



Superior Clamping and Gripping



Product Information

Long-stroke gripper PZH-plus 75

PZH-plus

Long-stroke gripper

Flexible. Robust. Flat. Universal gripper PZH-plus

Universal gripper with long travel and high maximum moment due to multi-tooth guidance

Field of application

multi- purpose thanks to a diverse range of accessories. Can also be used in fields of application with special requirements to the gripper (temperature, chemical resistance, dirt, and many more).

Advantages – Your benefits

Robust multi-tooth guidance for precise handling

High maximum moments possible suitable for using long gripper fingers

Sensitive gripping for handling or large, sensitive workpieces

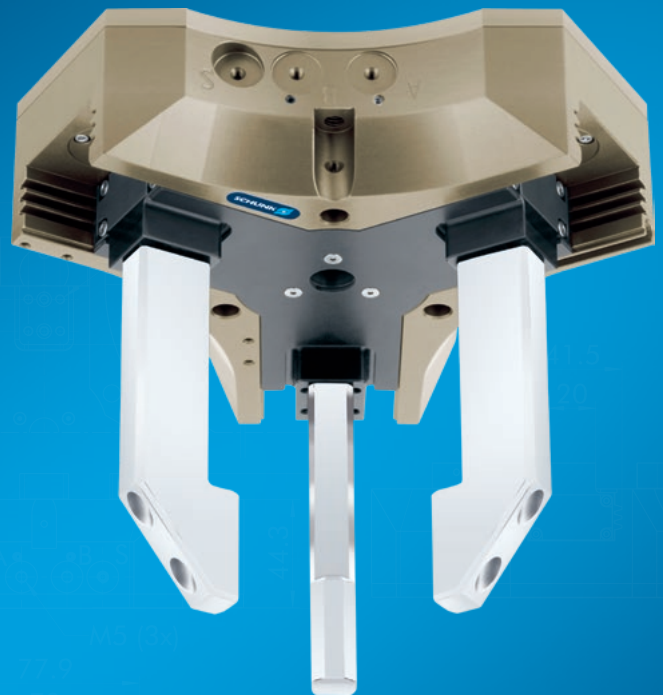
Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems

Comprehensive sensor accessory program for versatile querying possibilities and stroke position monitoring

Long stroke for a flexible range of parts

Flat design for less interfering contours

Center through-hole for feed-through of workpieces, supply hoses, sensor systems, optical workpiece recognition systems, etc.



Sizes
Quantity: 4



Weight
1.5 .. 33 kg



Gripping force
375 .. 4200 N



Stroke per jaw
20 .. 75 mm

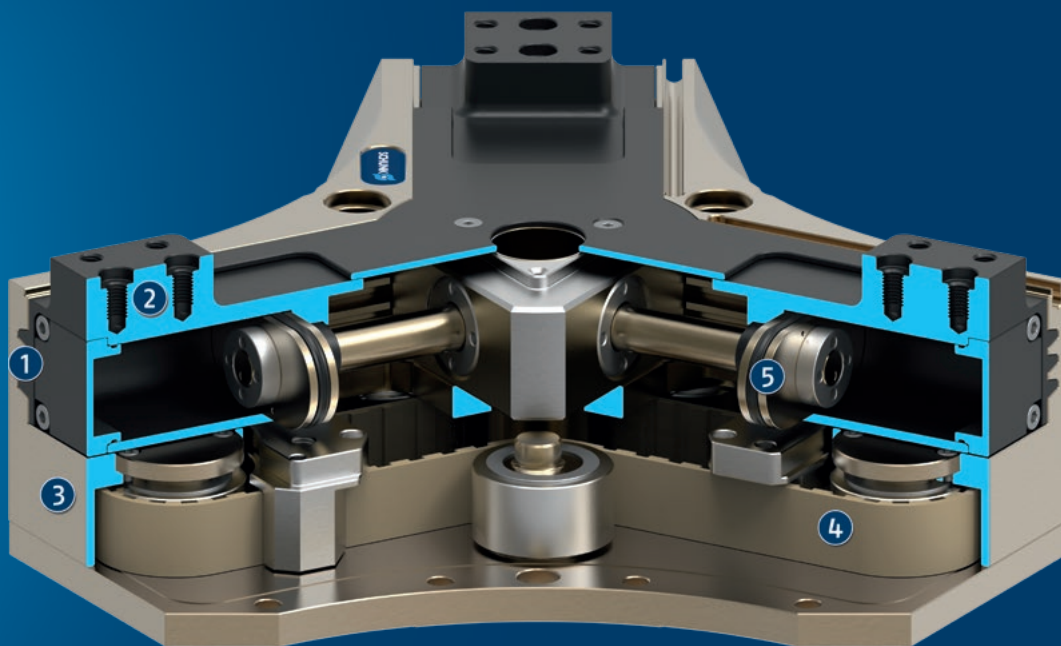


Workpiece weight
1.9 .. 22 kg

Functional description

The base jaws form the moving cylinder housing while the oval cylinder pistons are fixed. The piston areas are actuated with compressed air so that they are opened or closed. The base jaws are synchronized by a toothed belt

which is connected to one carrier per jaw.



- ① **Multi-tooth guidance**
highly loadable, nearly backlash-free base jaw guidance for long finger lengths
- ② **Base Jaws**
for the connection of workpiece-specific gripper fingers
- ③ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy
- ④ **Toothed belt for synchronization**
for centric gripping
- ⑤ **Drive**
pneumatic oval piston for maximum driving force

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General notes about the series

Housing material: Aluminum alloy, anodized

Base jaw material: Steel

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Centering sleeves, O-rings for direct connection, assembly instructions (operating manual with declaration of incorporation is available online)

Gripping force maintenance device: possible with pressure maintenance valve SDV-P

Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

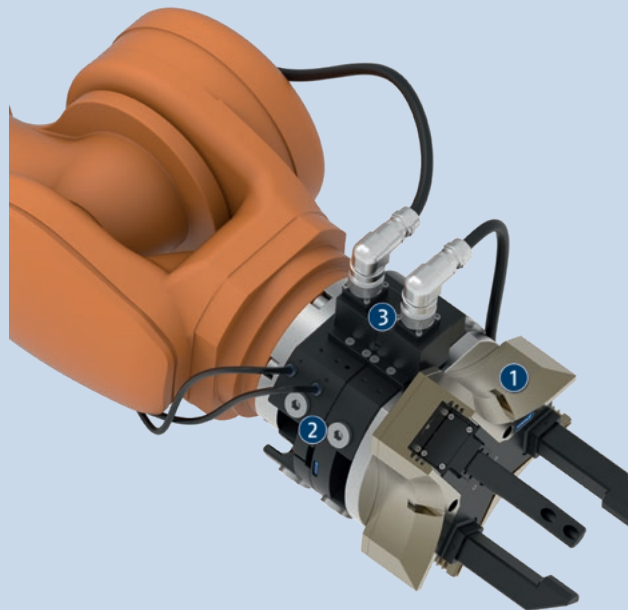
Finger length: is measured from the reference surface as the distance P in direction to the main axis.

The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

Repeat accuracy: is defined as a distribution of the end Position for 100 consecutive strokes.

Workpiece weight: is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

Closing and opening times: are purely the times that the base jaws or fingers are in motion. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.



Application example

SCHUNK end-of-arm competence. Assembly unit for large, thin-walled, rotationally symmetric components.

- ① 3-finger centric gripper PZH-plus
- ② Quick-change system SWS

- ③ Electric feed-through

SCHUNK offers more ...

The following components make the product even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



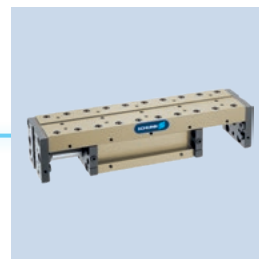
Quick change system



Universal swivel unit



Compensation unit



Linear module



Inductive proximity switches



Magnetic switches



Pressure maintenance valve

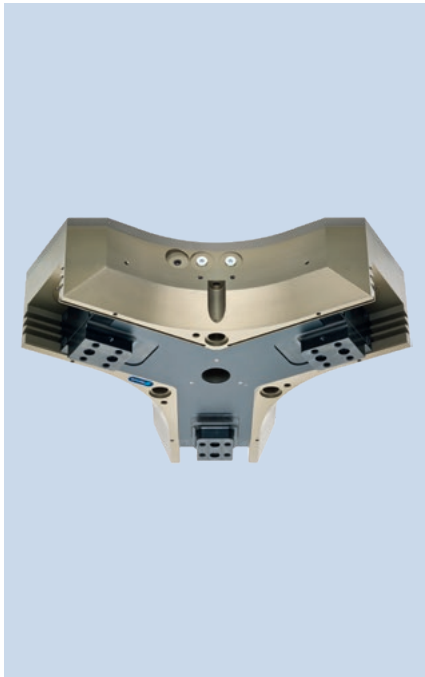
① For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

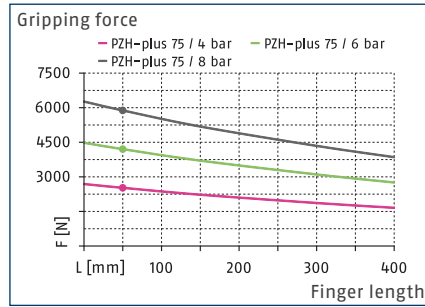
Please note that the weight of the gripper fingers should be as low as possible for long-stroke grippers.

PZH-plus 75

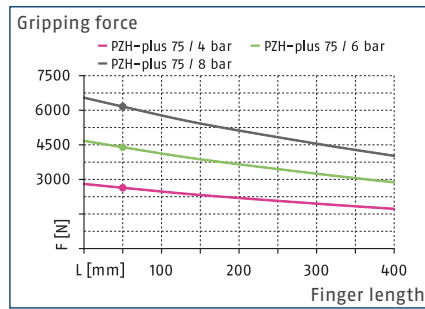
Long-stroke gripper



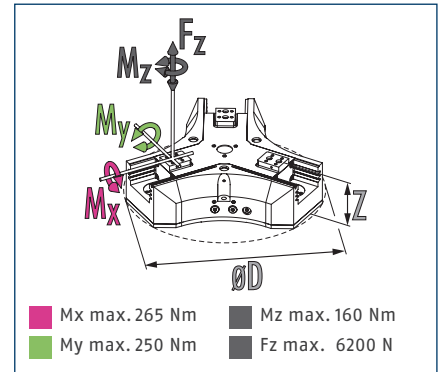
Gripping force O.D. gripping



Gripping force I.D. gripping



Dimensions and maximum loads



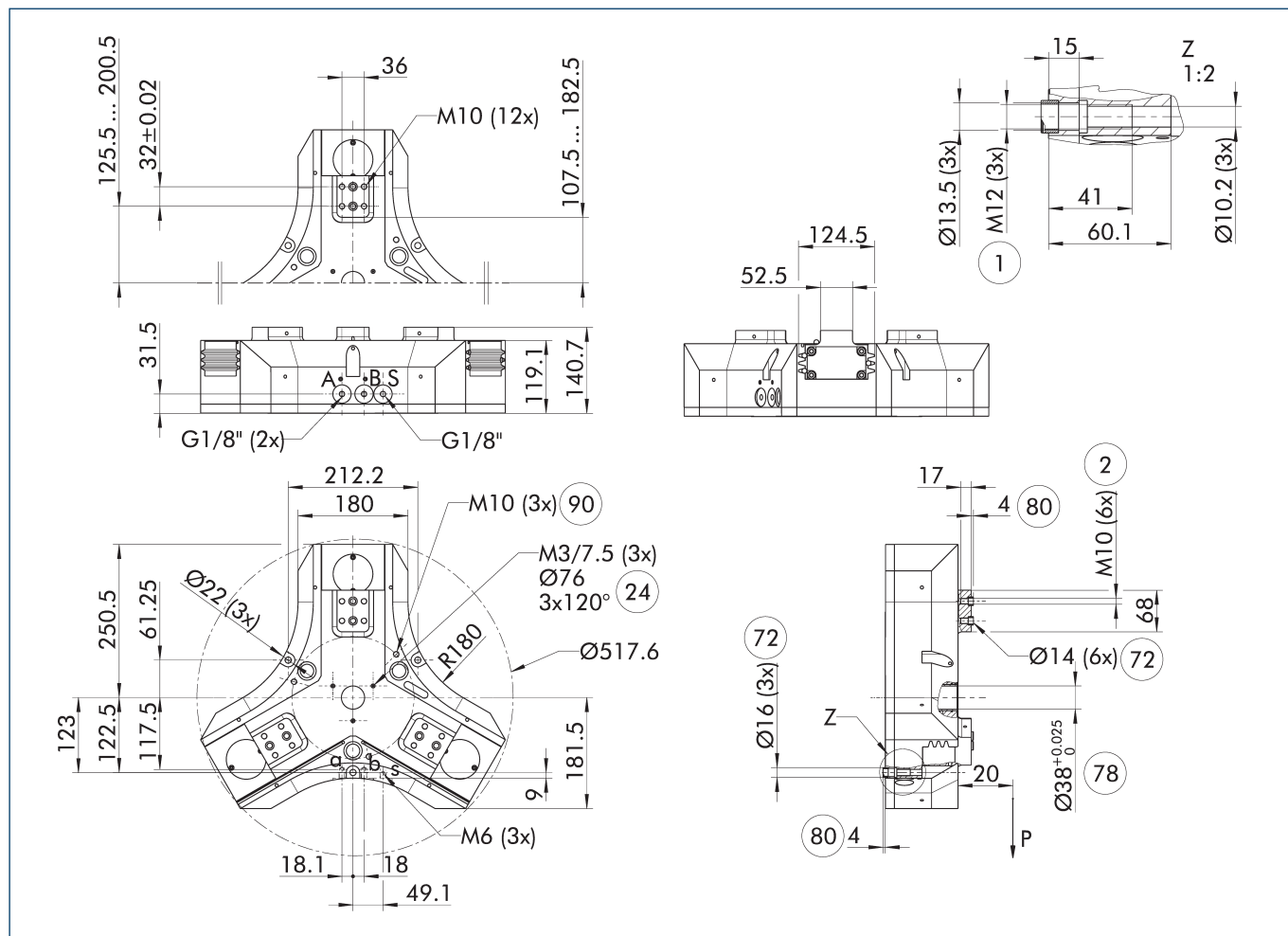
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

| Description | | PZH-plus 75 |
|-----------------------------------|--------------------|---------------|
| ID | | 0305390 |
| Stroke per jaw | [mm] | 75 |
| Closing/opening force | [N] | 4200/4400 |
| Weight | [kg] | 33 |
| Recommended workpiece weight | [kg] | 22 |
| Fluid consumption double stroke | [cm ³] | 1860 |
| Min./nom./max. operating pressure | [bar] | 2/6/8 |
| Min./max. air purge pressure | [bar] | 0.5/1 |
| Closing/opening time | [s] | 1.05/0.85 |
| Max. permissible finger length | [mm] | 400 |
| Max. permissible mass per finger | [kg] | 8.5 |
| IP protection class | | 40 |
| Min./max. ambient temperature | [°C] | 5/90 |
| Repeat accuracy | [mm] | 0.05 |
| Dimensions Ø D x Z | [mm] | 517.6 x 140.7 |

① It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.

Main view



The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

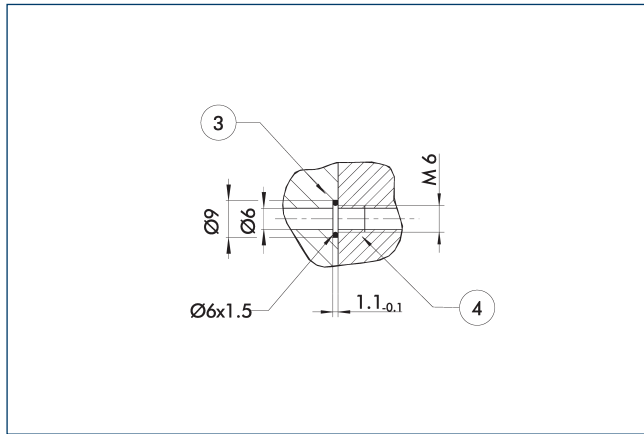
① The SDV-P pressure maintenance valve can be used to maintain the position in the case of a loss of pressure (see "Accessories" catalog section).

- | | |
|--|---|
| A, a Main / direct connection, gripper opening | ②4 Bolt circle |
| B, b Main / direct connection, gripper closing | ⑦2 Fit for centering sleeves |
| S Air purge connection | ⑦8 Fit for centering |
| ① Gripper connection | ⑧0 Depth of the centering sleeve hole in the counter part |
| ② Finger connection | ⑨0 Transport thread |

PZH-plus 75

Long-stroke gripper

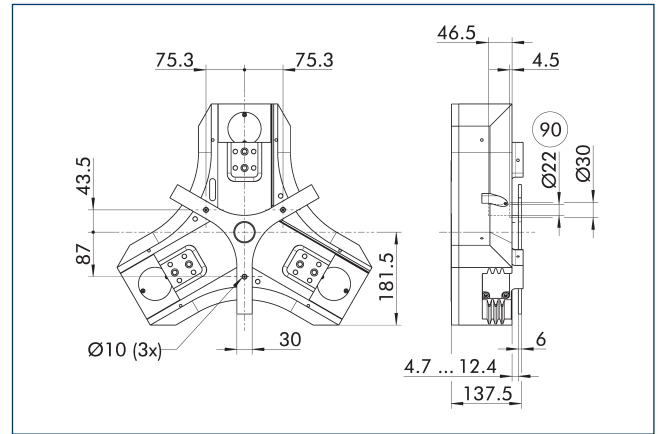
Hose-free direct connection M6



③ Adapter ④ Grippers

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

Spring-loaded pressure piece

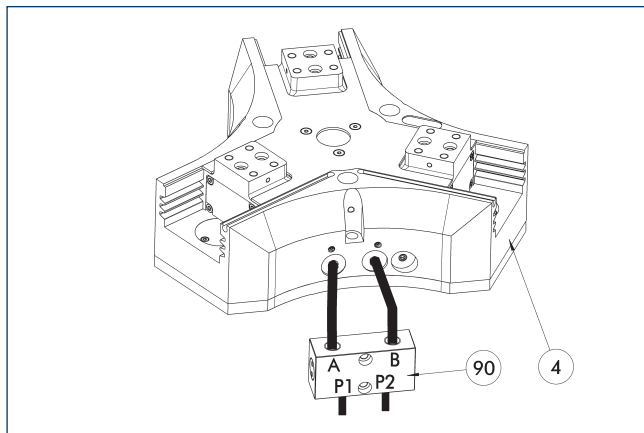


⑨ Guide pin

For spring-supported positioning of the workpiece against a stop after the gripper has opened. Especially developed for loading machines.

| Description | ID | Stroke [mm] | Min. force [N] |
|------------------------------|---------|----------------|-------------------|
| Spring-loaded pressure piece | | | |
| A-PZH-plus 75 | 0305393 | 7.7 | 108 |

SDV-P pressure maintenance valve



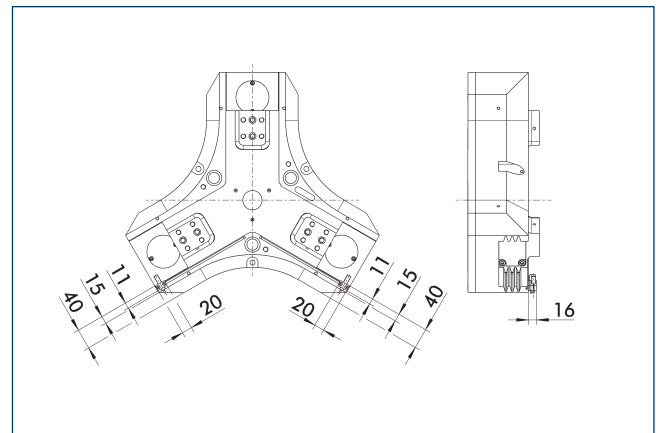
④ Grippers ⑨ SDV-P pressure maintenance valve

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

| Description | ID | Recommended hose diameter [mm] |
|---|---------|-----------------------------------|
| Pressure maintenance valve | | |
| SDV-P 07 | 0403131 | 8 |
| Pressure maintenance valve with air bleed screw | | |
| SDV-P 07-E | 0300121 | 8 |

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

Attachment kit for proximity switch IN 80

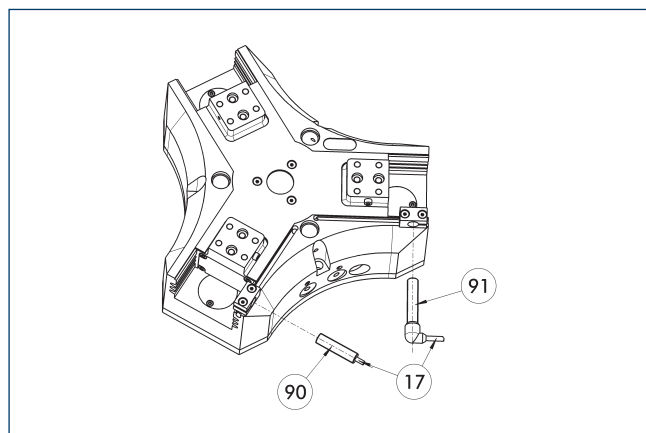


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

| Description | ID |
|-------------------------------------|---------|
| Attachment kit for proximity switch | |
| AS-IN80-PZH-plus 75 | 0305394 |

① This attachment kit needs to be ordered optionally as an accessory.

Inductive Proximity Switches



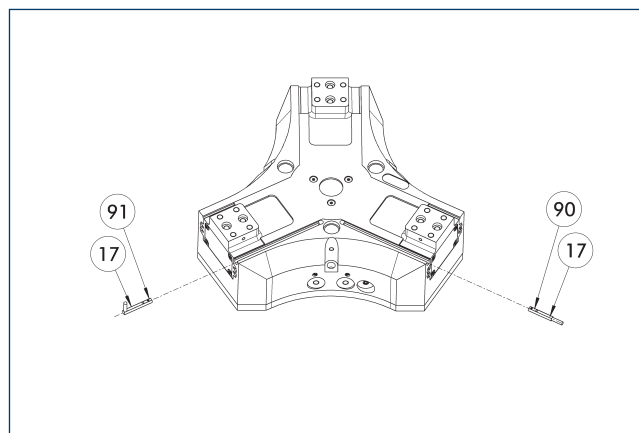
- ①7 Cable outlet
- ①91 Sensor IN...-SA
- ①90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

| Description | ID | Often combined |
|--|---------|----------------|
| Attachment kit for proximity switch | | |
| AS-IN80-PZH-plus 75 | 0305394 | |
| Inductive proximity switches | | |
| IN 80-S-M12 | 0301578 | |
| IN 80-S-M8 | 0301478 | ● |
| IN-C 80-S-M8-PNP | 0301475 | |
| INK 80-S | 0301550 | |
| INK 80-SL | 0301579 | |
| Inductive proximity switch with lateral cable outlet | | |
| IN 80-S-M12-SA | 0301587 | |
| IN 80-S-M8-SA | 0301483 | ● |
| INK 80-S-SA | 0301566 | |

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Electronic magnetic switch MMS



- ①7 Cable outlet
- ①91 Sensor MMS 22...-SA
- ①90 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

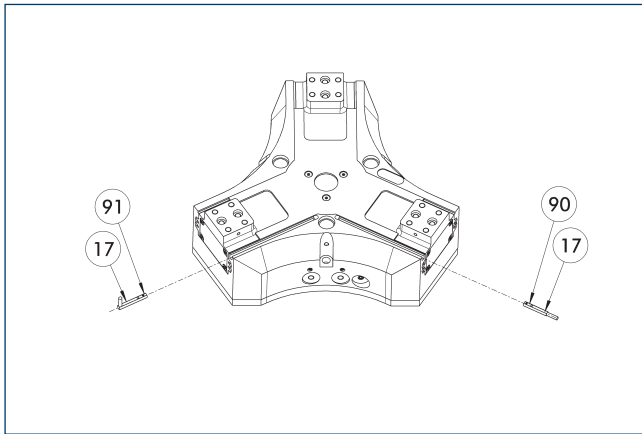
| Description | ID | Often combined |
|--|---------|----------------|
| Electronic magnetic switch | | |
| MMS 22-S-M8-PNP | 0301032 | ● |
| MMSK 22-S-PNP | 0301034 | |
| Electronic magnetic switches with lateral cable outlet | | |
| MMS 22-S-M8-PNP-SA | 0301042 | ● |
| MMSK 22-S-PNP-SA | 0301044 | |
| 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 | |
| clip for plug/socket | | |
| CLI-M8 | 0301463 | |
| Cable extension | | |
| KV BW08-SG08 3P-0030-PNP | 0301495 | |
| KV BW08-SG08 3P-0100-PNP | 0301496 | |
| KV BW08-SG08 3P-0200-PNP | 0301497 | ● |
| Sensor distributor | | |
| V2-M8 | 0301775 | ● |
| V4-M8 | 0301746 | |
| V8-M8 | 0301751 | |

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

PZH-plus 75

Long-stroke gripper

Programmable magnetic switch MMS 22-PI1



- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

| Description | ID | Often combined |
|---|---------|----------------|
| Programmable magnetic switch | | |
| MMS 22-PI1-S-M8-PNP | 0301160 | ● |
| MMSK 22-PI1-S-PNP | 0301162 | |
| Programmable magnetic switch with lateral cable outlet | | |
| MMS 22-PI1-S-M8-PNP-SA | 0301166 | ● |
| MMSK 22-PI1-S-PNP-SA | 0301168 | |
| Programmable magnetic switch with stainless steel housing | | |
| MMS 22-PI1-S-M8-PNP-HD | 0301110 | ● |
| MMSK 22-PI1-S-PNP-HD | 0301112 | |

- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.



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