



Superior Clamping and Gripping



Product Information

Gripper for small components MPG-plus

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

Drive concept oval piston for maximum gripping forces

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

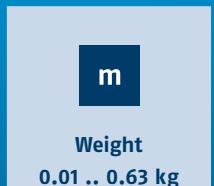
Optimized basic load rating suitable for using long gripper fingers

Monitoring with electronic magnetic switches for a maximized process reliability

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

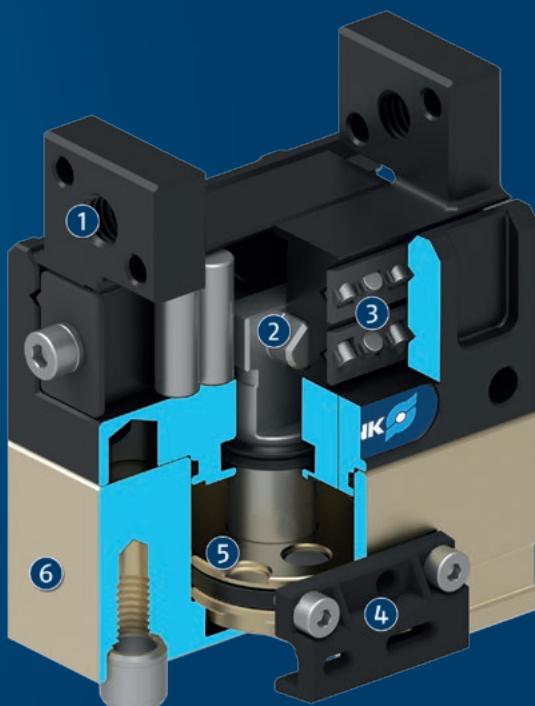
Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems

Compact dimensions for minimal interfering contours in handling



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

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: 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 MPG-plus even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Rotation unit



Linear module



Pick & Place Unit



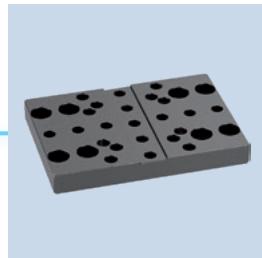
Manual change system



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. Please contact us: SCHUNK technical hotline +49-7133-103-2696

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 the highest accuracy

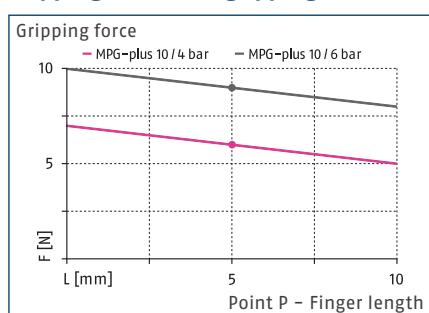
Version FPS for flexible position sensor: This version is prepared for the use with the flexible position sensor FPS, and allows monitoring of several gripping positions.

MPG-plus 10

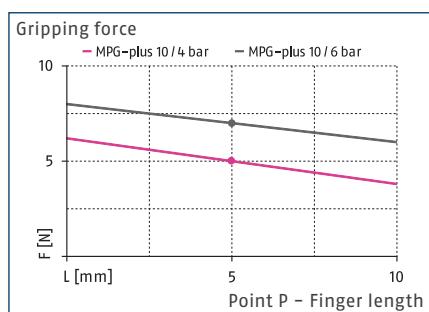
Gripper for small components



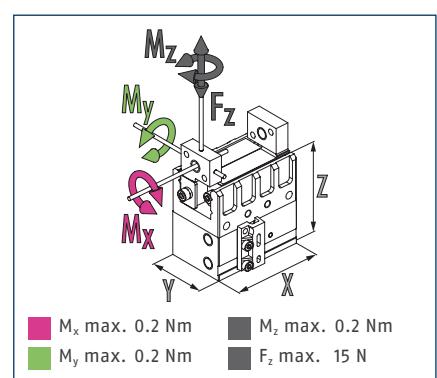
Gripping force O.D. gripping



Gripping force I.D. gripping



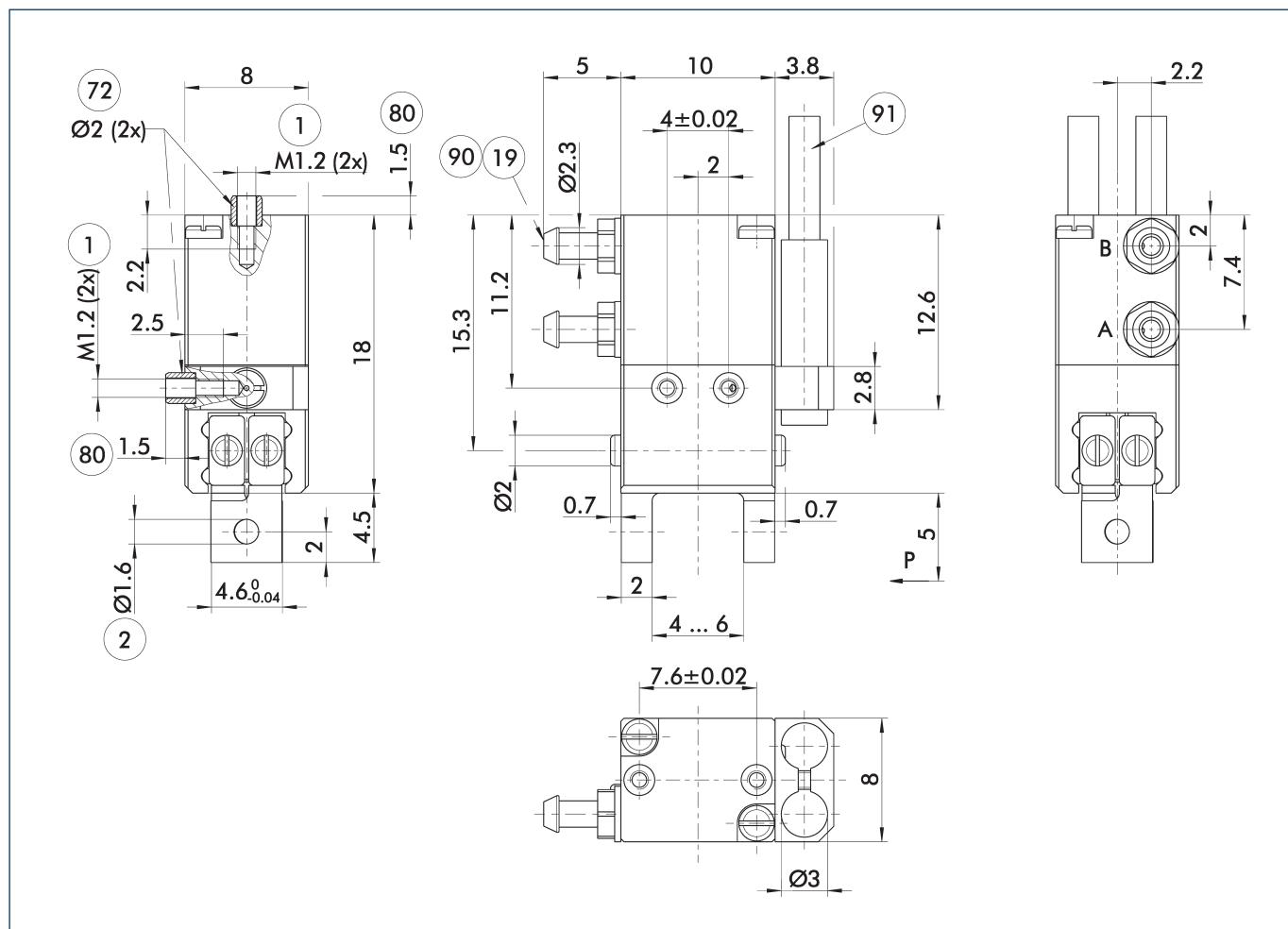
Dimensions and maximum loads



ⓘ The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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	[cm³] 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
Protection class IP	30
Min./max. ambient temperature	[°C] 5/90
Repeat accuracy	[mm] 0.02
Dimensions X x Y x Z	[mm] 10 x 8 x 18

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 be used as a 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

(19) Air connection

(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

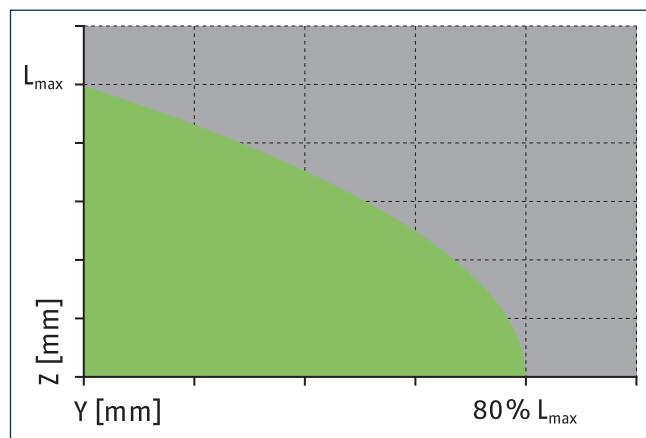
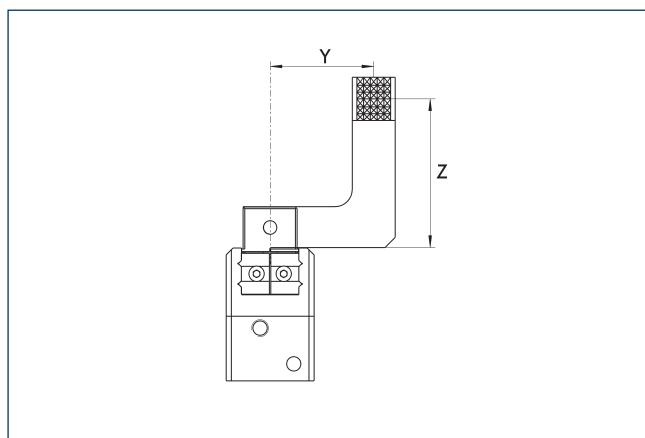
(90) Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0–0.6) series, Order no.: 1820712066 (-67/-68/-69)

(91) Sensor IN ...

MPG-plus 10

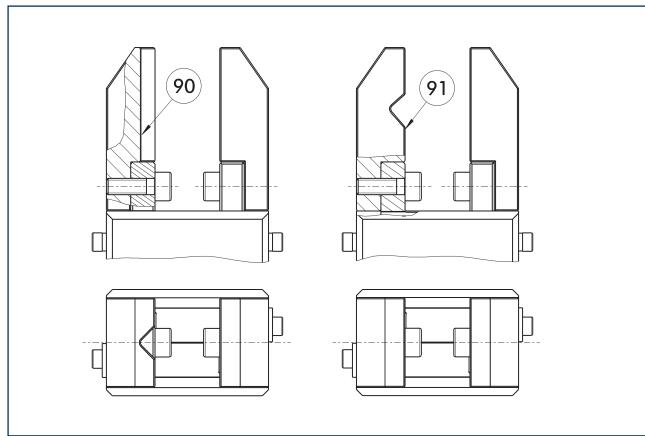
Gripper for small components

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

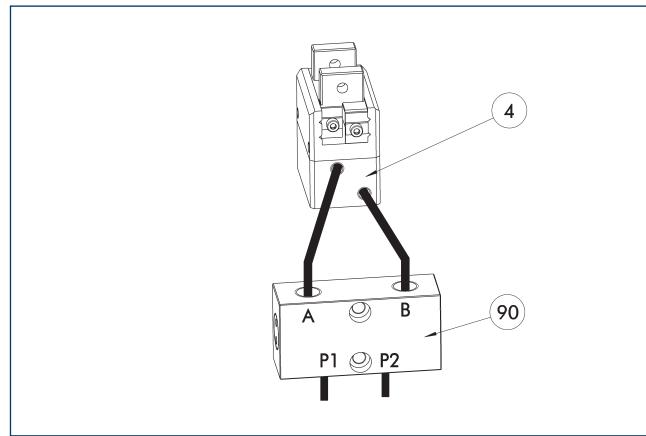


⑨⓪ Vertically positioned prism

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

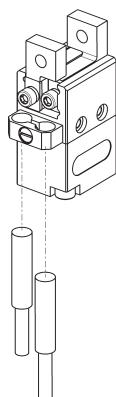
⑨⓪ SDV-P pressure maintenance valve

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.

Inductive Proximity Switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 30K-S-M8-PNP	1001272	●
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

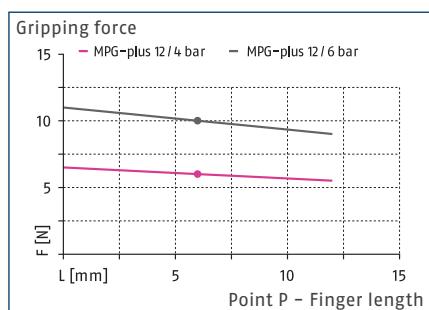
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available.
Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

MPG-plus 12

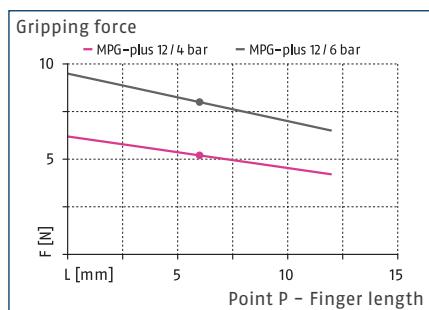
Gripper for small components



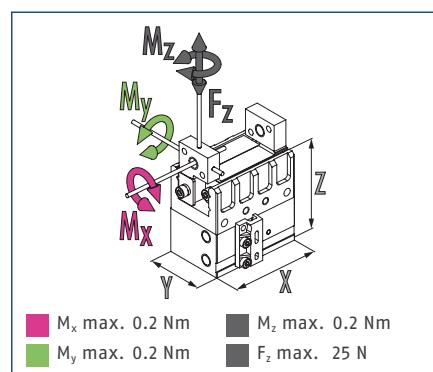
Gripping force O.D. gripping



Gripping force I.D. gripping



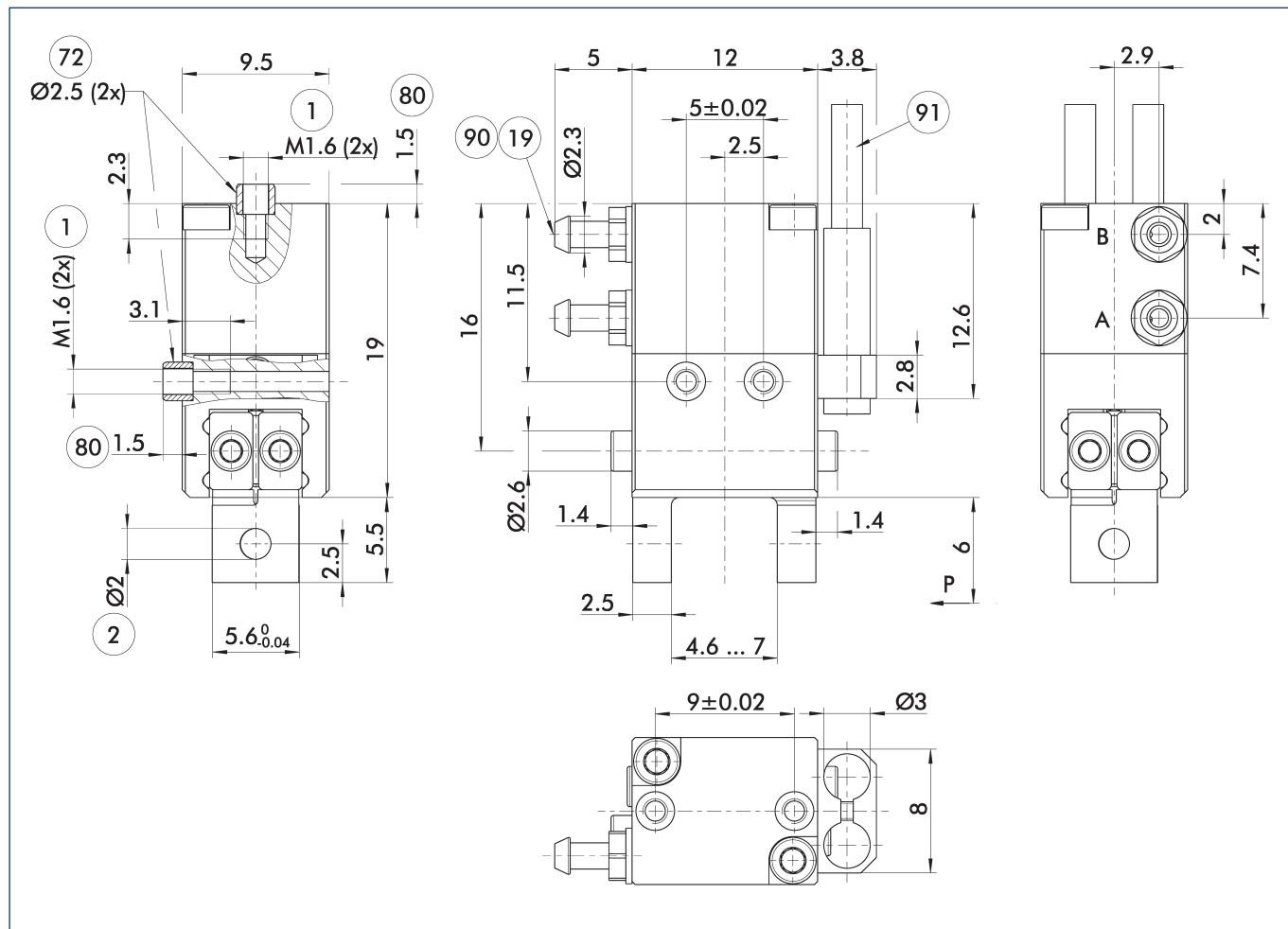
Dimensions and maximum loads



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
Protection class IP	30
Min./max. ambient temperature	[°C] 5/90
Repeat accuracy	[mm] 0.02
Dimensions X x Y x Z	[mm] 12 x 9.5 x 19

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 be used as a 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

(19) Air connection

(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

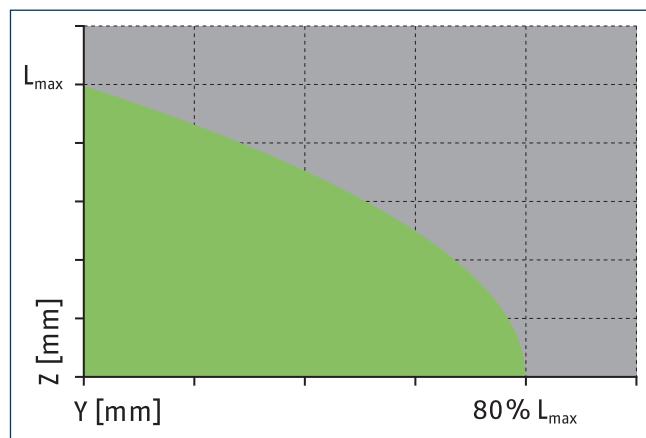
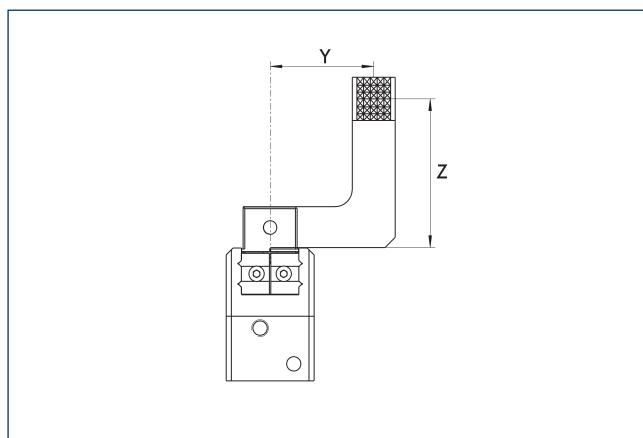
(90) Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0–0.6) series, Order no.: 1820712066 (-67/-68/-69)

(91) Sensor IN ...

MPG-plus 12

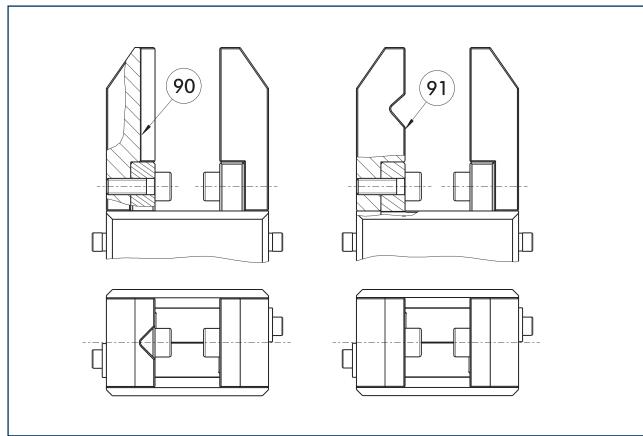
Gripper for small components

Maximum permitted finger projection



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

Jaw design

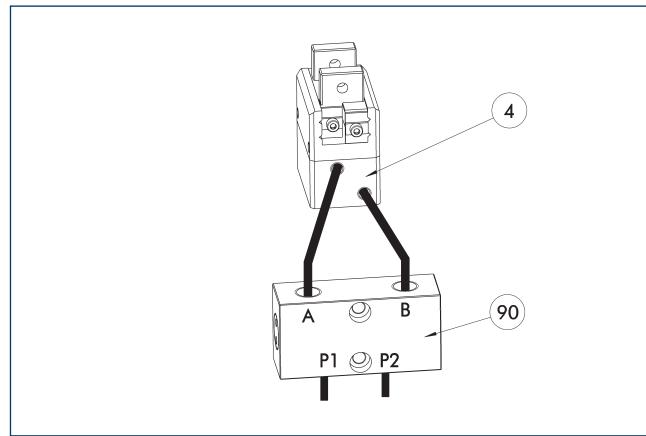


⑨⓪ Vertically positioned prism

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

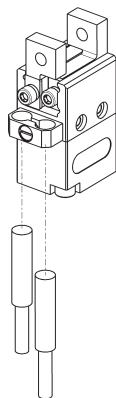
⑨⓪ SDV-P pressure maintenance valve

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.

Inductive Proximity Switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 30K-S-M8-PNP	1001272	●
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

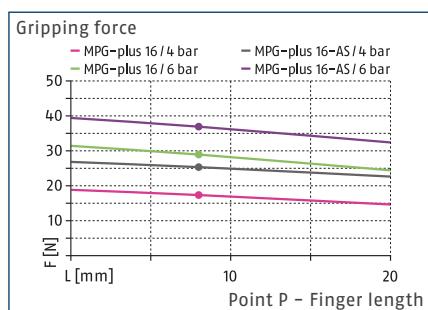
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available.
Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

MPG-plus 16

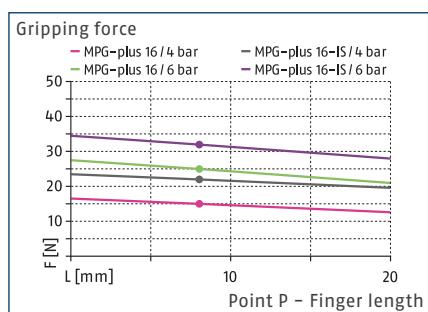
Gripper for small components



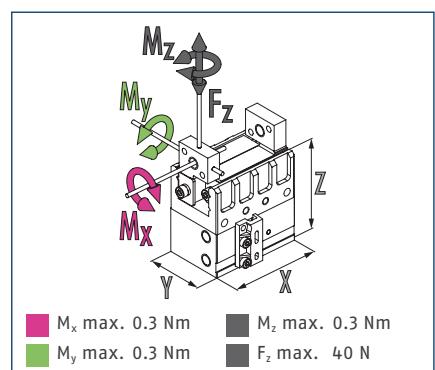
Gripping force O.D. gripping



Gripping force I.D. gripping



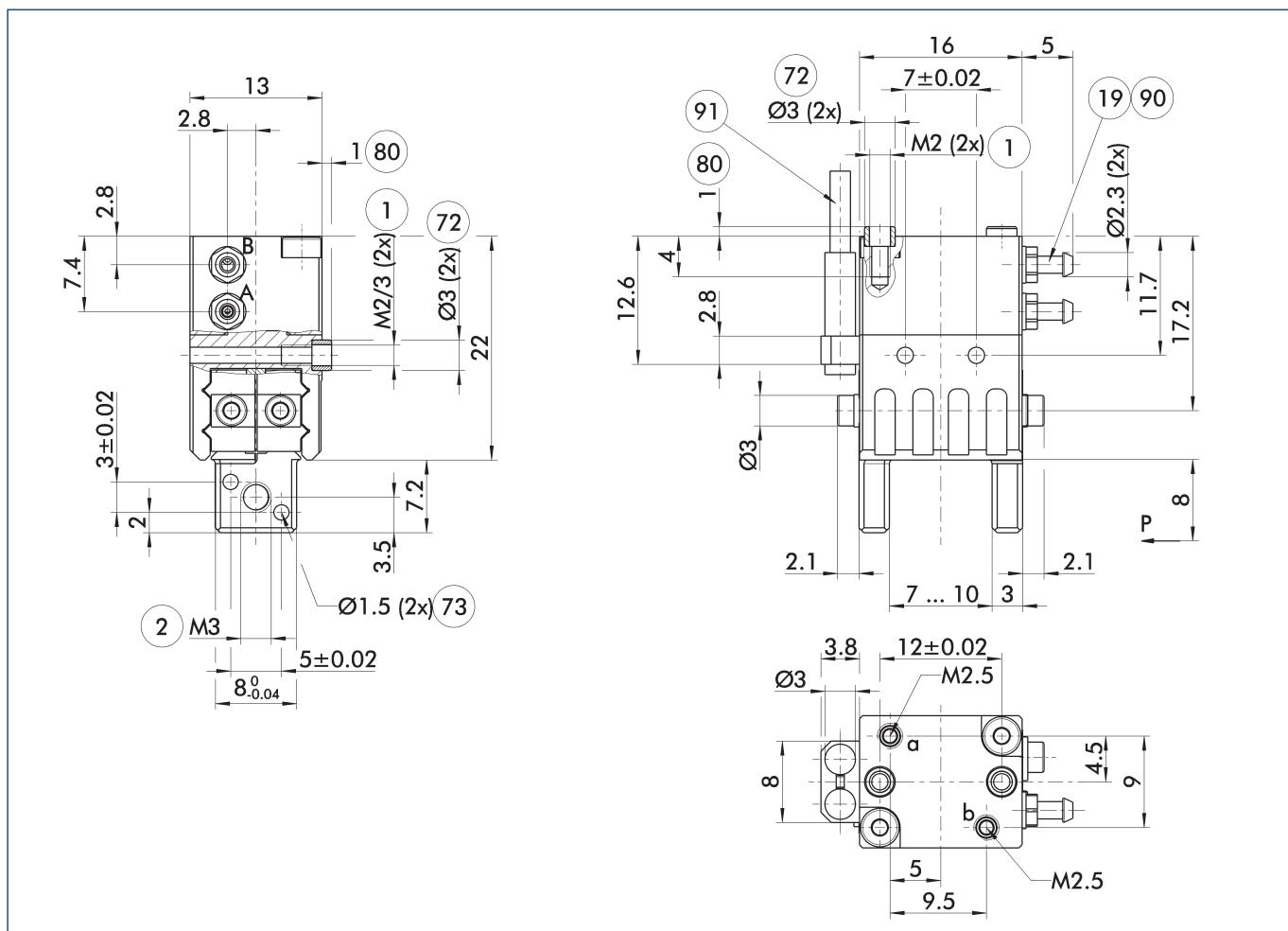
Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	29/25	37/-
Min. spring force	[N]		8
Weight	[kg]	0.022	0.025
Recommended workpiece weight	[kg]	0.14	0.14
Fluid consumption double stroke	[cm ³]	0.32	0.69
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5
Closing/opening time	[s]	0.011/0.011	0.011/0.015
Closing/opening time with spring	[s]		0.03
Max. permissible finger length	[mm]	20	20
Max. permissible mass per finger	[kg]	0.01	0.01
Protection class IP		30	30
Min./max. ambient temperature	[°C]	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02
Dimensions X x Y x Z	[mm]	16 x 13 x 22	16 x 13 x 27
Options and their characteristics			
High-temperature version		39305481	39305482
Min./max. ambient temperature	[°C]	5/100	5/100

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

(19) Air connection

(72) Fit for centering sleeves

(73) Fit for centering pins

(80) Depth of the centering sleeve hole in the counter part

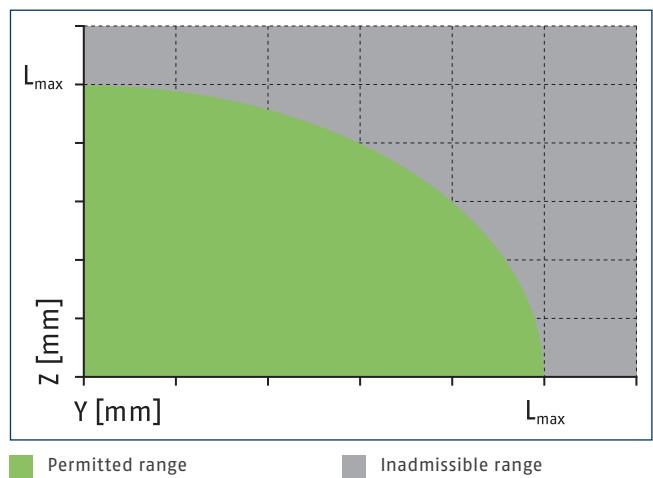
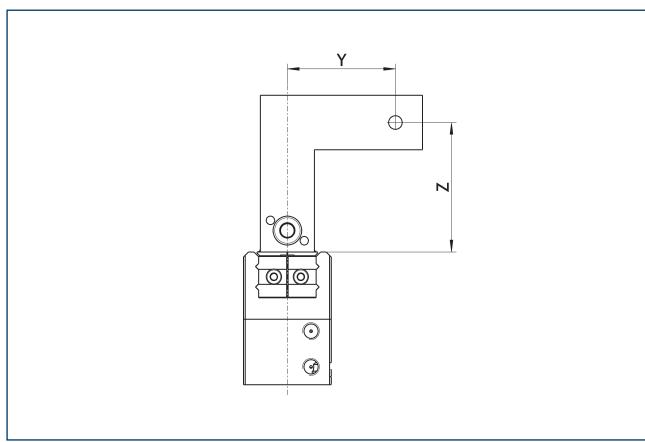
(90) Bosch-Rexroth compressed air hose, TU1-S (\varnothing 3.0–0.6) series, Order no.: 1820712066 (-67/-68/-69)

(91) Sensor IN ...

MPG-plus 16

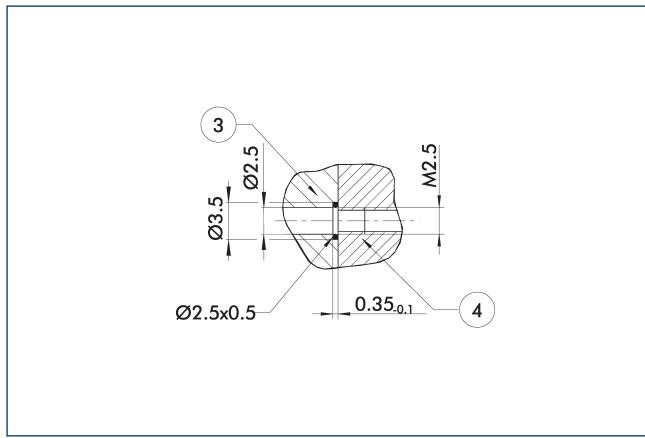
Gripper for small components

Maximum permitted finger projection



L^{\max} is equivalent to the maximum permitted finger length, see the technical data table.

Hose-free direct connection M2.5

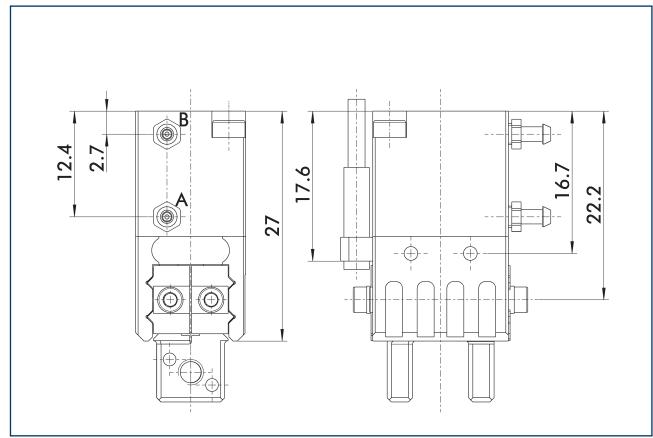


(3) Adapter

(4) Grippers

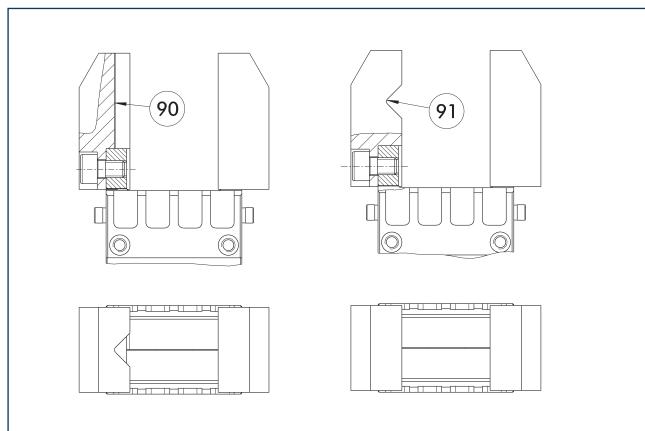
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

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

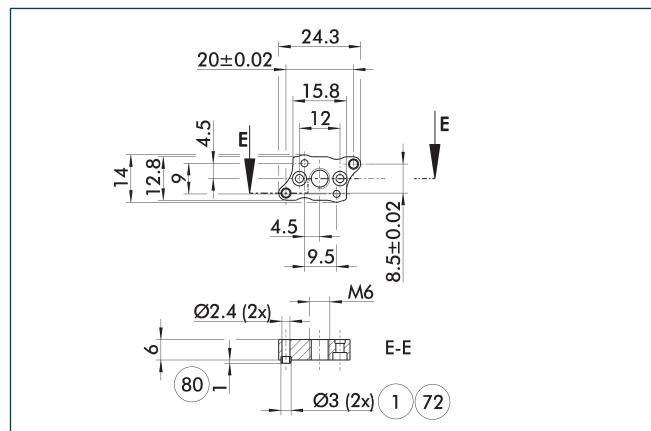


⑨⓪ Vertically positioned prism

⑨① Horizontally positioned prism

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Adapter plate



① Gripper connection

⑦② Fit for centering sleeves

⑧⓪ Depth of the centering sleeve hole in the counter part

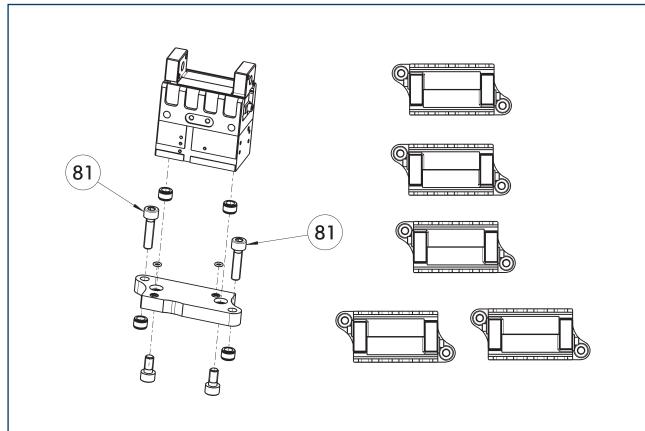
The adapter plate includes an O-ring* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.

*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 16	0305487

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

Adapter plate



⑧① Not included in the scope of delivery

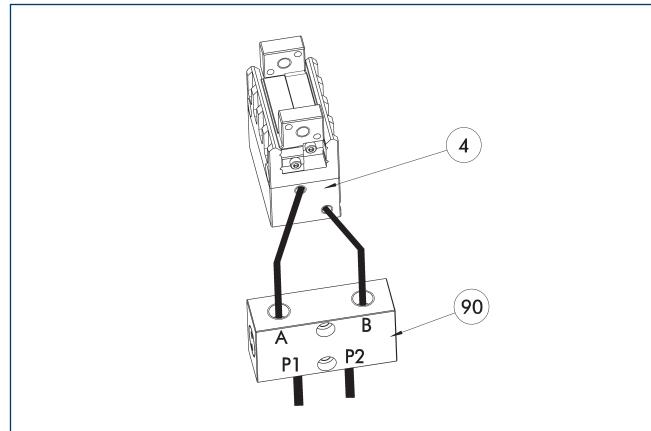
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*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 16	0305487

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

SDV-P pressure maintenance valve



④ Grippers

⑨⓪ SDV-P pressure maintenance valve

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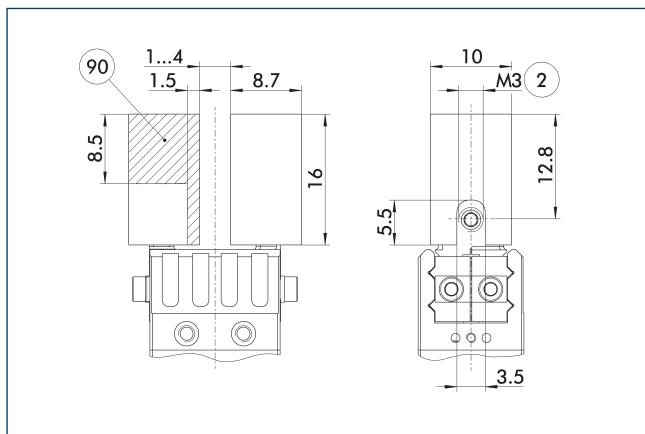
Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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 16

Gripper for small components

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



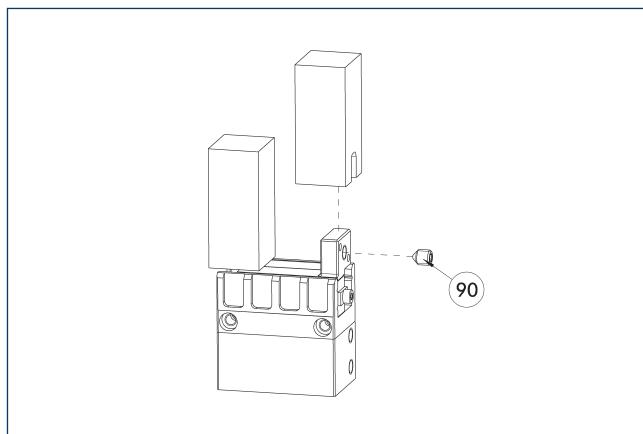
② Finger connection

⑨ⓧ 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

Finger blanks with BSWS

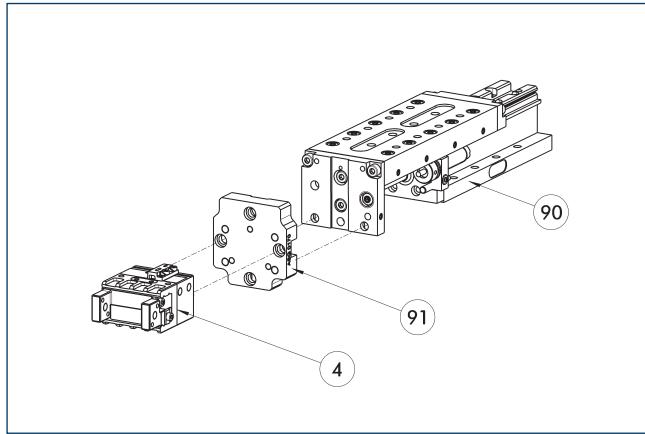


⑨ⓧ Included in the jaw quick-change system's scope of delivery

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

Modular Assembly Automation



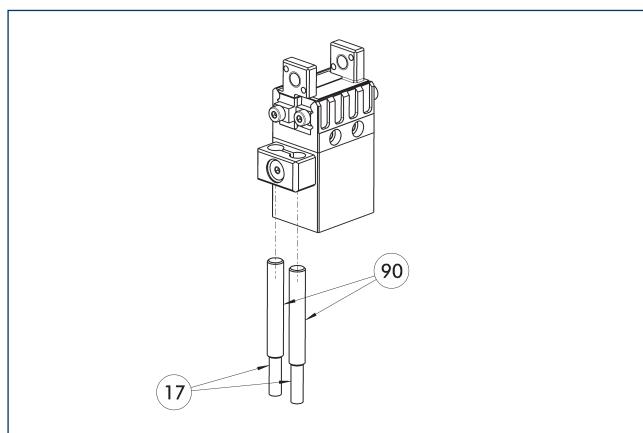
④ Grippers

⑨ⓧ ASG adapter plate

⑨ⓧ 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".

Inductive Proximity Switches



⑯ Cable outlet

⑯ Sensor IN ...

Description	ID	Often combined
Inductive proximity switches		
IN 30K-S-M8-PNP	1001272	●
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

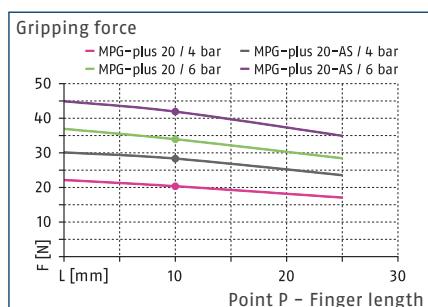
- ⑯ Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available.
- Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

MPG-plus 20

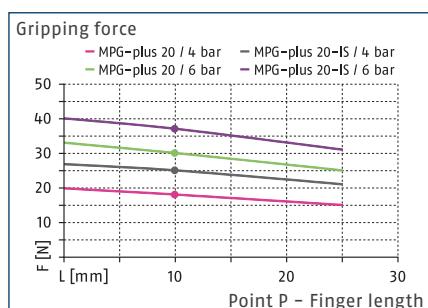
Gripper for small components



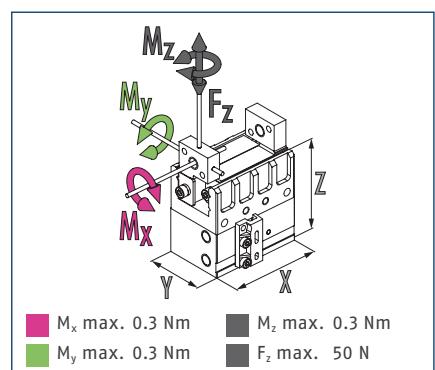
Gripping force O.D. gripping



Gripping force I.D. gripping



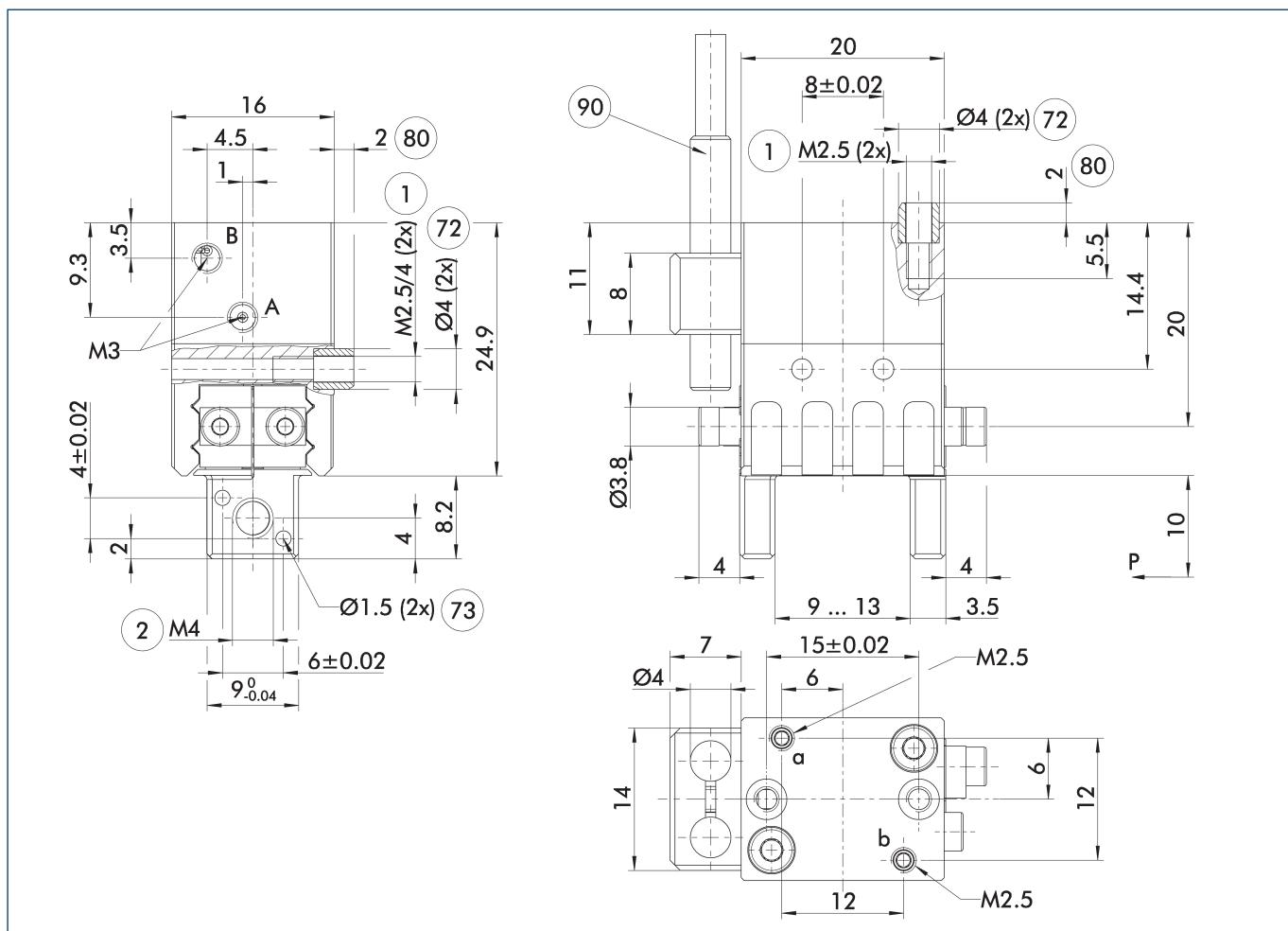
Dimensions and maximum loads



ⓘ The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	34/30	42/-	-/37
Min. spring force	[N]		8	7
Weight	[kg]	0.035	0.042	0.042
Recommended workpiece weight	[kg]	0.17	0.17	0.17
Fluid consumption double stroke	[cm³]	0.41	1.38	0.84
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.012/0.012	0.012/0.018	0.018/0.012
Closing/opening time with spring	[s]		0.06	0.06
Max. permissible finger length	[mm]	25	25	25
Max. permissible mass per finger	[kg]	0.01	0.01	0.01
Protection class IP		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	20 x 16 x 24.9	20 x 16 x 33.9	20 x 16 x 34.9
Options and their characteristics				
High-temperature version		39305491	39305492	39305493
Min./max. ambient temperature	[°C]	5/100	5/100	5/100

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

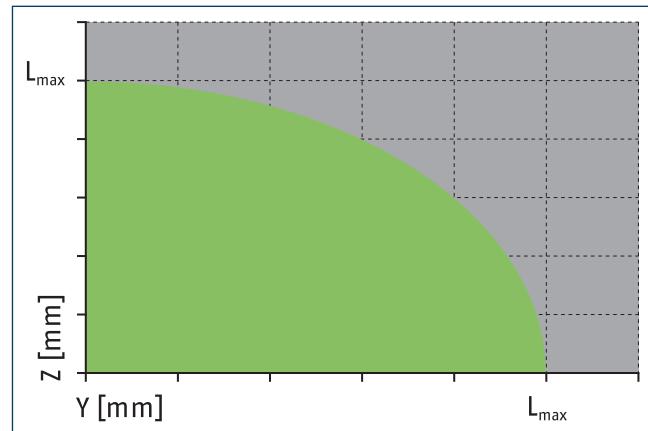
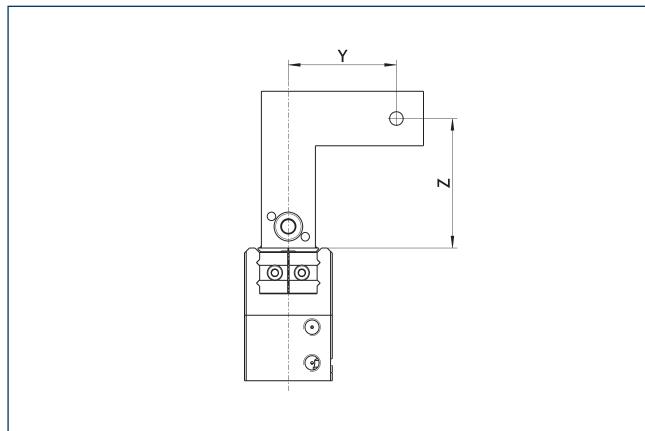
② Finger connection

⑦ Fit for centering sleeves

⑧ Fit for centering pins

⑨ Depth of the centering sleeve hole in the counter part

⑩ Sensor IN ...

Maximum permitted finger projection

Permitted range

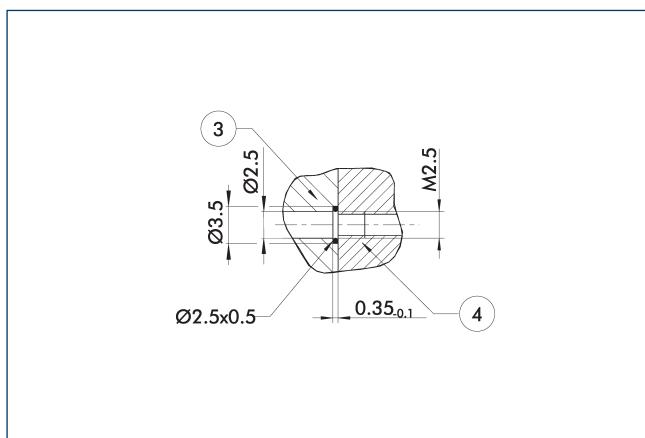
Inadmissible range

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

MPG-plus 20

Gripper for small components

Hose-free direct connection M2.5

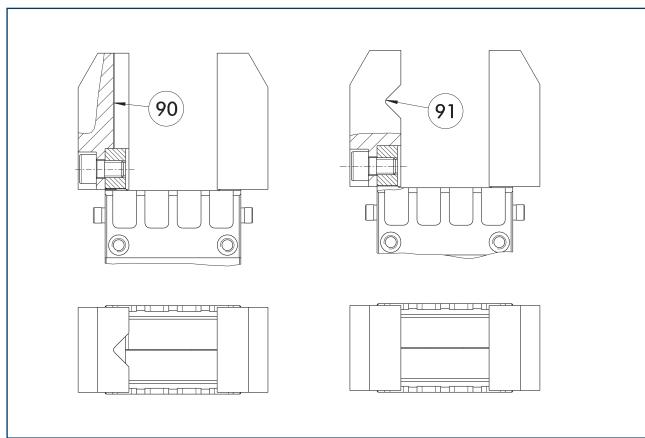


③ Adapter

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.

Jaw design

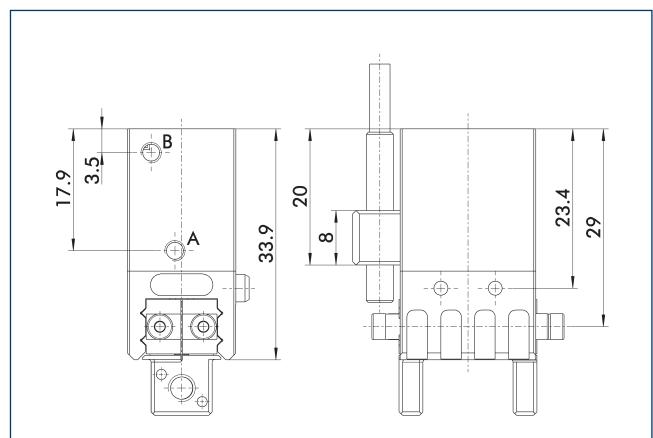


⑨⓪ Vertically positioned prism

⑨① Horizontally positioned prism

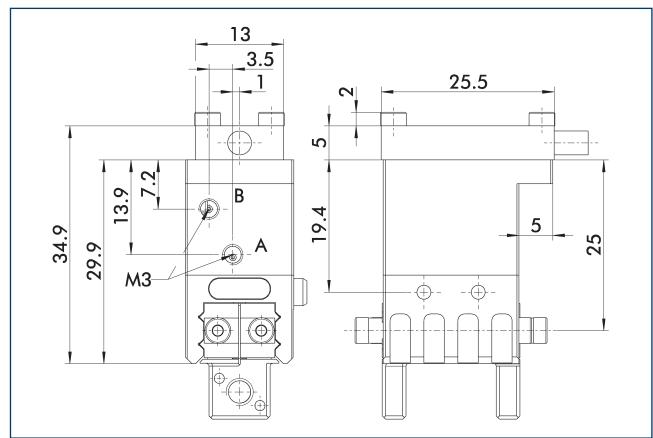
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Gripping force maintenance device AS / IS

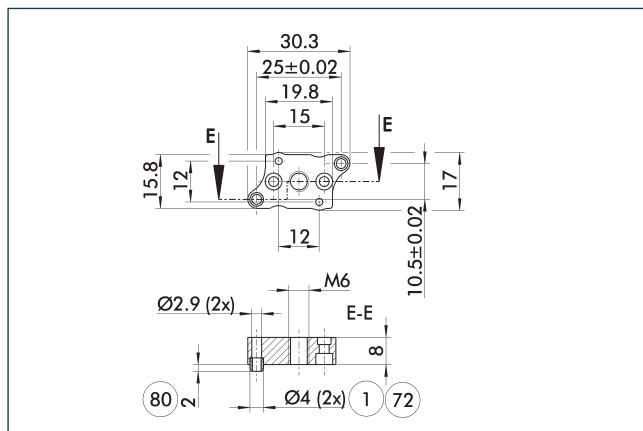


The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

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

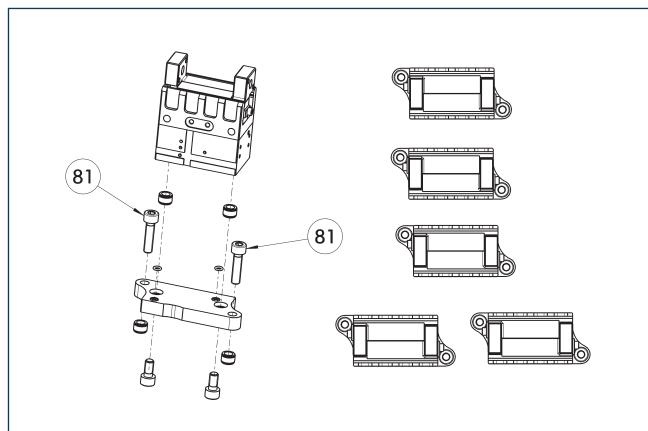
- ① Gripper connection
② Fit for centering sleeves

⑧ 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

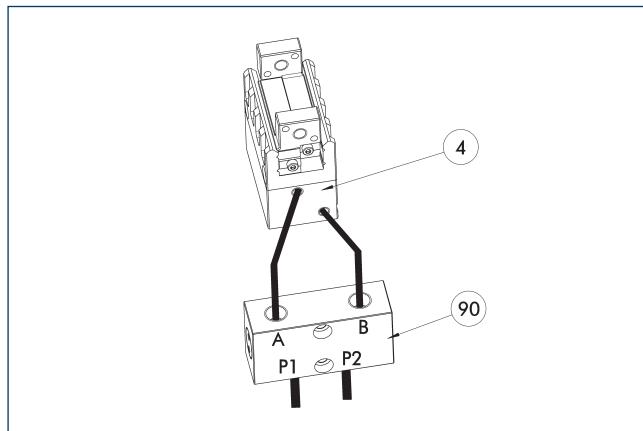
- ⑧ Not included in the scope of delivery

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

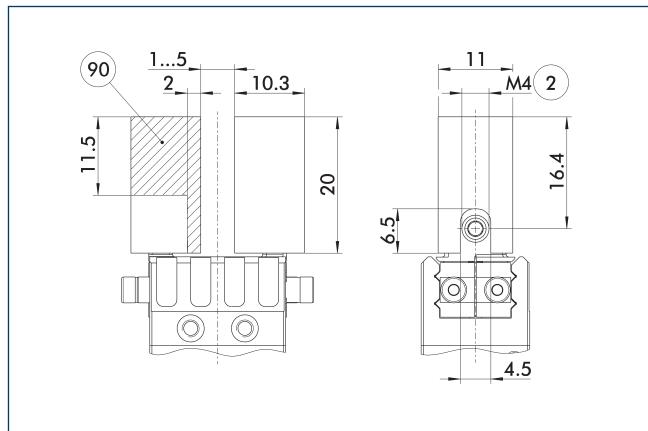
- ④ Grippers

⑨ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 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 20

- ② Finger connection

⑨ Machining volume

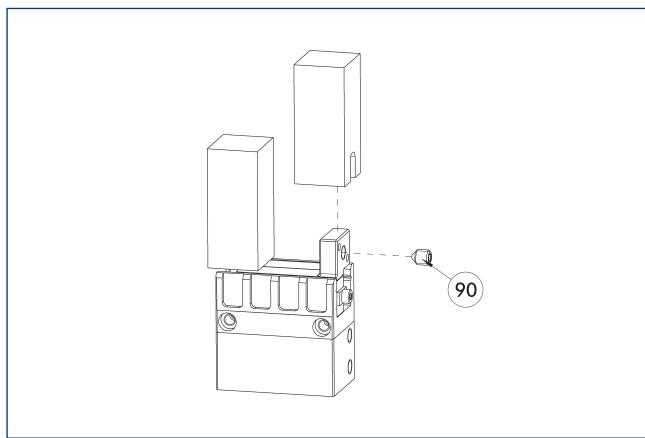
Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

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

MPG-plus 20

Gripper for small components

Finger blanks with BSWS

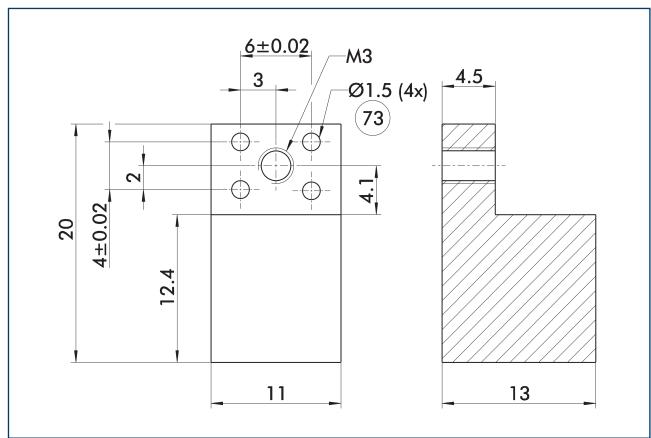


- 90 Included in the jaw quick-change system's scope of delivery

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 20	0302893	2

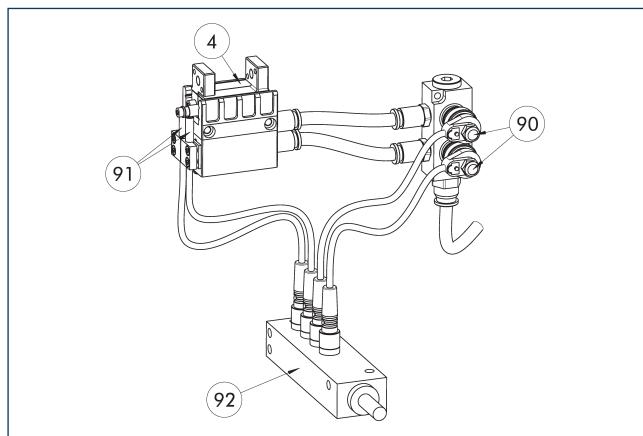
Finger blanks ABR-MPG-plus 20



- 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	2

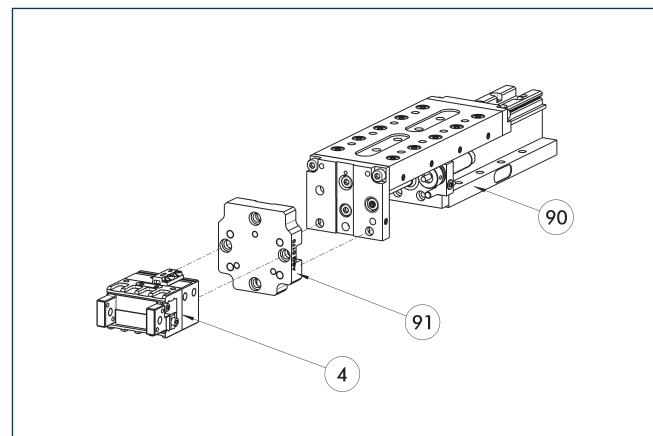
Attachment valves

- | | |
|-----------------|-----------------------|
| ④ Grippers | ⑨2 Sensor distributor |
| ⑨0 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

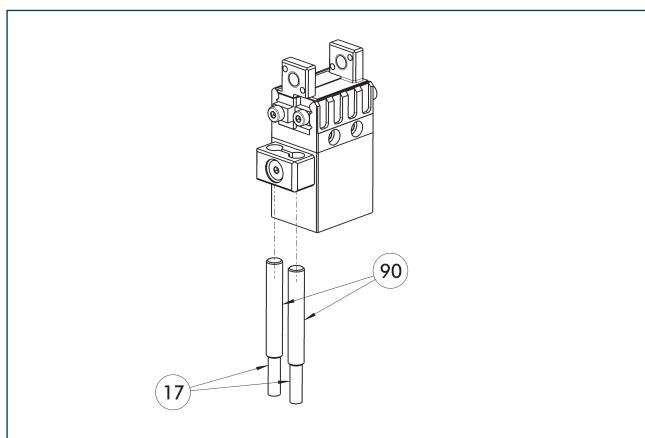
- | | |
|----------------------------------------------|----------------------|
| ④ Grippers | ⑨1 ASG adapter plate |
| ⑨0 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules | |
| ⑨1 Sensor | |

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



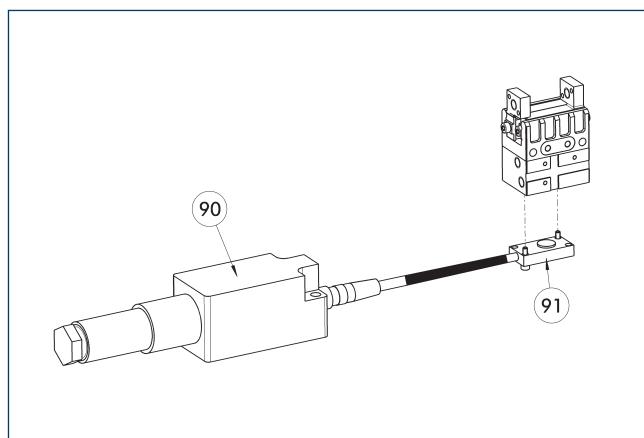
⑯ Cable outlet

⑯ Sensor IN ...

Description	ID	Often combined
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Cable extension		
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	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
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	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- ⑯ 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



⑯ FPS-F5 evaluation electronic

⑯ 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
Sensor		
FPS-S 13	0301705	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG16-L 12P-1000	0301801	

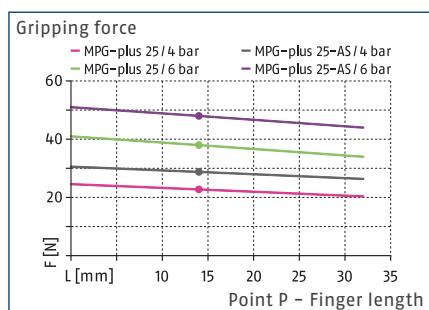
- ⑯ When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

MPG-plus 25

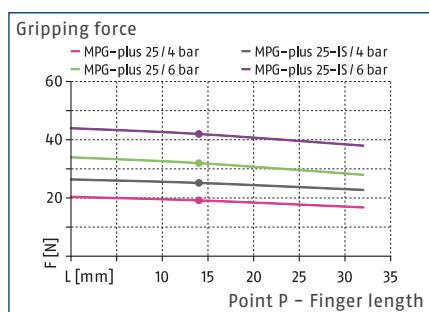
Gripper for small components



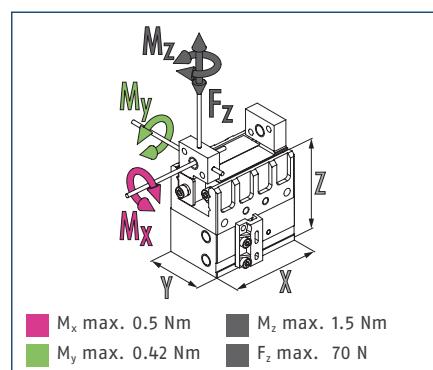
Gripping force O.D. gripping



Gripping force I.D. gripping



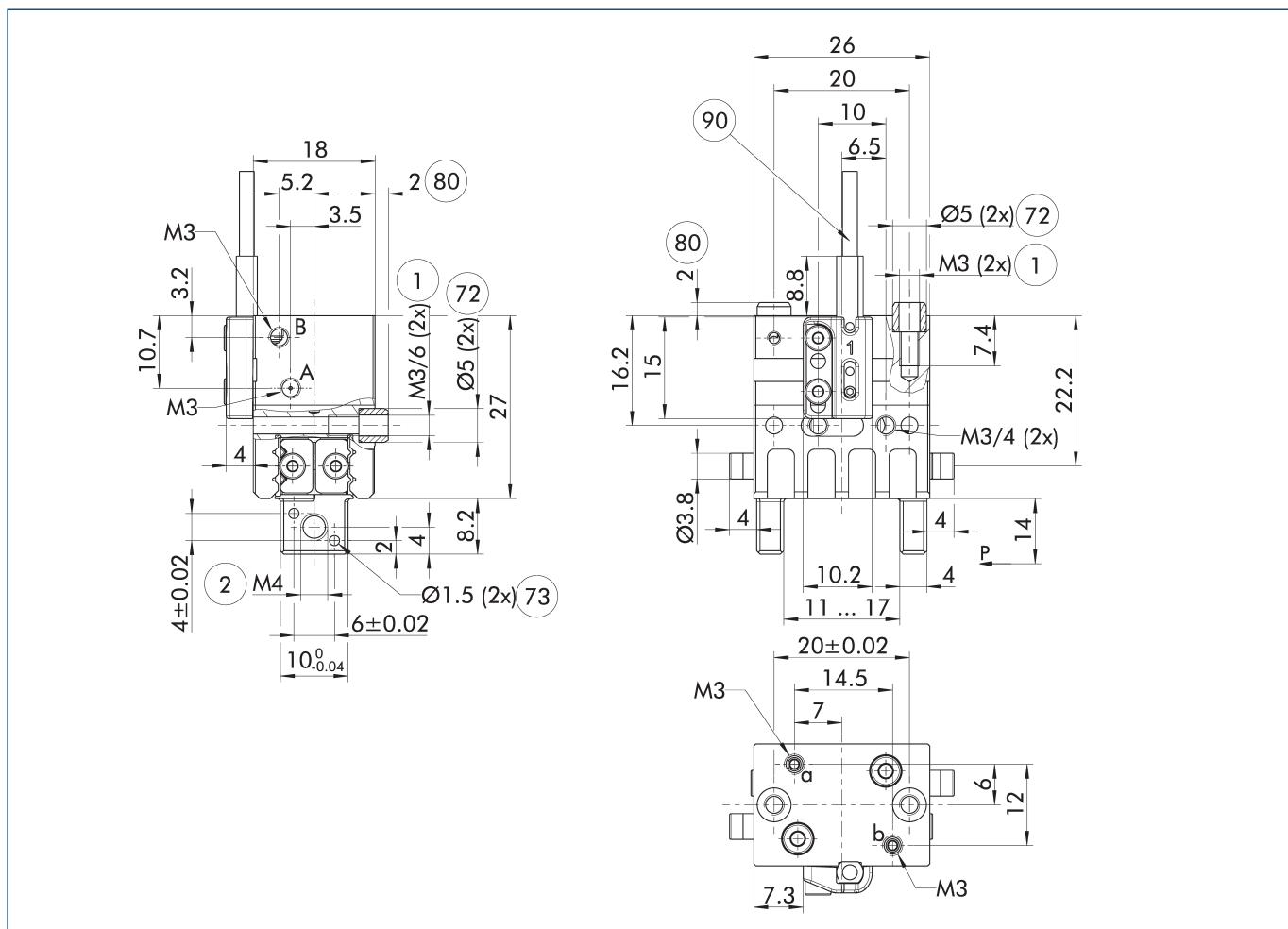
Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	38/32	48/-	-/41
Min. spring force	[N]		10	9
Weight	[kg]	0.06	0.07	0.07
Recommended workpiece weight	[kg]	0.19	0.19	0.19
Fluid consumption double stroke	[cm ³]	0.8	2.5	2
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.017/0.017	0.017/0.033	0.033/0.017
Closing/opening time with spring	[s]		0.10	0.10
Max. permissible finger length	[mm]	32	32	32
Max. permissible mass per finger	[kg]	0.02	0.02	0.02
Protection class IP		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	26 x 18 x 27	26 x 18 x 39.8	26 x 18 x 38.8
Options and their characteristics				
High-temperature version		39305501	39305502	39305503
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305506	0305508	0305509

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

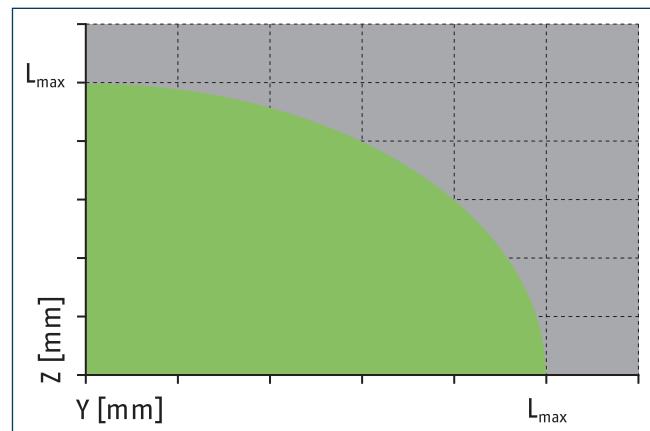
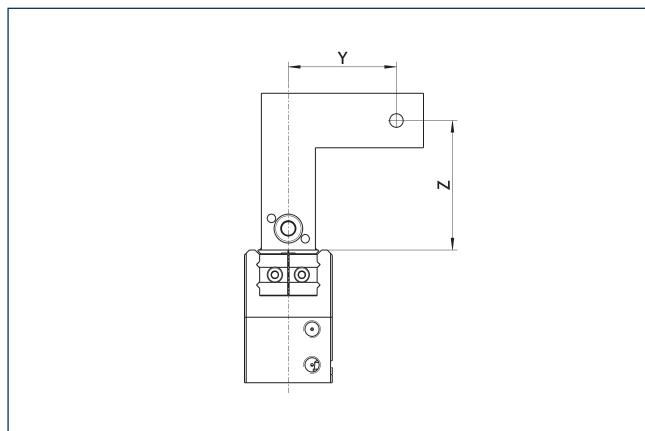
② Finger connection

⑦ Fit for centering sleeves

⑧ Fit for centering pins

⑨ Depth of the centering sleeve hole in the counter part

⑩ MMS 22...-PI2... sensor

Maximum permitted finger projection

Permitted range

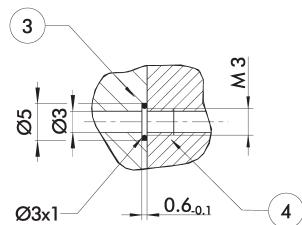
Inadmissible range

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

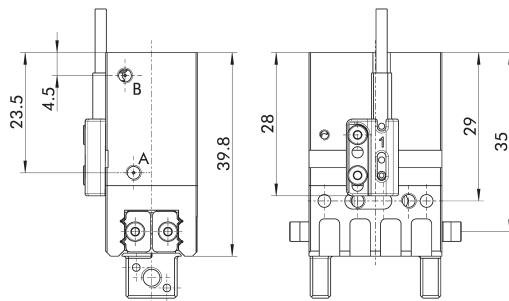


③ Adapter

④ Grippers

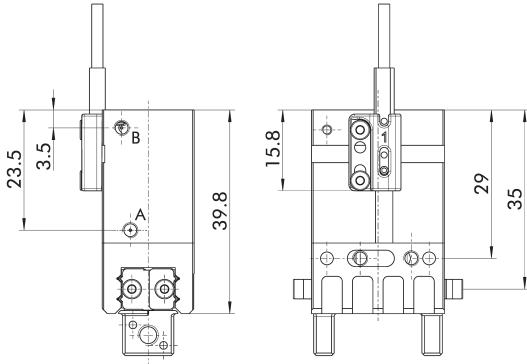
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance AS



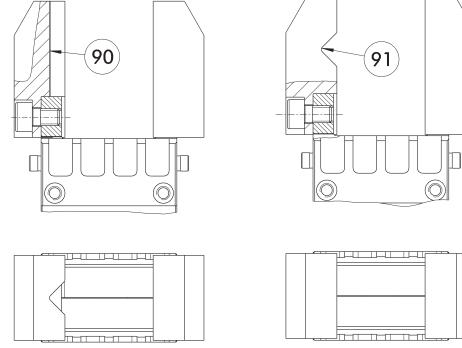
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

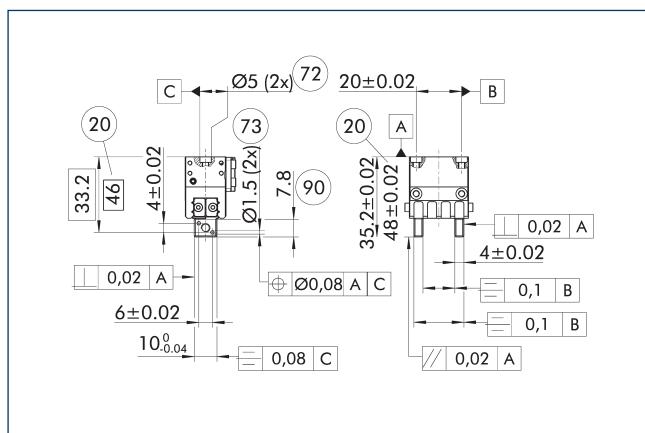
Jaw design



⑩ Vertically positioned prism

⑪ Horizontally positioned prism

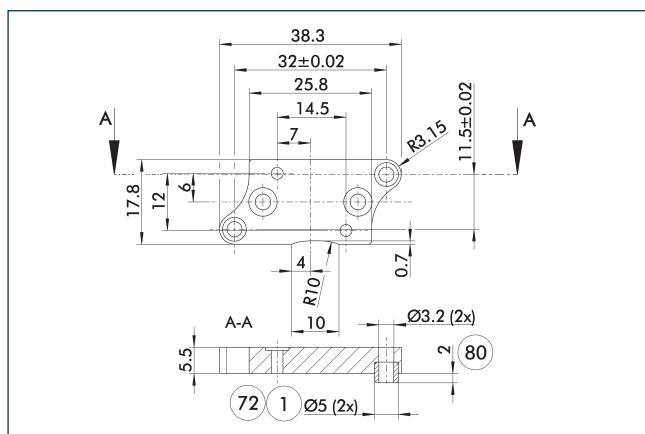
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

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

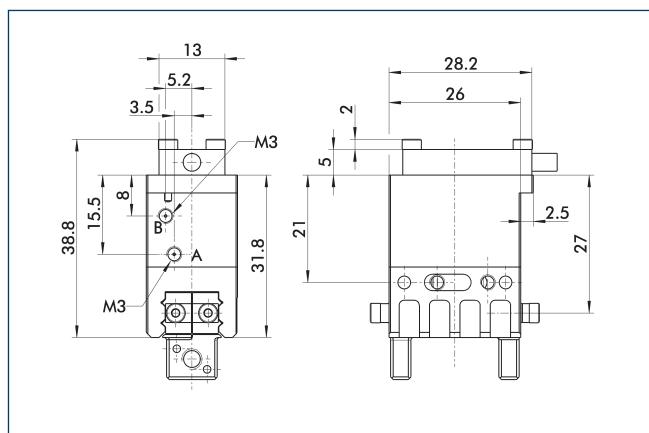
- (80) Depth of the centering sleeve hole in the counter part

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

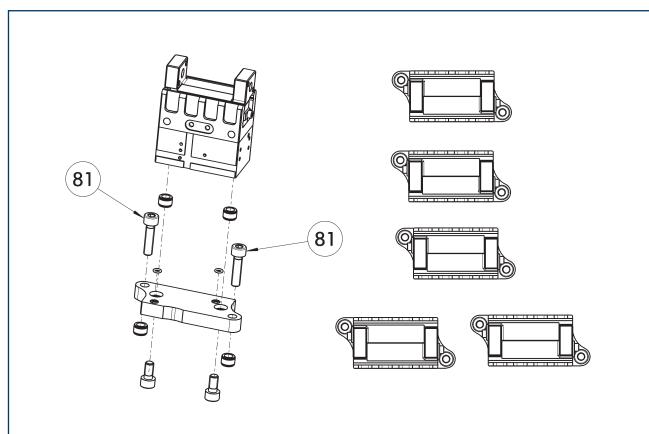
*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 25	0305507

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

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

- 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

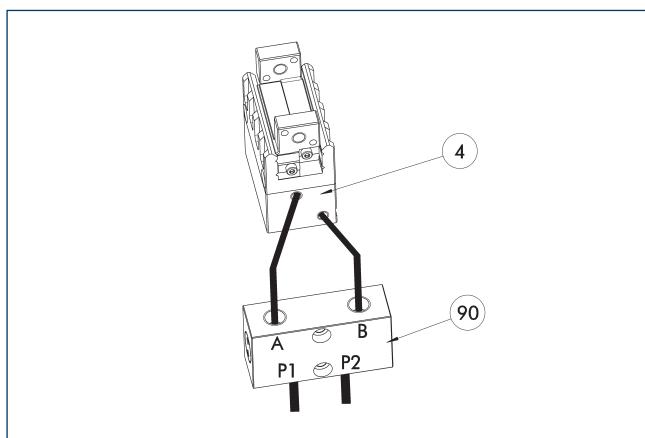
Description	ID
Adapter plate	
APL-MPG-plus 25	0305507

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

MPG-plus 25

Gripper for small components

SDV-P pressure maintenance valve



④ Grippers

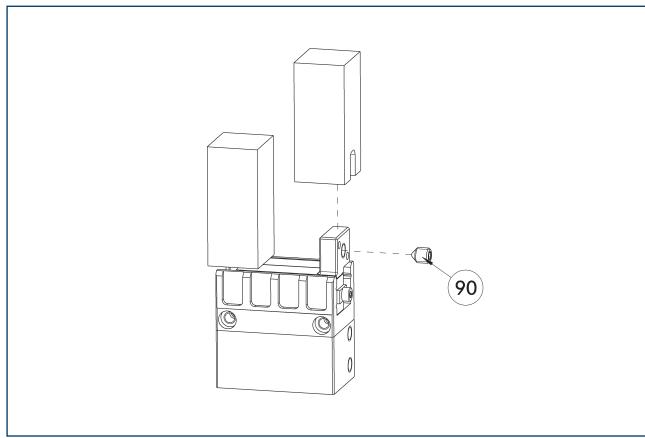
⑨ SDV-P pressure maintenance valve

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

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

- ⓘ 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

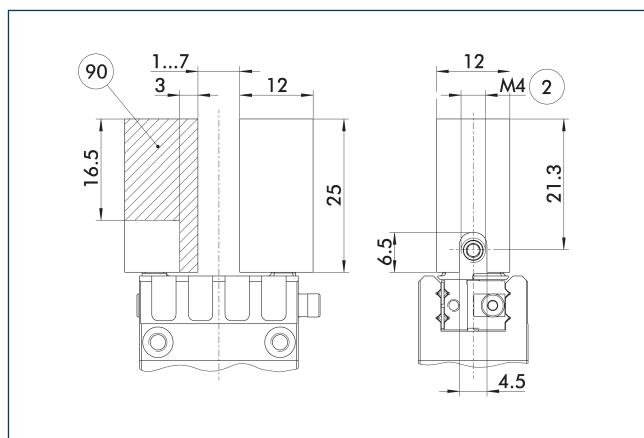


⑨ Included in the jaw quick-change system's scope of delivery

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 with BSWS ABR-BSWS-MPG-plus 25



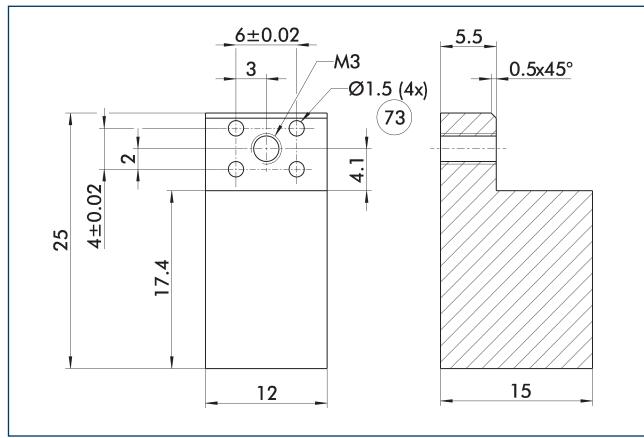
② Finger connection

⑨ 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

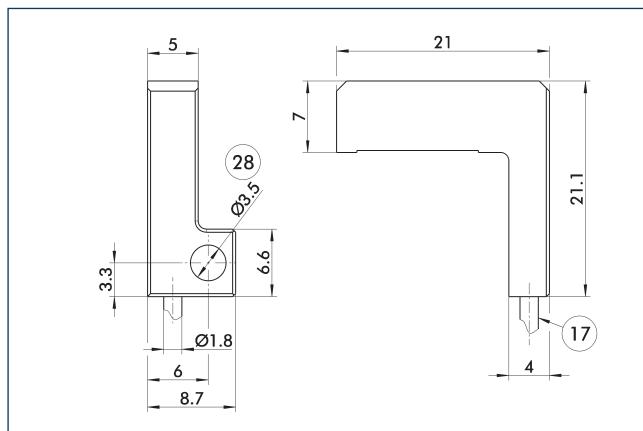
Finger blanks ABR-MPG-plus 25



⑦ Fit for centering pins

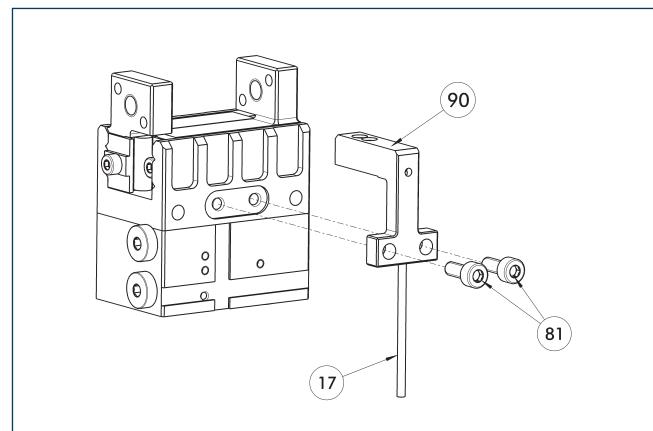
The drawing shows the finger blank which can be reworked by the customer.

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

Object distance sensor OAS-MPG-plus 25**⑯** Cable outlet**㉘** Through-hole

Object distance sensor for detecting a workpiece and for measuring its distance to the gripper.

Description	ID
Object distance sensor	
OAS-MPG-plus 25	0308891

Object distance sensor**⑯** Cable outlet**㉚** OAS

㉛ Not included in the scope of delivery

Optical distance and presence sensor for direct mounting to the gripper. One OAS sensor can be attached per gripper.

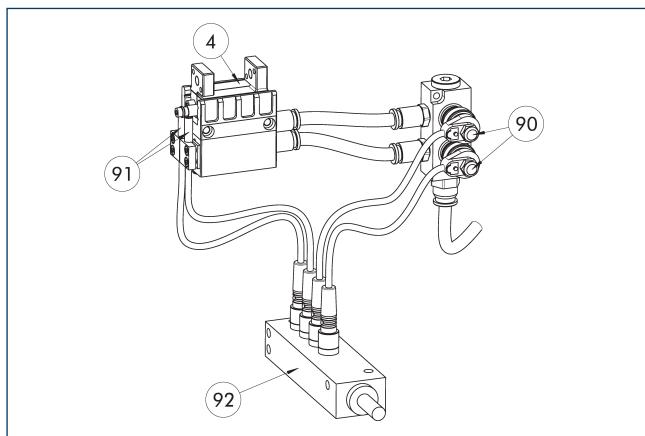
Description	ID
Object distance sensor	
OAS-MPG-plus 25	0308891
Evaluation electronics	
OAS-V09-D	0308865
OAS-V10-A	0308867
OAS-V10-D	0308866

① The evaluation of the OAS can be done with either an analog or digital evaluation unit and with or without a display. The states which should be detected can be easily taught.

MPG-plus 25

Gripper for small components

Attachment valves



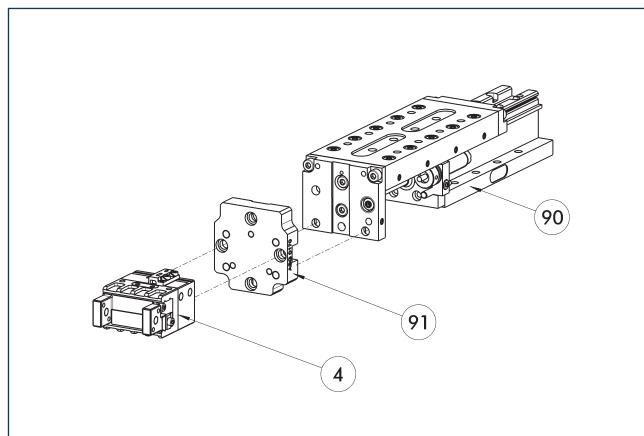
- (4) Grippers
(90) Micro valves
(91) Sensor
(92) Sensor distributor
(93) Y distributor

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.

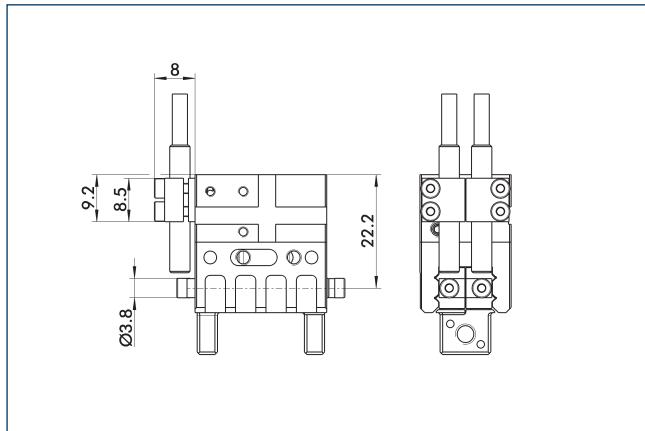
Modular Assembly Automation



- (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

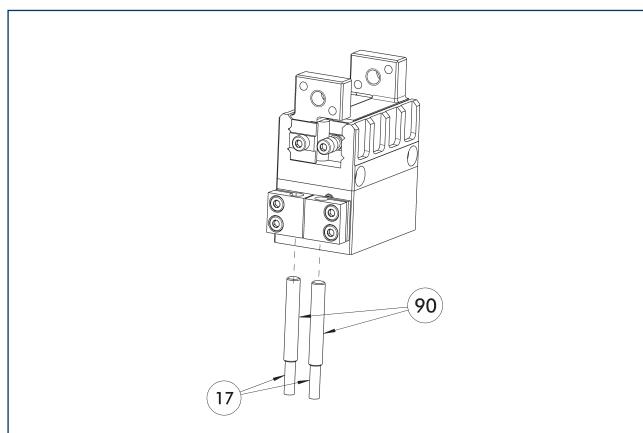


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

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.

IN 40 inductive proximity switches



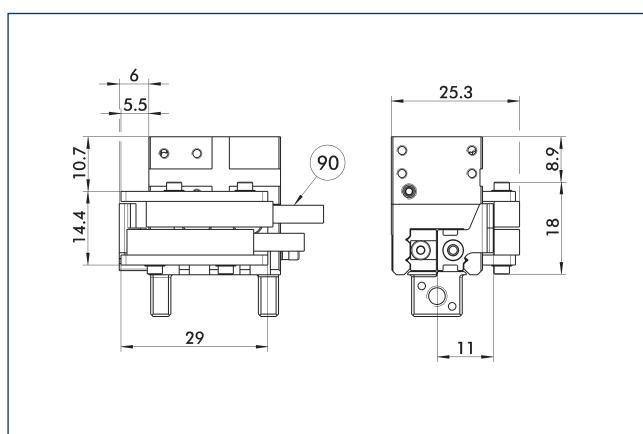
⑯ 17 Cable outlet ⑯ 90 Sensor IN ...

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



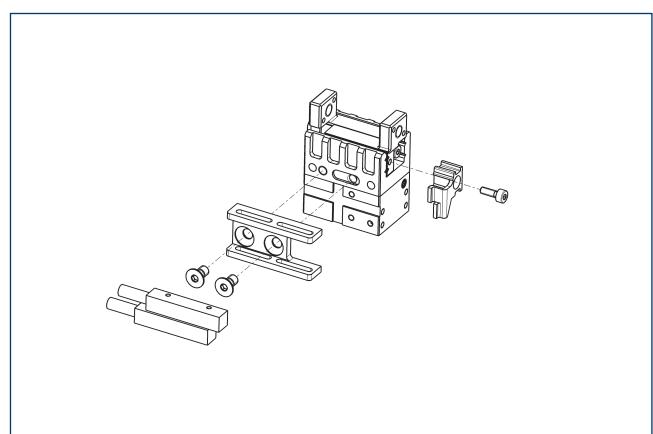
⑯ 90 Sensor IN ...

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 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.

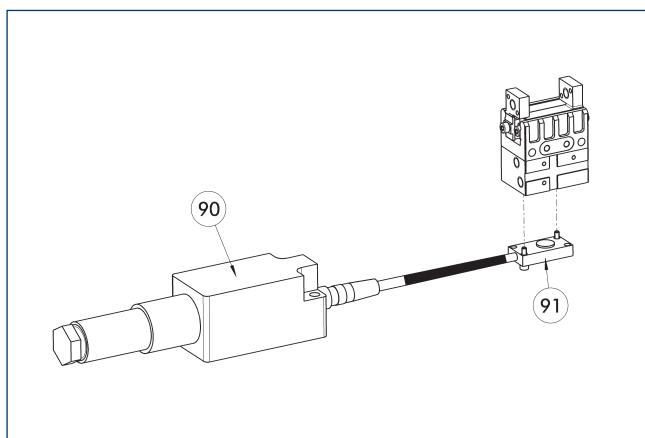
Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 25	0340150	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●

- 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 25

Gripper for small components

Flexible position sensor



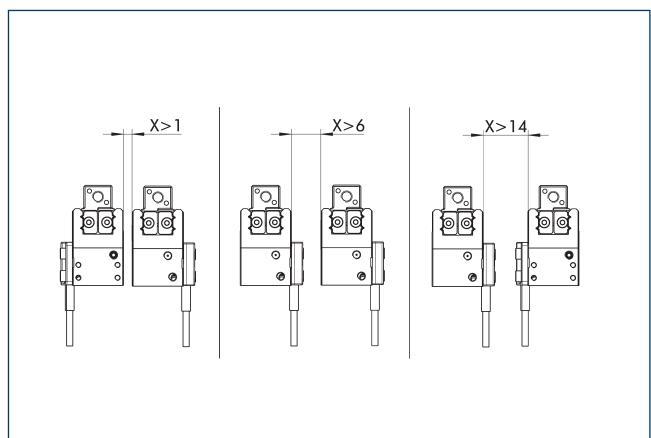
⑩ FPS-F5 evaluation electronic ⑪ FPS-S sensor

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

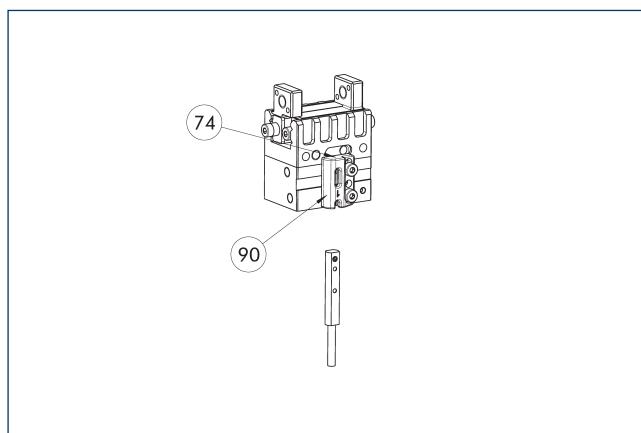
Description	ID	Often combined
Sensor		
FPS-S 13	0301705	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG16-L 12P-1000	0301801	

- 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.

Programmable magnetic switch MMS 22-PI2

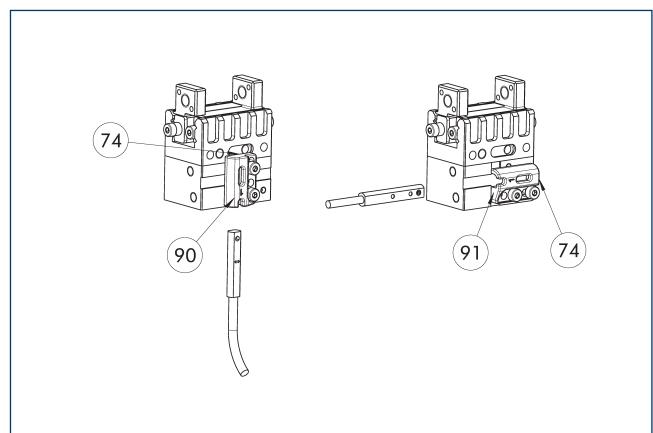
⑦4 Limit stop for sensor

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

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.

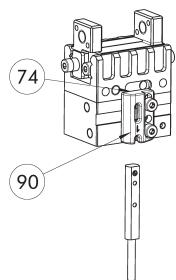
Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XMB-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).

MPG-plus 25

Gripper for small components

MMS-A analog position sensor



⑦4 Limit stop for sensor

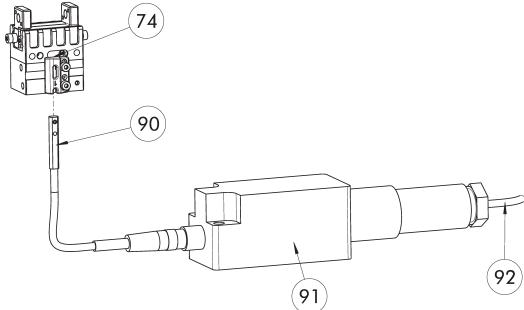
⑨0 Vertical attachment of the bracket

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

Description	ID
Analog position sensor	
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

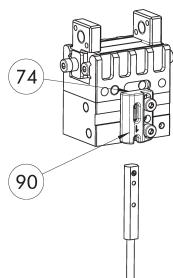
⑨1 FPS-F5 evaluation electronic

⑨2 Connection cables

Flexible position monitoring of up to five positions.

Description	ID
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

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-IOL-M08	0315830
MMS 22-IOL-M12	0315835

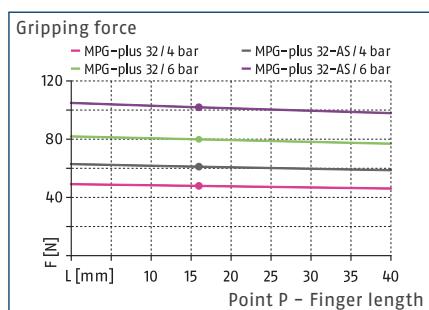
- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

MPG-plus 32

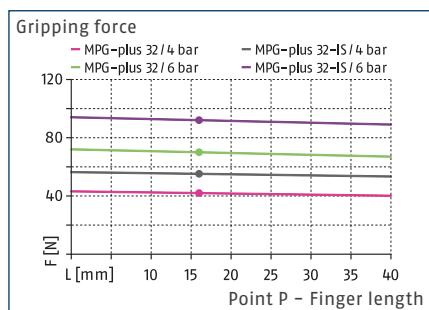
Gripper for small components



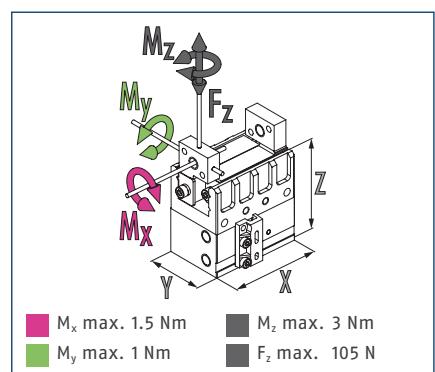
Gripping force O.D. gripping



Gripping force I.D. gripping



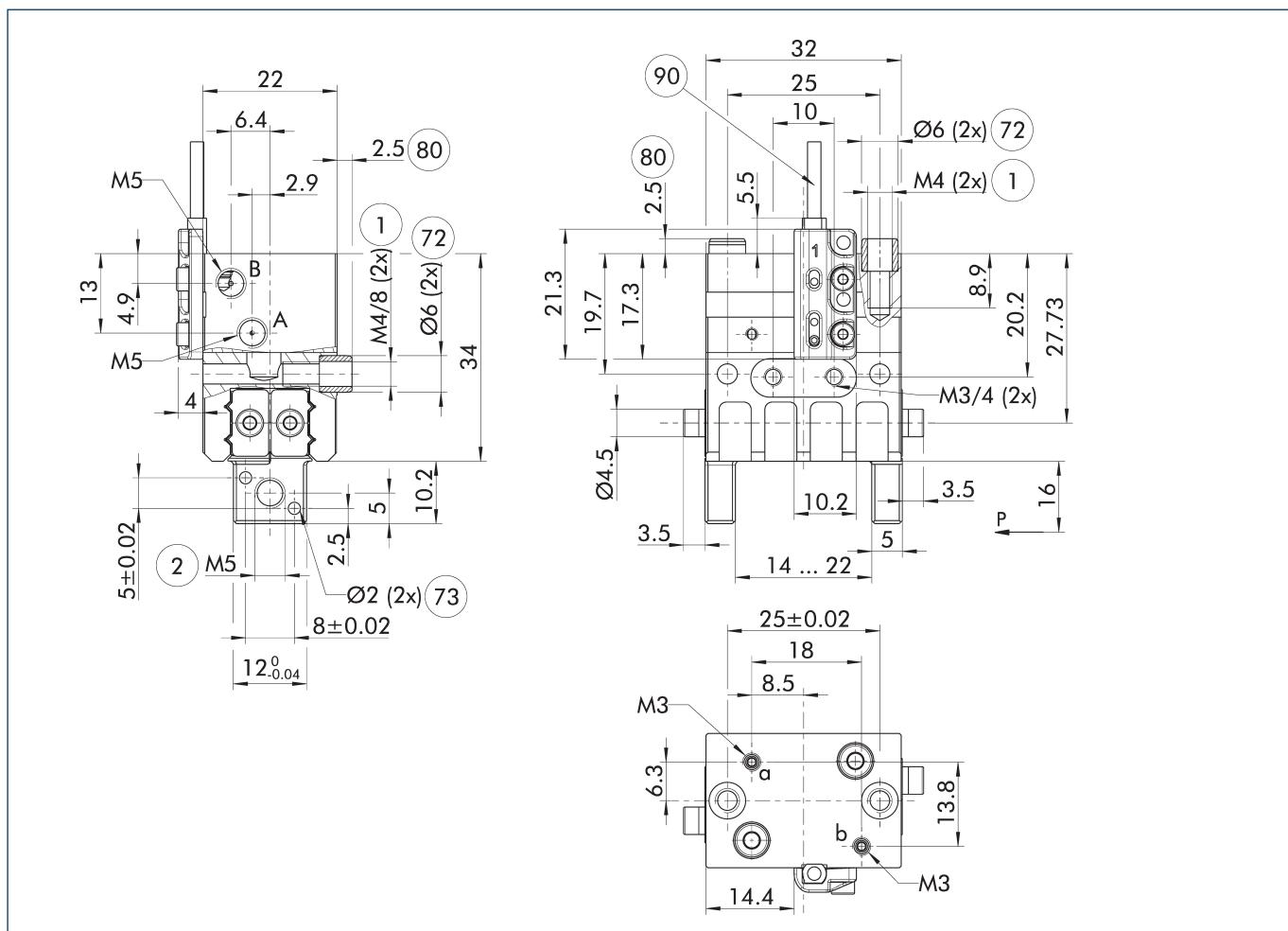
Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	80/70	105/-	-/90
Min. spring force	[N]		25	20
Weight	[kg]	0.1	0.13	0.13
Recommended workpiece weight	[kg]	0.43	0.43	0.43
Fluid consumption double stroke	[cm³]	1.7	4.1	3.5
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.03/0.04	0.04/0.03
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	40	40	40
Max. permissible mass per finger	[kg]	0.04	0.04	0.04
Protection class IP		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	32 x 22 x 34	32 x 22 x 47.3	32 x 22 x 44.8
Options and their characteristics				
High-temperature version		39305511	39305512	39305513
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305516	0305518	0305519

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

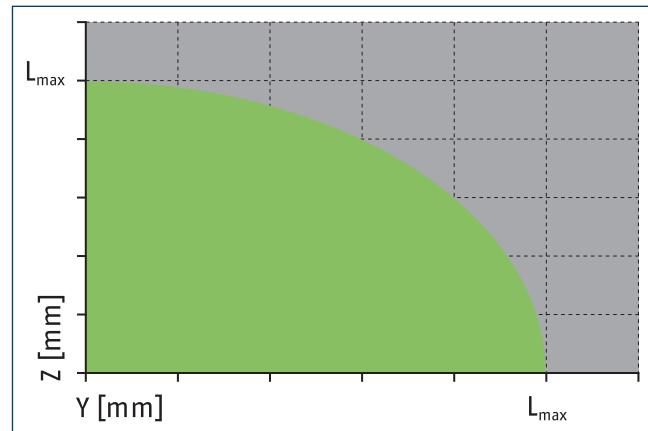
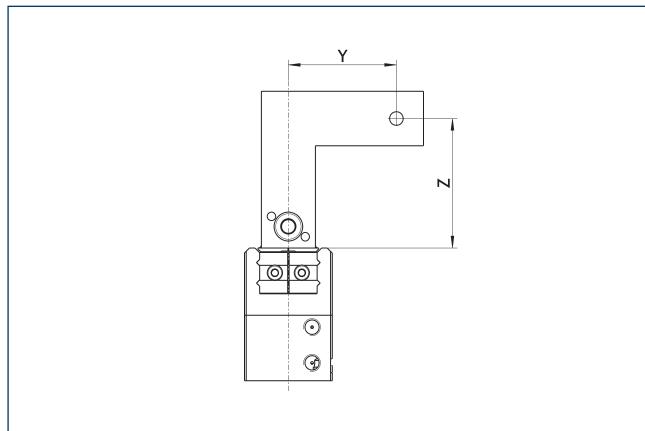
② Finger connection

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

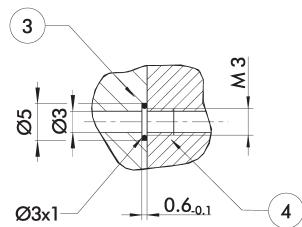
Inadmissible range

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

MPG-plus 32

Gripper for small components

Hose-free direct connection M3

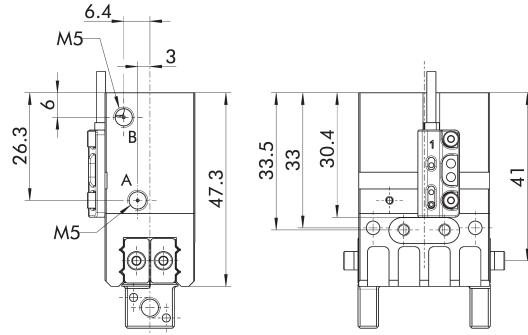


(3) Adapter

(4) Grippers

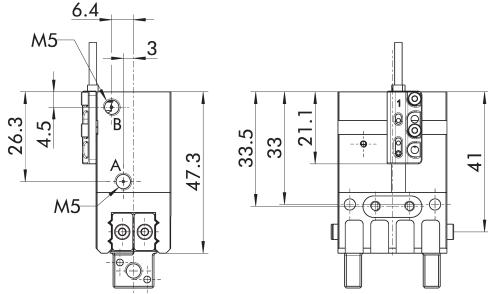
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance AS



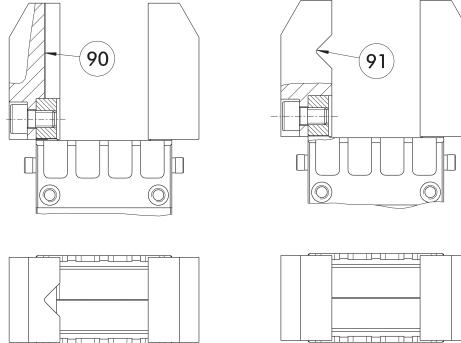
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

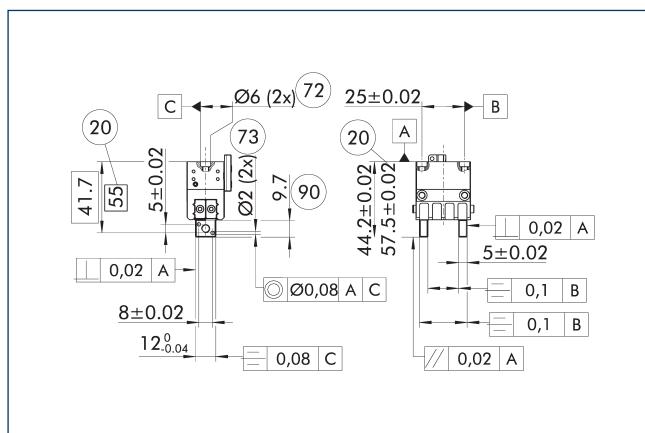
Jaw design



90 Vertically positioned prism

91 Horizontally positioned prism

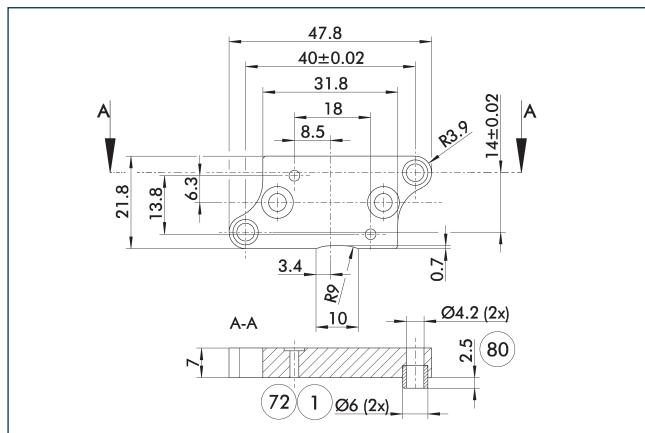
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Precision version

- ⑩ For AS / IS version
 ⑫ Fit for centering sleeves

- ⑬ Fit for centering pins
 ⑯ 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

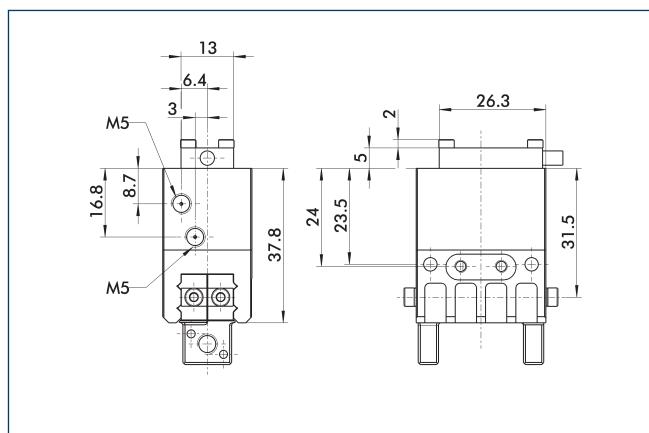
- ① Gripper connection
 ⑫ Fit for centering sleeves

- ⑯ Depth of the centering sleeve hole in the counter part
 ⑭ Fit for centering sleeves

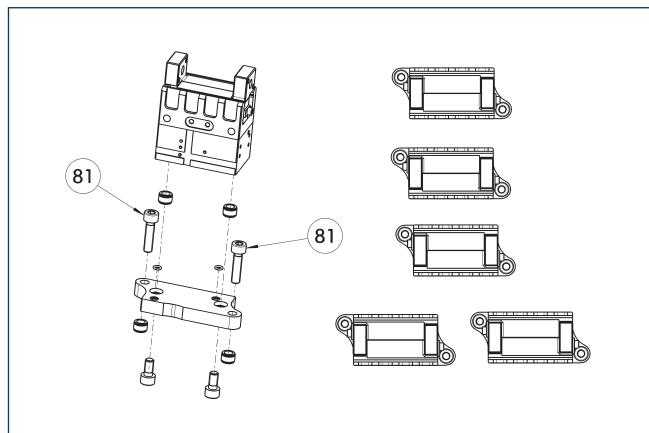
The adapter plate includes an O-ring* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.
 *Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 32	0305517

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

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

- ⑪ 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

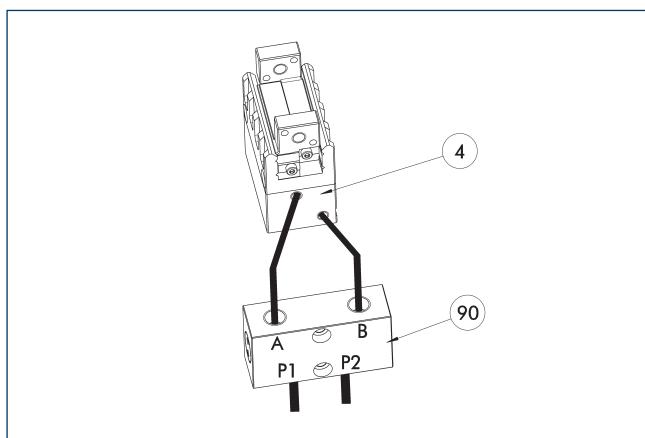
Description	ID
Adapter plate	
APL-MPG-plus 32	0305517

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

MPG-plus 32

Gripper for small components

SDV-P pressure maintenance valve



④ Grippers

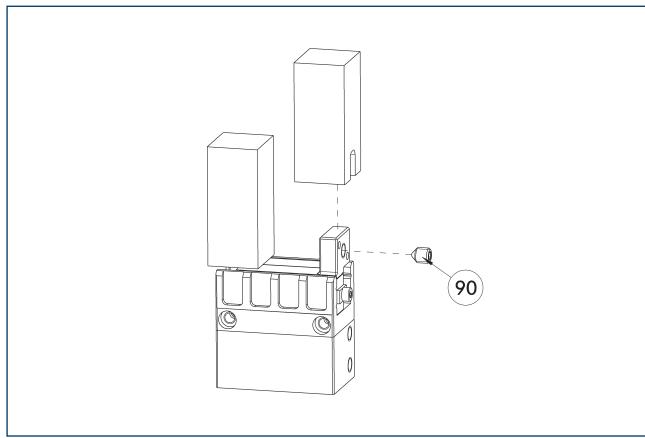
⑨ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 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

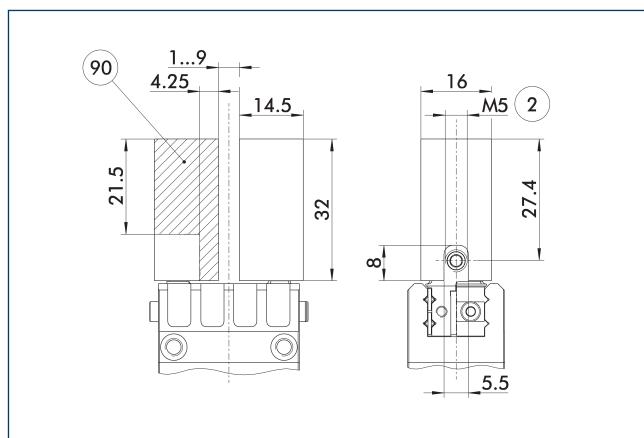


⑨ Included in the jaw quick-change system's scope of delivery

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 with BSWS ABR-BSWS-MPG-plus 32



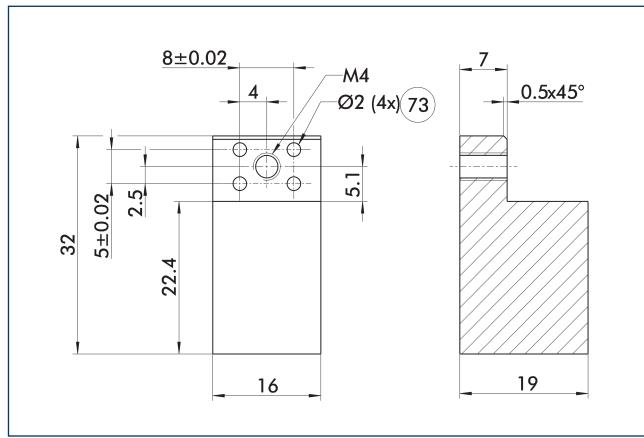
② Finger connection

⑨ 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

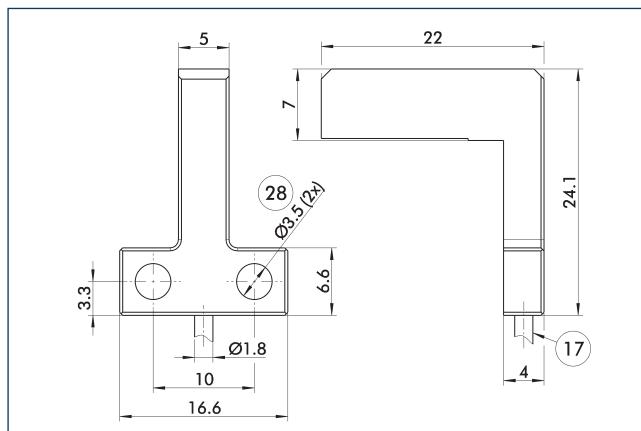
Finger blanks ABR-MPG-plus 32



⑦ 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	2

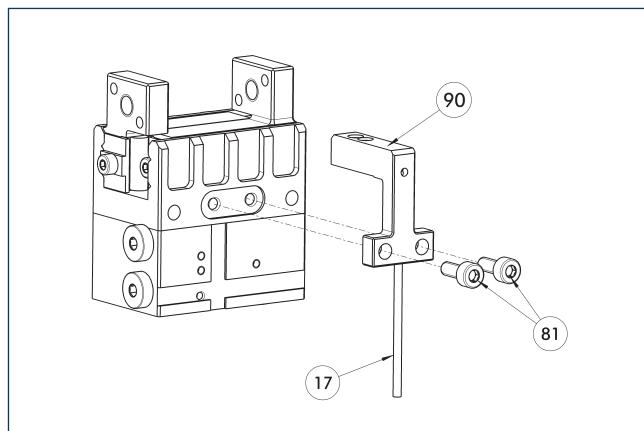
Object distance sensor OAS-MPG-plus 32

(17) Cable outlet

(28) Through-hole

Object distance sensor for detecting a workpiece and for measuring its distance to the gripper.

Description	ID
Object distance sensor	
OAS-MPG-plus 32	0308892

Object distance sensor

(17) Cable outlet

(90) OAS

(81) Not included in the scope of delivery

Optical distance and presence sensor for direct mounting to the gripper. One OAS sensor can be attached per gripper.

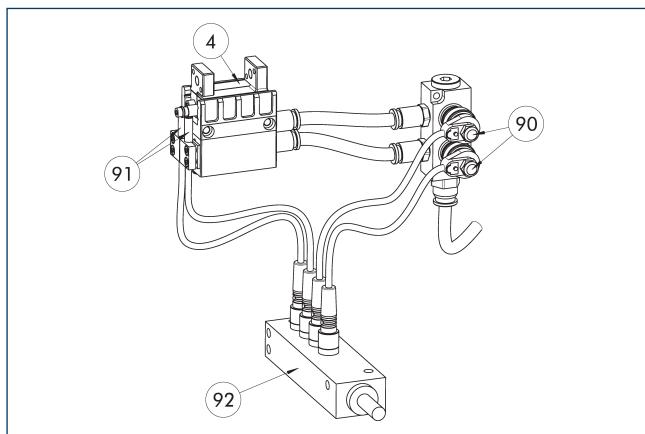
Description	ID
Object distance sensor	
OAS-MPG-plus 32	0308892
Evaluation electronics	
OAS-V09-D	0308865
OAS-V10-A	0308867
OAS-V10-D	0308866

① The evaluation of the OAS can be done with either an analog or digital evaluation unit and with or without a display. The states which should be detected can be easily taught.

MPG-plus 32

Gripper for small components

Attachment valves



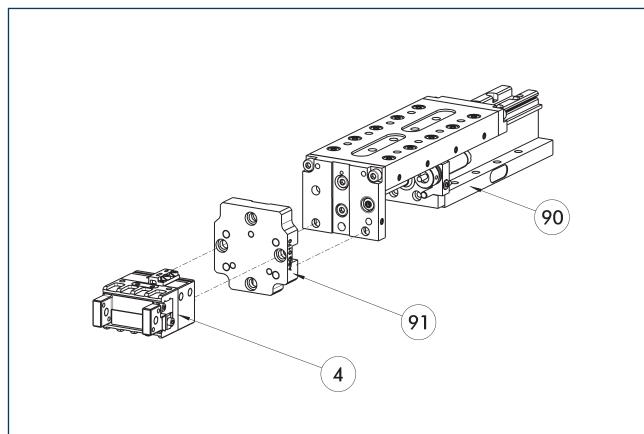
- (4) Grippers
(90) Micro valves
(91) Sensor
(92) Sensor distributor
(93) Y distributor

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.

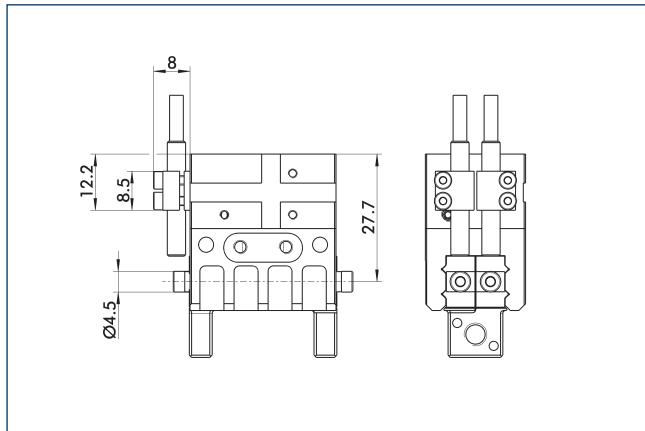
Modular Assembly Automation



- (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

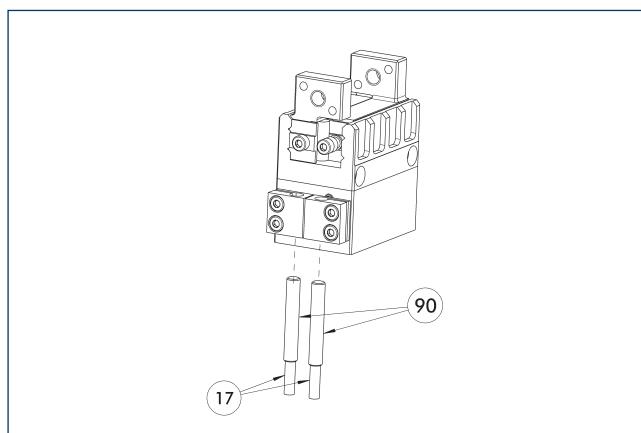


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

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.

IN 40 inductive proximity switches



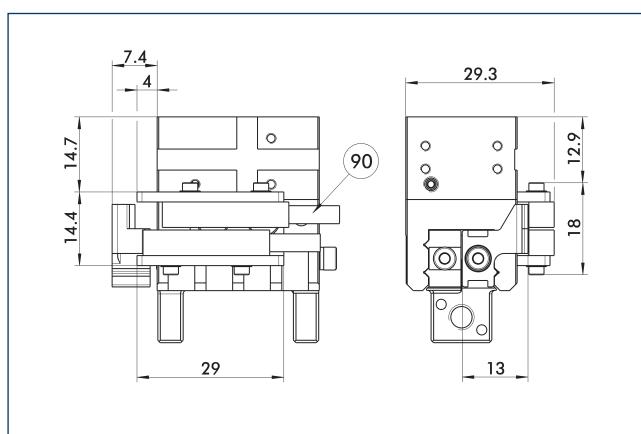
17 Cable outlet 90 Sensor IN ...

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



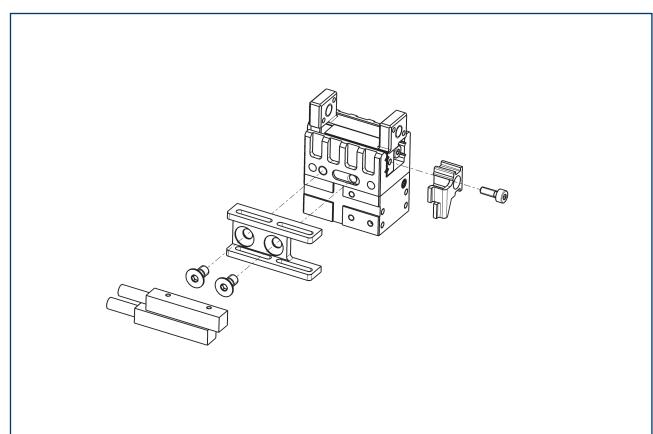
90 Sensor IN ...

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

Description	ID	Often combined
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.

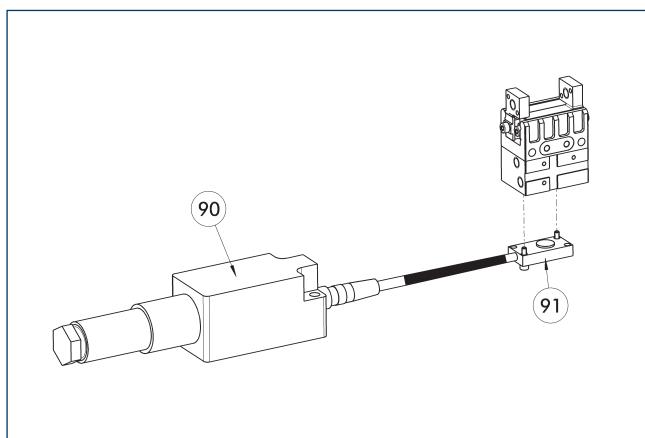
Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 32	0340151	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●

- 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 32

Gripper for small components

Flexible position sensor



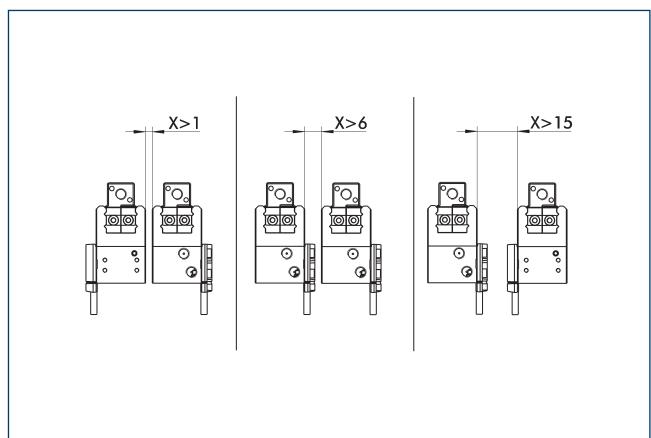
90 FPS-F5 evaluation electronic 91 FPS-S sensor

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

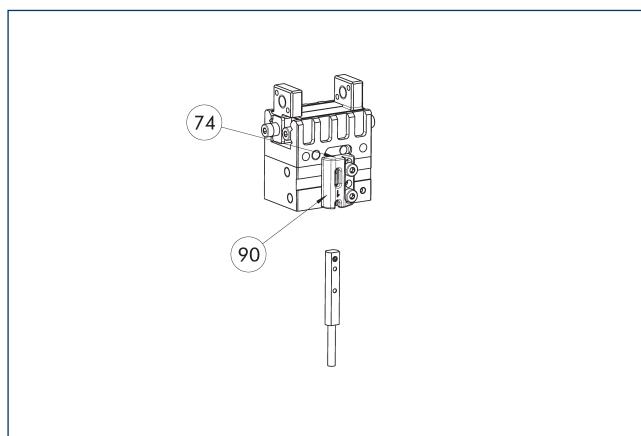
Description	ID	Often combined
Sensor		
FPS-S 13	0301705	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG16-L 12P-1000	0301801	

- 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.

Programmable magnetic switch MMS 22-PI2

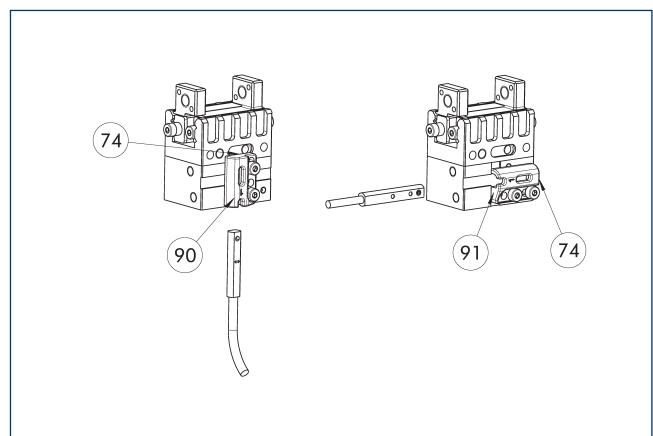
⑦4 Limit stop for sensor

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

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.

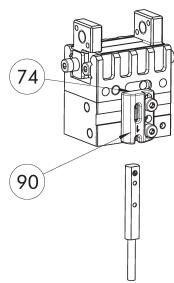
Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XMB-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).

MPG-plus 32

Gripper for small components

MMS-A analog position sensor



⑦4 Limit stop for sensor

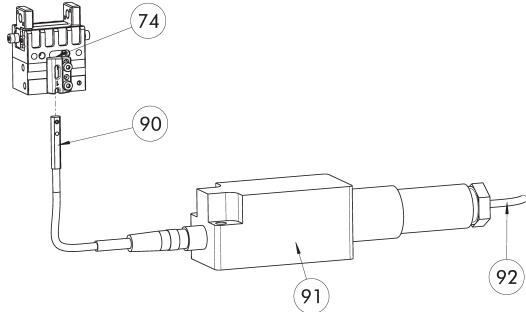
⑨0 Vertical attachment of the bracket

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

Description	ID
Analog position sensor	
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

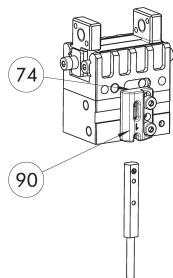
⑨1 FPS-F5 evaluation electronic

⑨2 Connection cables

Flexible position monitoring of up to five positions.

Description	ID
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

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-IOL-M08	0315830
MMS 22-IOL-M12	0315835

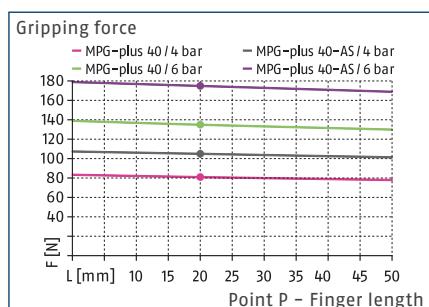
- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

MPG-plus 40

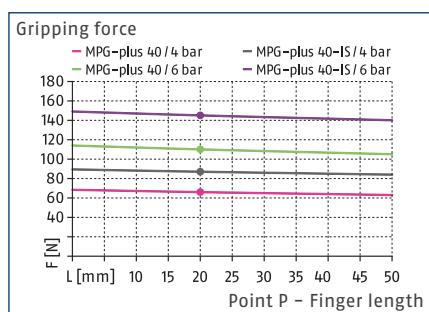
Gripper for small components



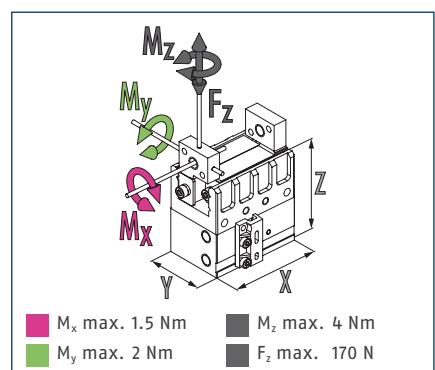
Gripping force O.D. gripping



Gripping force I.D. gripping



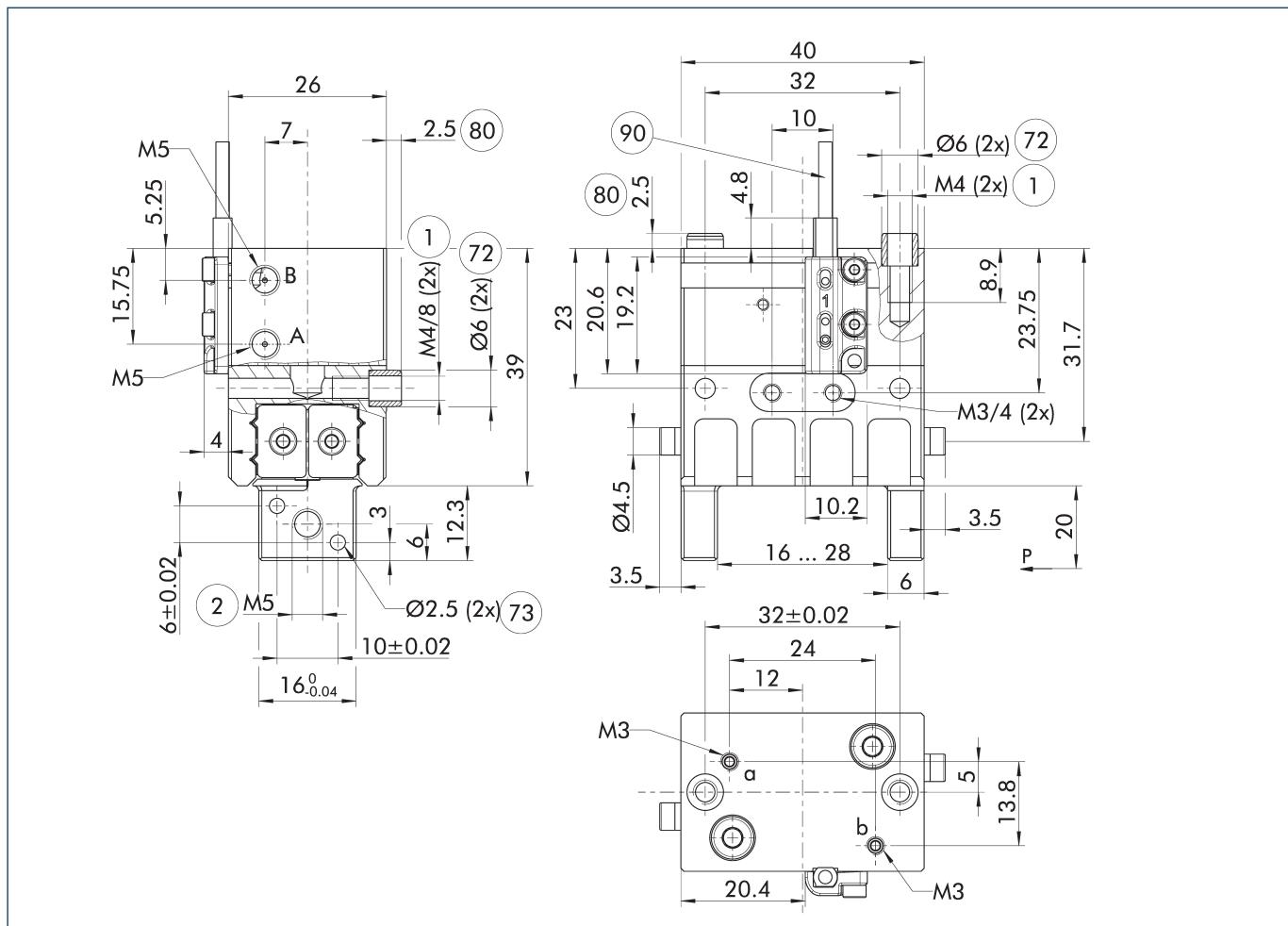
Dimensions and maximum loads



ⓘ The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	135/110	170/-
Min. spring force	[N]		35
Weight	[kg]	0.18	0.24
Recommended workpiece weight	[kg]	0.7	0.7
Fluid consumption double stroke	[cm³]	4.1	10.7
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5
Closing/opening time	[s]	0.04/0.04	0.045/0.075
Closing/opening time with spring	[s]		0.20
Max. permissible finger length	[mm]	50	50
Max. permissible mass per finger	[kg]	0.08	0.08
Protection class IP		30	30
Min./max. ambient temperature	[°C]	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02
Dimensions X x Y x Z	[mm]	40 x 26 x 39	40 x 26 x 63.75
Options and their characteristics			
High-temperature version		39305521	39305522
Min./max. ambient temperature	[°C]	5/100	5/100
Precision version		0305526	0305528

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

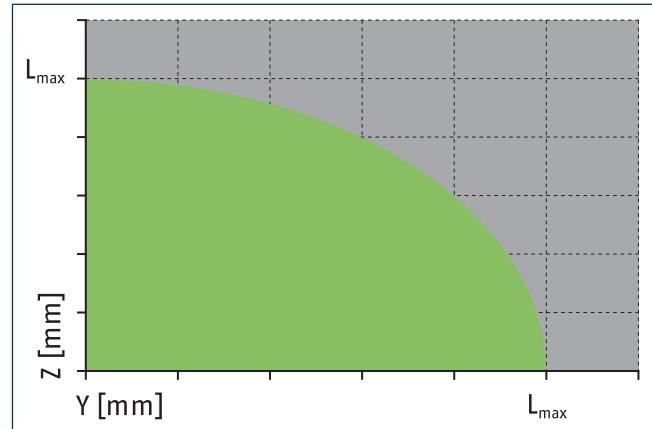
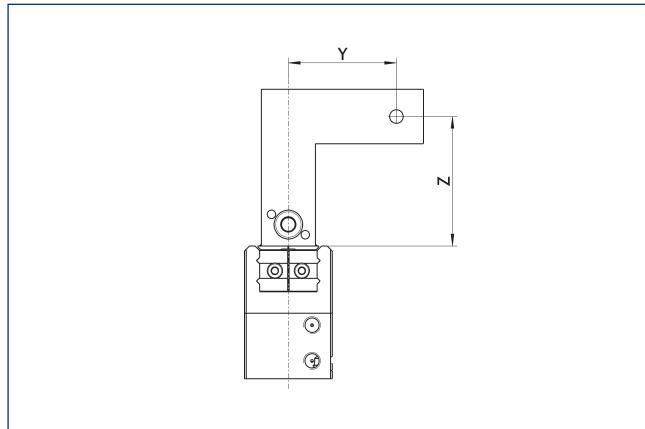
② Finger connection

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

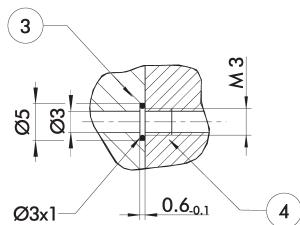
Inadmissible range

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

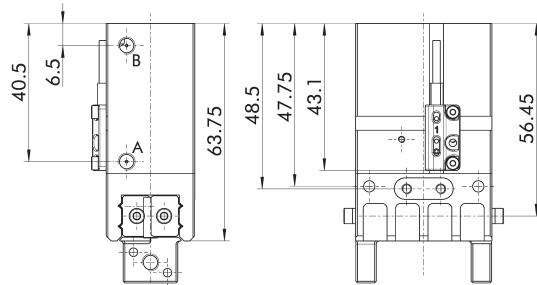


③ Adapter

④ Grippers

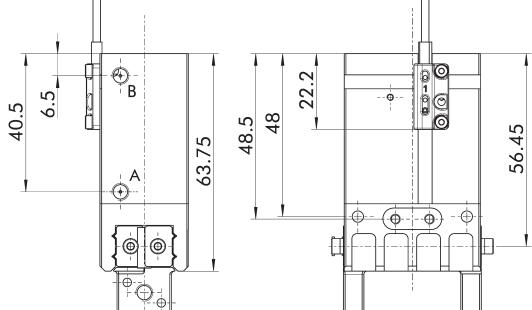
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate. This acts as closing force in the AS / S version, and as opening force in the IS version.

Gripping force maintenance AS



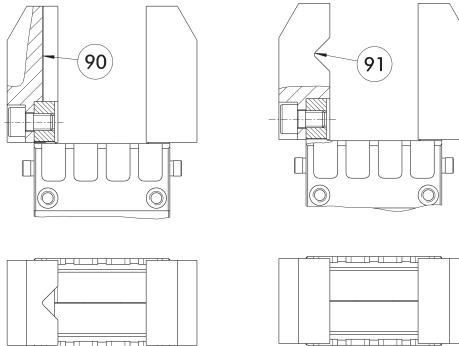
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

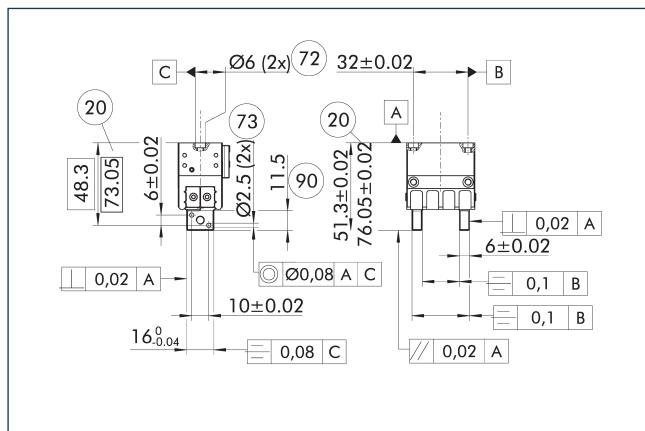
Jaw design



⑩ Vertically positioned prism

⑪ Horizontally positioned prism

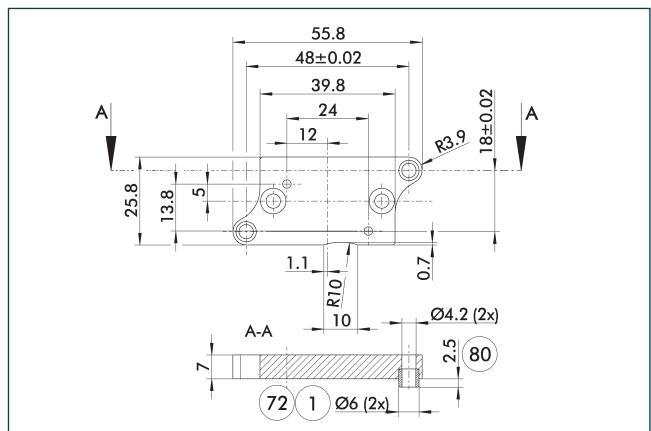
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Precision version

- ⑩ For AS / IS version
⑫ Fit for centering sleeves

- ⑦ Fit for centering pins
⑨ 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.

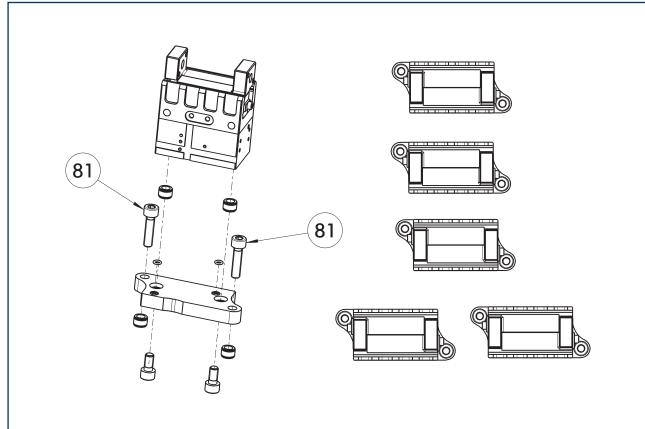
Adapter plate

- ① Gripper connection
⑫ Fit for centering sleeves
⑧ 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.

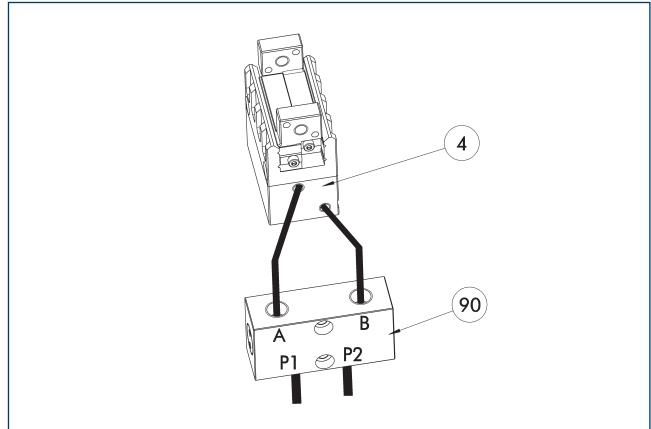
Adapter plate

- ⑪ 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.

SDV-P pressure maintenance valve

- ④ Grippers
⑨ SDV-P pressure maintenance valve

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

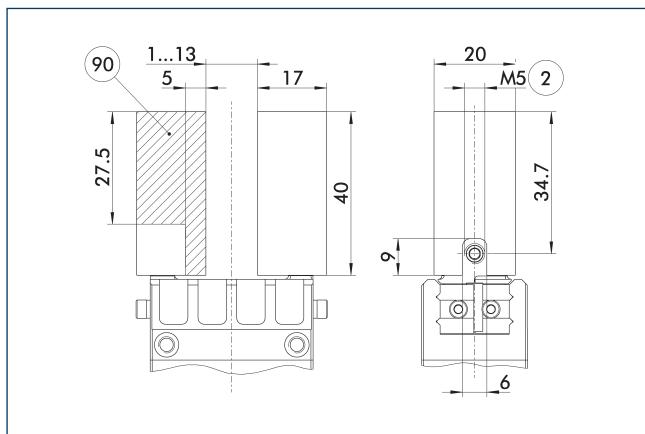
Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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 40

Gripper for small components

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



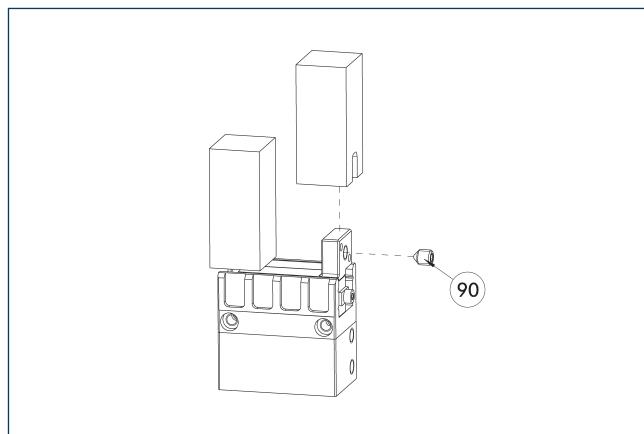
② Finger connection

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 40	0302896	2

Finger blanks with BSWS

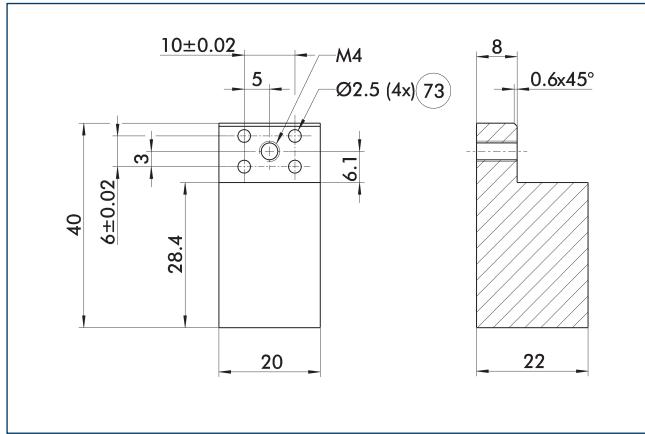


⑨0 Included in the jaw quick-change system's scope of delivery

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 40	0302896	2

Finger blanks ABR-MPG-plus 40

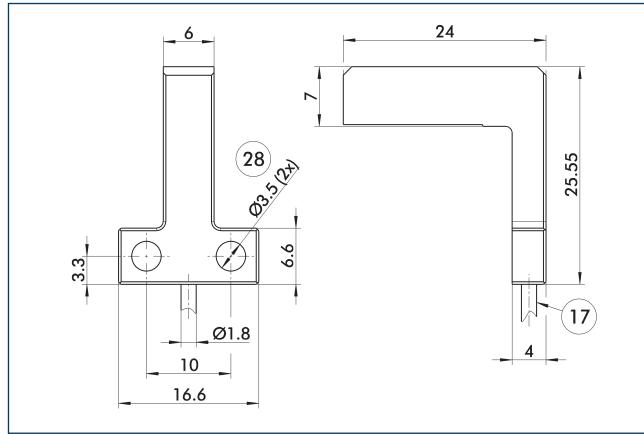


73 Fit for centering pins

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	2

Object distance sensor OAS-MPG-plus 40



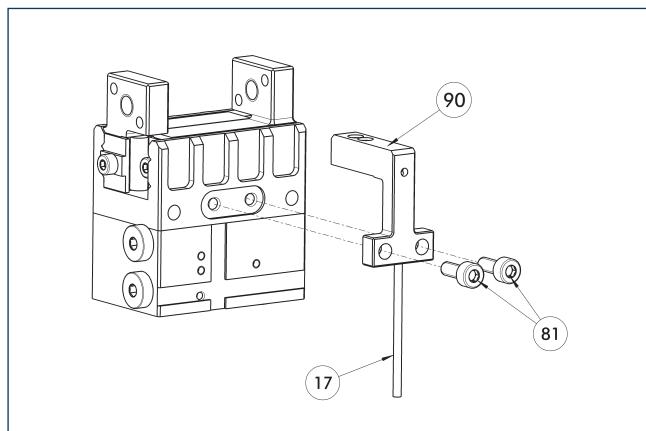
⑯ Cable outlet

⑰ Through-hole

Object distance sensor for detecting a workpiece and for measuring its distance to the gripper.

Description	ID
Object distance sensor OAS-MPG-plus 40	0308893

Object distance sensor



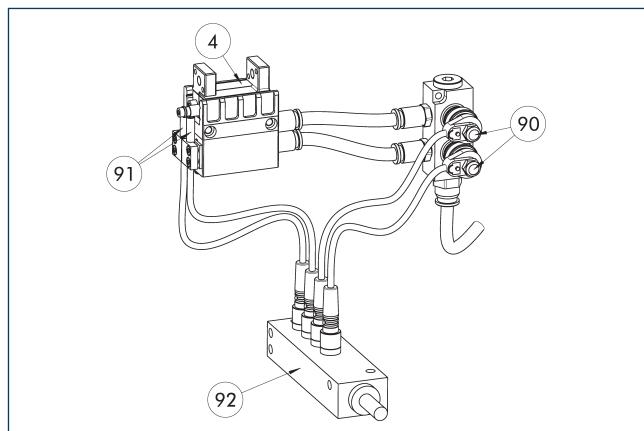
- ⑯ Cable outlet
 ⑯ OAS
 ⑯ Not included in the scope of delivery

Optical distance and presence sensor for direct mounting to the gripper. One OAS sensor can be attached per gripper.

Description	ID	
Object distance sensor		
OAS-MPG-plus 40	0308893	
Evaluation electronics		
OAS-V09-D	0308865	
OAS-V10-A	0308867	
OAS-V10-D	0308866	

- ① The evaluation of the OAS can be done with either an analog or digital evaluation unit and with or without a display. The states which should be detected can be easily taught.

Attachment valves



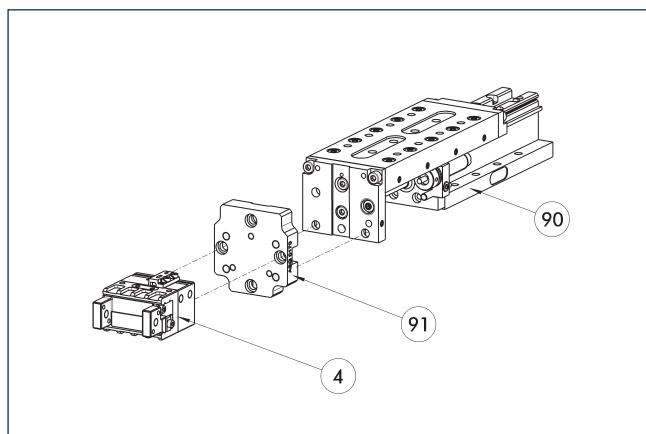
- ④ Grippers
 ⑯ Micro valves
 ⑯ Sensor
 ⑯ Sensor distributor
 ⑯ Y distributor

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.

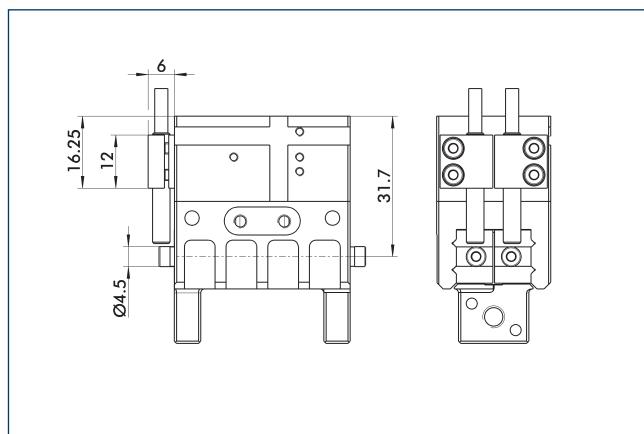
Modular Assembly Automation



- ④ Grippers
 ⑯ CLM/KLM/LM/ELP/ELM/ELS/HLM
 linear modules
 ⑯ 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.

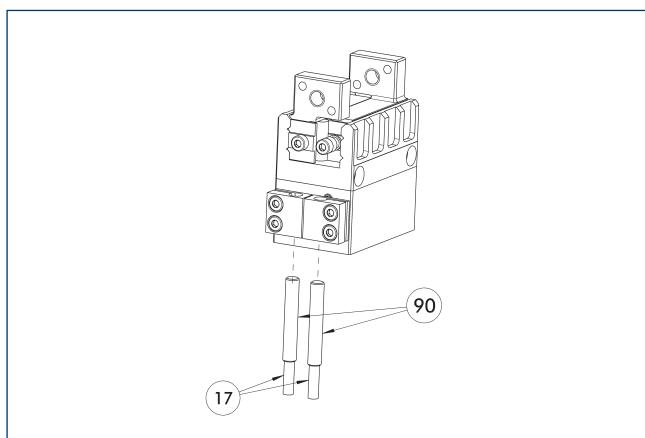
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 40	0305525	

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

MPG-plus 40

Gripper for small components

IN 40 inductive proximity switches



⑯ Cable outlet

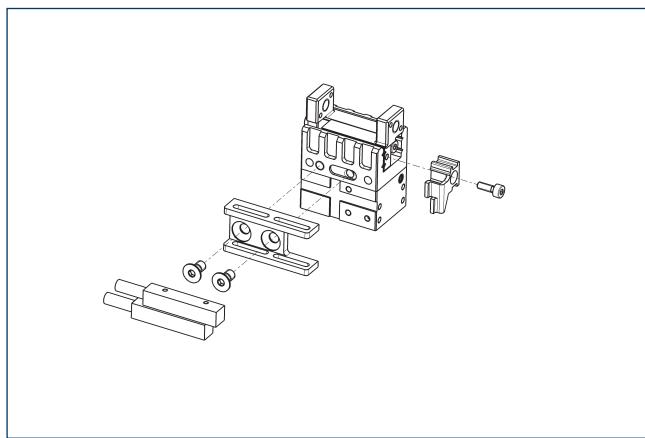
⑯ Sensor IN ...

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.

IN 5 inductive proximity switches

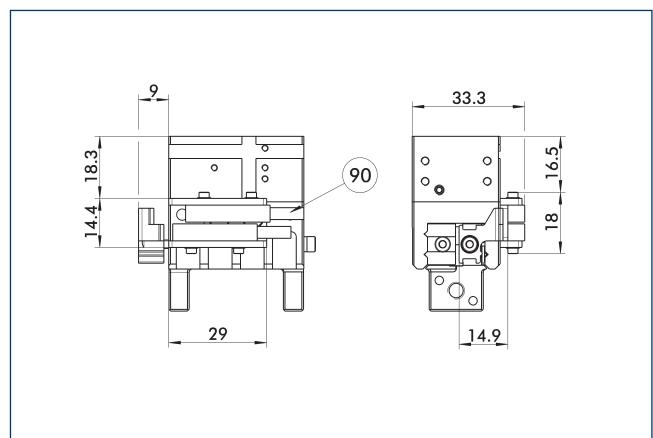


End position monitoring can be mounted with an attachment kit.

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	●

- 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



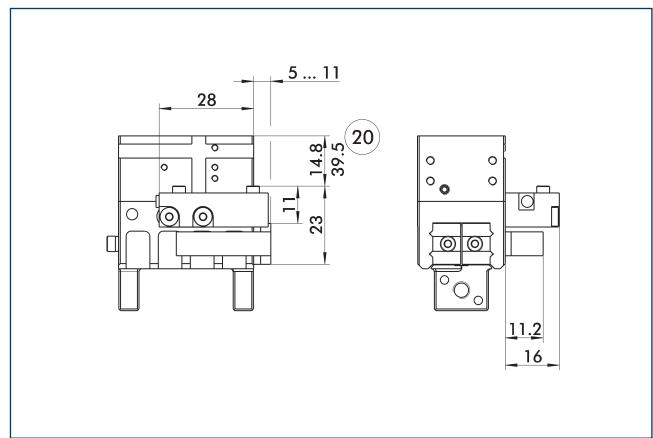
⑯ Sensor IN ...

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 40

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

Attachment kit for FPS



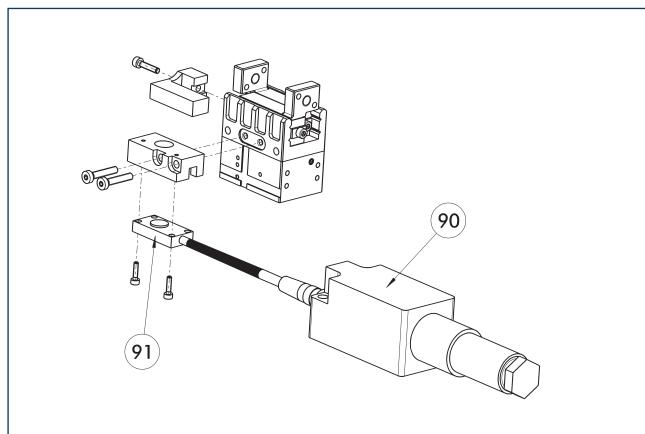
⑯ For AS / IS version

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

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

Flexible position sensor



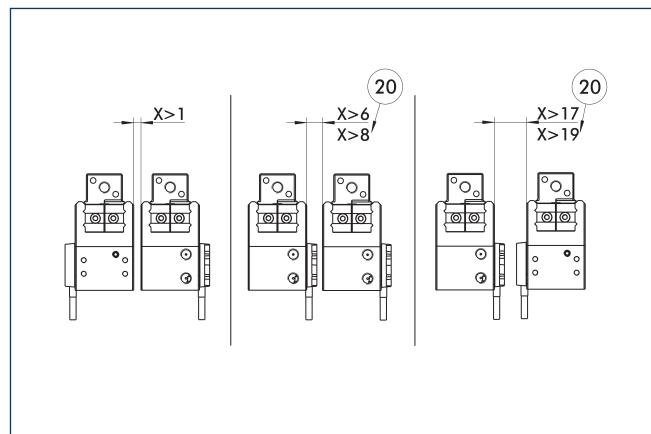
⑩ FPS-F5 evaluation electronic ⑪ FPS-S sensor

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	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●

- 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



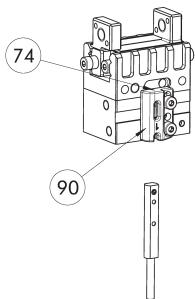
⑯ For AS / IS version

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

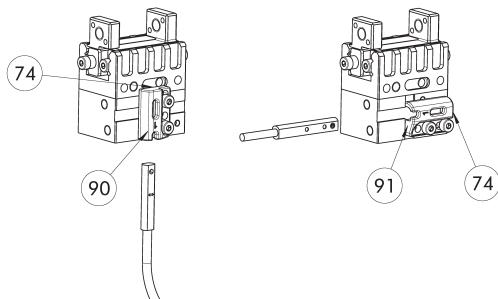
90 Vertical attachment of the bracket

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

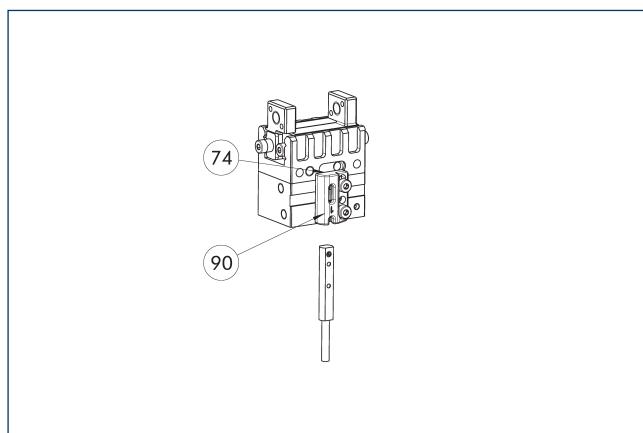
90 Vertical attachment of the bracket

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
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XMB-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

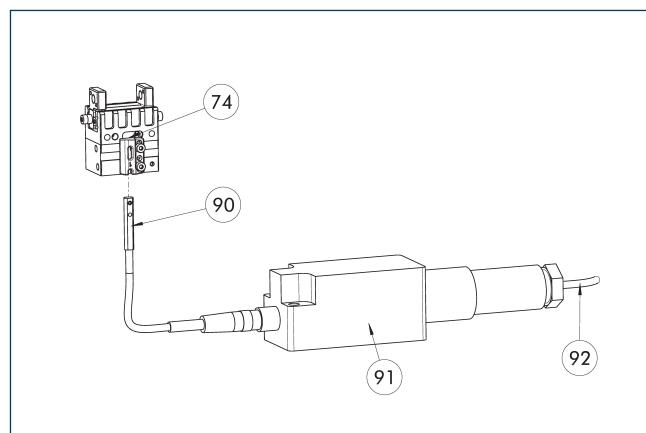
⑦ Limit stop for sensor

⑨ Vertical attachment of the bracket

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

Description	ID
Analog position sensor	
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

⑦ Limit stop for sensor

⑨ MMS 22-A-... sensor

⑩ FPS-F5 evaluation electronic

⑪ Connection cables

Flexible position monitoring of up to five positions.

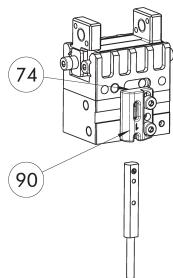
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

- 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."

MPG-plus 40

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-IOL-M08	0315830
MMS 22-IOL-M12	0315835

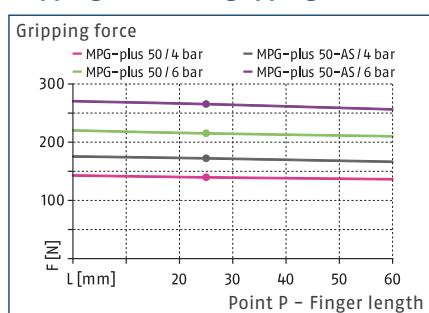
- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

MPG-plus 50

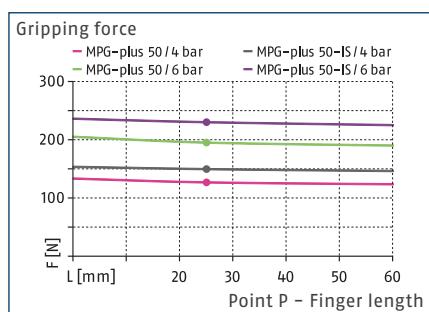
Gripper for small components



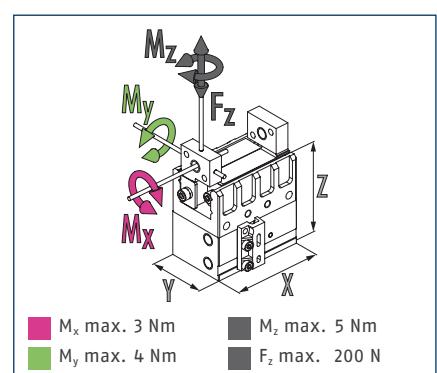
Gripping force O.D. gripping



Gripping force I.D. gripping



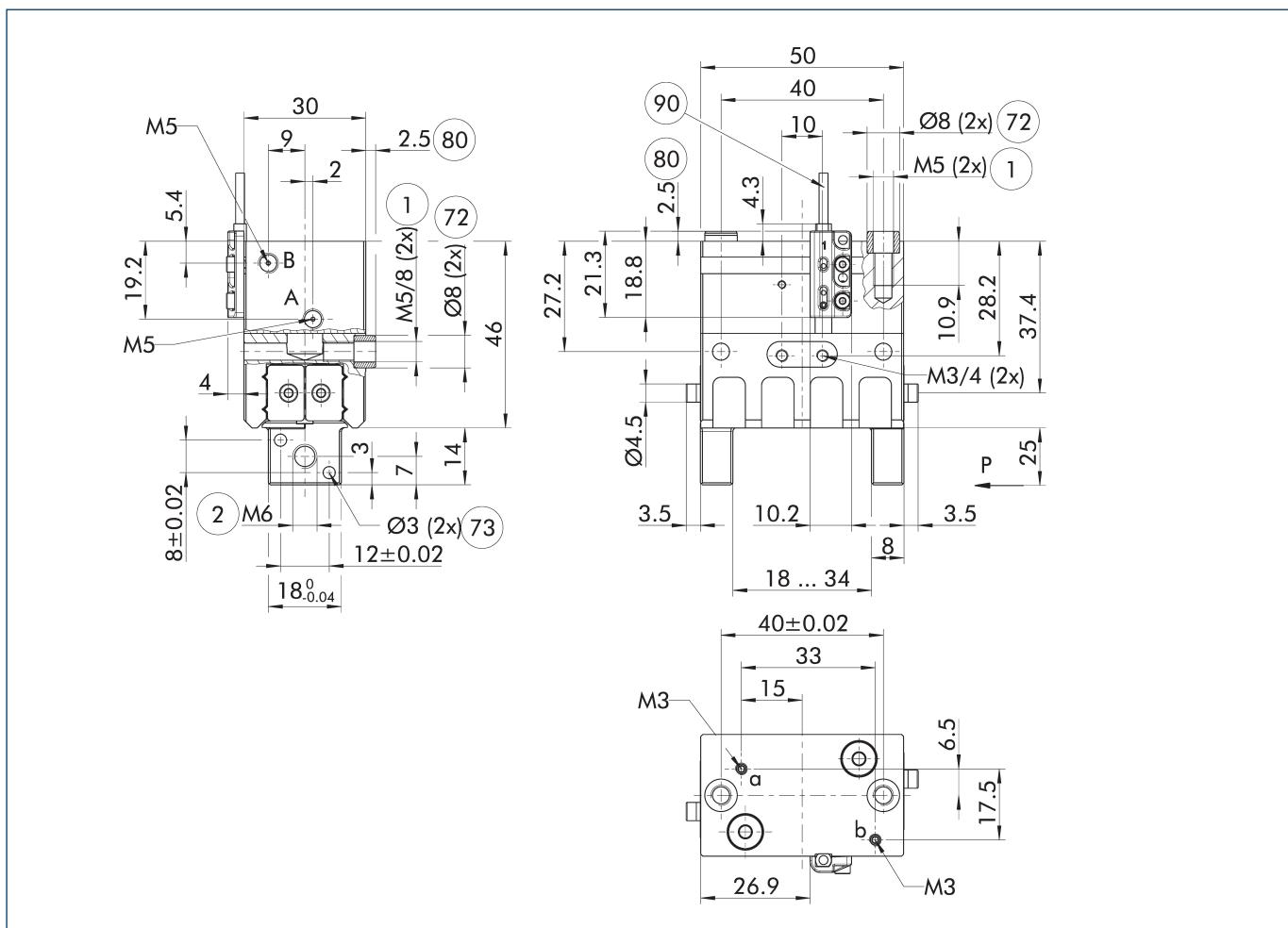
Dimensions and maximum loads



ⓘ The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	215/195	265/-
Min. spring force	[N]		50
Weight	[kg]	0.31	0.37
Recommended workpiece weight	[kg]	1.05	1.05
Fluid consumption double stroke	[cm ³]	8	17
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5
Closing/opening time	[s]	0.04/0.04	0.045/0.075
Closing/opening time with spring	[s]		0.30
Max. permissible finger length	[mm]	64	64
Max. permissible mass per finger	[kg]	0.14	0.14
Protection class IP		30	30
Min./max. ambient temperature	[°C]	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02
Dimensions X x Y x Z	[mm]	50 x 30 x 46	50 x 30 x 65.3
Options and their characteristics			
High-temperature version		39305531	39305532
Min./max. ambient temperature	[°C]	5/100	5/100
Precision version		0305536	0305538

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

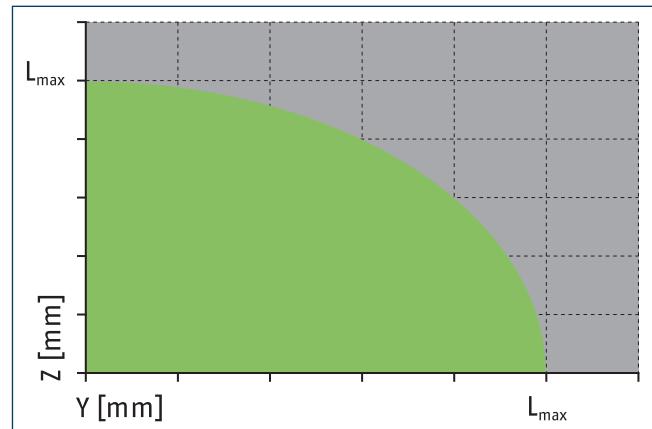
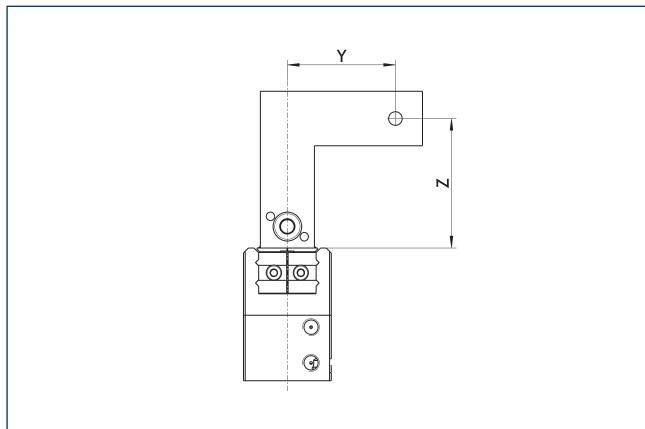
② Finger connection

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

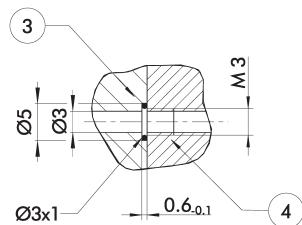
Inadmissible range

L^{\max} is equivalent to the maximum permitted finger length, see the technical data table.

MPG-plus 50

Gripper for small components

Hose-free direct connection M3

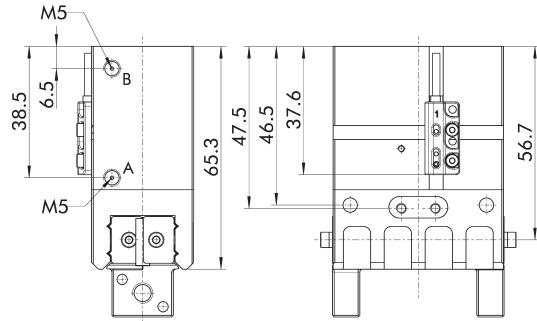


(3) Adapter

(4) Grippers

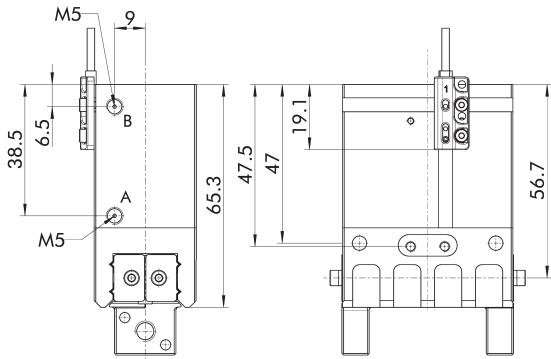
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance AS



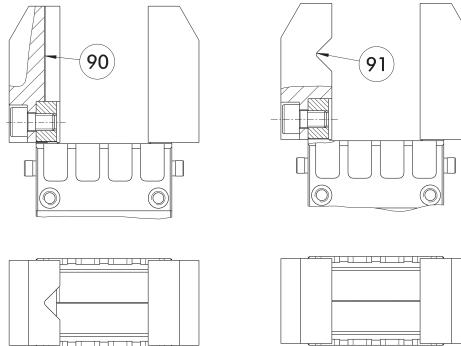
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

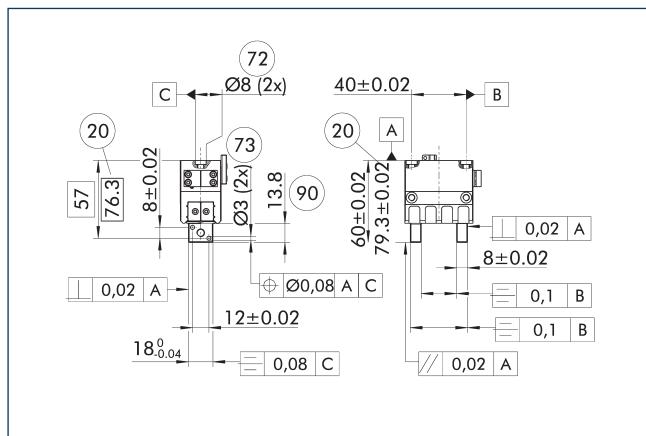


90 Vertically positioned prism

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.

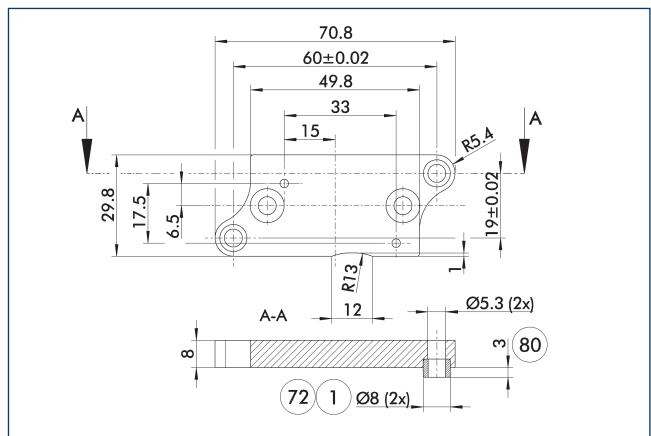
Precision version



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

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 | ⑧0 Depth of the centering sleeve
hole in the counter part |
| ⑦2 Fit for centering sleeves | |

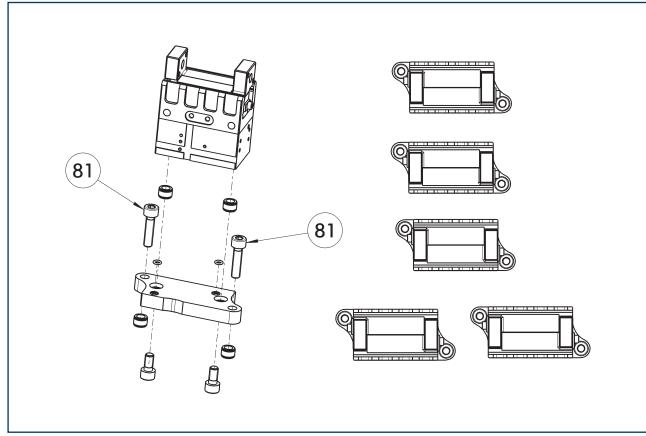
The adapter plate includes an O-ring* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.
*Optional only with pneumatic actuators

Description	ID	
-------------	----	--

Description	ID
Adapter plate APL-MPG-plus 50	0305537

⑤ The adapter plate is a separately ordered, optional accessory.

Adapter plate



- 81 Not included in the scope of delivery

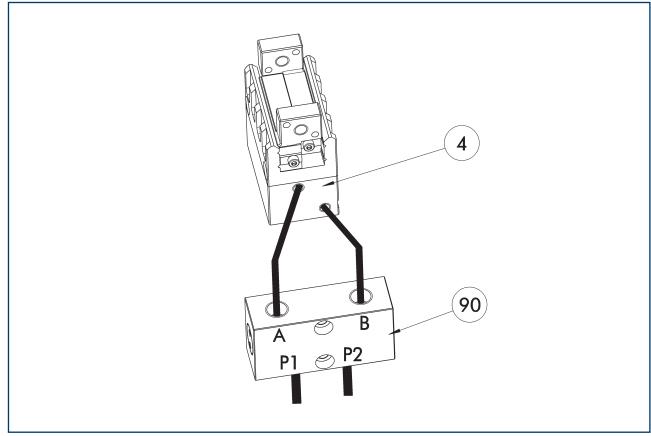
The adapter plate includes an O-ring* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.
*Optional only with pneumatic actuators

Project ID: 123456

Description	ID
Adapter plate	
APL-MPG-plus 50	0305537

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

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.

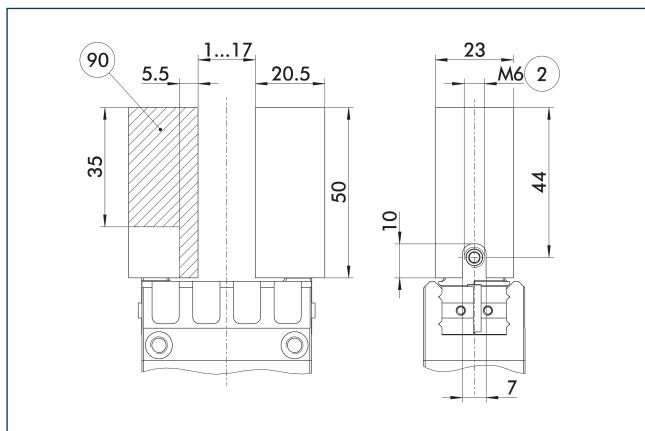
Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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



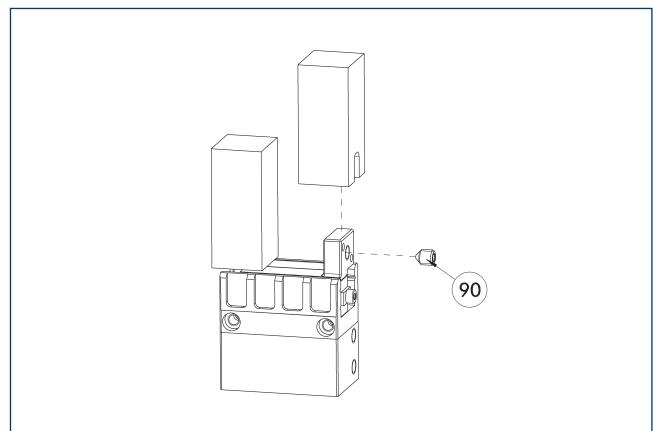
② Finger connection

⑨〇 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

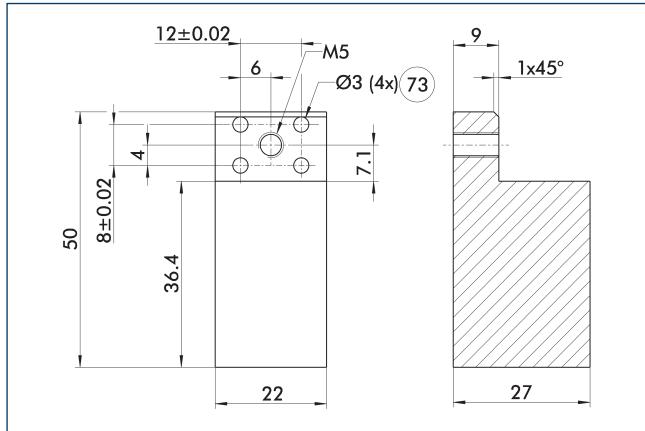


⑨〇 Included in the jaw quick-change system's scope of delivery

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

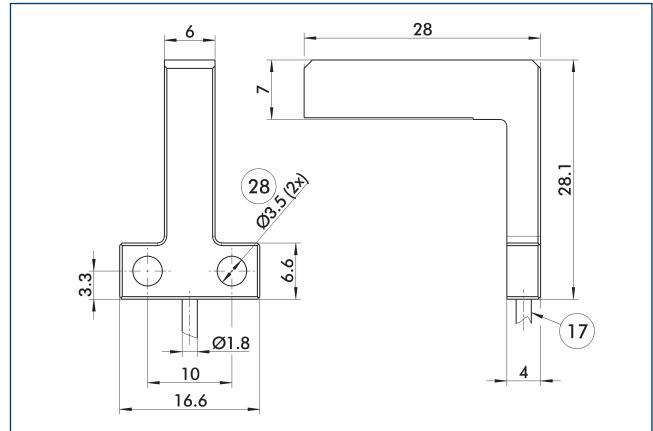


73 Fit for centering pins

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	2

Object distance sensor OAS-MPG-plus 50



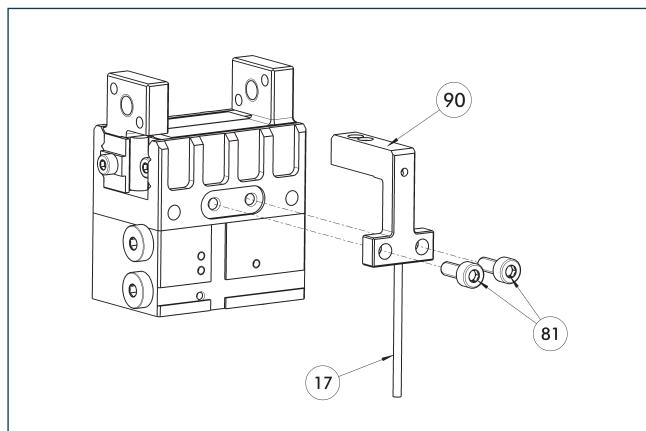
17 Cable outlet

28 Through-hole

Object distance sensor for detecting a workpiece and for measuring its distance to the gripper.

Description	ID
Object distance sensor OAS-MPG-plus 50	0308894

Object distance sensor



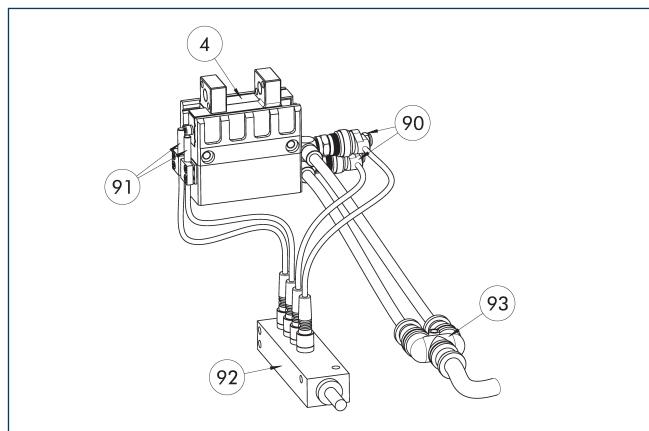
- ⑯ Cable outlet
 ⑯ Not included in the scope of delivery

Optical distance and presence sensor for direct mounting to the gripper. One OAS sensor can be attached per gripper.

Description	ID	
Object distance sensor		
OAS-MPG-plus 50	0308894	
Evaluation electronics		
OAS-V09-D	0308865	
OAS-V10-A	0308867	
OAS-V10-D	0308866	

- ① The evaluation of the OAS can be done with either an analog or digital evaluation unit and with or without a display. The states which should be detected can be easily taught.

Attachment valves



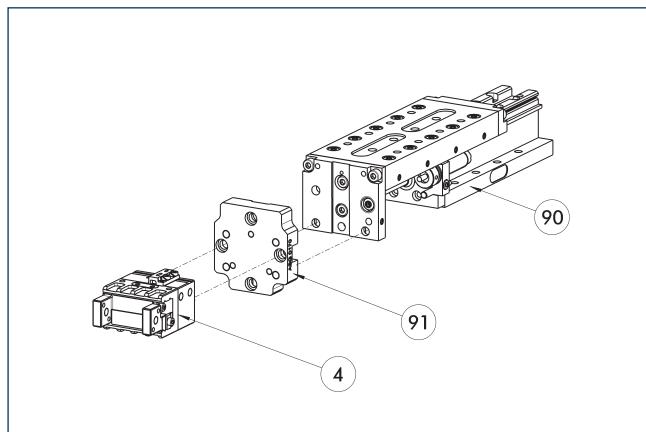
- ④ Grippers
 ⑯ Micro valves
 ⑯ Sensor distributor
 ⑯ Y distributor

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-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.

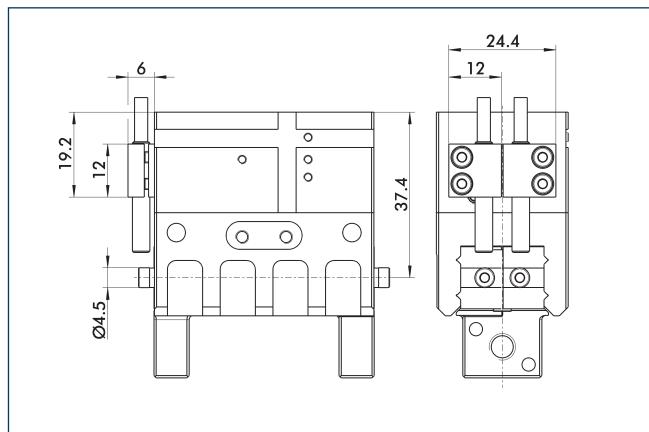
Modular Assembly Automation



- ④ Grippers
 ⑯ 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.

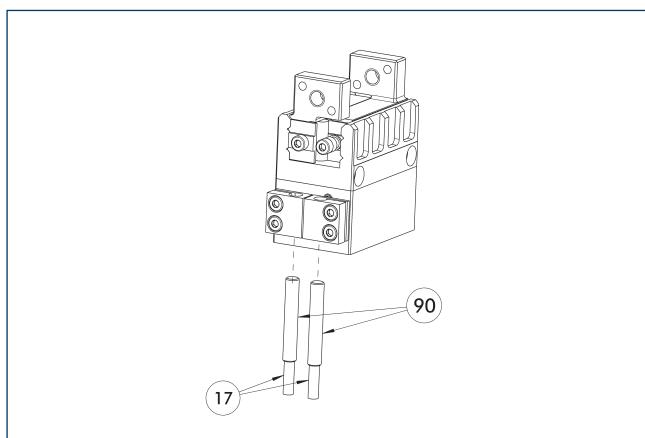
Description	ID
Attachment kit for proximity switch	
AS-IN40-MPG-plus 50	0305535

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

MPG-plus 50

Gripper for small components

IN 40 inductive proximity switches



⑯ Cable outlet

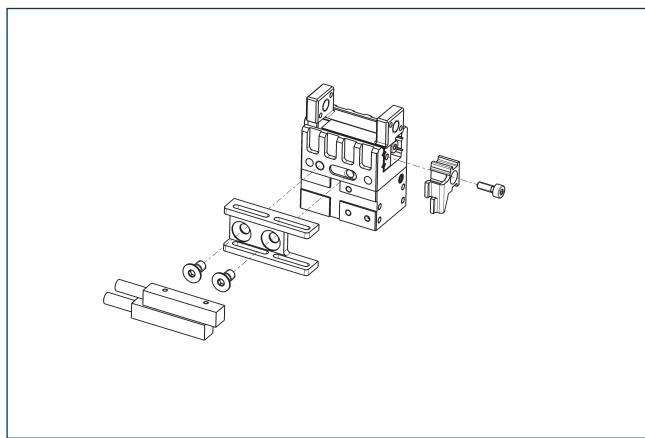
⑯ Sensor IN ...

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.

IN 5 inductive proximity switches

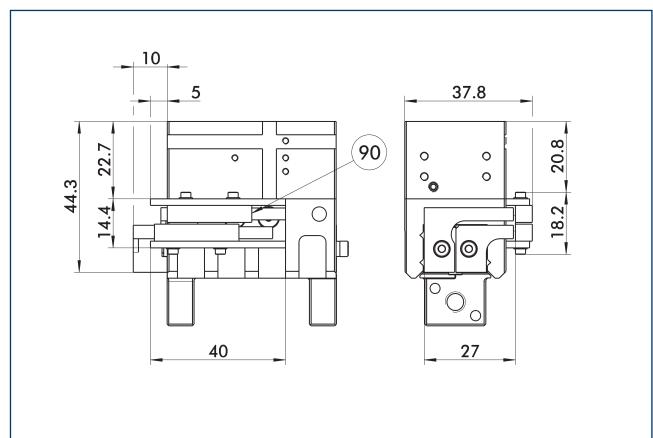


End position monitoring can be mounted with an attachment kit.

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	●

- 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



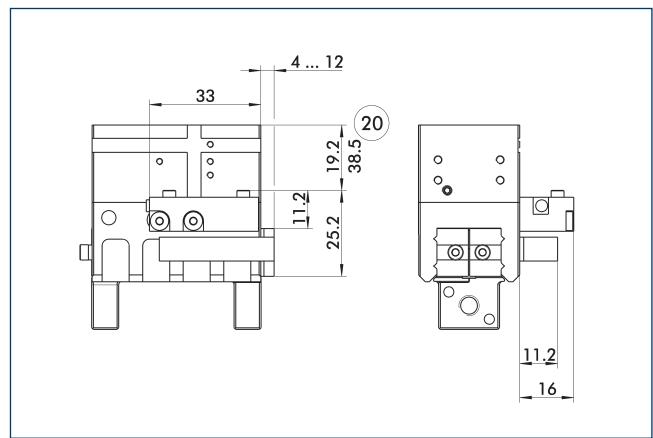
⑯ Sensor IN ...

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

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

Attachment kit for FPS

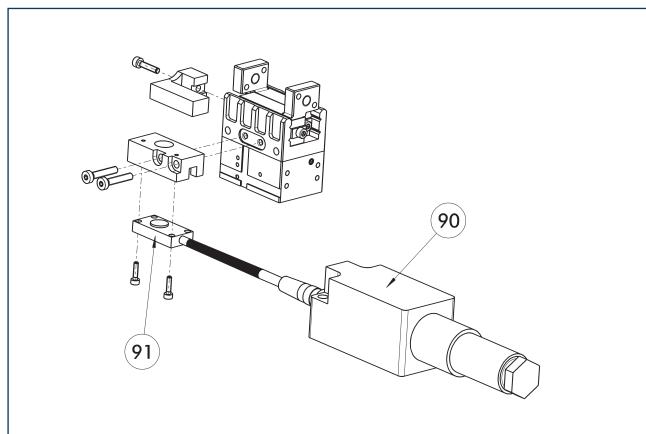


⑯ For AS / IS version

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

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

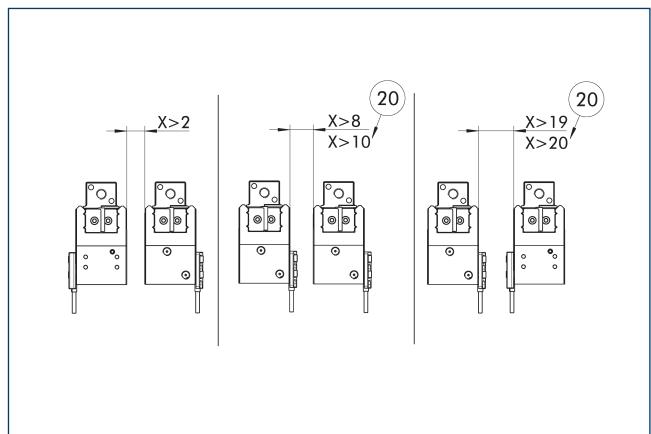
Flexible position sensor

⑩ FPS-F5 evaluation electronic ⑪ 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	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●

- 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

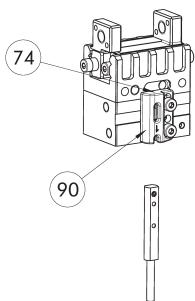
⑯ For AS / IS version

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

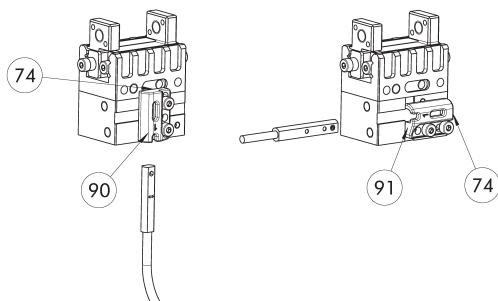
90 Vertical attachment of the bracket

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
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

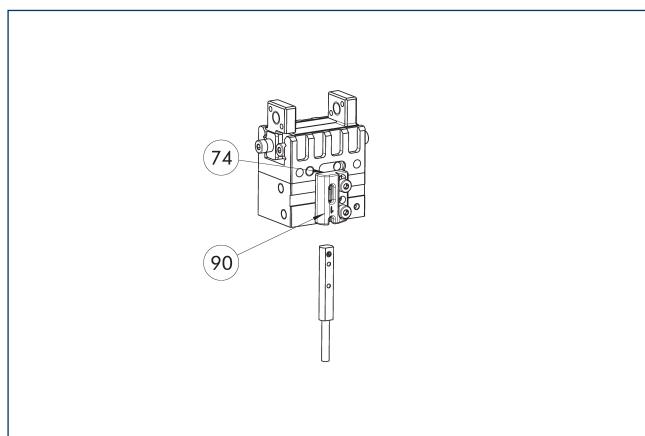
90 Vertical attachment of the bracket

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
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XMB-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

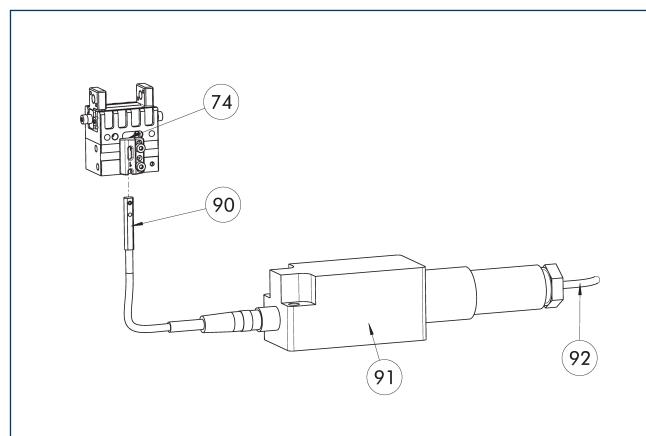
⑦ Limit stop for sensor

⑨ Vertical attachment of the bracket

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

Description	ID
Analog position sensor	
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

⑦ Limit stop for sensor

⑨ MMS 22-A-... sensor

⑩ FPS-F5 evaluation electronic

⑪ Connection cables

Flexible position monitoring of up to five positions.

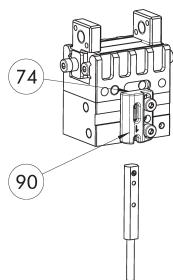
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

- 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."

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-IOL-M08	0315830
MMS 22-IOL-M12	0315835

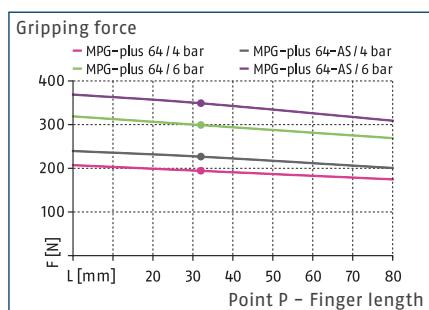
- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

MPG-plus 64

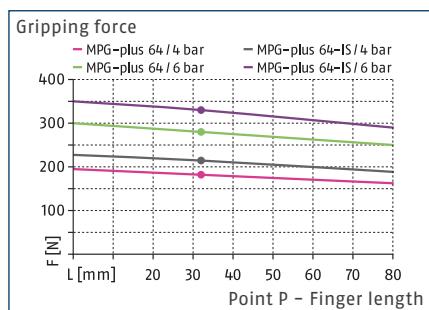
Gripper for small components



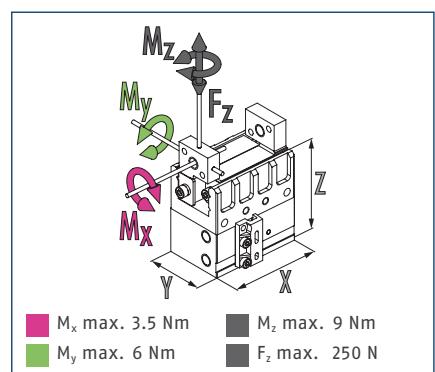
Gripping force O.D. gripping



Gripping force I.D. gripping



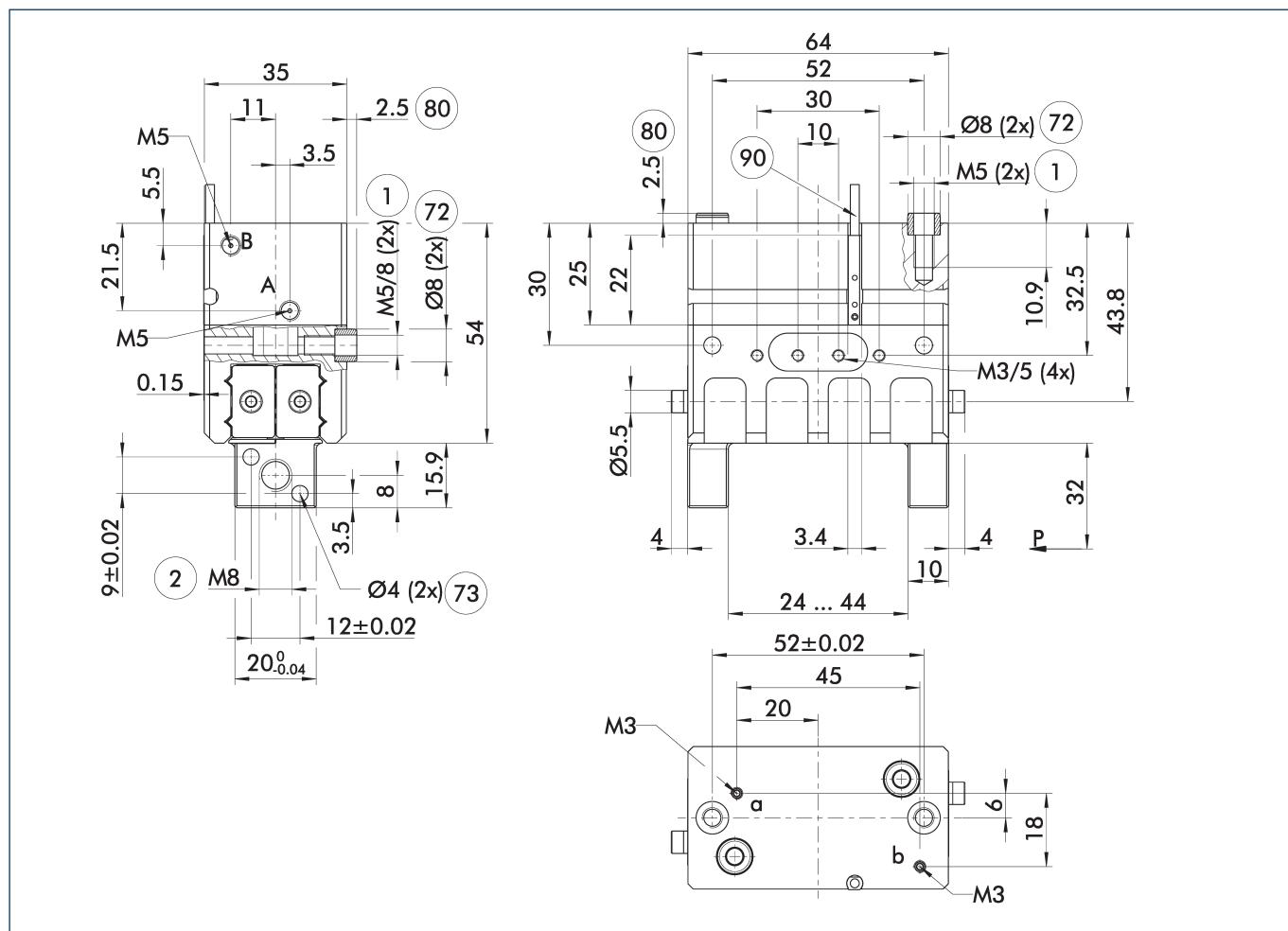
Dimensions and maximum loads



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated 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
Closing/opening force	[N]	300/280	370/-
Min. spring force	[N]		70
Weight	[kg]	0.53	0.62
Recommended workpiece weight	[kg]	1.25	1.25
Fluid consumption double stroke	[cm ³]	15	27
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5
Closing/opening time	[s]	0.08/0.08	0.085/0.12
Closing/opening time with spring	[s]		0.30
Max. permissible finger length	[mm]	80	80
Max. permissible mass per finger	[kg]	0.24	0.24
Protection class IP		30	30
Min./max. ambient temperature	[°C]	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02
Dimensions X x Y x Z	[mm]	64 x 35 x 54	64 x 35 x 69
Options and their characteristics			
High-temperature version		39305541	39305542
Min./max. ambient temperature	[°C]	5/100	5/100

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

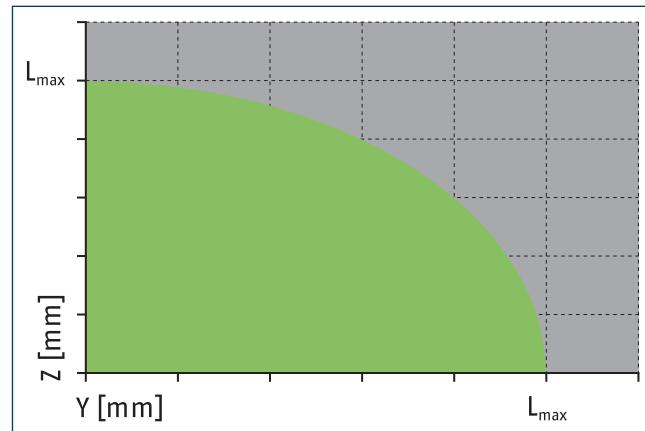
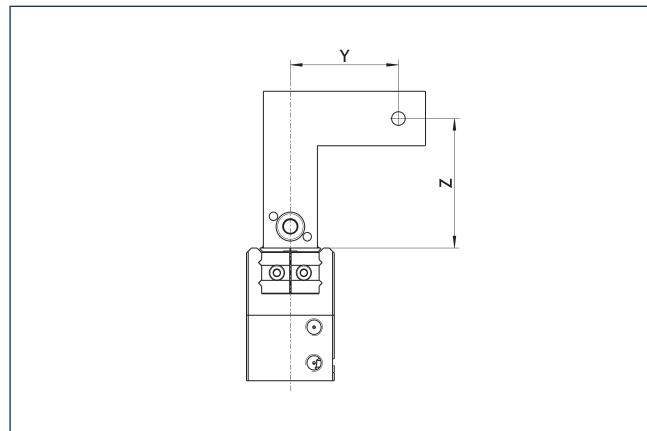
② Finger connection

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

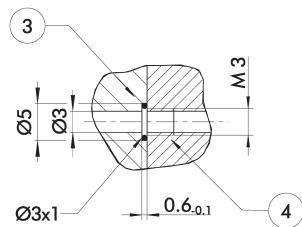
Inadmissible range

L^{\max} is equivalent to the maximum permitted finger length, see the technical data table.

MPG-plus 64

Gripper for small components

Hose-free direct connection M3

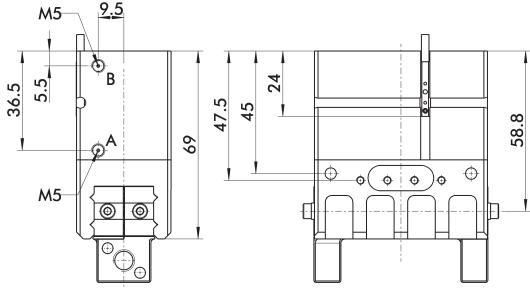


③ Adapter

④ Grippers

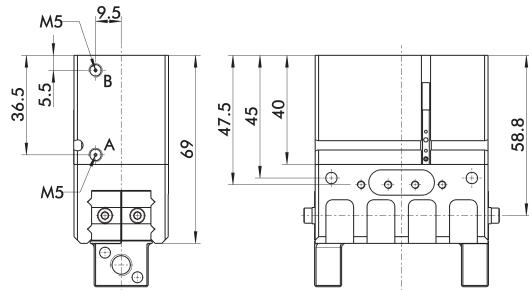
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

Gripping force maintenance IS



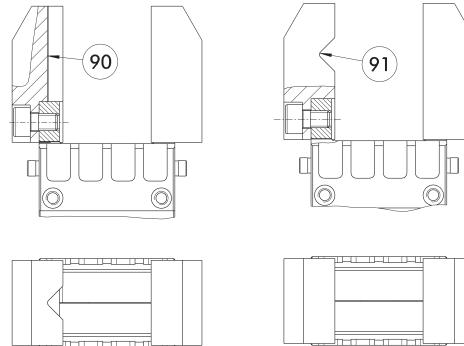
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

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.

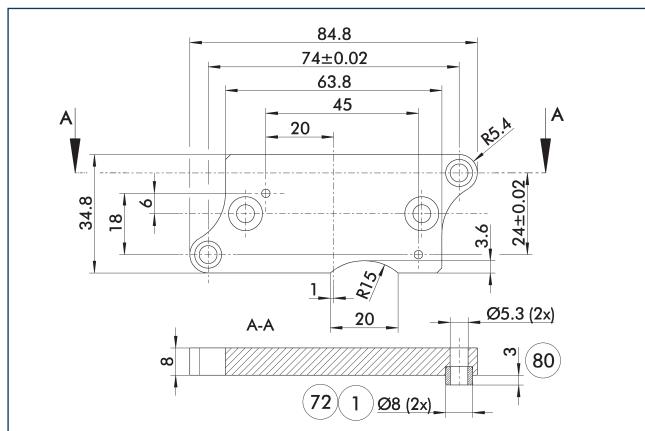
Jaw design



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.

Adapter plate

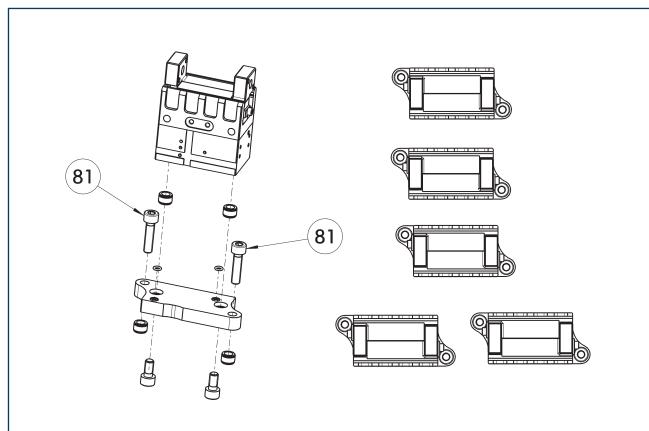
- ① Gripper connection
② Fit for centering sleeves

⑧ 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

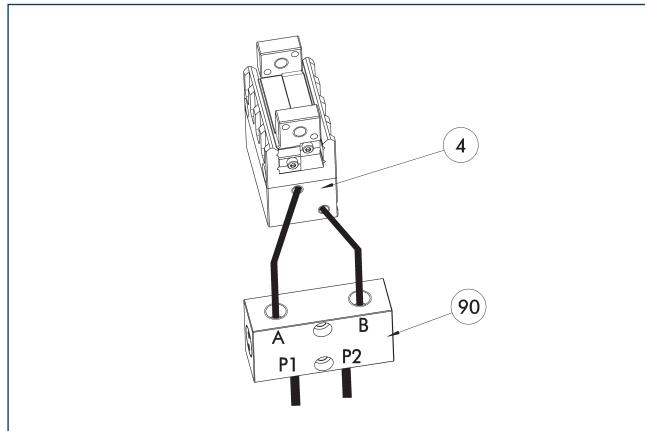
- ⑧ Not included in the scope of delivery

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

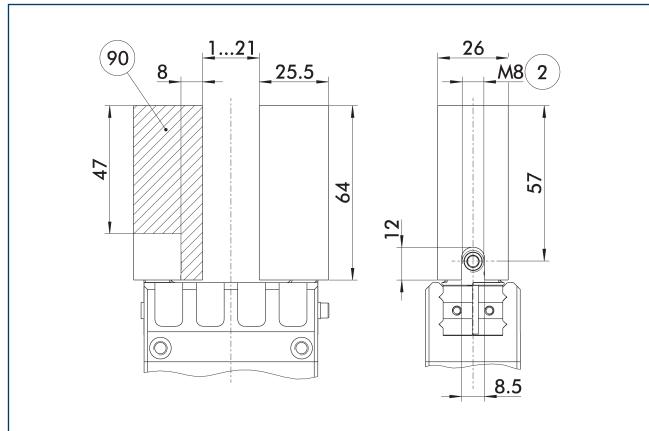
④ Grippers

⑨ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 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 64

② Finger connection

⑨ Machining volume

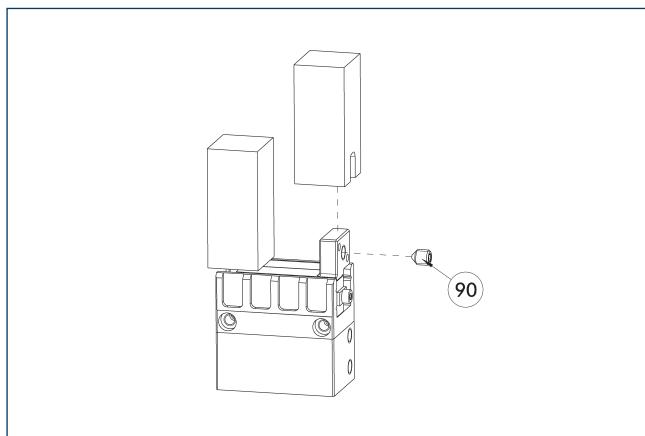
Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

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

MPG-plus 64

Gripper for small components

Finger blanks with BSWS

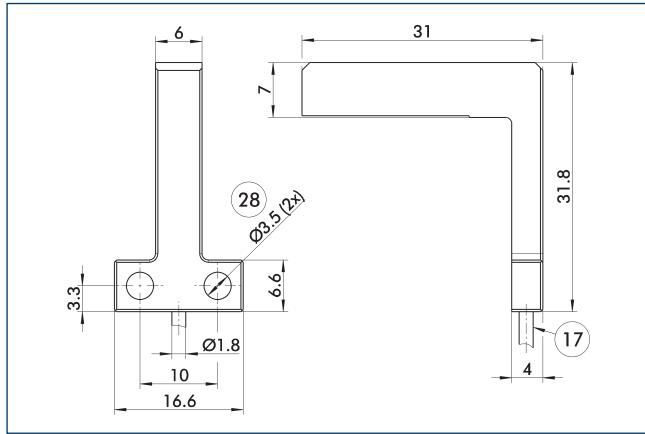


- 90 Included in the jaw quick-change system's scope of delivery

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 64	0302898	2

Object distance sensor OAS-MPG-plus 64



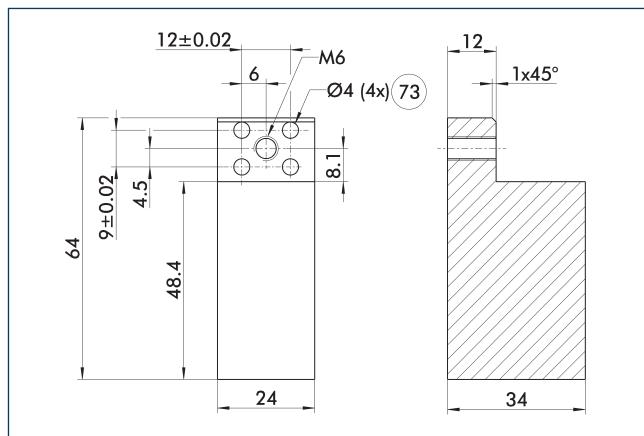
- 17 Cable outlet

- 28 Through-hole

Object distance sensor for detecting a workpiece and for measuring its distance to the gripper.

Description	ID	Scope of delivery
Object distance sensor		
OAS-MPG-plus 64	0308895	

Finger blanks ABR-MPG-plus 64

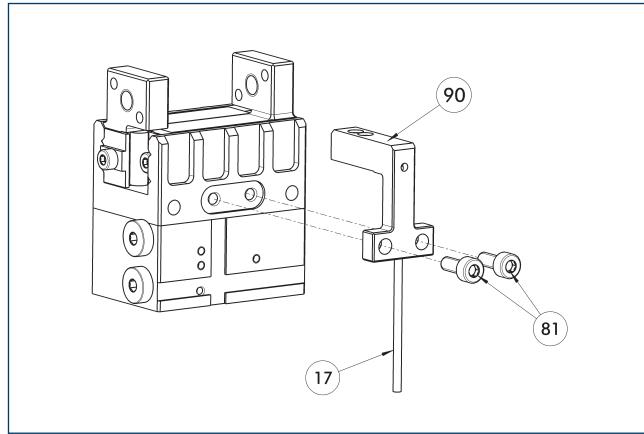


- 73 Fit for centering pins

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	2

Object distance sensor



- 17 Cable outlet

- 90 OAS

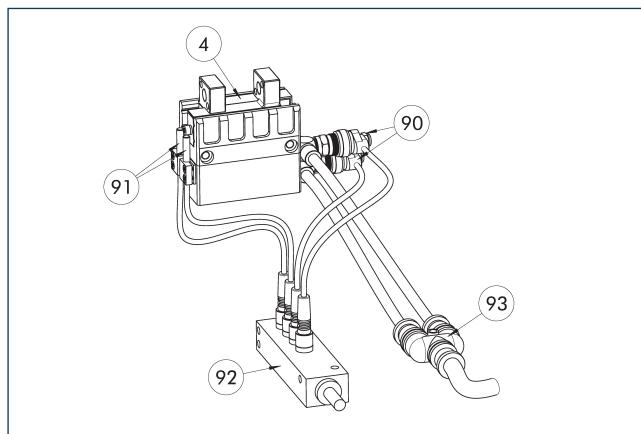
- 81 Not included in the scope of delivery

Optical distance and presence sensor for direct mounting to the gripper. One OAS sensor can be attached per gripper.

Description	ID	Scope of delivery
Object distance sensor		
OAS-MPG-plus 64	0308895	
Evaluation electronics		
OAS-V09-D	0308865	
OAS-V10-A	0308867	
OAS-V10-D	0308866	

- ① The evaluation of the OAS can be done with either an analog or digital evaluation unit and with or without a display. The states which should be detected can be easily taught.

Attachment valves



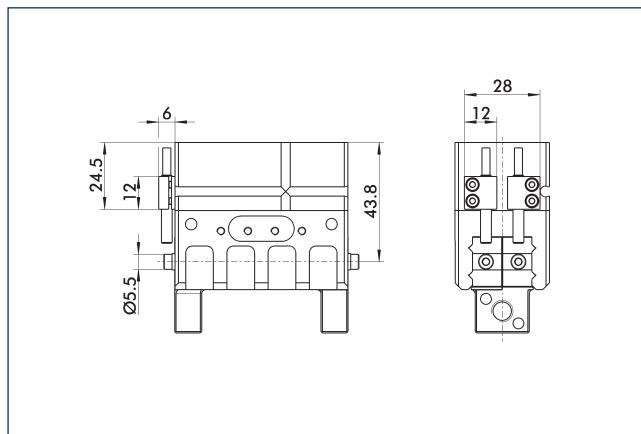
- | | |
|-----------------|-----------------------|
| ④ Grippers | ⑨₂ Sensor distributor |
| ⑨₀ Micro valves | ⑨₃ Y distributor |
| ⑨₁ Sensor | |

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-MV25-M5	0303326	
ABV-MV25-M5-V2-M8	0303392	
ABV-MV25-M5-V4-M8	0303362	●
ABV-MV25-M5-V8-M8	0303363	

- 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.

Attachment kit for proximity switch IN 40

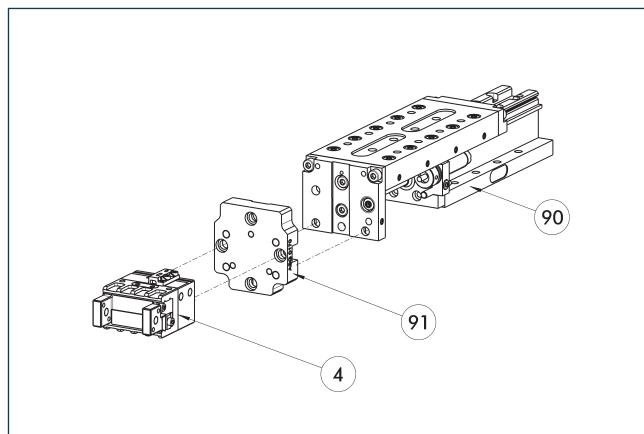


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

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

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

Modular Assembly Automation



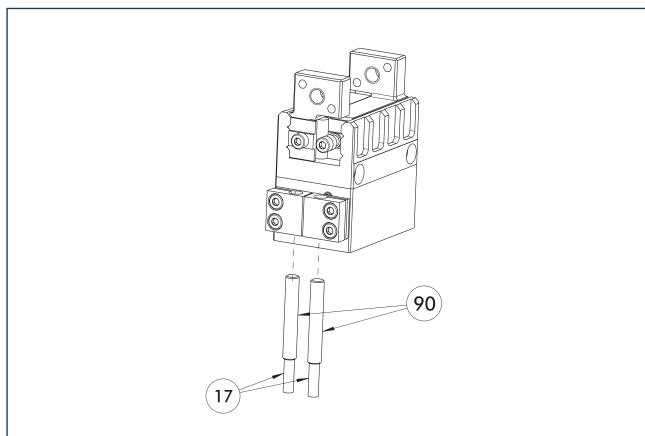
- | | |
|-------------------------------------------------|----------------------|
| ④ Grippers | ⑨₁ ASG adapter plate |
| ⑨₀ CLM/KLM/LM/ELP/ELM/ELS/HLM
linear modules | |

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 64

Gripper for small components

IN 40 inductive proximity switches



⑯ 17 Cable outlet

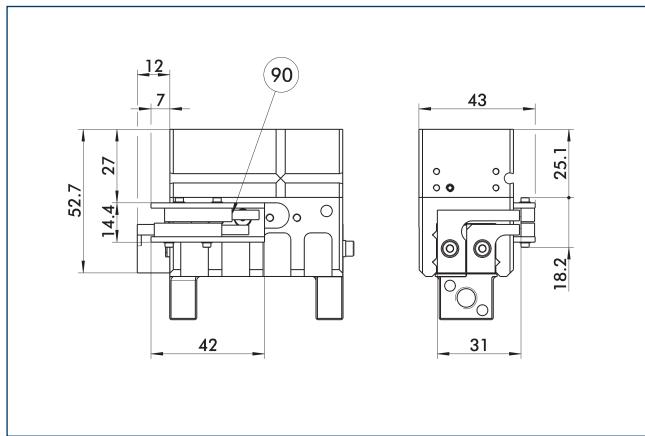
⑯ 90 Sensor IN ...

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



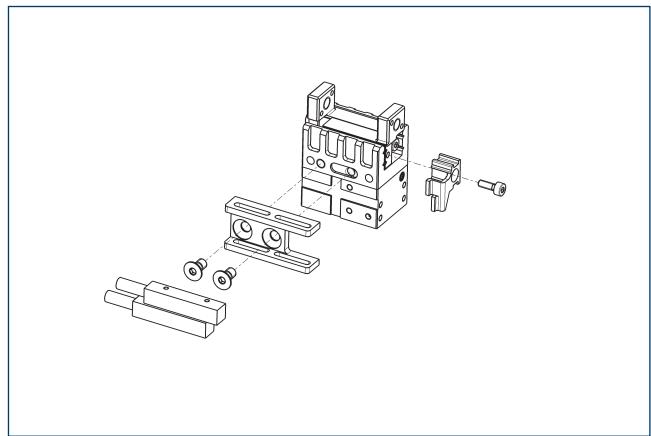
⑯ 90 Sensor IN ...

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-MPG 64	0340154	

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

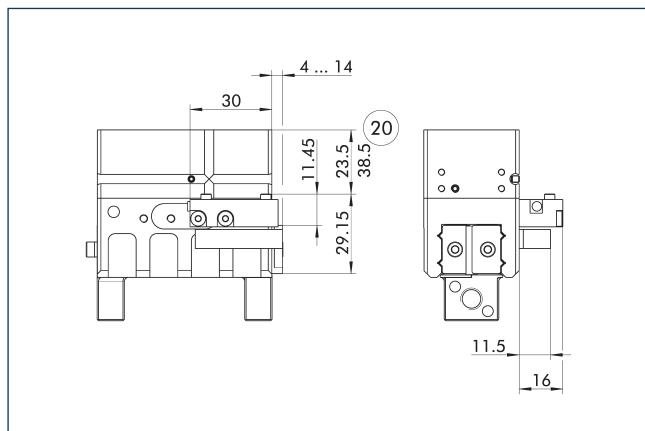
IN 5 inductive proximity switches



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	●

- 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.

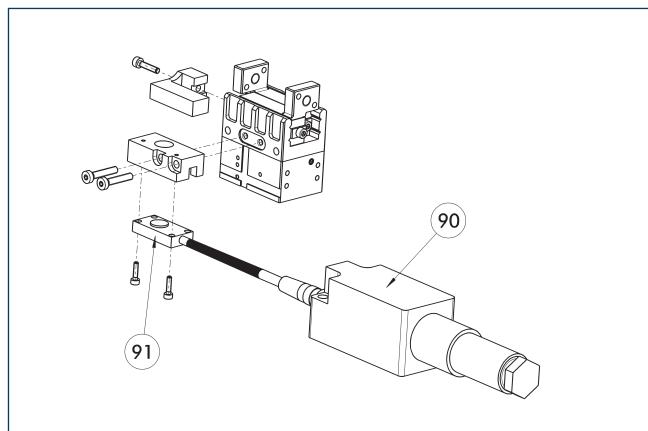
Attachment kit for FPS

⑩ 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

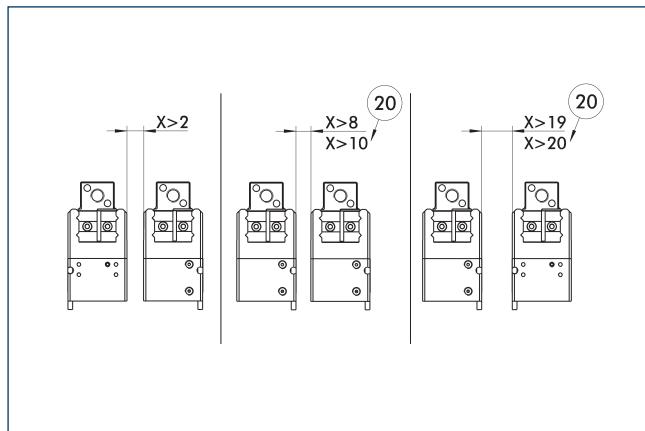
⑩ FPS-F5 evaluation electronic

⑪ 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	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Evaluation electronics		
FPS-F5	0301805	●

ⓘ 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

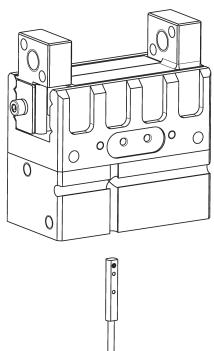
⑩ For AS / IS version

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 64

Gripper for small components

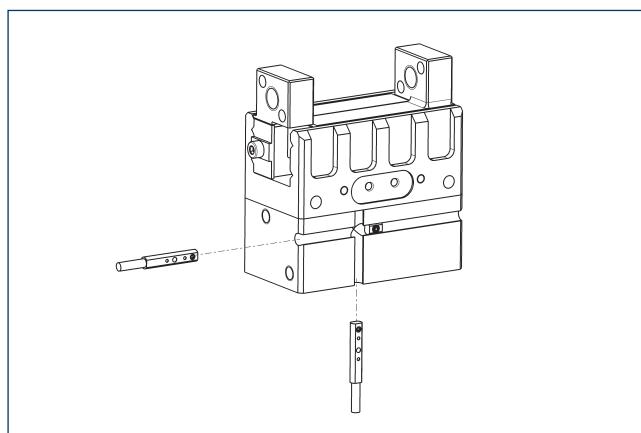
Programmable magnetic switch MMS 22-PI2



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
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	

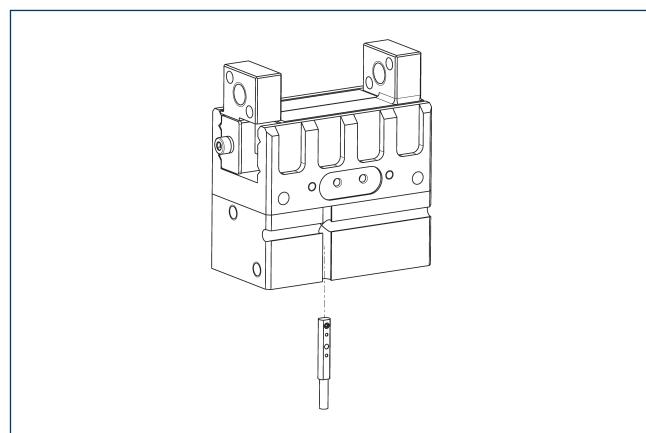
- ① One sensor is required per unit for monitoring two positions.
Extension cables and sensor distributors are optionally available.
Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

MMS-P programmable magnetic switch

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

Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

- 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.

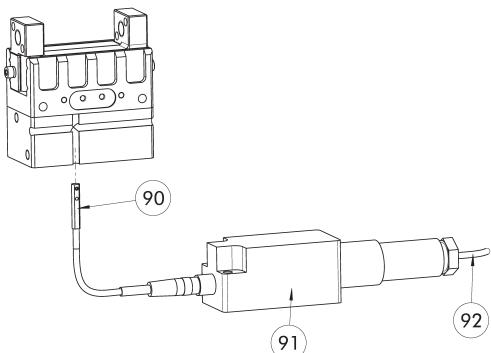
Description	ID	
Analog position sensor		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

- 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 64

Gripper for small components

Flexible position sensor with MMS-A



⑩ MMS 22-A-... sensor

⑨ Connection cables

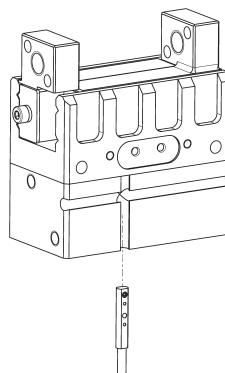
⑪ FPS-F5 evaluation electronic

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-IOL-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 IOL-Link interface or the MT magnetic teach tool (included in scope of delivery). An IOL-Link master is required for operation.

Description	ID
Programmable magnetic switch	
MMS 22-IOL-M08	0315830
MMS 22-IOL-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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