# MPZ

**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

**Sizes**
16 ... 45

**Weight**
0.01 kg ... 0.29 kg

**Gripping force**
20 N ... 310 N

**Stroke per finger**
1 mm ... 5 mm

**Workpiece weight**
0.05 kg ... 1.15 kg

## Application example


**Handling device for direct mounting to a robot for screwing in sealing plugs**

1. 3-Finger Centric Gripper MPZ
2. Rotary feed-through DDF

## Gripper for small components

small 3-Finger Centric Gripper with base jaws guided on T-slots

## Field of application

for universal use in clean to slightly dirty working environments, especially suitable for gripping small workpieces

## Your advantages and benefits

**T-slot guidance**
for precise gripping at high moment loads

**Finger position monitoring**
also possible via FPS

**Air supply via hose-free direct connection or screw connections**
for the flexible supply of compressed air in all automation systems


## General note to the series

**Principle of function**
Wedge-hook kinematics

**Housing material**
Aluminum alloy, hard-anodized

**Base jaw material**
Steel

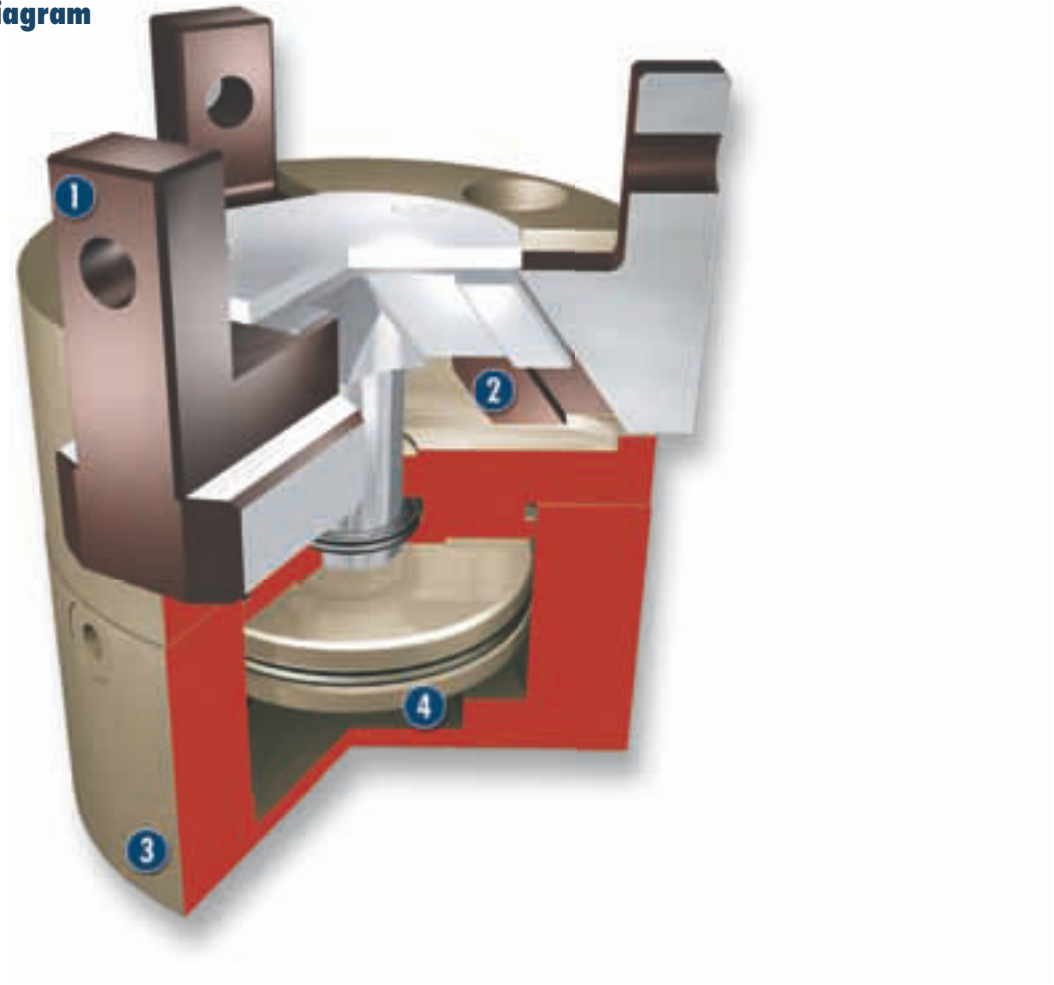
**Actuation**
pneumatic, with filtered compressed air (10 microns): dry, lubricated or non-lubricated
Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: 6 4 4

**Warranty**
24 months (details, general terms and conditions and operation manuals can be downloaded under www.schunk.com)

**Scope of delivery**
Centering sleeves, centering pins, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

**Gripping force maintenance device**
with either mechanical gripping force maintenance or SDV-P pressure maintenance valve

## Sectional diagram




1 **T-slot guidance**
for precise gripping with high moment loads

2 **Wedge-hook design**
for high power transmission and centric gripping

3 **Housing**
weight-optimized through application of hard-anodized, high-strength aluminum alloy

4 **Drive**
pneumatic, powerful and easy to handle

## Functional description

The piston is moved up and down by compressed air.
Through its angled active surfaces, the wedge hook transforms this movement into the lateral, synchronous gripping movement of both base jaws.

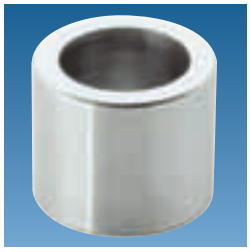
## Options and special information

Small and compact 3-Finger Centric Gripper for fast gripping applications. Monitoring of the smallest differences in stroke possible via FPS system.

## Accessories

Accessories from SCHUNK – the suitable supplement for maximum functionality, reliability and performance of all automation modules.

### Centering sleeves

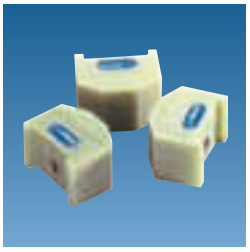


### Fittings

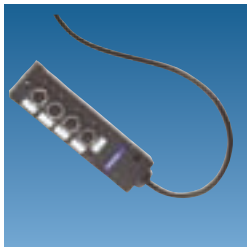
### Magnetic Switches

### Sensor cables

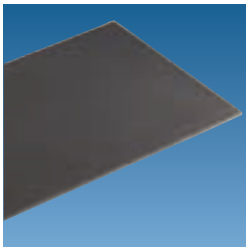
### Plastic inserts



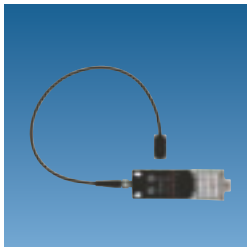

### Sensor Distributor



### Gripper pads



### Flexible Position Sensor



### Pressure maintenance valve

### Finger blanks

ⓘ For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the size in question. You will find more detailed information on our accessory range in the “Accessories” catalog section.

## General note to the series

### Gripping force

is the arithmetic total of the gripping force applied to each finger at distance P (see illustration) measured from the upper edge of the gripper.

### Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

### Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

### Workpiece weight

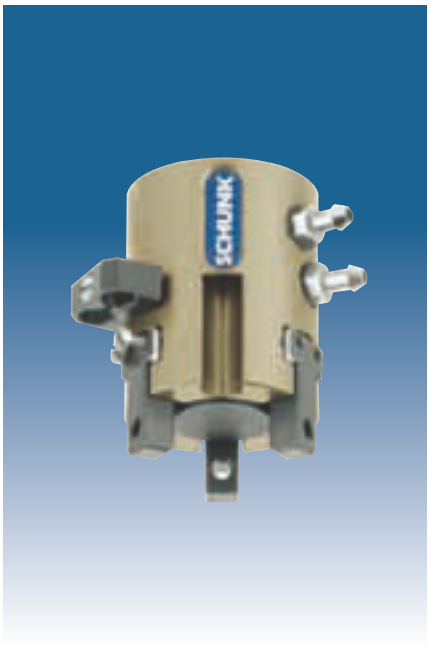
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

### Closing and opening times

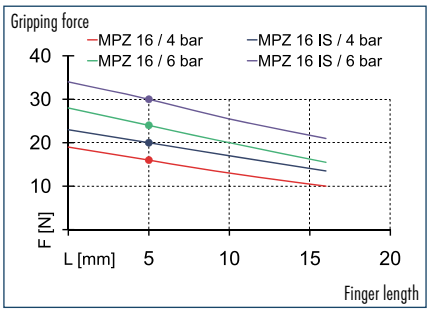
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

# MPZ 16

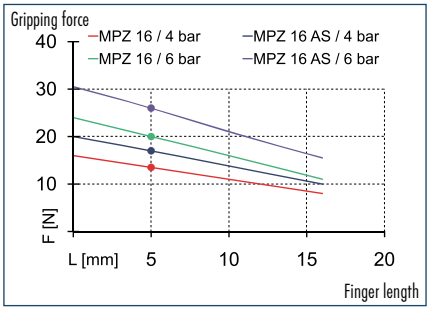
**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**



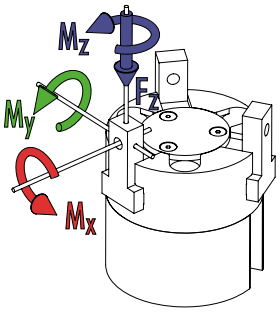

## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Finger load



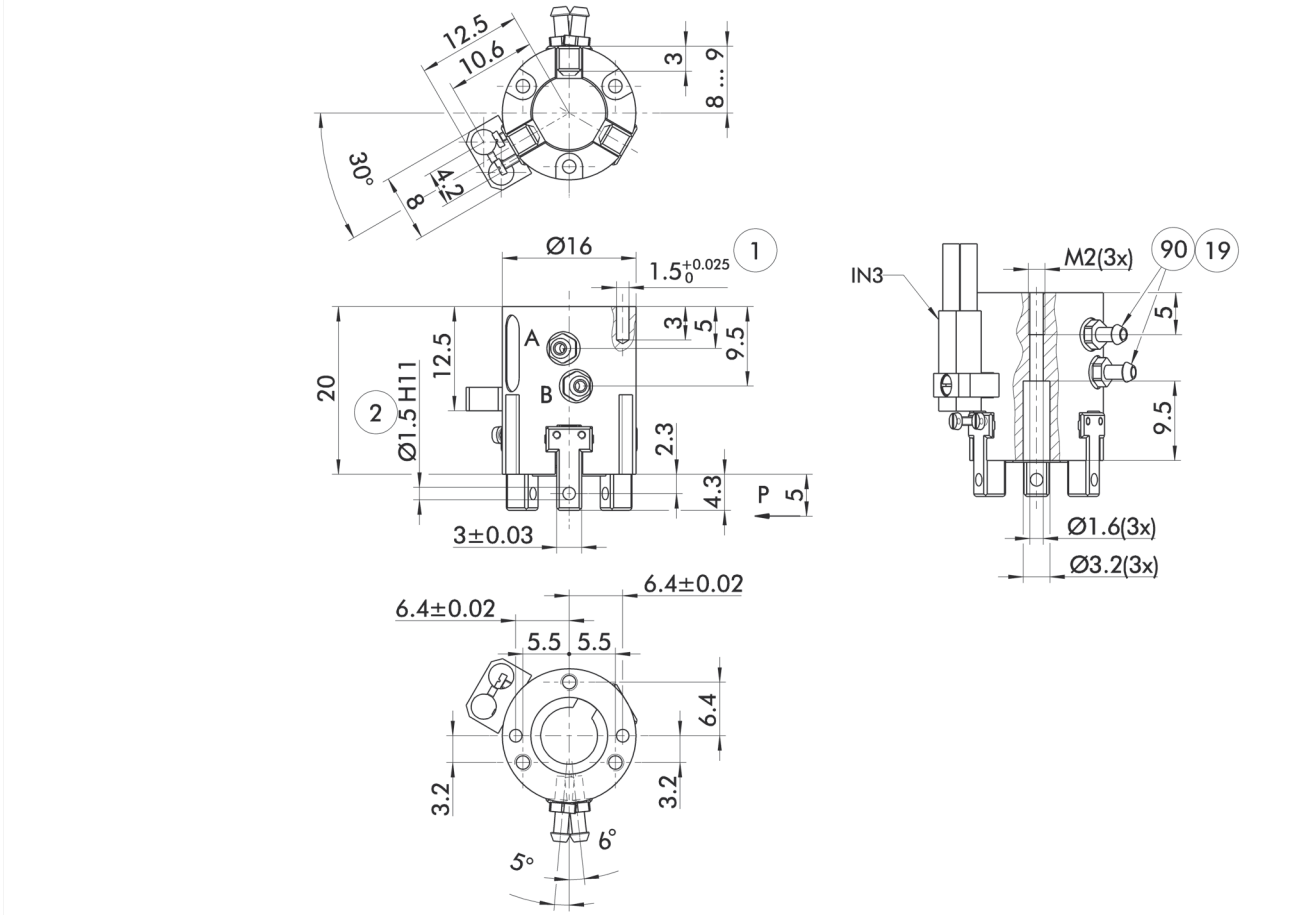

- $M_x$ max. 0.50 Nm
- $M_y$ max. 0.80 Nm
- $M_z$ max. 0.90 Nm
- $F_z$ max. 50.0 N

ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 16 | MPZ 16-AS | MPZ 16-IS |
|---|---|---|---|---|
| **ID** | | **0340480** | **0340481** | **0340482** |
| Stroke per finger | [mm] | 1 | 1 | 1 |
| Closing force | [N] | 20 | 26 | |
| Opening force | [N] | 24 | | 30 |
| Min. spring force | [N] | | 6 | 6 |
| Weight | [kg] | 0.01 | 0.02 | 0.02 |
| Recommended workpiece weight | [kg] | 0.05 | 0.05 | 0.05 |
| Air consumption per double stroke | [cm³] | 0.15 | 0.4 | 0.4 |
| Min./max. operating pressure | [bar] | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.02/0.02 | 0.02/0.04 | 0.04/0.02 |
| Max. permitted finger length | [mm] | 16 | 16 | 16 |
| Max. permitted weight per finger | [kg] | 0.02 | 0.02 | 0.02 |
| IP class | | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 |

## Main view

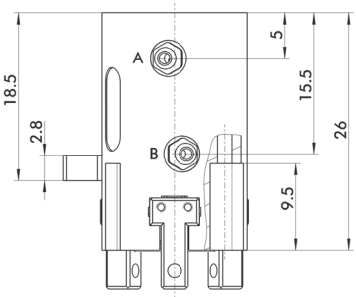



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

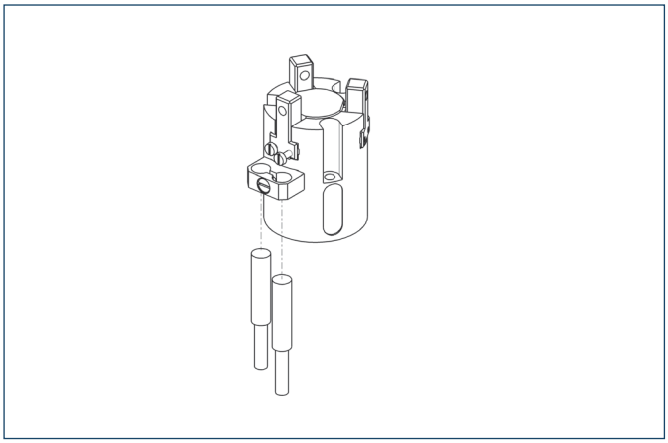
A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
⑲ Air connection
⑨⓪ Polyurethane hoses with an I.D. of 1.6 mm. Source: AC Aircontrols GmbH, Kempen, Germany

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

## Inductive proximity switches



End position monitoring for direct mounting

| Description | ID |
|---|---|
| Inductive proximity switches | |
| IN 3-S-M8-PNP | **0301466** |
| Connection cables | |
| KA BG08-L 3P-0300-PNP | **0301622** |
| KA BG08-L 3P-0500-PNP | **0301623** |
| KA BW08-L 3P-0300-PNP | **0301594** |
| KA BW08-L 3P-0500-PNP | **0301502** |
| Cable extensions | |
| KV BW08-SG08 3P-0030-PNP | **0301495** |
| KV BW08-SG08 3P-0100-PNP | **0301496** |
| KV BW08-SG08 3P-0200-PNP | **0301497** |

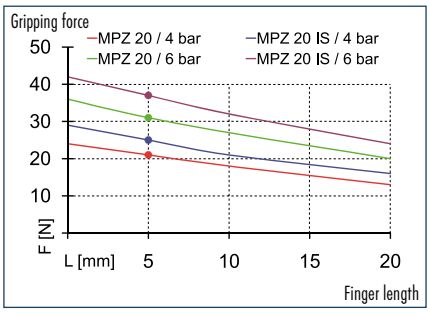
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

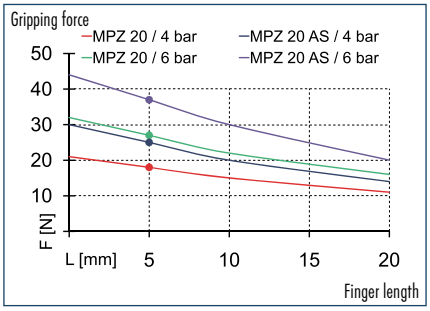
# MPZ 20

**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

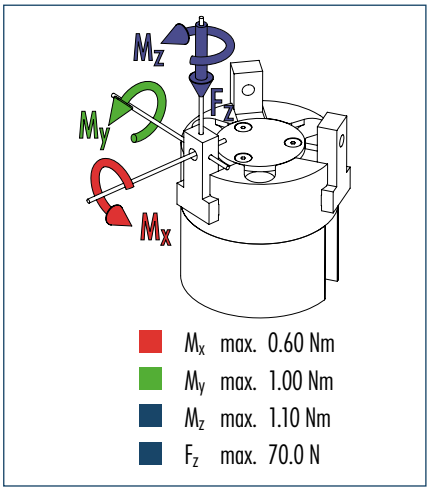
## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Finger load

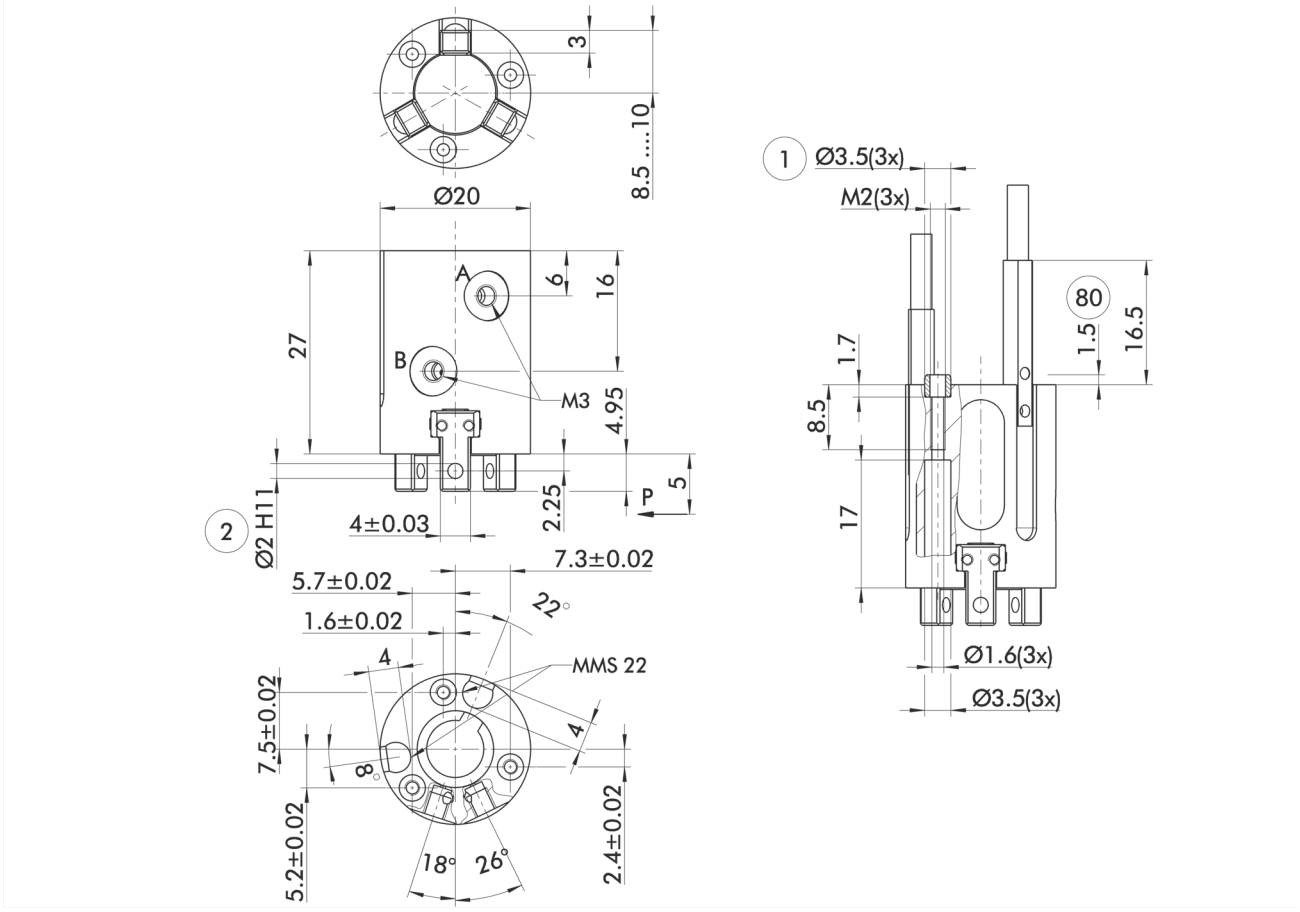



ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 20 | MPZ 20-AS | MPZ 20-IS |
|---|---|---|---|---|
| **ID** | | **0340490** | **0340491** | **0340492** |
| Stroke per finger | [mm] | 1.5 | 1.5 | 1.5 |
| Closing force | [N] | 26 | 34 | |
| Opening force | [N] | 30 | | 38 |
| Min. spring force | [N] | | 8 | 8 |
| Weight | [kg] | 0.02 | 0.03 | 0.03 |
| Recommended workpiece weight | [kg] | 0.1 | 0.1 | 0.1 |
| Air consumption per double stroke | [cm³] | 0.3 | 0.7 | 0.7 |
| Min./max. operating pressure | [bar] | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.02/0.02 | 0.02/0.04 | 0.04/0.02 |
| Max. permitted finger length | [mm] | 20 | 20 | 20 |
| Max. permitted weight per finger | [kg] | 0.03 | 0.03 | 0.03 |
| IP class | | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 |

## Main view

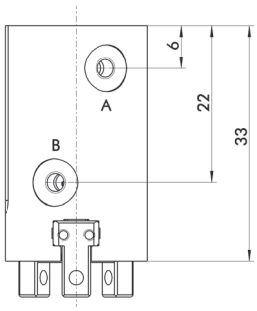



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

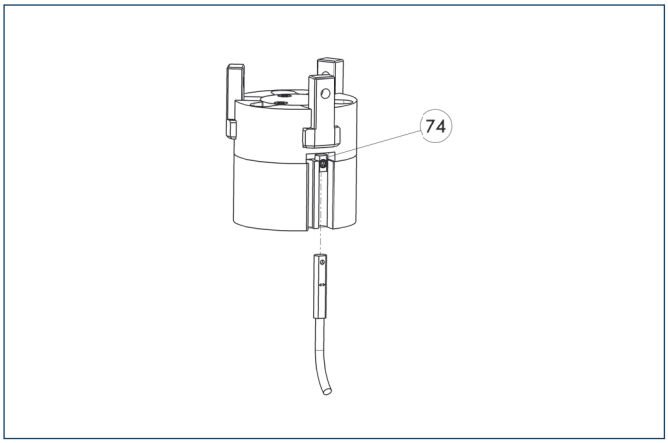
A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
(80) Depth of the centering sleeve hole in the matching part

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

## Programmable magnetic switch




(74) Stop for MMS-P

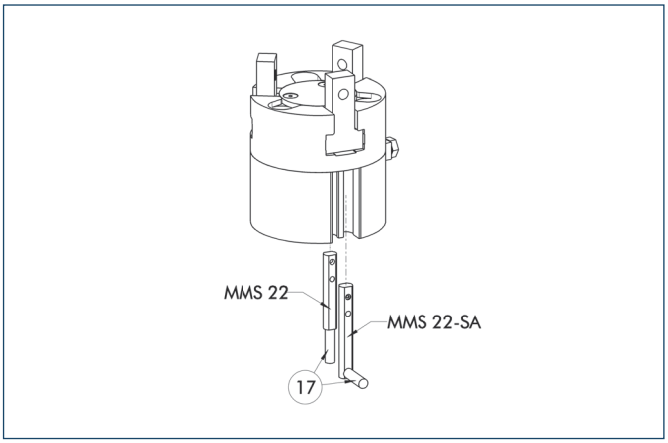
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

| Description | ID | Recommended product |
|---|---|---|
| Programmable magnetic switch | | |
| MMS-P 22-S-M8-PNP | **0301370** | • |
| MMSK-P 22-S-PNP | **0301371** | |
| Connection cables | | |
| KA BG08-L 4P-0500 | **0307767** | |
| KA BG08-L 4P-1000 | **0307768** | |
| KA BW08-L 4P-0500 | **0307765** | |
| KA BW08-L 4P-1000 | **0307766** | |
| Sensor Distributor | | |
| V2-M8-4P-2XM8-3P | **0301380** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

ⓘ Per gripper one sensor (closer/NO) is required, optionally a cable extension.

## Electronic magnetic switches




(17) Cable outlet

End position monitoring for mounting in the C-slot

| Description | ID | Recommended product |
|---|---|---|
| Electronic magnetic switches | | |
| MMS 22-S-M5-PNP | **0301438** | |
| MMS 22-S-M5-NPN | **0301439** | |
| MMS 22-S-M8-PNP | **0301432** | • |
| MMS 22-S-M8-NPN | **0301433** | |
| MMSK 22-S-PNP | **0301434** | |
| MMSK 22-S-NPN | **0301435** | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M5-PNP-SA | **0301448** | |
| MMS 22-S-M5-NPN-SA | **0301449** | |
| MMS 22-S-M8-PNP-SA | **0301442** | • |
| MMS 22-S-M8-NPN-SA | **0301443** | |
| MMSK 22-S-PNP-SA | **0301444** | |
| MMSK 22-S-NPN-SA | **0301445** | |
| Connection cables | | |
| KA BG05-L 3P-0300 | **0301652** | |
| KA BG08-L 3P-0300-PNP | **0301622** | |
| KA BG08-L 3P-0500-PNP | **0301623** | |
| KA BW05-L 3P-0300 | **0301650** | |
| KA BW08-L 3P-0300-NPN | **0301602** | |
| KA BW08-L 3P-0300-PNP | **0301594** | |
| KA BW08-L 3P-0500-NPN | **9641116** | |
| KA BW08-L 3P-0500-PNP | **0301502** | |
| Cable extensions | | |
| KV BW08-SG08 3P-0030-PNP | **0301495** | |
| KV BW08-SG08 3P-0100-PNP | **0301496** | |
| KV BW08-SG08 3P-0200-PNP | **0301497** | |

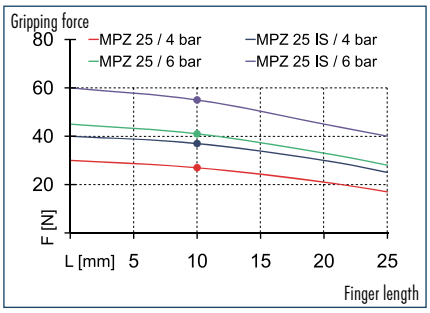
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

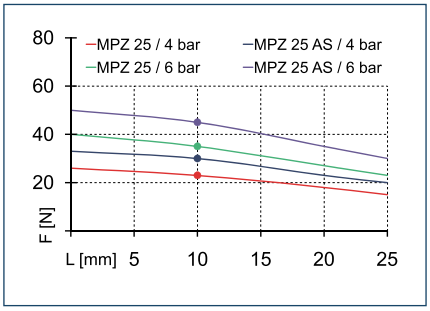
You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

# MPZ 25

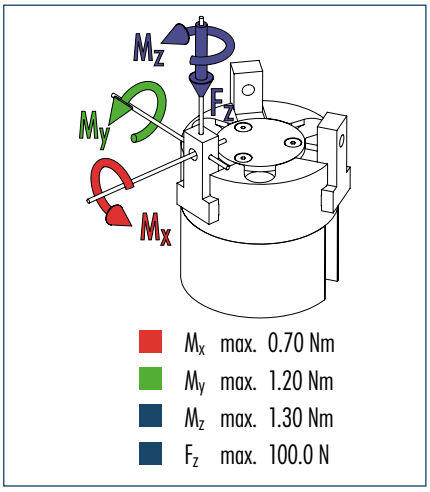
**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

## Gripping force, O.D. gripping




## Finger load

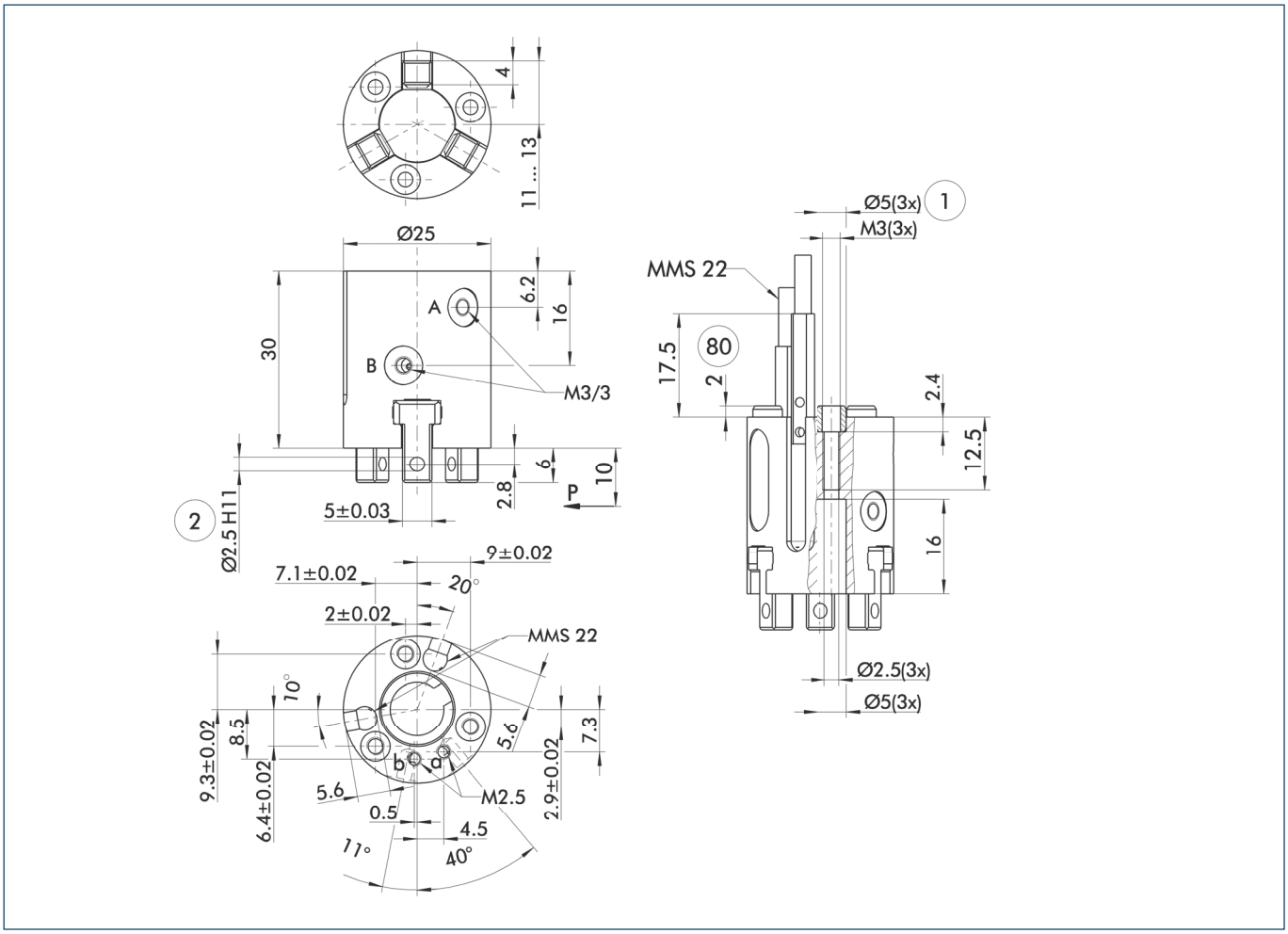



ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 25 | MPZ 25-AS | MPZ 25-IS |
|---|---|---|---|---|
| **ID** | | **0340500** | **0340501** | **0340502** |
| Stroke per finger | [mm] | 2 | 2 | 2 |
| Closing force | [N] | 35 | 47 | |
| Opening force | [N] | 40 | | 55 |
| Min. spring force | [N] | | 12 | 15 |
| Weight | [kg] | 0.04 | 0.06 | 0.06 |
| Recommended workpiece weight | [kg] | 0.2 | 0.2 | 0.2 |
| Air consumption per double stroke | [cm³] | 0.6 | 1.8 | 1.8 |
| Min./max. operating pressure | [bar] | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.02/0.02 | 0.02/0.04 | 0.04/0.02 |
| Max. permitted finger length | [mm] | 25 | 25 | 25 |
| Max. permitted weight per finger | [kg] | 0.03 | 0.03 | 0.03 |
| IP class | | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 |

## Main view

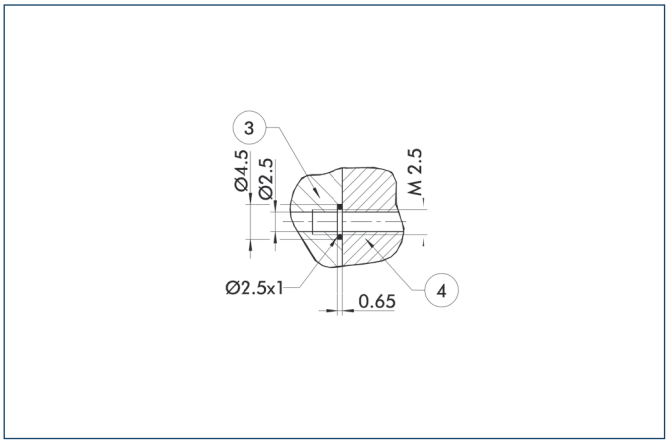



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
(80) Depth of the centering sleeve hole in the matching part

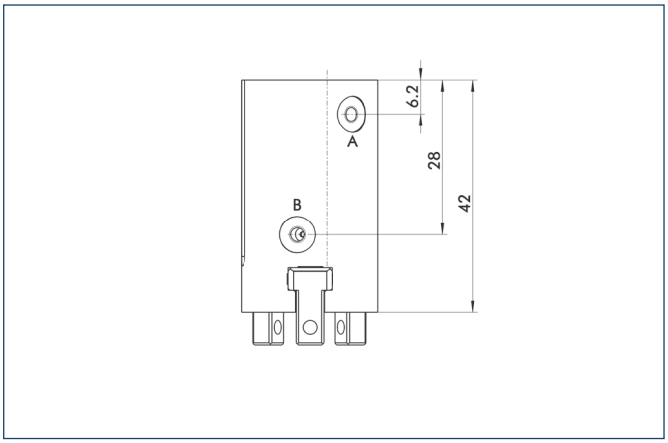
## Hose-free direct connection




③ Adapter
④ Gripper

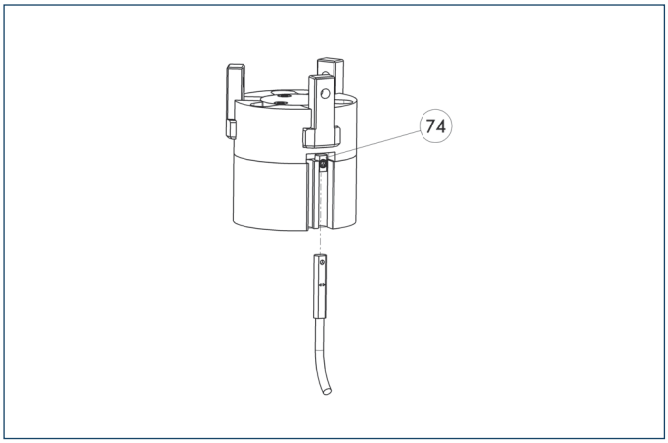
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

## Programmable magnetic switch




(74) Stop for MMS-P

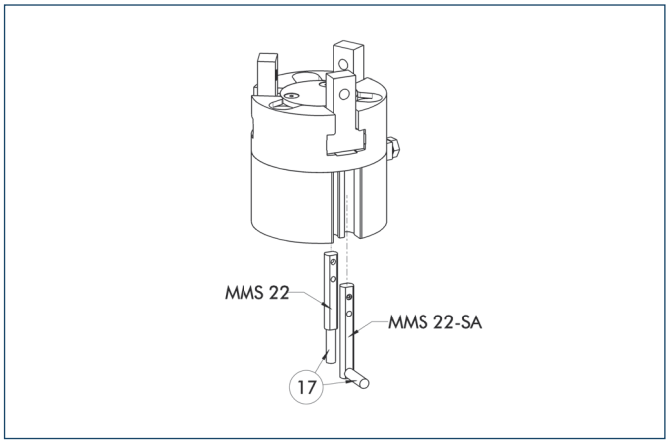
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

| Description | ID | Recommended product |
|---|---|---|
| Programmable magnetic switch | | |
| MMS-P 22-S-M8-PNP | **0301370** | • |
| MMSK-P 22-S-PNP | **0301371** | |
| Connection cables | | |
| KA BG08-L 4P-0500 | **0307767** | |
| KA BG08-L 4P-1000 | **0307768** | |
| KA BW08-L 4P-0500 | **0307765** | |
| KA BW08-L 4P-1000 | **0307766** | |
| Sensor Distributor | | |
| V2-M8-4P-2XM8-3P | **0301380** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

ⓘ Per gripper one sensor (closer/NO) is required, optionally a cable extension.

## Electronic magnetic switches




(17) Cable outlet

End position monitoring for mounting in the C-slot

| Description | ID | Recommended product |
|---|---|---|
| Electronic magnetic switches | | |
| MMS 22-S-M5-PNP | **0301438** | |
| MMS 22-S-M5-NPN | **0301439** | |
| MMS 22-S-M8-PNP | **0301432** | • |
| MMS 22-S-M8-NPN | **0301433** | |
| MMSK 22-S-PNP | **0301434** | |
| MMSK 22-S-NPN | **0301435** | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M5-PNP-SA | **0301448** | |
| MMS 22-S-M5-NPN-SA | **0301449** | |
| MMS 22-S-M8-PNP-SA | **0301442** | • |
| MMS 22-S-M8-NPN-SA | **0301443** | |
| MMSK 22-S-PNP-SA | **0301444** | |
| MMSK 22-S-NPN-SA | **0301445** | |
| Connection cables | | |
| KA BG05-L 3P-0300 | **0301652** | |
| KA BG08-L 3P-0300-PNP | **0301622** | |
| KA BG08-L 3P-0500-PNP | **0301623** | |
| KA BW05-L 3P-0300 | **0301650** | |
| KA BW08-L 3P-0300-NPN | **0301602** | |
| KA BW08-L 3P-0300-PNP | **0301594** | |
| KA BW08-L 3P-0500-NPN | **9641116** | |
| KA BW08-L 3P-0500-PNP | **0301502** | |
| Cable extensions | | |
| KV BW08-SG08 3P-0030-PNP | **0301495** | |
| KV BW08-SG08 3P-0100-PNP | **0301496** | |
| KV BW08-SG08 3P-0200-PNP | **0301497** | |

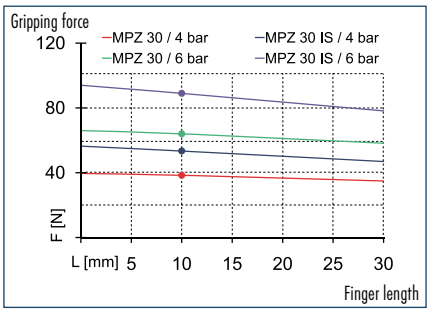
ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

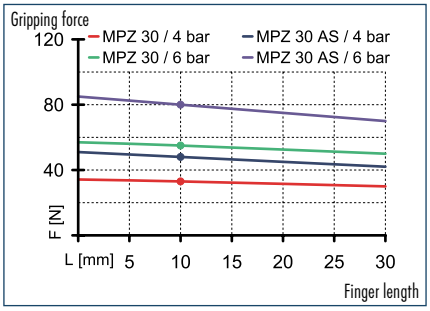
# MPZ 30

**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

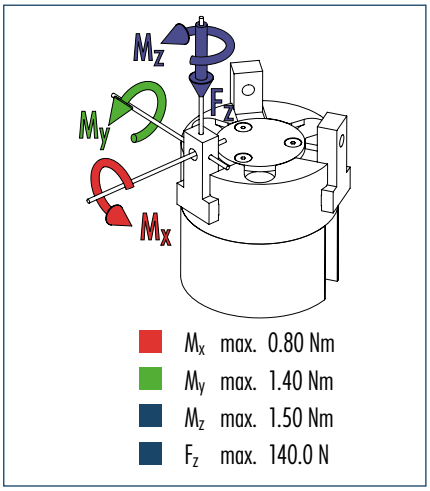
## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Finger load

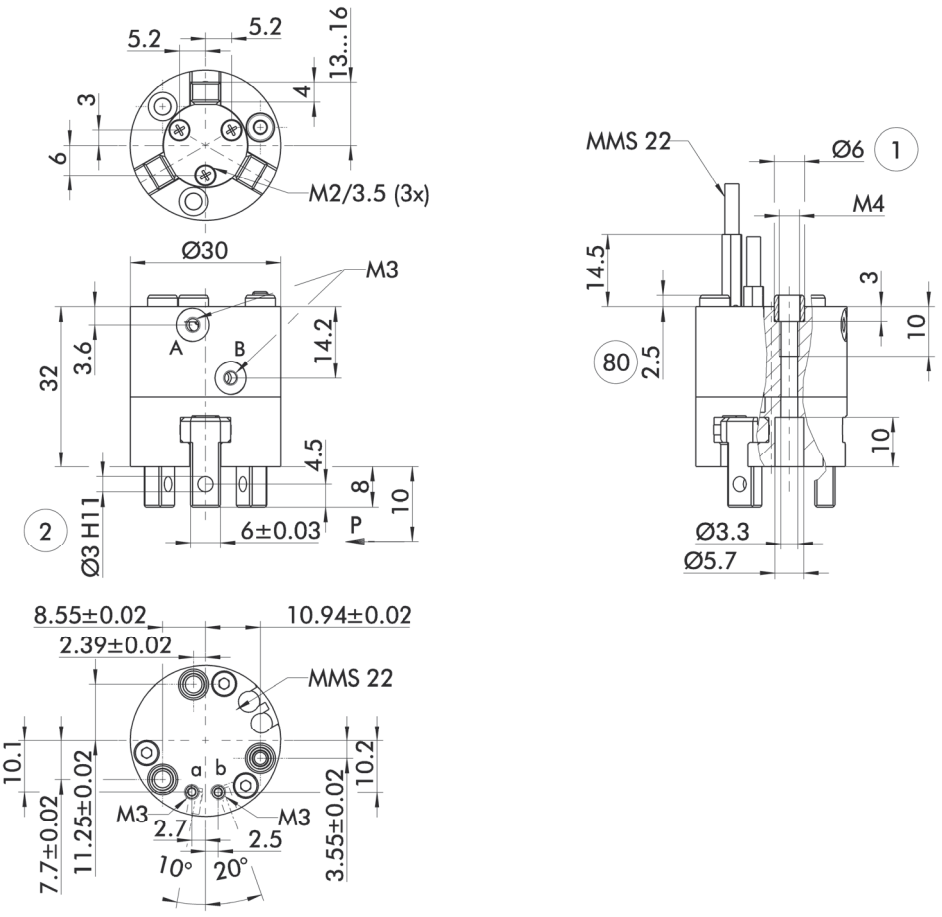



ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 30 | MPZ 30 FPS | MPZ 30-AS | MPZ 30-IS |
|---|---|---|---|---|---|
| **ID** | | **0340510** | **0340513** | **0340511** | **0340512** |
| Stroke per finger | [mm] | 3 | 3 | 3 | 3 |
| Closing force | [N] | 55 | 55 | 80 | |
| Opening force | [N] | 65 | 65 | | 90 |
| Min. spring force | [N] | | | 25 | 25 |
| Weight | [kg] | 0.08 | 0.1 | 0.09 | 0.09 |
| Recommended workpiece weight | [kg] | 0.28 | 0.28 | 0.28 | 0.28 |
| Air consumption per double stroke | [cm³] | 2.01 | 2.01 | 2.01 | 2.01 |
| Min./max. operating pressure | [bar] | 2/8 | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.02/0.02 | 0.02/0.02 | 0.02/0.04 | 0.04/0.02 |
| Max. permitted finger length | [mm] | 30 | 30 | 30 | 30 |
| Max. permitted weight per finger | [kg] | 0.03 | 0.03 | 0.03 | 0.03 |
| IP class | | 40 | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 | 5 |

## Main view

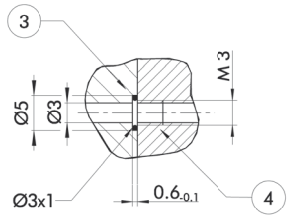



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the matching part

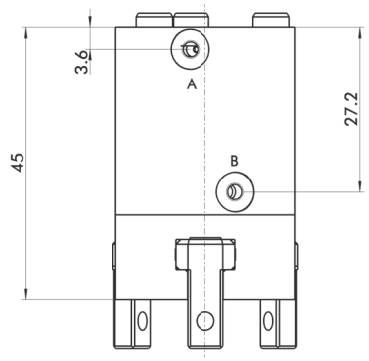
## Hose-free direct connection




3 Adapter
4 Gripper

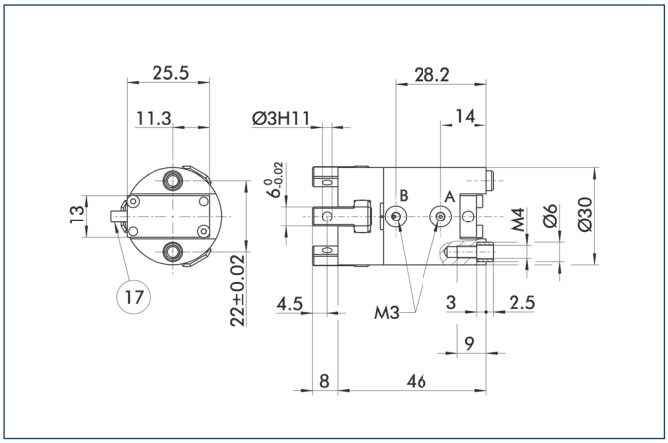
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

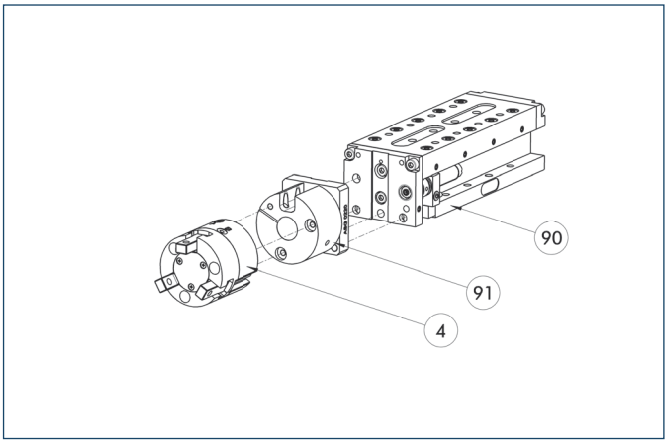
## Flexible Position Sensor




⑰ Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

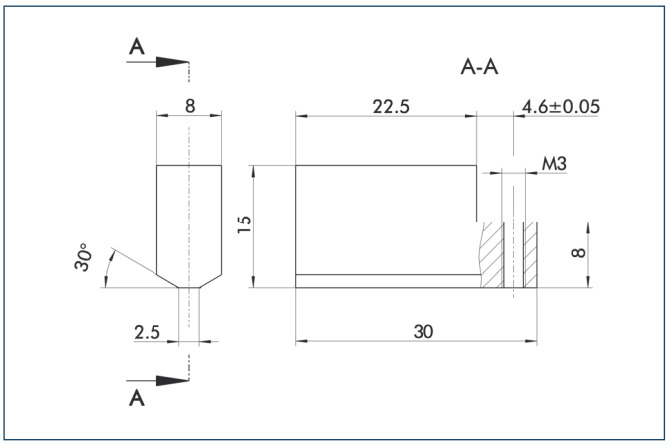
## Modular Assembly Automation




④ Gripper
⑨① ASG
⑨⓪ CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

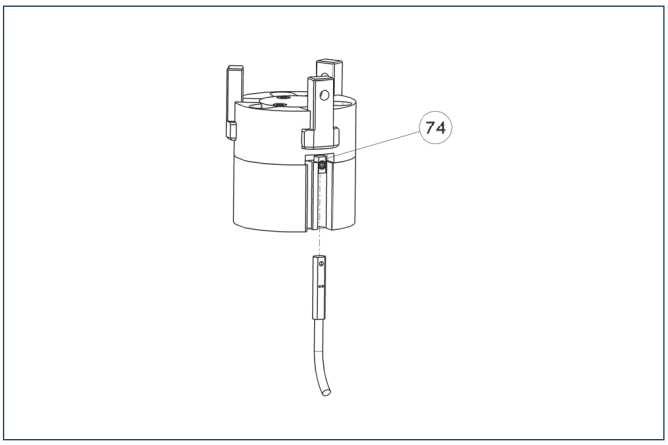
## Finger blanks




Finger blanks for customized subsequent machining

| Description | ID | Material | Scope of delivery |
|---|---|---|---|
| Finger blanks | | | |
| ABR 30 | **0340519** | Aluminum | 3 |

## Programmable magnetic switch




⑦④ Stop for MMS-P

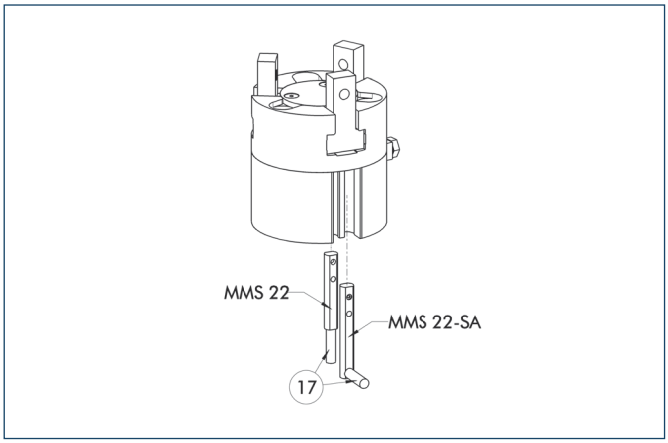
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

| Description | ID | Recommended product |
|---|---|---|
| Programmable magnetic switch | | |
| MMS-P 22-S-M8-PNP | **0301370** | • |
| MMSK-P 22-S-PNP | **0301371** | |
| Connection cables | | |
| KA BG08-L 4P-0500 | **0307767** | |
| KA BG08-L 4P-1000 | **0307768** | |
| KA BW08-L 4P-0500 | **0307765** | |
| KA BW08-L 4P-1000 | **0307766** | |
| Sensor Distributor | | |
| V2-M8-4P-2XM8-3P | **0301380** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
ⓘ Per gripper one sensor (closer/NO) is required, optionally a cable extension.

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

## Electronic magnetic switches



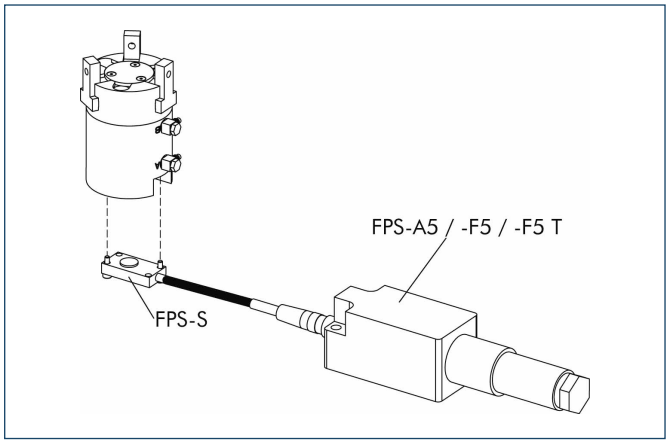

⑰ Cable outlet

End position monitoring for mounting in the C-slot

| Description | ID | Recommended product |
|---|---|---|
| Electronic magnetic switches | | |
| MMS 22-S-M5-PNP | **0301438** | |
| MMS 22-S-M5-NPN | **0301439** | |
| MMS 22-S-M8-PNP | **0301432** | • |
| MMS 22-S-M8-NPN | **0301433** | |
| MMSK 22-S-PNP | **0301434** | |
| MMSK 22-S-NPN | **0301435** | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M5-PNP-SA | **0301448** | |
| MMS 22-S-M5-NPN-SA | **0301449** | |
| MMS 22-S-M8-PNP-SA | **0301442** | • |
| MMS 22-S-M8-NPN-SA | **0301443** | |
| MMSK 22-S-PNP-SA | **0301444** | |
| MMSK 22-S-NPN-SA | **0301445** | |
| Reed Switches | | |
| RMS 22-S-M8 | **0377720** | • |
| Connection cables | | |
| KA BG05-L 3P-0300 | **0301652** | |
| KA BG08-L 3P-0300-PNP | **0301622** | |
| KA BG08-L 3P-0500-PNP | **0301623** | |
| KA BW05-L 3P-0300 | **0301650** | |
| KA BW08-L 3P-0300-NPN | **0301602** | |
| KA BW08-L 3P-0300-PNP | **0301594** | |
| KA BW08-L 3P-0500-NPN | **9641116** | |
| KA BW08-L 3P-0500-PNP | **0301502** | |
| Cable extensions | | |
| KV BW08-SG08 3P-0030-PNP | **0301495** | |
| KV BW08-SG08 3P-0100-PNP | **0301496** | |
| KV BW08-SG08 3P-0200-PNP | **0301497** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## Flexible Position Sensor




Flexible position monitoring of up to five positions

| Description | ID |
|---|---|
| Electronic Processor | |
| FPS-F5 | **0301805** |
| FPS-F5 T | **0301807** |
| Sensor | |
| FPS-S 13 | **0301705** |

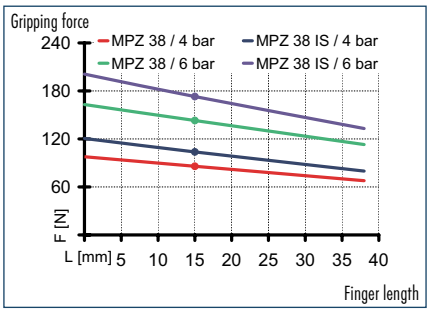
ⓘ When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

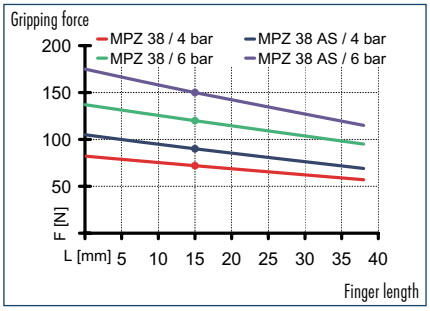
# MPZ 38

**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

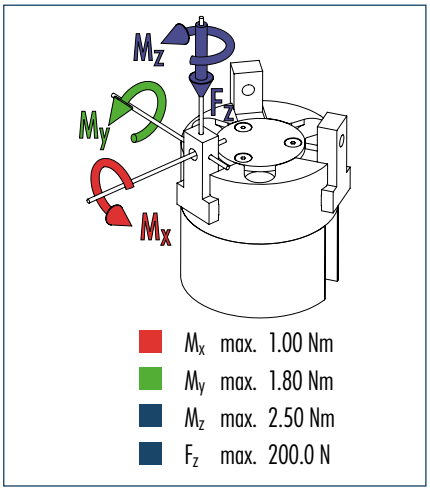
## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Finger load

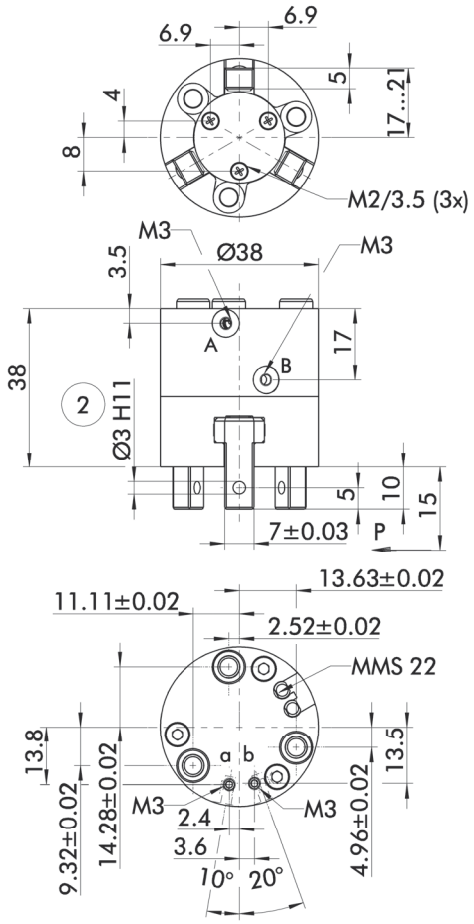


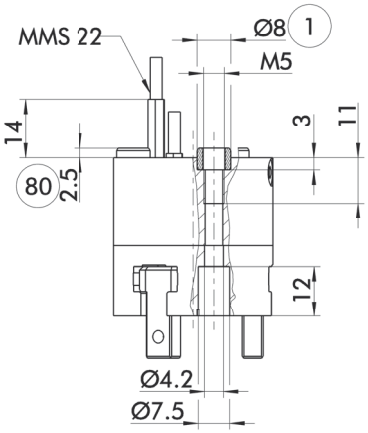

ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 38 | MPZ 38 FPS | MPZ 38-AS | MPZ 38-IS |
|---|---|---|---|---|---|
| **ID** | | **0340520** | **0340523** | **0340521** | **0340522** |
| Stroke per finger | [mm] | 4 | 4 | 4 | 4 |
| Closing force | [N] | 120 | 120 | 150 | |
| Opening force | [N] | 140 | 140 | | 180 |
| Min. spring force | [N] | | | 30 | 40 |
| Weight | [kg] | 0.14 | 0.19 | 0.19 | 0.19 |
| Recommended workpiece weight | [kg] | 0.6 | 0.6 | 0.6 | 0.6 |
| Air consumption per double stroke | [cm³] | 4.08 | 4.08 | 4.08 | 4.08 |
| Min./max. operating pressure | [bar] | 2/8 | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.02/0.02 | 0.02/0.02 | 0.02/0.04 | 0.04/0.02 |
| Max. permitted finger length | [mm] | 38 | 38 | 38 | 38 |
| Max. permitted weight per finger | [kg] | 0.05 | 0.05 | 0.05 | 0.05 |
| IP class | | 40 | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 | 5 |

## Main view



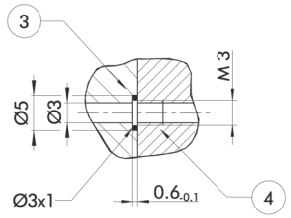




The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
(80) Depth of the centering sleeve hole in the matching part

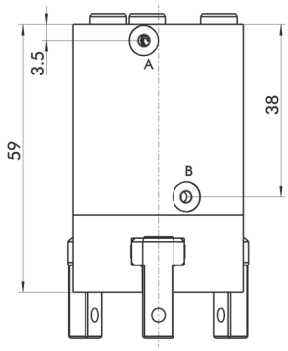
## Hose-free direct connection




③ Adapter
④ Gripper

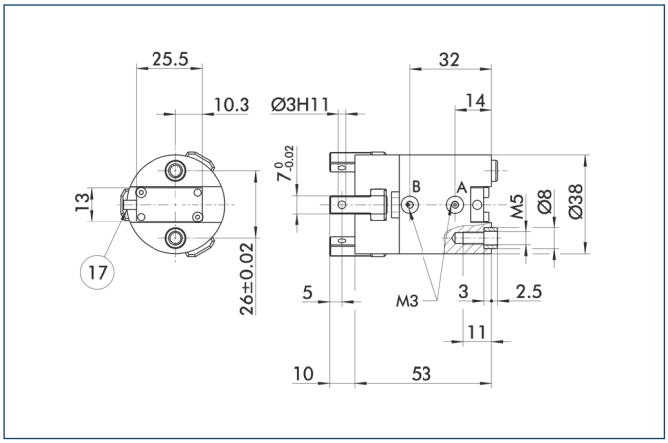
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

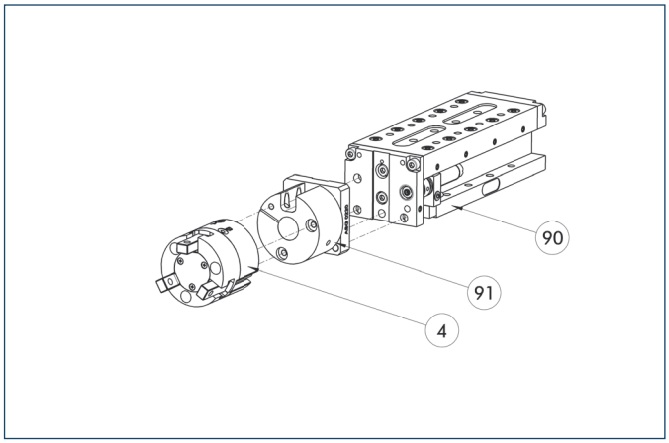
## Flexible Position Sensor




⑰ Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

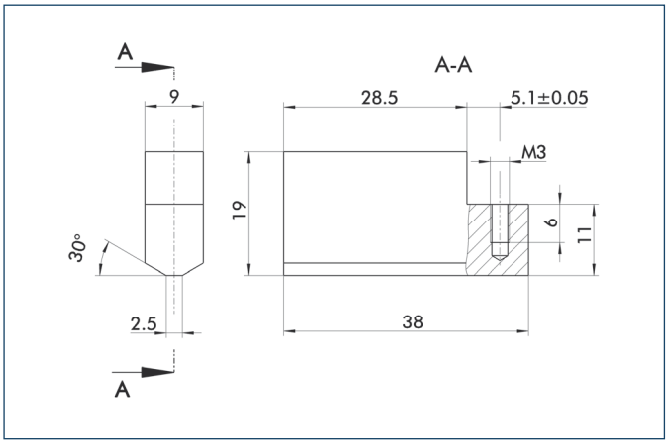
## Modular Assembly Automation




④ Gripper
⑨① ASG
⑨⓪ CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

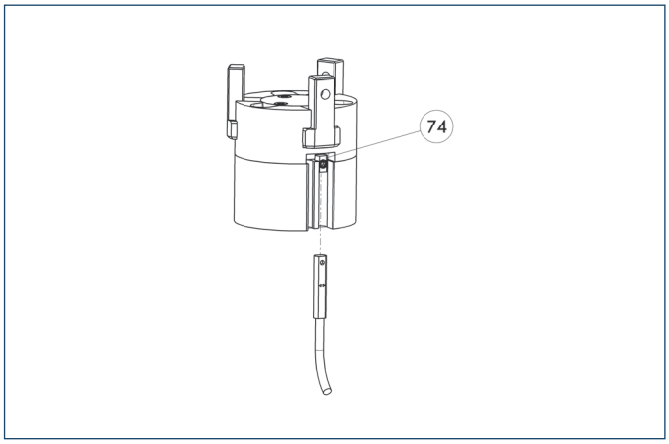
## Finger blanks




Finger blanks for customized subsequent machining

| Description | ID | Material | Scope of delivery |
|---|---|---|---|
| Finger blanks | | | |
| ABR 38 | **0340529** | Aluminum | 3 |

## Programmable magnetic switch




⑦④ Stop for MMS-P

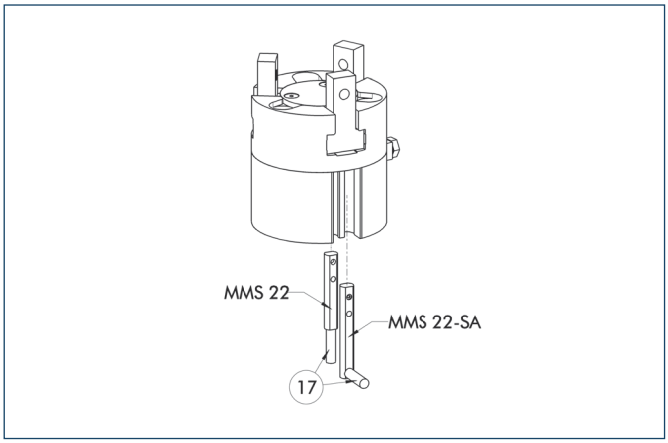
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

| Description | ID | Recommended product |
|---|---|---|
| Programmable magnetic switch | | |
| MMS-P 22-S-M8-PNP | **0301370** | • |
| MMSK-P 22-S-PNP | **0301371** | |
| Connection cables | | |
| KA BG08-L 4P-0500 | **0307767** | |
| KA BG08-L 4P-1000 | **0307768** | |
| KA BW08-L 4P-0500 | **0307765** | |
| KA BW08-L 4P-1000 | **0307766** | |
| Sensor Distributor | | |
| V2-M8-4P-2XM8-3P | **0301380** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
ⓘ Per gripper one sensor (closer/NO) is required, optionally a cable extension.


You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

## Electronic magnetic switches



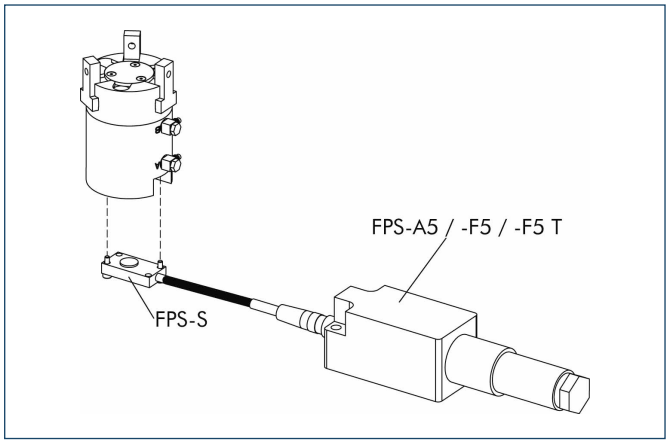

⑰ Cable outlet

End position monitoring for mounting in the C-slot

| Description | ID | Recommended product |
|---|---|---|
| Electronic magnetic switches | | |
| MMS 22-S-M5-PNP | **0301438** | |
| MMS 22-S-M5-NPN | **0301439** | |
| MMS 22-S-M8-PNP | **0301432** | • |
| MMS 22-S-M8-NPN | **0301433** | |
| MMSK 22-S-PNP | **0301434** | |
| MMSK 22-S-NPN | **0301435** | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M5-PNP-SA | **0301448** | |
| MMS 22-S-M5-NPN-SA | **0301449** | |
| MMS 22-S-M8-PNP-SA | **0301442** | • |
| MMS 22-S-M8-NPN-SA | **0301443** | |
| MMSK 22-S-PNP-SA | **0301444** | |
| MMSK 22-S-NPN-SA | **0301445** | |
| Connection cables | | |
| KA BG05-L 3P-0300 | **0301652** | |
| KA BG08-L 3P-0300-PNP | **0301622** | |
| KA BG08-L 3P-0500-PNP | **0301623** | |
| KA BW05-L 3P-0300 | **0301650** | |
| KA BW08-L 3P-0300-NPN | **0301602** | |
| KA BW08-L 3P-0300-PNP | **0301594** | |
| KA BW08-L 3P-0500-NPN | **9641116** | |
| KA BW08-L 3P-0500-PNP | **0301502** | |
| Cable extensions | | |
| KV BW08-SG08 3P-0030-PNP | **0301495** | |
| KV BW08-SG08 3P-0100-PNP | **0301496** | |
| KV BW08-SG08 3P-0200-PNP | **0301497** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## Flexible Position Sensor




Flexible position monitoring of up to five positions

| Description | ID |
|---|---|
| Electronic Processor | |
| FPS-F5 | **0301805** |
| FPS-F5 T | **0301807** |
| Sensor | |
| FPS-S 13 | **0301705** |

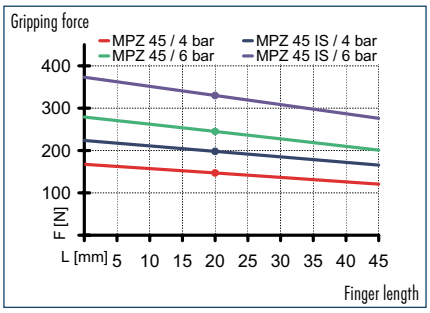
ⓘ When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.

You can find more detailed information and individual parts of the above-mentioned accessories in the “Accessories” catalog section.

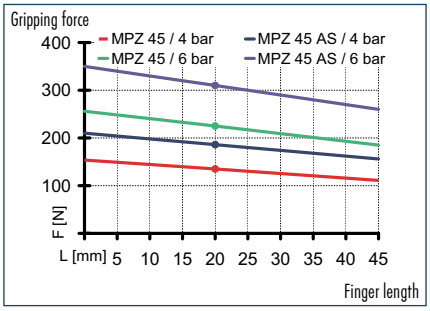
# MPZ 45

**Pneumatic • 3-Finger Centric Gripper • Gripper for small components**

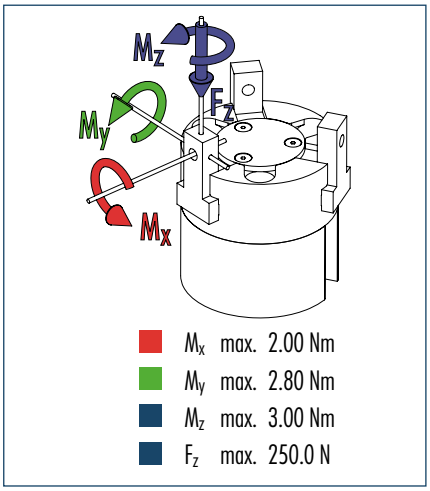
## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Finger load

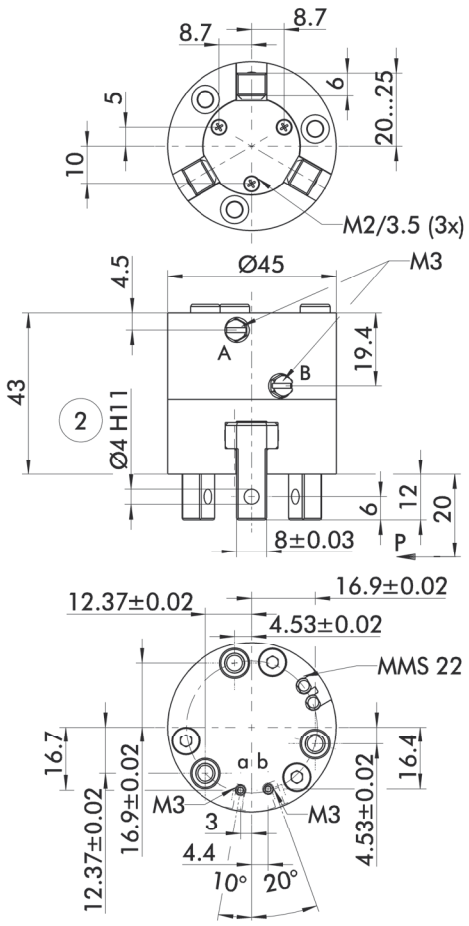


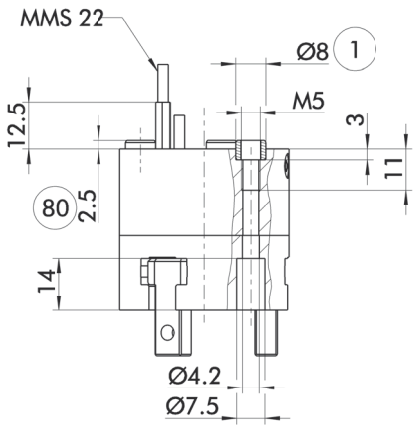

ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. $M_y$ may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

## Technical data

| Description | | MPZ 45 | MPZ 45 FPS | MPZ 45-AS | MPZ 45-IS |
|---|---|---|---|---|---|
| **ID** | | **0340530** | **0340533** | **0340531** | **0340532** |
| Stroke per finger | [mm] | 5 | 5 | 5 | 5 |
| Closing force | [N] | 225 | 225 | 310 | |
| Opening force | [N] | 245 | 245 | | 340 |
| Min. spring force | [N] | | | 85 | 95 |
| Weight | [kg] | 0.22 | 0.29 | 0.28 | 0.28 |
| Recommended workpiece weight | [kg] | 1.15 | 1.15 | 1.15 | 1.15 |
| Air consumption per double stroke | [cm³] | 9.85 | 9.85 | 9.85 | 9.85 |
| Min./max. operating pressure | [bar] | 2/8 | 2/8 | 4/6.5 | 4/6.5 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 | 6 |
| Closing/opening time | [s] | 0.05/0.05 | 0.05/0.05 | 0.04/0.05 | 0.05/0.04 |
| Max. permitted finger length | [mm] | 45 | 45 | 45 | 45 |
| Max. permitted weight per finger | [kg] | 0.08 | 0.08 | 0.08 | 0.08 |
| IP class | | 40 | 40 | 40 | 40 |
| Min./max. ambient temperature | [°C] | -10/90 | -10/90 | -10/90 | -10/90 |
| Repeat accuracy | [mm] | 0.01 | 0.01 | 0.01 | 0.01 |
| Cleanroom class ISO-classification 14644-1 | | 5 | 5 | 5 | 5 |

## Main view



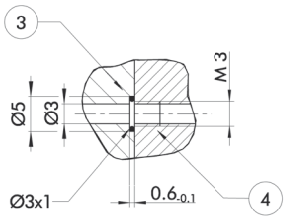




The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see "Accessories" catalog section).

A, a Main/direct connection, gripper opening
B, b Main/direct connection, gripper closing
① Gripper connection
② Finger connection
(80) Depth of the centering sleeve hole in the matching part

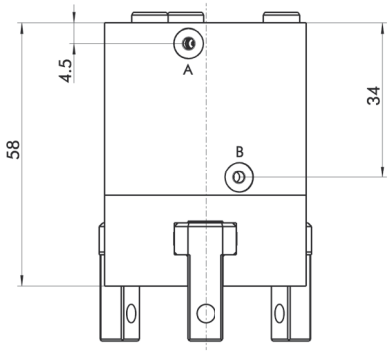
## Hose-free direct connection




③ Adapter
④ Gripper

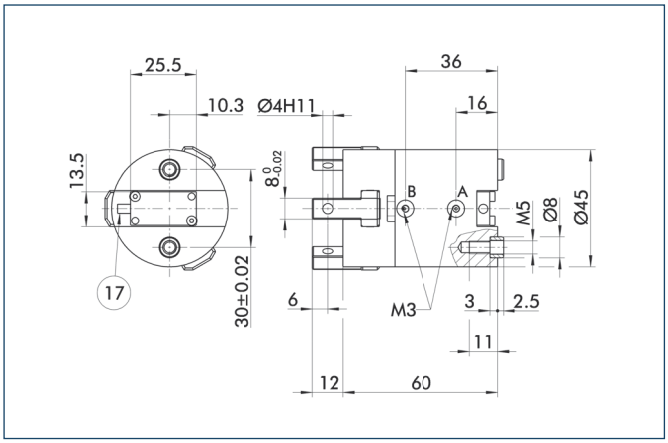
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## AS/IS gripping force maintenance device




The mechanical gripping force maintenance device ensures a minimum gripping force even in case of pressure drop. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force maintenance device can also be used for increasing the gripping force or for single-acting gripping.

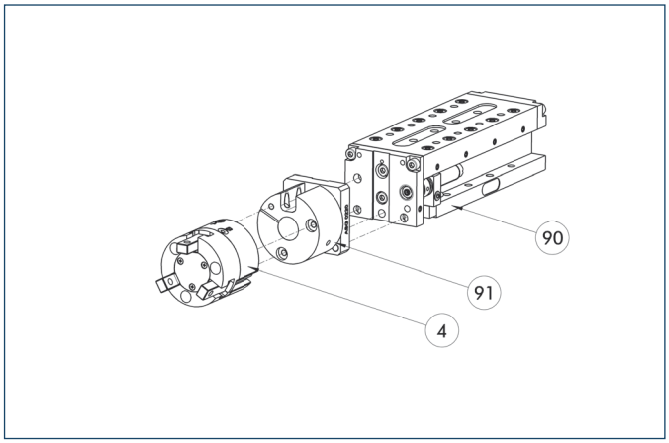
## Flexible Position Sensor




⑰ Cable outlet

The FPS flexible position sensor can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

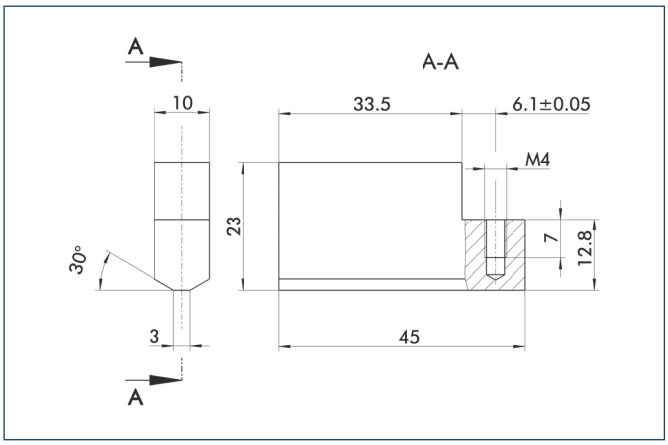
## Modular Assembly Automation




④ Gripper
⑨① ASG
⑨⓪ CLM

This gripper can be combined with the standard linear modules LM, KLM, CLM and ELM of the GEMOTEC modular system. For more information see our main catalog "Modular Assembly Automation".

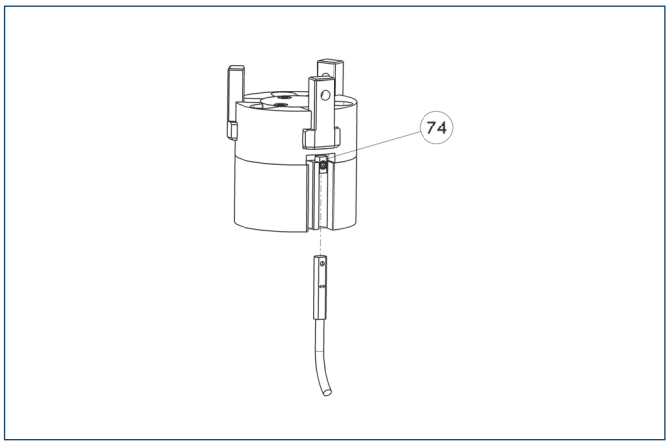
## Finger blanks




Finger blanks for customized subsequent machining

| Description | ID | Material | Scope of delivery |
|---|---|---|---|
| Finger blanks | | | |
| ABR 45 | **0340539** | Aluminum | 3 |

## Programmable magnetic switch




⑦④ Stop for MMS-P

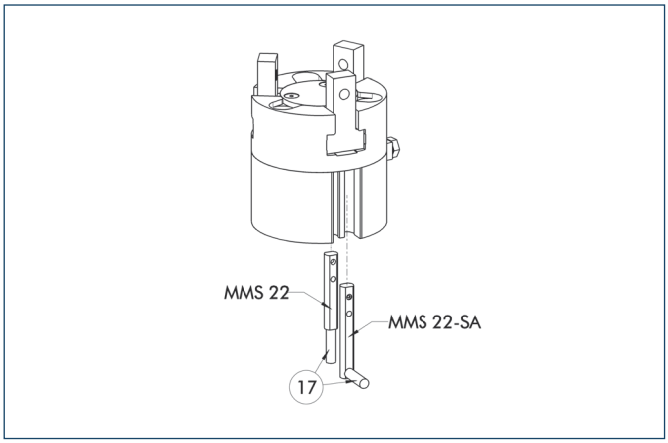
Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

| Description | ID | Recommended product |
|---|---|---|
| Programmable magnetic switch | | |
| MMS-P 22-S-M8-PNP | **0301370** | • |
| MMSK-P 22-S-PNP | **0301371** | |
| Connection cables | | |
| KA BG08-L 4P-0500 | **0307767** | |
| KA BG08-L 4P-1000 | **0307768** | |
| KA BW08-L 4P-0500 | **0307765** | |
| KA BW08-L 4P-1000 | **0307766** | |
| Sensor Distributor | | |
| V2-M8-4P-2XM8-3P | **0301380** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.
ⓘ Per gripper one sensor (closer/NO) is required, optionally a cable extension.

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

## Electronic magnetic switches



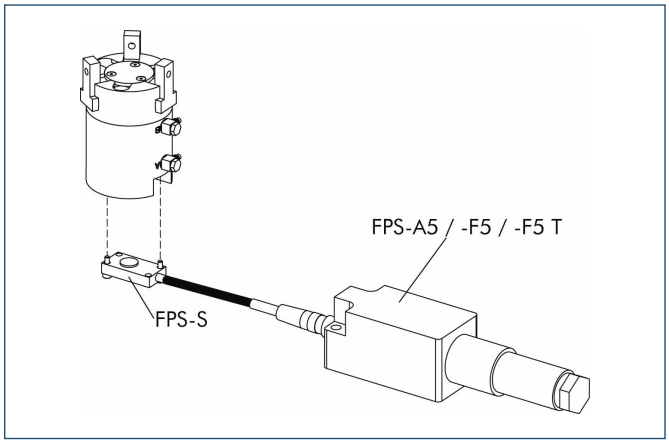

⑰ Cable outlet

End position monitoring for mounting in the C-slot

| Description | ID | Recommended product |
|---|---|---|
| Electronic magnetic switches | | |
| MMS 22-S-M5-PNP | **0301438** | |
| MMS 22-S-M5-NPN | **0301439** | |
| MMS 22-S-M8-PNP | **0301432** | • |
| MMS 22-S-M8-NPN | **0301433** | |
| MMSK 22-S-PNP | **0301434** | |
| MMSK 22-S-NPN | **0301435** | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M5-PNP-SA | **0301448** | |
| MMS 22-S-M5-NPN-SA | **0301449** | |
| MMS 22-S-M8-PNP-SA | **0301442** | • |
| MMS 22-S-M8-NPN-SA | **0301443** | |
| MMSK 22-S-PNP-SA | **0301444** | |
| MMSK 22-S-NPN-SA | **0301445** | |
| Connection cables | | |
| KA BG05-L 3P-0300 | **0301652** | |
| KA BG08-L 3P-0300-PNP | **0301622** | |
| KA BG08-L 3P-0500-PNP | **0301623** | |
| KA BW05-L 3P-0300 | **0301650** | |
| KA BW08-L 3P-0300-NPN | **0301602** | |
| KA BW08-L 3P-0300-PNP | **0301594** | |
| KA BW08-L 3P-0500-NPN | **9641116** | |
| KA BW08-L 3P-0500-PNP | **0301502** | |
| Cable extensions | | |
| KV BW08-SG08 3P-0030-PNP | **0301495** | |
| KV BW08-SG08 3P-0100-PNP | **0301496** | |
| KV BW08-SG08 3P-0200-PNP | **0301497** | |

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## Flexible Position Sensor




Flexible position monitoring of up to five positions

| Description | ID |
|---|---|
| Electronic Processor | |
| FPS-F5 | **0301805** |
| FPS-F5 T | **0301807** |
| Sensor | |
| FPS-S 13 | **0301705** |

ⓘ When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T or A5) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.

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