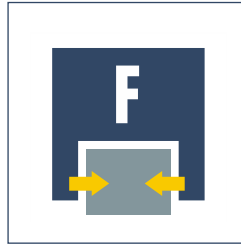




Sizes
30 .. 50



Weight
2.65 kg .. 9.7 kg



Gripping force
510 N .. 2650 N



Stroke per finger
30 mm .. 50 mm



Workpiece weight
2.55 kg .. 11.5 kg

Application example



Assembly unit for intermediate sleeves in various diameters. The unit has collision protection to prevent damages.

1 PFH 30 2-Finger Parallel Gripper with workpiece-specific gripper fingers

2 OPS 100 collision and overload protection

Long-stroke Gripper

2-Finger parallel gripper with long jaw stroke for large parts and/or a broad range of parts

Area of application

Clean to slightly dirty environments

Your advantages and benefits

Robust guidance

for the precise handling of all kinds of workpieces

High moment capabilities

suitable for the use of long gripper fingers

Rack and pinion principle

for centric gripping

Mounting from two sides in three screw-on 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

Pneumatic double piston system synchronized by rack and pinion principle

Housing material

Aluminum alloy, hard-anodized

Base jaw material

Steel

Actuation

Pneumatic, with filtered compressed air (10 µm): Dry, lubricated or non-lubricated
 Pressure medium: Required quality class of compressed air according to DIN ISO 8573-1: Quality class 4

Warranty

24 months

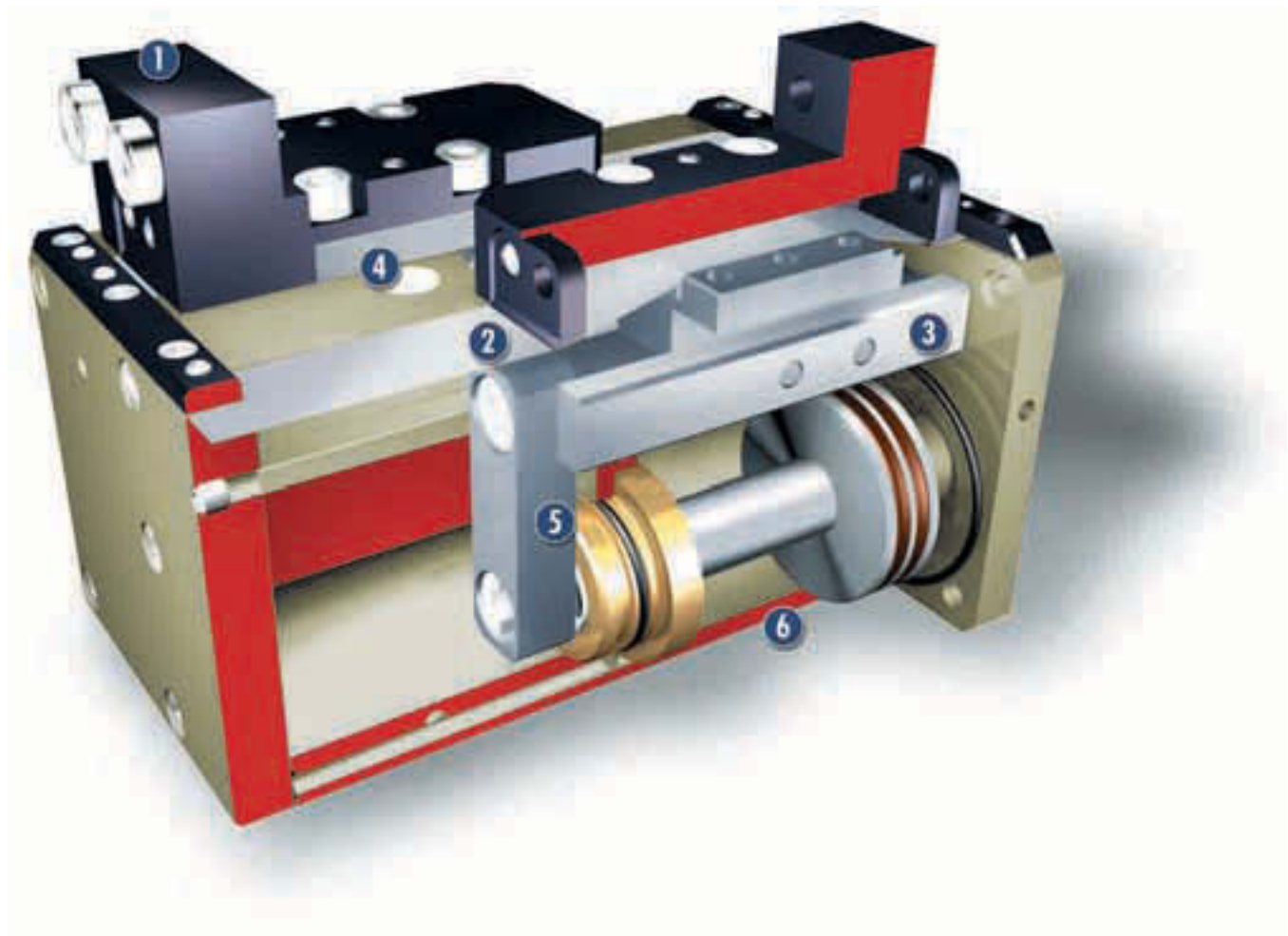
Scope of delivery

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

Maintenance of gripping force

possible with SDV-P pressure maintenance valve

Sectional diagram



- 1 Base jaws**
for the connection of workpiece-specific gripper fingers
- 2 Dirt cover**
protects against rough contamination along the entire length of the guide
- 3 Guidance**
for precise gripping with minimum play and high load capacity
- 4 Centering and mounting possibilities**
for universal gripper mounting
- 5 Kinematics**
rack and pinion principle for centric gripping
- 6 Housing**
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

Function description

The application of pressure on the opposite piston sets the base jaws, each of which is guided by a carrier on the piston, in motion. The jaw stroke is synchronized by means of rack and pinion kinematics.

Options and special information

Gripper with guide cover

to protect against rough contamination. Gripper available on request as a special unit with double stroke but with the same gripping forces.

Accessories

SCHUNK accessories – the suitable complement for the highest level of functionality, reliability and controlled production of all automation modules.

Centering sleeves



Fittings



MMS magnetic switch



IN inductive proximity switches



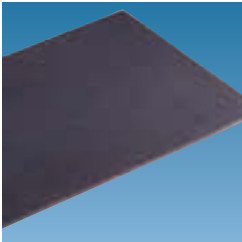
Quentes plastic inserts



W/WK/KV/GK sensor cables



HKI gripper pads



V sensor distributors



SDV-P pressure maintenance valves



Finger blanks



FPS flexible position sensor



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 can 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 base 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

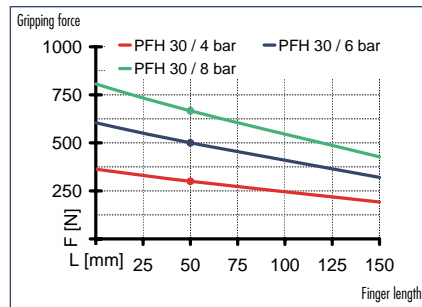
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

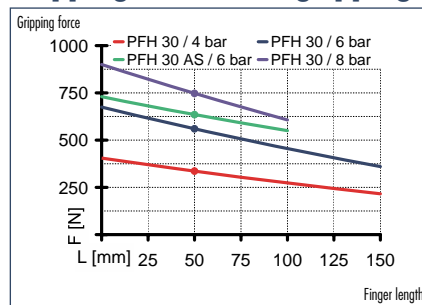
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.



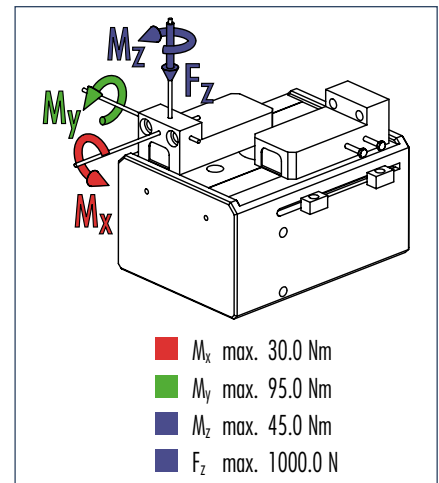
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

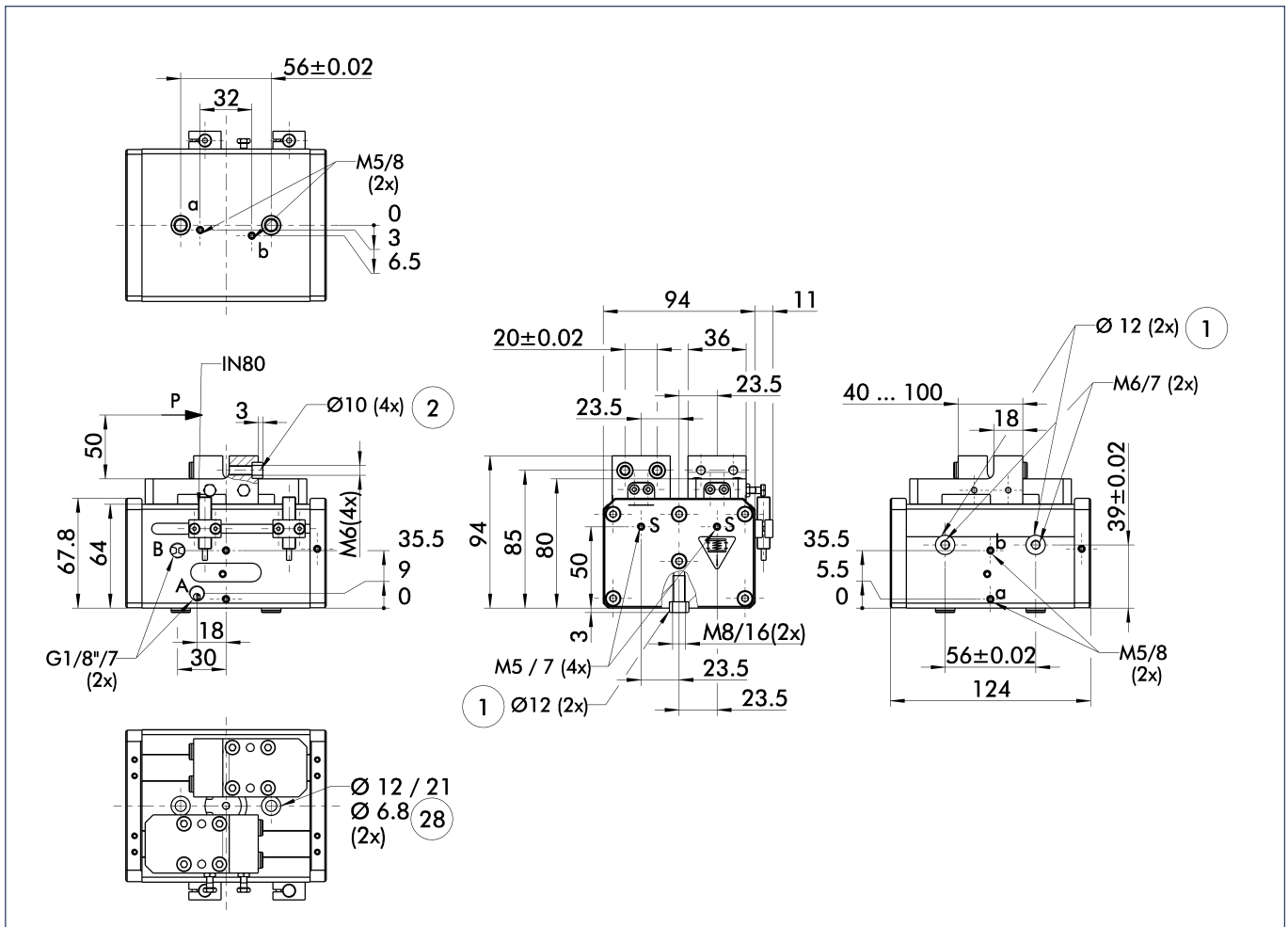


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

| Description | | PFH 30 | PFH 30-60 | PFH 30-AS |
|---------------------------------------|--------------------|---------|-----------|-----------|
| | ID | 0302030 | 0302033 | 0302031 |
| Stroke per finger | [mm] | 30.0 | 60.0 | 30.0 |
| Closing force | [N] | 630.0 | 630.0 | 720.0 |
| Opening force | [N] | 570.0 | 570.0 | |
| Min. gripping force through spring | [N] | | | 40.0 |
| Weight | [kg] | 2.65 | 3.5 | 2.7 |
| Recommended workpiece weight | [kg] | 3.15 | 3.15 | 3.15 |
| Air consumption per double stroke | [cm ³] | 95.0 | 187.0 | 95.0 |
| Nominal pressure | [bar] | 6.0 | 6.0 | 6.0 |
| Minimum pressure | [bar] | 2.0 | 2.0 | 5.0 |
| Maximum pressure | [bar] | 8.0 | 8.0 | 6.5 |
| Closing time | [s] | 0.3 | 0.4 | 0.35 |
| Opening time | [s] | 0.3 | 0.5 | 0.35 |
| Closing/opening time with spring only | [s] | | | 0.4 |
| Max. permitted finger length | [mm] | 150.0 | 150.0 | 100.0 |
| Max. permitted weight per finger | [kg] | 2.0 | 2.0 | 2.0 |
| IP rating | | 41 | 41 | 41 |
| Min. ambient temperature | [°C] | -10.0 | -10.0 | -10.0 |
| Max. ambient temperature | [°C] | 90.0 | 90.0 | 90.0 |
| Repeat accuracy | [mm] | 0.05 | 0.05 | 0.05 |

Main views

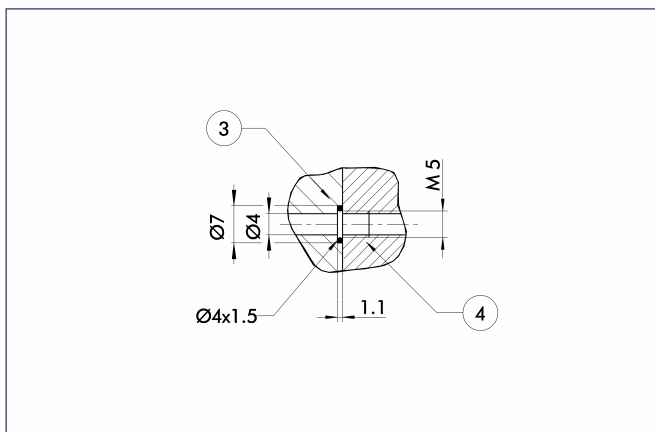


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②⑧ Through-bore

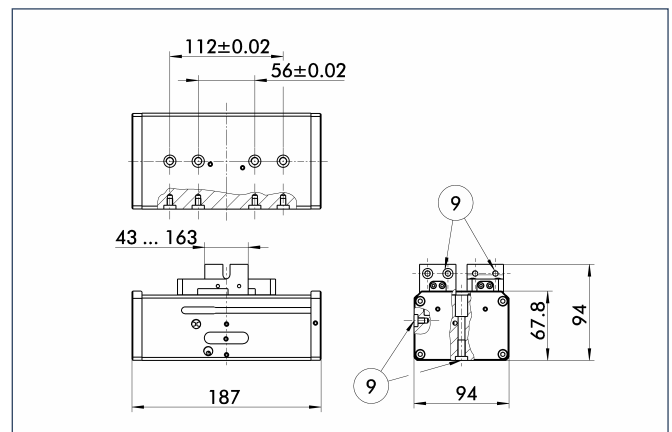
Hoseless direct connection



- ③ Adapter
- ④ Gripper

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

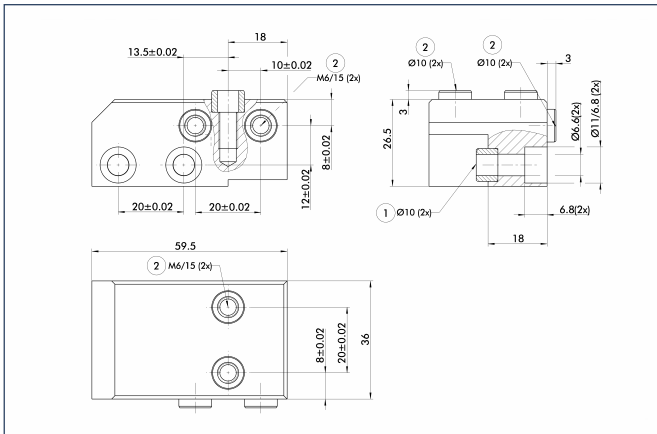
PFH 30-60 (double stroke)



- ⑨ For screw connection diagram, see basic version

The PFH 30-60 is a version with a stroke of double length.

Intermediate jaws

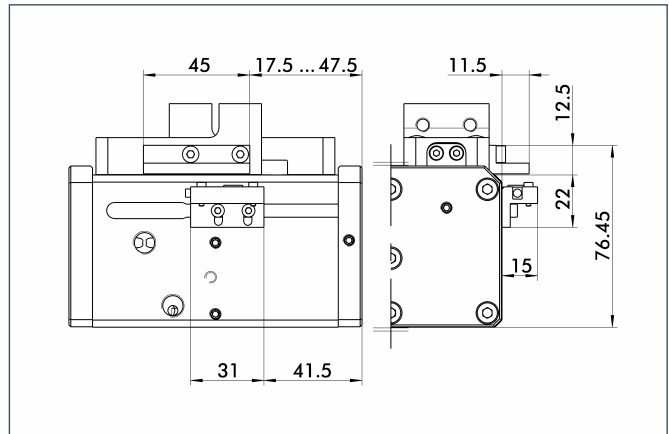


- ① Gripper connection
- ② Finger connection

The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

| Description | Material | Scope of delivery | ID |
|-------------|-----------|-------------------|---------|
| ZBH 30 | 16 MnCr 5 | 2 | 0300220 |

Mounting kit for FPS



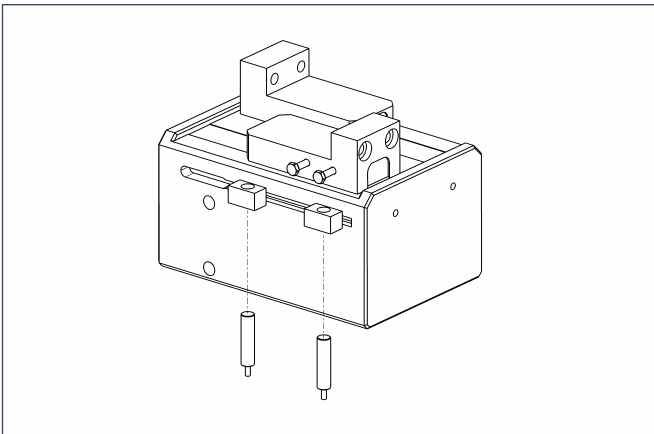
The FPS mounting kit is used for mounting the FPS sensor on the gripper. The FPS system can distinguish between five freely programmable ranges or switching points for the stroke of a gripper and can be used in conjunction with a PC as a measuring system.

| Description | ID |
|-------------|---------|
| AS-PFH 30 | 0301733 |



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

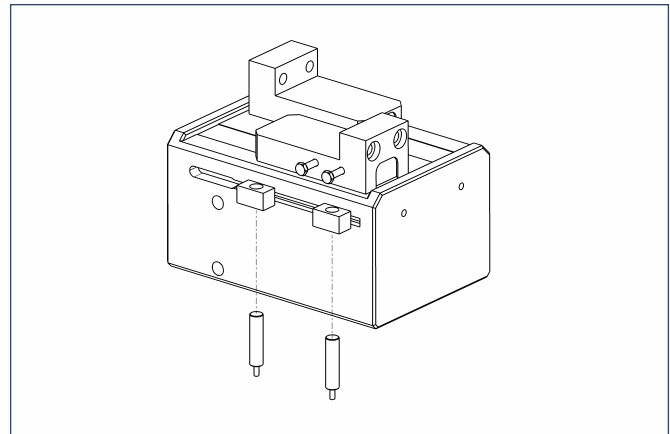
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

| Description | ID | Recommended product |
|-------------|---------|---------------------|
| IN 80/S-M12 | 0301578 | |
| IN 80/S-M8 | 0301478 | • |
| INK 80/S | 0301550 | |

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

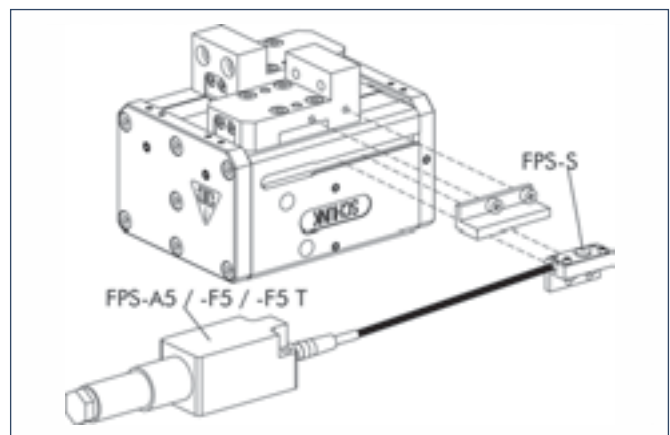
| Description | ID | Recommended product |
|--------------|---------|---------------------|
| HG-PFH 30 | 0300743 | |
| IN 120/S-M12 | 0301592 | • |
| INK 120/S | 0301562 | |

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 |
|-------------|---------|
| GK 3-M8 | 0301622 |
| KV 10-M12 | 0301596 |
| KV 10-M8 | 0301496 |
| KV 20-M12 | 0301597 |
| KV 20-M8 | 0301497 |
| KV 3-M12 | 0301595 |
| KV 3-M8 | 0301495 |
| W 3-M12 | 0301503 |
| W 5-M12 | 0301507 |
| WK 3-M8 | 0301594 |
| WK 5-M8 | 0301502 |

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



Measuring system:

FPS position monitor

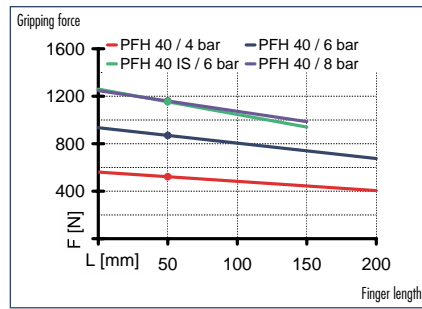
| Description | ID |
|-------------|---------|
| AS-PFH 30 | 0301733 |
| FPS-A5 | 0301802 |
| FPS-F5 | 0301805 |
| FPS-F5 T | 0301807 |
| FPS-S 13 | 0301705 |

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

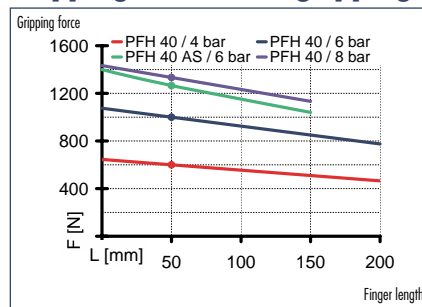
 You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



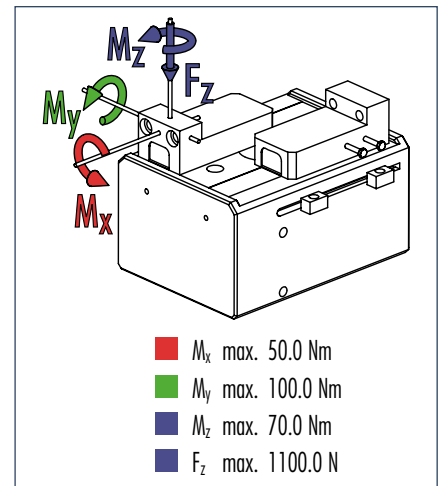
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

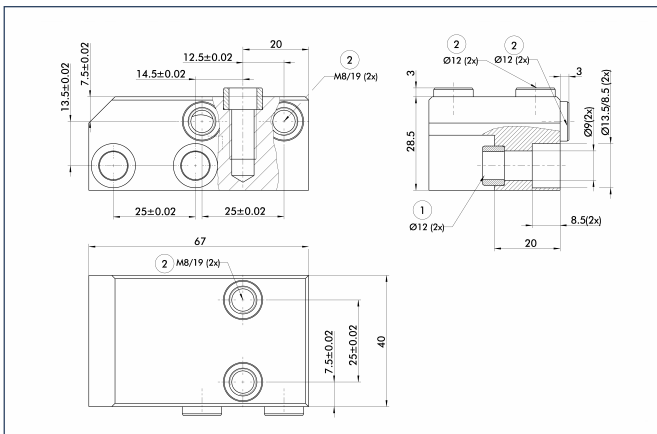


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

| Description | ID | PFH 40 | PFH 40-80 | PFH 40-AS | PFH 40-IS |
|---------------------------------------|--------------------|---------|-----------|-----------|-----------|
| | | 0302040 | 0302043 | 0302041 | 0302042 |
| Stroke per finger | [mm] | 40.0 | 80.0 | 40.0 | 40.0 |
| Closing force | [N] | 1260.0 | 1260.0 | 1540.0 | |
| Opening force | [N] | | | | 1380.0 |
| Min. gripping force through spring | [N] | | | 100.0 | 100.0 |
| Weight | [kg] | 4.6 | 6.2 | 4.7 | 4.7 |
| Recommended workpiece weight | [kg] | 6.3 | 6.3 | 6.3 | 5.5 |
| Air consumption per double stroke | [cm ³] | 245.0 | 487.0 | 245.0 | 245.0 |
| Nominal pressure | [bar] | 6.0 | 6.0 | 6.0 | 6.0 |
| Minimum pressure | [bar] | 2.0 | 2.0 | 5.0 | 5.0 |
| Maximum pressure | [bar] | 8.0 | 8.0 | 6.5 | 6.5 |
| Closing time | [s] | 0.3 | 0.5 | 0.25 | 0.4 |
| Opening time | [s] | 0.3 | 0.6 | 0.4 | 0.25 |
| Closing/opening time with spring only | [s] | | | 0.7 | 0.7 |
| Max. permitted finger length | [mm] | 200.0 | 200.0 | 150.0 | 150.0 |
| Max. permitted weight per finger | [kg] | 3.0 | 3.0 | 3.0 | 3.0 |
| IP rating | | 41 | 41 | 41 | 41 |
| Min. ambient temperature | [°C] | -10.0 | -10.0 | -10.0 | -10.0 |
| Max. ambient temperature | [°C] | 90.0 | 90.0 | 90.0 | 90.0 |
| Repeat accuracy | [mm] | 0.05 | 0.05 | 0.05 | 0.05 |

Intermediate jaws



- ① Gripper connection
- ② Finger connection

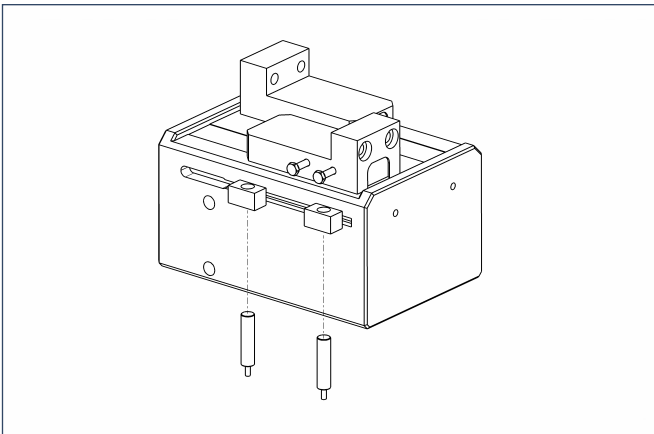
The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

| Description | Material | Scope of delivery | ID |
|-------------|------------|-------------------|---------|
| ZBH 40 | 1.6 MnCr 5 | 2 | 0300221 |



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

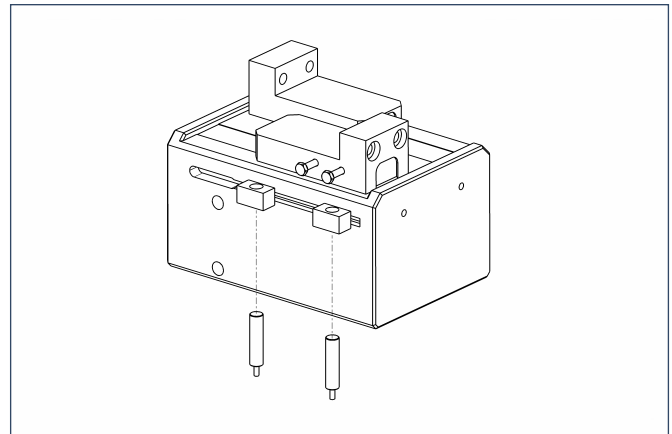
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

| Description | ID | Recommended product |
|-------------|---------|---------------------|
| IN 80/S-M12 | 0301578 | |
| IN 80/S-M8 | 0301478 | • |
| INK 80/S | 0301550 | |

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

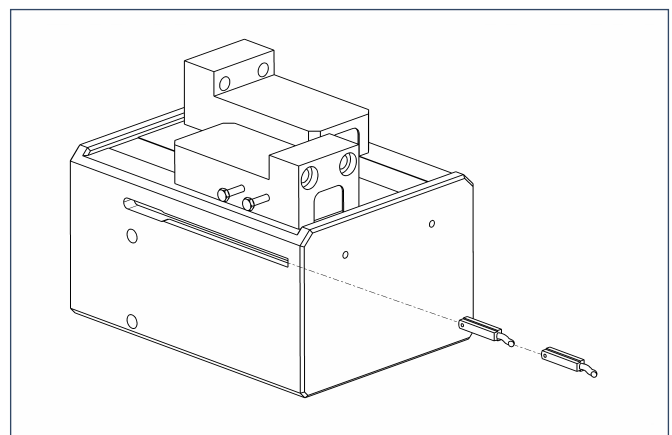
| Description | ID | Recommended product |
|--------------|---------|---------------------|
| HG-PFH 40-50 | 0300744 | |
| IN 120/S-M12 | 0301592 | • |
| INK 120/S | 0301562 | |

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 |
|-------------|---------|
| GK 3-M8 | 0301622 |
| KV 10-M12 | 0301596 |
| KV 10-M8 | 0301496 |
| KV 20-M12 | 0301597 |
| KV 20-M8 | 0301497 |
| KV 3-M12 | 0301595 |
| KV 3-M8 | 0301495 |
| W 3-M12 | 0301503 |
| W 5-M12 | 0301507 |
| WK 3-M8 | 0301594 |
| WK 5-M8 | 0301502 |

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

| Description | ID | Recommended product |
|------------------|---------|---------------------|
| MMS 30-S-M12-PNP | 0301571 | |
| MMS 30-S-M8-PNP | 0301471 | • |
| MMSK 30-S-PNP | 0301563 | |

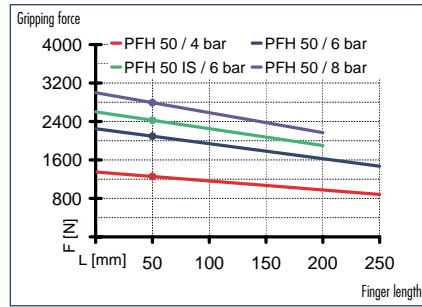
① Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.



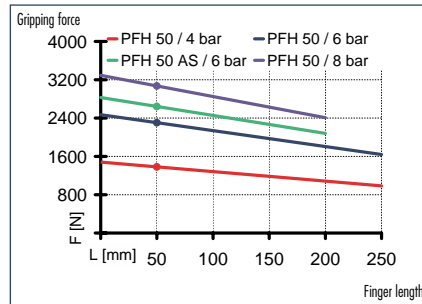
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.



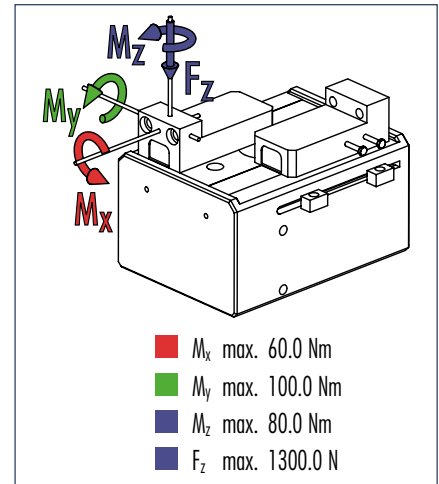
Gripping force, I.D. gripping



Gripping force, O.D. gripping



Finger load

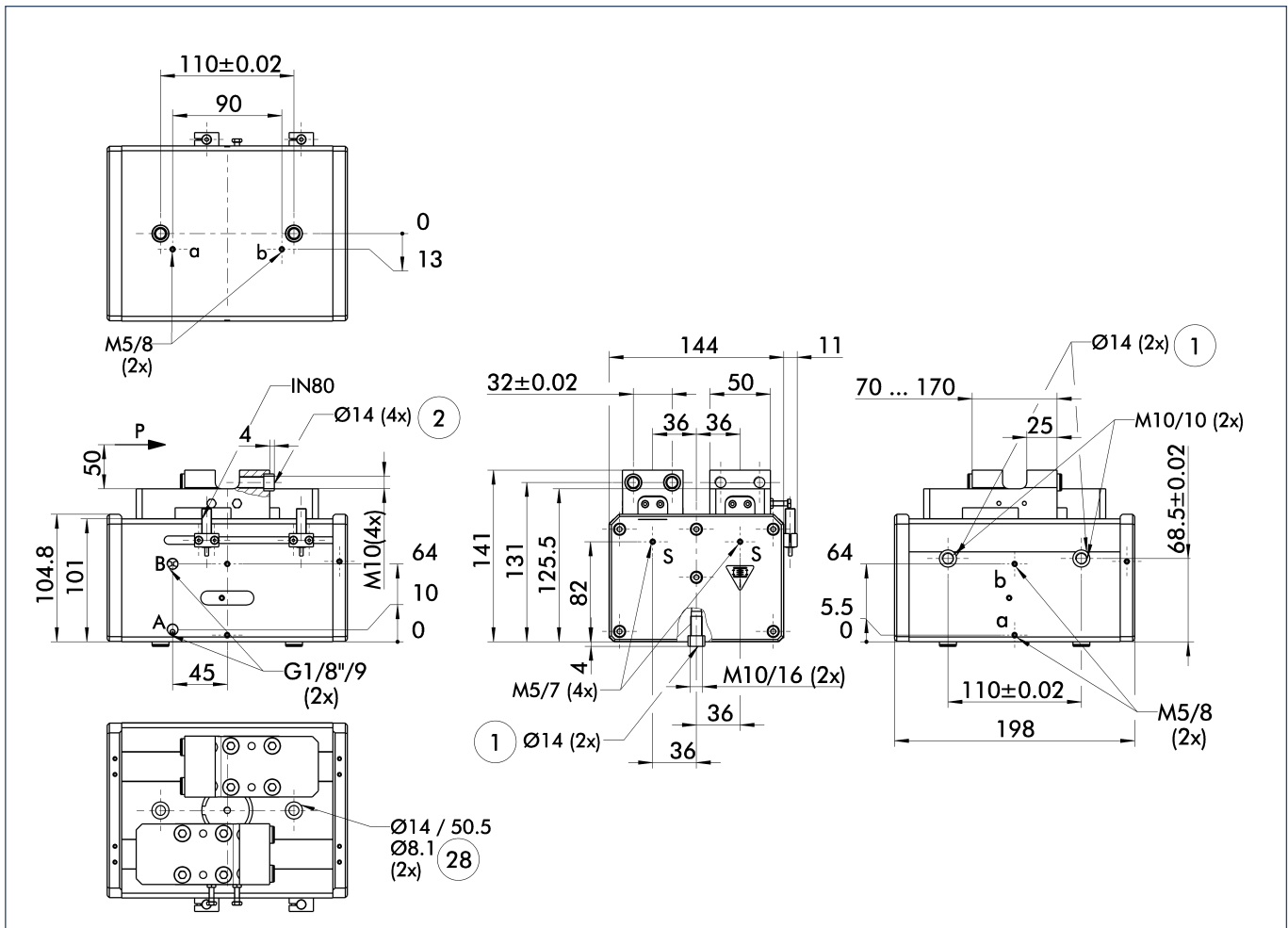


① Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to throttle the air pressure so that the jaw movement occurs without any hitting or bouncing.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

Technical data

| Description | ID | PFH 50 | PFH 50-100 | PFH 50-AS | PFH 50-IS |
|---------------------------------------|--------------------|---------|------------|-----------|-----------|
| | | 0302050 | 0302053 | 0302051 | 0302052 |
| Stroke per finger | [mm] | 50.0 | 100.0 | 50.0 | 50.0 |
| Closing force | [N] | 2600.0 | 2600.0 | 2950.0 | |
| Opening force | [N] | 2330.0 | 2330.0 | | 2680.0 |
| Min. gripping force through spring | [N] | | | 170.0 | 170.0 |
| Weight | [kg] | 9.6 | 12.6 | 9.7 | 9.7 |
| Recommended workpiece weight | [kg] | 13.0 | 13.0 | 13.0 | 11.65 |
| Air consumption per double stroke | [cm ³] | 603.0 | 1205.0 | 603.0 | 603.0 |
| Nominal pressure | [bar] | 6.0 | 6.0 | 6.0 | 6.0 |
| Minimum pressure | [bar] | 2.0 | 2.0 | 5.0 | 5.0 |
| Maximum pressure | [bar] | 8.0 | 8.0 | 6.5 | 6.5 |
| Closing time | [s] | 0.6 | 1.0 | 0.5 | 0.7 |
| Opening time | [s] | 0.7 | 1.2 | 0.8 | 0.6 |
| Closing/opening time with spring only | [s] | | | 0.8 | 0.8 |
| Max. permitted finger length | [mm] | 250.0 | 250.0 | 200.0 | 200.0 |
| Max. permitted weight per finger | [kg] | 4.0 | 4.0 | 4.0 | 4.0 |
| IP rating | | 41 | 41 | 41 | 41 |
| Min. ambient temperature | [°C] | -10.0 | -10.0 | -10.0 | -10.0 |
| Max. ambient temperature | [°C] | 90.0 | 90.0 | 90.0 | 90.0 |
| Repeat accuracy | [mm] | 0.05 | 0.05 | 0.05 | 0.05 |

Main views

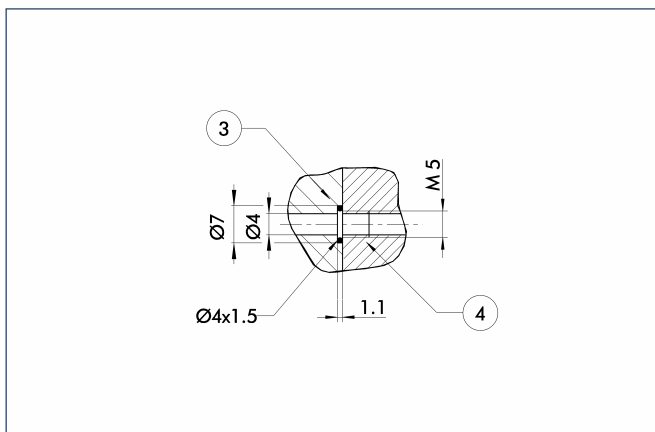


The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

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.

- A,a Main/direct connection, gripper opening
- B,b Main/direct connection, gripper closing
- S,s Air purge connection or bleeder ventilation hole
- ① Gripper connection
- ② Finger connection
- ②⑧ Through-bore

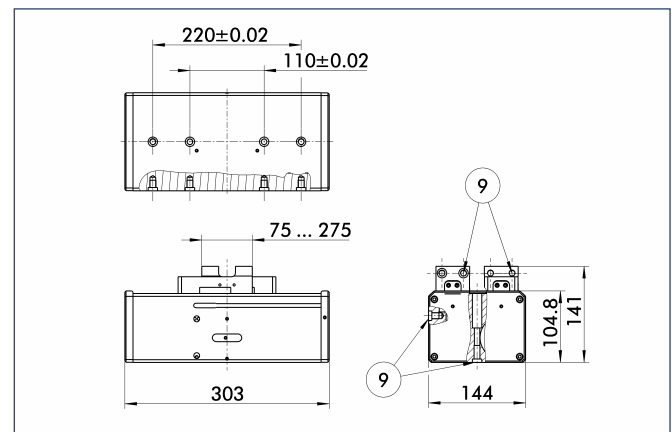
Hoseless direct connection



- ③ Adapter
- ④ Gripper

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

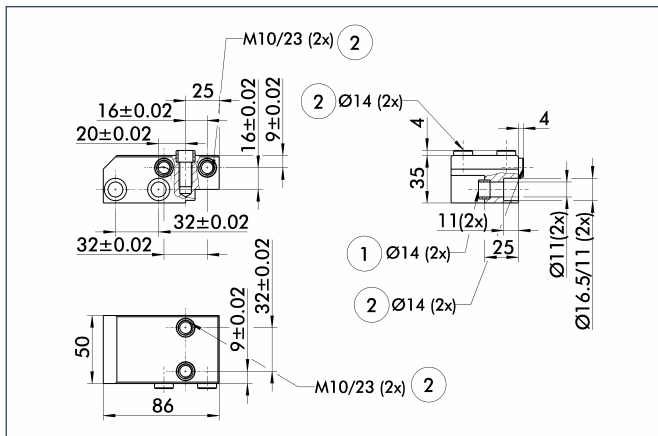
PFH 50-100 (double stroke)



- ⑨ For screw connection diagram, see basic version

The PFH 50-100 is a version with a stroke of double length.

Intermediate jaws



- ① Gripper connection
- ② Finger connection

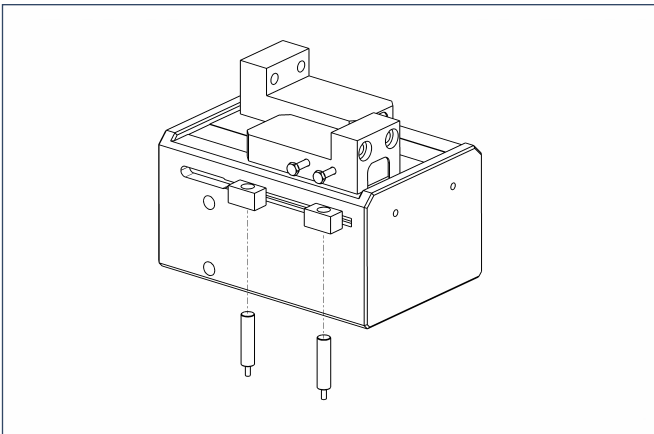
The optional intermediate jaws produce a symmetrical, centered screw connection diagram. This facilitates the design and manufacture of customized top jaws.

| Description | Material | Scope of delivery | ID |
|-------------|------------|-------------------|---------|
| ZBH 50 | 1.6 MnCr 5 | 2 | 0300222 |



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

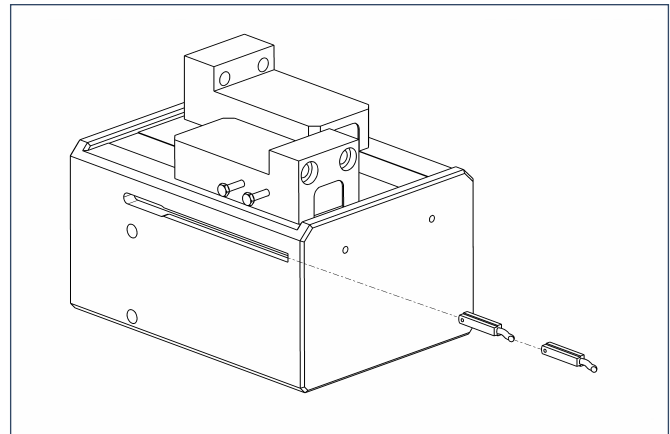
Sensor system



End position monitoring:
Inductive proximity switches, for direct mounting

| Description | ID | Recommended product |
|-------------|---------|---------------------|
| IN 80/S-M12 | 0301578 | |
| IN 80/S-M8 | 0301478 | • |
| INK 80/S | 0301550 | |

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



End position monitoring:
Electronic magnetic switches, for mounting in C-slot

| Description | ID | Recommended product |
|------------------|---------|---------------------|
| MMS 30-S-M12-PNP | 0301571 | |
| MMS 30-S-M8-PNP | 0301471 | • |
| MMSK 30-S-PNP | 0301563 | |

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 |
|-------------|---------|
| GK 3-M8 | 0301622 |
| KV 10-M12 | 0301596 |
| KV 10-M8 | 0301496 |
| KV 20-M12 | 0301597 |
| KV 20-M8 | 0301497 |
| KV 3-M12 | 0301595 |
| KV 3-M8 | 0301495 |
| W 3-M12 | 0301503 |
| W 5-M12 | 0301507 |
| WK 3-M8 | 0301594 |
| WK 5-M8 | 0301502 |

① 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.