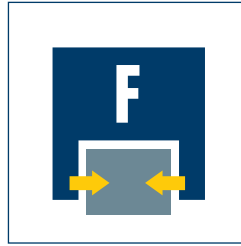




**Sizes**  
10 .. 80



**Weight**  
0.006 kg .. 1.35 kg



**Gripping force**  
7 N .. 540 N



**Stroke per finger**  
1 mm .. 14 mm



**Workpiece weight**  
0.045 kg .. 1.9 kg

### Application example



Pneumatically driven, dual-axis automatic insertion unit for small components

**1** MPG 32 2-Finger Parallel Gripper with standard finger blanks

**2** FST-S 10-40 Mini-slide for vertical movement

**3** FST-S 16-90 Mini-slide for horizontal movement

## Gripper for Small Components

2-Finger parallel gripper with smooth actuating base jaws guided on roller bearings

### Area of application

Gripping and movement of small to medium-sized workpieces in clean environments, such as assembly, testing, laboratory and pharmaceutical applications

### Your advantages and benefits

#### Roller bearing guide

for precise gripping through base jaw guide with minimum play

#### Base jaws guided on double roller bearings

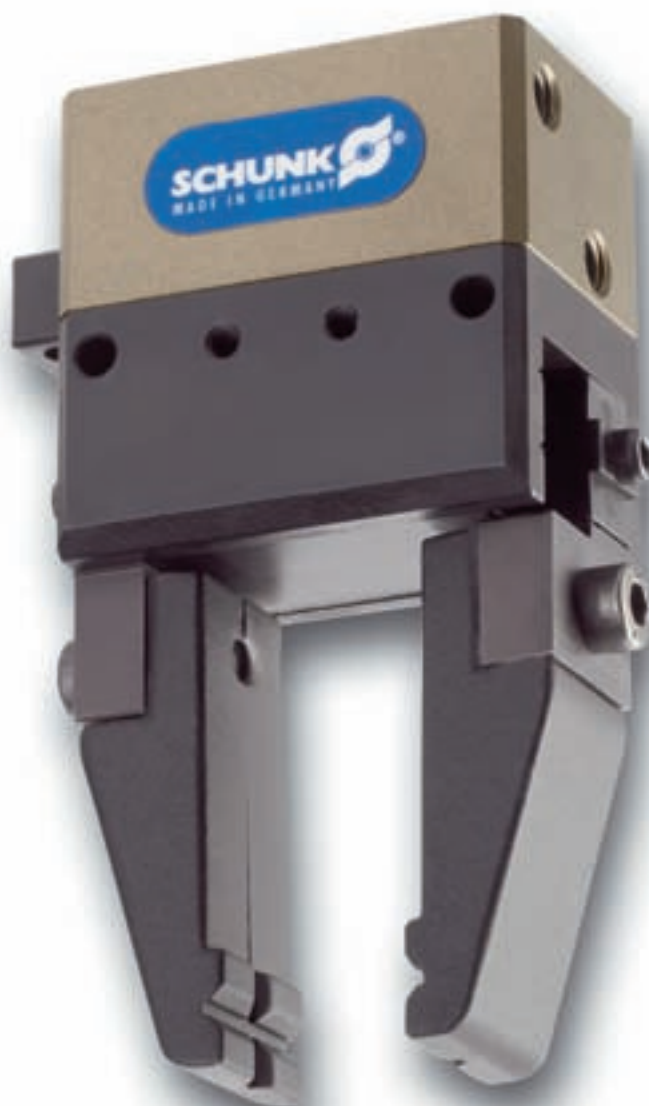
ensuring low friction and smooth running actuation

#### Mounting from three sides in three screw directions

for universal and flexible gripper assembly

#### Air supply via hose-free direct connection or screw connections

for the flexible supply of compressed air in all automation systems



### General information on the series

#### Working principle

Wedge-hook kinematics

#### Housing material

Aluminum alloy, hard-anodized

#### Cover material

Steel

#### Base jaw material

Steel

#### Actuation

Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated  
Pressure medium: Requirements on quality of the compressed air according to DIN ISO 8573-1: 6 4 4.

#### Warranty

24 months

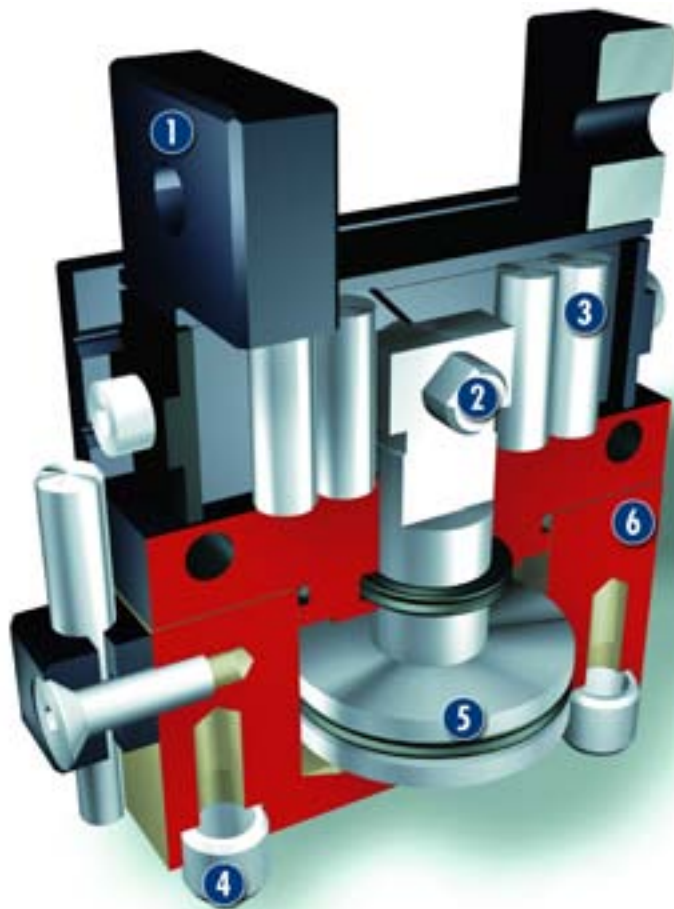
#### Scope of delivery

Brackets for proximity switches, centering sleeves, O-rings for direct connection, assembly and operating manual with manufacturer's declaration

#### Gripping force safety device

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

### Sectional diagram



- 1 Base jaws**  
for the connection of workpiece-specific gripper fingers
- 2 Wedge-hook design**  
for high power transmission and centric gripping
- 3 Roller bearing guide**  
precise gripping through base jaw guide with minimum play
- 4 Centering and mounting possibilities**  
for assembly of the gripper to a base area and at the long side
- 5 Drive**  
piston drive system for compressed air action
- 6 Housing**  
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

### Function description

The piston is moved up and down by compressed air. The side hooks at the upper end of the piston rod engage in the angular slots of the two base jaws, and in so doing transform this movement into the synchronized opening or closing of the base fingers.

### Options and special information

#### Additional mounting bores

for centering the fingers via sleeves, instead of normal mounting surfaces, are available on request as a special version.

### Accessories

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

Centering sleeves



Fittings



IN inductive proximity switches



KV/KA sensor cables



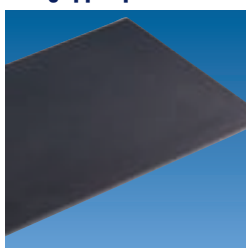
HM carbide clamping inserts



Quentes plastic inserts



HKI gripper pads



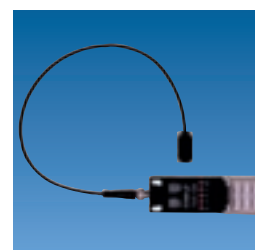
SDV-P pressure maintenance valves



V sensor distributors



FPS flexible position sensor



Finger blanks



① 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 information on the series

#### Gripping force

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

#### 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

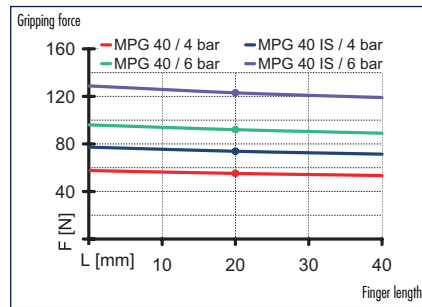
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit gripping.

#### Closing and opening times

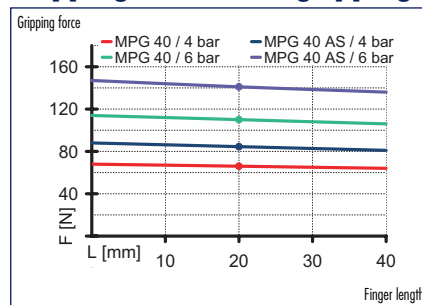
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



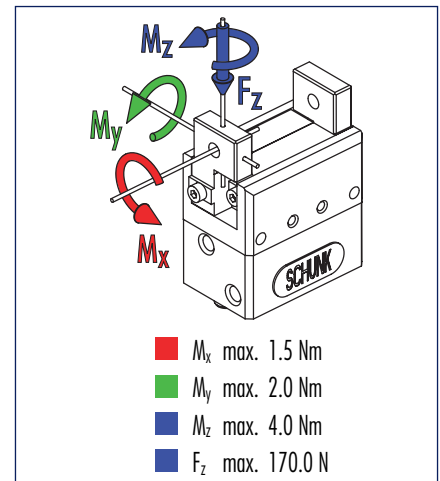
### Gripping force, I.D. gripping



### Gripping force, O.D. gripping



### Finger load

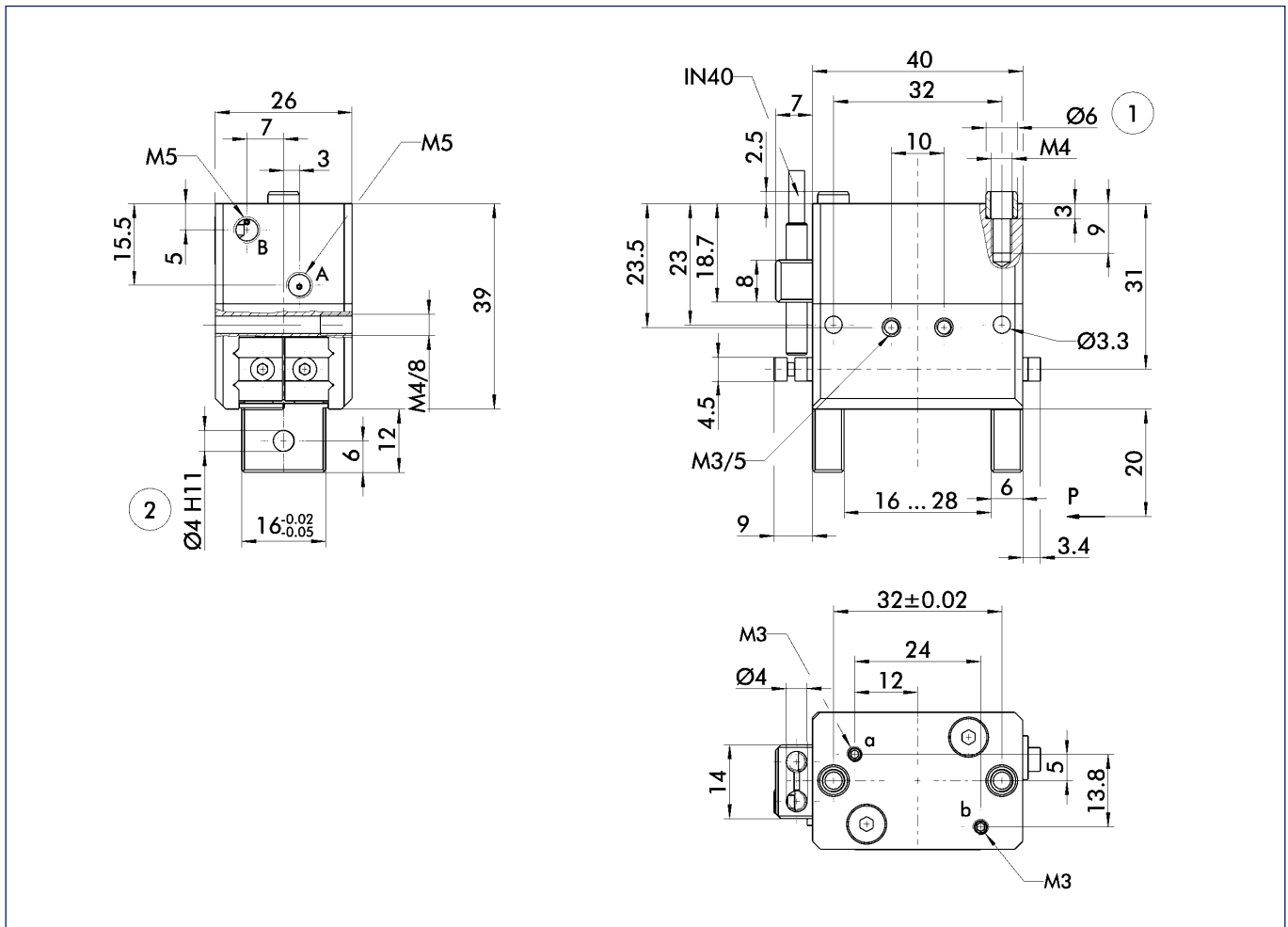


① Moments and forces apply per base jaw and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing. Service life may reduce.

## Technical data

| Description                           |                    | MPG 40  | MPG 40-AS | MPG 40-IS |
|---------------------------------------|--------------------|---------|-----------|-----------|
|                                       | ID                 | 0340012 | 0340042   | 0340062   |
| Stroke per finger                     | [mm]               | 6.0     | 6.0       | 6.0       |
| Closing force                         | [N]                | 110.0   | 145.0     |           |
| Opening force                         | [N]                | 90.0    |           | 115.0     |
| Min. gripping force through spring    | [N]                |         | 35.0      | 25.0      |
| Weight                                | [kg]               | 0.2     | 0.26      | 0.26      |
| Recommended workpiece weight          | [kg]               | 0.55    | 0.55      | 0.55      |
| Air consumption per double stroke     | [cm <sup>3</sup> ] | 5.76    | 12.5      | 10.98     |
| Nominal pressure                      | [bar]              | 6.0     | 6.0       | 6.0       |
| Minimum pressure                      | [bar]              | 2.0     | 4.0       | 4.0       |
| Maximum pressure                      | [bar]              | 8.0     | 6.5       | 6.5       |
| Closing time                          | [s]                | 0.05    | 0.03      | 0.05      |
| Opening time                          | [s]                | 0.05    | 0.05      | 0.03      |
| Closing/opening time with spring only | [s]                |         | 0.2       | 0.2       |
| Max. permitted finger length          | [mm]               | 40.0    | 40.0      | 40.0      |
| Max. permitted weight per finger      | [kg]               | 0.08    | 0.08      | 0.08      |
| IP class                              |                    | 30      | 30        | 30        |
| Min. ambient temperature              | [°C]               | -10.0   | -10.0     | -10.0     |
| Max. ambient temperature              | [°C]               | 90.0    | 90.0      | 90.0      |
| Repeat accuracy                       | [mm]               | 0.02    | 0.02      | 0.02      |

### Main views

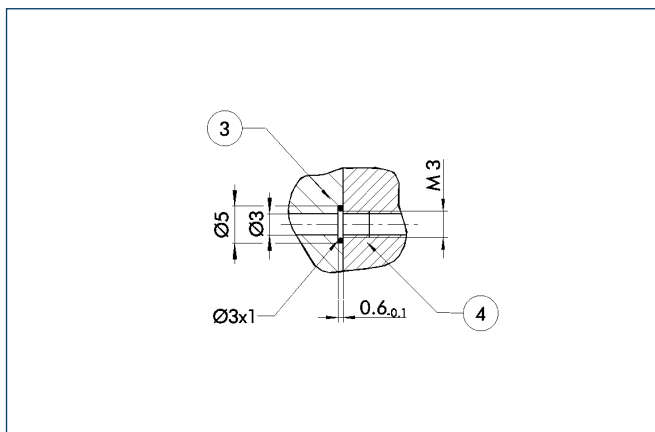


The drawing shows the gripper in the basic version with open jaws, the dimensions do not include the options described below.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- ① Gripper connection
- ② Finger connection

① The SDV-P pressure maintenance valve can also be used (see „Accessories“ catalog section) for I.D. or O.D. gripping as an alternative or in addition to the spring-loaded, mechanical gripping force safety device.

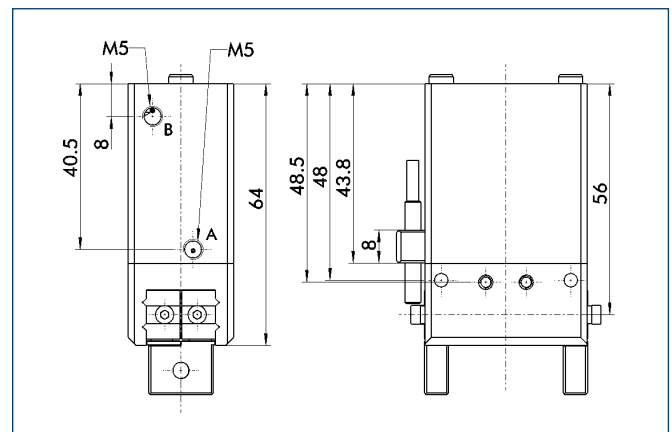
### Hose-free direct connection



- ③ Adapter
- ④ Gripper

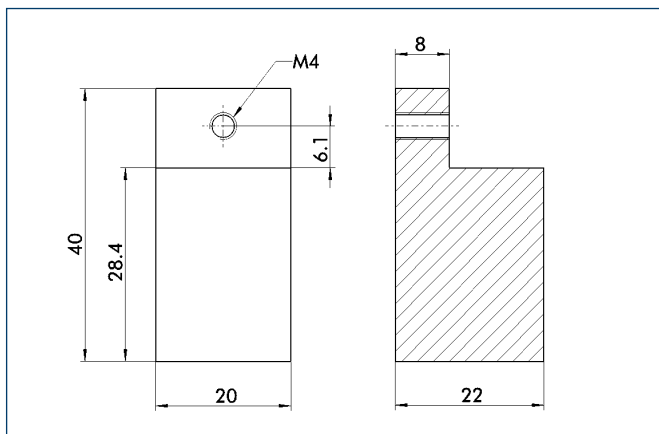
The direct connection is used for supplying compressed air to the gripper without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

### AS/IS gripping force safety device



The mechanical gripping force safety device ensures a minimum gripping force even if there is a drop in pressure. This acts as closing force in the AS version, and as opening force in the IS version. In addition, the gripping force safety device can also be employed as a gripping force booster or for single-acting gripping.

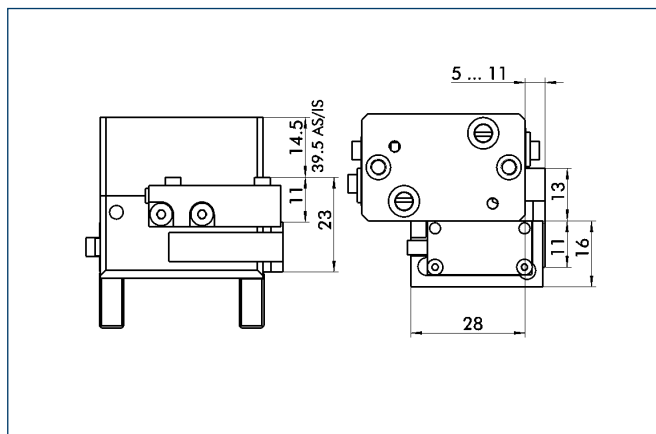
### Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

| Description | Material | Scope of delivery | ID      |
|-------------|----------|-------------------|---------|
| ABR 40      | Aluminum | 2                 | 0340213 |

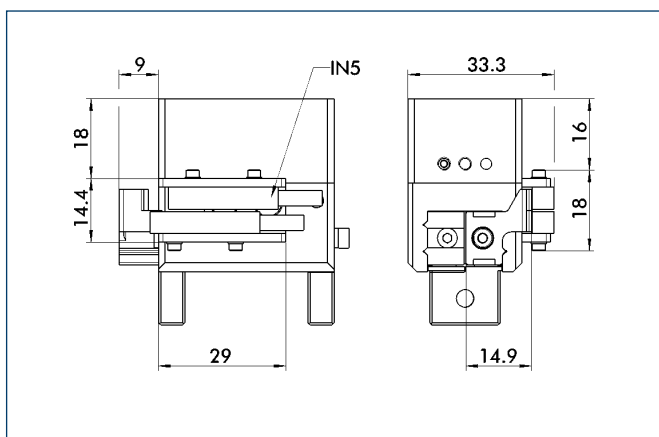
### Mounting kit for FPS



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.

| Description | ID      |
|-------------|---------|
| AS-MPG 40   | 0301762 |

### Mounting kit for proximity switch



The mounting kit includes a bracket, switch cams and mounting screws. Proximity switches must be ordered separately.

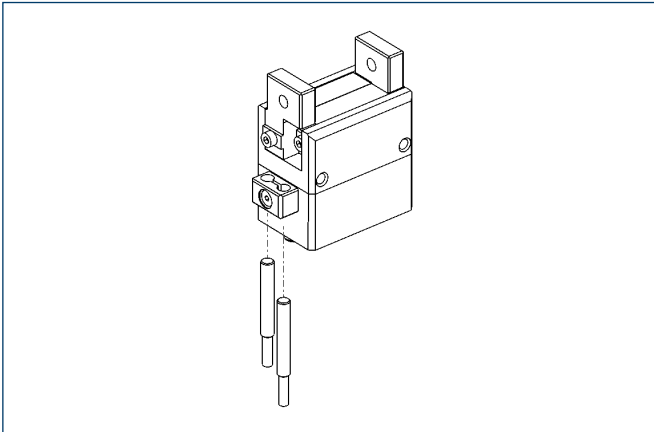
| Description | ID      |
|-------------|---------|
| AS-MPG 40   | 0340152 |



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



### Sensor system

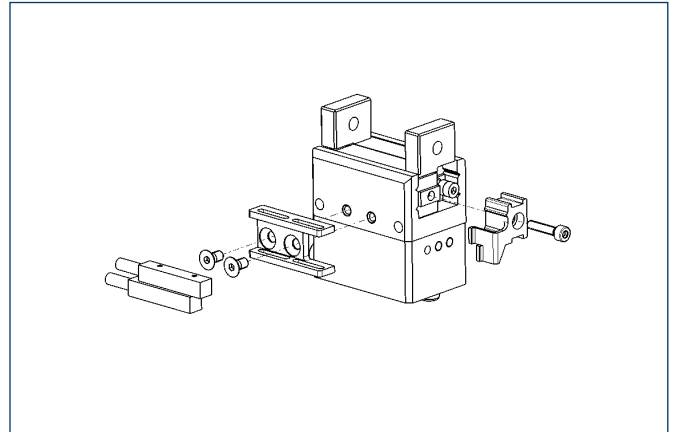


#### End position monitoring:

##### Inductive proximity switches, for direct mounting

| Description    | ID      | Recommended product |
|----------------|---------|---------------------|
| IN 40-S-M12    | 0301574 |                     |
| IN 40-S-M5-NPN | 0301492 |                     |
| IN 40-S-M5-PNP | 0301491 |                     |
| IN 40-S-M8     | 0301474 | •                   |
| INK 40-S       | 0301555 |                     |

① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.



#### End position monitoring:

##### Inductive proximity switches, mounted with mounting kit

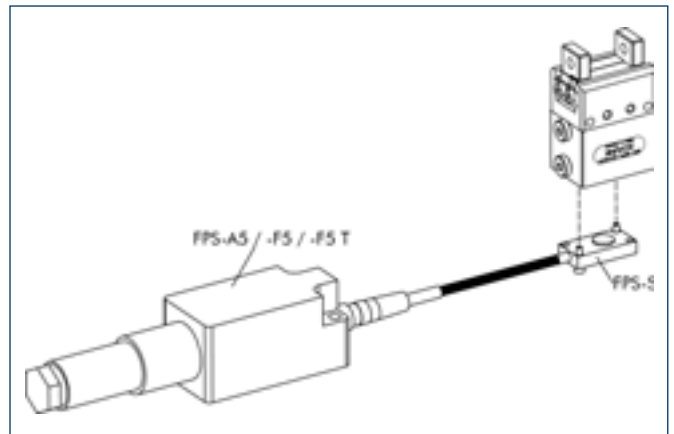
| Description | ID      | Recommended product |
|-------------|---------|---------------------|
| AS-MPG 40   | 0340152 |                     |
| IN 5-S-M12  | 0301569 |                     |
| IN 5-S-M8   | 0301469 | •                   |

① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

### Extension cables for proximity switches/magnetic switches

| Description              | ID      |
|--------------------------|---------|
| KA BG05-L 3P-0300        | 0301652 |
| KA BG08-L 3P-0300-PNP    | 0301622 |
| KA BW05-L 3P-0300        | 0301650 |
| KA BW08-L 3P-0300-PNP    | 0301594 |
| KA BW08-L 3P-0500-PNP    | 0301502 |
| KA BW12-L 3P-0300-PNP    | 0301503 |
| KA BW12-L 3P-0500-PNP    | 0301507 |
| KV BW08-SG08 3P-0030-PNP | 0301495 |
| KV BW08-SG08 3P-0100-PNP | 0301496 |
| KV BW08-SG08 3P-0200-PNP | 0301497 |
| KV BW12-SG12 3P-0030-PNP | 0301595 |
| KV BW12-SG12 3P-0100-PNP | 0301596 |
| KV BW12-SG12 3P-0200-PNP | 0301597 |

① Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.



#### Measuring system:

##### FPS Flexible position sensor

| Description | ID      |
|-------------|---------|
| AS-MPG 40   | 0301762 |
| FPS-F5      | 0301805 |
| FPS-F5 T    | 0301807 |
| FPS-S 13    | 0301705 |

① When using an FPS system, an FPS sensor (FPS-S) and an 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.