



Superior Clamping and Gripping



## Product Information

Gripper for small components MPG-plus

# MPG-plus

Gripper for small components

## Powerful. Fast. Long fingers.

# Gripper for small components MPG-plus

2-finger parallel gripper with smooth roller guides of the base jaws

## Field of application

Gripping and moving of small to medium-sized workpieces in low contaminated environments, such as assembly, testing, laboratory and pharmaceutical industry

## Advantages – Your benefits

**Cross roller guidance** for precise gripping through due to a scope-free base jaw guidance

**Base jaws guided on double roller bearings** ensuring low friction and smoothly running

**Optimized basic load rating** suitable for using long gripper fingers

**Drive concept oval piston** for maximum gripping forces

**Monitoring with electronic magnetic switches** for a maximized process reliability

**Mounting from two sides in four screw directions** for universal and flexible gripper assembly

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

**Compact dimensions** for minimal interfering contours in handling

**NEW: food-grade lubrication** as a solution for an easy entry into medical technology, lab automation, pharmaceutical and food industry (precision versions excluded)



1252002



Sizes  
Quantity: 9



Weight  
0.01 .. 0.63 kg



Gripping force  
9 .. 370 N



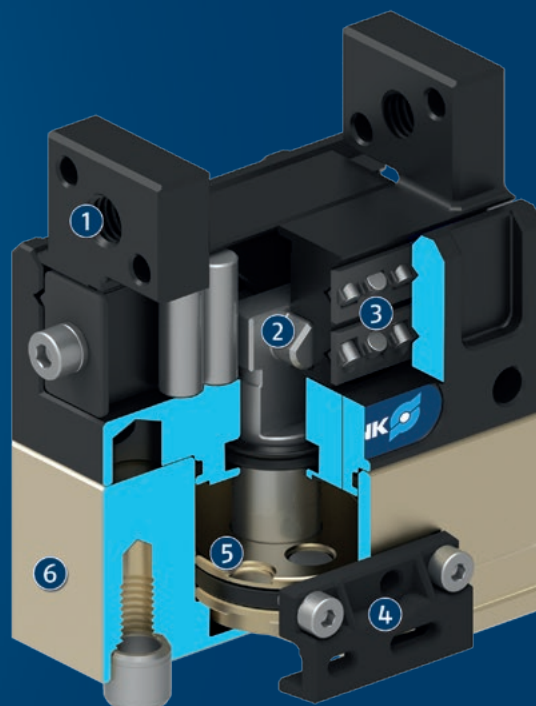
Stroke per jaw  
1 .. 10 mm



Workpiece weight  
0.05 .. 1.25 kg

## Functional description

The oval piston is moved up or down by compressed air. The angled active surfaces of the wedge-hook produce a synchronized, parallel jaw motion.



① **Base Jaw**  
for the connection of workpiece-specific gripper fingers

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

③ **Cross roller guidance**  
precise gripping due to backlash-free base jaw guidance

④ **Sensor system**  
for monitoring two switching points

⑤ **Oval piston drive**  
for power generation

⑥ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy

# MPG-plus

Gripper for small components

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Cover housing material:** Steel

**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 by using the version with mechanical gripping force maintenance or 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.

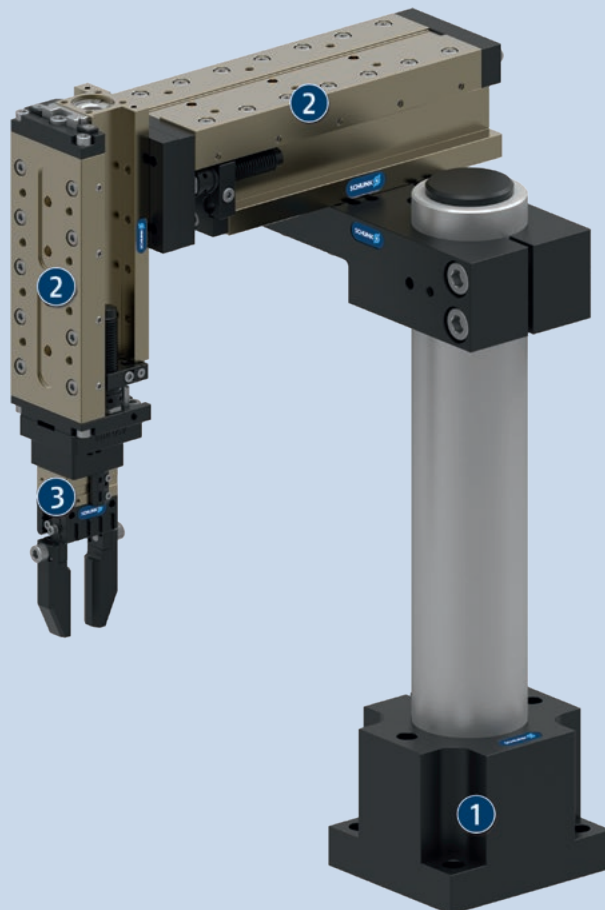
**Workpiece weight:** is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

**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

Pneumatic pick & place unit for small components.

- 1 Pillar assembly system
- 2 Linear module CLM
- 3 2-finger parallel gripper MPG-plus



## SCHUNK offers more ...

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



Rotation unit



Linear module



Pick & Place Unit



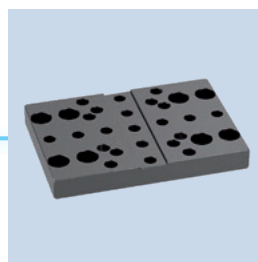
Manual change system



Attachment valve



Pressure maintenance valve



Adapter plate



Finger blank



Flexible position sensor



Magnetic switches



Inductive proximity switches

① For more information on these products can be found on the following product pages or at [schunk.com](http://schunk.com).

## Options and special information

**Gripping force maintenance version AS/IS:** The mechanical gripping force maintenance version ensures minimum gripping force even in the event of a pressure drop. In the AS/S version this acts as a closing force, in the IS version as an opening force.

**Optional adapter plates:** allows frontal mounting of the gripper

**Precision version P:** for highest accuracy (no food-grade lubrication)

**Version FPS for flexible position sensor:** This version is prepared for the use with the flexible position sensor FPS, and allows monitoring of several gripping positions.

**protective cover version HUE:** Fully protects the gripper against external influences

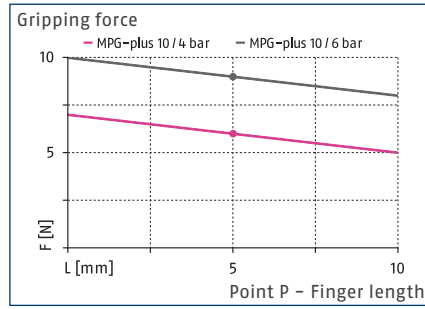
**Food-grade lubrication:** The requirements of EN 1672-2:2020 are not fully met.

# MPG-plus 10

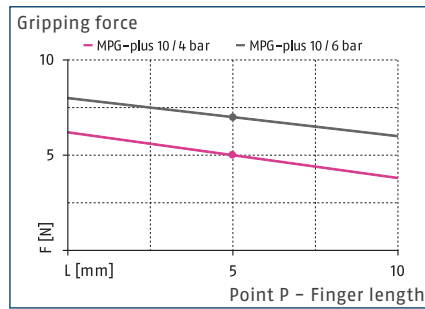
Gripper for small components



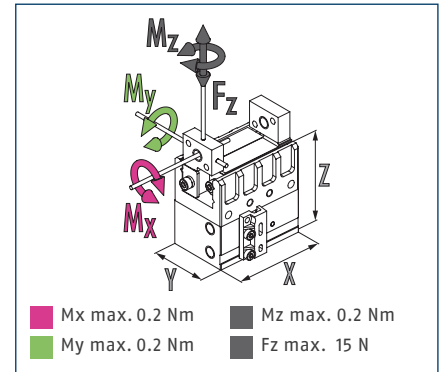
## Gripping force O.D. gripping



## 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

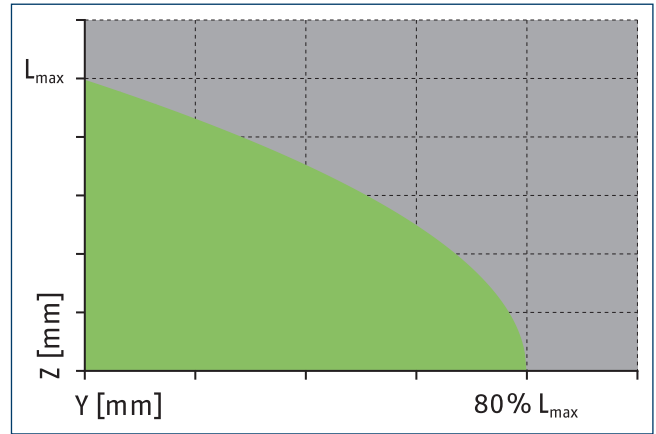
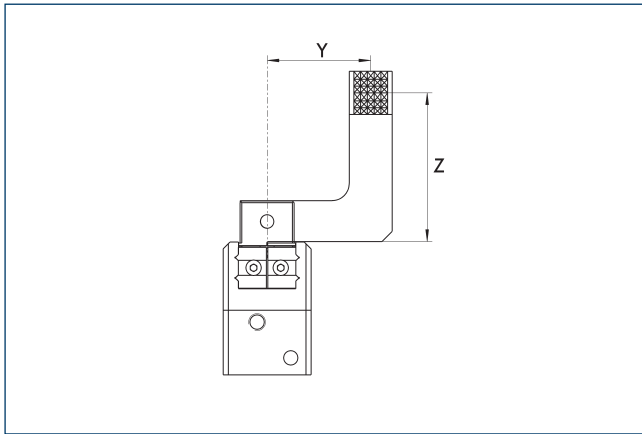
Description		MPG-plus 10
ID		0340006
Stroke per jaw	[mm]	1
Closing/opening force	[N]	9/7
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.12
Min./nom./max. operating pressure	[bar]	3/6/6
Closing/opening time	[s]	0.01/0.01
Max. permissible finger length	[mm]	10
Max. permissible mass per finger	[kg]	0.01
IP protection class		30
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.02
Cleanroom class ISO 14644-1:2015		6
Dimensions X x Y x Z	[mm]	10 x 8 x 18



# MPG-plus 10

Gripper for small components

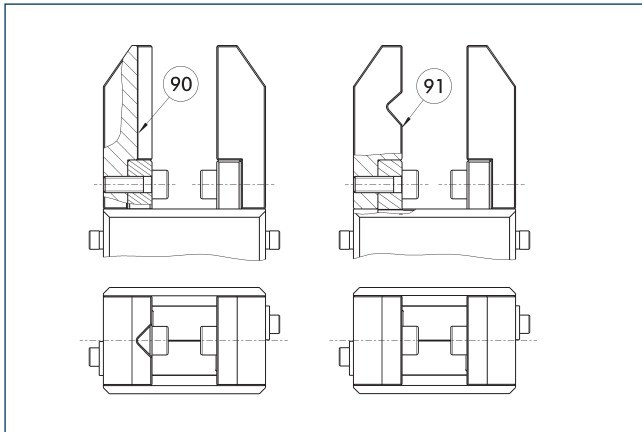
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

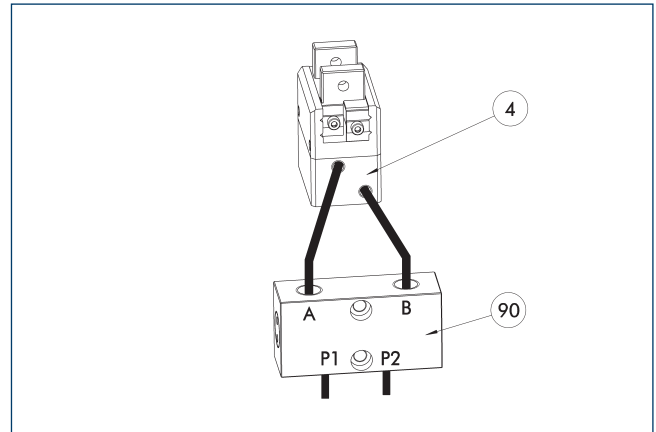
## Jaw design



90 Vertically positioned prism      91 Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

## SDV-P pressure maintenance valve



4 Grippers      90 SDV-P pressure maintenance valve

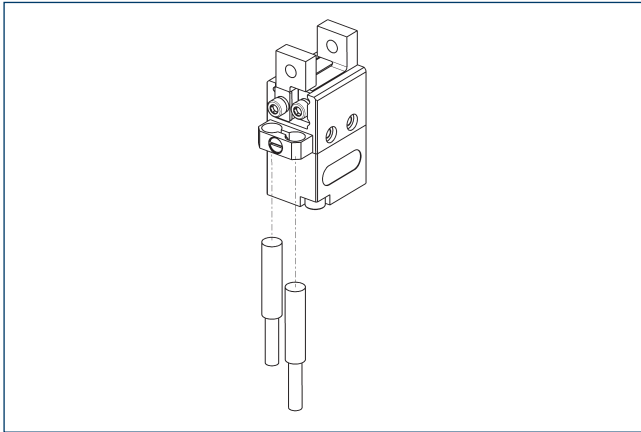
The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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](http://schunk.com).



## Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 30K-S-M8-PNP	1001272	●
<b>Connection cables</b>		
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	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

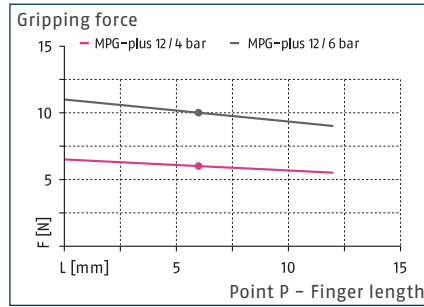
① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 12

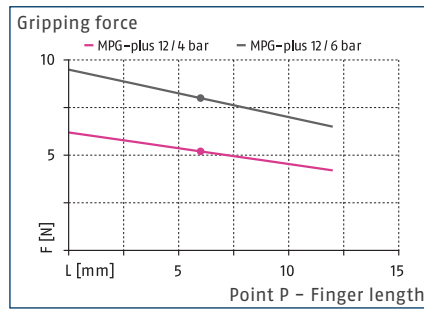
Gripper for small components



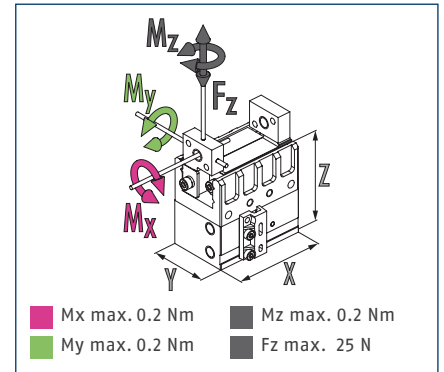
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

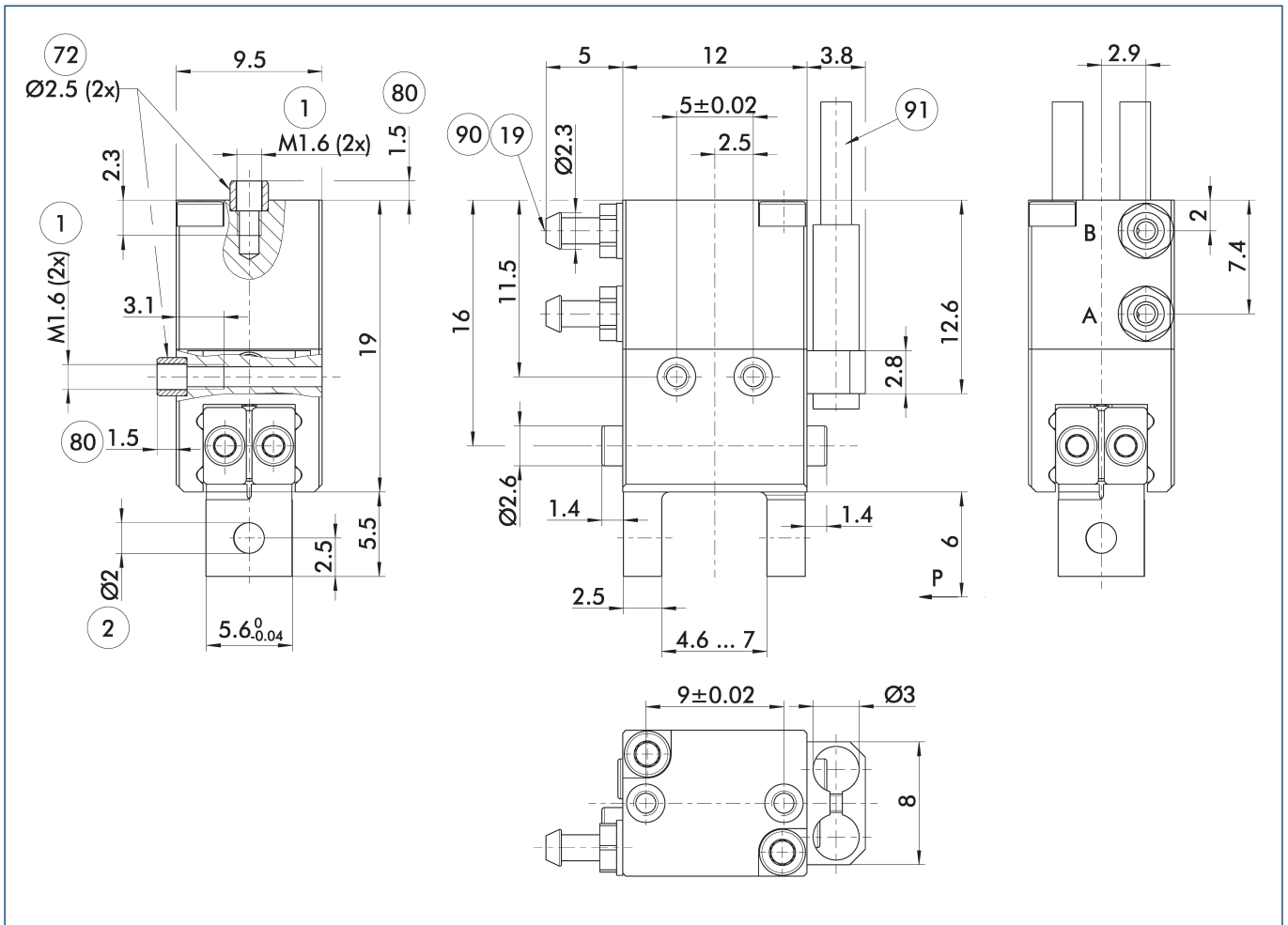


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 12
ID		0340007
Stroke per jaw	[mm]	1.2
Closing/opening force	[N]	10/8
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Fluid consumption double stroke	[cm³]	0.17
Min./nom./max. operating pressure	[bar]	3/6/6
Closing/opening time	[s]	0.01/0.01
Max. permissible finger length	[mm]	12
Max. permissible mass per finger	[kg]	0.01
IP protection class		30
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.02
Cleanroom class ISO 14644-1:2015		6
Dimensions X x Y x Z	[mm]	12 x 9.5 x 19

## Main view



A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

⑱ Air connection

⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

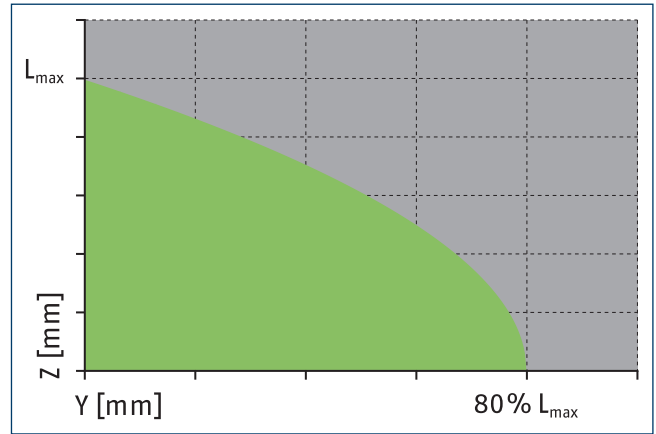
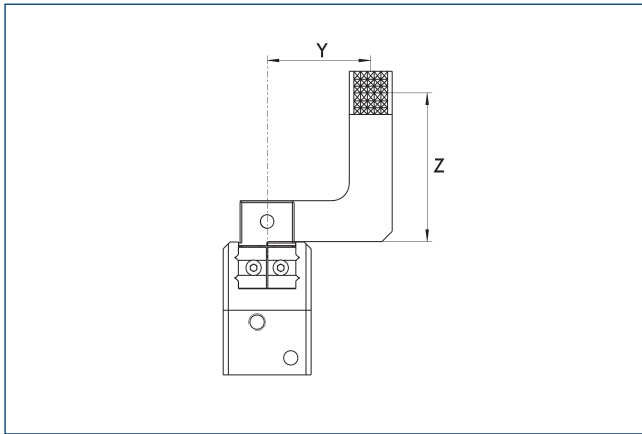
⑨① Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0-0.6) series, Order no.: 1820712066 (-67/-68/-69)

⑨① Sensor IN ...

# MPG-plus 12

Gripper for small components

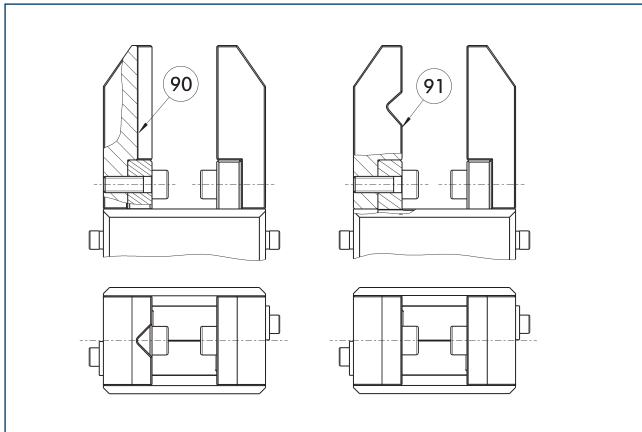
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

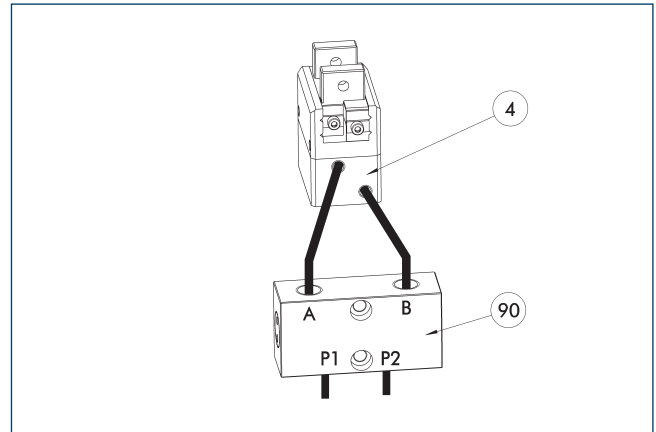
## Jaw design



90 Vertically positioned prism      91 Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

## SDV-P pressure maintenance valve



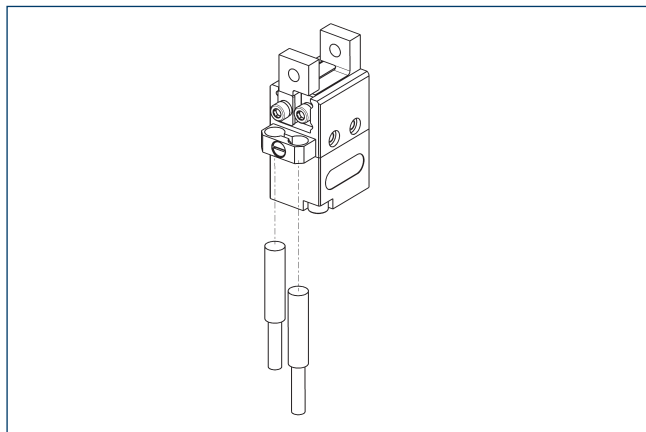
4 Grippers      90 SDV-P pressure maintenance valve

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 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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](http://schunk.com).

## Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 30K-S-M8-PNP	1001272	●
<b>Connection cables</b>		
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	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

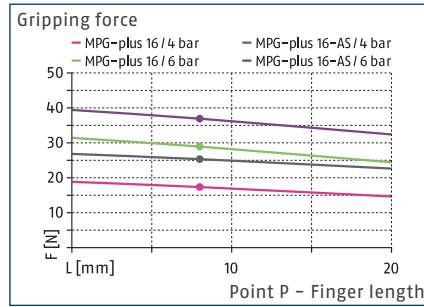
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 16

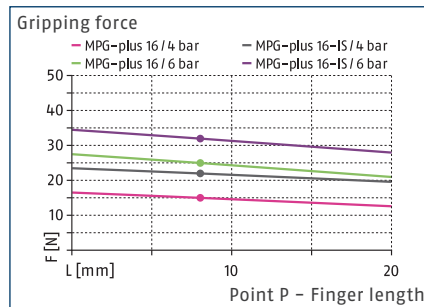
Gripper for small components



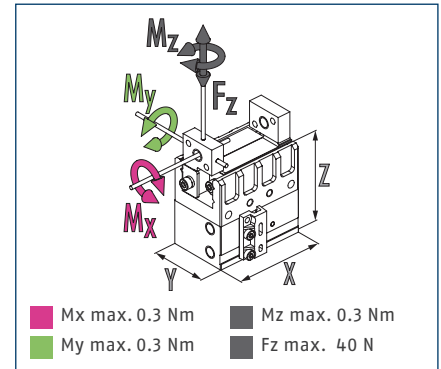
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

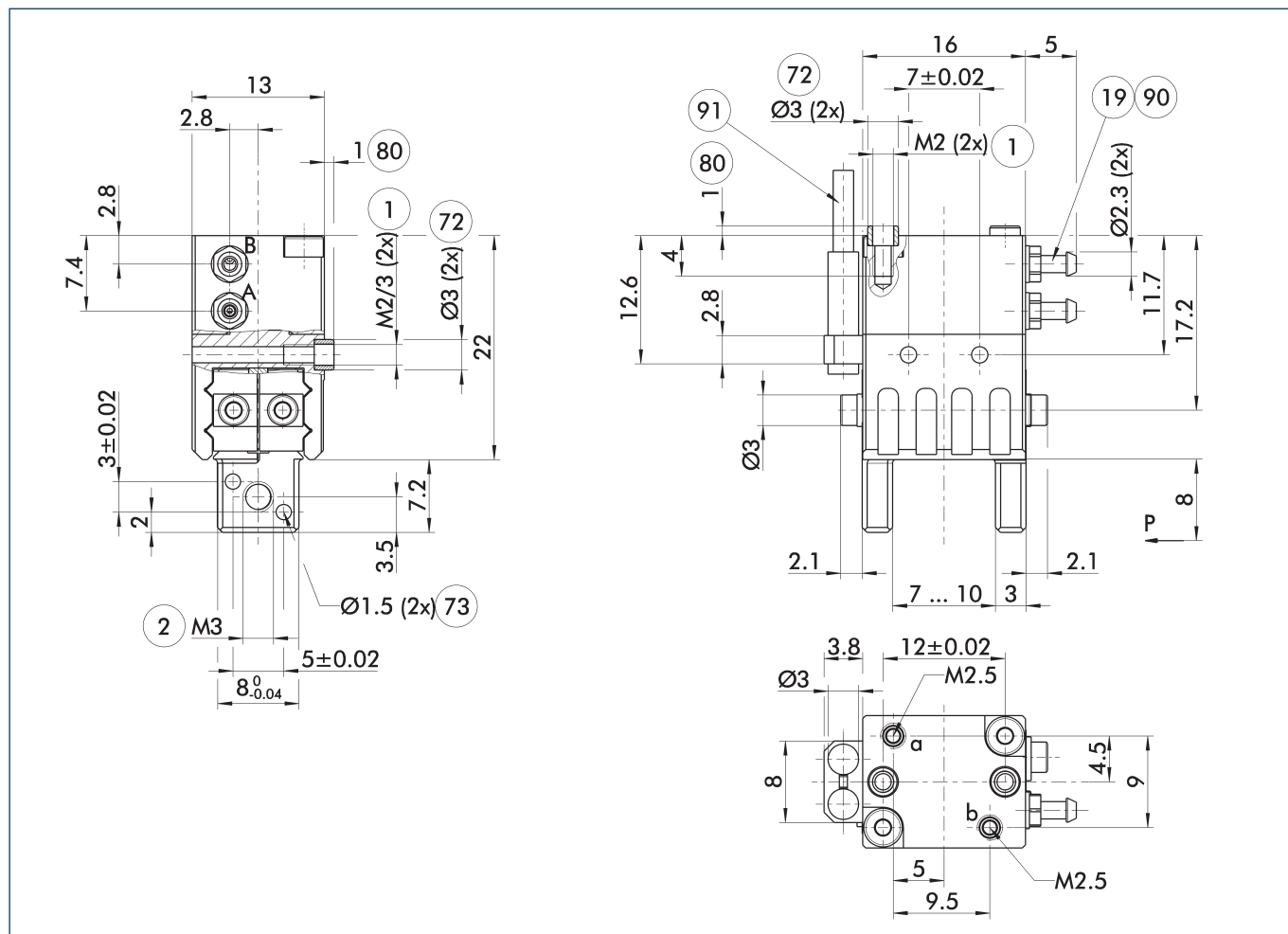


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 16	MPG-plus 16-AS	MPG-plus 16-IS
ID		0305481	0305482	0305483
Stroke per jaw	[mm]	1.5	1.5	1.5
Closing/opening force	[N]	29/25	37/-	-/32
Min. spring force	[N]		8	7
Weight	[kg]	0.022	0.025	0.025
Recommended workpiece weight	[kg]	0.14	0.14	0.14
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.32	0.69	0.53
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.011/0.011	0.011/0.015	0.015/0.011
Closing/opening time with spring	[s]		0.03	0.03
Max. permissible finger length	[mm]	20	20	20
Max. permissible mass per finger	[kg]	0.01	0.01	0.01
IP protection class		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6
Dimensions X x Y x Z	[mm]	16 x 13 x 22	16 x 13 x 27	16 x 13 x 27
<b>Options and their characteristics</b>				
High-temperature version		39305481	39305482	39305483
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305486	0305488	0305489

## Main view



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

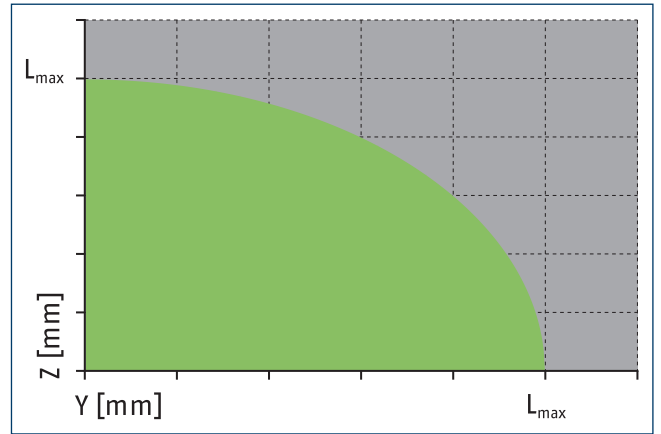
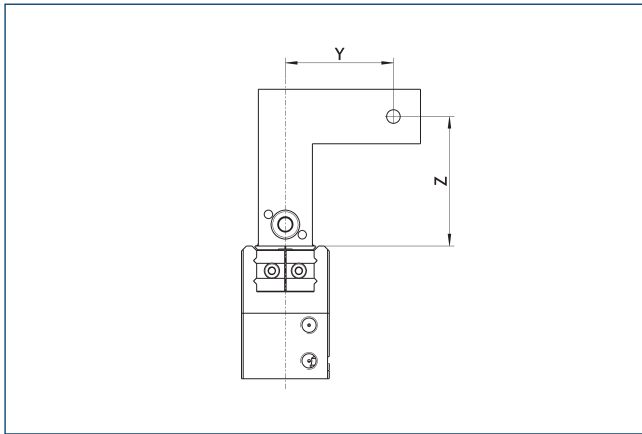
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |   |
|--|---|
| A, a Main / direct connection, gripper opening | ⑦③ Fit for centering pins   |
| B, b Main / direct connection, gripper closing | ⑧① Depth of the centering sleeve hole in the counter part   |
| ① Gripper connection                           | ⑨① Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0-0.6) series, Order no.: 1820712066 (-67/-68/-69) |
| ② Finger connection                            | ⑨② Sensor IN ...  |
| ①⑨ Air connection                              |   |
| ⑦② Fit for centering sleeves                   |   |

# MPG-plus 16

Gripper for small components

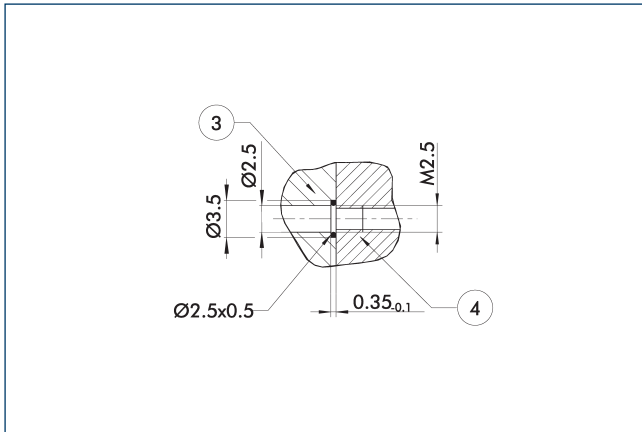
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

## Hose-free direct connection M2.5

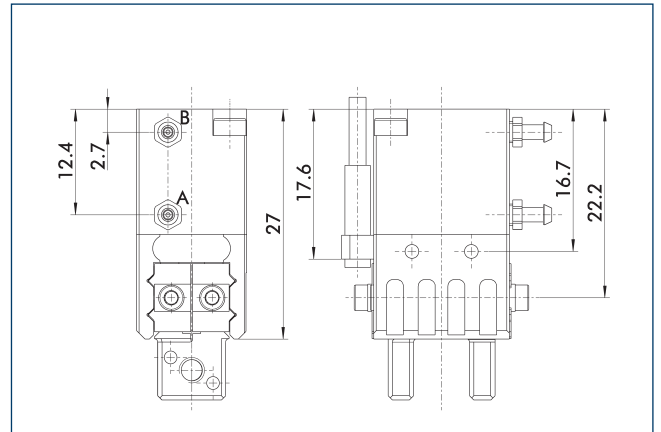


③ Adapter

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.

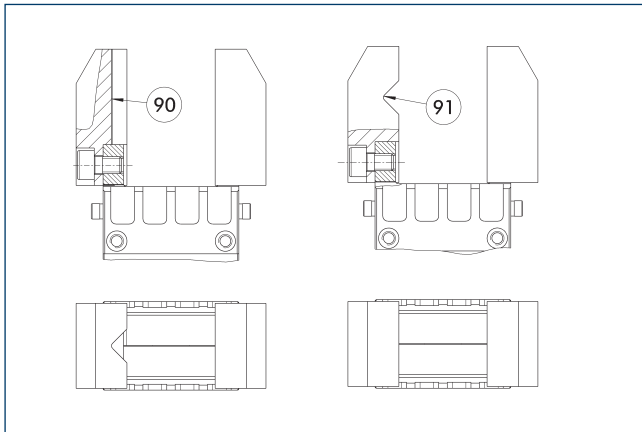
## Gripping force maintenance device AS / IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.



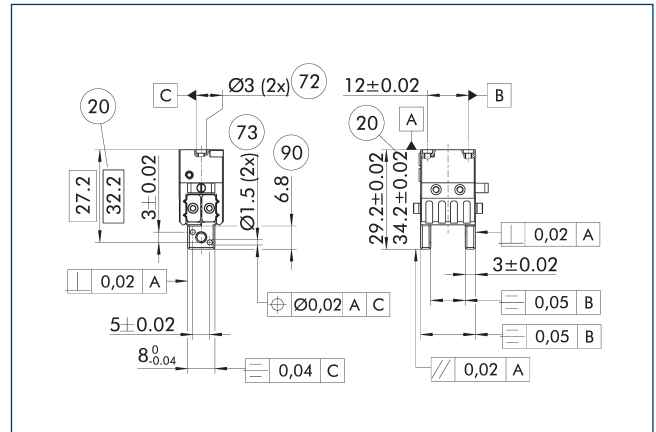
## Jaw design



- ⑨⑩ Vertically positioned prism
- ⑨① Horizontally positioned prism

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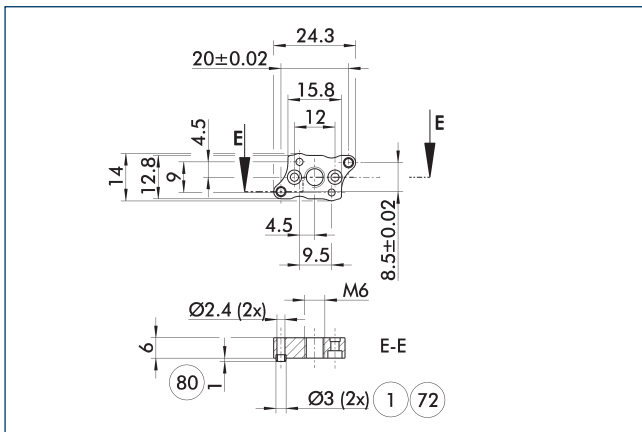
## Precision version



- ⑨② For AS / IS version
- ⑨③ Fit for centering pins
- ⑨④ Fit for centering sleeves
- ⑨⑤ Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Adapter plate



- ① Gripper connection
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑦② Fit for centering sleeves

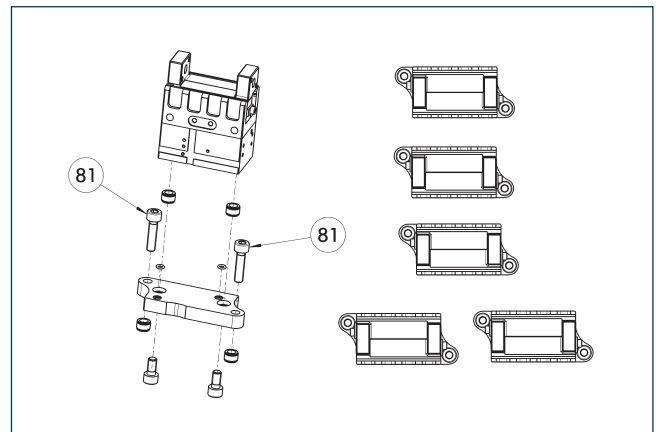
The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.

\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 16	0305487

⑩ The adapter plate is a separately ordered, optional accessory.

## Adapter plate



- ⑧① Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.

\*Optional only with pneumatic actuators

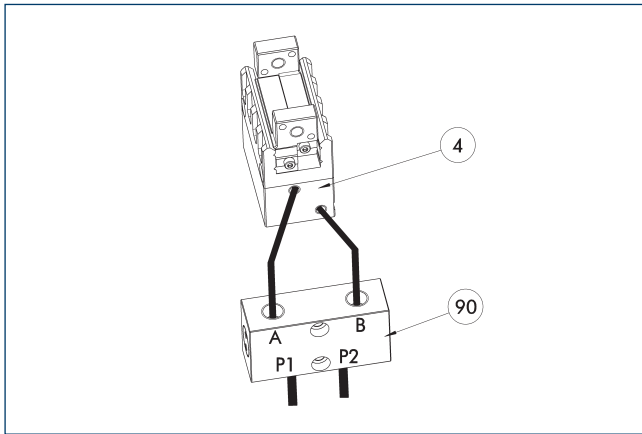
Description	ID
Adapter plate	
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# MPG-plus 16

Gripper for small components

## SDV-P pressure maintenance valve



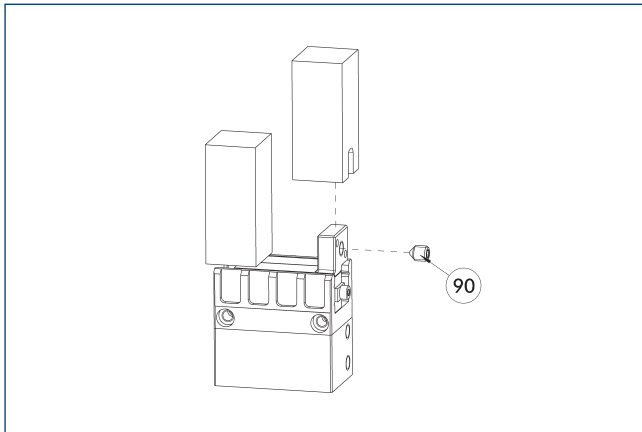
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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](http://schunk.com).

## Finger blanks with BSWS

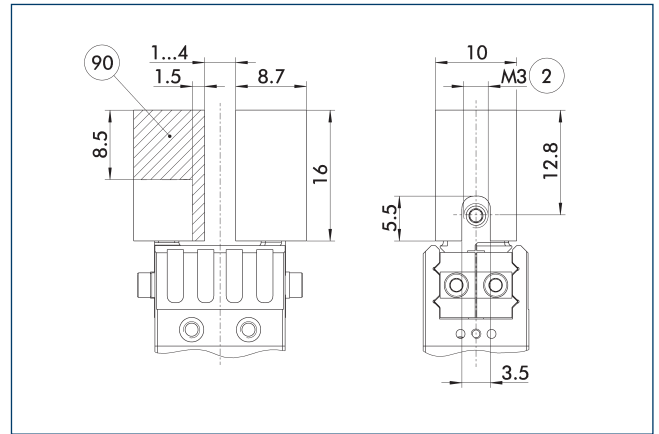


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 16	0302892	2

## Finger blanks with BSWS ABR-BSWS-MPG-plus 16

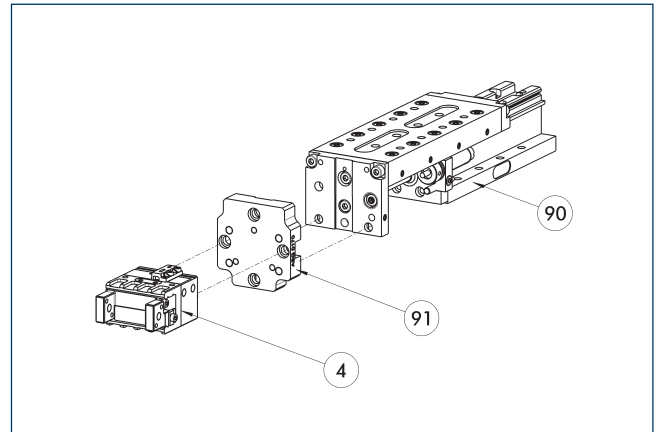


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 16	0302892	2

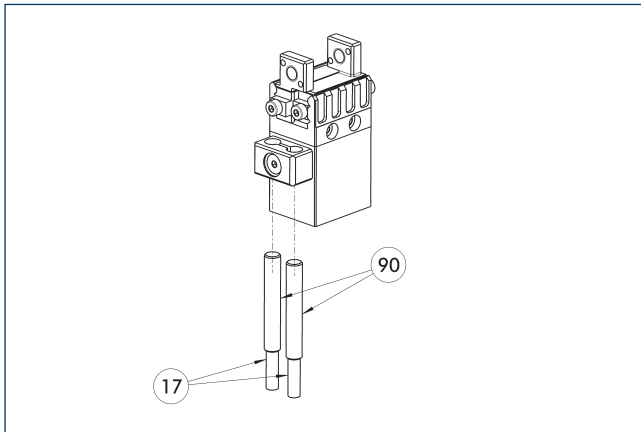
## Modular Assembly Automation



- ④ Grippers
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- ⑨① ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Inductive proximity switches



17 Cable outlet

90 Sensor IN ...

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 30K-S-M8-PNP	1001272	●
<b>Connection cables</b>		
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	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

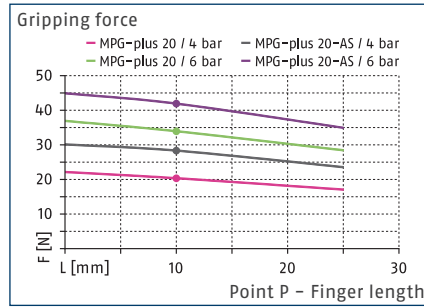
① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 20

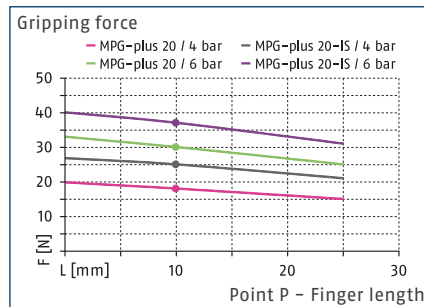
Gripper for small components



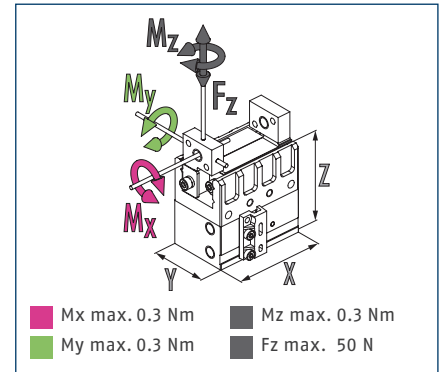
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

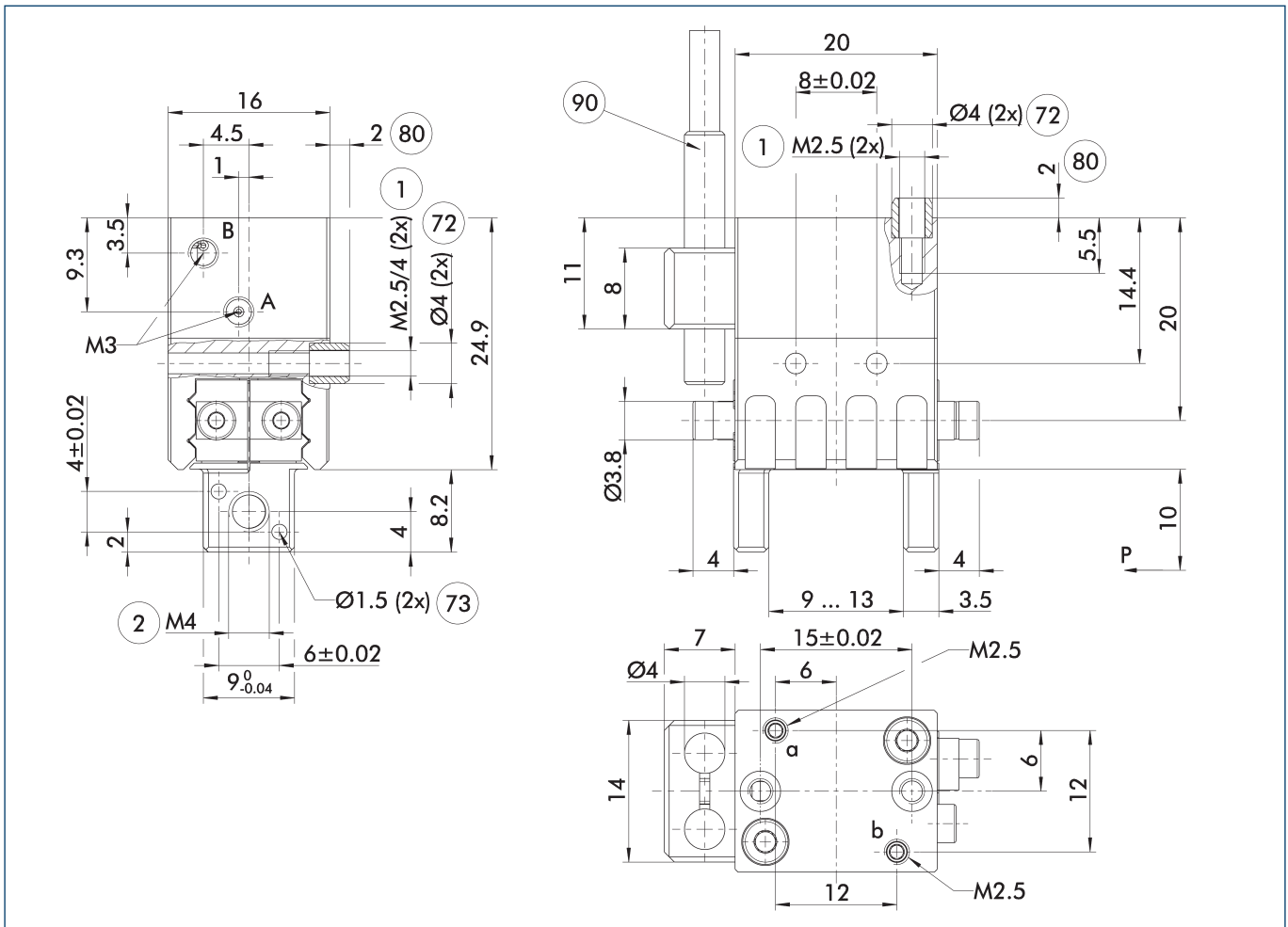


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 20	MPG-plus 20-AS	MPG-plus 20-IS	MPG-plus 20-FPS
ID		0305491	0305492	0305493	0305494
Stroke per jaw	[mm]	2	2	2	2
Closing/opening force	[N]	34/30	42/-	-/37	34/30
Min. spring force	[N]		8	7	
Weight	[kg]	0.035	0.042	0.042	0.04
Recommended workpiece weight	[kg]	0.17	0.17	0.17	0.17
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.41	1.38	0.84	0.41
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5	2/6/8
Closing/opening time	[s]	0.012/0.012	0.012/0.018	0.018/0.012	0.012/0.012
Closing/opening time with spring	[s]		0.06	0.06	
Max. permissible finger length	[mm]	25	25	25	25
Max. permissible mass per finger	[kg]	0.01	0.01	0.01	0.01
IP protection class		30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6	6
Dimensions X x Y x Z	[mm]	20 x 16 x 24.9	20 x 16 x 33.9	20 x 16 x 33.9	20 x 16 x 34.9
<b>Options and their characteristics</b>					
High-temperature version		39305491	39305492	39305493	39305494
Min./max. ambient temperature	[°C]	5/100	5/100	5/100	5/100
Precision version		0305496	0305498	0305499	

## Main view



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

① 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 catalog section on accessories).

A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

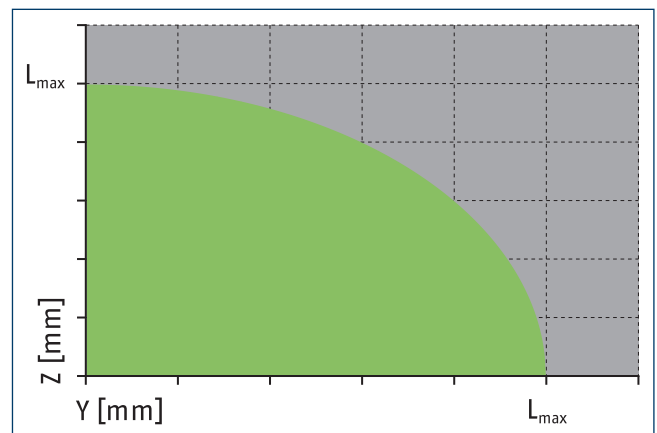
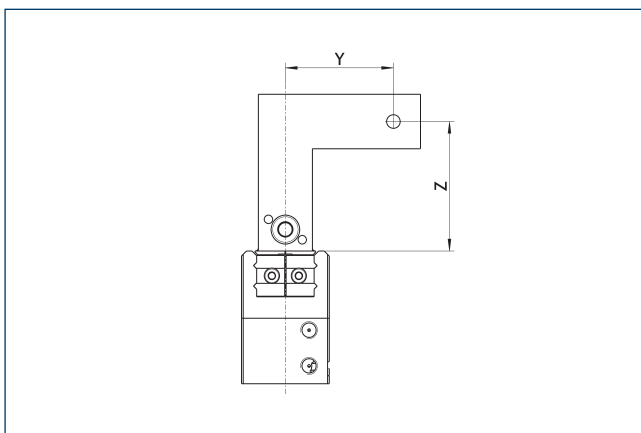
⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Sensor IN ...

## Maximum permitted finger projection



■ Permitted range

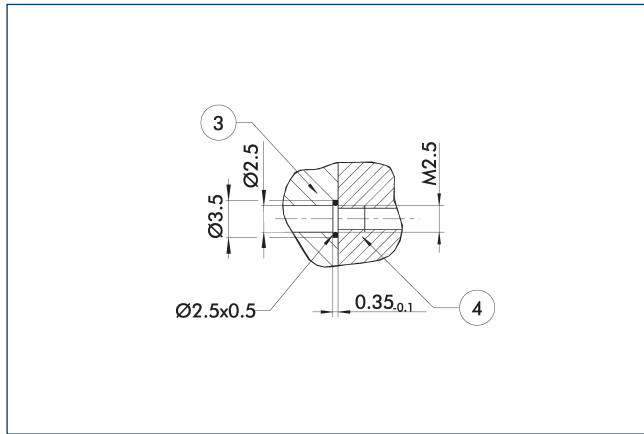
■ Inadmissible range

L<sub>max</sub> is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 20

Gripper for small components

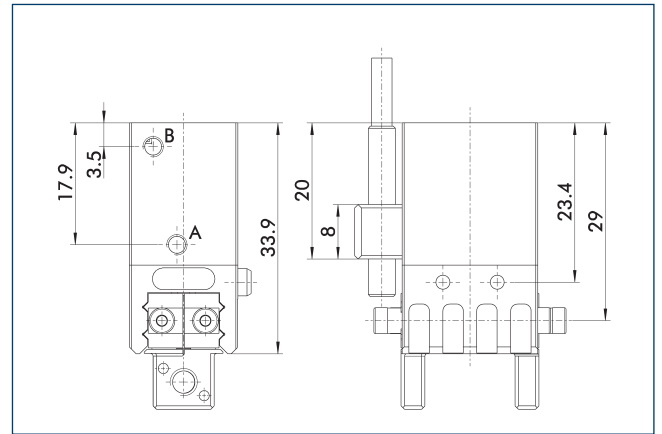
## Hose-free direct connection M2.5



- ③ Adapter
- ④ Grippers

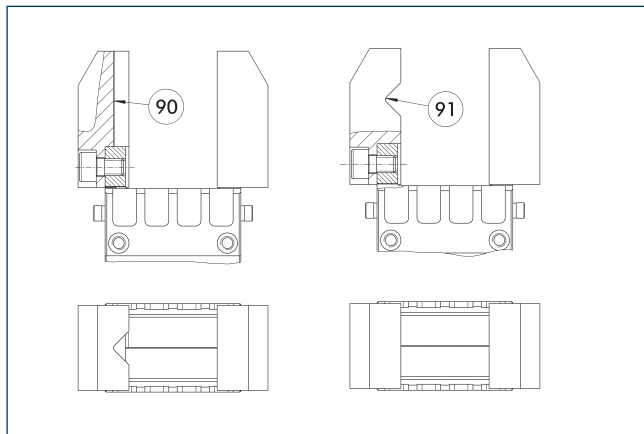
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

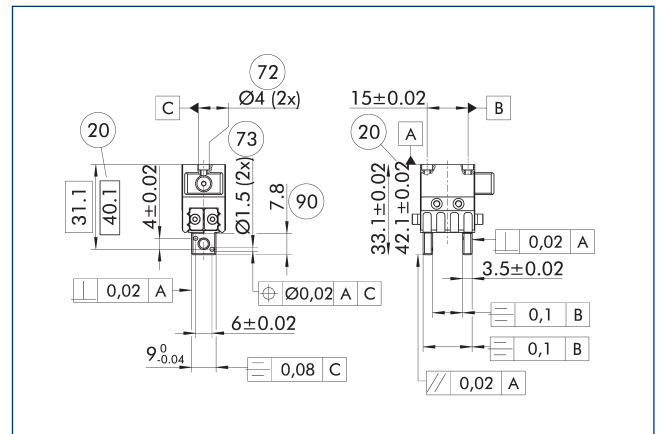
## Jaw design



- ⑨⑩ Vertically positioned prism
- ⑨① Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

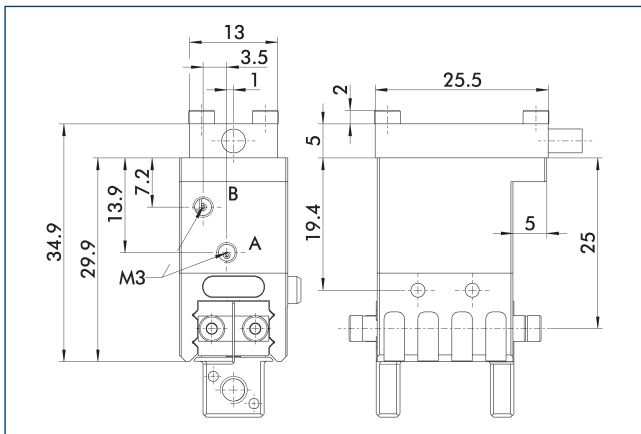
## Precision version



- ②① For AS / IS version
- ②② Fit for centering sleeves
- ②③ Fit for centering pins
- ②⑨⑩ Length of the usable finger surface

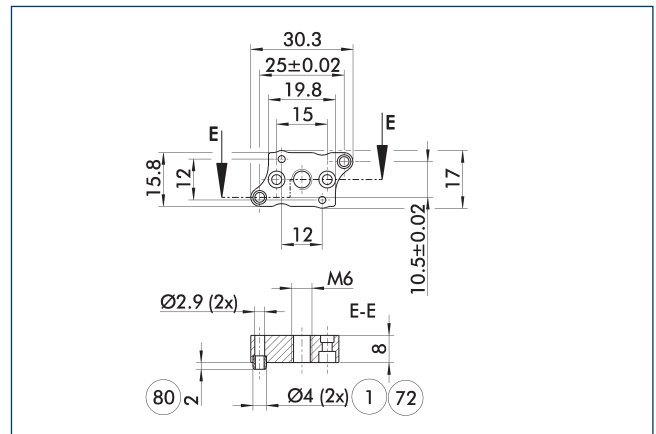
The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Flexible position sensor



The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

## Adapter plate



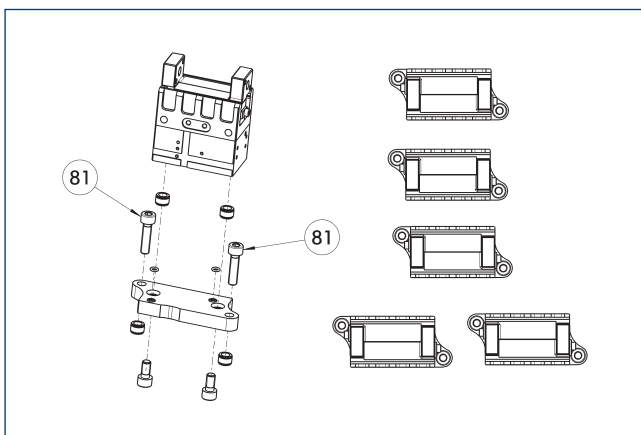
- ① Gripper connection
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID	
Adapter plate		
APL-MPG-plus 20	0305497	

① The adapter plate is a separately ordered, optional accessory.

## Adapter plate



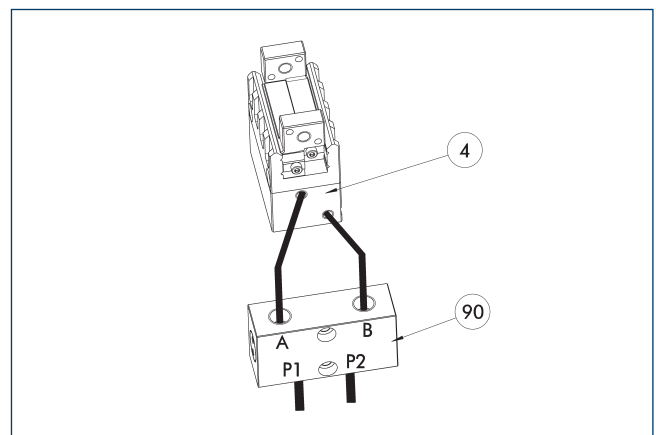
- ⑧① Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID	
Adapter plate		
APL-MPG-plus 20	0305497	

① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨⑩ 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.

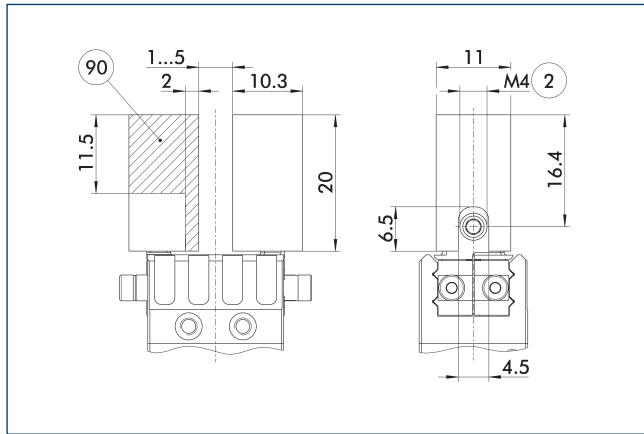
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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.

# MPG-plus 20

Gripper for small components

## Finger blanks with BSWS ABR-BSWS-MPG-plus 20

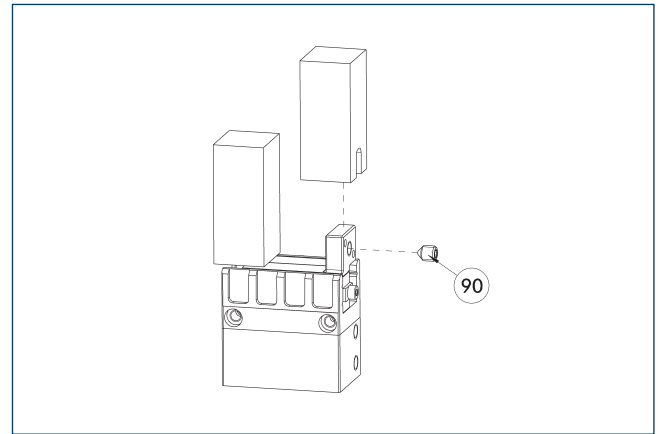


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 20	0302893	2

## Finger blanks with BSWS

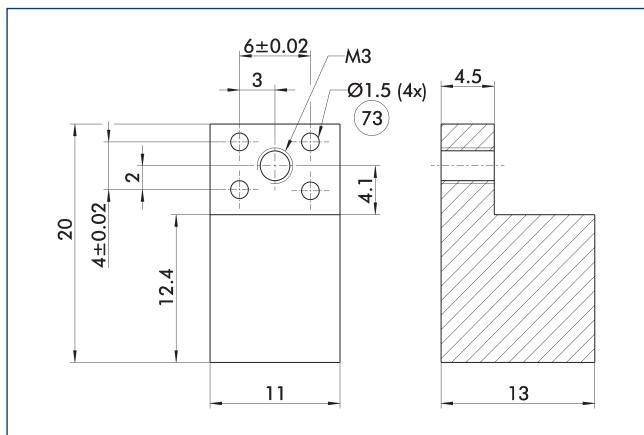


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 20	0302893	2

## Finger blanks ABR-MPG-plus 20



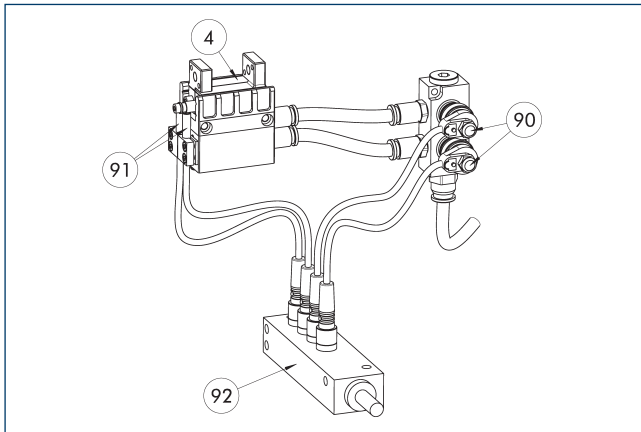
- ⑦③ Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 20	0340210	Aluminum (3.4365)	2



## Attachment valves



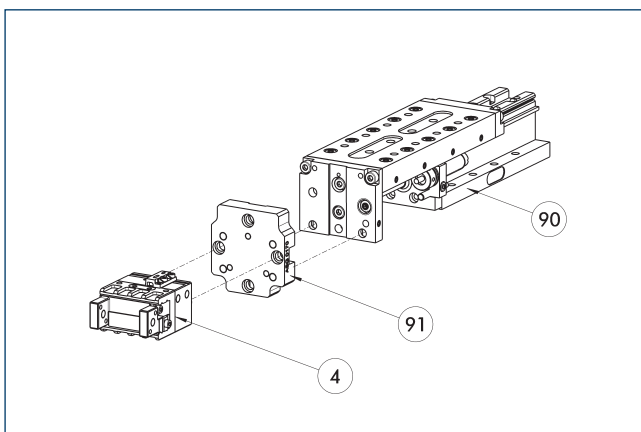
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

The set of attachment valves reduces the compressed air consumption as there is no need to ventilate or bleed the supply lines. This can also reduce cycle time. The hose-free direct assembly of the micro valves reduces the hosing effort for the gripper. To further simplify electrical connection of the valves and sensors, their signals can be bundled via an optional distributor.

Description	ID	Often combined
Attachment valve		
ABV-MV15-S2-M5	0303375	
ABV-MV15-S2-M5-V2-M8	0303376	
ABV-MV15-S2-M5-V4-M8	0303377	●
ABV-MV15-S2-M5-V8-M8	0303378	

① A set of add-on valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, a valve base, pneumatic screw connections, and optionally a sensor distributor with two, four or eight inputs and outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

## Modular Assembly Automation



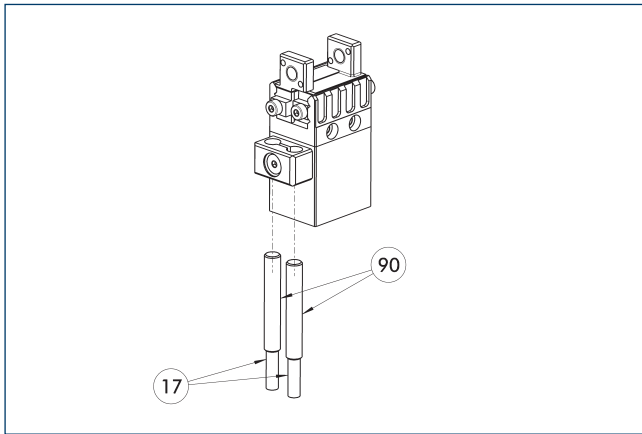
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

# MPG-plus 20

Gripper for small components

## Inductive proximity switches



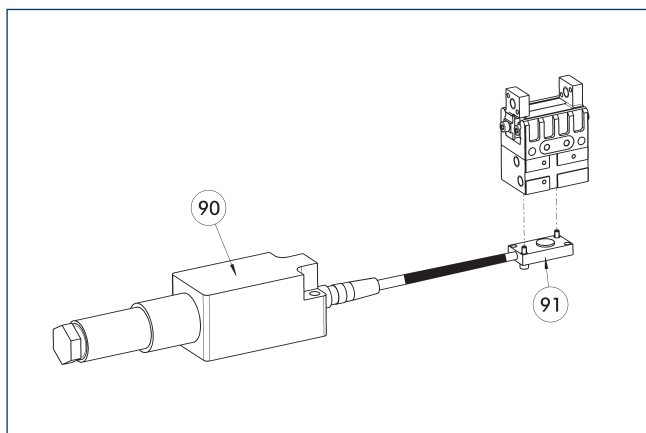
17 Cable outlet

90 Sensor IN ...

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
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	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
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	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

ⓘ 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.

## Flexible position sensor



90 FPS-F5 evaluation electronic      91 FPS-S sensor

The FPS monitoring is only possible for this size in combination with the appropriate FPS variant of the gripper.

Description	ID	Often combined
<b>Sensor</b>		
FPS-S 13	0301705	
<b>Evaluation electronics</b>		
FPS-F5	0301805	●
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
<b>Connection cables</b>		
KA BG16-L 12P-1000	0301801	
<b>clip for plug/socket</b>		
CLI-M8	0301463	

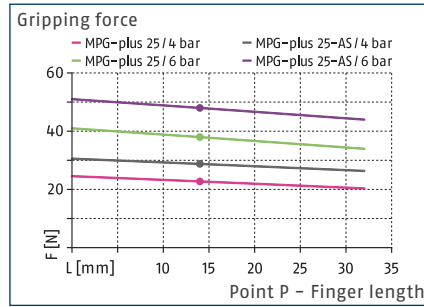
① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

# MPG-plus 25

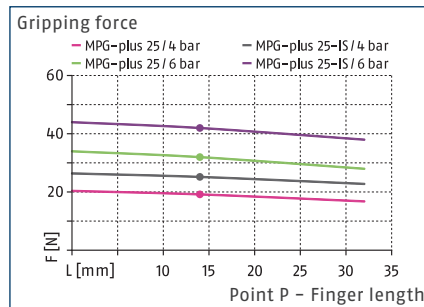
Gripper for small components



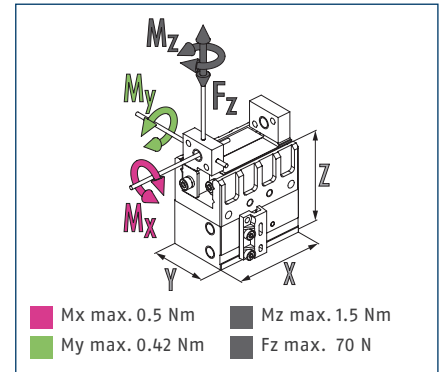
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

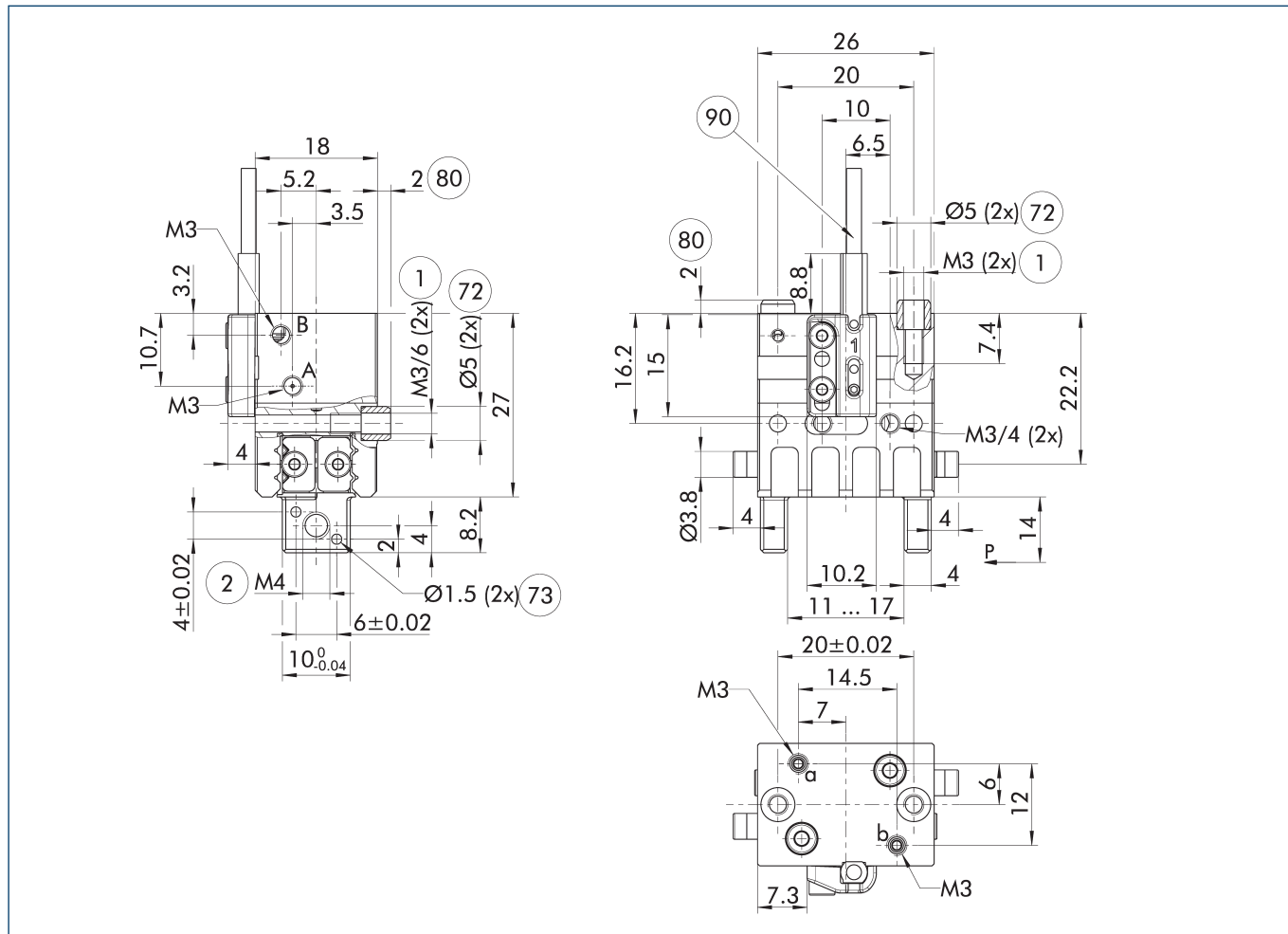


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 25	MPG-plus 25-AS	MPG-plus 25-IS	MPG-plus 25-FPS
ID		0305501	0305502	0305503	0305504
Stroke per jaw	[mm]	3	3	3	3
Closing/opening force	[N]	38/32	48/-	-/41	38/32
Min. spring force	[N]		10	9	
Weight	[kg]	0.06	0.07	0.07	0.06
Recommended workpiece weight	[kg]	0.19	0.19	0.19	0.19
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.8	2.5	2	0.8
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5	2/6/8
Closing/opening time	[s]	0.017/0.017	0.017/0.033	0.033/0.017	0.017/0.017
Closing/opening time with spring	[s]		0.10	0.10	
Max. permissible finger length	[mm]	32	32	32	32
Max. permissible mass per finger	[kg]	0.02	0.02	0.02	0.02
IP protection class		30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6	6
Dimensions X x Y x Z	[mm]	26 x 18 x 27	26 x 18 x 39.8	26 x 18 x 39.8	26 x 18 x 38.8
<b>Options and their characteristics</b>					
High-temperature version		39305501	39305502	39305503	39305504
Min./max. ambient temperature	[°C]	5/100	5/100	5/100	5/100
Precision version		0305506	0305508	0305509	
protective cover version HUE		1460566	1460568	1460569	
Weight	[kg]	0.09	0.11	0.11	
IP protection class		54	54	54	
Max. permissible mass per finger	[kg]	0.01	0.01	0.01	
Dimensions X x Y x Z	[mm]	46 x 29.8 x 39.5	46 x 29.8 x 52.3	46 x 29.8 x 52.3	

## Main view

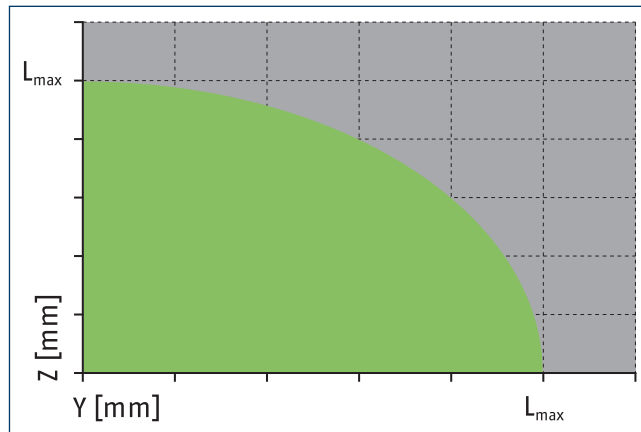
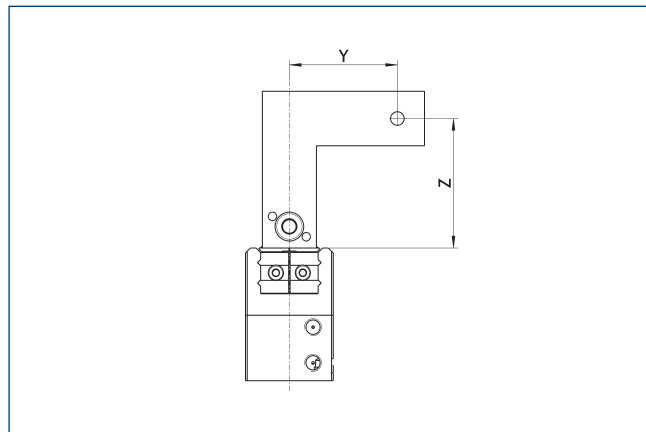


The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

① 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 catalog section on accessories).

- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- ① Gripper connection
- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



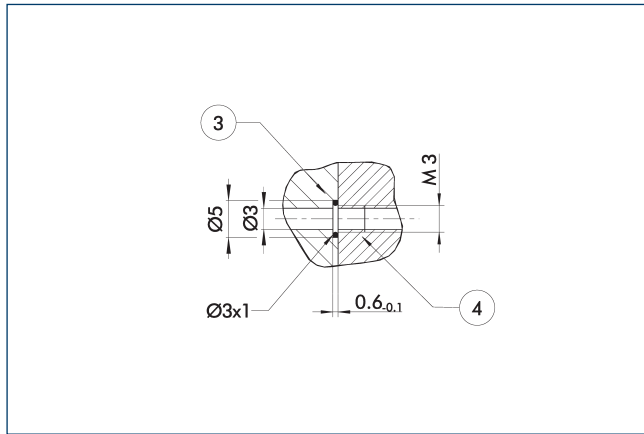
■ Permitted range      ■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 25

Gripper for small components

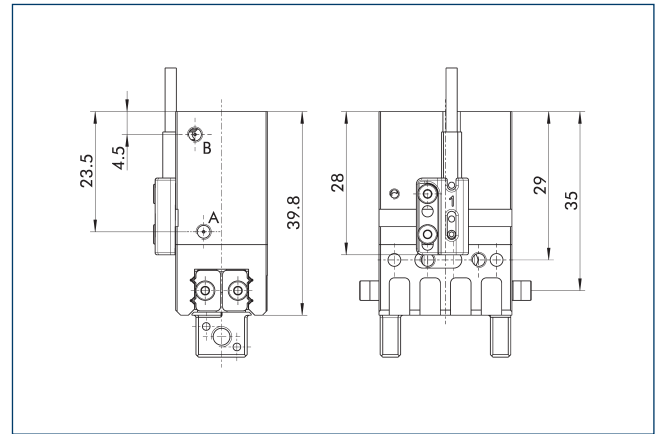
## Hose-free direct connection M3



③ Adapter                      ④ Grippers

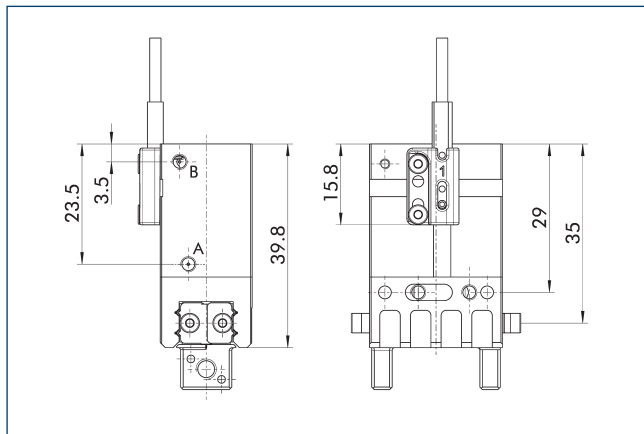
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



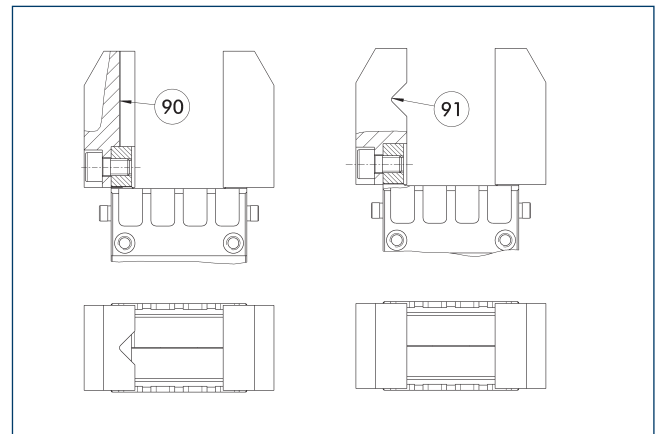
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

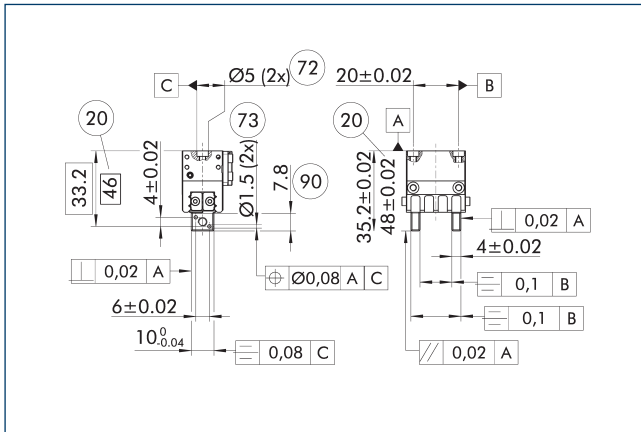
## Jaw design



⑨⑩ Vertically positioned prism                      ⑨⑪ Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

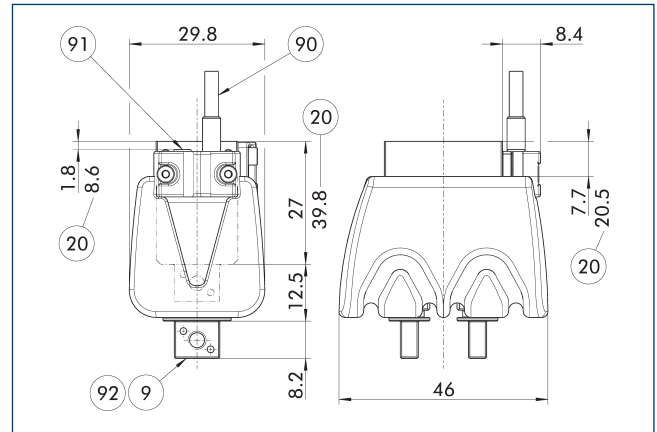
## Precision version



- ⑳ For AS / IS version
- ㉑ Fit for centering sleeves
- ㉒ Fit for centering pins
- ㉓ Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Protection cover HUE

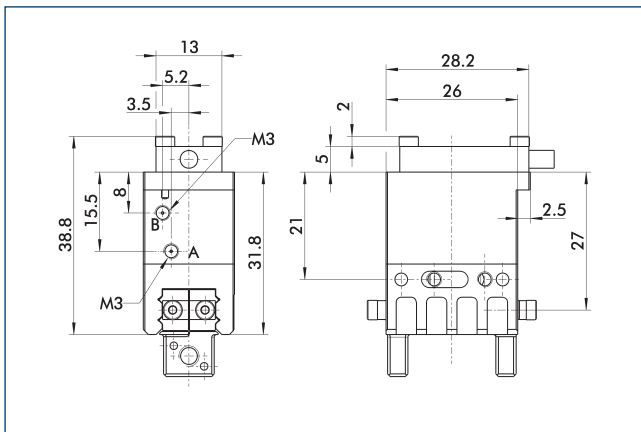


- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ㉑ Cylindrical pins
- ㉒ Intermediate jaw (stainless steel)

The HUE protection cover fully protects the gripper against external influences. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing. The protection cover is a wear part and can be ordered separately as a spare part.

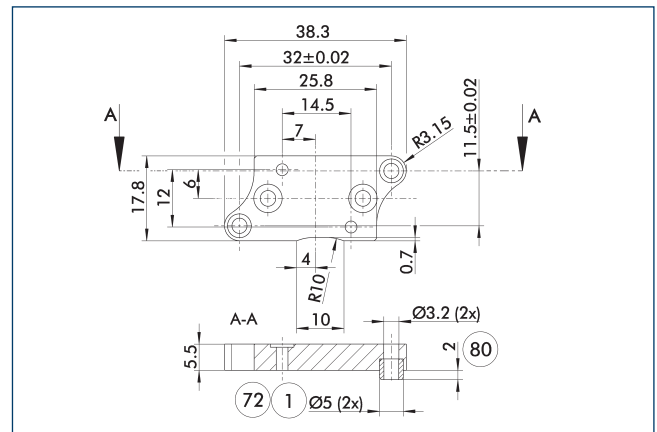
- ① Two sensors are required per unit for monitoring two positions. Only sensors from the IN 40 series can be used. The gripper is prepared for this, and no additional mounting kit is required. Monitoring with magnetic sensors is not possible. The bracket for magnetic sensors is not included in the scope of delivery. If the gripper is used without a sensor, the two cylindrical pins (item 91) must not be removed so that the IP protection class of the product remains guaranteed.

## Flexible position sensor



The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

## Adapter plate



- ① Gripper connection
- ㉑ Fit for centering sleeves
- ㉒ Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

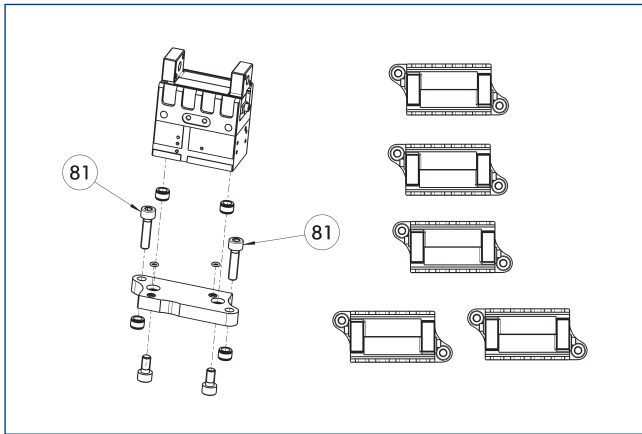
Description	ID
Adapter plate	
APL-MPG-plus 25	0305507

- ① The adapter plate is a separately ordered, optional accessory.

# MPG-plus 25

Gripper for small components

## Adapter plate



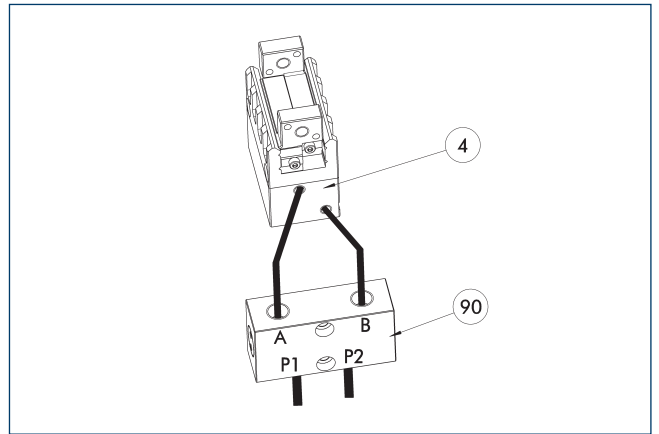
⑧① Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID	
Adapter plate		
APL-MPG-plus 25	0305507	

① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



④ Grippers

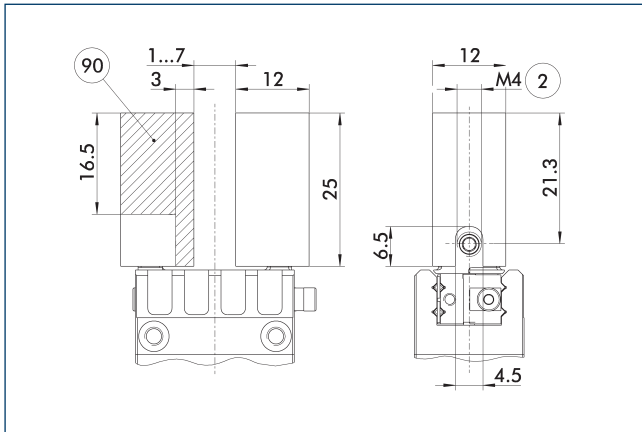
⑨⑩ SDV-P pressure maintenance valve

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 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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.

## Finger blanks with BSWs ABR-BSWS-MPG-plus 25



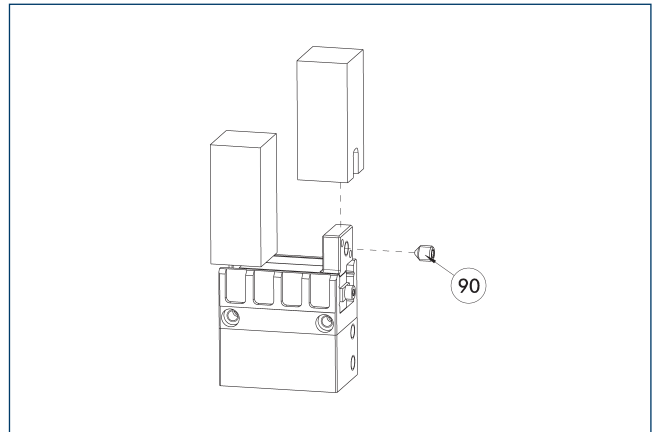
② Finger connection

⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 25	0302894	2

## Finger blanks with BSWs



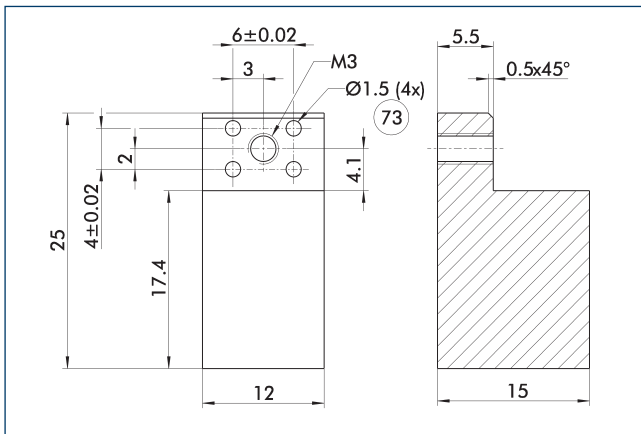
⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 25	0302894	2



## Finger blanks ABR-MPG-plus 25

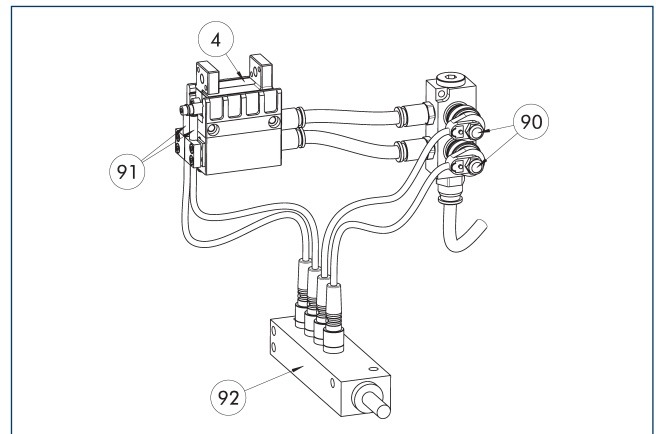


(73) Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 25	0340211	Aluminum (3.4365)	2

## Attachment valves



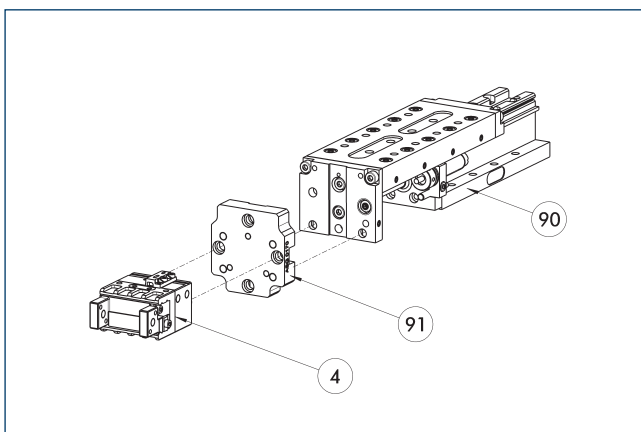
- (4) Grippers
- (90) Micro valves
- (91) Sensor
- (92) Sensor distributor
- (93) Y distributor

The set of attachment valves reduces the compressed air consumption as there is no need to ventilate or bleed the supply lines. This can also reduce cycle time. The hose-free direct assembly of the micro valves reduces the hosing effort for the gripper. To further simplify electrical connection of the valves and sensors, their signals can be bundled via an optional distributor.

Description	ID	Often combined
Attachment valve		
ABV-MV15-S2-M5	0303375	
ABV-MV15-S2-M5-V2-M8	0303376	
ABV-MV15-S2-M5-V4-M8	0303377	●
ABV-MV15-S2-M5-V8-M8	0303378	

(1) A set of add-on valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, a valve base, pneumatic screw connections, and optionally a sensor distributor with two, four or eight inputs or outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

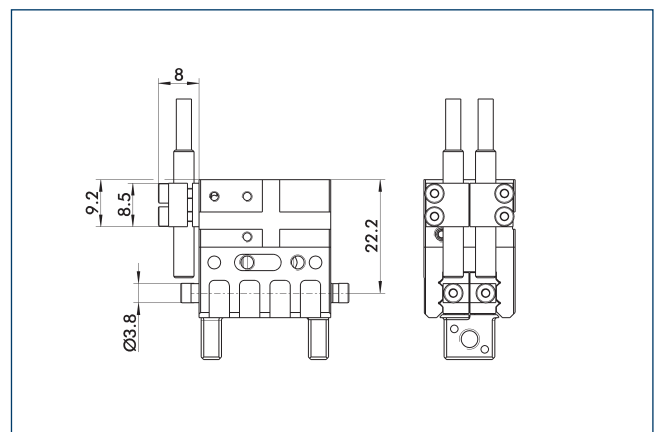
## Modular Assembly Automation



- (4) Grippers
- (90) CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- (91) ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40



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

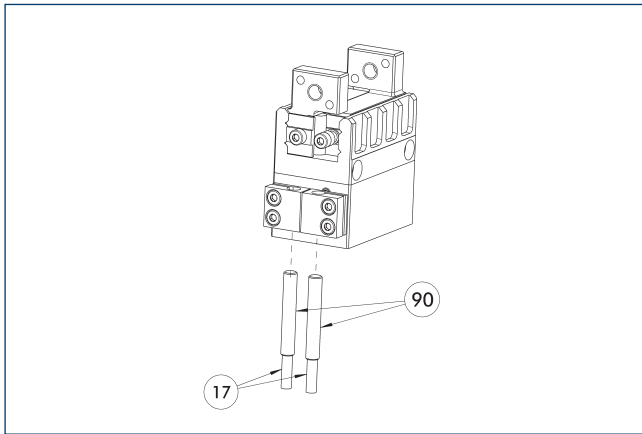
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 25	0305505	

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

# MPG-plus 25

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

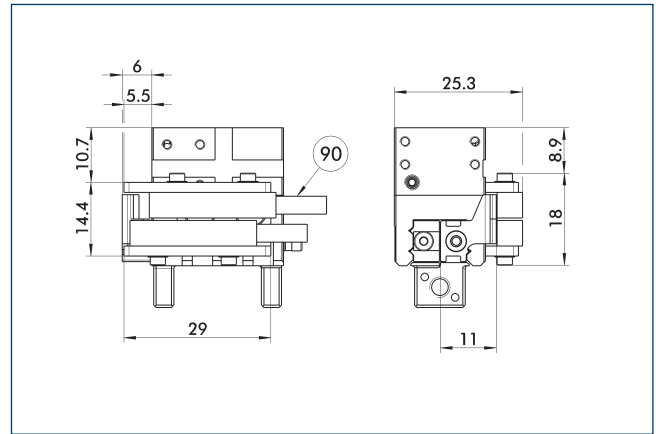
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus 25	0305505	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

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.

## Attachment kit for proximity switch IN 5



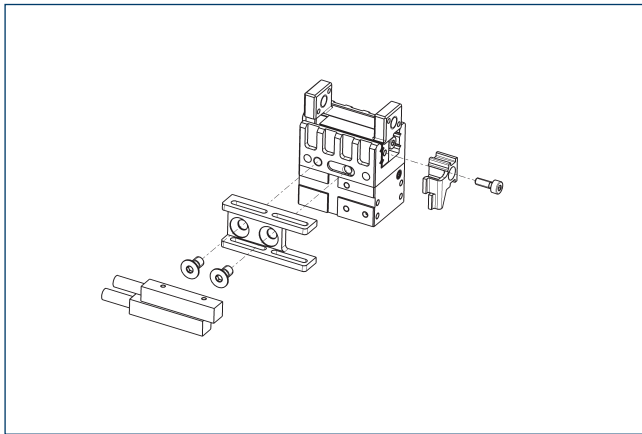
90 Sensor IN ...

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-IN5-MPG-plus 25	0340150	

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

## IN 5 inductive proximity switches

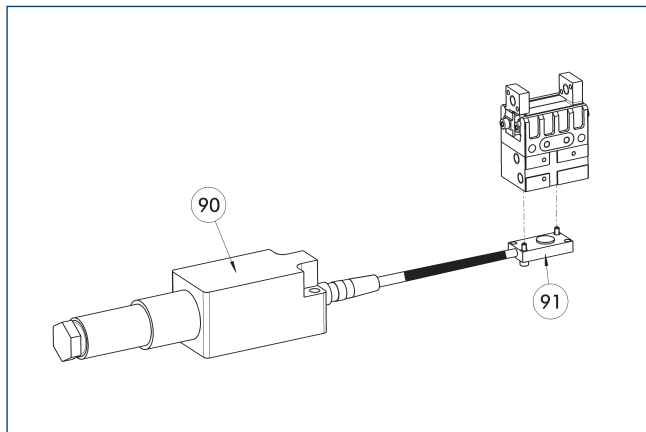


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 25	0340150	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

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.

## Flexible position sensor



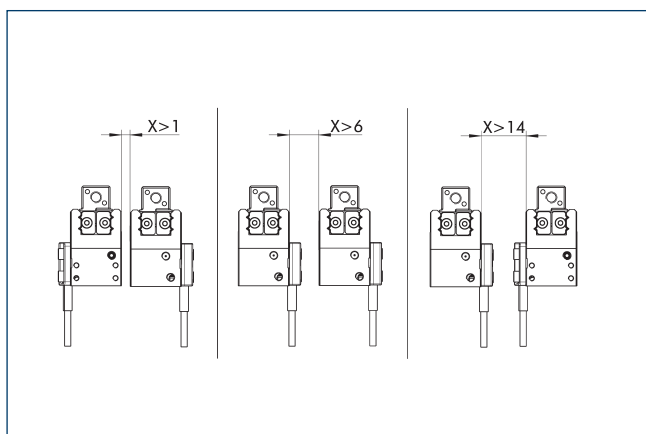
90 FPS-F5 evaluation electronic    91 FPS-S sensor

The FPS monitoring is only possible for this size in combination with the appropriate FPS variant of the gripper.

Description	ID	Often combined
<b>Sensor</b>		
FPS-S 13	0301705	
<b>Evaluation electronics</b>		
FPS-F5	0301805	●
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
<b>Connection cables</b>		
KA BG16-L 12P-1000	0301801	
<b>clip for plug/socket</b>		
CLI-M8	0301463	

① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Monitoring for stacked arrangements

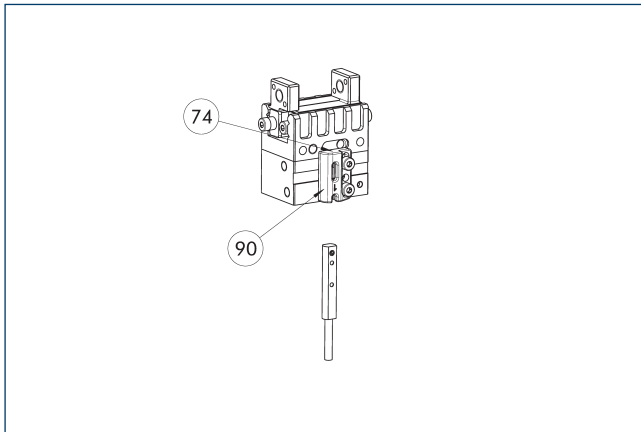


CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 25

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

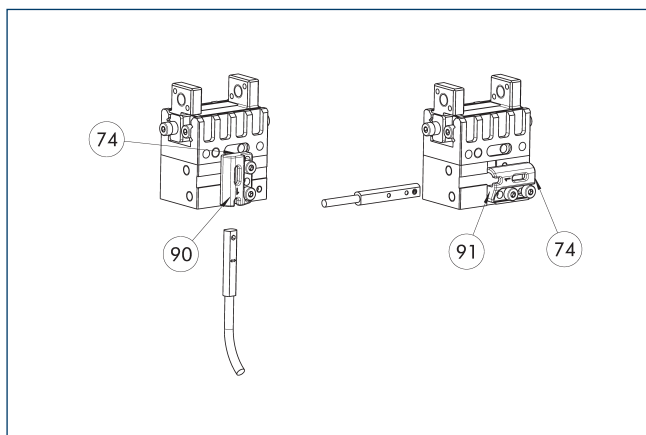
90 Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor and electronics built into 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-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

## MMS-P programmable magnetic switch



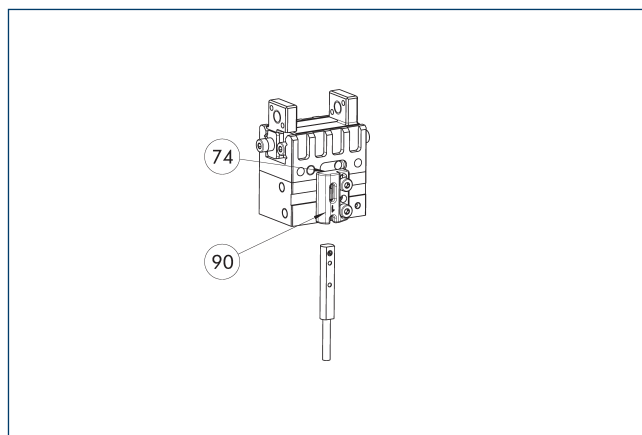
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① The bracket (90) is delivered vertically mounted. To use the magnetic sensor in a horizontal orientation, the bracket can be horizontally assembled (91). The mounting bracket has an internal stop for the MMS-P (74).

## MMS-A analog position sensor



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

No-contact measuring, analog multi-position monitoring for any number of positions.

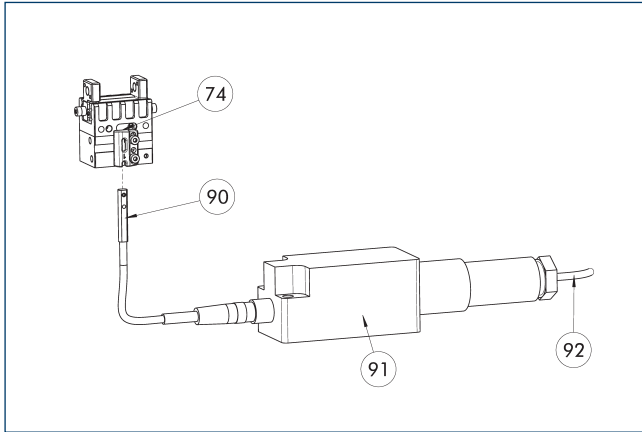
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# MPG-plus 25

Gripper for small components

## Flexible position sensor with MMS-A



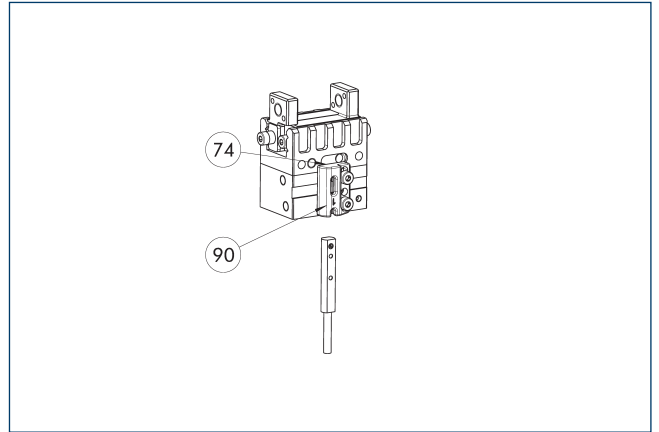
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315805	
Evaluation electronics		
FPS-F5	0301805	
Connection cables		
KA BG16-L 12P-1000	0301801	

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Programmable magnetic switch MMS-I0-Link



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the I0-Link interface or the MT magnetic teach tool (included in scope of delivery). An I0-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-I0L-M08	0315830	
MMS 22-I0L-M12	0315835	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

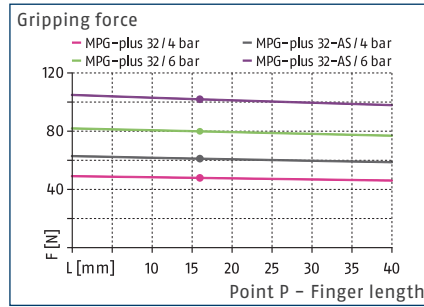


# MPG-plus 32

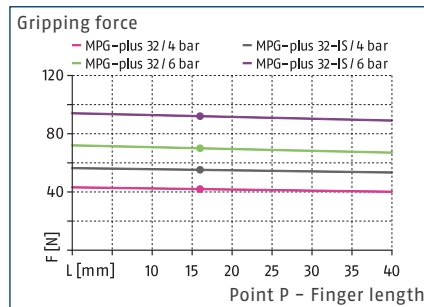
Gripper for small components



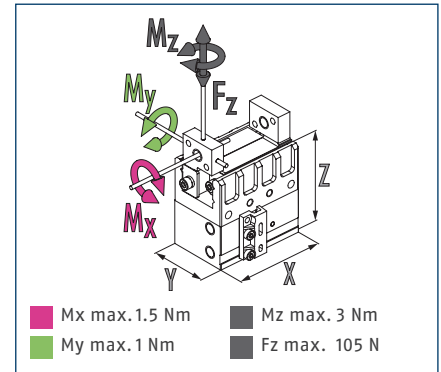
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



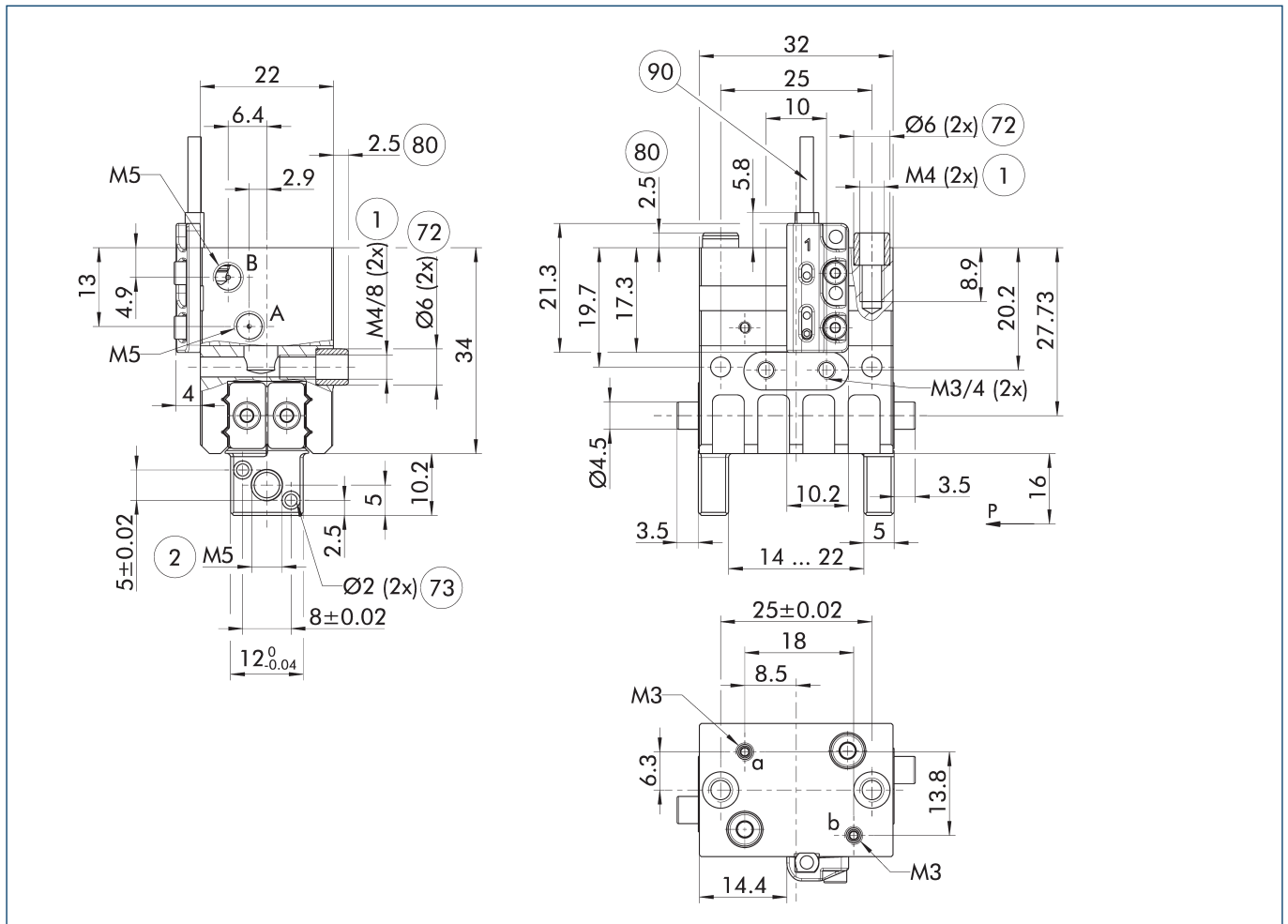
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 32	MPG-plus 32-AS	MPG-plus 32-IS	MPG-plus 32-FPS
ID		0305511	0305512	0305513	0305514
Stroke per jaw	[mm]	4	4	4	4
Closing/opening force	[N]	80/70	105/-	-/90	80/70
Min. spring force	[N]		25	20	
Weight	[kg]	0.1	0.13	0.13	0.13
Recommended workpiece weight	[kg]	0.43	0.43	0.43	0.43
Fluid consumption double stroke	[cm <sup>3</sup> ]	1.7	4.1	3.5	1.7
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5	2/6/8
Closing/opening time	[s]	0.02/0.02	0.03/0.04	0.04/0.03	0.02/0.02
Closing/opening time with spring	[s]		0.20	0.20	
Max. permissible finger length	[mm]	40	40	40	40
Max. permissible mass per finger	[kg]	0.04	0.04	0.04	0.04
IP protection class		30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6	6
Dimensions X x Y x Z	[mm]	32 x 22 x 34	32 x 22 x 47.3	32 x 22 x 47.3	32 x 22 x 44.8
<b>Options and their characteristics</b>					
High-temperature version		39305511	39305512	39305513	39305514
Min./max. ambient temperature	[°C]	5/100	5/100	5/100	5/100
Precision version		0305516	0305518	0305519	
protective cover version HUE		1460630	1460632	1460634	
Weight	[kg]	0.16	0.19	0.19	
IP protection class		54	54	54	
Max. permissible mass per finger	[kg]	0.02	0.02	0.02	
Dimensions X x Y x Z	[mm]	55 x 34.8 x 49	55 x 34.8 x 62.3	55 x 34.8 x 62.3	



## Main view



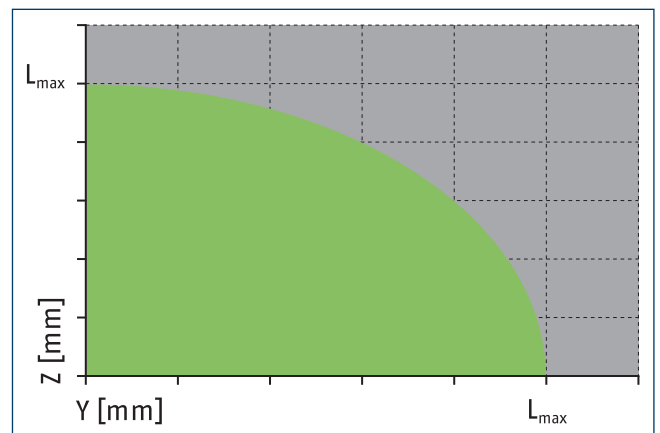
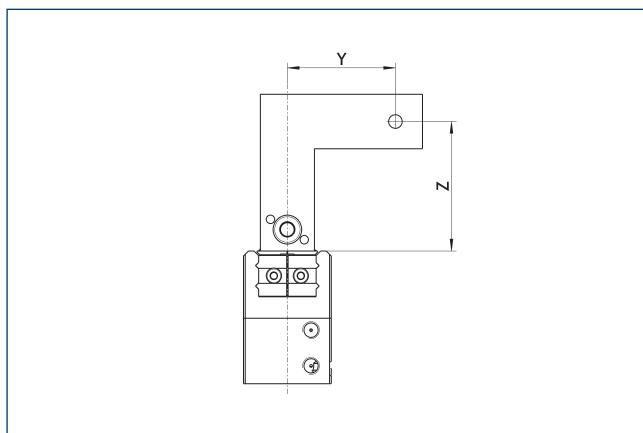
The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

① 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 catalog section on accessories).

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

- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

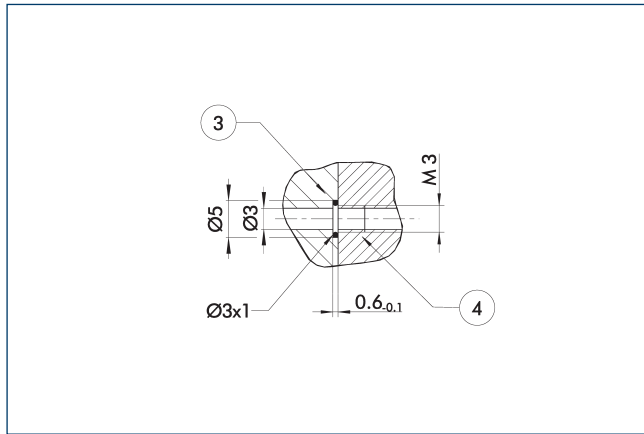
■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 32

Gripper for small components

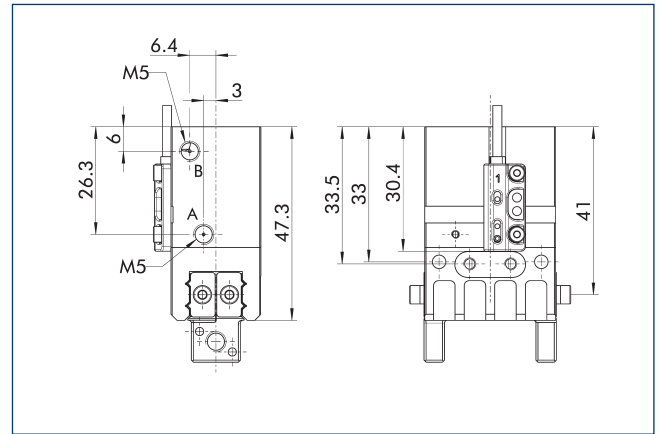
## Hose-free direct connection M3



③ Adapter                      ④ Grippers

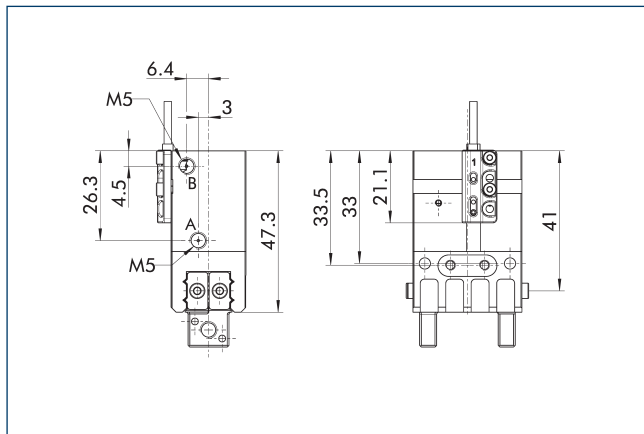
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



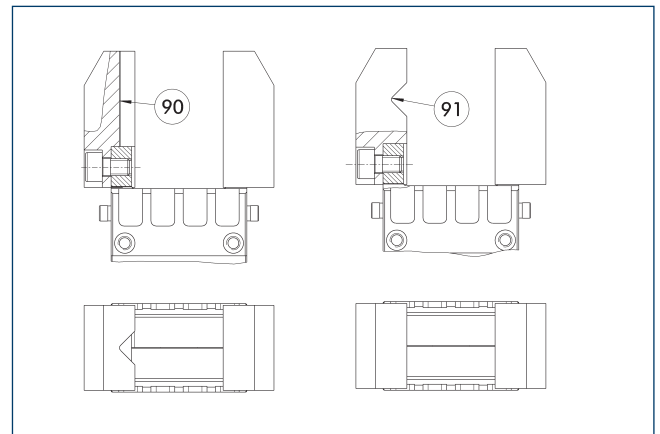
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

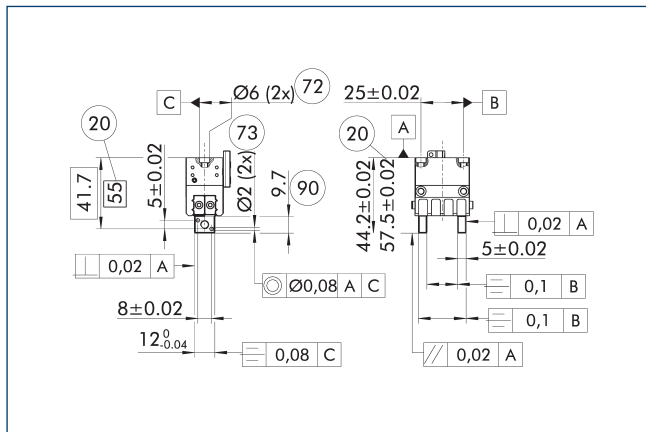
## Jaw design



⑨⑩ Vertically positioned prism                      ⑨⑪ Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

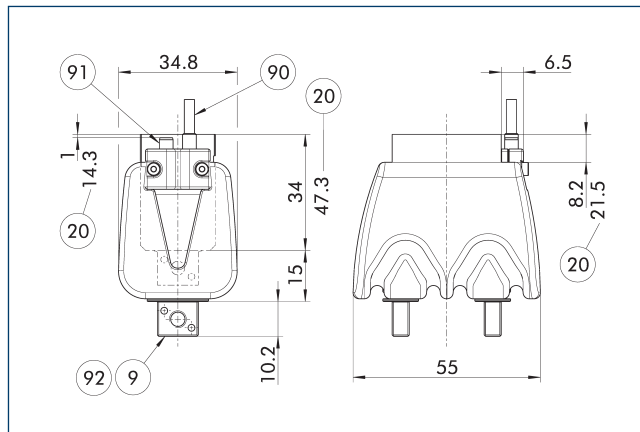
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑨0 Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Protection cover HUE

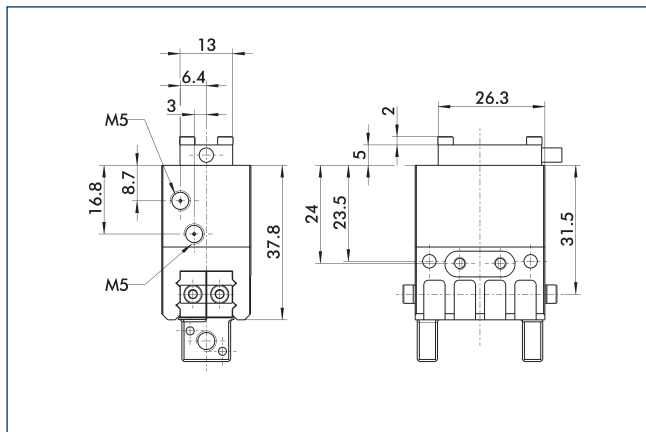


- ⑨ For mounting screw connection diagram, see basic version
- ②0 For AS / IS version
- ⑨1 Cylindrical pins
- ⑨2 Intermediate jaw (stainless steel)

The HUE protection cover fully protects the gripper against external influences. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing. The protection cover is a wear part and can be ordered separately as a spare part.

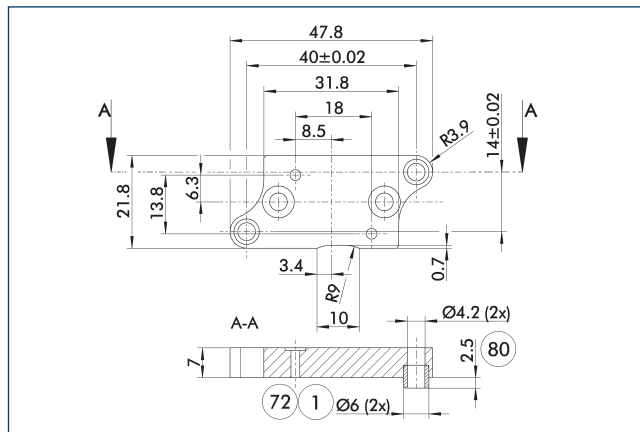
- ④ Two sensors are required per unit for monitoring two positions. Only sensors from the IN 40 series can be used. The gripper is prepared for this, and no additional mounting kit is required. Monitoring with magnetic sensors is not possible. The bracket for magnetic sensors is not included in the scope of delivery. If the gripper is used without a sensor, the two cylindrical pins (item 91) must not be removed so that the IP protection class of the product remains guaranteed.

## Flexible position sensor



The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

## Adapter plate



- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

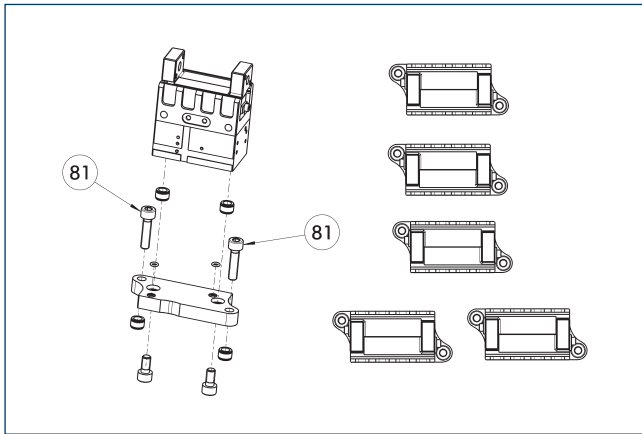
Description	ID
Adapter plate	
APL-MPG-plus 32	0305517

- ④ The adapter plate is a separately ordered, optional accessory.

# MPG-plus 32

Gripper for small components

## Adapter plate



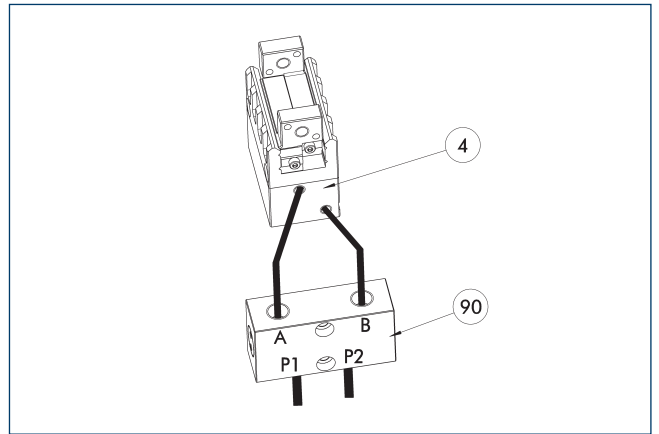
81 Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper. \*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 32	0305517

① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



4 Grippers

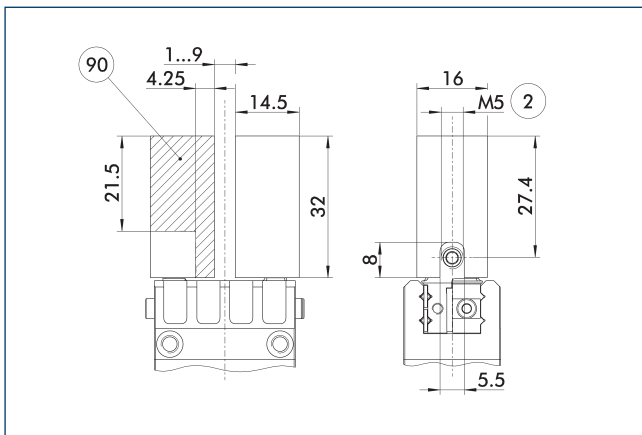
90 SDV-P pressure maintenance valve

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 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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.

## Finger blanks with BSWs ABR-BSWS-MPG-plus 32



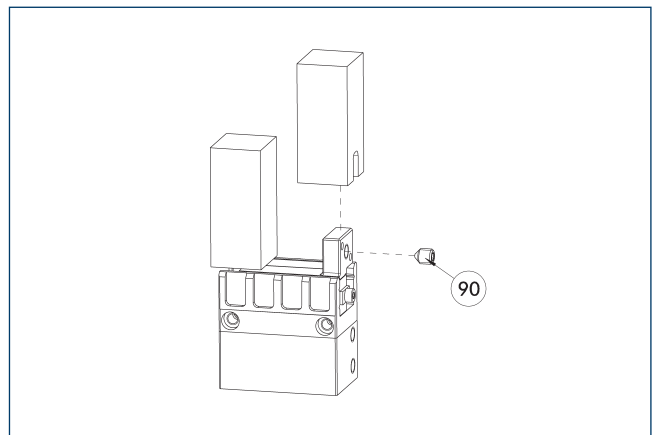
2 Finger connection

90 Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 32	0302895	2

## Finger blanks with BSWs

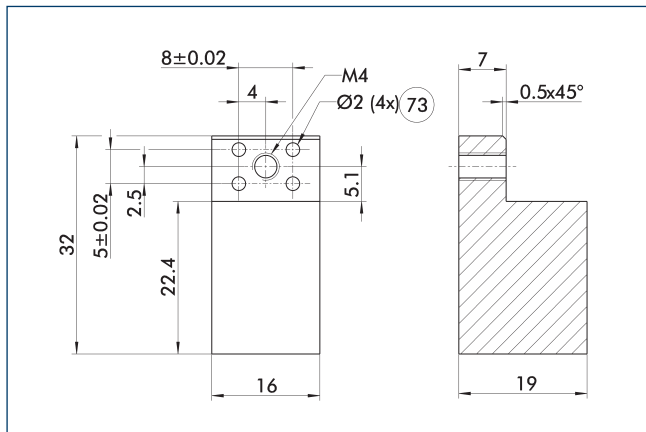


90 Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 32	0302895	2

## Finger blanks ABR-MPG-plus 32

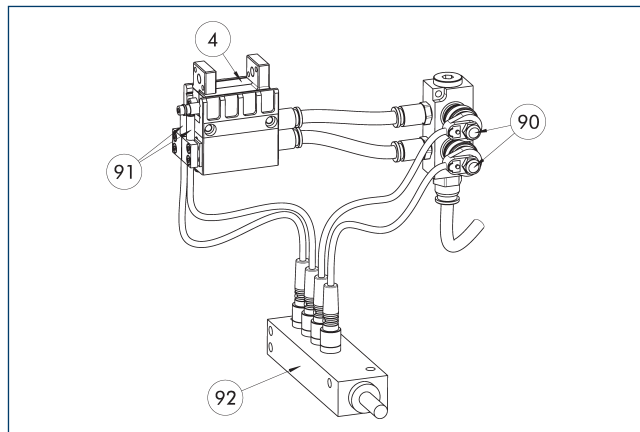


73 Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 32	0340212	Aluminum (3.4365)	2

## Attachment valves



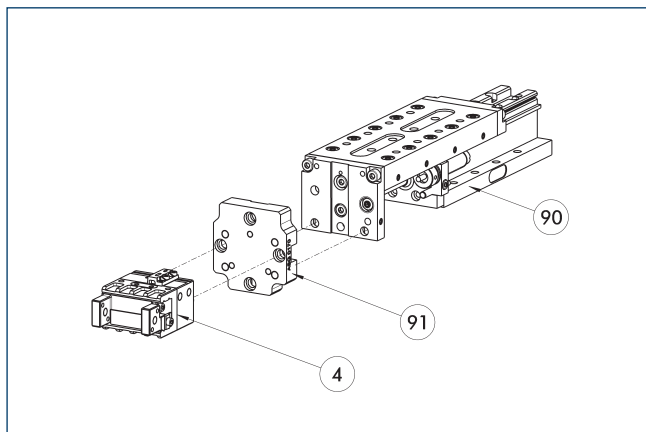
- 4 Grippers
- 90 Micro valves
- 91 Sensor
- 92 Sensor distributor
- 93 Y distributor

The set of attachment valves reduces the compressed air consumption as there is no need to ventilate or bleed the supply lines. This can also reduce cycle time. The hose-free direct assembly of the micro valves reduces the hosing effort for the gripper. To further simplify electrical connection of the valves and sensors, their signals can be bundled via an optional distributor.

Description	ID	Often combined
Attachment valve		
ABV-MV15-S2-M5	0303375	
ABV-MV15-S2-M5-V2-M8	0303376	
ABV-MV15-S2-M5-V4-M8	0303377	●
ABV-MV15-S2-M5-V8-M8	0303378	

① A set of add-on valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, a valve base, pneumatic screw connections, and optionally a sensor distributor with two, four or eight inputs or outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

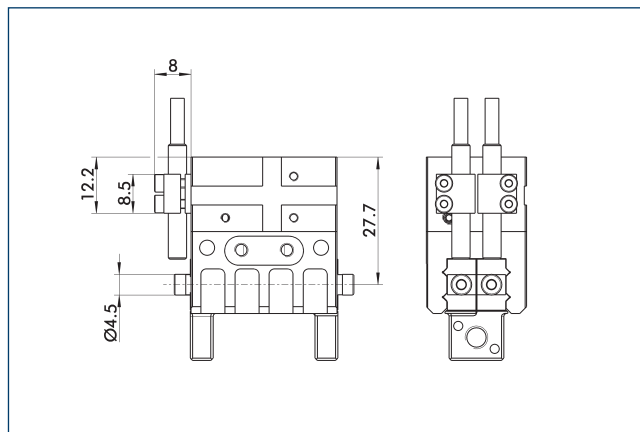
## Modular Assembly Automation



- 4 Grippers
- 90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- 91 ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40



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

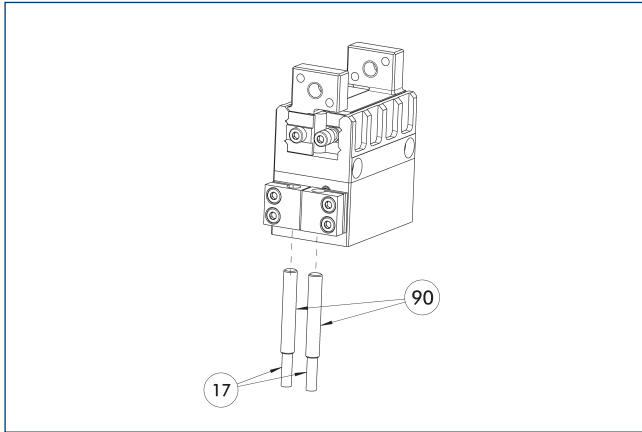
Description	ID
Attachment kit for proximity switch	
AS-IN40-MPG-plus 32	0305515

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

# MPG-plus 32

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

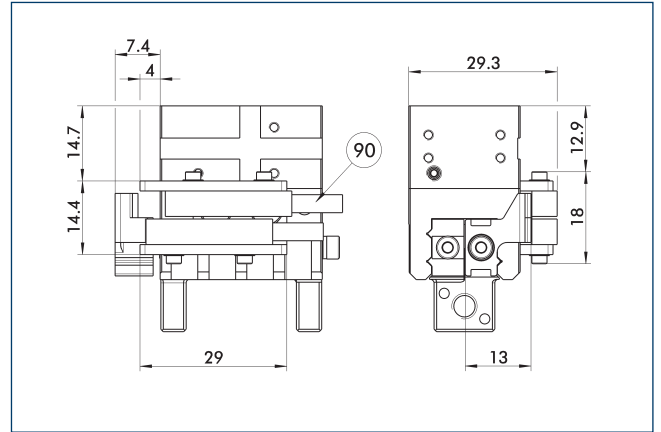
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus 32	0305515	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

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.

## Attachment kit for proximity switch IN 5



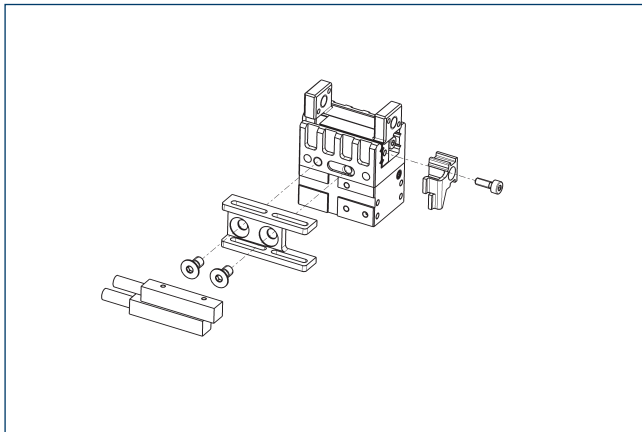
90 Sensor IN ...

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-IN5-MPG-plus 32	0340151	

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

## IN 5 inductive proximity switches

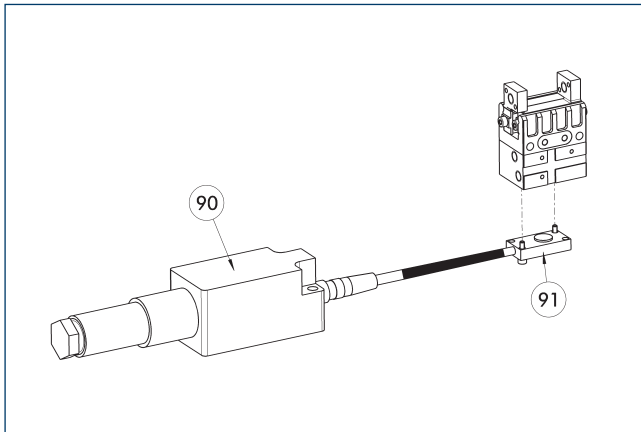


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 32	0340151	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

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.

## Flexible position sensor



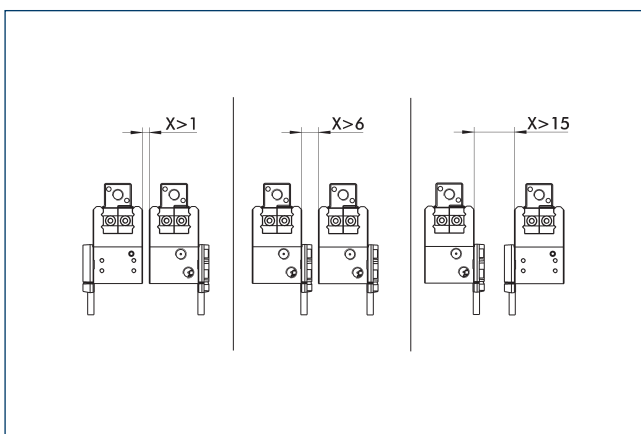
90 FPS-F5 evaluation electronic    91 FPS-S sensor

The FPS monitoring is only possible for this size in combination with the appropriate FPS variant of the gripper.

Description	ID	Often combined
<b>Sensor</b>		
FPS-S 13	0301705	
<b>Evaluation electronics</b>		
FPS-F5	0301805	●
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
<b>Connection cables</b>		
KA BG16-L 12P-1000	0301801	
<b>clip for plug/socket</b>		
CLI-M8	0301463	

① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Monitoring for stacked arrangements

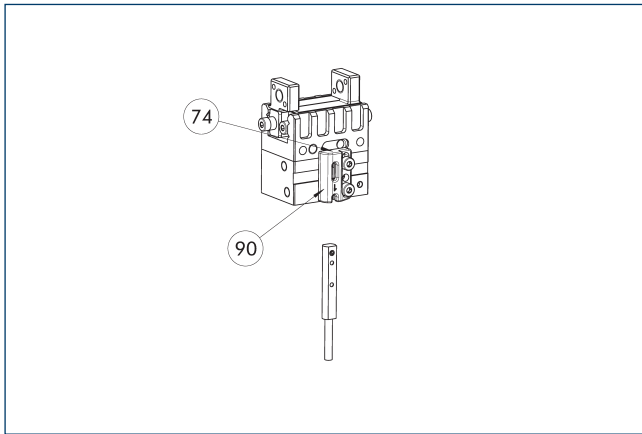


CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 32

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

90 Vertical attachment of the bracket

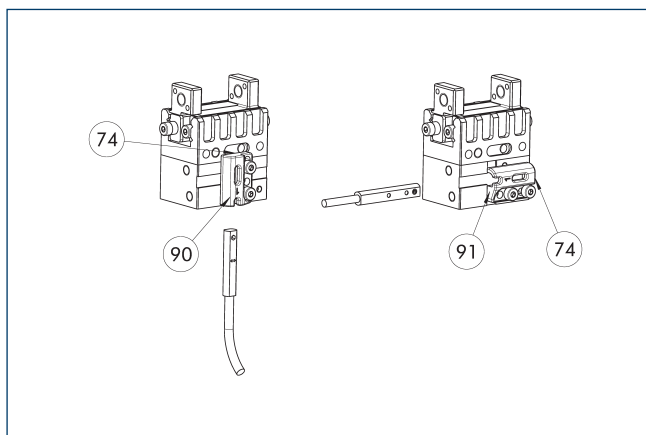
Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching 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-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.



## MMS-P programmable magnetic switch



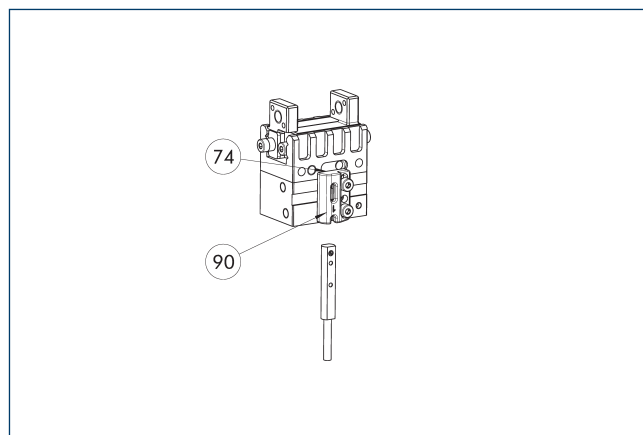
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① The bracket (90) is delivered vertically mounted. To use the magnetic sensor in a horizontal orientation, the bracket can be horizontally assembled (91). The mounting bracket has an internal stop for the MMS-P (74).

## MMS-A analog position sensor



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

No-contact measuring, analog multi-position monitoring for any number of positions.

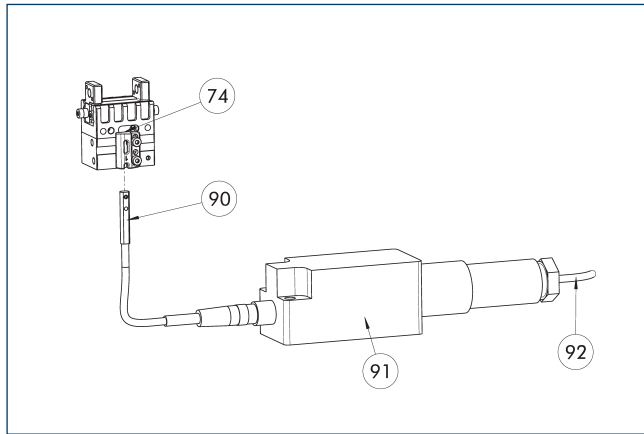
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# MPG-plus 32

Gripper for small components

## Flexible position sensor with MMS-A



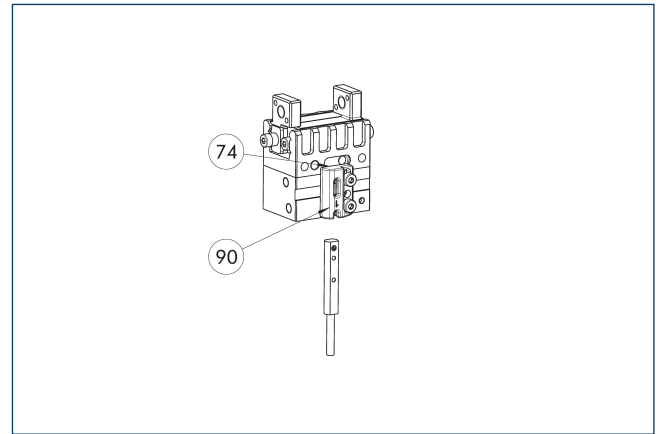
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315805	
Evaluation electronics		
FPS-F5	0301805	
Connection cables		
KA BG16-L 12P-1000	0301801	

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Programmable magnetic switch MMS-I0-Link



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the I0-Link interface or the MT magnetic teach tool (included in scope of delivery). An I0-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-I0L-M08	0315830	
MMS 22-I0L-M12	0315835	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

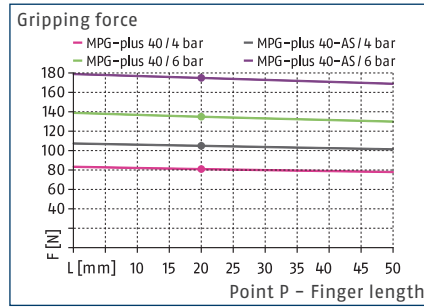


# MPG-plus 40

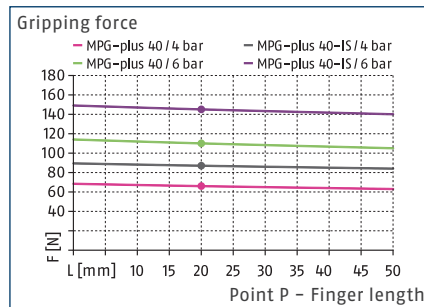
Gripper for small components



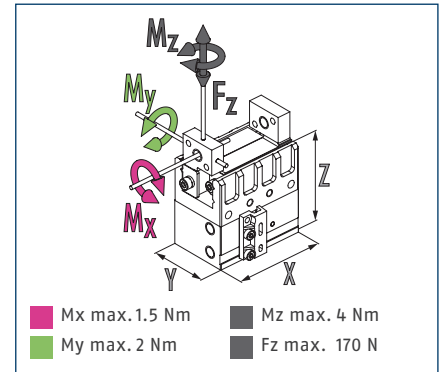
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

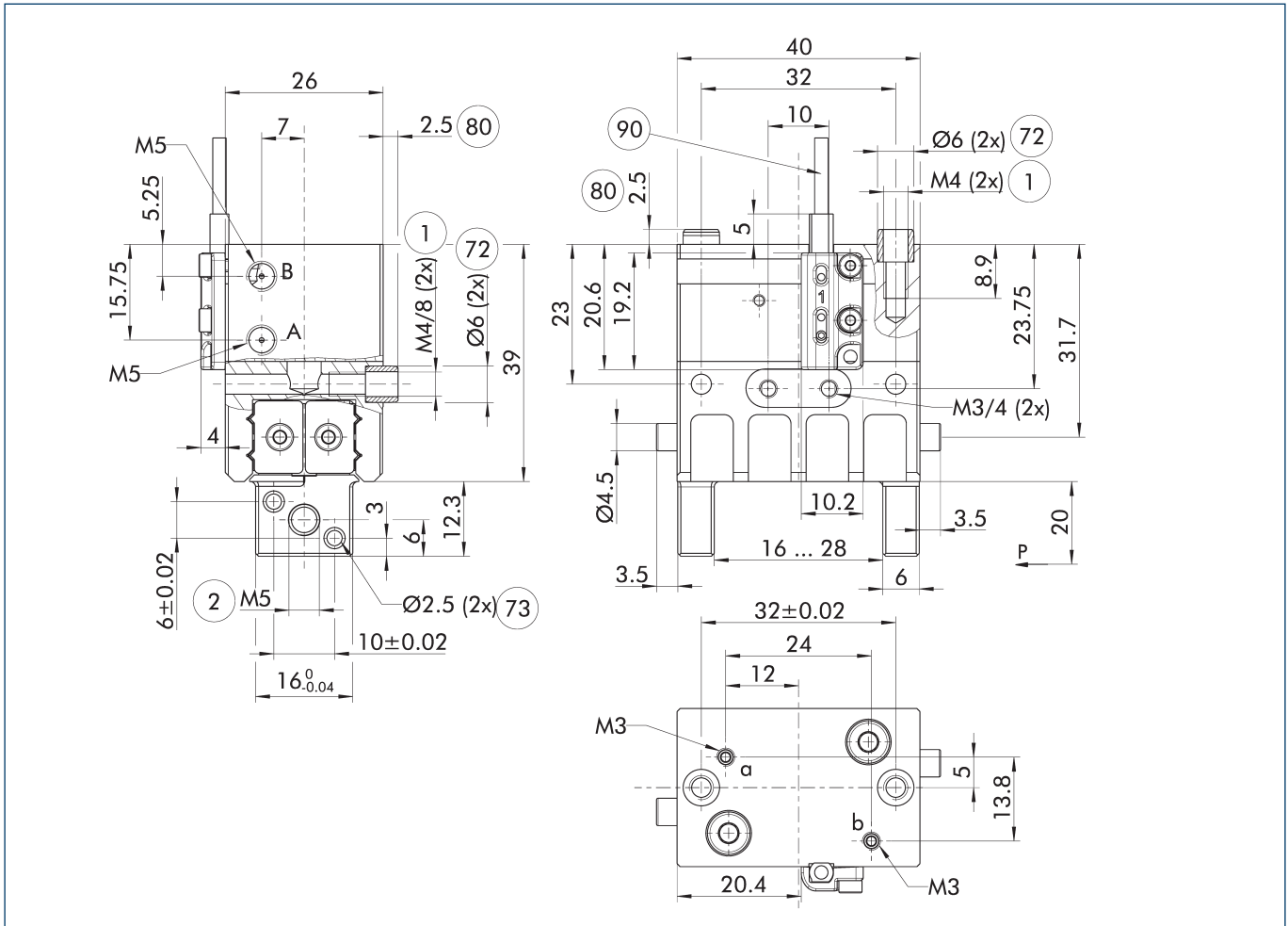


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 40	MPG-plus 40-AS	MPG-plus 40-IS
ID		0305521	0305522	0305523
Stroke per jaw	[mm]	6	6	6
Closing/opening force	[N]	135/110	170/-	-/135
Min. spring force	[N]		35	25
Weight	[kg]	0.18	0.24	0.24
Recommended workpiece weight	[kg]	0.7	0.7	0.7
Fluid consumption double stroke	[cm <sup>3</sup> ]	4.1	10.7	10
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.04/0.04	0.045/0.075	0.075/0.045
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	50	50	50
Max. permissible mass per finger	[kg]	0.08	0.08	0.08
IP protection class		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6
Dimensions X x Y x Z	[mm]	40 x 26 x 39	40 x 26 x 63.75	40 x 26 x 63.75
<b>Options and their characteristics</b>				
High-temperature version		39305521	39305522	39305523
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305526	0305528	0305529
protective cover version HUE		1460637	1460639	1460640
Weight	[kg]	0.27	0.33	0.33
IP protection class		54	54	54
Max. permissible mass per finger	[kg]	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	69 x 41.5 x 56.5	69 x 41.5 x 81.25	69 x 41.5 x 81.25

## Main view



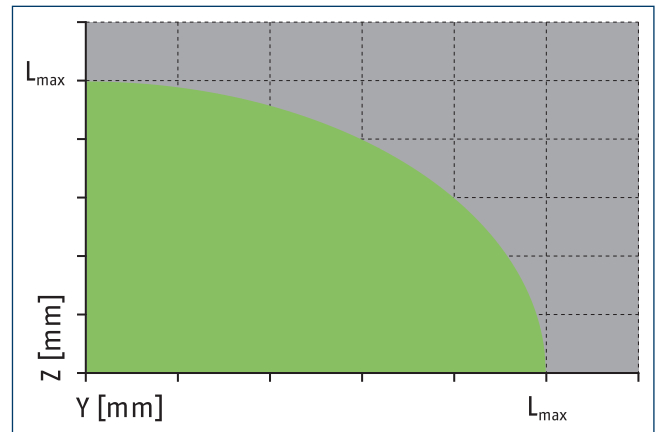
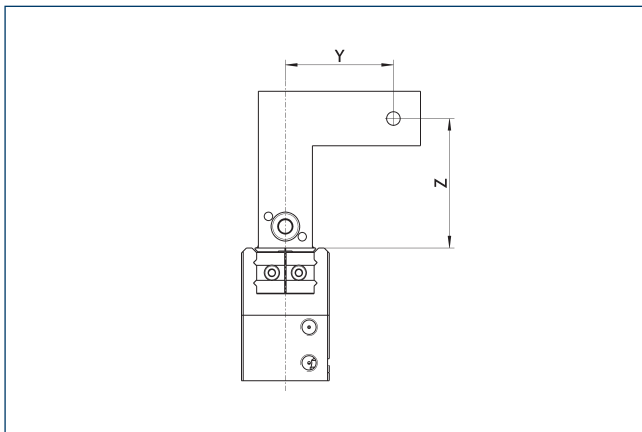
The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

① 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 catalog section on accessories).

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

- 72 Fit for centering sleeves
- 73 Fit for centering pins
- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

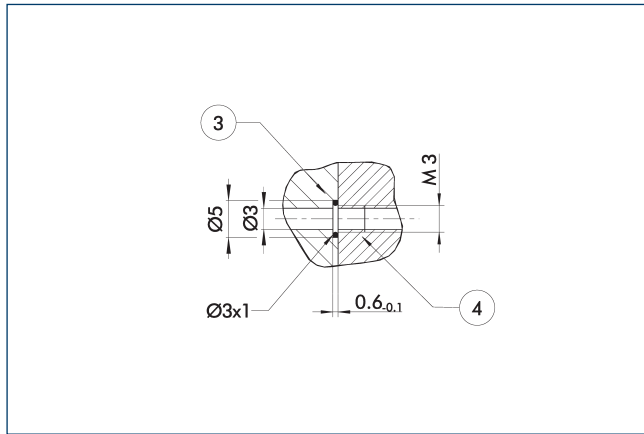
■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 40

Gripper for small components

## Hose-free direct connection M3

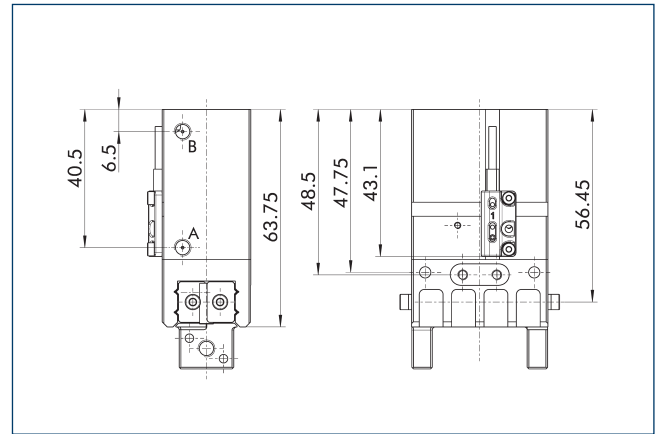


③ Adapter

④ Grippers

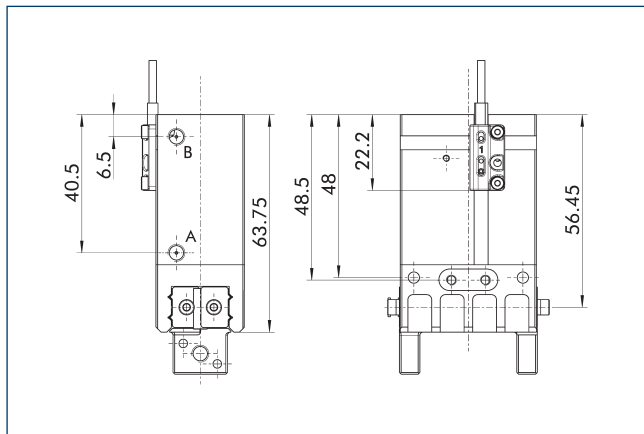
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



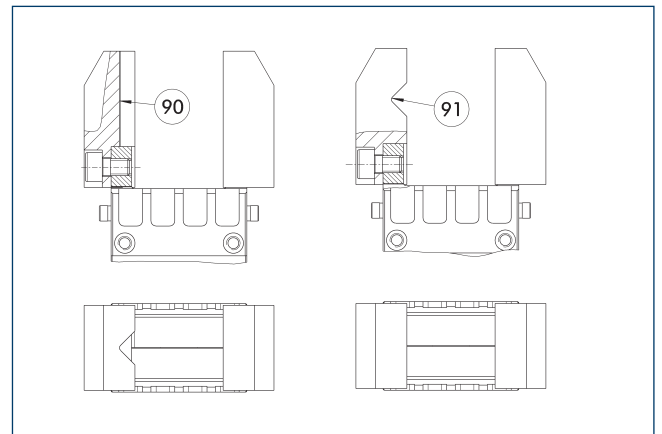
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Jaw design

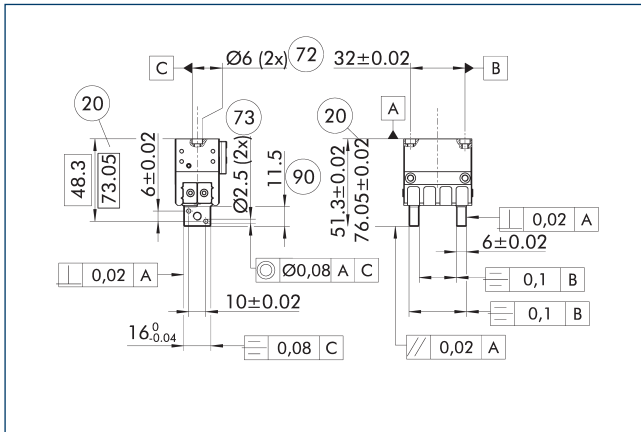


⑨⑩ Vertically positioned prism

⑨⑪ Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

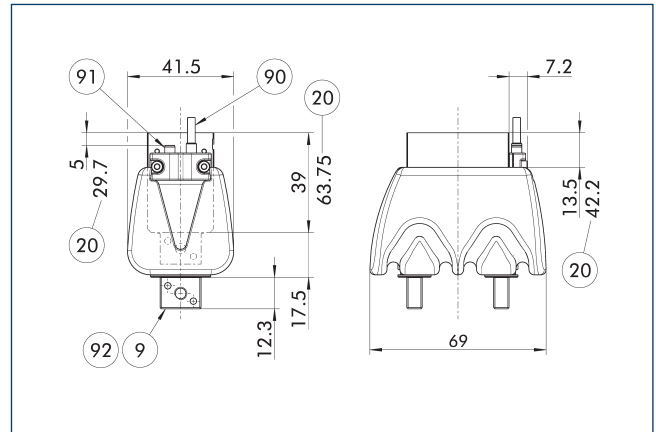
### Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑨0 Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

### Protection cover HUE

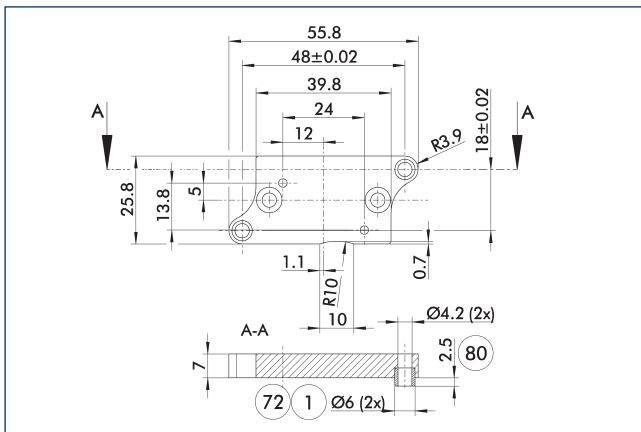


- ⑨ For mounting screw connection diagram, see basic version
- ②0 For AS / IS version
- ⑨0 Sensor IN ...
- ⑨1 Cylindrical pins
- ⑨2 Intermediate jaw (stainless steel)

The HUE protection cover fully protects the gripper against external influences. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing. The protection cover is a wear part and can be ordered separately as a spare part.

- ① Two sensors are required per unit for monitoring two positions. Only sensors from the IN 40 series can be used. The gripper is prepared for this, and no additional mounting kit is required. Monitoring with magnetic sensors is not possible. The bracket for magnetic sensors is not included in the scope of delivery. If the gripper is used without a sensor, the two cylindrical pins (item 91) must not be removed so that the IP protection class of the product remains guaranteed.

### Adapter plate



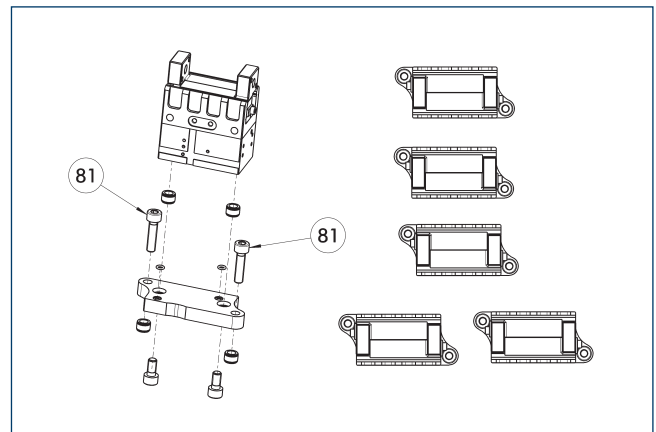
- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper. \*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 40	0305527

- ① The adapter plate is a separately ordered, optional accessory.

### Adapter plate



- ⑧1 Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper. \*Optional only with pneumatic actuators

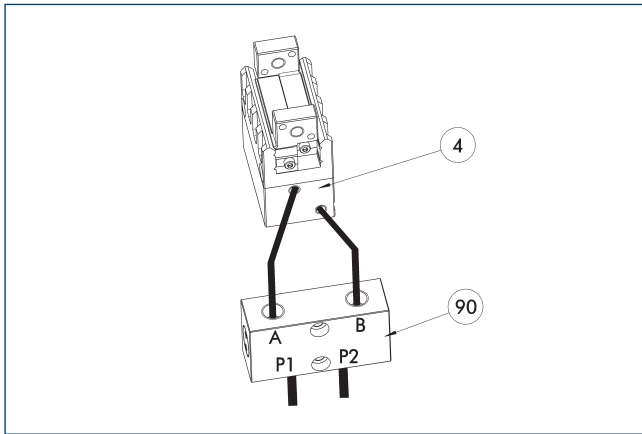
Description	ID
Adapter plate	
APL-MPG-plus 40	0305527

- ① The adapter plate is a separately ordered, optional accessory.

# MPG-plus 40

Gripper for small components

## SDV-P pressure maintenance valve



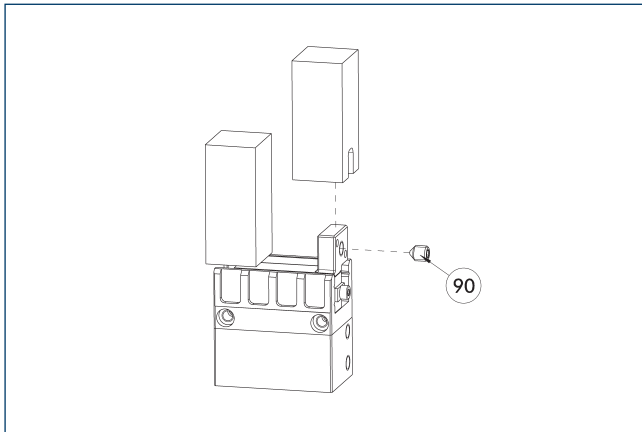
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

- 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](http://schunk.com).

## Finger blanks with BSWS

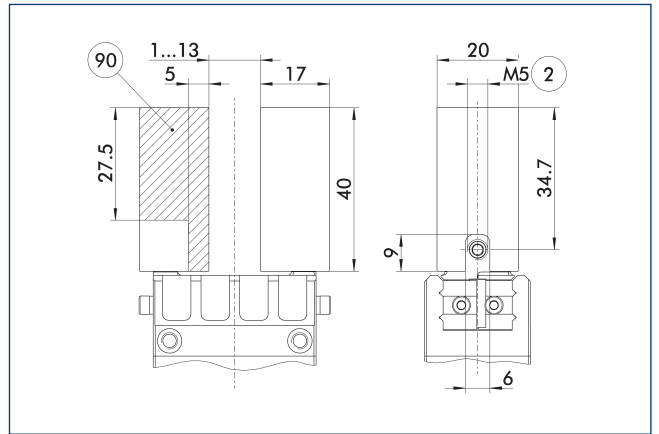


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 40	0302896	2

## Finger blanks with BSWS ABR-BSWS-MPG-plus 40

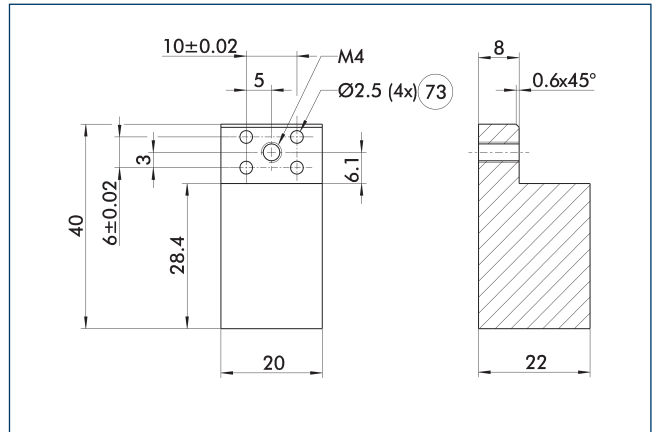


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 40	0302896	2

## Finger blanks ABR-MPG-plus 40



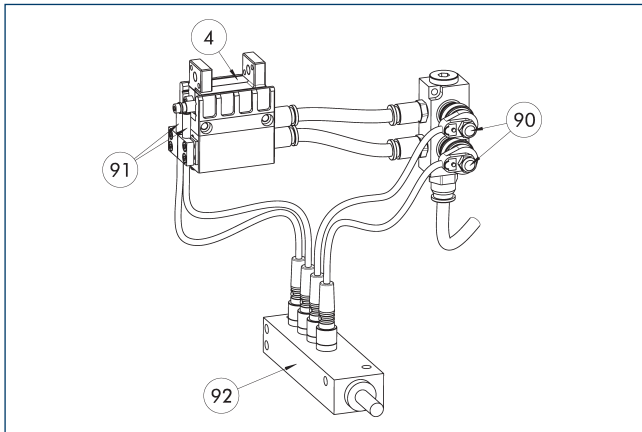
- ⑦③ Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 40	0340213	Aluminum (3.4365)	2



## Attachment valves



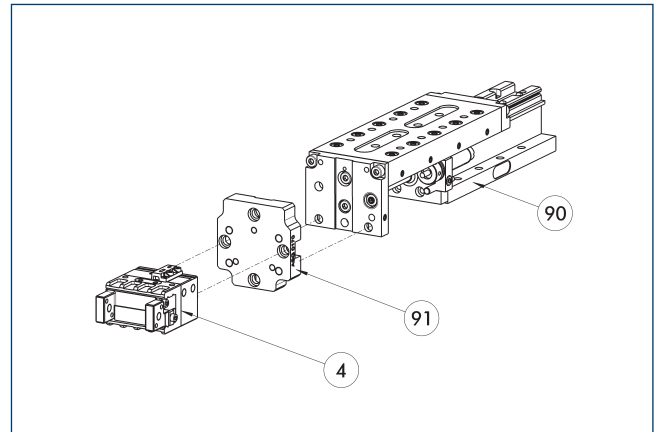
- ④ Grippers
- ⑨① Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

The set of attachment valves reduces the compressed air consumption as there is no need to ventilate or bleed the supply lines. This can also reduce cycle time. The hose-free direct assembly of the micro valves reduces the hosing effort for the gripper. To further simplify electrical connection of the valves and sensors, their signals can be bundled via an optional distributor.

Description	ID	Often combined
Attachment valve		
ABV-MV15-S2-M5	0303375	
ABV-MV15-S2-M5-V2-M8	0303376	
ABV-MV15-S2-M5-V4-M8	0303377	●
ABV-MV15-S2-M5-V8-M8	0303378	

① A set of add-on valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, a valve base, pneumatic screw connections, and optionally a sensor distributor with two, four or eight inputs or outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

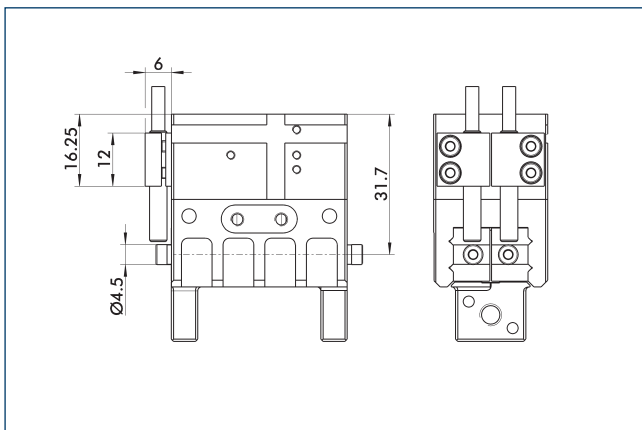
## Modular Assembly Automation



- ④ Grippers
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- ⑨① ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40



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

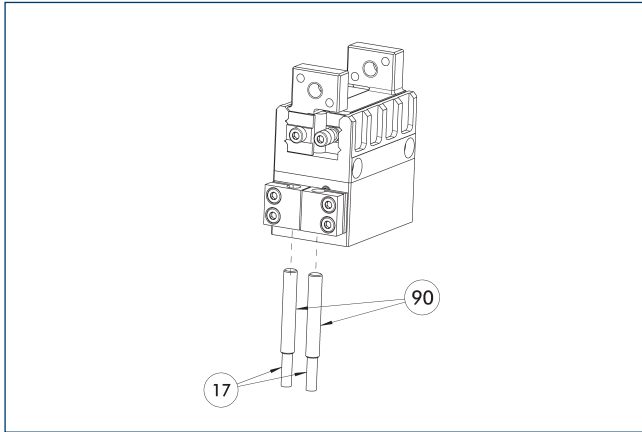
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 40	0305525	

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

# MPG-plus 40

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

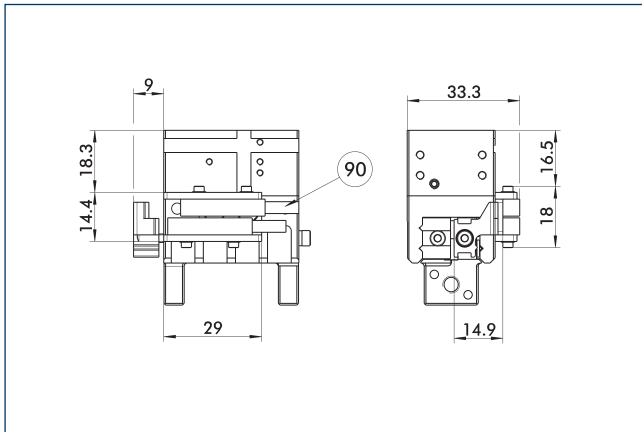
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus 40	0305525	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

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.

## Attachment kit for proximity switch IN 5



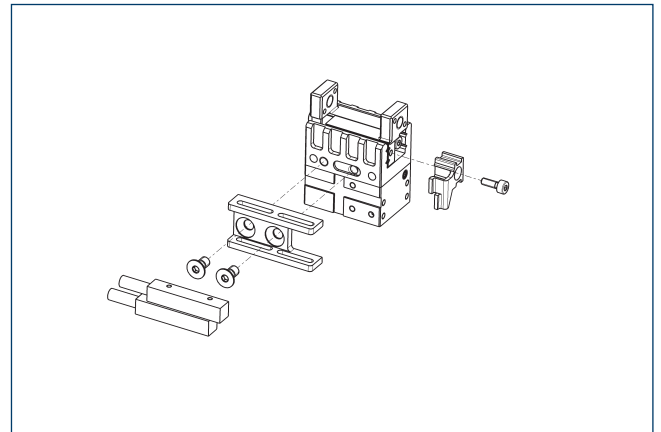
90 Sensor IN ...

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

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 40	0340152	

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

## IN 5 inductive proximity switches

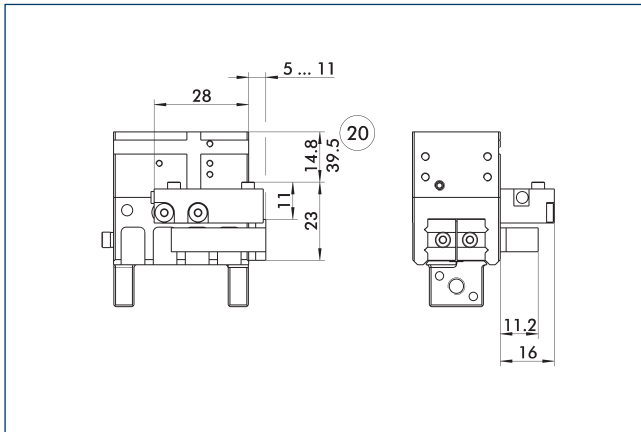


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 40	0340152	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

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.

## Attachment kit for FPS



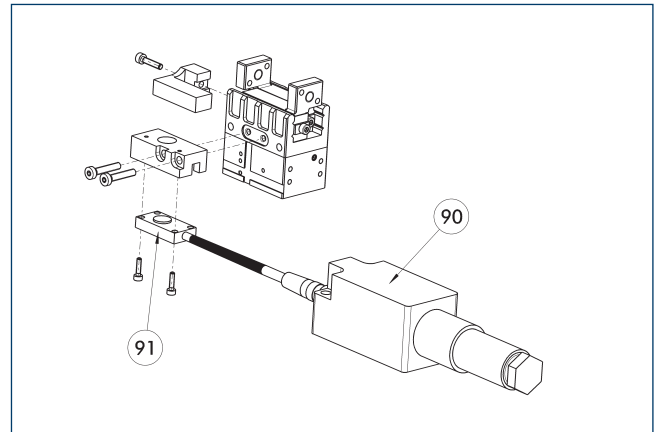
②① For AS / IS version

The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

Description	ID	
Attachment kit for FPS		
AS-FPS-MPG-plus 40	0301762	

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

## Flexible position sensor



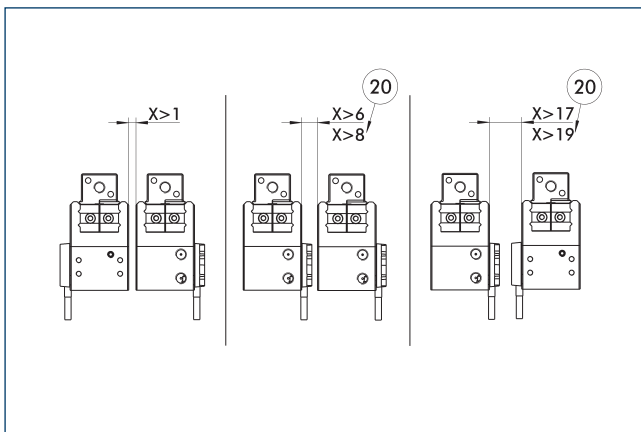
⑨① FPS-F5 evaluation electronic    ⑨① FPS-S sensor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Attachment kit for FPS		
AS-FPS-MPG-plus 40	0301762	
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter “Accessories.”

## Monitoring for stacked arrangements



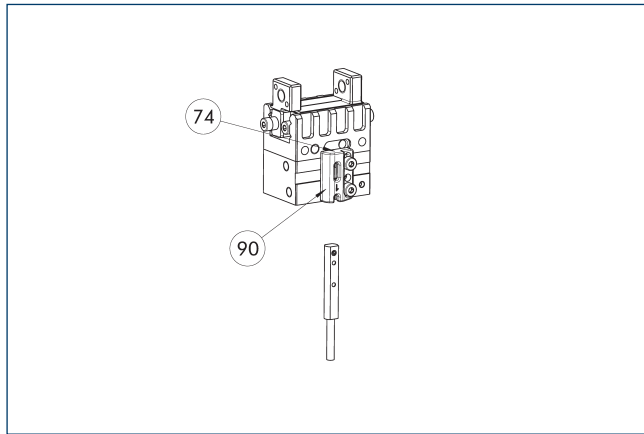
②① For AS / IS version

CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 40

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

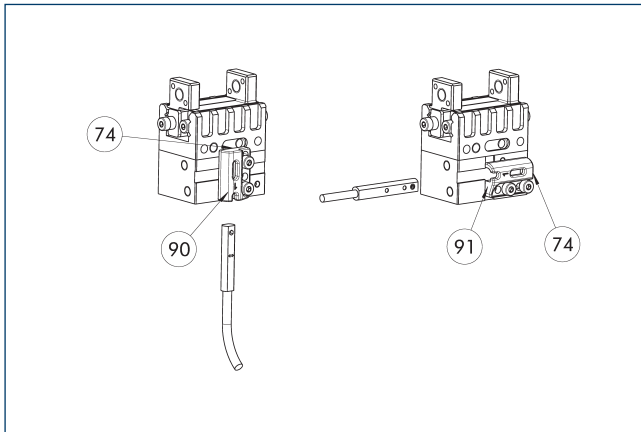
90 Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor and electronics built into 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-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

## MMS-P programmable magnetic switch



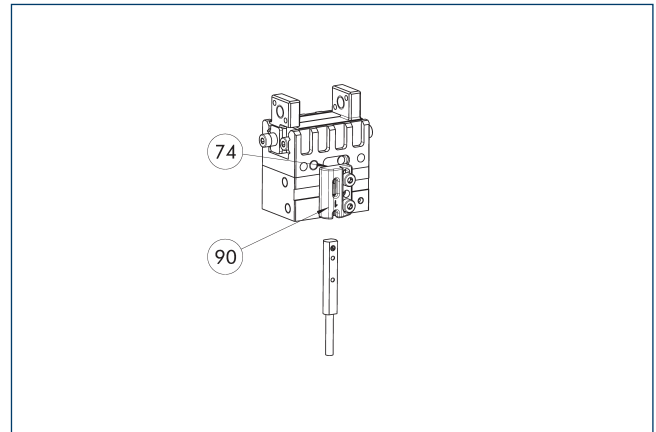
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① The bracket (90) is delivered vertically mounted. To use the magnetic sensor in a horizontal orientation, the bracket can be horizontally assembled (91). The mounting bracket has an internal stop for the MMS-P (74).

## MMS-A analog position sensor



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

No-contact measuring, analog multi-position monitoring for any number of positions.

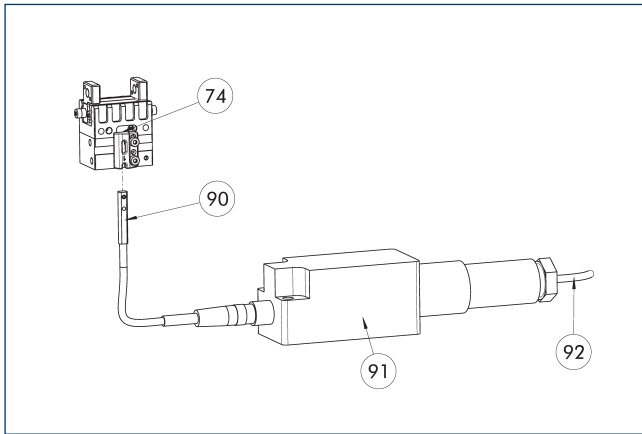
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# MPG-plus 40

Gripper for small components

## Flexible position sensor with MMS-A



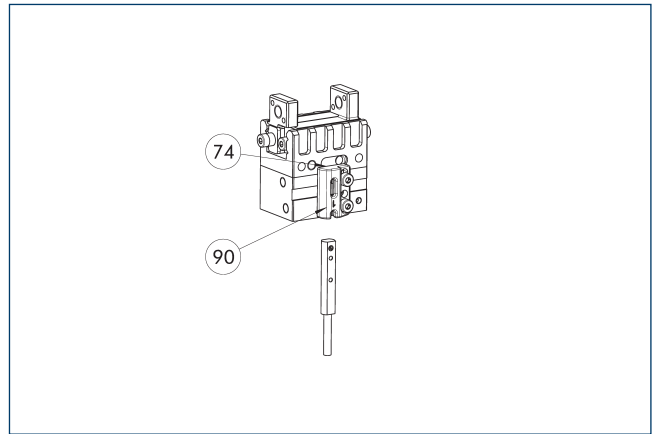
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315805	
Evaluation electronics		
FPS-F5	0301805	
Connection cables		
KA BG16-L 12P-1000	0301801	

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Programmable magnetic switch MMS-IO-Link



- ⑦④ Limit stop for sensor
- ⑨① Vertical attachment of the bracket

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

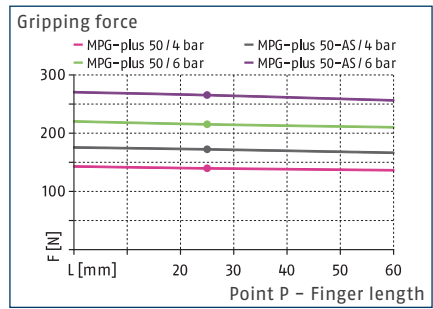


# MPG-plus 50

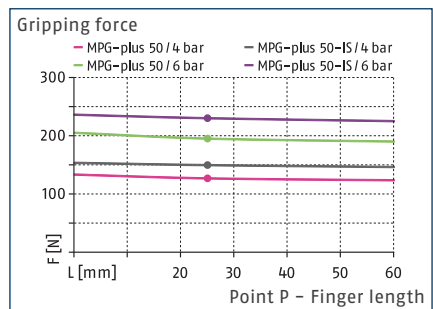
Gripper for small components



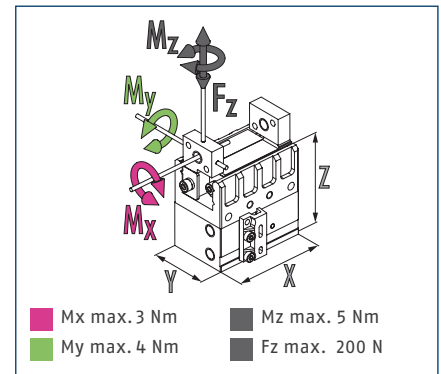
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



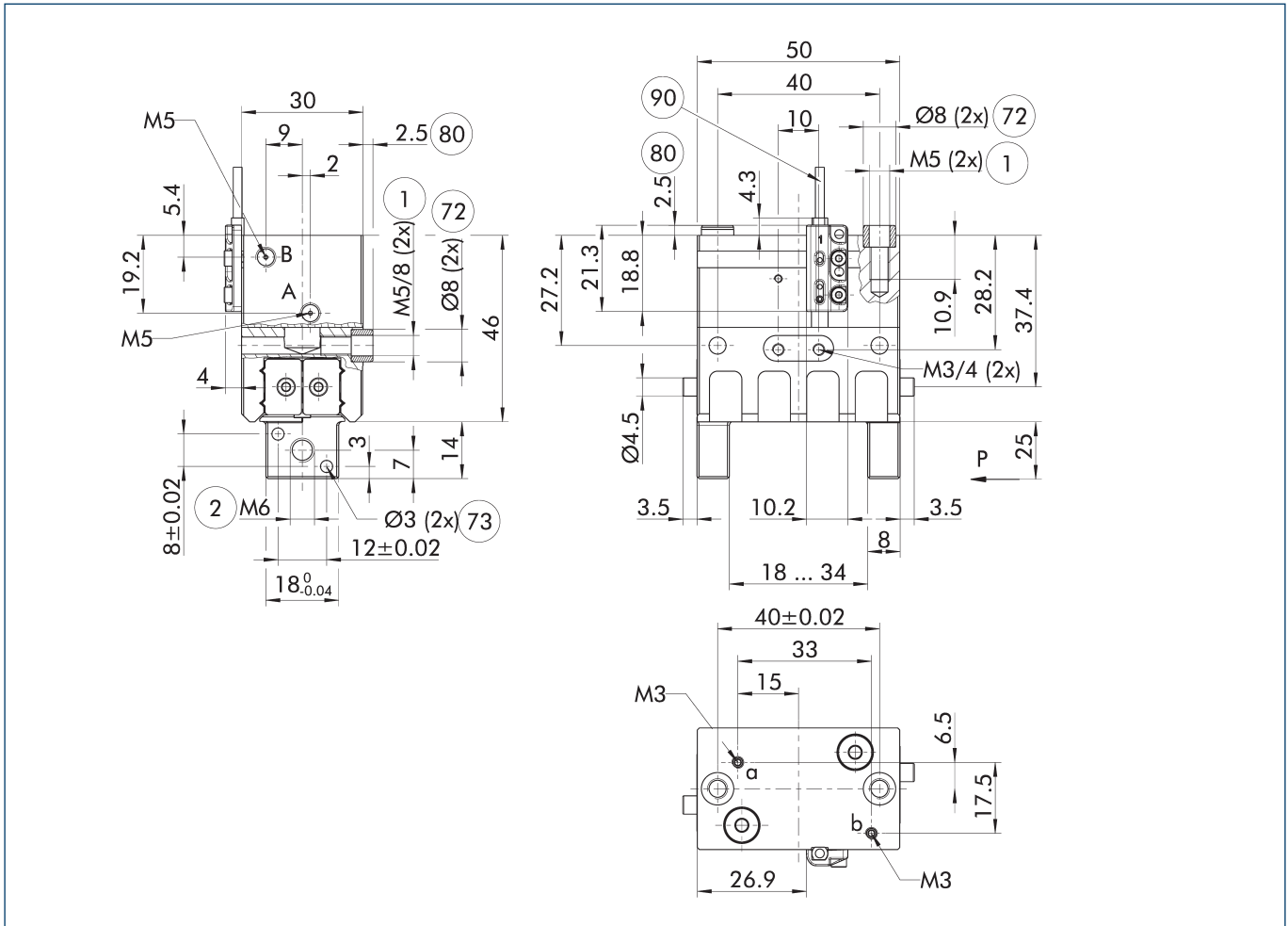
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 50	MPG-plus 50-AS	MPG-plus 50-IS
ID		0305531	0305532	0305533
Stroke per jaw	[mm]	8	8	8
Closing/opening force	[N]	215/195	265/-	-/230
Min. spring force	[N]		50	35
Weight	[kg]	0.31	0.37	0.38
Recommended workpiece weight	[kg]	1.05	1.05	1.05
Fluid consumption double stroke	[cm <sup>3</sup> ]	8	17	15
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.04/0.04	0.045/0.075	0.075/0.045
Closing/opening time with spring	[s]		0.30	0.30
Max. permissible finger length	[mm]	64	64	64
Max. permissible mass per finger	[kg]	0.14	0.14	0.14
IP protection class		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6
Dimensions X x Y x Z	[mm]	50 x 30 x 46	50 x 30 x 65.3	50 x 30 x 65.3
<b>Options and their characteristics</b>				
High-temperature version		39305531	39305532	39305533
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305536	0305538	0305539



## Main view



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

① 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 catalog section on accessories).

A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

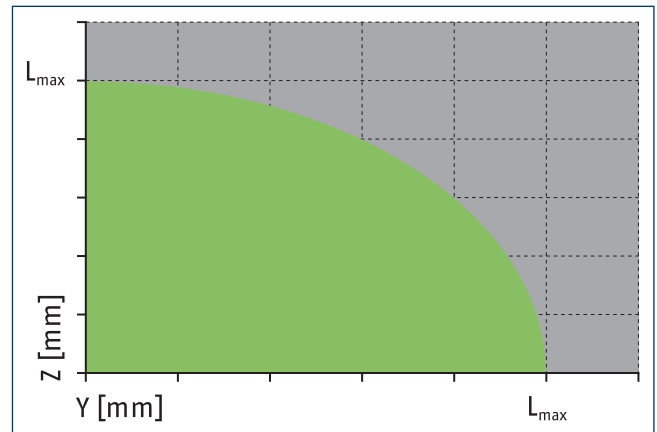
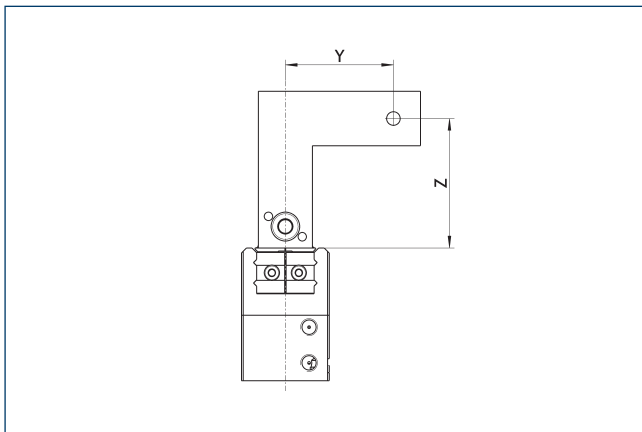
⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

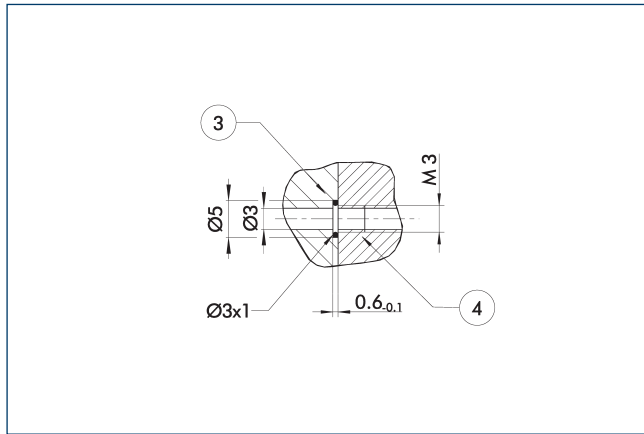
■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 50

Gripper for small components

## Hose-free direct connection M3

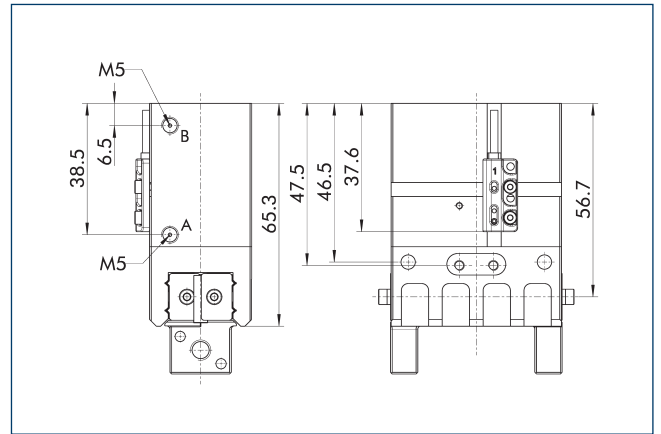


③ Adapter

④ Grippers

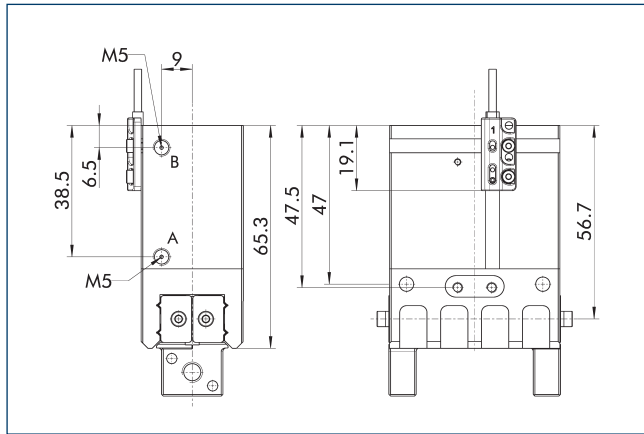
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



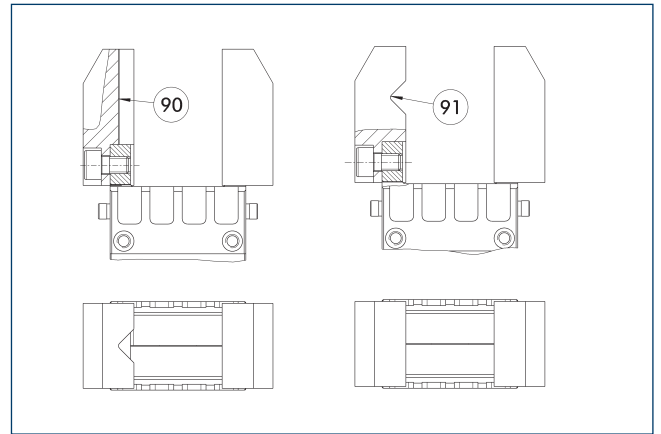
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Jaw design

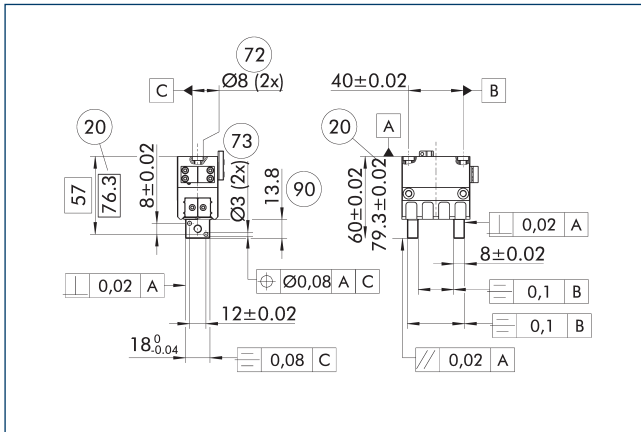


⑨0 Vertically positioned prism

⑨1 Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

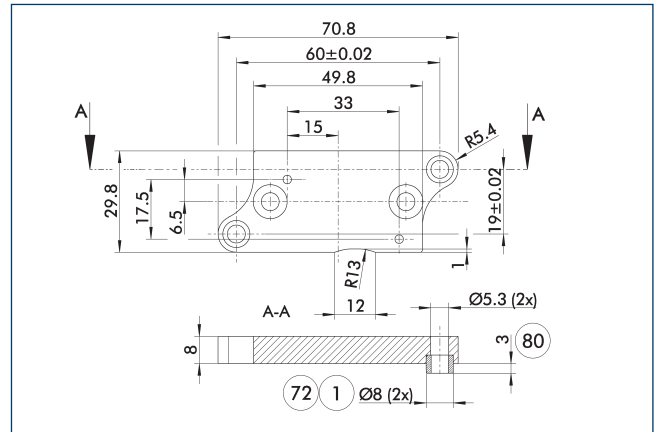
## Precision version



- ②0 For AS / IS version
- ⑦3 Fit for centering pins
- ⑦2 Fit for centering sleeves
- ⑨0 Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Adapter plate



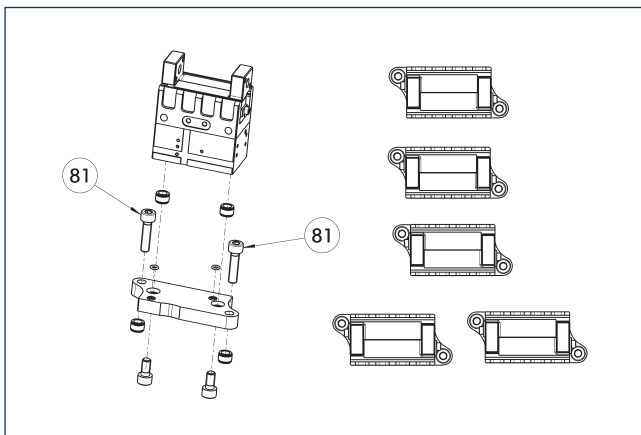
- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 50	0305537

- ① The adapter plate is a separately ordered, optional accessory.

## Adapter plate



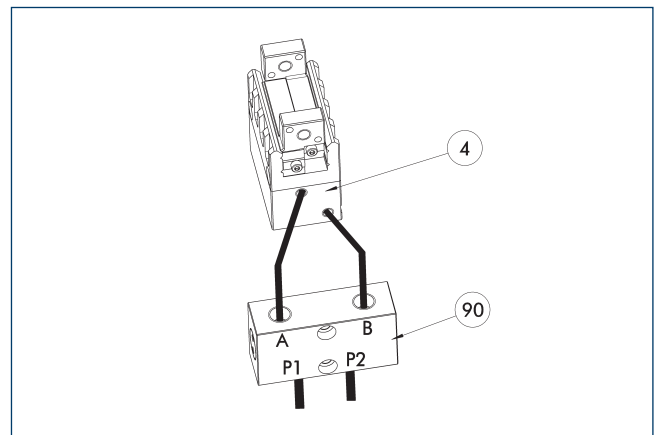
- ⑧1 Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 50	0305537

- ① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨0 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.

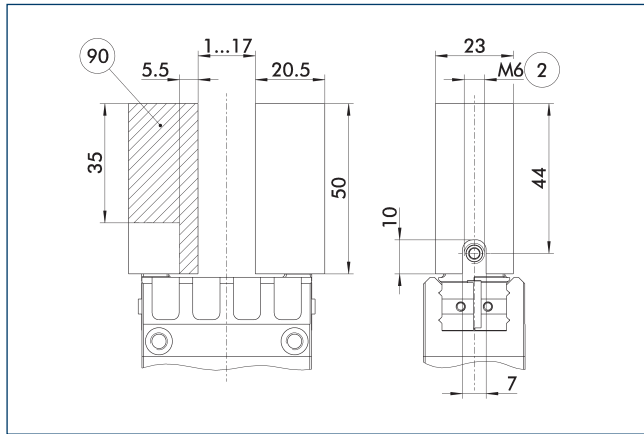
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

- 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.

# MPG-plus 50

Gripper for small components

## Finger blanks with BSWS ABR-BSWS-MPG-plus 50

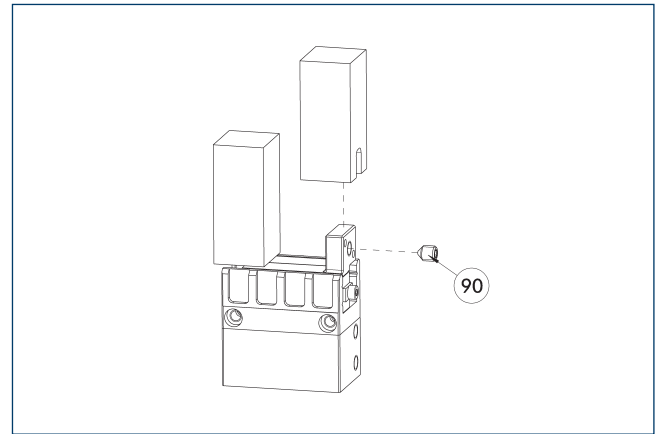


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 50	0302897	2

## Finger blanks with BSWS

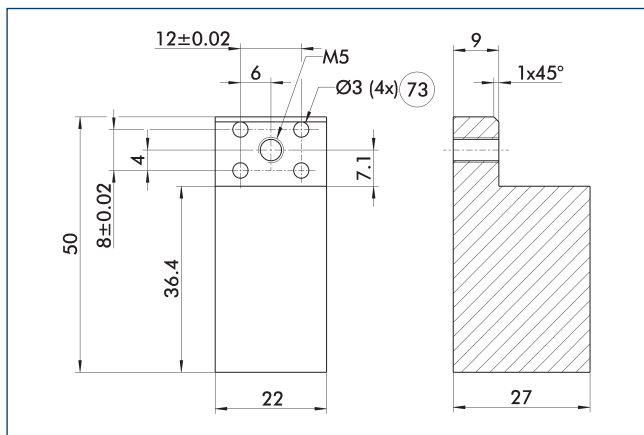


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 50	0302897	2

## Finger blanks ABR-MPG-plus 50

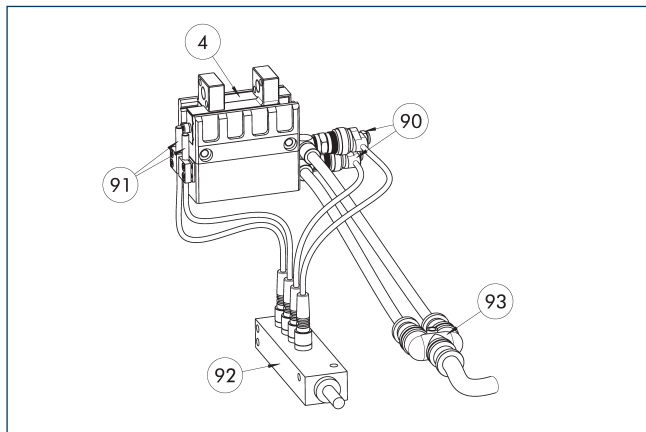


- ⑦③ Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 50	0340214	Aluminum (3.4365)	2

## Attachment valves



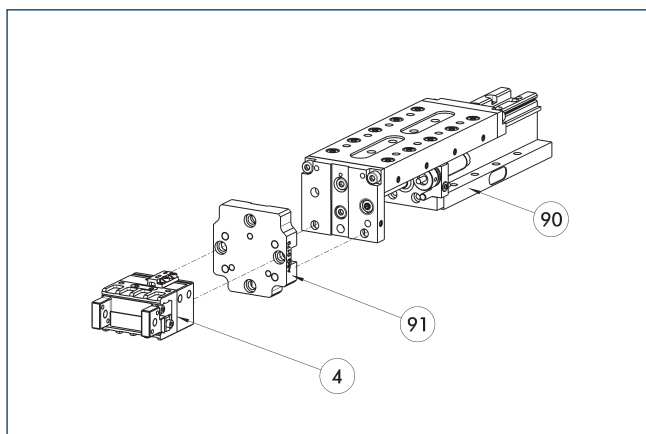
- ④ Grippers
- ⑨① Sensor
- ⑨② Sensor distributor
- ⑨③ Y distributor
- ⑨① Micro valves

The set of attachment valves reduces the compressed air consumption as there is no need to ventilate or bleed the supply lines. This can also reduce cycle time. The hose-free direct assembly of the micro valves reduces the hosing effort for the gripper. To further simplify electrical connection of the valves and sensors, their signals can be bundled via an optional distributor.

Description	ID	Often combined
Attachment valve		
ABV-MV15-M5	0303323	
ABV-MV15-M5-V2-M8	0303386	
ABV-MV15-M5-V4-M8	0303356	●
ABV-MV15-M5-V8-M8	0303357	

① A set of attachment valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, an Y-distributor for compressed air supply and optionally a sensor distributor with two, four or eight inputs or outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

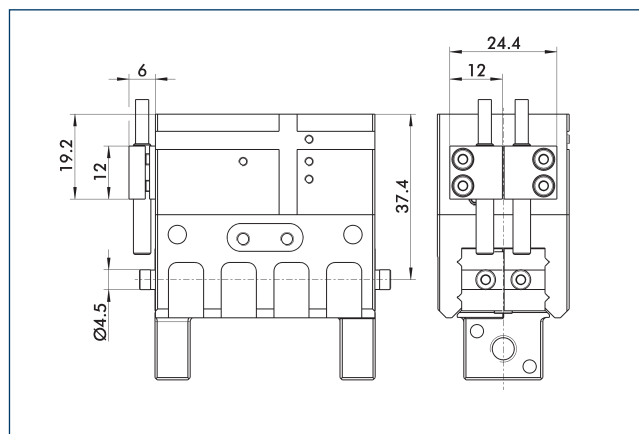
## Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40



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

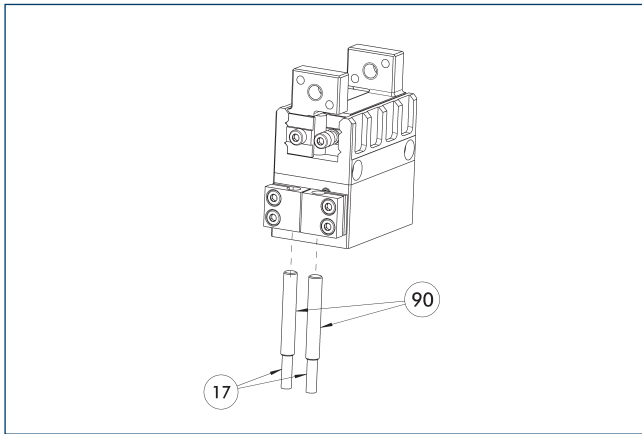
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 50	0305535	

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

# MPG-plus 50

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

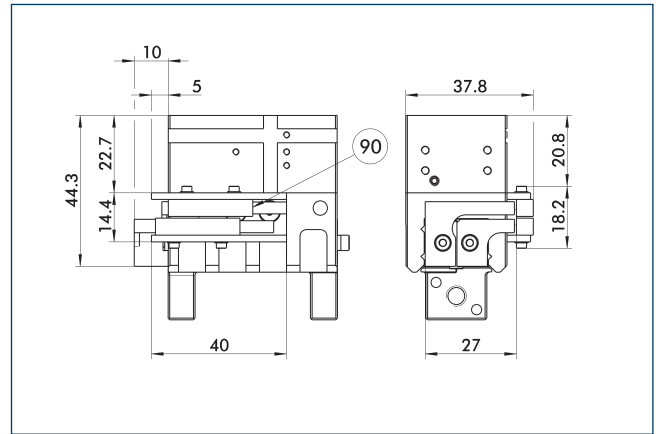
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus 50	0305535	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

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.

## Attachment kit for proximity switch IN 5



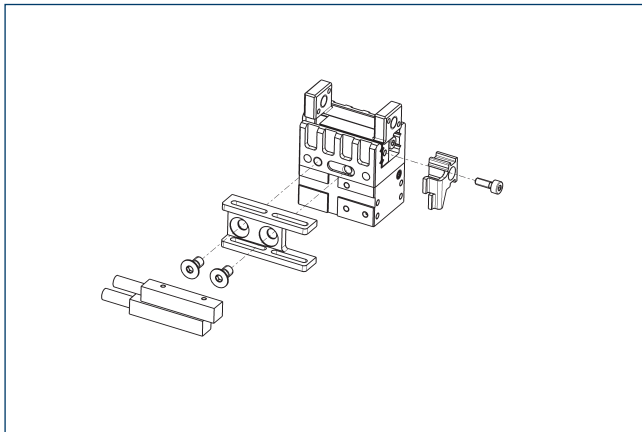
90 Sensor IN ...

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-IN5-MPG-plus 50	0340153	

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

## IN 5 inductive proximity switches

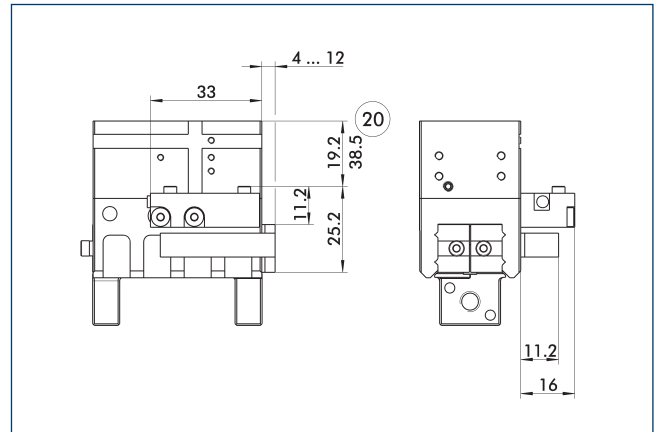


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 50	0340153	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

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.

## Attachment kit for FPS



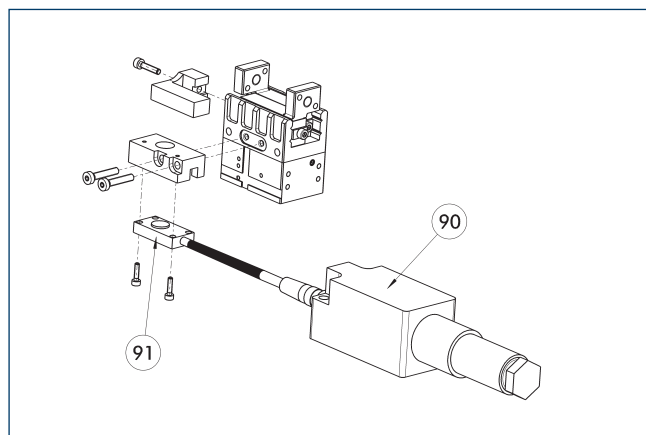
20 For AS / IS version

The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

Description	ID	
Attachment kit for FPS		
AS-FPS-MPG-plus 50	0301763	

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

## Flexible position sensor



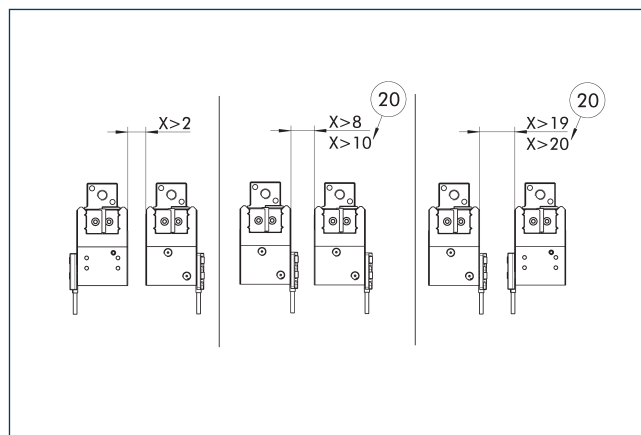
- 90 FPS-F5 evaluation electronic    91 FPS-S sensor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Attachment kit for FPS		
AS-FPS-MPG-plus 50	0301763	
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

- ① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter “Accessories.”

## Monitoring for stacked arrangements



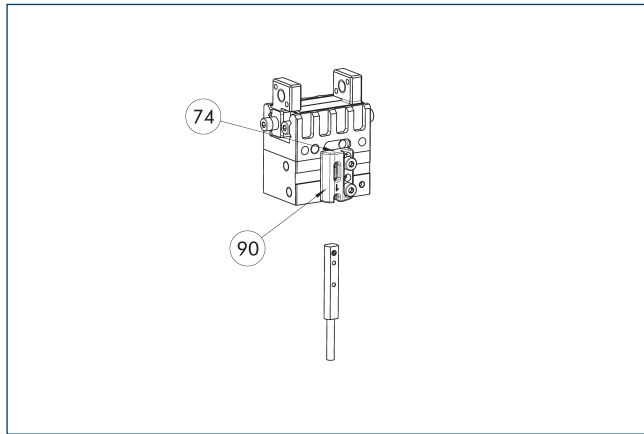
- 20 For AS / IS version

CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 50

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



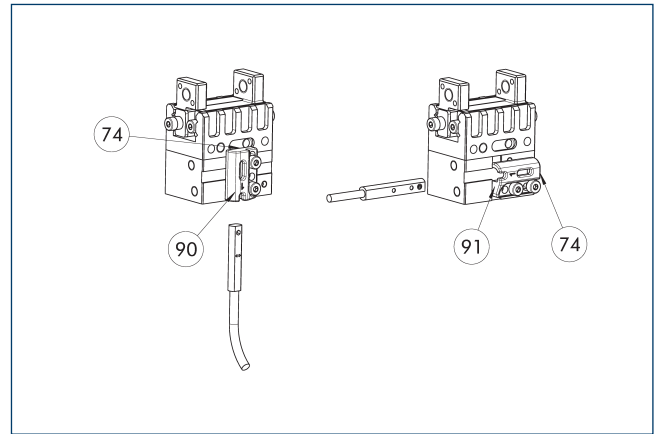
74 Limit stop for sensor      90 Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor and electronics built into 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
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel housing</b>		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

## MMS-P programmable magnetic switch



74 Limit stop for sensor      90 Vertical attachment of the bracket  
 91 Horizontal attachment of the bracket

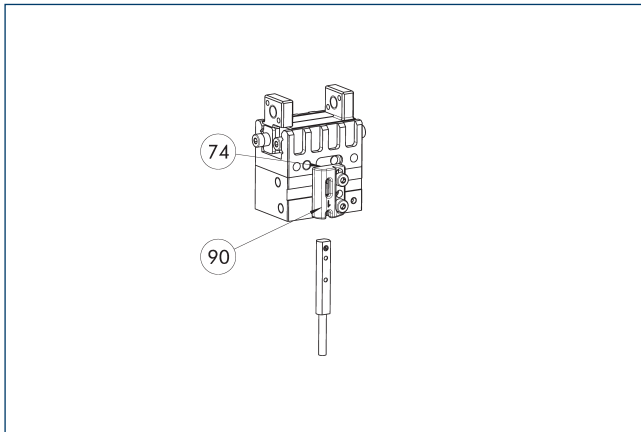
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① The bracket (90) is delivered vertically mounted. To use the magnetic sensor in a horizontal orientation, the bracket can be horizontally assembled (91). The mounting bracket has an internal stop for the MMS-P (74).



## MMS-A analog position sensor



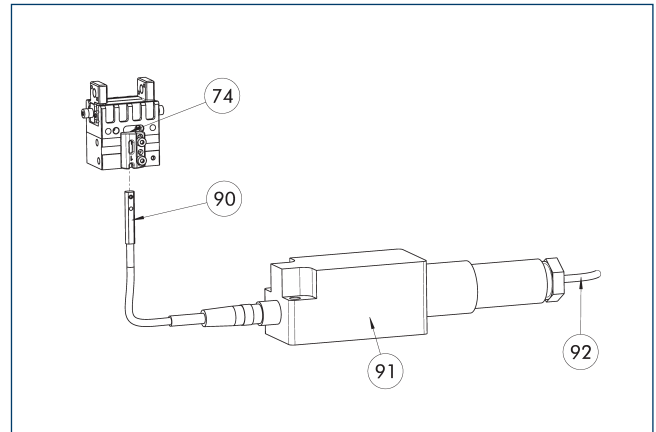
- 74 Limit stop for sensor
- 90 Vertical attachment of the bracket

No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID
<b>Analog position sensor</b>	
MMS 22-A-10V-M08	0315825
MMS 22-A-10V-M12	0315828

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

## Flexible position sensor with MMS-A



- 74 Limit stop for sensor
- 90 MMS 22-A-... sensor
- 91 FPS-F5 evaluation electronic
- 92 Connection cables

Flexible position monitoring of up to five positions.

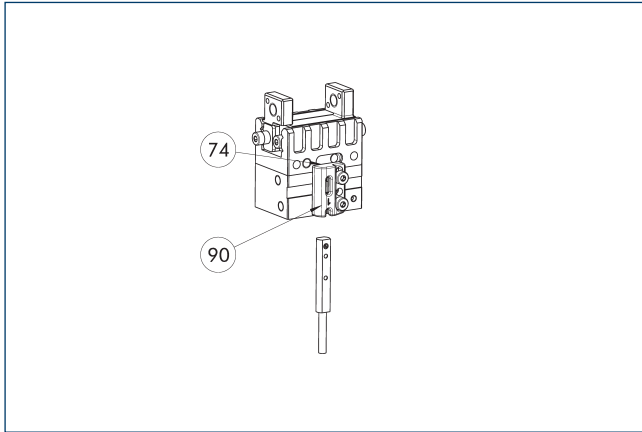
Description	ID
<b>Analog position sensor</b>	
MMS 22-A-05V-M08	0315805
<b>Evaluation electronics</b>	
FPS-F5	0301805
<b>Connection cables</b>	
KA BG16-L 12P-1000	0301801

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

# MPG-plus 50

Gripper for small components

## Programmable magnetic switch MMS-IO-Link



74 Limit stop for sensor

90 Vertical attachment of the bracket

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

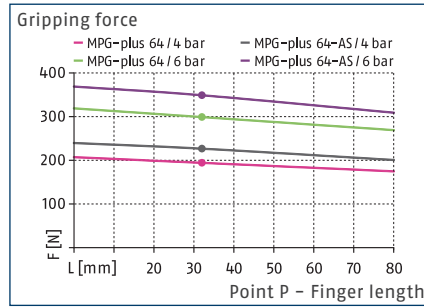


# MPG-plus 64

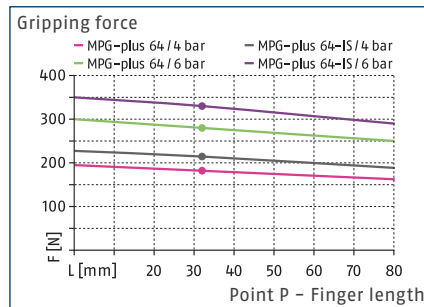
Gripper for small components



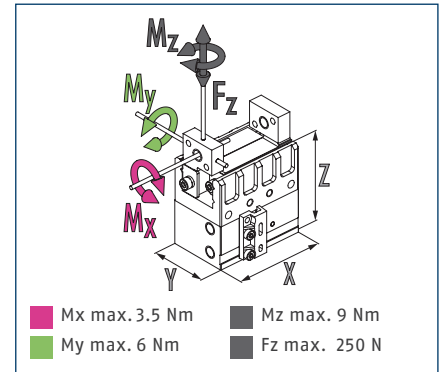
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

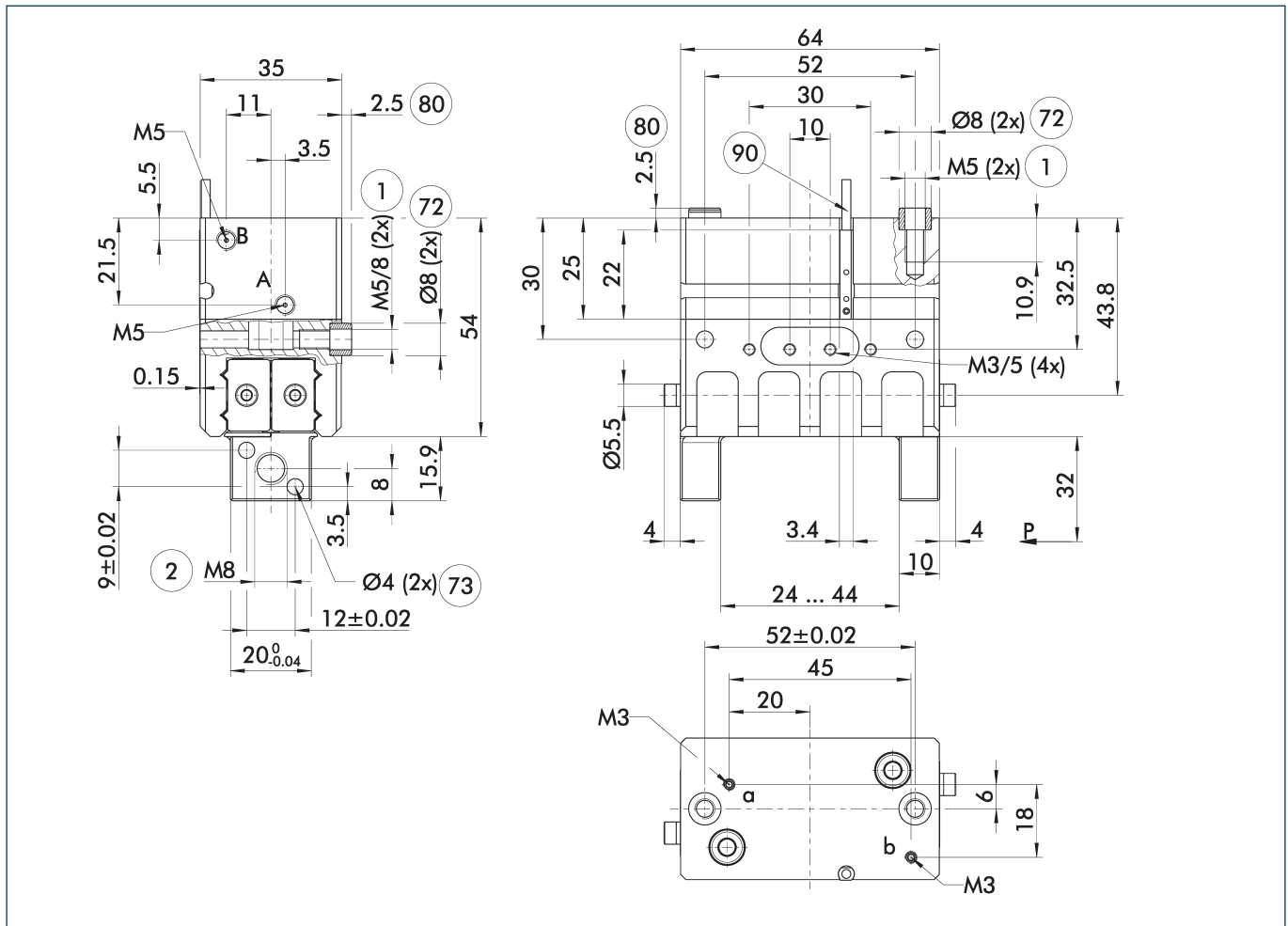


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 64	MPG-plus 64-AS	MPG-plus 64-IS
ID		0305541	0305542	0305543
Stroke per jaw	[mm]	10	10	10
Closing/opening force	[N]	300/280	370/-	-/335
Min. spring force	[N]		70	55
Weight	[kg]	0.53	0.62	0.63
Recommended workpiece weight	[kg]	1.25	1.25	1.25
Fluid consumption double stroke	[cm <sup>3</sup> ]	15	27	24.5
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.08/0.08	0.085/0.12	0.12/0.085
Closing/opening time with spring	[s]		0.30	0.30
Max. permissible finger length	[mm]	80	80	80
Max. permissible mass per finger	[kg]	0.24	0.24	0.24
IP protection class		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6
Dimensions X x Y x Z	[mm]	64 x 35 x 54	64 x 35 x 69	64 x 35 x 69
<b>Options and their characteristics</b>				
High-temperature version		39305541	39305542	39305543
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305546	0305548	0305549

## Main view



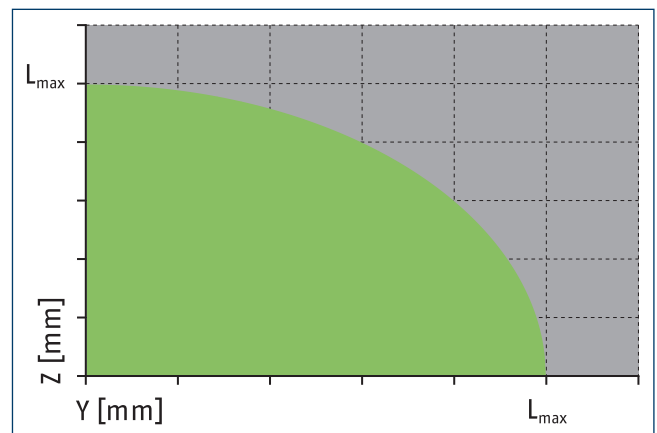
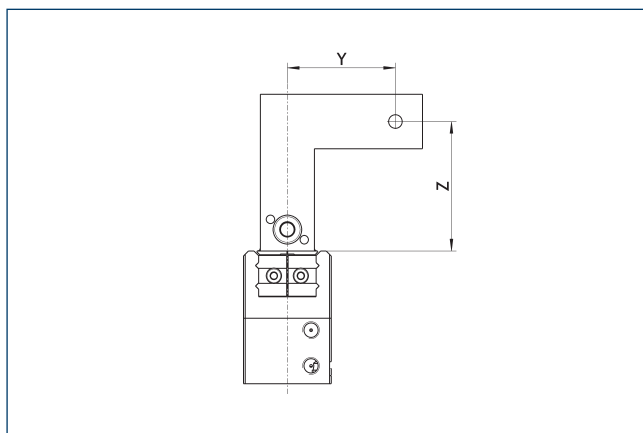
The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

① 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 catalog section on accessories).

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

- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

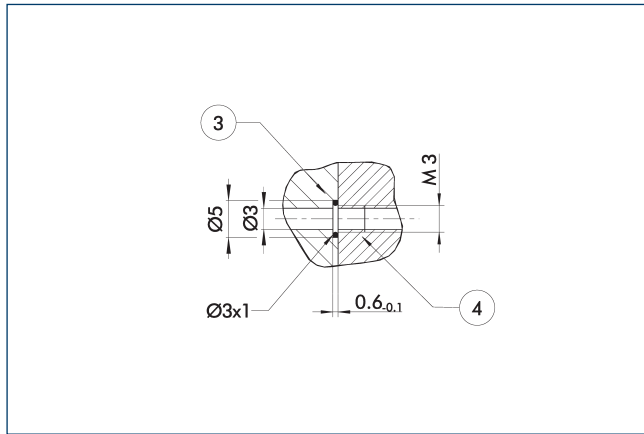
■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 64

Gripper for small components

## Hose-free direct connection M3

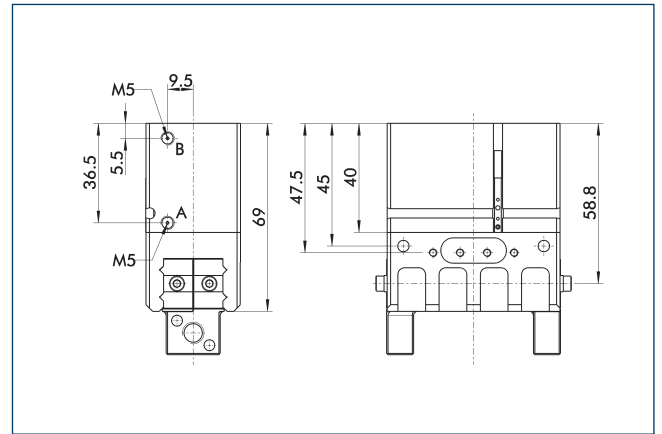


③ Adapter

④ Grippers

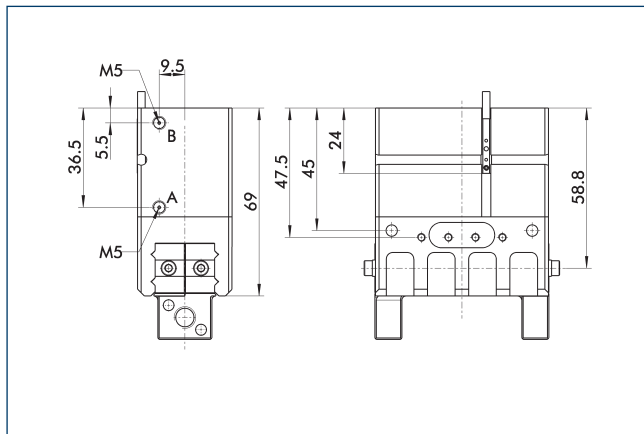
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



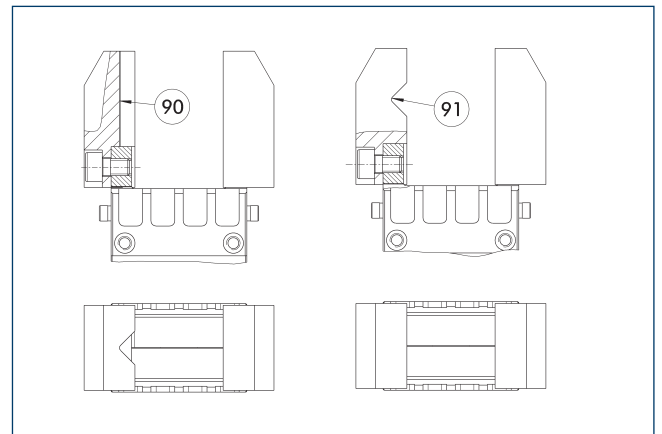
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Jaw design

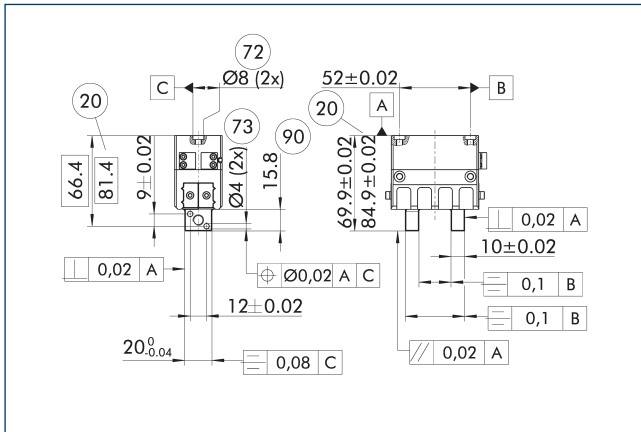


⑨⑩ Vertically positioned prism

⑨① Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

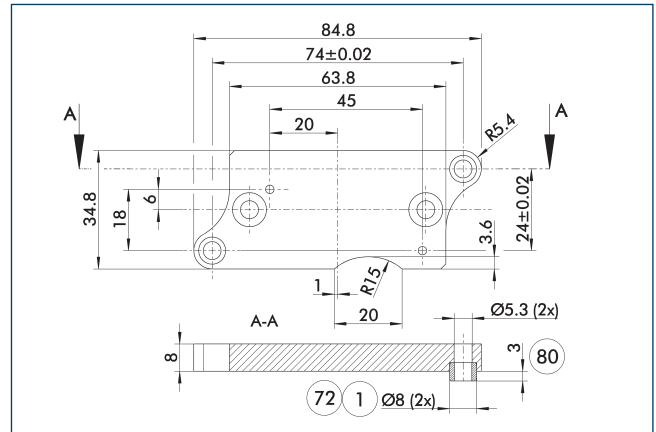
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑨0 Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Adapter plate



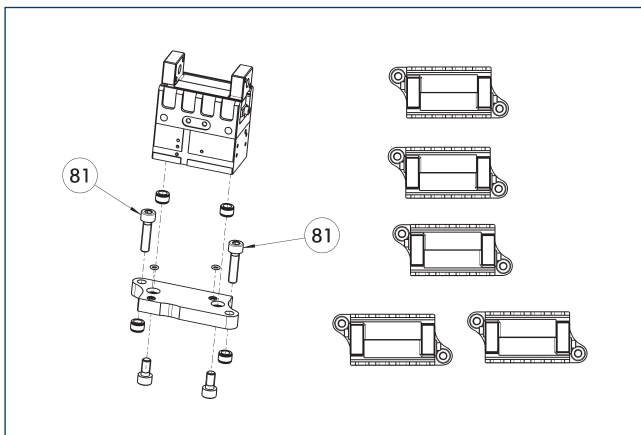
- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 64	0305547

① The adapter plate is a separately ordered, optional accessory.

## Adapter plate



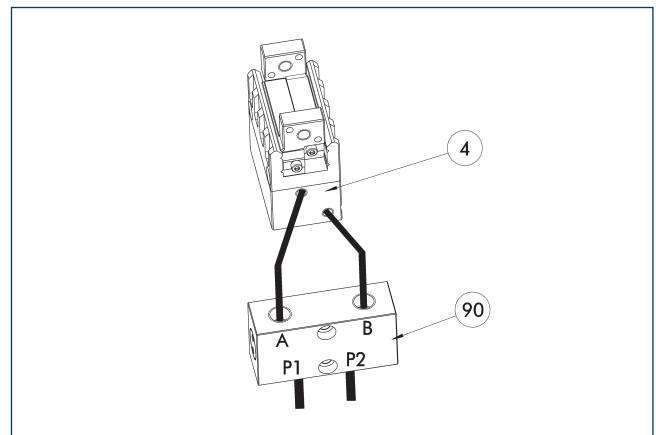
- ⑧1 Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 64	0305547

① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨0 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.

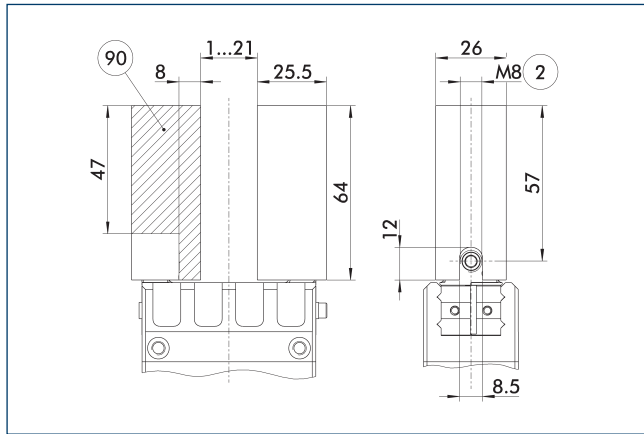
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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.

# MPG-plus 64

Gripper for small components

## Finger blanks with BSWS ABR-BSWS-MPG-plus 64

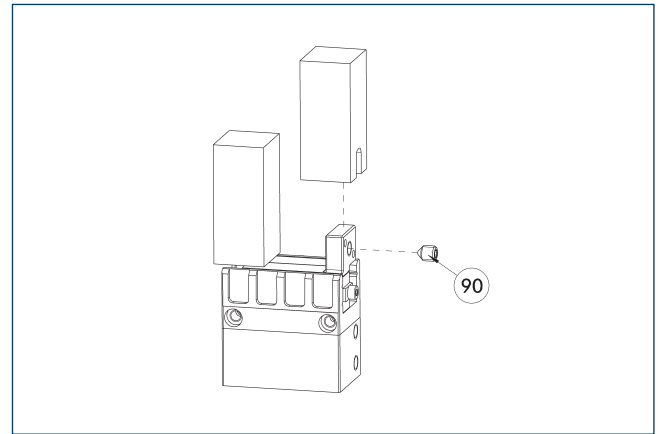


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 64	0302898	2

## Finger blanks with BSWS

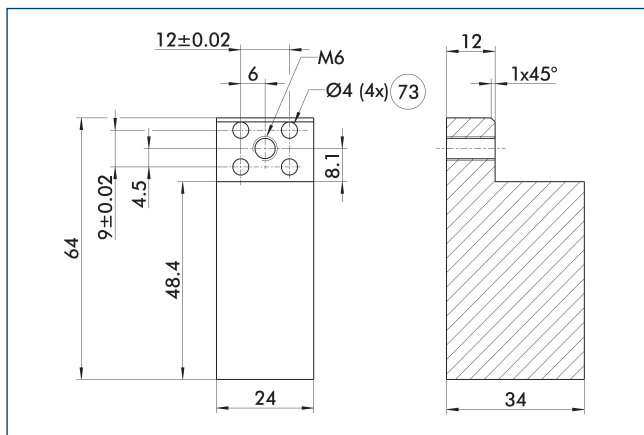


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 64	0302898	2

## Finger blanks ABR-MPG-plus 64

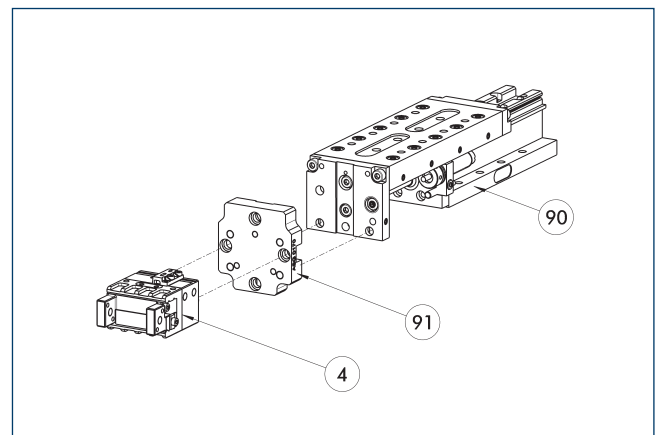


- ⑦③ Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 64	0340215	Aluminum (3.4365)	2

## Modular Assembly Automation

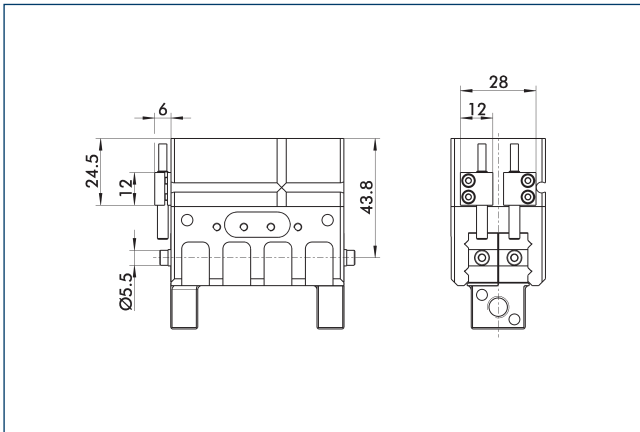


- ④ Grippers
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- ⑨① ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".



## Attachment kit for proximity switch IN 40

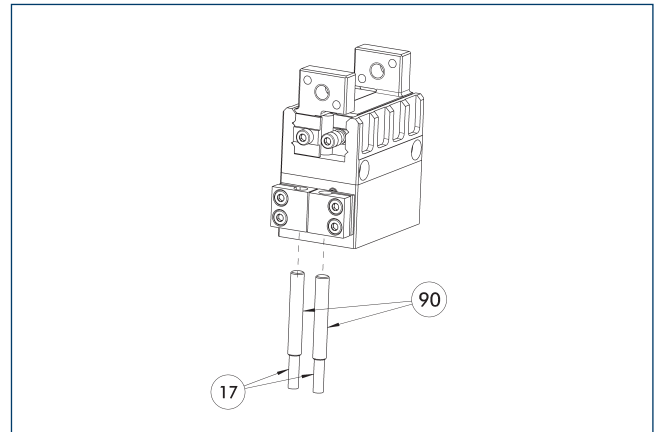


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

Description	ID
Attachment kit for proximity switch	
AS-IN40-MPG-plus	0305545

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

## IN 40 inductive proximity switches



①7 Cable outlet

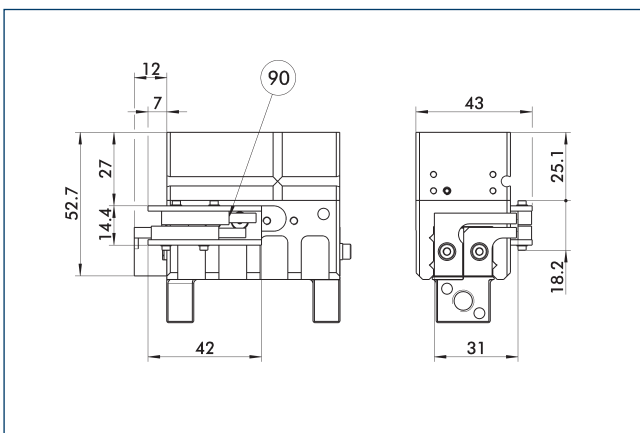
⑨0 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus	0305545	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

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.

## Attachment kit for proximity switch IN 5



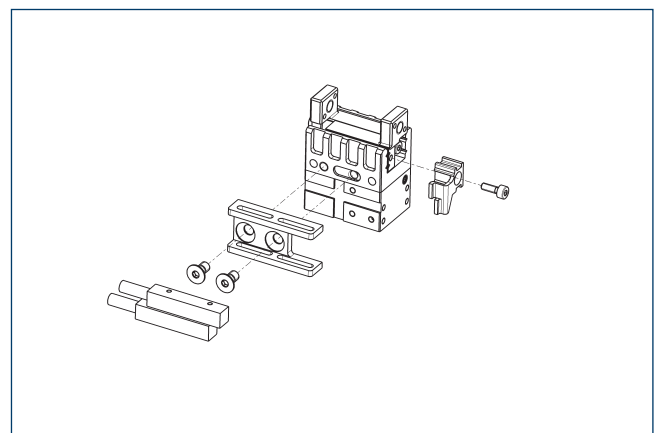
⑨0 Sensor IN ...

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-MPG 64	0340154

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

## IN 5 inductive proximity switches



End position monitoring can be mounted with an attachment kit.

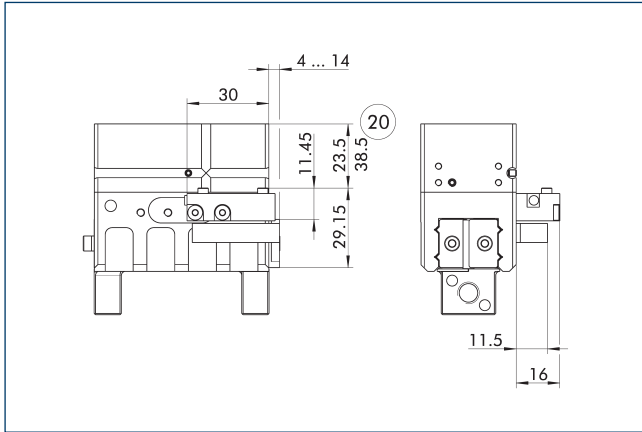
Description	ID	Often combined
Attachment kit for proximity switch		
AS-MPG 64	0340154	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

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.

# MPG-plus 64

Gripper for small components

## Attachment kit for FPS



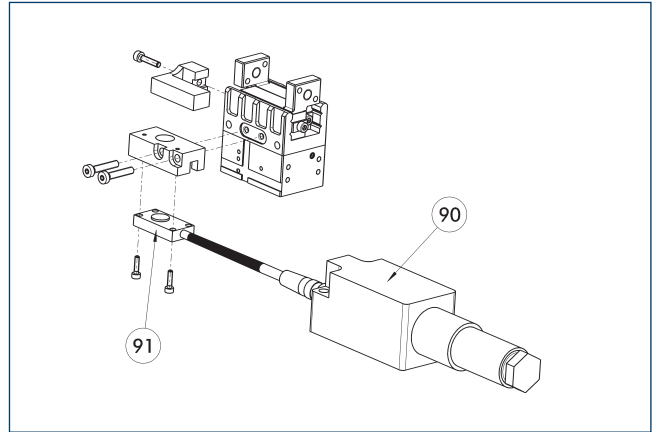
20 For AS / IS version

The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

Description	ID
Attachment kit for FPS	
AS-FPS-MPG 64	0301764

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

## Flexible position sensor



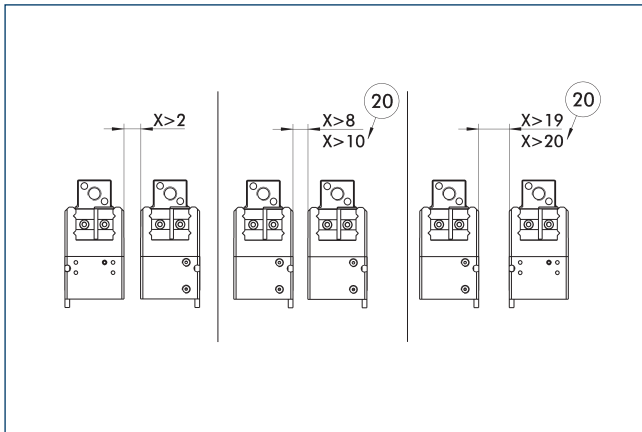
90 FPS-F5 evaluation electronic 91 FPS-S sensor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Attachment kit for FPS		
AS-FPS-MPG 64	0301764	
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

ⓘ When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter “Accessories.”

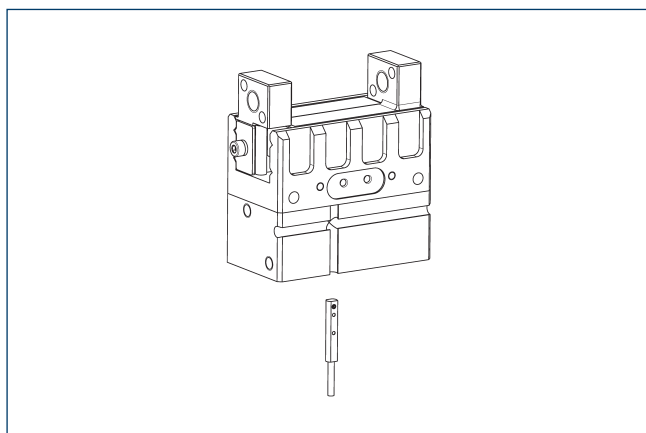
## Monitoring for stacked arrangements



20 For AS / IS version

CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

## Programmable magnetic switch MMS 22-PI2



Position monitoring with two programmable positions per sensor and electronics built into 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.

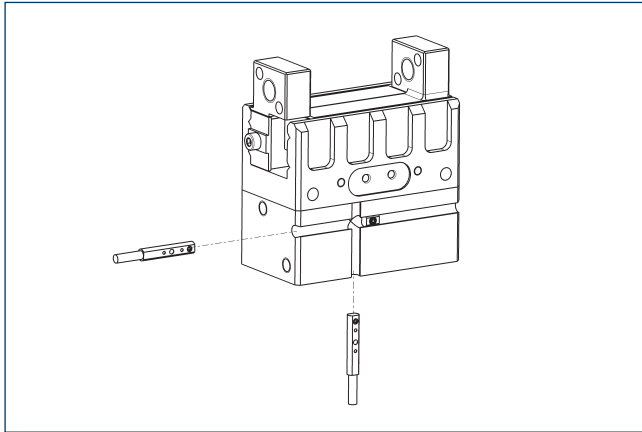
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel housing</b>		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

# MPG-plus 64

Gripper for small components

## MMS-P programmable magnetic switch

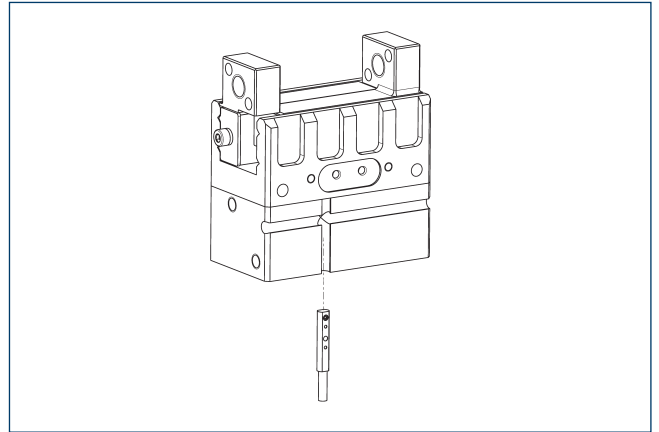


Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

## MMS-A analog position sensor

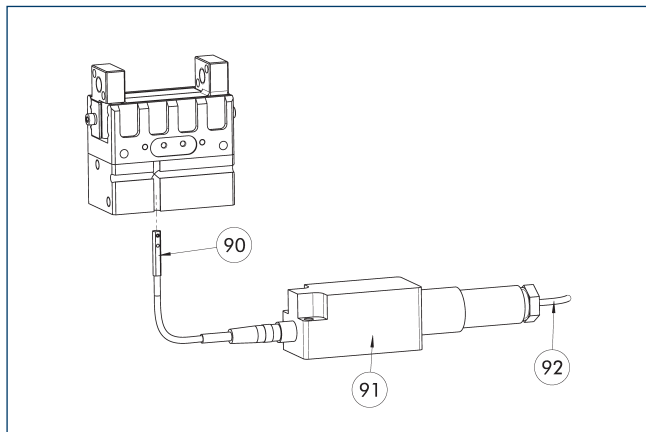


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

## Flexible position sensor with MMS-A



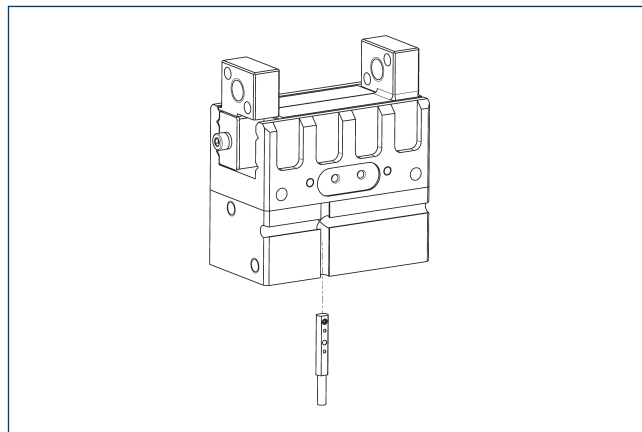
- ⑨⑩ MMS 22-A-... sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315805	
Evaluation electronics		
FPS-F5	0301805	
Connection cables		
KA BG16-L 12P-1000	0301801	

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Programmable magnetic switch MMS-IO-Link



Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.



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