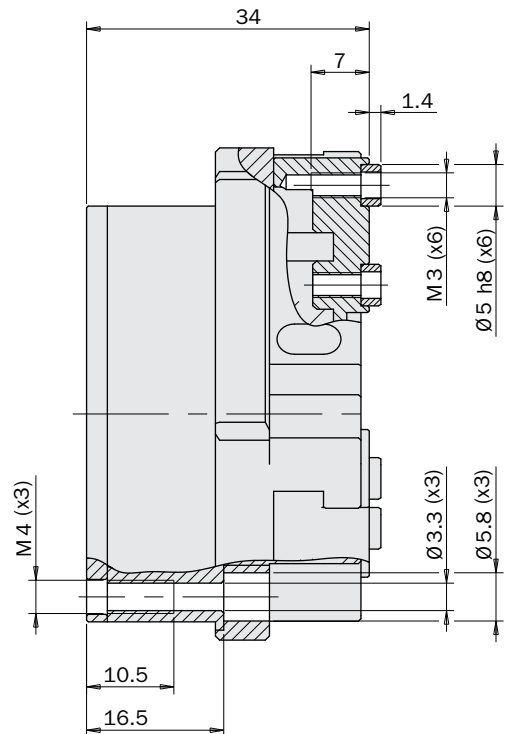
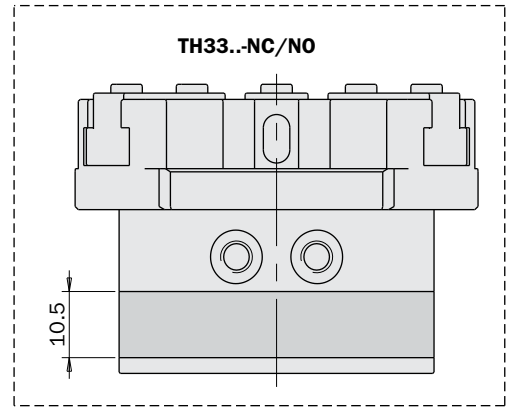
**Dimensions (mm)**



FIRST ANGLE PROJECTION

|   | TH3304 | TH3304-NC | TH3304-N0 |
|---|--------|-----------|-----------|
| S | 3x4mm  | 3x4mm     | 3x4mm     |

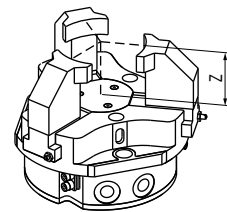
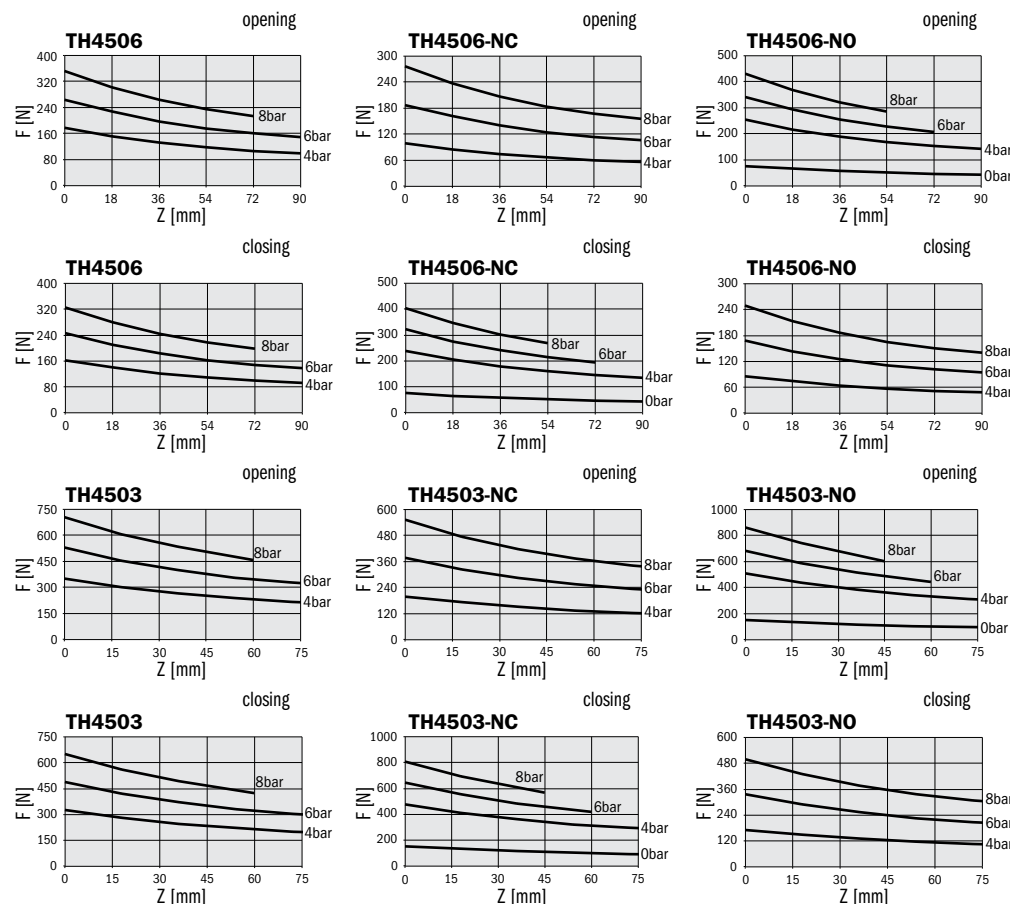
|   | TH3302 | TH3302-NC | TH3302-N0 |
|---|--------|-----------|-----------|
| S | 3x2mm  | 3x2mm     | 3x2mm     |



|   | TH4506  | TH4506-NC         | TH4506-NO         | TH4503            | TH4503-NC         | TH4503-NO         |
|---|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                   |                   |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        | 1.5 ÷ 8bar        | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        |
| Operating temperature range                 | 5 ÷ 100°C.  |                   |                   |                   |                   |                   |
| Opening gripping force on each jaw at 6 bar | 265N  | 173 ÷ 202N        | 328 ÷ 356N        | 530N              | 346 ÷ 403N        | 653 ÷ 710N        |
| Opening total gripping force at 6 bar       | 795N  | 519 ÷ 606N        | 984 ÷ 1068N       | 1590N             | 1038 ÷ 1209N      | 1959 ÷ 2130N      |
| Closing gripping force on each jaw at 6 bar | 245N  | 309 ÷ 337N        | 155 ÷ 184N        | 490N              | 615 ÷ 673N        | 308 ÷ 366N        |
| Closing total gripping force at 6 bar       | 735N  | 927 ÷ 1011N       | 465 ÷ 552N        | 1470N             | 1845 ÷ 2019N      | 924 ÷ 1098N       |
| Stroke                                      | 3x6mm   | 3x6mm             | 3x6mm             | 3x3mm             | 3x3mm             | 3x3mm             |
| Maximum working frequency                   | 2Hz   | 2Hz               | 2Hz               | 2Hz               | 2Hz               | 2Hz               |
| Cycle air consumption                       | 22cm <sup>3</sup>   | 37cm <sup>3</sup> | 37cm <sup>3</sup> | 22cm <sup>3</sup> | 37cm <sup>3</sup> | 37cm <sup>3</sup> |
| Closing / opening minimum time              | 0.05s / 0.05s   | 0.05s / 0.07s     | 0.07s / 0.05s     | 0.05s / 0.05s     | 0.05s / 0.07s     | 0.07s / 0.05s     |
| Repetition accuracy                         | 0.02mm  | 0.02mm            | 0.02mm            | 0.02mm            | 0.02mm            | 0.02mm            |
| Weight                                      | 430g  | 540g              | 530g              | 440g              | 550g              | 530g              |

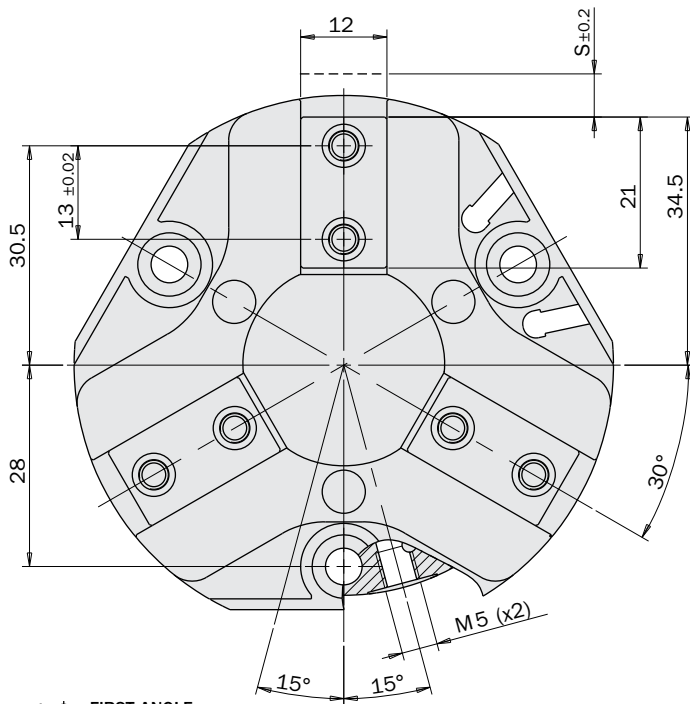
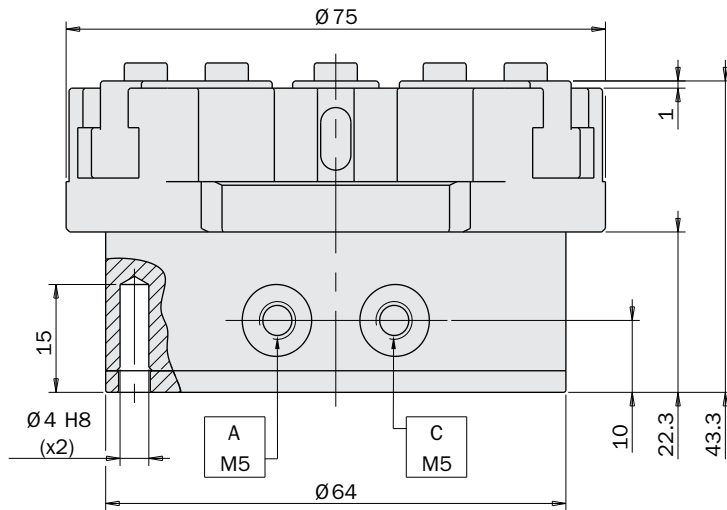
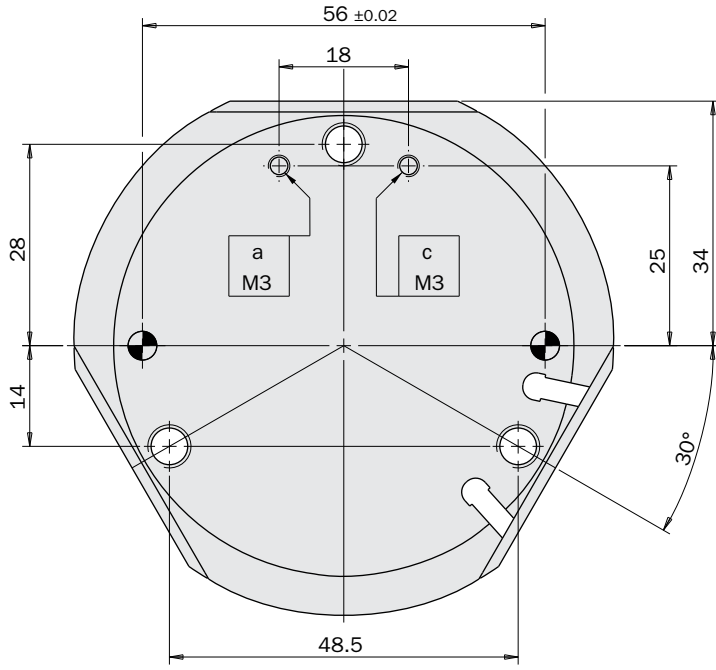
### Gripping force

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



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

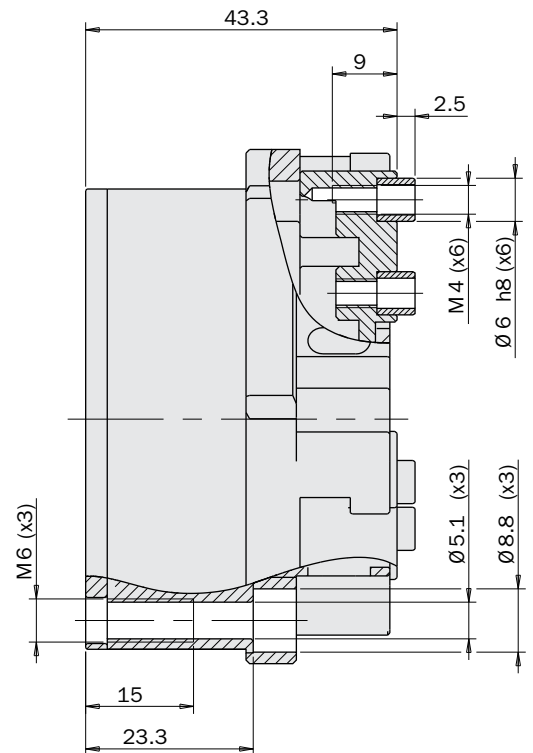
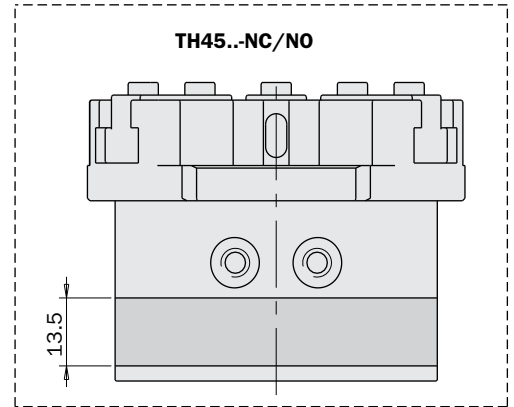
**Dimensions (mm)**



FIRST ANGLE PROJECTION

|   | TH4506 | TH4506-NC | TH4506-NO |
|---|--------|-----------|-----------|
| S | 3x6mm  | 3x6mm     | 3x6mm     |

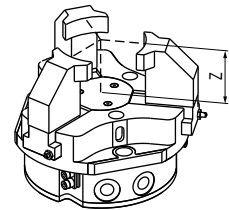
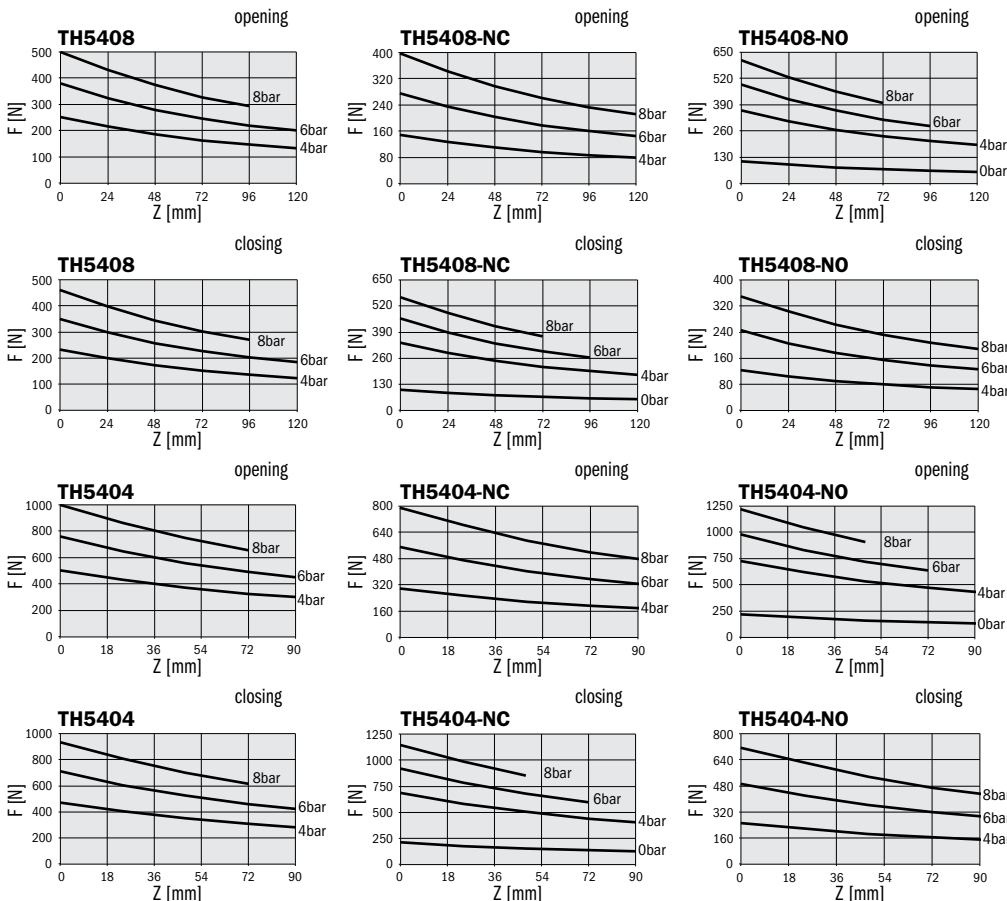
|   | TH4503 | TH4503-NC | TH4503-NO |
|---|--------|-----------|-----------|
| S | 3x3mm  | 3x3mm     | 3x3mm     |



|   | TH5408  | TH5408-NC         | TH5408-NO         | TH5404            | TH5404-NC         | TH5404-NO         |
|---|---|-------------------|-------------------|-------------------|-------------------|-------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                   |                   |                   |                   |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        | 1.5 ÷ 8bar        | 3.5 ÷ 8bar        | 3.5 ÷ 8bar        |
| Operating temperature range                 | 5 ÷ 100°C.  |                   |                   |                   |                   |                   |
| Opening gripping force on each jaw at 6 bar | 380N  | 252 ÷ 299N        | 466 ÷ 514N        | 760N              | 504 ÷ 597N        | 931 ÷ 1029N       |
| Opening total gripping force at 6 bar       | 1140N   | 756 ÷ 897N        | 1398 ÷ 1542N      | 2280N             | 1512 ÷ 1791N      | 2793 ÷ 3087N      |
| Closing gripping force on each jaw at 6 bar | 350N  | 436 ÷ 483N        | 220 ÷ 269N        | 710N              | 872 ÷ 966N        | 441 ÷ 538N        |
| Closing total gripping force at 6 bar       | 1050N   | 1308 ÷ 1449N      | 660 ÷ 807N        | 2130N             | 2616 ÷ 2898N      | 1323 ÷ 1614N      |
| Stroke                                      | 3x8mm   | 3x8mm             | 3x8mm             | 3x4mm             | 3x4mm             | 3x4mm             |
| Maximum working frequency                   | 2Hz   | 2Hz               | 2Hz               | 2Hz               | 2Hz               | 2Hz               |
| Cycle air consumption                       | 42cm <sup>3</sup>   | 67cm <sup>3</sup> | 67cm <sup>3</sup> | 42cm <sup>3</sup> | 67cm <sup>3</sup> | 67cm <sup>3</sup> |
| Closing / opening minimum time              | 0.05s / 0.05s   | 0.05s / 0.07s     | 0.07s / 0.05s     | 0.05s / 0.05s     | 0.05s / 0.07s     | 0.07s / 0.05s     |
| Repetition accuracy                         | 0.02mm  | 0.02mm            | 0.02mm            | 0.02mm            | 0.02mm            | 0.02mm            |
| Weight                                      | 760g  | 930g              | 920g              | 770g              | 940g              | 930g              |

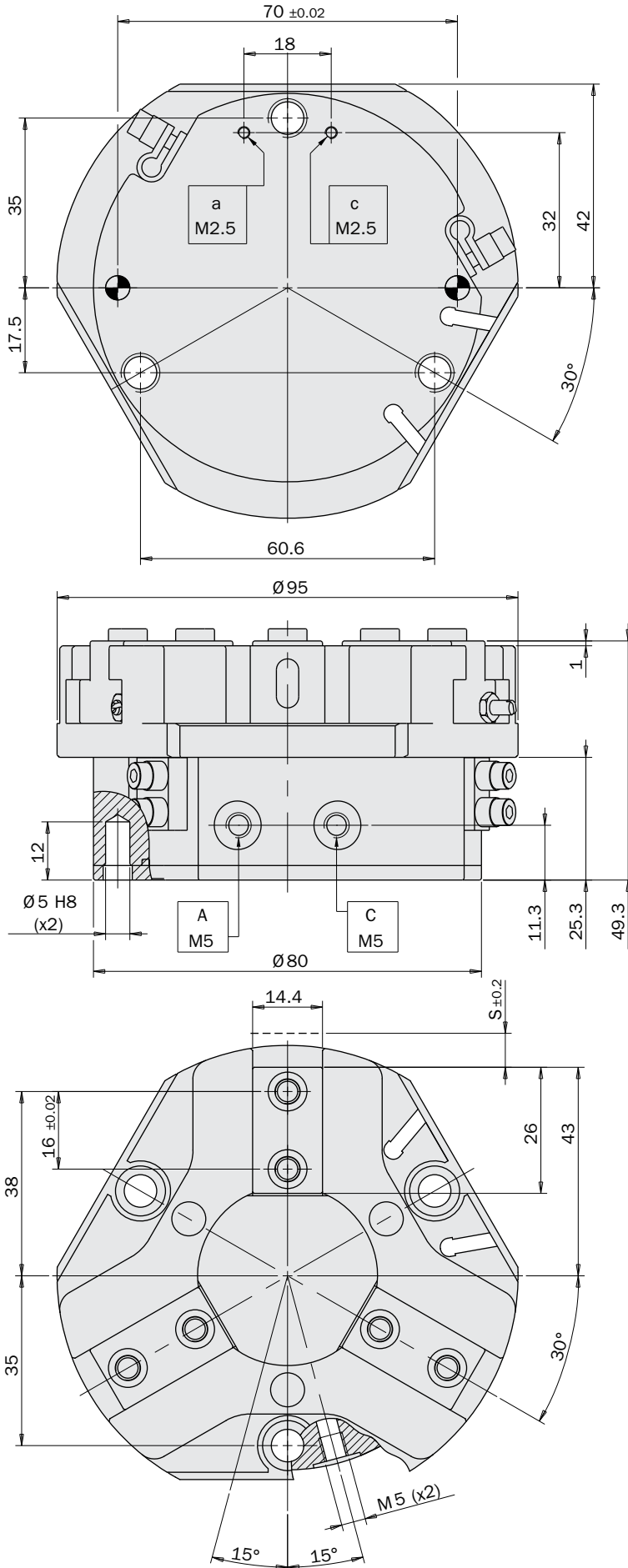
### Gripping force

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



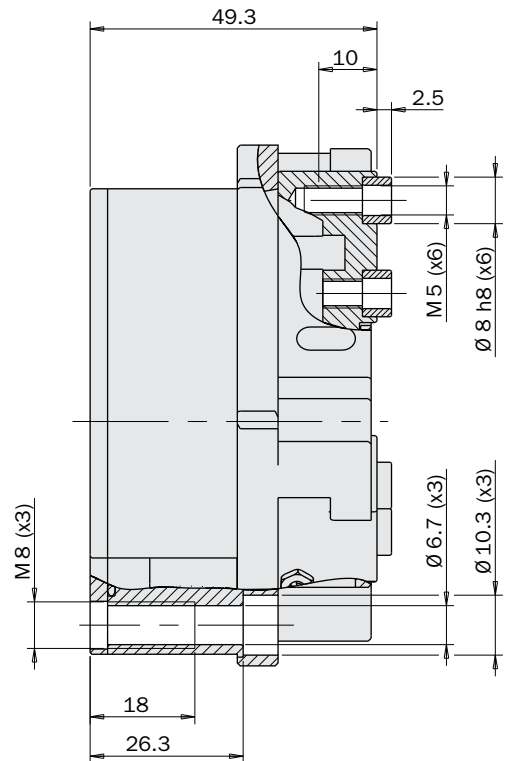
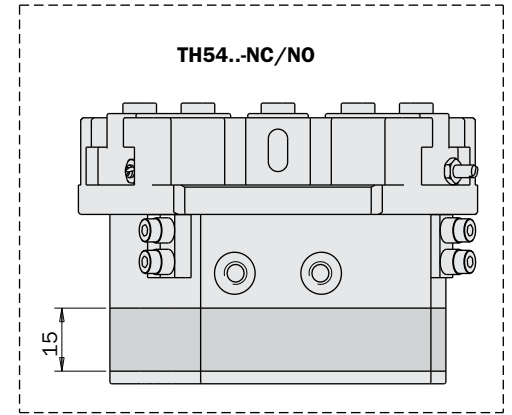
**The force shown in these graphs refers to one jaw. The total force is triple.**

**Dimensions (mm)**



|   | TH5408 | TH5408-NC | TH5408-NO |
|---|--------|-----------|-----------|
| S | 3x8mm  | 3x8mm     | 3x8mm     |

|   | TH5404 | TH5404-NC | TH5404-NO |
|---|--------|-----------|-----------|
| S | 3x4mm  | 3x4mm     | 3x4mm     |



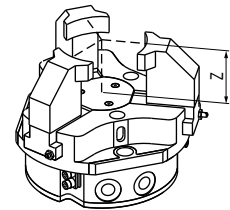
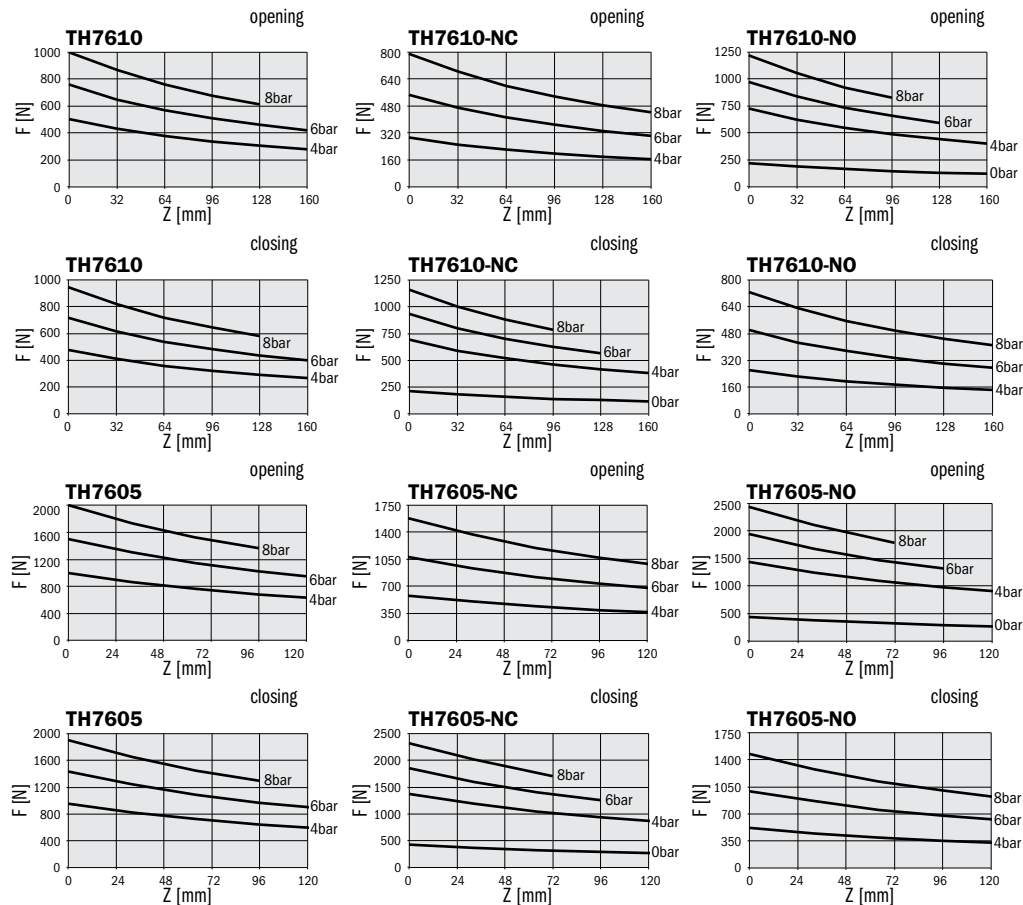
FIRST ANGLE PROJECTION

09/2022

|   | TH7610  | TH7610-NC          | TH7610-NO          | TH7605             | TH7605-NC          | TH7605-NO          |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar         | 3.5 ÷ 8bar         | 1.5 ÷ 8bar         | 3.5 ÷ 8bar         | 3.5 ÷ 8bar         |
| Operating temperature range                 | 5 ÷ 100°C.  |                    |                    |                    |                    |                    |
| Opening gripping force on each jaw at 6 bar | 760N  | 515 ÷ 577N         | 954 ÷ 1000N        | 1500N              | 1024 ÷ 1148N       | 1896 ÷ 1989N       |
| Opening total gripping force at 6 bar       | 2280N   | 1545 ÷ 1731N       | 2862 ÷ 3000N       | 4500N              | 3072 ÷ 3444N       | 5688 ÷ 5967N       |
| Closing gripping force on each jaw at 6 bar | 720N  | 890 ÷ 962N         | 477 ÷ 524N         | 1430N              | 1789 ÷ 1913N       | 948 ÷ 1041N        |
| Closing total gripping force at 6 bar       | 2160N   | 2670 ÷ 2886N       | 1431 ÷ 1572N       | 4290N              | 5367 ÷ 5739N       | 2844 ÷ 3123N       |
| Stroke                                      | 3x10mm  | 3x10mm             | 3x10mm             | 3x5mm              | 3x5mm              | 3x5mm              |
| Maximum working frequency                   | 1Hz   | 1Hz                | 1Hz                | 1Hz                | 1Hz                | 1Hz                |
| Cycle air consumption                       | 106cm <sup>3</sup>  | 174cm <sup>3</sup> | 174cm <sup>3</sup> | 106cm <sup>3</sup> | 174cm <sup>3</sup> | 174cm <sup>3</sup> |
| Closing / opening minimum time              | 0.2s / 0.2s   | 0.2s / 0.3s        | 0.3s / 0.2s        | 0.2s / 0.2s        | 0.2s / 0.3s        | 0.3s / 0.2s        |
| Repetition accuracy                         | 0.02mm  | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             |
| Weight                                      | 1420g   | 1870g              | 1840g              | 1430g              | 1880g              | 1850g              |

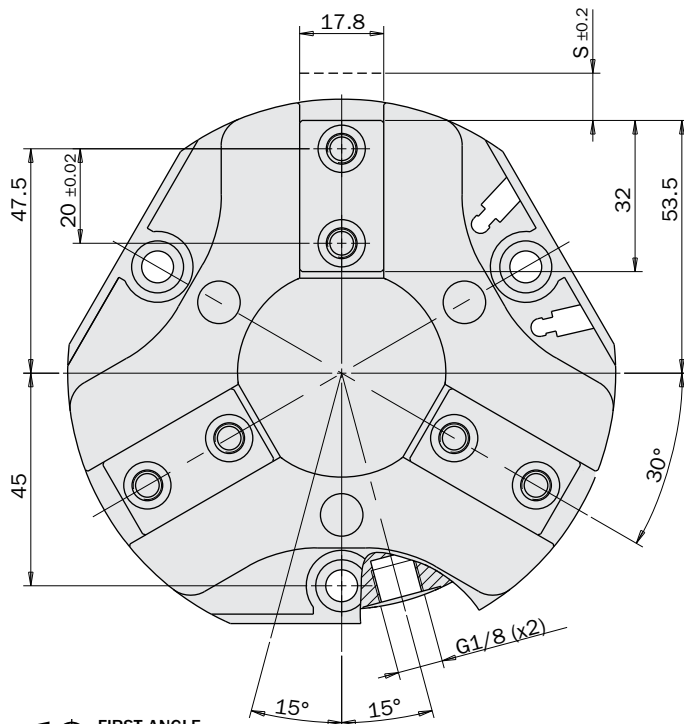
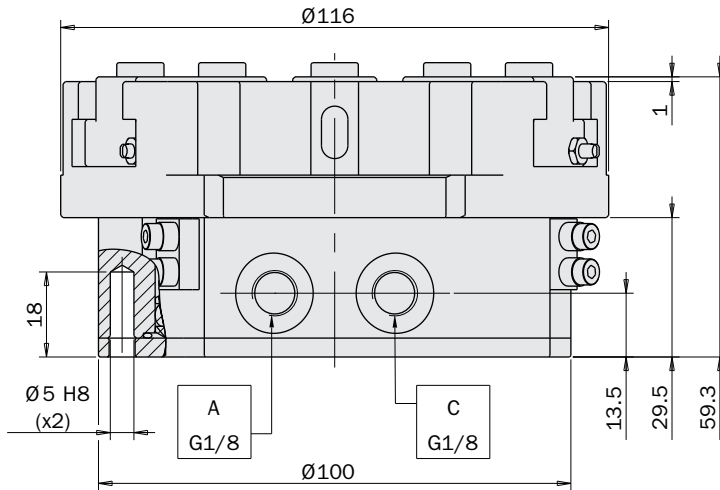
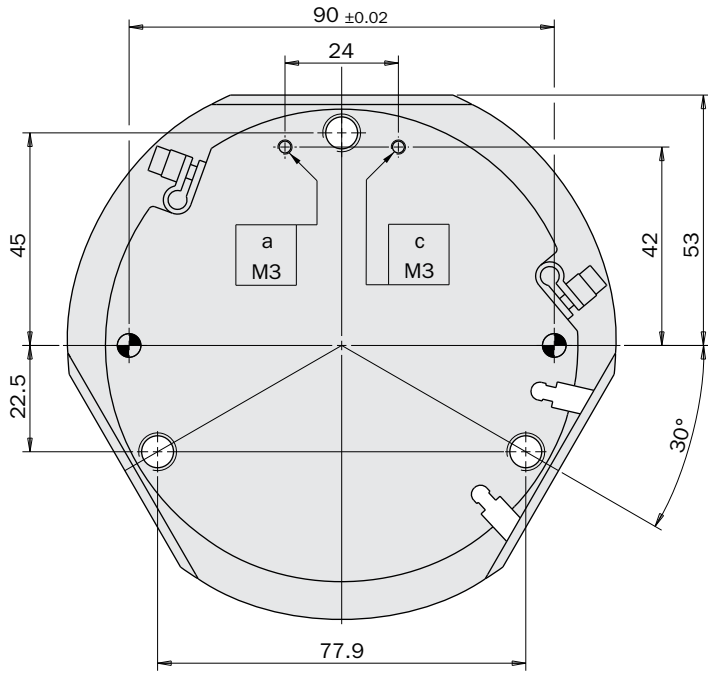
### Gripping force

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



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

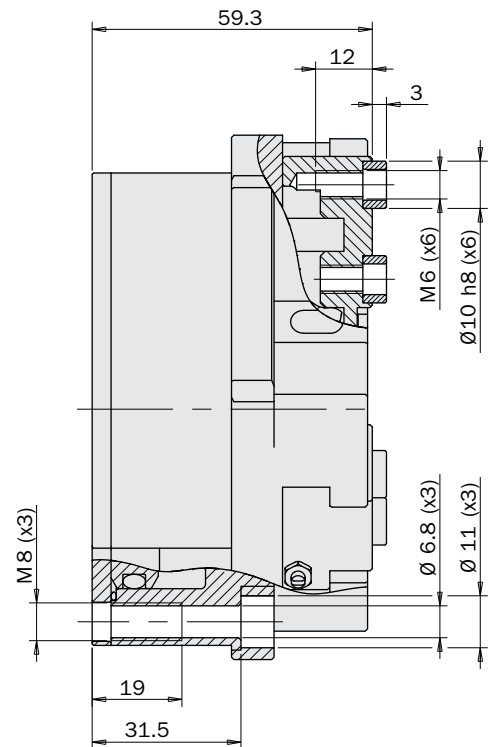
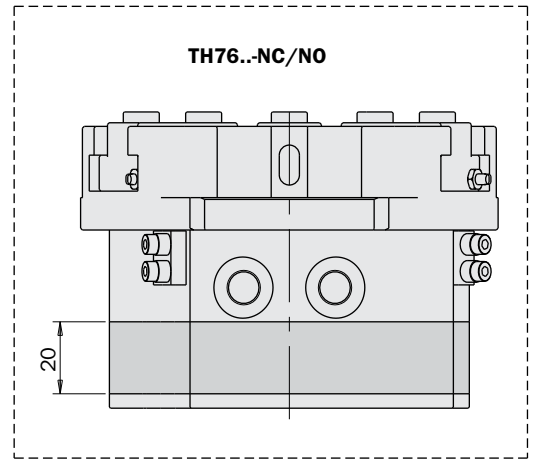
**Dimensions (mm)**



FIRST ANGLE PROJECTION

|   | TH7610 | TH7610-NC | TH7610-NO |
|---|--------|-----------|-----------|
| S | 3x10mm | 3x10mm    | 3x10mm    |

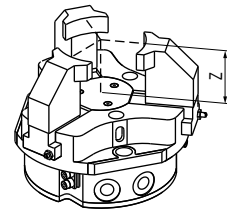
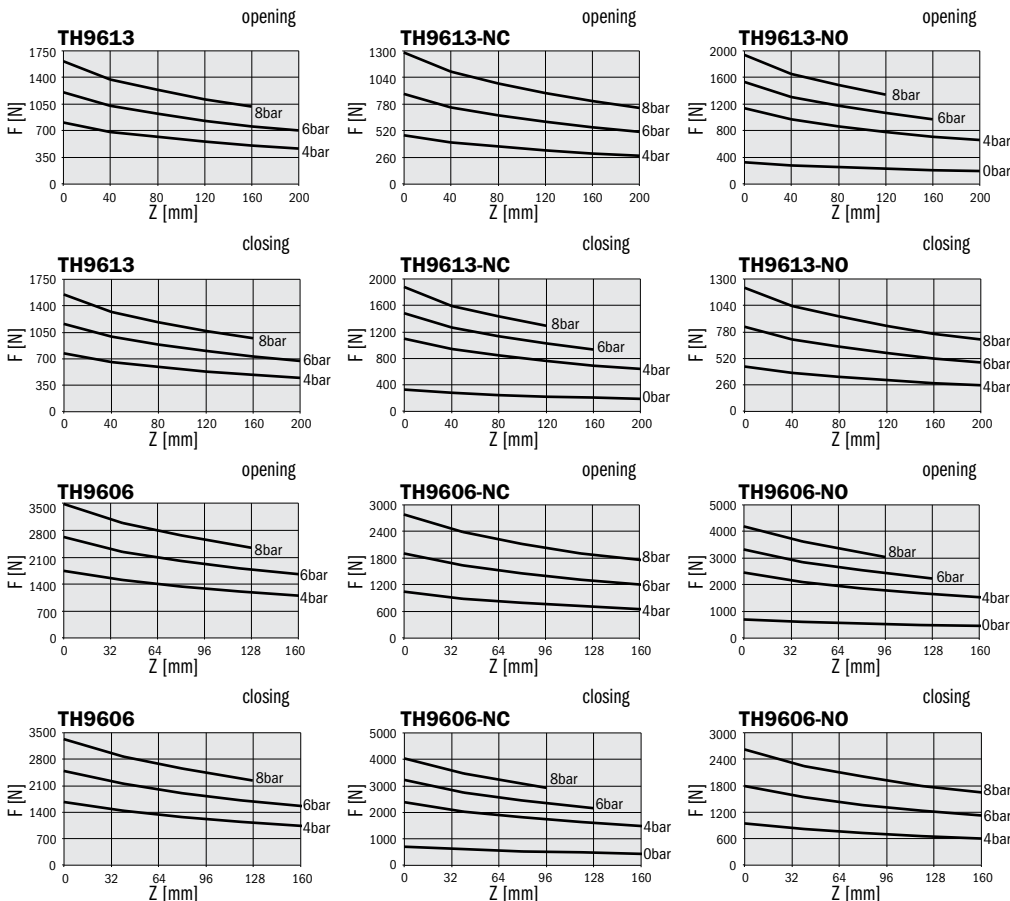
|   | TH7605 | TH7605-NC | TH7605-NO |
|---|--------|-----------|-----------|
| S | 3x5mm  | 3x5mm     | 3x5mm     |



|   | TH9613  | TH9613-NC          | TH9613-NO          | TH9606             | TH9606-NC          | TH9606-NO          |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3.5 ÷ 8bar         | 3.5 ÷ 8bar         | 1.5 ÷ 8bar         | 3.5 ÷ 8bar         | 3.5 ÷ 8bar         |
| Operating temperature range                 | 5 ÷ 100°C.  |                    |                    |                    |                    |                    |
| Opening gripping force on each jaw at 6 bar | 1210N   | 821 ÷ 946N         | 1485 ÷ 1594N       | 2620N              | 1779 ÷ 2048N       | 3216 ÷ 3451N       |
| Opening total gripping force at 6 bar       | 3630N   | 2463 ÷ 2838N       | 4455 ÷ 4782N       | 7860N              | 5337 ÷ 6144N       | 9648 ÷ 10353N      |
| Closing gripping force on each jaw at 6 bar | 1160N   | 1422 ÷ 1564N       | 774 ÷ 883N         | 2500N              | 3079 ÷ 3348N       | 1675 ÷ 1911N       |
| Closing total gripping force at 6 bar       | 3480N   | 4266 ÷ 4638N       | 2322 ÷ 2649N       | 7500N              | 9327 ÷ 10044N      | 5025 ÷ 5733N       |
| Stroke                                      | 3x13mm  | 3x13mm             | 3x13mm             | 3x6mm              | 3x6mm              | 3x6mm              |
| Maximum working frequency                   | 1Hz   | 1Hz                | 1Hz                | 1Hz                | 1Hz                | 1Hz                |
| Cycle air consumption                       | 221cm <sup>3</sup>  | 335cm <sup>3</sup> | 335cm <sup>3</sup> | 221cm <sup>3</sup> | 335cm <sup>3</sup> | 335cm <sup>3</sup> |
| Closing / opening minimum time              | 0.2s / 0.2s   | 0.2s / 0.3s        | 0.3s / 0.2s        | 0.2s / 0.2s        | 0.2s / 0.3s        | 0.3s / 0.2s        |
| Repetition accuracy                         | 0.02mm  | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             |
| Weight                                      | 2450g   | 3230g              | 3140g              | 2490g              | 3270g              | 3180g              |

### Gripping force

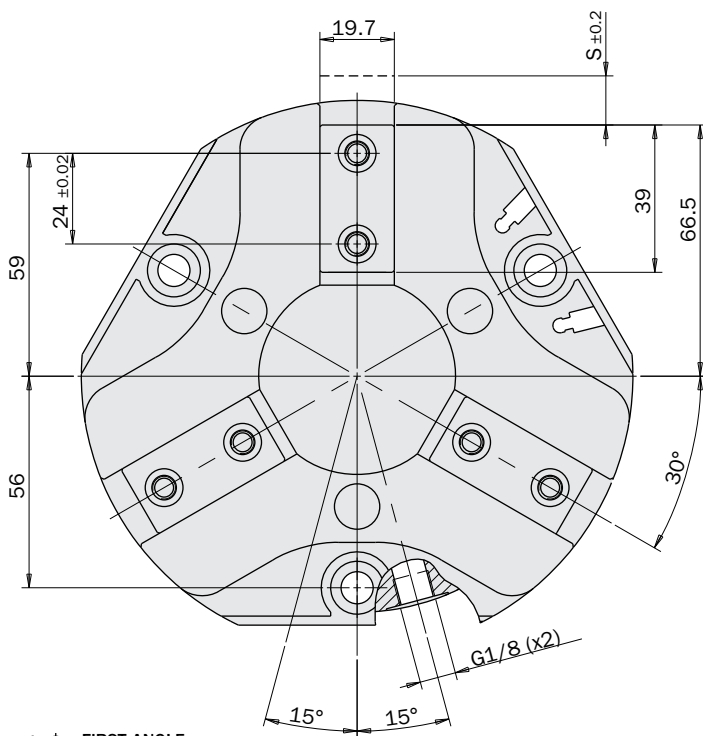
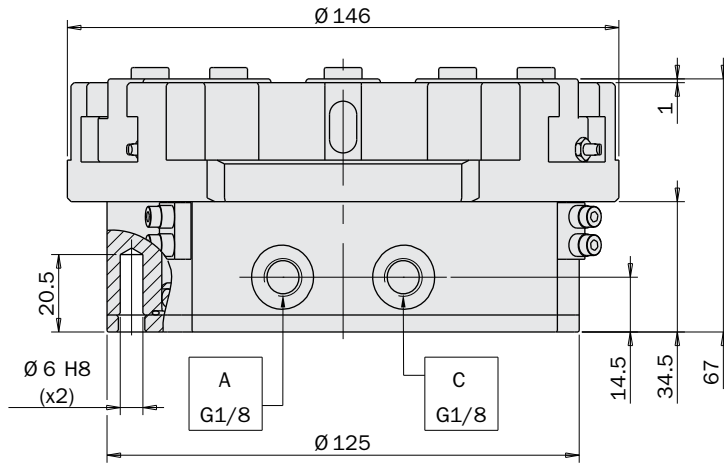
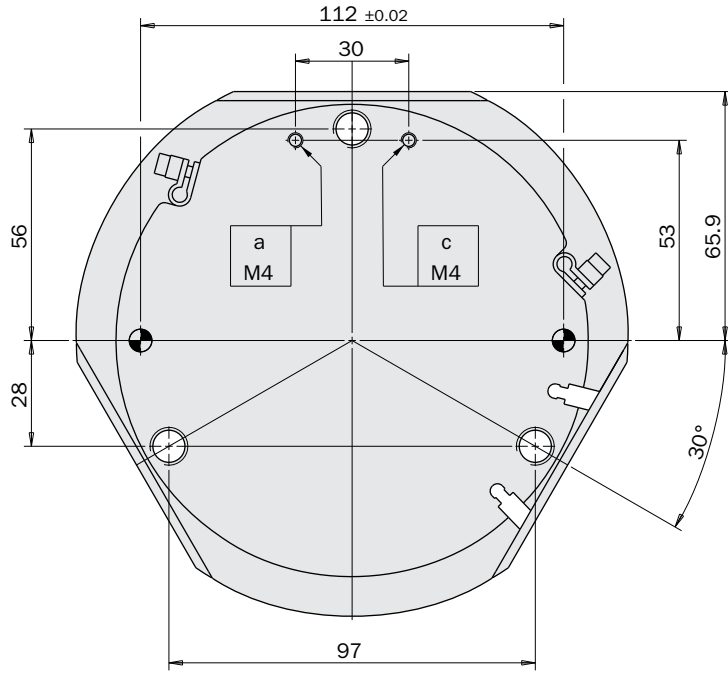
The graphs show the gripping force on each jaw, as a function of the operating pressure and the gripping tool length Z.



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

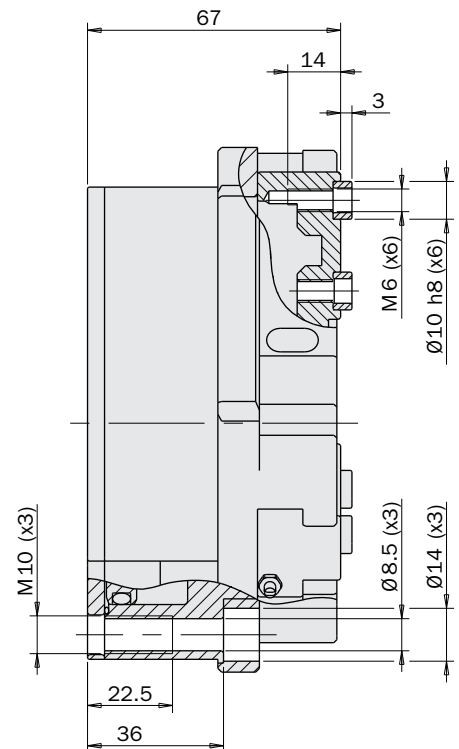
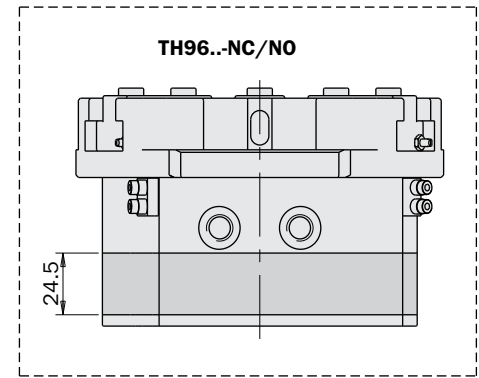


**Dimensions (mm)**



|   | TH9613 | TH9613-NC | TH9613-NO |
|---|--------|-----------|-----------|
| S | 3x13mm | 3x13mm    | 3x13mm    |

|   | TH9606 | TH9606-NC | TH9606-NO |
|---|--------|-----------|-----------|
| S | 3x6mm  | 3x6mm     | 3x6mm     |

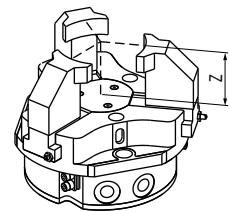
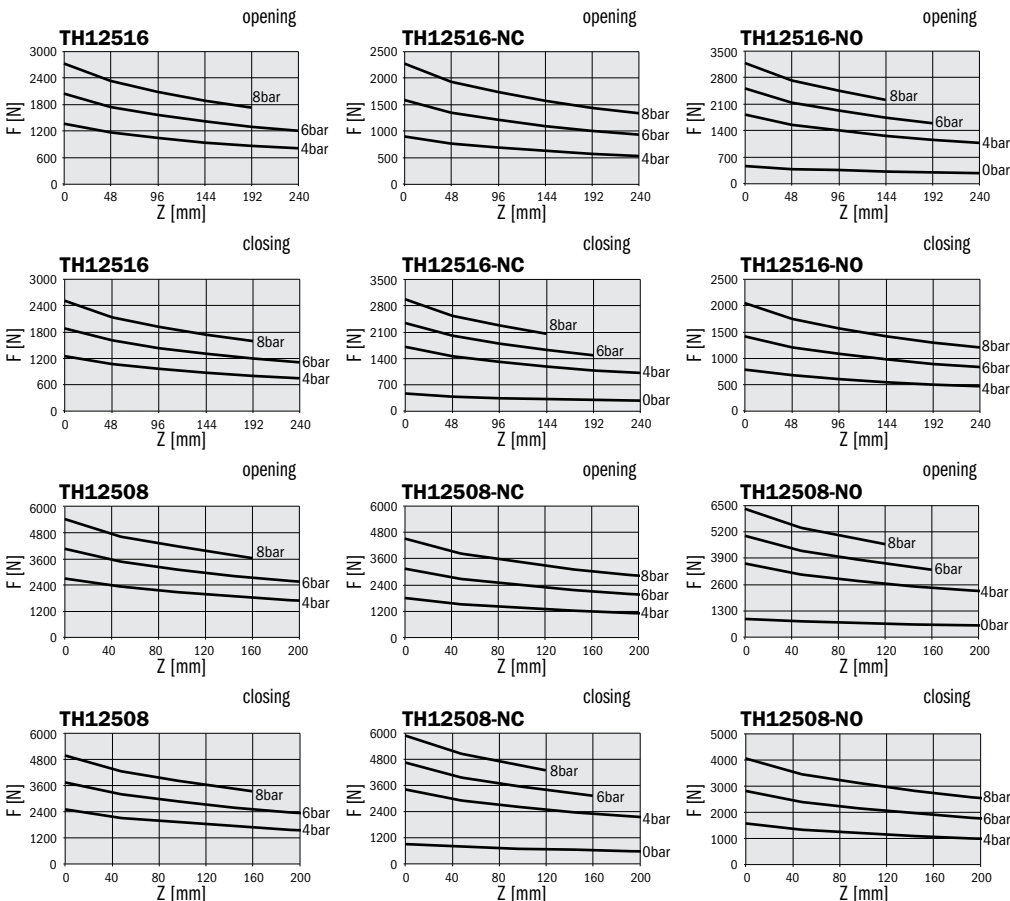


09/2022

|   | TH12516   | TH12516-NC         | TH12516-NO         | TH12508            | TH12508-NC         | TH12508-NO         |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                    |                    |
| Operating pressure range                    | 1.5 ÷ 8bar  | 3 ÷ 8bar           | 3 ÷ 8bar           | 1.5 ÷ 8bar         | 3 ÷ 8bar           | 3z ÷ 8bar          |
| Operating temperature range                 | 5 ÷ 100°C.  |                    |                    |                    |                    |                    |
| Opening gripping force on each jaw at 6 bar | 2050N   | 1538 ÷ 1644N       | 2465 ÷ 2571N       | 4070N              | 3050 ÷ 3260N       | 4888 ÷ 5099N       |
| Opening total gripping force at 6 bar       | 6150N   | 4614 ÷ 4932N       | 7395 ÷ 7713N       | 12210N             | 9150 ÷ 9780N       | 14664 ÷ 15297N     |
| Closing gripping force on each jaw at 6 bar | 1880N   | 2294 ÷ 2400N       | 1367 ÷ 1473N       | 3740N              | 4550 ÷ 4761N       | 2712 ÷ 2922N       |
| Closing total gripping force at 6 bar       | 5640N   | 6882 ÷ 7200N       | 4101 ÷ 4419N       | 11220N             | 13650 ÷ 14283N     | 8136 ÷ 8766N       |
| Stroke                                      | 3x16mm  | 3x16mm             | 3x16mm             | 3x8mm              | 3x8mm              | 3x8mm              |
| Maximum working frequency                   | 1Hz   | 1Hz                | 1Hz                | 1Hz                | 1Hz                | 1Hz                |
| Cycle air consumption                       | 452cm <sup>3</sup>  | 700cm <sup>3</sup> | 700cm <sup>3</sup> | 452cm <sup>3</sup> | 700cm <sup>3</sup> | 700cm <sup>3</sup> |
| Closing / opening minimum time              | 0.3s / 0.3s   | 0.3s / 0.4s        | 0.4s / 0.3s        | 0.3s / 0.3s        | 0.3s / 0.4s        | 0.4s / 0.3s        |
| Repetition accuracy                         | 0.02mm  | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             | 0.02mm             |
| Weight                                      | 4920g   | 6640g              | 6460g              | 4990g              | 6710g              | 6530g              |

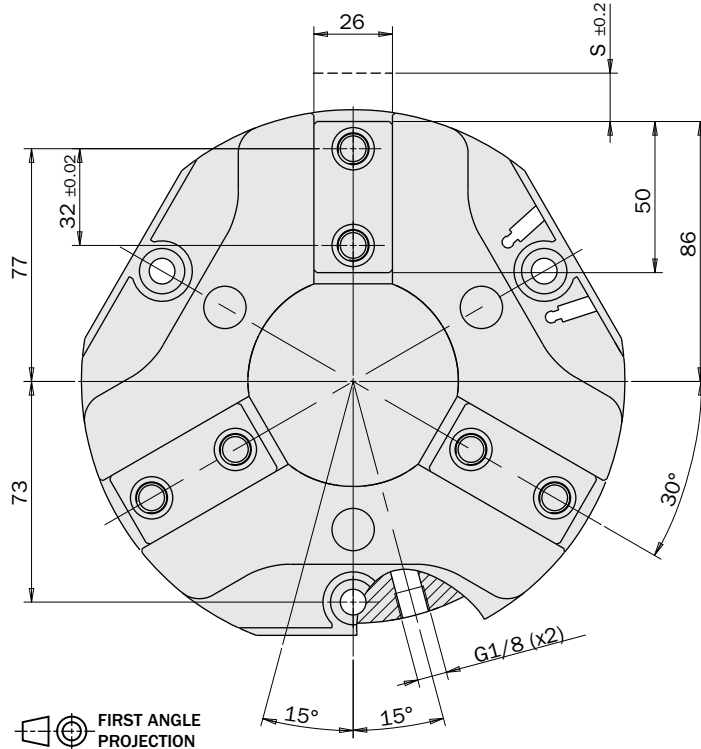
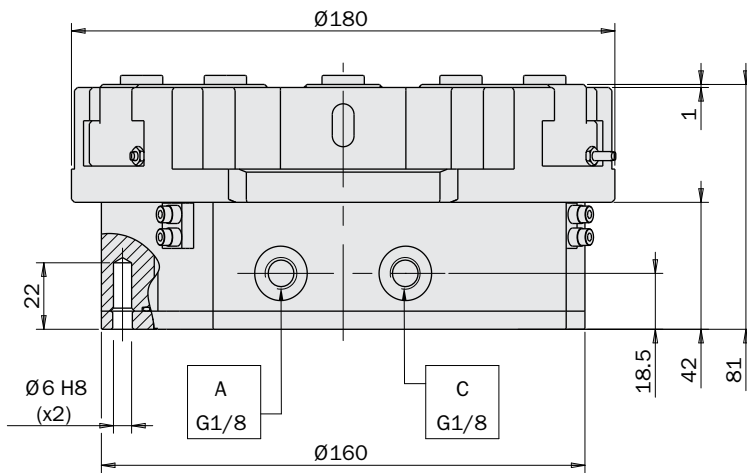
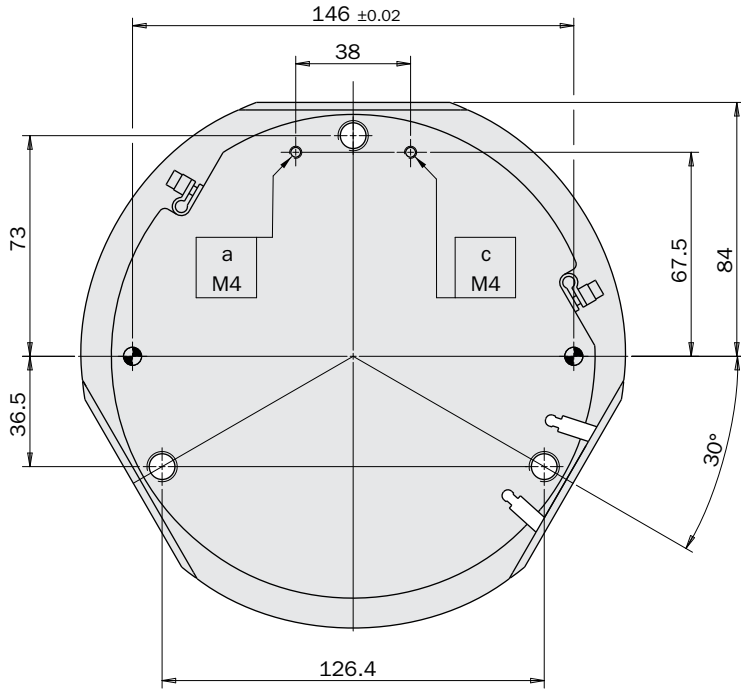
### Gripping force

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



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

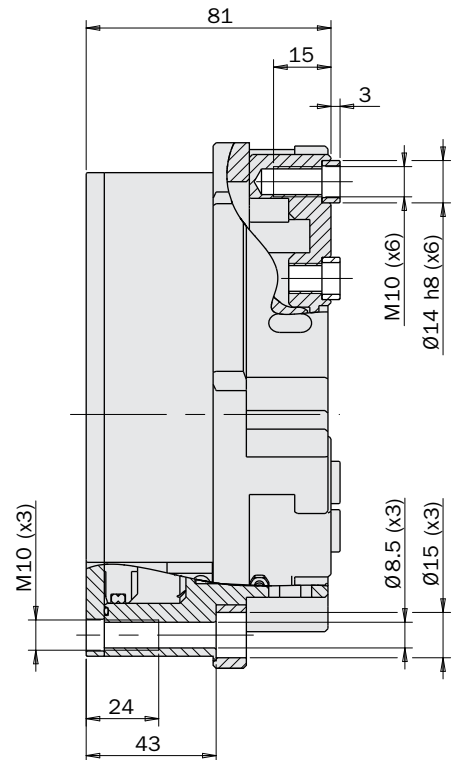
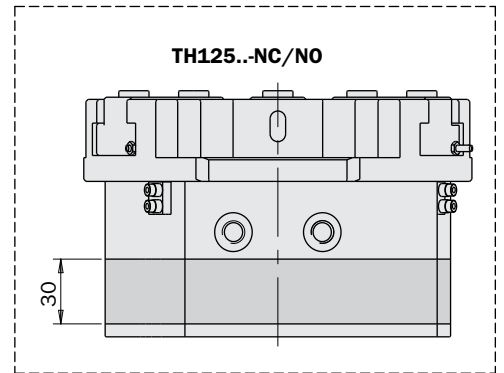
**Dimensions (mm)**



FIRST ANGLE PROJECTION

|   | TH12516 | TH12516-NC | TH12516-NO |
|---|---------|------------|------------|
| S | 3x16mm  | 3x16mm     | 3x16mm     |

|   | TH12508 | TH12508-NC | TH12508-NO |
|---|---------|------------|------------|
| S | 3x8mm   | 3x8mm      | 3x8mm      |

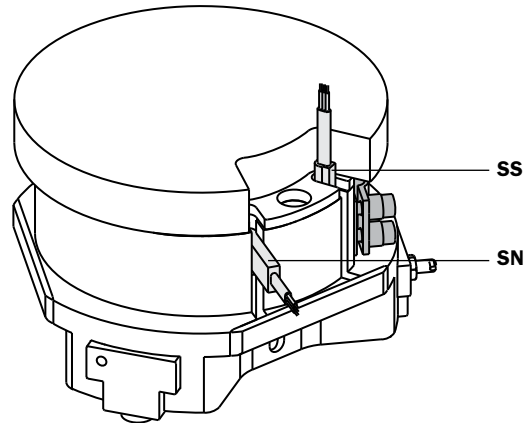
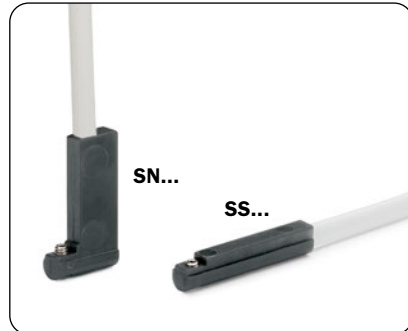
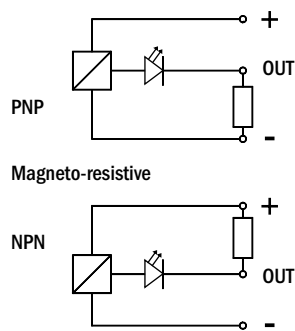
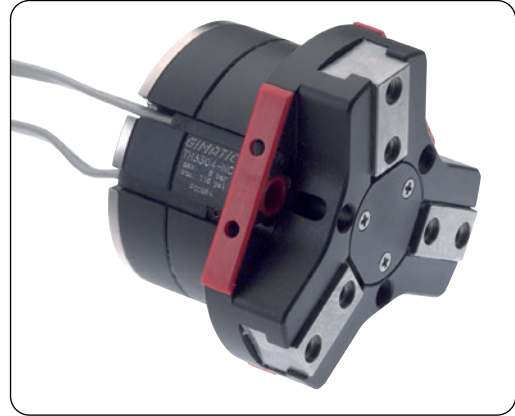


**Magnetic sensors (optional)**

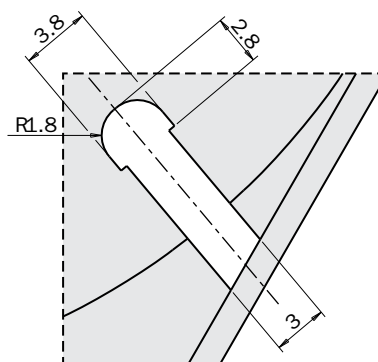
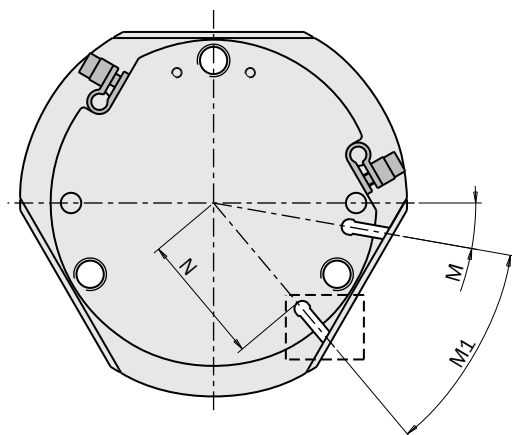
The operating position can be checked by one or two magnetic sensors, that detect the magnet on the piston inside. Therefore a near big mass of ferromagnetic material or intense magnetic fields may cause sensing troubles.

Use sensors:

| SN4N225-G | PNP | 2.5m cable             |
|-----------|-----|------------------------|
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN |                        |
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |



|    | TH27... | TH33... | TH46... | TH54... | TH76... | TH96... | TH125... |
|----|---------|---------|---------|---------|---------|---------|----------|
| N  | 15.4    | 19.6    | 25.5    | 32      | 41.2    | 53.5    | 67       |
| M  | 11.5°   | 14°     | 12°     | 10°     | 13°     | 14°     | 18°      |
| M1 | 37°     | 32°     | 36°     | 40°     | 34°     | 32°     | 24°      |

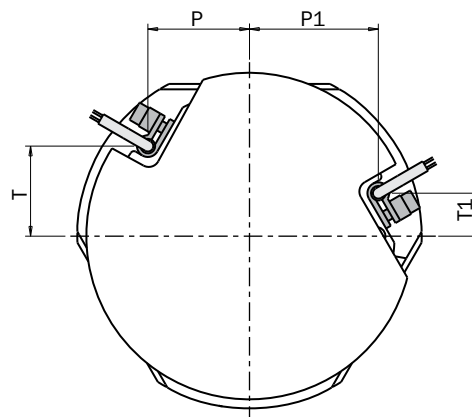
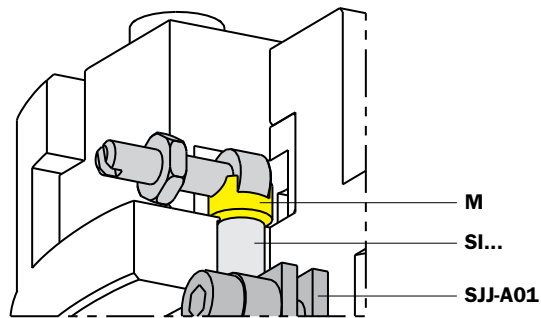
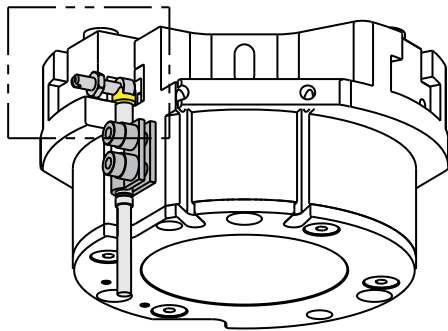
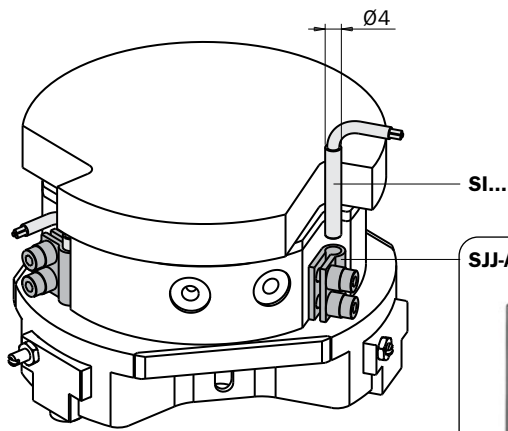
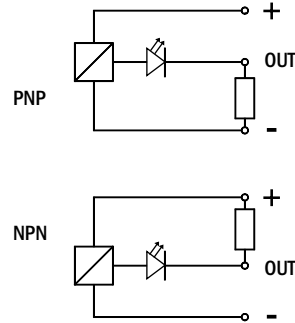


**Inductive sensors (optional)**

With the larger sizes it is also possible to use inductive sensors diameter 4mm, which can be fastened by the holders SJJ-A01 (supplied).

After the sensor fastening, the position of the metal part (M) must be adjusted to select the on point.

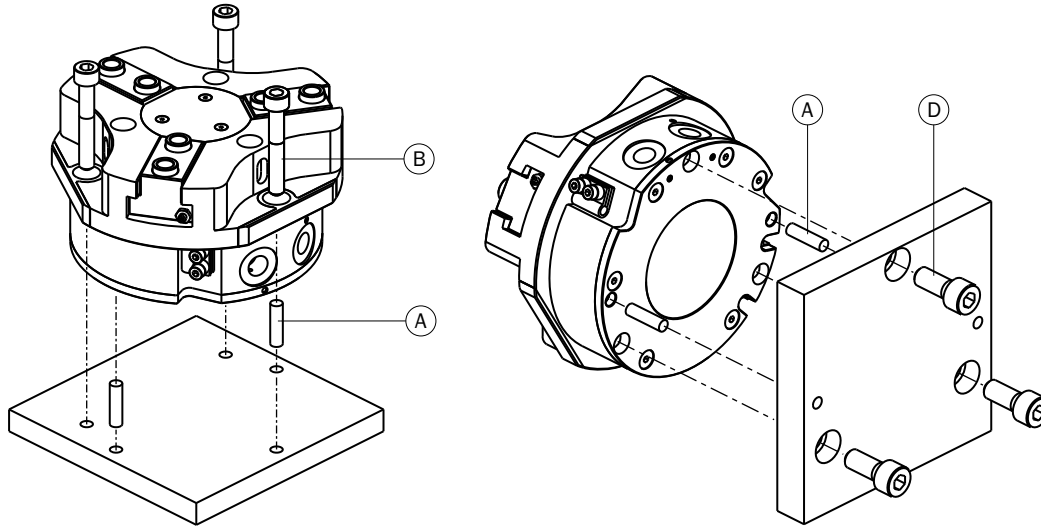
|           |     |            | TH54...<br>TH76...<br>TH96...<br>TH125... |
|-----------|-----|------------|---|
| SI4M225-G | NPN | 2.5m cable | <input checked="" type="checkbox"/>       |
| SI4N225-G | PNP |            | <input checked="" type="checkbox"/>       |



|    | TH54... | TH76... | TH96... | TH125... |
|----|---------|---------|---------|----------|
| P  | 28      | 34.8    | 45.6    | 56.8     |
| P1 | 35.5    | 44.1    | 56.2    | 71.3     |
| T  | 10.9    | 14.7    | 20.2    | 24.4     |
| T1 | 24.9    | 30.8    | 38.6    | 49.6     |

**Gripper fastening**

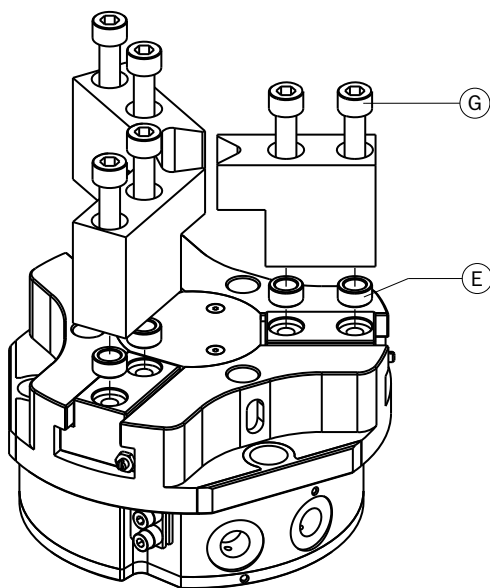
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the forces created by inertia on the gripper and its load. Use 3 screws and 2 centering pins (A), for the gripper fastening. The screws can go through the gripper (B), or through the mounting plate (D).



|   | TH27... | TH33... | TH46... | TH54... | TH76... | TH96... | TH125... |
|---|---------|---------|---------|---------|---------|---------|----------|
| A | Ø2      | Ø3      | Ø4      | Ø5      | Ø5      | Ø6      | Ø6       |
| B | M3      | M3      | M5      | M6      | M6      | M8      | M8       |
| D | M4      | M4      | M6      | M8      | M8      | M10     | M10      |

**Gripping tool fastening**

The gripping tools must be as short and light as possible. They must be fastened by 2 screws (G) and 2 centering sleeves (E).



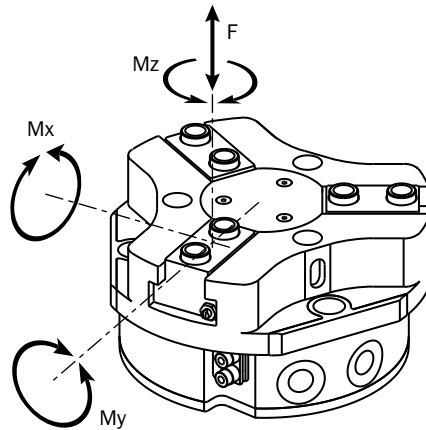
|          | G    | E     |
|----------|------|-------|
| TH27...  | M2.5 | Ø4h8  |
| TH33...  | M3   | Ø5h8  |
| TH45...  | M4   | Ø6h8  |
| TH54...  | M5   | Ø8h8  |
| TH76...  | M6   | Ø10h8 |
| TH96...  | M6   | Ø10h8 |
| TH125... | M10  | Ø14h8 |



6 centering rings for the gripping tools are supplied in the packaging.

**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, Mx s, My s, Mz s, are maximum permitted static loads.  
 Static means motionless jaws.  
 F d, Mx d, My d, Mz d, are maximum permitted dynamic loads.  
 Dynamic means running jaws.  
 The following table shows the specified maximum loads (m) on each gripping tool as a function of closing or opening time.  
 Use flow controllers (not supplied) to get the proper speed.



|      | <b>TH2725</b><br>TH2725-NC<br>TH2725-NO | <b>TH3304</b><br>TH3304-NC<br>TH3304-NO | <b>TH3302</b><br>TH3302-NC<br>TH3302-NO | <b>TH4506</b><br>TH4506-NC<br>TH4506-NO | <b>TH4503</b><br>TH4503-NC<br>TH4503-NO | <b>TH5408</b><br>TH5408-NC<br>TH5408-NO | <b>TH5404</b><br>TH5404-NC<br>TH5404-NO |
|------|---|---|---|---|---|---|---|
| F s  | 200N                                    | 350N                                    | 350N                                    | 600N                                    | 600N                                    | 900N                                    | 900N                                    |
| Mx s | 3.4Nm                                   | 7Nm                                     | 11Nm                                    | 16Nm                                    | 25Nm                                    | 28Nm                                    | 47Nm                                    |
| My s | 2.8Nm                                   | 5.8Nm                                   | 5.8Nm                                   | 13Nm                                    | 13Nm                                    | 24Nm                                    | 24Nm                                    |
| Mz s | 2.8Nm                                   | 5.8Nm                                   | 5.8Nm                                   | 13Nm                                    | 13Nm                                    | 24Nm                                    | 24Nm                                    |
| F d  | 2N                                      | 4N                                      | 4N                                      | 6N                                      | 6N                                      | 9N                                      | 9N                                      |
| Mx d | 0.06Nm                                  | 0.12Nm                                  | 0.12Nm                                  | 0.25Nm                                  | 0.25Nm                                  | 0.5Nm                                   | 0.5Nm                                   |
| My d | 0.06Nm                                  | 0.12Nm                                  | 0.12Nm                                  | 0.25Nm                                  | 0.25Nm                                  | 0.5Nm                                   | 0.5Nm                                   |
| Mz d | 0.06Nm                                  | 0.12Nm                                  | 0.12Nm                                  | 0.25Nm                                  | 0.25Nm                                  | 0.5Nm                                   | 0.5Nm                                   |
| m    | 100g                                    | 180g                                    | 180g                                    | 350g                                    | 350g                                    | 600g                                    | 600g                                    |

|      | <b>TH7610</b><br>TH7610-NC<br>TH7610-NO | <b>TH7605</b><br>TH7605-NC<br>TH7605-NO | <b>TH9613</b><br>TH9613-NC<br>TH9613-NO | <b>TH9606</b><br>TH9606-NC<br>TH9606-NO | <b>TH12516</b><br>TH12516-NC<br>TH12516-NO | <b>TH12508</b><br>TH12508-NC<br>TH12508-NO |
|------|---|---|---|---|--|--|
| F s  | 1500N                                   | 1500N                                   | 2500N                                   | 2500N                                   | 4000N                                      | 4000N                                      |
| Mx s | 79Nm                                    | 130Nm                                   | 160Nm                                   | 280Nm                                   | 330Nm                                      | 540Nm                                      |
| My s | 65Nm                                    | 65Nm                                    | 130Nm                                   | 130Nm                                   | 270Nm                                      | 270Nm                                      |
| Mz s | 65Nm                                    | 65Nm                                    | 130Nm                                   | 130Nm                                   | 270Nm                                      | 270Nm                                      |
| F d  | 15N                                     | 15N                                     | 25N                                     | 25N                                     | 40N  | 40N  |
| Mx d | 1Nm                                     | 1Nm                                     | 2Nm                                     | 2Nm                                     | 4Nm  | 4Nm  |
| My d | 1Nm                                     | 1Nm                                     | 2Nm                                     | 2Nm                                     | 4Nm  | 4Nm  |
| Mz d | 1Nm                                     | 1Nm                                     | 2Nm                                     | 2Nm                                     | 4Nm  | 4Nm  |
| m    | 1100g                                   | 1100g                                   | 2100g                                   | 2100g                                   | 3500g                                      | 3500g                                      |

## 3-jaw self-centring pneumatic gripper (series SXT)

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



**SXT2505**



**SXT4008**



**SXT5012**

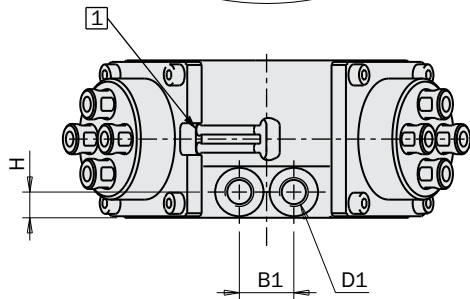
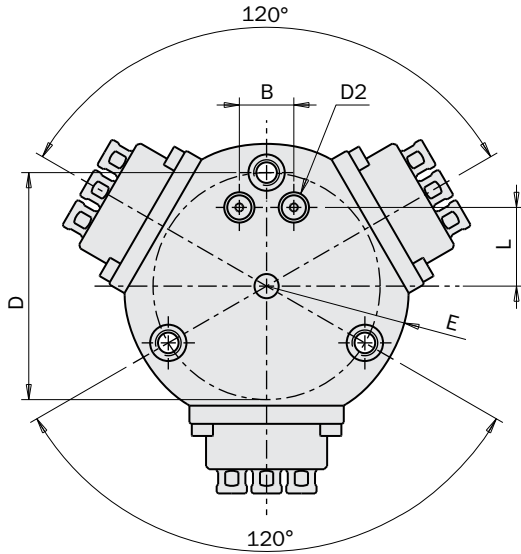


**SXT6315**

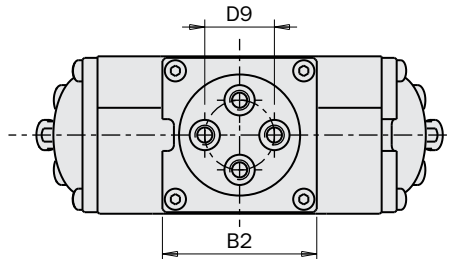
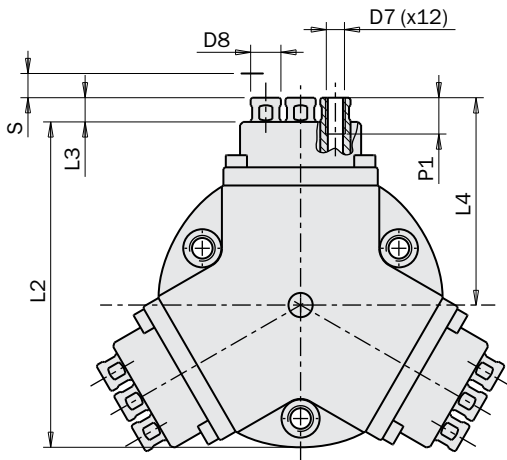
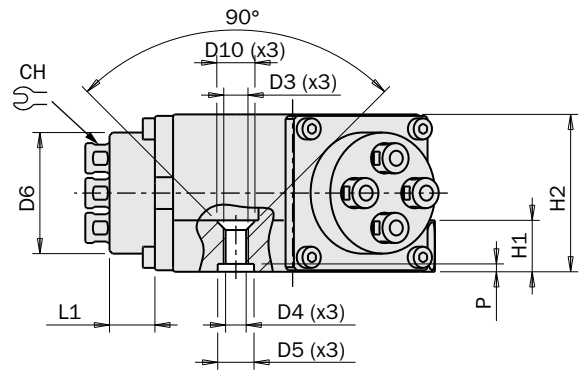
|   | SXT2505   | SXT4008            | SXT5012             | SXT6315             |
|---|---|--------------------|---------------------|---------------------|
| Medium                                      | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                     |                     |
| Operating pressure range                    | 2 ÷ 8 bar   |                    |                     |                     |
| Operating temperature range                 | 5 ÷ 100 °C  |                    |                     |                     |
| Opening gripping force at 6 bar on each jaw | 250 N   | 650 N              | 1050 N              | 1650 N              |
| Opening total gripping force at 6 bar       | 750 N   | 1950 N             | 3150 N              | 4950 N              |
| Closing gripping force at 6 bar on each jaw | 195 N   | 500 N              | 800 N               | 1200 N              |
| Closing total gripping force at 6 bar       | 585 N   | 1500 N             | 2400 N              | 3600 N              |
| Stroke                                      | 3x5 mm  | 3x8 mm             | 3x12 mm             | 3x15 mm             |
| Maximum working frequency                   | 2 Hz  | 2 Hz               | 2 Hz                | 1 Hz                |
| Cycle air consumption                       | 16 cm <sup>3</sup>  | 60 cm <sup>3</sup> | 140 cm <sup>3</sup> | 270 cm <sup>3</sup> |
| Opening / Closing time without load         | 0.02 s  | 0.02 s             | 0.05 s              | 0.15 s              |
| Repetition accuracy                         | 0.05 mm   | 0.05 mm            | 0.05 mm             | 0.05 mm             |
| Weight                                      | 420 g   | 1100 g             | 2000 g              | 3800 g              |



**Dimensions (mm)**



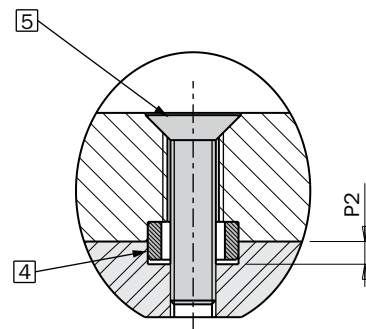
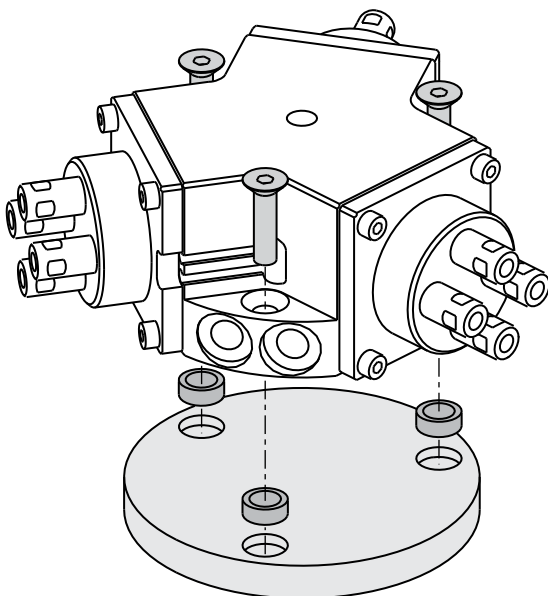
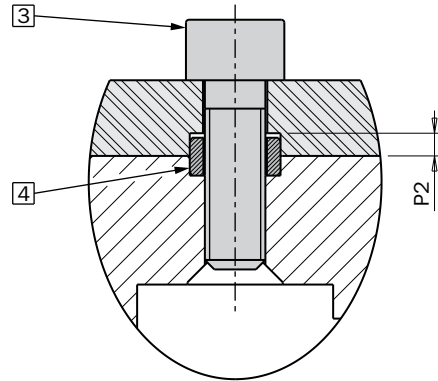
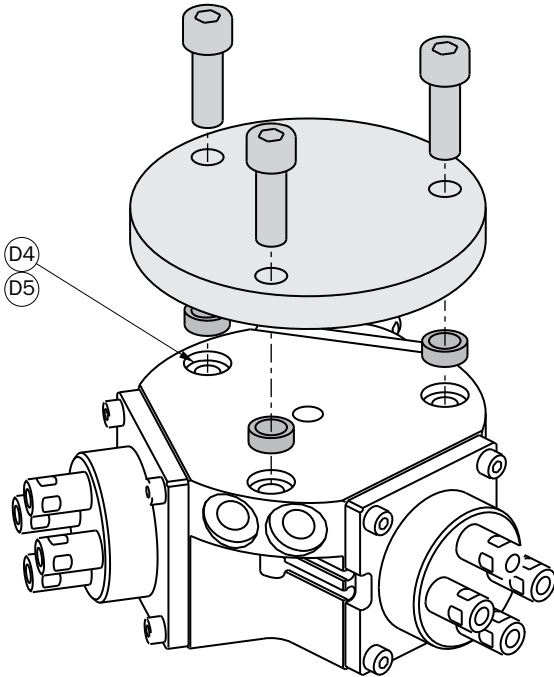
1 Sensor groove



|        | SXT2505   | SXT4008 | SXT5012 | SXT6315 |
|--------|-----------|---------|---------|---------|
| B      | 16        | 18      | 24      | 24      |
| B1     | 16        | 18      | 24      | 24      |
| B2     | 38        | 51      | 63      | 78      |
| D      | ±0.02 Ø59 | Ø75     | Ø98     | Ø114    |
| D1     | M5        | G1/8    | G1/8    | G1/8    |
| D2     | M3        | M5      | M5      | M5      |
| D3     | Ø5.2      | Ø6.8    | Ø6.8    | Ø8.5    |
| D4     | M6        | M8      | M8      | M10     |
| D5     | H8 Ø9     | Ø12     | Ø12     | Ø14     |
| D6     | Ø27       | Ø40     | Ø50     | Ø63     |
| D7     | M3        | M6      | M8      | M10     |
| D8     | f7 Ø6     | Ø10     | Ø12     | Ø16     |
| D9     | ±0.02 15  | Ø23     | Ø33     | Ø38     |
| D10    | Ø11.2     | Ø12.6   | Ø12.6   | Ø17.3   |
| E      | R36       | R47     | R58     | R69     |
| H      | 6         | 8.5     | 10      | 11      |
| H1     | 12        | 17      | 20      | 22      |
| H2     | 38        | 52      | 64      | 80      |
| L      | 24        | 26      | 38      | 45      |
| L1     | 7.5       | 15      | 18      | 26      |
| L2     | 78        | 107.5   | 133     | 162     |
| L3     | 7.5       | 8       | 8.5     | 9.5     |
| L4     | 49.5      | 68.5    | 83.5    | 102.5   |
| P      | +0.1 2.1  | 2.6     | 2.6     | 2.6     |
| P1     | 6         | 12      | 20      | 20      |
| S (x2) | 5         | 8       | 12      | 15      |
| CH     | 5         | 9       | 11      | 14      |

**Gripper fastening**

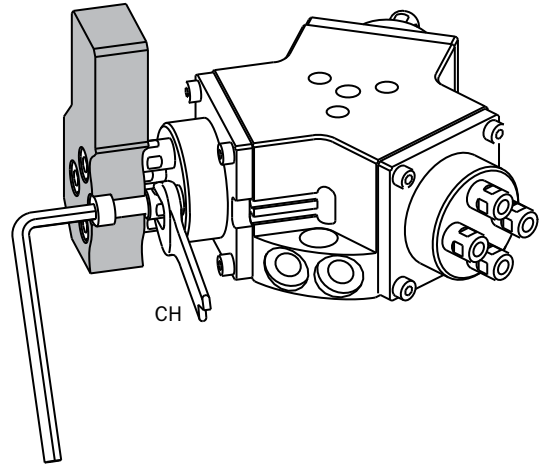
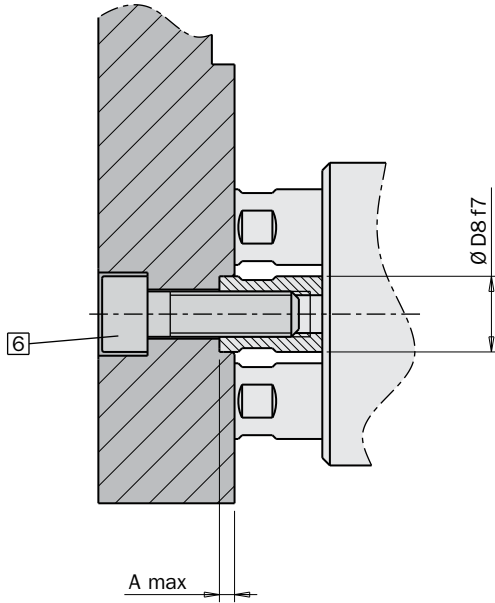
The gripper can be fastened to a static or moving part. When on a moving part, you must pay attention to the inertial force to which the gripper and its load are subjected. Use three screws in the threaded holes (D4) and three centering sleeves [4] in the spot faces (D5). The gripper can be fastened either from the top or from the bottom. Three centering sleeves are supplied with the gripper.



|     | SXT2505             | SXT4008             | SXT5012             | SXT6315             |
|-----|---------------------|---------------------|---------------------|---------------------|
| [3] | M6                  | M8                  | M8                  | M10                 |
| [4] | Ø9h7 x 6.4 x 4      | Ø12h7 x 8.4 x 5     | Ø12h7 x 8.4 x 5     | Ø14h7 x 10.5 x 6    |
| [5] | M5                  | M6                  | M6                  | M8                  |
| P2  | 2.2 <sup>-0.2</sup> | 2.8 <sup>-0.2</sup> | 2.8 <sup>-0.2</sup> | 3.8 <sup>-0.2</sup> |

**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 by four screws [6] in the threaded holes (D7) of the columns.  
 Drill centering holes for two of the four columns (D8).  
 Hold the column by a wrench key, to avoid unscrewing it.

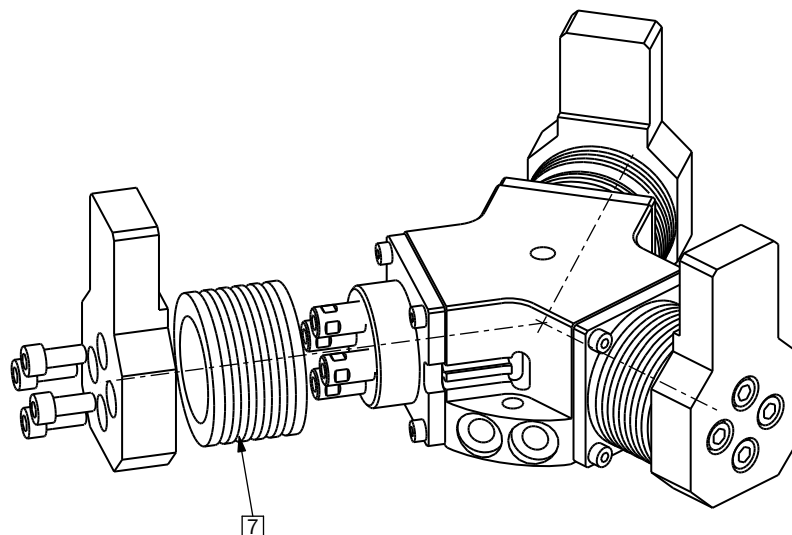


|     | SXT2505 | SXT4008 | SXT5012 | SXT6315 |
|-----|---------|---------|---------|---------|
| A   | 1.5     | 2       | 2       | 2       |
| [6] | M3      | M6      | M8      | M10     |

An optional bellow in Silicone [7] is available to protect columns.

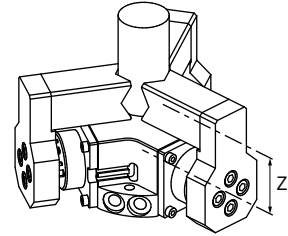
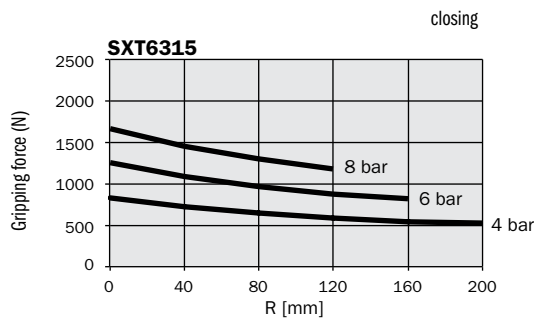
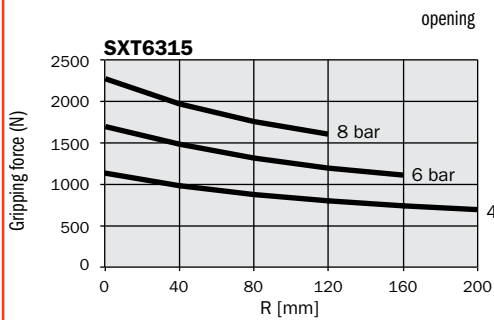
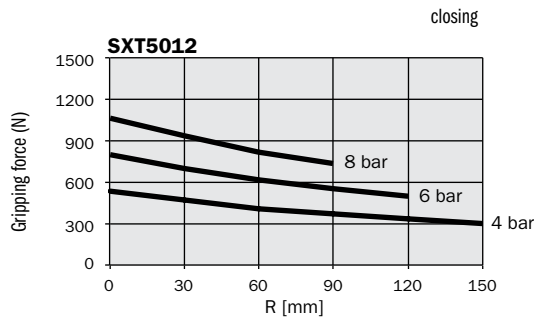
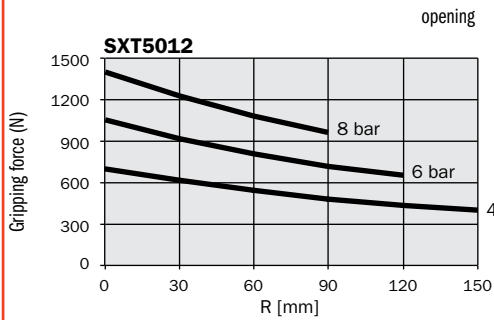
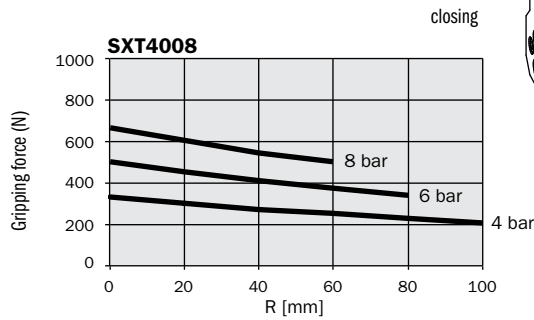
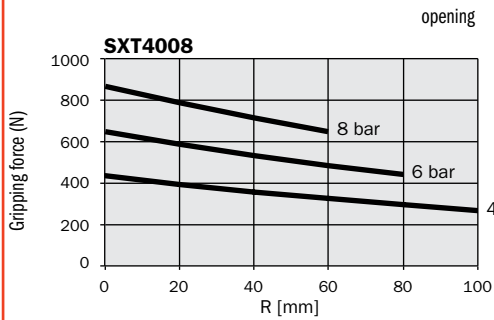
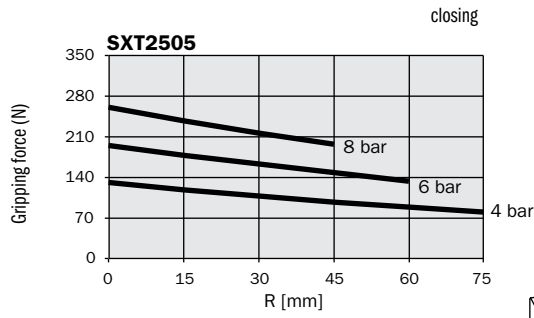
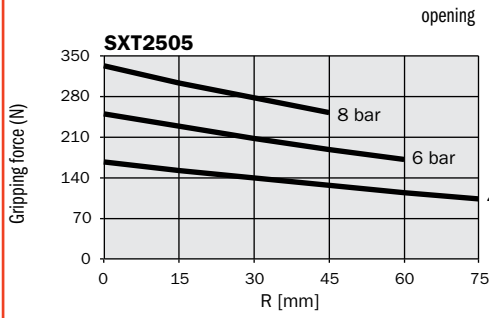
- Code SX25S01 for the gripper SXT2505.
- Code SX40S01 for the gripper SXT4008.
- Code SX50S01 for the gripper SXT5012.
- Code SX63S01 for the gripper SXT6315.

| 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 Z of the gripping point.

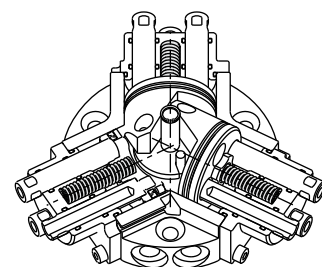


**The force shown in these graphs refers to one jaw. The total force is triple.**

## Spring option

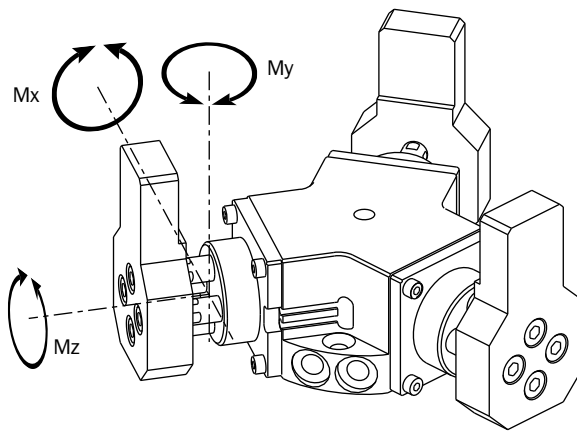
It is also available, on request, with a closing (-NC) spring, providing, after a pressure black-out, about one tenth of the output force at 6 bar.

|                                 | SXT4008-NC | SXT5012-NC | SXT6315-NC  |
|---------------------------------|------------|------------|-------------|
| Closing force at 6 bar each jaw | 544÷568 N  | 914÷964 N  | 1350÷1400 N |
| Opening force at 6 bar each jaw | 587÷610 N  | 871÷921 N  | 1467÷1517 N |
| Closing force at 0 bar each jaw | 50÷73 N    | 116÷166 N  | 129÷179 N   |
| Opening force at 0 bar each jaw | 0 N        | 0 N        | 0 N         |



**Safety loads**

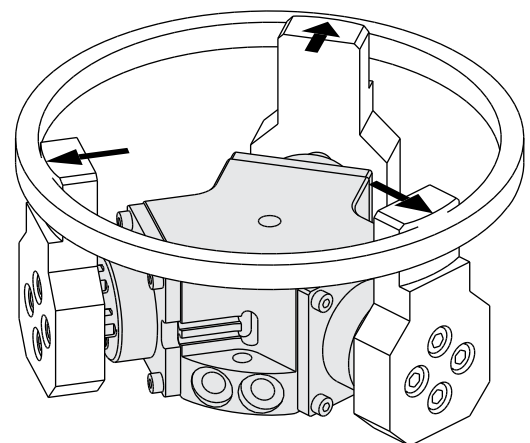
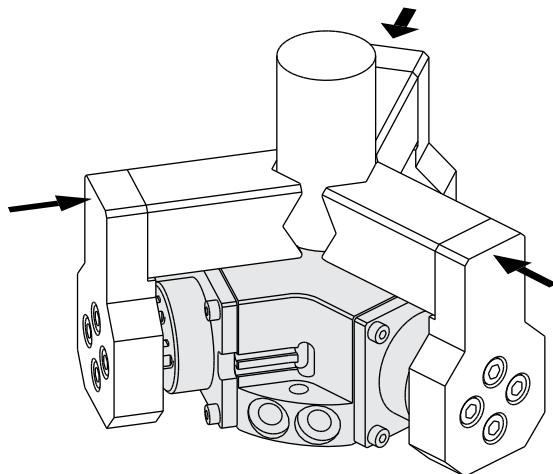
Check the table for maximum permitted loads.  
 Excessive forces or torques can damage the gripper, cause functioning troubles and endanger the safety of the operator.  
 Mx s, My s, Mz s, are the maximum permitted static loads, that is when the jaws are still.  
 Mx d, My d, Mz d, are the maximum permitted 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).



|      | SXT2505 | SXT4008 | SXT5012 | SXT6315 |
|------|---------|---------|---------|---------|
| Mx s | 10 Nm   | 40 Nm   | 90 Nm   | 190 Nm  |
| My s | 10 Nm   | 40 Nm   | 90 Nm   | 190 Nm  |
| Mz s | 5 Nm    | 20 Nm   | 40 Nm   | 100 Nm  |
| Mx d | 0.1 Nm  | 0.5 Nm  | 1.2 Nm  | 2.7 Nm  |
| My d | 0.1 Nm  | 0.5 Nm  | 1.2 Nm  | 2.7 Nm  |
| Mz d | 0.1 Nm  | 0.5 Nm  | 1.2 Nm  | 2.7 Nm  |
| m    | 400 g   | 700 g   | 1400 g  | 2100 g  |

**Gripping**

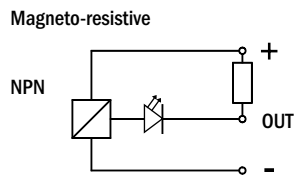
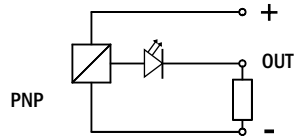
The gripper is double-acting for either internal or external gripping applications. The opening force is higher, than the closing force.



**Sensors**

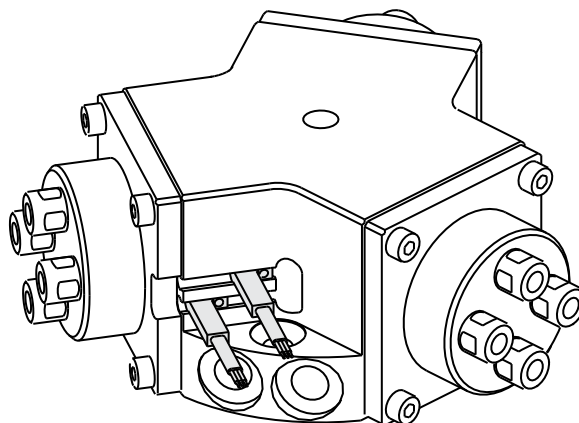
The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston. The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:



|          |     |                        |         | SXT |
|----------|-----|------------------------|---------|-----|
| 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 | ☑   |

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



**Compressed air feeding**

The compressed air feeding can be accomplished by the air ports (on one side or on the bottom) with fittings and hoses (not supplied).

Or it can be supplied directly by the mounting plate, through O-Rings (not supplied), after removing the plugs.

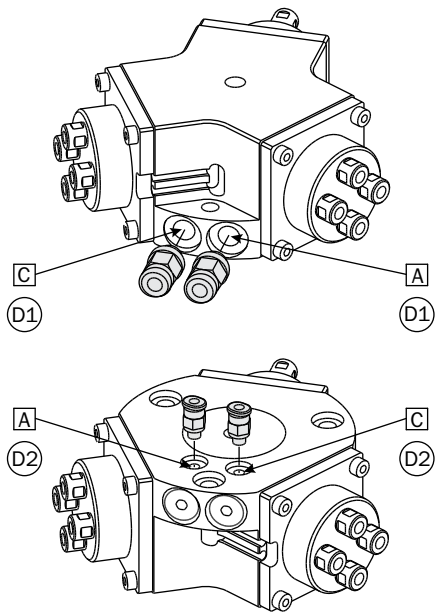
Compressed air in A: gripper opening.

Compressed air in C: gripper closing.

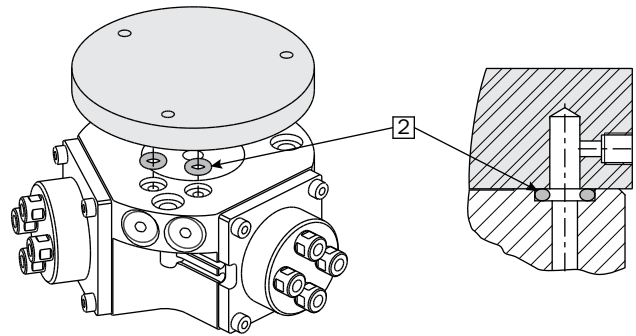
The compressed air, must be filtered from 5 to 40 µm.

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.



|     | SXT2505    | SXT4008    | SXT5012    | SXT6315    |
|-----|------------|------------|------------|------------|
| [2] | Ø1.78x5.28 | Ø2.62x5.23 | Ø2.62x5.23 | Ø2.62x5.23 |
| D1  | M5         | G1/8       | G1/8       | G1/8       |
| D2  | M3         | M5         | M5         | M5         |



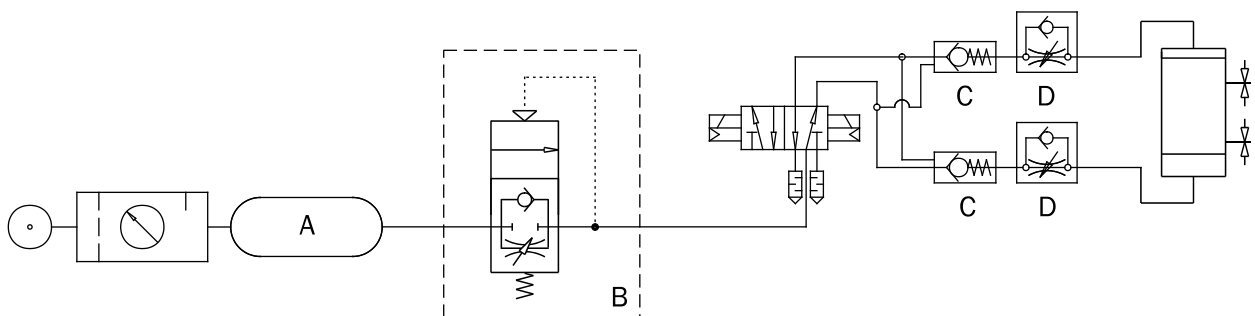
**Pneumatic circuit**

Possible problems on a compressed air circuit:

- 1- Pressure variation.
- 2- Pressurizing with empty gripper.
- 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).



## 3-jaw self-centring 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.
- Fiber-carbon gear reduction.
- 10 million cycle maintenance-free.
- T-slot style jaws for heavy loads.
- Weight-dimensions-force best trade off.
- Rotary actuator fitting compatible.
- Optional magnetic sensors.



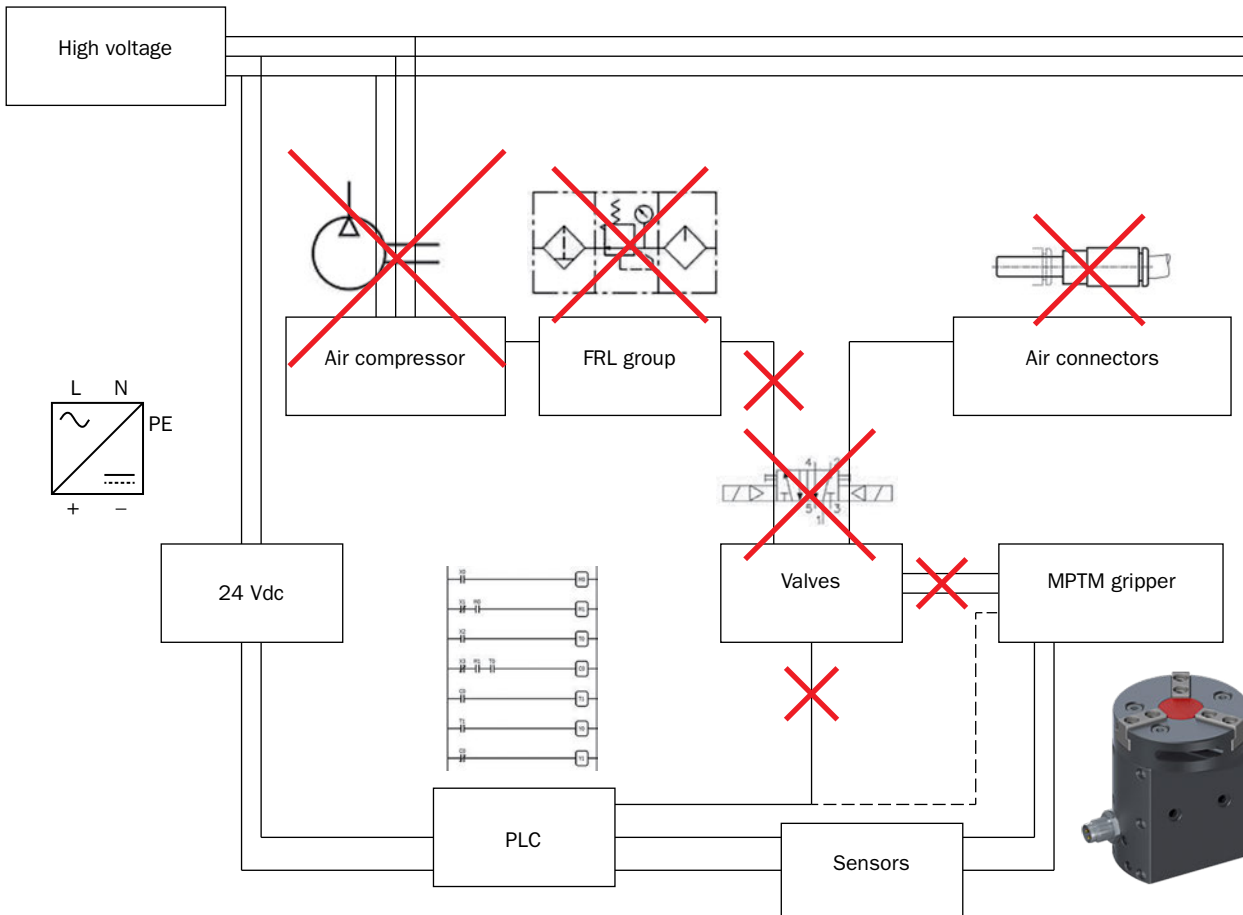
MPTM1606



MPTM2508



MPTM3210







|  | MPTM1606                                   | MPTM2508               | MPTM3210               |
|--|--|------------------------|------------------------|
| Total gripping force                         | 57 N                                       | 124 N                  | 220 N                  |
| Stroke                                       | 3x3 mm (±0.2 mm)                           | 3x4 mm (±0.2 mm)       | 3x5 mm (±0.2 mm)       |
| Frequency at an ambient temperature of 30°C  | 0.95 Hz                                    | 0.83 Hz                | 0.85 Hz                |
| Jaw closing time                             | 0.08 s                                     | 0.12 s                 | 0.16 s                 |
| Working gripper time                         | 0.19 s                                     | 0.31 s                 | 0.26 s                 |
| Duty cycle at an ambient temperature of 30°C | 36%  | 52%                    | 44%                    |
| 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                        | 5° ÷ 60°C                                  | 5° ÷ 60°C              | 5° ÷ 60°C              |
| Environmental Degree                         | IP54                                       | IP54                   | IP54                   |
| Noise level                                  | < 70 dB                                    | < 70 dB                | < 70 dB                |
| Mass (motor included)                        | 183 g                                      | 430 g                  | 693 g                  |
| ISO14644-1 Clean Room Certification          | CLASS 7                                    | -                      | -                      |
| Reference standards                          | EN 61000-6-2 + EC + IS1; EN 61000-6-3 + A1 |                        |                        |
| Barycentric moment of inertia                | Jxx  | 0.66 kgcm <sup>2</sup> | 2.75 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jyy  | 0.75 kgcm <sup>2</sup> | 3.13 kgcm <sup>2</sup> |
| Barycentric moment of inertia                | Jzz  | 0.36 kgcm <sup>2</sup> | 1.6 kgcm <sup>2</sup>  |
| Technology and options                       | Page 594 - 595                             |                        |                        |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

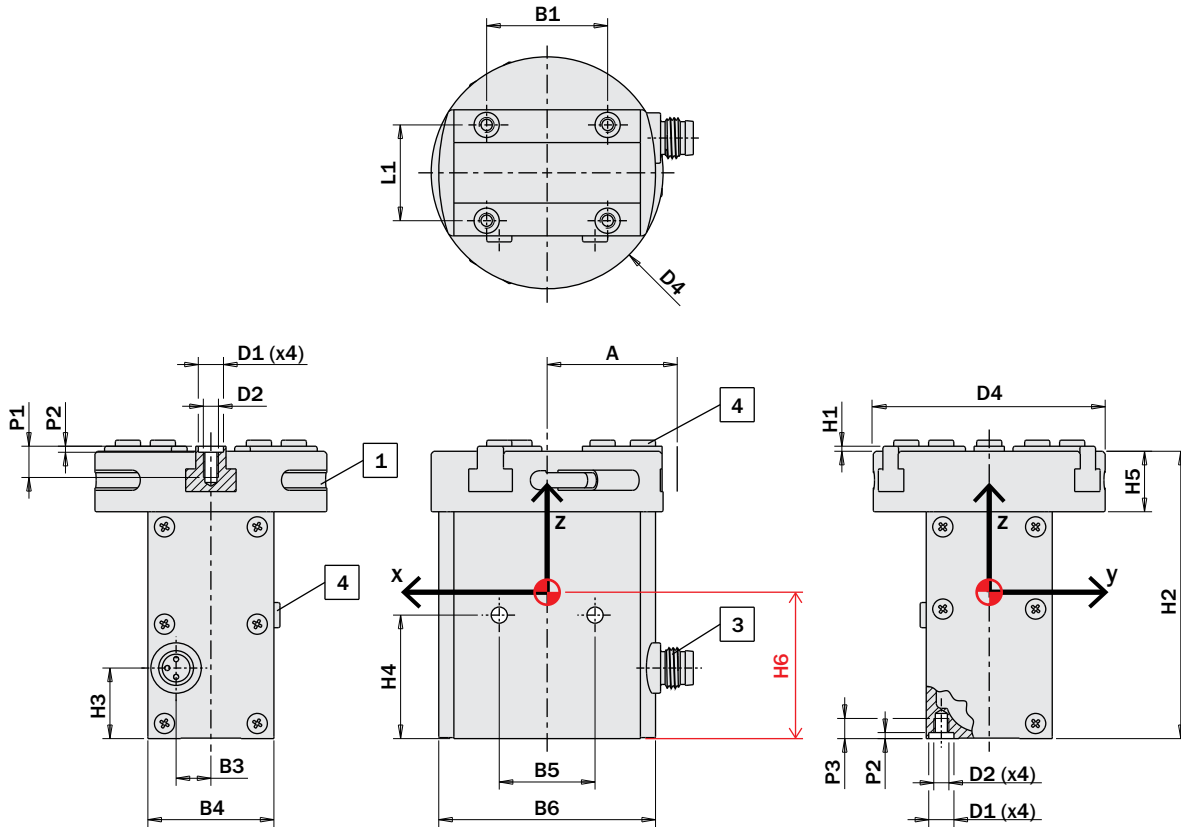
Nippers

Robot Kit

Options

Sensors

## Dimensions (mm)



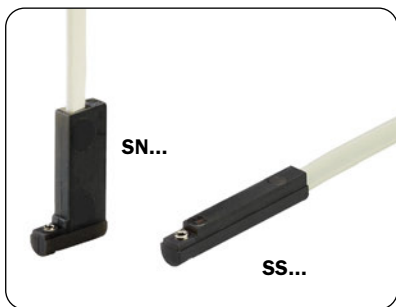
FIRST ANGLE PROJECTION

|    | MPTM1606 | MPTM2508 | MPTM3210 |
|----|----------|----------|----------|
| A  | 25.8     | 36       | 44       |
| B1 | ±0.02    | 24       | 30       |
| B2 |          | 6        | 8        |
| B3 |          | 6.9      | 10       |
| B4 |          | 25       | 32       |
| B5 | ±0.02    | 19       | 25       |
| B6 |          | 45       | 60       |
| B7 |          | 11       | 15       |
| C  |          | 22.8     | 32       |
| D1 | Ø5 H8    | Ø7 H8    | Ø7 H8    |
| D2 | M3       | M4       | M5       |
| D3 | Ø3.2     | Ø4.2     | Ø5.2     |
| D4 | Ø46      | Ø64      | Ø78      |
| H1 |          | 1        | 1        |
| H2 |          | 57       | 74.5     |
| H3 |          | 14       | 17       |
| H4 | ±0.02    | 24.5     | 32       |
| H5 |          | 12       | 15       |
| H6 |          | 37       | 49.3     |
| L1 | ±0.02    | 19       | 24       |
| L2 | ±0.02    | 8        | 12       |
| P1 |          | 6.2      | 8        |
| P2 | +0.1     | 1.2      | 1.5      |
| P3 |          | 4        | 6        |

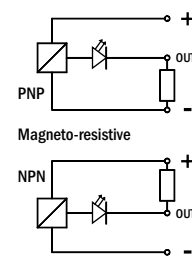
- 1** Magnetic sensor slot
- 2** Through hole for gripper fastening
- 3** Electrical connection
- 4** Centering sleeves

**Sensors**

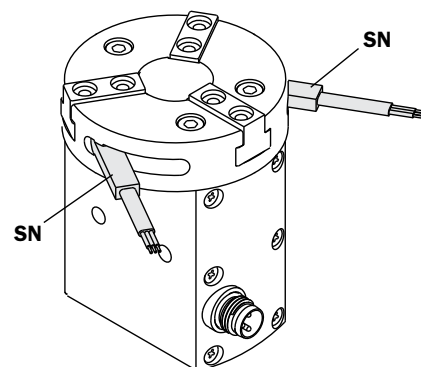
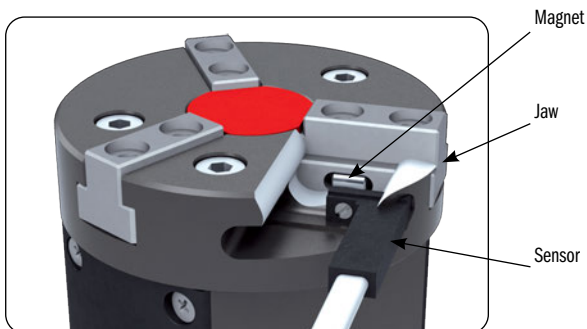
The operating position can be checked by one or more magnetic sensors (optional), that detect the position by the magnets on the jaws inside.  
For details, see the "Accessories" section.



|                        |     |                        |
|------------------------|-----|------------------------|
| SN4N225-G<br>SS4N225-G | PNP | 2.5m cable             |
| SN4M225-G<br>SS4M225-G | NPN | 2.5m cable             |
| SN3N203-G<br>SS3N203-G | PNP | M8 snap plug connector |
| SN3M203-G<br>SS3M203-G | NPN | M8 snap plug connector |



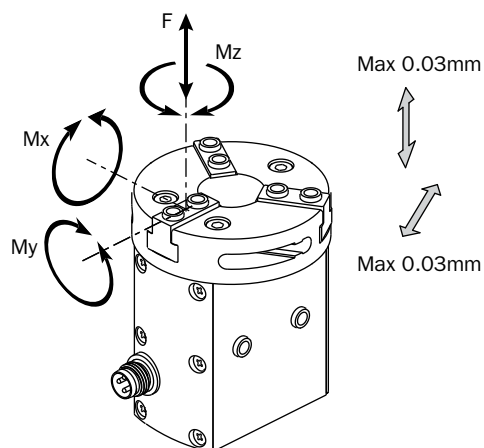
They are all provided with a 3-wire flat cable and a LED.



**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.  
 $F_d, M_x d, M_y d, M_z d$ , are the maximum permitted loads under dynamic conditions, that is with running jaws.  
The following table also shows the maximum permitted load (m) on each gripping tool when the gripper operates at peak performance.  
The picture below shows also the jaw maximum backlash.

|         | MPTM1606 | MPTM2508 | MPTM3210 |
|---------|----------|----------|----------|
| $F_s$   | 60 N     | 120 N    | 200 N    |
| $M_x s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_y s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $M_z s$ | 3 Nm     | 8 Nm     | 20 Nm    |
| $F_d$   | 0.6 N    | 1.2 N    | 2 N      |
| $M_x d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_y d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| $M_z d$ | 3 Ncm    | 8 Ncm    | 20 Ncm   |
| m       | 60 g     | 120 g    | 200 g    |



## ID expansion grippers series MFD/MFU

- New concept for innovative air hands.
- Downward movement (MFD), or upward movement (MFU).
- The elastic part can be in Silicone or EPDM.
- Grip diameters from 8 to 85 mm.
- Optional nose cones for centering.
- Optional proximity magnetic sensors.
- Several mounting accessories.



**M F D 1 6 E 0 2 C L**

### Actuation direction

- D - Downward
- U - Upward

### Base diameter

### Air feeding

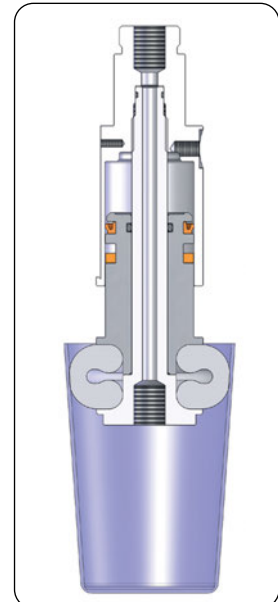
- C - With coaxial air fitting
- H - With side air fitting and through hole

### Elastic part

- S01 in white Silicone
- E02 in black EPDM


### Through hole

The ...HL models have a central through hole. It can be used to blow compressed air, or to provide vacuum, with the purpose to cool a part, or to check the sealing.



**Silicone or EPDM?**

The elastic part can be in white silicone or black EPDM. Silicone can be used over a wider temperature range and assures a longer life time, but it is not suitable in some industries, because it makes it difficult to paint or to coat the parts that are touched. EPDM is mark-free and provides a higher coefficient of friction. The elastic part in Silicone or EPDM is available as a spare part and can be replaced, when worn out. The expected medium life time of the elastic part in EPDM is about 0.5 million cycles. The expected medium life time of the elastic part in Silicone is about 1 million cycles.

| Spare elastic part   | T               | MFD / MFU |         |          |          |          |         |         |         |         |         |         |         |         |         |
|--|-----------------|-----------|---------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|  |                 | Ø8        | Ø10     | Ø12      | Ø14      | Ø16      | Ø18     | Ø20     | Ø22     | Ø27     | Ø33     | Ø41     | Ø47     | Ø51     | Ø63     |
|  Silicone | -70°C<br>+200°C | IF08S01   | IF10S01 | IF12S01U | IF14S01U | IF16S01U | IF18S01 | IF20S01 | IF22S01 | IF27S01 | IF33S01 | IF41S01 | IF47S01 | IF51S01 | IF63S01 |
|  | -50°C<br>+140°C | IF08E02   | IF10E02 | IF12E02U | IF14E02U | IF16E02U | IF18E02 | IF20E02 | IF22E02 | IF27E02 | IF33E02 | IF41E02 | IF47E02 | IF51E02 | IF63E02 |

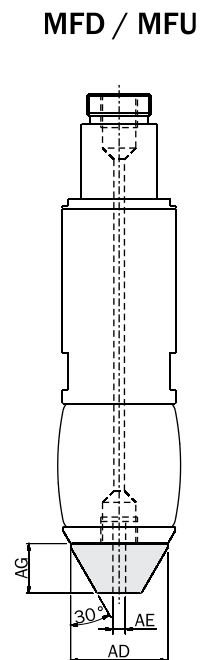
T - Temperatura d'esercizio della parte elastica (5÷60°C per il corpo pinza)

**Centering cones**

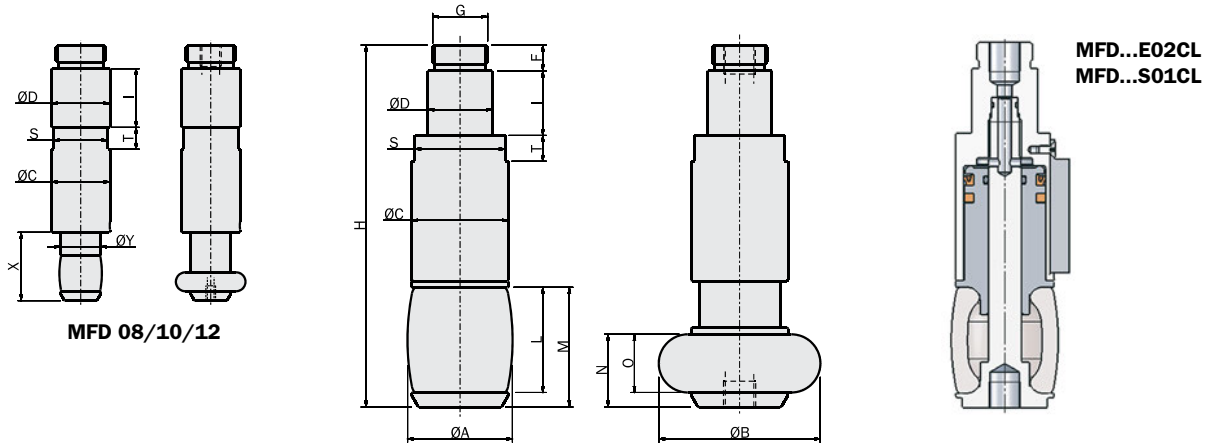
Centering cones in nylon with the stainless screw, are available as an option. For the sizes larger than 33, they are also provided with a through hole.



|          | MFC10 | MFC12 | MFC14 | MFC18 | MFC22 | MFC27 | MFC33 | MFC41 | MFC51 | MFC63 |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Weight   | 0.5 g | 1 g   | 1 g   | 1.5 g | 2 g   | 5 g   | 7 g   | 12 g  | 21 g  | 30 g  |
| ØAD [mm] | 7.8   | 10    | 11.8  | 15.5  | 18.8  | 21.3  | 28    | 37    | 47    | 56    |
| ØAE [mm] | -     | -     | -     | -     | -     | -     | 4     | 4     | 4     | 4     |
| ØAG [mm] | 2.9   | 3.5   | 4.5   | 6.5   | 8     | 9.5   | 12    | 19    | 26    | 30    |
| MFD      | Ø10   | Ø12   | Ø14   | Ø18   | Ø22   | Ø27   | Ø33   | Ø41   | Ø51   | Ø63   |
| MFU      |       |       | Ø16   | Ø20   |       |       |       | Ø47   |       |       |

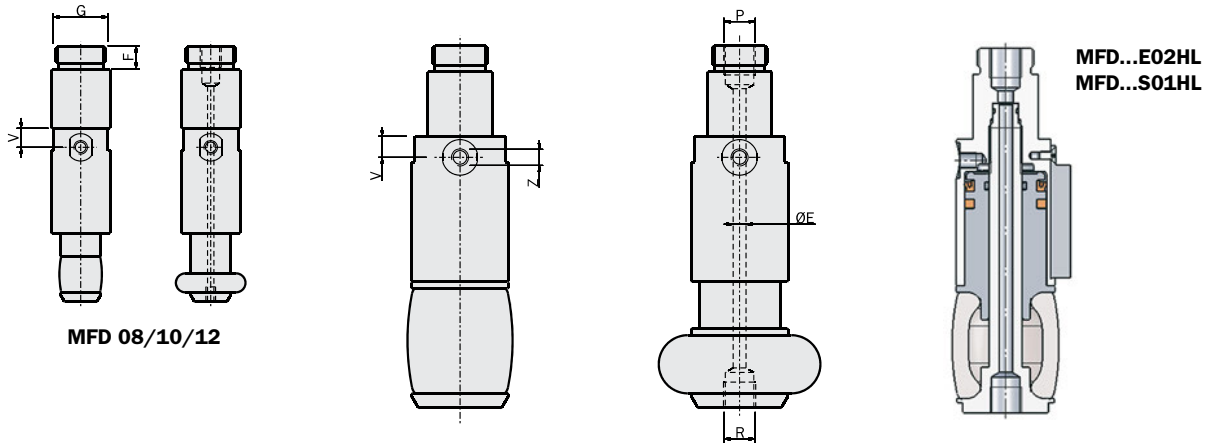


## Dimensions (mm)



**MFD 08/10/12**

**MFD...E02CL  
MFD...S01CL**



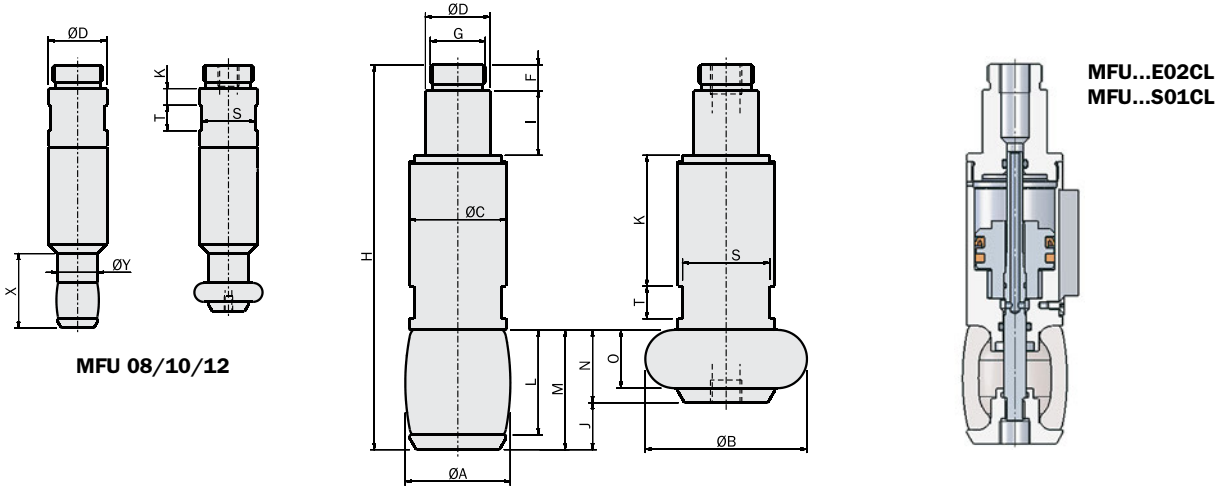
**MFD 08/10/12**

**MFD...E02HL  
MFD...S01HL**

|                          | m    | ØA   | ØB   | ØC   | ØD | ØE   | F   | G     | H     | I  | L    | M    | N    | O   | P    | R    | S  | T  | V | Z | X    | ØY   |
|--------------------------|------|------|------|------|----|------|-----|-------|-------|----|------|------|------|-----|------|------|----|----|---|---|------|------|
| MFD08...CL<br>MFD08...HL | 15g  | 8    | 11   | 14   | 14 | -1.5 | 5.5 | M12x1 | 59.2  | 14 | 7    | 9.2  | 5.7  | 3.5 | M5   | M2   | 13 | 6  | - | - | 14.7 | 7.6  |
| MFD10...CL<br>MFD10...HL | 16g  | 10.5 | 13.5 | 14   | 14 | -1.5 | 5.5 | M12x1 | 60.7  | 14 | 8.5  | 10.7 | 6.7  | 4.5 | M5   | M2   | 13 | 6  | - | - | 16.2 | 9.5  |
| MFD12...CL<br>MFD12...HL | 17g  | 13   | 17   | 14   | 14 | -2   | 5.5 | M12x1 | 62    | 14 | 10.5 | 13   | 7.5  | 5   | M5   | M3   | 13 | 6  | - | - | 16.8 | 11.8 |
| MFD14...CL<br>MFD14...HL | 17g  | 15   | 19.5 | 14   | 14 | -2   | 5.5 | M12x1 | 62.3  | 14 | 13   | 15.8 | 8.8  | 6   | M5   | M3   | 13 | 6  | - | - | -    | -    |
| MFD16...CL<br>MFD16...HL | 17g  | 18   | 21.5 | 14   | 14 | -2   | 5.5 | M12x1 | 62.3  | 14 | 13   | 15.8 | 8.8  | 6   | M5   | M3   | 13 | 6  | - | - | -    | -    |
| MFD18...CL<br>MFD18...HL | 28g  | 19.5 | 24.5 | 18   | 14 | -2.5 | 5.5 | M12x1 | 70.5  | 14 | 16.5 | 19.5 | 12   | 9   | M5   | M3   | 16 | 6  | - | - | -    | -    |
| MFD20...CL<br>MFD20...HL | 28g  | 22.5 | 26.5 | 18   | 14 | -2.5 | 5.5 | M12x1 | 70.5  | 14 | 16.5 | 19.5 | 12   | 9   | M5   | M3   | 16 | 6  | - | - | -    | -    |
| MFD22...CL<br>MFD22...HL | 43g  | 24   | 31.5 | 21.5 | 14 | -2.5 | 5.5 | M12x1 | 80    | 14 | 21   | 24.2 | 12.2 | 11  | M5   | M3   | 19 | 7  | - | - | -    | -    |
| MFD27...CL<br>MFD27...HL | 79g  | 28   | 36   | 25   | 20 | -3   | 8   | M17x1 | 98    | 20 | 26   | 30   | 18   | 14  | G1/8 | M5   | 22 | 8  | - | - | -    | -    |
| MFD33...CL<br>MFD33...HL | 118g | 34   | 44   | 30   | 20 | -4   | 8   | M17x1 | 112   | 20 | 32.5 | 37   | 22.5 | 18  | G1/8 | G1/8 | 28 | 8  | - | - | -    | -    |
| MFD41...CL<br>MFD41...HL | 280g | 42   | 54   | 40   | 30 | -4.3 | 11  | M27x1 | 142.5 | 30 | 39.5 | 45   | 29.5 | 24  | G1/8 | G1/8 | 36 | 11 | - | - | -    | -    |
| MFD47...CL<br>MFD47...HL | 280g | 50   | 58   | 40   | 30 | -4.3 | 11  | M27x1 | 142.5 | 30 | 39.5 | 45   | 29.5 | 24  | G1/8 | G1/8 | 36 | 11 | - | - | -    | -    |
| MFD51...CL<br>MFD51...HL | 490g | 54   | 68   | 50   | 30 | -5.5 | 11  | M27x1 | 168   | 30 | 48   | 55   | 37   | 30  | G1/8 | G1/8 | 45 | 13 | - | - | -    | -    |
| MFD63...CL<br>MFD63...HL | 800g | 66   | 84   | 60   | 30 | -6   | 11  | M27x1 | 198   | 30 | 61   | 70   | 45   | 36  | G1/8 | G1/8 | 54 | 16 | - | - | -    | -    |

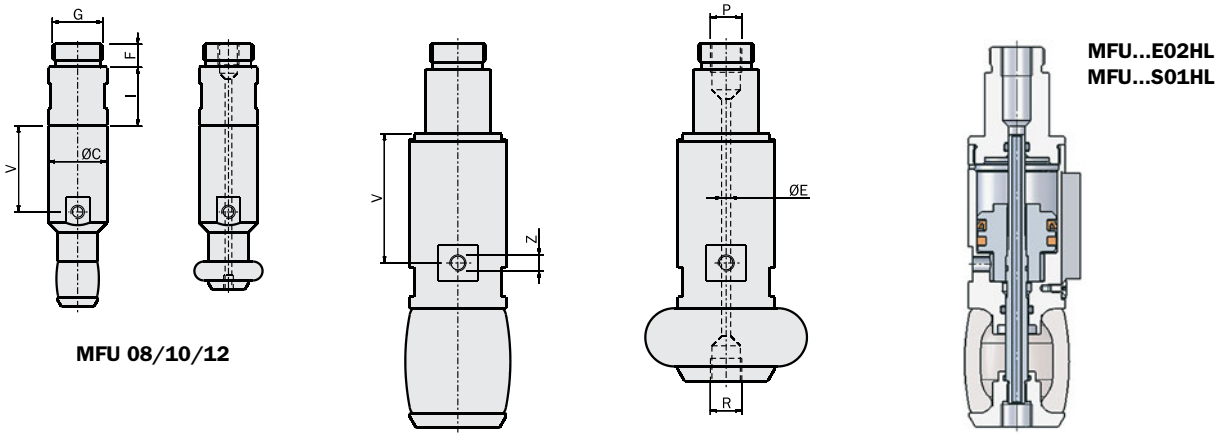
[Weight]

**Dimensions (mm)**



**MFU 08/10/12**

**MFU...E02CL**  
**MFU...S01CL**



**MFU 08/10/12**

**MFU...E02HL**  
**MFU...S01HL**

|  | m    | ØA   | ØB   | ØC   | ØD | ØE  | F   | G     | H    | I  | J    | K    | L    | M    | N    | O   | P    | R    | S  | T  | V    | Z | X    | ØY   |      |
|--|------|------|------|------|----|-----|-----|-------|------|----|------|------|------|------|------|-----|------|------|----|----|------|---|------|------|------|
| <b>MFU08...CL</b><br><b>MFU08...HL</b> | 16g  | 8    | 11   | 14   | 14 | 1.1 | 5.5 | M12x1 | 61.5 | 14 | 3.5  | 4    | 7    | 9.2  | 5.7  | 3.5 | M5   | M2   | 13 | 6  | -    | - | M3   | 16.3 | 7.6  |
| <b>MFU10...CL</b><br><b>MFU10...HL</b> | 17g  | 10.5 | 13.5 | 14   | 14 | 1.1 | 5.5 | M12x1 | 62.5 | 14 | 4    | 4    | 8.5  | 10.7 | 6.7  | 4.5 | M5   | M2   | 13 | 6  | 20.5 | - | M3   | 17.7 | 9.5  |
| <b>MFU12...CL</b><br><b>MFU12...HL</b> | 18g  | 13   | 17   | 14   | 14 | 1.3 | 5.5 | M12x1 | 65   | 14 | 5.5  | 4    | 10.5 | 13   | 7.5  | 5   | M5   | M3   | 13 | 6  | 21.5 | - | M3   | 20   | 11.8 |
| <b>MFU14...CL</b><br><b>MFU14...HL</b> | 20g  | 15   | 19.5 | 14   | 14 | 1.3 | 5.5 | M12x1 | 68.5 | 14 | 7    | 24.2 | 13   | 15.8 | 8.8  | 6   | M5   | M3   | 13 | 6  | 23.2 | - | M3   | -    | -    |
| <b>MFU16...CL</b><br><b>MFU16...HL</b> | 20g  | 18   | 21.5 | 14   | 14 | 1.3 | 5.5 | M12x1 | 68.5 | 14 | 7    | 24.2 | 13   | 15.8 | 8.8  | 6   | M5   | M3   | 13 | 6  | 23.2 | - | M3   | -    | -    |
| <b>MFU18...CL</b><br><b>MFU18...HL</b> | 35g  | 19.5 | 24.5 | 18   | 14 | 1.3 | 5.5 | M12x1 | 78   | 14 | 7.5  | 29   | 16.5 | 19.5 | 12   | 9   | M5   | M3   | 16 | 7  | 28   | - | M5   | -    | -    |
| <b>MFU20...CL</b><br><b>MFU20...HL</b> | 35g  | 22.5 | 26.5 | 18   | 14 | 1.3 | 5.5 | M12x1 | 78   | 14 | 7.5  | 29   | 16.5 | 19.5 | 12   | 9   | M5   | M3   | 16 | 7  | 28   | - | M5   | -    | -    |
| <b>MFU22...CL</b><br><b>MFU22...HL</b> | 50g  | 24   | 31.5 | 21.5 | 14 | 1.8 | 5.5 | M12x1 | 86.5 | 14 | 10   | 31.8 | 21   | 24.2 | 14.2 | 11  | M5   | M3   | 20 | 8  | 31.5 | - | M5   | -    | -    |
| <b>MFU27...CL</b><br><b>MFU27...HL</b> | 100g | 28   | 36   | 25   | 20 | 2.5 | 8   | M17x1 | 108  | 20 | 12   | 37.5 | 26   | 30   | 18   | 14  | G1/8 | M5   | 22 | 9  | 37   | - | M5   | -    | -    |
| <b>MFU33...CL</b><br><b>MFU33...HL</b> | 130g | 34   | 44   | 30   | 20 | 2.8 | 8   | M17x1 | 119  | 20 | 14.5 | 40.5 | 32.5 | 37   | 22.5 | 18  | G1/8 | G1/8 | 28 | 10 | 40   | - | M5   | -    | -    |
| <b>MFU41...CL</b><br><b>MFU41...HL</b> | 300g | 42   | 54   | 40   | 30 | 4.5 | 11  | M27x1 | 147  | 30 | 15.5 | 45   | 39.5 | 45   | 29.5 | 24  | G1/8 | G1/8 | 36 | 12 | 45   | - | M5   | -    | -    |
| <b>MFU47...CL</b><br><b>MFU47...HL</b> | 300g | 50   | 58   | 40   | 30 | 4.5 | 11  | M27x1 | 147  | 30 | 15.5 | 45   | 39.5 | 45   | 29.5 | 24  | G1/8 | G1/8 | 36 | 12 | 45   | - | M5   | -    | -    |
| <b>MFU51...CL</b><br><b>MFU51...HL</b> | 500g | 54   | 68   | 50   | 30 | 5   | 11  | M27x1 | 169  | 30 | 18   | 54   | 48   | 55   | 37   | 30  | G1/8 | G1/8 | 45 | 14 | 56.5 | - | G1/8 | -    | -    |
| <b>MFU63...CL</b><br><b>MFU63...HL</b> | 785g | 66   | 84   | 60   | 30 | 5   | 11  | M27x1 | 194  | 30 | 25   | 62   | 61   | 70   | 45   | 36  | G1/8 | G1/8 | 54 | 16 | 64.5 | - | G1/8 | -    | -    |

[Weight]

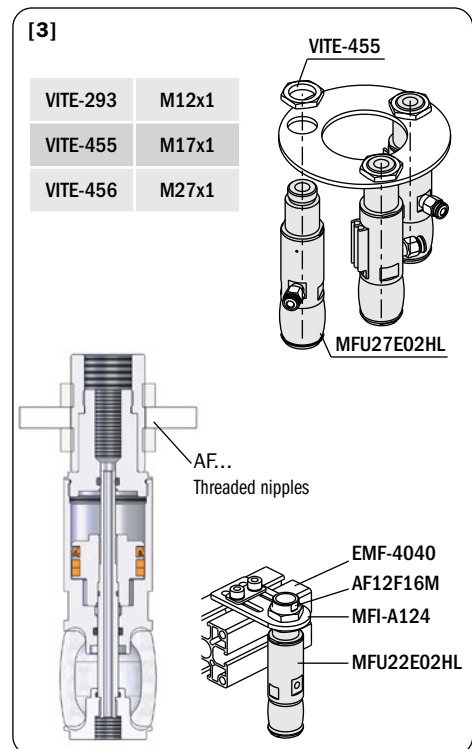
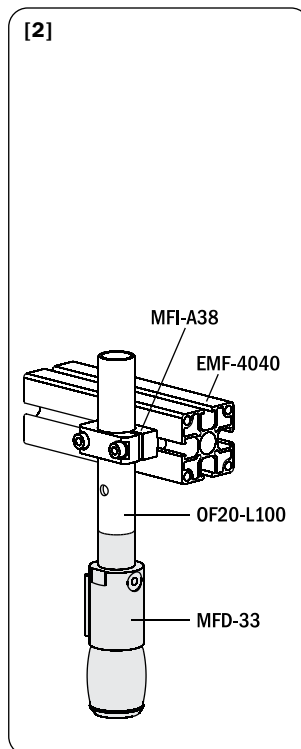
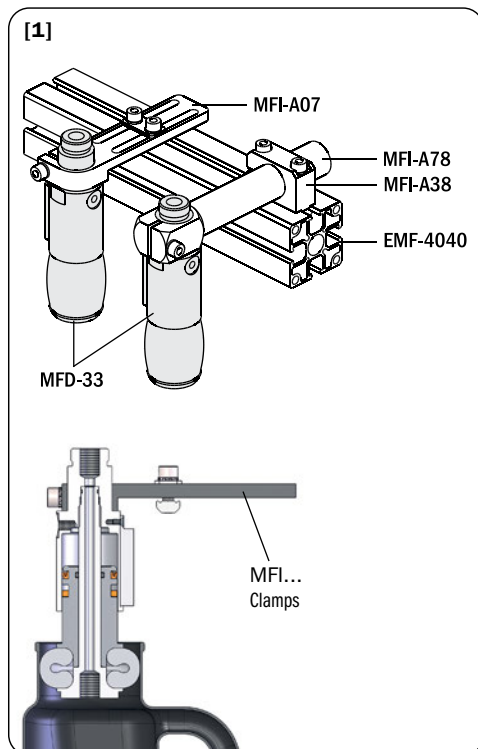
## Grip diameters

The gripper size is indicated in the gripper code with a nominal diameter of the elastic part.  
Each model can work in a diameter range between a minimum and a maximum value.

|                |    | Diameter (mm) / |      |      |      |    |    |    |    |    |
|----------------|----|-----------------|------|------|------|----|----|----|----|----|
|                |    | 10              | 20   | 30   | 40   | 50 | 60 | 70 | 80 |    |
| MFD-MFU Size / | 08 | 8               | 11   |      |      |    |    |    |    |    |
|                | 10 | 10.5            | 13.5 |      |      |    |    |    |    |    |
|                | 12 |                 | 13   | 17   |      |    |    |    |    |    |
|                | 14 |                 | 15   | 19.5 |      |    |    |    |    |    |
|                | 16 |                 |      | 18   | 21.5 |    |    |    |    |    |
|                | 18 |                 |      | 19.5 | 24.5 |    |    |    |    |    |
|                | 20 |                 |      | 22.5 | 26.5 |    |    |    |    |    |
|                | 22 |                 |      | 24   | 31.5 |    |    |    |    |    |
|                | 27 |                 |      |      | 28   | 36 |    |    |    |    |
|                | 33 |                 |      |      |      | 34 | 44 |    |    |    |
| 41             |    |                 |      |      |      | 42 | 54 |    |    |    |
| 47             |    |                 |      |      |      |    | 50 | 58 |    |    |
| 51             |    |                 |      |      |      |    |    | 54 | 68 |    |
| 63             |    |                 |      |      |      |    |    |    | 66 | 84 |

## Fastening

The gripper can be fitted with a clamp, either directly on its tail [1], or on the optional extension tube [2].  
Alternatively, it can be fitted through the optional threaded nipples [3].





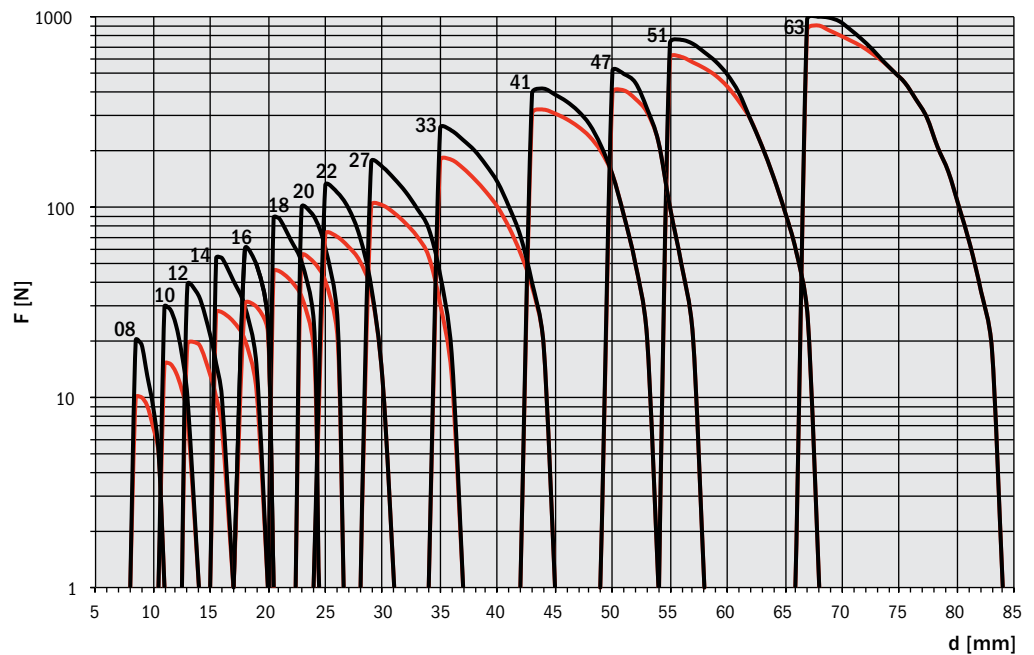
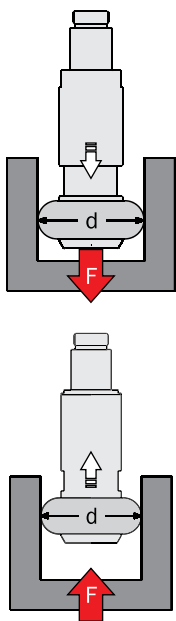
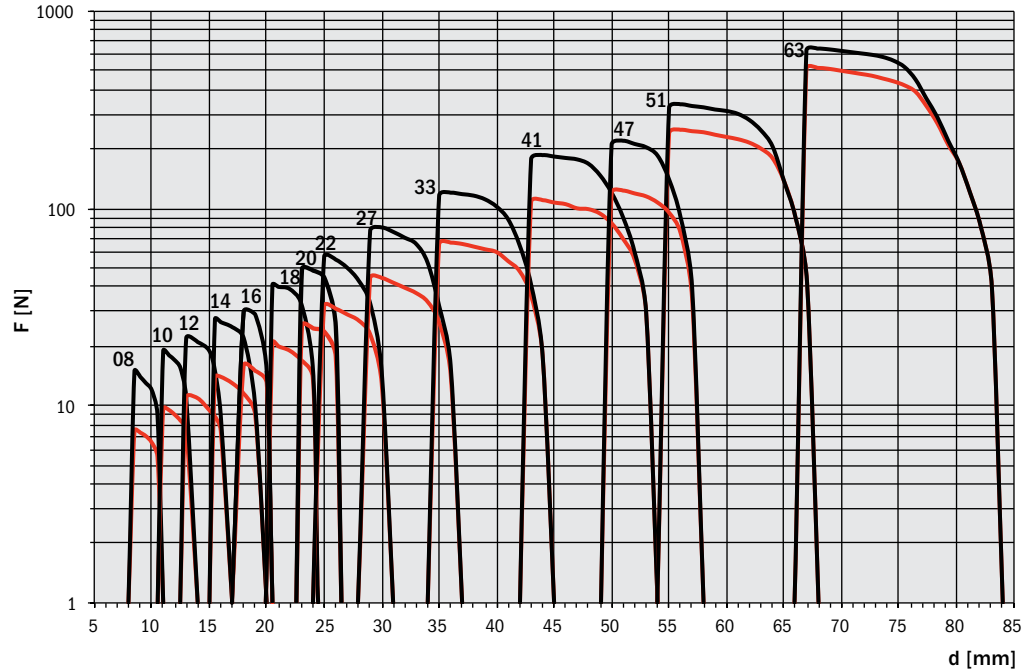
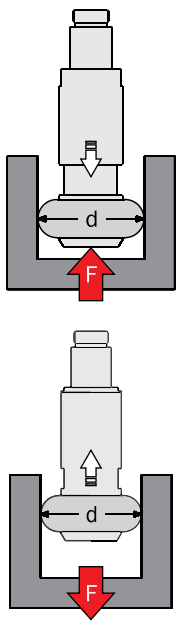
**Gripping force**

The force output of an MFD/MFU gripper depends on several variables.

Mainly on the diameter of the picked object, but also on the surface finishing, the coefficient of friction and the air pressure. The graphs show the extraction force (F) on the gripped object as a function of its diameter (d).

Measurements were performed with aluminum rings, with roughness Ra=0.8 while the grippers were fed with 6 bar compressed air.

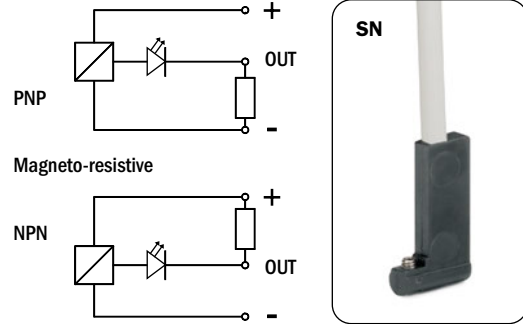
The black lines refer to the grippers in EPDM, while the red ones to the grippers in Silicone.



## Sensors

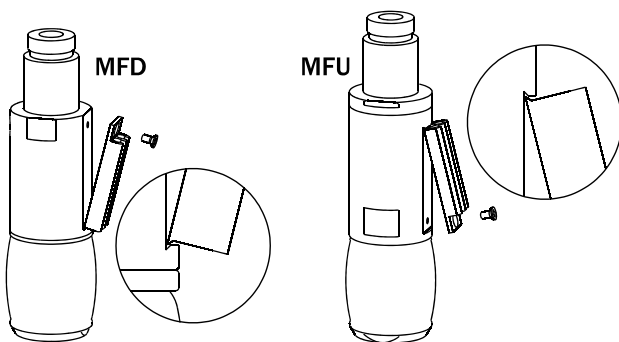
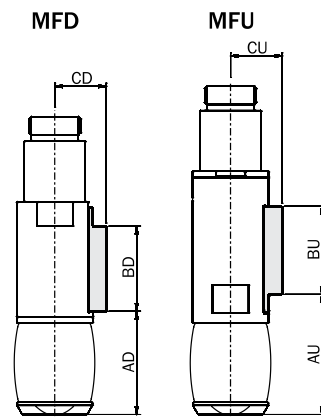
In the larger sizes a magnet is integrated in the piston.  
 An optional housing for the sensors of the SN series is available.  
 One or two sensors can be fitted on a gripper.

| SN        |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m Cable             |
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | Snap M8 plug connector |
| SN3M203-G | NPN |                        |



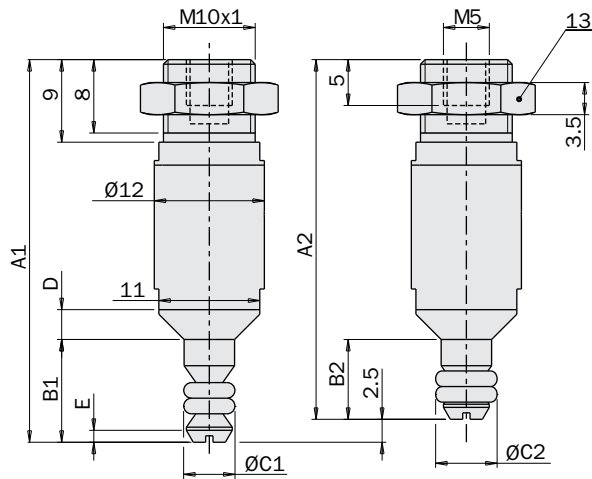
|         | MFD27-K | MFD33-K | MFD41-K    | MFD51-K | MFD63-K |
|---------|---------|---------|------------|---------|---------|
| Weight  | 4 g     | 5 g     | 5 g        | 6 g     | 7 g     |
| AD [mm] | 34      | 41.5    | 52         | 65      | 85.5    |
| BD [mm] | 28      | 34.5    | 40.5       | 49      | 54.5    |
| CD [mm] | 17      | 19.7    | 23.8       | 28.5    | 33.5    |
| MFD     | Ø27     | Ø33     | Ø41<br>Ø47 | Ø51     | Ø63     |

|         | MFU27-K | MFU33-K | MFU41-K    | MFU51-K | MFU63-K |
|---------|---------|---------|------------|---------|---------|
| Weight  | 4 g     | 5 g     | 5 g        | 6 g     | 7 g     |
| AU [mm] | 39.5    | 46.5    | 55.5       | 71.5    | 87.5    |
| BU [mm] | 29      | 33      | 36.5       | 39      | 45      |
| CU [mm] | 17      | 19.8    | 23.8       | 28.5    | 33.5    |
| MFU     | Ø27     | Ø33     | Ø41<br>Ø47 | Ø51     | Ø63     |



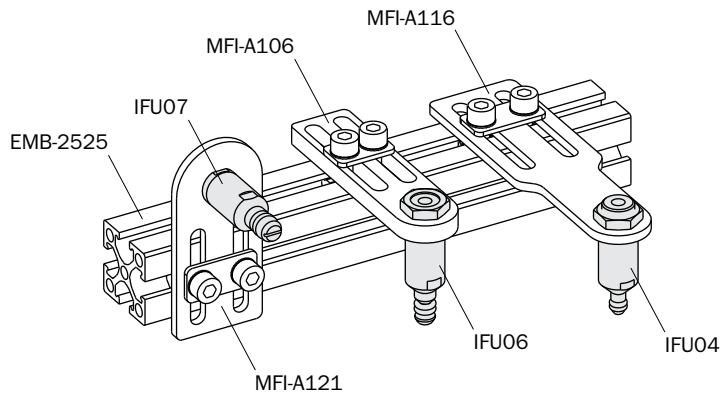
**ID expansion micro grippers series IFU**

- New concept for innovative air hands.
- Upward movement.
- The elastic part can be in Silicone or NBR.
- Grip diameters from 4.5 to 8.7 mm.



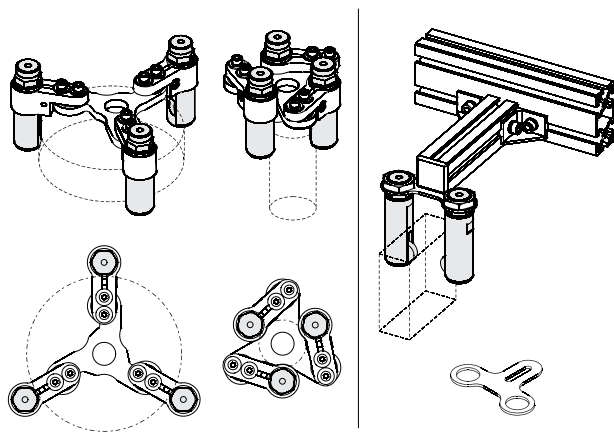
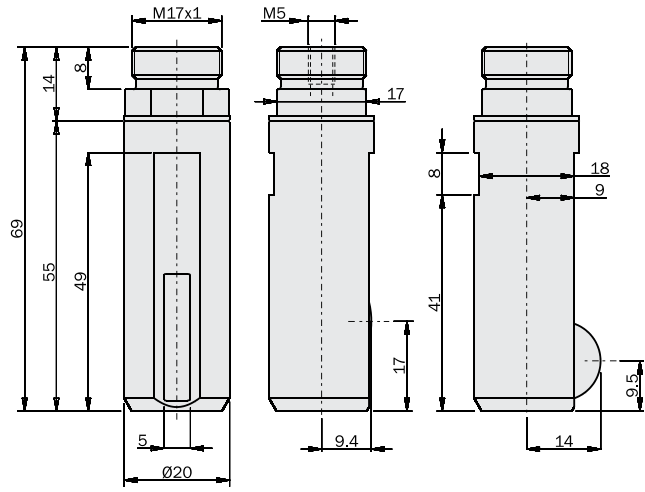
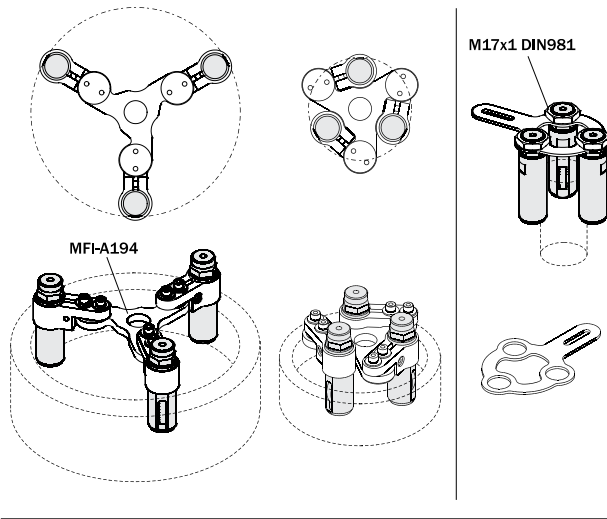
|        | IFU04S01RT<br>IFU04N03RT | IFU05S01RT<br>IFU05N03RT | IFU06S01RT<br>IFU06N03RT | IFU07S01RT<br>IFU07N03RT |
|--------|--------------------------|--------------------------|--------------------------|--------------------------|
| A1     | 40.9                     | 41.7                     | 42                       | 42                       |
| A2     | 38.4                     | 39.2                     | 39.5                     | 39.5                     |
| B1     | 9.9                      | 11.2                     | 11.5                     | 11.5                     |
| B2     | 7.4                      | 8.7                      | 9                        | 9                        |
| C1     | Ø4.5                     | Ø5.6                     | Ø6.6                     | Ø7.6                     |
| C2     | Ø5.4                     | Ø6.7                     | Ø7.6                     | Ø8.7                     |
| X1     | 3                        | 3.4                      | 3.4                      | 3.4                      |
| X2     | 2.7                      | 3.4                      | 3.4                      | 3.4                      |
| W1     | 4                        | 4.8                      | 5.1                      | 5.1                      |
| W2     | 2.7                      | 3.6                      | 3.8                      | 3.9                      |
| D      | 3.75x45°                 | 3.25x45°                 | 2.75x45°                 | 2.4x45°                  |
| E      | 1x60°                    | 1.3x60°                  | 1.4x60°                  | 1.5x60°                  |
| Weight | 7g                       | 7g                       | 8g                       | 9g                       |

**Application examples**



**One finger elastic module**

- Single acting with spring reset.
- Clampable Ø20mm body.
- Several mounting accessories.
- Modularity.



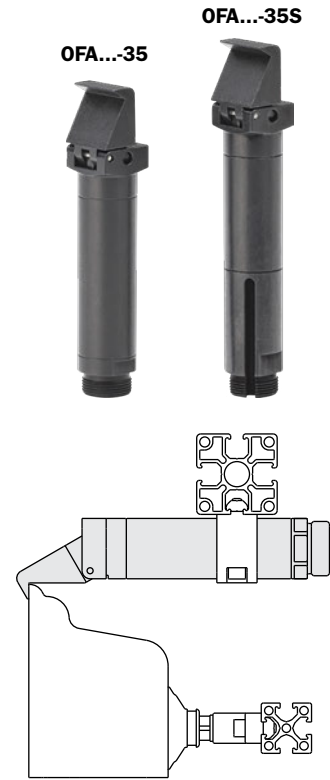
|                           | OFD20   |
|---------------------------|---|
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |
| Pressure range            | 3 ÷ 8 bar   |
| Temperature range         | 5° ÷ 60 °C.   |
| Force                     | 0 ÷ 145 N   |
| 6 bar stroke              | 4.5 mm  |
| Maximum working frequency | 2 Hz  |
| Cycle air consumption     | 3 cm <sup>3</sup>   |
| Weight                    | 40 g  |



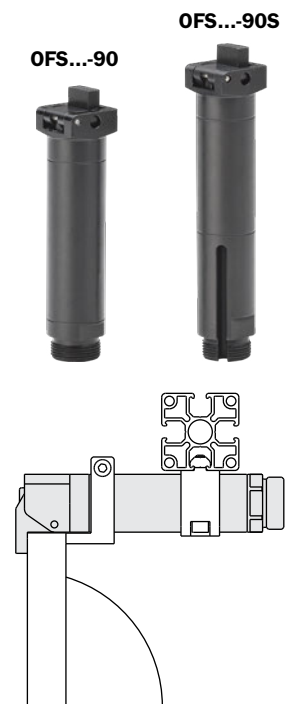
**One finger angular pneumatic grippers for clamping, series OF**

- Single acting.
- Optional magnetic sensors.
- Food grade grease FDA-H1.

|                         | OFA14-35  | OFA20-35<br>OFA20-35S | OFA30-35<br>OFA30-35S | OFA50-35<br>OFA50-35S |
|-------------------------|---|-----------------------|-----------------------|-----------------------|
| Medium                  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                       |                       |                       |
| Gripper body            | Aluminium   |                       |                       |                       |
| Pressure range          | 2.5 ÷ 8 bar   |                       |                       |                       |
| Temperature range       | 5 ÷ 60 °C.  |                       |                       |                       |
| Stroke                  | 35°   |                       |                       |                       |
| Piston bore             | Ø10 mm  | Ø16 mm                | Ø25 mm                | Ø40 mm                |
| Closing torque at 6 bar | 26 Ncm  | 100 Ncm               | 430 Ncm               | 1900 Ncm              |
| Cycle air consumption   | 0.4 cm <sup>3</sup>                                       | 1.24 cm <sup>3</sup>  | 4.56 cm <sup>3</sup>  | 43 cm <sup>3</sup>    |
| Weight                  | 25 g  | 65 g<br>86 g          | 206 g<br>272 g        | 860 g<br>1060 g       |

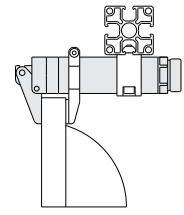


|                         | OFS14-90  | OFS20-90<br>OFS20-90S | OFS30-90<br>OFS30-90S |
|-------------------------|---|-----------------------|-----------------------|
| Medium                  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                       |                       |
| Gripper body            | Aluminium   |                       |                       |
| Pressure range          | 2.5 ÷ 8 bar   |                       |                       |
| Temperature range       | 5 ÷ 60 °C.  |                       |                       |
| Stroke                  | 95°   |                       |                       |
| Piston bore             | Ø10 mm  | Ø16 mm                | Ø25 mm                |
| Closing torque at 6 bar | 19 Ncm  | 70 Ncm                | 300 Ncm               |
| Cycle air consumption   | 1 cm <sup>3</sup>   | 3.52 cm <sup>3</sup>  | 12.9 cm <sup>3</sup>  |
| Weight                  | 23 g  | 60 g<br>80 g          | 185 g<br>245 g        |



**One finger angular pneumatic grippers for clamping, series OF**

- Single acting.
- Optional magnetic sensors.
- Food grade grease FDA-H1.



|                         | OFR14-95  | OFR20-95<br>OFR20-95S | OFR30-95<br>OFR30-95S | OFR50-95<br>OFR50-95S |
|-------------------------|---|-----------------------|-----------------------|-----------------------|
| Medium                  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                       |                       |                       |
| Gripper body            | Aluminium   |                       |                       |                       |
| Pressure range          | 2.5 ÷ 8 bar   |                       |                       |                       |
| Temperature range       | 5 ÷ 60 °C.  |                       |                       |                       |
| Stroke                  | 95°   |                       |                       |                       |
| Piston bore             | Ø10 mm  | Ø16 mm                | Ø25 mm                | Ø40 mm                |
| Closing torque at 6 bar | 19 Ncm  | 70 Ncm                | 300 Ncm               | 1250 Ncm              |
| Cycle air consumption   | 1 cm <sup>3</sup>   | 3.52 cm <sup>3</sup>  | 12.9 cm <sup>3</sup>  | 80 cm <sup>3</sup>    |
| Weight                  | 25 g  | 60 g<br>81 g          | 193 g<br>257 g        | 790 g<br>990 g        |



|                         | OFR14-95M   | OFR20-95M<br>OFR20-95SM | OFR30-95M<br>OFR30-95SM |
|-------------------------|---|-------------------------|-------------------------|
| Medium                  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                         |                         |
| Gripper body            | Aluminium   |                         |                         |
| Pressure range          | 2.5 ÷ 8 bar   |                         |                         |
| Temperature range       | 5 ÷ 60 °C.  |                         |                         |
| Stroke                  | 95°   |                         |                         |
| Piston bore             | Ø10 mm  | Ø16 mm                  | Ø25 mm                  |
| Closing torque at 6 bar | 19 Ncm  | 70 Ncm                  | 300 Ncm                 |
| Cycle air consumption   | 1 cm <sup>3</sup>   | 3.52 cm <sup>3</sup>    | 12.9 cm <sup>3</sup>    |
| Weight                  | 25 g  | 60 g<br>81 g            | 790 g<br>990 g          |

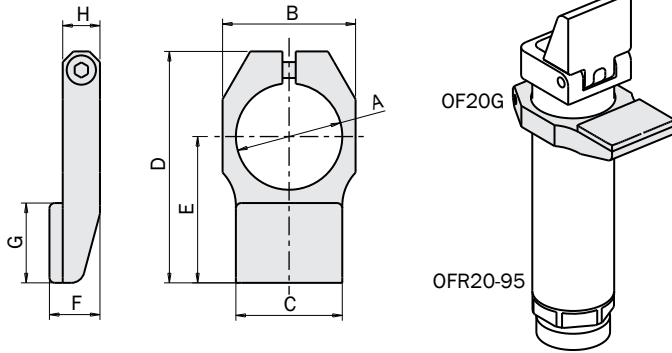


|                         | OFR14-95G   | OFR20-95G<br>OFR20-95SG | OFR30-95G<br>OFR30-95SG |
|-------------------------|---|-------------------------|-------------------------|
| Medium                  | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                         |                         |
| Gripper body            | Aluminium   |                         |                         |
| Pressure range          | 2.5 ÷ 8 bar   |                         |                         |
| Temperature range       | 5 ÷ 60 °C.  |                         |                         |
| Stroke                  | 95°   |                         |                         |
| Piston bore             | Ø10 mm  | Ø16 mm                  | Ø25 mm                  |
| Closing torque at 6 bar | 19 Ncm  | 70 Ncm                  | 300 Ncm                 |
| Cycle air consumption   | 1 cm <sup>3</sup>   | 3.52 cm <sup>3</sup>    | 12.9 cm <sup>3</sup>    |
| Weight                  | 30 g  | 80 g<br>100 g           | 230 g<br>300 g          |



**Stopper for OFR grippers**

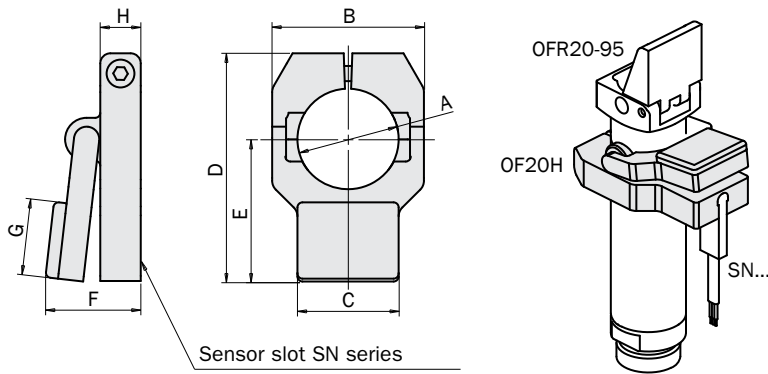
(kit with screws)



|        | OF14G | OF20G | OF30G |
|--------|-------|-------|-------|
| A [mm] | Ø14   | Ø20   | Ø30   |
| B [mm] | 19    | 25    | 37    |
| C [mm] | 14    | 20    | 30    |
| D [mm] | 32    | 43.5  | 63    |
| E [mm] | 19    | 27.5  | 40    |
| F [mm] | 10    | 9.5   | 12    |
| G [mm] | 11    | 15    | 20    |
| H [mm] | 6     | 7     | 9     |
| Weight | 6g    | 12g   | 30g   |

**Stopper for magnetic sensor**

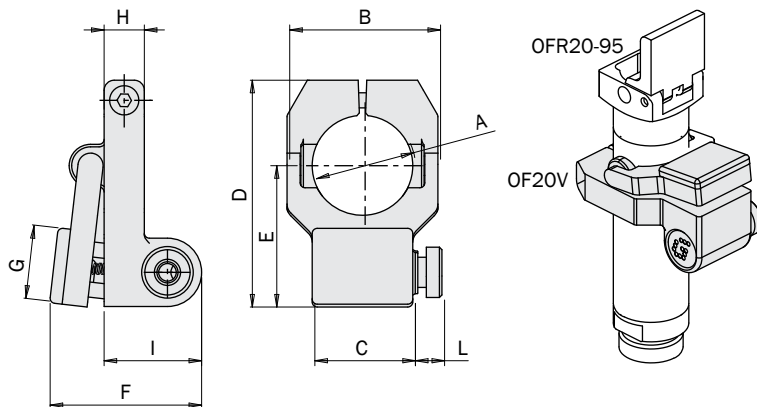
(kit with screws)



|        | OF14H               | OF20H | OF30H |
|--------|---------------------|-------|-------|
| A [mm] | Ø14                 | Ø20   | Ø30   |
| B [mm] | 22                  | 30    | 42    |
| C [mm] | 14                  | 20    | 30    |
| D [mm] | 34.5                | 45    | 64    |
| E [mm] | 21                  | 28    | 40    |
| F [mm] | 17.6                | 18.7  | 25.5  |
| G [mm] | 11                  | 15    | 20    |
| H [mm] | 8                   | 8     | 12    |
| I [mm] | Slot for SN sensors |       |       |
| Weight | 15g                 | 20g   | 28g   |

**Stopper for vacuum sensor**

(kit with screws)



|        | <b>NEW</b><br>OF14V | <b>NEW</b><br>OF20V | <b>NEW</b><br>OF30V |
|--------|---------------------|---------------------|---------------------|
| A [mm] | Ø14                 | Ø20                 | Ø30                 |
| B [mm] | 22                  | 30                  | 42                  |
| C [mm] | 14                  | 20                  | 30                  |
| D [mm] | 34.5                | 45.1                | 64                  |
| E [mm] | 21                  | 28.1                | 40                  |
| F [mm] | 28.9                | 30.1                | 38                  |
| G [mm] | 11                  | 15                  | 20                  |
| H [mm] | 8                   | 8                   | 12                  |
| I [mm] | 19.3                | 19.5                | 24.4                |
| L [mm] | 11.3                | 5.8                 | 5.8                 |
| Weight | ?                   | ?                   | ?                   |

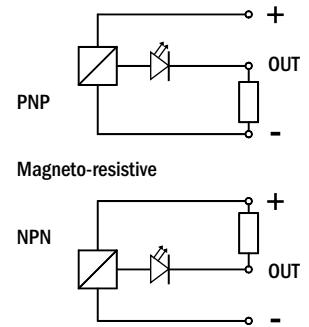


**Optional magnetic sensors**

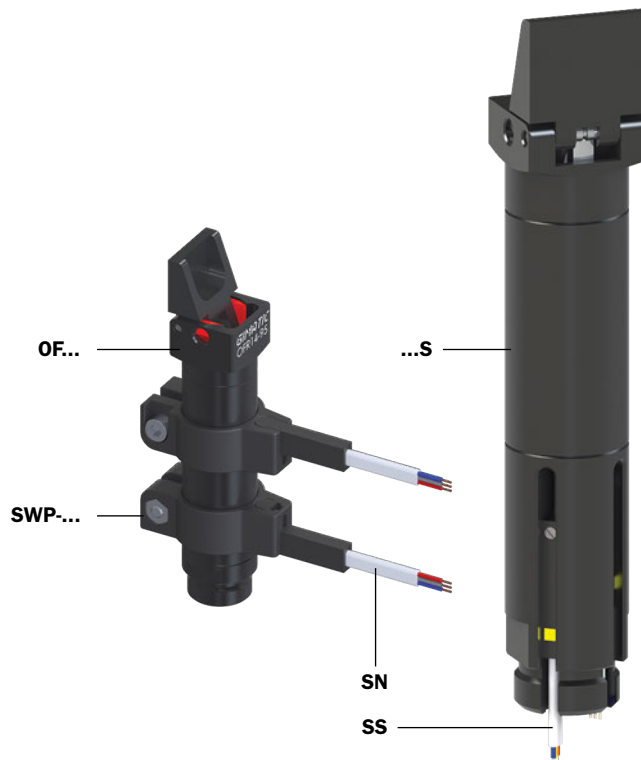
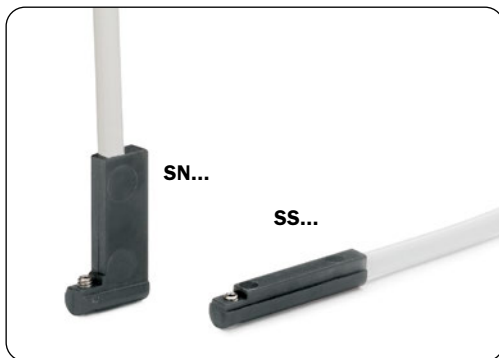
The operating position is detected by magnetic proximity sensors (optional) through a magnet placed on the piston. The use of magnetic proximity sensors is to be avoided in the vicinity of large masses of ferromagnetic material or intense magnetic fields as this may cause detection problems.

The sensors that can be used are:

| SN4N225-G | PNP | 2.5m cable             |
|-----------|-----|------------------------|
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | Snap M8 plug connector |
| SN3M203-G | NPN |                        |
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | Snap M8 plug connector |
| SS3M203-G | NPN |                        |



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

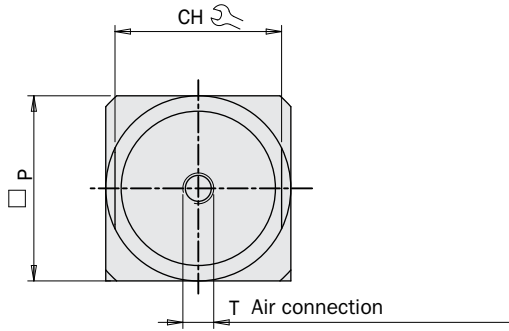


| OF...   | SWP...  |
|---------|---------|
| OF14... | SWP-014 |
| OF20... | SWP-020 |
| OF30... | SWP-030 |

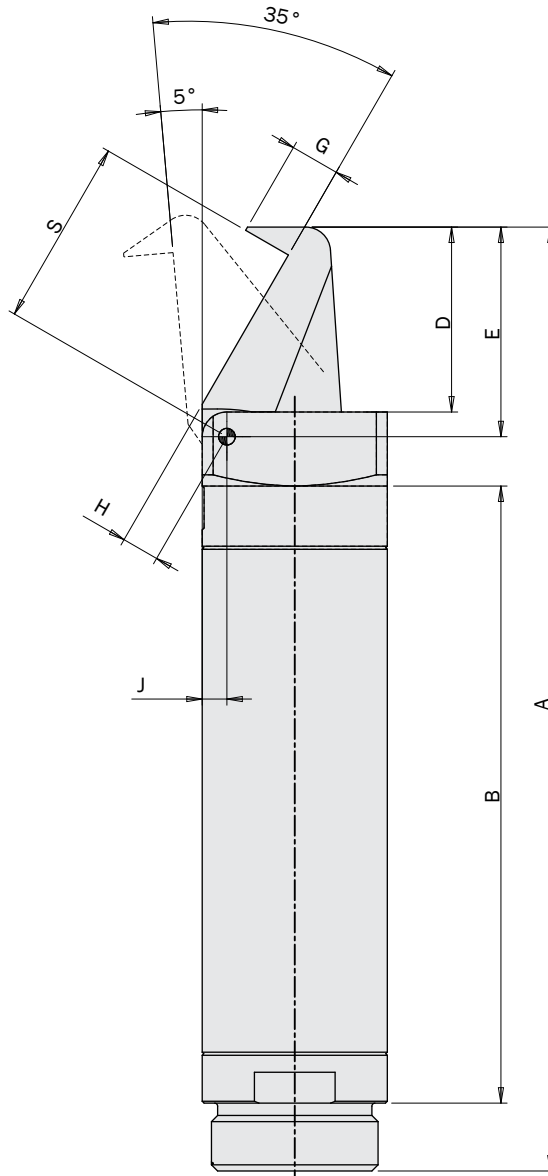
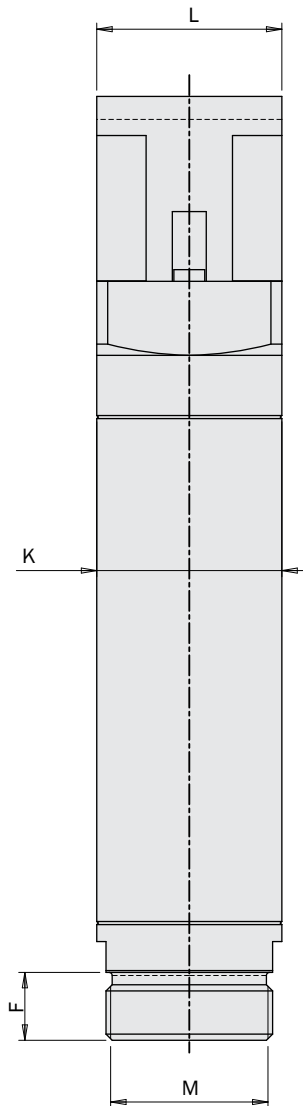
In the ...S versions, the sensors are embedded in their slots. In the other versions, an external bracket (SWP-...) is required.

Dimensions (mm)

OFA...



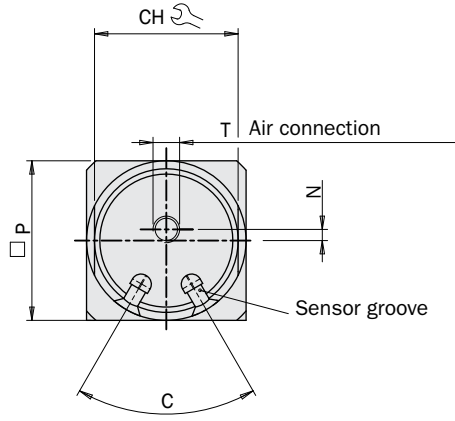
|    | OFA14-35 | OFA20-35 | OFA30-35 | OFA50-35 |
|----|----------|----------|----------|----------|
| A  | 74       | 106      | 153      | 235.5    |
| B  | 45.5     | 68.5     | 100      | 139      |
| D  | 14       | 20.5     | 30       | 49.5     |
| E  | 16       | 23       | 34       | 56       |
| F  | 5.5      | 8        | 11       | 25       |
| G  | 4.5      | 6        | 8        | 14       |
| H  | 3.4      | 3.9      | 6        | 10       |
| J  | 2        | 2.5      | 4        | 6.5      |
| K  | Ø14      | Ø20      | Ø30      | Ø50      |
| L  | 14       | 20       | 30       | 50       |
| M  | M12x1    | M17x1    | M27x1    | M45x1    |
| P  | 14       | 20       | 30       | 50       |
| S  | 13.5     | 20.2     | 30.5     | 50       |
| T  | M5       | M5       | M5       | G1/8"    |
| CH | 12       | 17       | 27       | 46       |



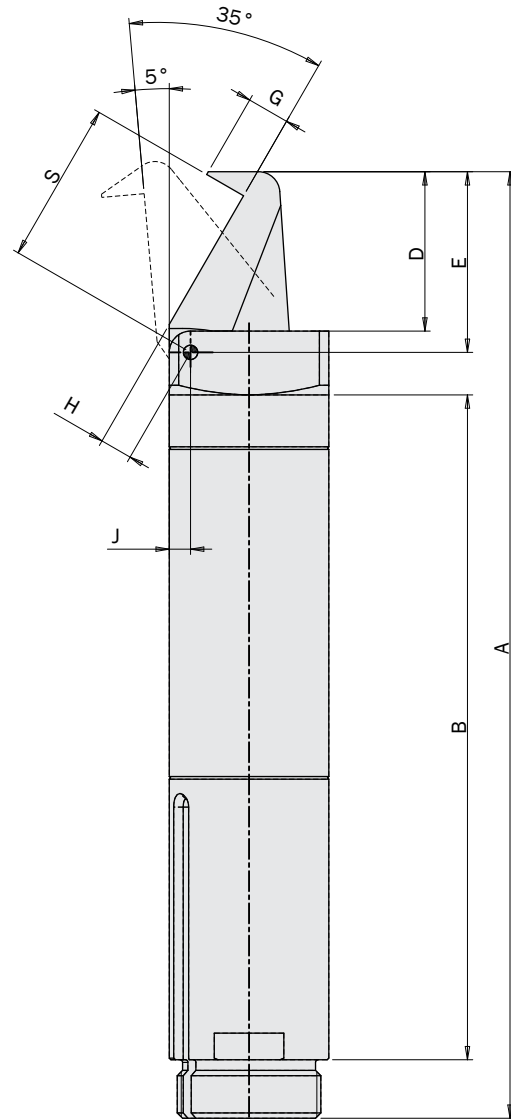
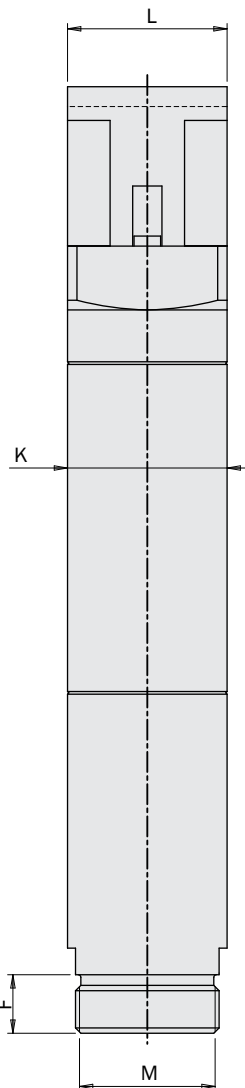
FIRST ANGLE PROJECTION

**Dimensions (mm)**

**OFA...S**



|    | OFA20-35S | OFA30-35S | OFA50-35S |
|----|-----------|-----------|-----------|
| A  | 120.5     | 178       | 280       |
| B  | 83        | 125       | 184       |
| C  | 80°       | 60°       | 60°       |
| D  | 20.5      | 30        | 49.5      |
| E  | 23        | 34        | 56        |
| F  | 8         | 11        | 25        |
| G  | 6         | 8         | 14        |
| H  | 3.9       | 6         | 10        |
| J  | 2.5       | 4         | 6.5       |
| K  | ∅20       | ∅30       | ∅50       |
| L  | 20        | 30        | 50        |
| M  | M17x1     | M27x1     | M45x1.5   |
| N  | 1.5       | -         | -         |
| P  | 20        | 30        | 50        |
| S  | 20.2      | 30.5      | 50        |
| T  | M5        | M5        | G1/8"     |
| CH | 17        | 27        | 46        |

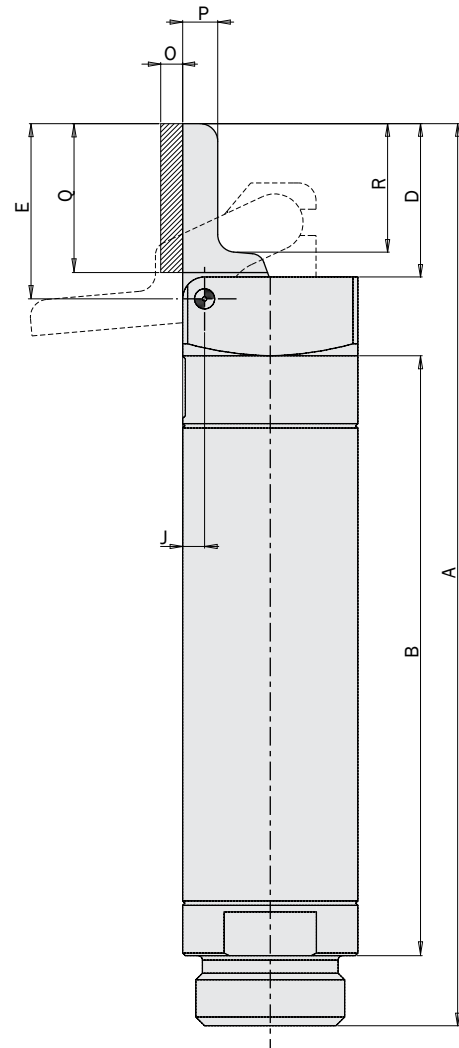
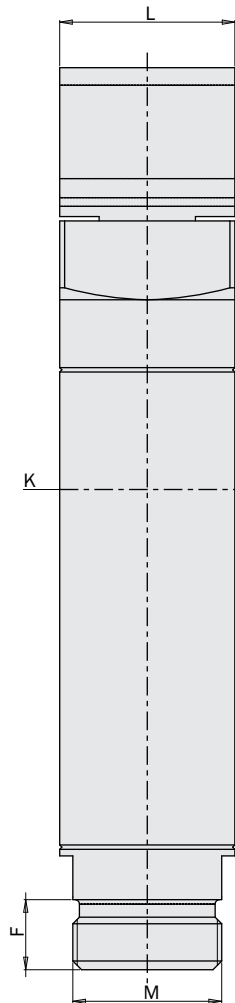
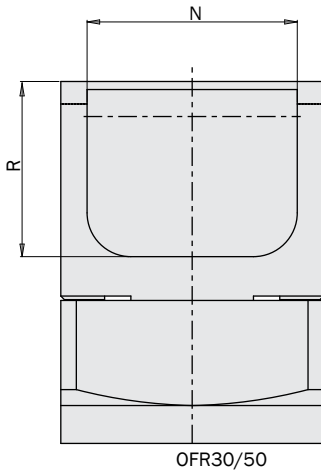
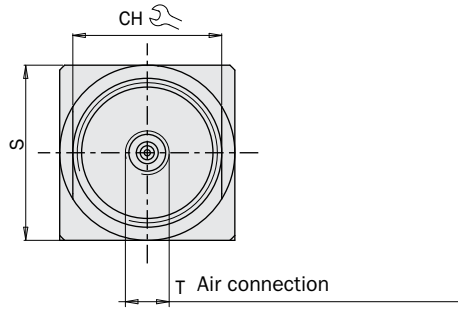


FIRST ANGLE PROJECTION

Dimensions (mm)

OFR...

|           | A     | B    | D    | E  | F   | J   | K   | L  | M       | N  | O   | P | Q  | R    | S  | T     | CH |
|-----------|-------|------|------|----|-----|-----|-----|----|---------|----|-----|---|----|------|----|-------|----|
| OFR14-95  | 72    | 45.5 | 12   | 14 | 5.5 | 2   | Ø14 | 14 | M12x1   | -  | -   | 3 | -  | 9.5  | 14 | M5    | 12 |
| OFR20-95  | 103   | 68.5 | 17.5 | 20 | 8   | 2.5 | Ø20 | 20 | M17x1   | -  | -   | 4 | -  | 14.5 | 20 | M5    | 17 |
| OFR30-95  | 148   | 100  | 25   | 29 | 11  | 4   | Ø30 | 30 | M27x1   | 24 | -   | 5 | -  | 20   | 30 | M5    | 27 |
| OFR50-95  | 227.5 | 139  | 41.5 | 48 | 25  | 6.5 | Ø50 | 50 | M45x1.5 | 38 | -   | 7 | -  | 34   | 50 | G1/8" | 46 |
| OFR14-95M | 72    | 45.5 | 12   | 14 | 5.5 | 2   | Ø14 | 14 | M12x1   | -  | 2.5 | 3 | 11 | 9.5  | 14 | M5    | 12 |
| OFR20-95M | 103   | 68.5 | 17.5 | 20 | 8   | 2.5 | Ø20 | 20 | M17x1   | -  | 2.5 | 4 | 15 | 14.5 | 20 | M5    | 17 |
| OFR30-95M | 148   | 100  | 25   | 29 | 11  | 4   | Ø30 | 30 | M27x1   | 24 | 3   | 5 | 20 | 20   | 30 | M5    | 27 |

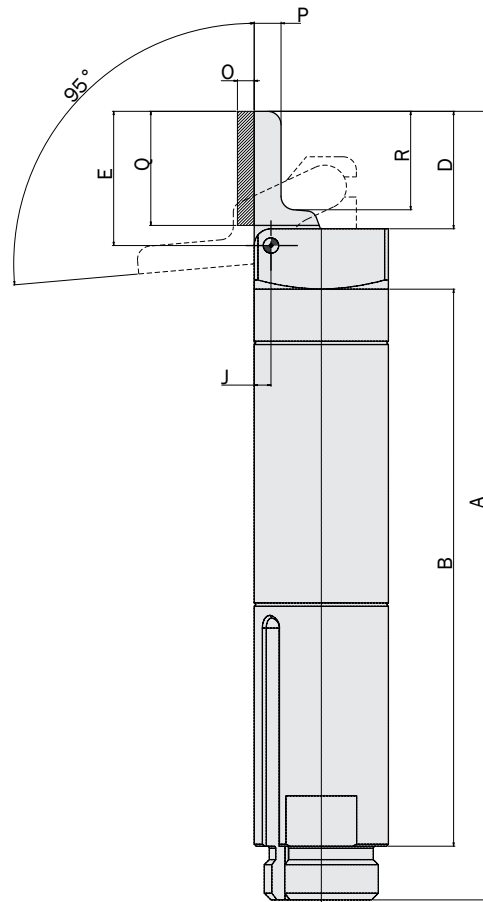
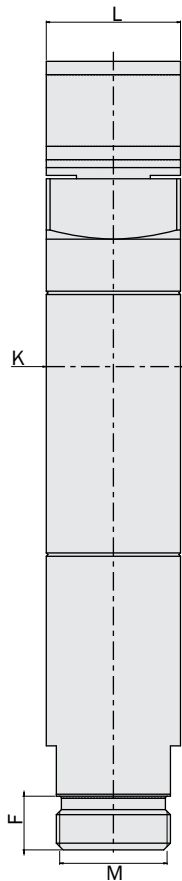
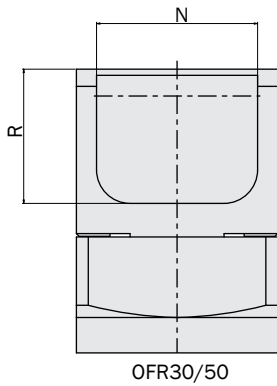
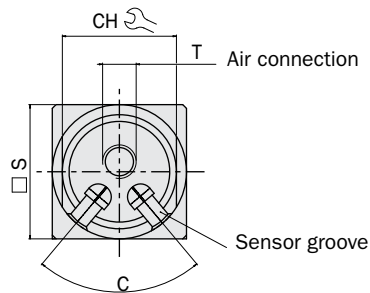


FIRST ANGLE PROJECTION

**Dimensions (mm)**

**OFR...S**

|            | A     | B   | C   | D    | E  | F  | J   | K   | L  | M       | N  | O   | P | Q  | R    | S  | T     | U   | CH |
|------------|-------|-----|-----|------|----|----|-----|-----|----|---------|----|-----|---|----|------|----|-------|-----|----|
| OFR20-95S  | 117.5 | 83  | 80° | 17.5 | 20 | 8  | 2.5 | ∅20 | 20 | M17x1   | -  | -   | 4 | -  | 14.5 | 20 | M5    | 1.5 | 17 |
| OFR30-95S  | 173   | 125 | 60° | 25   | 29 | 11 | 4   | ∅30 | 30 | M27x1   | 24 | -   | 5 | -  | 20   | 30 | M5    | -   | 27 |
| OFR50-95S  | 272.5 | 209 | 60° | 41.5 | 48 | 25 | 6.5 | ∅50 | 50 | M45x1.5 | 36 | -   | 7 | -  | 34   | 50 | G1/8" | -   | 46 |
| OFR20-95SM | 117.5 | 83  | 80° | 17.5 | 20 | 8  | 2.5 | ∅20 | 20 | M17x1   | -  | 2.5 | 4 | 15 | 14.5 | 20 | M5    | 1.5 | 17 |
| OFR30-95SM | 173   | 125 | 60° | 25   | 29 | 11 | 4   | ∅30 | 30 | M27x1   | 24 | 3   | 5 | 20 | 20   | 30 | M5    | -   | 27 |

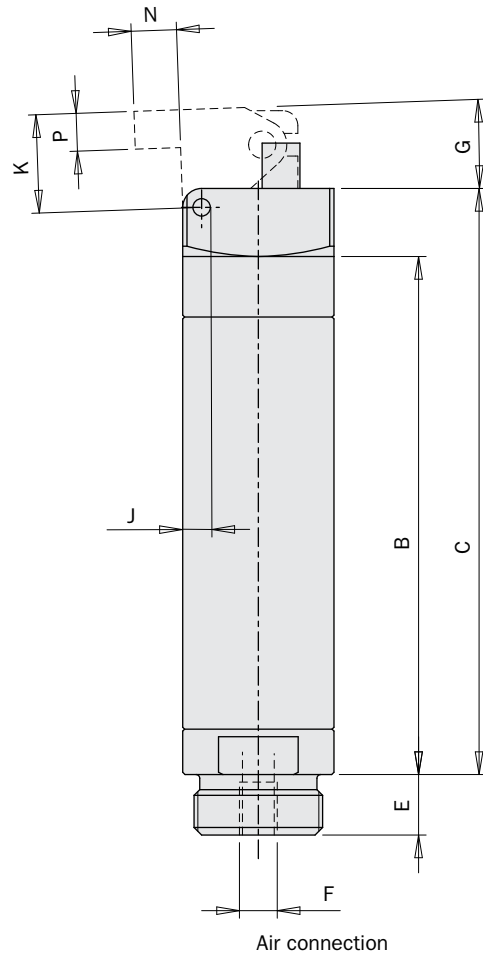
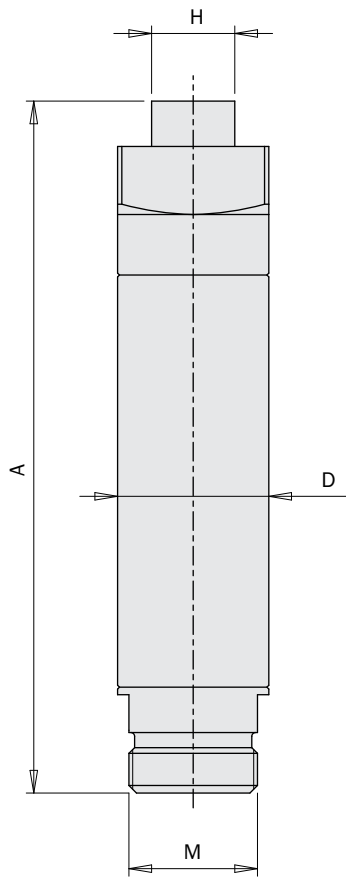
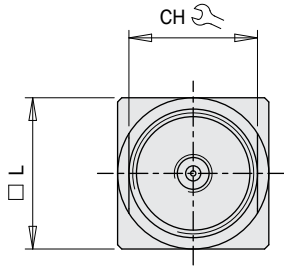


FIRST ANGLE PROJECTION

Dimensions (mm)

OFS...

|          | A    | B    | C    | D   | E   | F  | G  | H  | J   | K  | L  | M     | N  | P | CH |
|----------|------|------|------|-----|-----|----|----|----|-----|----|----|-------|----|---|----|
| OFS14-90 | 64   | 45.5 | 54.5 | Ø14 | 5.5 | M5 | 2° | 8  | 2   | 9  | 14 | M12x1 | 4  | 4 | 12 |
| OFS20-90 | 91.5 | 68.5 | 77.5 | Ø20 | 8   | M5 | 2° | 11 | 2.5 | 13 | 20 | M17x1 | 6  | 5 | 17 |
| OFS30-90 | 134  | 100  | 112  | Ø30 | 11  | M5 | 2° | 14 | 4   | 20 | 30 | M27x1 | 11 | 6 | 27 |

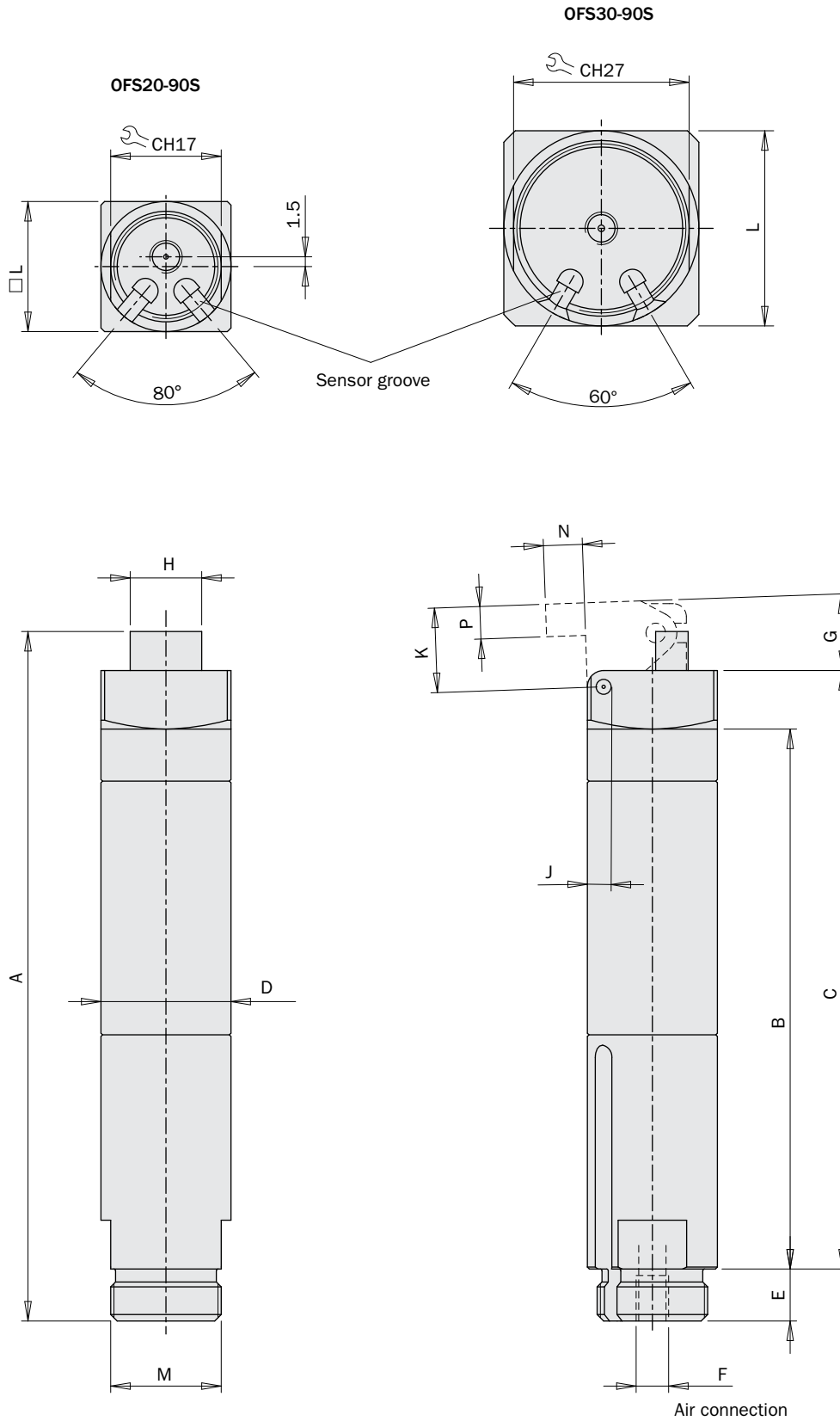


FIRST ANGLE PROJECTION

**Dimensions (mm)**

**OFS...S**

|           | A   | B   | C   | D   | E  | F  | G  | H  | J   | K  | L  | M     | N  | P |
|-----------|-----|-----|-----|-----|----|----|----|----|-----|----|----|-------|----|---|
| OFS20-90S | 106 | 83  | 92  | Ø20 | 8  | M5 | 2° | 11 | 2.5 | 13 | 20 | M17x1 | 6  | 5 |
| OFS30-90S | 159 | 125 | 137 | Ø30 | 11 | M5 | 2° | 14 | 4   | 20 | 30 | M27x1 | 11 | 6 |

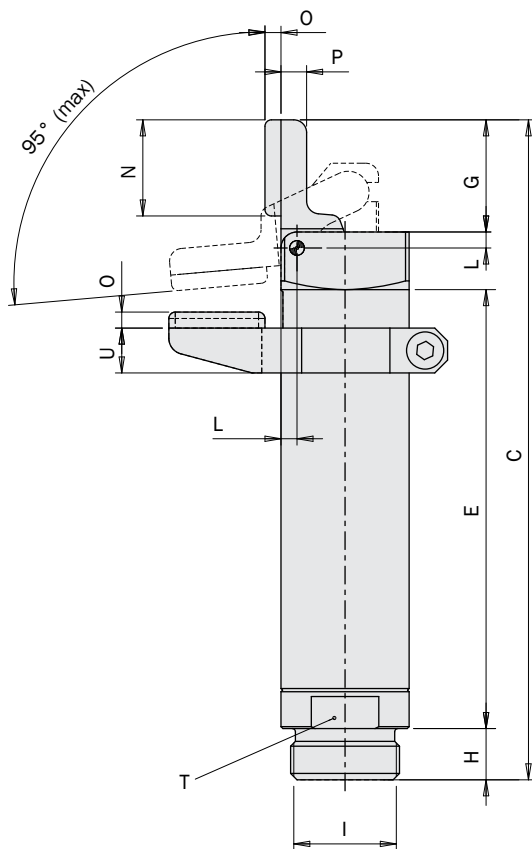
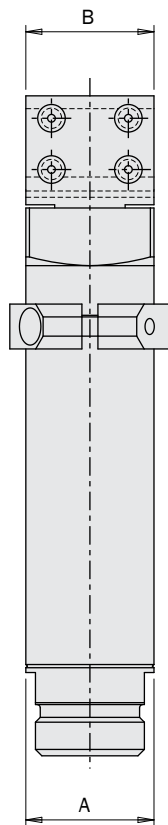
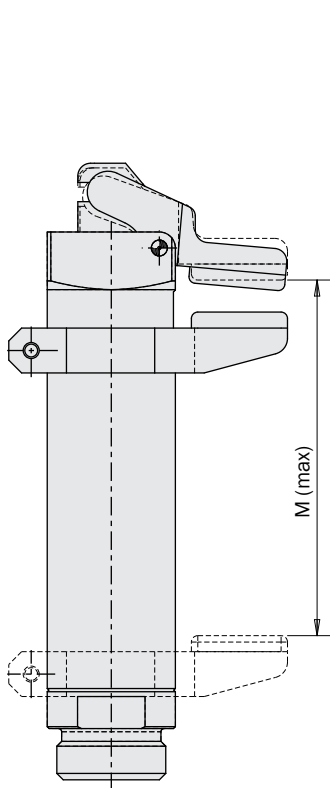
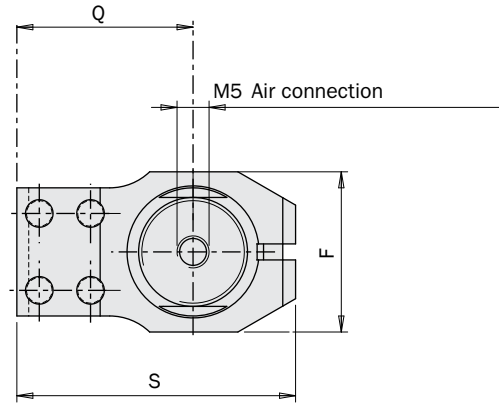
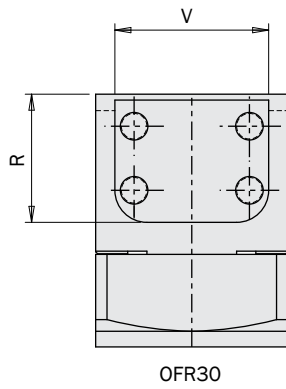


FIRST ANGLE PROJECTION

Dimensions (mm)

OFR...95G

|           | A   | B  | C   | E    | F  | G    | H   | I     | L   | M    | N  | O   | P | Q    | R  | S    | T  | U   | V  |
|-----------|-----|----|-----|------|----|------|-----|-------|-----|------|----|-----|---|------|----|------|----|-----|----|
| OFR14-95G | Ø14 | 14 | 72  | 45.5 | 19 | 12   | 5.5 | M12x1 | 2   | 32.5 | 11 | 2.5 | 3 | 19   | -  | 32   | 12 | 7.5 | -  |
| OFR20-95G | Ø20 | 20 | 103 | 68.5 | 25 | 17.5 | 8   | M17x1 | 2.5 | 55.5 | 15 | 2.5 | 4 | 27.5 | -  | 43.5 | 17 | 7   | -  |
| OFR30-95G | Ø30 | 30 | 148 | 100  | 37 | 25.5 | 11  | M27x1 | 4   | 84   | 20 | 3   | 5 | 40   | 20 | 63   | 27 | 9   | 24 |



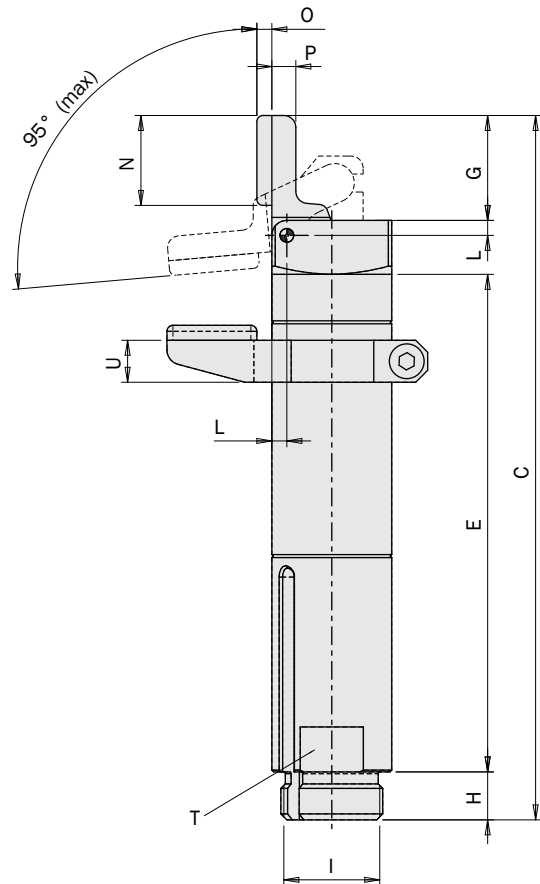
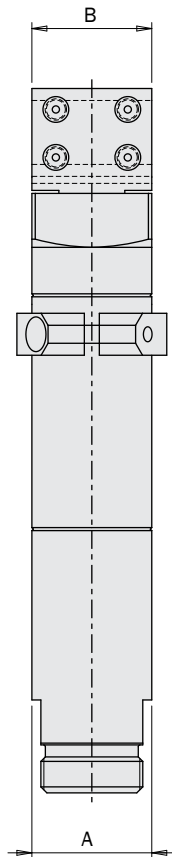
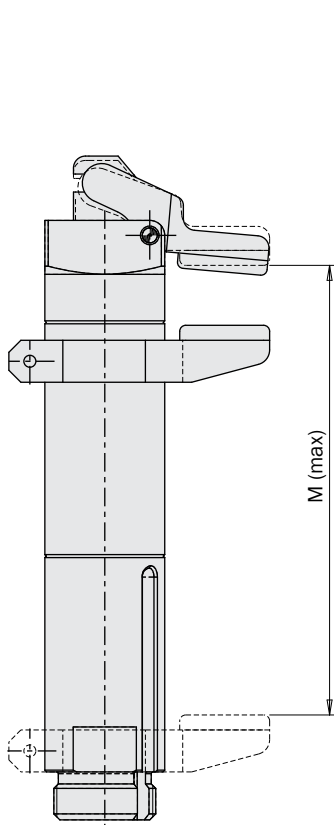
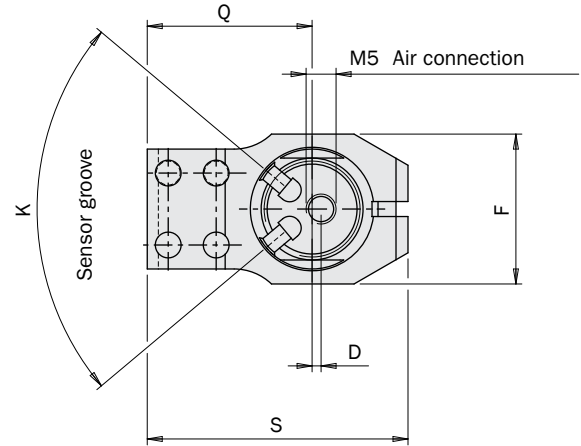
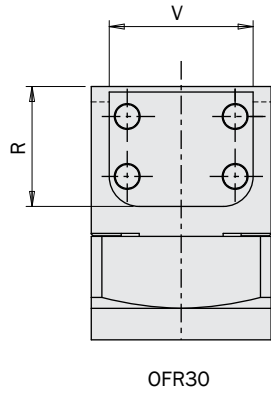
FIRST ANGLE PROJECTION



**Dimensions (mm)**

**OFR...-95SG**

|            | A   | B  | C     | D   | E     | F  | G    | H  | I     | K   | L   | M   | N  | O   | P | Q    | R  | S    | T  | U | V  |
|------------|-----|----|-------|-----|-------|----|------|----|-------|-----|-----|-----|----|-----|---|------|----|------|----|---|----|
| OFR20-95SG | ∅20 | 20 | 117.5 | 1.5 | 83    | 25 | 17.5 | 8  | M17x1 | 80° | 2.5 | 75  | 15 | 2.5 | 4 | 27.5 | -  | 43.5 | 17 | 7 | -  |
| OFR30-95SG | ∅30 | 30 | 173   | -   | 124.7 | 37 | 25   | 11 | M27x1 | 60° | 4   | 113 | 20 | 3   | 5 | 40   | 20 | 63   | 27 | 9 | 24 |



FIRST ANGLE PROJECTION

## One finger angular pneumatic grippers for clamping, series OFF

- Single acting.
- Soft contact by means of HNBR pads, custom fingers, or NBR, Silicone or Viton O-rings.
- Several mounting accessories.
- Magnetic sensors and relevant mounting brackets as option.
- Food grade grease FDA-H1.

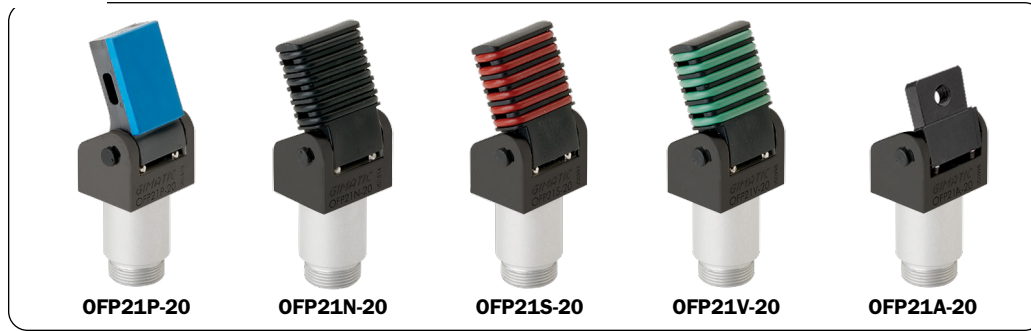
### OFF20



### OFF14

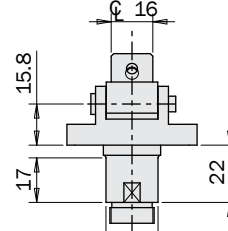
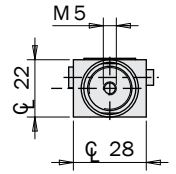
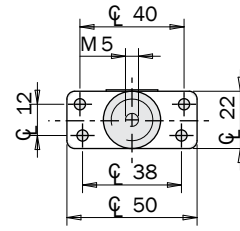
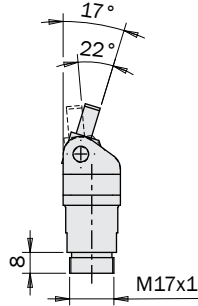
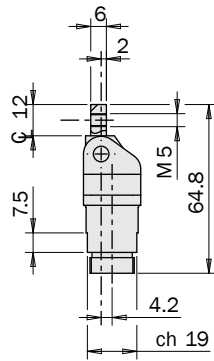


### OFF21

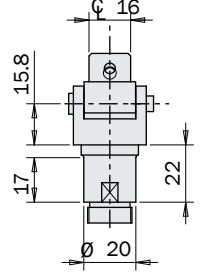


|                                  | OFF20A-20   | OFF21A-20         | OFF14A-25           |
|----------------------------------|---|-------------------|---------------------|
| <b>HNBR</b>                      | OFF20P-20   | OFF21P-20         | OFF14P-25           |
| <b>NBR</b>                       | OFF20N-20   | OFF21N-20         |                     |
| <b>Silicone</b>                  | OFF20S-20   | OFF21S-20         |                     |
| <b>Viton</b>                     | OFF20V-20   | OFF21V-20         |                     |
| <b>Body construction</b>         | plastic (nylon) / aluminium                               |                   | aluminium           |
| <b>Medium</b>                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                     |
| <b>Pressure range</b>            | 2 ÷ 8 bar   |                   |                     |
| <b>Temperature range</b>         | 5° ÷ 60 °C.   |                   |                     |
| <b>Stroke</b>                    | 21°   | 21°               | 25°                 |
| <b>Piston bore</b>               | 16 mm   | 16 mm             | 12 mm               |
| <b>Closing torque at 6 bar</b>   | 100 Ncm   | 100 Ncm           | 40 Ncm              |
| <b>Cycle air consumption</b>     | 1 cm <sup>3</sup>   | 1 cm <sup>3</sup> | 0.4 cm <sup>3</sup> |
| <b>Weight</b>                    | 40 g  | 33 g              | 13 g                |
| <b>Maximum working frequency</b> | 2 Hz  |                   |                     |
| <b>Closing time without load</b> | 0.02 sec  |                   |                     |

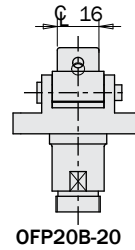
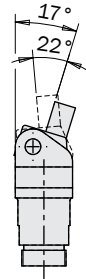
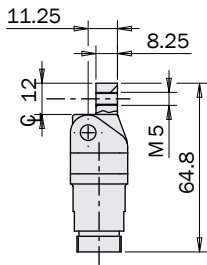
**Dimensions (mm)**



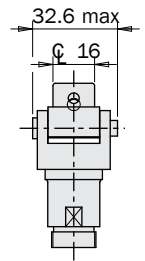
**OFF20A-20**



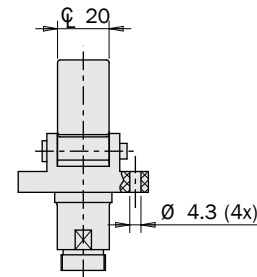
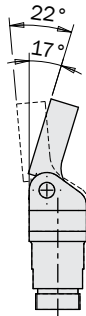
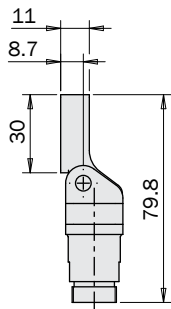
**OFF21A-20**



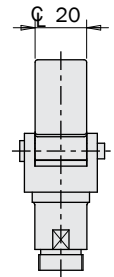
**OFF20B-20**



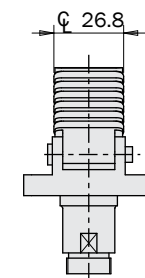
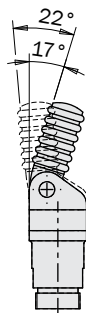
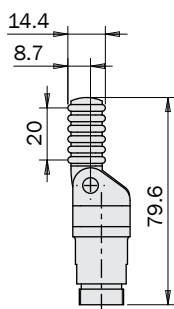
**OFF21B-20**



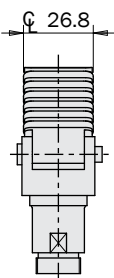
**OFF20P-20**



**OFF21P-20**



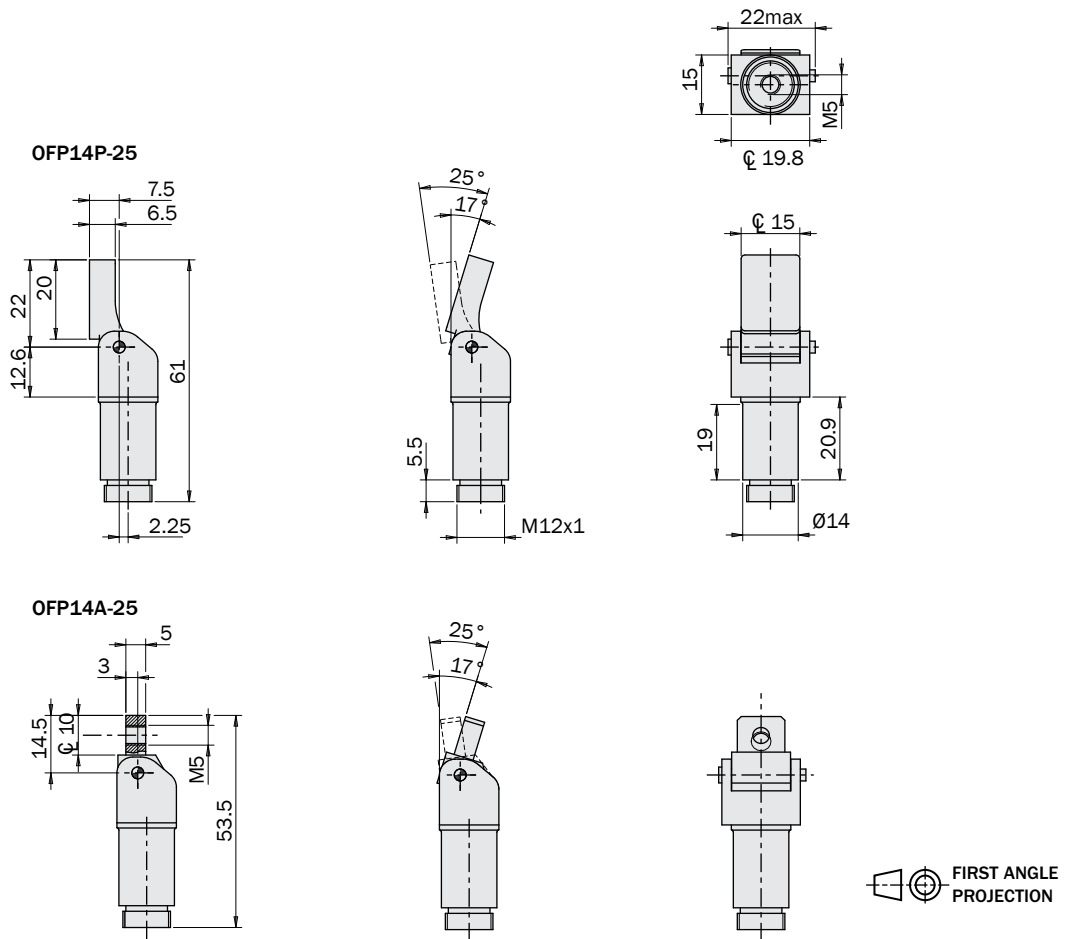
**OFF20N-20  
OFF20S-20**



**OFF21N-20  
OFF21S-20**



Dimensions (mm)

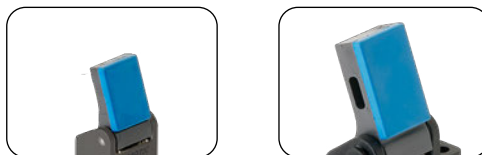


Spare O-Ring



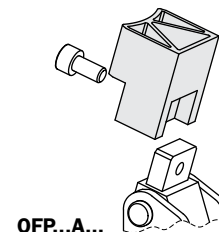
|                   | KIT3-OFP20N            | KIT3-OFP20S            | KIT3-OFP20V            |
|-------------------|------------------------|------------------------|------------------------|
| Material          | NBR                    | Silicone               | Viton                  |
| Gripper           | OFP20N-20<br>OFP21N-20 | OFP20S-20<br>OFP21S-20 | OFP20V-20<br>OFP21V-20 |
| Temperature range | 5° ÷ 100 °C.           | 5° ÷ 200 °C.           | 5° ÷ 200 °C.           |

Custom service HP



Spare pad

|                   | OFR20-95-43  | OFR30-95-42            |
|-------------------|--------------|------------------------|
| Material          | HNBR         | HNBR                   |
| Gripper           | OFP14P-25    | OFP20P-20<br>OFP21P-20 |
| Temperature range | 5° ÷ 150 °C. | 5° ÷ 150 °C.           |



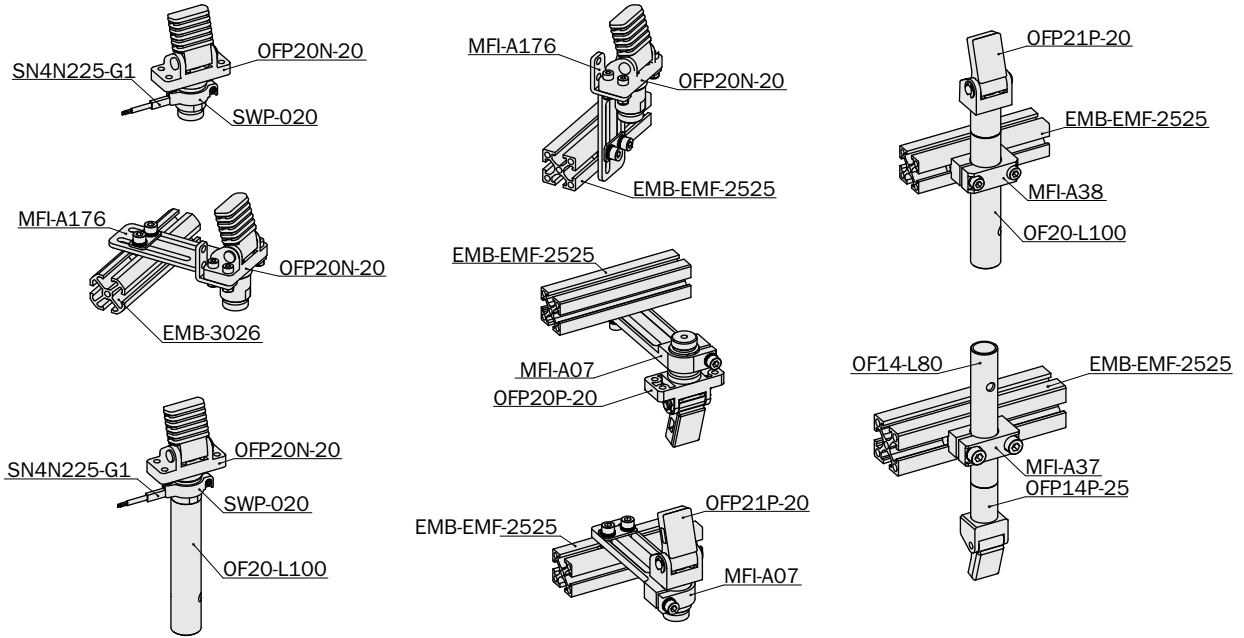
OFF...A...

Custom fingers can be ordered from Gimatic's 3D Printing Service.

**Fastening**

The OFF grippers have an aluminum body and can be clamped with all MFI accessories with 14mm and 20mm diameter.

MFI-A176 can be used with OFF20.

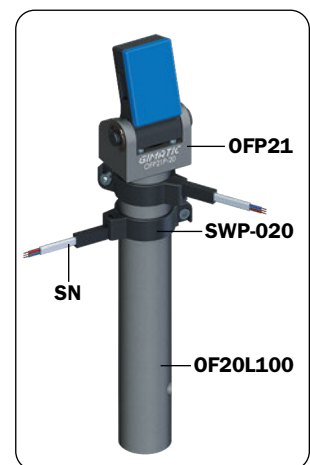
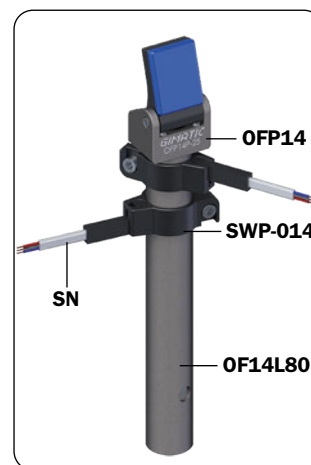
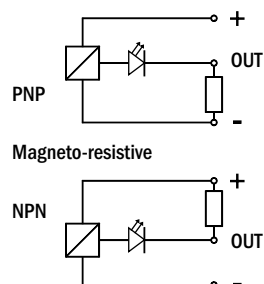


**Sensors**

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.

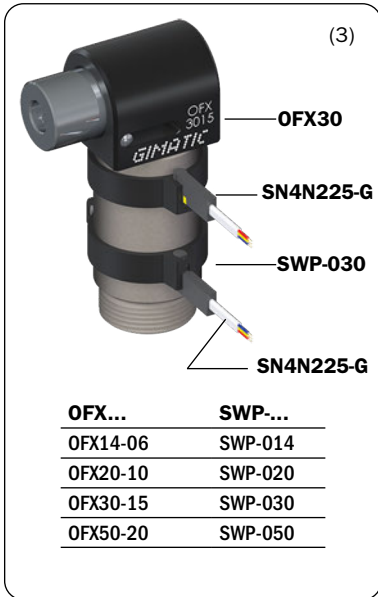
The sensors that can be used are:

|           |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | Snap M8 plug connector |
| SN3M203-G | NPN |                        |



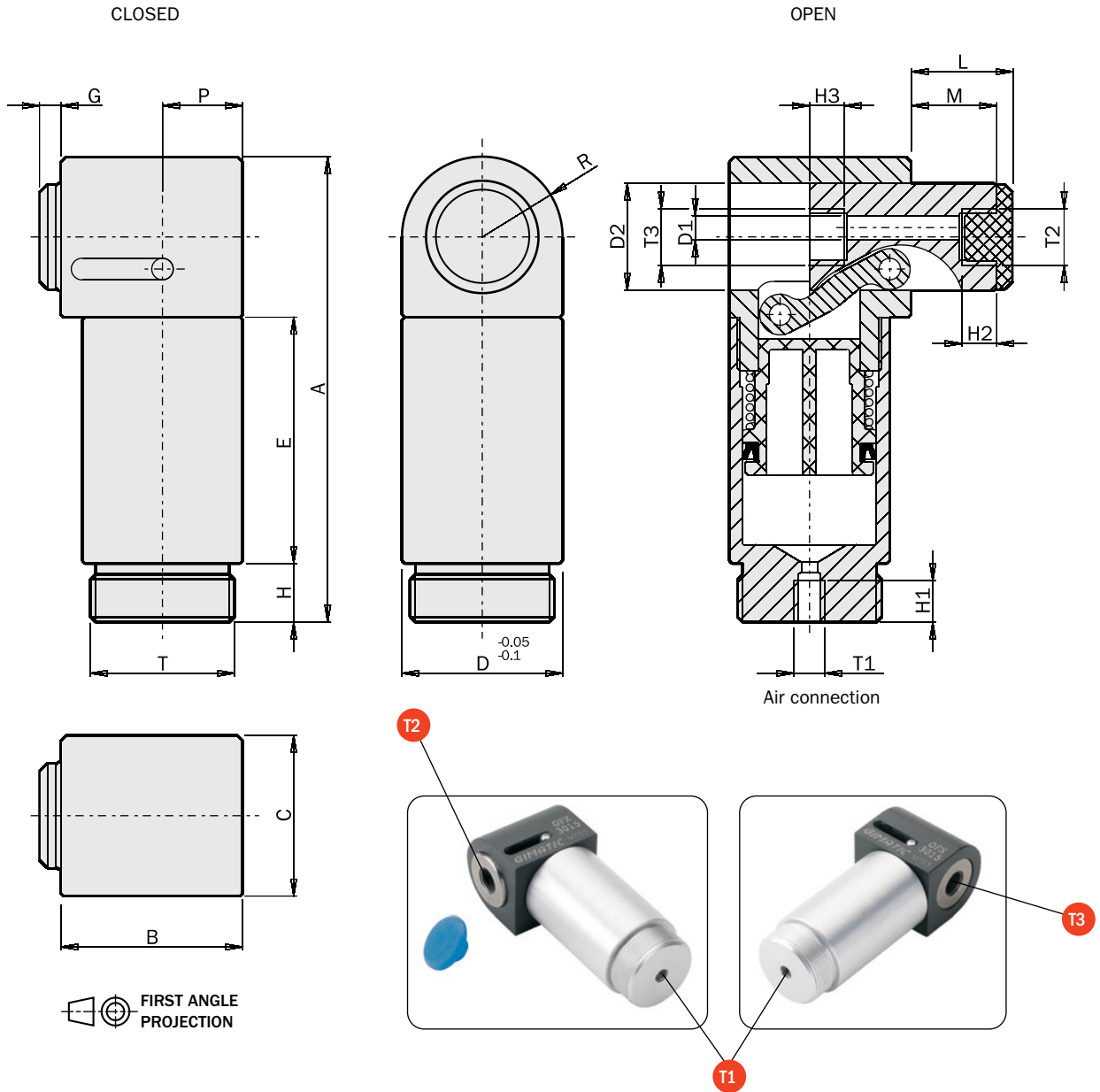
**One finger, perpendicular acting, pneumatic grippers for clamping, series OFX**

- Single-acting pneumatic piston drive.
- Finger linear motion, perpendicular to the piston.
- Finger with through hole, to provide vacuum to a cup (1).
- Removable HNBR rubber pad (2) on the finger, for a soft touch.
- Optional sensors and clamps (3).
- FDA-H1 food-grade grease.



|                                 | OFX14-06  | OFX20-10            | OFX30-15           | OFX50-20           |
|---------------------------------|---|---------------------|--------------------|--------------------|
| Medium                          | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                    |                    |
| Pressure range                  | 2.5 ÷ 8 bar   |                     |                    |                    |
| Temperature range               | 5° ÷ 60 °C.   |                     |                    |                    |
| Opening gripping force at 6 bar | 13 ÷ 63 N   | 20 ÷ 115 N          | 44 ÷ 230 N         | 100 ÷ 900 N        |
| Total stroke                    | 6 mm  | 10 mm               | 15 mm              | 20 mm              |
| Maximum working frequency       | 1 Hz  | 1 Hz                | 1 Hz               | 1 Hz               |
| Cycle air consumption           | 0.5 cm <sup>3</sup>                                       | 3.5 cm <sup>3</sup> | 15 cm <sup>3</sup> | 50 cm <sup>3</sup> |
| Weight                          | 30 g  | 65 g                | 190 g              | 740 g              |

**Dimensions (mm)**



|    | OFX14-06 | OFX20-10 | OFX30-15 | OFX50-20 |
|----|----------|----------|----------|----------|
| A  | 52       | 62.5     | 87       | 143      |
| B  | 23       | 25       | 34       | 60       |
| C  | 14       | 20       | 30       | 50       |
| D  | Ø14      | Ø20      | Ø30      | Ø50      |
| D1 | Ø1.5     | Ø2.4     | Ø4.5     | Ø9       |
| D2 | Ø10      | Ø14      | Ø20      | Ø35      |
| E  | 30       | 34.5     | 46       | 68       |
| G  | 3.5      | 3.5      | 4        | 4        |
| H  | 8        | 8        | 11       | 25       |
| H1 | 7        | 7        | 7        | 10       |
| H2 | 5        | 5        | 6        | 9        |
| H3 | 5        | 5        | 6        | 9        |
| L  | 9.5      | 13.5     | 19       | 24       |
| M  | 7        | 11       | 16       | 21       |
| P  | 9        | 10       | 15       | 25       |
| R  | R7       | R10      | R15      | R25      |
| T  | M12x1    | M17x1    | M27x1    | M45x1.5  |
| T1 | M5       | M5       | M5       | G1/8"    |
| T2 | M5       | M5       | G1/8"    | G1/4"    |
| T3 | M5       | M5       | G1/8"    | G1/4"    |

## Pneumatic magnetic gripper

- Double-acting pneumatic piston, 16mm bore, with reset spring in holding position [1].
- Suitable for handling small parts in ferromagnetic material.
- Various MFI series accessories for clamp-mounting on the outer diameter [2].
- Suitable for handling magnets [3].
- Holding point polarity: south.
- Magnetic field concentrated at the holding point [1].
- Easy centring of the handled part [4].
- Optional magnetic sensors [5].
- FDA-H1 food-grade grease.



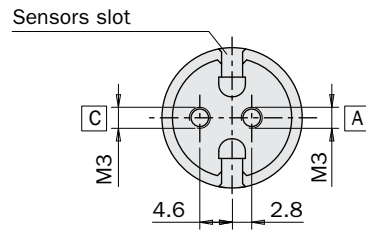
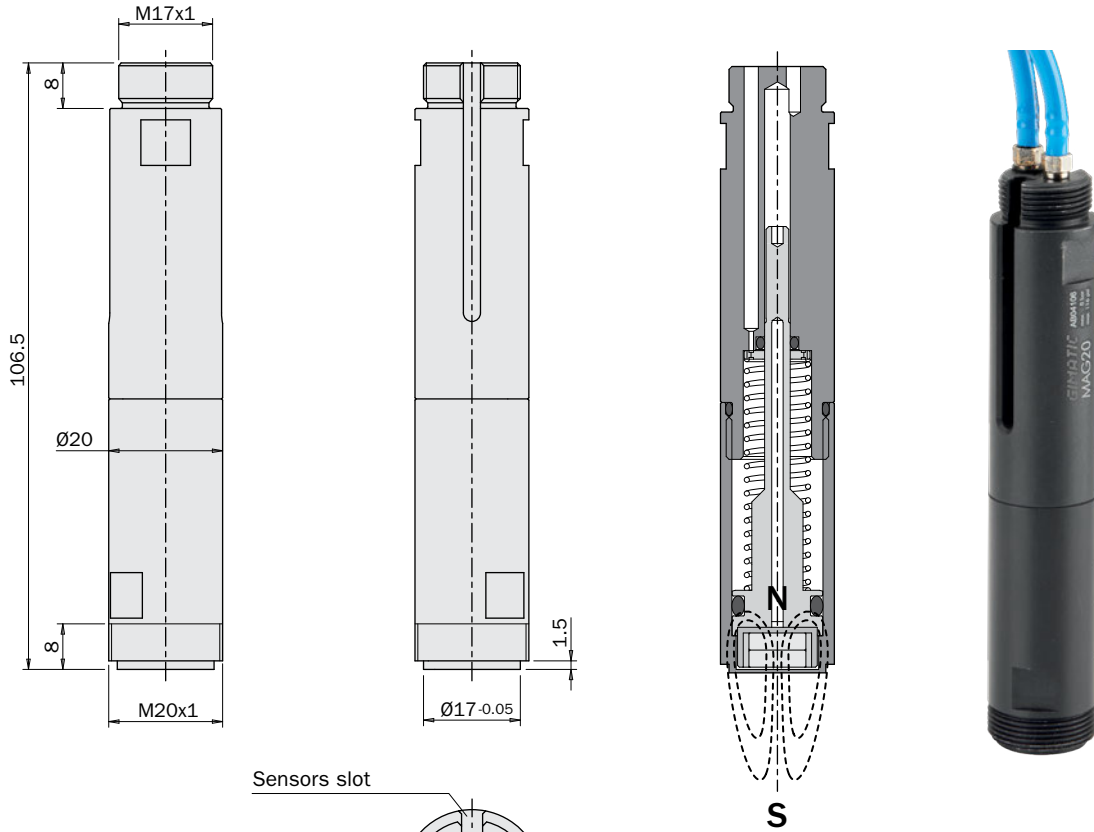
**NEW**

|                           | MAG20   | MAG35              |
|---------------------------|---|--------------------|
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |
| Pressure range            | 2 ÷ 8 bar   | 2 ÷ 6 bar          |
| Temperature range         | 5 ÷ 60 °C.  |                    |
| Stroke                    | 23 mm   | 15 mm              |
| Piston bore               | Ø16 mm  | Ø35 mm             |
| Magnetic strength         | 7 N   | 120 N              |
| Maximum working frequency | 1.5 Hz  | 1 Hz               |
| Cycle air consumption     | 11 cm <sup>3</sup>  | 40 cm <sup>3</sup> |
| Weight                    | 72 g  | 400 g              |
| Minimum actuating time    | 0.05 s  | 0.04 s             |

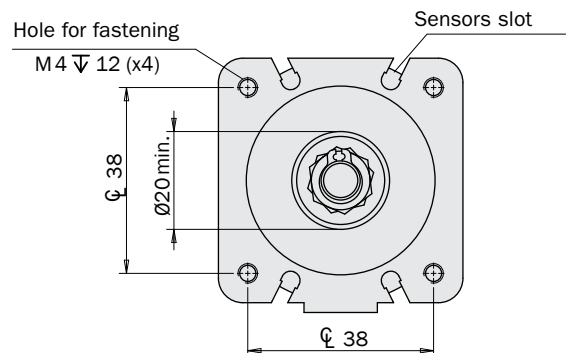
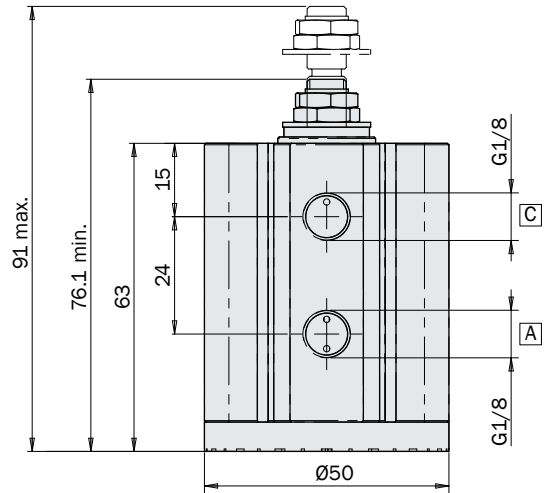
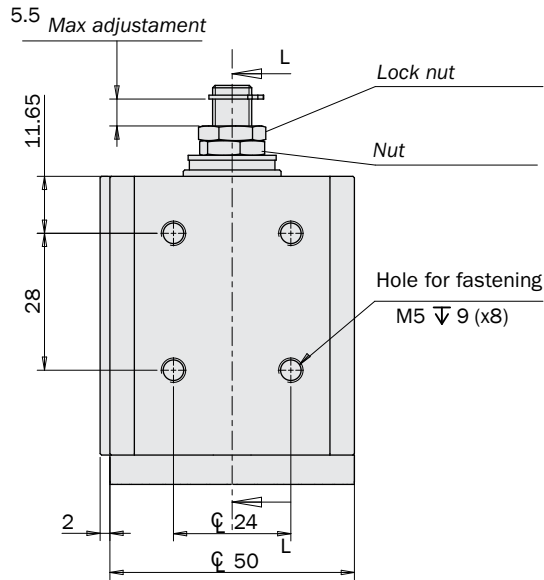


**Dimensions (mm)**

**MAG20**

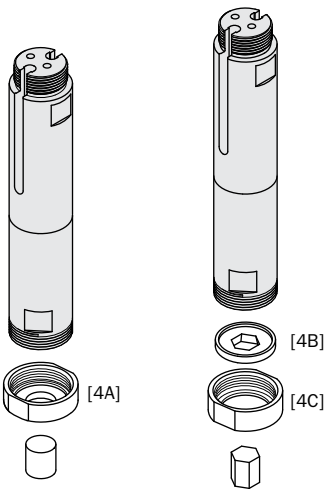
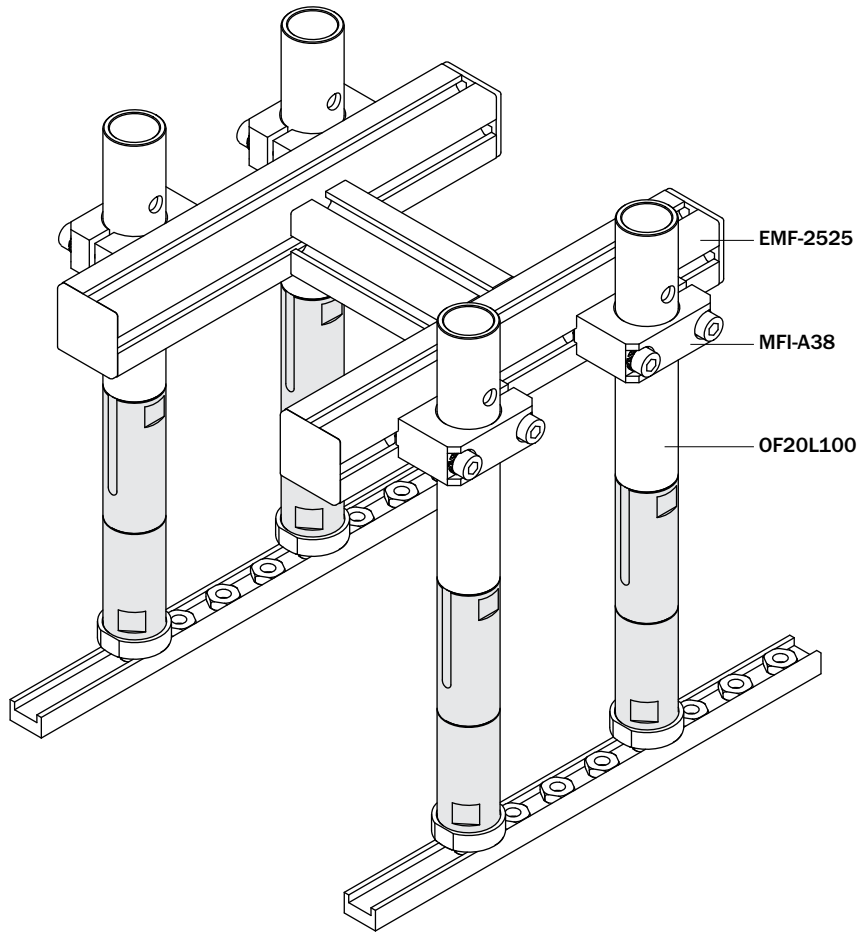


**MAG35**

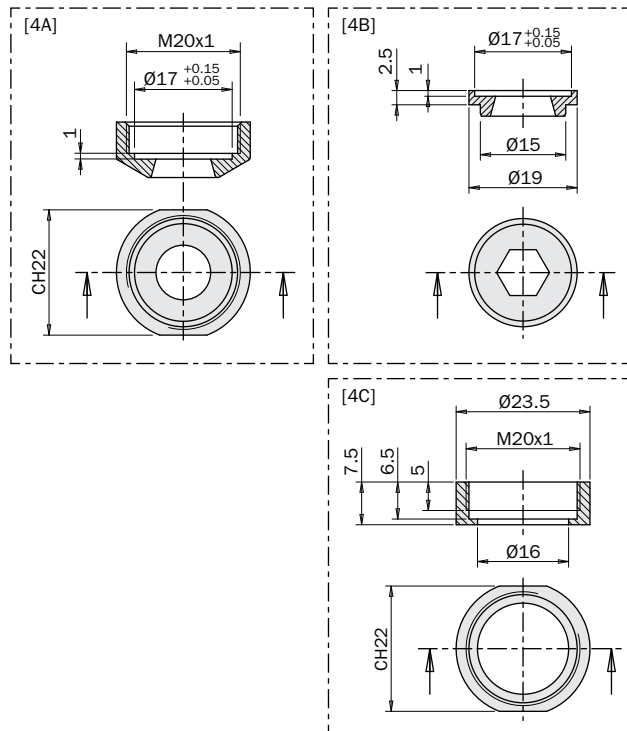


**Application examples**

**MAG20**

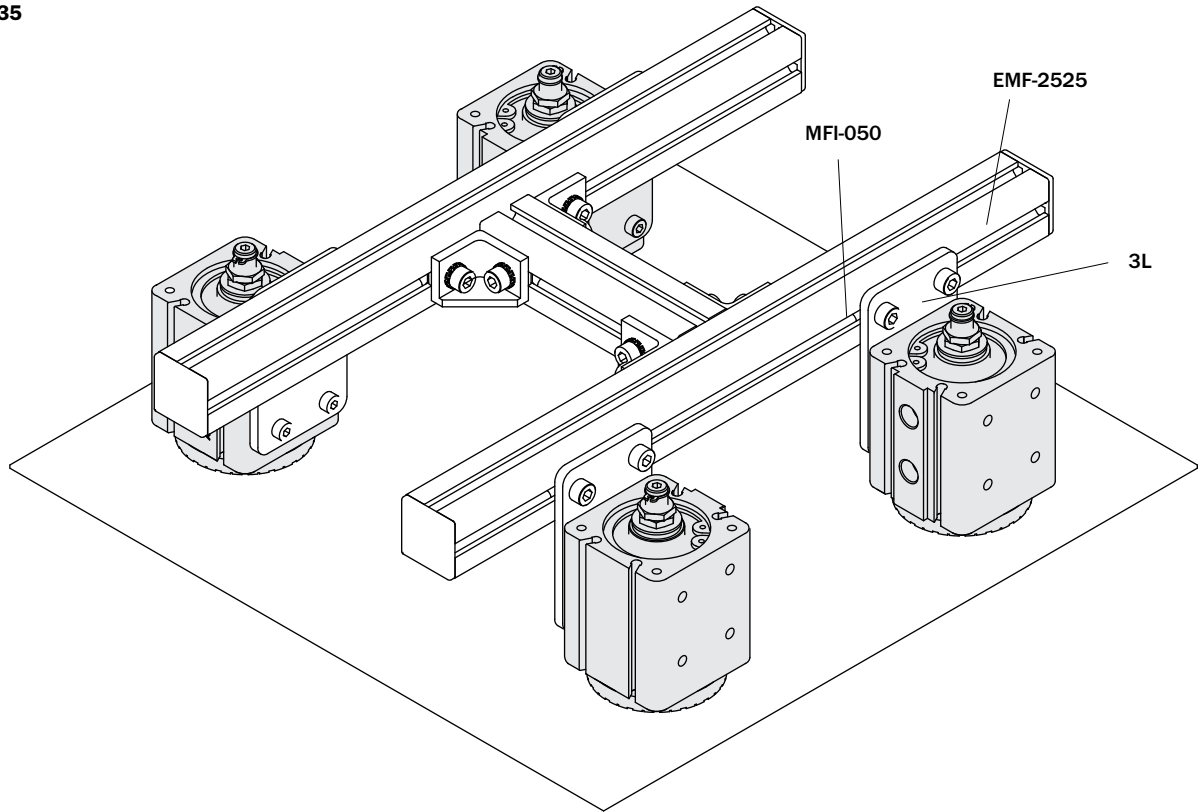


(\*) Accessories not supplied



**Application examples**

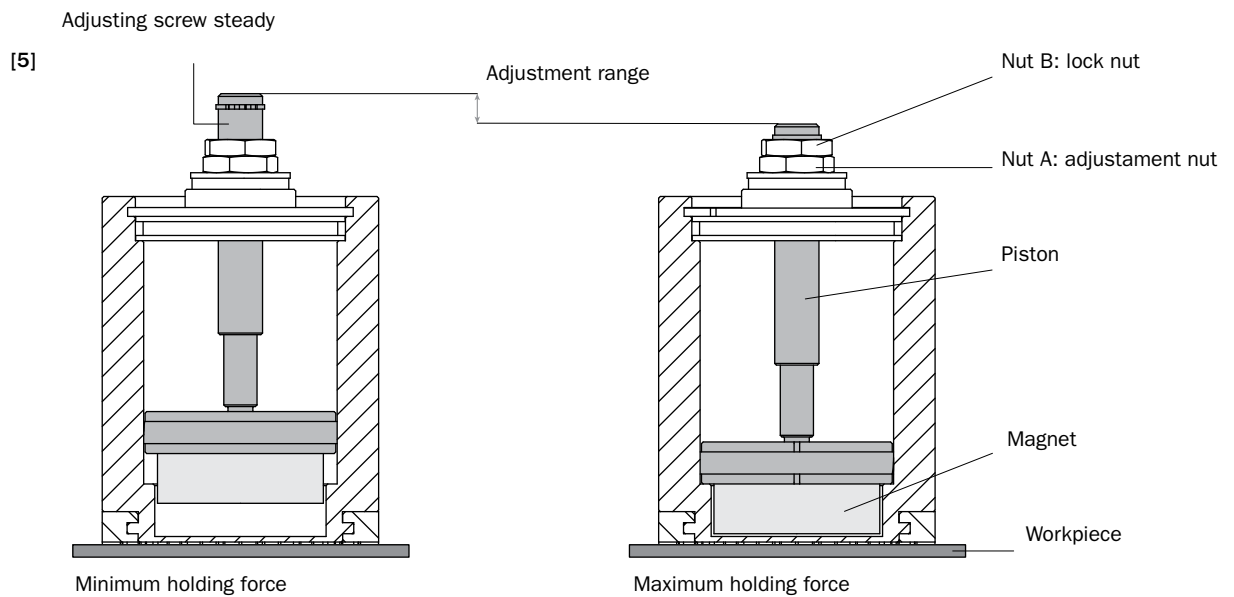
**MAG35**



**Holding force adjustment**

The holding force can be adjusted by modifying the distance between the magnet and the workpiece.

- 1- Hold nut „A” in place and unscrew nut „B” to loosen it.
- 2- Hold the adjusting screw in place, turn nut „A” until the desired adjustment is achieved.
- 3- Hold nut "A" in place and tighten nut "B" to 5.2 Nm.





**OFL**  
Short stroke cylinder



**Z**  
Slides



**OFB**  
Guided cylinder



**ZJ**  
Double stroke slide



**OFC**  
Mini cylinders



**ZG**  
Slides for GN pneumatic nippers



**ZL**  
Pneumatic slides for the EOATs



**VAQ**  
Vacuum actuator



**ZE-P**  
Slides



[Click for Quick Navigation](#)

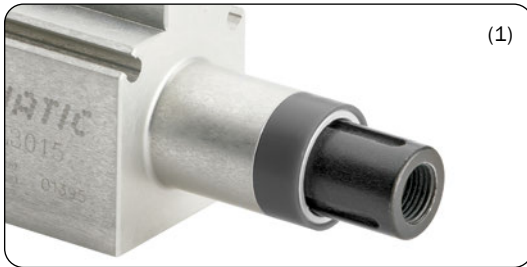
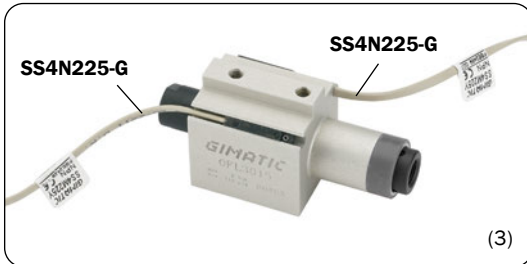
**LINEAR ACTUATORS**

---



**Short stroke pneumatic cylinder, with non-rotative through hole rod and mounting stud**

- Double-effect.
- Two sizes available.
- Through hole for vacuum cup feeding (4).
- Three grooves with balls for non-rotative rod (1).
- Clampable stud for mounting by MFI products (2).
- Optional magnetic sensors (3).
- Food grade grease FDA-H1.

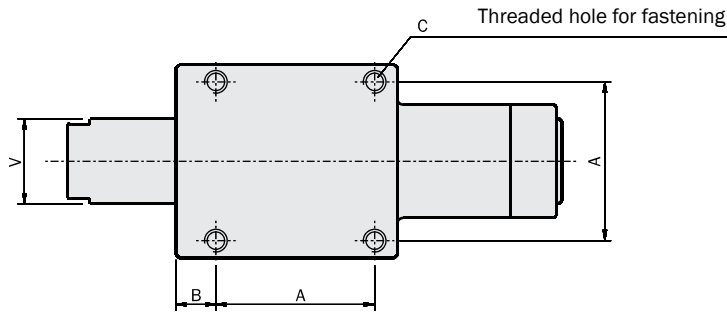


|                                 | OFL2010   | OFL3015            | OFL3030            |
|---------------------------------|---|--------------------|--------------------|
| Medium                          | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |
| Pressure range                  | 2 ÷ 8 bar   |                    |                    |
| Temperature range               | 5° ± 60 °C.   |                    |                    |
| Stroke                          | 10 mm   | 15 mm              | 30 mm              |
| Piston bore                     | 20 mm   | 30 mm              | 30 mm              |
| Closing /opening force at 6 bar | 130 N   | 300 N              | 300 N              |
| Cycle air consumption           | 4.7 cm <sup>3</sup>                                       | 16 cm <sup>3</sup> | 32 cm <sup>3</sup> |
| Minimum actuating time          | 0.02 s  | 0.06 s             | 0.15 s             |
| Weight                          | 60 g  | 110 g              | 140 g              |

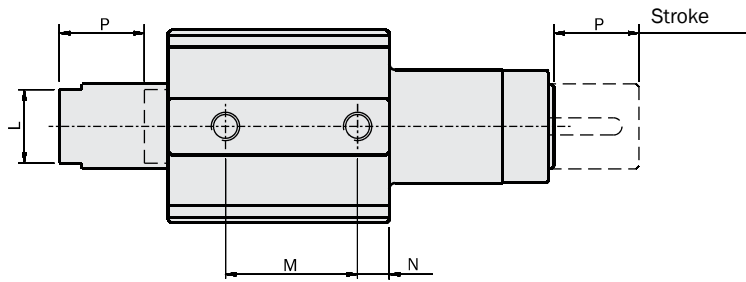
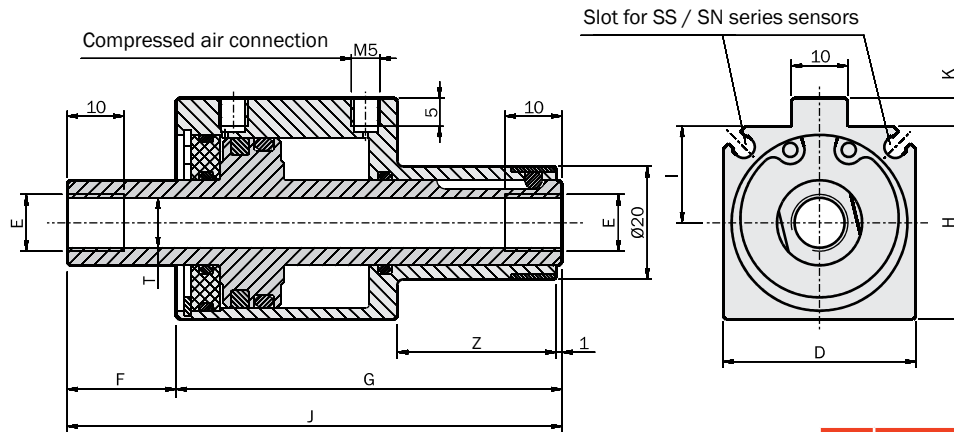
[Click for Pricing & Add to Cart](#)



**Dimensions (mm)**

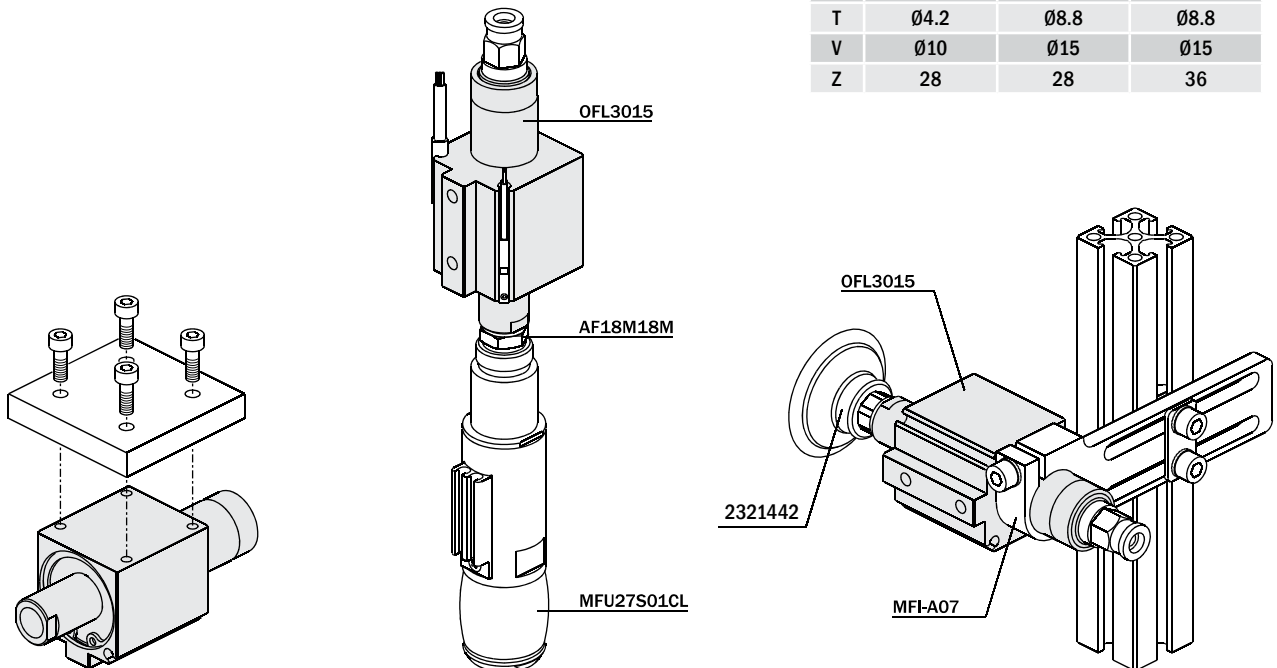


FIRST ANGLE PROJECTION



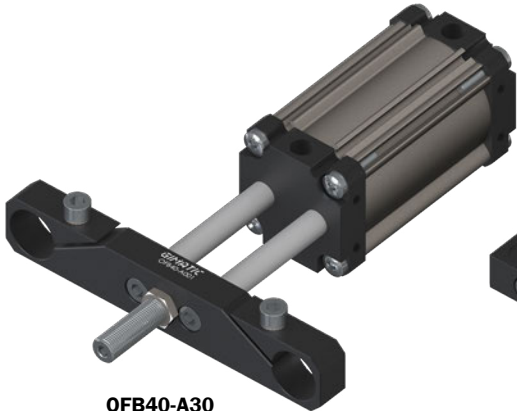
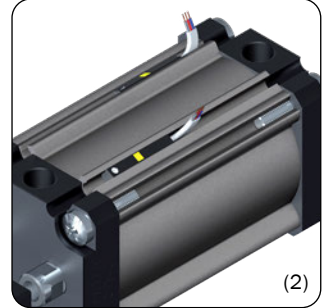
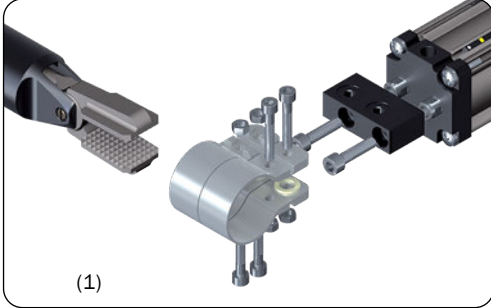
|   | OFL2010 | OFL3015 | OFL3030 |
|---|---------|---------|---------|
| A | 19      | 28      | 28      |
| B | 9       | 7       | 7       |
| C | M3x4    | M4x6    | M4x6    |
| D | 24      | 34      | 34      |
| E | M5      | G1/8"   | G1/8"   |
| F | 14.2    | 19.2    | 34.2    |
| G | 59      | 68      | 91      |
| H | 25      | 34      | 34      |
| I | 13      | 17      | 17      |
| J | 74.2    | 87.2    | 125.2   |
| K | 4       | 5       | 5       |
| L | 8       | 13      | 13      |
| M | 16      | 23.3    | 38.3    |
| N | 5       | 5.6     | 5.6     |
| P | 10      | 15      | 30      |
| T | Ø4.2    | Ø8.8    | Ø8.8    |
| V | Ø10     | Ø15     | Ø15     |
| Z | 28      | 28      | 36      |

**Application examples**



**Guided cylinder with twin rods**

- Double acting.
- Piston bore: 40mm.
- Stroke: 30mm or 50mm.
- Several mounting accessories (1).
- Optional magnetic sensors (2).
- FDA-H1 food-grade grease.



**OFB40-A30  
OFB40-A50**



**OFB40-B30  
OFB40-B50**



**OFB40-C30  
OFB40-C50**

|                           | OFB40-A30   | OFB40-A50           | OFB40-B30          | OFB40-B50           | OFB40-C30          | OFB40-C50           |
|---------------------------|---|---------------------|--------------------|---------------------|--------------------|---------------------|
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                    |                     |                    |                     |
| Pressure range            | 2 ÷ 8 bar   |                     |                    |                     |                    |                     |
| Temperature range         | 5° ÷ 60 °C.   |                     |                    |                     |                    |                     |
| Piston bore               | Ø40 mm  |                     |                    |                     |                    |                     |
| Retraction force at 6 bar | 660 N   |                     |                    |                     |                    |                     |
| Extension force at 6 bar  | 754 N   |                     |                    |                     |                    |                     |
| Stroke (±0.3 mm)          | 30 mm   | 50 mm               | 30 mm              | 50 mm               | 30 mm              | 50 mm               |
| Cycle air consumption     | 71 cm <sup>3</sup>  | 118 cm <sup>3</sup> | 71 cm <sup>3</sup> | 118 cm <sup>3</sup> | 71 cm <sup>3</sup> | 118 cm <sup>3</sup> |
| Weight                    | 475 g   | 520 g               | 395 g              | 445 g               | 405 g              | 455 g               |

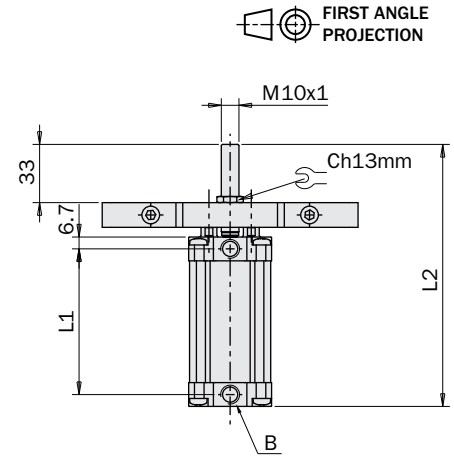
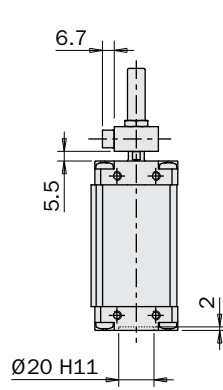
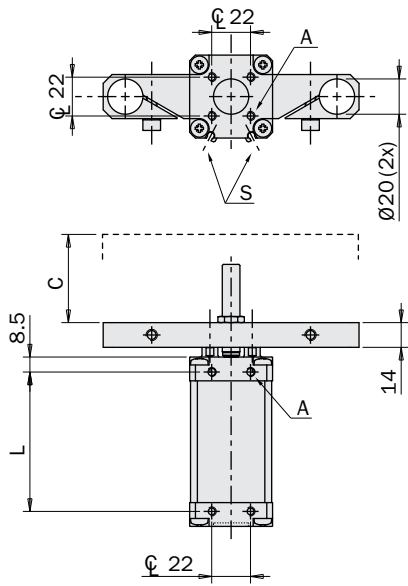
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors



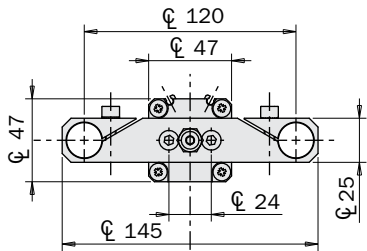
**Dimensions (mm)**

- A** Fastening holes
- B** Air connection port
- C** Stroke
- S** Magnetic sensor slot

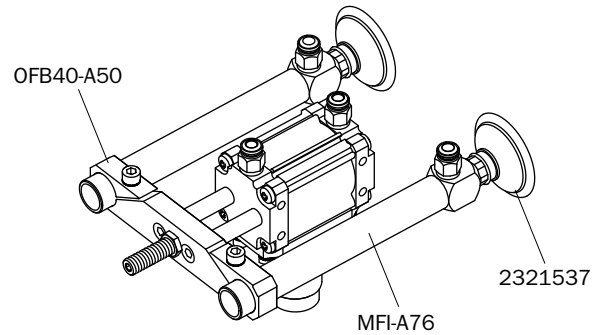
|    | OFB40-A30 | OFB40-A50 |
|----|-----------|-----------|
| A  | M5x10     | M5x10     |
| B  | 1/8       | 1/8       |
| C  | 30        | 50        |
| L  | 59        | 79        |
| L1 | 62.6      | 82.6      |
| L2 | 128.5     | 148.5     |



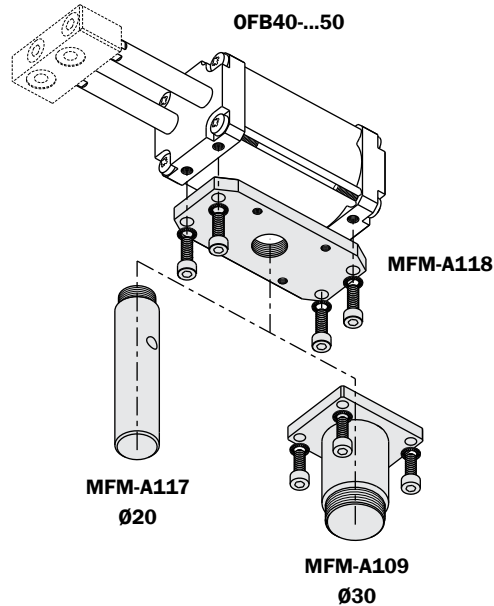
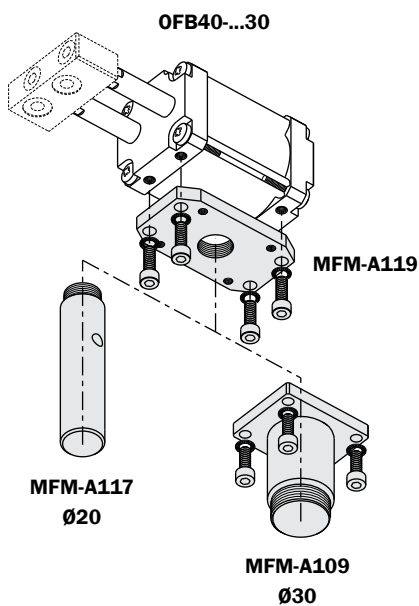
FIRST ANGLE PROJECTION



**Application examples**



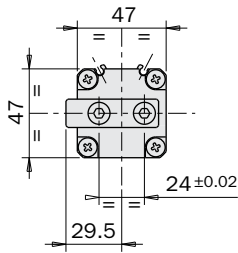
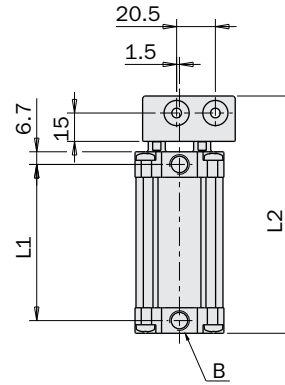
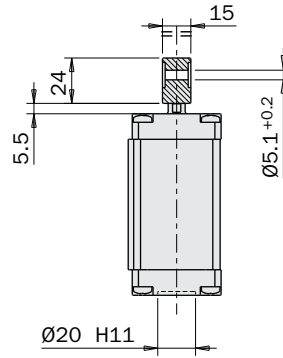
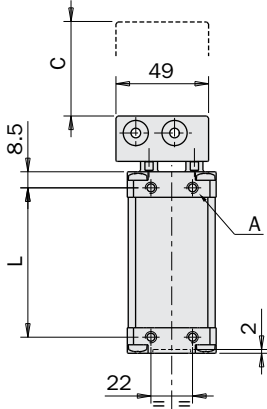
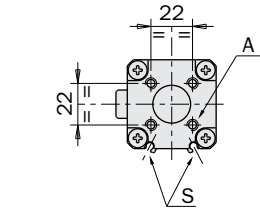
**Cylinder mounting**



Dimensions (mm)

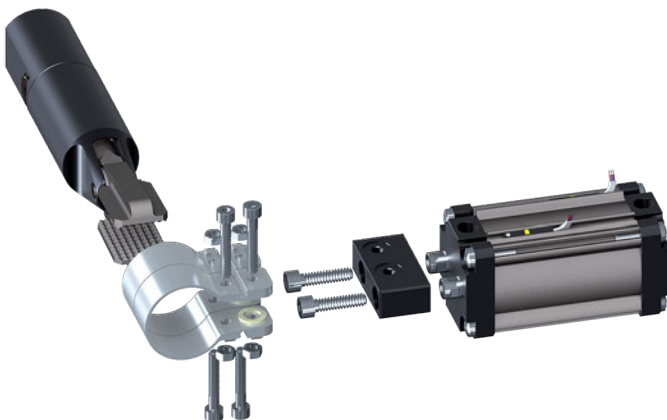
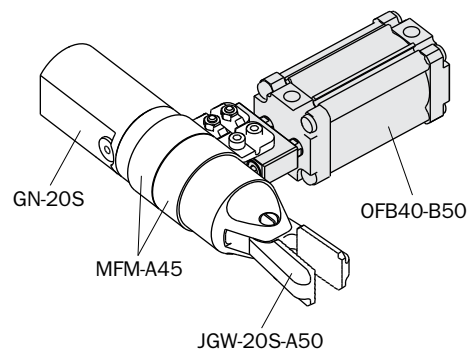
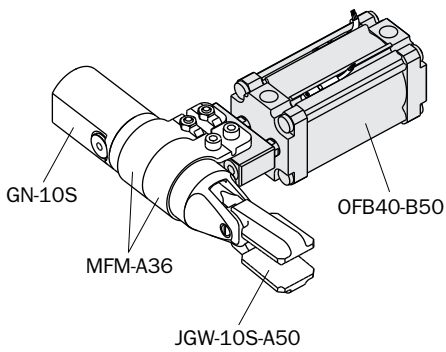
|    | OFB40-B30 | OFB40-B50 |
|----|-----------|-----------|
| A  | M5x10     | M5x10     |
| B  | 1/8       | 1/8       |
| C  | 30        | 50        |
| L  | 59        | 79        |
| L1 | 62.6      | 82.6      |
| L2 | 105.5     | 125.5     |

FIRST ANGLE PROJECTION

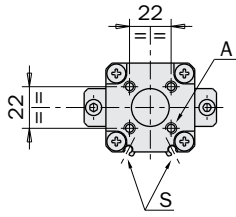


- A** Fastening holes
- B** Air connection port
- C** Stroke
- S** Magnetic sensor slot

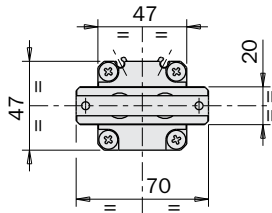
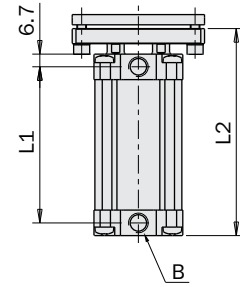
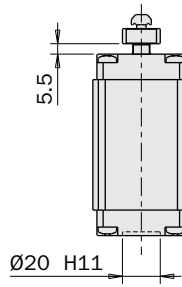
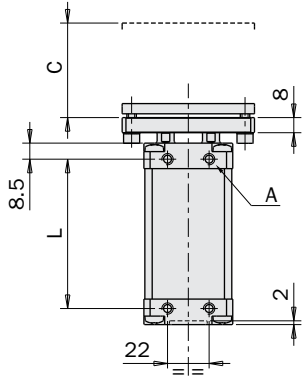
Application examples



**Dimensions (mm)**

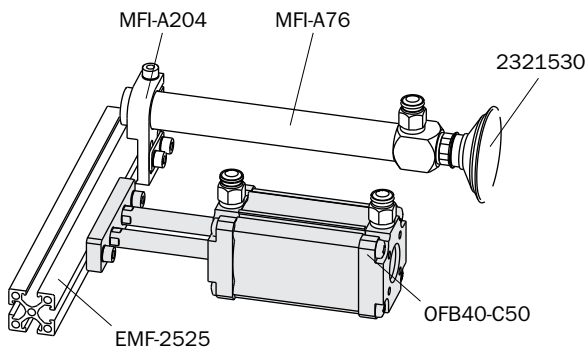
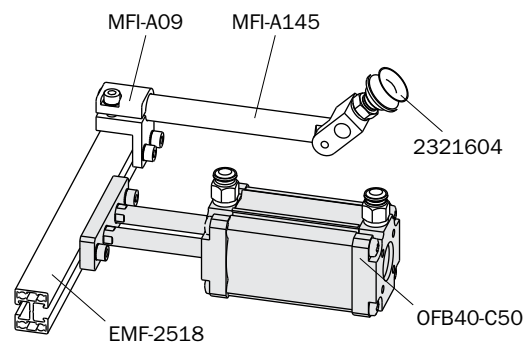
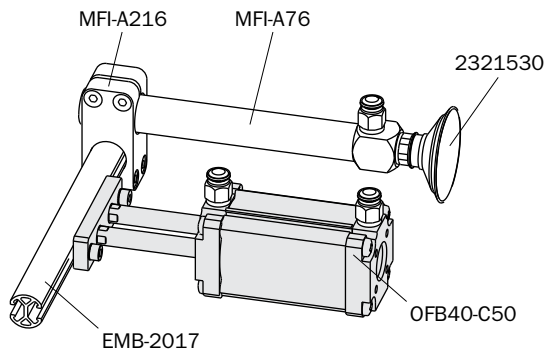


|    | OFB40-C30 | OFB40-C50 |
|----|-----------|-----------|
| A  | M5x10     | M5x10     |
| B  | 1/8       | 1/8       |
| C  | 30        | 50        |
| L  | 59        | 79        |
| L1 | 62.6      | 82.6      |
| L2 | 89.5      | 109.5     |



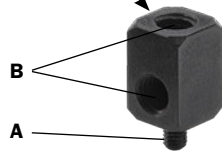
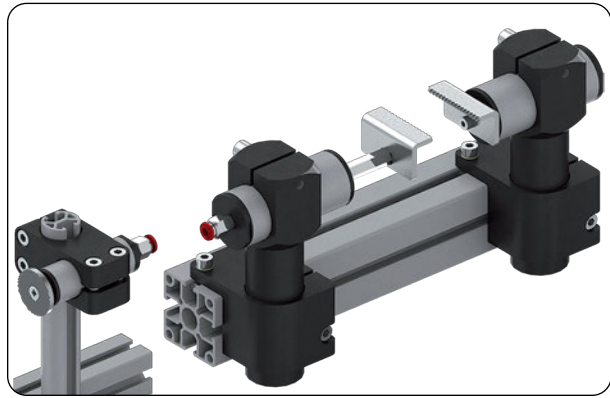
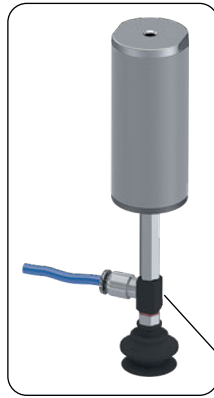
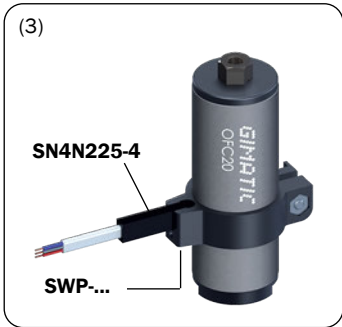
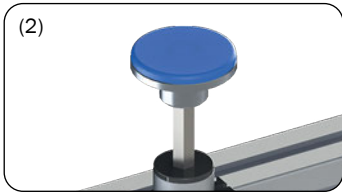
- A** Fastening holes
- B** Air connection port
- C** Stroke
- S** Magnetic sensor slot

**Application examples**



**General purpose, single-acting, anti-rotation mini cylinders**

- Piston bore: 10mm, 16mm, 25mm.
- Stroke: 10mm, 20mm, 30mm.
- Several accessories MFI... for the clamp mounting on the external diameter (1).
- Several accessories to be mounted on the rod (2).
- Optional sensors and clamps (3).
- Food grade grease FDA-H1.



|   | MFI-A361 | MFI-A362 | MFI-A364 | MFI-A365 |
|---|----------|----------|----------|----------|
| A | M5       | G1/8     | M4       | M3       |
| B | M5       | G1/8     | M5       | M5       |

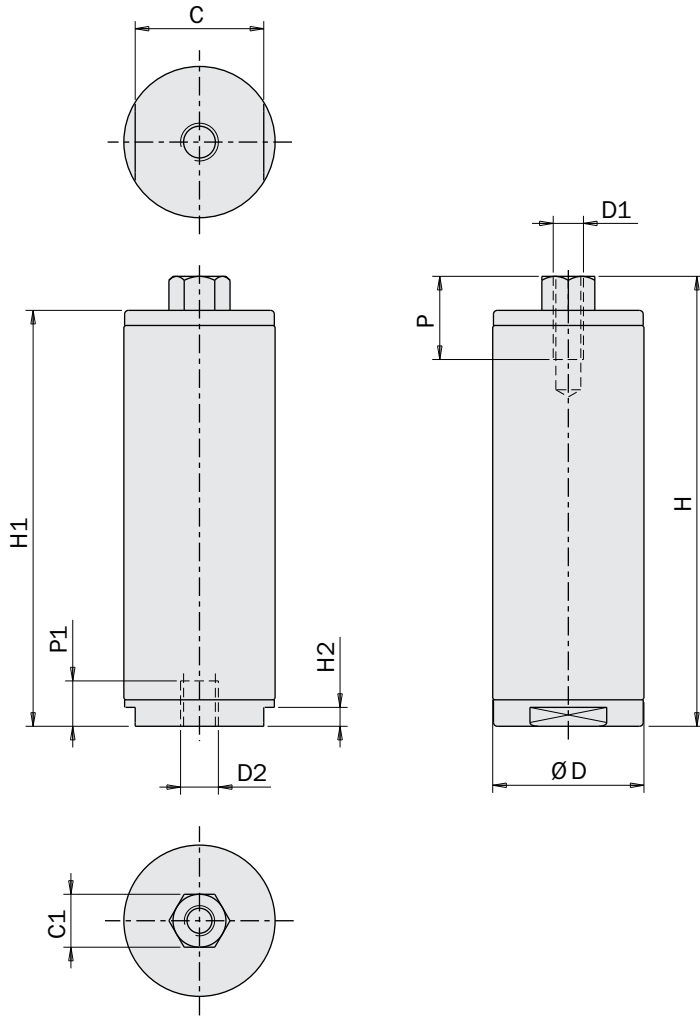


|                        | OFC14-10  | OFC20-20          | OFC30-30           |
|------------------------|---|-------------------|--------------------|
| Medium                 | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                   |                    |
| Pressure range         | 2 ÷ 8 bar   |                   |                    |
| Temperature range      | 5° ÷ 60 °C.   |                   |                    |
| Stroke                 | 10 mm   | 20 mm             | 30 mm              |
| Piston bore            | Ø10 mm  | Ø16 mm            | Ø25 mm             |
| Closing force at 0 bar | 4 N   | 8 N               | 23 N               |
| Opening force at 6 bar | 43 N  | 113 N             | 271 N              |
| Cycle air consumption  | 1 cm <sup>3</sup>   | 4 cm <sup>3</sup> | 15 cm <sup>3</sup> |
| Weight                 | 20 g  | 40 g              | 85 g               |

[Click for Pricing & Add to Cart](#)



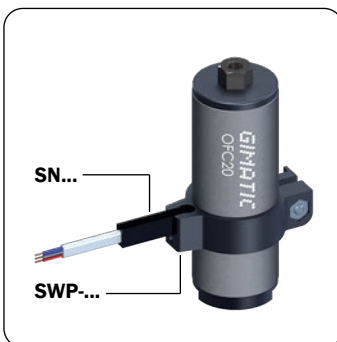
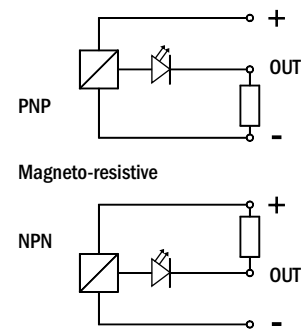
**Dimensions (mm)**



|    | OFC14-10 | OFC20-20 | OFC30-30 |
|----|----------|----------|----------|
| C  | 12       | 17       | 27       |
| C1 | 5.5      | 7        | 7        |
| D  | Ø14      | Ø20      | Ø30      |
| D1 | M3       | M4       | M4       |
| D2 | M5       | M5       | M5       |
| H  | 50       | 59.5     | 75       |
| H1 | 45.5     | 55       | 70.5     |
| H2 | 2.5      | 2.5      | 2.5      |
| P  | 7        | 9        | 9        |
| P1 | 6        | 6        | 6        |

FIRST ANGLE PROJECTION

| OFC      | SWP...  |
|----------|---------|
| OFC14-10 | SWP-014 |
| OFC20-20 | SWP-020 |
| OFC30-30 | SWP-030 |



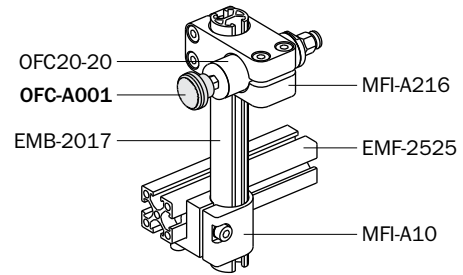
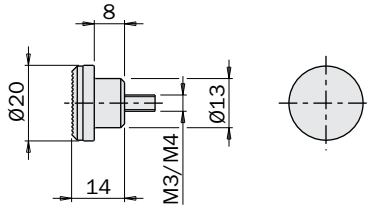
| SN...     |     |                        |
|-----------|-----|------------------------|
| SN4N225-G | PNP | 2.5m cable             |
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | Snap M8 plug connector |
| SN3M203-G | NPN |                        |

## Optional kits

|          | OFC-A001 | OFC-A002 | OFC-A003 | OFC-A004 | OFC-A005 | OFC-A006 | OFC-A007 | OFC-A008 | OFC5 |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|------|
| OFC14-10 | ☑        | ☑        | ☑        | ☐        | ☑        | ☑        | ☐        | ☑        | ☐    |
| OFC20-20 | ☑        | ☑        | ☑        | ☑        | ☑        | ☐        | ☑        | ☐        | ☑    |
| OFC30-30 | ☑        | ☑        | ☑        | ☑        | ☑        | ☐        | ☑        | ☐        | ☑    |
| Weight   | 15 g     | 25 g     | 15 g     | 25 g     | 35 g     | 19 g     | 11 g     | 50 g     | 40 g |

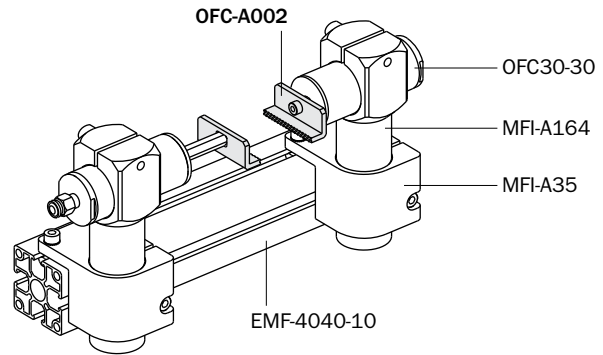
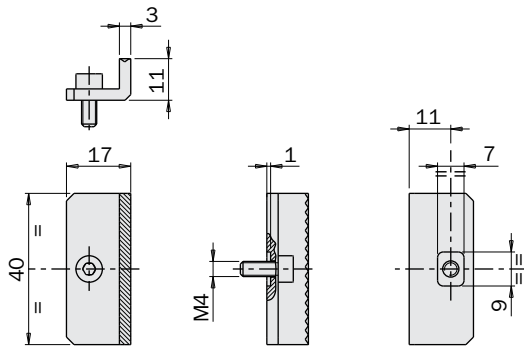
### OFC-A001

Button with HNBR rubber pad



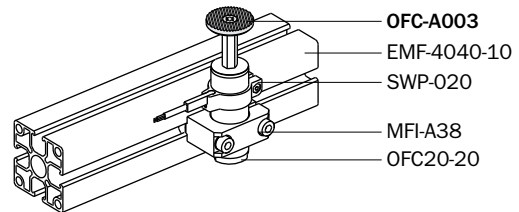
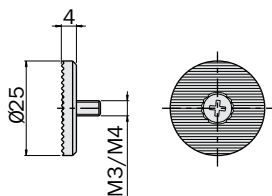
### OFC-A002

Steel claw



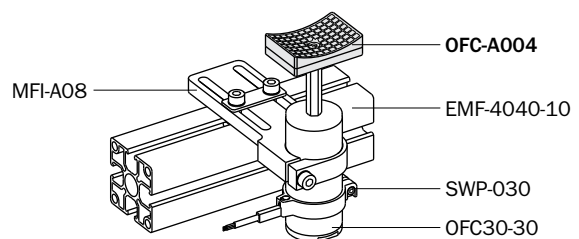
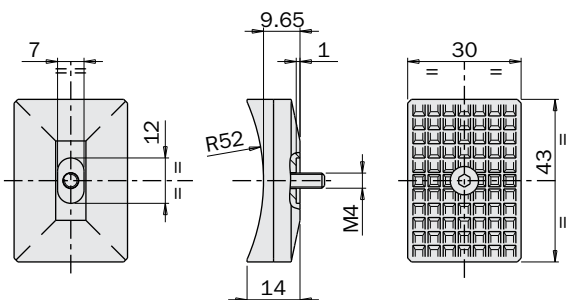
### OFC-A003

Steel button



### OFC-A004

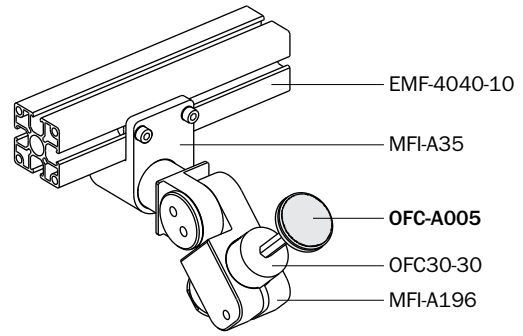
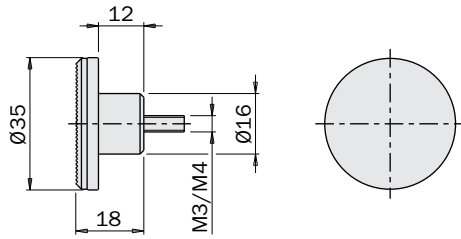
Concave pusher with TPU rubber pad



**Optional kits**

**OFC-A005**

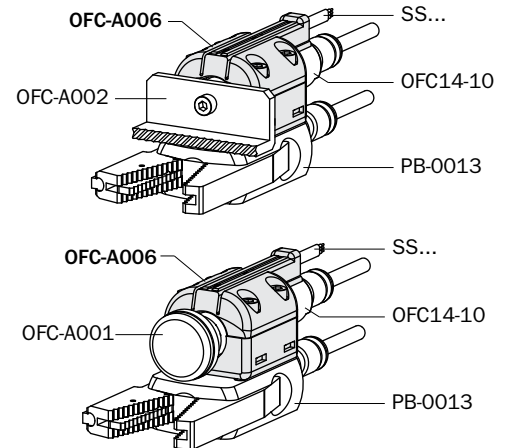
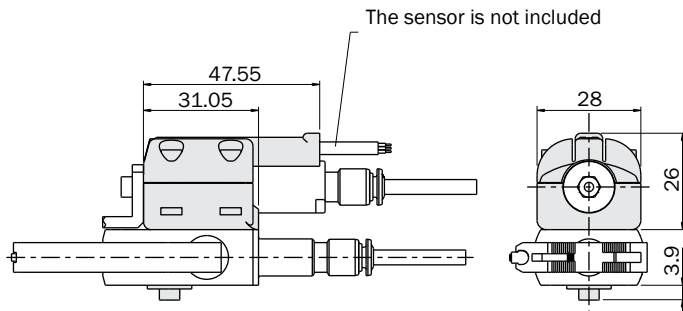
Button with HNBR rubber pad



**OFC-A006**

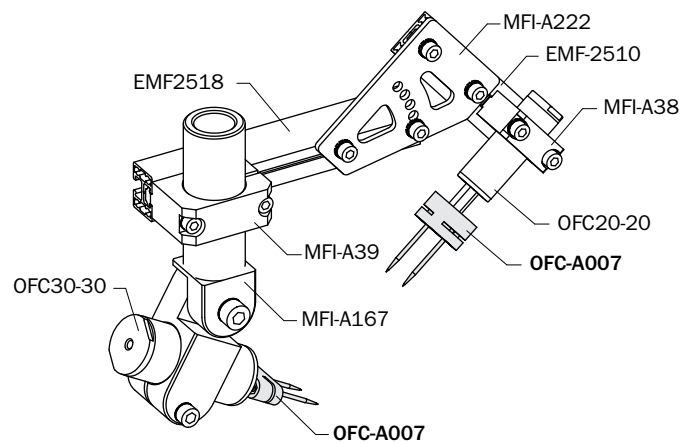
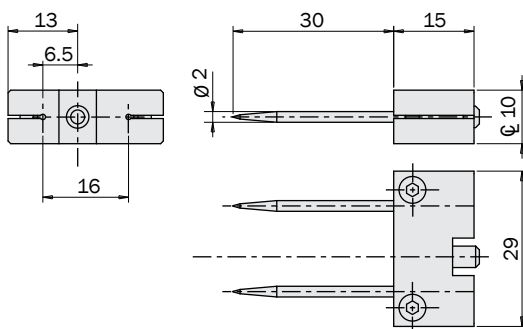
Bracket for mounting cylinder OFC14-10 on PB grippers

- Useful to extract the sprue when it is stuck on the gripper fingers.
- Compact layout of hoses and cables.
- Optional SS magnetic sensor.
- Material PA12GB.



**OFC-A007**

Needle holder

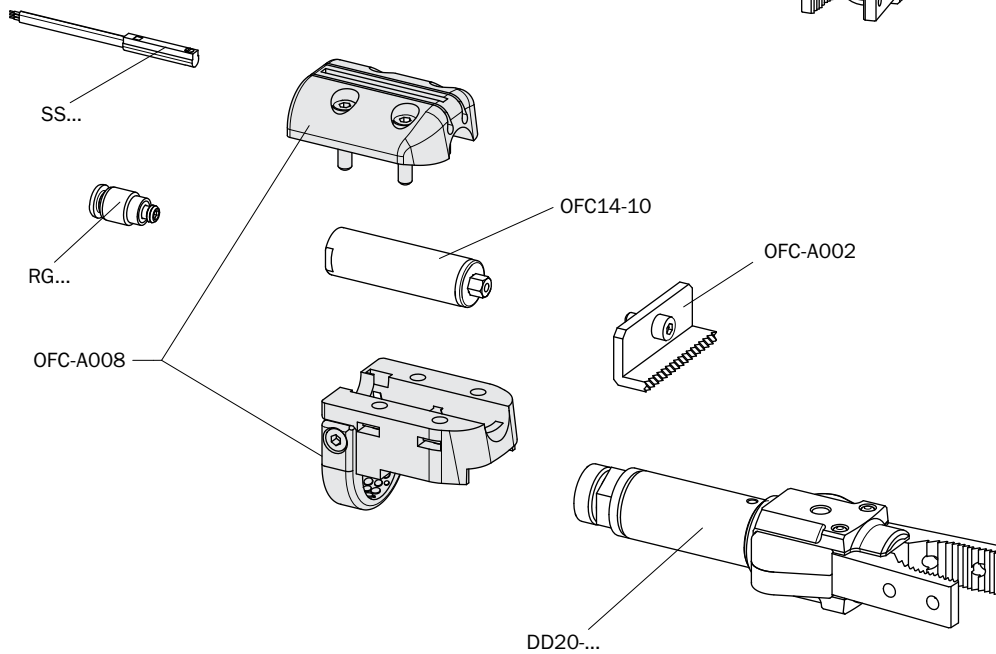
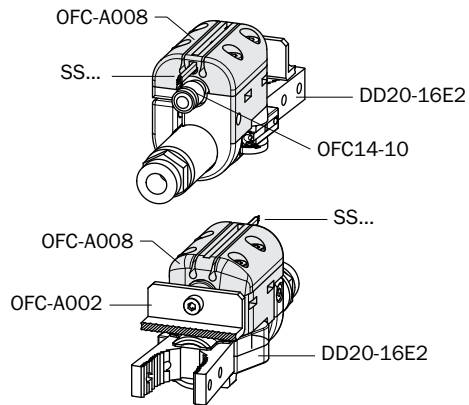
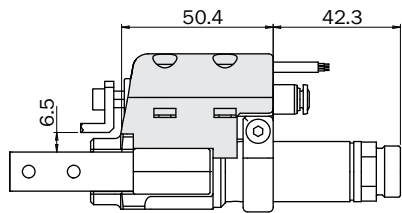


Optional kits

**OFC-A008**

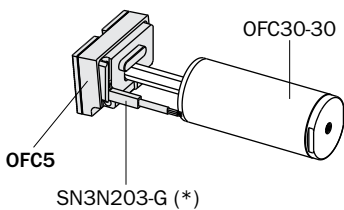
Bracket for mounting cylinder OFC14-10 on DD grippers

- Useful to extract the sprue when it is stuck on the gripper fingers.
- Compact layout of hoses and cables.
- Optional SS magnetic sensor.
- Material PA12GB.

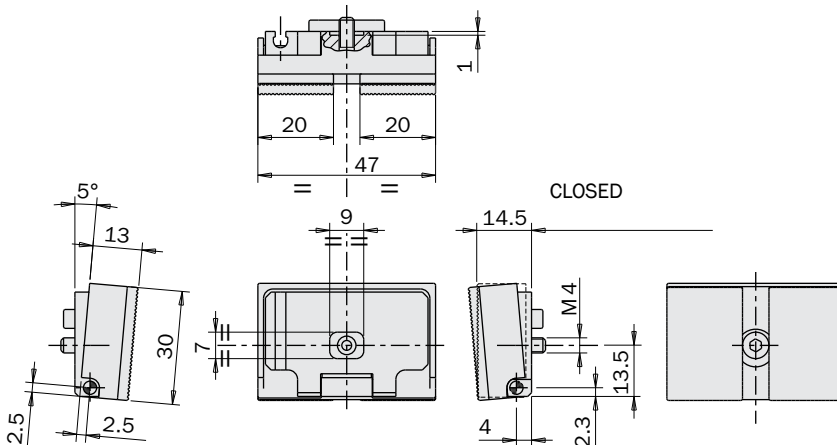


**OFC5**

Switch pusher with HNBR rubber pad and sensor



The sensor SN3N203-G is included



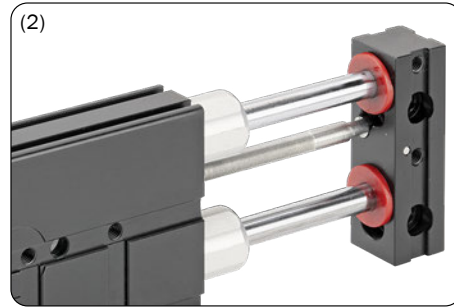
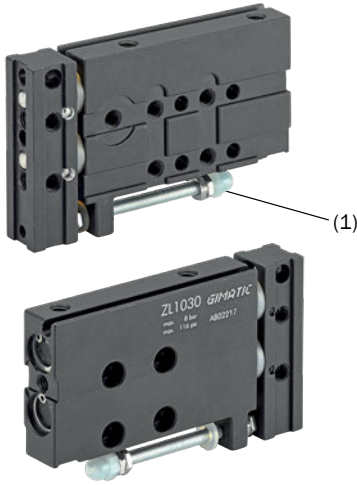




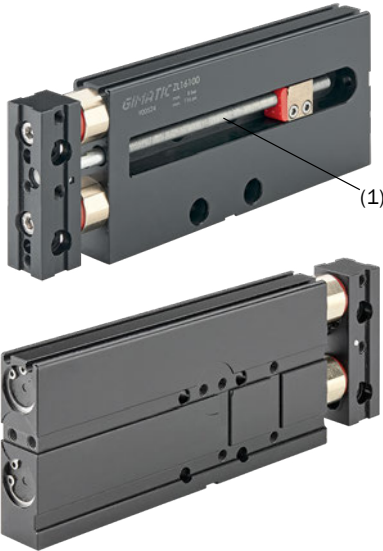
**Pneumatic slides (series ZL)**

- Designed for EOATs.
- Double-acting.
- Flat profile.
- Opening stroke adjustment (1).
- Polyurethane shock-absorbers (2).
- Optional magnetic sensors (3).

**ZL1030**



**ZL16...  
ZL25...**



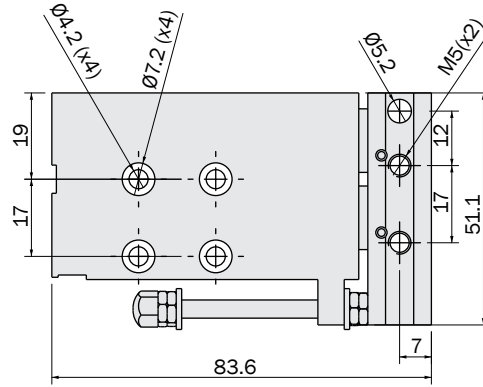
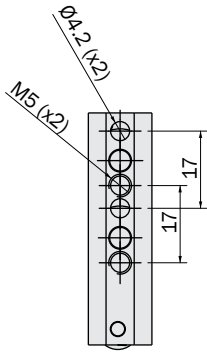
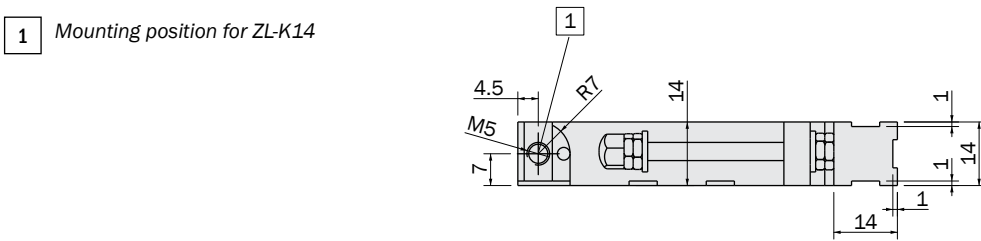
|           |     |                        |
|-----------|-----|------------------------|
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |

|                           | ZL1030  | ZL1650             | ZL16100            | ZL2550             | ZL25100             |
|---------------------------|---|--------------------|--------------------|--------------------|---------------------|
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                    |                     |
| Pressure range            | 2 ÷ 8 bar   |                    |                    |                    |                     |
| Temperature range         | 5 ÷ 60 °C   |                    |                    |                    |                     |
| Retraction force at 6 bar | 60 N  | 150 N              |                    | 380 N              |                     |
| Extension force at 6 bar  | 80 N  | 200 N              |                    | 500 N              |                     |
| Stroke                    | 0 ÷ 30 mm   | 0 ÷ 50 mm          | 0 ÷ 100 mm         | 0 ÷ 50 mm          | 0 ÷ 100 mm          |
| Cycle air consumption     | 9 cm <sup>3</sup>   | 37 cm <sup>3</sup> | 70 cm <sup>3</sup> | 90 cm <sup>3</sup> | 177 cm <sup>3</sup> |
| Minium actuating time     | 0.06 s  | 0.13 s             | 0.24 s             | 0.24 s             | 0.45 s              |
| Maximum working frequency | 1 Hz  |                    |                    |                    |                     |
| Weight                    | 0.13 kg   | 0.41 kg            | 0.58 kg            | 0.88 kg            | 1.16 kg             |

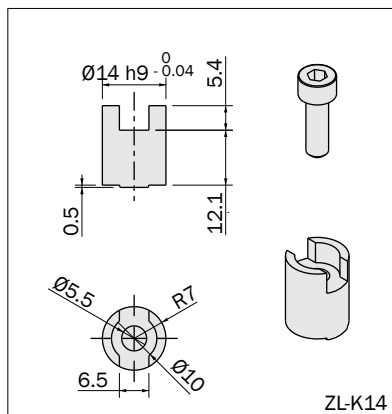
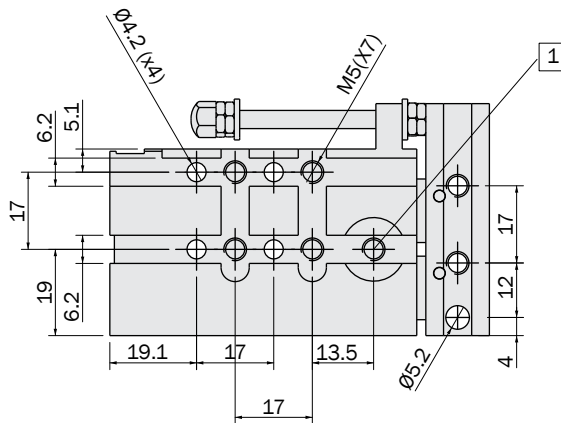
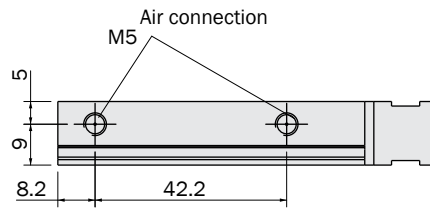
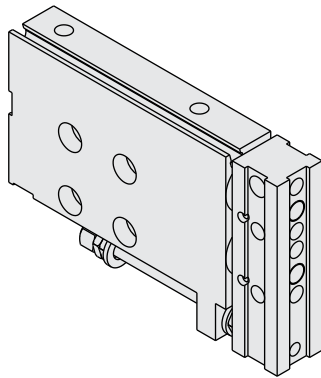
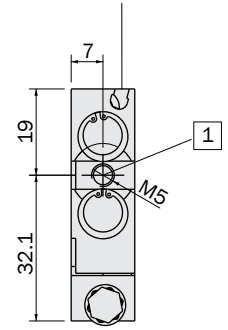
**Dimensions (mm)**

**ZL 10**

1 Mounting position for ZL-K14



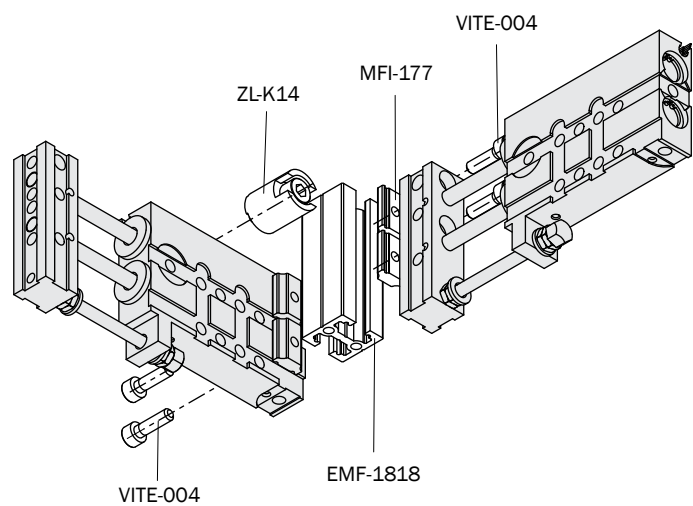
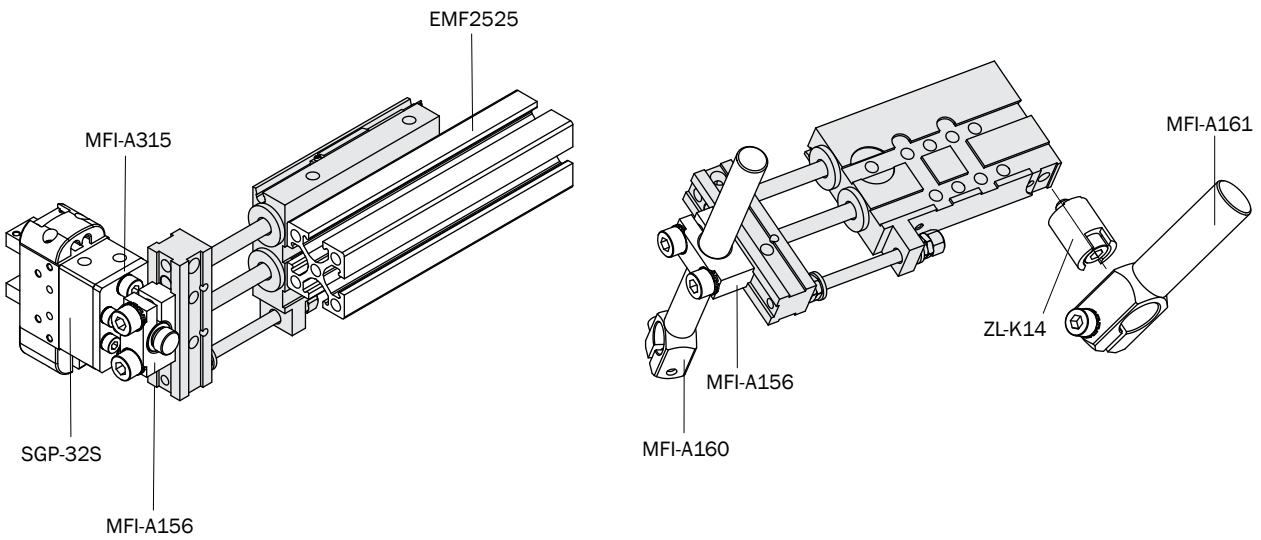
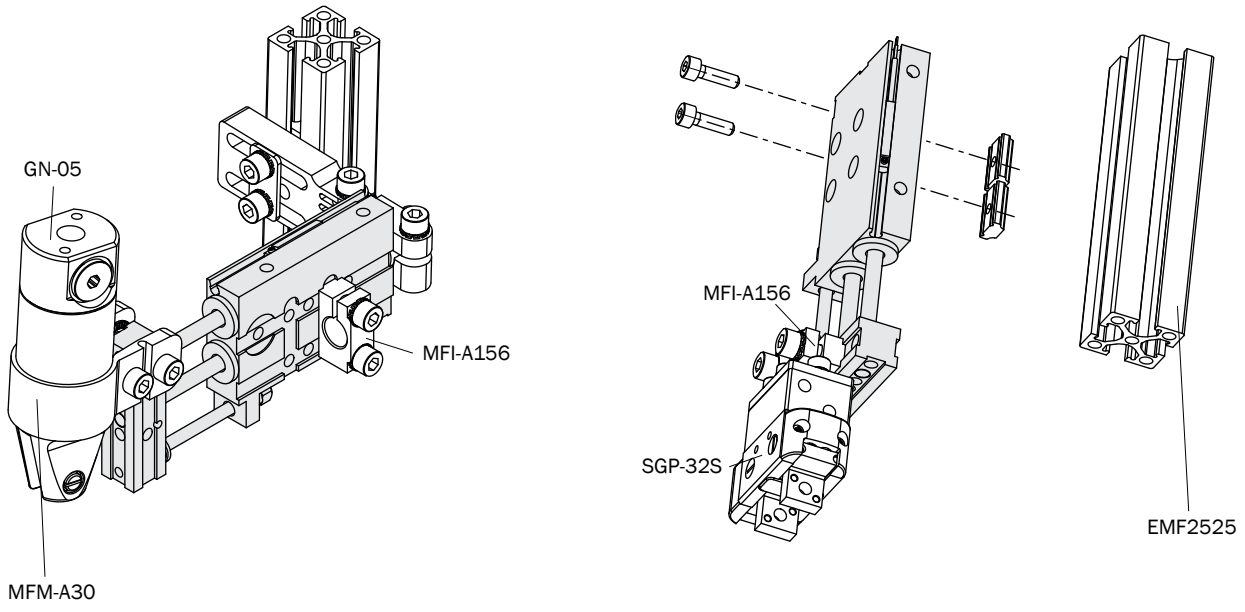
Sensor slot SS series



FIRST ANGLE PROJECTION

Application example

ZL 10



Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

Sensors

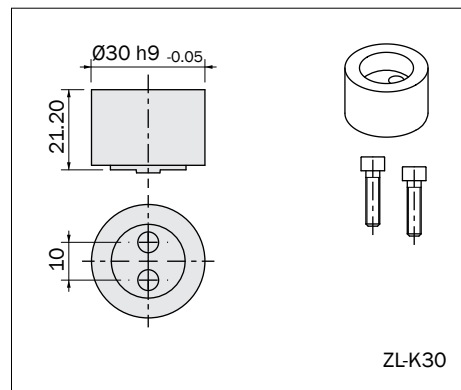
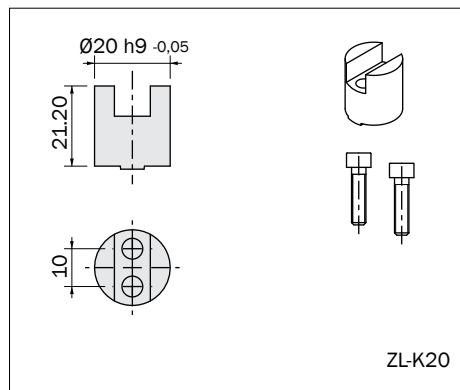
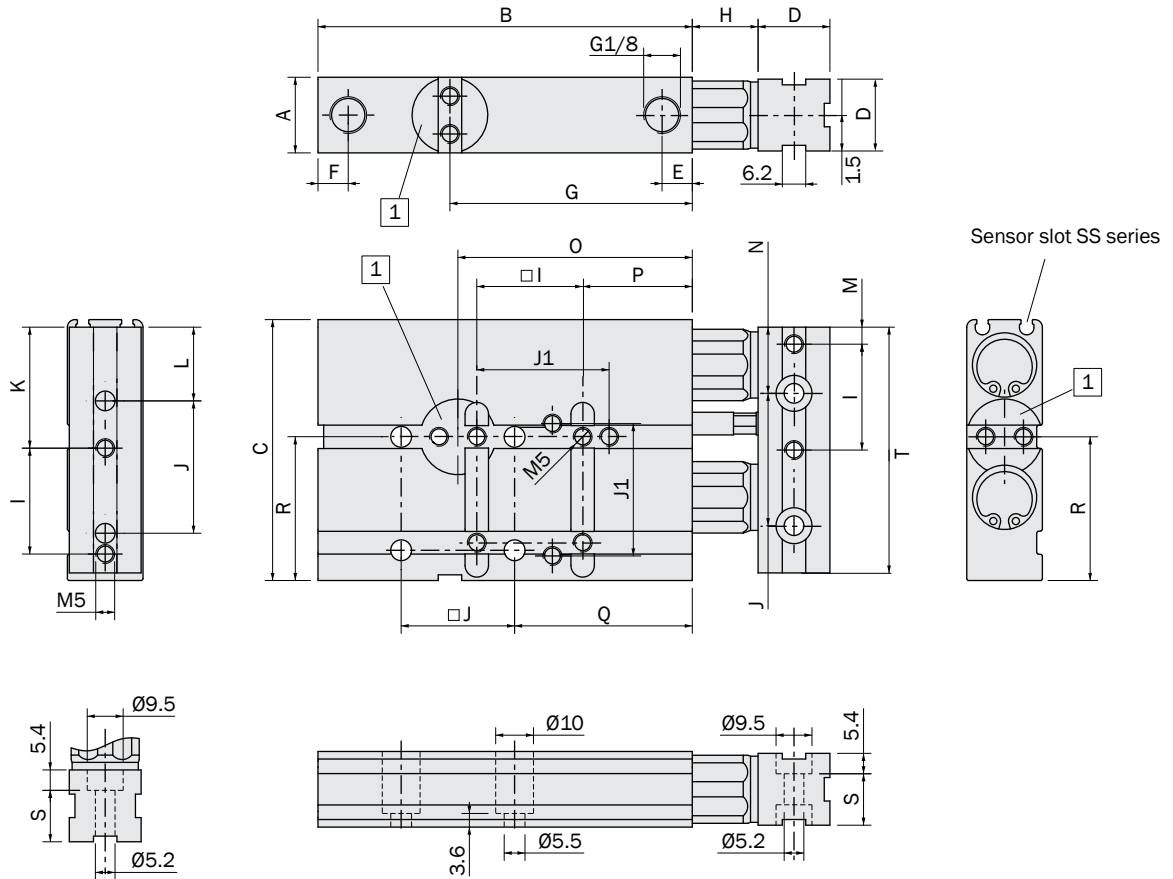
**Dimensions (mm)**

**ZL16**

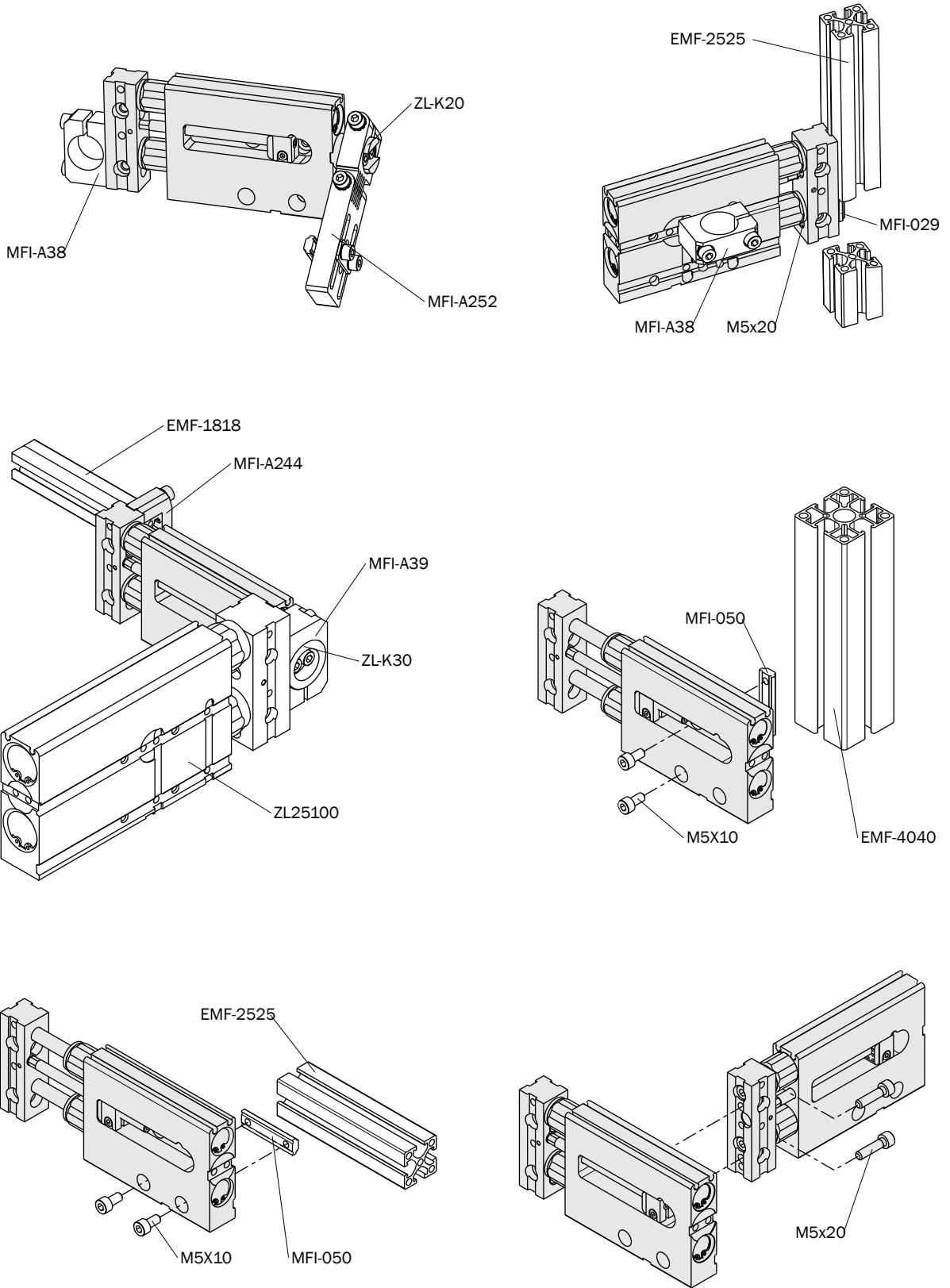
**ZL25**

|         | A  | B   | C  | D  | E   | F   | G    | H    | I  | J  | J1 | K    | L    | M   | N    | O  | P  | Q  | R  | S    | T  |
|---------|----|-----|----|----|-----|-----|------|------|----|----|----|------|------|-----|------|----|----|----|----|------|----|
| ZL1650  | 20 | 99  | 69 | 19 | 8   | 8   | 64.1 | 17.4 | 28 | 35 | 35 | 32   | 19.5 | 4.5 | 17.5 | 62 | 29 | 47 | 38 | 13.6 | 65 |
| ZL16100 | 20 | 149 | 69 | 19 | 8   | 8   | 64.1 | 17.4 | 28 | 35 | 35 | 32   | 19.5 | 4.5 | 17.5 | 62 | 29 | 47 | 38 | 13.6 | 65 |
| ZL2550  | 30 | 101 | 87 | 29 | 8.5 | 9.5 | 64.1 | 17.4 | 40 | 40 | -  | 24.5 | 31.5 | 7   | 22   | 62 | 17 | 37 | 47 | 23.6 | 78 |
| ZL25100 | 30 | 151 | 87 | 29 | 8.5 | 9.5 | 64.1 | 17.4 | 40 | 40 | -  | 24.5 | 31.5 | 7   | 22   | 62 | 17 | 37 | 47 | 23.6 | 78 |

1 Mounting position for ZL-K20 e ZL-K30

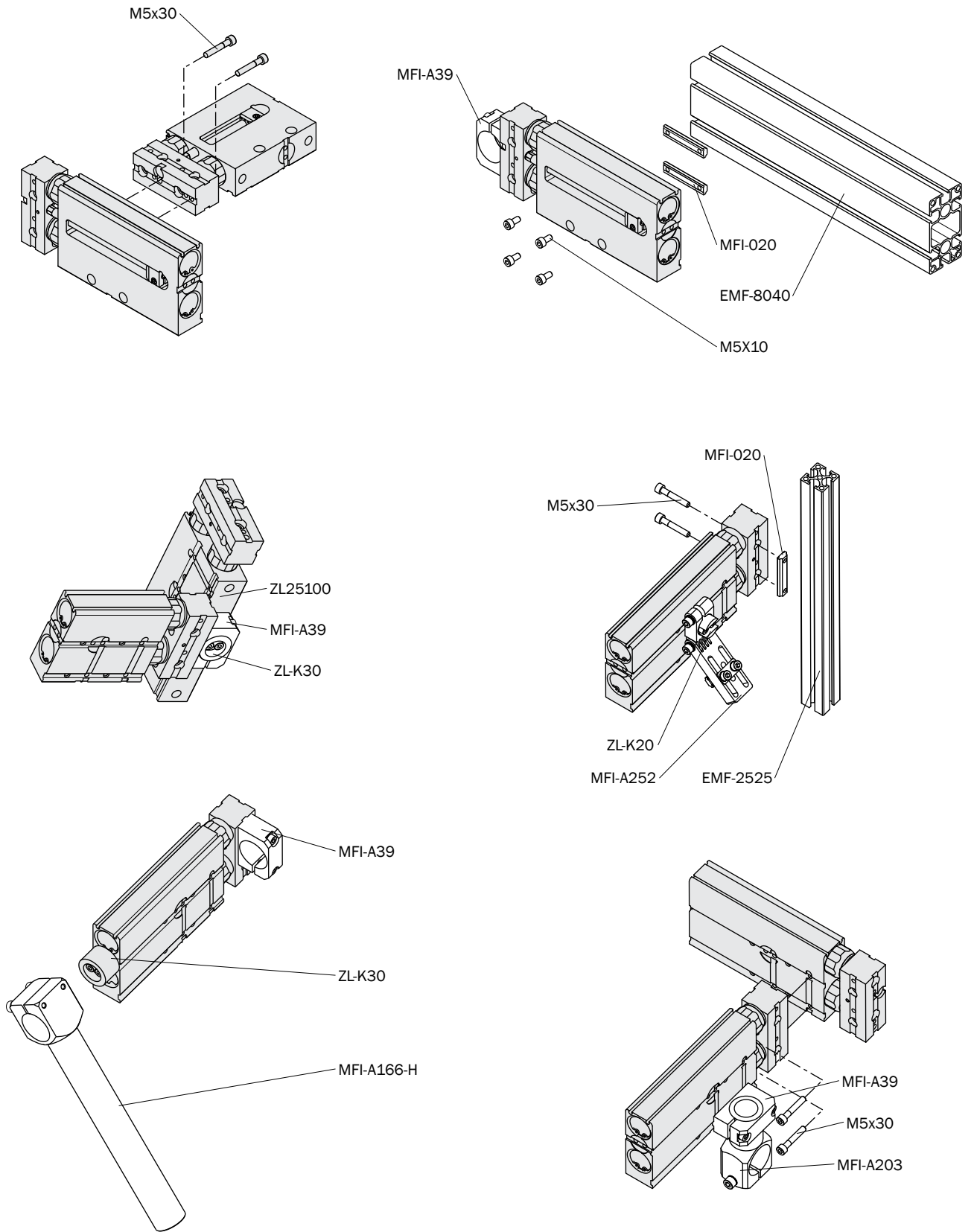


FIRST ANGLE PROJECTION



**Application example**

**ZL 25**



## Pneumatic mini-slides series ZE-P

- Piston bore 6, 10 or 16 mm.
- Stroke 10, 20, 30 mm.
- Several fastening options.
- Double acting.
- Internal elastic bumpers.
- Optional magnetic sensors.



**ZE0630P**



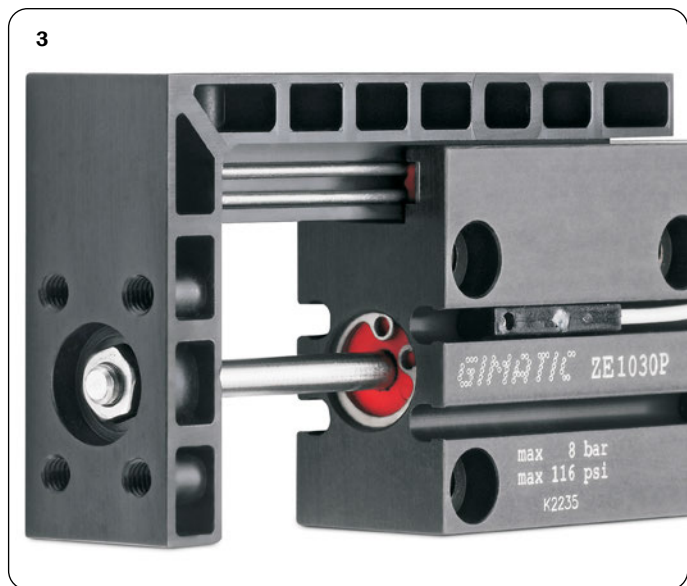
**ZE1030P**



**ZE1630P**

Even if it is completely interchangeable with the previous ZE series, the ZE-P is provided with:

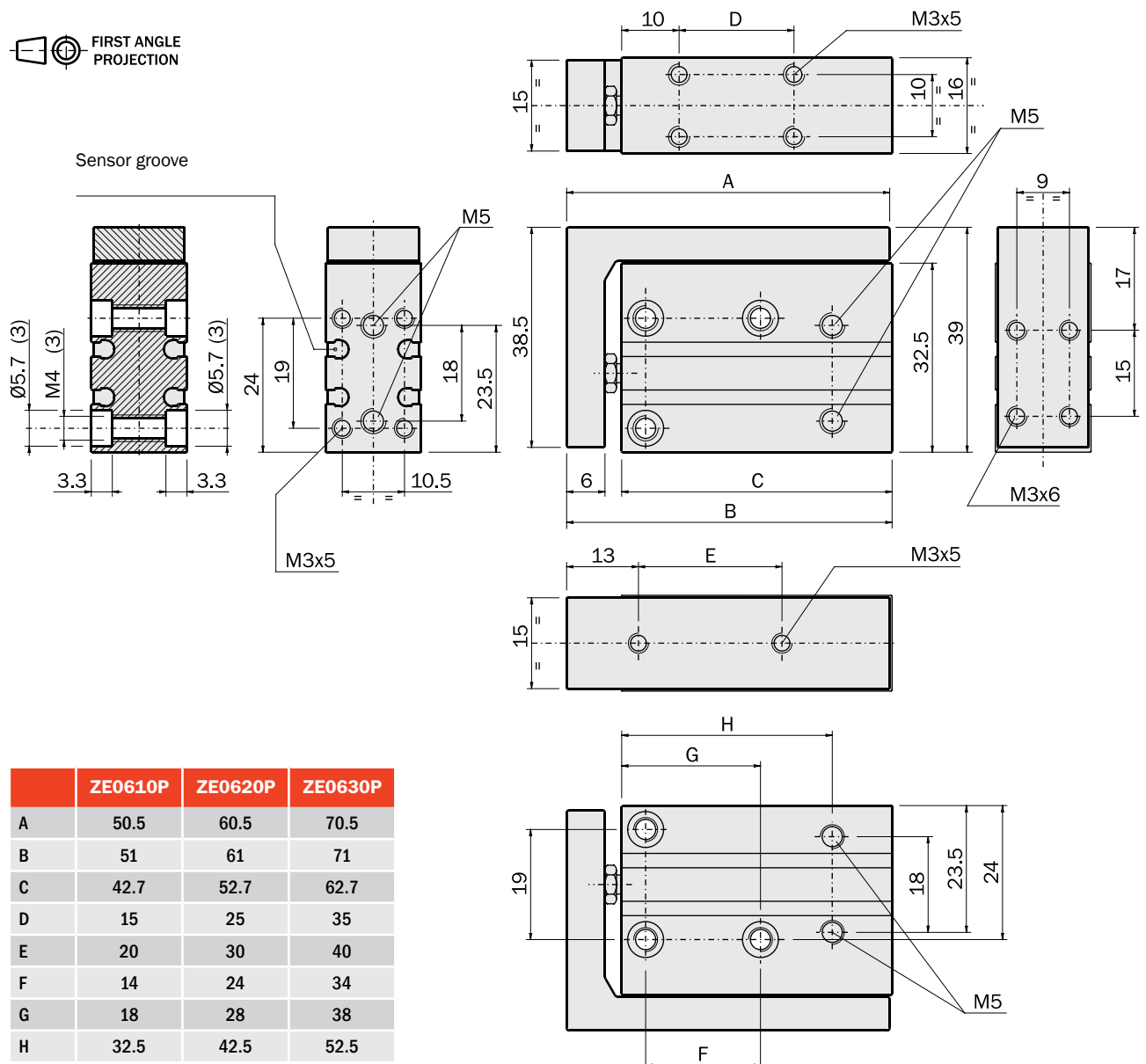
- 1- Linear ball bearings, with cage in polyoxymethylene.
- 2- Guide with built-in hardened and ground shafts.
- 3- One-block carrier moulded in zamak.





|                           | ZE0610P   | ZE0620P             | ZE0630P             |
|---------------------------|---|---------------------|---------------------|
| Weight                    | 90 g  | 105 g               | 120 g               |
| Minimum actuating time    | 0.015 s   | 0.020 s             | 0.030 s             |
| Maximum working frequency | 3 Hz  | 3 Hz                | 3 Hz                |
| Air consumption per cycle | 0.7 cm <sup>3</sup>                                       | 1.3 cm <sup>3</sup> | 1.9 cm <sup>3</sup> |
| Stroke                    | 10 mm   | 20 mm               | 30 mm               |
| Extension force at 6 bar  | 13 N  |                     |                     |
| Retraction force at 6 bar | 10 N  |                     |                     |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |
| Pressure range            | 2÷8 bar   |                     |                     |
| Temperature range         | 5÷60 °C   |                     |                     |

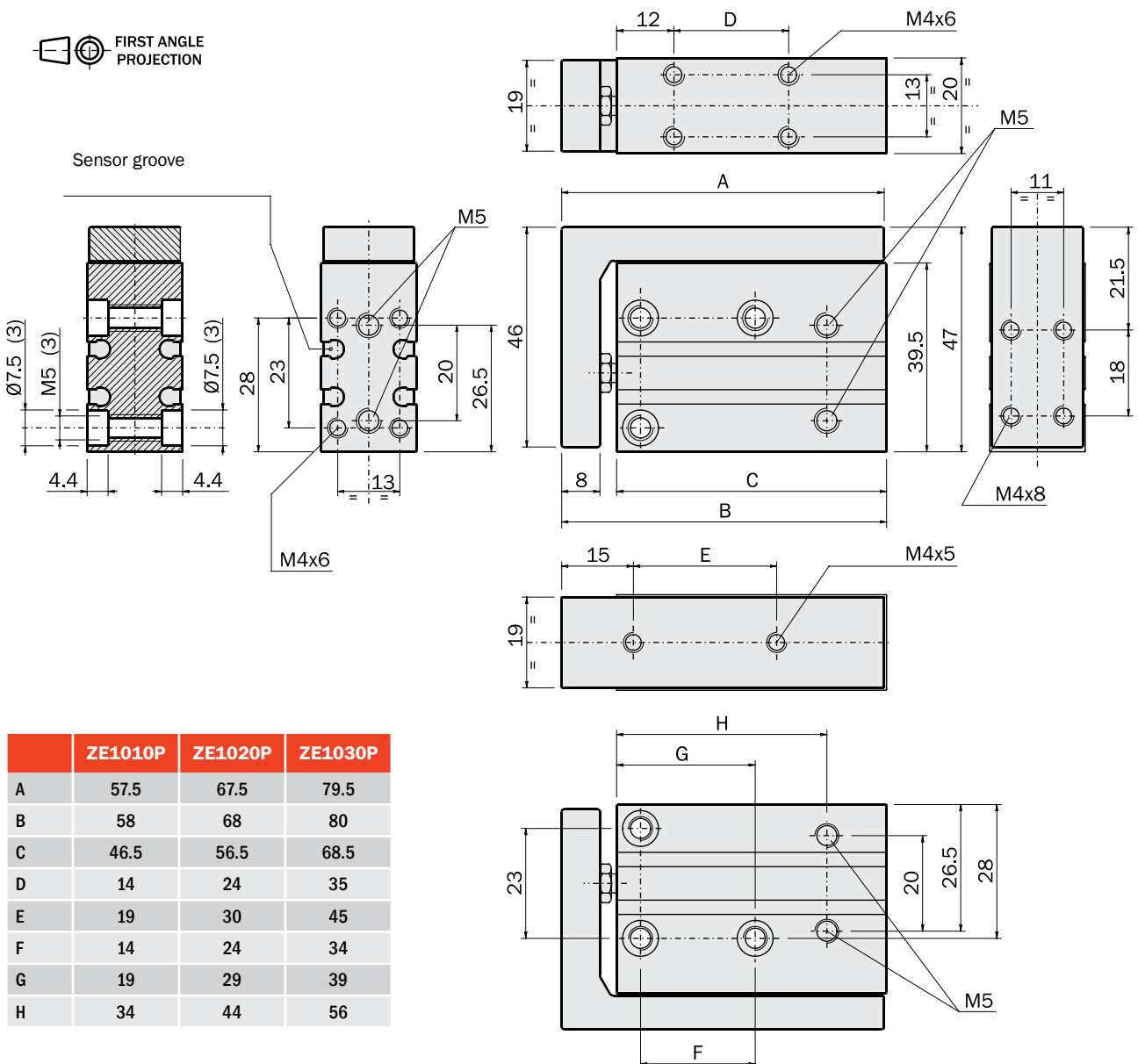
**Dimensions (mm)**



|   | ZE0610P | ZE0620P | ZE0630P |
|---|---------|---------|---------|
| A | 50.5    | 60.5    | 70.5    |
| B | 51      | 61      | 71      |
| C | 42.7    | 52.7    | 62.7    |
| D | 15      | 25      | 35      |
| E | 20      | 30      | 40      |
| F | 14      | 24      | 34      |
| G | 18      | 28      | 38      |
| H | 32.5    | 42.5    | 52.5    |

|                           | ZE1010P   | ZE1020P             | ZE1030P             |
|---------------------------|---|---------------------|---------------------|
| Weight                    | 150 g   | 175 g               | 200 g               |
| Minimum actuating time    | 0.030 s   | 0.050 s             | 0.060 s             |
| Maximum working frequency | 3 Hz  | 3 Hz                | 3 Hz                |
| Air consumption per cycle | 1.7 cm <sup>3</sup>                                       | 3.3 cm <sup>3</sup> | 4.8 cm <sup>3</sup> |
| Stroke                    | 10 mm   | 20 mm               | 30 mm               |
| Extension force at 6 bar  | 40 N  |                     |                     |
| Retraction force at 6 bar | 33 N  |                     |                     |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |
| Pressure range            | 2÷8 bar   |                     |                     |
| Temperature range         | 5÷60 °C   |                     |                     |

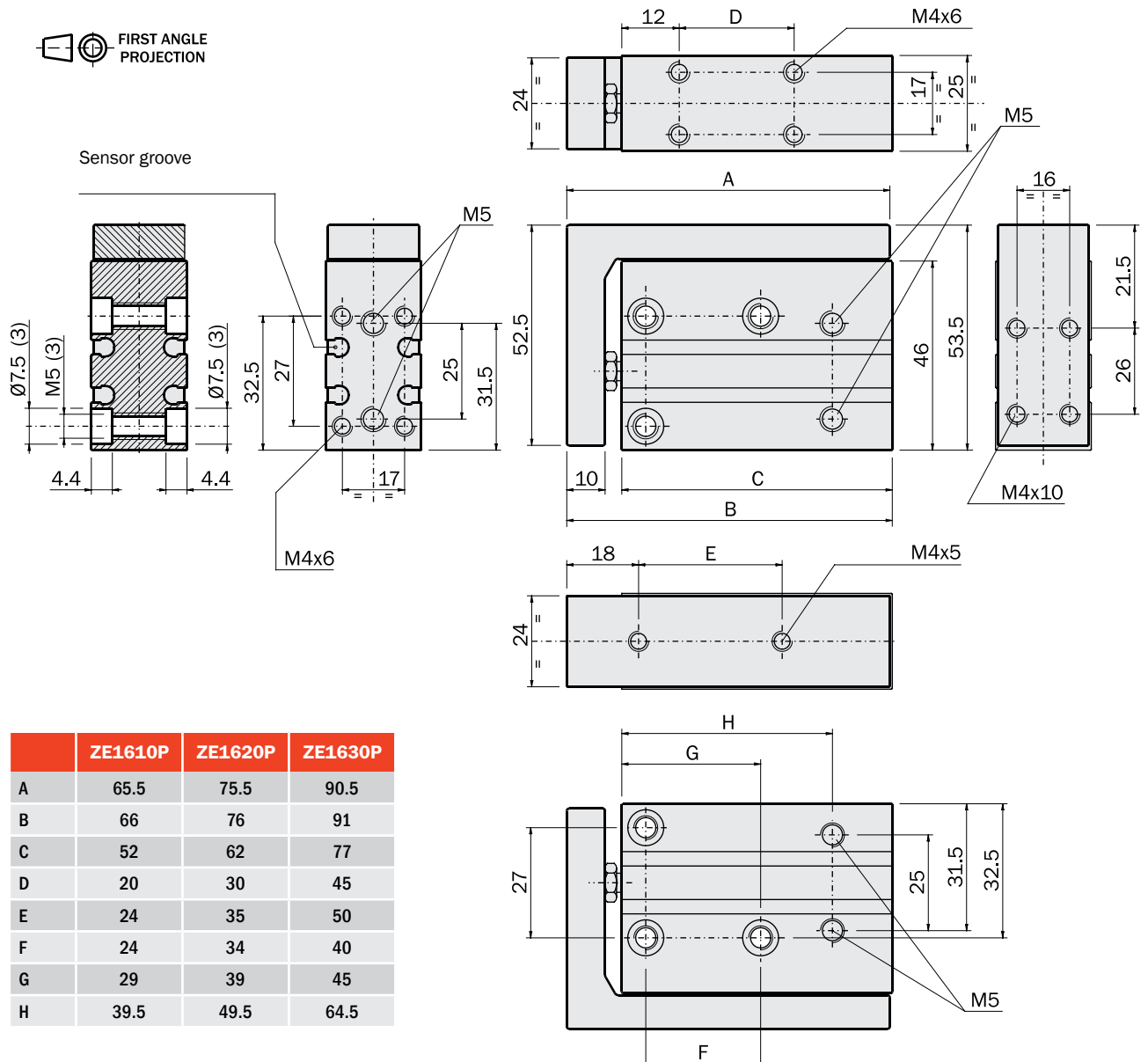
## Dimensions (mm)



|   | ZE1010P | ZE1020P | ZE1030P |
|---|---------|---------|---------|
| A | 57.5    | 67.5    | 79.5    |
| B | 58      | 68      | 80      |
| C | 46.5    | 56.5    | 68.5    |
| D | 14      | 24      | 35      |
| E | 19      | 30      | 45      |
| F | 14      | 24      | 34      |
| G | 19      | 29      | 39      |
| H | 34      | 44      | 56      |

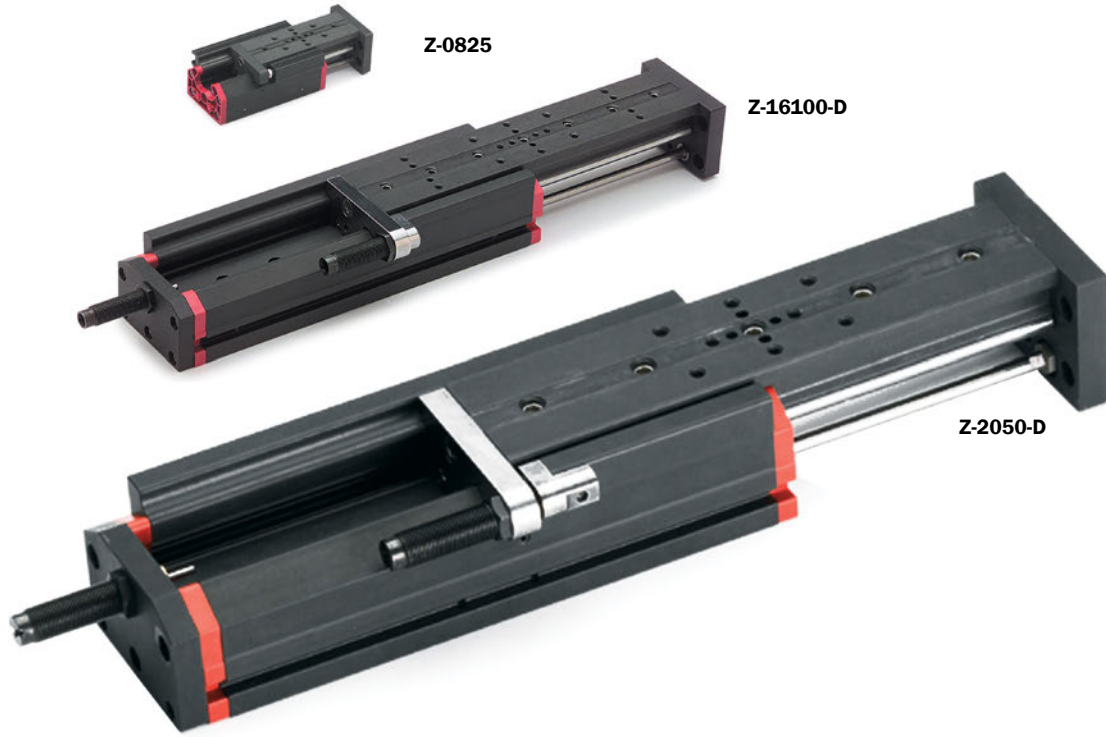
|                           | ZE1610P   | ZE1620P             | ZE1630P            |
|---------------------------|---|---------------------|--------------------|
| Weight                    | 265 g   | 295 g               | 340 g              |
| Minimum actuating time    | 0.050 s   | 0.070 s             | 0.090 s            |
| Maximum working frequency | 3 Hz  | 3 Hz                | 3 Hz               |
| Air consumption per cycle | 4.4 cm <sup>3</sup>                                       | 8.3 cm <sup>3</sup> | 12 cm <sup>3</sup> |
| Stroke                    | 10 mm   | 20 mm               | 30 mm              |
| Extension force at 6 bar  | 110 N   |                     |                    |
| Retraction force at 6 bar | 100 N   |                     |                    |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                    |
| Pressure range            | 2÷8 bar   |                     |                    |
| Temperature range         | 5÷60 °C   |                     |                    |

**Dimensions (mm)**



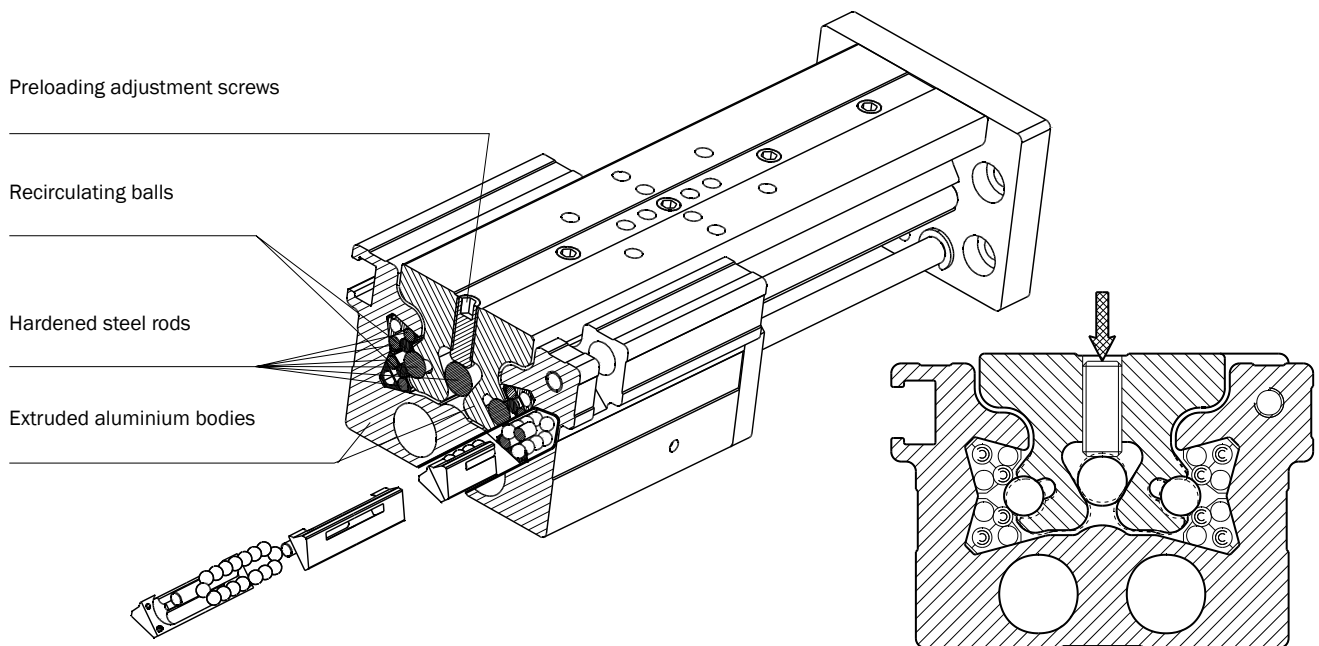
**Pneumatic slides (series Z)**

- Bore 2x8mm, 2x16 or 2x20mm.
- Stroke 25mm, 50mm, 100mm, 150mm and 200mm.
- With or without shock-absorbers.
- Double acting.
- Very favorable performance/price ratio.
- Optional magnetic sensors.



**Adjustable recirculating ball-bearing system**

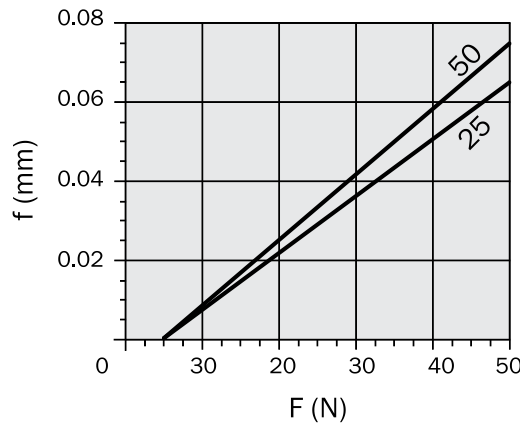
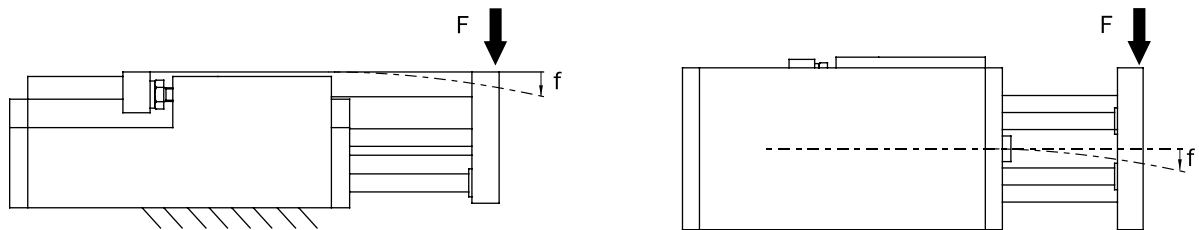
- Low weight as made from extruded aluminium profile.
- High stiffness thanks to the inserted hardened steel rods for guidance.
- Recirculating ball-bearing system provides wear resistance and extended performances.
- Possible adjustment of the preloading and taking up slack.



|                           | Z-0825  | Z-0825-D | Z-0850             | Z-0850-D |
|---------------------------|---|----------|--------------------|----------|
| Weight                    | 230 g   | 270 g    | 320 g              | 360 g    |
| Repetition accuracy       | 0.2 mm  | 0.02 mm  | 0.2 mm             | 0.02 mm  |
| Minimum actuating time    | 0.054 s   | 0.100 s  | 0.080 s            | 0.130 s  |
| Maximum working frequency | 2 Hz  | 1 Hz     | 2 Hz               | 1 Hz     |
| Air consumption per cycle | 6 cm <sup>3</sup>   |          | 11 cm <sup>3</sup> |          |
| Maximun total stroke      | 25 mm   |          | 50 mm              |          |
| Extension force at 6 bar  | 50 N  |          |                    |          |
| Retraction force at 6 bar | 37 N  |          |                    |          |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |          |                    |          |
| Pressure range            | 2 ÷ 8 bar   |          |                    |          |
| Temperature range         | 5 ÷ 60°C.   |          |                    |          |

**Deflection**

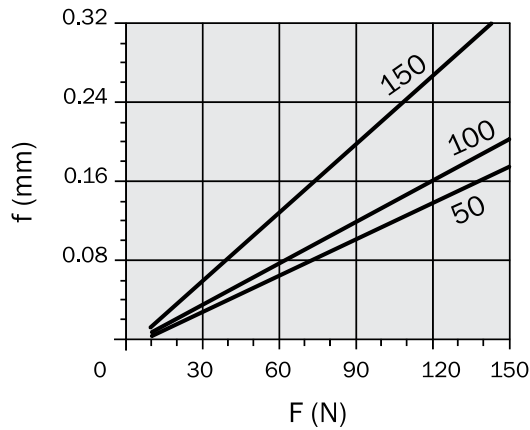
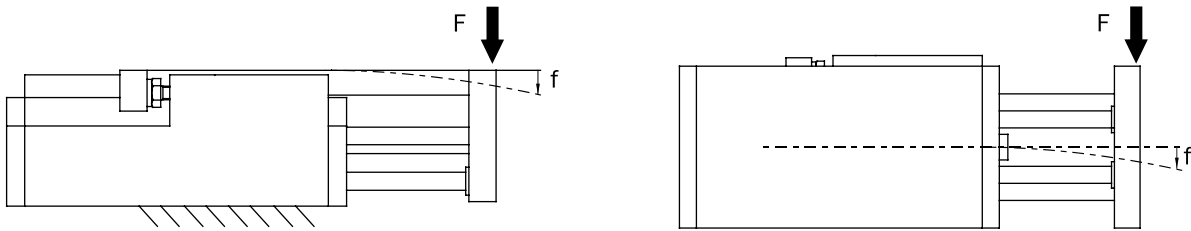
The graph shows the deflection *f* (mm) in two showed directions, as function of the force *F* (N) and the stroke of the slide.



|                           | Z-1650  | Z-1650-D | Z-16100            | Z-16100-D | Z-16150             | Z-16150-D |
|---------------------------|---|----------|--------------------|-----------|---------------------|-----------|
| Weight                    | 620 g   | 730 g    | 1010 g             | 1120 g    | 1340 g              | 1450 g    |
| Repetition accuracy       | 0.2 mm  | 0.02 mm  | 0.2 mm             | 0.02 mm   | 0.2 mm              | 0.02 mm   |
| Minimum actuating time    | 0.080 s   | 0.100 s  | 0.120 s            | 0.150 s   | 0.220 s             | 0.230 s   |
| Maximum working frequency | 2 Hz  | 1 Hz     | 2 Hz               | 1 Hz      | 1 Hz                | 1 Hz      |
| Air consumption per cycle | 44 cm <sup>3</sup>  |          | 95 cm <sup>3</sup> |           | 141 cm <sup>3</sup> |           |
| Maximum total stroke      | 50 mm   |          | 100 mm             |           | 150 mm              |           |
| Extension force at 6 bar  | 200 N   |          |                    |           |                     |           |
| Retraction force at 6 bar | 170 N   |          |                    |           |                     |           |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |          |                    |           |                     |           |
| Pressure range            | 2 ÷ 8 bar   |          |                    |           |                     |           |
| Temperature range         | 5 ÷ 60°C.   |          |                    |           |                     |           |

**Deflection**

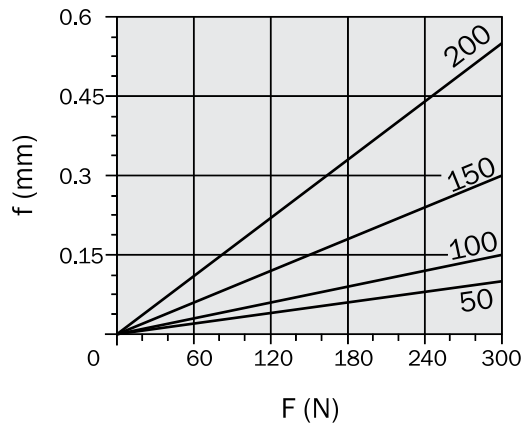
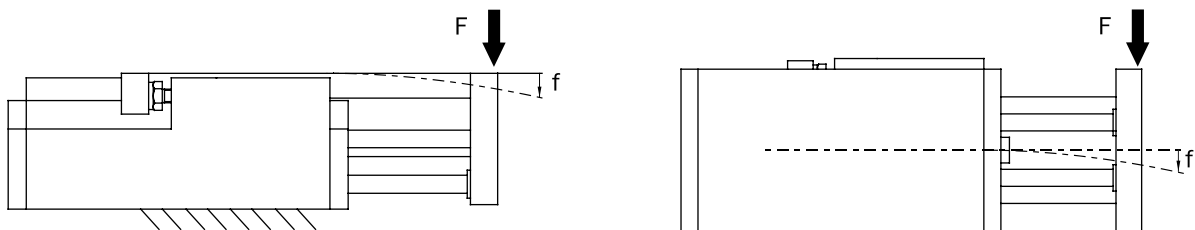
The graph shows the deflection  $f$  (mm) in two showed directions, as function of the force  $F$  (N) and the stroke of the slide.



|                           | Z-2050-D  | Z-20100-D           | Z-20150-D           | Z-20200-D           |
|---------------------------|---|---------------------|---------------------|---------------------|
| Weight                    | 1300 g  | 1950 g              | 2500 g              | 3100 g              |
| Repetition accuracy       | 0.02 mm   | 0.02 mm             | 0.02 mm             | 0.02 mm             |
| Minimum actuating time    | 0.12 s  | 0.19 s              | 0.26 s              | 0.31 s              |
| Maximum working frequency | 1 Hz  | 1 Hz                | 1 Hz                | 1 Hz                |
| Air consumption per cycle | 76 cm <sup>3</sup>  | 155 cm <sup>3</sup> | 227 cm <sup>3</sup> | 310 cm <sup>3</sup> |
| Maximum total stroke      | 50 mm   | 100 mm              | 150 mm              | 200 mm              |
| Extension force at 6 bar  | 330 N   |                     |                     |                     |
| Retraction force at 6 bar | 300 N   |                     |                     |                     |
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |                     |                     |
| Pressure range            | 2 ÷ 8 bar   |                     |                     |                     |
| Temperature range         | 5 ÷ 60°C.   |                     |                     |                     |

**Deflection**

The graph shows the deflection *f* (mm) in two showed directions, as function of the force *F* (N) and the stroke of the slide.



**Safety loads**

Check the tables below.  
 Excessive loads can damage the slide, cause functioning troubles and endanger the safety of the operator.  
 Fx s, Fz s, Mx s, My s, Mz s are maximum permitted static loads.  
 Fx d, Fz d, Mx d, My d, Mz d are maximum permitted dynamic loads.

It is also indicated the minimum actuating time t as a factor of the pay-load m.

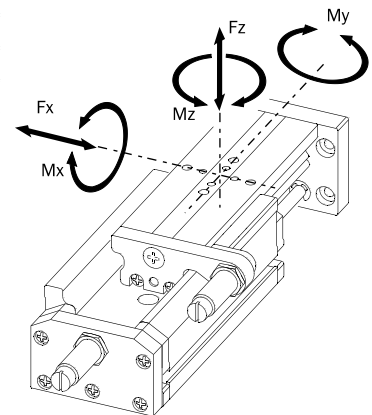
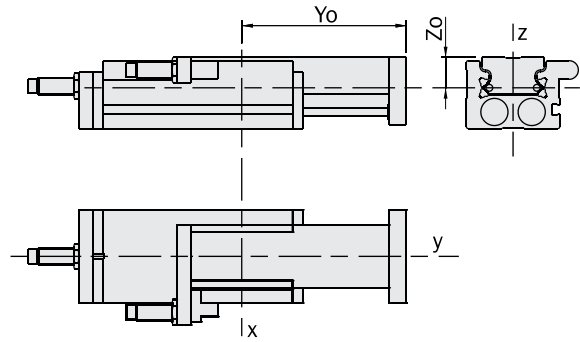
(\*) When the actuating time and the pay-load produce an excessive kinetic energy you must reduce the speed by flow controllers (not supplied).

|       | Z-0825<br>Z-0825-D | Z-0850<br>Z-0850-D | Z-1650<br>Z-1650-D | Z-16100<br>Z-16100-D | Z-16150<br>Z-16150-D | Z-2050-D | Z-20100-D | Z-20150-D | Z-20200-D |
|-------|--------------------|--------------------|--------------------|----------------------|----------------------|----------|-----------|-----------|-----------|
| Zo    | 14.5 mm            | 14.5 mm            | 18 mm              | 18 mm                | 18 mm                | 24 mm    | 24 mm     | 24 mm     | 24 mm     |
| Yo    | 57 mm              | 87 mm              | 97mm               | 157 mm               | 217 mm               | 102 mm   | 167 mm    | 227 mm    | 295 mm    |
| Fx s  | 60 N               | 60 N               | 200 N              | 250 N                | 250 N                | 250 N    | 350 N     | 350 N     | 450 N     |
| Fz s  | 60 N               | 60 N               | 200 N              | 250 N                | 250 N                | 250 N    | 350 N     | 350 N     | 450 N     |
| Mx s  | 3 Nm               | 6 Nm               | 12 Nm              | 24 Nm                | 30 Nm                | 15 Nm    | 36 Nm     | 45 Nm     | 66 Nm     |
| My s  | 3 Nm               | 3 Nm               | 15 Nm              | 24 Nm                | 24 Nm                | 24 Nm    | 36 Nm     | 36 Nm     | 48 Nm     |
| Mz s  | 3 Nm               | 6 Nm               | 12 Nm              | 24 Nm                | 30 Nm                | 15 Nm    | 36 Nm     | 45 Nm     | 66 Nm     |
| Fx d  | 10 N               | 10 N               | 40 N               | 50 N                 | 50 N                 | 50 N     | 70 N      | 70 N      | 80 N      |
| Fz d  | 10 N               | 10 N               | 40 N               | 50 N                 | 50 N                 | 50 N     | 70 N      | 70 N      | 80 N      |
| Mx d  | 0.5 Nm             | 1 Nm               | 2 Nm               | 4 Nm                 | 5 Nm                 | 2.5 Nm   | 6 Nm      | 7.5 Nm    | 11 Nm     |
| My d  | 0.5 Nm             | 0.5 Nm             | 2.5 Nm             | 4 Nm                 | 4 Nm                 | 4 Nm     | 6 Nm      | 6 Nm      | 8 Nm      |
| Mz d  | 0.5 Nm             | 1 Nm               | 2 Nm               | 4 Nm                 | 5 Nm                 | 2.5 Nm   | 6 Nm      | 7.5 Nm    | 11 Nm     |
| m max | 1 kg               | 1 kg               | 4 kg               | 5 kg                 | 5 kg                 | 5 kg     | 7 kg      | 7 kg      | 8 kg      |

| m      | t<br>Z-0825 | t<br>Z-0825-D | t<br>Z-0850 | t<br>Z-0850-D |
|--------|-------------|---------------|-------------|---------------|
| 0.1 kg | 0.054 s     | 0.180 s       | 0.113 s (*) | 0.140 s       |
| 0.2 kg | 0.066 s (*) | 0.170 s       | 0.135 s (*) | 0.137 s       |
| 0.3 kg | 0.075 s (*) | 0.160 s       | 0.155 s (*) | 0.135 s       |
| 0.4 kg | 0.084 s (*) | 0.150 s       | 0.172 s (*) | 0.133 s       |
| 0.5 kg | 0.092 s (*) | 0.140 s       | 0.187 s (*) | 0.130 s       |
| 0.6 kg | 0.099 s (*) | 0.130 s       | 0.201 s (*) | 0.136 s (*)   |
| 0.7 kg | 0.106 s (*) | 0.120 s       | 0.215 s (*) | 0.142 s (*)   |
| 0.8 kg | 0.112 s (*) | 0.110 s       | 0.227 s (*) | 0.147 s (*)   |
| 0.9 kg | 0.118 s (*) | 0.100 s       | 0.239 s (*) | 0.152 s (*)   |
| 1 kg   | 0.124 s (*) | 0.103 s (*)   | 0.250 s (*) | 0.157 s (*)   |

| m      | t<br>Z-1650 | t<br>Z-1650-D | t<br>Z-16100 | t<br>Z-16100-D | t<br>Z-16150 | t<br>Z-16150-D |
|--------|-------------|---------------|--------------|----------------|--------------|----------------|
| 0.1 kg | 0.080 s     | 0.120 s       | 0.163 s (*)  | 0.160          | 0.274 s (*)  | 0.240 s        |
| 0.5 kg | 0.108 s (*) | 0.115 s       | 0.231 s (*)  | 0.155          | 0.367 s (*)  | 0.230 s        |
| 1 kg   | 0.141 s (*) | 0.110 s       | 0.294 s (*)  | 0.180 (*)      | 0.458 s (*)  | 0.264 s (*)    |
| 1.5 kg | 0.168 s (*) | 0.116 s (*)   | 0.346 s (*)  | 0.207 (*)      | 0.534 s (*)  | 0.303 s (*)    |
| 2 kg   | 0.191 s (*) | 0.128 s (*)   | 0.392 s (*)  | 0.230 (*)      | 0.600 s (*)  | 0.336 s (*)    |
| 2.5 kg | 0.212 s (*) | 0.138 s (*)   | 0.432 s (*)  | 0.251 (*)      | 0.659 s (*)  | 0.367 s (*)    |
| 3 kg   | 0.231 s (*) | 0.148 s (*)   | 0.469 s (*)  | 0.270 (*)      | 0.714 s (*)  | 0.395 s (*)    |
| 3.5 kg | 0.248 s (*) | 0.157 s (*)   | 0.503 s (*)  | 0.287 (*)      | 0.765 s (*)  | 0.421 s (*)    |
| 4 kg   | 0.265 s (*) | 0.165 s (*)   | 0.535 s (*)  | 0.303 (*)      | 0.812 s (*)  | 0.445 s (*)    |
| 4.5 kg | -           | -             | 0.566 s (*)  | 0.319 s (*)    | 0.857 s (*)  | 0.468 s (*)    |
| 5 kg   | -           | -             | 0.594 s (*)  | 0.334 s (*)    | 0.900 s (*)  | 0.490 s (*)    |

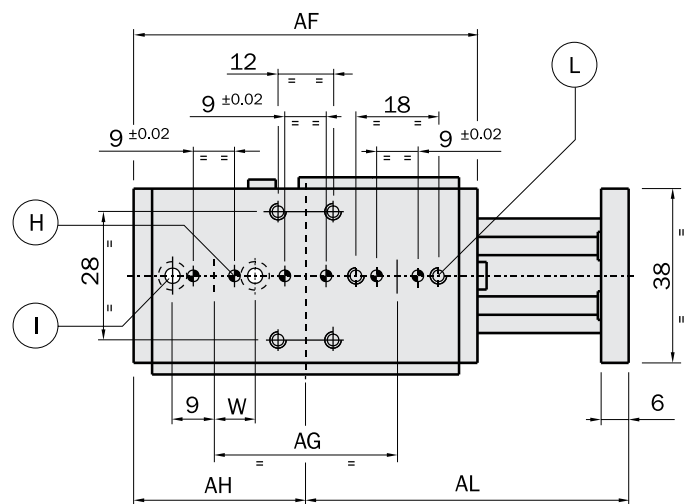
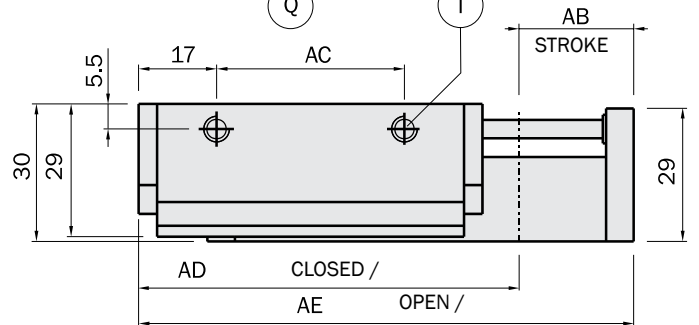
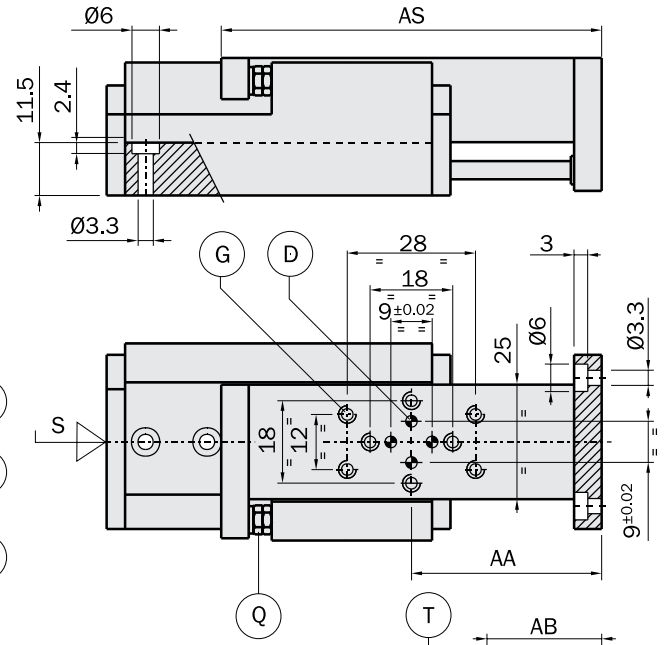
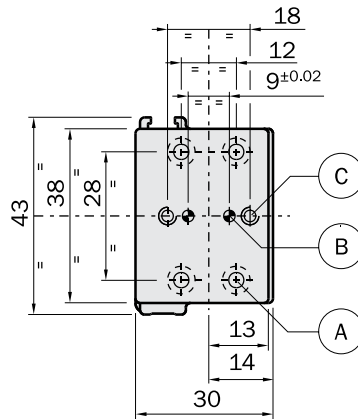
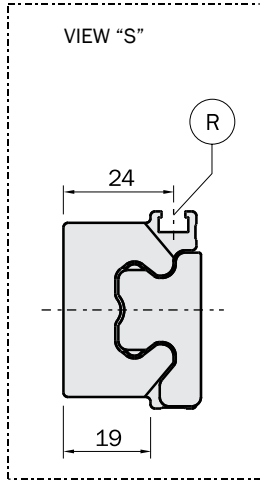
| m    | t<br>Z-2050-D | t<br>Z-20100-D | t<br>Z-20150-D | t<br>Z-20200-D |
|------|---------------|----------------|----------------|----------------|
| 1 kg | 0.135 s       | 0.200 s        | 0.265 s        | 0.310 s        |
| 2 kg | 0.130 s       | 0.195 s        | 0.260 s        | 0.319 s (*)    |
| 3 kg | 0.125 s       | 0.190 s        | 0.270 s (*)    | 0.357 s (*)    |
| 4 kg | 0.120 s       | 0.207 s (*)    | 0.296 s (*)    | 0.391 s (*)    |
| 5 kg | 0.129 s (*)   | 0.224 s (*)    | 0.320 s (*)    | 0.422 s (*)    |
| 6 kg | -             | 0.239 s (*)    | 0.342 s (*)    | 0.451 s (*)    |
| 7 kg | -             | 0.252 s (*)    | 0.363 s (*)    | 0.478 s (*)    |
| 8 kg | -             | -              | -              | 0.503 s (*)    |





Dimensions (mm)

|        | AA   | AB | AC | AD  | AE  | AF  | AG | AH   | AL   | W | AS  |
|--------|------|----|----|-----|-----|-----|----|------|------|---|-----|
| Z-0825 | 41.5 | 25 | 41 | 83  | 108 | 75  | 40 | 37.5 | 70.5 | - | 83  |
| Z-0850 | 59   | 50 | 76 | 118 | 168 | 110 | 50 | 55   | 113  | 9 | 118 |

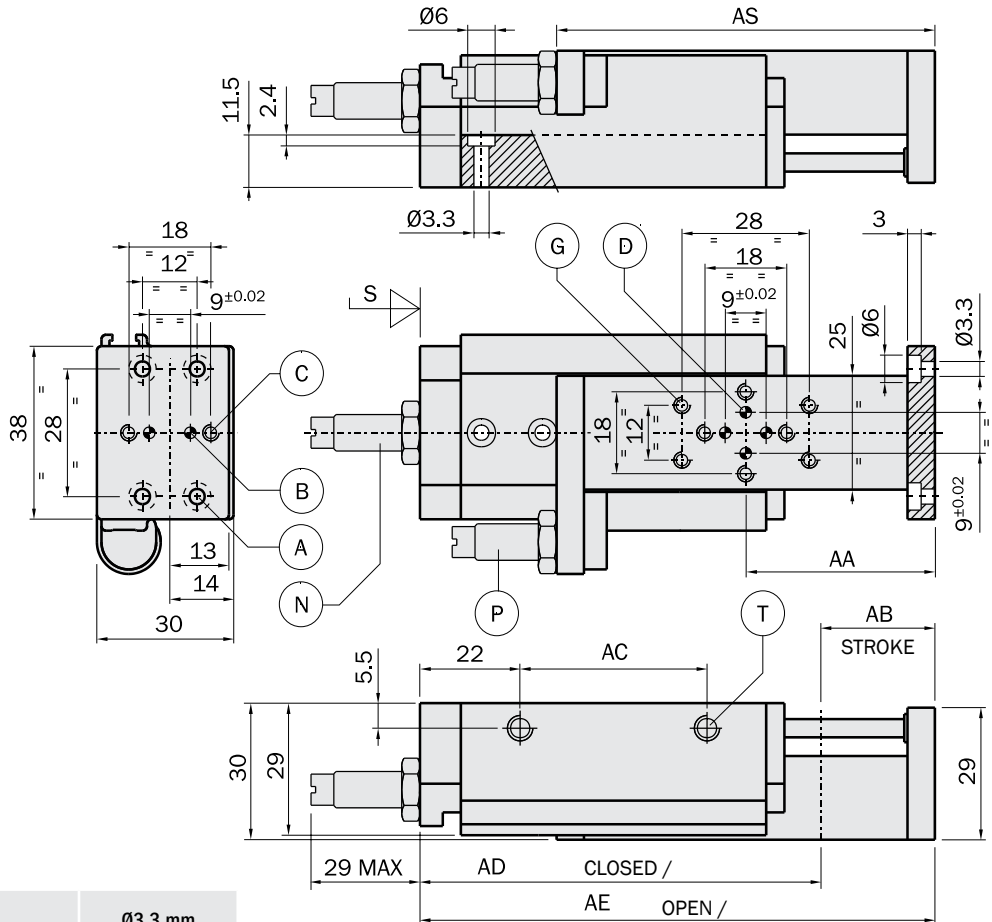
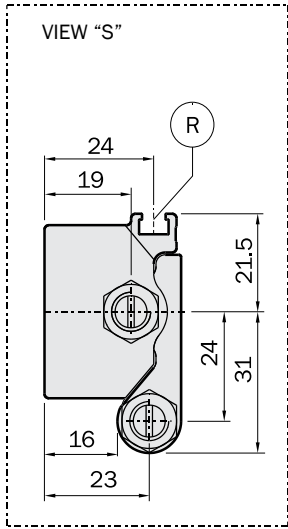


|   |                              |               |
|---|------------------------------|---------------|
| A | Through hole for fastening   | Ø3.3 mm       |
| B | Dowel pin hole               | Ø2.5H8x4.5 mm |
| C | Threaded hole for fastening  | M3x6 mm       |
| D | Dowel pin hole               | Ø2.5H8x5 mm   |
| G | Threaded hole for fastening  | M3x5 mm       |
| H | Dowel pin hole               | Ø2.5H8x6 mm   |
| I | Through hole for fastening   | Ø3.3 mm       |
| L | Threaded hole for fastening  | M3x6 mm       |
| N | Retraction stroke adjustment |               |
| P | Extension stroke adjustment  |               |
| R | Gimatic sensor slot          |               |
| T | Air connection               | M5            |

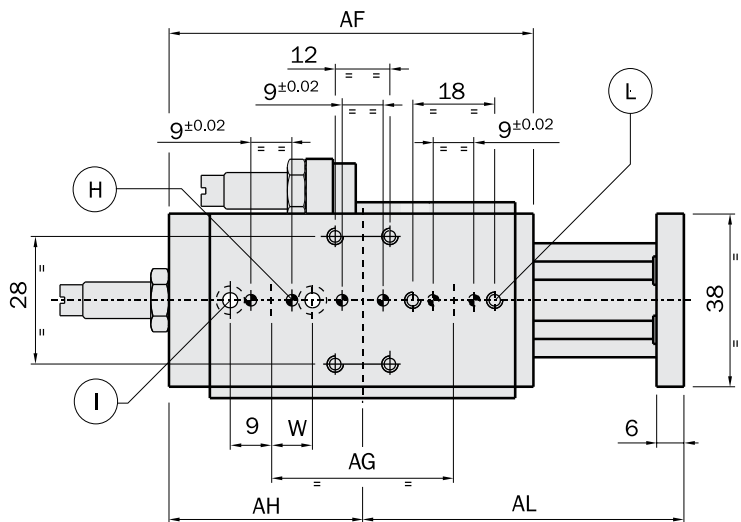


Dimensions (mm)

|          | AA   | AB | AC | AD  | AE  | AF  | AG | AH   | AL   | W | AS  |
|----------|------|----|----|-----|-----|-----|----|------|------|---|-----|
| Z-0825-D | 41.5 | 25 | 41 | 88  | 113 | 80  | 40 | 42.5 | 70.5 | - | 83  |
| Z-0850-D | 59   | 50 | 76 | 123 | 173 | 115 | 50 | 60   | 113  | 9 | 118 |



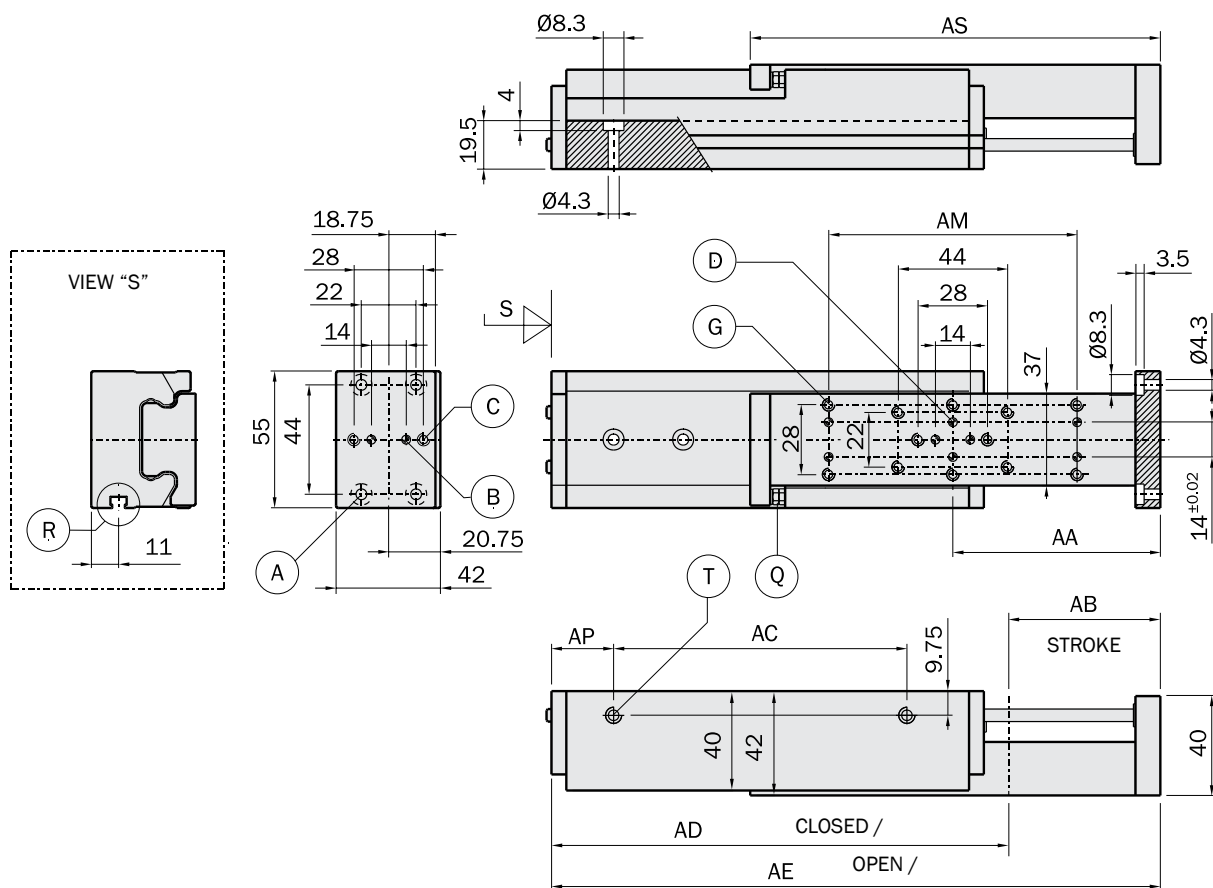
|   |                              |               |
|---|------------------------------|---------------|
| A | Through hole for fastening   | Ø3.3 mm       |
| B | Dowel pin hole               | Ø2.5H8x4.5 mm |
| C | Threaded hole for fastening  | M3x6 mm       |
| D | Dowel pin hole               | Ø2.5H8x5 mm   |
| G | Threaded hole for fastening  | M3x5 mm       |
| H | Dowel pin hole               | Ø2.5H8x6 mm   |
| I | Through hole for fastening   | Ø3.3 mm       |
| L | Threaded hole for fastening  | M3x6 mm       |
| N | Retraction stroke adjustment |               |
| P | Extension stroke adjustment  |               |
| R | Gimatic sensor slot          |               |
| T | Air connection               | M5            |



FIRST ANGLE PROJECTION

**Dimensions (mm)**

|         | AA    | AB  | AC  | AD  | AE  | AF  | AG  | AH  | AL  | AM  | AN | W  | AS  |
|---------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| Z-1650  | 68.5  | 50  | 82  | 135 | 185 | 124 | 62  | 62  | 123 | -   | -  | 21 | 135 |
| Z-16100 | 103.5 | 100 | 144 | 205 | 305 | 194 | 100 | 97  | 208 | 120 | -  | 25 | 205 |
| Z-16150 | 138.5 | 150 | 204 | 275 | 425 | 264 | 160 | 132 | 293 | 140 | 28 | 30 | 275 |

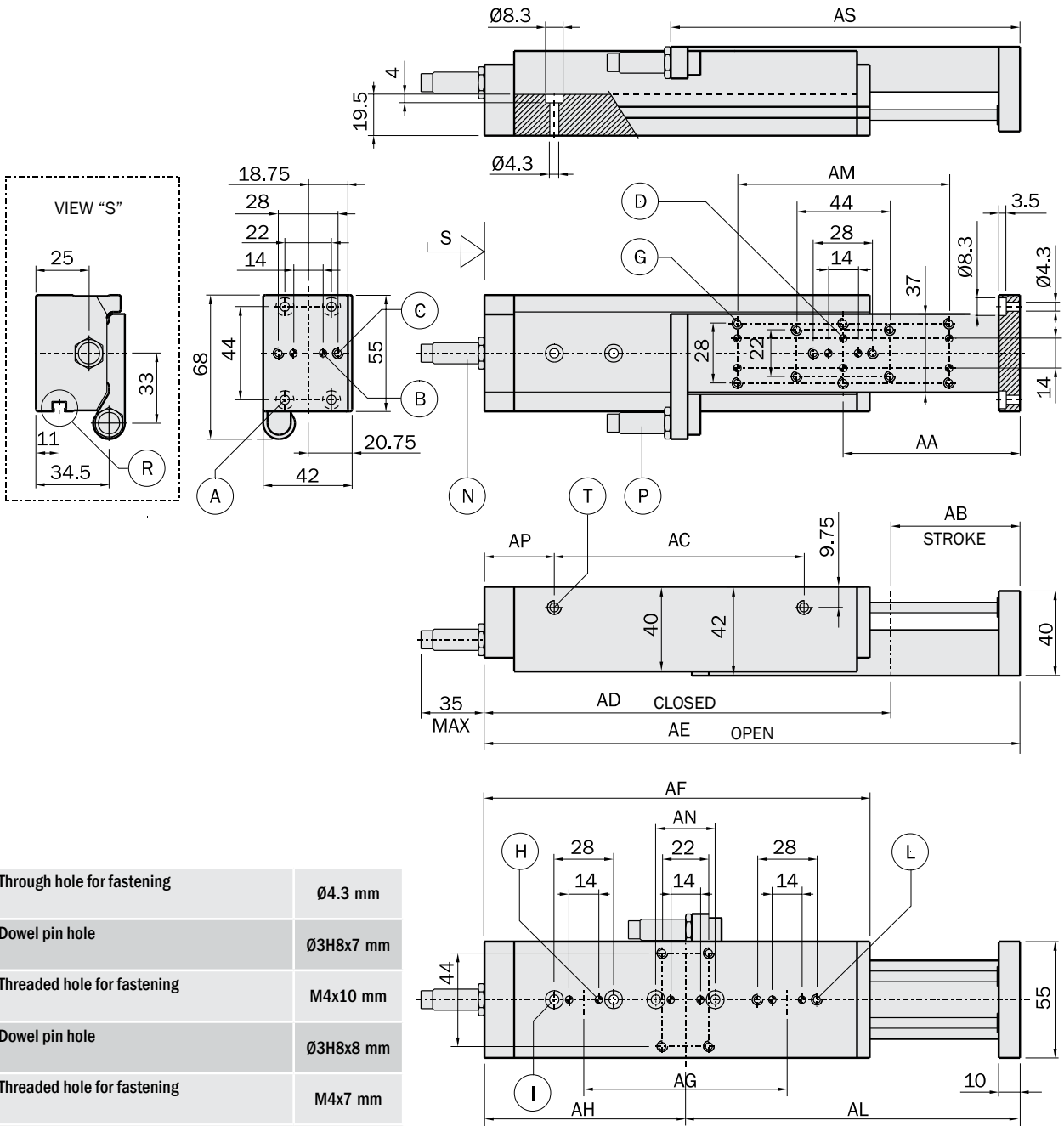


|   |                             |           |
|---|-----------------------------|-----------|
| A | Through hole for fastening  | Ø4.3 mm   |
| B | Dowel pin hole              | Ø3H8x7 mm |
| C | Threaded hole for fastening | M4x10 mm  |
| D | Dowel pin hole              | Ø3H8x8 mm |
| G | Threaded hole for fastening | M4x7 mm   |
| H | Dowel pin hole              | Ø3H8x7 mm |
| I | Through hole for fastening  | Ø4.3 mm   |
| L | Threaded hole for fastening | M4x6 mm   |
| Q | Extension stroke adjustment |           |
| R | Gimatic sensor slot         |           |
| T | Air connection              | M5        |



Dimensions (mm)

|           | AA    | AB  | AC  | AD  | AE  | AF  | AG  | AH  | AL  | AM  | AN | AP | AS  |
|-----------|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| Z-1650-D  | 68.5  | 50  | 82  | 143 | 193 | 132 | 62  | 70  | 123 | -   | -  | 29 | 135 |
| Z-16100-D | 103.5 | 100 | 144 | 213 | 313 | 202 | 100 | 105 | 208 | 120 | -  | 33 | 205 |
| Z-16150-D | 138.5 | 150 | 204 | 283 | 433 | 272 | 160 | 140 | 293 | 140 | 28 | 38 | 275 |

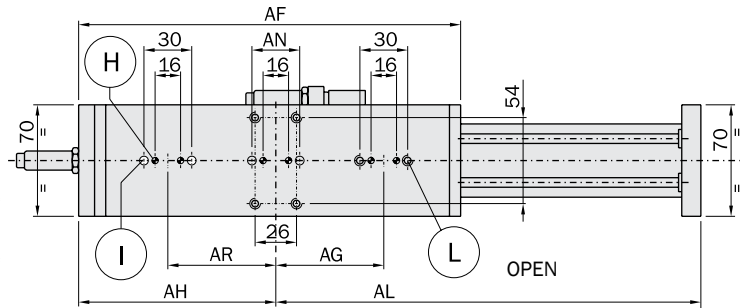
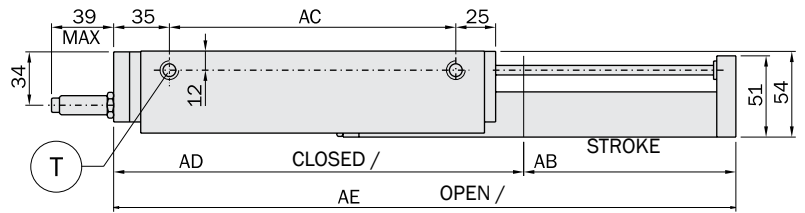
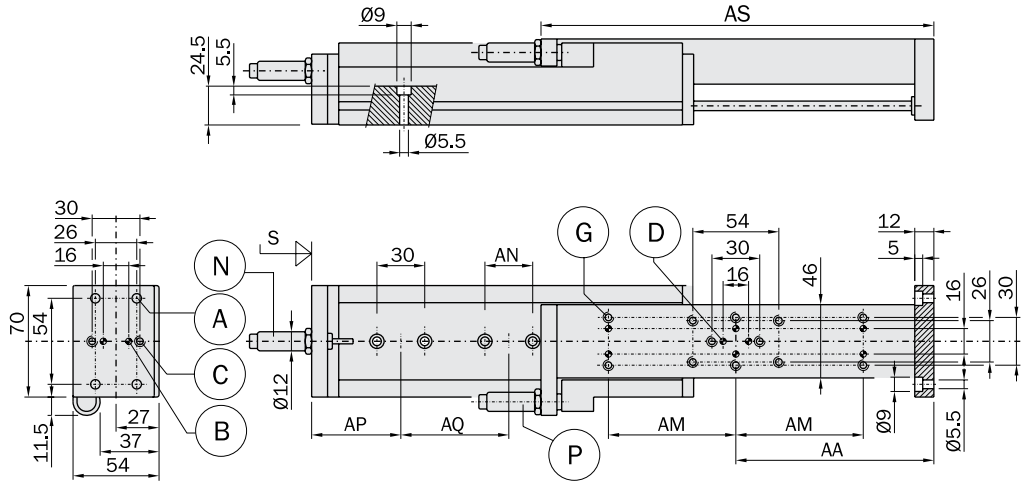
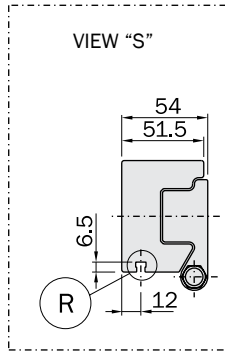


|   |                              |           |
|---|------------------------------|-----------|
| A | Through hole for fastening   | Ø4.3 mm   |
| B | Dowel pin hole               | Ø3H8x7 mm |
| C | Threaded hole for fastening  | M4x10 mm  |
| D | Dowel pin hole               | Ø3H8x8 mm |
| G | Threaded hole for fastening  | M4x7 mm   |
| H | Dowel pin hole               | Ø3H8x7 mm |
| I | Through hole for fastening   | Ø4.3 mm   |
| L | Threaded hole for fastening  | M4x6 mm   |
| N | Retraction stroke adjustment |           |
| P | Extension stroke adjustment  |           |
| R | Gimatic sensor slot          |           |
| T | Air connection               | M5        |

FIRST ANGLE PROJECTION

**Dimensions (mm)**

|           | AA  | AB  | AC  | AD  | AE  | AF  | AG  | AH  | AL  | AM  | AN | AP | AQ | AR | AS  |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|
| Z-2050-D  | 72  | 50  | 80  | 155 | 205 | 140 | 32  | 75  | 130 | -   | -  | 43 | -  | 32 | 142 |
| Z-20100-D | 112 | 100 | 160 | 235 | 335 | 220 | 35  | 115 | 220 | -   | -  | 80 | -  | 35 | 222 |
| Z-20150-D | 147 | 150 | 230 | 305 | 455 | 290 | 80  | 143 | 312 | 80  | 30 | 63 | 80 | 80 | 292 |
| Z-20200-D | 190 | 200 | 316 | 391 | 591 | 376 | 120 | 193 | 398 | 118 | 30 | -  | -  | -  | 378 |



|   |                              |            |
|---|------------------------------|------------|
| A | Through hole for fastening   | Ø5.5 mm    |
| B | Dowel pin hole               | Ø4H8x10 mm |
| C | Threaded hole for fastening  | M5x12 mm   |
| D | Dowel pin hole               | Ø4H8x10 mm |
| G | Threaded hole for fastening  | M5x8 mm    |
| H | Dowel pin hole               | Ø4H8x8 mm  |
| I | Through hole for fastening   | Ø5.5 mm    |
| L | Threaded hole for fastening  | M5x10 mm   |
| N | Retraction stroke adjustment |            |
| P | Extension stroke adjustment  |            |
| R | Gimatic sensor slot          |            |
| T | Air connection               | 1/8" Gas   |

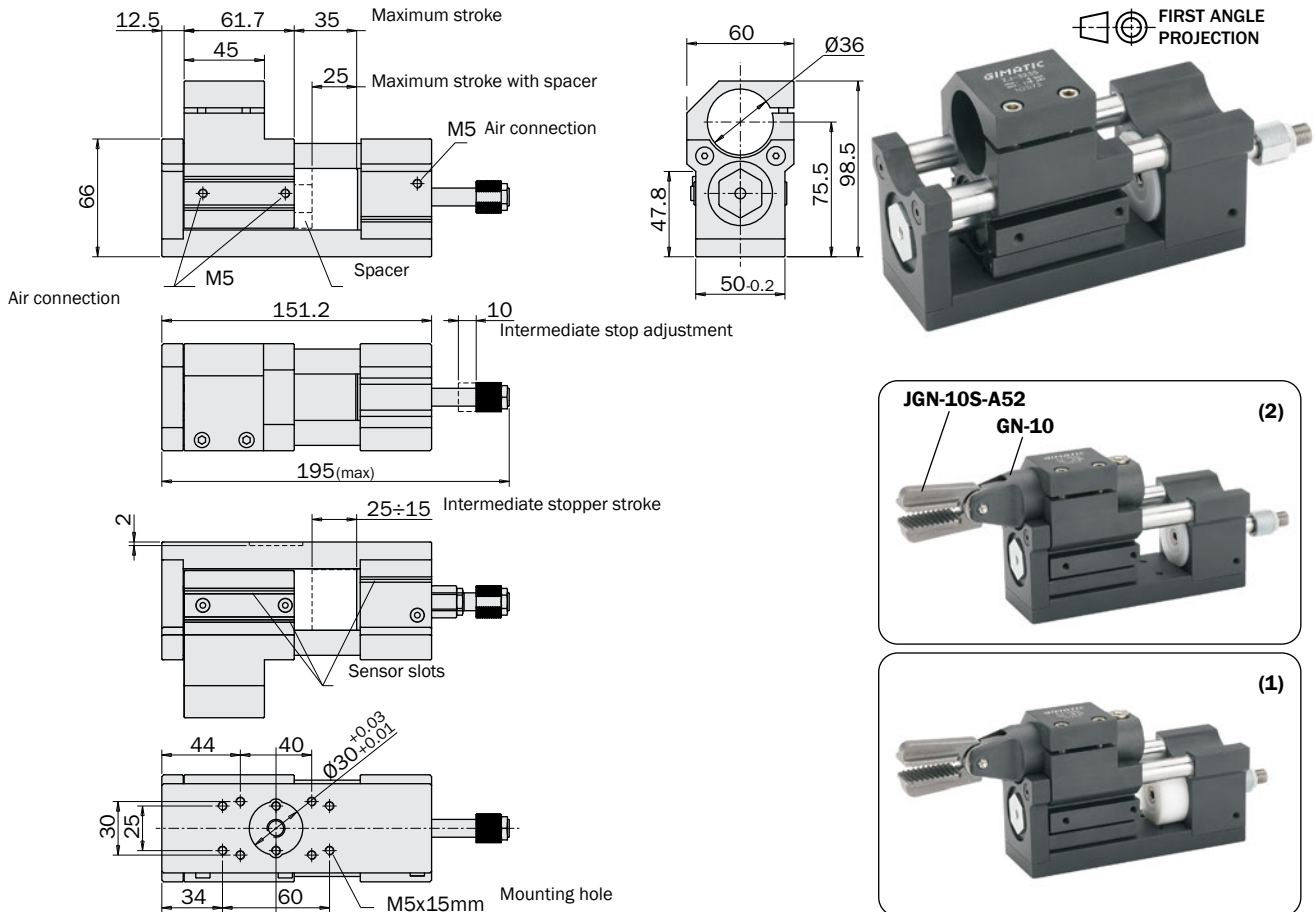


### Double stroke slide for large sprue grippers

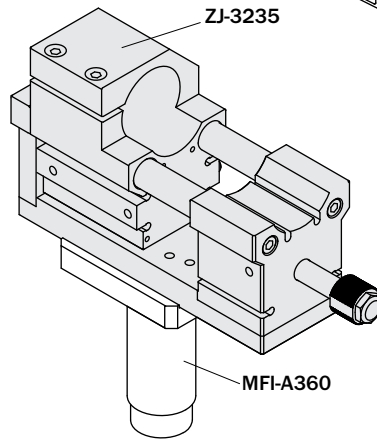
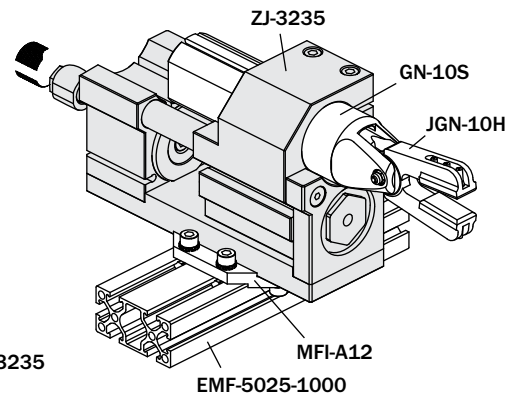
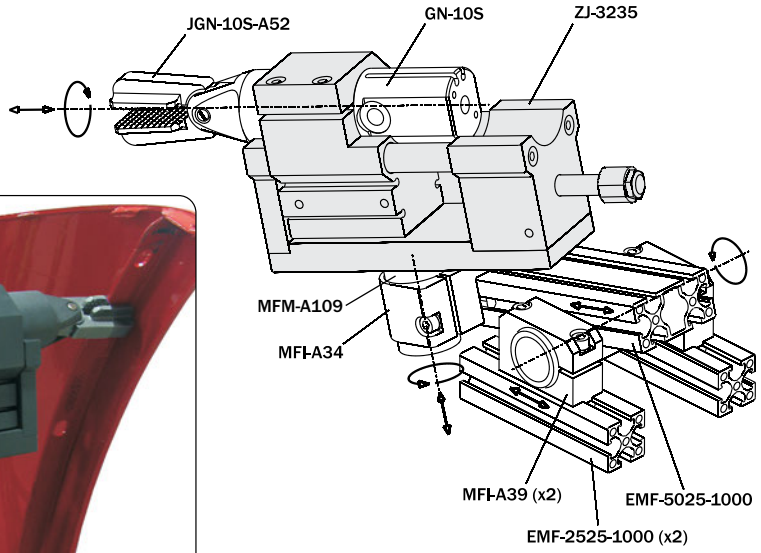
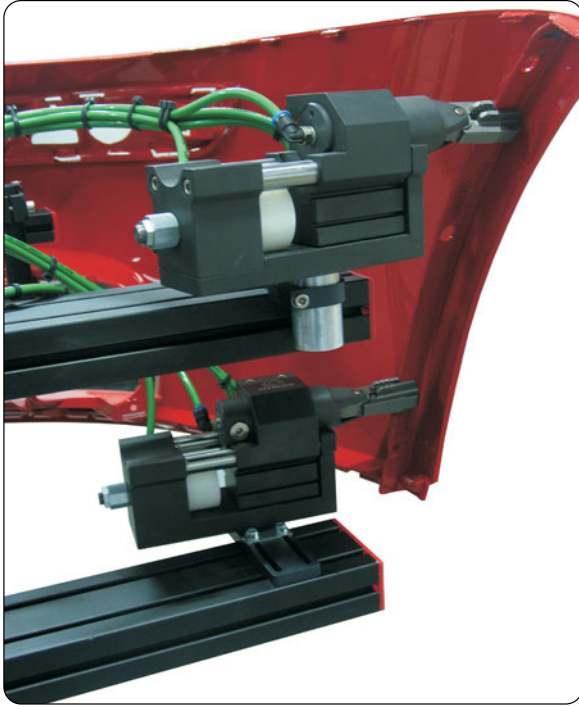
- Double-effect main cylinder with piston bore 32mm and stroke 35mm.
- Single-acting intermediate stopper (1).
- Dia. 36mm clamp for GN-10 actuator (2).
- Used for car bumpers extracting.
- Optional magnetic sensors.
- Stroke reduction spacer included.

|                                    | ZJ-3235   |
|------------------------------------|---|
| Medium                             | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |
| Pressure range                     | 2 ÷ 8 bar   |
| Temperature range                  | 5° ÷ 60 °C  |
| Main stroke without spacer         | 35 mm   |
| Intermediate stroke without spacer | 10 ÷ 20 mm  |
| Main stroke with spacer            | 25 mm   |
| Intermediate stroke with spacer    | 0 ÷ 10 mm   |
| Pulling force at 6 bar             | 450 N   |
| Weight                             | 1330 g  |

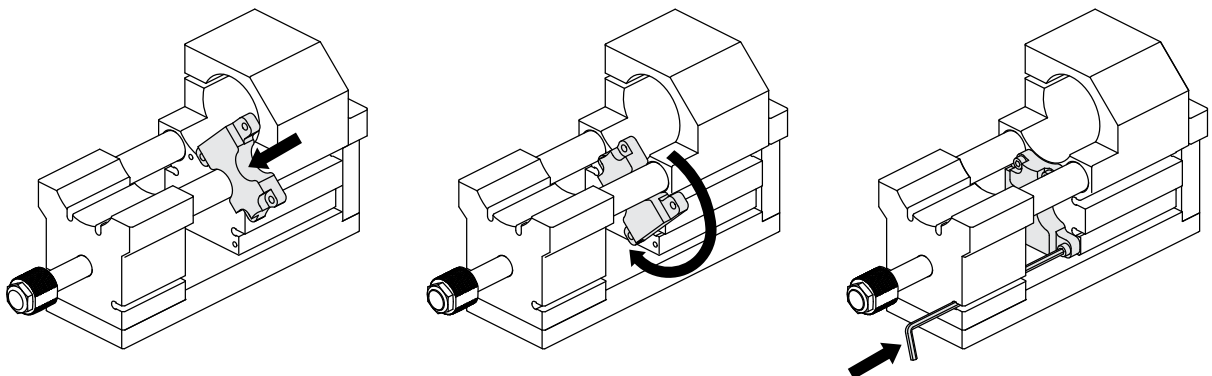
### Dimensions (mm)



**Application example**



**Spacer mounting**



**Slides for air nippers actuators**

- Sliding nippers (with multiple cut action for harder to cut sprues) can be assembled.
- Available in two sizes: bore 16 and 25 mm.
- Spring open (NO), or spring closed (NC).
- With (S versions), or without sensor slots.
- Optional magnetic sensors **1**.
- Adjustable stroke (maximum 10mm).



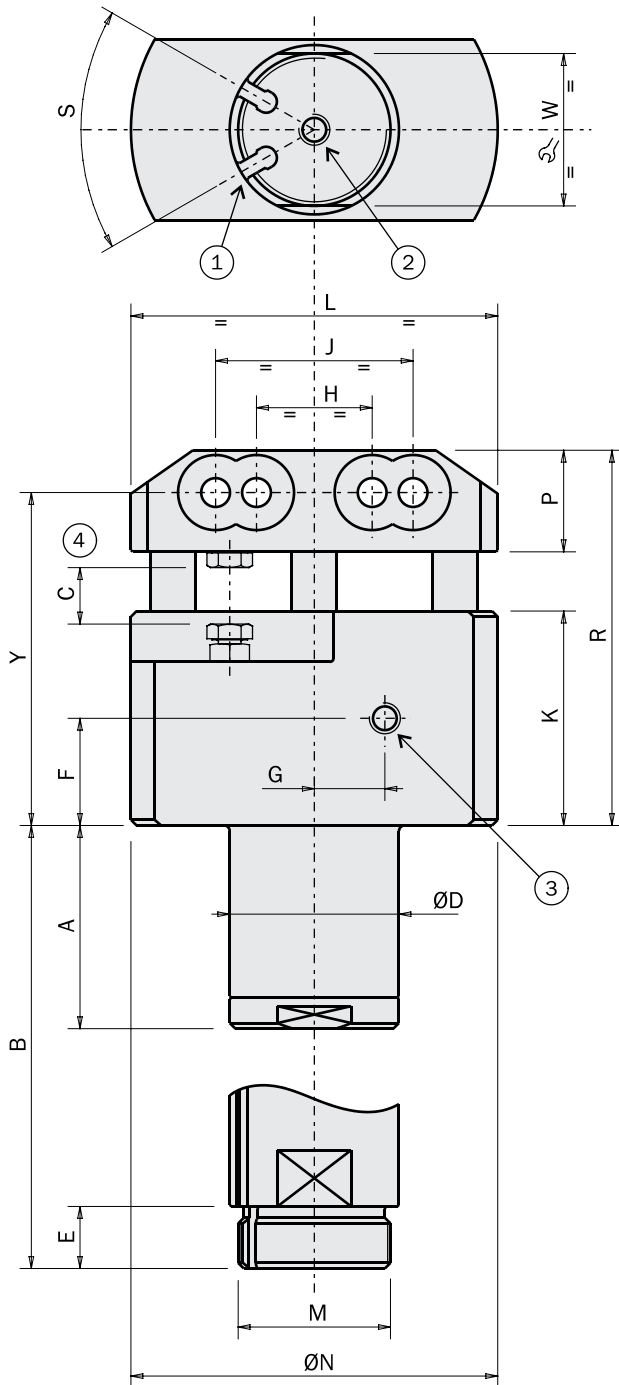
|                           | ZG-16-NO<br>ZG-16S-NO                                     | ZG-16-NC<br>ZG-16S-NC | ZG-25-NO<br>ZG-25S-NO | ZG-25-NC<br>ZG-25S-NC |
|---------------------------|---|-----------------------|-----------------------|-----------------------|
| Medium                    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                       |                       |                       |
| Pressure range            | 4 ÷ 8 bar   |                       |                       |                       |
| Temperature range         | 5° ÷ 60 °C  |                       |                       |                       |
| Stroke                    | 10 mm   | 10 mm                 | 10 mm                 | 10 mm                 |
| Piston bore               | Ø16 mm  | Ø16 mm                | Ø25 mm                | Ø25 mm                |
| Retraction force at 6 bar | 65 N  | 120 N                 | 210 N                 | 275 N                 |
| Extension force at 6 bar  | 135 N   | 80 N                  | 300 N                 | 240 N                 |
| Retraction force at 0 bar | 0 N   | 25 N                  | 0 N                   | 30 N                  |
| Extension force at 0 bar  | 25 N  | 0 N                   | 30 N                  | 0 N                   |
| Cycle air consumption     | 5.6 cm <sup>3</sup>                                       | 5.6 cm <sup>3</sup>   | 21 cm <sup>3</sup>    | 21 cm <sup>3</sup>    |
| Weight without air nipper | 180 g<br>200 g  | 180 g<br>200 g        | 360 g<br>425 g        | 360 g<br>425 g        |

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

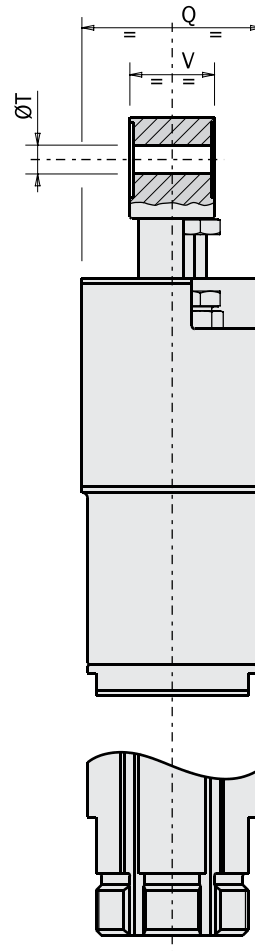


**Dimensions (mm)**

- ① Sensor groove
- ② Air connection M5
- ③ Air connection M5
- ④ Adjustable stroke 0-10 mm



|   | ZG-16... | ZG-16S... | ZG-25... | ZG-25S... |
|---|----------|-----------|----------|-----------|
| A | 29       | -         | 36       | -         |
| B | -        | 63        | -        | 78.5      |
| C | 10 max   | 10 max    | 10 max   | 10 max    |
| D | Ø20      | Ø20       | Ø30      | Ø30       |
| E | -        | 8         | -        | 11        |
| F | 17       | 17        | 19       | 19        |
| G | 6        | 6         | 12.5     | 12.5      |
| H | 20.5     | 20.5      | 20.5     | 20.5      |
| J | -        | -         | 35       | 35        |
| K | 31       | 31        | 38       | 38        |
| L | 50       | 50        | 65       | 65        |
| M | -        | M17x1     | -        | M27x1     |
| N | Ø50      | Ø50       | Ø65      | Ø65       |
| P | 18       | 18        | 18       | 18        |
| Q | 25       | 25        | 32       | 32        |
| R | 59.5     | 59.5      | 66.5     | 66.5      |
| S | -        | 80°       | -        | 60°       |
| T | Ø5.1     | Ø5.1      | Ø5.1     | Ø5.1      |
| V | 15       | 15        | 15       | 15        |
| W | 17       | 17        | 27       | 27        |
| Y | 52       | 52        | 59       | 59        |



FIRST ANGLE PROJECTION

## Vacuum actuator series VAQ

- Operated by vacuum only.
- The extension and the retraction movements are automatically actuated.
- The stroke is self-adjusting.
- Option VAQN for anti-rotation rod.
- The suction cup **1** must be ordered separately.



VAQ1820



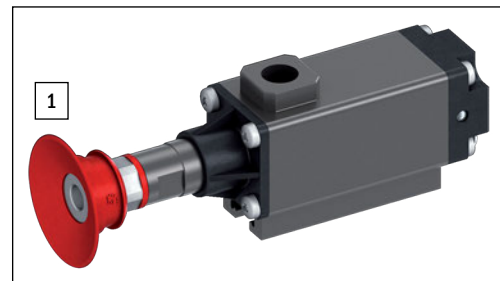
VAQ1840



VAQN1820



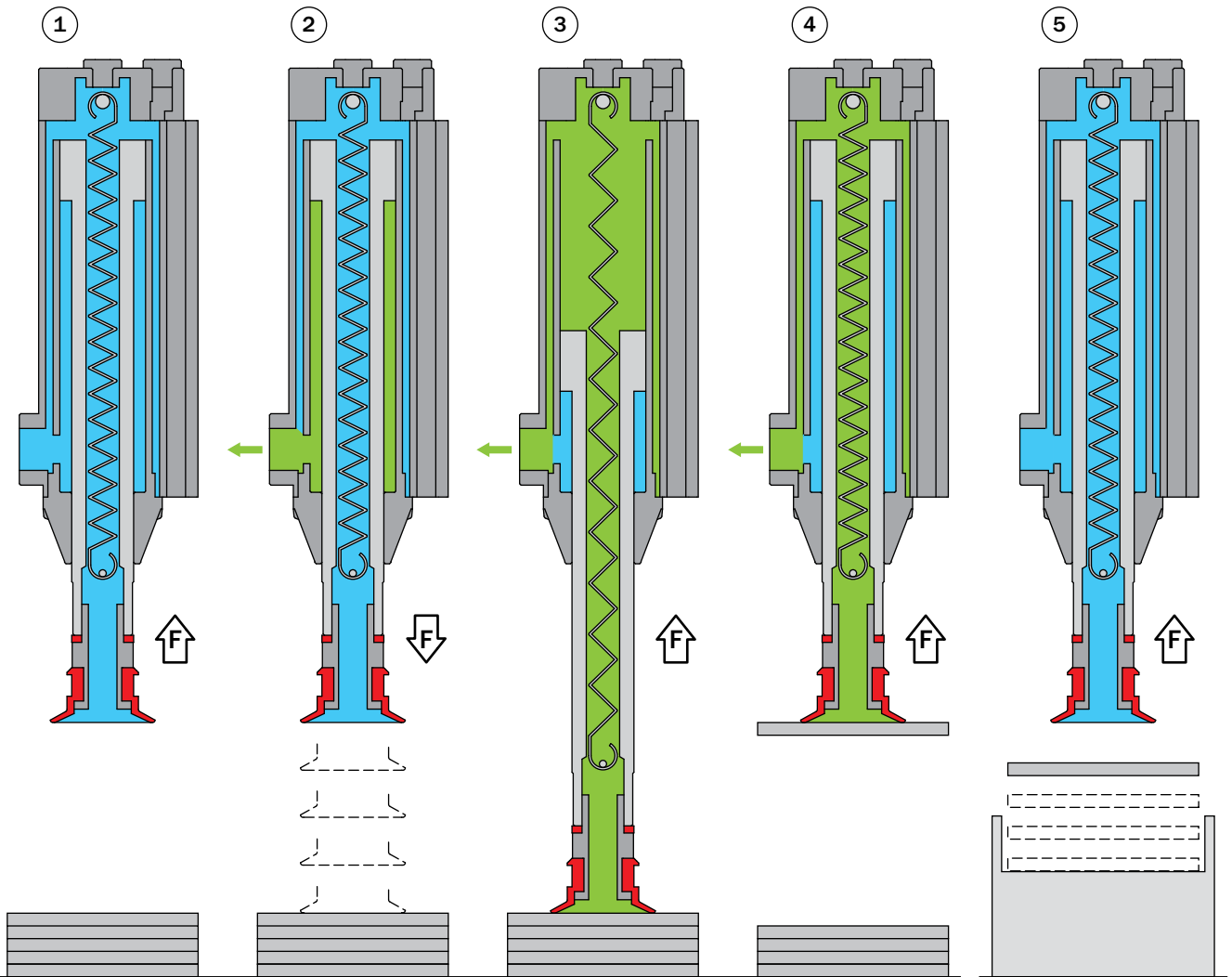
VAQN1840



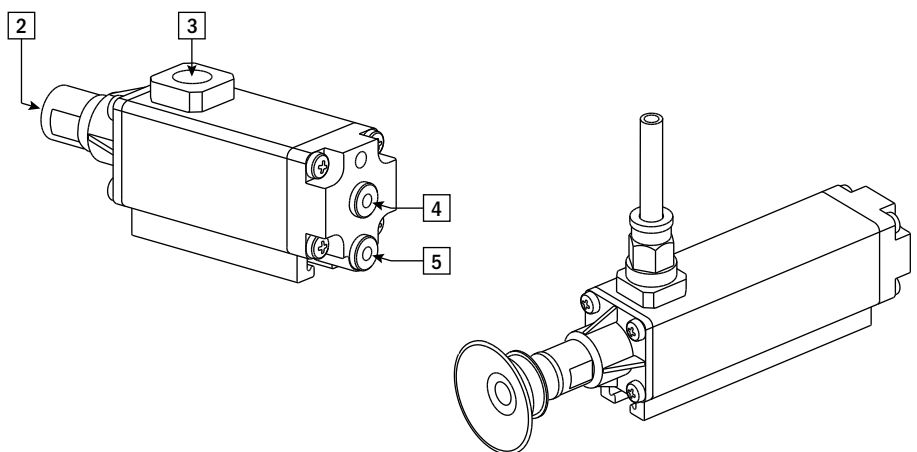
|                              | VAQ1820<br>9900043   | VAQ1840<br>9900044 | VAQN1820<br>9900045 | VAQN1840<br>9900046 |
|------------------------------|----------------------|--------------------|---------------------|---------------------|
| Medium                       | Vacuum -0.3 ÷ -1 bar |                    |                     |                     |
| Temperature range            | 10 ÷ 40°C.           |                    |                     |                     |
| Retraction force at -0.6 bar | 10 N                 |                    |                     |                     |
| Maximum recommended load     | 5 N                  |                    |                     |                     |
| Total stroke                 | 25 mm                | 55 mm              | 25 mm               | 55 mm               |
| Stroke with full force       | 20 mm                | 40 mm              | 20 mm               | 40 mm               |
| Weight                       | 90 g                 | 125 g              | 105 g               | 145 g               |

**Working principle**

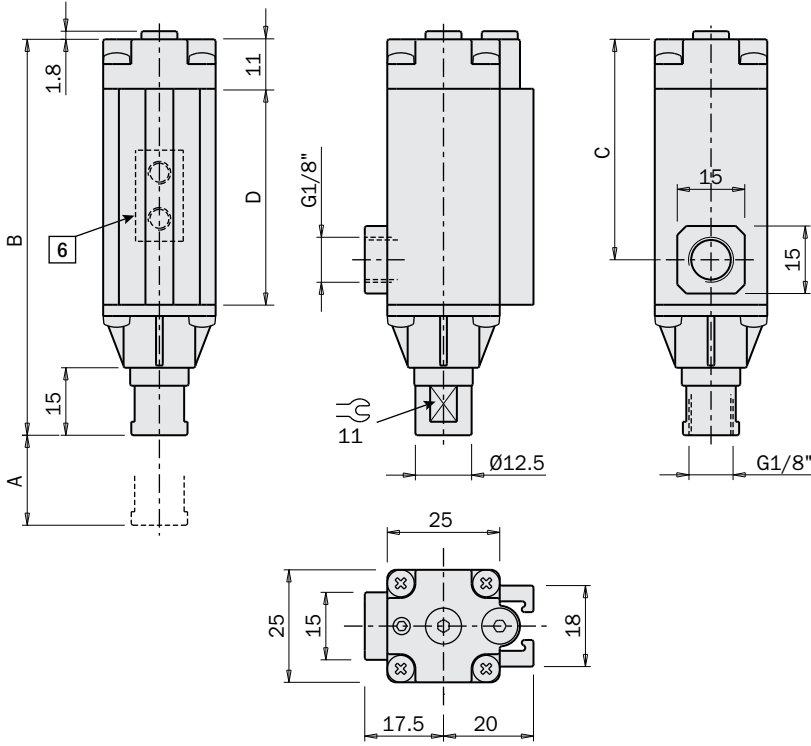
- 1- Without vacuum, the rod is retracted by the spring force.
  - 2- When vacuum is applied, the pressure under the piston is lower than the pressure over the piston and the rod travels forward.
  - 3- The pressures invert as soon as the vacuum cup makes contact with an object.
  - 4- Thus the rod retracts immediately, lifting the object.
  - 5- When the vacuum is removed, the object is released, but the spring holds the rod retracted.
- (Acurately, instead of removing vacuum, a pressure impulse can be provided by the air port over the piston).



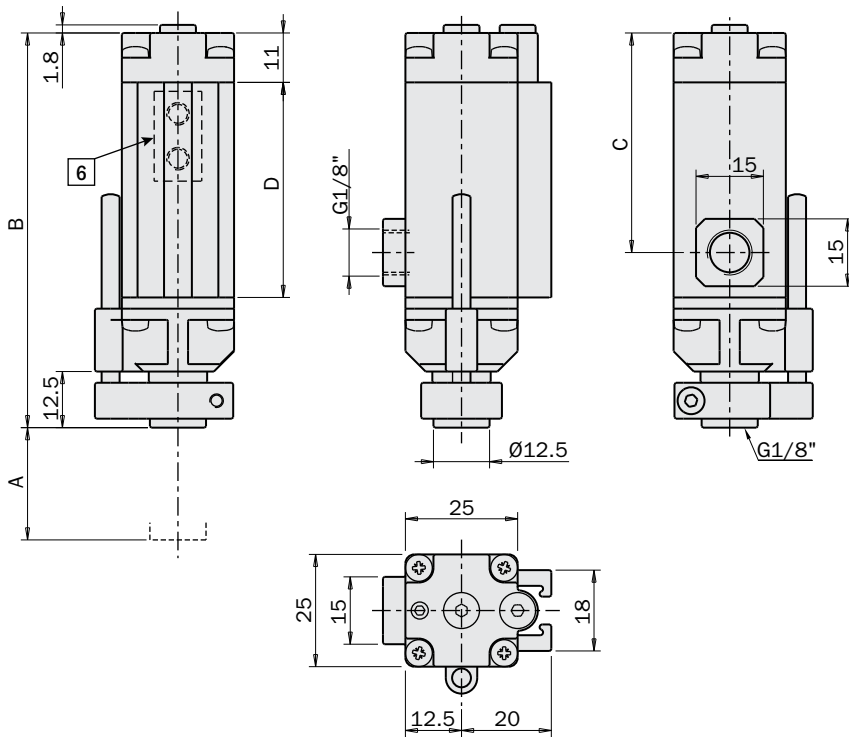
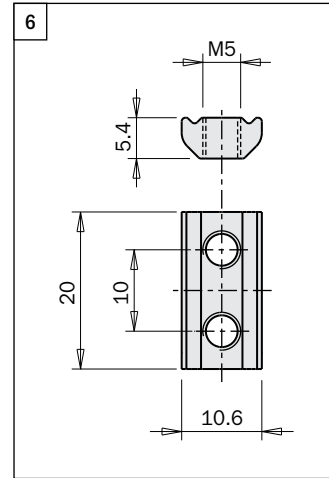
- 2 G1/8  
Female thread for suction cup
- 3 G1/8  
Vacuum supply port
- 4 M5  
Pressure impulse connection
- 5 M5  
Vacuum sensor connection



## Dimensions (mm)



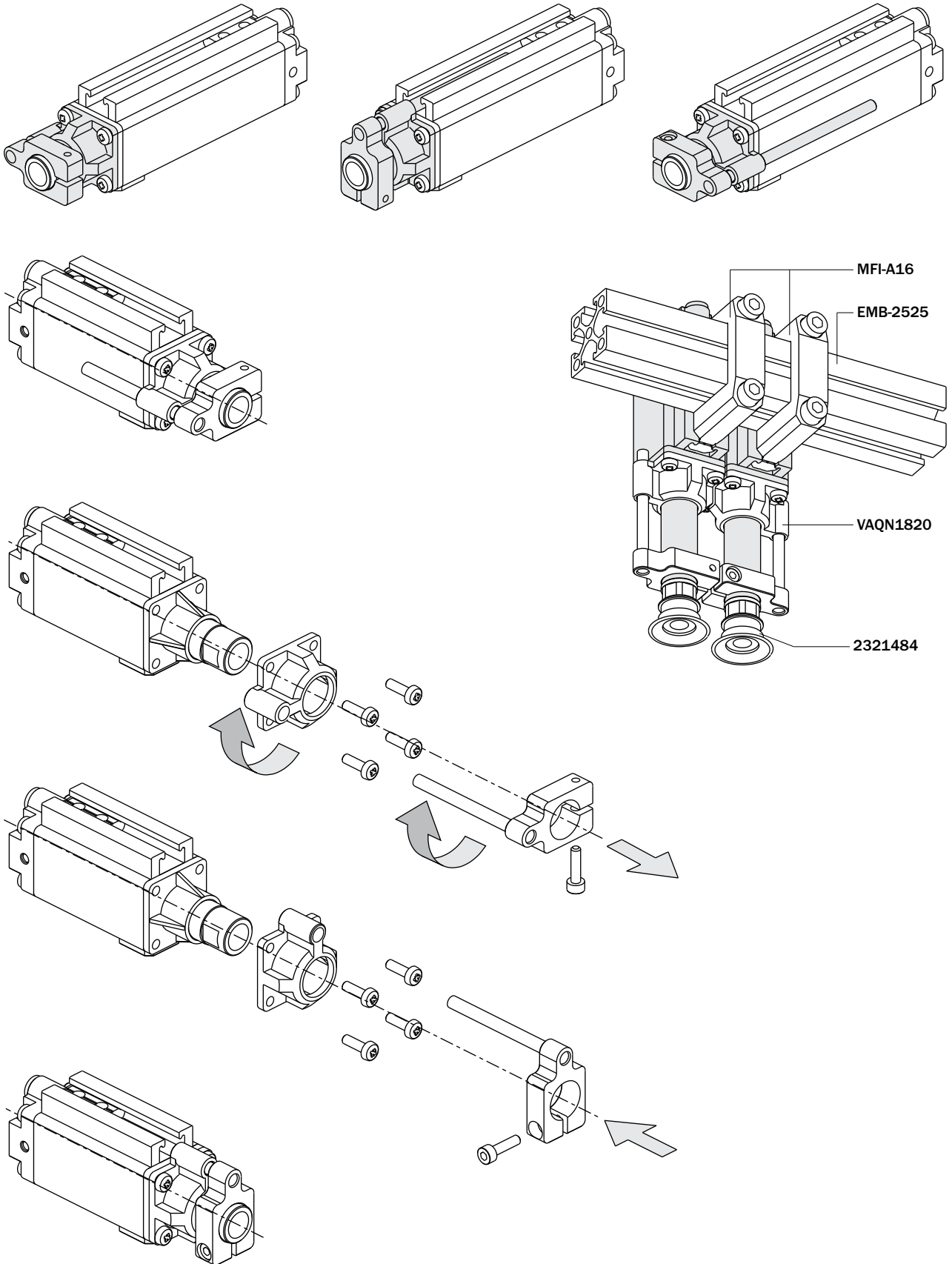
|   | VAQ1820<br>VAQN1820 | VAQ1840<br>VAQN1840 |
|---|---------------------|---------------------|
| A | 20                  | 40                  |
| B | 88                  | 119                 |
| C | 49                  | 80                  |
| D | 48                  | 79                  |



 FIRST ANGLE  
PROJECTION

**Accessories**

The anti-rotation device can be positioned on 3 sides, based on the space available.





**VS-INTRO**

*Vacuum cup suspensions*



**VSD**

*Non-rotative suspensions with smooth-body and adjustable clamp*



**VSL**

*Smooth-body non-rotative telescopic suspensions*



**VSNF / VSNTF**

*Non-rotative suspensions, with smooth body & threaded-body and brake*



**VSC**

*Threaded-body non-rotative telescopic suspensions*



**VSRF / VSRTF**

*Rotative suspensions, with smooth body and threaded-body and brake*



**VSR / VSRT**

*Smooth-body & threaded-body rotative suspensions*



**VAB**

*Ball joint*



**VSE / VSET**

*Smooth-body & threaded-body non-rotative suspensions with integral elbow arms*



**AF**

*Threaded nipples*



**VVX**

*Non-rotative heavy duty stainless suspensions*



**VAM**

*Elbow arms*



**VSRTG**

*Rotative stainless suspensions with threaded body*



**VAC**

*Elbow arms*



**VSNG / VSNTG**

*Smooth-body & threaded-body non-rotative telescopic suspensions*



**VSX**

*Spring rod*



**VSS**

*Telescopic self-retracting suspensions*



**VMK**

*Universal suspensions*



A business of BARNES

**SUSPENSIONS**

---



**Vacuum cup suspensions**

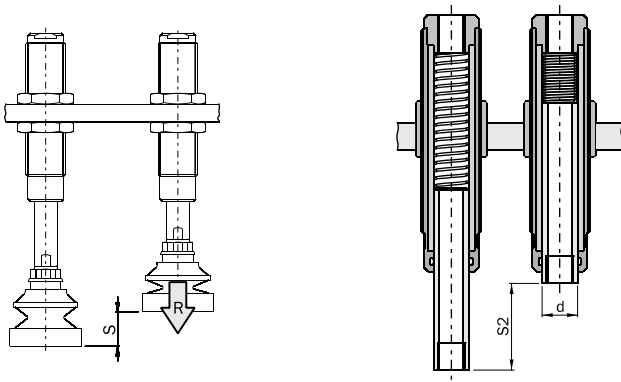
- The suspensions (or buffers, or level compensators) are used to keep the suction cups in position as the robot approaches.
- Gimatic offers a range specifically designed for Plastics applications.
- They are typically mounted on EOATs (End Of Arm Toolings) with MFI brackets.

**Reaction force**

The reaction force depends on the compression (S) of the internal spring. And also on the piston diameter (d) and operation pressure (p), in the case of telescopic suspensions. Use the following formula for calculation.

$$R = R1 + K \cdot S + d^2 \cdot \frac{\pi}{40} \cdot p$$

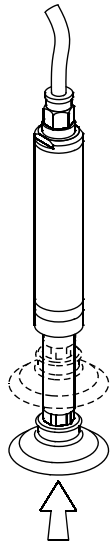
- R [N] Reaction force
- R1 [N] Spring force at the beginning
- K [N/mm] Spring rate
- S [mm] Compression stroke
- d [mm] Piston bore
- p [bar] Pressure
- R2 [N] Spring force at the end-stroke
- S2 [mm] Maximum stroke
- m [g] Weight





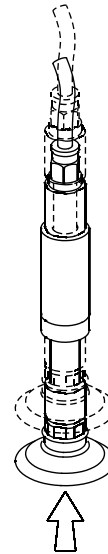
**Telescopic suspensions**

- VSC
- VSL
- VSS



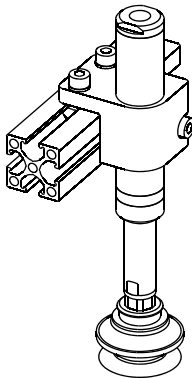
**Through rod suspensions**

- VSR
- VSRT
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSRTG
- VSNG
- VSNTG
- VSD



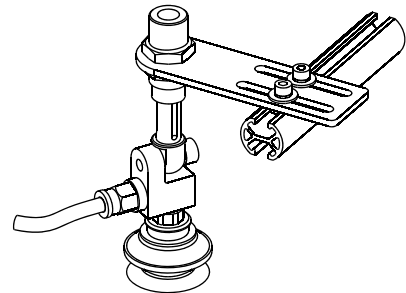
**Suspensions with smooth body**

- VSL
- VSS
- VSR
- VSN
- VSE
- VVX
- VSNG
- VSD
- VSNF
- VSRF



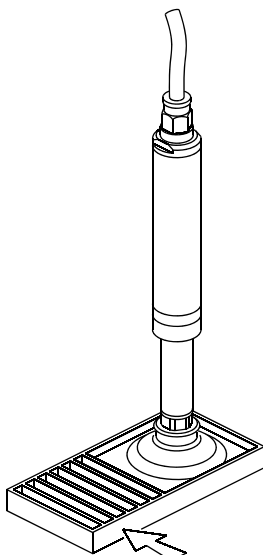
**Suspensions with threaded body**

- VSC
- VSRT
- VSNT
- VSET
- VSRTG
- VSNTG
- VSNTF
- VSRTF



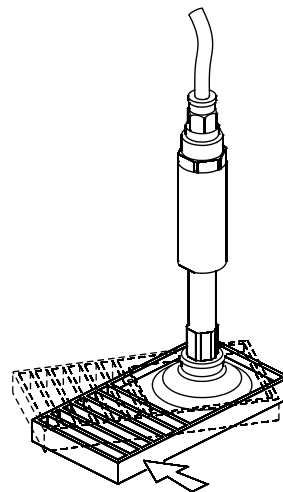
**Non-rotative suspensions**

- VSC
- VSL
- VSN
- VSNT
- VSE
- VSET
- VVX
- VSNG
- VSNTG
- VSD
- VSNF
- VSNTF



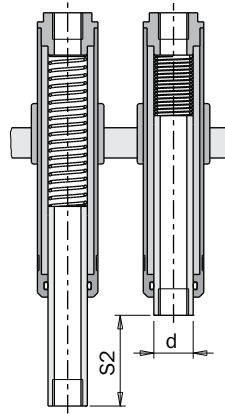
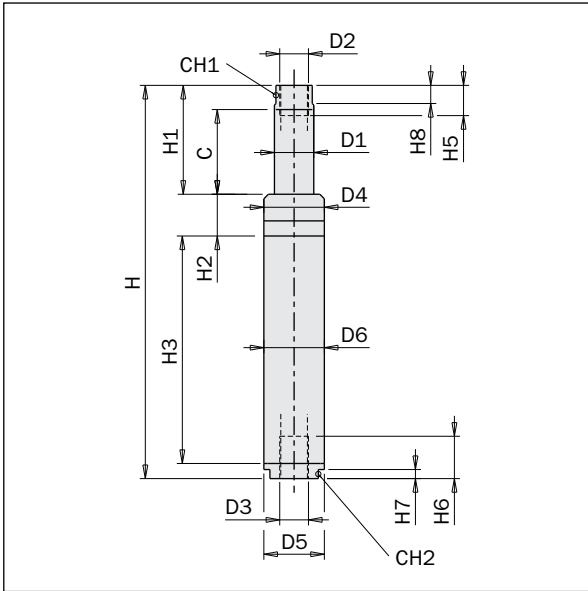
**Rotative suspensions**

- VSS
- VSR
- VSRT
- VSRTG
- VSRF
- VSRTF



**Smooth-body non-rotative telescopic suspensions**

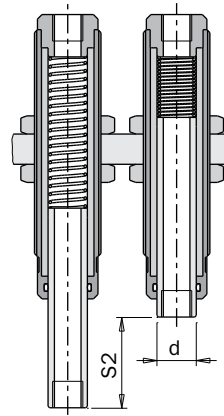
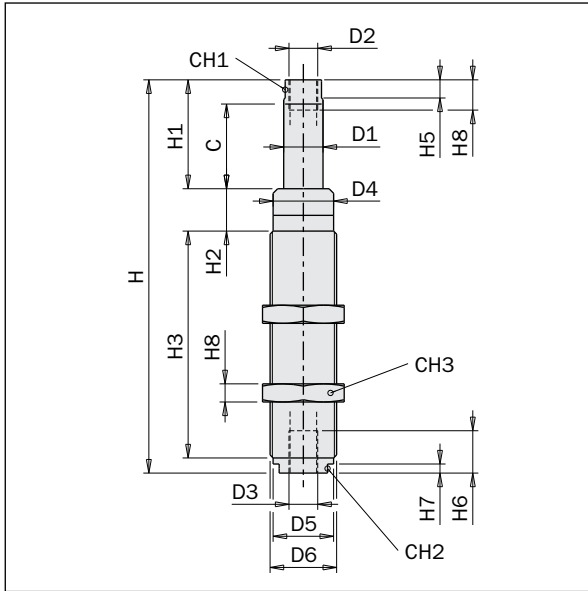
- Body and rod in anodized aluminum.
- Anti-friction treatment on the rod.
- Smooth movement thanks to the plastic bearing.
- Non-rotative rod with reduced tolerance.
- Telescopic lay-out: fittings and hoses don't move.
- Unidirectional sealing: only for vacuum applications.
- Pressure range: -1 ÷ 0 bar.
- FDA-H1 food-grade grease.



|          | VSL1620 | VSL2030 | VSL2430 |
|----------|---------|---------|---------|
| H [mm]   | 100     | 130     | 130     |
| H1 [mm]  | 26      | 36      | 36      |
| H2 [mm]  | 12      | 14      | 14      |
| H3 [mm]  | 57      | 75      | 75      |
| H4 [mm]  | 5       | 5       | 5       |
| H5 [mm]  | 10      | 10      | 10      |
| H6 [mm]  | 14      | 14      | 14      |
| H7 [mm]  | 3       | 3       | 3       |
| H8 [mm]  | 5       | 6       | 6       |
| D1 [mm]  | Ø8      | Ø13     | Ø16     |
| D2       | M5      | G1/8"   | G1/4"   |
| D3       | M5      | G1/8"   | G1/4"   |
| D4 [mm]  | Ø14.5   | Ø20     | Ø23     |
| D5 [mm]  | Ø14.5   | Ø20     | Ø23     |
| D6 [mm]  | Ø16     | Ø20     | Ø24     |
| CH1 [mm] | 7       | 12      | 14      |
| CH2 [mm] | 13      | 16      | 20      |
| C [mm]   | 20      | 30      | 30      |
| S2 [mm]  | 20      | 30      | 30      |
| d [mm]   | 8       | 13      | 16      |
| K [N/mm] | 0.311   | 0.239   | 0.334   |
| R1 [N]   | 9.338   | 14.80   | 20.05   |
| R2 [N]   | 16.04   | 22.37   | 30.42   |
| m [g]    | 30      | 55      | 70      |

**Threaded-body non-rotative telescopic suspensions**

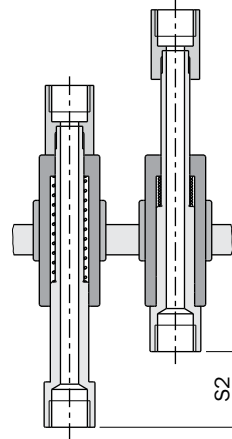
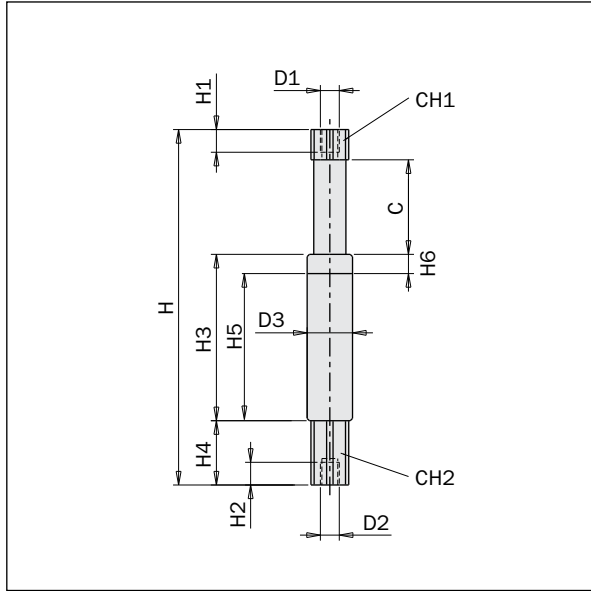
- Body and rod in anodized aluminum.
- Anti-friction treatment on the rod.
- Smooth movement thanks to the plastic bearing.
- Non-rotative rod with reduced tolerance.
- Telescopic lay-out: fittings and hoses don't move.
- Unidirectional sealing: only for vacuum applications.
- Pressure range: -1 ÷ 0 bar.
- FDA-H1 food-grade grease.



|          | VSC1620 | VSC2230 | VSC2530 |
|----------|---------|---------|---------|
| H [mm]   | 100     | 130     | 130     |
| H1 [mm]  | 26      | 36      | 36      |
| H2 [mm]  | 12      | 14      | 14      |
| H3 [mm]  | 57      | 75      | 75      |
| H4 [mm]  | 5       | 5       | 5       |
| H5 [mm]  | 10      | 10      | 10      |
| H6 [mm]  | 14      | 14      | 14      |
| H7 [mm]  | 3       | 3       | 3       |
| H8 [mm]  | 5       | 6       | 6       |
| D1 [mm]  | Ø8      | Ø13     | Ø16     |
| D2       | M5      | G1/8"   | G1/4"   |
| D3       | M5      | G1/8"   | G1/4"   |
| D4 [mm]  | Ø14.5   | Ø20     | Ø23     |
| D5 [mm]  | Ø14.5   | Ø20     | Ø23     |
| D6       | M16x1   | M22x1.5 | M25x1.5 |
| CH1 [mm] | 7       | 12      | 14      |
| CH2 [mm] | 13      | 16      | 20      |
| CH3 [mm] | 19      | 27      | 32      |
| C [mm]   | 20      | 30      | 30      |
| S2 [mm]  | 20      | 30      | 30      |
| d [mm]   | 8       | 13      | 16      |
| K [N/mm] | 0.311   | 0.239   | 0.334   |
| R1 [N]   | 9.338   | 14.80   | 20.05   |
| R2 [N]   | 16.04   | 22.37   | 30.42   |
| m [g]    | 35      | 80      | 115     |

**Smooth-body rotative suspensions**

- Body and rod in anodized aluminum.
- Rotative rod.
- Pressure range: -1 ÷ 8 bar.
- Spring in stainless steel.



**Click for Pricing & Add to Cart**



NEW

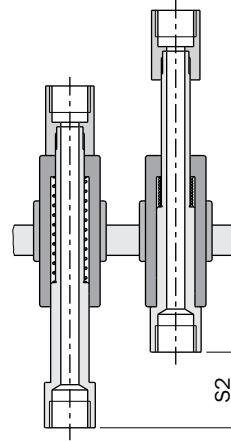
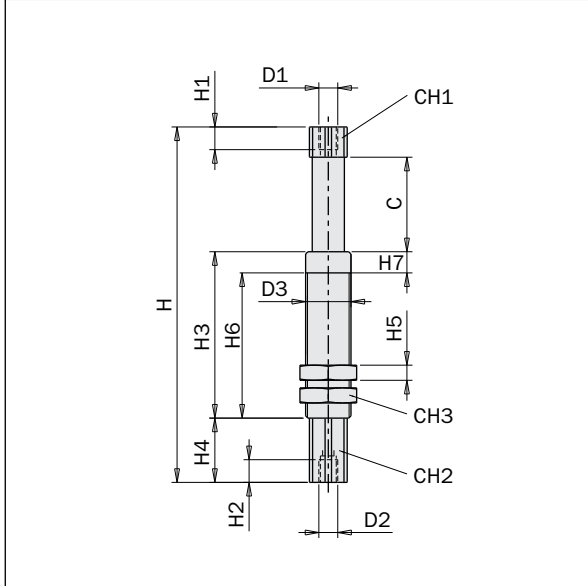
NEW

|          | VSR1010 | VSR1025 | VSR1420 | VSR1435 | VSR2025F18 | VSR2025F14 | VSR2050F18 | VSR2050F14 |
|----------|---------|---------|---------|---------|------------|------------|------------|------------|
| H [mm]   | 56      | 90.5    | 107     | 142     | 126        | 126        | 183.5      | 183.5      |
| H1 [mm]  | 5       | 5       | 7       | 7       | 10         | 10         | 10         | 10         |
| H2 [mm]  | 5       | 5       | 7       | 7       | 10         | 10         | 10         | 10         |
| H3 [mm]  | 24.5    | 44      | 52      | 72      | 58         | 58         | 90.5       | 90.5       |
| H4 [mm]  | 13.5    | 13.5    | 22      | 22      | 28         | 28         | 28         | 28         |
| H5 [mm]  | 18.3    | 37.8    | 39.6    | 59.6    | 45.3       | 6          | 77.8       | 6          |
| H6 [mm]  | 6.2*    | 6.2*    | 12.4*   | 12.4*   | 12.7*      | 58         | 12.7*      | 90.5       |
| D1       | M5      | M5      | G1/8"   | G1/8"   | G1/8"      | G1/4"      | G1/8"      | G1/4"      |
| D2       | M5      | M5      | G1/8"   | G1/8"   | G1/8"      | G1/4"      | G1/8"      | G1/4"      |
| D3 [mm]  | Ø10     | Ø10     | Ø14     | Ø14     | Ø20        | Ø20        | Ø20        | Ø20        |
| CH1 [mm] | 8       | 8       | 12      | 12      | 16         | 16         | 16         | 16         |
| CH2 [mm] | 8       | 8       | 12      | 12      | 16         | 16         | 16         | 16         |
| CH3 [mm] |         |         |         |         |            | 24         |            | 24         |
| C [mm]   | 10      | 25      | 20      | 35      | 25         | 25         | 50         | 50         |
| S2 [mm]  | 10      | 25      | 20      | 35      | 25         | 25         | 50         | 50         |
| d [mm]   | 0       | 0       | 0       | 0       | 0          | 0          | 0          | 0          |
| K [N/mm] | 0.213   | 0.085   | 0.268   | 0.15    | 0.258      | 0.258      | 0.129      | 0.129      |
| R1 [N]   | 1.49    | 1.575   | 3.617   | 4.267   | 4.388      | 4.31       | 4.452      | 4.4        |
| R2 [N]   | 3.619   | 3.704   | 8.975   | 9.507   | 10.84      | 10.76      | 10.90      | 10.87      |
| m [g]    | 7.6 g   | 12 g    | 30 g    | 38 g    | 64 g       | 60         | 93 g       | 90         |

\*Non-clampable

**Threaded-body rotative suspensions**

- Body and rod in anodized aluminum.
- Rotative rod.
- Pressure range: -1 ÷ 8 bar.
- Spring in stainless steel.

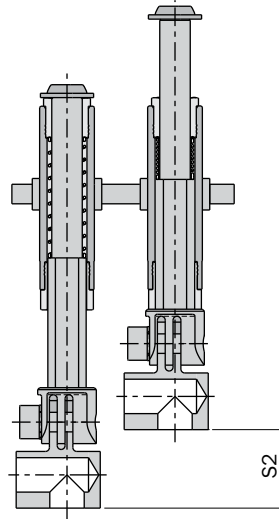
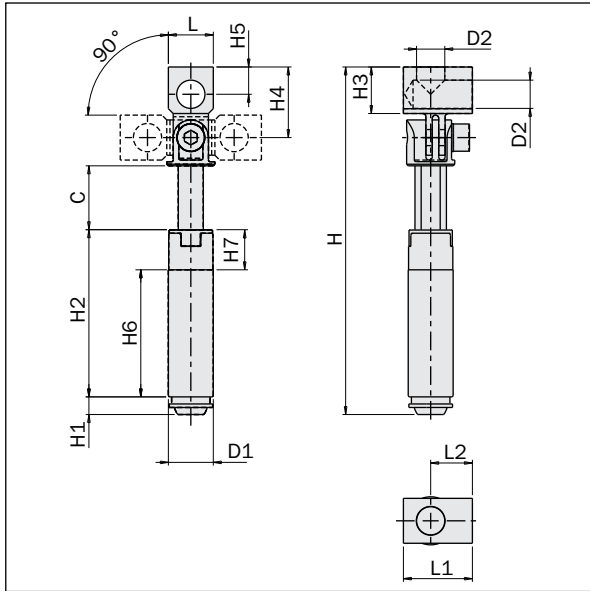


|          | <b>NEW</b>          | <b>NEW</b>          |                     |                     |                     |                     |                     |                     | <b>NEW</b>             | <b>NEW</b>             | <b>NEW</b>             | <b>NEW</b>             | <b>NEW</b>          | <b>NEW</b>          |
|----------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------------------------|------------------------|------------------------|------------------------|---------------------|---------------------|
|          | VSRT1010<br>9900001 | VSRT1025<br>9900002 | VSRT1210<br>9900049 | VSRT1225<br>9900050 | VSRT1420<br>9900003 | VSRT1435<br>9900004 | VSRT1620<br>9900005 | VSRT1635<br>9900006 | VSRT2025F18<br>9900007 | VSRT2025F14<br>9900051 | VSRT2050F18<br>9900008 | VSRT2050F14<br>9900052 | VSRT2540<br>9900047 | VSRT2580<br>9900048 |
| H [mm]   | 56                  | 90.5                | 65                  | 99                  | 107                 | 142                 | 107                 | 142                 | 126                    | 126                    | 183.5                  | 183.5                  | 173                 | 263                 |
| H1 [mm]  | 5                   | 5                   | 5.5                 | 5.5                 | 7                   | 7                   | 7                   | 7                   | 10                     | 10                     | 10                     | 10                     | 10.5                | 10.5                |
| H2 [mm]  | 5                   | 5                   | 5.5                 | 5.5                 | 7                   | 7                   | 7                   | 7                   | 10                     | 10                     | 10                     | 10                     | 10.5                | 10.5                |
| H3 [mm]  | 24.5                | 44                  | 30                  | 49                  | 52                  | 72                  | 52                  | 72                  | 58                     | 58                     | 90.5                   | 90.5                   | 90                  | 140                 |
| H4 [mm]  | 13.5                | 13.5                | 17                  | 17                  | 22                  | 22                  | 22                  | 22                  | 28                     | 28                     | 28                     | 28                     | 28                  | 28                  |
| H5 [mm]  | 3.5                 | 3.5                 | 7.2                 | 7.2                 | 4                   | 4                   | 5                   | 5                   | 6                      | 6                      | 6                      | 6                      | 8                   | 8                   |
| H6 [mm]  | 17.5                | 37                  | 30                  | 49                  | 39                  | 59                  | 52                  | 72                  | 58                     | 58                     | 90.5                   | 90.5                   | 90                  | 140                 |
| H7 [mm]  | *7                  | *7                  | \                   | \                   | *13                 | *13                 | /                   | /                   | \                      | \                      | \                      | \                      | \                   | \                   |
| D1       | M5                  | M5                  | M5                  | M5                  | G1/8"               | G1/8"               | G1/8"               | G1/8"               | G1/8"                  | G1/4"                  | G1/8"                  | G1/4"                  | G3/8"               | G3/8"               |
| D2       | M5                  | M5                  | M5                  | M5                  | G1/8"               | G1/8"               | G1/8"               | G1/8"               | G1/8"                  | G1/4"                  | G1/8"                  | G1/4"                  | G3/8"               | G3/8"               |
| D3       | M10x1               | M10x1               | M12X1               | M12X1               | M14x1.5             | M14x1.5             | M16x1               | M16x1               | M20X1.5                | M20X1.5                | M20X1.5                | M20X1.5                | M25X1.5             | M25X1.5             |
| CH1 [mm] | 8                   | 8                   | 10                  | 10                  | 12                  | 12                  | 12                  | 12                  | 16                     | 16                     | 16                     | 16                     | 22                  | 22                  |
| CH2 [mm] | 8                   | 8                   | 10                  | 10                  | 12                  | 12                  | 12                  | 12                  | 16                     | 16                     | 16                     | 16                     | 22                  | 22                  |
| CH3 [mm] | 13                  | 13                  | 15                  | 15                  | 17                  | 17                  | 19                  | 19                  | 24                     | 24                     | 24                     | 24                     | 32                  | 32                  |
| C [mm]   | 10                  | 25                  | 10                  | 25                  | 20                  | 35                  | 20                  | 35                  | 25                     | 25                     | 50                     | 50                     | 40                  | 80                  |
| S2 [mm]  | 10                  | 25                  | 10                  | 25                  | 20                  | 35                  | 20                  | 35                  | 25                     | 25                     | 50                     | 50                     | 40                  | 80                  |
| d [mm]   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                   | 0                      | 0                      | 0                      | 0                      | 0                   | 0                   |
| K [N/mm] | 0.213               | 0.085               | 0.197               | 0.087               | 0.268               | 0.15                | 0.252               | 0.137               | 0.258                  | 0.258                  | 0.129                  | 0.129                  | 0.256               | 0.121               |
| R1 [N]   | 1.49                | 1.575               | 1.578               | 1.523               | 3.617               | 4.267               | 3.650               | 4.325               | 4.31                   | 4.31                   | 4.4                    | 4.4                    | 5.5                 | 6.253               |
| R2 [N]   | 3.619               | 3.704               | 3.55                | 3.698               | 8.975               | 9.507               | 8.685               | 9.132               | 10.76                  | 10.76                  | 10.87                  | 10.87                  | 15.7                | 15.97               |
| m [g]    | 12 g                | 16.5 g              | 19                  | 25                  | 37 g                | 47 g                | 46.5 g              | 58 g                | 85                     | 82                     | 110                    | 111                    | 200                 | 271                 |

\*Not threaded

### Smooth-body non-rotative suspensions with integral elbow arms

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.

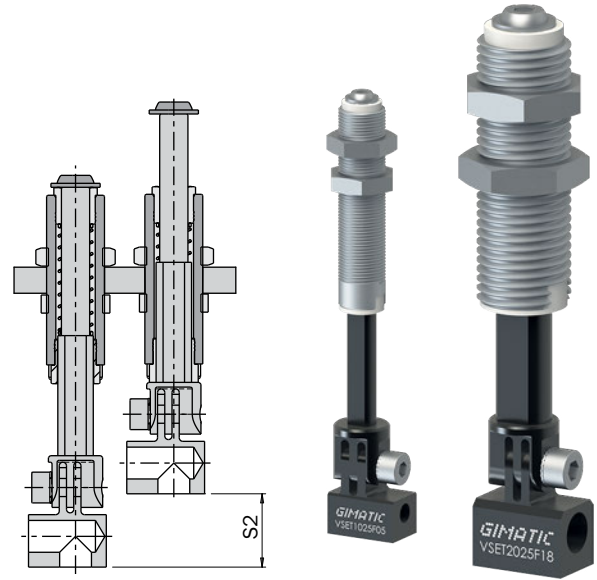
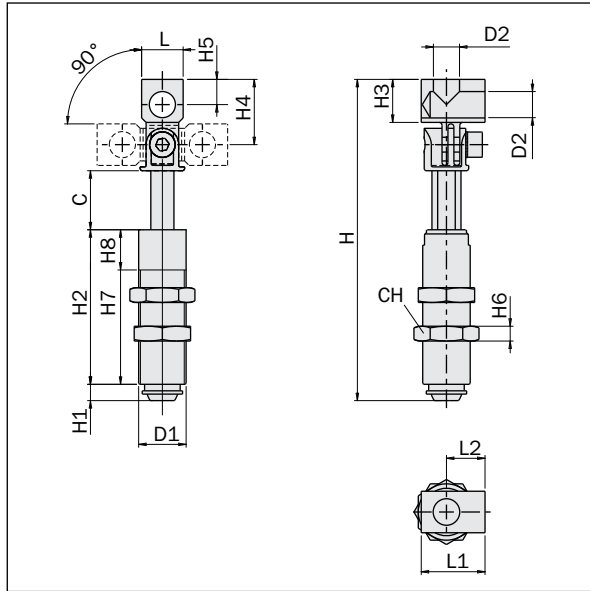


|          | VSE1010F05 | VSE1025F05 | VSE1420F18 | VSE1435F18 | VSE2025F18 | VSE2025F14 | VSE2050F18 | VSE2050F14 |
|----------|------------|------------|------------|------------|------------|------------|------------|------------|
| H [mm]   | 61.8       | 96.3       | 108.3      | 143.3      | 121.3      | 127.5      | 178.8      | 184.8      |
| H1 [mm]  | 3.5        | 3.5        | 5.5        | 5.5        | 6.5        | 6.5        | 6.5        | 6.5        |
| H2 [mm]  | 24.6       | 44.1       | 52.1       | 72.1       | 58.1       | 58.1       | 90.6       | 90.6       |
| H3 [mm]  | 9          | 9          | 14.5       | 14.5       | 14.5       | 20.5       | 14.5       | 20.5       |
| H4 [mm]  | 15         | 15         | 22         | 22         | 22         | 28         | 22         | 28         |
| H5 [mm]  | 5.5        | 5.5        | 8.5        | 8.5        | 8.5        | 12         | 8.5        | 12         |
| H6 [mm]  | 18.4       | 37.9       | 38.6       | 38.6       | 44.4       | 44.4       | 76.9       | 76.9       |
| H7 [mm]  | 6.2*       | 6.2*       | 13.5*      | 13.5*      | 13.7*      | 13.7*      | 13.7*      | 13.7*      |
| D1 [mm]  | Ø10        | Ø10        | Ø14        | Ø14        | Ø20        | Ø20        | Ø20        | Ø20        |
| D2       | M5         | M5         | G1/8"      | G1/8"      | G1/8"      | G1/4"      | G1/8"      | G1/4"      |
| L [mm]   | 10         | 10         | 14         | 14         | 14         | 17         | 14         | 17         |
| L1 [mm]  | 16         | 16         | 21.5       | 21.5       | 21.5       | 26         | 21.5       | 26         |
| L2 [mm]  | 10.5       | 10.5       | 13         | 13         | 13         | 15         | 13         | 15         |
| C [mm]   | 10         | 25         | 20         | 35         | 25         | 25         | 50         | 50         |
| S2 [mm]  | 10         | 25         | 20         | 35         | 25         | 25         | 50         | 50         |
| d [mm]   | 0          | 0          | 0          | 0          | 0          | 0          | 0          | 0          |
| K [N/mm] | 0.106      | 0.138      | 0.268      | 0.150      | 0.275      | 0.275      | 0.141      | 0.141      |
| R1 [N]   | 0.957      | 3.100      | 3.617      | 4.267      | 4.131      | 4.131      | 4.308      | 4.308      |
| R2 [N]   | 2.020      | 6.545      | 8.975      | 9.507      | 11.02      | 11.02      | 11         | 11.37      |
| m [g]    | 15         | 20         | 45         | 55         | 70         | 90         | 105        | 120        |

\*Non-clampable

**Threaded-body non-rotative suspensions with integral elbow arms**

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.

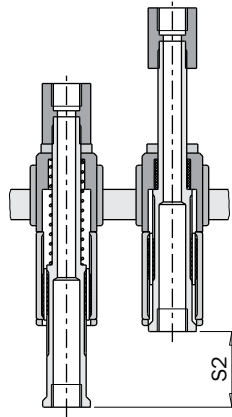
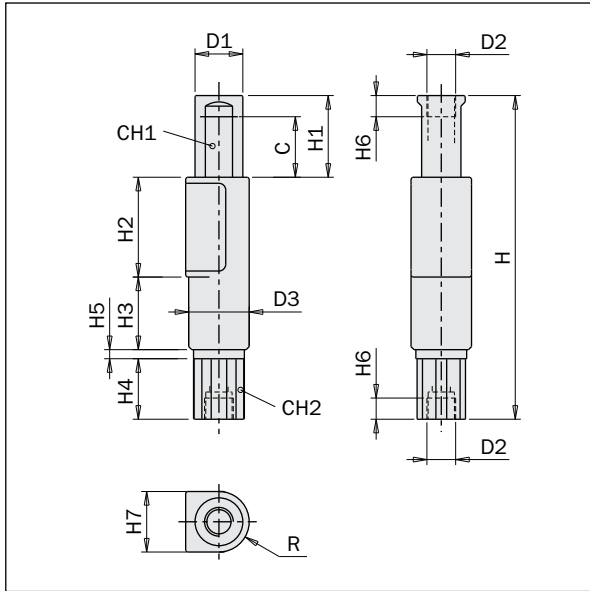


|          | VSET1010F05<br>9900009 | VSET1025F05<br>9900010 | VSET1620F18<br>9900011 | VSET1635F18<br>9900012 | VSET2025F18<br>9900013 | VSET2025F14<br>9900014 | VSET2050F18<br>9900015 | VSET2050F14<br>9900016 |
|----------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| H [mm]   | 61.8                   | 96.3                   | 108.3                  | 143.3                  | 121.3                  | 127.3                  | 178.8                  | 184.4                  |
| H1 [mm]  | 3.5                    | 3.5                    | 5.5                    | 5.5                    | 6.5                    | 6.5                    | 6.5                    | 6.5                    |
| H2 [mm]  | 24.6                   | 44.1                   | 52.1                   | 72.1                   | 58.1                   | 58.1                   | 90.6                   | 90.6                   |
| H3 [mm]  | 9                      | 9                      | 14.5                   | 14.5                   | 14.5                   | 20.5                   | 14.5                   | 20.5                   |
| H4 [mm]  | 15                     | 15                     | 22                     | 22                     | 22                     | 28                     | 22                     | 28                     |
| H5 [mm]  | 5.5                    | 5.5                    | 8.5                    | 8.5                    | 8.5                    | 12                     | 8.5                    | 12                     |
| H6 [mm]  | 3.5                    | 3.5                    | 5                      | 5                      | 6                      | 6                      | 6                      | 6                      |
| H7 [mm]  | 17.5                   | 37                     | 52                     | 72                     | 58                     | 58                     | 90.5                   | 90.5                   |
| H8 [mm]  | *7.1                   | *7.1                   | /                      | /                      | /                      | /                      | /                      | /                      |
| D1       | M10x1                  | M10x1                  | M16x1                  | M16x1                  | M20x1.5                | M20x1.5                | M20x1.5                | M20x1.5                |
| D2       | M5                     | M5                     | G1/8"                  | G1/8"                  | G1/8"                  | G1/4"                  | G1/8"                  | G1/4"                  |
| L [mm]   | 10                     | 10                     | 14                     | 14                     | 14                     | 17                     | 14                     | 17                     |
| L1 [mm]  | 16                     | 16                     | 21.5                   | 21.5                   | 21.5                   | 26                     | 21.5                   | 26                     |
| L2 [mm]  | 10.5                   | 10.5                   | 13                     | 13                     | 13                     | 15                     | 13                     | 15                     |
| C [mm]   | 10                     | 25                     | 20                     | 35                     | 25                     | 25                     | 50                     | 50                     |
| CH [mm]  | 13                     | 13                     | 19                     | 19                     | 24                     | 24                     | 24                     | 24                     |
| S2 [mm]  | 10                     | 25                     | 20                     | 35                     | 25                     | 25                     | 50                     | 50                     |
| d [mm]   | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      | 0                      |
| K [N/mm] | 0.213                  | 0.085                  | 0.268                  | 0.150                  | 0.275                  | 0.275                  | 0.141                  | 0.142                  |
| R1 [N]   | 1.490                  | 1.575                  | 3.617                  | 4.267                  | 4.131                  | 4.131                  | 4.308                  | 4.308                  |
| R2 [N]   | 3.619                  | 3.704                  | 8.975                  | 9.507                  | 11.02                  | 11.02                  | 11.37                  | 11.37                  |
| m [g]    | 18                     | 23                     | 57                     | 70                     | 88                     | 109                    | 125                    | 142                    |

\*Not threaded

**Non-rotative heavy duty stainless suspensions**

- Body, rod, bearing and spring in stainless steel.
- Ball bearing for a very high load capability.
- Zero backlash.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.

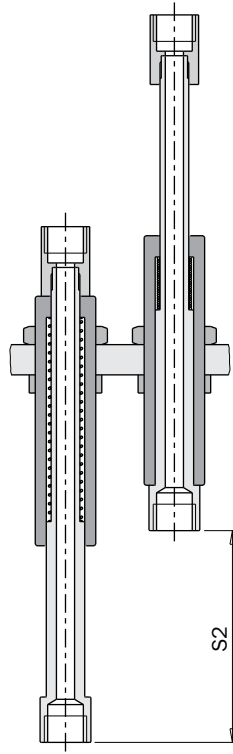
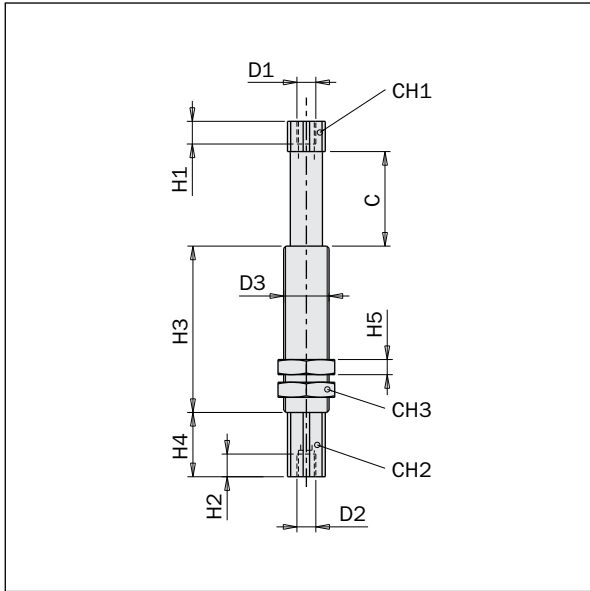


|          | WX1010F | WX1025F | WX1420F | WX1435F | WX2025F | WX2050F |
|----------|---------|---------|---------|---------|---------|---------|
| H [mm]   | 63      | 100.5   | 99      | 137     | 107     | 169     |
| H1 [mm]  | 11      | 26      | 25      | 40      | 27      | 52      |
| H2 [mm]  | 23.5    | 35      | 31      | 43      | 33      | 50.5    |
| H3 [mm]  | 12      | 23      | 21      | 32      | 24      | 43.5    |
| H4 [mm]  | 15      | 15      | 20      | 20      | 20      | 20      |
| H5 [mm]  | 10      | 10      | 14      | 14      | 20      | 20      |
| H6 [mm]  | 6       | 6       | 7       | 7       | 7       | 7       |
| H7 [mm]  | 8       | 8       | 10      | 10      | 11      | 11      |
| D1 [mm]  | Ø7.8    | Ø7.8    | Ø11.8   | Ø11.8   | Ø15.8   | Ø15.8   |
| D2       | M5      | M5      | G1/8"   | G1/8"   | G1/8"   | G1/8"   |
| D3 [mm]  | Ø10     | Ø10     | Ø14     | Ø14     | Ø20     | Ø20     |
| CH1 [mm] | 6       | 6       | 10.5    | 10.5    | 13      | 13      |
| CH2 [mm] | 8       | 8       | 12      | 12      | 16      | 16      |
| C [mm]   | 10      | 25      | 20      | 35      | 25      | 50      |
| R [mm]   | 5       | 5       | 7       | 7       | 10      | 10      |
| S2 [mm]  | 10      | 25      | 20      | 35      | 25      | 50      |
| d [mm]   | 0       | 0       | 0       | 0       | 0       | 0       |
| K [N/mm] | 0.194   | 0.0786  | 0.252   | 0.137   | 0.258   | 0.129   |
| R1 [N]   | 1.548   | 1.533   | 3.65    | 4.325   | 4.388   | 4.452   |
| R2 [N]   | 3.483   | 3.498   | 8.685   | 9.132   | 10.84   | 10.9    |
| m [g]    | 30      | 45      | 80      | 110     | 150     | 235     |



**Rotative stainless suspensions with threaded body**

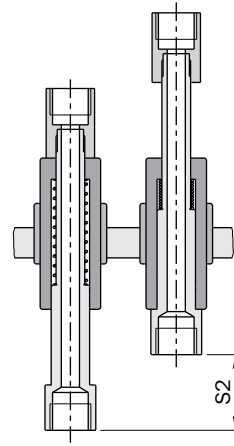
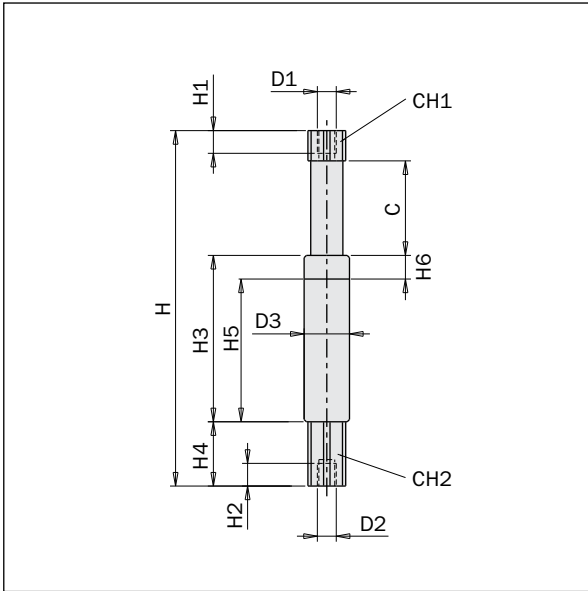
- Body, rod and spring in stainless steel.
- Rotative rod.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.



|          | VSRTG1225 | VSRTG1635 | VSRTG2050 | VSRTG2580 |
|----------|-----------|-----------|-----------|-----------|
| H [mm]   | 94        | 127.5     | 170.5     | 249       |
| H1 [mm]  | 5.5       | 9         | 10        | 11        |
| H2 [mm]  | 5.5       | 7         | 10        | 11        |
| H3 [mm]  | 44        | 58.5      | 82.5      | 121       |
| H4 [mm]  | 17        | 20        | 23        | 33        |
| H5 [mm]  | 4         | 5         | 6         | 8         |
| D1       | M5        | G1/8"     | G1/4"     | G3/8"     |
| D2       | M5        | G1/8"     | G1/4"     | G3/8"     |
| D3       | M12x1     | M16x1     | M20x1.5   | M25x1.5   |
| CH1 [mm] | 10        | 12        | 16        | 23        |
| CH2 [mm] | 10        | 12        | 16        | 23        |
| CH3 [mm] | 15        | 19        | 24        | 32        |
| C [mm]   | 25        | 35        | 50        | 80        |
| S2 [mm]  | 25        | 35        | 50        | 80        |
| d [mm]   | 0         | 0         | 0         | 0         |
| K [N/mm] | 0.108     | 0.137     | 0.129     | 0.119     |
| R1 [N]   | 2.112     | 4.325     | 4.452     | 6.005     |
| R2 [N]   | 4.820     | 9.132     | 10.90     | 15.52     |
| m [g]    | 50        | 110       | 220       | 560       |

**Smooth-body non-rotative telescopic suspensions**

- Body and rod in anodized aluminum.
- Spring in stainless steel.
- Non-rotative rod with high load capability.
- Pressure range: -1 ÷ 8 bar.



[Click for Pricing & Add to Cart](#)

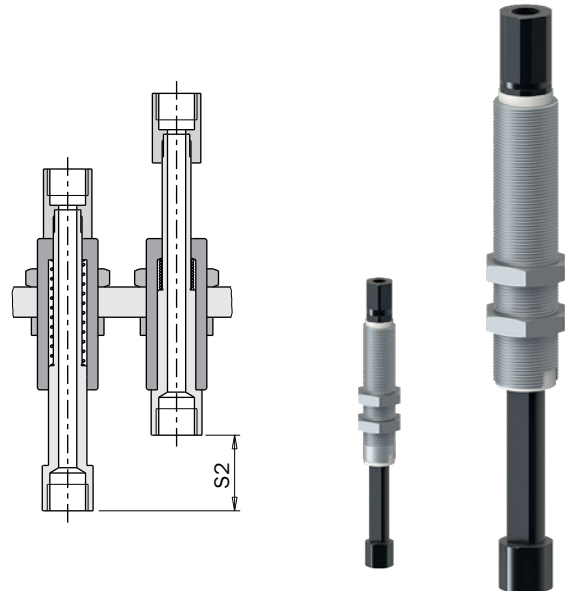
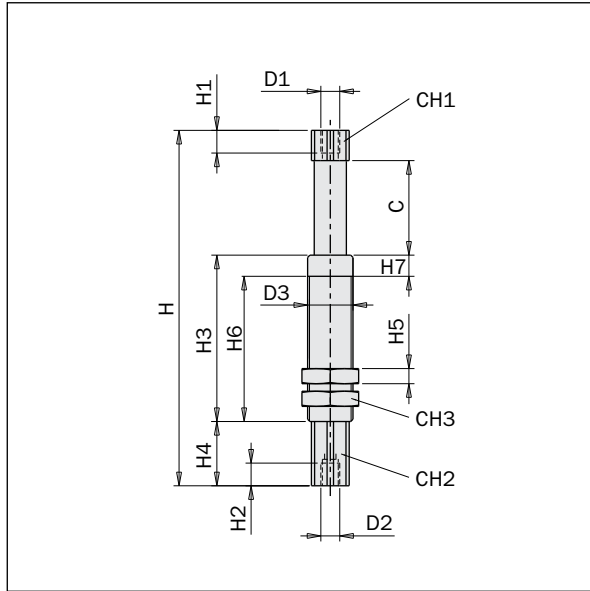


|          | VSNG1010 | VSNG1025 | VSNG1420 | VSNG1435 | VSNG2025F18 | VSNG2025F14 | VSNG2050F18 | VSNG2050F14 |
|----------|----------|----------|----------|----------|-------------|-------------|-------------|-------------|
| H [mm]   | 56       | 90.5     | 107      | 142      | 126         | 126         | 183.5       | 183.5       |
| H1 [mm]  | 5        | 5        | 7        | 7        | 10          | 10          | 10          | 10          |
| H2 [mm]  | 5        | 5        | 7        | 7        | 10          | 10          | 10          | 10          |
| H3 [mm]  | 24.5     | 44       | 52       | 72       | 58          | 58          | 90.5        | 90.5        |
| H4 [mm]  | 13.5     | 13.5     | 22       | 22       | 28          | 28          | 28          | 28          |
| H5 [mm]  | 18.3     | 36.8     | 38.4     | 58.6     | 44.3        | 44.3        | 76.8        | 76.8        |
| H6 [mm]  | 6.2*     | 7.2      | 13.6     | 13.4     | 13.7        | 13.7        | 13.7        | 13.7        |
| D1       | M5       | M5       | G1/8"    | G1/8"    | G1/8"       | G1/4"       | G1/8"       | G1/4"       |
| D2       | M5       | M5       | G1/8"    | G1/8"    | G1/8"       | G1/4"       | G1/8"       | G1/4"       |
| D3 [mm]  | Ø10      | Ø10      | Ø14      | Ø14      | Ø20         | Ø20         | Ø20         | Ø20         |
| CH1 [mm] | 8        | 8        | 12       | 12       | 16          | 16          | 16          | 16          |
| CH2 [mm] | 8        | 8        | 12       | 12       | 16          | 16          | 16          | 16          |
| C [mm]   | 10       | 25       | 20       | 35       | 25          | 25          | 50          | 50          |
| S2 [mm]  | 10       | 25       | 20       | 35       | 25          | 25          | 50          | 50          |
| d [mm]   | 0        | 0        | 0        | 0        | 0           | 0           | 0           | 0           |
| K [N/mm] | 0.213    | 0.085    | 0.268    | 0.15     | 0.275       | 0.258       | 0.141       | 0.129       |
| R1 [N]   | 1.49     | 1.575    | 3.617    | 4.267    | 4.131       | 4.388       | 4.308       | 4.452       |
| R2 [N]   | 3.619    | 3.704    | 8.975    | 9.507    | 11.02       | 10.84       | 11.37       | 10.90       |
| m [g]    | 7.6 g    | 12 g     | 30 g     | 38 g     | 67.5 g      | 64 g        | 96 g        | 93 g        |

\*Non-clampable

**Threaded-body non-rotative suspensions**

- Body and rod in anodized aluminum.
- Spring in stainless steel.
- Non-rotative rod with high load capability.
- Pressure range: -1 + 8 bar.

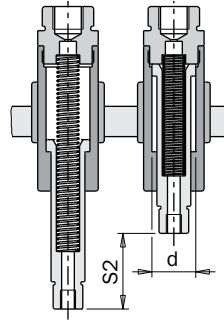
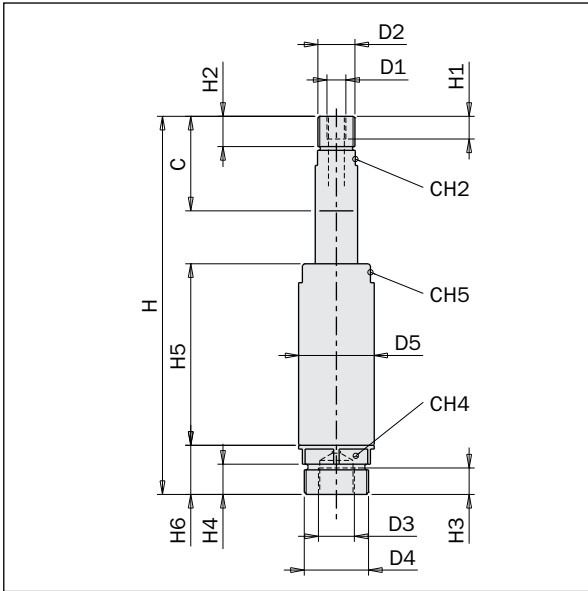


|          | VSNTG.1010<br>9900019 | VSNTG.1025<br>9900020 | VSNTG.1210<br>9900024 | VSNTG.1225<br>9900025 | VSNTG.1420<br>9900026 | VSNTG.1435<br>9900021 | VSNTG.1620<br>9900027 | VSNTG.1635<br>9900028 | VSNTG.2025F18<br>9900022 | VSNTG.2025F14<br>9900018 | VSNTG.2050F18<br>9900017 | VSNTG.2050F14<br>9900023 | VSNTG.2540<br>9900029 | VSNTG.2580<br>9900030 |
|----------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------------|-----------------------|
| H [mm]   | 56                    | 90.5                  | 64.5                  | 98.5                  | 107                   | 142                   | 107                   | 142                   | 126                      | 126                      | 183.5                    | 183.5                    | 173                   | 263                   |
| H1 [mm]  | 5                     | 5                     | 5.5                   | 5.5                   | 7                     | 7                     | 7                     | 7                     | 10                       | 10                       | 10                       | 10                       | 11                    | 11                    |
| H2 [mm]  | 5                     | 5                     | 5.5                   | 5.5                   | 7                     | 7                     | 7                     | 7                     | 10                       | 10                       | 10                       | 10                       | 11                    | 11                    |
| H3 [mm]  | 24.5                  | 44                    | 30                    | 49                    | 52                    | 72                    | 52                    | 72                    | 58                       | 58                       | 90.5                     | 90.5                     | 90                    | 140                   |
| H4 [mm]  | 13.5                  | 13.5                  | 16.7                  | 16.7                  | 22                    | 22                    | 22                    | 22                    | 28                       | 28                       | 28                       | 28                       | 28                    | 28                    |
| H5 [mm]  | 3.5                   | 3.5                   | 4                     | 4                     | 4                     | 4                     | 5                     | 5                     | 6                        | 6                        | 6                        | 6                        | 8                     | 8                     |
| H6 [mm]  | 17.5                  | 37                    | 30                    | 49                    | 39                    | 59                    | 52                    | 72                    | 58                       | 58                       | 90.5                     | 90.5                     | 90                    | 140                   |
| H7 [mm]  | *7                    | *7                    | /                     | /                     | *13                   | *13                   | /                     | /                     | /                        | /                        | /                        | /                        | /                     | /                     |
| D1       | M5                    | M5                    | M5                    | M5                    | G1/8"                 | G1/8"                 | G1/8"                 | G1/8"                 | G1/8"                    | G1/4"                    | G1/8"                    | G1/4"                    | G3/8"                 | G3/8"                 |
| D2       | M5                    | M5                    | M5                    | M5                    | G1/8"                 | G1/8"                 | G1/8"                 | G1/8"                 | G1/8"                    | G1/4"                    | G1/8"                    | G1/4"                    | G3/8"                 | G3/8"                 |
| D3       | M10x1                 |                       | M12x1                 |                       | M14x1.5               |                       | M16x1                 |                       | M20x1.5                  |                          |                          | M25x1.5                  |                       |                       |
| CH1 [mm] | 8                     | 8                     | 10                    | 10                    | 12                    | 12                    | 12                    | 12                    | 16                       | 16                       | 16                       | 16                       | 22                    | 22                    |
| CH2 [mm] | 8                     | 8                     | 10                    | 10                    | 12                    | 12                    | 12                    | 12                    | 16                       | 16                       | 16                       | 16                       | 22                    | 22                    |
| CH3 [mm] | 13                    | 13                    | 15                    | 15                    | 17                    | 17                    | 19                    | 19                    | 24                       | 24                       | 24                       | 24                       | 32                    | 32                    |
| C [mm]   | 10                    | 25                    | 10                    | 25                    | 20                    | 35                    | 20                    | 35                    | 25                       | 25                       | 50                       | 50                       | 40                    | 80                    |
| S2 [mm]  | 10                    | 25                    | 10                    | 25                    | 20                    | 35                    | 20                    | 35                    | 25                       | 25                       | 50                       | 50                       | 40                    | 80                    |
| d [mm]   | 0                     | 0                     | 0                     | 0                     | 0                     | 0                     | 0                     | 0                     | 0                        | 0                        | 0                        | 0                        | 0                     | 0                     |
| K [N/mm] | 0.213                 | 0.085                 | 0.277                 | 0.108                 | 0.268                 | 0.15                  | 0.252                 | 0.137                 | 0.275                    | 0.258                    | 0.141                    | 0.129                    | 0.230                 | 0.119                 |
| R1 [N]   | 1.49                  | 1.575                 | 1.938                 | 2.112                 | 3.617                 | 4.267                 | 3.650                 | 4.325                 | 4.131                    | 4.388                    | 4.308                    | 4.452                    | 6.082                 | 6.005                 |
| R2 [N]   | 3.619                 | 3.704                 | 4.706                 | 4.820                 | 8.975                 | 9.507                 | 8.685                 | 9.132                 | 11.02                    | 10.84                    | 11.37                    | 10.90                    | 15.26                 | 15.52                 |
| m [g]    | 12 g                  | 16.5 g                | 20 g                  | 26.5 g                | 37 g                  | 47 g                  | 46.5 g                | 58 g                  | 90 g                     | 86 g                     | 118 g                    | 115 g                    | 205 g                 | 275 g                 |

\*Not threaded

**Telescopic self-retracting suspensions**

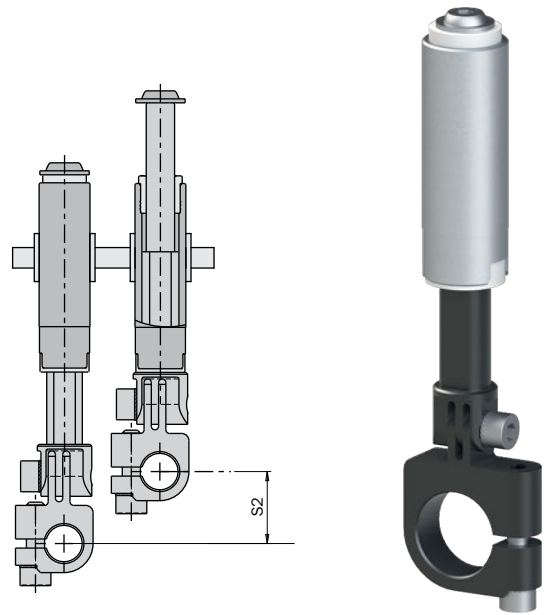
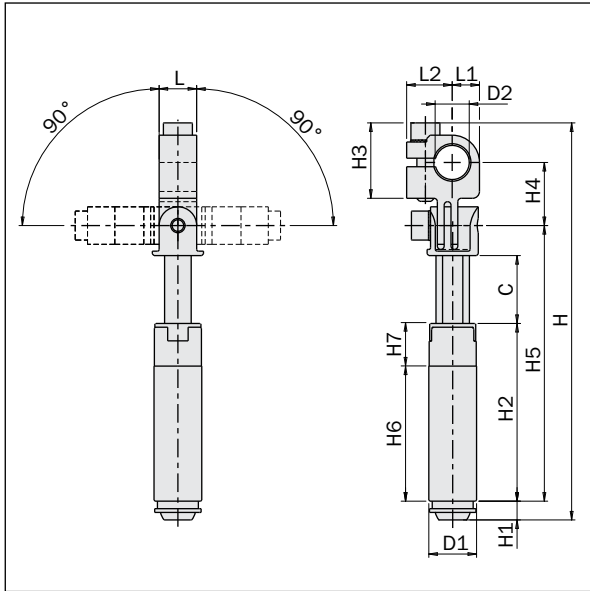
- Body and rod in anodized aluminum.
- Sealing with no seals.
- Only for vacuum applications.
- When the cup takes a part, the vacuum on the internal piston overtakes the spring force and moves the rod up.
- The speed of the retraction movement can be adjusted by a standard throttle valve.
- When the vacuum is removed the part is released and the internal spring resets the rod.
- Pressure range: -1 ÷ 0 bar.
- FDA-H1 food-grade grease.



|          | VSS2025 | VSS2050 |
|----------|---------|---------|
| H [mm]   | 100     | 150     |
| H1 [mm]  | 6       | 6       |
| H2 [mm]  | 8       | 8       |
| H3 [mm]  | 8       | 8       |
| H4 [mm]  | 8       | 8       |
| H5 [mm]  | 48      | 73      |
| H6 [mm]  | 13      | 13      |
| D1       | M5      | M5      |
| D2       | G1/8"   | G1/8"   |
| D3       | G1/8"   | G1/8"   |
| D4       | M17x1   | M17x1   |
| D5 [mm]  | Ø20     | Ø20     |
| CH2 [mm] | 10      | 10      |
| CH4 [mm] | 18      | 18      |
| CH5 [mm] | 18      | 18      |
| C [mm]   | 25      | 50      |
| S2 [mm]  | 25      | 50      |
| d [mm]   | 14.5    | 14.5    |
| K [N/mm] | 0.085   | 0.052   |
| R1 [N]   | 1.525   | 1.606   |
| R2 [N]   | 3.642   | 4.197   |
| m [g]    | 40      | 55      |

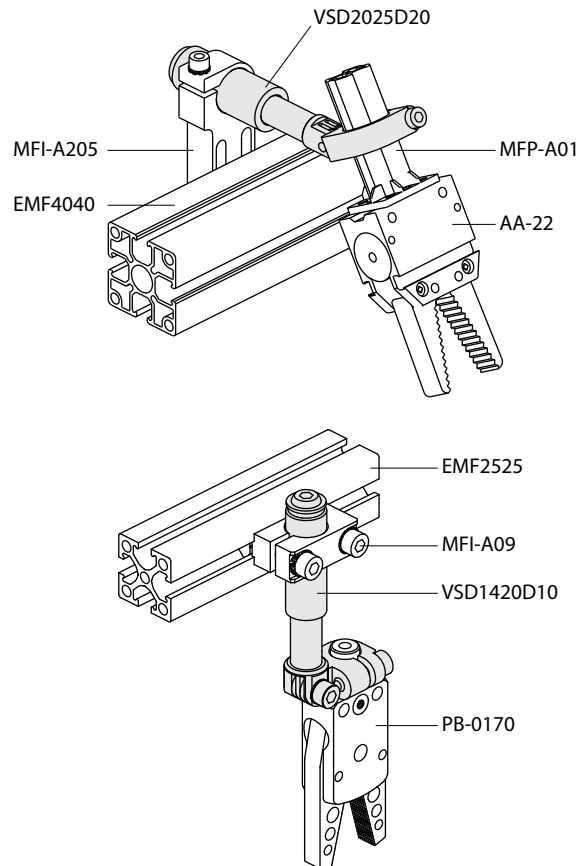
**Non-rotative suspensions with smooth-body and adjustable clamp**

- It is possible to set continuously the angle between 0° and +/-90°.
- External air feeding.
- Body and rod in anodized aluminum.
- Non-rotative rod.



|          | VSD1420D10 | VSD2025D10 | VSD2025D20 |
|----------|------------|------------|------------|
| H [mm]   | 116.4      | 129.4      | 141.4      |
| H1 [mm]  | 5.5        | 6.5        | 6.5        |
| H2 [mm]  | 52         | 58.1       | 58.1       |
| H3 [mm]  | 22.1       | 22.1       | 34.1       |
| H4 [mm]  | 18.5       | 18.5       | 25         |
| H5 [mm]  | 80.8       | 92.8       | 92.8       |
| H6 [mm]  | 39.6       | 44.4       | 44.4       |
| H7 [mm]  | 12.4*      | 13.7*      | 13.7*      |
| D1 [mm]  | Ø14        | Ø20        | Ø20        |
| D2 [mm]  | Ø10        | Ø10        | Ø20        |
| L [mm]   | 11         | 11         | 11         |
| L1 [mm]  | 8          | 8          | 13.5       |
| L2 [mm]  | 13.4       | 13.4       | 19.3       |
| C [mm]   | 20         | 25         | 25         |
| S2 [mm]  | 20         | 25         | 25         |
| d [mm]   | 0          | 0          | 0          |
| K [N/mm] | 0.268      | 0.275      | 0.275      |
| R1 [N]   | 3.617      | 4.131      | 4.131      |
| R2 [N]   | 8.975      | 11.02      | 11.02      |
| m [g]    | 43         | 70         | 80         |

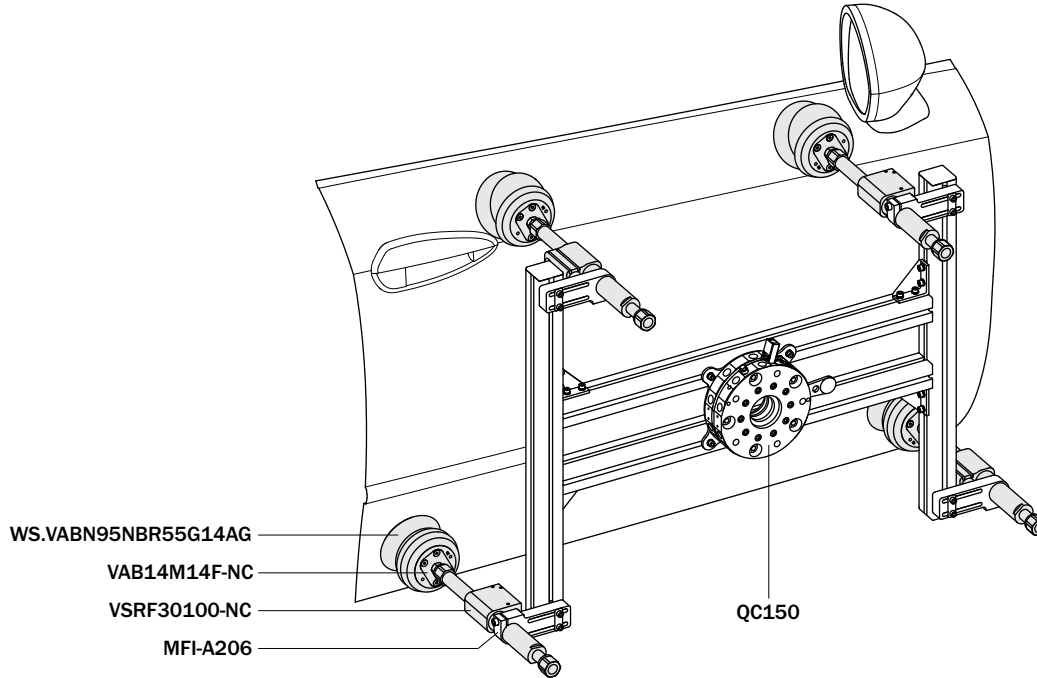
\*Non-clampable



**Vacuum suspensions and ball joints with brake**

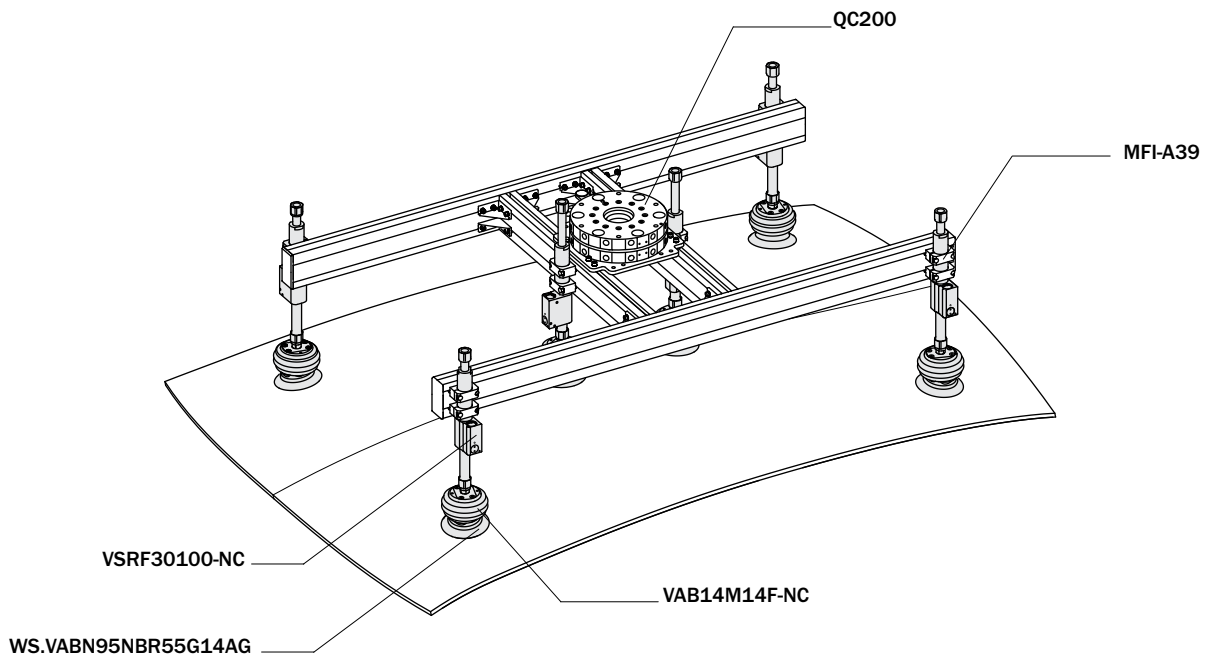
**Handling of a car door**

The braking of suspensions and ball joints allows high accelerations of the manipulator.



**Handling of a car thin roof**

The braking of suspensions and ball joints avoids the roof deformations during the handling.

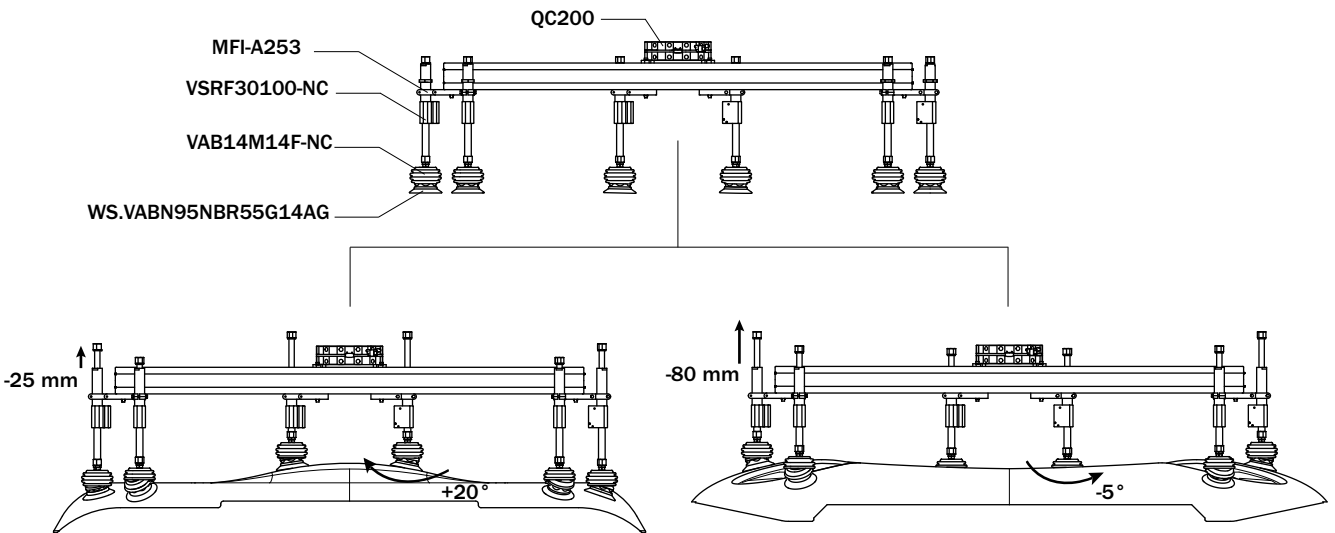
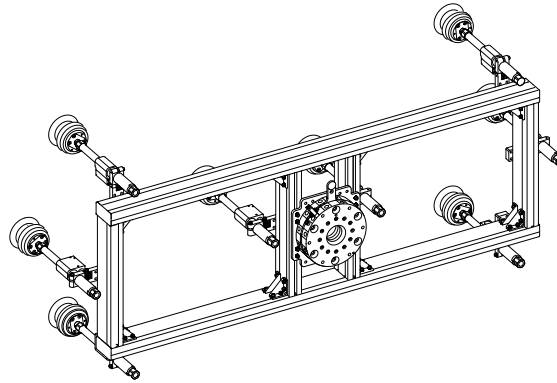


Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

**Vacuum suspensions and ball joints with brake**

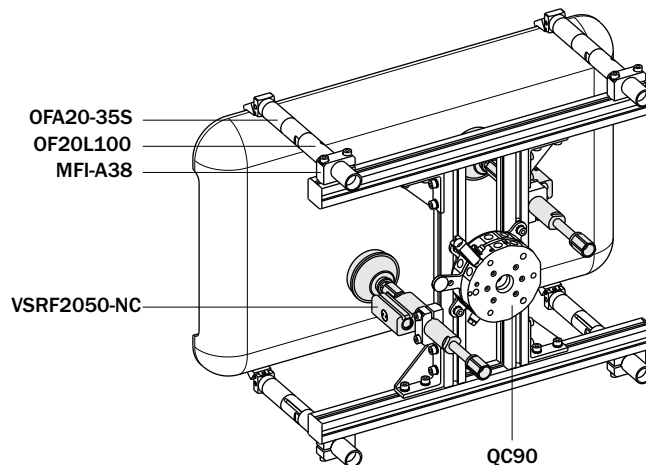
**Handling of different parts by the same reconfigurable EOAT**

The EOAT can be configured to handle pieces of different size. The configuration can be performed by adjusting the brakes of the actuators when gripping the first piece. After performing the configuration, the EOAT operates as a completely rigid device. The EOAT can be reconfigured whenever necessary.



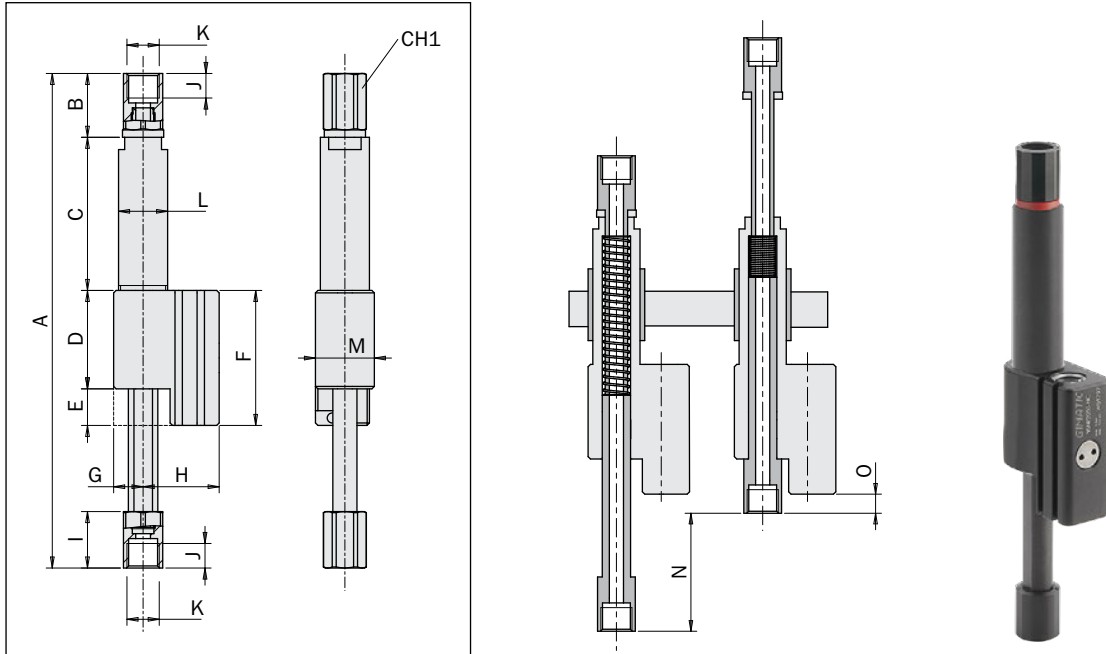
**Handling of fragile parts avoiding the elastic spring return**

The braking of the suspensions after the level compensation and the gripping, avoids damages due to an uncontrolled elastic return.



**Non-rotative suspensions, with smooth body and brake**

- Aluminium body and steel rod.
- Pneumatic rod lock (-NO) or unlock (-NC) device.
- Non-rotative rod with high load capability.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.
- Optional sensors.



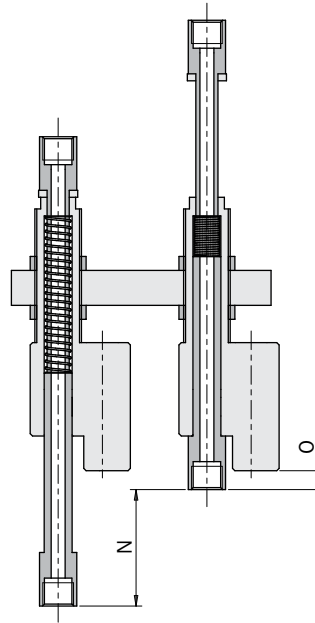
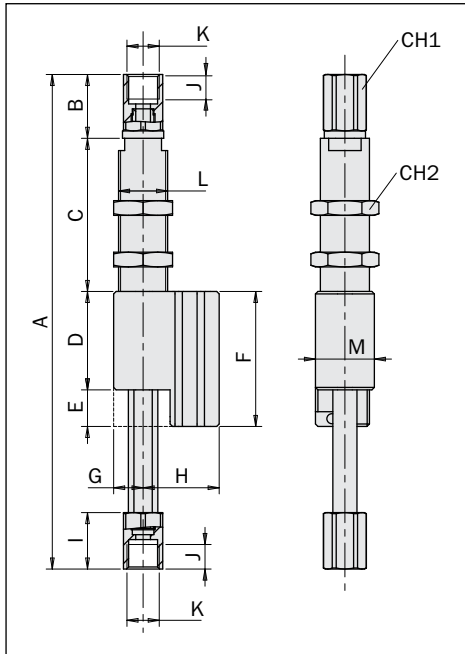
|                                  | VSNF2050-NC                         | VSNF2050-NO                         | VSNF30100-NC                        | VSNF30100-NO                        |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| A [mm]                           | 201.5                               |                                     | 324.5                               |                                     |
| B [mm]                           | 26                                  |                                     | 28                                  |                                     |
| C [mm]                           | 62.4                                |                                     | 113                                 |                                     |
| D [mm]                           | 40.1                                |                                     | -                                   |                                     |
| E [mm]                           | 14.9                                |                                     | -                                   |                                     |
| F [mm]                           | 55                                  |                                     | 65.5                                |                                     |
| G [mm]                           | 12                                  |                                     | 17                                  |                                     |
| H [mm]                           | 31                                  |                                     | 40                                  |                                     |
| I [mm]                           | 23                                  |                                     | 18                                  |                                     |
| J [mm]                           | 10                                  |                                     | 13                                  |                                     |
| K                                | G1/4"                               |                                     | G3/8"                               |                                     |
| L [mm]                           | 20                                  |                                     | 30                                  |                                     |
| M [mm]                           | 24                                  |                                     | 35                                  |                                     |
| N [mm]                           | 50                                  |                                     | 100                                 |                                     |
| O [mm]                           | 8.1                                 |                                     | 18                                  |                                     |
| CH1 [mm]                         | 16                                  |                                     | 24                                  |                                     |
| m [g]                            | 254                                 |                                     | 820                                 |                                     |
| Magnetic sensor detection        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Operating pressure for locking   | P1                                  | 4÷8 bar                             | -                                   | 4÷8 bar                             |
| Operating pressure for unlocking | P2                                  | 4÷8 bar                             | 4÷8 bar                             | -                                   |
| Braking force                    | 200 N                               | 50N x P1 - 50N                      | 600 N                               | 150N x P1 - 150N                    |

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



**Non-rotative suspensions, with threaded body and brake**

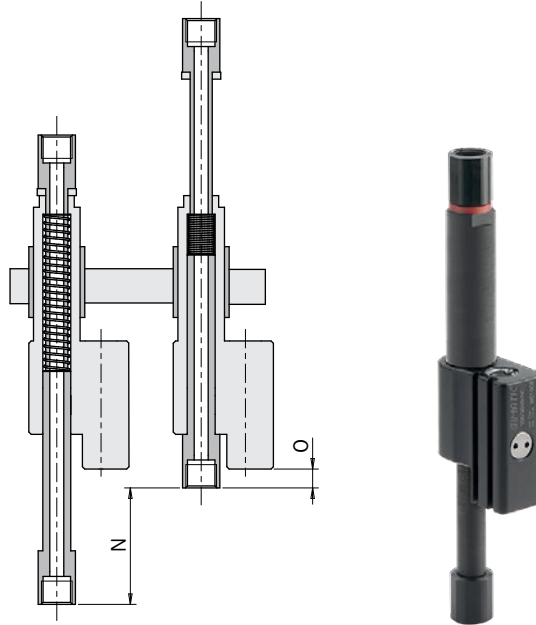
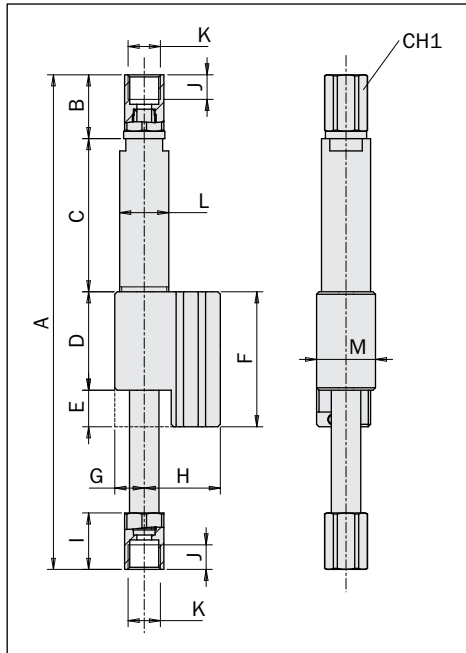
- Aluminium body and steel rod.
- Pneumatic rod lock (-NO) or unlock (-NC) device.
- Non-rotative rod with high load capability.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.
- Optional sensors.



|                                  | VSNTF2050-NC<br>9900031             | VSNTF2050-NO<br>9900032             | VSNTF30100-NC<br>9900033            | VSNTF30100-NO<br>9900034            |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| A [mm]                           | 201.5                               |                                     | 324.5                               |                                     |
| B [mm]                           | 26                                  |                                     | 28                                  |                                     |
| C [mm]                           | 62.4                                |                                     | 113                                 |                                     |
| D [mm]                           | 40.1                                |                                     | -                                   |                                     |
| E [mm]                           | 14.9                                |                                     | -                                   |                                     |
| F [mm]                           | 55                                  |                                     | 65.5                                |                                     |
| G [mm]                           | 12                                  |                                     | 17                                  |                                     |
| H [mm]                           | 31                                  |                                     | 40                                  |                                     |
| I [mm]                           | 23                                  |                                     | 18                                  |                                     |
| J [mm]                           | 10                                  |                                     | 13                                  |                                     |
| K                                | G1/4"                               |                                     | G3/8"                               |                                     |
| L                                | M20x1.5                             |                                     | M30x1.5                             |                                     |
| M [mm]                           | 24                                  |                                     | 35                                  |                                     |
| N [mm]                           | 50                                  |                                     | 100                                 |                                     |
| O [mm]                           | 8.1                                 |                                     | 18                                  |                                     |
| CH1 [mm]                         | 16                                  |                                     | 24                                  |                                     |
| CH2 [mm]                         | 24                                  |                                     | 36                                  |                                     |
| m [g]                            | 270                                 |                                     | 890                                 |                                     |
| Magnetic sensor detection        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Operating pressure for locking   | P1                                  | -                                   | 4÷8 bar                             | -                                   |
| Operating pressure for unlocking | P2                                  | 4÷8 bar                             | -                                   | 4÷8 bar                             |
| Braking force                    | 200 N                               | 50N x P1 - 50N                      | 600 N                               | 150N x P1 - 150N                    |

**Rotative suspensions, with smooth body and brake**

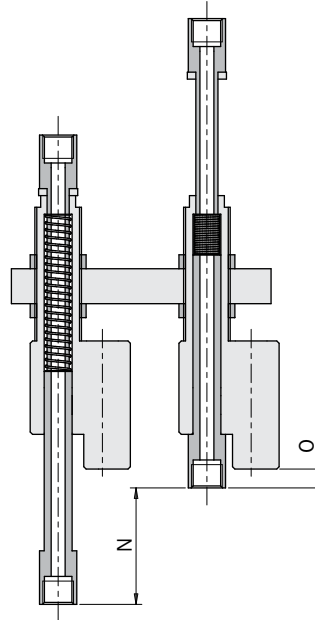
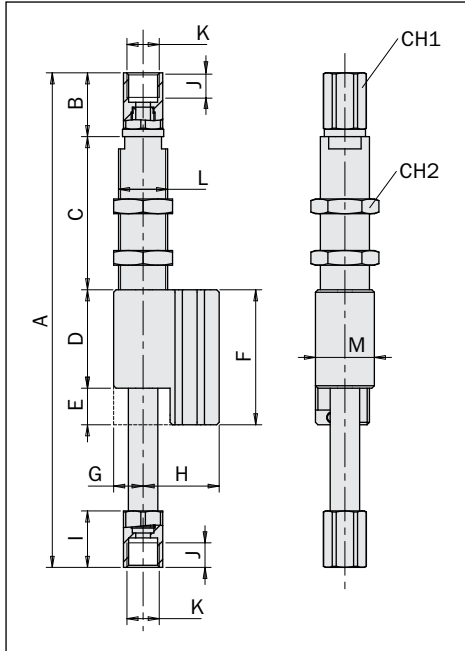
- Aluminium body and steel rod.
- Pneumatic rod lock (-NO) or unlock (-NC) device.
- Rotative rod.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.
- Optional sensors.



|                                  | VSRF2050-NC                         | VSRF2050-NO                         | VSRF30100-NC                        | VSRF30100-NO                        |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| A [mm]                           | 201.5                               |                                     | 324.5                               |                                     |
| B [mm]                           | 26                                  |                                     | 28                                  |                                     |
| C [mm]                           | 62.4                                |                                     | 113                                 |                                     |
| D [mm]                           | 40.1                                |                                     | -                                   |                                     |
| E [mm]                           | 14.9                                |                                     | -                                   |                                     |
| F [mm]                           | 55                                  |                                     | 65.5                                |                                     |
| G [mm]                           | 12                                  |                                     | 17                                  |                                     |
| H [mm]                           | 31                                  |                                     | 40                                  |                                     |
| I [mm]                           | 23                                  |                                     | 18                                  |                                     |
| J [mm]                           | 10                                  |                                     | 13                                  |                                     |
| K                                | G1/4"                               |                                     | G3/8"                               |                                     |
| L [mm]                           | 20                                  |                                     | 30                                  |                                     |
| M [mm]                           | 24                                  |                                     | 35                                  |                                     |
| N [mm]                           | 50                                  |                                     | 100                                 |                                     |
| O [mm]                           | 8.1                                 |                                     | 18                                  |                                     |
| CH1 [mm]                         | 16                                  |                                     | 24                                  |                                     |
| m [g]                            | 253                                 |                                     | 830                                 |                                     |
| Magnetic sensor detection        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Operating pressure for locking   | P1                                  | 4÷8 bar                             | -                                   | 4÷8 bar                             |
| Operating pressure for unlocking | P2                                  | 4÷8 bar                             | 4÷8 bar                             | -                                   |
| Braking force                    | 200 N                               | 50N x P1 - 50N                      | 600 N                               | 150N x P1 - 150N                    |

**Rotative suspensions, with threaded body and brake**

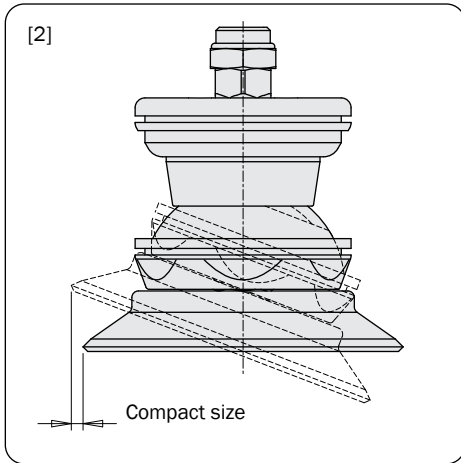
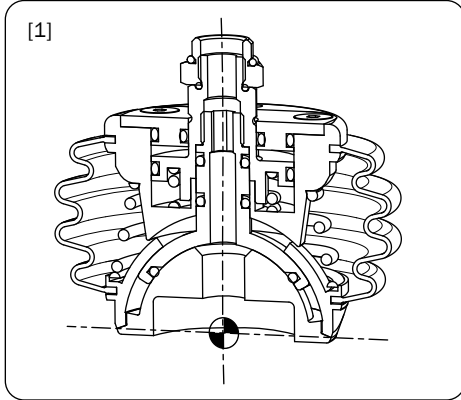
- Aluminium body and steel rod.
- Pneumatic rod lock (-NO) or unlock (-NC) device.
- Rotative rod.
- FDA-H1 food-grade grease.
- Pressure range: -1 ÷ 8 bar.
- Optional sensors.



|                                  | VSRTF2050-NC<br>9900035             | VSRTF2050-NO<br>9900036             | VSRTF30100-NC<br>9900037            | VSRTF30100-NO<br>9900038            |
|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| A [mm]                           | 201.5                               |                                     |                                     | 324.5                               |
| B [mm]                           | 26                                  |                                     |                                     | 28                                  |
| C [mm]                           | 62.4                                |                                     |                                     | 113                                 |
| D [mm]                           | 40.1                                |                                     |                                     | -                                   |
| E [mm]                           | 14.9                                |                                     |                                     | -                                   |
| F [mm]                           | 55                                  |                                     |                                     | 65.5                                |
| G [mm]                           | 12                                  |                                     |                                     | 17                                  |
| H [mm]                           | 31                                  |                                     |                                     | 40                                  |
| I [mm]                           | 23                                  |                                     |                                     | 18                                  |
| J [mm]                           | 10                                  |                                     |                                     | 13                                  |
| K                                | G1/4"                               |                                     |                                     | G3/8"                               |
| L                                | M20x1.5                             |                                     |                                     | M30x1.5                             |
| M [mm]                           | 24                                  |                                     |                                     | 35                                  |
| N [mm]                           | 50                                  |                                     |                                     | 100                                 |
| O [mm]                           | 8.1                                 |                                     |                                     | 18                                  |
| CH1 [mm]                         | 16                                  |                                     |                                     | 24                                  |
| CH2 [mm]                         | 24                                  |                                     |                                     | 36                                  |
| m [g]                            | 270                                 |                                     |                                     | 880                                 |
| Magnetic sensor detection        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| Operating pressure for locking   | P1                                  | -                                   | 4÷8 bar                             | -                                   |
| Operating pressure for unlocking | P2                                  | 4÷8 bar                             | -                                   | 4÷8 bar                             |
| Braking force                    | 200 N                               | 50N x P1 - 50N                      | 600 N                               | 150N x P1 - 150N                    |

**Ball joint for vacuum cups, with brake**

- Pneumatically-driven device for joint lock (-NO) or unlock (-NC).
- Rotation fulcrum very close to the suction cup plane [1].
- Small side displacement on rotation [2].
- Minimal slide of the vacuum cup upon picking-up.
- FDA-H1 food-grade grease.
- Pressure range: -1÷8 bar.
- Two sizes available.



VAB18...

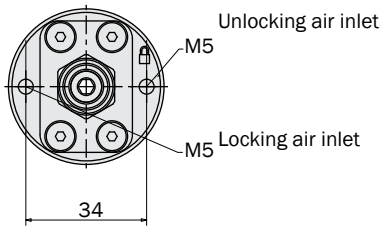
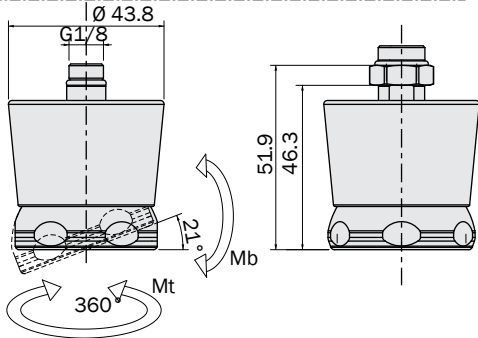
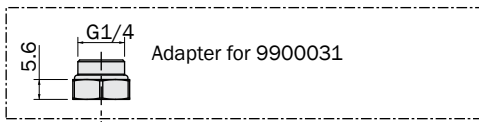
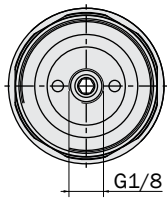


VAB14...

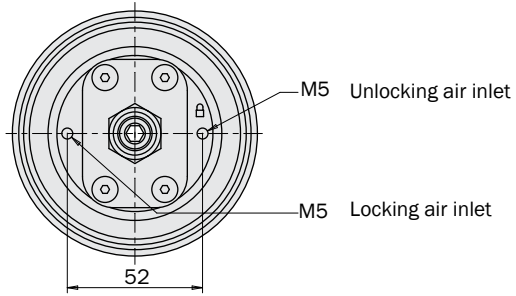
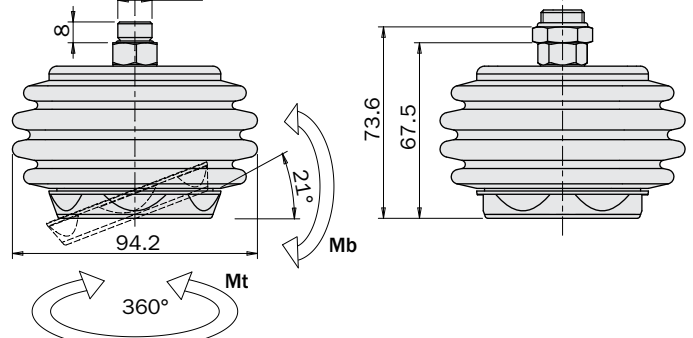
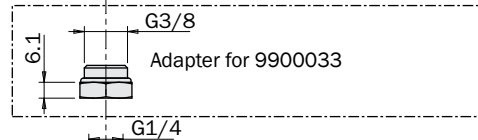
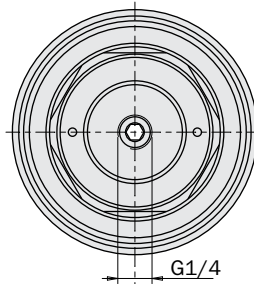
|                                     |    | VAB18M18F-NC<br>9900039                                   | VAB14M14F-NC<br>9900040 | VAB18M18F-NO<br>9900041 | VAB14M14F-NO<br>9900042 |
|-------------------------------------|----|---|-------------------------|-------------------------|-------------------------|
| Fluid for lock / unlock             |    | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                         |                         |                         |
| Operating pressure range for lock   | P1 | 0 ÷ 8 bar   | 0 ÷ 8 bar               | 1 ÷ 8 bar               | 1 ÷ 8 bar               |
| Operating pressure range for unlock | P2 | 4 ÷ 8 bar   | 3 ÷ 8 bar               | 0 ÷ 8 bar               | 0 ÷ 8 bar               |
| Air consumption to locking          |    | 0 cm <sup>3</sup>   | 0 cm <sup>3</sup>       | 2.7 cm <sup>3</sup>     | 4.3 cm <sup>3</sup>     |
| Air consumption to unlocking        |    | 0.4 cm <sup>3</sup>                                       | 4.8 cm <sup>3</sup>     | 0 cm <sup>3</sup>       | 0 ÷ 4.8 cm <sup>3</sup> |
| Pressure through the supply duct    |    | -1 ÷ 8 bar  |                         |                         |                         |
| Operating temperature range         |    | 5° ÷ 60° C  |                         |                         |                         |
| Stroke                              |    | ± 21°   |                         |                         |                         |
| Brake torque                        | Mb | 1 Nm + 0.25 Nm x P1                                       | 1.5Nm + 0.7Nm x P1      | 0.25 Nm x P1            | 0.7Nm x P1              |
| Brake torque                        | Mt | 0.8 Nm + 0.2 Nm x P1                                      | 1.1Nm + 0.5Nm x P1      | 0.2 Nm x P1             | 0.5Nm x P1              |
| Weight                              |    | 152 g   | 420 g                   | 147 g                   | 410 g                   |

**Dimensions (mm)**

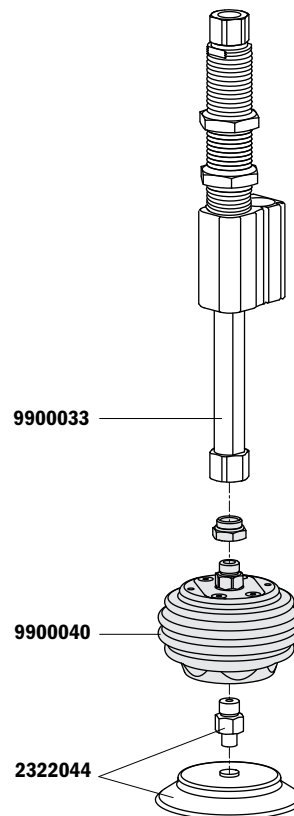
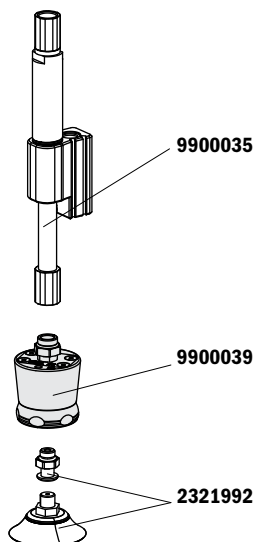
**VAB18...**



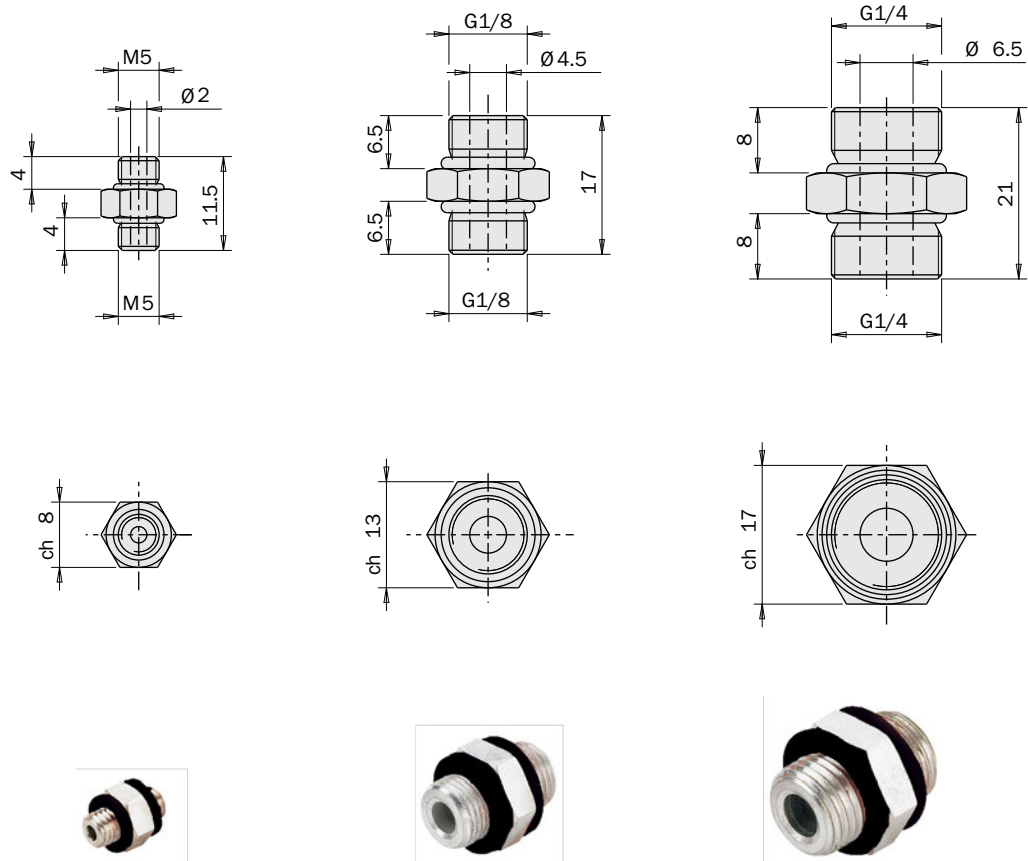
**VAB14...**



**Application example**

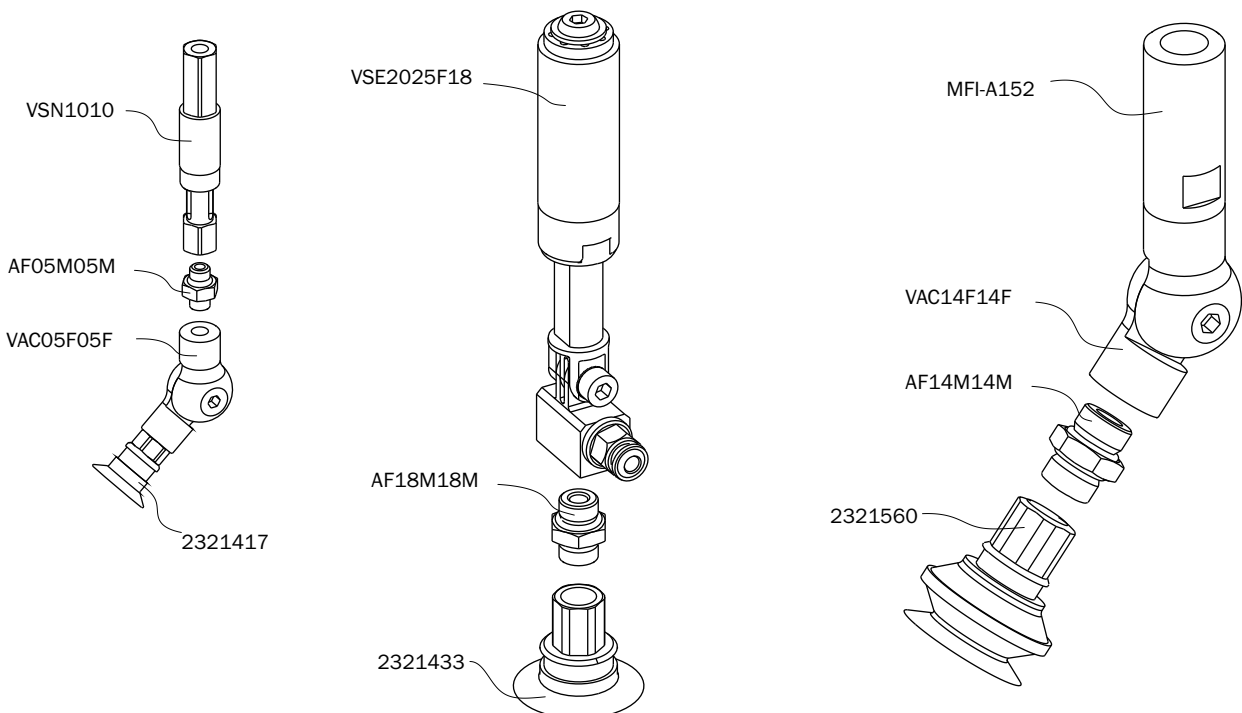


**Threaded nipples**



|        | AF05M05M | AF18M18M | AF14M14M |
|--------|----------|----------|----------|
| Weight | 3 g      | 4 g      | 8 g      |

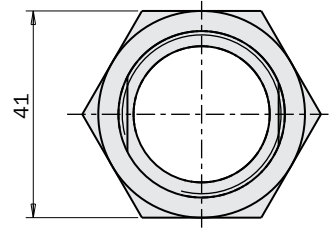
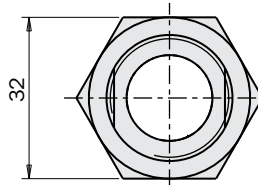
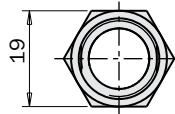
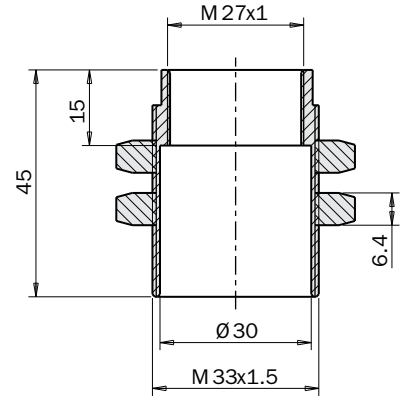
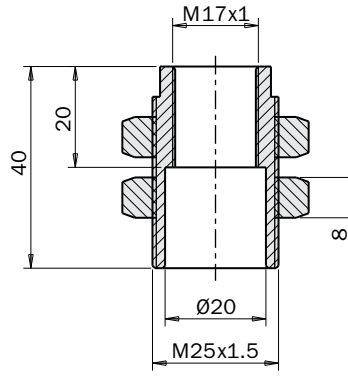
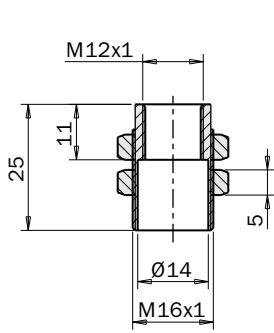
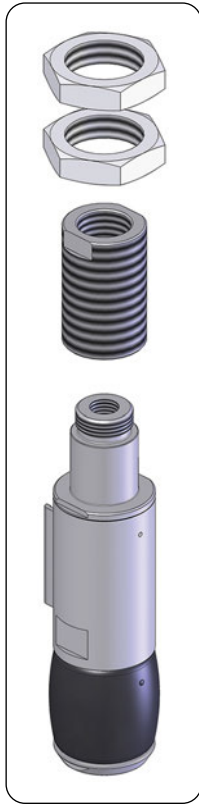
**Application examples**



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

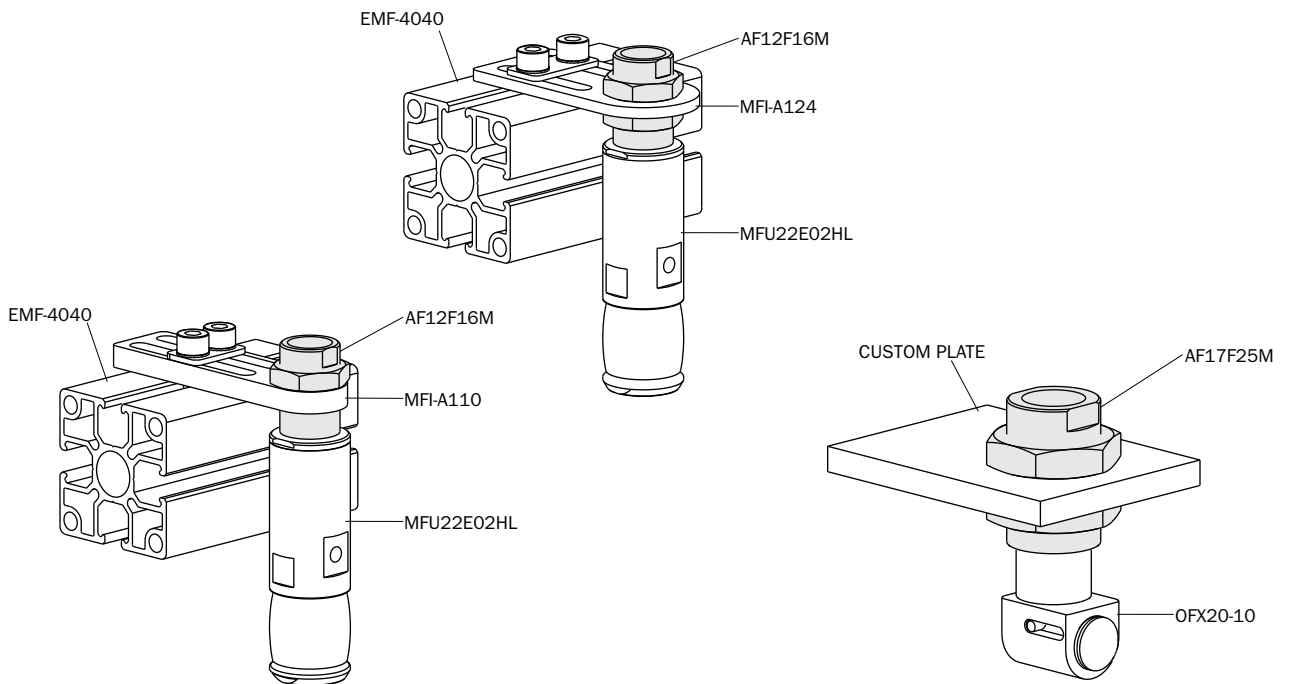
**Threaded nipples**

FIRST ANGLE PROJECTION



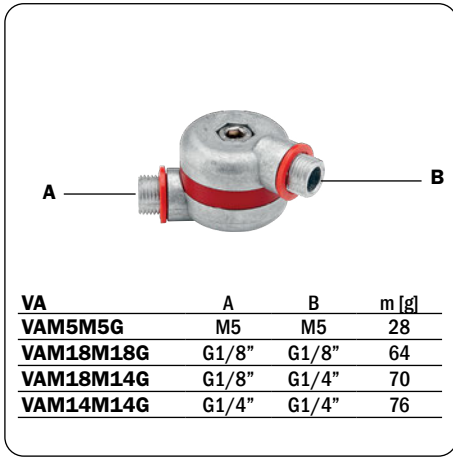
|        | AF12F16M | AF17F25M | AF27F33M |
|--------|----------|----------|----------|
| Weight | 25 g     | 130 g    | 140 g    |

**Application examples**

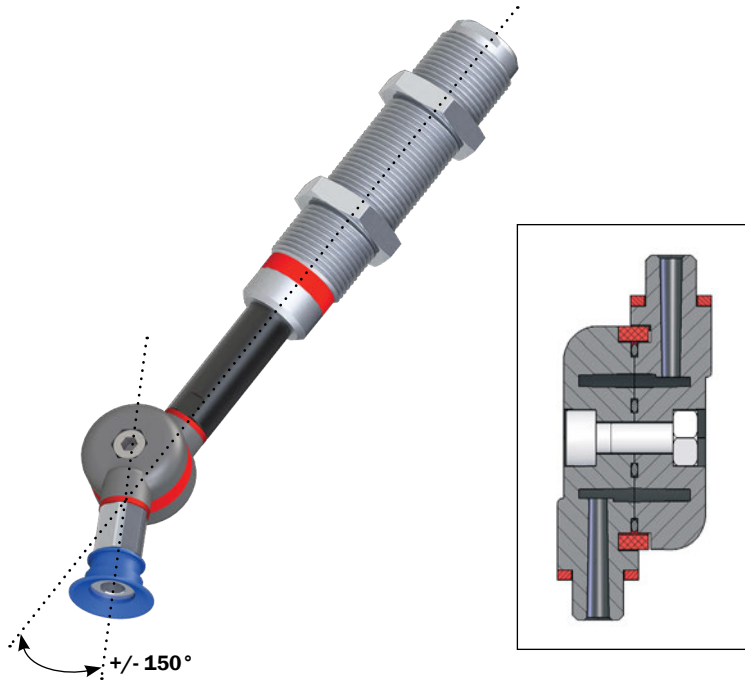


**Elbow arms**

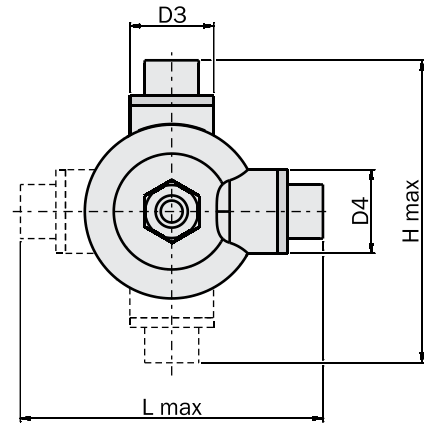
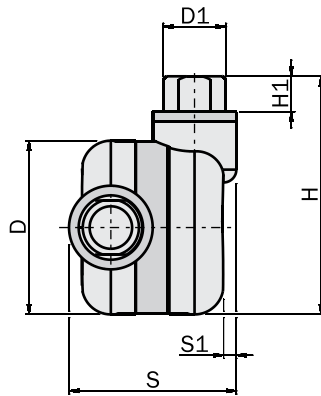
- They are mounted between the vacuum cup and its support by two male threads.
- They are used to tilt the vacuum cup with respect to the support under a predefined angle.
- It is possible to set the angle between 0° and +/-150°.
- By tightening a screw the angle is fixed.
- The vacuum lead is inside the two half-bodies.



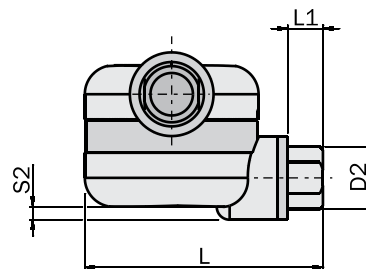
| VA        | A     | B     | m [g] |
|-----------|-------|-------|-------|
| VAM5M5G   | M5    | M5    | 28    |
| VAM18M18G | G1/8" | G1/8" | 64    |
| VAM18M14G | G1/8" | G1/4" | 70    |
| VAM14M14G | G1/4" | G1/4" | 76    |



**Dimensions (mm)**



|       | VAM5M5G | VAM18M18G | VAM18M14G | VAM14M14G |
|-------|---------|-----------|-----------|-----------|
| D     | Ø22     | Ø27       | Ø27       | Ø27       |
| D1    | M5      | G1/8"     | G1/8"     | G1/4"     |
| D2    | M5      | G1/8"     | G1/4"     | G1/4"     |
| D3    | Ø8      | Ø13       | Ø13       | Ø16.8     |
| D4    | Ø8      | Ø13       | Ø16.8     | Ø16.8     |
| H     | 29      | 37        | 37        | 38        |
| H1    | 4       | 5.5       | 5.5       | 6.5       |
| H max | 36      | 47        | 47        | 49        |
| L     | 29      | 37        | 38        | 38        |
| L1    | 4       | 5.5       | 6.5       | 6.5       |
| L max | 36      | 47        | 49        | 49        |
| S     | 15.2    | 26        | 27.9      | 29.8      |
| S1    | 0.6     | 2         | 2         | 3.9       |
| S2    | 0.6     | 2         | 3.9       | 3.9       |

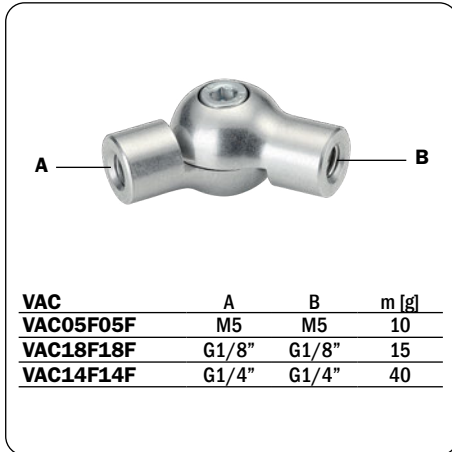


FIRST ANGLE PROJECTION

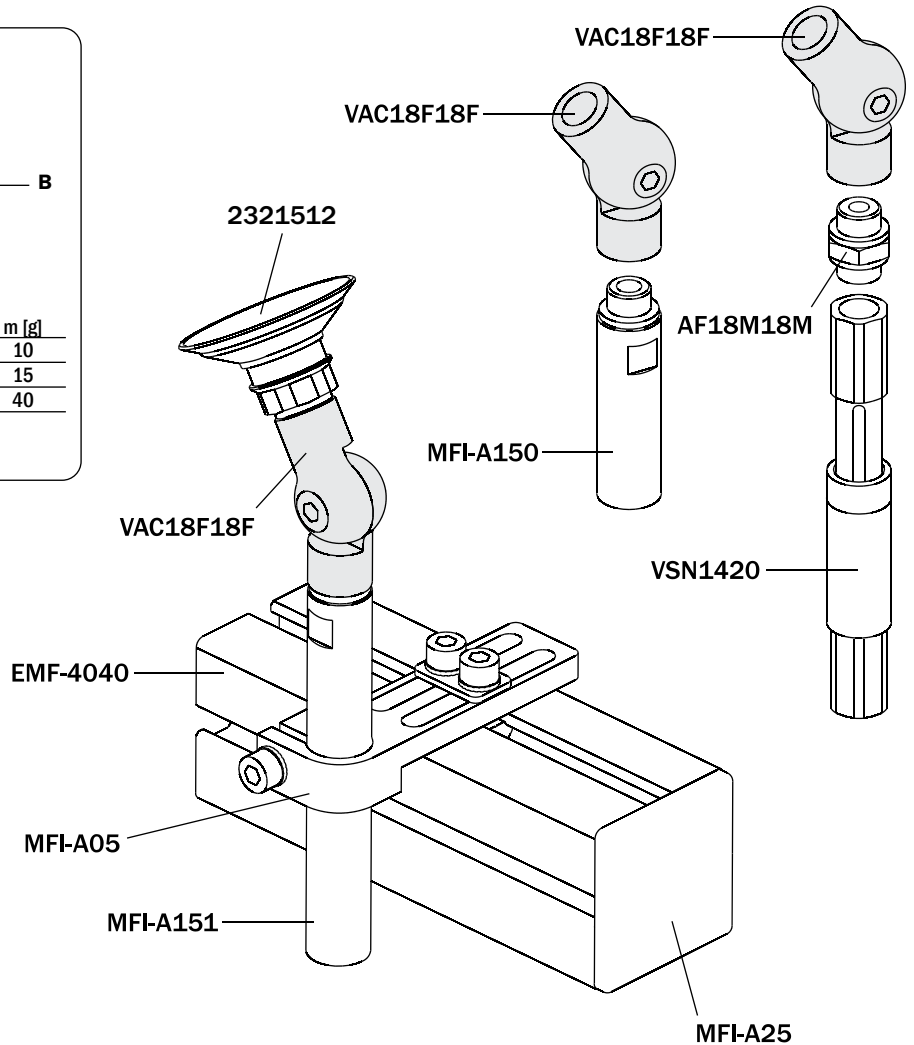


**Elbow arms**

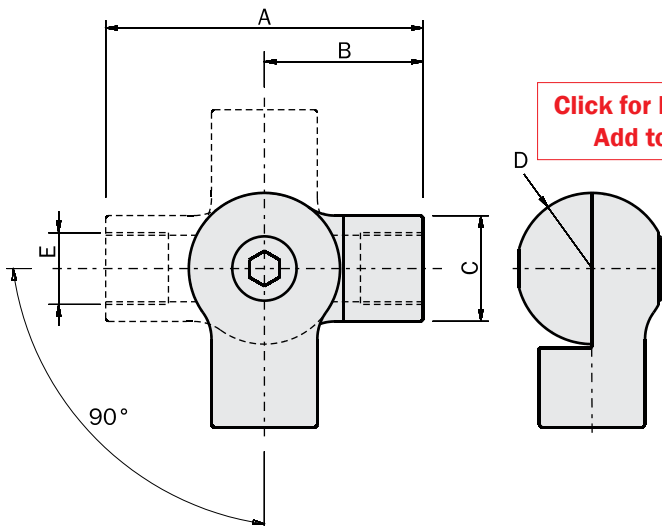
- They are mounted between the vacuum cup and its support by two female threads.
- They are used to tilt the vacuum cup with respect to the support under a predefined angle.
- It is possible to set continuously the angle from 0° to +/-90°.
- By tightening one screw the angle is fixed.
- Integrated vacuum channel.



| VAC       | A     | B     | m [g] |
|-----------|-------|-------|-------|
| VAC05F05F | M5    | M5    | 10    |
| VAC18F18F | G1/8" | G1/8" | 15    |
| VAC14F14F | G1/4" | G1/4" | 40    |



**Dimensions (mm)**



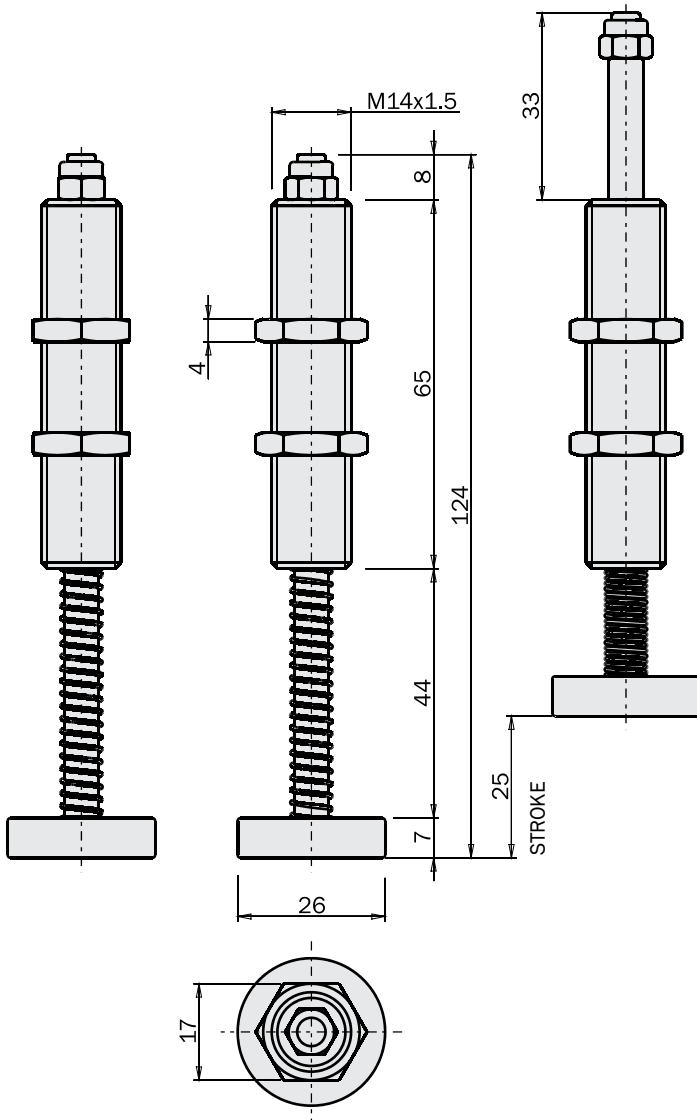
**Click for Pricing & Add to Cart**



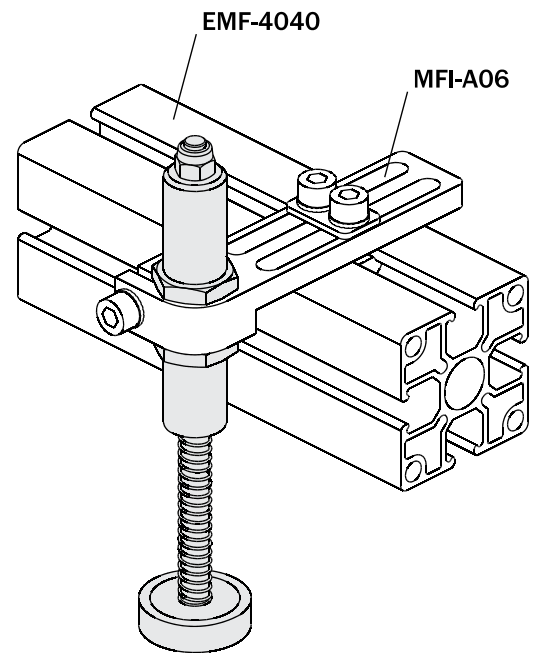
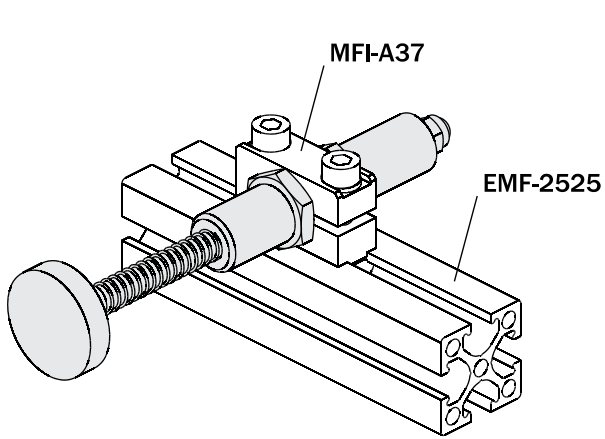
|   | VAC05F05F | VAC18F18F | VAC14F14F |
|---|-----------|-----------|-----------|
| A | 33        | 42        | 56        |
| B | 16.5      | 21        | 28        |
| C | Ø10       | Ø14       | Ø20       |
| D | R8        | R10       | R14       |
| E | M5        | G1/8"     | G1/4"     |

Spring rod

FIRST ANGLE PROJECTION



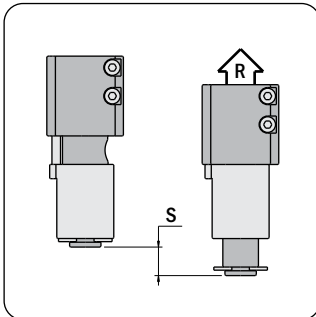
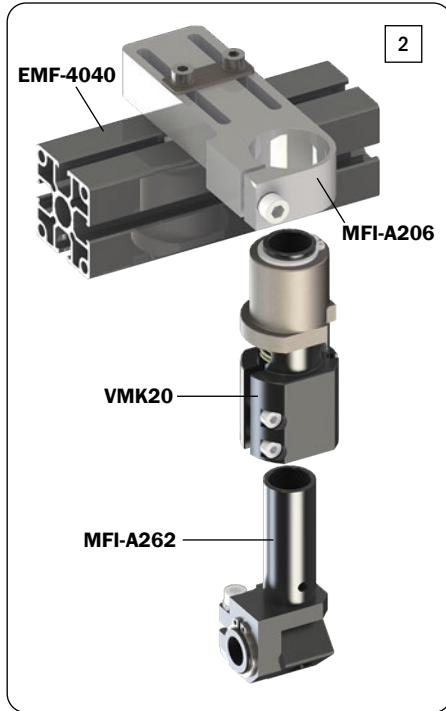
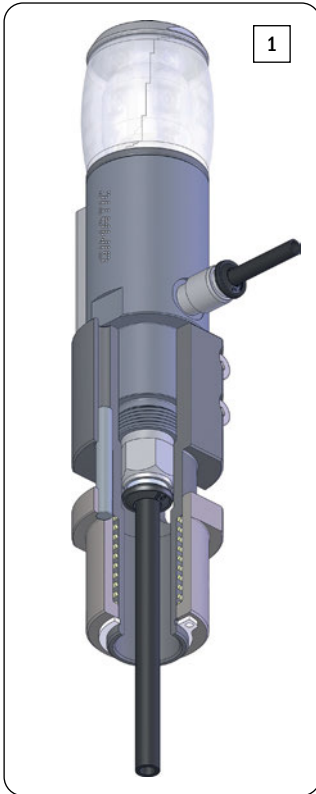
|        |                |
|--------|----------------|
|        | <b>VSX1425</b> |
| Weight | 65 g           |





**Non-rotative universal suspensions**

- For all actuators and brackets with 14mm, 20mm and 30mm tang.
- With through hole for air hoses [1].
- Clamp mounting [2].
- Optional magnetic sensor.
- Optional inductive sensor (not for VMK14).
- FDA-H1 food-grade grease.

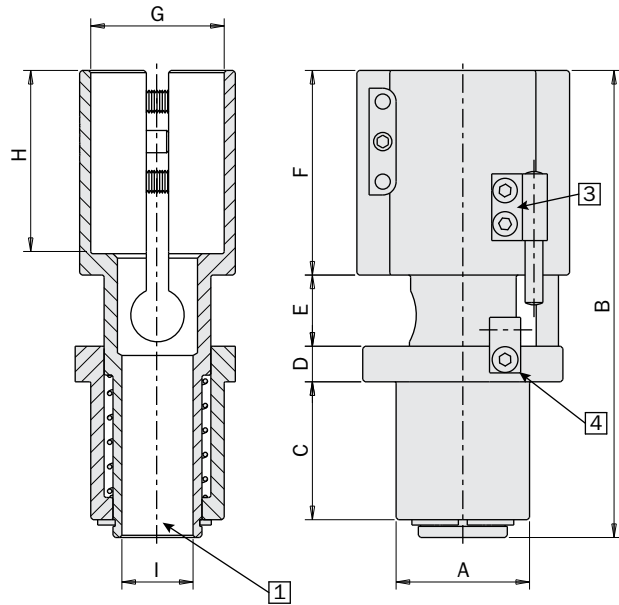


|                       | VMK14   | VMK20    | VMK30    |
|-----------------------|---------|----------|----------|
| Spring reaction force | 5 ÷ 6 N | 7 ÷ 10 N | 7 ÷ 10 N |
| Suspension stroke     | 10 mm   | 13 mm    | 16 mm    |
| Weight                | 55 g    | 160 g    | 250 g    |

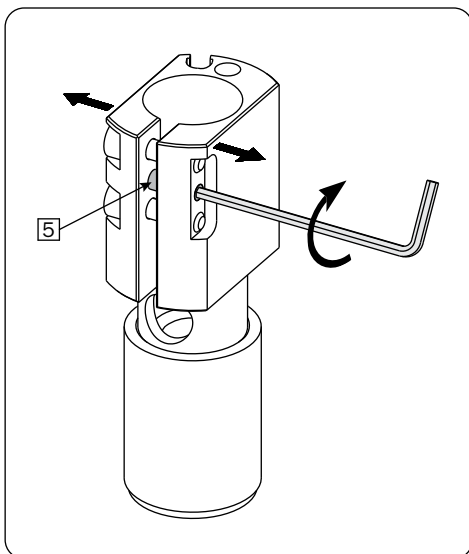
Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

**Dimensions (mm)**

|   | VMK14 | VMK20 | VMK30 |
|---|-------|-------|-------|
| A | Ø20   | Ø30   | Ø30   |
| B | 67    | 86    | 105   |
| C | 21    | 27    | 31    |
| D | 5     | 7     | 8     |
| E | 10    | 13    | 16    |
| F | 28    | 35    | 46    |
| G | Ø14   | Ø20   | Ø30   |
| H | 14    | 31.5  | 41.2  |
| I | Ø6    | Ø16   | Ø16   |
| L | 22    | 30    | 35    |
| M | Ø27   | Ø37   | Ø48   |
| N | 22    | 26.5  | 29    |
| O | 16    | 16.5  | 19    |



FIRST ANGLE PROJECTION



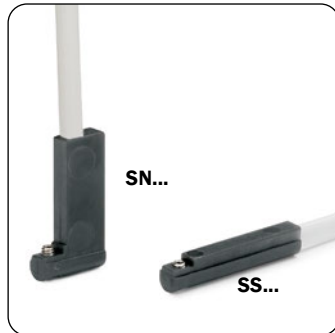
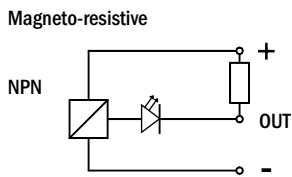
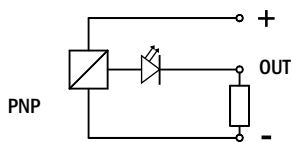
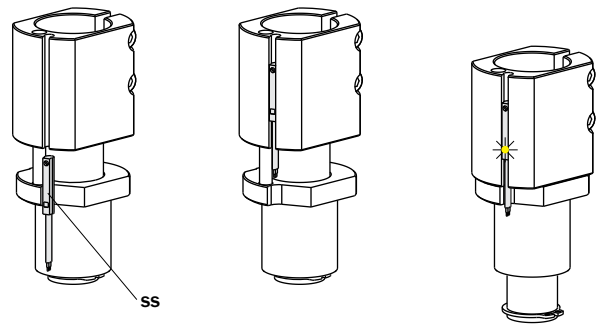
- E** Suspension stroke
- 1** Through hole for hoses
- 2** Slot for magnetic sensor
- 3** Inductive sensor fastening bracket (not for VMK14)
- 4** Bracket for metal pin (not for VMK14)
- 5** Grub screw for clamp opening

**Sensors (optional)**

The compressed position of the suspension can be detected by a magnetic sensor, or an inductive sensor (not for VMK14).

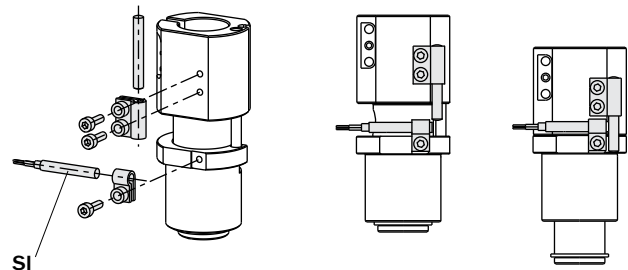
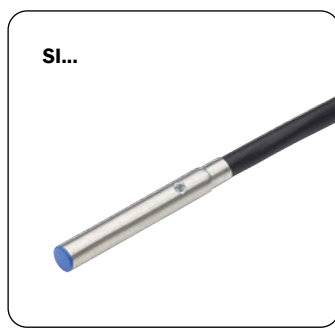
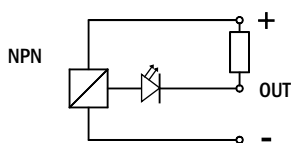
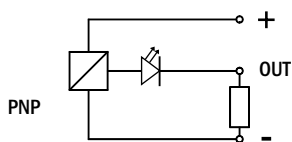
**Magnetic sensors**

| SN4N225-G | PNP | 2.5m cable             |
|-----------|-----|------------------------|
| SN4M225-G | NPN |                        |
| SN3N203-G | PNP | M8 snap plug connector |
| SN3M203-G | NPN |                        |
| SS4N225-G | PNP | 2.5m cable             |
| SS4M225-G | NPN |                        |
| SS3N203-G | PNP | M8 snap plug connector |
| SS3M203-G | NPN |                        |



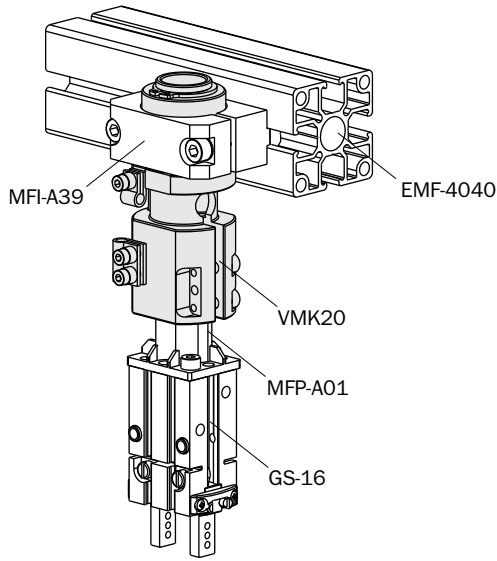
**Inductive sensors**

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

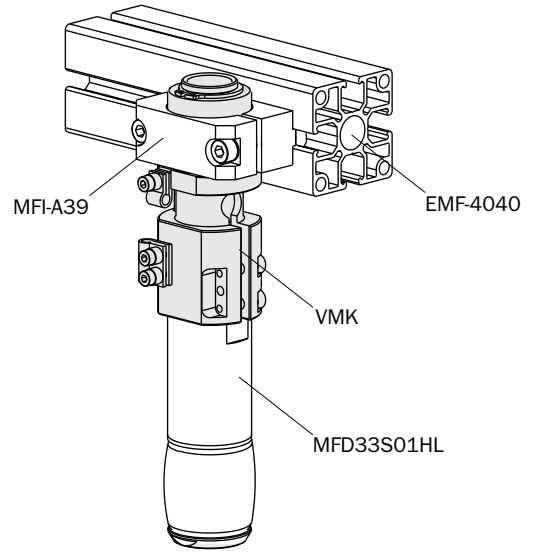


**Application examples**

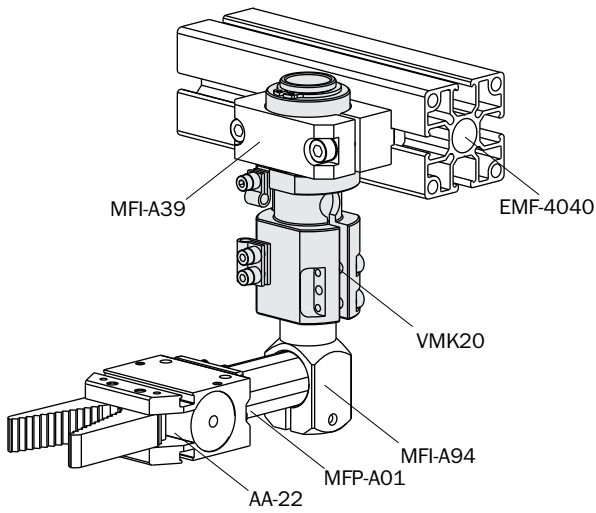
Buffering of a parallel gripper GS.



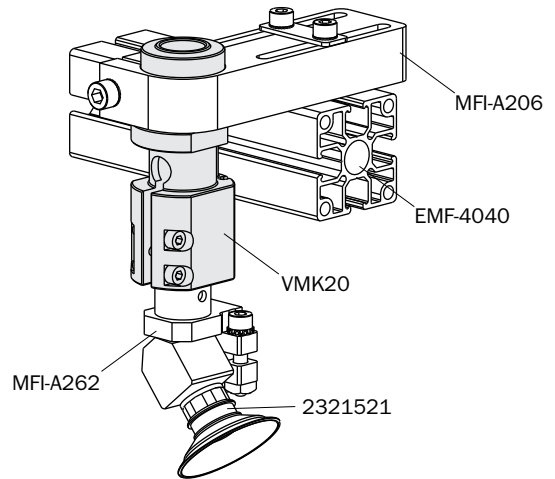
Buffering of an expansion gripper MFD/MFU.



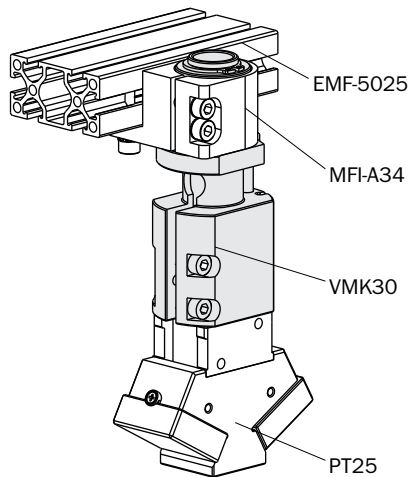
Buffering of a sprue gripper AA.



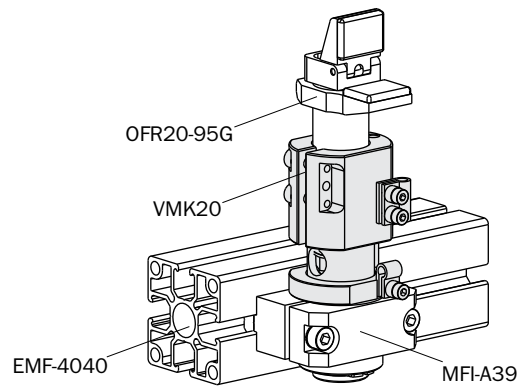
Buffering of a vacuum cup V01.



Buffering of a needle gripper PT.



Buffering of an one finger gripper OF.





**GNB**  
*Blade holder*



**GN**  
*Air nipper actuators*



**GN-**  
*Thrust Cut Nippers*



**G.N**  
*Blades for GN pneumatic nippers*



**GNS**  
*Air nipper actuators*



**JG**  
*Fingers for GN pneumatic nippers*

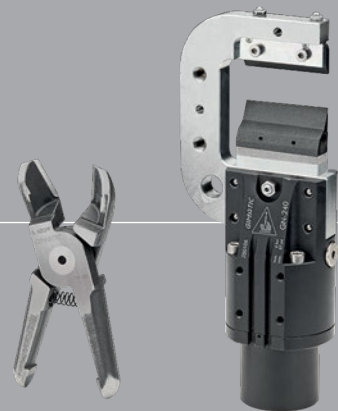


[Click for Quick Navigation](#)



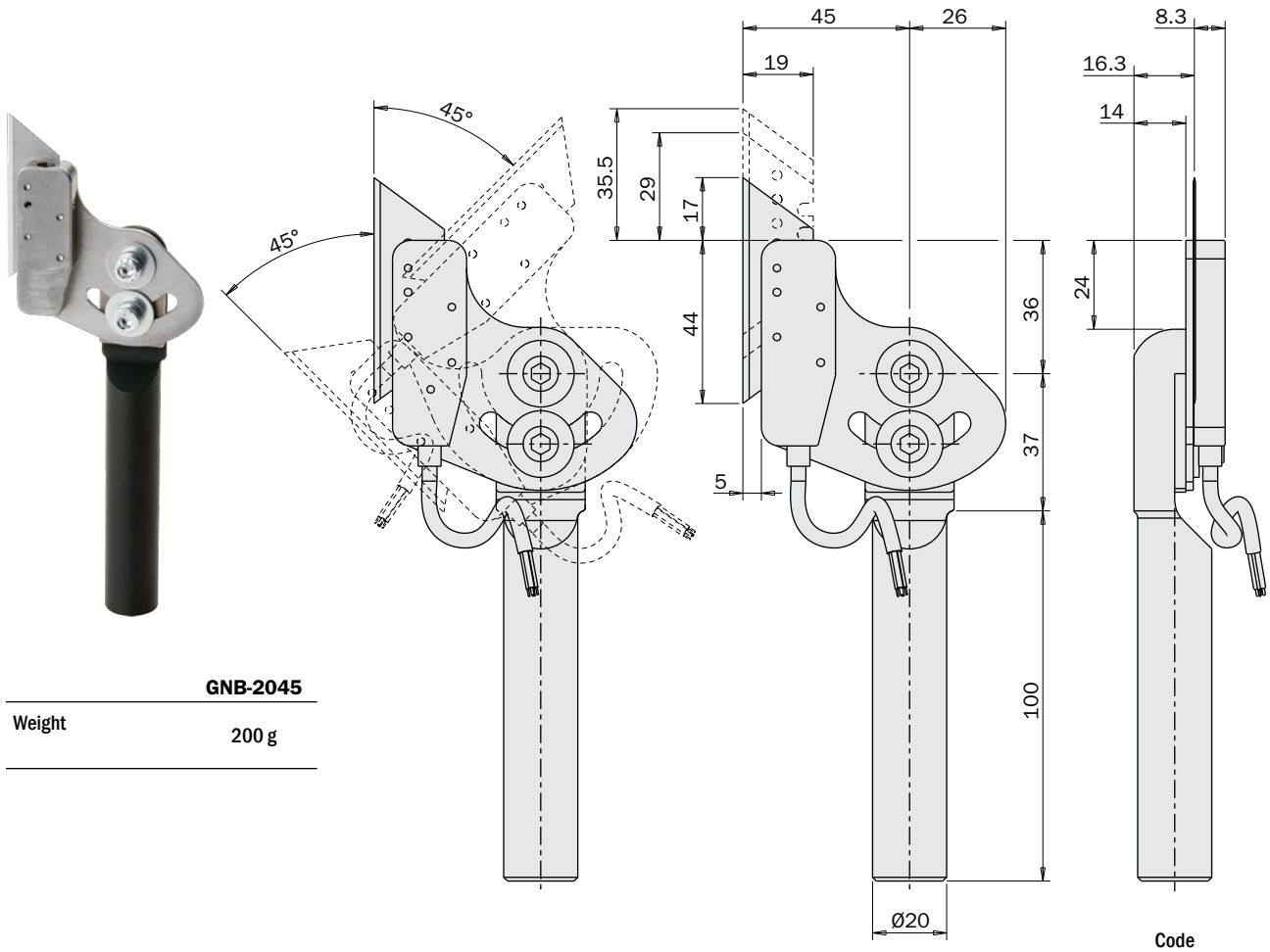
**NIPPERS**

---



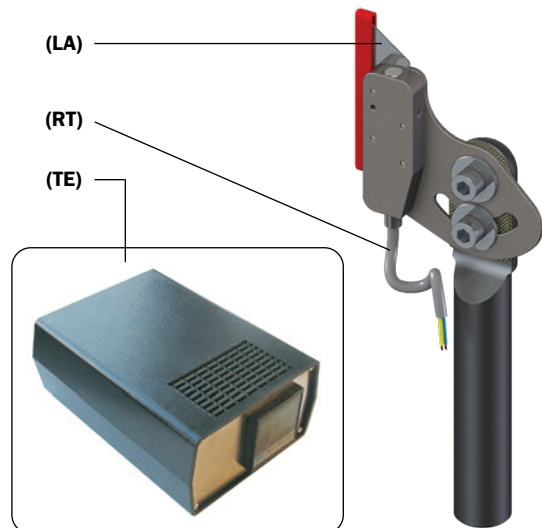
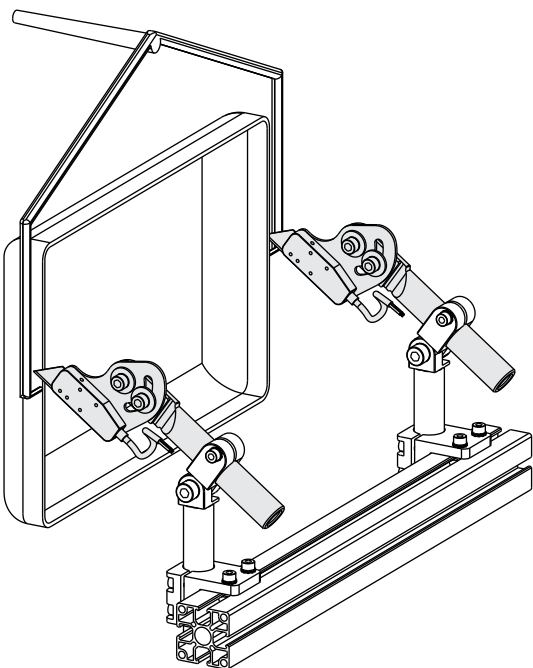
**Blade holder**

- Suitable for trimming, degating and deburring.
- Continuously adjustable angle from -45° to +45°.
- Optional heating system.



**Application example**

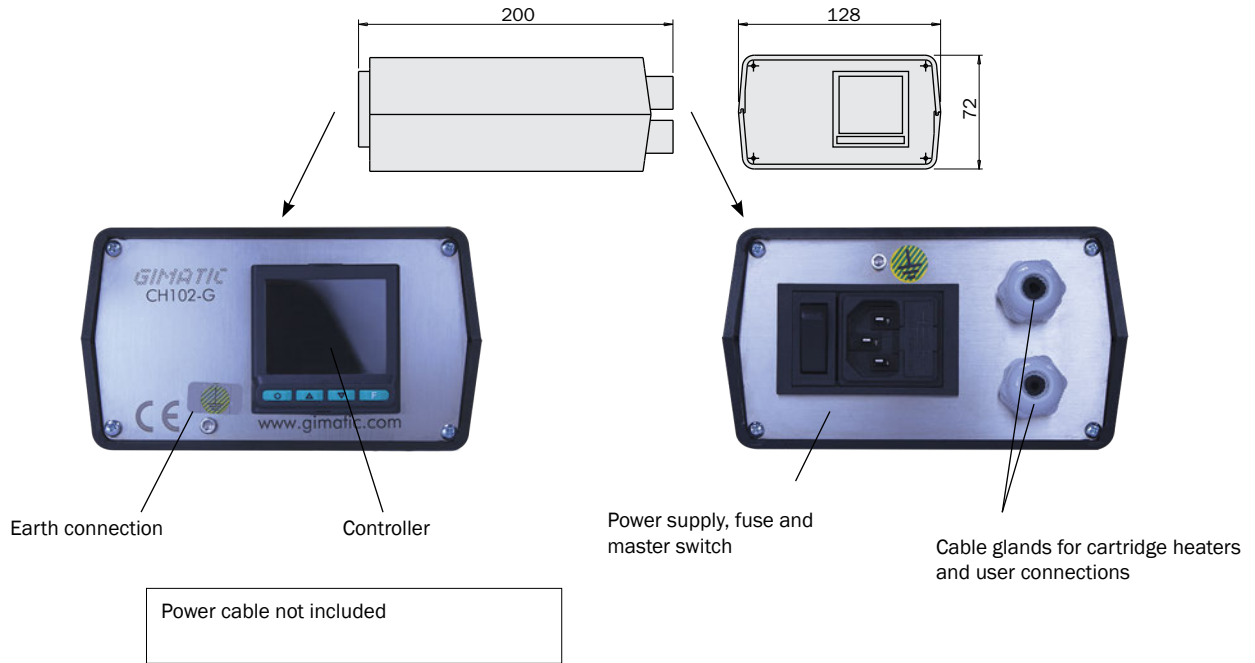
|                                     |      |            |
|-------------------------------------|------|------------|
| Spare blade (10 pieces package)     | (LA) | 376Y234-10 |
| Cartridge resistance + thermocouple | (RT) | R60K-G     |
| Temperature range                   |      | 200÷400°C  |
| Power                               |      | 100W       |
| Heater control box                  | (TE) | CH102-G    |



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

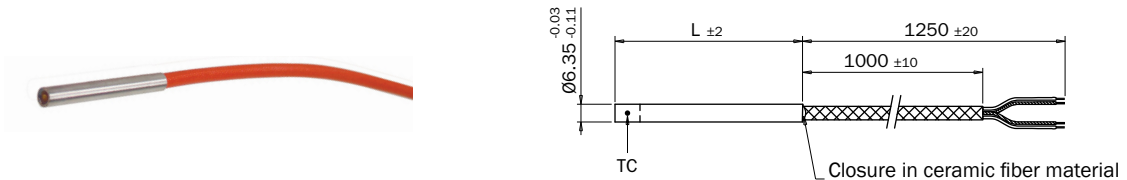
**Temperature regulator**

- Monitoring and controlling of process temperature.
- Simplified configuration and programming operations.
- 1 heating output and 2 configurable alarm outputs.
- Several cartridge resistances can be connected in series.

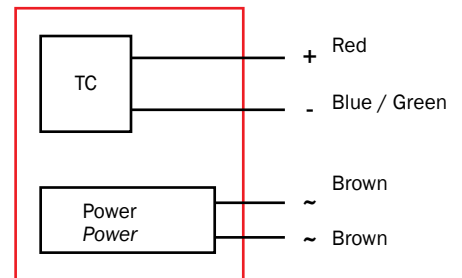


**Cartridge resistances**

- 2 thermal powers available (100W - 120W).
- Embedded thermocouple (TC) type K.
- Cartridge outer diameter 1/4".
- Cartridge closure in ceramic fiber material.



|                                 | <b>R60K-G</b>              | <b>R85K-G</b> |
|---------------------------------|----------------------------|---------------|
| Cartridge length (L)            | 61 mm                      | 86 mm         |
| Power                           | 100 W                      | 120 W         |
| TC type                         | K                          |               |
| Operative temperature range     | > 300 °C                   |               |
| Cartridge maximum temperature   | 500 °C                     |               |
| Material of resistance tube     | AISI 304                   |               |
| External sheath type            | VG - Rough Glass           |               |
| Power supply cables composition | Nickel - GlassFiber (NiVT) |               |
| Power supply cables section     | 0.35 mm <sup>2</sup>       |               |
| TC cables composition           | GlassFiber - Silicon       |               |
| TC cables section               | 0.22 mm <sup>2</sup>       |               |
| Mass                            | 50 g                       |               |



**Warning**  
 Operate the cartridge only if inserted in the mass

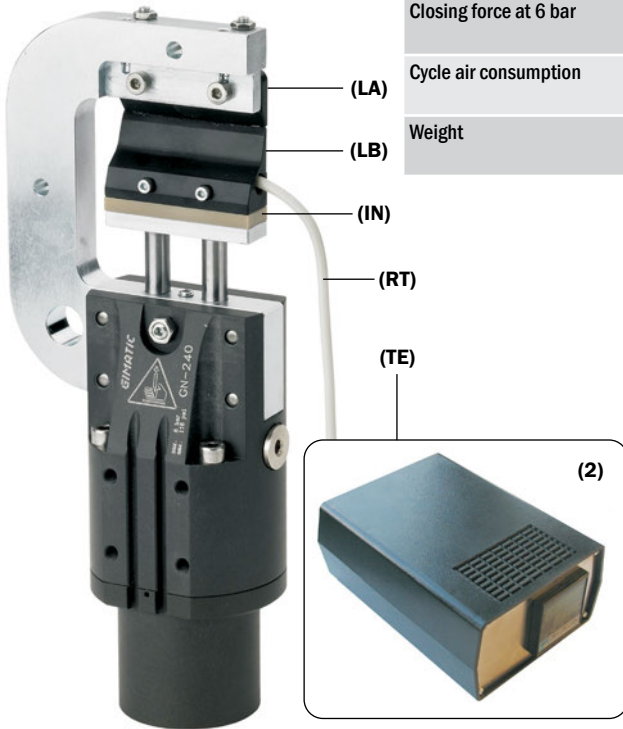
**Thrust Cut Nippers**

- Two sizes available.
- Double-acting operation with tandem cylinders.
- Optional magnetic sensors (1).
- Optional blade heating system (2).
- The blades (LA and LB) and the insulator (IN) are available as spare parts.



**Click for Pricing & Add to Cart**

|                        | GN-240  | GN-263              |
|------------------------|---|---------------------|
| Medium                 | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                     |
| Pressure range         | 2 ÷ 6 bar   |                     |
| Temperature range      | 5° ÷ 60 °C.   |                     |
| Piston bore            | Ø40 mm  | Ø63 mm              |
| Closing force at 6 bar | 1470 N  | 3648 N              |
| Cycle air consumption  | 75 cm <sup>3</sup>  | 291 cm <sup>3</sup> |
| Weight                 | 1330 g  | 2900 g              |

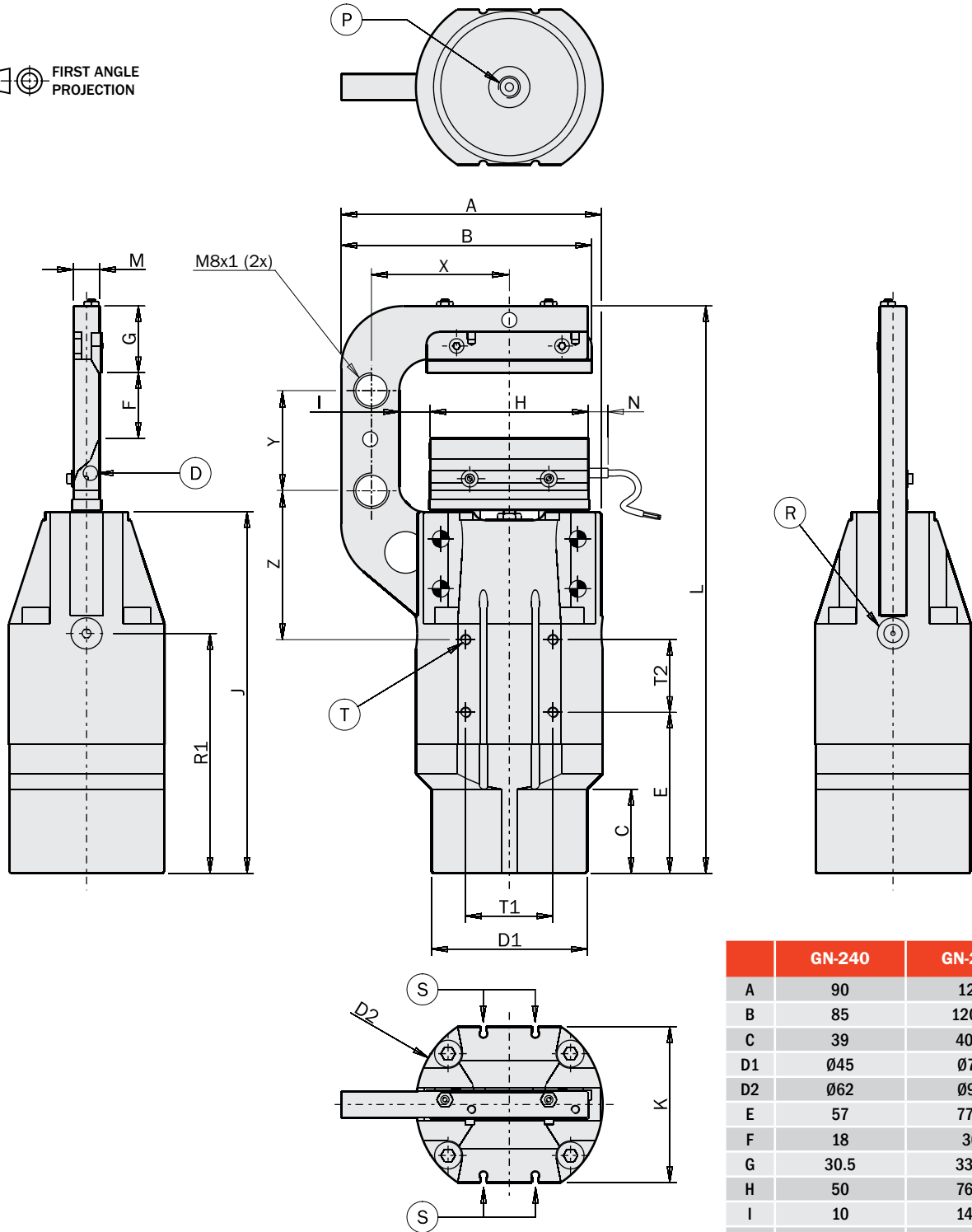


| GN-240 | GN-263 |
|--------|--------|
| Code   | Code   |

|                                     |              |                          |                          |
|-------------------------------------|--------------|--------------------------|--------------------------|
| Spare blade                         | (LA)<br>(LB) | GN-340-14K<br>GN-340-13K | GN-363-14K<br>GN-363-13K |
| High temperature insulation         | (IN)         | GN-340-18                | GN-363-18                |
| Cartridge resistance + thermocouple | (RT)         | R60K-G                   | R85K-G                   |
| Temperature range                   |              | 200÷400°C                | 200÷400°C                |
| Power                               |              | 100W                     | 120W                     |
| Cable                               |              | 1.2m                     | 1.2m                     |
| Heater control box                  | (TE)         | CH102-G                  | CH102-G                  |
| Operating voltage                   |              | 100÷240Vac<br>50/60Hz    | 100÷240Vac<br>50/60Hz    |

**Dimensions (mm)**

FIRST ANGLE PROJECTION



- (P) Compressed air connection: CLOSING
- (R) Compressed air connection: OPENING
- (S) Slot for SS series sensors
- (T) Threaded hole for fastening
- (D) Heating system housing  $\varnothing 6.35$

|    | GN-240           | GN-263           |
|----|------------------|------------------|
| A  | 90               | 126              |
| B  | 85               | 120.7            |
| C  | 39               | 40.5             |
| D1 | $\varnothing 45$ | $\varnothing 75$ |
| D2 | $\varnothing 62$ | $\varnothing 90$ |
| E  | 57               | 77.5             |
| F  | 18               | 30               |
| G  | 30.5             | 33.5             |
| H  | 50               | 76.2             |
| I  | 10               | 14.9             |
| J  | 134.5            | 174              |
| K  | 54               | 74.6             |
| L  | 220              | 273              |
| M  | 12.7             | 12.7             |
| N  | 11 max           | 10 max           |
| P  | G1/8"            | G1/8"            |
| R  | G1/8"            | G1/8"            |
| R1 | 90.25            | 115.5            |
| T  | M5x7mm           | M5x9.5mm         |
| T1 | 25               | 42               |
| T2 | 25               | 35               |
| Z  | 62.75            | 66.5             |
| X  | 47.5             | 67               |
| Y  | 40               | 60               |

## Air nipper actuators (series GNS)

- Three sizes available.
- Small dimensions.
- Usable with several standard blades (1).
- With or without integrated slide.
- Double-acting slide, spring closed or spring open.
- Optional magnetic sensors.



GNS-05-NC  
GNS-05-NO



GNS-05

GNS-10-NC  
GNS-10-NO



GNS-10

GNS-20-NC  
GNS-20-NO



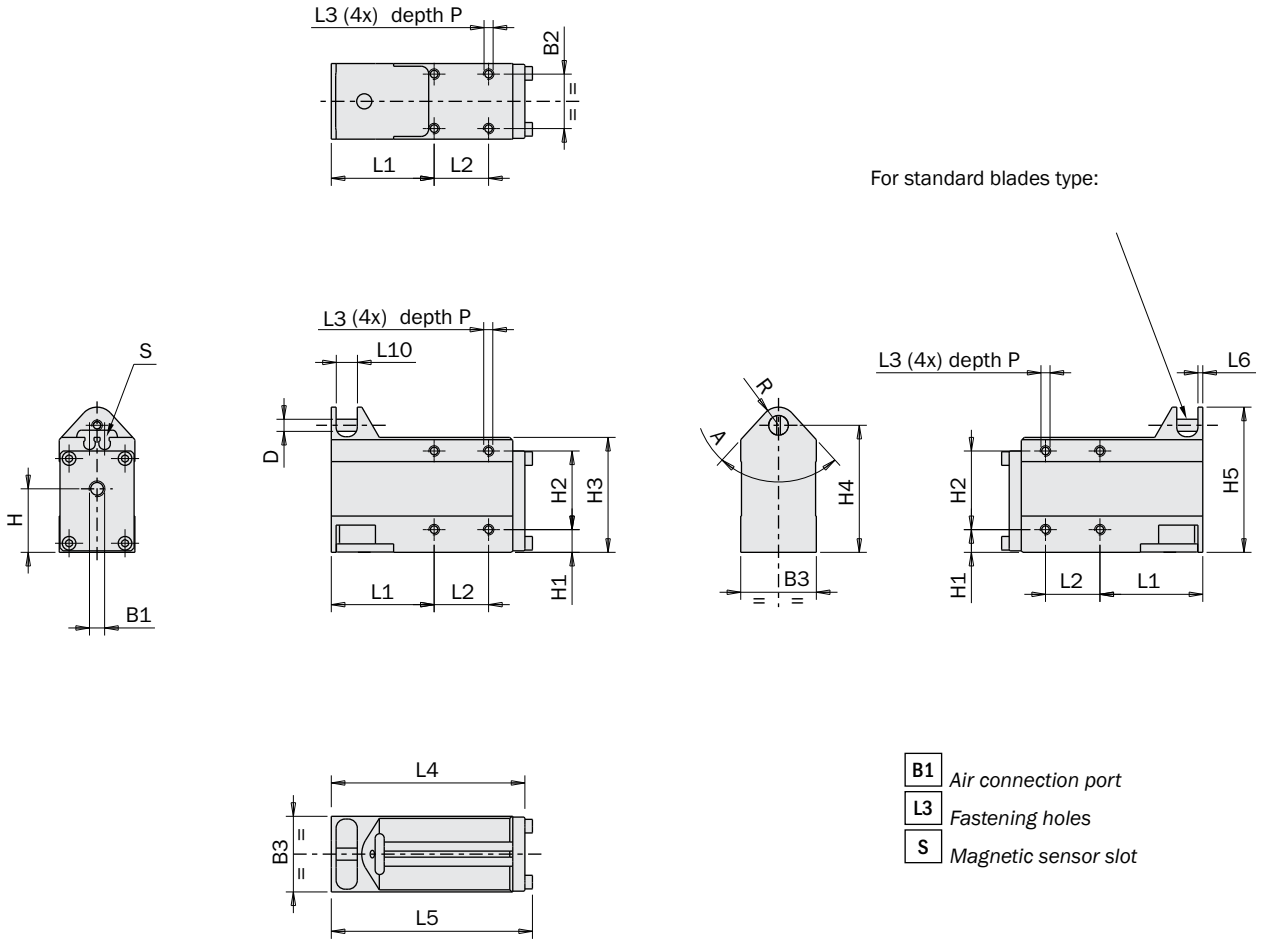
GNS-20

|                                    | GNS-05<br>GNS-05-NC<br>GNS-05-NO                          | GNS-10<br>GNS-10-NC<br>GNS-10-NO | GNS-20<br>GNS-20-NC<br>GNS-20-NO |
|------------------------------------|---|----------------------------------|----------------------------------|
| Medium                             | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                                  |                                  |
| Pressure range                     | 4 ÷ 8 bar   |                                  |                                  |
| Temperature range                  | 5° ÷ 60 °C  |                                  |                                  |
| Cutting capacity                   | Ø3 mm   | Ø4 mm                            | Ø6 mm                            |
| Blade angular stroke               | 2x5°  | 2x5°                             | 2x9°                             |
| Nipper piston bore                 | Ø23 mm  | Ø30 mm                           | Ø42 mm                           |
| Closing torque at 6 bar each blade | 14 Nm   | 34 Nm                            | 42 Nm                            |
| Total closing torque at 6 bar      | 28 Nm   | 68 Nm                            | 84 Nm                            |
| Cycle air consumption              | 6 cm <sup>3</sup>   | 14 cm <sup>3</sup>               | 30cm <sup>3</sup>                |
| Weight without blade               | 112 g<br>180 g<br>175 g                                   | 355 g<br>570 g<br>570 g          | 480 g<br>780 g<br>780 g          |

**Dimensions (mm)**

|        | A    | B1   | B2 | B3 | H  | H1  | H2 | H3 | H4 | H5 | D  | L1 | L2 | L3 | L4 |
|--------|------|------|----|----|----|-----|----|----|----|----|----|----|----|----|----|
| GNS-05 | 85°  | M5   | 18 | 25 | 21 | 7.5 | 26 | 38 | 42 | 48 | ∅4 | 34 | 18 | M3 | 64 |
| GNS-10 | 93°  | M5   | 32 | 39 | 32 | 17  | 32 | 53 | 57 | 67 | ∅4 | 45 | 24 | M4 | 84 |
| GNS-20 | 115° | G1/8 | 40 | 48 | 36 | 15  | 40 | 62 | 63 | 73 | ∅4 | 49 | 30 | M5 | 90 |

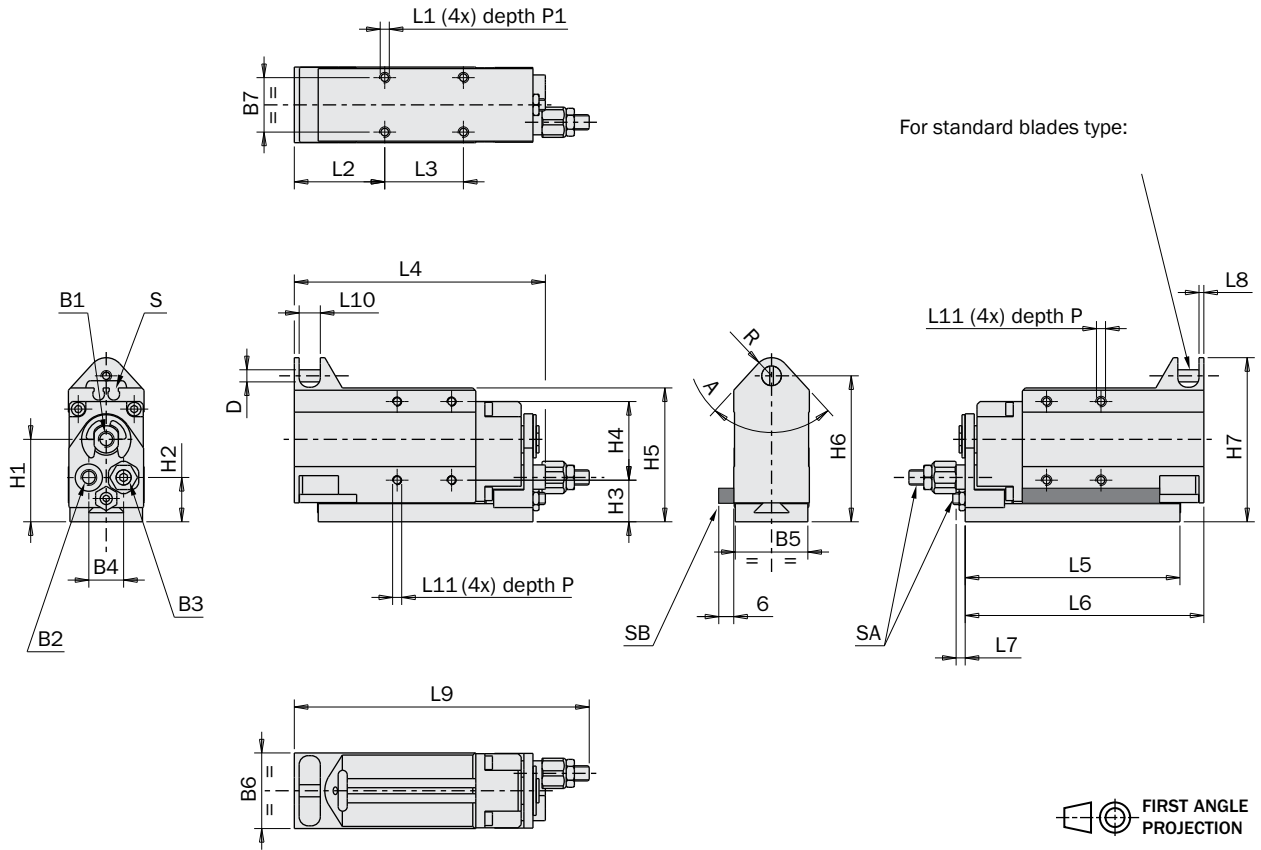
|        | L5   | L6  | L10 | P | R  |
|--------|------|-----|-----|---|----|
| GNS-05 | 66.5 | 1.6 | 7   | 7 | 6  |
| GNS-10 | 88   | 2   | 12  | 9 | 10 |
| GNS-20 | 94   | 2   | 12  | 9 | 10 |



Dimensions (mm)

|           | A    | B1 | B2   | B3 | B4   | B5 | B6 | B7 | D  | H1    | H2    | H3    | H4 | H5    | H6    |
|-----------|------|----|------|----|------|----|----|----|----|-------|-------|-------|----|-------|-------|
| GNS-05-NC | 85°  | M5 | M5   | M5 | 11.5 | 24 | 25 | 18 | ∅4 | 27.25 | 14.65 | 13.75 | 26 | 44.25 | 48.25 |
| GNS-10-NC | 93°  | M5 | M5   | M5 | 13   | 38 | 39 | 24 | ∅4 | 40.3  | 20.8  | 25.3  | 32 | 61.3  | 65.3  |
| GNS-20-NC | 115° | M5 | G1/8 | M5 | 20.6 | 47 | 48 | 30 | ∅4 | 44.3  | 22.8  | 24.3  | 30 | 70.3  | 71.4  |

|           | H7    | L1 | L2    | L3 | L4  | L5  | L6   | L7 | L8  | L9   | L10 | L11 | P | P1 | R  |
|-----------|-------|----|-------|----|-----|-----|------|----|-----|------|-----|-----|---|----|----|
| GNS-05-NC | 54.25 | M3 | 29.9  | 26 | 83  | 71  | 78.9 | 3  | 1.6 | 97.5 | 7   | M3  | 7 | 6  | 6  |
| GNS-10-NC | 75.3  | M4 | 36.05 | 32 | 108 | 90  | 103  | 4  | 2   | 122  | 12  | M4  | 9 | 8  | 10 |
| GNS-20-NC | 81.3  | M5 | 45    | 40 | 121 | 102 | 115  | 5  | 2   | 135  | 12  | M5  | 9 | 8  | 10 |



- B1** Slide opening port
- B2** Blades closing port
- B3** Slide closing port
- L1** Fastening holes
- L7** Maximun slide stroke
- S** Magnetic sensor slot
- SA** Slide stroke adjustment
- SB** Slide sensor

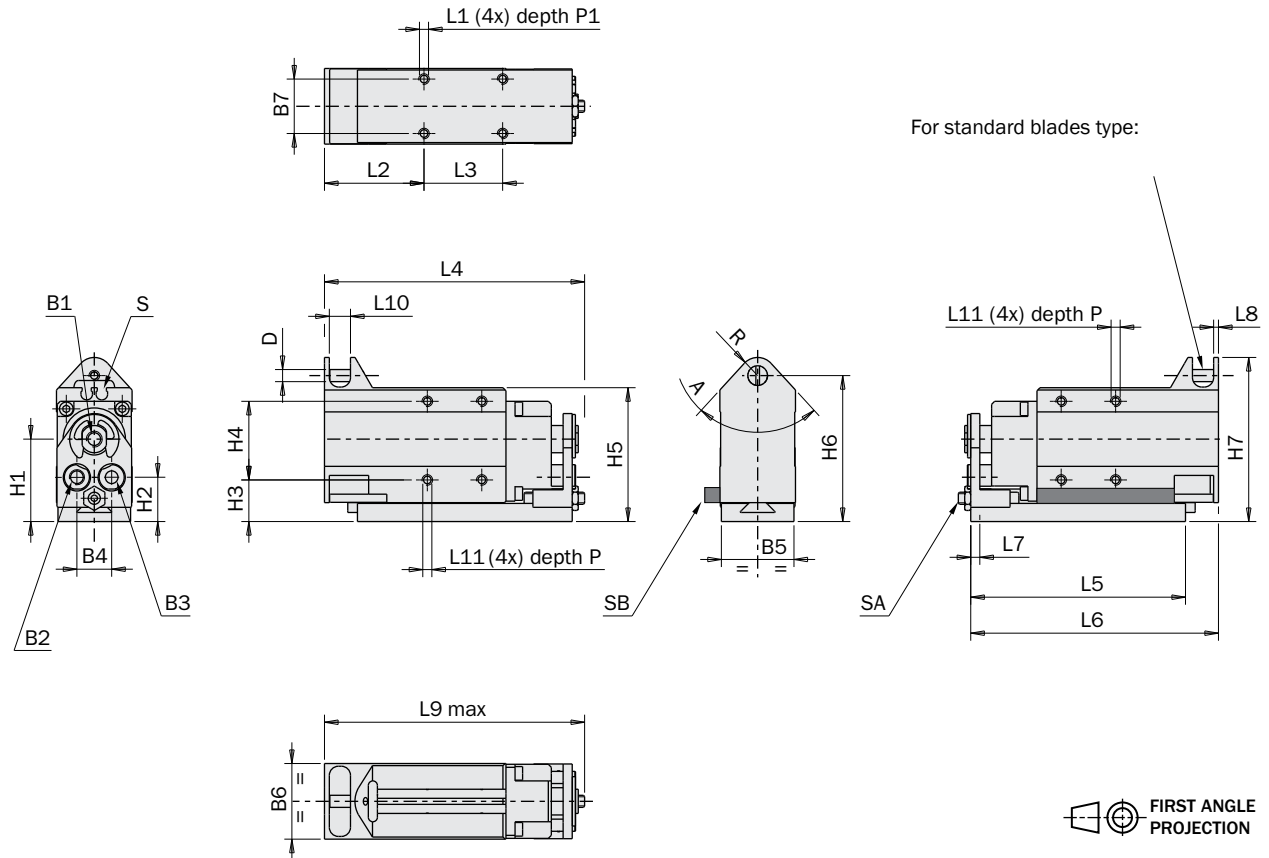
|                                     | GNS-05-NC | GNS-10-NC | GNS-20-NC |
|-------------------------------------|-----------|-----------|-----------|
| Slide stroke                        | 3 mm      | 4 mm      | 5 mm      |
| Slide bore                          | 18 mm     | 20 mm     | 25 mm     |
| Closing force at 6 bar on the slide | 140 N     | 185 N     | 290 N     |
| Opening force at 6 bar on the slide | 115 N     | 130 N     | 240 N     |
| Closing force at 0 bar on the slide | 30 N      | 50 N      | 50 N      |
| Opening force at 0 bar on the slide | 0 N       | 0 N       | 0 N       |



**Dimensions (mm)**

|           | A    | B1 | B2   | B3 | B4   | B5 | B6 | B7 | D  | H1    | H2    | H3    | H4 | H5    | H6    |
|-----------|------|----|------|----|------|----|----|----|----|-------|-------|-------|----|-------|-------|
| GNS-05-NO | 85°  | M5 | M5   | M5 | 11.5 | 24 | 25 | 18 | ∅4 | 27.25 | 14.65 | 13.75 | 26 | 44.25 | 48.25 |
| GNS-10-NO | 93°  | M5 | M5   | M5 | 13   | 38 | 39 | 24 | ∅4 | 40.3  | 20.8  | 25.3  | 32 | 61.3  | 65.3  |
| GNS-20-NO | 115° | M5 | G1/8 | M5 | 20.6 | 47 | 48 | 30 | ∅4 | 44.3  | 22.8  | 24.3  | 30 | 70.3  | 71.4  |

|           | H7    | L1 | L2    | L3 | L4  | L5  | L6   | L7 | L8  | L9  | L10 | L11 | P | P1 | R  |
|-----------|-------|----|-------|----|-----|-----|------|----|-----|-----|-----|-----|---|----|----|
| GNS-05-NO | 54.25 | M3 | 29.9  | 26 | 83  | 71  | 81.9 | 3  | 1.6 | 86  | 7   | M3  | 7 | 6  | 6  |
| GNS-10-NO | 75.3  | M4 | 36.05 | 32 | 108 | 90  | 107  | 4  | 2   | 117 | 12  | M4  | 9 | 8  | 10 |
| GNS-20-NO | 81.3  | M5 | 49    | 40 | 121 | 102 | 120  | 5  | 2   | 129 | 12  | M5  | 9 | 8  | 10 |

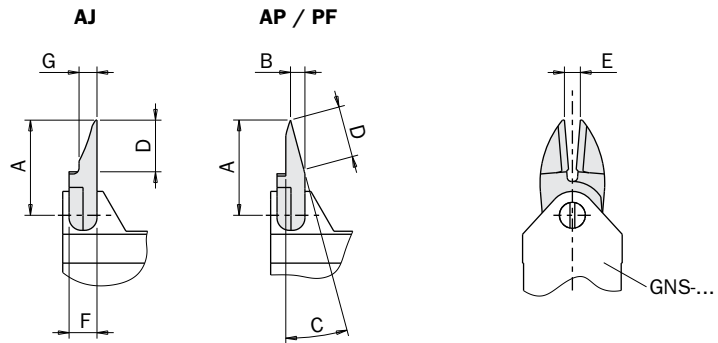
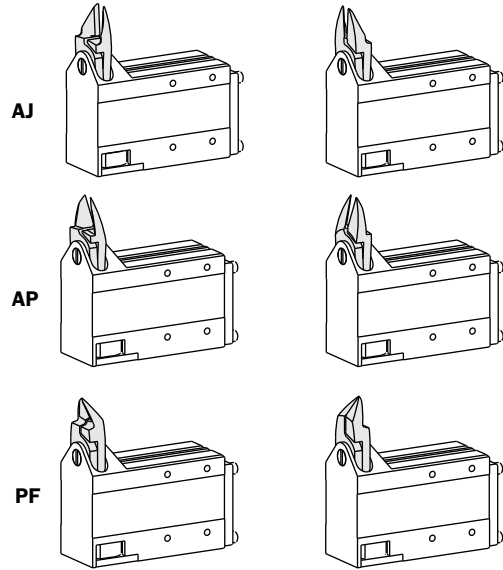
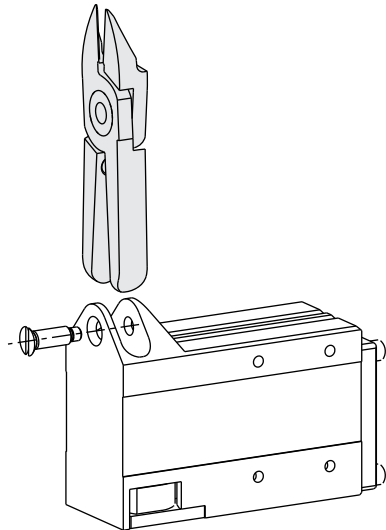
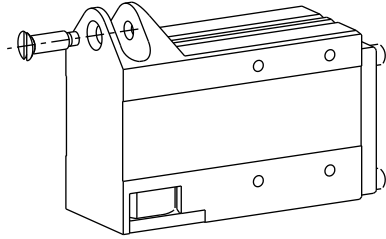
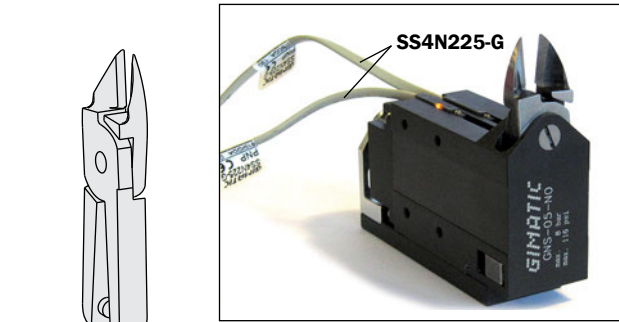


- B1** Slide opening port
- B2** Blades closing port
- B3** Slide closing port
- L1** Fastening holes
- L7** Maximum slide stroke
- S** Magnetic sensor slot
- SA** Slide stroke adjustment
- SB** Slide sensor

|                                     | GNS-05-NO | GNS-10-NO | GNS-20-NO |
|-------------------------------------|-----------|-----------|-----------|
| Slide stroke                        | 3 mm      | 4 mm      | 5 mm      |
| Slide bore                          | 18 mm     | 20 mm     | 25 mm     |
| Closing force at 6 bar on the slide | 75 N      | 85 N      | 180 N     |
| Opening force at 6 bar on the slide | 180 N     | 230 N     | 345 N     |
| Closing force at 0 bar on the slide | 0 N       | 0 N       | 0 N       |
| Opening force at 0 bar on the slide | 35 N      | 50 N      | 60 N      |

**Blades**

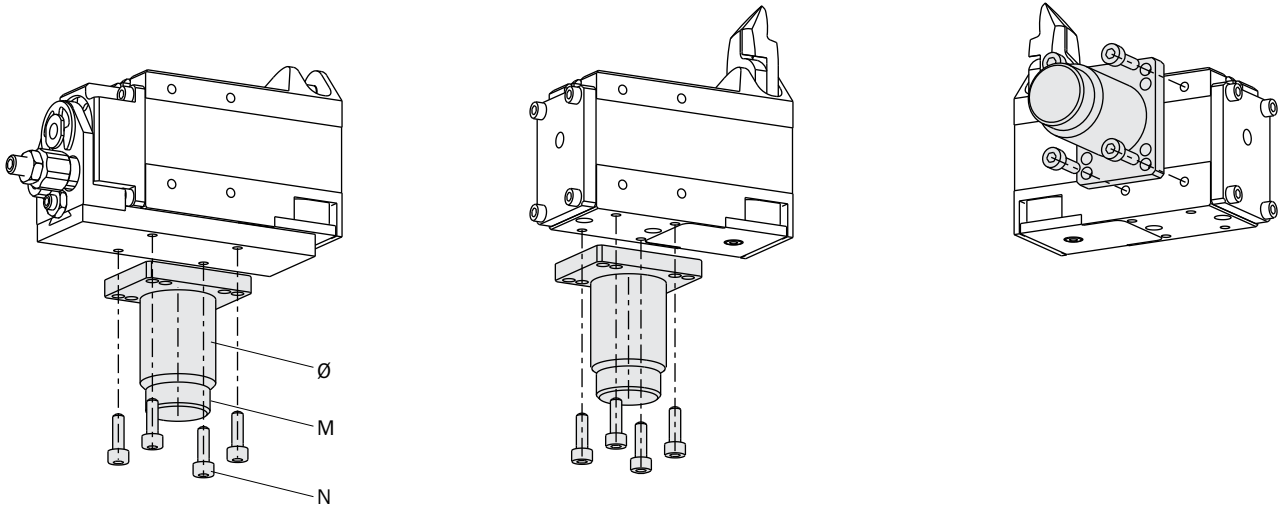
The blades can be mounted on either side.



| Lame     | Nipper     | Blade style      | A    | B   | C   | D    | E    | F  | G   | Weight |
|----------|------------|------------------|------|-----|-----|------|------|----|-----|--------|
| G.N5AJ   | GNS-05-... | inline           | 24   | -   | -   | 13   | 5    | 7  | 4.5 | 33 g   |
| G.N5AP   | GNS-05-... | standard         | 24   | 3.6 | 15° | 11.5 | 4    | 7  | -   | 34 g   |
| G.N5PF   | GNS-05-... | deep angle       | 24   | 7   | 40° | 9.7  | 4    | 7  | -   | 35 g   |
| G.N10LAJ | GNS-10-... | long inline      | 35   | -   | -   | 18   | 6.5  | 12 | 8   | 117 g  |
| G.N10LAP | GNS-10-... | long, standard   | 36   | 5.3 | 15° | 16   | 6    | 12 | -   | 115 g  |
| G.N10LPF | GNS-10-... | long, deep angle | 35   | 12  | 40° | 13.5 | 5.5  | 12 | -   | 112 g  |
| G.N20AJ  | GNS-20-... | inline           | 34.5 | -   | -   | 18   | 11.5 | 12 | 8   | 121 g  |
| G.N20AP  | GNS-20-... | standard         | 35   | 3.5 | 15° | 16   | 11   | 12 | -   | 120 g  |
| G.N20PF  | GNS-20-... | deep angle       | 35   | 12  | 40° | 13.5 | 11   | 12 | -   | 124 g  |
| G.N20AJL | GNS-20-... | long inline      | 65   | -   | -   | 20   | 16   | 12 | 7.2 | 220 g  |

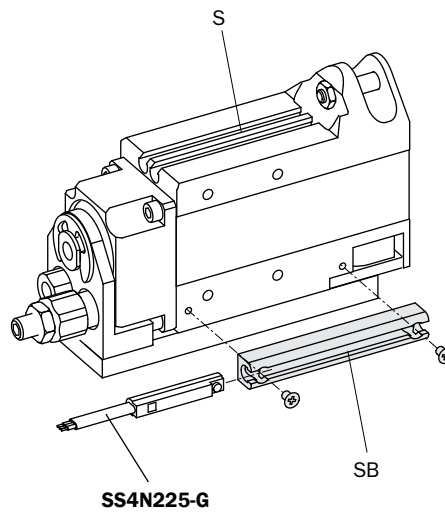
**Assembly bracket**

|          | GNS-05<br>GNS-05-NC<br>GNS-05-NO | GNS-10<br>GNS-10-NC<br>GNS-10-NO | GNS-20<br>GNS-20-NC<br>GNS-20-NO | Ø   | M     | N  |
|----------|----------------------------------|----------------------------------|----------------------------------|-----|-------|----|
| MFM-A107 | ☑                                |                                  |                                  | Ø20 | M17x1 | M3 |
| MFM-A108 |                                  | ☑                                |                                  | Ø20 | M17x1 | M4 |
| MFM-A109 |                                  |                                  | ☑                                | Ø30 | M27x1 | M5 |



**Slide sensor**

The two sensor slots integrated in the body (S) are used for the detection of the blade position (open or closed).  
 An additional slot (SB) can be mounted externally, to enable the detection of the slide position (open or closed), if necessary.  
 It is supplied in the package.



## Air nipper actuators series GN

- Five sizes available.
- Single-acting.
- Self-centering.
- Usable with several standard blades.
- Magnetic pistons for sensor detection (GN...S only).
- Optional magnetic sensors.

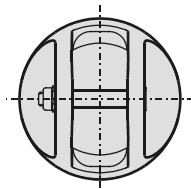
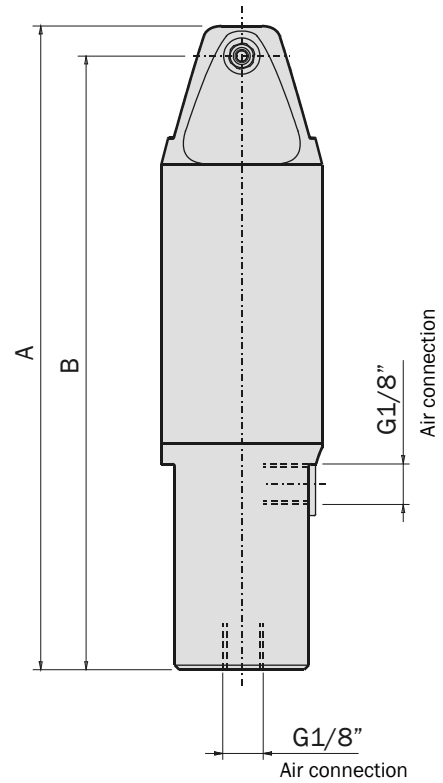
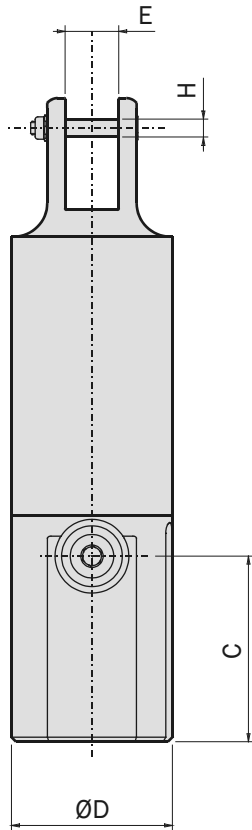
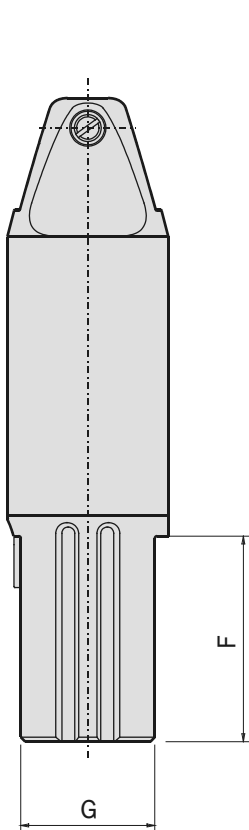
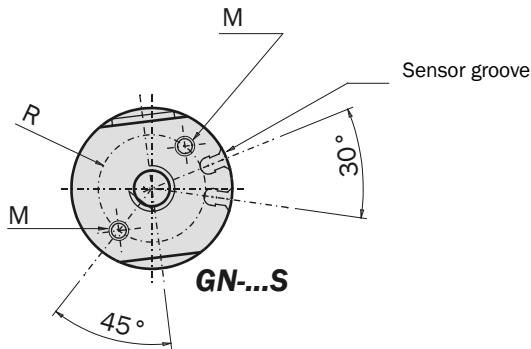
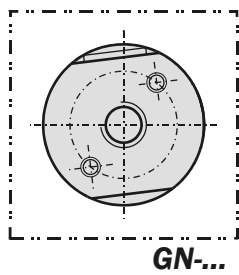


[Click for Pricing & Add to Cart](#)

|                                    | GN-05<br>GN-05S   | GN-10<br>GN-10S    | GN-20<br>GN-20S    | GN-30<br>GN-30S     | GN-50<br>GN-50S     |
|------------------------------------|---|--------------------|--------------------|---------------------|---------------------|
| Medium                             | Compressed air in compliance with ISO 8573-1:2010 [7:4:4] |                    |                    |                     |                     |
| Pressure range                     | 2 ÷ 8 bar   |                    |                    |                     |                     |
| Temperature range                  | 5° ÷ 60 °C  |                    |                    |                     |                     |
| Cutting capacity                   | Ø2 mm   | Ø4 mm              | Ø7 mm              | Ø10 mm              | Ø12 mm              |
| Stroke                             | 2x7°  | 2x5°               | 2x7°               | 2x7.5°              | 2x12°               |
| Piston bore                        | Ø25 mm  | Ø30 mm             | Ø40 mm             | Ø50 mm              | Ø63 mm              |
| Closing torque at 6 bar each blade | 11 Nm   | 38 Nm              | 67 Nm              | 150 Nm              | 116 Nm              |
| Total closing torque at 6 bar      | 22 Nm   | 76 Nm              | 134 Nm             | 300 Nm              | 232 Nm              |
| Cycle air consumption              | 14 cm <sup>3</sup>  | 25 cm <sup>3</sup> | 78 cm <sup>3</sup> | 170 cm <sup>3</sup> | 269 cm <sup>3</sup> |
| Weight without blade               | 102 g<br>125 g  | 157 g<br>208 g     | 263 g<br>370 g     | 480 g<br>715 g      | 1100 g<br>1440 g    |

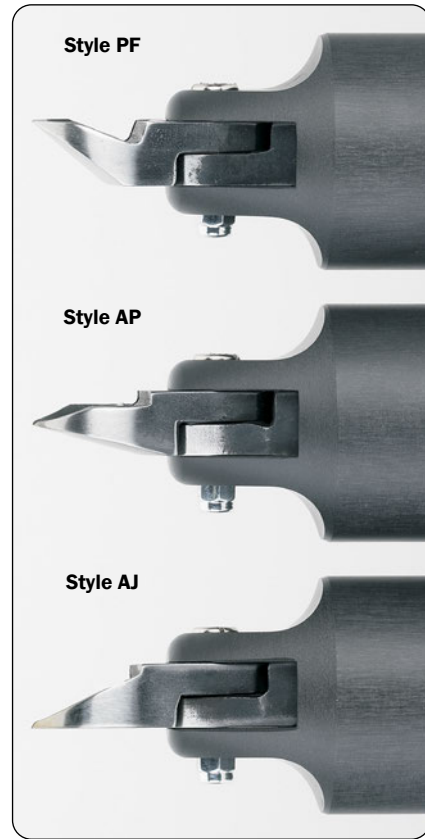
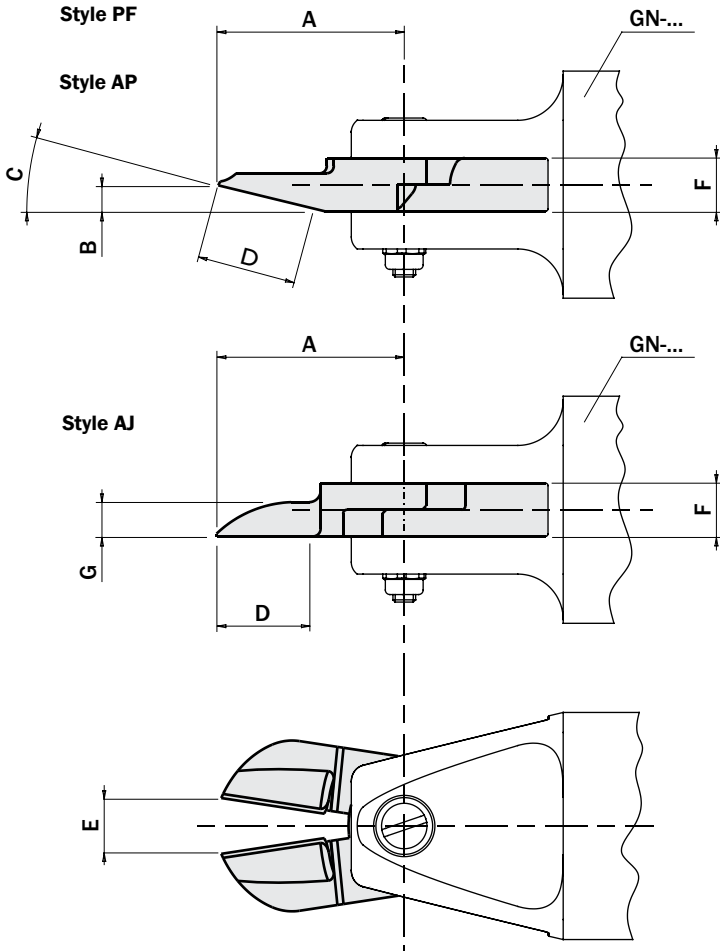
**Dimensions (mm)**

|        | A   | B     | C    | D   | E  | F  | G  | H  | M      | R    |
|--------|-----|-------|------|-----|----|----|----|----|--------|------|
| GN-05  | 94  | 87    | 10.5 | Ø30 | 7  | 15 | 24 | Ø4 | M4x6.5 | R 10 |
| GN-05S | 118 | 111   | 34.5 | Ø30 | 7  | 40 | 24 | Ø4 | M4x6.5 | R 10 |
| GN-10  | 113 | 106.3 | 10.5 | Ø36 | 12 | 15 | 30 | Ø4 | M4x7   | R 12 |
| GN-10S | 144 | 137.3 | 41.5 | Ø36 | 12 | 46 | 30 | Ø4 | M4x7   | R 12 |
| GN-20  | 129 | 119.8 | 10.5 | Ø45 | 12 | 15 | 36 | Ø4 | M5x8   | R 15 |
| GN-20S | 177 | 167.8 | 58.5 | Ø45 | 12 | 63 | 36 | Ø4 | M5x8   | R 15 |
| GN-30  | 165 | 155   | 10.5 | Ø56 | 17 | 15 | 46 | Ø5 | M6x12  | R 20 |
| GN-30S | 230 | 220   | 75   | Ø56 | 17 | 80 | 46 | Ø5 | M6x12  | R 20 |
| GN-50  | 178 | 169   | 10.5 | Ø75 | 17 | 15 | 70 | Ø5 | M6x12  | R 25 |
| GN-50S | 238 | 229   | 70   | Ø75 | 17 | 75 | 70 | Ø5 | M6x12  | R 25 |



FIRST ANGLE PROJECTION

Standard blades

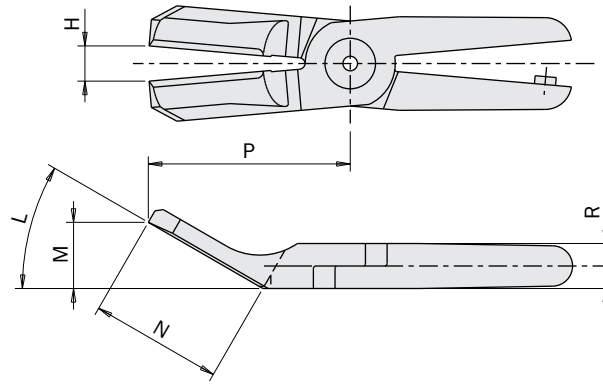


| Blades   | Nipper               | Blade style      | A    | B   | C   | D    | E          | F  | G   | Weight |
|----------|----------------------|------------------|------|-----|-----|------|------------|----|-----|--------|
| G.N5AJ   | GN-05...             | inline           | 24   | -   | -   | 13   | 4          | 7  | 4.5 | 33 g   |
| G.N5AP   | GN-05...             | standard         | 24   | 3.6 | 15° | 11.5 | 4          | 7  | -   | 34 g   |
| G.N5PF   | GN-05...             | deep angle       | 24   | 7   | 40° | 9.7  | 4          | 7  | -   | 35 g   |
| G.N10LAJ | GN-10...             | long inline      | 35   | -   | -   | 18   | 6          | 12 | 8   | 117 g  |
| G.N10LAP | GN-10...             | long, standard   | 36   | 5.3 | 15° | 16   | 6          | 12 | -   | 115 g  |
| G.N10LPF | GN-10...             | long, deep angle | 35   | 12  | 40° | 13.5 | 6          | 12 | -   | 112 g  |
| G.N20AJ  | GN-20...             | inline           | 34.5 | -   | -   | 18   | 12         | 12 | 8   | 121 g  |
| G.N20AP  | GN-20...             | standard         | 35   | 3.5 | 15° | 16   | 11.5       | 12 | -   | 120 g  |
| G.N20PF  | GN-20...             | deep angle       | 35   | 12  | 40° | 13.5 | 11.5       | 12 | -   | 124 g  |
| G.N20AJL | GN-20...             | long inline      | 65   | -   | -   | 20   | 15         | 12 | 7.2 | 220 g  |
| G.N30AJ  | GN-30...<br>GN-50... | inline           | 52   | -   | -   | 30   | 12<br>22   | 17 | 8   | 365 g  |
| G.N30AP  | GN-30...<br>GN-50... | standard         | 67   | 11  | 15° | 38   | 18<br>30   | 17 | -   | 380 g  |
| G.N30PF  | GN-30...<br>GN-50... | deep angle       | 58   | 17  | 30° | 27   | 16<br>26.5 | 17 | -   | 388 g  |

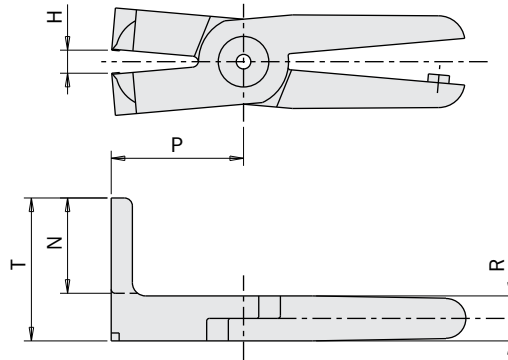
Rotary Units, Quick Changer, Profiles and Brackets, Grippers, Linear Actuators, Suspensions, Nippers, Robot Kit, Options, Sensors

**Special blades**

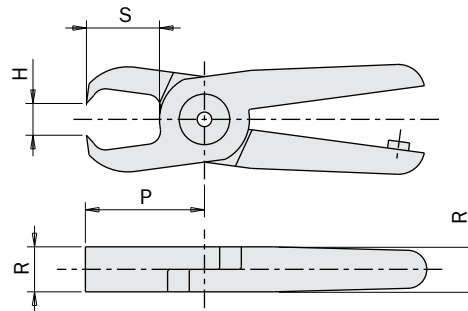
**Style AA**



**Style AL**



**Style AE**



| Blades      | Nipper               | Blade style | H        | L   | M    | N  | P    | R  | S    | T  | Weight |
|-------------|----------------------|-------------|----------|-----|------|----|------|----|------|----|--------|
| G.N10LAB152 | GN-10...             | AA          | 10       | 15° | 9    | 35 | 60.5 | 12 | -    | -  | 165 g  |
| G.N20AB360  | GN-20...             | AA          | 15       | 15° | 9    | 35 | 60.5 | 12 | -    | -  | 185 g  |
| G.N30AA114  | GN-30...<br>GN-50... | AA          | 20<br>34 | 30° | 25   | 50 | 76   | 17 | -    | -  | 385 g  |
| G.N30AA     | GN-30...<br>GN-50... | AA          | 15<br>26 | 60° | 27.7 | 32 | 55   | 17 | -    | -  | 390 g  |
| G.N20ALLLL  | GN-20...             | AL          | 11       | -   | -    | 18 | 40   | 12 | -    | 30 | 190 g  |
| G.N30FAL    | GN-30...<br>GN-50... | AL          | 14<br>24 | -   | -    | 35 | 50   | 17 | -    | 54 | 455 g  |
| G.N10LAE269 | GN-10...             | AE          | 5        | -   | -    | -  | 28   | 12 | 15.5 | -  | 120 g  |
| G.N20AE     | GN-20...             | AE          | 8.5      | -   | -    | -  | 28   | 12 | 15.5 | -  | 135 g  |
| G.N30AE     | GN-30...<br>GN-50... | AE          | 12<br>20 | -   | -    | -  | 45   | 17 | 28   | -  | 395 g  |

Consult manufacturer if a different kind of blade is needed.

## Blade protection covers

Most of the blades can be protected by covers to avoid injuries when not used.

The covers are supplied with the blades or in 10 pieces packages (\*).

When removed from the blades, the covers can be stored by their nut or by a chain.



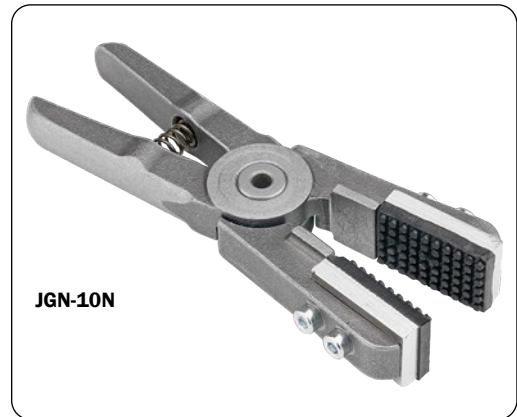
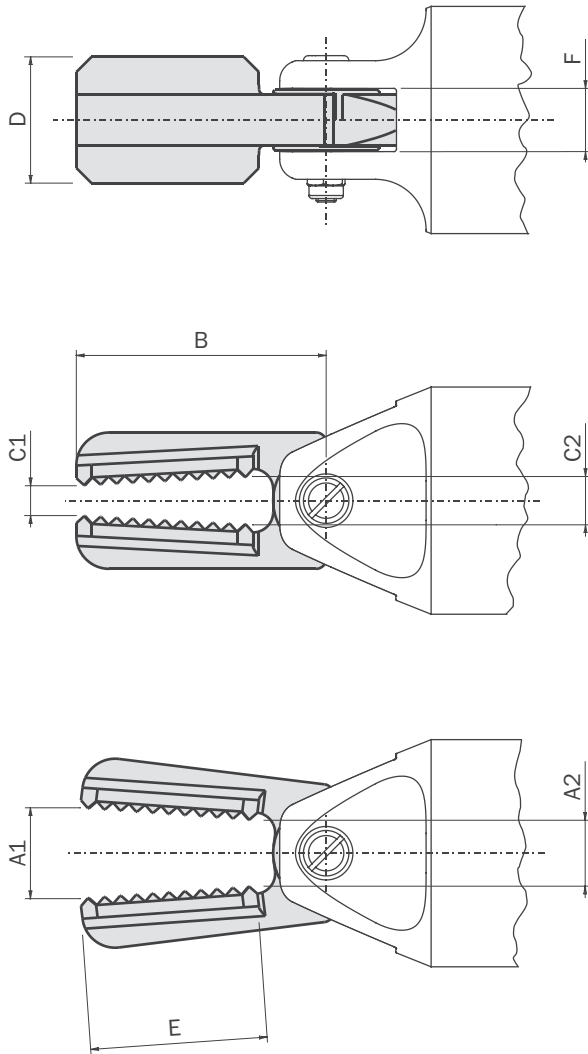
| Blade       | Protection cover |
|-------------|------------------|
| G.N5AJ      | COJ05            |
| G.N5AP      | COJ05            |
| G.N5PF      | COJ05            |
| G.N10LAB152 | -                |
| G.N10LAE269 | COJ12            |
| G.N10LAJ    | COJ12            |
| G.N10LAP    | COJ12            |
| G.N10LPF    | COJ12            |
| G.N20AB360  | -                |
| G.N20AE     | COJ12            |
| G.N20AJ     | COJ12            |
| G.N20AJL    | -                |
| G.N20ALLLL  | -                |
| G.N20AP     | COJ12            |
| G.N20PF     | COJ12            |
| G.N30AA     | -                |
| G.N30AA114  | -                |
| G.N30AE     | COJ30            |
| G.N30AJ     | COJ30            |
| G.N30AP     | COJ30            |
| G.N30FAL    | -                |
| G.N30PF     | COJ30            |

|        | COJ05-P10 (*) | COJ12-P10 (*) | COJ30-P10 (*) |
|--------|---------------|---------------|---------------|
| Weight | 20 g          | 50 g          | 150 g         |





**Fingers**



| Fingers            | Nipper   | Pressure range | Finger style | A1<br>A2 | B    | C1<br>C2 | D  | E  | F  | Weight |
|--------------------|----------|----------------|--------------|----------|------|----------|----|----|----|--------|
| <b>JGW-10S-A50</b> | GN-10... | 2 ÷ 5 bar      | wide         | 16<br>13 | 49.5 | 6<br>10  | 25 | 35 | 12 | 175 g  |
| <b>JGW-20S-A50</b> | GN-20... | 2 ÷ 5 bar      | wide         | 18<br>13 | 49.5 | 6<br>9   | 25 | 35 | 12 | 185 g  |
| <b>JGN-10S-A52</b> | GN-10... | 2 ÷ 5 bar      | narrow       | 10<br>8  | 49.5 | 0<br>3.5 | 25 | 35 | 12 | 190 g  |
| <b>JGN-20S-A52</b> | GN-20... | 2 ÷ 5 bar      | narrow       | 9<br>7   | 49.5 | 0<br>3.5 | 25 | 35 | 12 | 200 g  |
| <b>JGN-10N</b>     | GN-10... | 2 ÷ 5 bar      | narrow       | 9<br>7   | 49.5 | 0<br>2   | 16 | 24 | 12 | 137 g  |



**KIT-UR-G**  
*2-jaw electric gripper with plastic cover and capacitor box (kit for UR robot)*



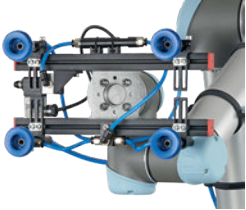
**KIT-TM-J**  
*Parallelogram electric gripper with built-in capacitor box (kit for TM robot)*



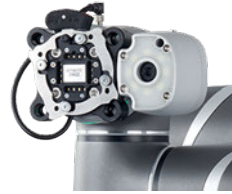
**KIT-UR-J**  
*Parallelogram electric gripper with built-in capacitor box (kit for UR robot)*



**KIT-TM-V**  
*End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for TM robot)*



**KIT-UR-V**  
*End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for UR robot)*



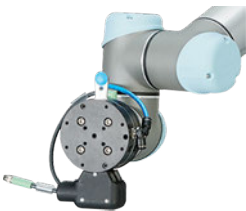
**KIT-TM-QC75**  
*Manual quick changer with electric connector (kit for TM robot)*



**KIT-UR-EQC20**  
*Electric tool changer with electric connector (kit for UR robots)*



**KIT-TM-EQC20**  
*End Of The Arm Tool (EOAT) for vacuum based pick & place operations (kit for TM robot)*



**KIT-UR-QC**  
*Manual quick changer with electric connector (kit for UR robot)*



**KIT-UR-QC75**  
*Manual quick changer with electric connector (kit for UR robot)*



[Click for Quick Navigation](#)



A business of BARNES

**ROBOT-KIT**

---



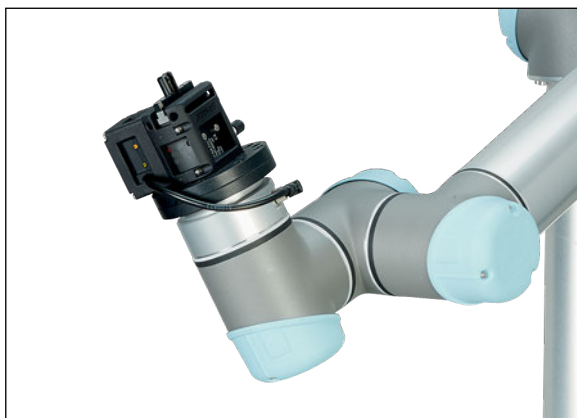
## KIT-UR-G

Electric 2-finger parallel gripper with plastic cover and capacitor box. The system can be assembled on the UR3, UR5 or UR10 collaborative robots and the included capacitor box allows for a direct connection to the robot wrist. Standard fingers are also included.

### Main features

- A unique design for UR3, UR5 and UR10.
- No cables along the robot arm: direct connection to M8 plug connector of the robot.
- Easy to install and without any configuration (plug & play solution).
- Simulated proximity switch functionality embedded for gripping or end of the stroke detection.

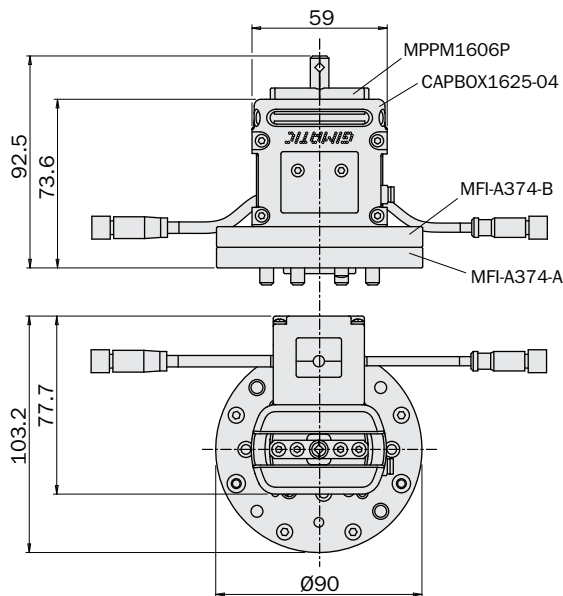
[Click for Pricing & Add to Cart](#)



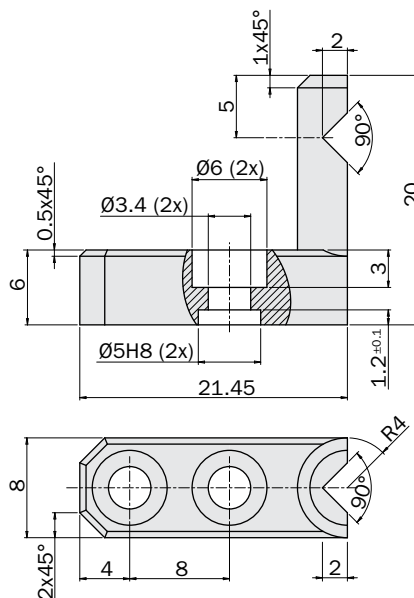
### How does it work?

Mount the gripper with the included mechanical flange to the wrist of the robot and install the protective cover and the capacitor box. The system can be electrically connected directly to the M8 plug connector at the wrist of the robot (not cables along the robot arm). The system can be operated via digital input and output to/from the tool interface of the UR robot.

### Assembly dimensions (mm)



### Gripping finger dimensions (mm)



**KIT-UR-J**

Parallelogram electric gripper with integrated capacitor box. The gripper can be assembled on all the UR collaborative robots (UR3, UR5, UR10) and the included capacitor box allows for a direct connection to the robot wrist.

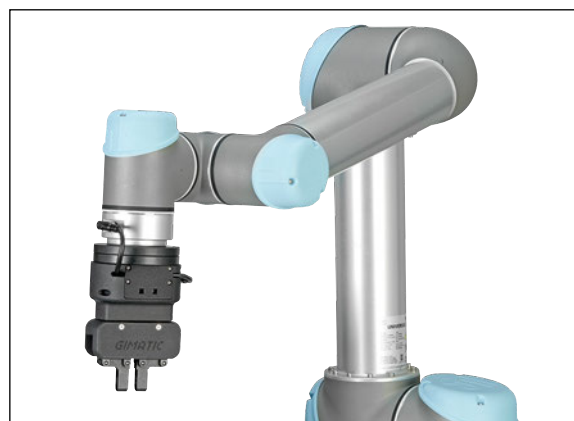
The user can install his/her own fingers connecting to the existing ones. This gripper is suitable for long stroke and fast opening/closing motion and the gripping force is unaffected by the length of the custom fingers. By installing the associated Gimatic URcap the user can configure the device and a list of work pieces (WP) to be gripped just once and simply use a generic grip/release command independently on the internal/external gripping configuration. The plugin also automatically updates the mass distribution of the payload and the final tool center point (TCP) of the gripper. The URcap provided by Gimatic can handle multiple Gimatic's UR KITS and WP definitions simultaneously in a unique application thus simplifying the development process.

[Click for Pricing & Add to Cart](#)

**Main features**

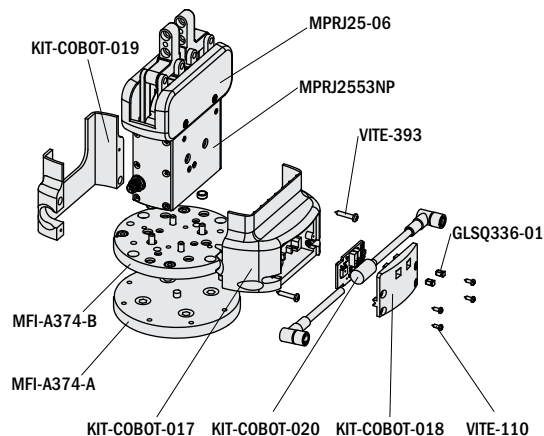
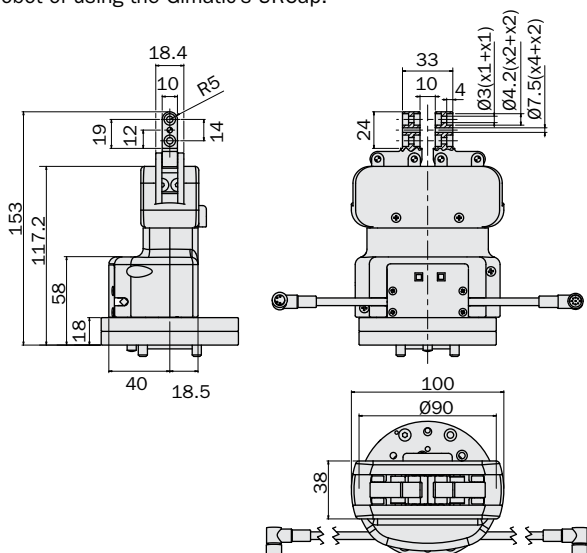
- A unique design for UR3, UR5 and UR10 and e-Series.
- No cables along the robot arm: direct connection to M8 plug connector of the robot.
- Easy to install and without any configuration (plug & play solution).

Simulated proximity switch functionality embedded for gripping or end of the stroke detection.



**How does it work?**

Mount the gripper with the included mechanical flange to the wrist of the robot. The system can be electrically connected directly to the M8 plug connector at the wrist of the robot (not cables along the robot arm). The system can be operated via digital input and output to/from the tool interface of the UR robot of using the Gimatic's URcap.



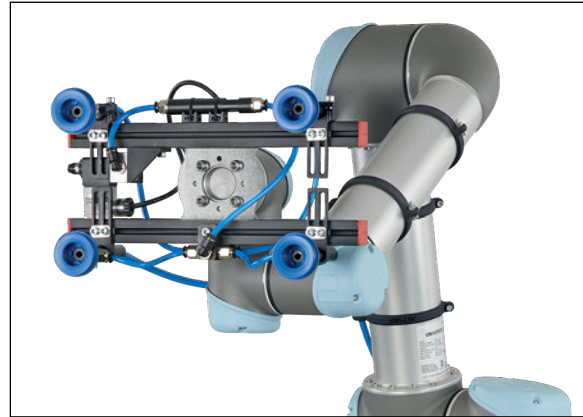
## KIT-UR-V

End Of The Arm Tool (EOAT) for vacuum based pick & place operations. The system can be assembled on the UR3, UR5 or UR10 collaborative robots and the included pneumatic actuator and components allow for a direct connection to the robot wrist and to the pneumatic power source.

### Main features

- A unique design for UR3, UR5 and UR10.
- No electric cables along the robot arm: direct connection to M8 plug connector of the robot.
- Easy to install and without any configuration (plug & play solution).
- Embedded vacuum generator, valve and solenoid.

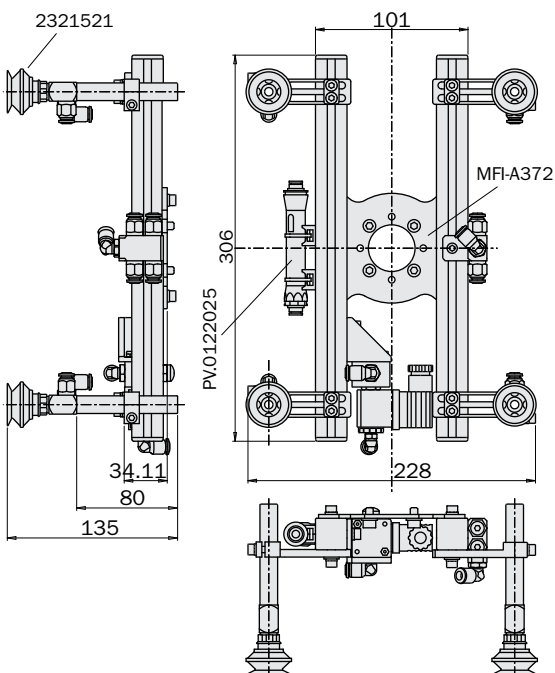
[Click for Pricing & Add to Cart](#)



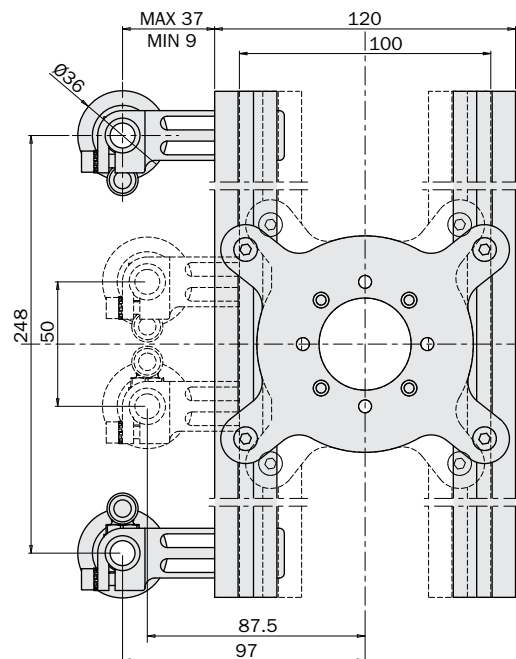
### How does it work?

Mount the system with the included mechanical flange to the wrist of the robot and connect the main valve inlet to the pneumatic power source. The system can be electrically connected directly to the M8 plug connector at the wrist of the robot (not cables along the robot arm). The system can be operated via digital output from the tool interface of the UR robot.

### Dimensions (mm)



### Adjustments (mm)



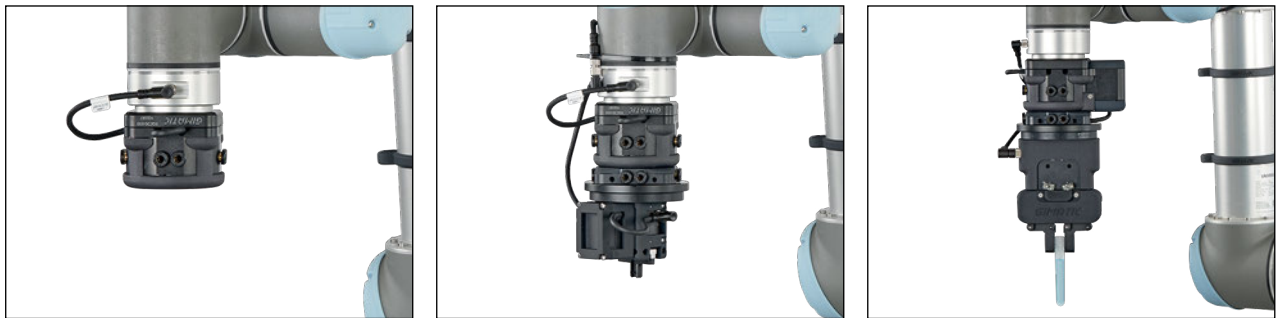
**KIT-UR-EQC20**

The KIT-UR-EQC20 is an "Electric Quick Tool Changer" that allows the EOAT (End of Arm Tooling) to be easily replaced on the robot. It is specially designed for Universal Robot UR3/UR5/UR10 collaborative robots and is fully compatible with KIT-UR-G, KIT-UR-J and KIT-UR-V kits. It consists of two parts: one permanently attached to the robot (EQC20U-A) and one permanently attached to the tool (EQC20-B). By controlling the appropriate digital output, the two parts can be coupled or uncoupled for quick and easy tool changes. The entire system is a plug&play device with all the components necessary to establish electrical and pneumatic connections to transfer electrical power and compressed (or decompressed) air from the robot to the tool.

[Click for Pricing & Add to Cart](#)

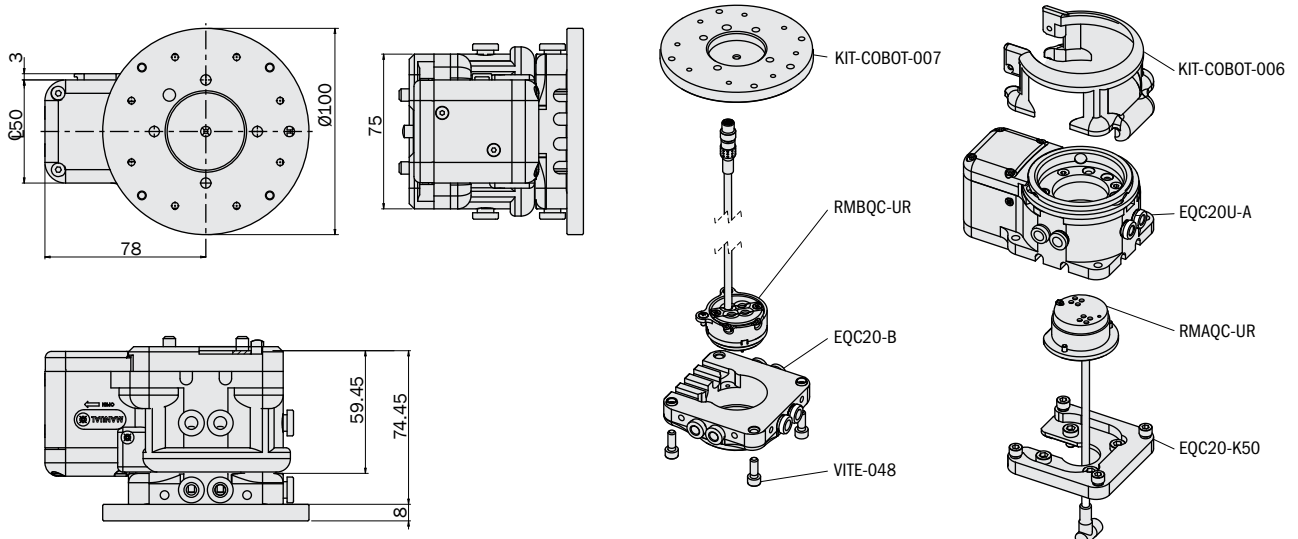
**Main features**

- A single design for UR3, UR5 and UR10 robots.
- No electrical cables along the robot arm: direct connection to the M8 connector at the robot wrist.
- Easy to install, no configuration required (plug & play solution).
- Directly compatible with other Gimatic UR Kits such as KIT-UR-G, KIT-UR-J and KIT-UR-V.
- 6 pneumatic connections.
- Central hole for electrical connections.
- Lightweight.
- Maximum load 20 kg.
- Dedicated URCap software plug-in available to enhance user experience.



**How does it work?**

Install the system on the robot's wrist using the included mechanical flange and connect the pneumatic fittings and the electrical connectors as required. The system can be electrically connected directly to the M8 connector on the robot wrist and can therefore be controlled using the available standard digital outputs and via the dedicated URCap.



09/2022

## KIT-UR-QC

The KIT-UR-QC is a manual tool changer kit for UR collaborative robots. It's mainly composed of two parts: one permanently connected to the robot wrist (QCY90-A) and the other permanently connected to a tool (QC90-B). By operating a mechanical lever, the user can dis/connect the two parts allowing for an easy tool replacement. The system can be assembled on the UR3, UR5 or UR10 collaborative robots and it includes both pneumatic and electric connection components useful to connect power sources between robot and tool. The whole system is a plug & play device with direct connection to the robot wrist and it can be used to transfer either pneumatic pressure and vacuum to the tool. Additional QC90-B spare parts are available upon request to create a more complex system where a robot interacts with several tools.

[Click for Pricing & Add to Cart](#)

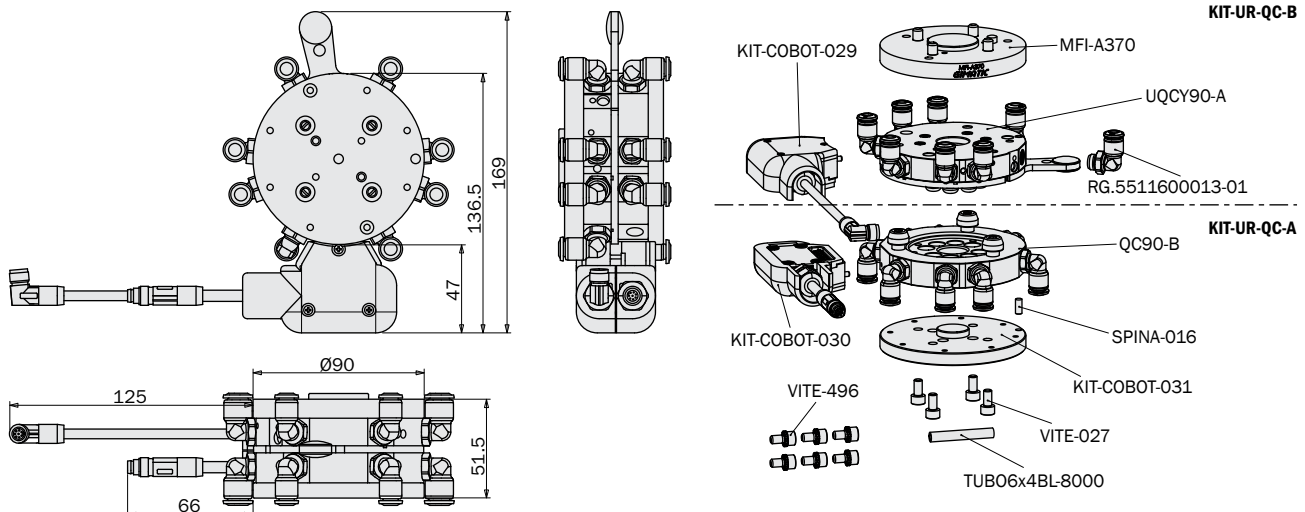
### Main features

- A unique design for UR3, UR5 and UR10.
- No electric cables along the robot arm: direct connection to M8 plug connector of the robot.
- Easy to install and without any configuration (plug & play solution).
- Directly compatible with others Gimatic's UR kits like KIT-UR-G and KIT-UR-V.
- Embedded pneumatic fittings and electric connectors.



### How does it work?

Install the system on the robot's wrist using the included mechanical flange and connect the pneumatic fittings and the electrical connectors as required. The system can be connected directly to the M8 connector on the robot's wrist and can therefore be controlled using the standard digital outputs available.





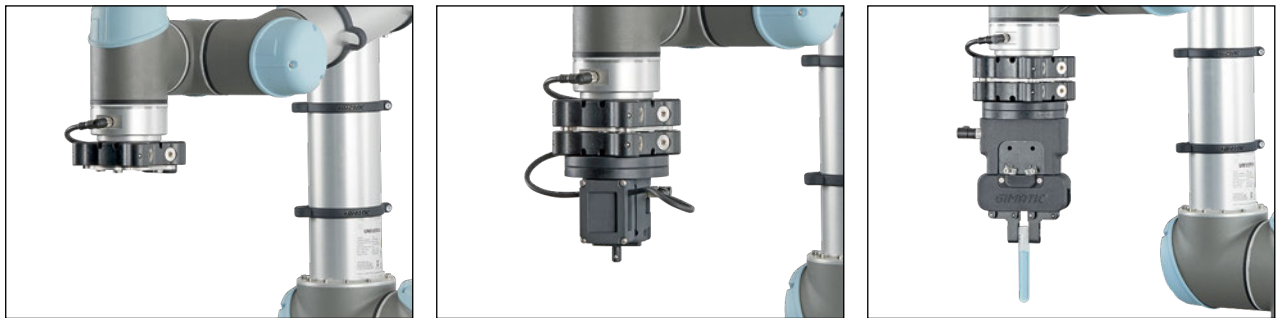
**KIT-UR-QC75**

The KIT-UR-QC75 is a kit for manual tool change specifically designed for Universal Robots collaborative robots. It can be used on the entire range of UR cobots and consists of two main parts: one permanently attached to the robot wrist (QC75-A) and one permanently attached to the tool (QC75-B). By manually moving a lever, the user can connect or disconnect the two parts, performing a quick and easy tool change. The entire system is a plug&play device with all the components necessary to establish electrical and pneumatic connections to transfer electrical power and compressed (or decompressed) air from the robot to the tool. Additional QC75-B units can be ordered to create more complex systems where a single robot has to interact with multiple tools.

[Click for Pricing & Add to Cart](#)

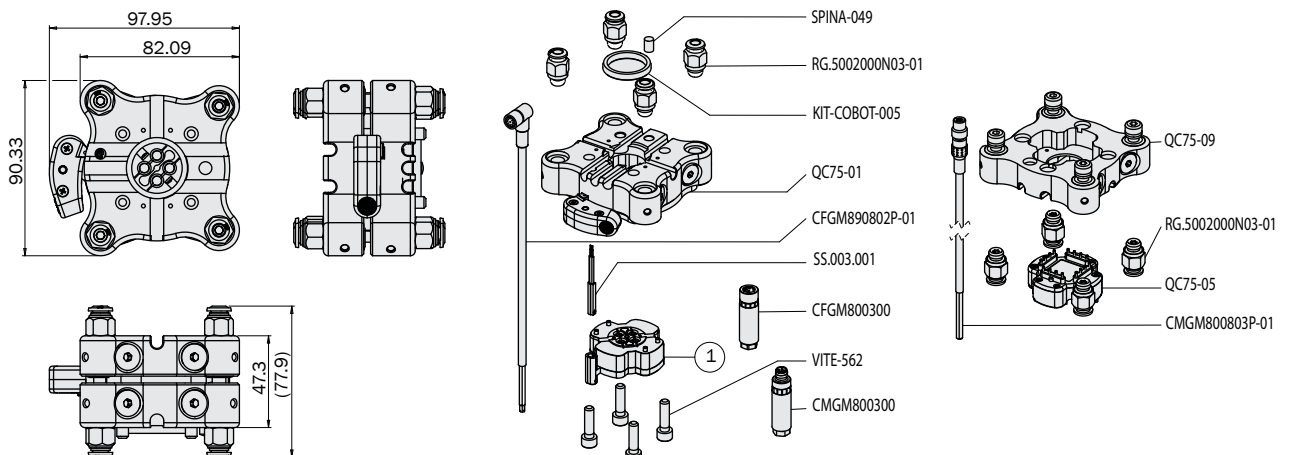
**Main features**

- A single design for UR3, UR5 and UR10 robots.
- No electrical cables along the robot arm: the connection can be made directly to the M8 connector on the robot wrist.
- Simple installation with no configuration required (plug&play solution).
- Directly compatible with other Gimatic UR Kits such as KIT-UR-G, KIT-UR-J and KIT-UR-V.
- Dedicated URCap software plug-in available to enhance user experience.



**How does it work?**

Install the system on the robot's wrist using the included mechanical flange and connect the pneumatic fittings and the electrical connectors as required. The system can be electrically connected directly to the M8 connector on the robot wrist and can therefore be controlled using the available standard digital outputs and via the dedicated URCap.



09/2022

## KIT-TM-J

Parallelogram electric gripper with built-in capacitor box.

The gripper can be mounted on the entire range of Techman Robot cobots (TM5, TM12 and TM14 series). The built-in capacitor box allows a direct connection to the robot wrist. Users can install their own specific gripper fingers on the existing jaws.

The gripper is suitable for long strokes with short opening and closing times and the gripping force is constant regardless of the length of the customised gripping fingers.

By installing the software plug-in developed by Gimatic, with a single configuration session the user can set up the device and a list of parts to be gripped and use a generic grip/release command regardless of the internal/external grip configuration. The load applied to the robot and the coordinates of the gripping point can be updated automatically. The plug-in also allows to simultaneously manage multiple Gimatic kits from within the same robot handling programme.

[Click for Pricing & Add to Cart](#)

### Main features

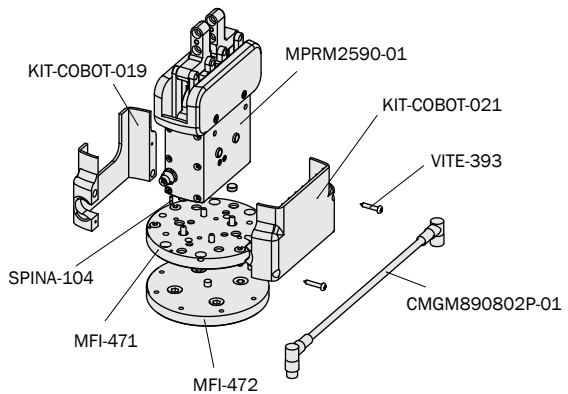
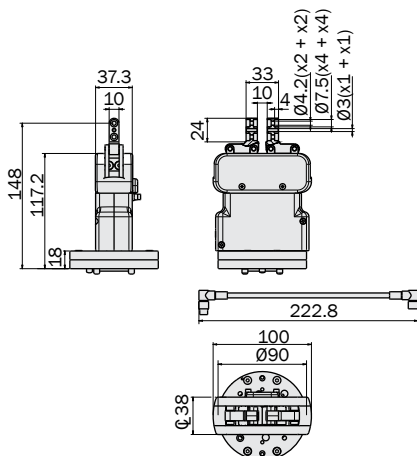
- One product for all TM5/TM12/TM14 robots.
- No electrical cables along the robot arm: the connection can be made directly to the M8 connector on the robot wrist.
- Simple installation with no configuration required (plug&play solution).
- Integrated simulation of end-of-stroke sensors and workpiece grip sensors.
- Dedicated software plug-in available to enhance user experience.



### How does it work?

Install the system on the robot wrist using the included mechanical flange.

The system can be electrically connected either directly to the M8 connector on the robot wrist (no cables along the robot arm) or to the control box and can therefore be controlled using the available standard digital outputs and the dedicated software plug-in.



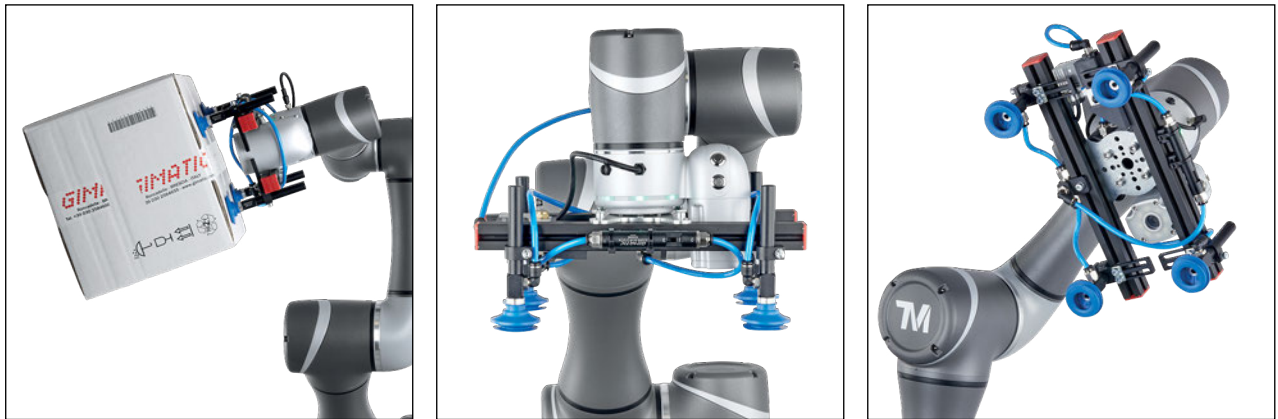
**KIT-TM-V**

End of Arm Tooling (EOAT) for vacuum pick-and-place applications. The system can be mounted on the entire range of Techman Robot robots (TM5, TM12 and TM14 series). The supplied actuator and pneumatic components allow the connection to the robot wrist and to the pneumatic power source.

**Main features**

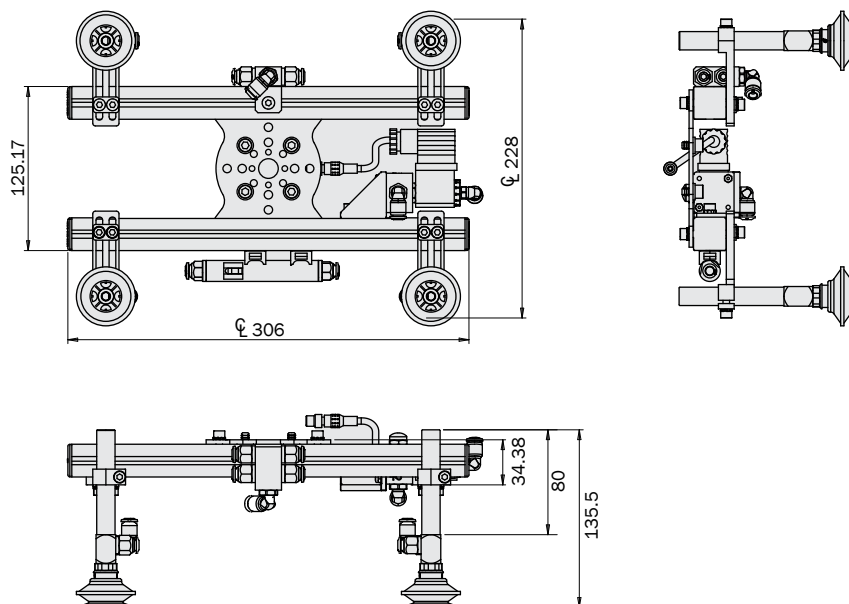
- One product for all TM5/TM12/TM14 robots.
- No electrical cables along the robot arm: the connection can be made directly to the M8 connector on the robot wrist.
- Easy to install, no configuration required (plug & play solution).
- Built-in vacuum generator, valve and solenoid.
- Dedicated software plug-in available to enhance user experience.

[Click for Pricing & Add to Cart](#)



**How does it work?**

Using the mechanical flange provided, mount the gripper on the robot wrist and connect the main inlet of the valve to the pneumatic supply line. The system can be electrically connected either directly to the M8 connector on the robot wrist (no cables along the robot arm) or to the control box and can therefore be controlled using the available standard digital outputs and the dedicated software plug-in.



## KIT-TM-QC75

The KIT-TM-QC75 is a kit for manual tool change specifically designed for TechMan Robot collaborative robots. It can be used on the entire TM range of cobots (TM5, TM12 and TM14 series) and consists of two main parts: one permanently attached to the robot wrist (QC75-A) and one permanently attached to the tool (QC75-B). By manually moving a lever, the user can couple or uncouple the two parts, achieving a quick and easy tool change. The entire system is a plug&play device with all the components necessary to establish electrical and pneumatic connections to transfer electrical power and compressed (or decompressed) air from the robot to the tool. Additional QC75-B units can be ordered to create more complex systems where a single robot has to interact with multiple tools.

[Click for Pricing & Add to Cart](#)

### Main features

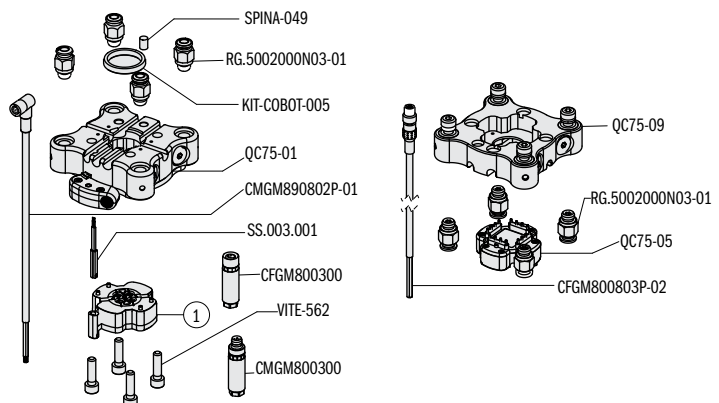
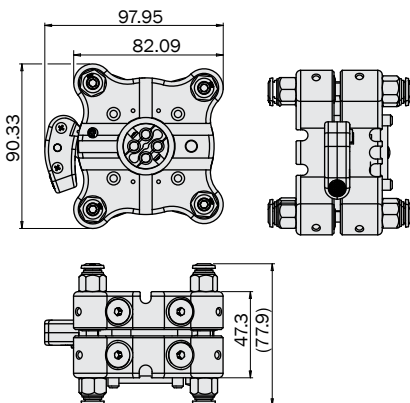
- One product for all TM5/TM12/TM14 robots.
- No electrical cables along the robot arm: the connection can be made directly to the M8 connector on the robot wrist.
- Simple installation with no configuration required (plug&play solution).
- Directly compatible with other Gimatic TM Kits such as KIT-TM-J and KIT-TM-V.
- Dedicated software plug-in available to enhance user experience.



### How does it work?

Install the system on the robot's wrist using the included mechanical flange and connect the pneumatic fittings and the electrical connectors as required.

The system can be electrically connected either directly to the M8 connector on the robot wrist or to the control box and can therefore be controlled using the available standard digital outputs and the dedicated software plug-in.



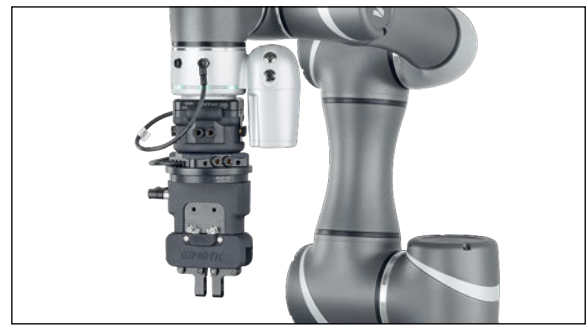
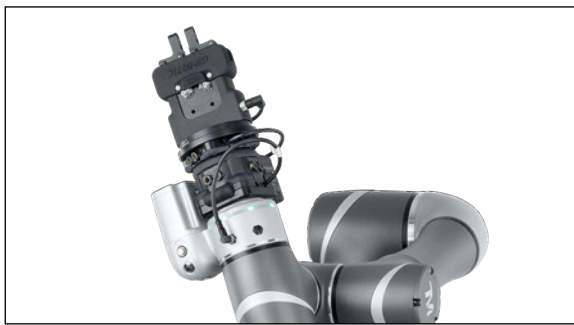
**KIT-TM-EQC20**

The KIT-TM-EQC20 is an "Electric Quick Tool Changer" that allows the EOAT (End of Arm Tooling) to be easily replaced on the robot. It is specially designed for the entire range of TechMan Robot cobots and is fully compatible with the KIT-TM-J and KIT-TM-V kits. It consists of two parts: one permanently attached to the robot (EQC20TM-A) and one permanently attached to the tool (EQC20-B). By controlling the appropriate digital output, the two parts can be coupled or uncoupled for quick and easy tool changes. The entire system is a plug-and-play device that includes all the components needed to supply both electrical and pneumatic power to the tool.

[Click for Pricing & Add to Cart](#)

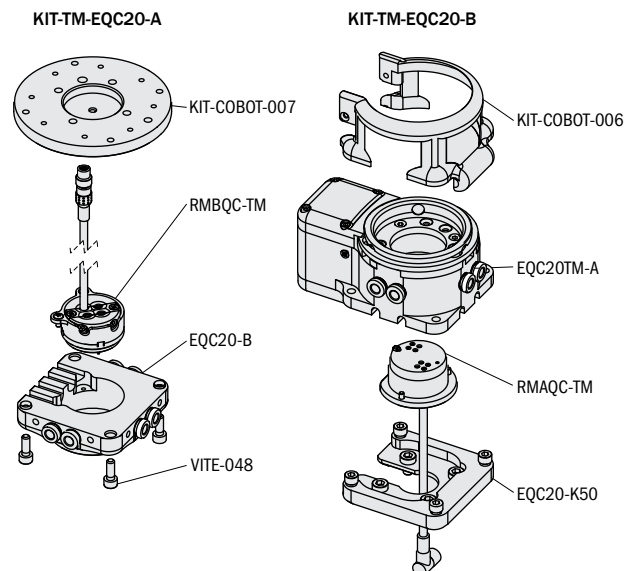
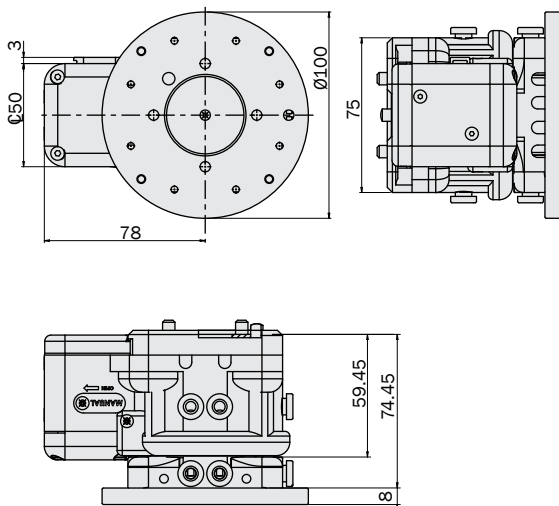
**Main features**

- One product for all TM5/TM12/TM14 robots.
- No electrical cables along the robot arm: the connection can be made directly to the M8 connector on the robot wrist.
- Simple installation with no configuration required (plug&play solution).
- Directly compatible with other Gimatic TM Kits such as KIT-TM-J and KIT-TM-V.
- 6 pneumatic connections.
- Central hole for electrical connections.
- Lightweight.
- Maximum load 20 kg.
- Dedicated software plug-in available to enhance user experience.



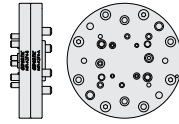
**How does it work?**

Install the system on the robot's wrist using the included mechanical flange and connect the pneumatic fittings and the electrical connectors based on the application requirements. The system can be electrically connected directly to the M8 connector on the robot wrist and can therefore be controlled using the available standard digital outputs and the dedicated software plug-in.





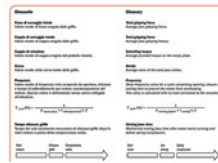
**VITE**  
*Nuts*



**A-MECHA**  
*Accessories*



**CAP BOX**  
*Accessories*



**GLO**  
*Glossary*



**MECHA**  
*Technology and options*



**Click for Quick Navigation**



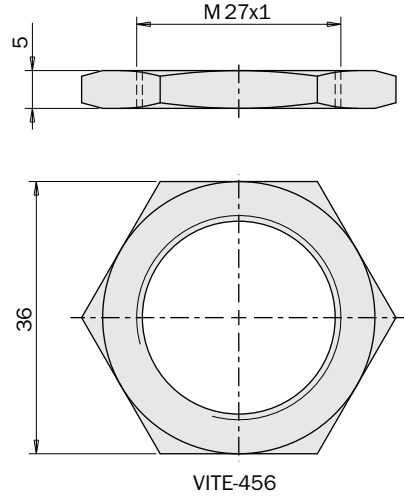
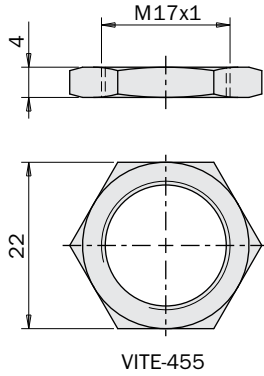
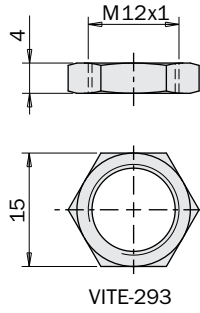
 A business of BARNES

**OPTIONS**



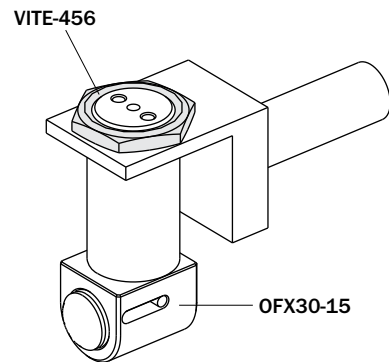
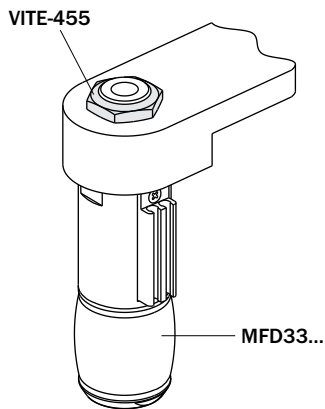
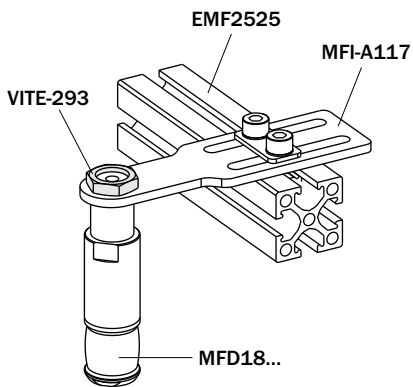
**Nuts**

**Dimensions (mm)**



|        | VITE-293 | VITE-455 | VITE-456 |
|--------|----------|----------|----------|
| Weight | 4 g      | 7 g      | 23 g     |

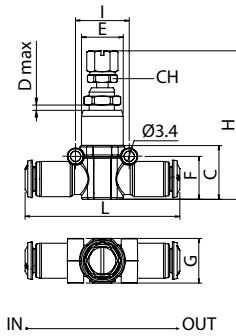
**Application examples**





**Pipe-pipe inline pressure regulator**

|                      | Ø | C  | D | E  | F    | G  | H       | I  | L  | CH | n° | m  |
|----------------------|---|----|---|----|------|----|---------|----|----|----|----|----|
| <b>RG.5597000002</b> | 6 | 18 | 5 | 14 | 14.5 | 15 | 48÷56.5 | 18 | 52 | 11 | 1  | 59 |
| <b>RG.5597000003</b> | 8 | 20 | 5 | 17 | 16.5 | 17 | 55÷65   | 20 | 58 | 13 | 1  | 53 |

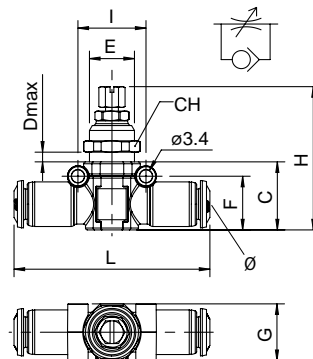


Technical characteristics

- Ø [Hose outer diameter (mm)]
- n° [Number of pieces in the pack]
- m [Weight of a 10-piece pack (g)]
- P [Operating pressure range]
- T [Operating temperature range]
- dB [Noise level in dB at 6 bar]
- S [Filtration threshold]

**Pipe/pipe in-line unidirectional flow regulator**

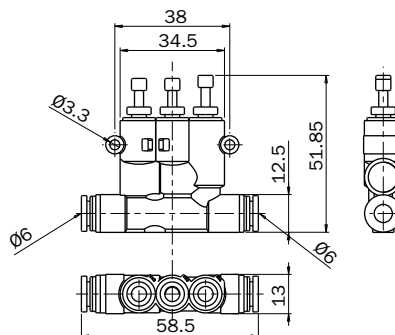
|                      | Ø | C  | D   | E     | F    | G  | H         | I  | L  | CH | n° | m  |
|----------------------|---|----|-----|-------|------|----|-----------|----|----|----|----|----|
| <b>RG.5594000004</b> | 4 | 18 | 4   | M12X1 | 14,5 | 15 | 37.5÷43.5 | 18 | 52 | 14 | 1  | 34 |
| <b>RG.5594000001</b> | 6 | 18 | 6   | M12x1 | 14.5 | 15 | 37.5÷43.5 | 18 | 52 | 14 | 1  | 29 |
| <b>RG.5594000002</b> | 8 | 20 | 6.5 | M14x1 | 16.5 | 17 | 39.5÷45.5 | 20 | 58 | 16 | 1  | 61 |



Technical characteristics

**Pipe-pipe unidirectional in-line flow regulator with 2 stages**

|                 | Ø | n° | m  |
|-----------------|---|----|----|
| <b>RG.BJSU6</b> | 6 | 1  | 33 |



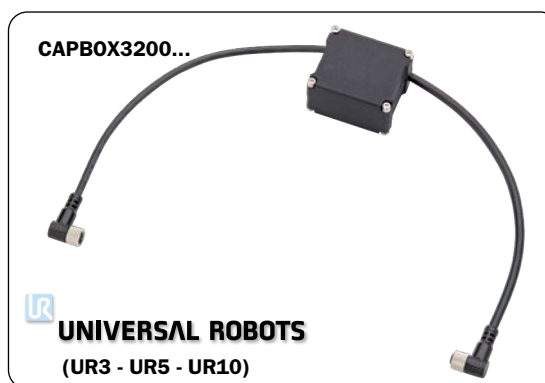
Technical characteristics

- Ø [Hose outer diameter (mm)]
- n° [Number of pieces in the pack]
- m [Weight of a 10-piece pack (g)]
- P [Operating pressure range]
- T [Operating temperature range]
- dB [Noise level in dB at 6 bar]
- S [Filtration threshold]

## Capacitor Box

Capacitor Box allows a correct functionality of Gimatic's electric grippers in all the cases where power supply is limited in peak current (i.e. some collaborative robots).

- 2 models available (one for grippers size 16 and 25, one for grippers size 32).
- Compatible with all Gimatic electric actuators.
- Compact dimensions.
- Embedded connection of power supply, command signal and additional I/O.
- Plug & Play connection with standard M8 8-pin connectors and angular M8 3-pin/4-pin connectors (depending on the version).

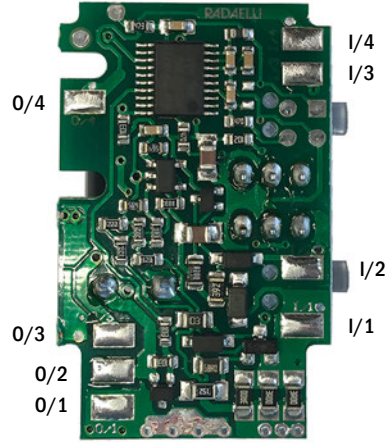
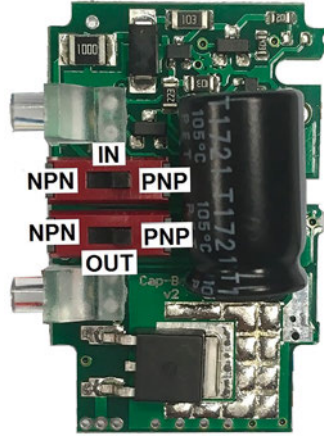


|   | CAPBOX1625-03<br>CAPBOX3200-03   | CAPBOX1625-04<br>CAPBOX3200-04  |
|---|--|---|
| Body material                                 | Nylon PA12   |   |
| Overall dimensions                            | 42 mm x 48.5 mm x 28 mm  |   |
| Mass  | 60 ÷ 70 g  |   |
| Allowed temperature range                     | 5 ÷ 60° C  |   |
| Electrical connection                         | Input: M8 8-pin angular female   |   |
|   | Output: M8 3-pin angular female  | Output: M8 4-pin angular female                                       |
| Environmental degree                          | IP66   |   |
| Power supply                                  | 24 Vdc ± 10%, 0.5 Arms   |   |
| Input command signal<br>(Default connection)  | NPN digital input <ul style="list-style-type: none"> <li>• low: closing command</li> <li>• high: opening command</li> </ul>  |   |
| Output command signal<br>(Default connection) | NPN digital output <ul style="list-style-type: none"> <li>• low: closing command</li> <li>• high: opening command</li> </ul> |   |
| Auxiliary I/O                                 | none   | 1 signal<br>(peak output or force control depending on gripper model) |
| Status LED                                    | 2 LED<br>Green: power supply is present<br>Yellow: gripper command status  |   |

### Electrical Connections

The Capacitor Box circuit has an input side and an output side. The input side allows for connection of power supply, command signal and auxiliary I/O by a M8-8pin female connector.

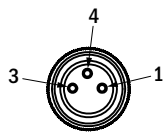
The output side allows for direct connection of 3 or 4 pins Plug & Play grippers' models. Default configuration is with both input and output command signals in NPN version. The user can customize configuration by simply modifying electrical connections according to following table.



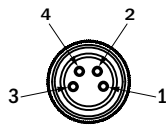
| Standard input cable (*) |               |        |
|--------------------------|---------------|--------|
| I/1                      | +24Vcc        | Grey   |
| I/2                      | GND           | Red    |
| I/3                      | Digital input | Blue   |
| I/4                      | Auxiliary I/O | Yellow |

| Standard output cable (*) |                |       |
|---------------------------|----------------|-------|
| O/1                       | +24Vcc         | Brown |
| O/2                       | GND            | Blue  |
| O/3                       | Digital output | Black |
| O/4                       | Auxiliary I/O  | White |

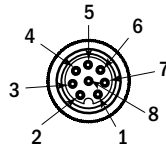
(\*) Standard connection for 3 pins grippers' models



| M8 3 pins female |       |       |
|------------------|-------|-------|
| 1                | Brown | Brown |
| 3                | Blue  | Blue  |
| 4                | Black | Black |



| M8 4 pins female |       |       |
|------------------|-------|-------|
| 1                | Brown | Brown |
| 2                | White | White |
| 3                | Blue  | Blue  |
| 4                | Black | Black |

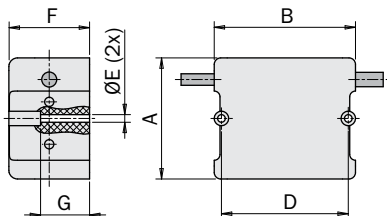


| M8 8 pins female |        |        |
|------------------|--------|--------|
| 1                | White  | White  |
| 2                | Brown  | Brown  |
| 3                | Green  | Green  |
| 4                | Yellow | Yellow |
| 5                | Grey   | Grey   |
| 6                | Pink   | Pink   |
| 7                | Blue   | Blue   |
| 8                | Red    | Red    |

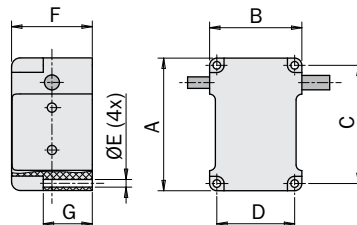


### Dimensions (mm)

CAPBOX1625



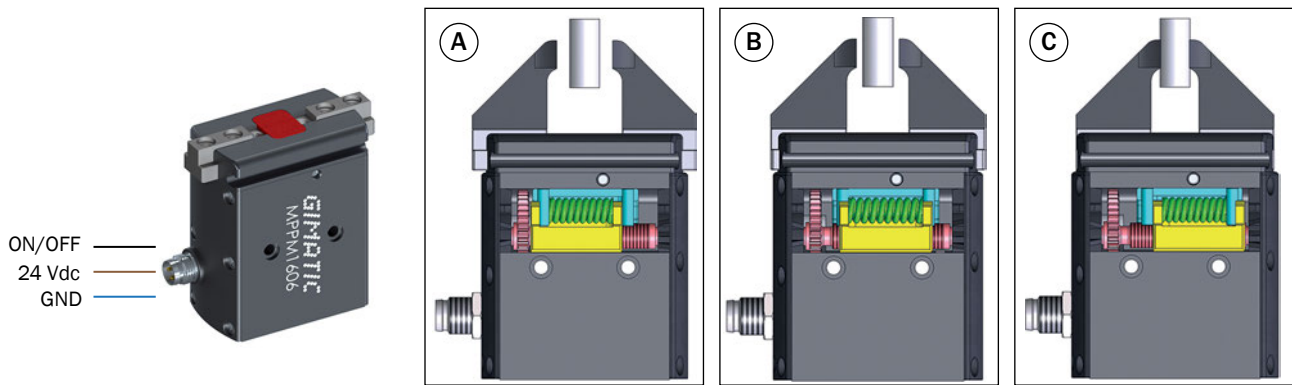
CAPBOX3200



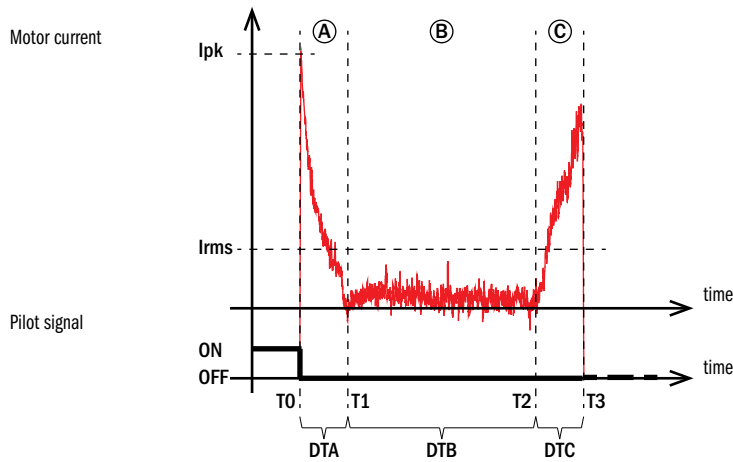
|   | CAPBOX1625 | CAPBOX3200 |
|---|------------|------------|
| A | 46         | 42         |
| B | 49         | 32         |
| C | 41         | -          |
| D | 27         | 44         |
| E | Ø2.65      |            |
| F | 28         |            |
| G | 17         |            |

### Mechatronics technology

The images below illustrate the operating state sequence of the drive system shared by the grippers, the actuators and the electric indexing tables.



These states can also be identified in the motor's power absorption profile.



### Operation description

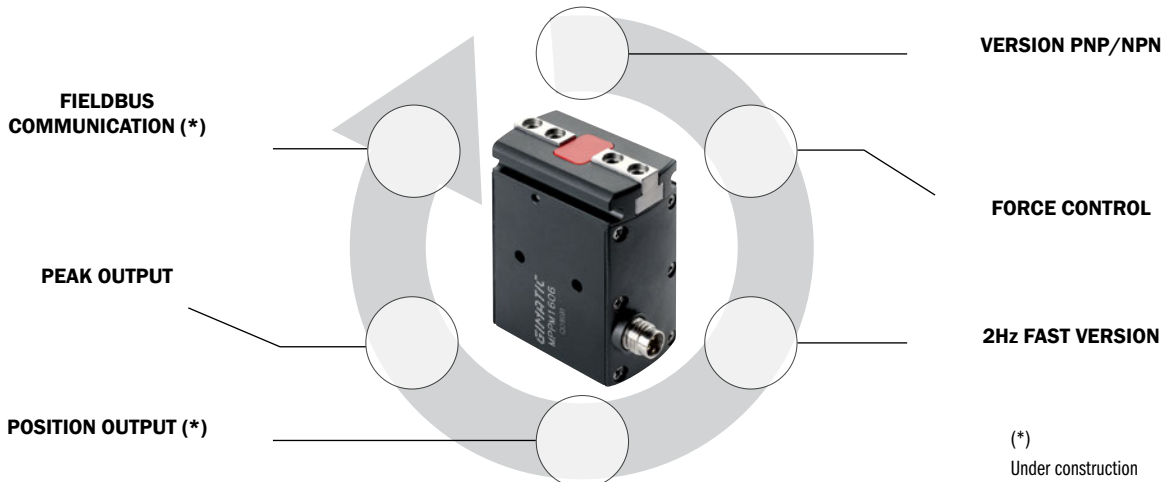
At time T0, the pilot signal switches from ON to OFF status, closing the jaws.

During the DTA time, the motor starts to run; during phase A this causes the extension of the spring, which was initially compressed.

In phase B, the spring has reached its free length and the jaws move at constant speed until they come into contact with the workpiece at time T2.

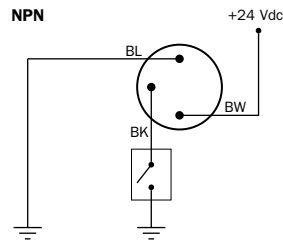
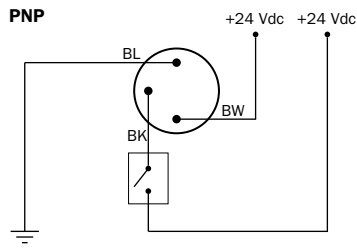
During phase 3, the jaws are in contact with the workpiece, and compression of the spring starts.

At time T3, the motor stops running and the irreversible transmission system maintains the grip even when not powered up, until the next jaw opening command is given (ON status).



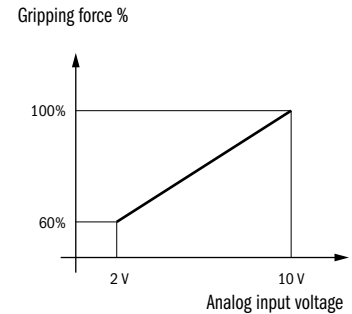
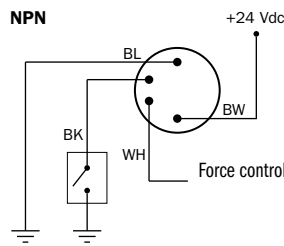
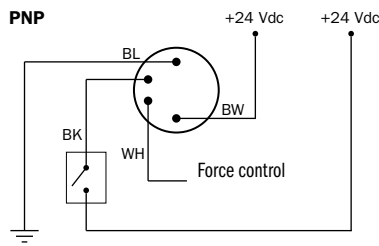
**PNP/NPN versions**

Grippers are available in the standard version with PNP input and in the N version with NPN input.



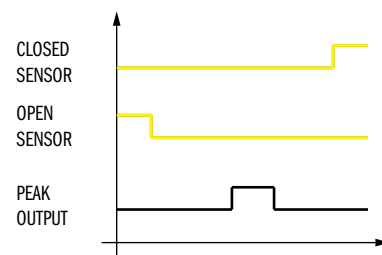
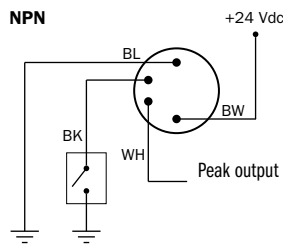
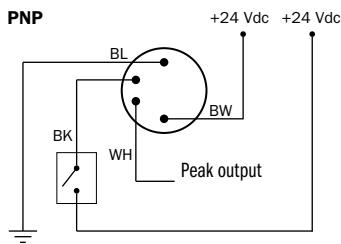
**Force control (4-pin versions)**

In the range of models with 4-pin M8 connector, some versions are available with an analog input channel. By changing the reference voltage in the 2÷10 V range, the gripping force can be adjusted. A voltage value lower than 2 V will inhibit the device operation, allowing the creation of machine safety logics.



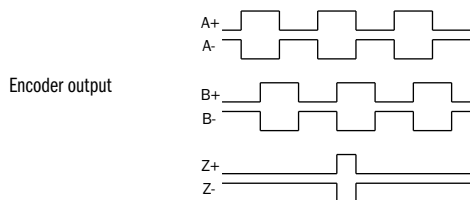
**Peak output**

In the range of models with 4-pin M8 connector, some versions are available with a digital output channel which is automatically enabled by the device when the jaws exert the gripping force. This will work like an integrated proximity sensor which can operate independently of the final position of the jaws, and therefore with no adjustment.



**Position output and fieldbus**

Versions with an output channel (digital and/or analog) dedicated to jaw position measurement will soon be available, as well as versions set for communication based on digital fieldbus.



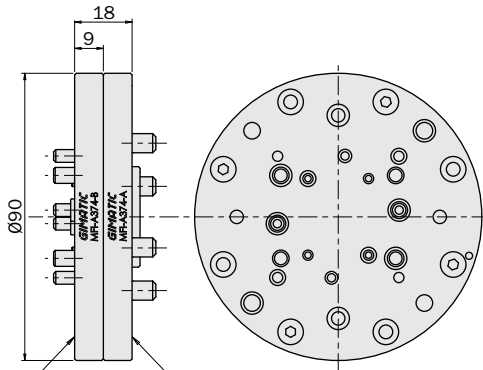
# Kit for mounting Mechatronics grippers onto a robot with ISO 9409-1-50-4-M6 interface

## MFI-A374-A

- Mass: 50g

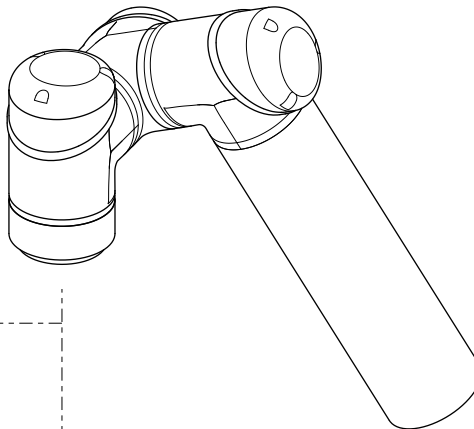
## MFI-A374-B

- Mass: 55g

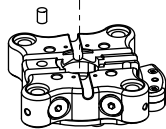


**MFI-A374-B**  
GRIPPER side

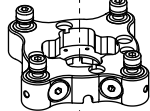
**MFI-A374-A**  
ISO 9409-1-50-4-M6 side



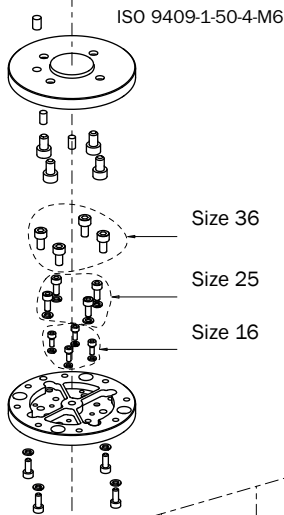
QC75-A



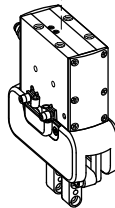
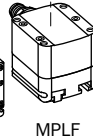
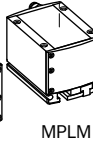
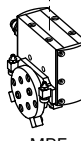
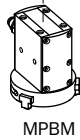
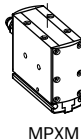
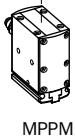
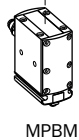
QC75-B



**MFI-A374-A**



**MFI-A374-B**



**Glossary**

**Total gripping force**  
Average jaws gripping force.

**Total gripping force**  
Average jaws gripping torque.

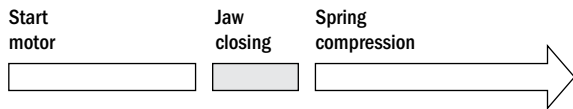
**Swivelling torque**  
Average provided torque on the rotary plate.

**Stroke**  
Average value of the total jaws stroke.

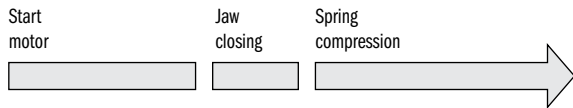
**Frequency**  
Mean frequency value for a cycle comprising opening, closure and cooling time to prevent the motor from overheating.  
This value is calculated with no load connected to the actuator.

$$F_{\text{cycle}} \text{ (Hz)} = \frac{1}{(t_{\text{working gripper}} + t_{\text{cooling}}) \times 2}$$

**Closing jaws time**  
Mechanical moving jaws time after motor starts running and before spring compression.



**Working gripper time**  
Start motor, jaws movement and spring compression total time.



**Duty cycle**  
Ratio of time that actuator spends in an active state to the time spent to make the total cycle with cooling time included.

$$D \text{ (\%)} = \frac{t_{\text{working gripper}}}{(t_{\text{working gripper}} + t_{\text{cooling}})}$$

$$t_{\text{cooling}} \text{ (s)} = \left( \frac{t_{\text{working gripper}}}{D \text{ (\%)}} \right) - t_{\text{working gripper}}$$

**Power supply**  
Necessary continuous voltage to power supply actuator.

**Peak current**  
Maximum motor supply current, limited by the BUS voltage, the motor's electrical resistance (at a set temperature) and constructive factors.  
For linear motors, electrical linear actuators and electric linear guideways, it is the maximum rms value.

**Brushless motor power**  
Maximum mechanical brushless motor power.

**Connection**  
Standard metal round M8x1, 3 pole connector.

# SENSORS



## SENSORS-INTRO

### SS-G

Magnetic sensors for C slots with axial cable output



### SN-G

Magnetic sensors for C slots with angular cable output



### SSY-G

Magnetic sensors for C slots with low hysteresis



### SSQ-G

Magnetic sensors for C-slots with very low hysteresis



### PRO-SS-G

Programmable magnetic sensors with axial cable output



### PRO-SN-G

Programmable magnetic sensors with angular cable output



### PRO-SN-HS

Programmable magnetic sensors for SGP-S grippers



### PRO-SSR

Programmable magnetic sensors



### SL-G

Magnetic sensors for T slots with axial insertion



### SA-G

Magnetic sensors for T slots with vertical insertion



### CB-G

Magnetic sensors for dovetail slots



### SM-G

Magnetic sensors with tie-rods



### SI

Inductive sensors



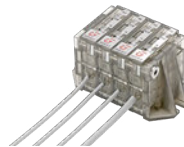
### SR-G

Touch sensors



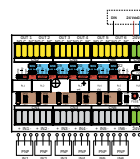
### SB

Sensor box



### SBM

Modular sensor box



### SB-EXAMPLES

Sensor boxes – application examples

### K

Slot adapters

### SW

Mounting clamps for microcylinders



### CF

Electrical connectors



Click for Quick Navigation



A business of BARNES



**SENSORS**



## Magnetic sensor encoding

### Series

SL 1 C 2 25 -G

SL

SC/SS /SN/SA/SM/CB/PRO-SS/PRO-SN/SSY

### Connection

- 1 2-pole cable
- 2 2-pole M8 connector
- 3 3-pole M8 connector
- 4 3-pole cable
- 5 2-pole M12 connector
- 6 3-pole M12 connector
- 7 3-pole M12 connector
- 8 3-pole AU M8 connector
- 9 3-pole AU M12 connector

### Circuit type

- A NO LED 2-wire reed
- B NO LED + VDR 2-wire reed
- C 2-wire reed
- D 3-wire PNP reed
- E 2-wire magnetoresistive (PNP-NPN)
- F NO LED 2-wire NC reed
- G NO LED + VDR 2-wire NC reed
- H 2-wire NC reed
- L Magnetoresistive NPN NC
- M Magnetoresistive NPN NO
- N Magnetoresistive PNP NO
- P Magnetoresistive PNP NC
- S Changeover reed
- V 0-10V analog

### Power supply voltage

- 1 5V dc
- 2 24 V ac/dc
- 4 110 V ac/dc
- 5 250 V ac/dc

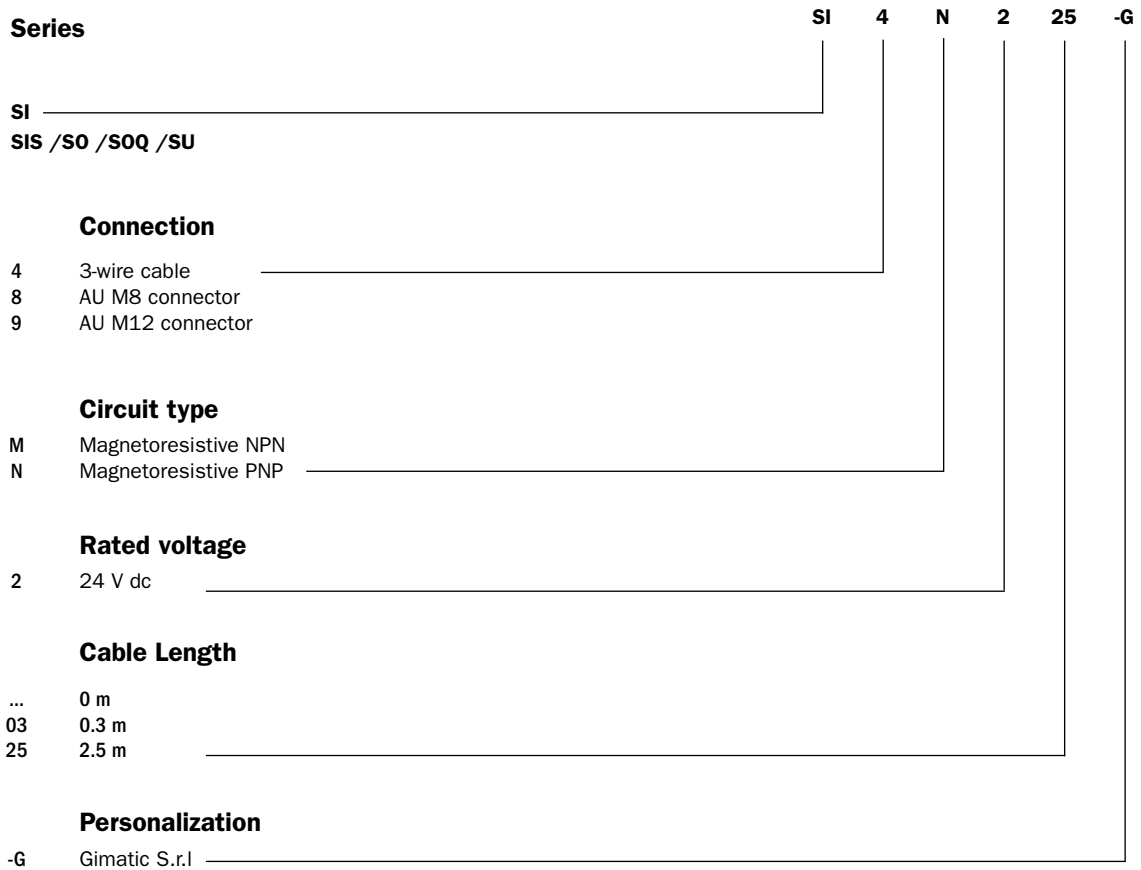
### Standard cable length

- ... 0 m
- 03 0.3 m
- 25 2.5 m

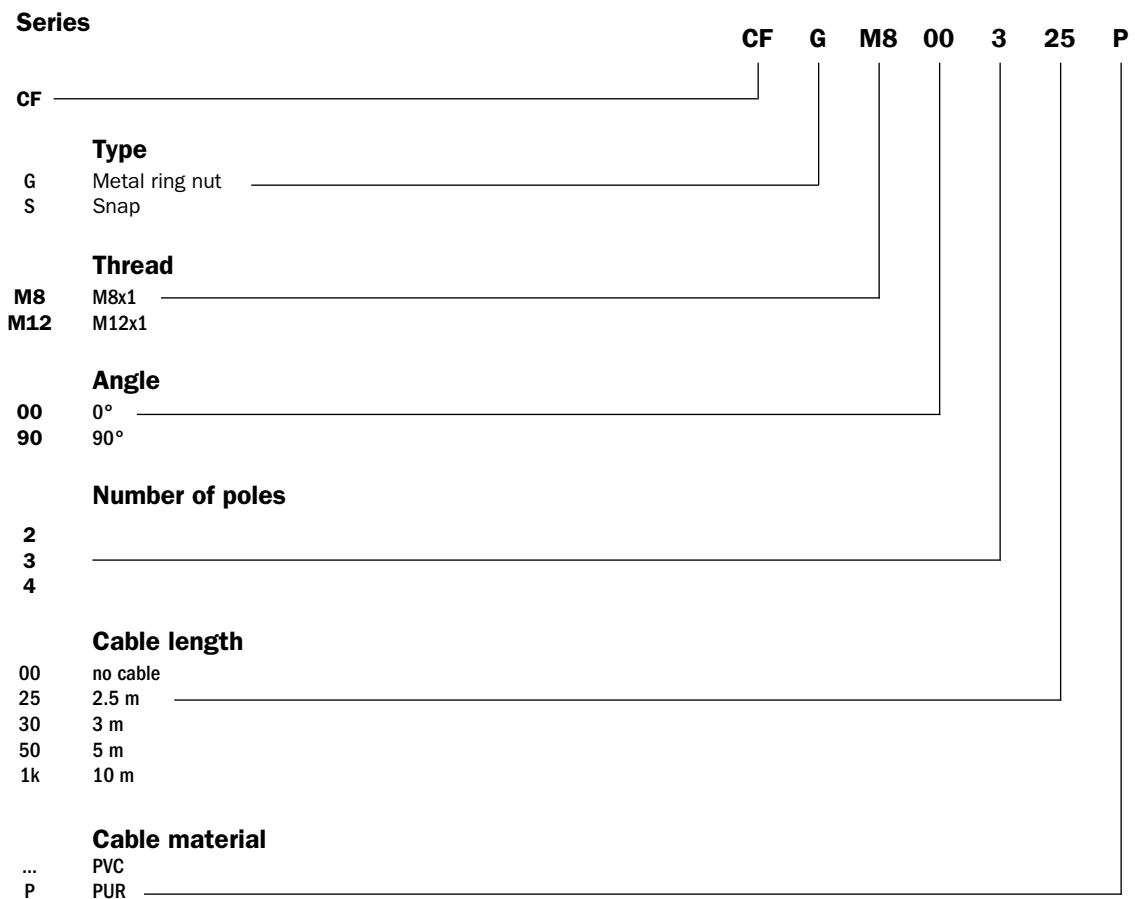
### Personalization

- G Gimatic S.r.l.

**All other sensor encoding**



**Connector encoding**



## General features

Magnetic sensors are devices that change circuit output status in the presence of magnetic fields. They are normally used as proximity sensors on cylinders with a permanent magnet in the piston. By positioning the sensor in a special housing on the outside of the cylinder body, the position of the piston can be detected via an electric contact or voltage signal. The sensing element may be a reed switch or magneto resistive chip (GMR sensor) depending on the type of sensor. Sensors are available with a cable outlet or connector. A bespoke service is available if our standard products do not meet customer requirements.



## Choosing a sensor

A sensor is a switch that is usually connected in series to a cable, therefore it must be installed in line with specified electrical characteristics.

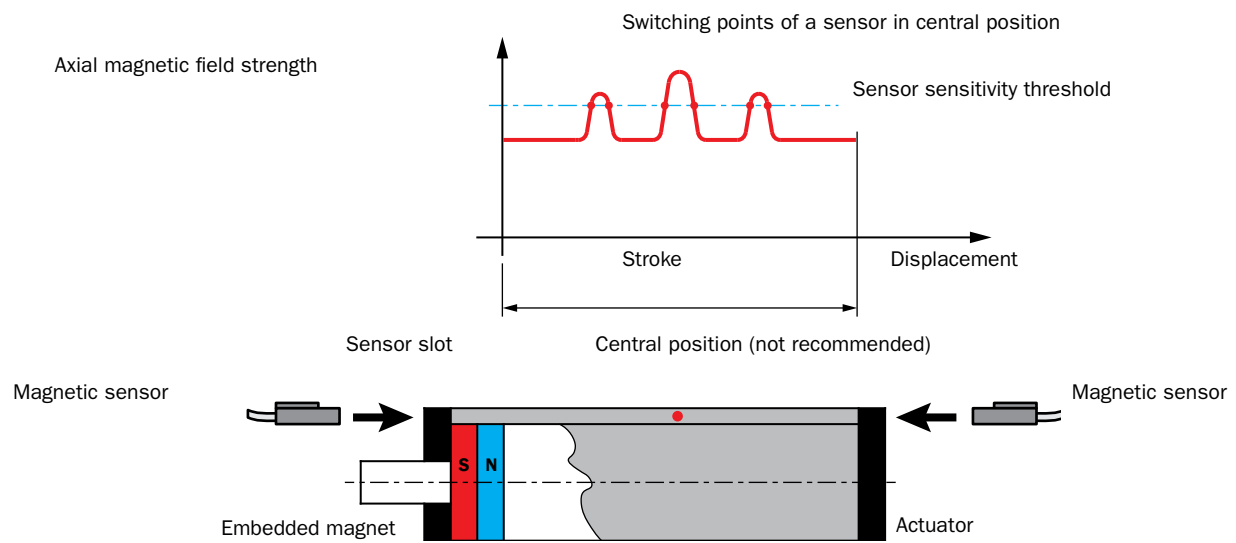
There are two principles of operation:

- a REED SWITCH where the sensing element consists of a glass bulb containing two polarised metal strips. There is an attraction between these strips in the presence of a magnetic field. It can operate with a DC or AC voltage supply. The sensing element could malfunction in the presence of strong vibrations.
- ELECTRONICALLY where the sensing element is a magnetoresistive chip (GMR sensor), which changes the status of an output in the presence of magnetic fields. It only operates with a DC voltage supply and has a theoretically infinite lifetime. The sensing element is immune to strong vibrations.

The decision to choose a PNP or NPN output is usually determined by the method of integration in the existing automation system: for correct system operation, the type of sensor output must correspond to the type of controller (or PLC) output used. The PNP solution is generally more widespread in North America and Europe, whereas the NPN solution is more common in Asia. PNP sensors are vulnerable to short circuits, whereas NPN sensors can produce false signals in the controller in the event of an unwanted earth contact. A final consideration is the status of the sensor under active conditions, i.e. between a normally open (NO) or normally closed (NC) sensor. In the first case the sensor behaves according to positive sensing logic, a signal is not generated if a wire is interrupted but false signals may be produced in the event of a short circuit. In the second case the sensor behaves according to negative sensing logic, and an interrupted wire would produce a false signal. The logic can easily be inverted in both cases by the controller (or PLC).

**Instructions on using magnetic sensors**

Magnetic sensors are often used in combination with magnets to produce magnetic actuation, and are typically embedded in actuators. The main characteristic of any digital magnetic sensor is the sensitivity level representing the magnetic field strength value at which the sensor switches the output. The graph below shows the typical waveform of axial magnetic field strength measured by a Gauss meter in the central position (PC). Depending on the sensitivity level of the sensor and magnetic field characteristics, a sensor placed centrally may switch output several times during the actuator stroke. Unless stated otherwise, it is generally good practice not to install the sensor centrally, but to insert it laterally into the groove and manually adjust the position of the sensor while performing several actuator strokes. In practice, sensors are normally only used to identify end-of-stroke conditions. For any other operating conditions, please contact the technical support department.

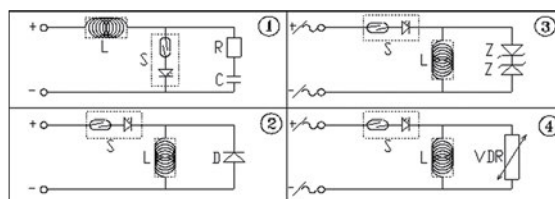


**Sensor safety circuit**

The switching of inductive loads with reed switches produces a high voltage peak during disconnection. As a result, a safety circuit is required to prevent dielectric discharges or voltaic arcs. This can be:

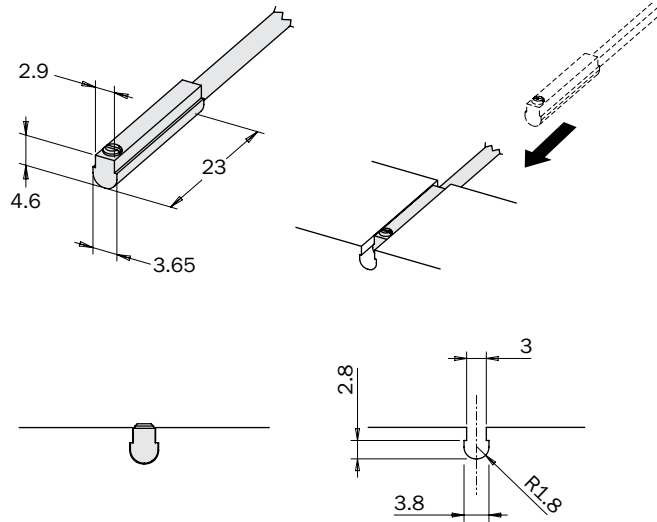
- A R-C circuit in parallel with the load in the case of a DC voltage supply (figure 1).
- A diode in parallel with the load in the case of a DC voltage supply (figure 2).
- 2 Zener diodes in parallel with the load with an AC/DC voltage supply (figure 3).
- A varistor (VDR) in parallel with the load with an AC/DC voltage supply (figure 4).

The switching of capacitive loads or the use of cables longer than 10 metres produces current peaks during connection. As a result, protective resistance is required near the switch on the brown wire. In this phase ensure the minimum current required for the sensor is guaranteed (10÷20 mA).



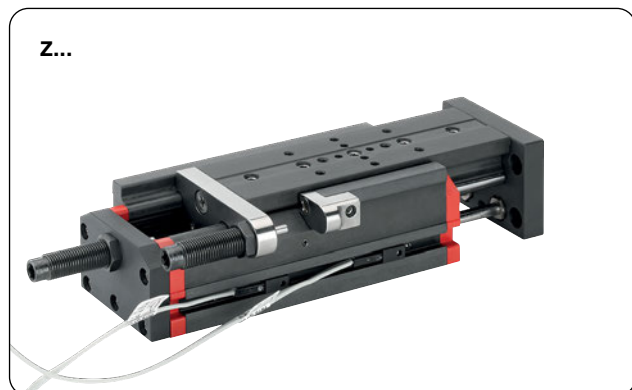
## Magnetic sensors for C-slots

- Reed or magnetostrictive GMR sensors.
- PNP or NPN logic output for magnetostrictive sensors.
- No problems in case of vibrations.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot or T-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.



Dimensions (mm)

## Application examples



|                               |  |                                   |                                       |                                       |
|-------------------------------|--|-----------------------------------|---------------------------------------|---------------------------------------|
| Sensor with cable             | <b>SS1C225-G</b>   | <b>SS4D225-G</b>                  | <b>SS4N225-G</b>                      | <b>SS4M225-G</b>                      |
| Sensor with M8 male connector | <b>SS2C203-G</b>   | <b>SS3D203-G</b>                  | <b>SS3N203-G</b>                      | <b>SS3M203-G</b>                      |
| Sensor type                   | 2-wire REED<br>Normally Open   | 3- wire PNP REED<br>Normally Open | Magnetoresistive PNP<br>Normally Open | Magnetoresistive NPN Normally<br>Open |
| Power supply                  | 3+30 Vac/dc  |                                   | 6+30 Vdc                              |                                       |
| Switching current             | 0.2 A  |                                   |                                       |                                       |
| Power rating (Ohmic load)     | 6 W  |                                   |                                       |                                       |
| Nominal switching point       | 15+20 AT   |                                   | 28±5 Gauss                            |                                       |
| ON-OFF differential           | 5+10 AT  |                                   | 5+15 Gauss                            |                                       |
| ON switching time             | 0.5 ms   | 2 µs                              |                                       |                                       |
| OFF switching time            | 0.1 ms   | 20 µs                             |                                       |                                       |
| Operating temperature         | -10+70°C   |                                   |                                       |                                       |
| Switching frequency           | 500 kHz  |                                   | 200 kHz                               |                                       |
| Electric service life         | 10 <sup>7</sup> imp.   |                                   | 10 <sup>9</sup> imp.                  |                                       |
| Piston speed                  | 10 m/s   |                                   |                                       |                                       |
| Reverse polarity protection   | Yes  |                                   |                                       |                                       |
| Protection rating             | IP 67  |                                   |                                       |                                       |
| Sensor body material          | PA; AISI 303   |                                   |                                       |                                       |
| Standard cable length         | 2.5 m (flying cable) - 0.3 m (cable with M8 connector)   |                                   |                                       |                                       |
| Sheathing - insulation        | PVC CEI 20-22II O.R.   |                                   |                                       |                                       |
| Leads                         | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>  |                                   |                                       |                                       |
| M8 connector material         | PUR / gold-plated brass  |                                   |                                       |                                       |
| CE reference standards        | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8; CEI EN 61000-4-11 |                                   |                                       |                                       |
| Wiring diagrams               |  |                                   |                                       |                                       |
| Connection                    |  |                                   |                                       |                                       |
|                               | Brown (BN +); Blue (BU -); Black (BK OUT); Not Connected N.C.  |                                   |                                       |                                       |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

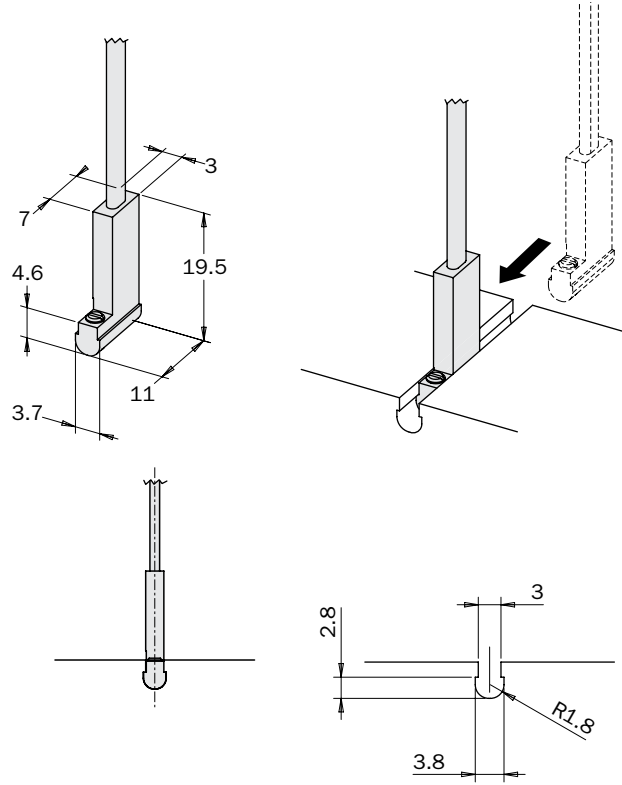
Robot Kit

Options

Sensors

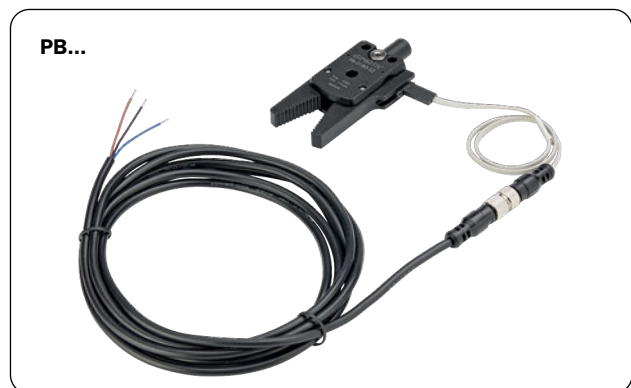
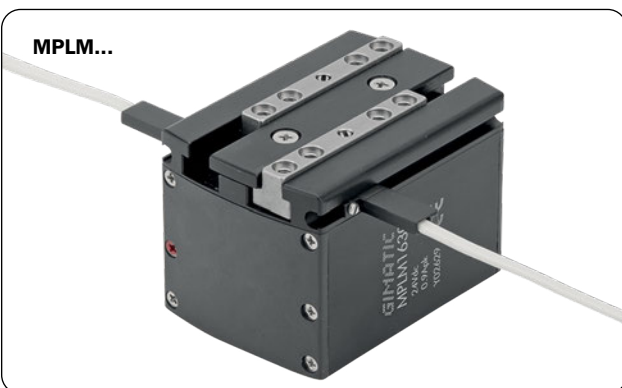
## Magnetic sensors for C-slots

- GMR sensors.
- PNP or NPN logic output for magnetoresistive sensors.
- No problems in case of vibrations.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.



Dimensions (mm)

## Application examples





| Sensor with cable             | SN4N225-G   | SN4M225-G                             |
|-------------------------------|---|---------------------------------------|
| Sensor with M8 male connector | SN3N203-G   | SN3M203-G                             |
| Sensor type                   | Magnetostrictive PNP<br>Normally Open   | Magnetostrictive NPN<br>Normally Open |
| Power supply                  | 6±30 Vdc  |                                       |
| Switching current             | 0.2 A   |                                       |
| Power rating (Ohmic load)     | 6 W   |                                       |
| Nominal switching point       | 28±5 Gauss  |                                       |
| ON-OFF differential           | 5±15 Gauss  |                                       |
| ON switching time             | 2 µs  |                                       |
| OFF switching time            | 20 µs   |                                       |
| Operating temperature         | -10÷70°C  |                                       |
| Switching frequency           | 200 kHz   |                                       |
| Electric service life         | 10 <sup>7</sup> imp.  |                                       |
| Piston speed                  | 10 m/s  |                                       |
| Reverse polarity protection   | Yes   |                                       |
| Protection rating             | IP 67   |                                       |
| Sensor body material          | PA; AISI 303  |                                       |
| Standard cable length         | 2.5 m (flying cable) - 0.3 m (cable with M8 connector)  |                                       |
| Sheathing - insulation        | PVC CEI 20-22II O.R.  |                                       |
| Leads                         | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>   |                                       |
| M8 connector material         | PUR / gold-plated brass   |                                       |
| CE reference standards        | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |                                       |
| Wiring diagrams               |   |                                       |
| Connection                    | <p>Brown (BN +); Blue (BU -); Black (BK OUT)</p>  |                                       |

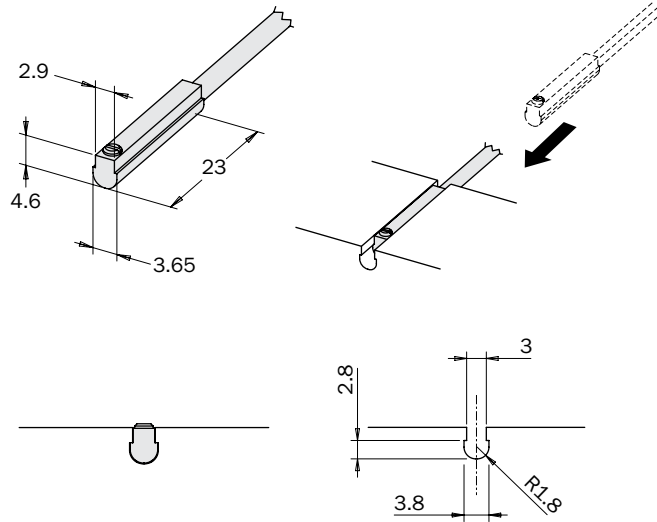
**Click for Pricing & Add to Cart**



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

## Magnetic sensors for C-slots with reduced hysteresis

- GMR sensors.
- PNP or NPN logic output.
- No problems in case of vibration.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot or T-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extension.
- Axial mounting.



Dimensions (mm)

## Application examples



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

| Sensor with cable           | SSY4N225-G  | SSY4M225-G                            |
|-----------------------------|---|---------------------------------------|
| Sensor with M8 connector    | SSY3N203-G  | SSY3M203-G                            |
| Sensor type                 | Magnetostrictive PNP<br>Normally Open   | Magnetostrictive NPN<br>Normally Open |
| Power supply                | 6±30 Vdc  |                                       |
| Switching current           | 0.2 A   |                                       |
| Power rating (Ohmic load)   | 6 W   |                                       |
| Switching interval          | 21±48 Gauss   |                                       |
| ON-OFF differential         | 3 Gauss   |                                       |
| ON switching time           | 2 µs  |                                       |
| OFF switching time          | 1 ms  |                                       |
| Operating temperature       | -10÷70°C  |                                       |
| Switching frequency         | 200 kHz   |                                       |
| Electric service life       | 10 <sup>7</sup> imp.  |                                       |
| Piston speed                | 10 m/s  |                                       |
| Reverse polarity protection | Yes   |                                       |
| Protection rating           | IP 67   |                                       |
| Sensor body material        | PA; AISI 303  |                                       |
| Standard cable length       | 2.5 m (flying cable) - 0.3 m (cable with M8 connector)  |                                       |
| Sheathing - insulation      | PVC CEI 20-22II O.R.  |                                       |
| Leads                       | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>   |                                       |
| M8 connector material       | PUR / Gold-plated brass   |                                       |
| CE reference standards      | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 61000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |                                       |
| Wiring diagrams             |   |                                       |
| Connections                 | <p>Brown (BN +); Blue (BU -); Black (BK OUT)</p>  |                                       |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

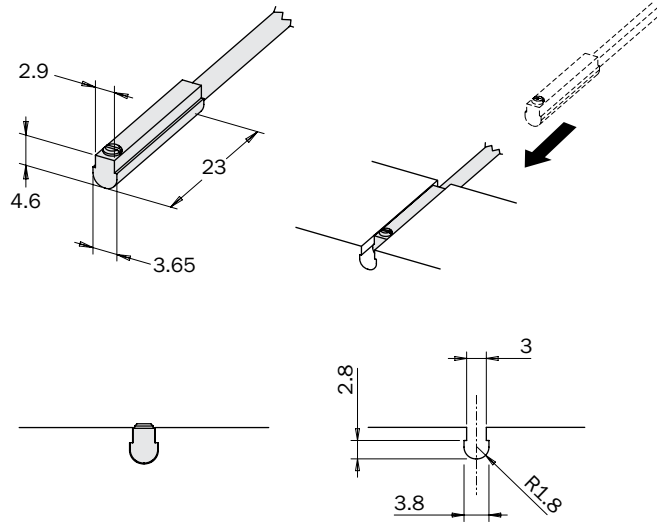
Robot Kit

Options

Sensors

## Magnetic sensors for C-slots with very low hysteresis

- GMR sensors.
- PNP or NPN logic output.
- No problems in case of vibration.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot or T-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extension.
- Axial mounting.



Dimensions (mm)

## Application examples

SZ...



PQ...



MPLM...



GS...



| Sensor with cable           | SSQ4N225-G  | SSQ4M225-G                             |
|-----------------------------|---|--|
| Sensor with M8 connector    | SSQ3N203-G  | SSQ3M203-G                             |
| Sensor type                 | Magneto-resistive PNP<br>Normally Open  | Magneto-resistive NPN<br>Normally Open |
| Power supply                | 6+30 Vdc  |  |
| Switching current           | 0.2 A   |  |
| Power rating (Ohmic load)   | 6 W   |  |
| Switching interval          | 12±15 Gauss   |  |
| ON-OFF differential         | 3 Gauss   |  |
| ON switching time           | 2 µs  |  |
| OFF switching time          | 1 ms  |  |
| Operating temperature       | -10÷70°C  |  |
| Switching frequency         | 200 kHz   |  |
| Electric service life       | 10 <sup>7</sup> imp.  |  |
| Piston speed                | 10 m/s  |  |
| Reverse polarity protection | Yes   |  |
| Protection rating           | IP 67   |  |
| Sensor body material        | PA; AISI 303  |  |
| Standard cable length       | 2.5 m (flying cable) - 0.3 m (cable with M8 connector)  |  |
| Sheathing - insulation      | PVC CEI 20-22II O.R.  |  |
| Leads                       | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>   |  |
| M8 connector material       | PUR / Gold-plated brass   |  |
| CE reference standards      | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |  |
| Wiring diagrams             |   |  |
| Connections                 | <p>Brown (BN +); Blue (BU -); Black (BK OUT)</p>  |  |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

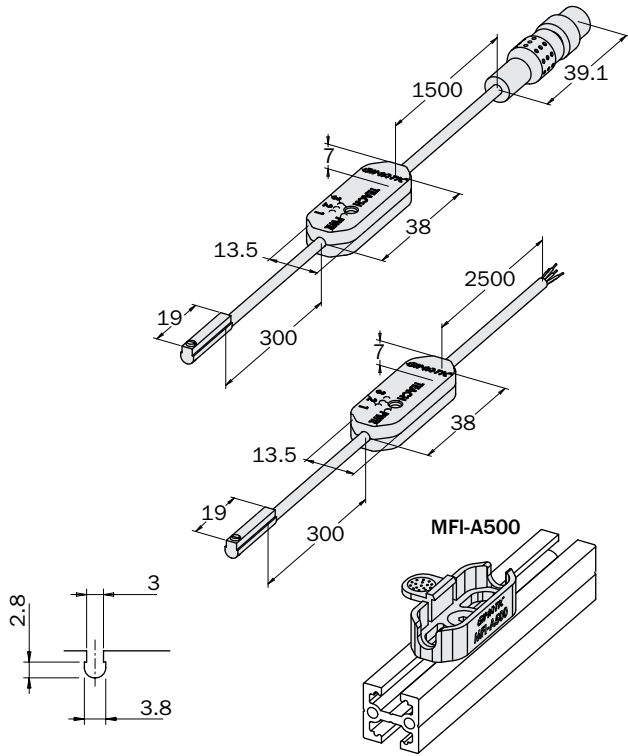
Robot Kit

Options

Sensors

## Programmable Pro SS magnetic sensors

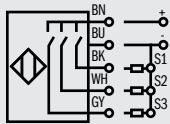
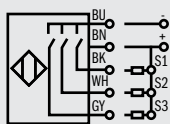
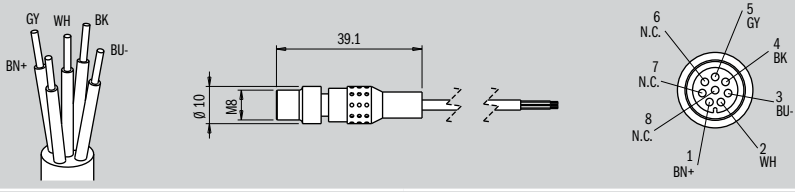
- Programmable GMP sensors.
- 3 independent digital outputs.
- Each programmable output in NO or NC logic.
- Versions available with PNP or NPN outputs.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extension.
- Axial mounting.
- MFI-A500 optional bracket for remote programming box.



Dimensions (mm)

## Application examples



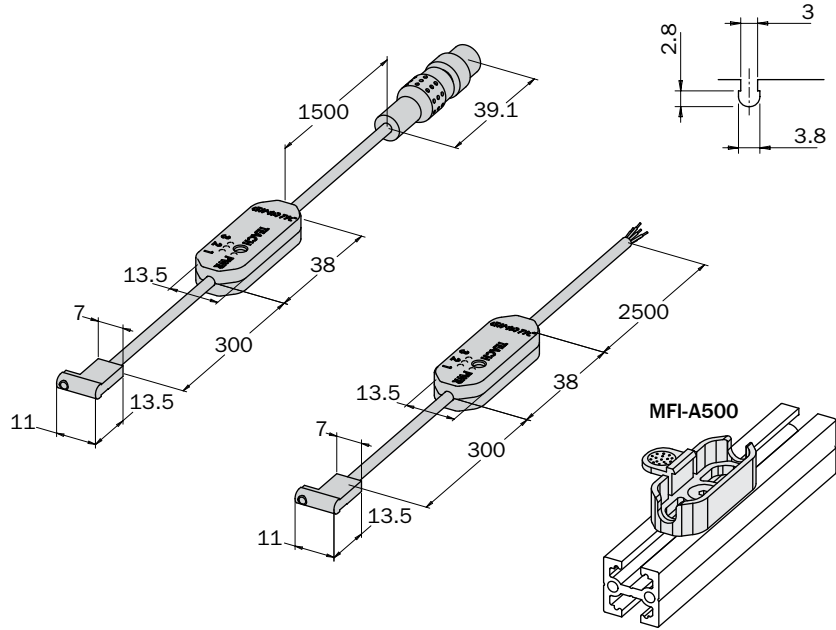
|                             |   |   |
|-----------------------------|---|---|
| Sensor with cable           | <b>PRO-SS4N225-G</b>  | <b>PRO-SS4M225-G</b>  |
| Sensor with M8 connector    | <b>PRO-SS3N215-G</b>  | <b>PRO-SS3M215-G</b>  |
| Sensor type                 | Magneto-resistive PNP   | Magneto-resistive NPN   |
| No. of outputs              | 3 outputs ( e.g. gripper open, closed, workpiece gripped )  |   |
| Outputs type                | NO/NC independently configurable  |   |
| Maximum switching delay     | 50 ms   |   |
| Power supply                | 24 Vdc  |   |
| Operating range             | 10÷1300 Gauss   |   |
| Max. switching frequency    | 300 kHz   |   |
| Operating temperature       | -10÷60 °C   |   |
| Reverse polarity protection | Yes   |   |
| Protection rating           | IP 67   |   |
| Sensor body material        | PA  |   |
| Standard cable length       | 2.5 m (flying cable) - 1.5 m (cable with M8 connector)  |   |
| Sheathing - insulation      | POLYURETHANE FLAME-RETARDANT UL 92 V2   |   |
| Leads                       | 0.08 mm <sup>2</sup> / AWG 28   |   |
| CE reference standards      | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8; CEI EN 61000-4-11 |   |
| Wiring diagrams             |    |  |
| Connections                 |  <p>Brown (BN +); Blue (BU -); Black (BK OUT 1); White (WH OUT 2); Grey (GY OUT 3); Not connected N.C.</p>                  |   |

The sensor's remote programming circuit has a button for the configuration and programming of outputs. Following a simple procedure, the user can configure each output as normally open (NO – yellow LED) or normally closed (NC – green LED) and store the switching point (separate for each output). With this type of sensor the ideal position for the sensitive head is halfway along the actuator stroke.



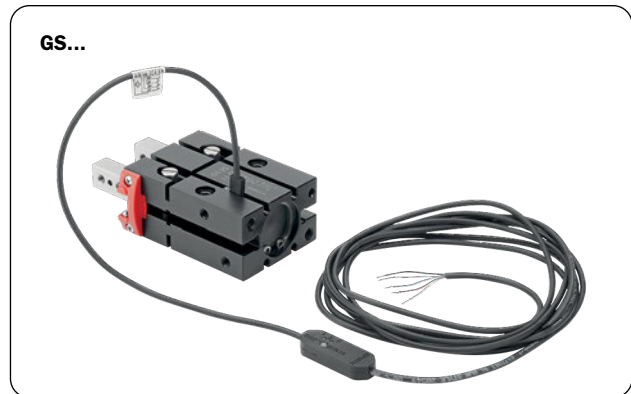
## Programmable Pro SN magnetic sensors

- Programmable GMP magnetoresistive sensors.
- 3 independent digital outputs.
- Each programmable output in NO or NC logic.
- Versions available with PNP or NPN outputs.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot inline mounting.
- Slot adaptors on request.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.
- MFI-A500 optional bracket for remote programming box.



Dimensions (mm)

## Application examples





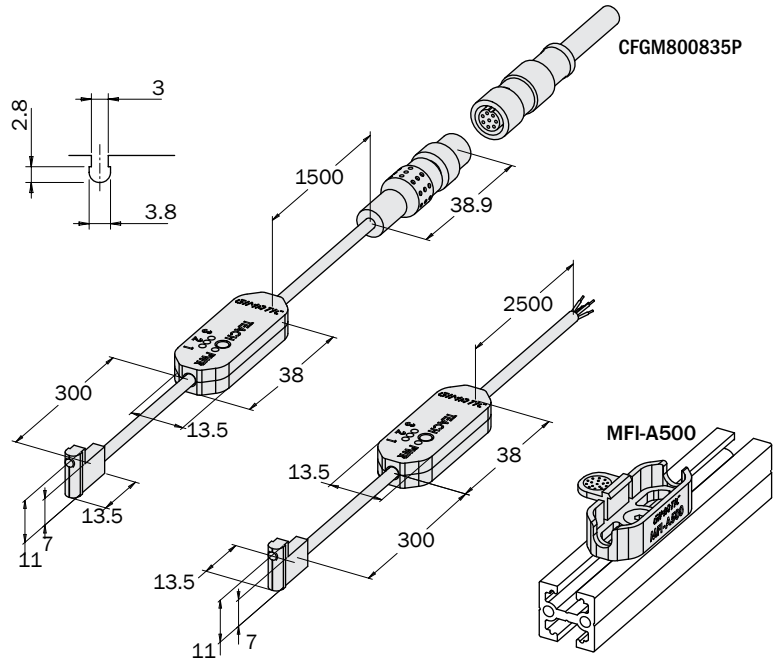
|                               |   |                       |
|-------------------------------|---|-----------------------|
| Sensor with cable             | <b>PRO-SN4N225-G</b>  | <b>PRO-SN4M225-G</b>  |
| Sensor with male M8 connector | <b>PRO-SN3N215-G</b>  | <b>PRO-SN3M215-G</b>  |
| Sensor type                   | Magneto-resistive PNP   | Magneto-resistive NPN |
| No. of outputs                | 3 outputs ( e.g. gripper open, closed, workpiece gripped )  |                       |
| Outputs type                  | NO/NC independently configurable  |                       |
| Maximum switching delay       | 50 ms   |                       |
| Power supply                  | 24 Vdc  |                       |
| Nominal operating range       | 10÷1300 Gauss   |                       |
| Max. switching frequency      | 300 kHz   |                       |
| Operating temperature         | -10÷60 °C   |                       |
| Reverse polarity protection   | Yes   |                       |
| Protection rating             | IP 67   |                       |
| Sensor body material          | PA; AISI 303  |                       |
| Standard cable length         | 2.5 m (flying cable) - 1.5 m (cable with M8 connector)  |                       |
| Sheathing - insulation        | POLYURETHANE FLAME-RETARDANT UL 92 V2   |                       |
| Leads                         | 0,08 mm <sup>2</sup> / AWG 28   |                       |
| CE reference standards        | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8; CEI EN 61000-4-11 |                       |
| Wiring diagrams               |   |                       |
| Connections                   | <p>Brown (BN +); Blue (BU -); Black (BK OUT1); White (WH OUT 2); Grey (GY OUT 3); Not connected N.C.</p>  |                       |

The sensor's remote programming circuit has a button for the configuration and programming of outputs. Following a simple procedure, the user can configure each output as normally open (NO – yellow LED) or normally closed (NC – green LED) and store the switching point (separate for each output). With this type of sensor the ideal position for the sensitive head is halfway along the actuator stroke.



## Programmable PRO-SN\_HS magnetic sensors

- Programmable GMR magnetoresistive sensors.
- 3 independent digital outputs.
- Each programmable output in NO or NC logic.
- Versions available with PNP or NPN outputs.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot inline mounting.
- Slot adaptors on request.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.
- MFI-A500 optional bracket for remote programming box.

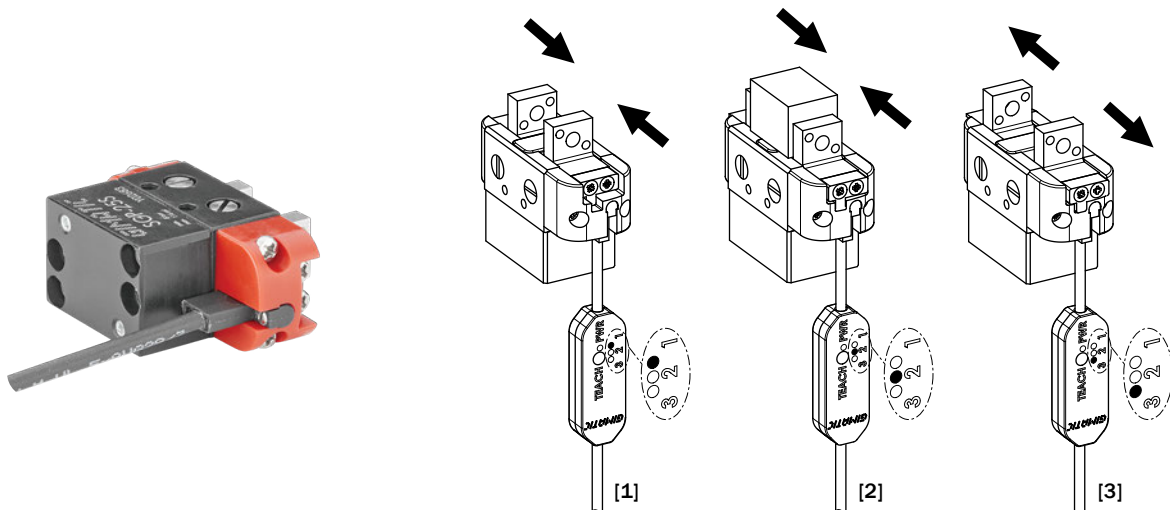


Dimensions (mm)

## Application examples

This sensor has been designed to work in combination with SGP pneumatic grippers only. The detected positions can be adjusted by a teaching procedure, so that 3 digital outputs can be:

- Output 1 - totally closed gripper [1];
- Output 2 - gripped part intermediate position [2];
- Output 3 - totally open gripper [3].



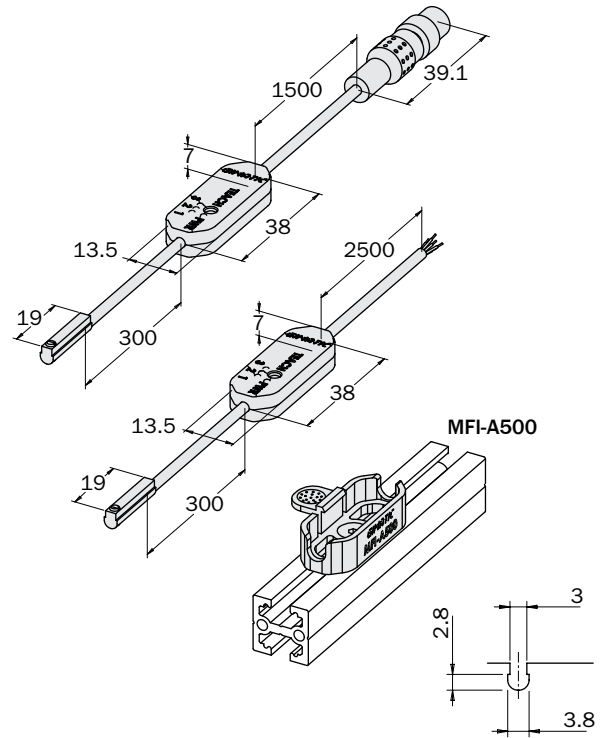
|                               |   |                        |
|-------------------------------|---|------------------------|
| Sensor with cable             | <b>PRO-SN4N225HS-G</b>  | <b>PRO-SN4M225HS-G</b> |
| Sensor with male M8 connector | <b>PRO-SN3N215HS-G</b>  | <b>PRO-SN3M215HS-G</b> |
| Sensor type                   | Magneto-resistive PNP   | Magneto-resistive NPN  |
| No. of outputs                | 3 outputs ( e.g. gripper open, closed, workpiece gripped )  |                        |
| Outputs type                  | NO/NC independently configurable  |                        |
| Maximum switching delay       | 50 ms   |                        |
| Power supply                  | 24 Vdc  |                        |
| Nominal operating range       | 10÷1300 Gauss   |                        |
| Max. switching frequency      | 300 kHz   |                        |
| Operating temperature         | -10÷60 °C   |                        |
| Reverse polarity protection   | Yes   |                        |
| Protection rating             | IP 67   |                        |
| Sensor body material          | PA; AISI 303  |                        |
| Standard cable length         | 2.5 m (flying cable) - 1.5 m (cable with M8 connector)  |                        |
| Sheathing - insulation        | POLYURETHANE FLAME-RETARDANT UL 92 V2   |                        |
| Leads                         | 0,08 mm <sup>2</sup> / AWG 28   |                        |
| CE reference standards        | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8; CEI EN 61000-4-11 |                        |
| Wiring diagrams               |   |                        |
| Connections                   | <p>Brown (BN +); Blue (BU -) Black (BK OUT1); White (WH OUT 2); Grey (GY OUT 3); Not connected N.C.</p>   |                        |

The sensor's remote programming circuit has a button for the configuration and programming of outputs. Following a simple procedure, the user can configure each output as normally open (NO – yellow LED) or normally closed (NC – green LED) and store the switching point (separate for each output).



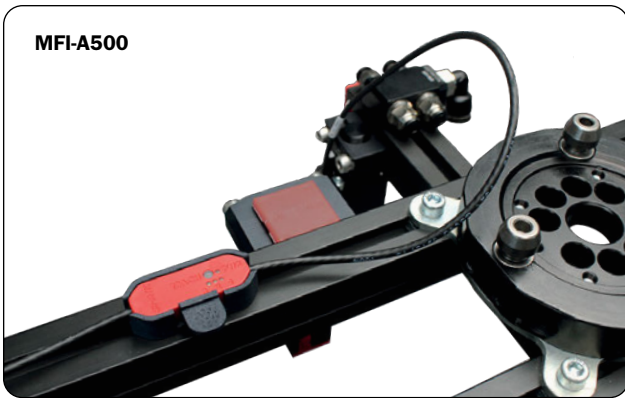
## Programmable Pro SSR magnetic sensors

- Programmable GMR sensors.
- 3 digital outputs, 2 of which are programmable.
- Each programmable output in NO or NC logic.
- Versions available with PNP or NPN outputs.
- Cable or M8 connector output.
- 100% traceability.
- Standard C-slot inline mounting.
- Optional K-SENS slot adaptors.
- Optional 2.5m, 5m and 10m cable extension.
- Axial mounting.
- MFI-A500 optional bracket for remote programming box.

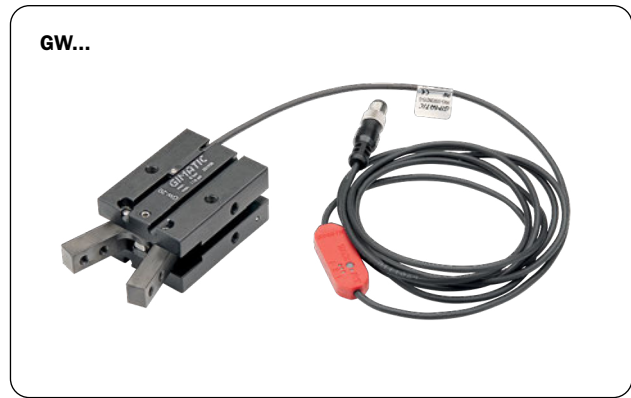


Dimensions (mm)

## Application examples



MFI-A500



GW...



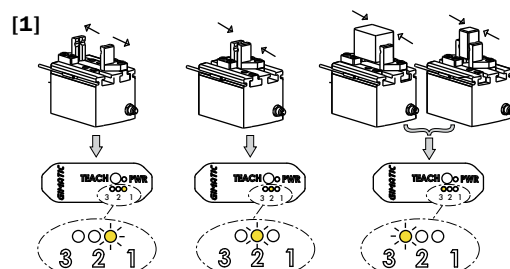
OFR...



PB..

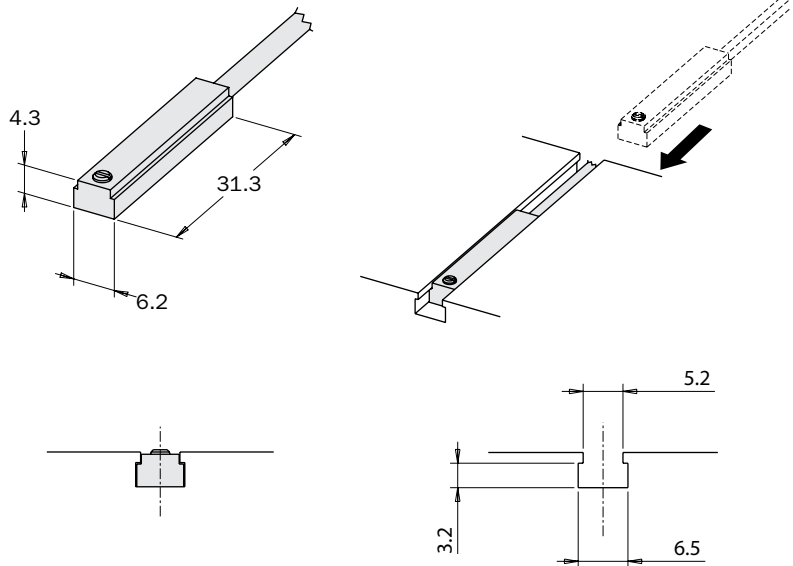
|                                |   |                       |
|--------------------------------|---|-----------------------|
| Sensor with cable              | <b>PRO-SSR4N225-G</b>   | <b>PRO-SSR4M225-G</b> |
| Sensor with m8 connector       | <b>PRO-SSR3N215-G</b>   | <b>PRO-SSR3M215-G</b> |
| Output type                    | PNP   | NPN                   |
| Sensing head material          | Glass fibre-reinforced nylon  |                       |
| Power supply                   | 6-30 Vdc  |                       |
| Switching current (per output) | 0.2 A   |                       |
| Power rating (ohmic load)      | 6 W   |                       |
| Maximum magnetic flux density  | 150 G   |                       |
| Minimum magnetic flux density  | 10G   |                       |
| Magnetic hysteresis            | ±5 G  |                       |
| Maximum stroke                 | ± 30 mm   |                       |
| Maximum operating frequency    | 3 Hz  |                       |
| Permitted temperature range    | -20-60°C  |                       |
| Mass                           | 35 g  |                       |
| Electrical connection          | Free cables 5x28 awg or m8 8-pole male connector  |                       |
| Polarity reversal protection   | Yes   |                       |
| Ip rating                      | IP54  |                       |
| Output signals                 | 3 Digital pnp or npn depending on the order code  |                       |
| Ce reference standard          | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3;<br>CEI EN 55022; CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4;<br>CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8; CEI EN 61000-4-11 |                       |
| Standard cable length          | Free cable 5x28 awg, 2.5 M or 1.5 M long cable with m8 8-pole male connector  |                       |
| Wiring diagram                 | <p>PNP circuit</p>  | <p>NPN circuit</p>    |
| Connections                    | <p>5 wires</p> <p>BN Vcc<br/>WH Out2<br/>BK Out1<br/>GY Out3<br/>BL Gnd</p>   |                       |

The sensor's remote programming circuit features a button for the configuration and programming of outputs. Following a simple procedure the user can configure each individual output as normally open (N.O., yellow colour of the led) or normally closed (N.C., green colour of the led) and store the operating point of the first two outputs. The third non-programmable output is activated when it detects a position that is different from the two previously set outputs [1]. For this type of sensors, the ideal position of the sensing head is halfway of the actuator stroke.



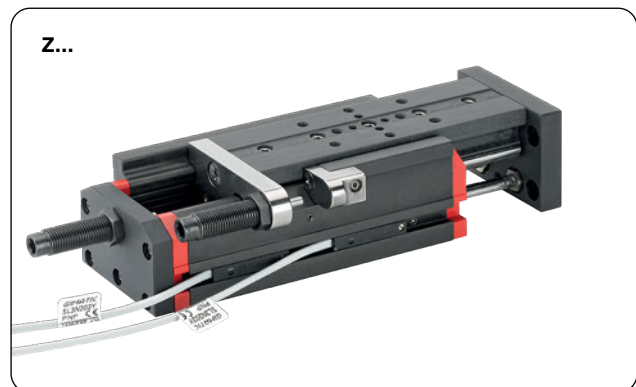
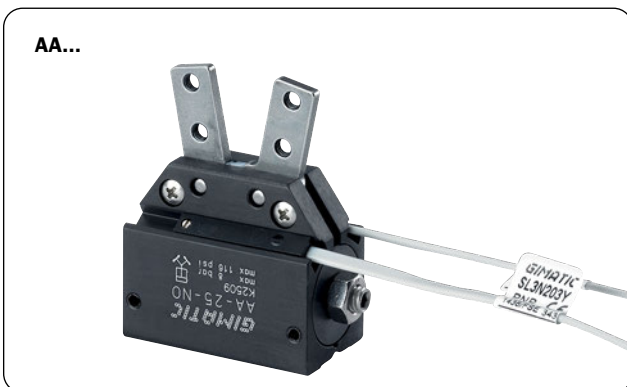
## Magnetic sensors for T-slots

- Reed or GMR sensors.
- PNP or NPN logic output for magnetoresistive sensors.
- No problems in case of vibrations.
- Cable or M8 connector output.
- 100% traceability.
- Standard T-slot inline mounting.
- Optional K-SL slot adaptors.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.



Dimensions (mm)

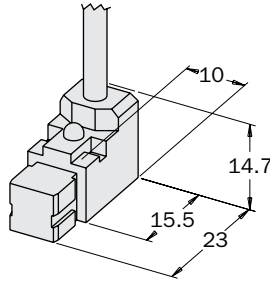
## Application examples



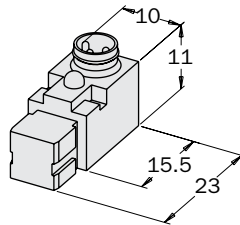
|                             |   |                                  |                                       |                                       |
|-----------------------------|---|----------------------------------|---------------------------------------|---------------------------------------|
| Sensor with cable           | <b>SL1C225-G</b>  | <b>SL4D225-G</b>                 | <b>SL4N225-G</b>                      | <b>SL4M225-G</b>                      |
| Sensor with M8 connector    | <b>SL2C203-G</b>  | <b>SL3D203-G</b>                 | <b>SL3N203-G</b>                      | <b>SL3M203-G</b>                      |
| Sensor type                 | 2-wire reed<br>Normally Open  | 3-wire PNP reed<br>Normally Open | Magnetostrictive PNP<br>Normally Open | Magnetostrictive NPN<br>Normally Open |
| Power supply                | 3+30 Vac/dc   |                                  | 6+30 Vdc                              |                                       |
| Switching current           | 0.2 A   |                                  |                                       |                                       |
| Power rating (Ohmic load)   | 6 W   |                                  |                                       |                                       |
| Nominal switching point     | 20+25 AT  |                                  | 40±10 Gauss                           |                                       |
| ON-OFF differential         | 5+10 AT   |                                  | 5+25 Gauss                            |                                       |
| ON switching time           | 0.5 ms  |                                  |                                       |                                       |
| OFF switching time          | 0.5 ms  |                                  |                                       |                                       |
| Operating temperature       | -10+70°C  |                                  |                                       |                                       |
| Switching frequency         | 500 kHz   |                                  | 200 kHz                               |                                       |
| Electric service life       | 10 <sup>7</sup> imp.  |                                  | 10 <sup>9</sup> imp.                  |                                       |
| Piston speed                | 10 m/s  |                                  |                                       |                                       |
| Reverse polarity protection | Yes   |                                  |                                       |                                       |
| Protection rating           | IP 67   |                                  |                                       |                                       |
| Sensor body material        | PA; AISI 303  |                                  |                                       |                                       |
| Standard cable length       | 2.5 m (flying cable) - 0.3 m (cable with M8 connector)  |                                  |                                       |                                       |
| Sheathing - insulation      | PVC CEI 20-22II O.R.  |                                  |                                       |                                       |
| Conductors                  | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>   |                                  |                                       |                                       |
| M8 connector material       | PUR / gold-plated brass   |                                  |                                       |                                       |
| CE reference standards      | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |                                  |                                       |                                       |
| Wiring diagrams             |   |                                  |                                       |                                       |
| Connections                 |   |                                  |                                       |                                       |
|                             | Brown (BN +); Blue (BU -); Black (BK OUT); Not connected N.C.   |                                  |                                       |                                       |

## Magnetic sensors for dovetail slots

- Reed or GMR magneto-resistive sensors.
- PNP or NPN logic output for magneto-resistive sensors.
- No problems in case of vibrations.
- Cable or SNAP connector output.
- 100% traceability.
- Application in multiple dovetail-slots using special adapter included in the supply.
- Optional K-CB slot adapters.
- Optional 2.5m, 5m and 10m extensions.
- Axial mounting.



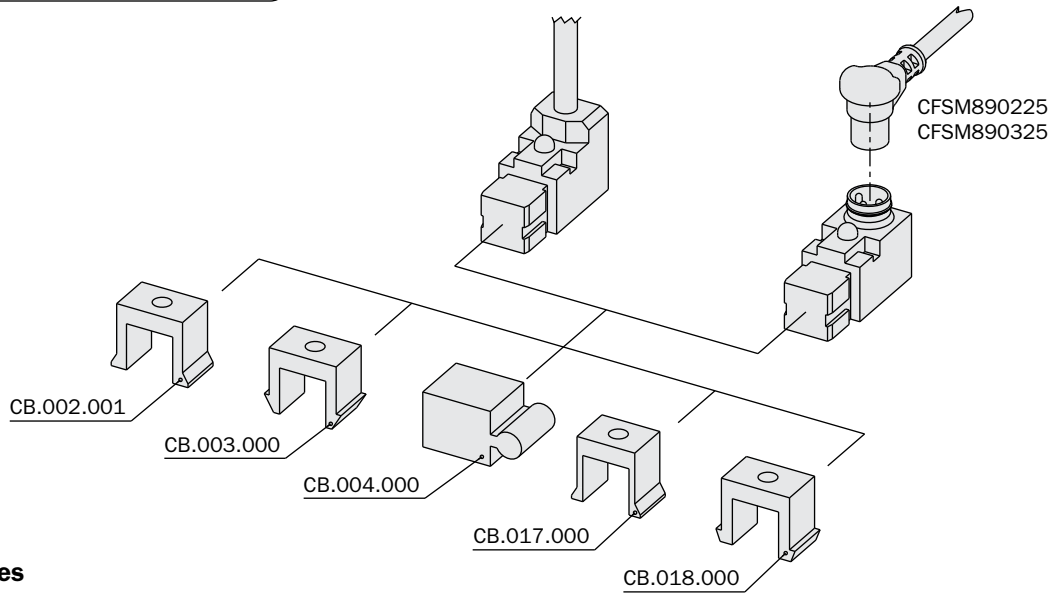
Sensor with cable (1)



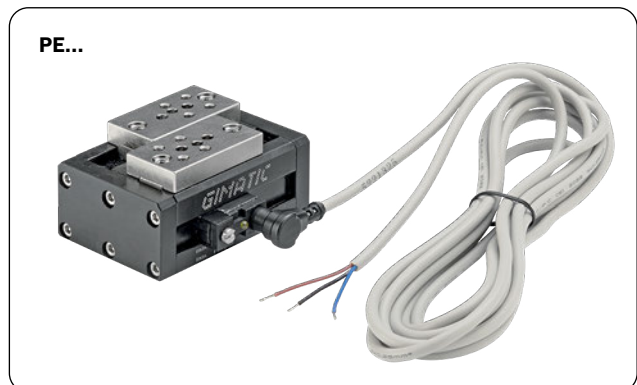
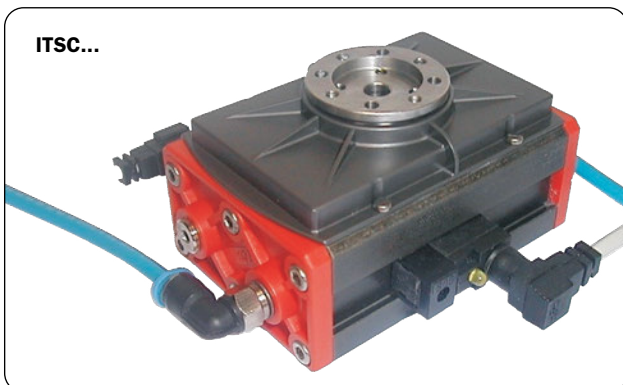
Sensor with SNAP connector (2)

Dimensions (mm)

## Fixing with adapter



## Application examples





| Sensor with cable           | CB1C425-G   | CB4D225-G                                 | CB4N225-G                             | CB4M225-G                             |
|-----------------------------|---|---|---------------------------------------|---------------------------------------|
| Sensor with SNAP connector  | CB2C4-G   | CB3D2-G                                   | CB3N2-G                               | CB3M2-G                               |
| Sensor type                 | 2-wire reed<br>Normally Open  | 3-wire reed<br>Normally Open              | Magnetoresistive PNP<br>Normally Open | Magnetoresistive NPN<br>Normally Open |
| Power supply                | 3÷110 Vac/dc  | 3÷30 Vac/dc                               | 6÷30 Vdc                              |                                       |
| Switching current           | 0.3 A   | 1 A                                       | 0.25 A                                |                                       |
| Power rating (Ohmic load)   | 10 W  |   | 6 W                                   |                                       |
| Nominal switching point     | 20÷25 AT  |   | 15±5 Gauss                            |                                       |
| ON-OFF differential         | 5÷10 AT   |   | 4÷7 Gauss                             |                                       |
| ON switching time           | 0.5 ms  |   |                                       |                                       |
| OFF switching time          | 0.5 ms  |   |                                       |                                       |
| Operating temperature       | -10÷70°C  |   |                                       |                                       |
| Switching frequency         | 500 kHz   |   | 200 kHz                               |                                       |
| Electric service life       | 10 <sup>7</sup> imp.  |   | 10 <sup>9</sup> imp.                  |                                       |
| Piston speed                | 10 m/s  |   |                                       |                                       |
| Reverse polarity protection | YES   |   |                                       |                                       |
| Protection rating           | IP 67   |   |                                       |                                       |
| Sensor body material        | PA + AISI 303   |   |                                       |                                       |
| Standard cable length       | 2.5 m (flying cable) - SNAP connector   |   |                                       |                                       |
| Sheathing - insulation      | PVC CEI 20-22II O.R.  |   |                                       |                                       |
| Leads                       | 0.25 mm <sup>2</sup> / AWG 24 / 32 x 0.10 mm <sup>2</sup>   |   |                                       |                                       |
| M8 connector material       | PA / gold-plated brass  |   |                                       |                                       |
| CE reference standards      | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 61000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |   |                                       |                                       |
| Wiring diagrams             |   |   |                                       |                                       |
| Connections                 |   |   |                                       |                                       |
|                             |   | Brown (BN +); Blue (BU -); Black (BK OUT) |                                       |                                       |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

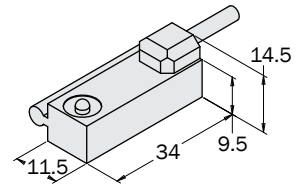
Sensors

## Magnetic sensors for tie-rod cylinders

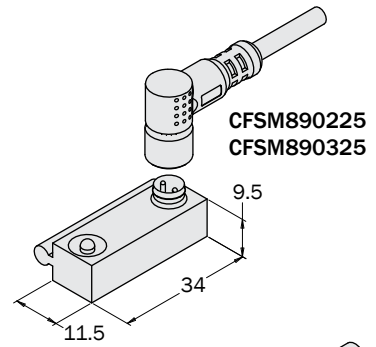
- Reed or GMR sensors.
- PNP or NPN logic output for magnetoresistive sensors.
- No problems in case of vibrations.
- Cable, SNAP or M12 connector output.
- 100% traceability.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.



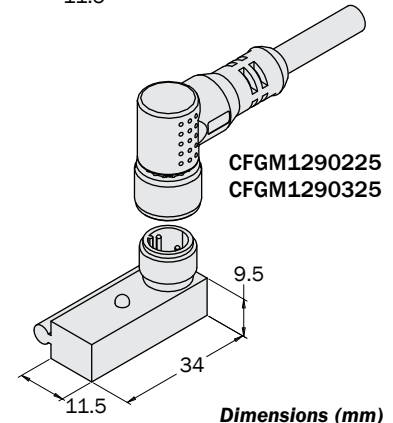
Sensor with cable



Sensor with SNAP connector



Sensor with M12 male connector



Dimensions (mm)

## Application examples



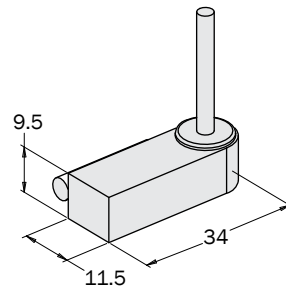
| Sensor with cable              | SM1C525-G   | SM4D225-G                    | SM4N225-G                             | SM4M225-G                             |
|--------------------------------|---|------------------------------|---------------------------------------|---------------------------------------|
| Sensor with SNAP connector     | SM2C5-G   | SM3D2-G                      | SM3N2-G                               | SM3M2-G                               |
| Sensor with M12 male connector | SM5C5-G   | SM6D2-G                      | SM6N2-G                               | SM6M2-G                               |
| Sensor type                    | 2-wire reed<br>Normally Open  | 3-wire reed<br>Normally Open | Magnetostrictive PNP<br>Normally Open | Magnetostrictive NPN<br>Normally Open |
| Power supply                   | 3+250 Vac/dc  | 3+30 Vac/dc                  | 6+30 Vdc                              |                                       |
| Switching current              | 0.5 A   | 1 A                          | 0.25 A                                |                                       |
| Power rating (Ohmic load)      | 10 W  |                              | 6 W                                   |                                       |
| Nominal switching point        | 25±30 AT  |                              | 15±5 Gauss                            |                                       |
| ON-OFF differential            | 5±10 AT   |                              | 4+7 Gauss                             |                                       |
| ON switching time              | 0.5 ms  |                              |                                       |                                       |
| OFF switching time             | 0.5 ms  |                              |                                       |                                       |
| Operating temperature          | -10÷70 °C   |                              |                                       |                                       |
| Switching frequency            | 500 kHz   |                              | 200 kHz                               |                                       |
| Electric service life          | 10 <sup>7</sup> imp.  |                              | 10 <sup>9</sup> imp.                  |                                       |
| Piston speed                   | 10 m/s  |                              |                                       |                                       |
| Reverse polarity protection    | Yes   |                              |                                       |                                       |
| Protection rating              | IP 67   |                              |                                       |                                       |
| Sensor body material           | PA; AISI 303; OT63  |                              |                                       |                                       |
| Standard cable length          | 2.5 m (flying cable) - M8/12 connector  |                              |                                       |                                       |
| Sheathing - insulation         | PVC CEI 20-22II O.R.  |                              |                                       |                                       |
| Leads                          | 0.25 mm <sup>2</sup> / AWG 24 / 32 x 0.10 mm <sup>2</sup>   |                              |                                       |                                       |
| M8 connector material          | PUR / gold-plated brass   |                              |                                       |                                       |
| CE reference standards         | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022; CEI EN 61000-4-2;<br>CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6; CEI EN 61000-4-8;<br>CEI EN 61000-4-11 |                              |                                       |                                       |
| Wiring diagrams                |   |                              |                                       |                                       |
| Connections                    |   |                              |                                       |                                       |
|                                | Brown (BN +); Blue (BU -); Black (BK OUT)   |                              |                                       |                                       |

## Magnetic sensors for IP68 tie-rod cylinders

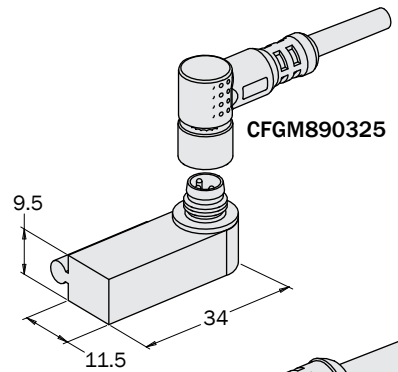
- Reed or GMR sensors.
- PNP logic output for magnetoresistive sensors.
- No problems in case of vibrations.
- Cable, M8 or M12 connector output.
- 100% traceability.
- Optional 2.5m, 5m and 10m cable extensions.
- Axial mounting.
- High protection rating (IP68).



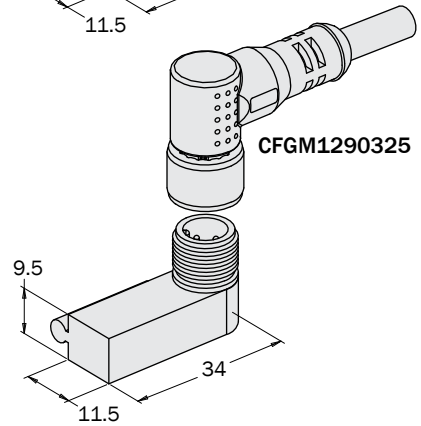
Sensor with cable



Sensor with M8 male connector



Sensor with M12 male connector



Dimensions (mm)

## Application examples



|                                |   |                                    |
|--------------------------------|---|------------------------------------|
| Sensor with cable              | <b>SM7D225-G</b>  | <b>SM7N225-G</b>                   |
| Sensor with M8 male connector  | <b>SM8D2-G</b>  | <b>SM8N2-G</b>                     |
| Sensor with M12 male connector | <b>SM9D2-G</b>  | <b>SM9N2-G</b>                     |
| Sensor type                    | 3-wire PNP reed Normally Open   | Magnetostrictive PNP Normally Open |
| Power supply                   | 3+30 Vac/dc   | 6+30 Vdc                           |
| Switching current              | 0.2 A   |                                    |
| Power rating (Ohmic load)      | 6 W   |                                    |
| Nominal switching point        | 20±25 AT  | 40±10 Gauss                        |
| ON-OFF differential            | 5±10 AT   | 5±25 Gauss                         |
| ON switching time              | 0.5 ms  |                                    |
| OFF switching time             | 0.5 ms  |                                    |
| Operating temperature          | -10÷70°C  |                                    |
| Switching frequency            | 500 kHz   | 200 kHz                            |
| Electric service life          | 10 <sup>7</sup> imp.  | 10 <sup>9</sup> imp                |
| Piston speed                   | 10 m/s  |                                    |
| Reverse polarity protection    | Yes   |                                    |
| Protection rating              | IP 68 - If connected with IP68 connector  |                                    |
| Sensor body material           | PA; AISI 303; OT63  |                                    |
| Standard cable length          | 2.5 m (flying cable) - M8/M12 connector   |                                    |
| Sheathing - insulation         | PVC CEI 20-22II O.R.  |                                    |
| Leads                          | 0.14 mm <sup>2</sup> / AWG 26 / 36 x 0.07 mm <sup>2</sup>   |                                    |
| M8 connector material          | gold-plated brass   |                                    |
| CE reference standards         | CEI EN 60529; CEI EN 60947-5-2; CEI EN 61000-6-2; CEI EN 61000-6-3; CEI EN 55022;<br>CEI EN 61000-4-2; CEI EN 61000-4-3; CEI EN 61000-4-4; CEI EN 65000-4-5; CEI EN 61000-4-6;<br>CEI EN 61000-4-8; CEI EN 61000-4-11 |                                    |
| Wiring diagrams                |   |                                    |
| Connections                    | <p>Brown (BN +); Blue (BU -); Black (BK OUT)</p>  |                                    |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

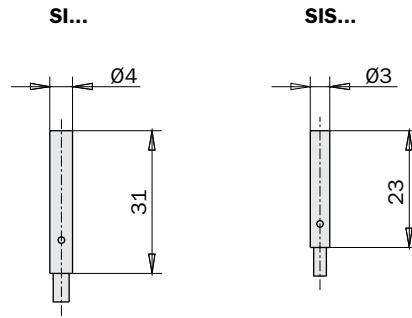
Robot Kit

Options

Sensors

## Inductive sensors

- Inductive sensors with anti-interference function.
- Stainless steel sensor body and PBT sensitive surface.
- Embedded LED indicator.
- PNP or NPN logic outputs.



Dimensions (mm)

## Application examples



|                                    | SI4M225-G                                      | SI4N225-G                             | SIS4M225-G                            | SIS4N225-G                            |
|------------------------------------|--|---------------------------------------|---------------------------------------|---------------------------------------|
| Sensor type                        | Magnetoresistive NPN<br>Normally Open          | Magnetoresistive PNP<br>Normally Open | Magnetoresistive NPN<br>Normally Open | Magnetoresistive PNP<br>Normally Open |
| Nominal sensing distance           | 0.8 mm   |                                       | 0.7 mm                                |                                       |
| Hysteresis                         | 2...20% of Sn                                  |                                       |                                       |                                       |
| Output indicator                   | red LED  |                                       |                                       |                                       |
| Switching frequency                | < 5 kHz  |                                       |                                       |                                       |
| Voltage supply range +Vs           | 10 ... 30 VDC                                  |                                       |                                       |                                       |
| Current consumption max. (no load) | 12 mA  |                                       |                                       |                                       |
| Output voltage Vd                  | < 2 VDC  |                                       |                                       |                                       |
| Switching current                  | < 100 mA                                       |                                       |                                       |                                       |
| Short-circuit protection           | Yes  |                                       |                                       |                                       |
| Reverse polarity protection        | Yes  |                                       |                                       |                                       |
| Type                               | cylindrical smooth                             |                                       |                                       |                                       |
| Material (sensing face)            | LCP  |                                       |                                       |                                       |
| Housing material                   | stainless steel                                |                                       |                                       |                                       |
| Dimensions                         | 4 mm   |                                       | 3 mm                                  |                                       |
| Case length                        | 31 mm  |                                       | 23 mm                                 |                                       |
| Standard cable length              | 2.5 m  |                                       |                                       |                                       |
| Operating temperature              | -25 ... +75 °C                                 |                                       |                                       |                                       |
| Protection rating                  | IP 67  |                                       |                                       |                                       |
| Wiring diagrams                    |  |                                       |                                       |                                       |
| Connections                        | <p>Brown BN(+); Blue BU(-); Black BK (OUT)</p> |                                       |                                       |                                       |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

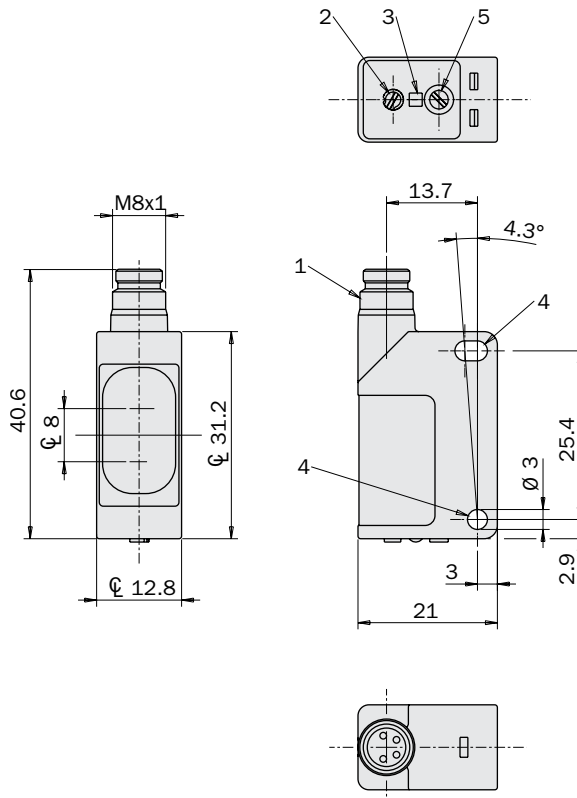
Sensors

## Optical cubic sensors

- Miniaturized photo-electric cubic sensors with background suppression.
- High-intensity red emission.
- Mechanical sensitivity adjustment via a trimmer.
- PNP or NPN logic output.
- NO/NC selectable output.
- Output with M8 4-pin connector.

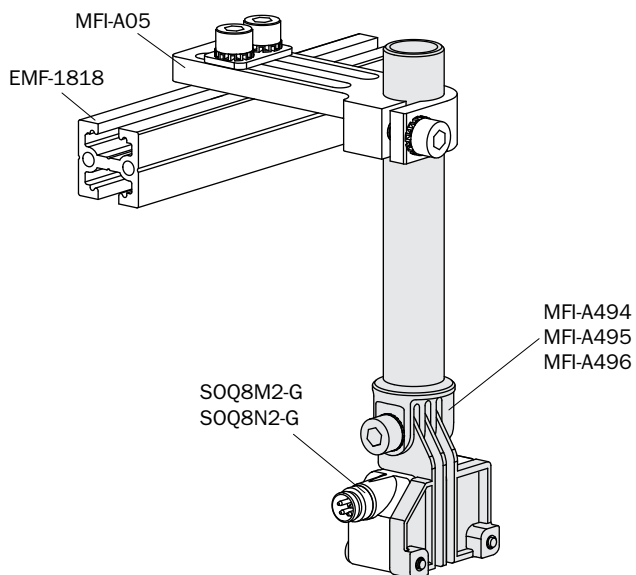


- 1 M8x1 connector output
- 2 NO/NC trimmer
- 3 LED
- 4 Fixing holes
- 5 Sensitivity-adjusting trimmer

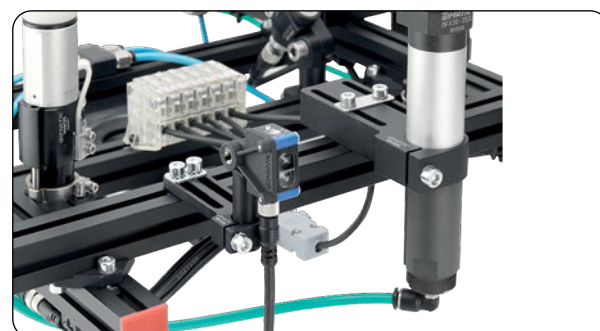
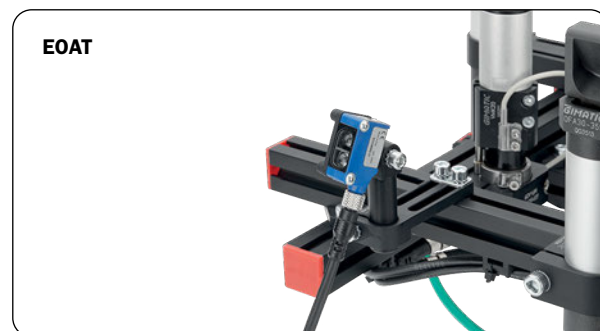


Dimensions (mm)

## Fixing examples



## Application examples





|                                  | SOQ8N2-G   | SOQ8M2-G    |
|----------------------------------|--|-------------|
| Minimum sensing distance         | 5 mm   |             |
| Nominal sensing distance         | 30...200 mm(1)   |             |
| Sensitivity adjustment           | Yes (4 rounds)   |             |
| Emission                         | Red (630 nm)   |             |
| Repeatability                    | 5%   |             |
| Dark or Light selection          | Yes  |             |
| EU Power supply voltage          | 10...30 Vdc  |             |
| Ripple                           | ≤ 10 %   |             |
| Load current                     | ≤ 100 mA   |             |
| No-load input current            | ≤ 30 mA  |             |
| Maximum output switching current | ≤ 100 mA   |             |
| Output type                      | PNP NO o NC  | NPN NO o NC |
| Switching frequency              | 1 kHz  |             |
| Response time                    | ≤ 100 ms   |             |
| Supply electrical protection     | Polarity reversal, overvoltage pulses                                |             |
| Output electrical protection     | Short-circuiting (auto-reset), overvoltage pulses                    |             |
| Operating temperature range      | -25°...+70° C<br>(no condensation)                                   |             |
| Storage temperature              | -30°...+80° C  |             |
| Ambient light immunity           | 10,000 lux sunlight - 3,000 lux high-frequency bulb                  |             |
| Protection rating                | IP67 (EN60529)   |             |
| Case material                    | PA66   |             |
| Optics material                  | PMMA   |             |
| Tightening torque                | 1Nm  |             |
| Approx. weight                   | 10g  |             |
| Wiring diagrams                  |  |             |
| Connector                        | <p>Brown BN (+); Blue BU (-); Black BK (OUT); Not connected N.C.</p> |             |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

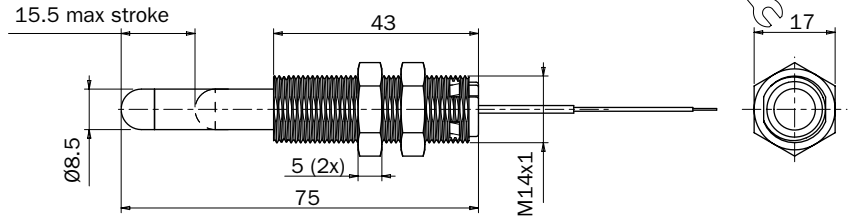
Robot Kit

Options

Sensors

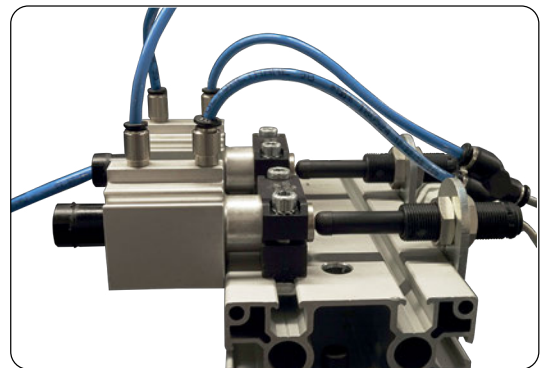
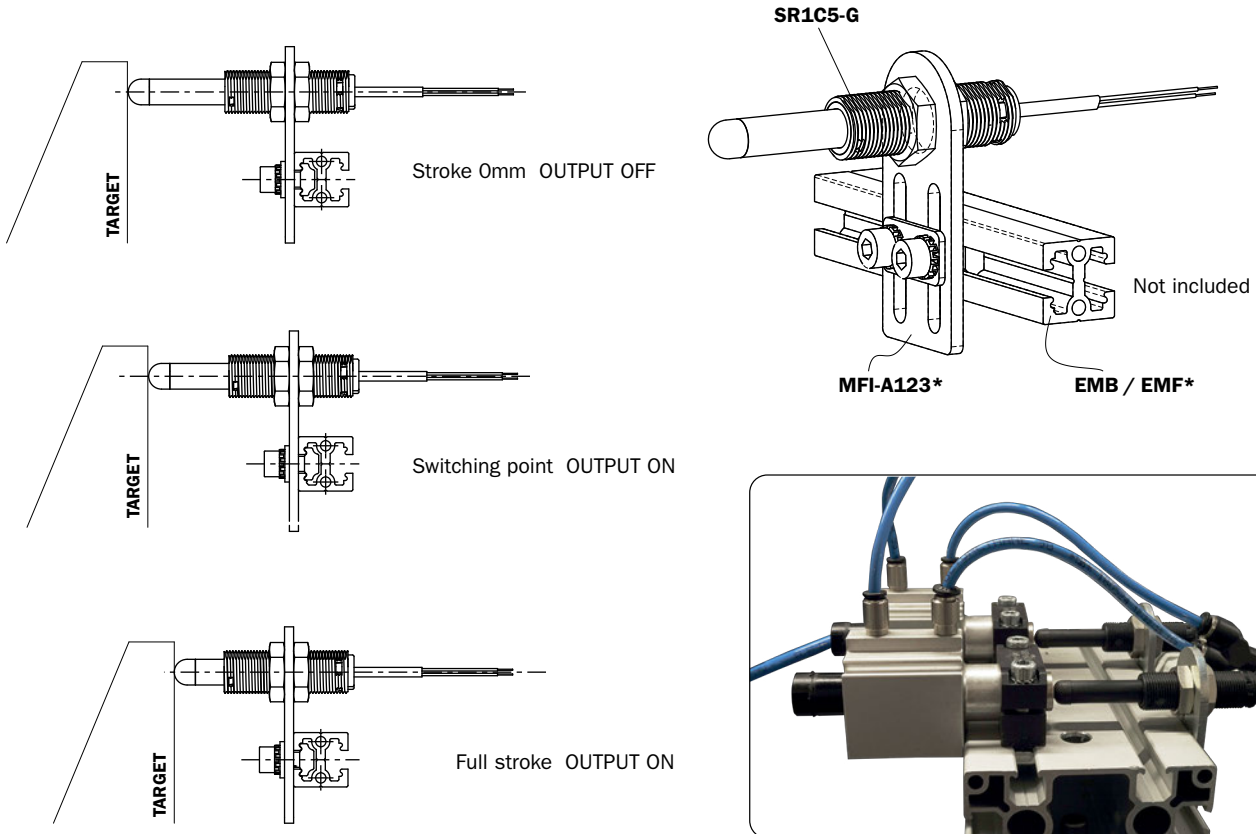
## Touch sensors

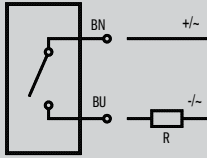
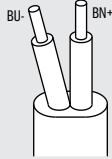
- Reed sensors.
- Digital output activated after passing the switching point.
- Tip made in silicone material to avoid any damage to products in contact.
- 100% traceability.



Dimensions (mm)

## Application examples



|                          | <b>SR1C5-G</b>   |
|--------------------------|--|
| Connection type          | Cable  |
| Cable length             | 2.5 m  |
| Cable insulation         | PVC  |
| Maximum voltage          | 230 V AC/DC  |
| Maximum electric current | 0.5 A  |
| Maximum contact capacity | 10 W   |
| Stroke                   | 15 mm  |
| Switching point          | 3+4 mm   |
| Operating temperature    | -10 ÷ 70 °C  |
| Storage temperature      | -10 ÷ 70 °C  |
| Lifetime                 | 2.50 x 10 <sup>6</sup> times (12 V@ 0.5 A)   |
| Weight                   | 40 g   |
| IP rating                | IP67   |
| Main body material       | PA   |
| Tip material             | Silicone   |
| Ring material            | Nickel Plated Brass  |
| Ring dimensions          | M14X1  |
| Wiring diagrams          |                                 |
| Connections              |  <p>Brown BN(+); Blue BU(-)</p> |

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

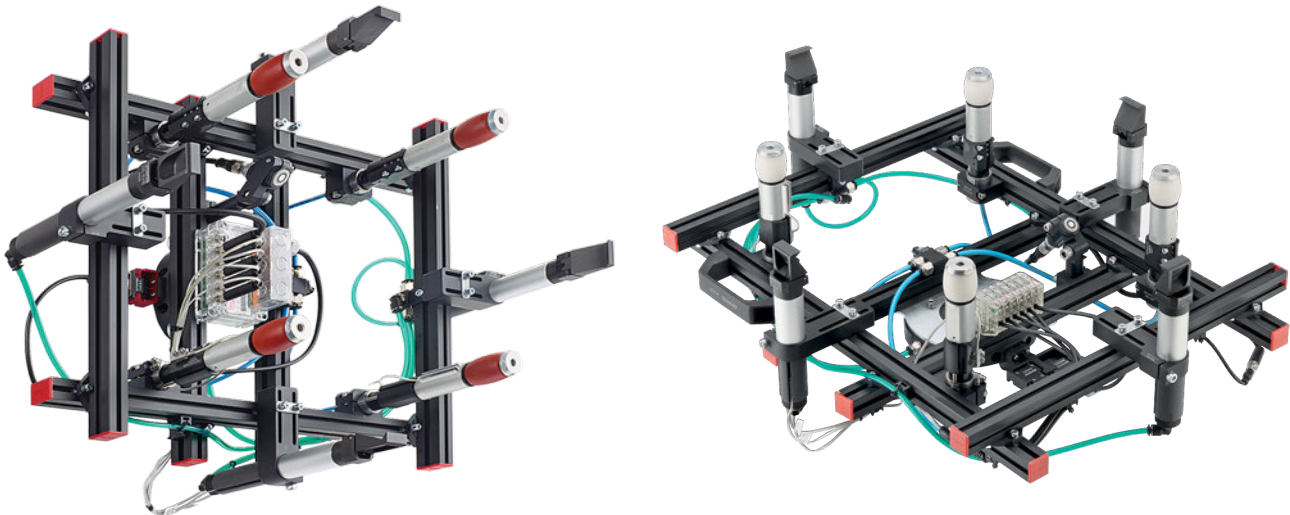
Sensors

## Connection boxes for SB series sensors

The sensor connection box is an interface made to condition sensor signals to condense information and make it suitable for control electronics, such as a programmable logic controller (PLC).

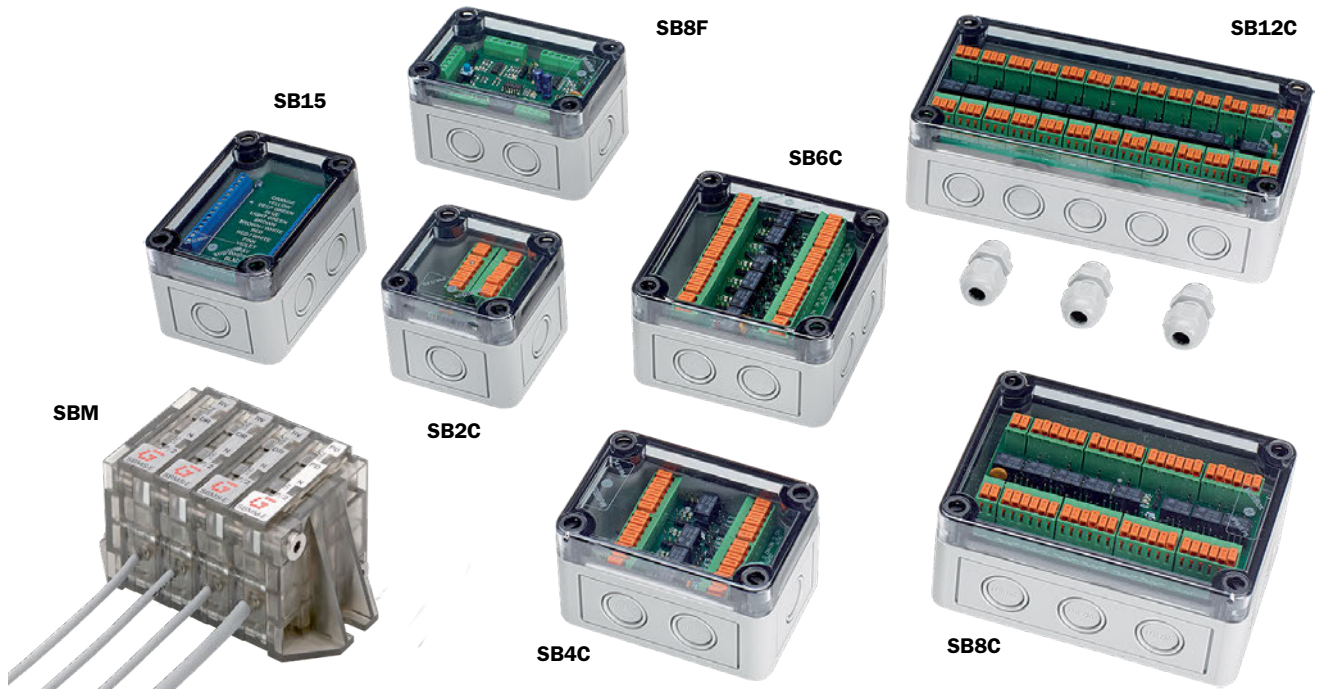
A connection box (or sensor box) has various functions, such as the possibility of connecting different types of sensors in series, converting their signals, troubleshooting, maintaining control circuits, regenerating signals in the case of extensive cabling and maintaining the contacts. Each control box has several areas - a power supply area, an input area for physical sensor connection, an input configuration area (used to set the type of sensor connected), an output configuration area (used to set the type of output and processing logic required), and an output area for collecting the signals generated. Each physical input can be configured on the basis of the type of sensor connected (PNP, NPN, 2-wire NO/NC) using jump wires or selectors. Signals coming from the sensors are conditioned using relay switches or microprocessors (on the basis of the type of control box), to provide one or more outputs depending on operational requirements. Even an individual output can be configured using a jump wire or selector to define the type (PNP or NPN), and normally open (NO) or normally closed (NC) mode of operation.

Sensor boxes consist of a frame, clamps and terminal boards to make installation and wiring the sensors and outputs straightforward and easy. Furthermore, the presence of a resettable fuse protects and safeguards the integrity of the electronic equipment from short circuits. All connection boxes have LED warning lights that are visible through transparent plastic containers, which is convenient for troubleshooting and viewing input/output status. The connection boxes have PG9 cable glands depending on the model, which guarantee an IP65 protection grade for integrated electronic boards (SBxC, SB6B, SBF) rather than a modular structure (SBM). This makes it possible to limit size as much as possible, and secure the box directly to the aluminium profiles that usually form gripper frames.



**Connection boxes for series SB sensors**

- Used for sensor wiring on EOATs.
- PNP and NPN signals can be converted.
- Is/Os can be current sourcing (PNP), sinking (NPN) or dry contact.
- Several boxes can be connected in series to control more sensors.
- Input signal repetition LED for easy troubleshooting (not for SB15).
- Provided with strain reliefs and kit for fastening to profiles.



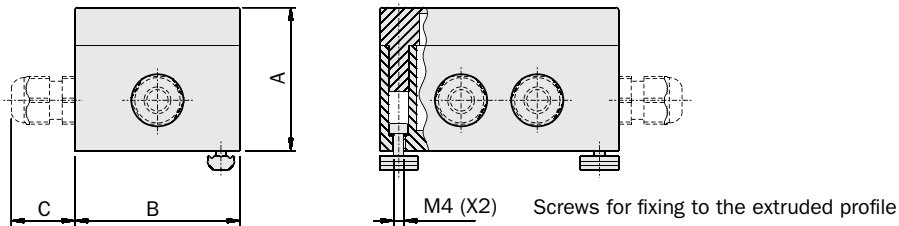
|                            | SB2C..<br>..SB12C                      | SB8F                                | SBMM                     | SBMS    | SBMM-E | SBMS-E |
|----------------------------|--|-------------------------------------|--------------------------|---------|--------|--------|
| Power supply unit (Vdc)    | 24 (± 10%)                             |                                     | 12 + 24 (± 10%)          |         |        |        |
| Maximum output current (A) | 1                                      | 0.2                                 | 0.35                     |         |        |        |
| Programming method         | jump wire                              | microprocessor and pushbutton panel | selectors                |         |        |        |
| Structure                  | rigid (fixed number of inputs/outputs) |                                     |                          | modular |        |        |
| Number of inputs           | 2+12                                   | 8                                   | -                        | 1       | -      | 1      |
| Number of outputs          | 2+12                                   | 1                                   | 2<br>(1NO, 1NC)          | -       | 1 (NO) | -      |
| Protection rating          | IP65                                   |                                     |                          | IP40    |        |        |
| Overall dimensions (mm)    | 65+180x94x57                           | 94x65x57                            | 10x36x34 (single module) |         |        |        |

### Connection boxes with NO/NC relay logic and clamp connection

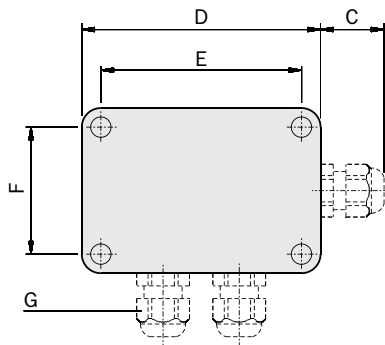
- IP66 polystyrene sensor junction boxes.
- Cable inputs/outputs which can be customised using standard cable glands.
- Multiple models available with 2 to 12 input sensors, warning LEDs and connection clamps.
- Simple configuration of the type of sensor connected, type of output required, and the signal processing logic (individual or grouped) using jump wires.
- Protection from short circuits with red LED warning light and resettable fuse.
- Multiple boxes can be connected in series to increase the number of sensors that can be connected.
- Up to 1A as maximum switching current for individual outputs.
- Provided with screws for securing directly to aluminium profiles.



### Dimensions (mm)

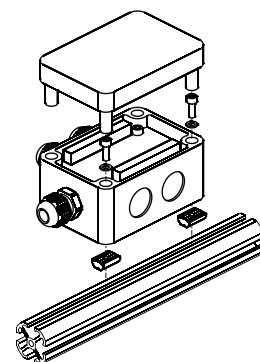
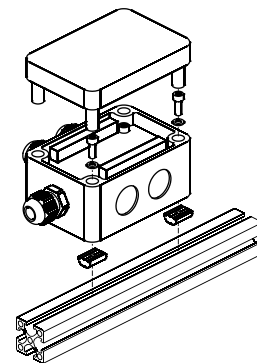


Strain reliefs (G) and fixing screws included in the supply



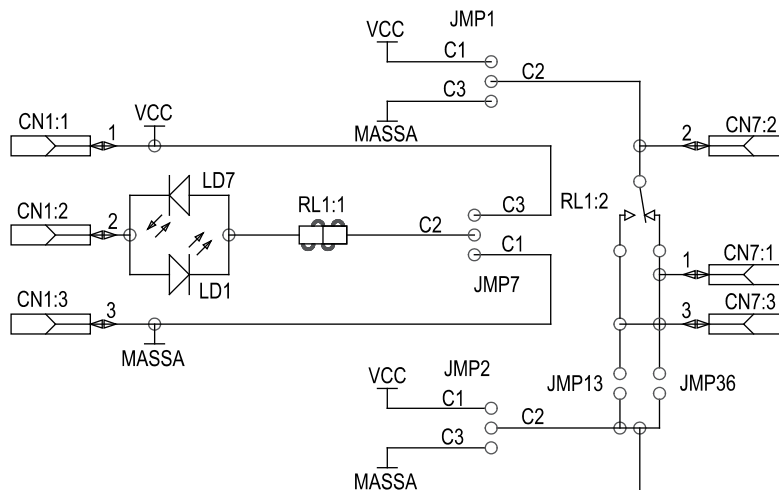
Strain reliefs

FIRST ANGLE PROJECTION

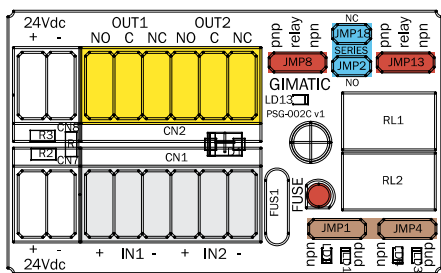


|      | SB2C  | SB4C  | SB6C  | SB8C  | SB12C |
|------|-------|-------|-------|-------|-------|
| A    | 57    | 57    | 57    | 57    | 57    |
| B    | 65    | 65    | 94    | 94    | 94    |
| C    | 25    | 25    | 25    | 25    | 25    |
| D    | 65    | 94    | 94    | 130   | 180   |
| E    | 50    | 79    | 79    | 115   | 165   |
| F    | 50    | 50    | 79    | 79    | 79    |
| G    | n°2   | n°3   | n°4   | n°6   | n°8   |
| Mass | 120 g | 160 g | 190 g | 235 g | 325 g |

Input/output single-circuit diagram

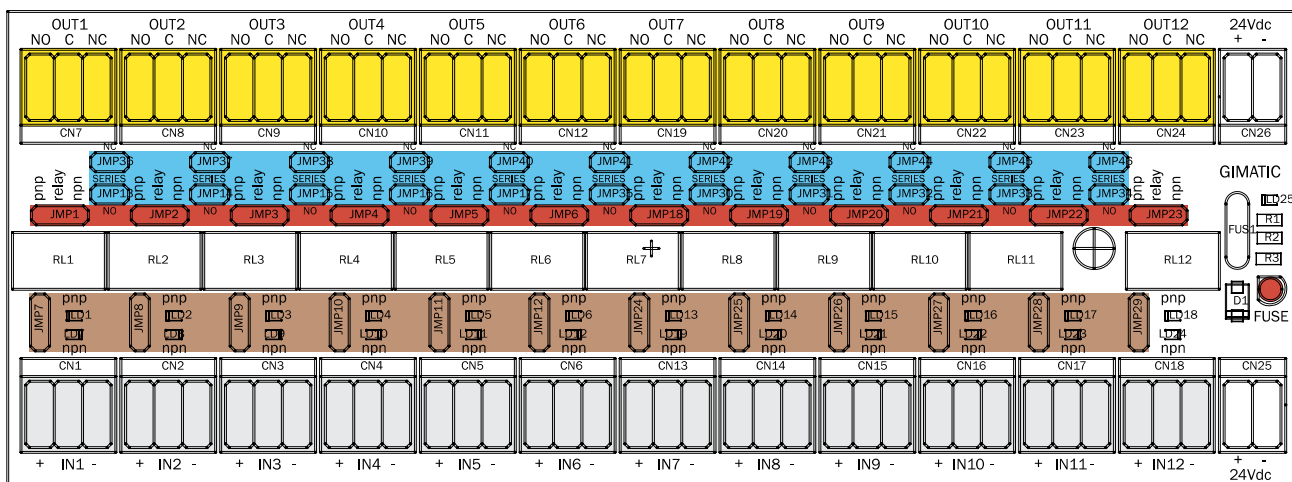
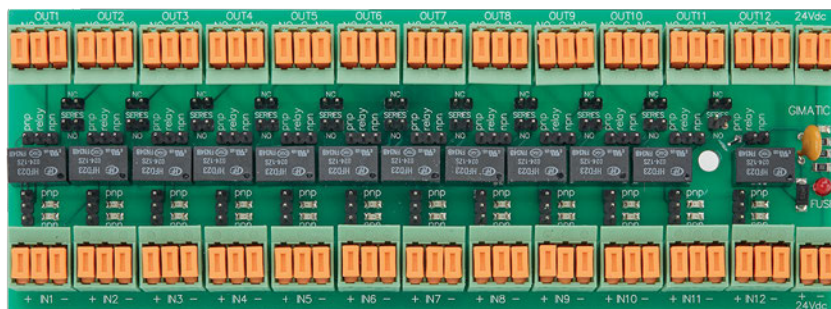


SB2C



- Power terminals
- Input sensor connection clamps
- Input type configuration selector (PNP, NPN)
- Output type configuration selector (PNP, NPN)
- Processing logic configuration selector (NO series, NC series)
- Output connection clamps

SB12C

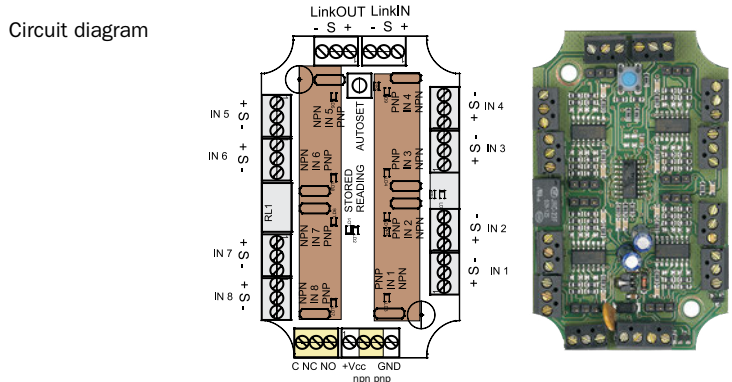


09/2022

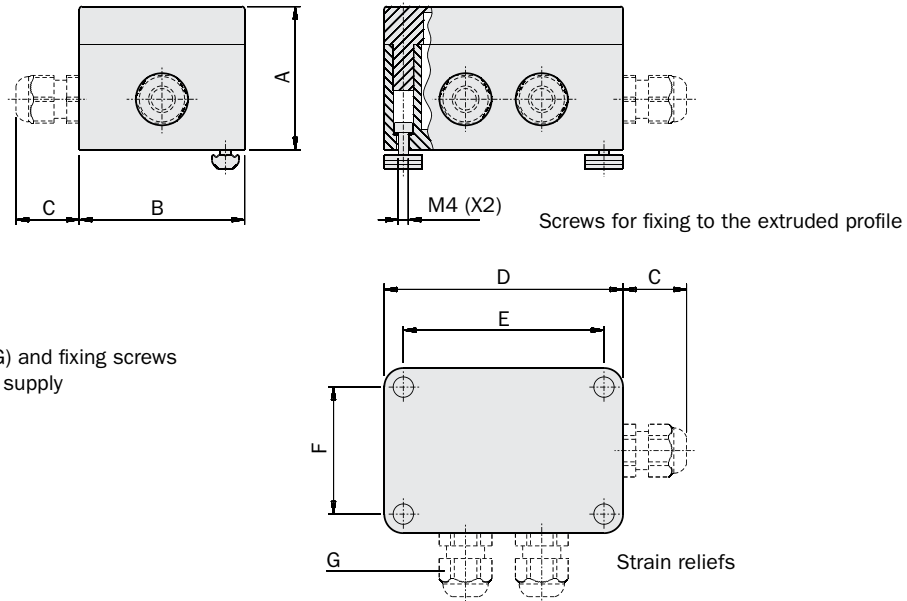
Rotary Units  
Quick Changer  
Profiles and Brackets  
Grippers  
Linear Actuators  
Suspensions  
Nippers  
Robot Kit  
Options  
Sensors

### Connection boxes with microprocessor logic and clamp connection

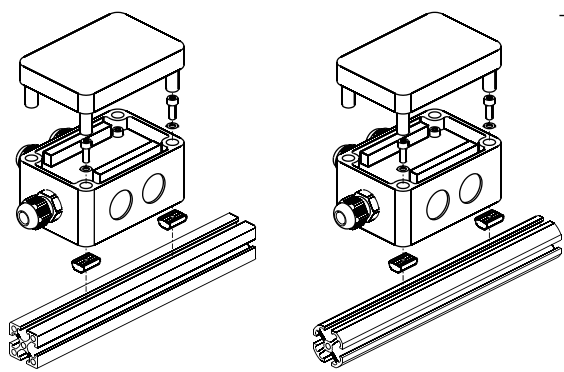
- IP66 polystyrene sensor junction boxes.
- Cable inputs/outputs which can be customised using standard cable glands.
- Up to 8 sensors with warning LEDs can be connected using clamps, configuration can be set using jump wires.
- Simple configuration by pressing a programming button.
- On pressing the button the microprocessor stores the status of all connected inputs. The output is activated every time the same input status is returned.
- Short circuit protection with resettable fuse.
- Multiple boxes can be connected in series to increase the number of sensors that can be connected (pressing just one button stores the status of all sensors).
- Up to 1A as maximum switching current for individual relay outputs and 30 mA for individual transistor outputs.
- Provided with screws for securing directly to aluminium profiles.



### Dimensions (mm)



|        | SB8F  |
|--------|-------|
| A      | 57    |
| B      | 65    |
| C      | 25    |
| D      | 94    |
| E      | 79    |
| F      | 50    |
| G      | n°3   |
| Weight | 165 g |



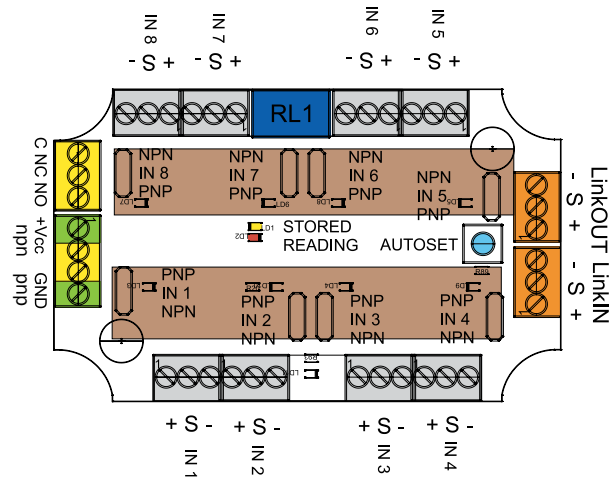
FIRST ANGLE PROJECTION

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



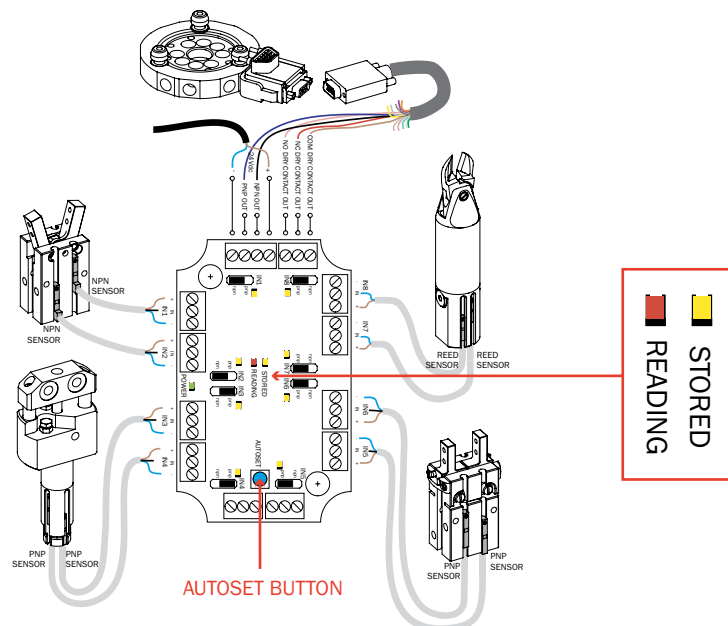
**Operation**

Supply the sensor box with 24Vdc (+10%) (GREEN AREA).  
 When the AUTOSET button is pressed, the microprocessor stores the state of inputs (GREY AREA) that are properly set using jump wires (BROWN AREA).  
 The output (YELLOW AREA) is enabled whenever the same input configuration occurs. Each output can be controlled in 4 modes: PNP, NPN, CLEAN NC-CONTACT, CLEAN NO-CONTACT.  
 Using the LinkIN and LinkOUT (ORANGE AREA) channels, you can connect several blocks in series. The maximum number of connected blocks depends on the maximum current supplied.



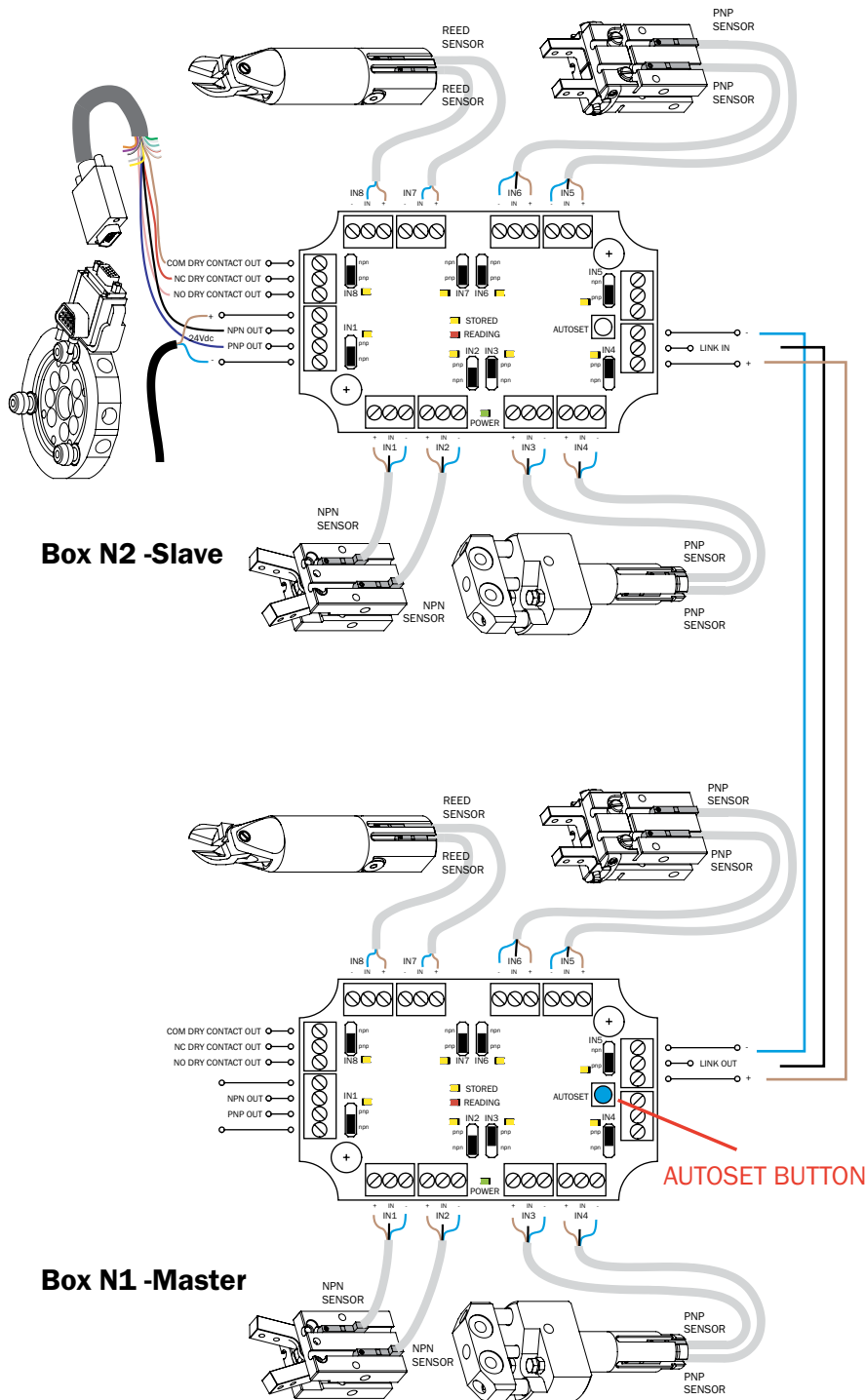
**Programming a single SB8F**

Before programming the sensor box, make sure that the wired inputs are in the configuration (ON/OFF) desired to enable the output.  
 Press the AUTOSET button and hold it down for 3 seconds until the READING red light starts flashing, then release it.  
 The red light (READING) flashing indicates that the microprocessor is reading and storing the state of all the inputs. Then the red light goes off and the output is enabled.  
 Output enabling is indicated by the yellow light (STORED).



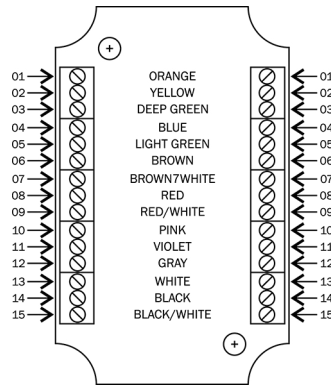
**Programming 2 SB8F connected in series**

To connect two or more SB8Fs in series, you only need to connect the LINK channels as indicated in the diagram. The box with wired LINK-OUT (Box N1) is the MASTER box, while the box with wired LINK-IN (Box N2) is the SLAVE box. For a correct storage of all the system wired inputs you only need to press the AUTOSET button on the MASTER box. During input reading and storing, all the red lights (READING) of the connected SB8Fs will start flashing. At the end of programming, all the SB8F yellow lights (STORED) (and the individual outputs) will be enabled, and also the red lights (READING) will be enabled (indicating that the output of the SB8F connected at the entrance of each SB8F on channel LINK-IN is enabled).



**Sensor box with terminal board**

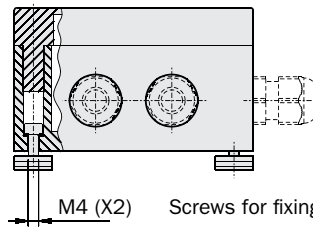
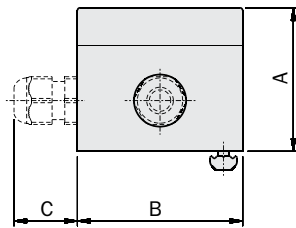
- IP66 polystyrene sensor box.
- Customizable cable input and output with standard cable gland.
- 2 screw terminals with direct connection of 15 inputs/ outputs.
- Supplied complete with direct fixing screws for aluminum extruded profiles.
- Maximum switching current up to 1A for each connection line.



Circuit diagram

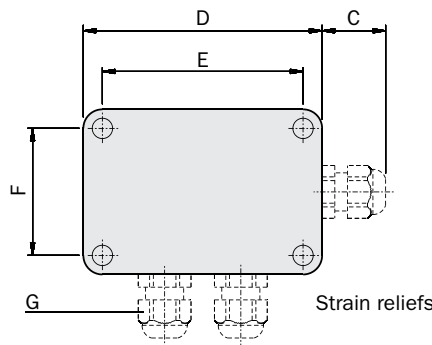


**Dimensions (mm)**



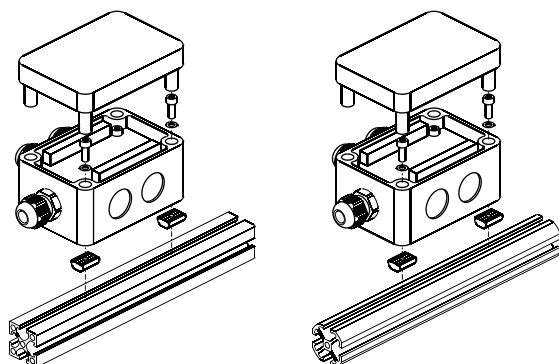
M4 (X2) Screws for fixing to the extruded profile

Strain reliefs (G) and fixing screws included in the package



FIRST ANGLE PROJECTION

|        | <b>SB15</b> |
|--------|-------------|
| A      | 57          |
| B      | 65          |
| C      | 25          |
| D      | 94          |
| E      | 79          |
| F      | 50          |
| G      | n°3         |
| Weight | 150 g       |

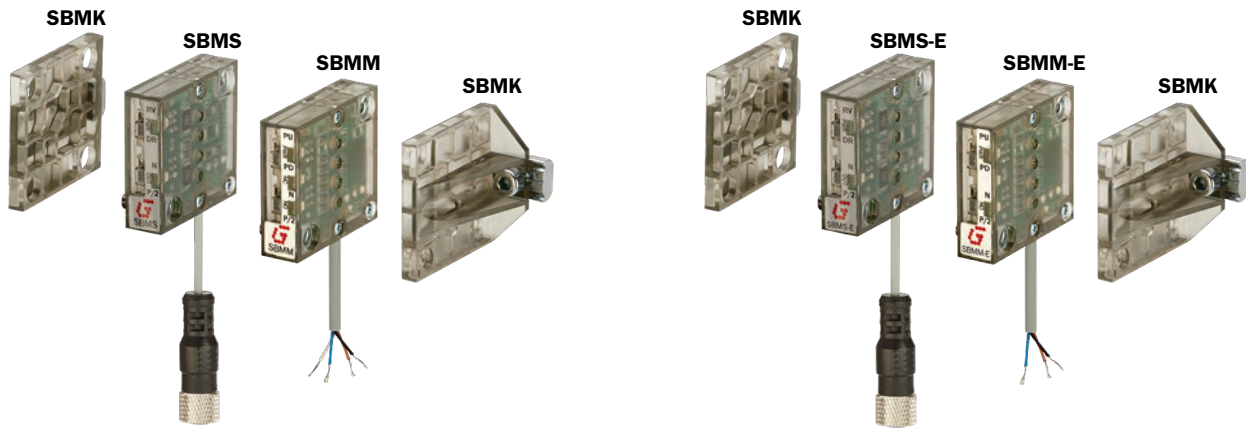


**Modular sensor box**

The SBM modular sensor box consists of one or more master modules (SBMM), one or more slave modules (SBMS) and one termination and fixing unit (SBMK).

Master and slave modules can be connected in series by creating specific applications and a fully customizable system.

- Modular, extra compact and scalable.
- Easy manual configuration using selectors.
- Each sensor can be configured as NO or NC.
- In the SBMM-E version, the master module updates a single digital output (NO contact series).
- In the SBMM version, the master module simultaneously updates two digital outputs (i.e. NO contact series and NC contact series).
- Wide power supply range.
- Series connection of up to 20 slave modules (sensors).
- Orientable cable output and flexible cables.
- Cable/extensions are available for connections to sensors (codes CM800303CF8003P; CM800305CF8003P; CM800312CF8003P; CFGM800325PSB...).
- Direct fixing on standard aluminum profiles.



|                          | SBMM                                  | SBMM-E                    | SBMS                         | SBMS-E |
|--------------------------|---------------------------------------|---------------------------|------------------------------|--------|
| Case material            | Durethan T 40                         |                           |                              |        |
| Module case dimensions   | 36 mm x 34 mm x 10 mm                 |                           |                              |        |
| Weight                   | 50 g                                  |                           |                              |        |
| Protection rating        | IP40                                  |                           |                              |        |
| Power supply voltage     | from 12 Vdc to 24 Vdc (+10%)          |                           |                              |        |
| Current input per module | 30 mA                                 |                           |                              |        |
| Operating temperature    | -30 °C + +80°C                        |                           |                              |        |
| Electrical connections   | 4 wires without connector             | 3 wires without connector | 1 M8 3-pole female connector |        |
| Cable length             | 1 m                                   |                           | 150 mm                       |        |
| Inputs                   | 2 power wires (Blue: GND, Brown: Vdc) |                           | 1 input type PNP/NPN/REED    |        |
| Outputs                  | 2 PNP or NPN configurable             | 1 PNP or NPN configurable | none                         |        |

**SBMM / SBMM-E - Master module**

This is always the first module of a generic SBM and acts as a power supply for other modules connected in series.

The SBMM version generates two simultaneous outputs that are updated with the output status of the successive slave modules (one as NO series of slave outputs and the other as NC series of slave outputs).

Consequently, one sensor box can simultaneously recognise the status of all active and non-active actuators (with standard sensor, boxes 2 would be required).

The SBMM-E version generates a single output (as NO series of slave outputs).

The master module outputs can be set as PNP or NPN by means of a dedicated selector, and the corresponding PULL-UP and PULL-DOWN resistors can be set with a separate selector. The module features two LED indicators for rapid diagnostics. It can also be used as an intermediate module of a generic SBM when the logical separation (or logical grouping) of slave signals is required.

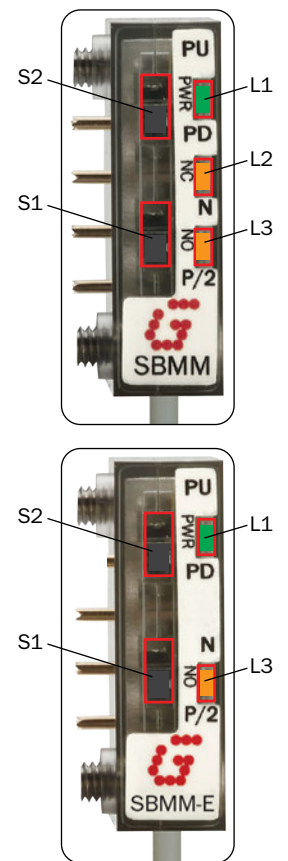
The status of the master module outputs is however always related to the signal status of all successive slave modules, up to the end of the SBM or the next master module (for further information, see application examples below).

| Connections | SBMM  | SBMM-E                    |
|-------------|---|---------------------------|
| Type        | 4 wires without connector                                 | 3 wires without connector |
| Formation   | 4x0.14 mm <sup>2</sup>                                    | 3x0.14 mm <sup>2</sup>    |
| Material    | PUR   |                           |
| Length      | 1 m   |                           |
| Blue        | GND   |                           |
| Brown       | Vcc   |                           |
| Black       | OUT1: series of NO contracts (depending on configuration) |                           |
| White       | OUT2: series of NC contacts (depending on configuration)  | /                         |

| Current limitations           | SBMM   | SBMM-E |
|-------------------------------|--------|--------|
| Maximum current for NO output | 1 A    |        |
| Maximum current for NC output | 150 mA | /      |
| Maximum power supply current  | 2 A    |        |

**Configurations and indicators**

- S1: enables the selection of the type of output signal, PNP (P/2) or NPN (N).
- S2: enables the selection of internal PULL-UP (PU) or PULL-DOWN (PD) resistors depending on the NPN or PNP selection (via S1), respectively.
- L1: green when powered.
- L2: amber when the NC series output is switched (e.g. all contacts open).
- L3: amber when the NO series is switched (e.g. all contacts closed).



### SBMS / SBMS-E - Slave module

Each individual slave module enables the connection of a single sensor.

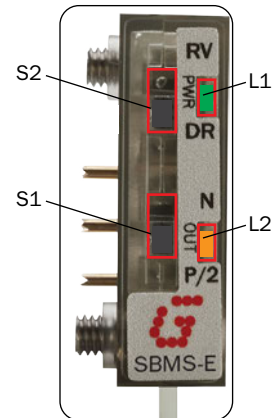
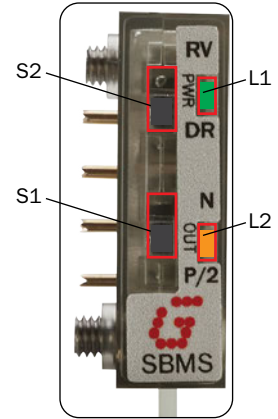
It is powered from the internal bus connection (provided by the master module) and triggers the commutation of two solid state relays: a NO contact and a NC contact based on sensor output.

Two selectors are available to configure sensor signal output (PNP/2 wires or NPN) and logic (direct or reverse).

The module also has two LED indicators for diagnostics.

| Connections | SBMS / SBMS-E                                     |
|-------------|---|
| Type        | M8 3-pole female connector                        |
| Formation   | 3x0.096 mm <sup>2</sup>                           |
| Material    | PUR   |
| Length      | 150 mm  |
| Blue        | GND   |
| Brown       | Vcc   |
| Black       | Sensor output signal (input for the slave module) |

| Current limitations            | SBMS / SBMS-E |
|--------------------------------|---------------|
| Maximum power supply to sensor | 200 mA        |

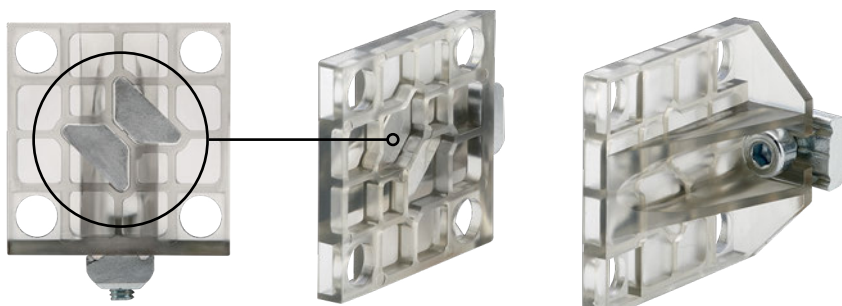


#### Configurations and indicators

- S1: enables the selection of the type of output signal, PNP (P/2), NPN (N) or NPN (N).
- S2: enables the selection of sensor output logic as DIRECT (DR) or REVERSE (RV), respectively.
- L1: green when powered (from internal bus).
- L2: amber when the NC series output is switched (output enabling or disabling depends on both the type of sensor output and module configuration).

### SBMK - Termination and fastening module

This module acts as a mechanical and electrical termination unit for connecting other modules in series (thanks to two contacts). It enables fastening to standard aluminium profiles and output cable orientation (straight or rotated by 90°).



**Operating principle**

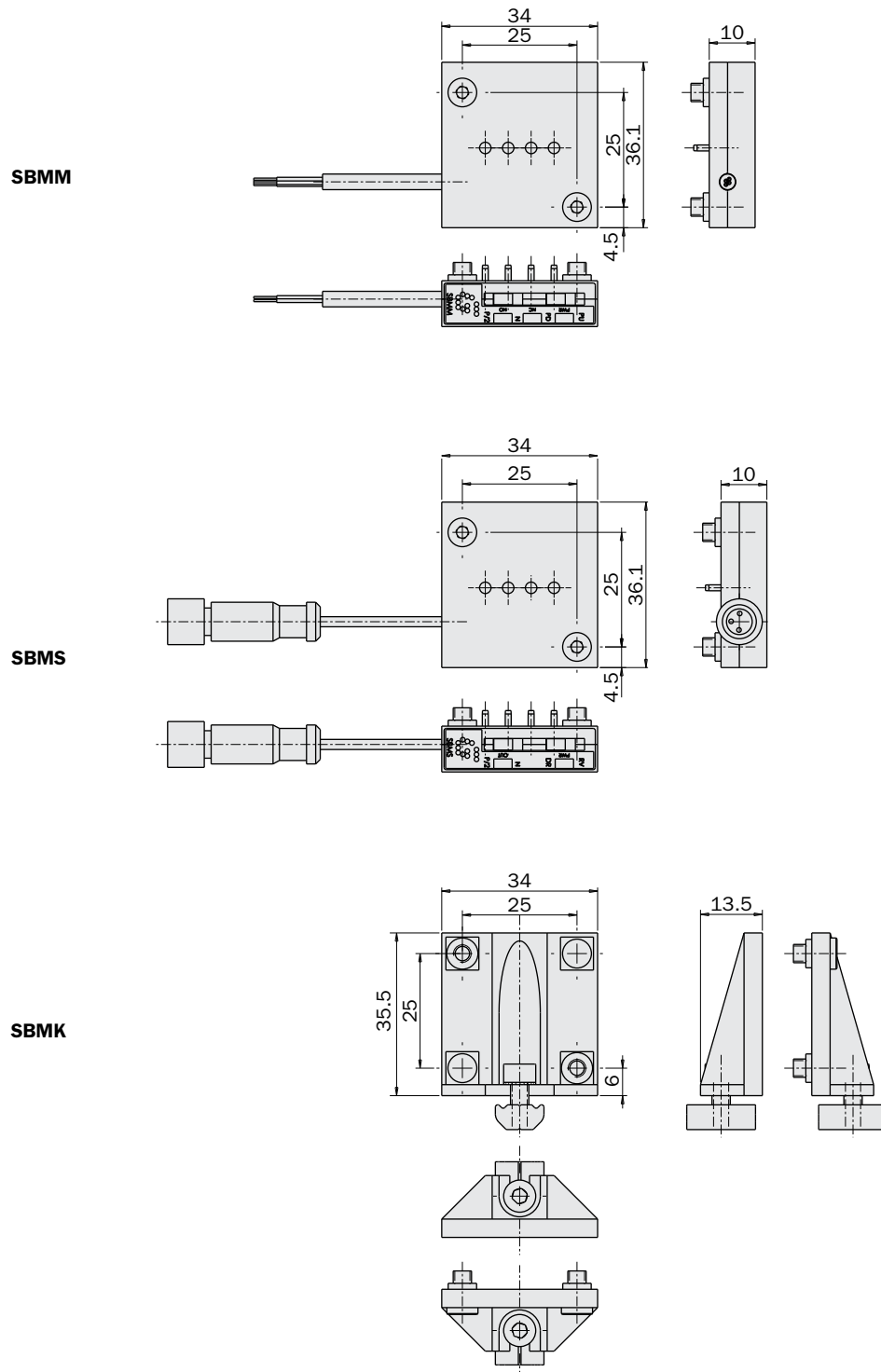
The main system application is industrial component automation.

For this purpose a robot is normally used with several EOATs (End Of Arm Tools) equipped with sensors and actuators.

It is often not necessary for the robot to know the status of all sensor outputs, one acknowledgement (ACK) signal obtained as the logical processing of all sensor outputs is sufficient (simple logical AND processing is usually required).

In a minimum configuration, one SBM unit can be assembled with several slave modules (1 per sensor) and a single master module whose outputs (or even just one) can be used as ACK signals from the robot.

**Dimensions (mm)**



**Application example**

**SB6B model**

**Inputs**

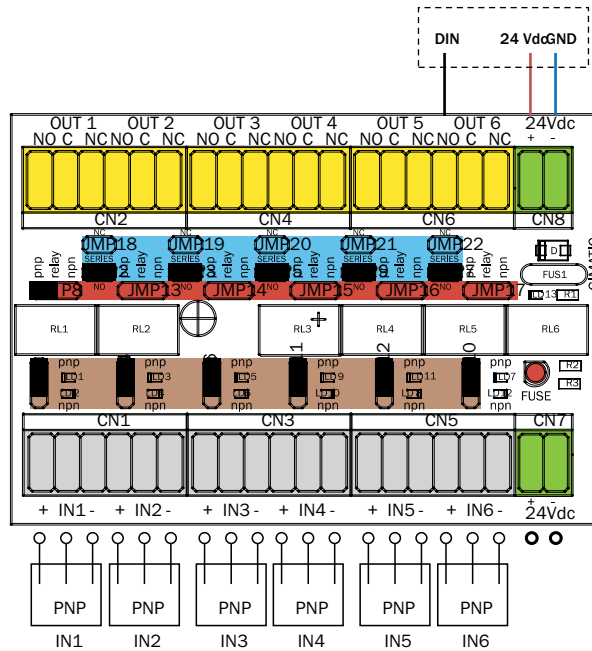
6 PNP INPUTS

**Number of outputs**

1

**Output type**

NO PNP (6-INPUT SERIES)



**Application example**

**SB6B model**

**Inputs**

6 PNP INPUTS

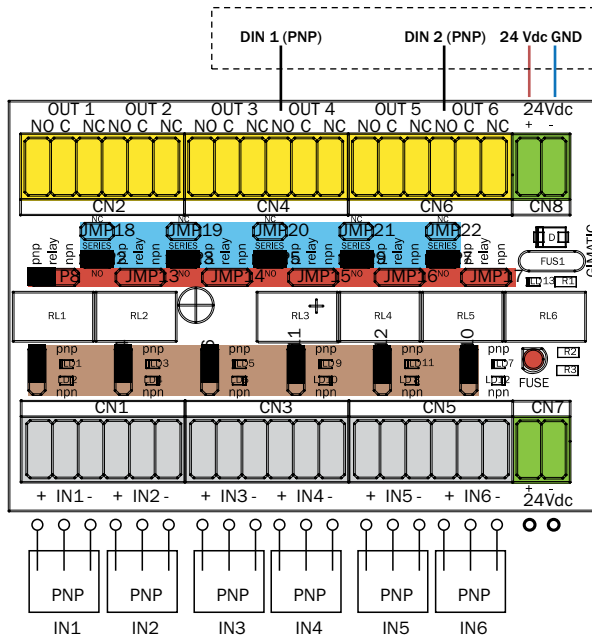
**Number of outputs**

2

**Output type**

1 NO PNP (4-INPUT SERIES)

1 NO PNP (LAST 2 INPUTS)





**Application example**

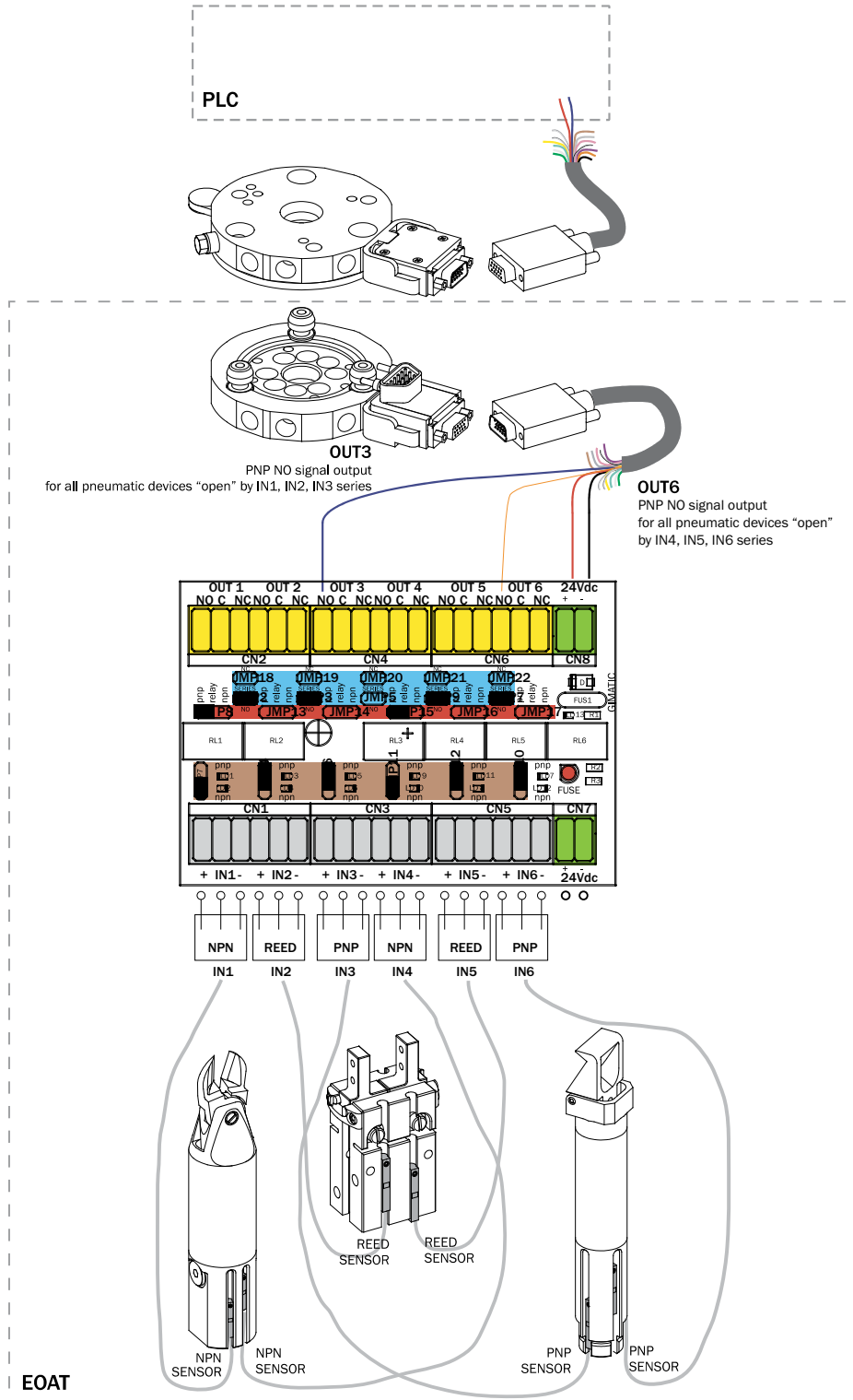
**SB6B model**

**Power supply**  
24 Vdc (±10%)

**Inputs**  
2 PNP INPUTS (IN3/IN6)  
2 NPN INPUTS (IN1/IN4)  
2 DRY CONTACT (IN2/IN5)

**Number of outputs**  
2

**Output type**  
1 PNP NO (4-INPUT SERIES)  
1 PNP NO (LAST 2 INPUTS)



**Application example**

**2 SB6B IN-SERIES model**

**Inputs**

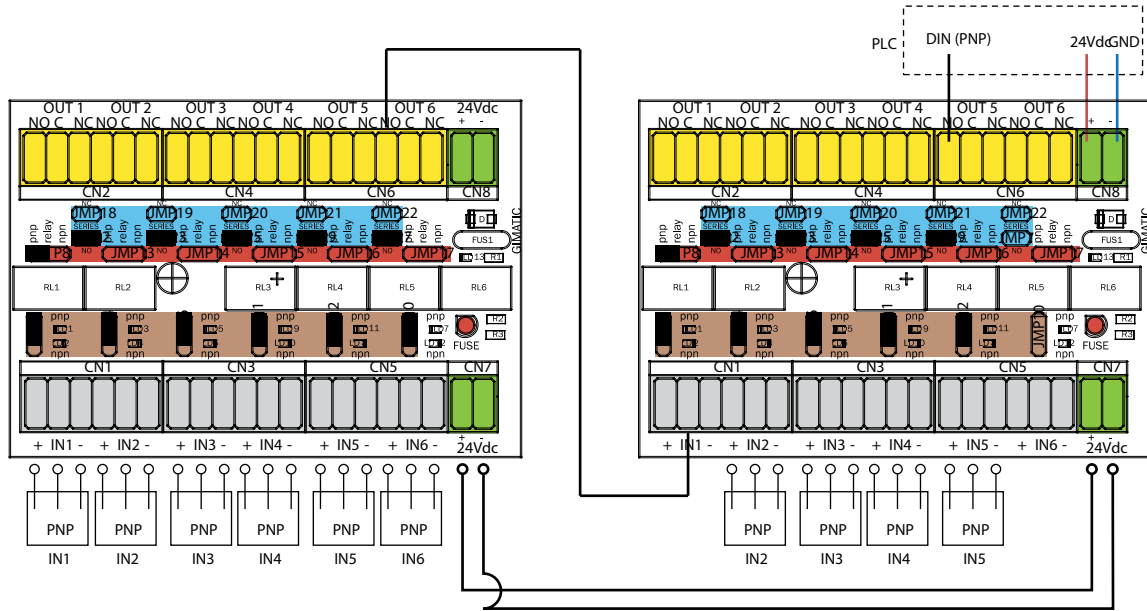
10 PNP INPUTS

**Number of outputs**

1

**Output type**

1 PNP NO (10-INPUT SERIES)



**Application example**

**SB6B model**

**Inputs**

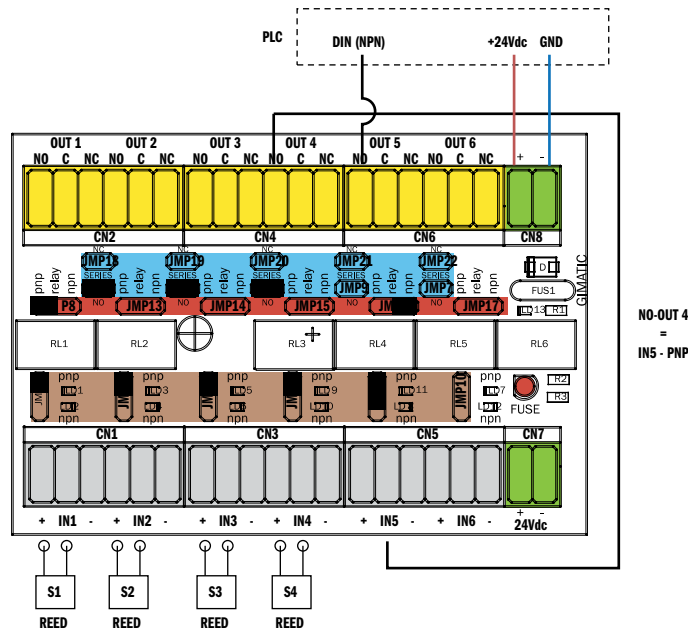
4 REED INPUTS

**Number of outputs**

1

**Output type**

1 PNP NO (4-INPUT SERIES)



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

**Application example**

**SB12C model**

**Inputs**

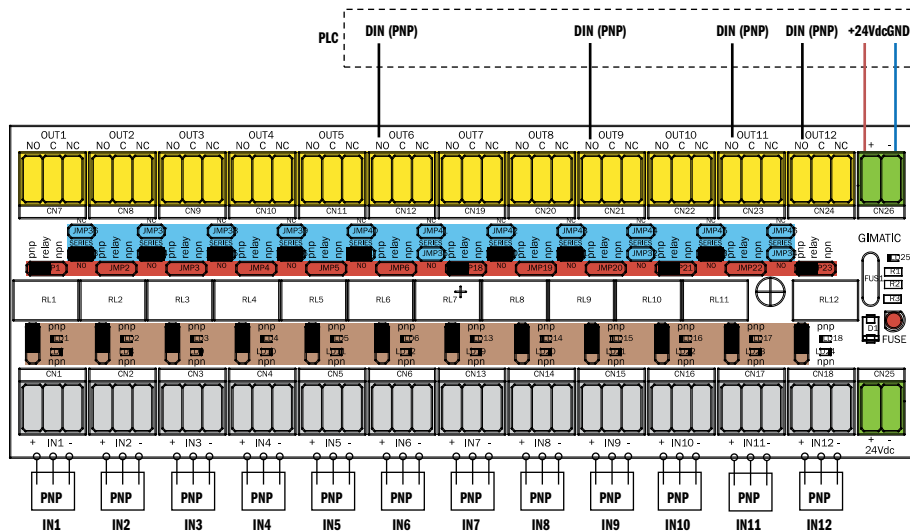
12 PNP INPUTS

**Number of outputs**

1

**Output type**

- 1 PNP (FIRST 6-INPUT SERIES)
- 1 PNP (3-INPUT SERIES)
- 1 PNP (LAST 2-INPUT SERIES)
- 1 PNP (1:1 WITH LAST INPUT)



**Application example**

**3 SB8F model**

**Inputs**

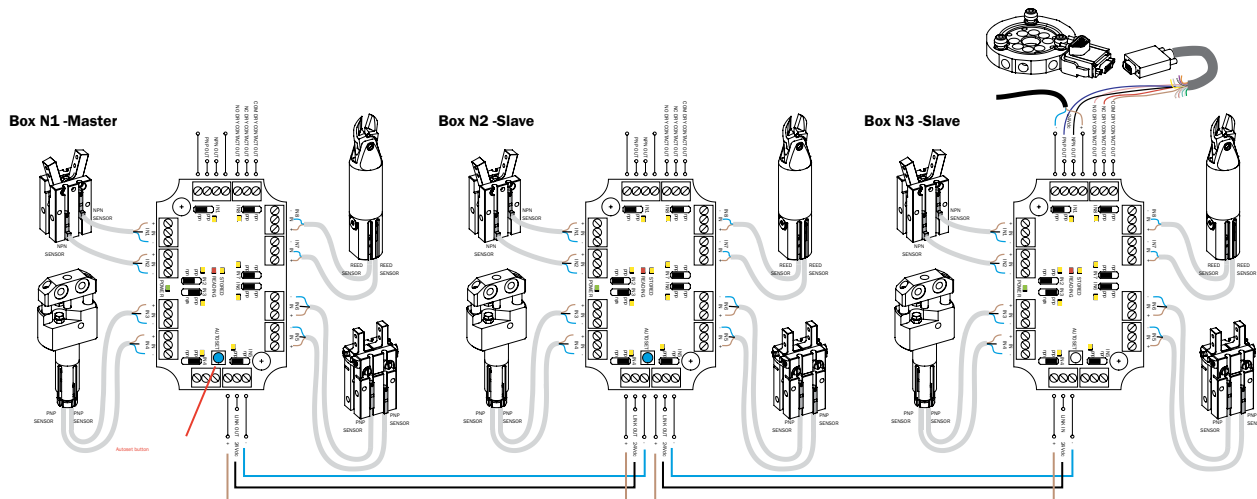
- 6 NPN INPUTS
- 12 PNP INPUTS
- 6 DRY CONTACTS

**Number of outputs**

1

**Output type**

- 1 PNP OUTPUT
- 1 NPN OUTPUT
- 1 DRY CONTACT NC
- 1 DRY CONTACT NO



**Application example**

**SB15 + 2 SB6B model**

**Inputs**

- 4 PNP
- 4 NPN
- 4 DRY CONTACT

**Number of outputs**

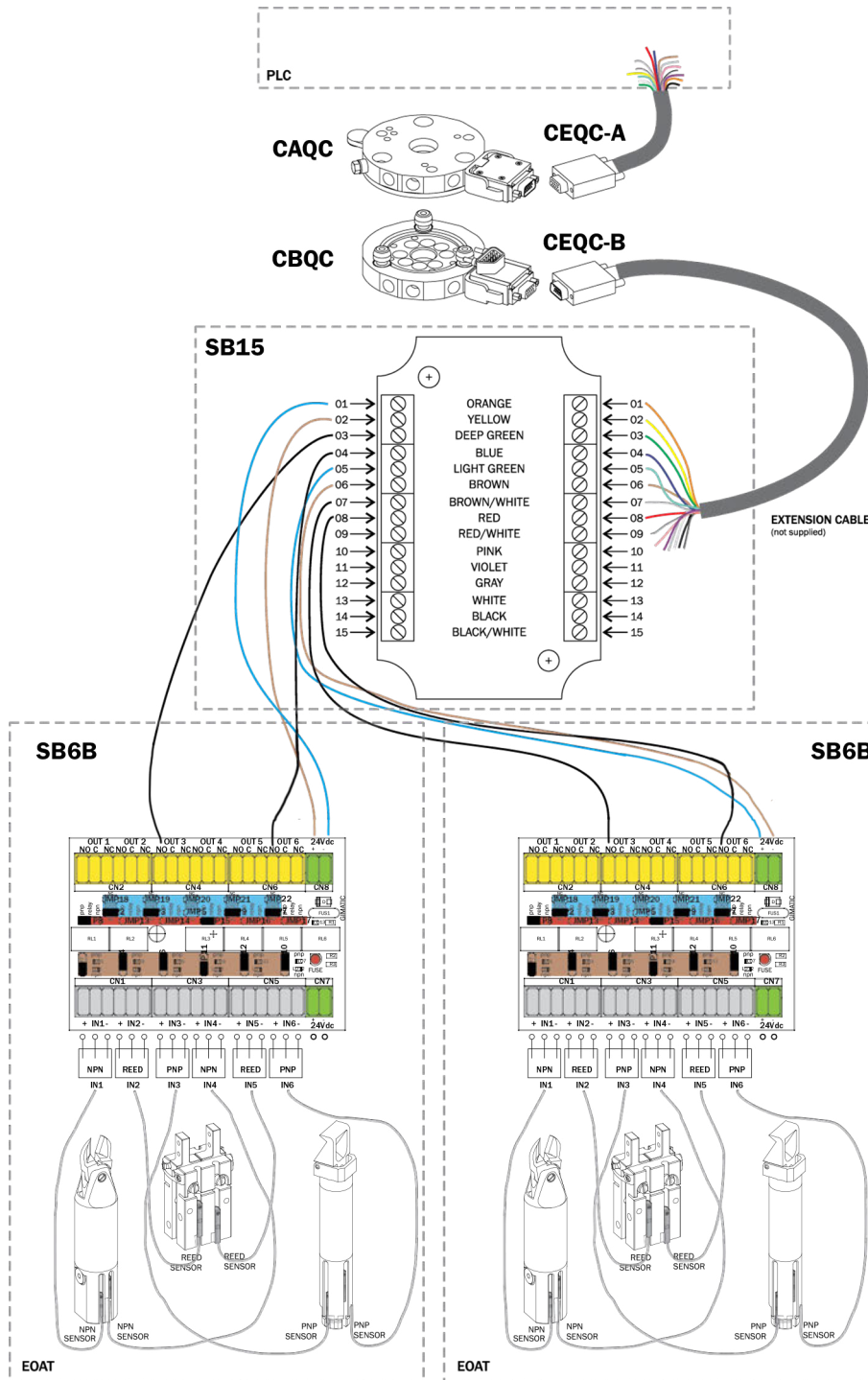
1

**Output type**

4 PNP NO

**Operation**

The SB15 is used to connect CAQC/CBQC modules to SB blocks with wired sensors.



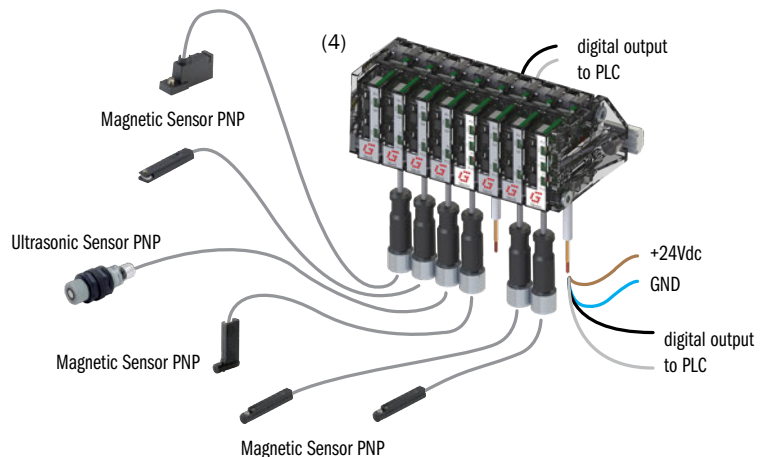
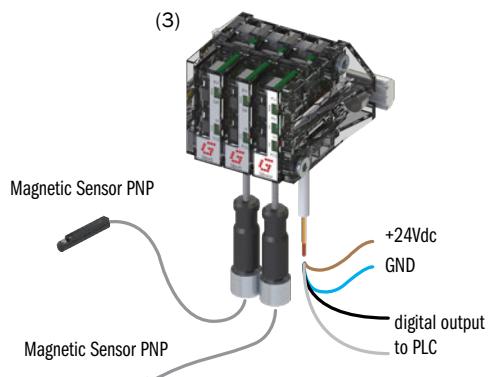
**SBM application examples**

Figures 1 and 2 show a typical application where only 1 master module (SBMM) is used in combination with 6 slave modules (SBMS) and 1 termination module (SBMK). The square shape of the modules allows the user to customise cable outputs while keeping the same fastening on an external structure.



Figure (3) shows the minimum configuration of an SBM, consisting of 1 master module (SBMM) and 2 slave modules (SMBS) connected to two different types of magnetic sensors.

Figure (4) shows an extended configuration with 4 additional slave modules and 1 additional master module inserted in-between, thus generating an output signal relating to the last 4 slave modules only. The first master module processes the signals of the 2 first slave modules only. It is worth noticing that the power wires of the central master are not used in this example (the power connections of the first master supply power to the entire system using an internal BUS).



**Application example**

**SBMM + 2 SBMS model**

**Inputs**

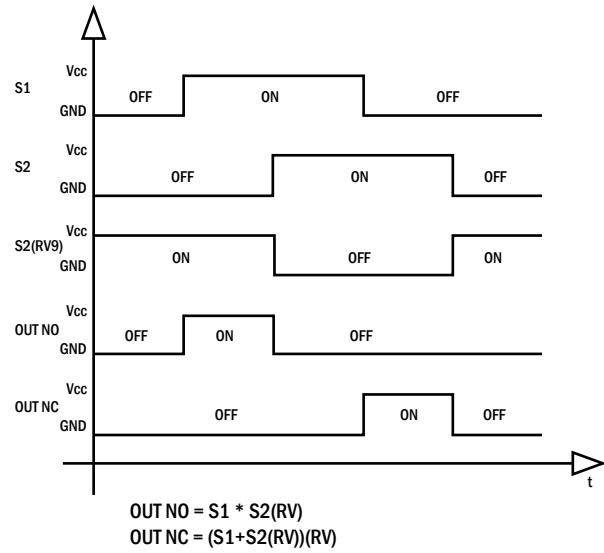
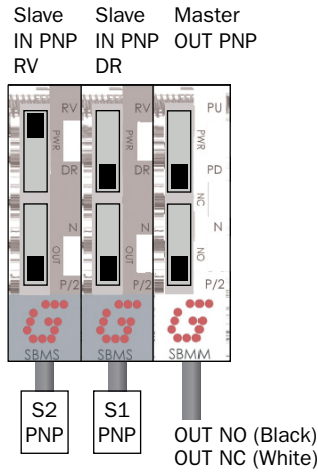
- 1 PNP (DR)
- 1 PNP (RV)

**Number of outputs**

2

**Output type**

- 1 PNP NO (S1\*S2 (RV))
- 1 PNP NC (S1+S2 (RV))(RV)



**Application example**

**SBMM + 2 SBMS model**

**Inputs**

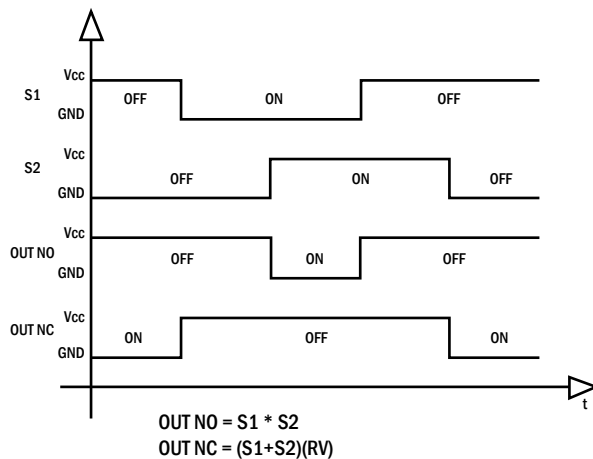
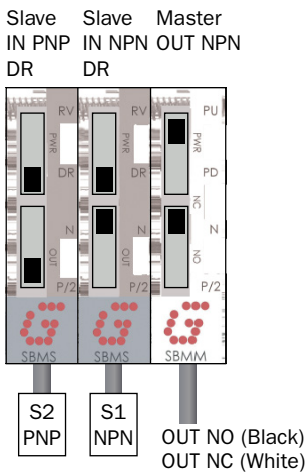
- 1 PNP (DR)
- 1 PNP (RV)

**Number of Outputs**

2

**Output type**

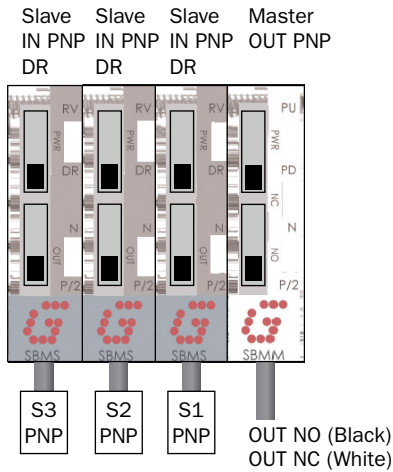
- 1 NPN NO (S1\*S2)
- 1 NPN NC (S1+S2)(RV)



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

**SBM application examples**

The following example demonstrates how in a system consisting of three PB grippers, used to simultaneously grip sprue pieces, an abnormal situation - such as failure to release a piece - can be detected. Three SSY sensors with PNP output are used, set to activate when the piece is gripped. The NO output of the master is active when all three sensors are active (piece gripped), the NC output is active when all three sensors are inactive (grippers open or closed with no grip). If, therefore, the system is operating correctly, the two NO and NC outputs of the master will always be active alternately. If both outputs are simultaneously inactive there is a system fault, such as a failure to grip or release the piece.



|              |     |  |   |    |     |    |     |    |     |              |     |              |     |
|--------------|-----|--|---|----|-----|----|-----|----|-----|--------------|-----|--------------|-----|
|              |     |  | <table border="1"> <tr><td>S1</td><td>OFF</td></tr> <tr><td>S2</td><td>OFF</td></tr> <tr><td>S3</td><td>OFF</td></tr> <tr><td>OUT NO (PNP)</td><td>OFF</td></tr> <tr><td>OUT NC (PNP)</td><td>ON</td></tr> </table> | S1 | OFF | S2 | OFF | S3 | OFF | OUT NO (PNP) | OFF | OUT NC (PNP) | ON  |
| S1           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S2           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S3           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NO (PNP) | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NC (PNP) | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
|              |     |  | <table border="1"> <tr><td>S1</td><td>ON</td></tr> <tr><td>S2</td><td>ON</td></tr> <tr><td>S3</td><td>ON</td></tr> <tr><td>OUT NO (PNP)</td><td>ON</td></tr> <tr><td>OUT NC (PNP)</td><td>OFF</td></tr> </table>    | S1 | ON  | S2 | ON  | S3 | ON  | OUT NO (PNP) | ON  | OUT NC (PNP) | OFF |
| S1           | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
| S2           | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
| S3           | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NO (PNP) | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NC (PNP) | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
|              |     |  | <table border="1"> <tr><td>S1</td><td>OFF</td></tr> <tr><td>S2</td><td>OFF</td></tr> <tr><td>S3</td><td>ON</td></tr> <tr><td>OUT NO (PNP)</td><td>OFF</td></tr> <tr><td>OUT NC (PNP)</td><td>OFF</td></tr> </table> | S1 | OFF | S2 | OFF | S3 | ON  | OUT NO (PNP) | OFF | OUT NC (PNP) | OFF |
| S1           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S2           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S3           | ON  |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NO (PNP) | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NC (PNP) | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
|              |     |  | <table border="1"> <tr><td>S1</td><td>OFF</td></tr> <tr><td>S2</td><td>OFF</td></tr> <tr><td>S3</td><td>OFF</td></tr> <tr><td>OUT NO (PNP)</td><td>OFF</td></tr> <tr><td>OUT NC (PNP)</td><td>ON</td></tr> </table> | S1 | OFF | S2 | OFF | S3 | OFF | OUT NO (PNP) | OFF | OUT NC (PNP) | ON  |
| S1           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S2           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| S3           | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NO (PNP) | OFF |  |   |    |     |    |     |    |     |              |     |              |     |
| OUT NC (PNP) | ON  |  |   |    |     |    |     |    |     |              |     |              |     |

## Slot adapters

- Kit of fiberglass-reinforced nylon slot adapters.
- Models for C-, T- and dovetail slots.



**K-SENS**

| Dimensions               | Materials | Application | Slot |
|--------------------------|-----------|-------------|------|
| <p><b>SS.004.000</b></p> | PA        |             |      |
| <p><b>SS.007.000</b></p> | PA        |             |      |
| <p><b>SL.004.001</b></p> | PA        |             |      |
| <p><b>SS.005.000</b></p> | PA        |             |      |

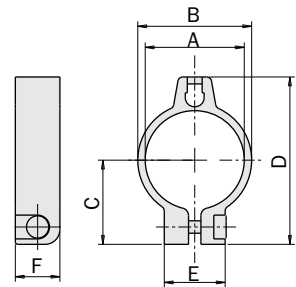


**Micro-cylinder fastening clamps**

- Nylon clamps for fastening sensors on micro-cylinders.
- Available in various dimensions.
- Steel bolts and fixing screws included in the supply.

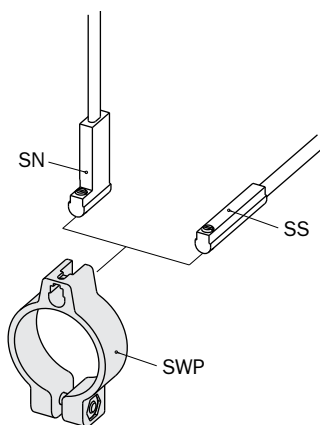


SWP...



|               | SWP-14       | SWP-20 | SWP-30 | SWP-50 |
|---------------|--------------|--------|--------|--------|
| For cylinders | OF 14        | OF 20  | OF 30  | OF 50  |
| A mm          | Ø 14         | Ø 20   | Ø 30   | Ø 50   |
| B mm          | 16.8         | 23     | 33.2   | 53.6   |
| C mm          | 13.5         | 17     | 23     | 33     |
| D mm          | 27.3         | 33.8   | 44.8   | 64.8   |
| E mm          | 12.3         |        |        |        |
| F mm          | 9            |        |        |        |
| Material      | PA; AISI 303 |        |        |        |

**Application examples**



# ELECTRICAL CONNECTORS

## Electrical connectors

- Co-molded or wired connectors for the connection of sensors and transducers.
- Available in various solutions with straight or angled cable output.
- Solutions with PVC and PUR cable.

**CFGM800225**



**3030146  
(CFGM800325)**



**3030148  
(CFGM800325P)**



**3030149  
(CFGM890325P)**



**CFGM800425P**



**CFGM890425P**



**CFGM890425PR**



**CMGM800310CFGM8003  
3030156  
(CMGM800320CFGM8003)**



**CMGM890310CFGM8003  
CMGM890320CFGM8003**



**CFGM1290225**



**CFGM1290325**



**CFGM1200430  
CFGM120041K**



**CFGM1290430**



**CFGM1200525P**



**3031158  
(CFGM1200825SP)**



**3031159  
(CFGM1290825SP)**



**CFGM1200825P**



**CFGM800300**



**CMGM800300**



**CFGM800400**





Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions



Nippers

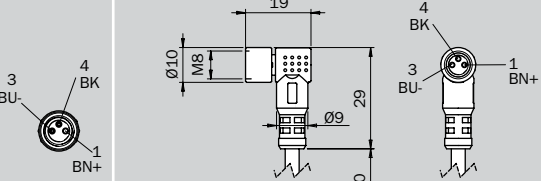
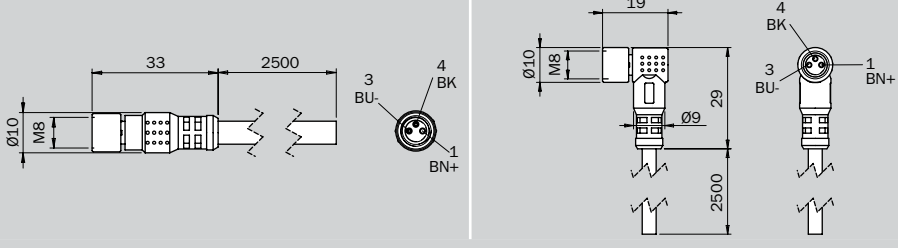
Robot Kit

Options

Sensors

# ELECTRICAL CONNECTORS

| Connector type             | CFGM800225   | 3030146<br>(CFGM800325) |
|----------------------------|--|-------------------------|
| Description                | M8 female connector with molded PVC cable  |                         |
| Connector angle            | straight 180°  |                         |
| Protection rating          | IP69K  |                         |
| Dimensions (mm)            |  |                         |
| PIN configuration          |  |                         |
|                            | Brown (BN +); Blue (BU -); Black (BK OUT)  |                         |
| Cable diameter (mm)        | 3  | 4                       |
| Cable material             | PVC ( CEI2022 )  |                         |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)  |                         |
| Number of leads            | 2  | 3                       |
| Cable length (m)           | 2.5  |                         |
| Operating temperature (°C) | -25 ÷ 75   |                         |

| Connector type             | 3030148<br>(CFGM800325P)   | 3030149<br>(CFGM890325P) |
|----------------------------|--|--------------------------|
| Description                | M8 female connector with molded PVC cable  |                          |
| Connector angle            | straight 180°  | angled 90°               |
| Protection rating          | IP69K  |                          |
| Dimensions (mm)            |  |                          |
| PIN configuration          |  |                          |
|                            | Brown (BN +); Blue (BU -); Black (BK OUT)  |                          |
| Cable diameter (mm)        | 4.3  |                          |
| Cable material             | PUR UL STYLE 21576   |                          |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)  |                          |
| Number of leads            | 3  |                          |
| Cable length (m)           | 2.5  |                          |
| Operating temperature (°C) | -25 ÷ 75   |                          |

| Connector type             | CFGM800425P  | CFGM890425P | CFGM890425PR                            |
|----------------------------|--|-------------|---|
| Description                | M8 female connector with molded PVC cable  |             |   |
| Connector angle            | straight 180°  | angled 90°  | angled 90° not standard                 |
| Protection rating          | IP69K  |             |   |
| Dimensions (mm)            |  |             |   |
| PIN configuration          | Brown (BN +); Blue (BU -); Black (BK OUT)  |             |   |
| Cable diameter (mm)        | 5.3  |             |   |
| Cable material             | PUR UL style 21576   |             |   |
| Lead cross section         | 0.34 mm <sup>2</sup> (AWG 22)  |             |   |
| Number of leads            | 4  |             |   |
| Cable length (m)           | 2.5  |             |   |
| Operating temperature (°C) | -25 ÷ 75   |             |   |
| Connector type             | CFGM800825P  | CFGM800850P | CMGM800803P                             |
| Description                | M8 female connector with molded PUR cable  |             | M8 male connector with molded PUR cable |
| Connector angle            | straight 180°  |             |   |
| Protection rating          | IP69K  |             |   |
| Dimensions (mm)            |  |             |   |
| PIN configuration          | Brown (BN +); Blue (BU -); Black (BK OUT); White (WH OUT); Green GN; Yellow YE; Grey GY; Pink PK; Red RD |             |   |
| Cable diameter (mm)        | 5.2  |             |   |
| Cable material             | PUR (CEI2022)  |             |   |
| Lead cross section         | 0.14 mm <sup>2</sup> (AWG 26)  |             |   |
| Number of leads            | 8  |             |   |
| Cable length (m)           | 2.5  | 5           | 0.3                                     |
| Operating temperature (°C) | -25 ÷ 75   |             |   |

09/2022

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

Sensors

# ELECTRICAL CONNECTORS

| Connector type             | CMGM800310CFGM8003   | 3030156<br>(CMGM800320CFGM8003) |
|----------------------------|--|---------------------------------|
| Description                | Extension with M8 male-female connectors with molded cable |                                 |
| Connector angle            | male straight 180° / female straight 180°                  |                                 |
| Protection rating          | IP69K  |                                 |
| Dimensions (mm)            |  |                                 |
| PIN configuration          | Brown (BN +); Blue (BU -); Black (BK OUT)                  |                                 |
| Cable diameter (mm)        | 4  |                                 |
| Cable material             | PVC ( CEI2022 )  |                                 |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)                              |                                 |
| Number of leads            | 3  |                                 |
| Cable length (m)           | 1  | 2                               |
| Operating temperature (°C) | -25 ÷ 75   |                                 |

| Connector type             | CMGM890310CFGM8003   | CMGM890320CFGM8003 |
|----------------------------|--|--------------------|
| Description                | Extension with M8 male-female connectors with molded cable |                    |
| Connector angle            | male straight 90° / female straight 90°                    |                    |
| Protection rating          | IP69K  |                    |
| Dimensions (mm)            |  |                    |
| PIN configuration          | Brown (BN +); Blue (BU -); Black (BK OUT)                  |                    |
| Cable diameter (mm)        | 4  |                    |
| Cable material             | PVC ( CEI2022 )  |                    |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)                              |                    |
| Number of leads            | 3  |                    |
| Cable length (m)           | 1  | 2                  |
| Operating temperature (°C) | -25 ÷ 75   |                    |

| Connector type             | CFGM1290225  | CFGM1290325 |
|----------------------------|--|-------------|
| Description                | M12 female connector with molded PVC cable                 |             |
| Connector angle            | angled 90°   |             |
| Protection rating          | IP69K  |             |
| Dimensions (mm)            |  |             |
| PIN configuration          | Brown BN (+); Blue BU (-); Black BK (OUT) NC not connected |             |
| Cable diameter (mm)        | 3  | 4           |
| Cable material             | PVC ( CEI2022 )  |             |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)                              |             |
| Number of leads            | 2  | 3           |
| Cable length (mm)          | 2.5  |             |
| Operating temperature (°C) | -25 ÷ 75   |             |

| Connector type             | CFGM120041K   | CFGM1200430 | CFGM1290430 |
|----------------------------|---|-------------|-------------|
| Description                | M12 female connector with molded PVC cable                |             |             |
| Connector angle            | straight 180°   |             | angled 90°  |
| Protection rating          | IP69K   |             |             |
| Dimensions (mm)            |   |             |             |
| PIN configuration          | Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT) |             |             |
| Cable diameter (mm)        | 5.1   |             |             |
| Cable material             | PVC ( CEI2022 )   |             |             |
| Lead cross section         | 0.34 mm <sup>2</sup> (AWG 22)                             |             |             |
| Number of leads            | 4   |             |             |
| Cable length (m)           | 10  | 3           |             |
| Operating temperature (°C) | -25 ÷ 75  |             |             |

# ELECTRICAL CONNECTORS

| Connector type             | CFGM1200525P   | 3031157<br>(CFGM1200825P)     |
|----------------------------|--|-------------------------------|
| Description                | M12 female connector with molded PUR cable   |                               |
| Connector angle            | straight 180°  |                               |
| Protection rating          | IP69K  |                               |
| Dimensions (mm)            |  |                               |
| PIN configuration          |  |                               |
|                            | Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT); Green GN; Yellow YE; Grey GY; Pink PK; Red RD |                               |
| Cable diameter (mm)        | 6.4  | 6.5                           |
| Cable material             | PUR UL STYLE   | PUR                           |
| Lead cross section         | -  | 0.25 mm <sup>2</sup> (AWG 24) |
| Number of leads            | 5  | 8                             |
| Cable length (m)           | 2.5  |                               |
| Operating temperature (°C) | -25 ÷ 75   |                               |

| Connector type             | 3031158<br>(CFGM1200825SP)   | 3031159<br>(CFGM1290825SP) |
|----------------------------|--|----------------------------|
| Description                | M12 female connector with shielded molded PUR cable  |                            |
| Connector angle            | straight 180°  | angled 90°                 |
| Protection rating          | IP69K  |                            |
| Dimensions (mm)            |  |                            |
| PIN configuration          |  |                            |
|                            | Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT); Green GN; Yellow YE; Grey GY; Pink PK; Red RD |                            |
| Cable diameter (mm)        | 7  |                            |
| Cable material             | PUR  |                            |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)  |                            |
| Number of leads            | 8  |                            |
| Cable length (m)           | 2.5  |                            |
| Operating temperature (°C) | -25 ÷ 75   |                            |



| Connector type              | CFGM800300                         | CMGM800300                       |
|-----------------------------|------------------------------------|----------------------------------|
| Description                 | M8 female connector to be wired    | M8 male connector to be wired    |
| Number of poles             | 3                                  |                                  |
| Wiring method               | Screw connector                    |                                  |
| Protection rating           | IP67                               |                                  |
| Dimensions (mm)             |                                    |                                  |
| PIN configuration           |                                    |                                  |
| Maximum cable diameter (mm) | 5.5                                |                                  |
| Connector type              | CFGM800400                         | CMGM800400                       |
| Description                 | M8 Female connector to cable       | M8 Male connector to cable       |
| Number of poles             | 4                                  |                                  |
| Wiring method               | Screw connection                   |                                  |
| Protection rating           | IP67                               |                                  |
| Dimensions (mm)             |                                    |                                  |
| PIN configuration           |                                    |                                  |
| Maximum cable diameter (mm) | 5.5                                |                                  |
| Connector type              | CFGM800800                         | CMGM800800                       |
| Description                 | M8 female connector to be soldered | M8 male connector to be soldered |
| Number of contacts          | 8                                  |                                  |
| Wiring mode                 | Solder connection                  |                                  |
| Protection class            | IP67                               |                                  |
| Dimensions (mm)             |                                    |                                  |
| PIN configuration           |                                    |                                  |
| Max cable diameter (mm)     | 5.5                                |                                  |

09/2022

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

Nippers

Robot Kit

Options

Sensors

# ELECTRICAL CONNECTORS

| Connector type             | CFSM890225  | CFSM890325 |
|----------------------------|---|------------|
| Description                | M18 SNAP female connector with molded PVC cable             |            |
| Connector angle            | angled 90°  |            |
| Protection rating          | IP69K   |            |
| Dimensions (mm)            |   |            |
| PIN configuration          | Brown BN (+); Blue BU (-); Black BK (OUT); Not connected NC |            |
| Cable diameter (mm)        | 3.6   | 4.3        |
| Cable material             | PVC ( CEI2022 )   |            |
| Lead cross section         | 0.25 mm <sup>2</sup> (AWG 24)                               |            |
| Number of leads            | 2   | 3          |
| Cable length (m)           | 2.5   |            |
| Operating temperature (°C) | -25 ÷ 75  |            |

| Connector type             | CFGM800425PC  | CFGM890425PC |
|----------------------------|---|--------------|
| Description                | M8 female connector with molded PVC cable                 |              |
| Connector angle            | straight 180°   | angled 90°   |
| Protection rating          | IP69K   |              |
| Dimensions (mm)            |   |              |
| PIN configuration          | Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT) |              |
| Cable diameter (mm)        | 2.5   |              |
| Cable material             | PUR   |              |
| Lead cross section         | 0.096 mm <sup>2</sup>                                     |              |
| Number of leads            | 4   |              |
| Cable length (m)           | 2.5   |              |
| Operating temperature (°C) | -25 ÷ 75  |              |

| Connector type             | CM800303CF8003P  | CM800305CF8003P | CM800312CF8003P |
|----------------------------|--|-----------------|-----------------|
| Description                | Extension with M8 male-female connectors with molded cable |                 |                 |
| Connector angle            | male straight 180° / female straight 180°                  |                 |                 |
| Protection rating          | IP69K  |                 |                 |
| Dimensions (mm)            |  |                 |                 |
| PIN configuration          | <p>Brown BN (+); Blue BU (-); Black BK (OUT)</p>           |                 |                 |
| Cable diameter (mm)        | 2.2  |                 |                 |
| Cable material             | PUR  |                 |                 |
| Lead cross section         | 0.096 mm <sup>2</sup>                                      |                 |                 |
| Number of leads            | 3  |                 |                 |
| Cable length (m)           | L*   | 0.3             | 0.5             |
| Operating temperature (°C) | -25 +75  |                 |                 |

| Connector type             | CFGM800325PSB                                    | CFGM890325PSB |
|----------------------------|--|---------------|
| Description                | M8 female connector with molded PVC cable        |               |
| Connector angle            | straight 180°                                    | angled 90°    |
| Protection rating          | IP69K  |               |
| Dimensions (mm)            |  |               |
| PIN configuration          | <p>Brown BN (+); Blue BU (-); Black BK (OUT)</p> |               |
| Cable diameter (mm)        | 2.2  |               |
| Cable material             | PUR  |               |
| Lead cross section         | 0.096 mm <sup>2</sup>                            |               |
| Number of leads            | 3  |               |
| Cable length (m)           | 2.5  |               |
| Operating temperature (°C) | -25 + 75   |               |

09/2022

Rotary Units

Quick Changer

Profiles and Brackets

Grippers

Linear Actuators

Suspensions

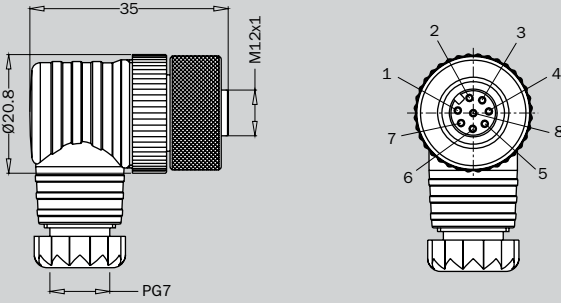
Nippers

Robot Kit

Options

Sensors

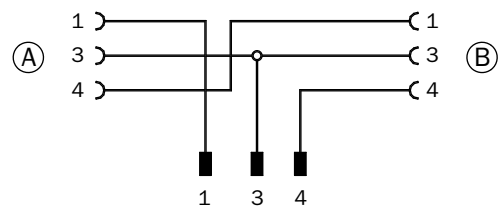
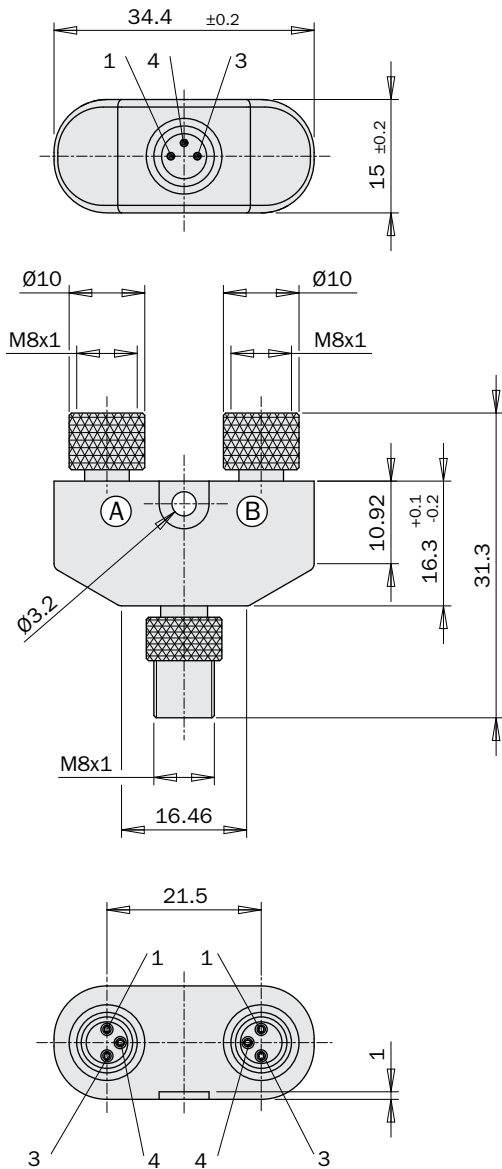
# ELECTRICAL CONNECTORS

| Connector type        | CFGM1290800C   |
|-----------------------|--|
| Contact type          | Female   |
| Number of contacts    | 8  |
| Case material         | PA66 +30% fiberglass   |
| Angle                 | 90°  |
| Case color            | Black  |
| Dimensions (mm)       |  |
| PIN configuration     |  |
| Cable gland           | PG7  |
| Rated voltage         | 30V AC/DC  |
| Rated current         | 2A   |
| Contact material      | phosphor bronze  |
| Contact treatment     | Gold-plated nickel +0.45 μm  |
| Contact treatment     | Zn Al/Ni   |
| O-ring                | NBR  |
| Protection rating     | IP67   |
| Operating temperature | -25°C ÷ +90°C  |

**M8, 3-pole Y-coupler**

This coupler can be used to create the logic series of the outputs of two normally-open (NO) PNP or REED sensors.

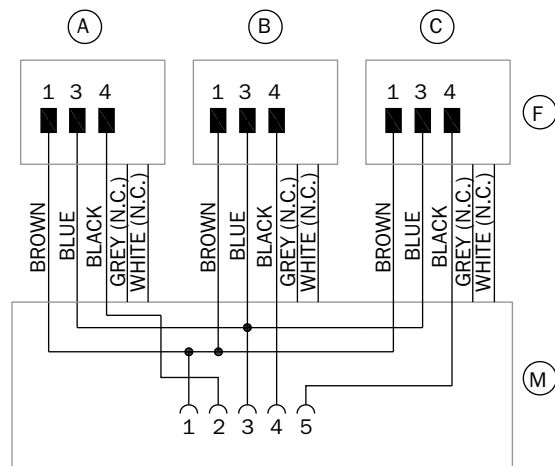
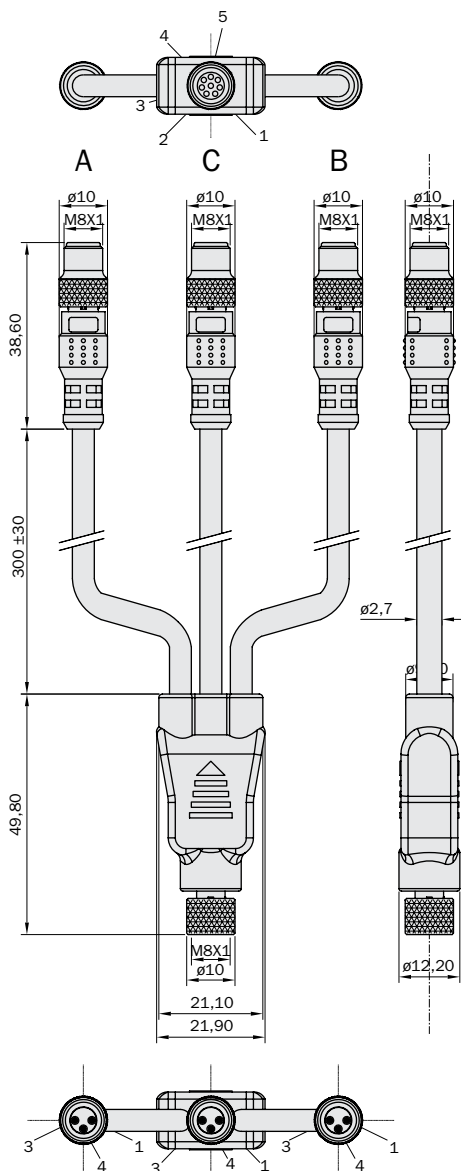
|                   | <b>CMGM8CFGM8X2Y</b>           |
|-------------------|--------------------------------|
| Case material     | Polypropylene                  |
| Contacts material | Gold-plated                    |
| Lock nut material | Brass                          |
| Circuit type      | PNP/Reed 2-sensor logic series |
| Rated voltage     | 60 V AC/DC                     |
| Rated current     | 4 A                            |
| Protection rating | IP67 (EN60529)                 |
| Voltage drop      | max 3 V                        |



## 8-pole M8 Y-coupler

This coupler can be used combined with PRO-SS/PRO-SN sensors (with M8 output) for precise connection, jointly with the SENSOR BOX (SBM) modular version.

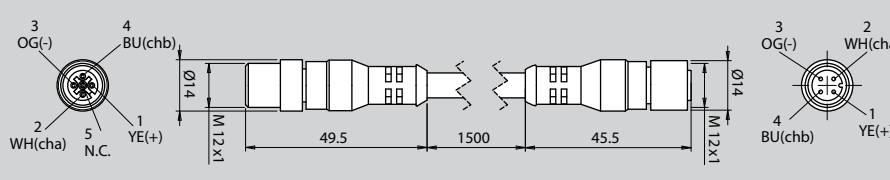
|                   | CFGM8CMGM8X3Y                             |
|-------------------|---|
| Case material     | Polypropylene                             |
| Contacts material | Gold-plated                               |
| Lock nut material | Brass                                     |
| Circuit type      | 1xM8: 8 poles female / 3xM8: 3 poles male |
| Rated voltage     | 30 V AC/DC                                |
| Rated current     | 1.5 A                                     |
| Protection rating | IP69K                                     |

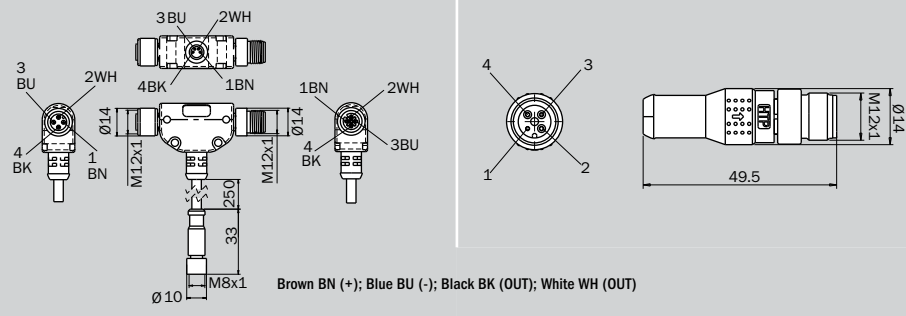


| Connector type              | CFGM1200500                     | CMGM1200500                   |
|-----------------------------|---------------------------------|-------------------------------|
| Description                 | M8 female connector to be wired | M8 male connector to be wired |
| Number of poles             | 5                               |                               |
| Wiring method               | Screw connector                 |                               |
| Protection rating           | IP67                            |                               |
| Dimensions (mm)             |                                 |                               |
| PIN configuration           |                                 |                               |
| Maximum cable diameter (mm) | 8.6                             |                               |

| Connector type              | CFGM1200800                  | CMGM1200800                |
|-----------------------------|------------------------------|----------------------------|
| Description                 | M8 Female connector to cable | M8 Male connector to cable |
| Number of poles             | 8                            |                            |
| Wiring method               | Screw connection             |                            |
| Protection rating           | IP67                         |                            |
| Dimensions (mm)             |                              |                            |
| PIN configuration           |                              |                            |
| Maximum cable diameter (mm) | 6                            |                            |

# ELECTRICAL CONNECTORS™

| Connector type             | CM12CF12-4-15   |
|----------------------------|---|
| Description                | Extension with M12 male-female connectors with molded cable   |
| Connector angle            | straight 180°   |
| Protection rating          | IP69K   |
| Dimensions (mm)            |  <p>Technical drawing showing the connector with dimensions: Ø14, 49.5, 1500, 45.5, and M12x1. Pin configurations are shown on both ends: 3 OG(-), 4 BU(chb), 2 WH(cha), 5 N.C., 1 YE(+).</p> |
| PIN configuration          | Blue BU (-); White WH; Yellow YE; Orange OG   |
| Cable diameter (mm)        | 6.6   |
| Cable material             | PUR UL style 21576 BUS CAT.5E   |
| Lead cross section         | 0.34 mm <sup>2</sup> (AWG 22)   |
| Number of leads            | 4   |
| Cable length (m)           | 1.5   |
| Operating temperature (°C) | -25 ÷ 75  |

| Connector type             | CM12CF12CF8T4  | CM1200400TERM          |
|----------------------------|--|------------------------|
| Description                | M12 electric connector with M8-4 poles molded cable  | M12 terminal connector |
| Connector angle            | straight 180°  |                        |
| Protection rating          | IP69K  |                        |
| Dimensions (mm)            |  <p>Technical drawing showing the connectors with dimensions: Ø14, 49.5, 33, 250, 10, and M8x1. Pin configurations are shown: 3 BU, 2 WH, 4 BK, 1 BN, 1 BN, 2 WH, 4 BK, 3 BU. Legend: Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT).</p> |                        |
| PIN configuration          | Brown BN (+); Blue BU (-); Black BK (OUT); White WH (OUT)  |                        |
| Cable diameter (mm)        | 5  | -                      |
| Cable material             | PUR  | -                      |
| Lead cross section         | 0.34 mm  | -                      |
| Number of leads            | 4  | -                      |
| Cable length (m)           | 2.5  | -                      |
| Operating temperature (°C) | -25 ÷ 75   |                        |





## EMI Terms and Conditions:

**Acceptance:** Sales by EMI Corp and its subsidiaries and divisions ("EMI") are expressly limited to these Terms and Conditions. All orders are subject to approval by EMI. Any purchase order, acknowledgement or other communication submitted by the Buyer which contains additional or contrary terms and conditions of sale are rejected.

**Prices:** Quoted prices are effective for 30 days from date of quotation; thereafter, prices are subject to change without notice. Prices listed in EMI's catalogs are current at time of publication and are subject to change without notice. Unless otherwise indicated, quantity discounts are offered only for like units ordered at the same time, on a single purchase order, for shipment per our standard delivery schedule. Any local, state or federal tax levied on the sale will be added to the purchase price and paid by the Buyer. Any portion of the price not paid when due will bear interest from the due date at the rate of 12% per annum or at the next lowest annual percentage rate as is permissible under any applicable usury law.

**Terms:** All orders are subject to credit approval by EMI.  
For orders [and multiple purchase orders constituting a project] less than \$20,000: Net 30 Days.  
For orders [and multiple purchase orders constituting a project] over \$20,000: 30% down with order, 70% net 30 days.

**Cancellation:** Orders may not be cancelled without EMI's prior written consent.

**Shipment Schedule:** All shipping dates are approximate. Shipment shown is based on available inventory, and engineering and production schedules at time of quotation. A better estimate of lead-times will be given at time of order placement. EMI will not be liable for any damage, loss of profit, or expenses arising out of delays in shipment or other nonperformance of this transaction caused by or imposed by (a) strikes, fires, disasters, riots, acts of God, (b) acts of Buyer, (c) shortages of labor, fuel, power, materials, supplies, transportation or manufacturing facilities, (d) government action, (e) subcontractor delay or (f) any other cause or condition beyond EMI's reasonable control. Additionally, EMI assumes NO responsibility for delivery performance, cost surcharges, or other fees imposed by a carrier, whether selected by Buyer or EMI.

**Shipment:** Shipment of products is ExW (ex-works), EMI facility, Jackson Center OH, or EMI facility, Wickliffe, OH. Packages weighing less than 75lbs. are shipped via small parcel service, pre-paid via EMI carrier of choice and added to the invoice unless otherwise specified. Shipments weighing over 75lbs., or oversized, are shipped Freight Collect via truck (common carrier) unless otherwise specified and agreed to by EMI. All shipments will be insured at the buyer's cost for the full value of the shipment unless buyer expressly waives insurance coverage in writing prior to shipment. All claims of shortages, defects or rejections must be made by the Buyer in writing within 15 days after receipt of the shipment. Claims of damage must be made to the carrier in accordance with its procedures.

### Notes:

- (1) Shipments more than 75lbs. or shipments that are oversized are generally fully crated and/or skid mounted - dependent upon size and quantity.
- (2) In cases of skid or crate shipments, Buyer should specify a freight carrier with whom Buyer has an established account. Failure to specify a carrier can result in shipment delays or require payment to freight company before equipment can be unloaded at Buyer's dock.
- (3) EMI assumes no responsibility for shipments delayed or those received "Driver Collect" due to a trucking company not being specified by Buyer.
- (4) Truck shipments shipped Freight Prepaid and charged back will be invoiced to Buyer on a separate Freight Invoice plus a 10% handling fee with terms of net 15 days.

### Delivery Loss and Damage Claims:

All claims must be made within 10 days of delivery. Claims must be filed with the freight carrier and must be initiated by the party who is responsible for payment of freight – EMI for Prepaid terms, the Buyer for Collect or Receiver terms. EMI will attempt to assist in the resolution of freight claims but shall not assume responsibility for Collect/Receiver initiated claims. Freight carriers may require shipping charges to be paid before issuing a credit on a claim and does not relieve the responsible party for payment of freight charges.

Proof of delivery requests must be received within 90 calendar days of shipment. After 90 days of shipment, the Buyer waives its right to dispute delivery of goods and agrees not to withhold payment against alleged non-delivery.

**Export Control:** Buyer acknowledges that EMI's products are subject to U.S. export controls and economic sanctions laws and regulations. Buyer agrees not to export, re-export, or retransfer EMI's products to any entity subject to US sanctions, embargoes, or trade restrictions, and to comply with all applicable U.S. export controls and economic sanctions laws and regulations regarding EMI products.

### Export Shipment:

Buyer is responsible for the payment of all international shipping costs and taxes and duties including but not limited to: VAT, tariff, duty, taxes, customs clearance charges, freight forwarder fees and warehousing charges, and other charges related to international shipments. EMI is not responsible for delays due to freight transport, customs clearance, import/export holds, freight forwarder delays, or the Buyer not providing EMI necessary information for export documentation.

An Automated Export System (AES) filing is required for most exports exceeding \$2,500. An AES filing is often submitted by the U.S. Principal Party in Interest (USPPI), which is typically EMI. It can also be submitted by an authorized agent of the USPPI, such as a freight forwarder. If EMI authorizes the Buyer's freight forwarder or agent to file on behalf of EMI, EMI must receive a full copy of the AES filing submitted by the freight forwarder within three business days of receipt by the freight forwarder. If EMI does not receive a copy of the filing within three business days of shipment, EMI reserves the right to not authorize future power of attorney documentation to file the AES on behalf of EMI and to withhold further shipments pending EMI being provided all information necessary for AES filing.

**Installation:** Unless otherwise indicated, Buyer is solely responsible for safe installation of the equipment. In all cases, Buyer remains responsible for proper maintenance and guarding in accordance with applicable OSHA, federal, state, local, and other applicable regulations. **SERIOUS BODILY INJURY OR PROPERTY DAMAGE MAY RESULT FROM IMPROPER USE, GUARDING, OR MAINTENANCE OF EMI PRODUCTS OR PRODUCTS RESOLD BY EMI.**

### Limited Warranty:

**Conveyor Products:** Conveyors (other than belting), motors, gear reducers and other drive components are guaranteed for three years from the date of shipment to be free from defects in material and workmanship when maintained in accordance with EMI manuals and operated under the conditions for which they were designed. Belting is guaranteed for 90 days under the same conditions.

**EOAT Products:** EMI, Gimatic, and Senvex EOAT products are guaranteed for 1 year from the date of shipment to be free from defects in material and workmanship when maintained in accordance with their respective product manuals and operated under the conditions for which they were designed. Wear items such as, but not limited to; vacuum cups, nipper blades, air hand expanders and inflators are not warranted.

**Injection Molding Supplies:** EMI manufactured accessory products for injection machines are guaranteed for 1 year from the date of shipment to be free from defects in material and workmanship when maintained in accordance with their respective product manuals and operated under the conditions for which they were designed. Wear and consumable items such as, but not limited to; non-return valves, nozzles, gate cutters, mold spray, oil sorbent, oil filters, etc. are not warranted.

Third party equipment or components are not warranted except where specified, but any third party warranties are, to the extent permitted, passed through to the Buyer. Damage, due to abuse, accident, misuse, modification, improper installation or maintenance, or improper electrical or mechanical applications are not covered by the Limited Warranty.

Furthermore, this Limited Warranty shall be void and of no effect whatsoever in the event the equipment is not used in accordance with and/or for the purpose provided, or if damages by reason of abnormal weather conditions, acts of God, falling objects, explosions, fire, riots, civil commotion, external forces, faulty or inadequate installation, acts of war, radiation, harmful fumes or foreign substances in the atmosphere, floods or use in structures not in accordance with accepted engineering standards.

Any claim for breach of the Limited Warranty must be made and presented to EMI in writing within a period of thirty (30) days following the discovery of the alleged defect, failing which the foregoing Limited Warranty shall be void and of no effect whatsoever. Alleged defective products shall be returned to EMI for inspection. Buyer must receive written authorization from EMI before returning any products and Buyer shall ship the products to EMI freight pre-paid at Buyer's expense. Authorization to return products is for purposes of inspection and shall not constitute acceptance of a product defect. Returned products must be suitably crated or packaged by the Buyer to prevent damage. EMI will inspect the returned products for defect. If inspection reveals a defect, Buyer's sole recourse for breach of warranty is the repair or replacement of defective products or the return of purchase price, at EMI's sole discretion. Repaired or replaced products are returned to the Buyer at no charge. If inspection reveals no defect, EMI will return the product to the Buyer at the Buyer's expense.

**EMI MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO THE EQUIPMENT OR THE USE OF THE EQUIPMENT OR THE PERFORMANCE OF THE EQUIPMENT. EMI SPECIFICALLY MAKES**

**EMI Terms and Conditions:**

NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EMI NEITHER ASSUMES, NOR AUTHORIZES ANY PERSON TO ASSUME FOR IT, ANY WARRANTY NOT SPECIFICALLY PROVIDED HEREIN.

Limitation of Liability: EMI's liability under this transaction will not exceed the purchase price. EMI IS NOT LIABLE FOR ANY CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES ARISING OUT OF OR RELATING DIRECTLY OR INDIRECTLY TO THIS TRANSACTION OR AS A RESULT OF THE SALE OF PRODUCTS OR EQUIPMENT, A BREACH OF THE WARRANTY PROVIDED HEREIN OR ANY USE OR MISUSE OF THE PRODUCTS OR EQUIPMENT.

Indemnification: Buyer agrees to indemnify and hold EMI harmless and defend EMI from and against all liability and expense based upon bodily injury, property damage or economic loss, arising, directly or indirectly, from the production, sale, re-sale, transportation, storage or the use of products sold by the Buyer, except as caused by the sole negligence of EMI.

Returns: Buyers may request a product be returned to EMI for credit of purchase price. A material return number (RMA#) must be obtained before any products may be sent back to EMI. Buyer understands that obtaining an RMA number does not constitute EMI's acceptance of the return. Buyer may return the products via freight carrier of their choice, and shipping must be at Buyers cost (pre-paid).

Buyer must package the products suitably to prevent damage to the products being returned. An inspection of the returned products will be conducted to determine if full or partial credit will be issued against the original purchase price. If the item is returned in the same condition as it was originally sent, and sealed in the original packaging that it was shipped from EMI a re-stocking fee or other credit adjustment is typically waived. Built to order, customized, and non-standard or other non-stock parts including but not limited to alterations to the product that Buyer make are subject to a re-stocking fee and may not qualify for return credit.

Law: This transaction is governed and construed in accordance with the laws of the State of Ohio (exclusive of any conflict of laws provision) and the Buyer consents and submits to the jurisdiction of any state court located in Shelby County, Ohio. If any provision of these Terms and Conditions is deemed to be held invalid, illegal, unenforceable, or inoperative, the balance of these Terms and Conditions will remain in full force and effect as if such revision had not been included.

[www.EMICorp.com/Gimatic](http://www.EMICorp.com/Gimatic)



**Sales & Design Engineering**

[gimaticinfo@emicorp.com](mailto:gimaticinfo@emicorp.com)

[sales@emicorp.com](mailto:sales@emicorp.com)

Phone: 216-535-4848

28300 Euclid Ave. Wickliffe, Ohio 44092



**EMI Mexico**

[ventas@emicorp.com](mailto:ventas@emicorp.com)

Teléfono: +52 (442) 349-7646

Avenida Industria de la Construcción #511 Int. 5,6,7

Parque Industrial Querétaro

Santa Rosa de Jáuregui, Querétaro 76220



Via Enzo Ferrari, 2/4  
25030 Roncadelle (BS) ITALY

© 2022 Gimatic / EMI Corporation. All Rights Reserved.

No parts of this publication may be reproduced or transmitted in any form or by any means, electronic, mechanical, photocopying or otherwise, without the prior written permission of EMI Corp.

We reserve the right to make alterations.