



Superior Clamping and Gripping



## Product Information

Universal gripper PGN-plus-P

# PGN-plus-P

Universal gripper

## Reliable. Robust. Flexible.

### Universal gripper PGN-plus-P

Universal 2-finger parallel gripper with permanent lubrication, high gripping force, and high maximum moments due to the use of a multi-tooth guidance.

#### Field of application

Pneumatic universal gripper for handling of workpieces in universal applications. For universal use in clean to slightly dirty environments. Special versions available for dirty environments.

#### Advantages – Your benefits

**Robust multi-tooth guidance** for precise handling

**High maximum moments possible** suitable for using long gripper fingers

**Lubricant pockets in the multi-tooth guidance** ensure process reliability and extended maintenance intervals

**Maximum piston surface area** for maximum gripping forces

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

**Air supply via hose-free direct connection or screw connections** for universal and flexible gripper assembly

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

**Manifold options** for special optimization for your specific case of application (dustproof, high-temperature, corrosion-protected, etc.)



Sizes  
Quantity: 11



Weight  
0.08 .. 39.8 kg



Gripping force  
180 .. 26100 N



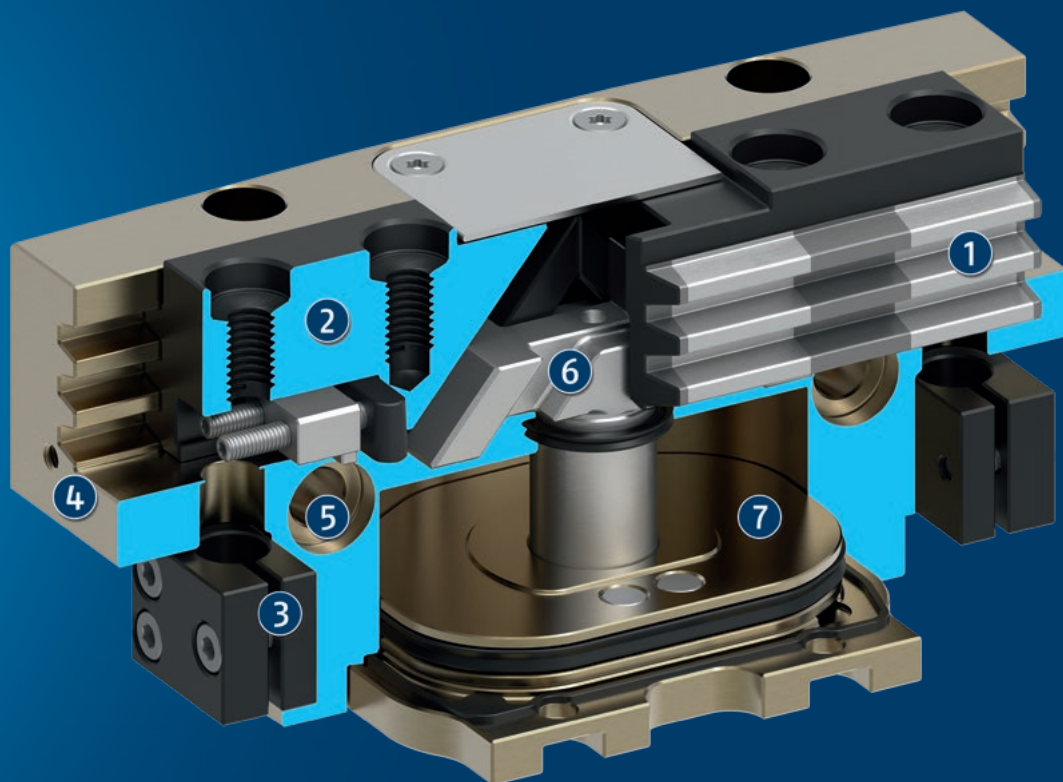
Stroke per jaw  
2 .. 45 mm



Workpiece weight  
0.9 .. 97.5 kg

## Functional description

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



- ① **Multi-tooth guidance**  
Maximum service life due to lubricant pockets in the robust multi-tooth guidance, and absorption of high forces and torques by means of the large guidance support
- ② **Base Jaw**  
with standardized screw connection diagram for the connection of the workpiece-specific gripper fingers
- ③ **Bracket for sensors**  
Brackets for proximity switches and adjustable control cams in the housing
- ④ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ⑤ **Centering and mounting possibilities**  
for universal assembly of the gripper
- ⑥ **Wedge-hook design**  
for high power transmission and minimal wear as a result of larger diagonal pull surfaces
- ⑦ **Piston**  
Maximum force through maximum surface of drive piston

## Detailed functional description

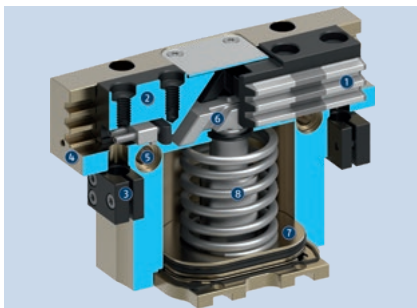
### Dustproof version SD



The "dustproof" option increases the degree of protection against penetrating substances.

This can either be ordered in a ready-mounted gripper version or else retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

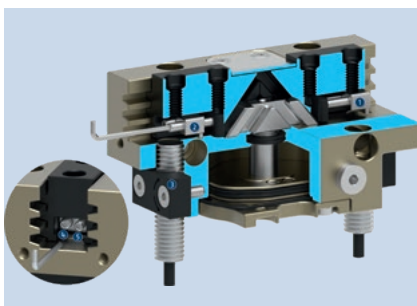
### Gripping force maintenance version AS/IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. In the AS version this acts as a closing force, and in the IS version as an opening force. The image shows the AS version. The gripping force maintenance can also be used to increase the gripping force or for one-way gripping.

- ❶ Multi-tooth guidance
- ❷ Base Jaw
- ❸ Bracket for sensors
- ❹ Housing
- ❺ Centering and mounting possibilities
- ❻ Wedge-hook design
- ❼ Piston
- ❽ Gripping force maintenance device

### Settings of the control cams during monitoring with inductive proximity switches



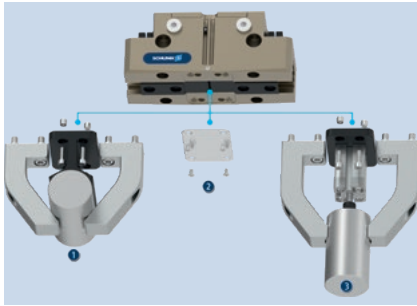
Monitoring with inductive proximity switch can be performed as standard from size 64. In delivery state, the positions "gripper open" and "gripper closed" are preset with the control cams. The inductive sensors must be ordered separately and are slid into the housing up to the stop and clamped.

In order to monitor any other position, such as "workpiece gripped" for example, both control cams can be individually set in the respective base jaws.

- ❶ Control cam preset for "gripper closed" position
- ❷ Control cam preset for "gripper open" position
- ❸ Holder with clamping screw for fixing the sensor
- ❹ Clamping screw for process-reliable fixing of the adjusted switching point
- ❺ Adjusting screw for setting any switching point



## Optional mounting possibility under the cover sheet for customer-specific additional structure



In delivery state, a cover sheet is mounted to the gripper. This can be removed if necessary. Under the cover sheet are threads and fittings for mounting customer-specific designs for implementing additional functions.

- ❶ Additional centering or support of the workpiece
- ❷ The cover plate (can be removed)
- ❸ Ejector with external cylinder attached to the gripper

## General notes about the series

**Operating principle:** Wedge gear with surface power transmission

**Housing material:** Aluminum

**Base jaw material:** Steel

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

**Warranty:** 36 months

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

**Gripping force maintenance device:** possible by using the version with mechanical gripping force maintenance or pressure maintenance valve SDV-P

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

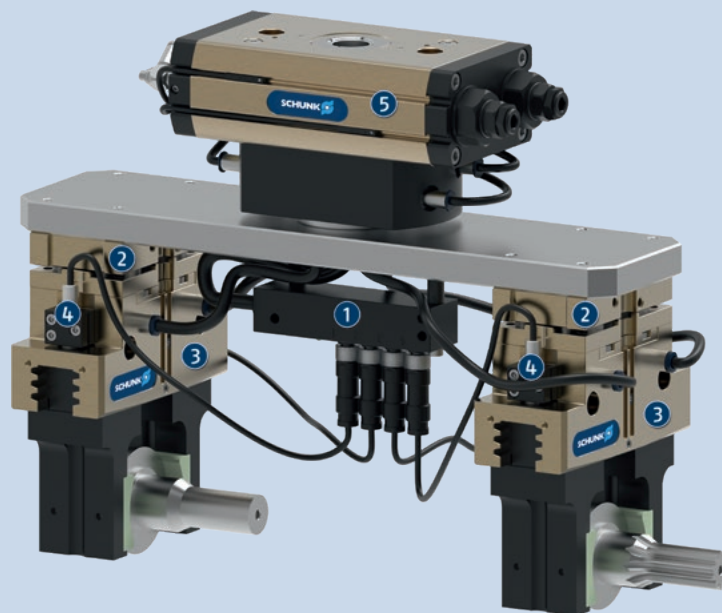
**Finger length:** is measured from the reference surface as the distance P in direction to the main axis.

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

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

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

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



## Application example

Handling tool for loading and unloading raw and finished parts and compensation of inaccurate position. A sensor distributor is used for routing signals through a cable.

- ① Sensor distributor V4
- ② Tolerance compensation unit TCU-Z
- ③ Universal gripper PGN-plus-P
- ④ IN sensors
- ⑤ Universal rotary actuator SRM

## SCHUNK offers more ...

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



Rotary unit



Quick change system



Compensation unit



Linear module



Jaw quick-change system



Finger blank



Pressure maintenance valve



Universal intermediate jaw



Flexible position sensor



Analog position sensor



Magnetic switches



Inductive proximity switches

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

## Options and special information

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

**High-temperature version VHT:** for use in hot environments

**Precision version P:** for the highest accuracy

**Anti-corrosion version K:** for use in corrosion-inducing atmospheres

**ATEX version EX:** for explosive environments

**Dustproof version SD:** absolutely dustproof, increased degree of protection against ingress of materials.

**Integrated air purge connection:** impedes the ingress of dirt into the inside of the gripper

**NEW: Version with food-compliant lubrication (H1G):** as a solution for an easy entry into medical technology, lab automation, pharmaceutical and food industry. The requirements of EN 1672-2:2020 are not fully met.

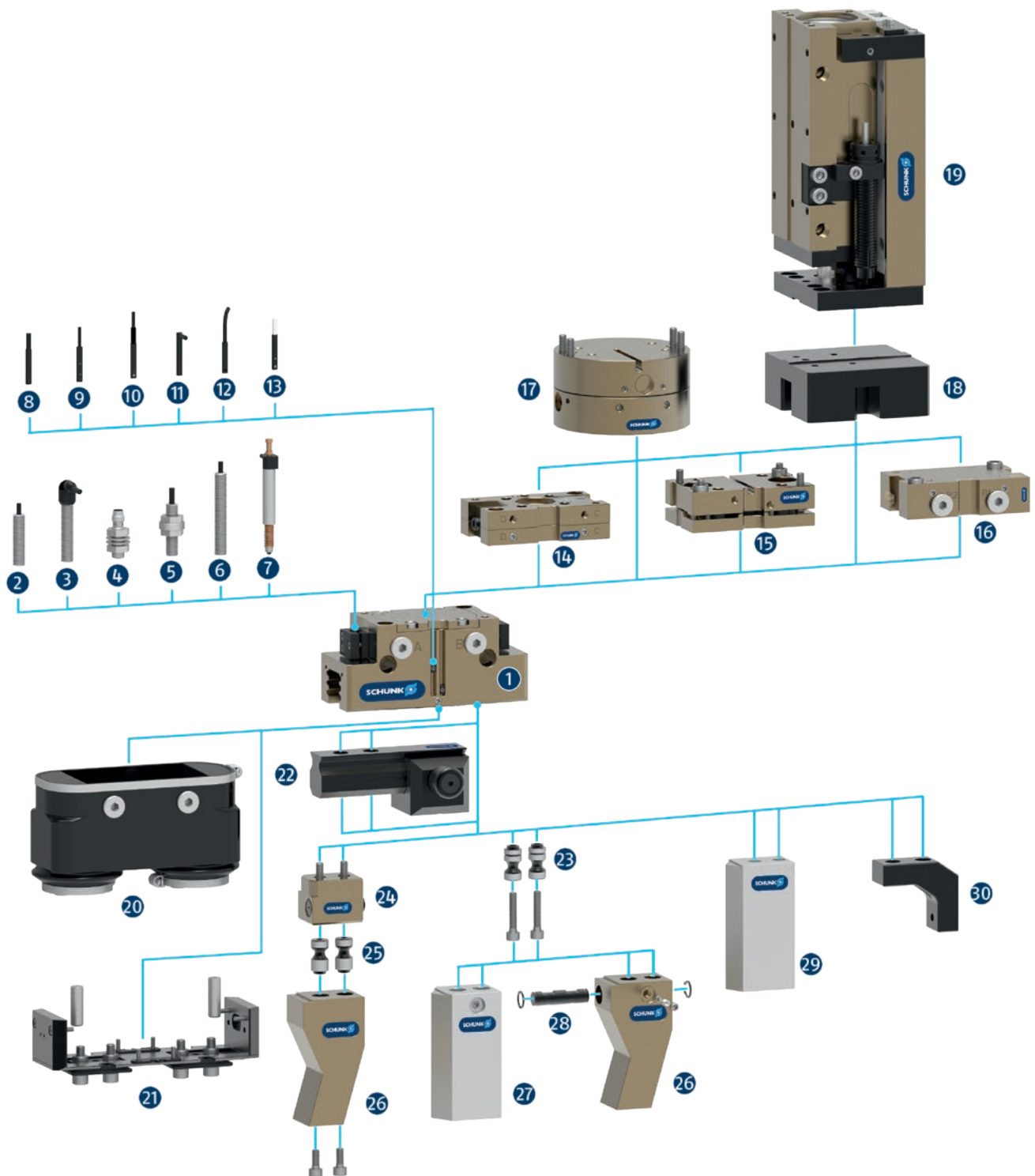
**Additional versions:** Various options can be combined with each other.

# PGN-plus-P

Universal gripper

## SCHUNK gripper PGN-plus-P

### Overview Accessories



## 1 PGN-plus-P

Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the use of a multi-tooth guidance

## Sensor system

### 2 IN ...

Inductive proximity switch with molded cable and straight cable outlet

### 3 IN ...-SA

Inductive proximity switch with molded cable and lateral cable outlet

### 4 IN-C 80

Inductive proximity switch, directly pluggable

### 5 FPS

Flexible position sensor for monitoring up to five different, freely selectable positions

### 6 APS-Z80

Inductive position sensor for precise position detection of the gripper jaws with analog output

### 7 APS-M15

Mechanical measuring system for precise position detection of the gripper jaw with analog output

### 8 MMS 22

Magnetic switch with straight cable outlet for monitoring a position

#### MMS 22-PI1

Magnetic switch with straight cable outlet for monitoring a freely programmable position

### 9 MMS 22-PI2

Magnetic switch with straight cable outlet for monitoring two freely programmable positions

### 10 MMS 22-PI1-HD

MMS 22-PI1 in robust design

#### MMS 22-PI2-HD

MMS 22-PI2 in robust design

### 11 MMS 22-SA

Magnetic switch with lateral cable outlet for monitoring a position

#### MMS 22-PI1-SA

Magnetic switch with side cable outlet for monitoring a freely programmable position

### 12 MMS-P

Magnetic switch with straight cable outlet for monitoring two freely programmable positions

### 13 MMS-A

Analog magnetic switch with straight cable outlet for measuring the gripper jaw position with analog output and teach function

## Complementary products

### 14 CWS

Manual change system with integrated air feed-through for simple exchange of the handling components

### 15 TCU

Tolerance compensation unit for compensating small tolerances in the plane

### 16 SDV-P-E-P

Pressure maintenance valve for temporary force and position maintenance

### 17 AGE

Compensation unit for compensation of large tolerances along the X and Y axes

### 18 ASG

Adapter plate for combining various automation components in the modular system

### 19 CLM

Linear module with pneumatic drive and scope-free pre-loaded junction rollers

### 20 HUE

Sleeve for protection against dirt

### 21 SAD

Dustproof version, retrofit kit

## Finger Accessories

### 22 UZB

The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.

### 23 BSWS-AR

Adapter coupling of jaw quick-change system for fast, manual change of top jaws

### 24 BSWS-B

Locking mechanism of the jaw quick-change system for fast, manual exchange of top jaws

### 25 BSWS-A

Adapter coupling of the jaw quick-change system for adaptation to the customized finger

### 26 Customized fingers

#### 27 BSWS-ABR

Finger blank made of aluminum with interface to the jaw quick-change system

#### BSWS-SBR

Finger blank made of steel with interface to the jaw quick-change system

#### 28 BSWS-UR

Locking mechanism for the integration of the jaw quick-change system into customized fingers

#### 29 ABR/SBR

Finger blanks made of steel or aluminum with standardized screw connection diagram

#### 30 ZBA

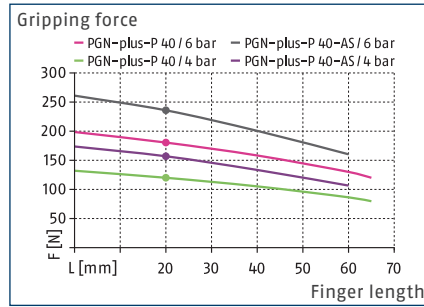
Intermediate jaws for reorientation of the mounting surface

# PGN-plus-P 40

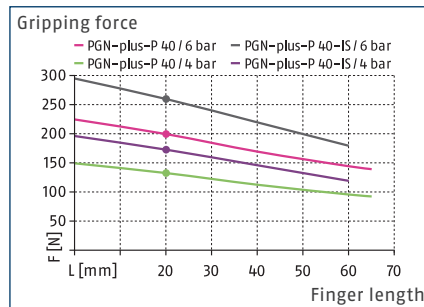
Universal gripper



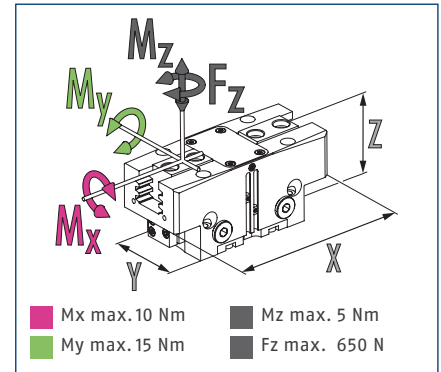
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

Description		PGN-plus-P 40	PGN-plus-P 40-AS	PGN-plus-P 40-IS
ID		0318448	0318450	0318452
Stroke per jaw	[mm]	2.5	2.5	2.5
Closing/opening force	[N]	180/200	235/-	-/260
Min. spring force	[N]		55	60
Weight	[kg]	0.08	0.1	0.1
Recommended workpiece weight	[kg]	0.9	0.9	0.9
Fluid consumption double stroke	[cm <sup>3</sup> ]	4	8	10
Min./nom./max. operating pressure	[bar]	2.5/6/8	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.015/0.015	0.015/0.03	0.03/0.015
Closing/opening time with spring	[s]		0.03	0.03
Max. permissible finger length	[mm]	65	60	60
Max. permissible mass per finger	[kg]	0.12	0.12	0.12
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	50 x 25 x 24.7	50 x 25 x 33.7	50 x 25 x 33.7
<b>Options and their characteristics</b>				
Dustproof version		1317458	1317463	1317466
IP protection class		64	64	64
Weight	[kg]	0.1	0.12	0.12
Corrosion-protected version		1317436	1317437	1317439
High-temperature version		1317423	1317428	1317431
Min./max. ambient temperature	[°C]	5/130	5/130	5/130
Precision version		1317451	1317454	
H1 grease version		1414121	1475549	1475560
Dustproof/H1 grease version		1475793	1475827	1475828
Weight	[kg]	0.1	0.12	0.12
IP protection class		64	64	64

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

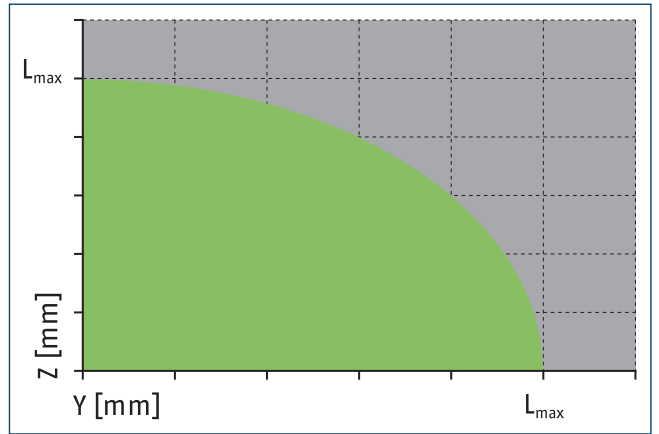
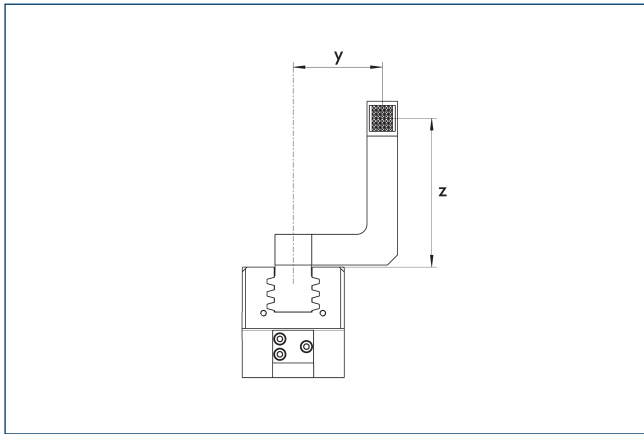




# PGN-plus-P 40

Universal gripper

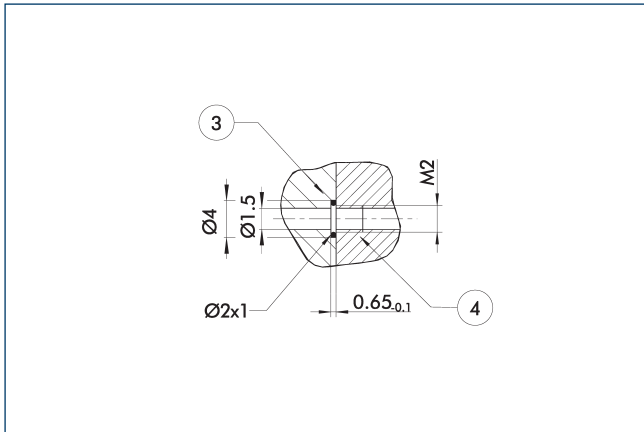
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M2

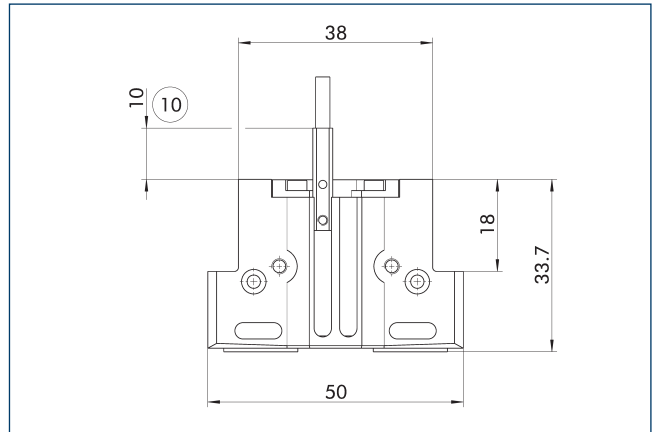


③ Adapter

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.

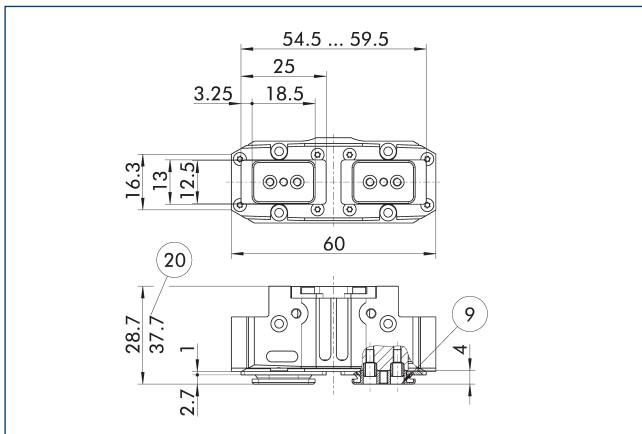
## Gripping force maintenance device AS / IS



⑩ Projection applies only for AS version

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.

## Dustproof version



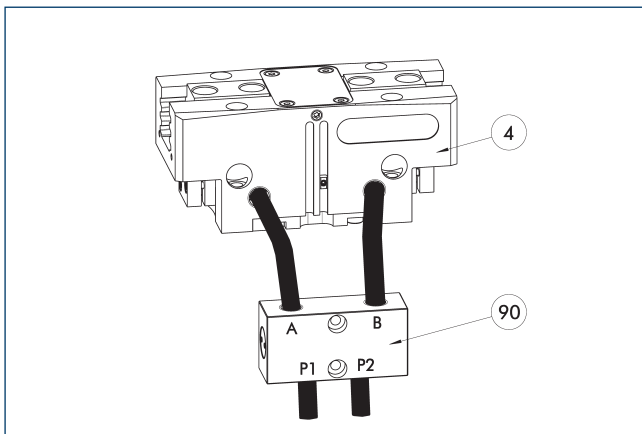
- ⑨ For mounting screw connection ⑳ For AS / IS version diagram, see basic version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID	
Dust cover		
SAD PGN-plus-P 40	1347469	

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## SDV-P pressure maintenance valve



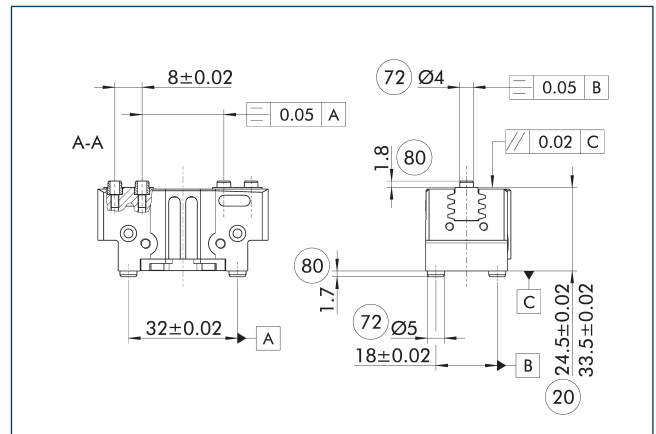
- ④ Grippers ⑨⑩ SDV-P pressure maintenance valve

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

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

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

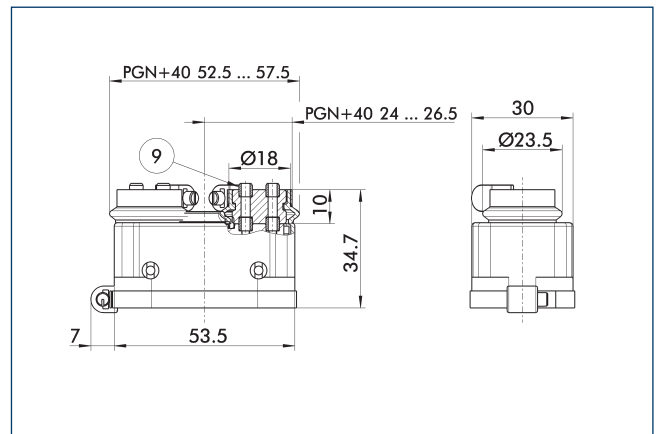
## Precision version



- ⑳ For AS / IS version ㉓ Depth of the centering sleeve hole in the counter part  
㉔ Fit for centering sleeves

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.

## Protective cover HUE PGN-plus 40



- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

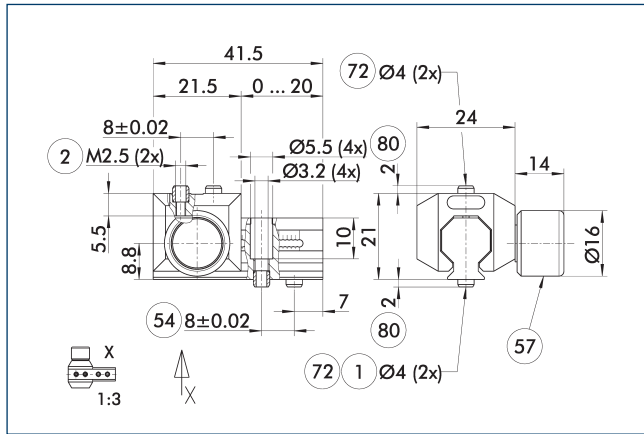
Description	ID	IP protection class
Protection cover		
HUE PGN-plus 40	0371490	65

- ① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

# PGN-plus-P 40

Universal gripper

## UZB 40 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

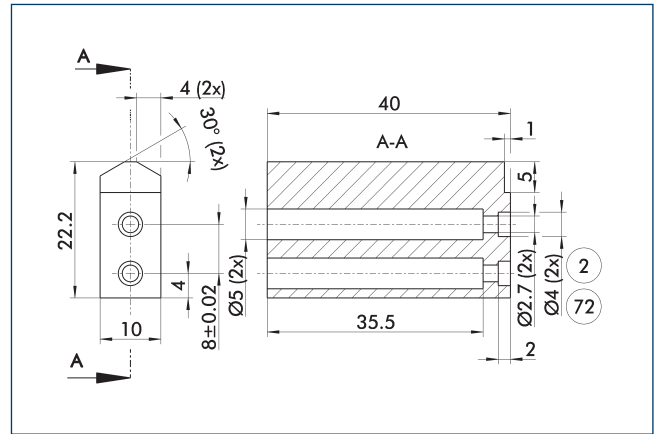
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 40	0300040	1
Finger blank		
ABR-PGZN-plus 40	0300008	
SBR-PGZN-plus 40	0300018	

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	40	-1 (6 bar)	■■■■
PGN-plus-P	40	-1-AS / -1-IS (6 bar)	■■□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 40

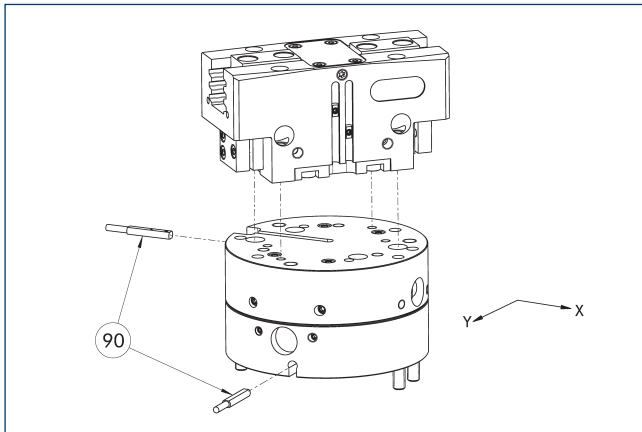


- ② Finger connection
- ⑦2 Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 40	0300008	Aluminum (3.4365)	1
SBR-PGZN-plus 40	0300018	Steel (1.7131)	1

## Compensation unit AGE-F



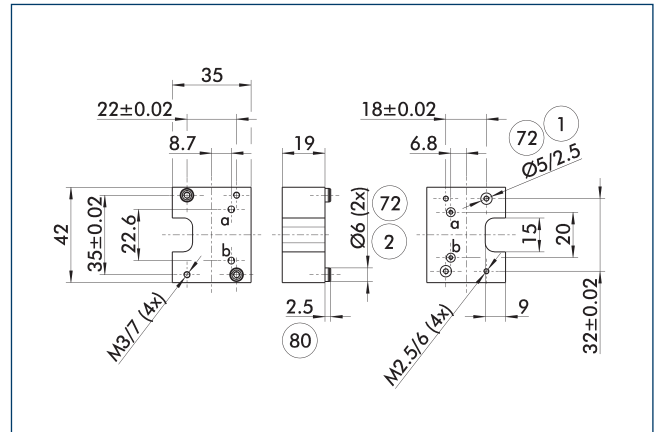
### 90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
<b>Compensation unit</b>				
AGE-F-XY-031-1	0324900	± 1.5	1.5	
AGE-F-XY-031-2	0324901	± 1.5	4	
AGE-F-XY-031-3	0324902	± 1.5	5.5	●

① Due to the interfering contour, monitoring of the gripper is not possible.

## Adapter plate for PGN-plus 40



### 1 Robot-side connection

### 2 Tool-side connection

### 72 Fit for centering sleeves

### 80 Depth of the centering sleeve hole in the counter part

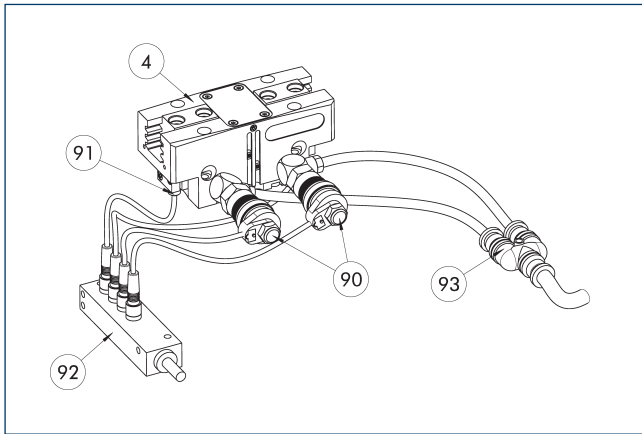
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
<b>Tool side</b>	
A-CWA-050-040-P	0305754

# PGN-plus-P 40

Universal gripper

## Attachment valves



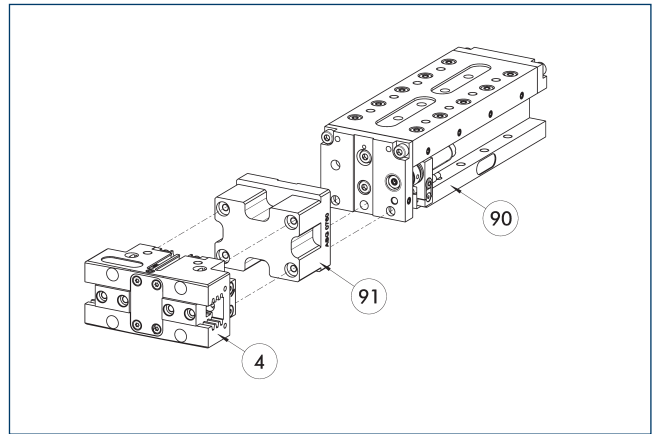
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-MV15-M3	0303322	
ABV-MV15-M3-V2-M8	0303384	
ABV-MV15-M3-V4-M8	0303354	●
ABV-MV15-M3-V8-M8	0303355	

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

## Modular Assembly Automation

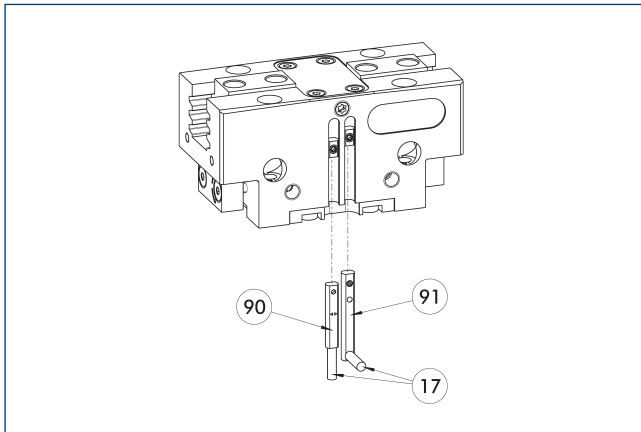


- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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



## Electronic magnetic switch MMS



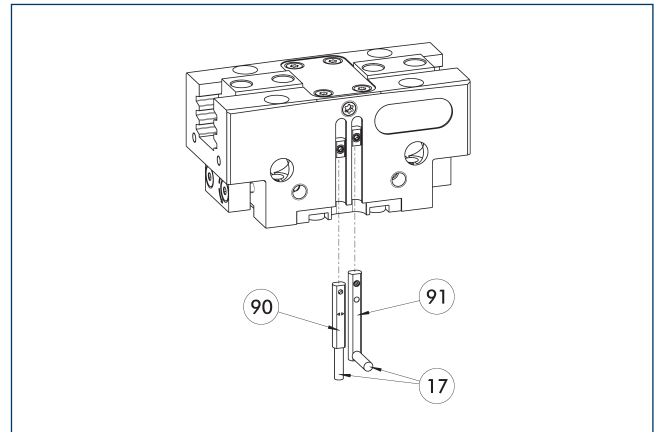
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



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

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

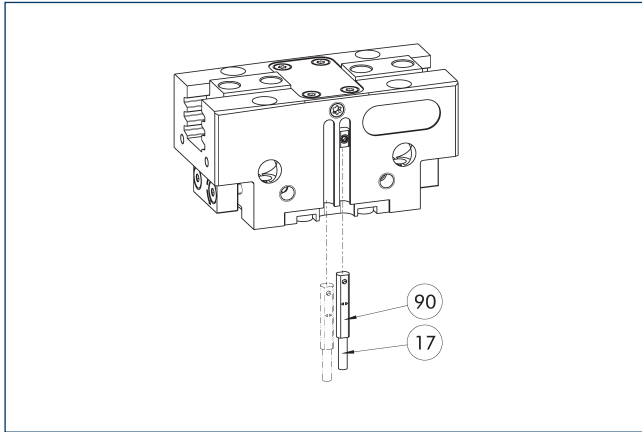
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 40

Universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

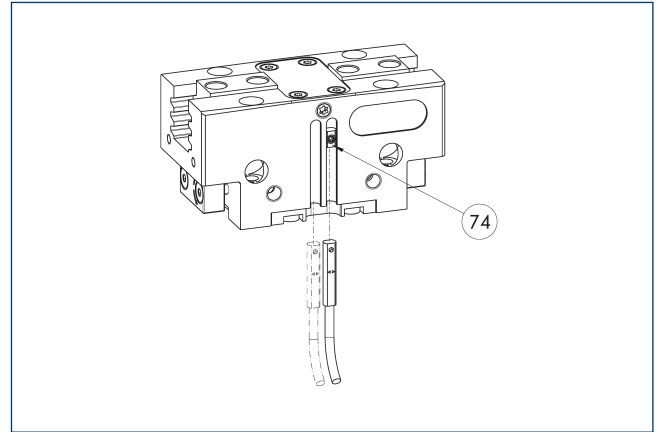
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



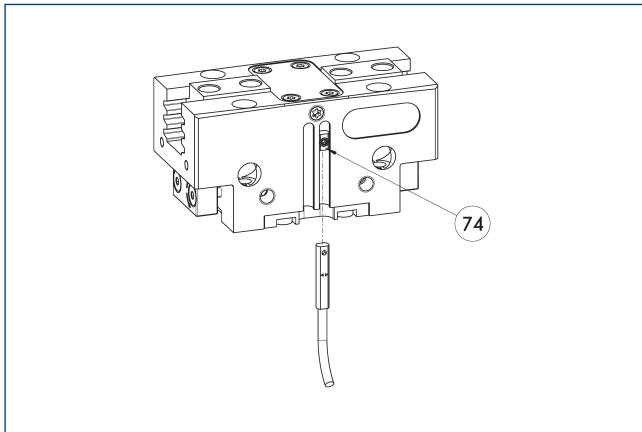
74 Limit stop for sensor

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

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

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

## MMS-A analog position sensor



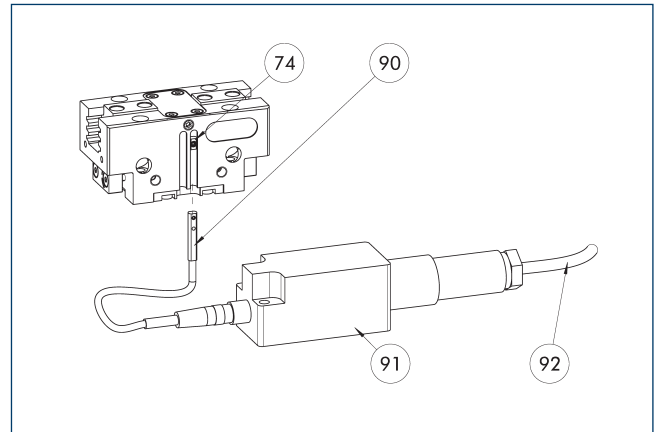
74 Limit stop for sensor

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.

## 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.

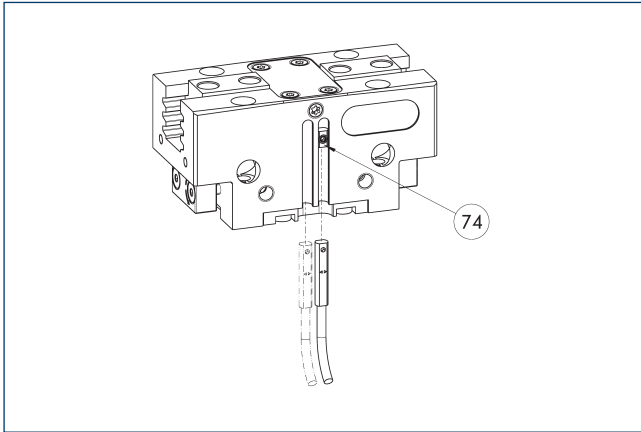
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

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."

# PGN-plus-P 40

Universal gripper

## Programmable magnetic switch MMS-IO-Link



### 74 Limit stop for sensor

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

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

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

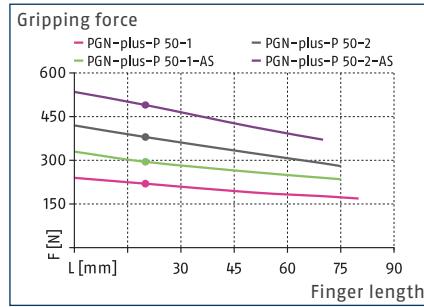


# PGN-plus-P 50

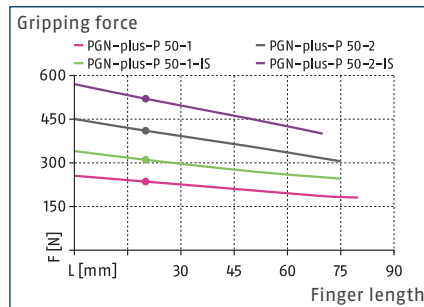
Universal gripper



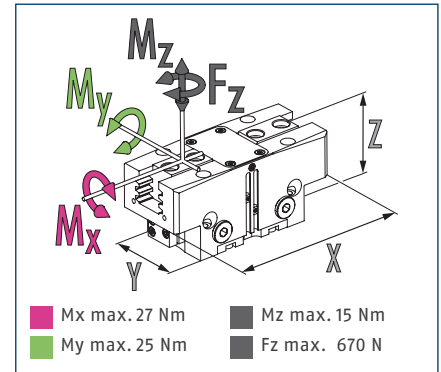
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

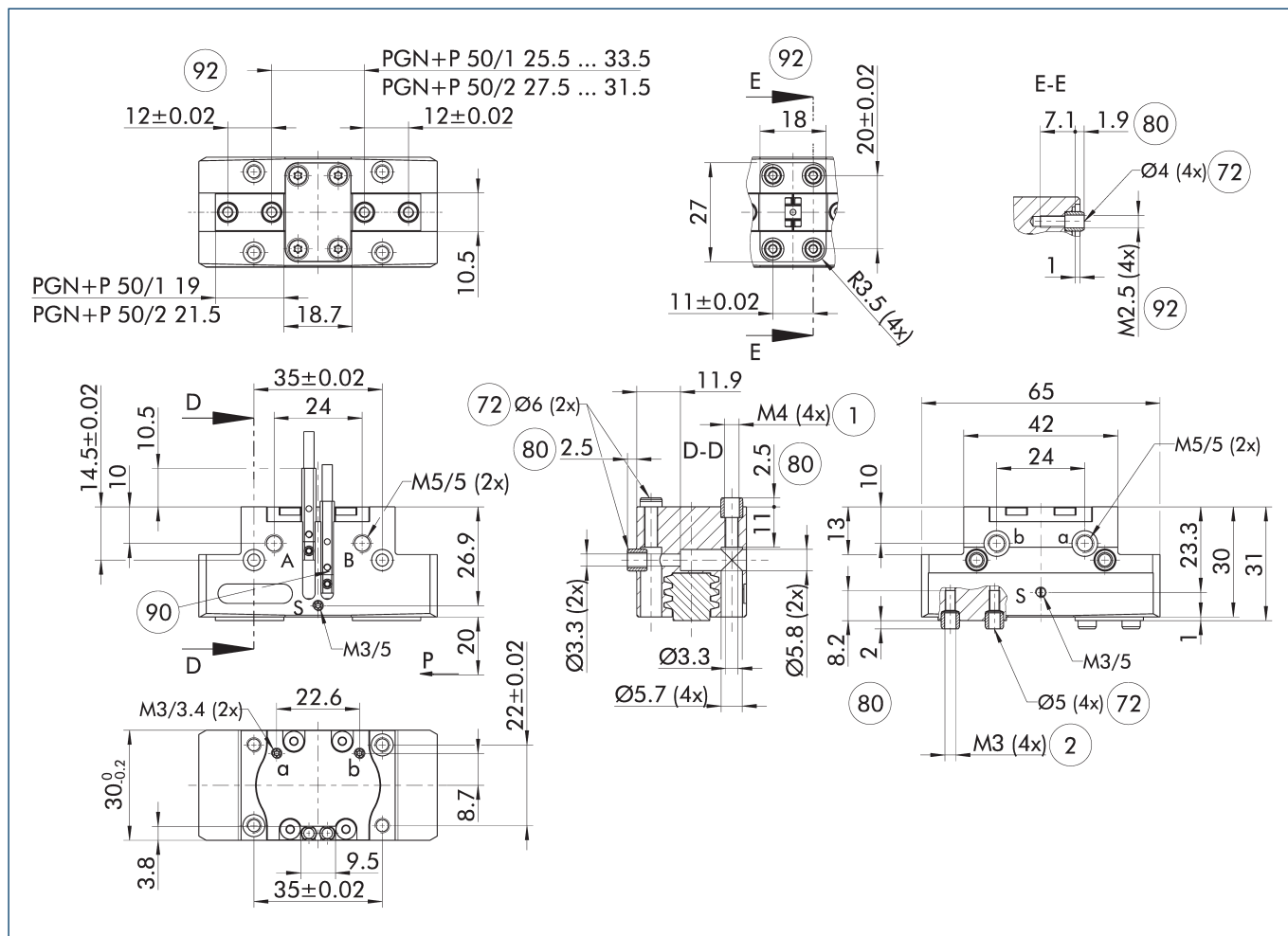
## Technical data

Description		PGN-plus-P 50-1	PGN-plus-P 50-2	PGN-plus-P 50-1-AS	PGN-plus-P 50-2-AS	PGN-plus-P 50-1-IS	PGN-plus-P 50-2-IS
ID		0318472	0318473	0318474	0318475	0318476	0318477
Stroke per jaw	[mm]	4	2	4	2	4	2
Closing/opening force	[N]	220/235	380/410	295/-	490/-	-/300	-/520
Min. spring force	[N]			75	110	65	110
Weight	[kg]	0.17	0.17	0.2	0.2	0.2	0.2
Recommended workpiece weight	[kg]	1.1	1.9	1.1	1.9	1.1	1.9
Fluid consumption double stroke	[cm <sup>3</sup> ]	6	6	10	10	12	12
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.015/0.015	0.015/0.015	0.015/0.025	0.015/0.025	0.025/0.015	0.025/0.015
Closing/opening time with spring	[s]			0.03	0.03	0.03	0.03
Max. permissible finger length	[mm]	80	75	75	70	75	70
Max. permissible mass per finger	[kg]	0.2	0.2	0.2	0.2	0.2	0.2
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	65 x 30 x 31	65 x 30 x 31	65 x 30 x 47	65 x 30 x 47	65 x 30 x 47	65 x 30 x 47
<b>Options and their characteristics</b>							
Dustproof version		1317516	1317527	1317531	1317534	1317539	1317541
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.21	0.21	0.24	0.24	0.24	0.24
Corrosion-protected version		38318472	38318473	38318474	38318475	38318476	38318477
High-temperature version		39318472	39318473	39318474	39318475	39318476	39318477
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0318478	0318479	0318480	0318481		
H1 grease version		1328472	1475830	1353810	1475833	1353811	1475836
Dustproof/H1 grease version		1475829	1475831	1475832	1475834	1475835	1475837
Weight	[kg]	0.21	0.21	0.24	0.24	0.24	0.24
IP protection class		64	64	64	64	64	64

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



## Main view



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

① The SDV-P pressure maintenance valve can 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).

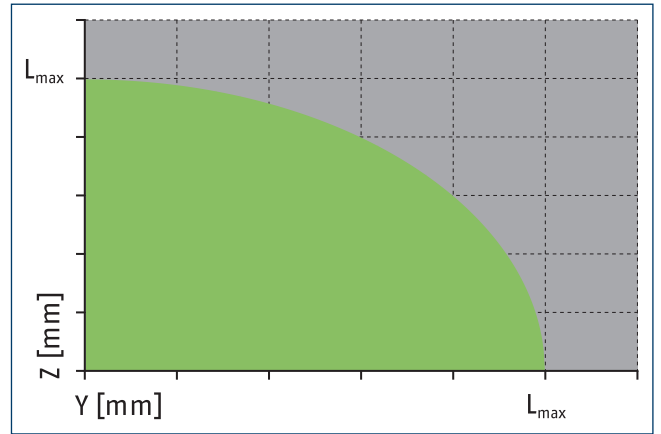
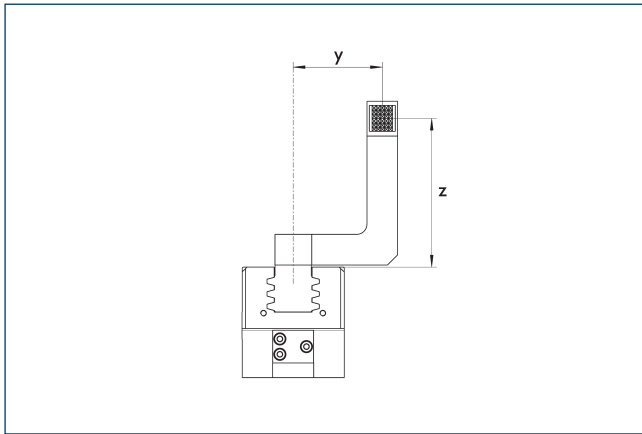
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves

- 80 Depth of the centering sleeve hole in the counter part
- 90 Sensor MMS 22..
- 92 Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 50

Universal gripper

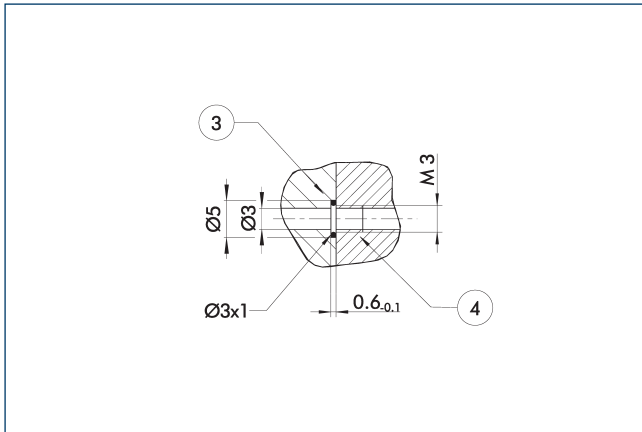
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M3

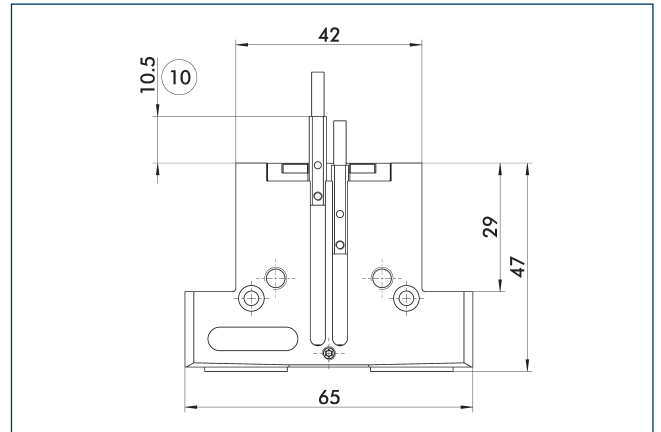


③ Adapter

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.

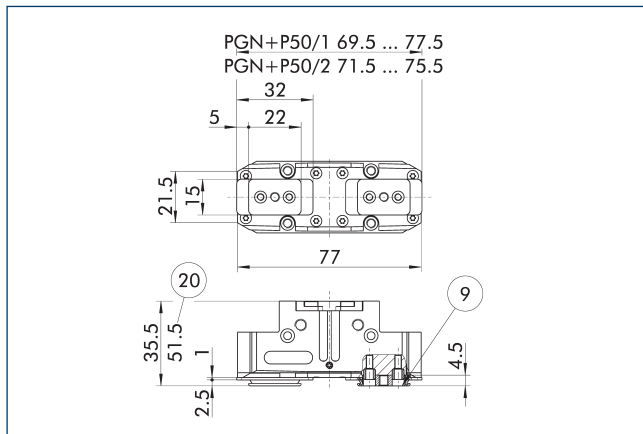
## Gripping force maintenance device AS / IS



⑩ Projection applies only for AS version

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.

## Dustproof version



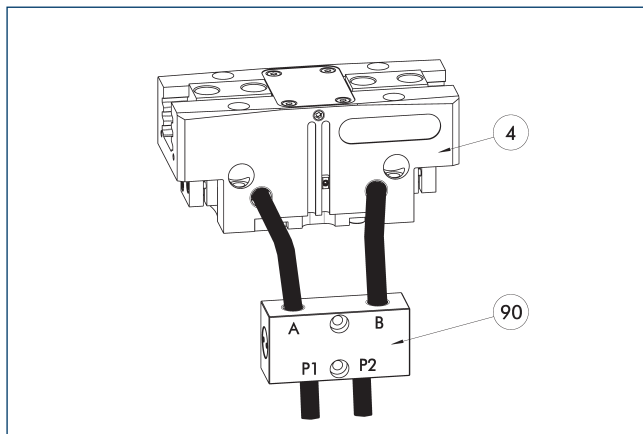
- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 50	1347474

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## SDV-P pressure maintenance valve



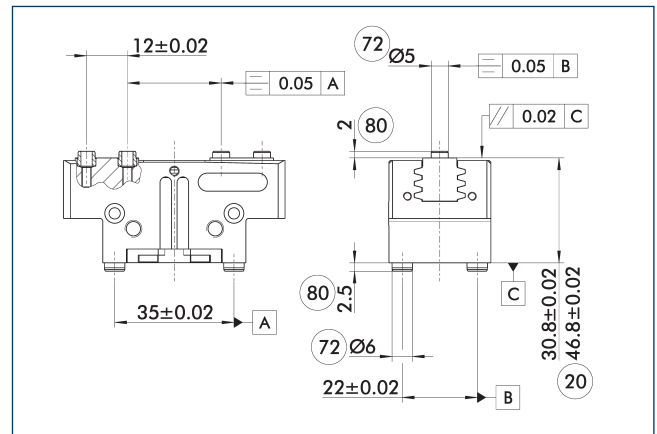
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

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

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

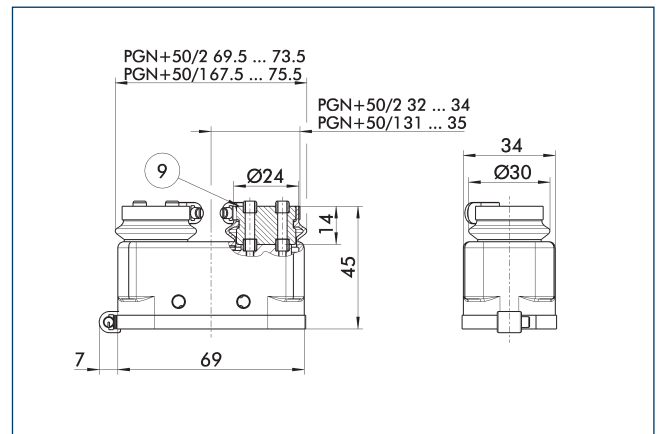
## Precision version



- ⑩ For AS / IS version
- ⑩⑪ Fit for centering sleeves
- ⑩⑫ Depth of the centering sleeve hole in the counter part

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.

## Protective cover HUE PGN-plus 50



- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

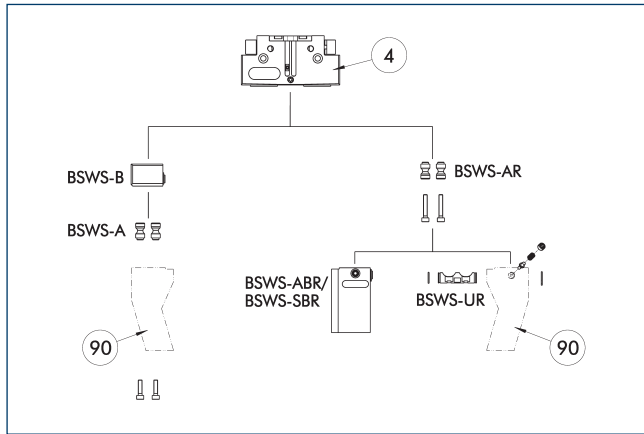
Description	ID	IP protection class
Protection cover		
HUE PGN-plus 50	0371479	65

- ① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

# PGN-plus-P 50

Universal gripper

## BSWS jaw quick-change jaw systems



④ Grippers      ⑨① Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
<b>Quick-change jaw system base</b>		
BSWS-B 50	0303021	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 50	0300071	1
BSWS-SBR-PGZN-plus 50	0300081	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 50	0302990	1

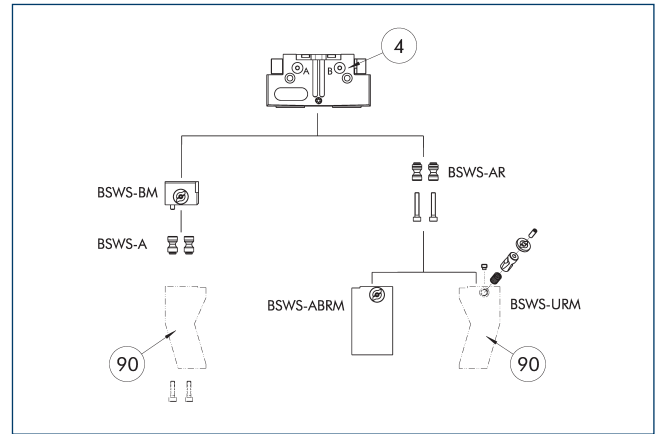
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	50	-1 (6 bar)	■■■■■
PGN-plus-P	50	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	50	-2 (6 bar)	■■■■■
PGN-plus-P	50	-2-AS / -2-IS (6 bar)	■■■■■
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Jaw quick-change system BSWS-M



④ Grippers      ⑨① Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
<b>Quick-change jaw system base</b>		
BSWS-BM 50	1313899	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 50	1420850	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 50	1380614	1

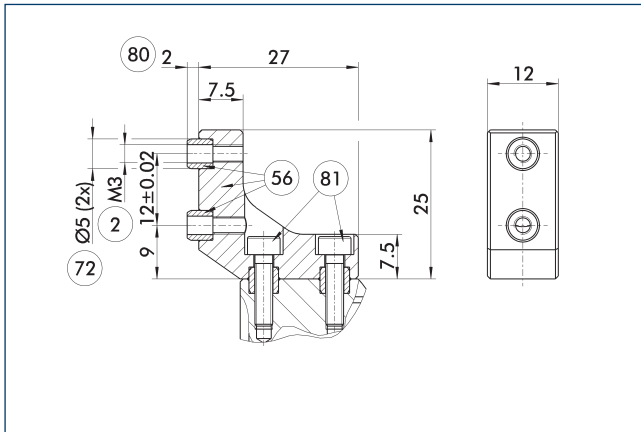
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	50	-1 (6 bar)	■■■■■
PGN-plus-P	50	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	50	-2 (6 bar)	■■■■■
PGN-plus-P	50	-2-AS / -2-IS (6 bar)	■■■■■
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 50 intermediate jaws

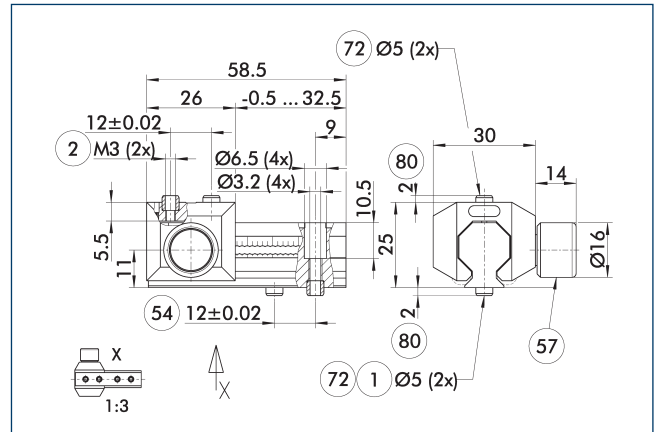


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 50	0311712	Aluminum	PGN-plus 50	1

## UZB 50 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 50	0300041	1.5
Finger blank		
ABR-PGZN-plus 50	0300009	
SBR-PGZN-plus 50	0300019	

## Fields of application

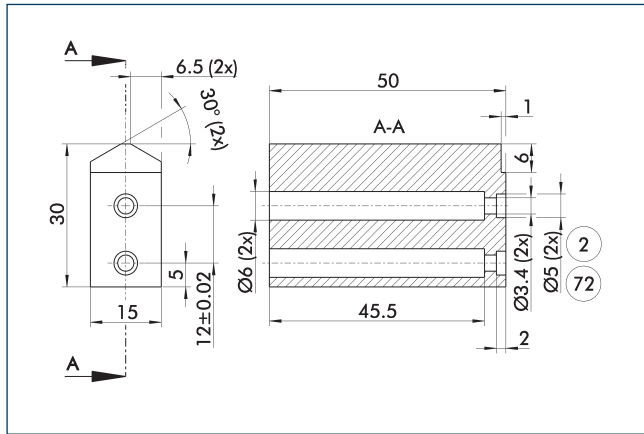
Series	Size	Variant	Suitability
PGN-plus-P	50	-1 (6 bar)	■■■■
PGN-plus-P	50	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	50	-2 (6 bar)	■■□□
PGN-plus-P	50	-2-AS / -2-IS (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 50

Universal gripper

## Finger blank ABR- / SBR-PGZN-plus 50

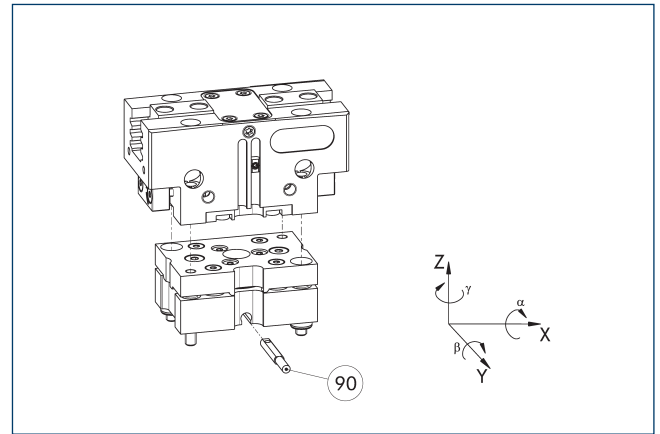


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 50	0300009	Aluminum (3.4365)	1
SBR-PGZN-plus 50	0300019	Steel (1.7131)	1

## Tolerance compensation unit TCU

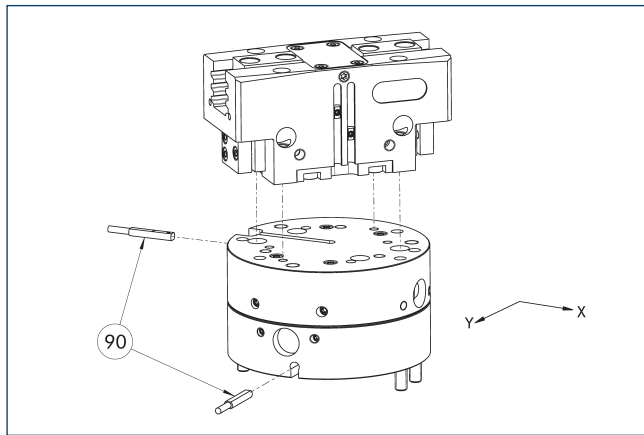


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection
Compensation unit			
TCU-P-050-3-0V	0324757	no	±1°/±1°/±1,5°

## Compensation unit AGE-F



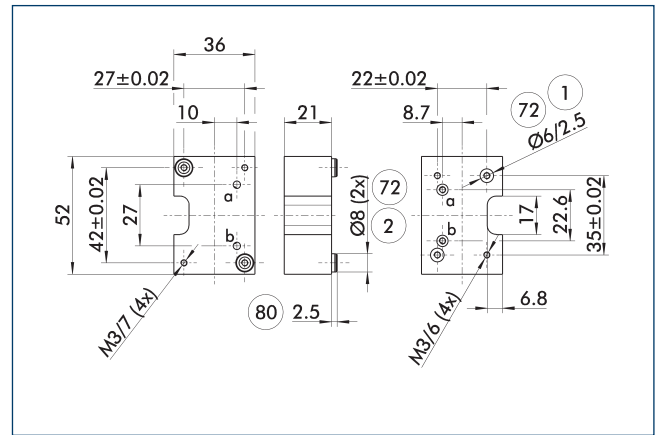
- ⑨⑩ Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-040-1	0324920	± 2	3	
AGE-F-XY-040-2	0324921	± 2	4	
AGE-F-XY-040-3	0324922	± 2	4.5	●

- ① Due to the interfering contour, monitoring of the gripper is not possible.

## Adapter plate for PGN-plus 50



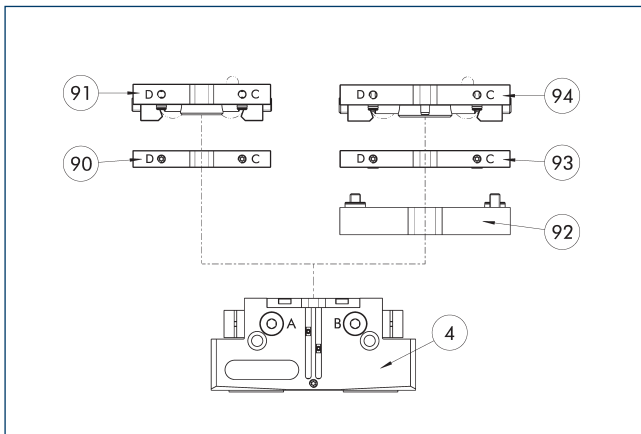
- ① Robot-side connection
- ② Tool-side connection
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-064-050-P	0305768



## Compact change system for grippers

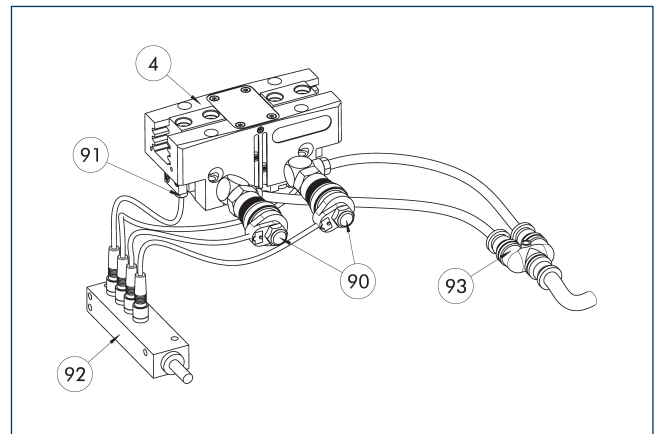


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨① CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

Grippers can be directly mounted without an adapter plate. For details see our catalog Gripping or Robot Accessories.

Description	ID
<b>Tool side</b>	
A-CWA-064-050-P	0305768
<b>CWA compact change adapter</b>	
CWA-050-P	0305751
<b>CWK compact change master</b>	
CWK-050-P	0305750

## Attachment valves



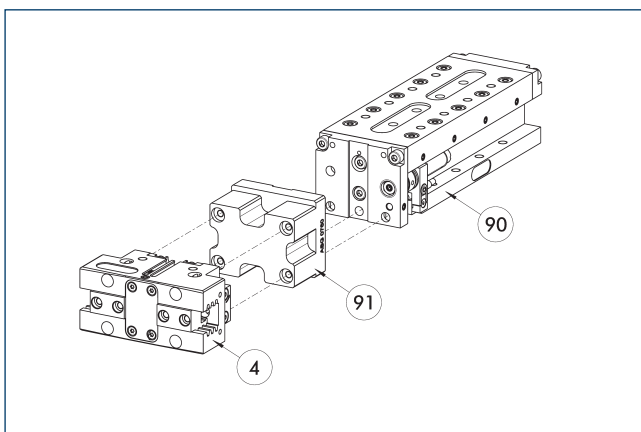
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

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

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

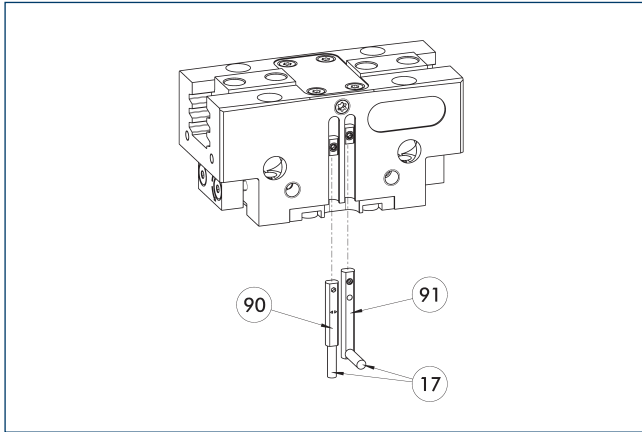
## Modular Assembly Automation



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

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

### Electronic magnetic switch MMS



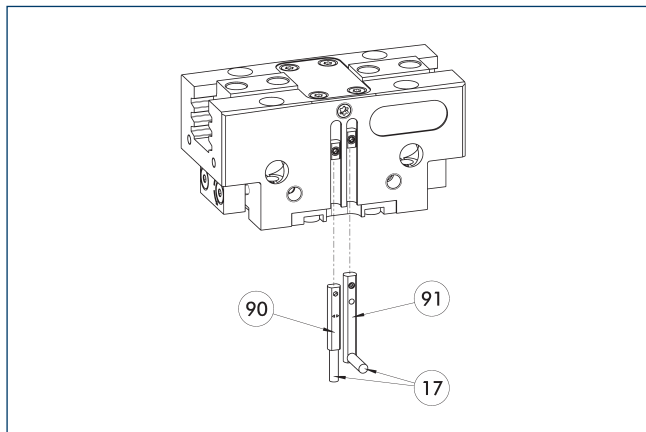
- 17 Cable outlet                      91 Sensor MMS 22 ..-PI1-...-SA  
90 Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



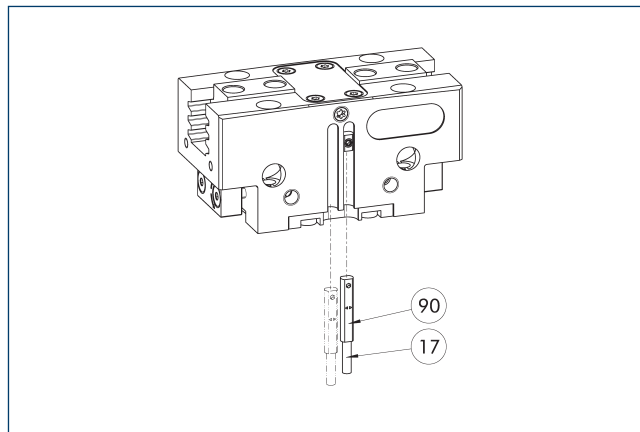
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

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

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

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

## Programmable magnetic switch MMS 22-PI2



- ⑰ Cable outlet
- ⑨② MMS 22...-PI2-... sensor

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

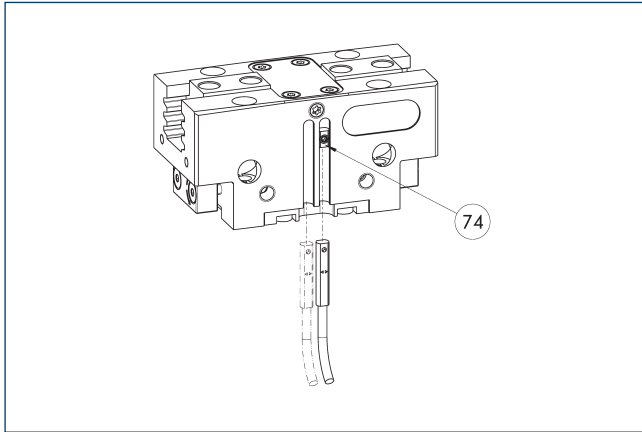
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 50

Universal gripper

## MMS-P programmable magnetic switch



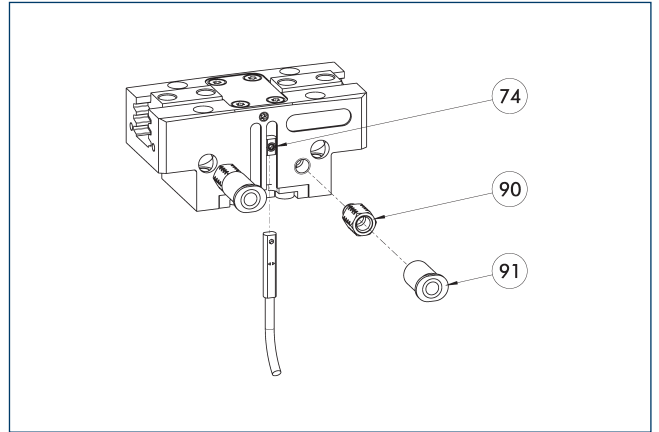
74 Limit stop for sensor

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	●
Connection cables		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
clip for plug/socket		
CLI-M8	0301463	
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



74 Limit stop for sensor

90 Flow control coupling,  $\varnothing$  0.8 mm, for teaching process (ID 9953035 / not included in the scope of delivery)

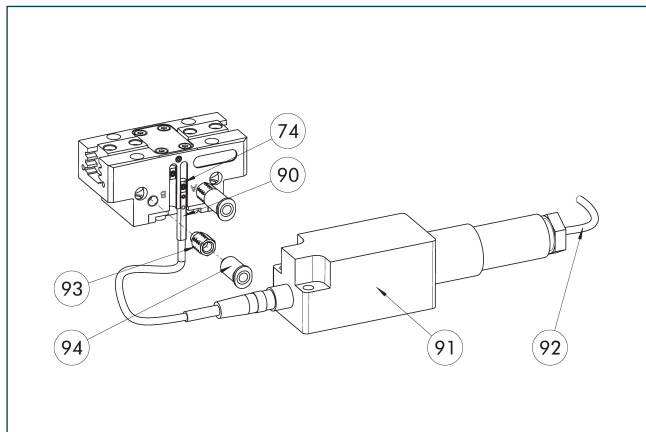
91 Air connection (not included in the scope of delivery)

Multi-position monitoring with no-contact measuring analog sensor, can be mounted directly in the C-slot. The electronics are built into the sensor. Programmed using the MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (to be ordered separately).

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

① One sensor is required per unit. The output voltage of the sensor differs according to the unit and is typically between 0.3 and 10 V. For teaching the sensor, a flow control coupling is required to reduce the speed during the teaching process. The resolution of the sensor can be smaller in the peripheral areas of the gripper. For further information on the product, see operating manual.

## Flexible position sensor with MMS-A



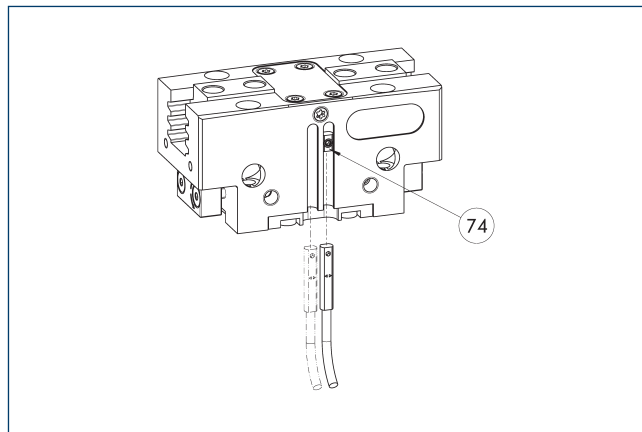
- ⑦④ Limit stop for sensor
- ⑨⑩ MMS 22-A-... sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Connection cables
- ⑨③ Flow control coupling,  $\varnothing$  0.8 mm, for teaching process (ID 9953035 / not included in the scope of delivery)
- ⑨④ Air connection (not included in the scope of delivery)

Flexible position monitoring of up to five positions.

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

- ① When using an FPS system, an MMS 22-A-05V, and evaluation electronics (FPS-F5) are required for each gripper. For teaching the sensor, a flow control coupling is required to reduce the speed during the teaching process. The resolution of the sensor can be smaller in the peripheral areas of the gripper. For further information on the product, see operating manual.

## Programmable magnetic switch MMS-IO-Link



- ⑦④ Limit stop for sensor

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	
<b>Programmable magnetic switch</b>		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

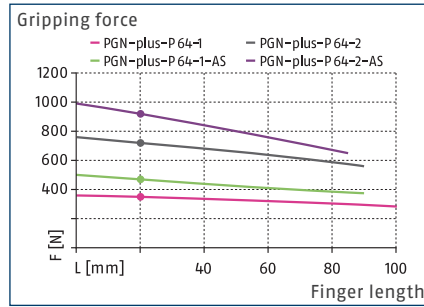
- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# PGN-plus-P 64

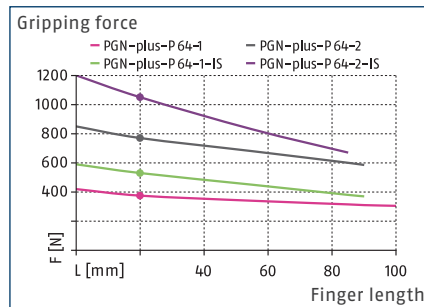
Universal gripper



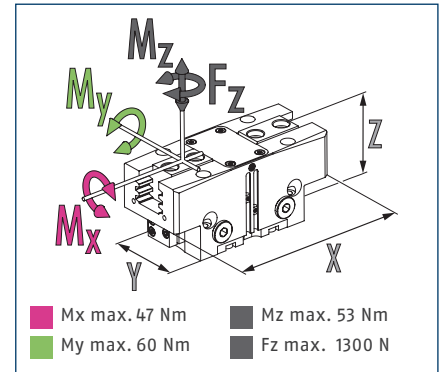
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



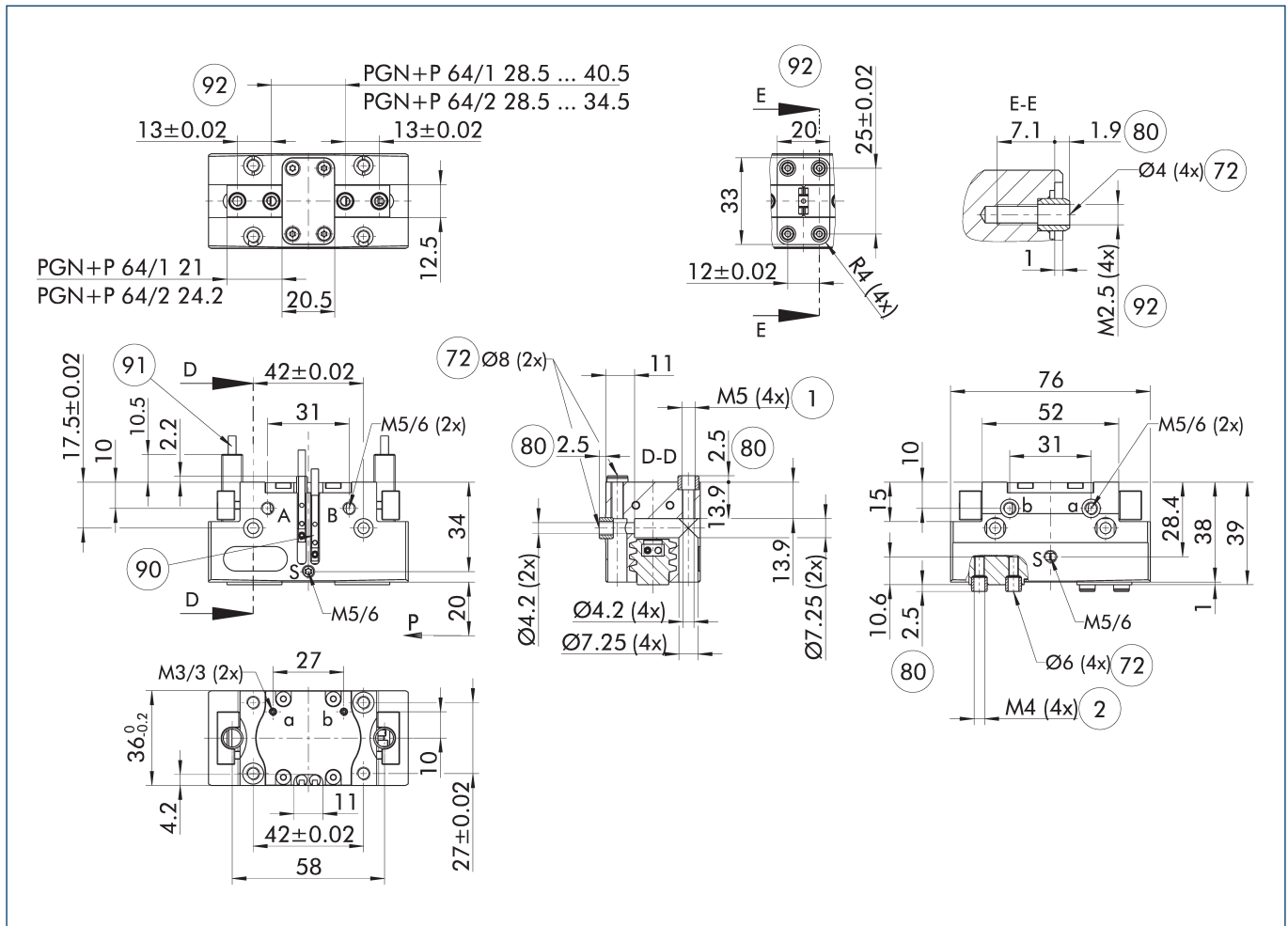
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 64-1	PGN-plus-P 64-2	PGN-plus-P 64-1-AS	PGN-plus-P 64-2-AS	PGN-plus-P 64-1-IS	PGN-plus-P 64-2-IS
ID		0318496	0318497	0318498	0318499	0318500	0318501
Stroke per jaw	[mm]	6	3	6	3	6	3
Closing/opening force	[N]	350/375	720/770	470/-	920/-	-/530	-/1050
Min. spring force	[N]			120	200	155	280
Weight	[kg]	0.27	0.27	0.35	0.35	0.35	0.35
Recommended workpiece weight	[kg]	1.75	3.6	1.75	3.6	1.75	3.6
Fluid consumption double stroke	[cm <sup>3</sup> ]	15	15	24	24	27	27
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Closing/opening time with spring	[s]			0.07	0.07	0.07	0.07
Max. permissible finger length	[mm]	100	90	90	85	90	85
Max. permissible mass per finger	[kg]	0.4	0.4	0.4	0.4	0.4	0.4
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	76 x 36 x 39	76 x 36 x 39	76 x 36 x 57	76 x 36 x 57	76 x 36 x 57	76 x 36 x 57
<b>Options and their characteristics</b>							
Dustproof version		1317542	1317543	1317545	1317548	1317549	1317558
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.34	0.34	0.42	0.42	0.42	0.42
Corrosion-protected version		38318496	38318497	38318498	38318499	38318500	38318501
High-temperature version		39318496	39318497	39318498	39318499	39318500	39318501
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0318502	0318503	0318504	0318505		
H1 grease version		1330366	1475839	1353812	1475842	1353813	1475845
Dustproof/H1 grease version		1475838	1475840	1475841	1475843	1475844	1475846
Weight	[kg]	0.34	0.34	0.42	0.42	0.42	0.42
IP protection class		64	64	64	64	64	64

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

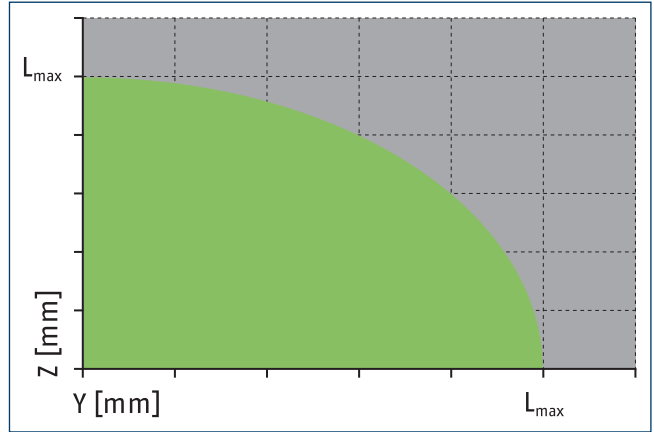
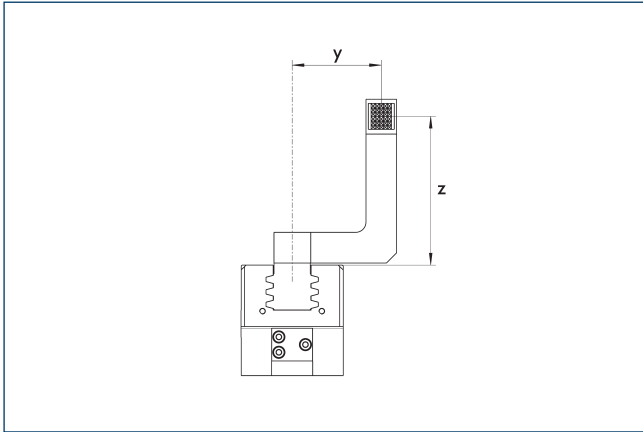
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦ Fit for centering sleeves

- ⑧ Depth of the centering sleeve hole in the counter part
- ⑨ Sensor MMS 22..
- ⑩ Sensor IN ...
- ⑪ Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 64

Universal gripper

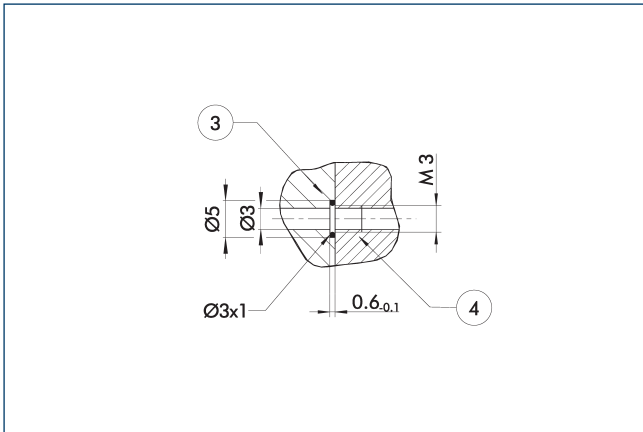
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M3

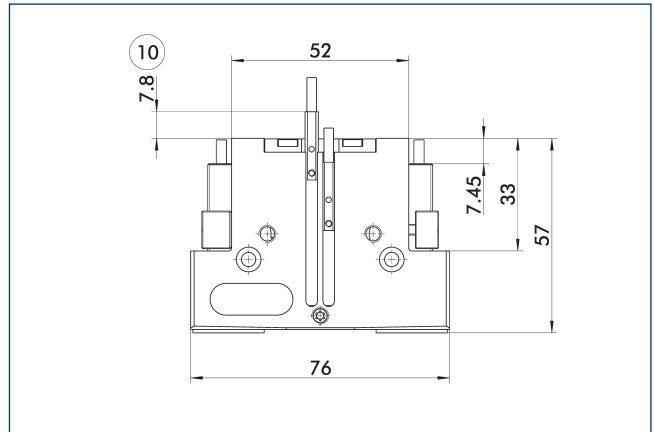


③ Adapter

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 device AS / IS

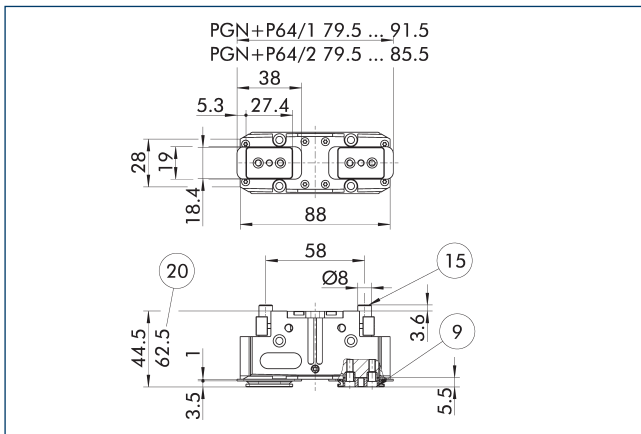


⑩ Projection applies only for AS version

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.



## Dustproof version



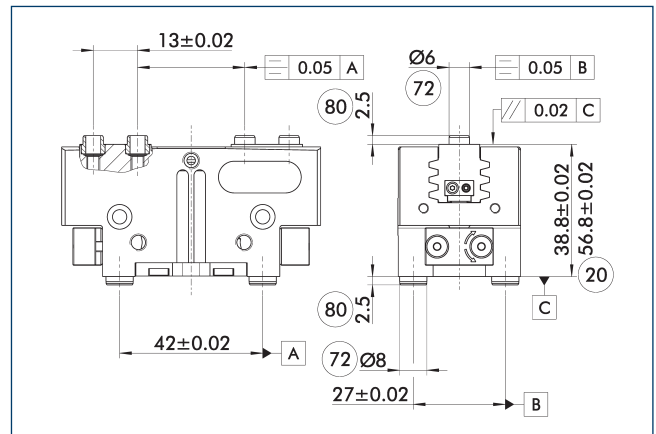
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 64	1347481

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



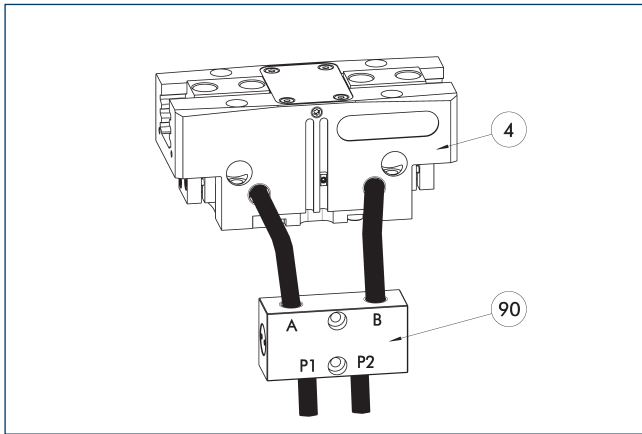
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ㉔ Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 64

Universal gripper

## SDV-P pressure maintenance valve



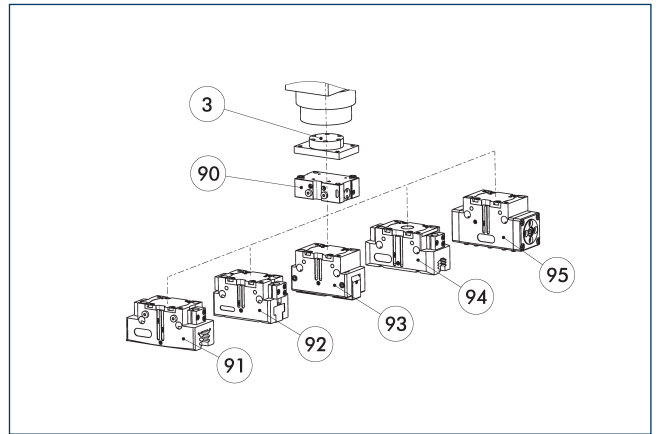
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

## SDV-P E-P pressure maintenance valve

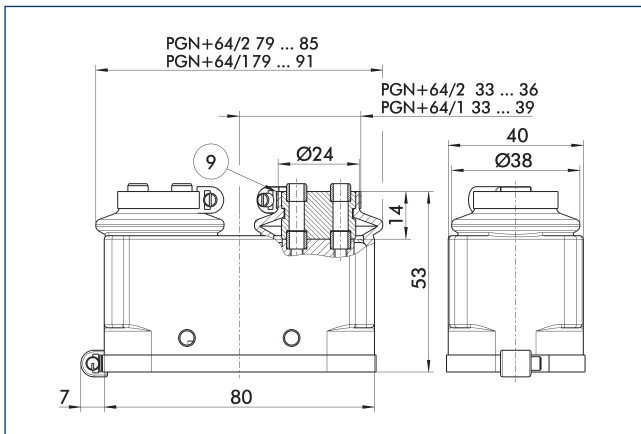


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID	
Pressure maintenance valve		
SDV-P 64-E-P	0300124	

## Protective cover HUE PGN-plus 64



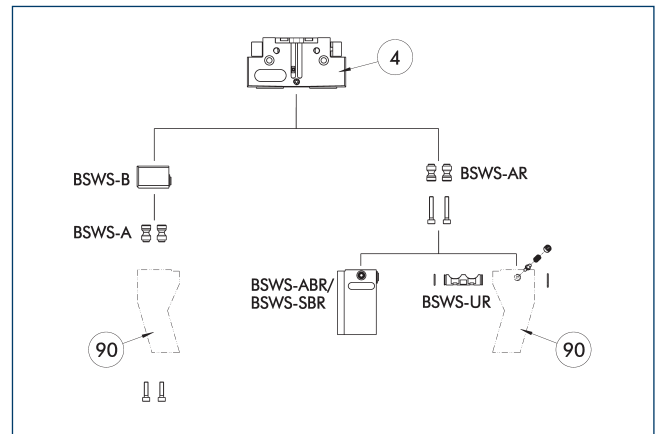
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 64	0371480	65

ⓘ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 64	0303022	2
BSWS-AR 64	0300092	2
Quick-change jaw system base		
BSWS-B 64	0303023	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 64	0300072	1
BSWS-SBR-PGZN-plus 64	0300082	1
Jaw quick-change system locking mechanism		
BSWS-UR 64	0302991	1

ⓘ Only systems that are listed in the table, can be used.

## Fields of application

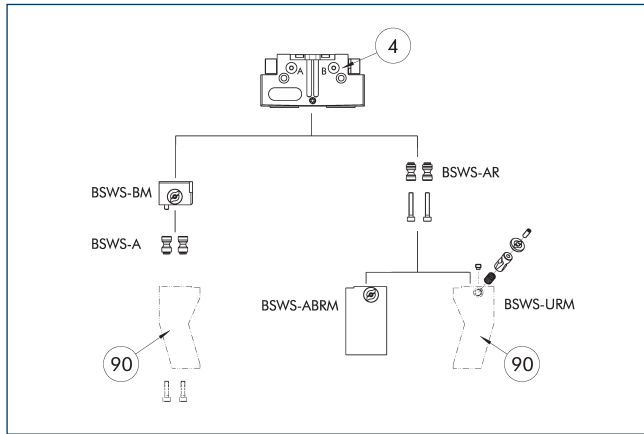
Series	Size	Variant	Suitability
PGN-plus-P	64	-1 (6 bar)	■■■■■
PGN-plus-P	64	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	64	-2 (6 bar)	■■■■■
PGN-plus-P	64	-2-AS / -2-IS (6 bar)	■■■■■
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 64

Universal gripper

## Jaw quick-change system BSWs-M



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 64	0303022	2
BSWS-AR 64	0300092	2
<b>Quick-change jaw system base</b>		
BSWS-BM 64	1313900	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 64	1420851	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 64	1398401	1

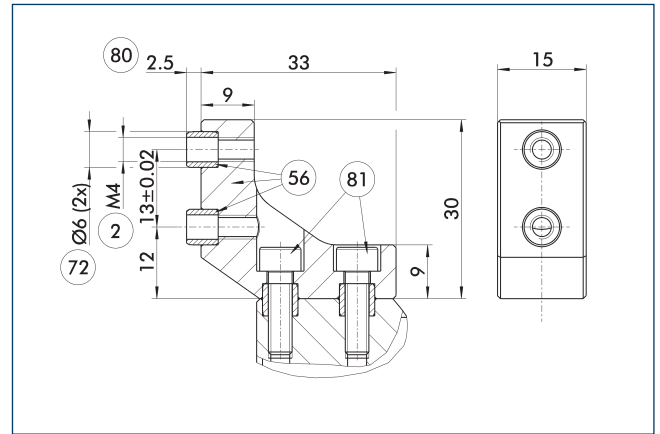
① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	64	-1 (6 bar)	■■■■■
PGN-plus-P	64	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	64	-2 (6 bar)	■■■■■
PGN-plus-P	64	-2-AS / -2-IS (6 bar)	■■■■■
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 64 intermediate jaws

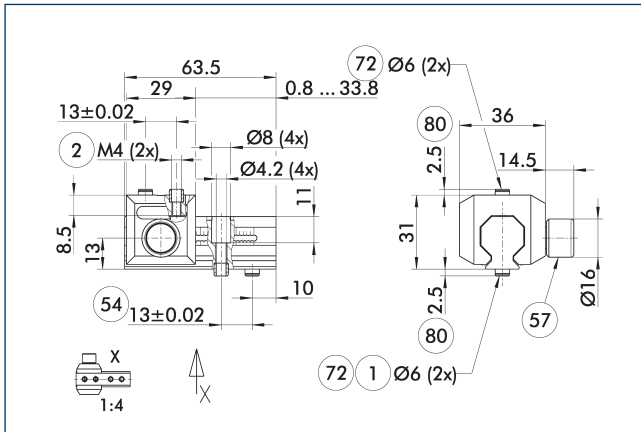


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
<b>Intermediate jaw</b>				
ZBA-L-plus 64	0311722	Aluminum	PGN-plus 64	1

## UZB 64 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

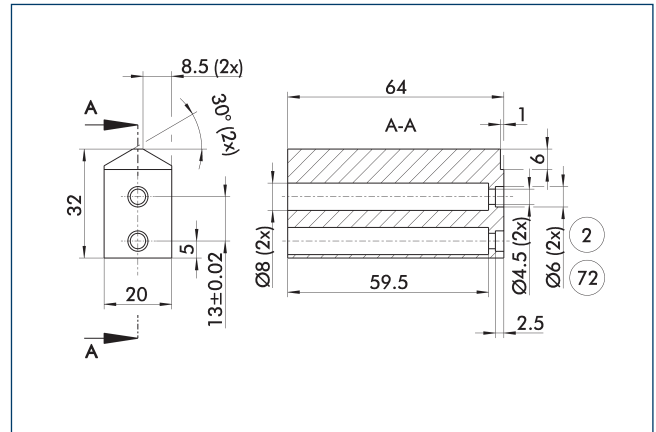
Description	ID	Grid dimension
[mm]		
Universal intermediate jaw		
UZB 64	0300042	1.5
Finger blank		
ABR-PGZN-plus 64	0300010	
SBR-PGZN-plus 64	0300020	

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	64	-1 (6 bar)	■■■■■
PGN-plus-P	64	-1-AS / -1-IS (6 bar)	■■■□
PGN-plus-P	64	-2 (6 bar)	■■■□
PGN-plus-P	64	-2-AS / -2-IS (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.  
If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 64



- ② Finger connection
- ⑦② Fit for centering sleeves

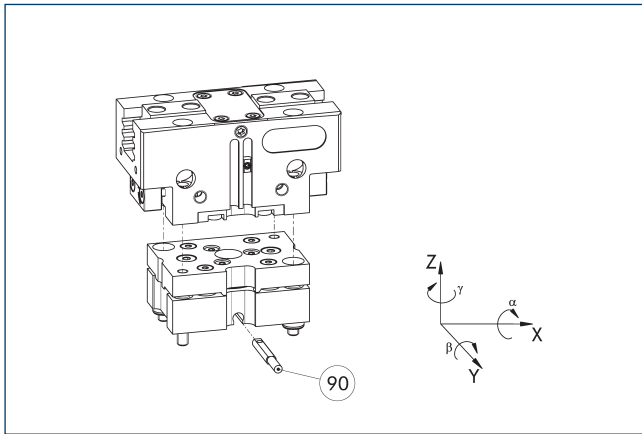
The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 64	0300010	Aluminum (3.4365)	1
SBR-PGZN-plus 64	0300020	Steel (1.7131)	1

# PGN-plus-P 64

Universal gripper

## Tolerance compensation unit TCU

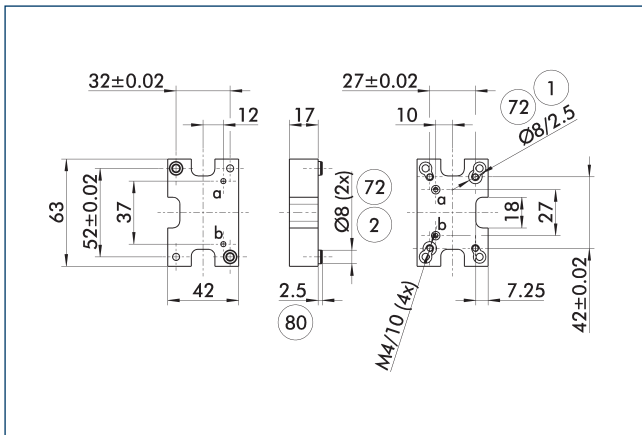


### 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-064-3-MV	0324774	yes	$\pm 1^\circ/\pm 1,5^\circ/\pm 2^\circ$	●
TCU-P-064-3-OV	0324775	no	$\pm 1^\circ/\pm 1,5^\circ/\pm 2^\circ$	

## Adapter plate for PGN-plus 64

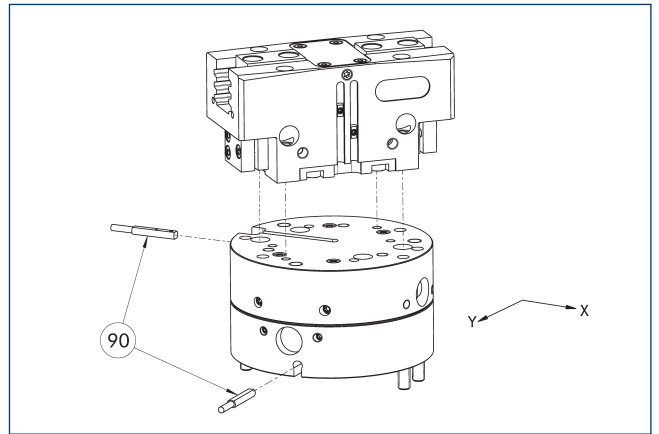


- 1 Robot-side connection
- 2 Tool-side connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part

The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-080-064-P	0305784

## Compensation unit AGE-F



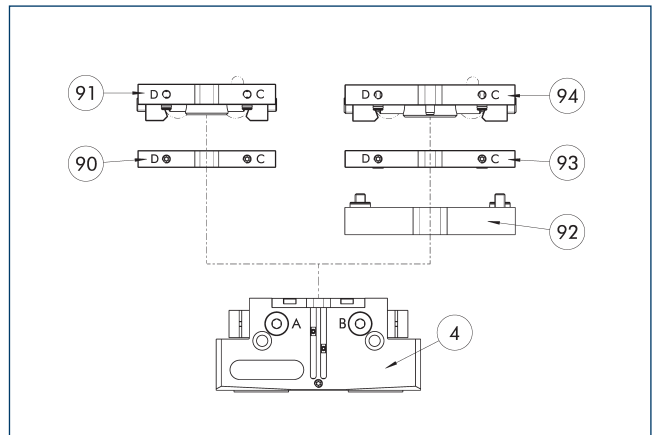
### 90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY [mm]	Reset force [N]	Often combined
Compensation unit				
AGE-F-XY-063-1	0324940	$\pm 4$	12	
AGE-F-XY-063-2	0324941	$\pm 4$	16	
AGE-F-XY-063-3	0324942	$\pm 4$	20	●

Due to the interfering contour, monitoring of the gripper is not possible.

## Compact change system for grippers

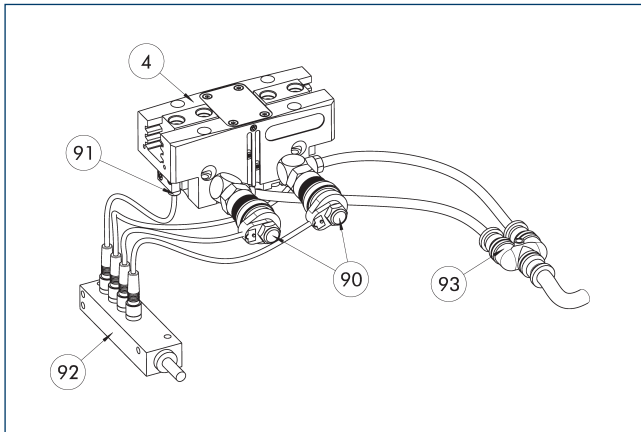


- 4 Grippers
- 90 CWA compact change adapter
- 91 CWK compact change master
- 92 A-CWA adapter plate
- 93 CWA compact change adapter
- 94 CWK compact change master

Grippers can be directly mounted without an adapter plate. For details see our catalog Gripping or Robot Accessories.

Description	ID
Tool side	
A-CWA-080-064-P	0305784
CWA compact change adapter	
CWA-064-P	0305765
CWK compact change master	
CWK-064-P	0305764

## Attachment valves



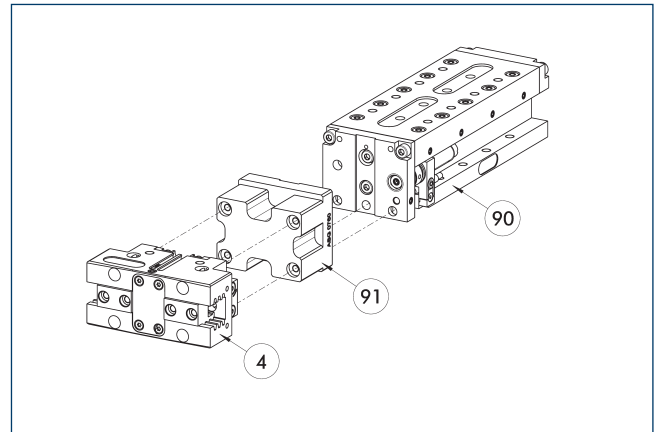
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

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

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

## Modular Assembly Automation



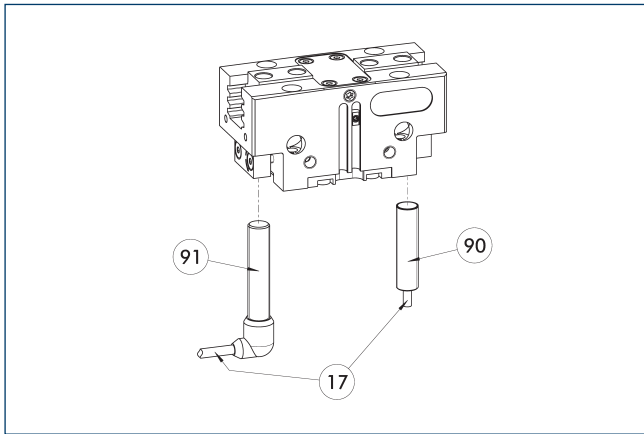
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

# PGN-plus-P 64

Universal gripper

## Inductive proximity switches



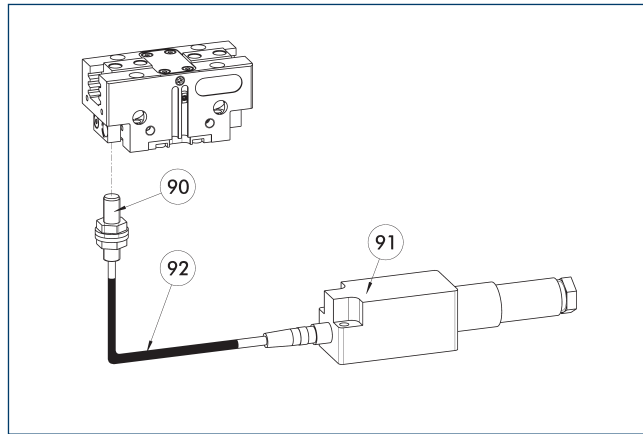
- ⑰ Cable outlet
- ⑲ Sensor IN...-SA
- ⑩ Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

## Flexible position sensor



- ⑩ FPS-S sensor
- ⑲ FPS-F5 evaluation electronic
- ⑩ Cable extension

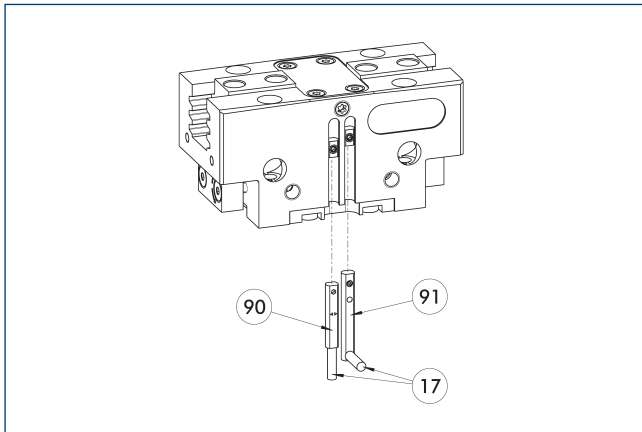
Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 64/80	1363890	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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



## Electronic magnetic switch MMS



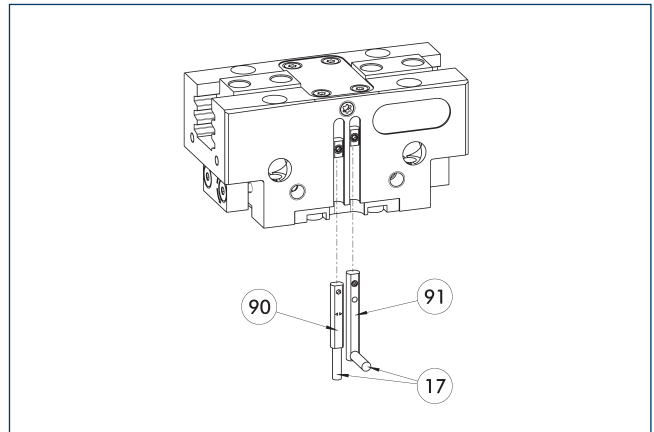
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



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

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

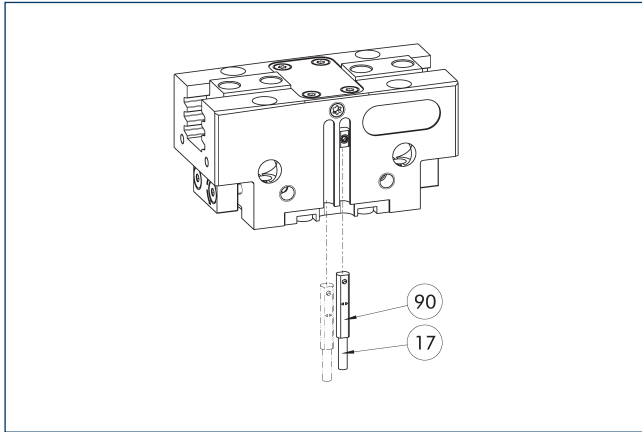
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 64

Universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

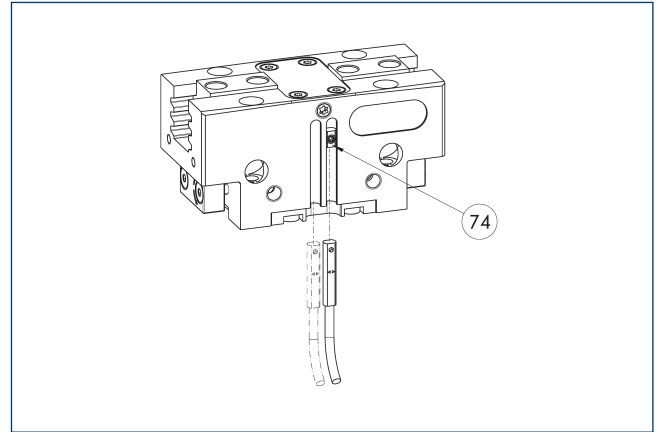
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



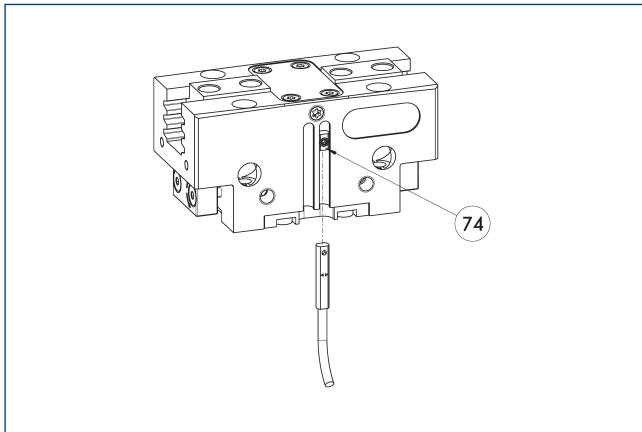
74 Limit stop for sensor

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

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

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

## MMS-A analog position sensor



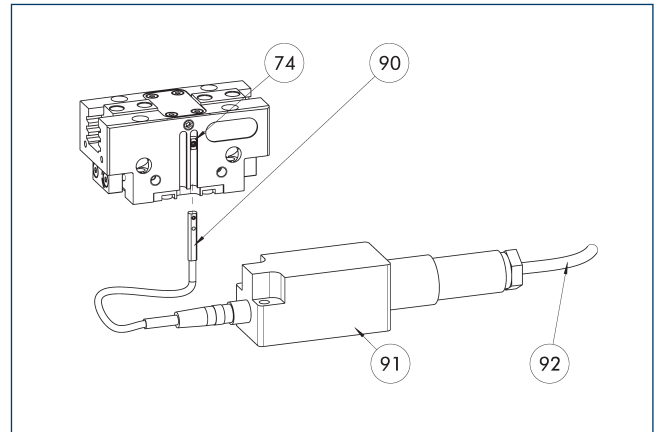
74 Limit stop for sensor

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.

## 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.

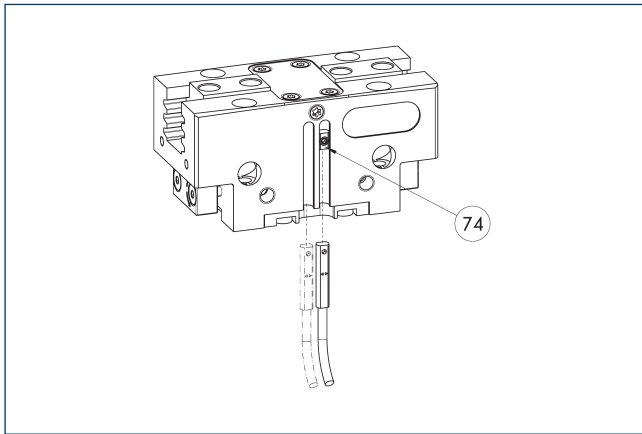
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

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."

# PGN-plus-P 64

Universal gripper

## Programmable magnetic switch MMS-IO-Link



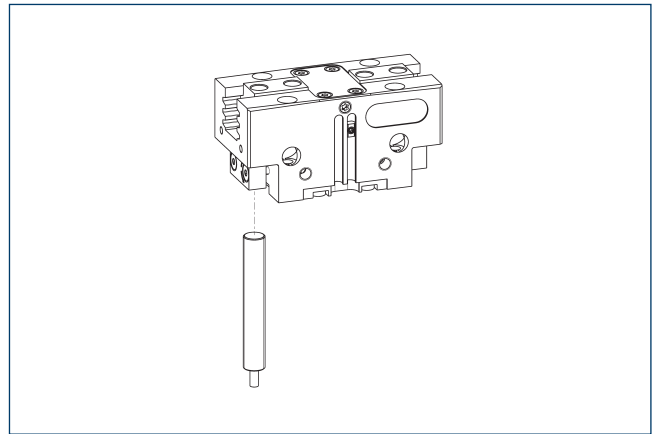
⑦④ Limit stop for sensor

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.

## APS-Z80 analog position sensor

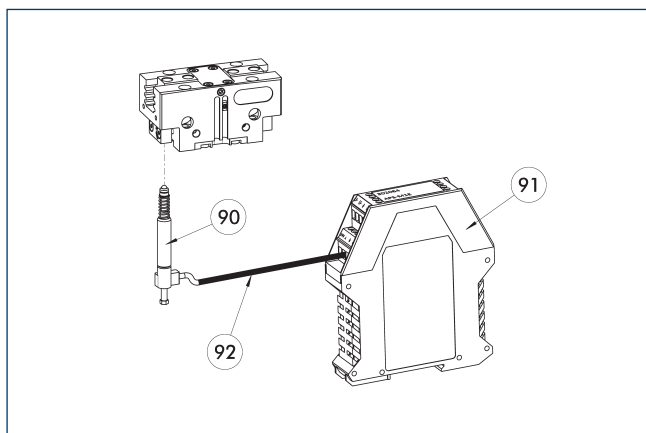


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 64-1	1366196	
AS-APS-Z80-PGN-plus-P 64-2	1366200	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGN-plus-P 64-1	1363716	
AS-APS-M1-PGN-plus-P 64-2	1363721	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

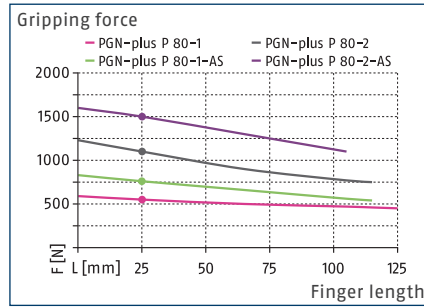
- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus-P 80

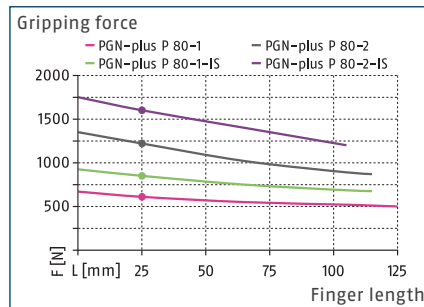
Universal gripper



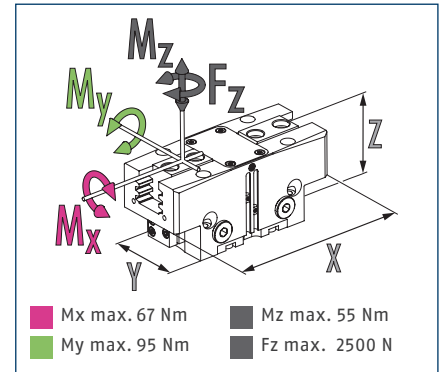
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



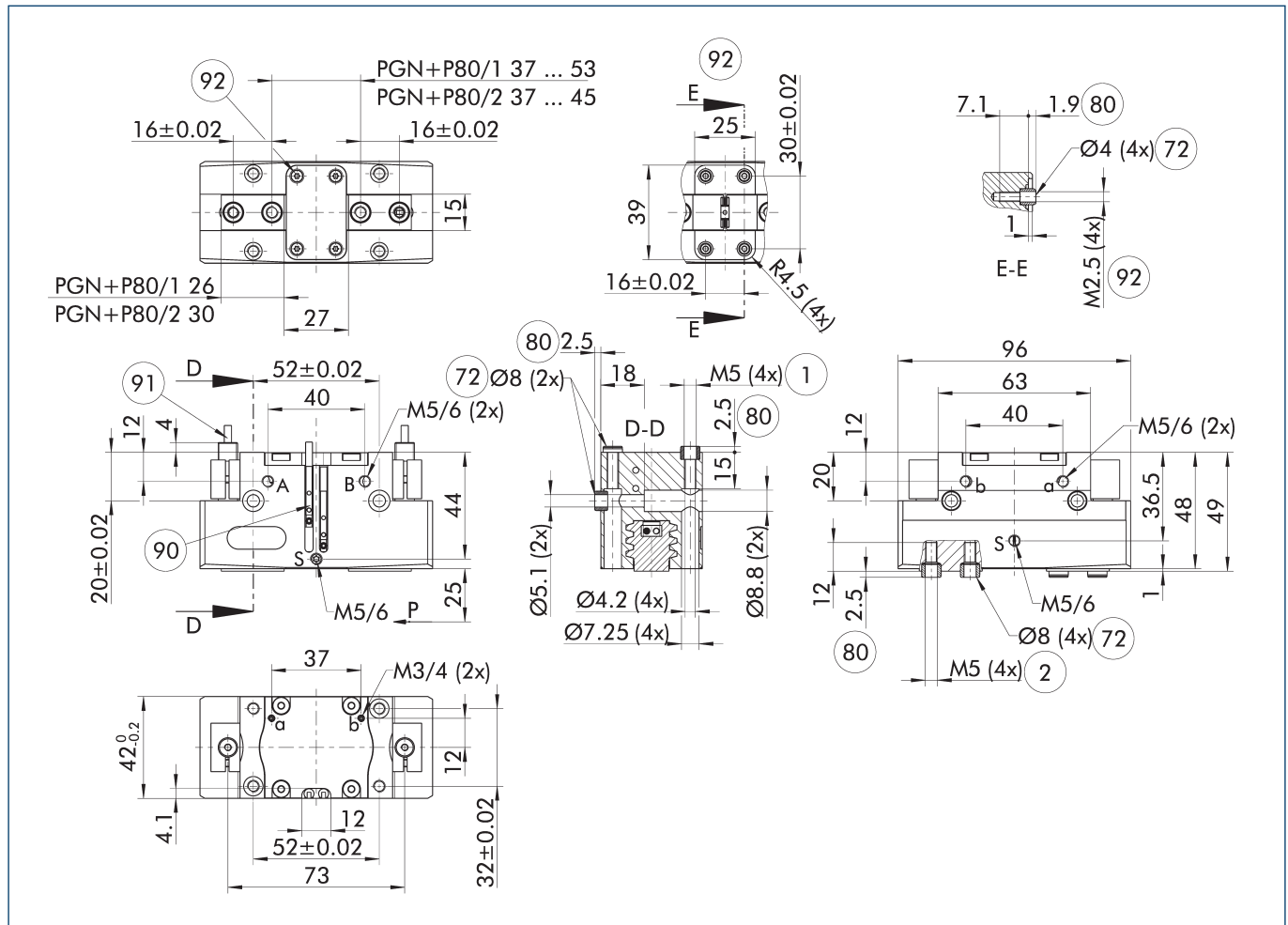
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 80-1	PGN-plus-P 80-2	PGN-plus-P 80-1-AS	PGN-plus-P 80-2-AS	PGN-plus-P 80-1-IS	PGN-plus-P 80-2-IS
ID		0318520	0318521	0318522	0318523	0318524	0318525
Stroke per jaw	[mm]	8	4	8	4	8	4
Closing/opening force	[N]	550/610	1100/1220	760/-	1500/-	-/850	-/1600
Min. spring force	[N]			210	400	240	380
Weight	[kg]	0.51	0.51	0.63	0.63	0.63	0.63
Recommended workpiece weight	[kg]	2.75	5.5	2.75	5.5	2.75	5.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	29	29	44	44	52	52
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.035/0.035	0.035/0.035	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Closing/opening time with spring	[s]			0.08	0.08	0.08	0.08
Max. permissible finger length	[mm]	125	115	115	105	115	105
Max. permissible mass per finger	[kg]	0.7	0.7	0.7	0.7	0.7	0.7
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	96 x 42 x 49	96 x 42 x 49	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67
<b>Options and their characteristics</b>							
Dustproof version		1317561	1317563	1317564	1317565	1317568	1317569
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.58	0.58	0.7	0.7	0.7	0.7
Corrosion-protected version		38318520	38318521	38318522	38318523	38318524	38318525
High-temperature version		39318520	39318521	39318522	39318523	39318524	39318525
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0318526	0318527	0318528	0318529		
H1 grease version		1353814	1360962	1353815	1475849	1353816	1475852
Dustproof/H1 grease version		1408195	1475847	1475848	1475850	1475851	1475853
Weight	[kg]	0.58	0.58	0.7	0.7	0.7	0.7
IP protection class		64	64	64	64	64	64

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

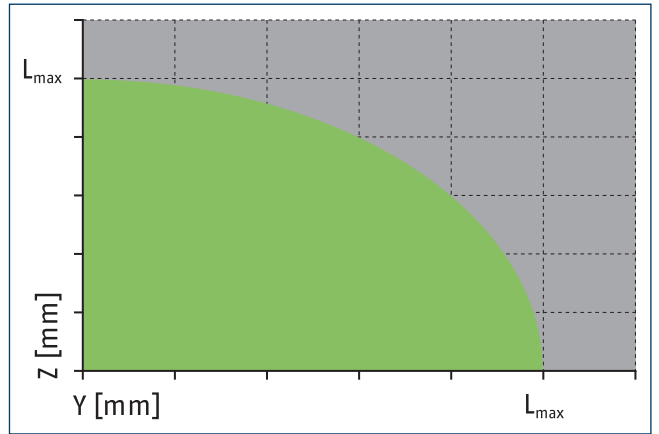
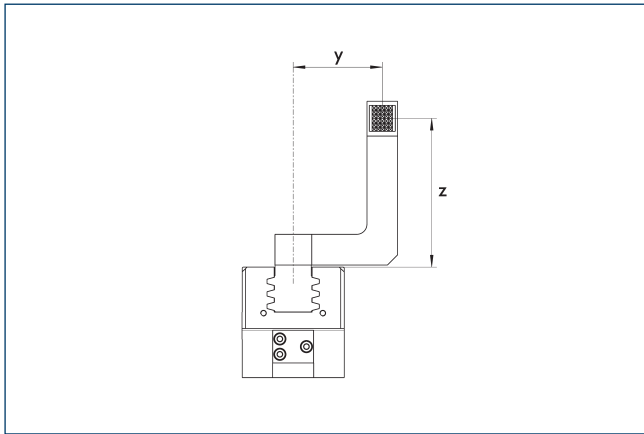
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves

- 80 Depth of the centering sleeve hole in the counter part
- 90 Sensor MMS 22..
- 91 Sensor IN ...
- 92 Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 80

Universal gripper

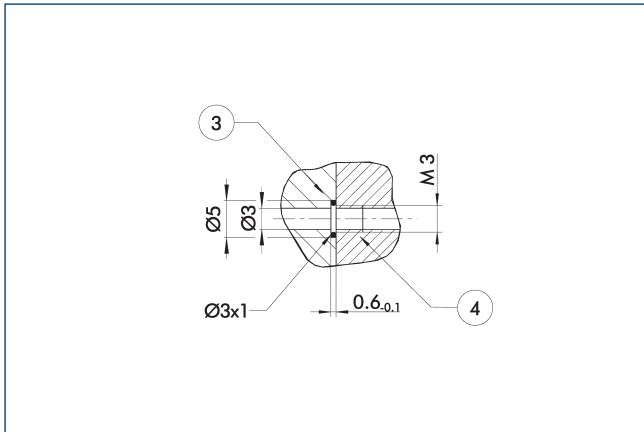
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M3

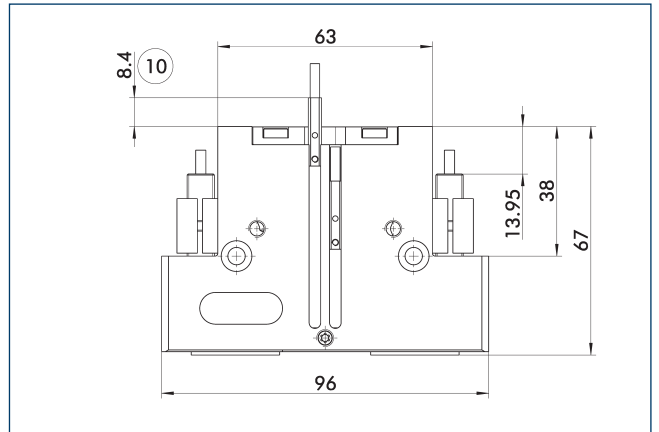


③ Adapter

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 device AS / IS

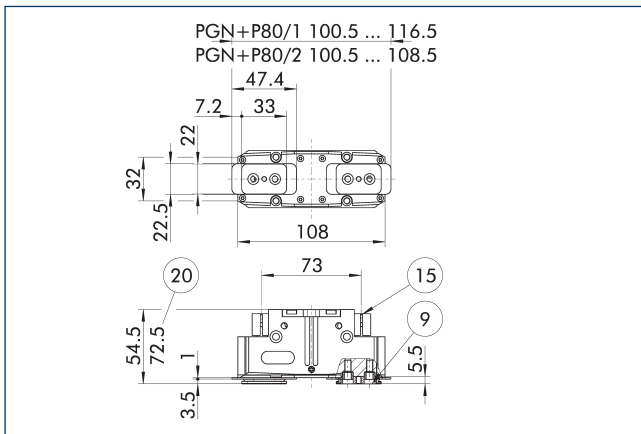


⑩ Projection applies only for AS version

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.



## Dustproof version



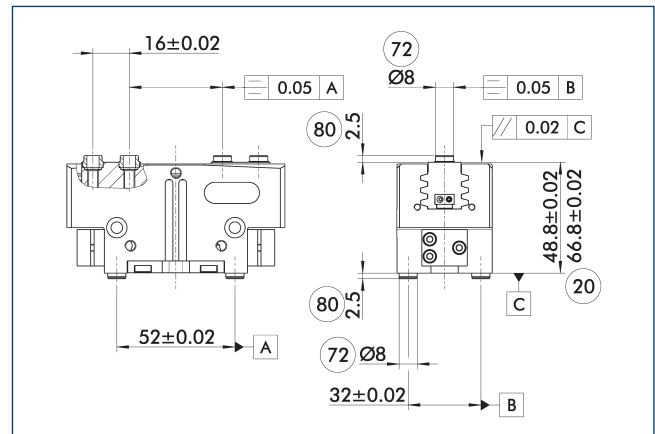
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 80	1347484

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



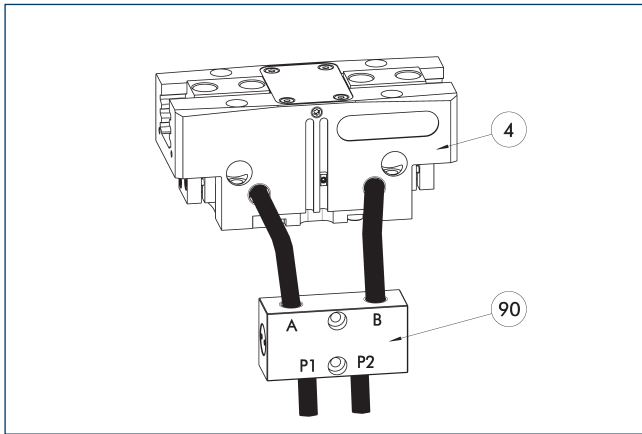
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ㉔ Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 80

Universal gripper

## SDV-P pressure maintenance valve



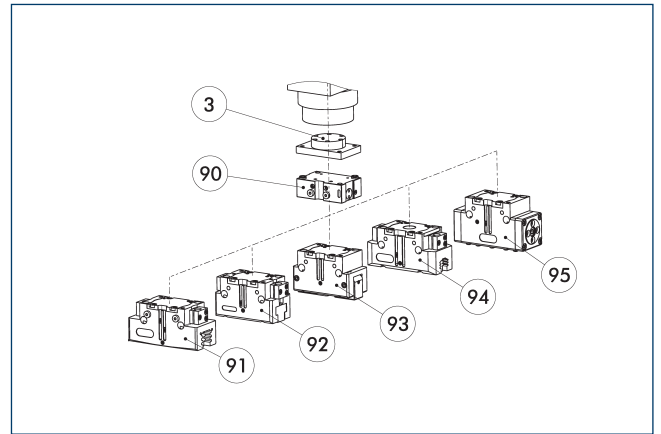
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

## SDV-P E-P pressure maintenance valve

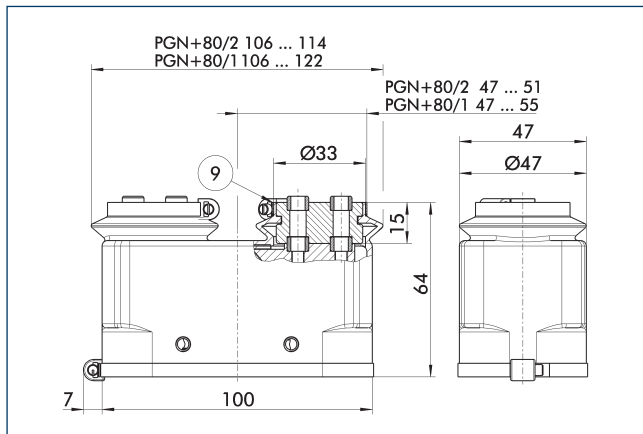


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID	
Pressure maintenance valve		
SDV-P 80-E-P	0300125	

## Protective cover HUE PGN-plus 80



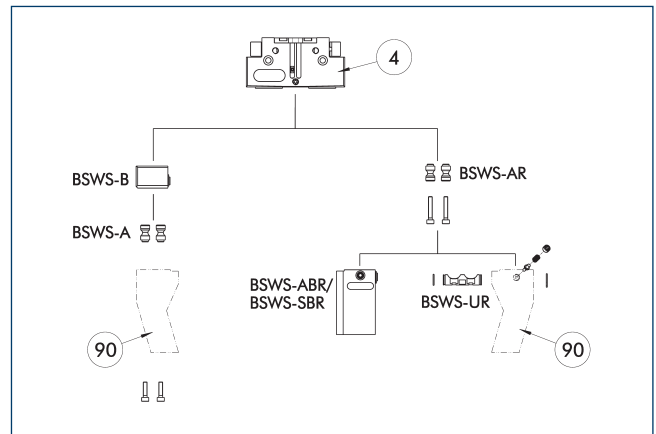
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 80	0371481	65

⑩ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 80	0303024	2
BSWS-AR 80	0300093	2
Quick-change jaw system base		
BSWS-B 80	0303025	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 80	0300073	1
BSWS-SBR-PGZN-plus 80	0300083	1
Jaw quick-change system locking mechanism		
BSWS-UR 80	0302992	1

① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	80	-1 (6 bar)	■■■■■
PGN-plus-P	80	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	80	-2 (6 bar)	■■■■■
PGN-plus-P	80	-2-AS / -2-IS (6 bar)	■■■■■
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

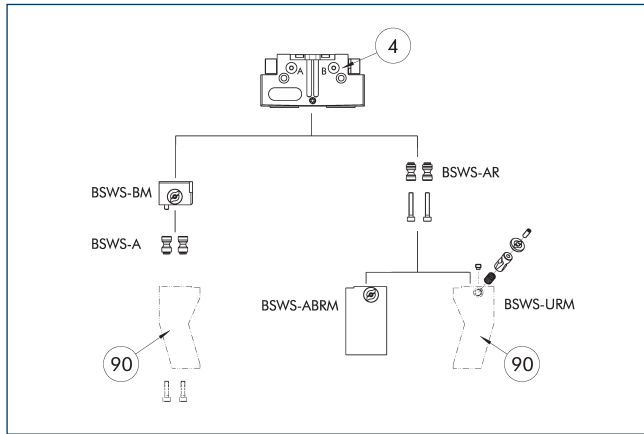
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 80

Universal gripper

## Jaw quick-change system BSWs-M



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 80	0303024	2
BSWS-AR 80	0300093	2
Quick-change jaw system base		
BSWS-BM 80	1313901	1
Jaw quick-change system finger blank		
BSWS-ABRM-PGZN-plus 80	1420852	1
Jaw quick-change system locking mechanism		
BSWS-URM 80	1398402	1

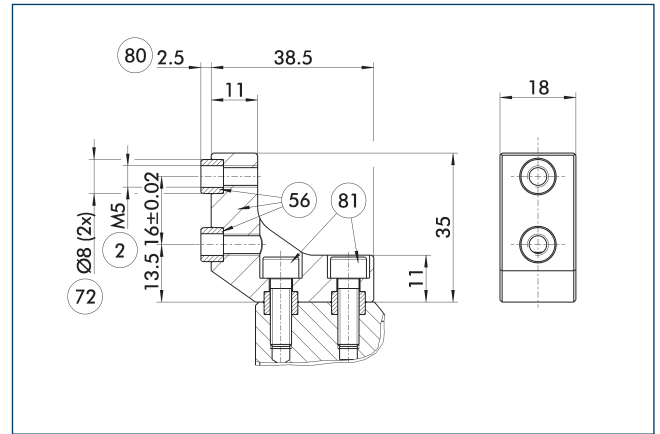
① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	80	-1 (6 bar)	■■■■
PGN-plus-P	80	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus-P	80	-2 (6 bar)	■■■■
PGN-plus-P	80	-2-AS / -2-IS (6 bar)	■■■■
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 80 intermediate jaws



- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

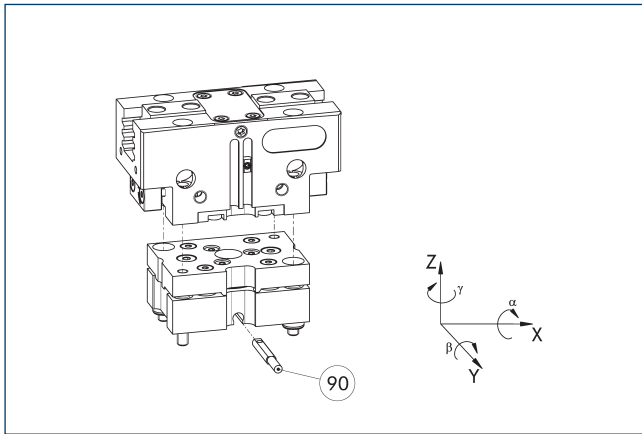
Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 80	0311732	Aluminum	PGN-plus 80	1



# PGN-plus-P 80

Universal gripper

## Tolerance compensation unit TCU

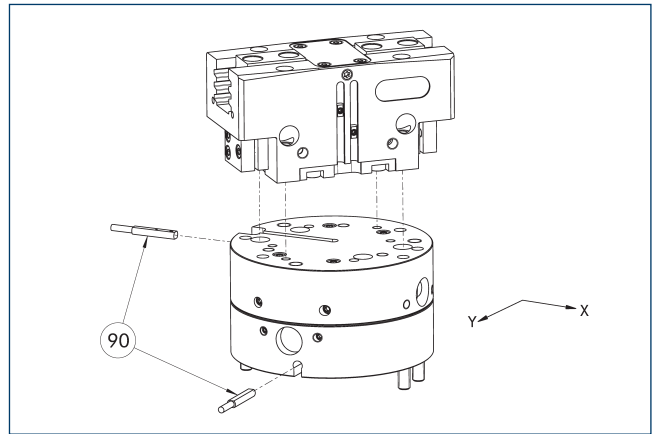


### 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
<b>Compensation unit</b>				
TCU-P-080-3-MV	0324792	yes	$\pm 1^\circ / \pm 1,5^\circ / \pm 2^\circ$	●
TCU-P-080-3-OV	0324793	no	$\pm 1^\circ / \pm 1,5^\circ / \pm 2^\circ$	

## Compensation unit AGE-F



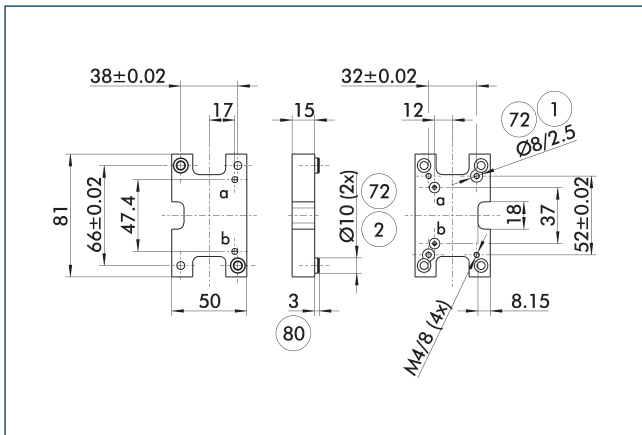
### 90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY [mm]	Reset force [N]	Often combined
<b>Compensation unit</b>				
AGE-F-XY-063-1	0324940	$\pm 4$	12	
AGE-F-XY-063-2	0324941	$\pm 4$	16	
AGE-F-XY-063-3	0324942	$\pm 4$	20	●

① Due to the interfering contour, monitoring of the gripper is not possible.

## Adapter plate PGN-plus 80

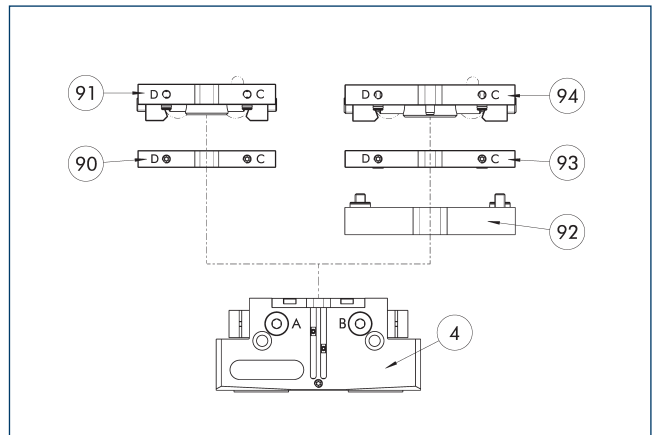


- ① Robot-side connection
- ② Tool-side connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part

The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
<b>Tool side</b>	
A-CWA-100-080-P	0305804

## Compact change system for grippers

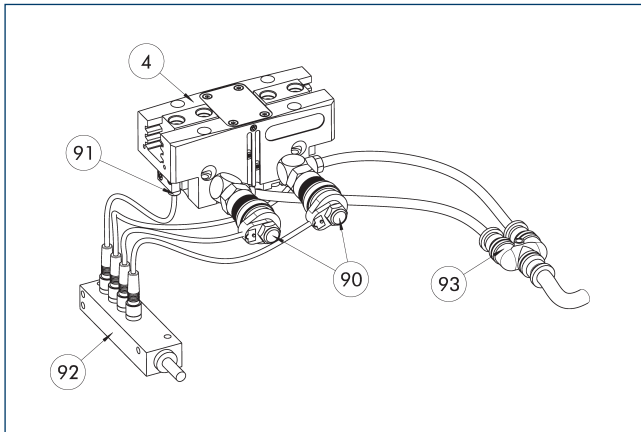


- ④ Grippers
- 90 CWA compact change adapter
- 91 CWK compact change master
- 92 A-CWA adapter plate
- 93 CWA compact change adapter
- 94 CWK compact change master

Grippers can be directly mounted without an adapter plate. For details see our catalog Gripping or Robot Accessories.

Description	ID
<b>Tool side</b>	
A-CWA-100-080-P	0305804
<b>CWA compact change adapter</b>	
CWA-080-P	0305781
<b>CWK compact change master</b>	
CWK-080-P	0305780

## Attachment valves



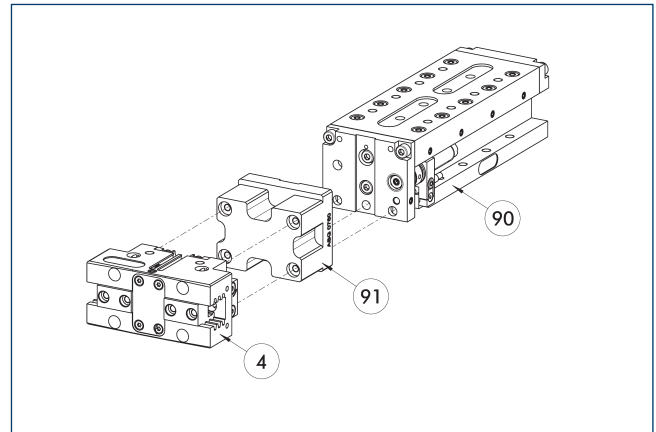
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-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.

## Modular Assembly Automation



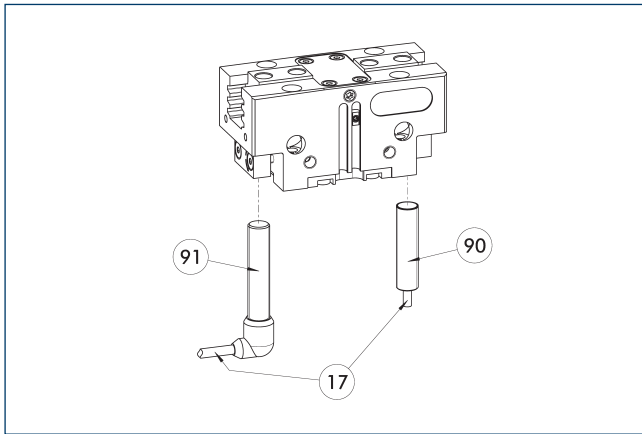
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

# PGN-plus-P 80

Universal gripper

## Inductive proximity switches



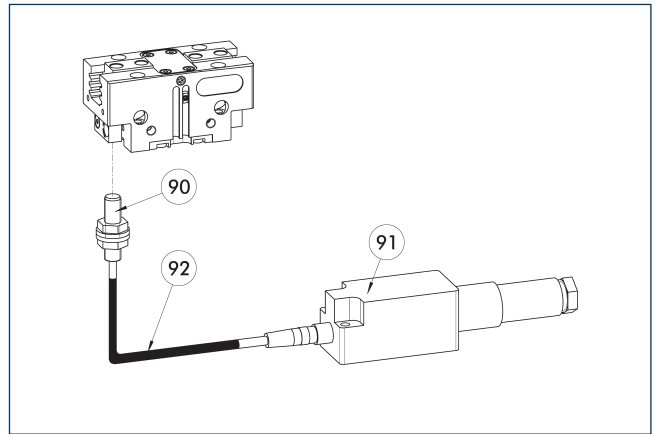
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

## Flexible position sensor



- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

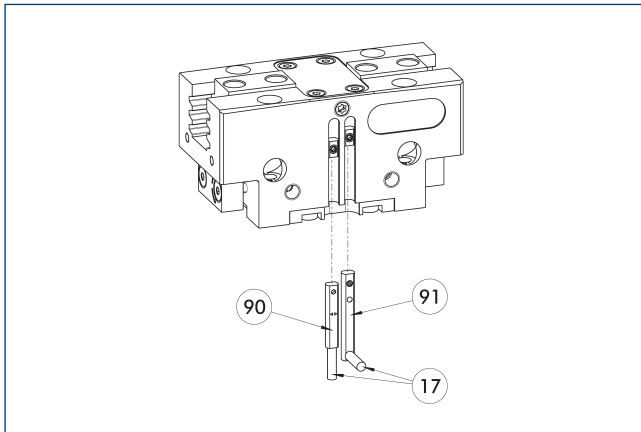
Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 64/80	1363890	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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



## Electronic magnetic switch MMS



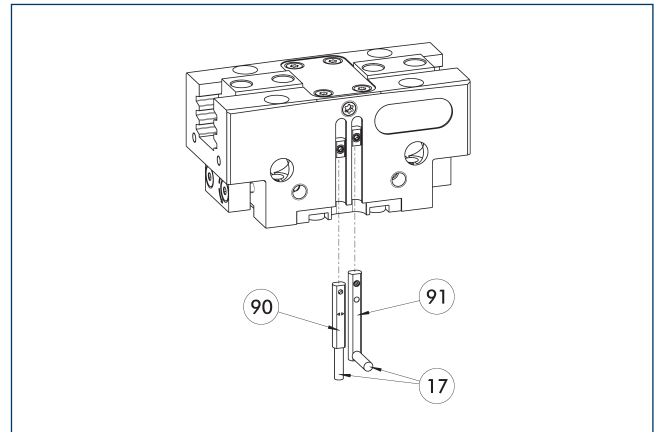
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



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

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

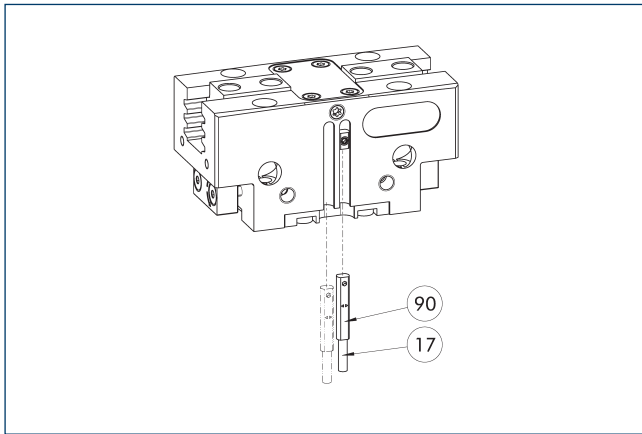
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 80

Universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

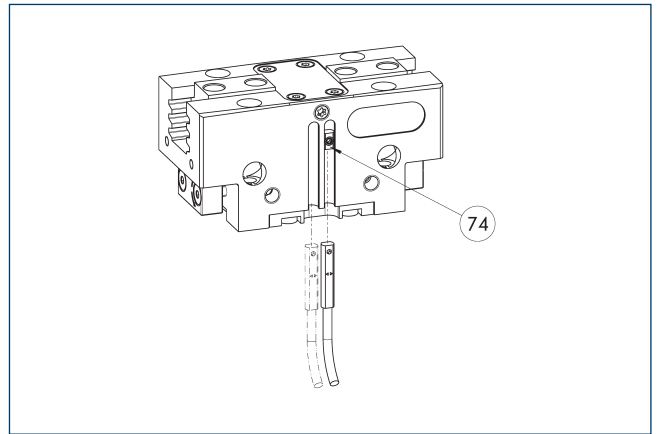
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



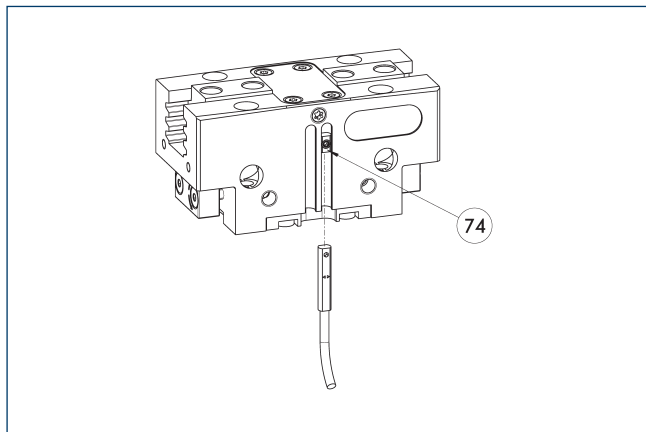
74 Limit stop for sensor

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

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

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

## MMS-A analog position sensor



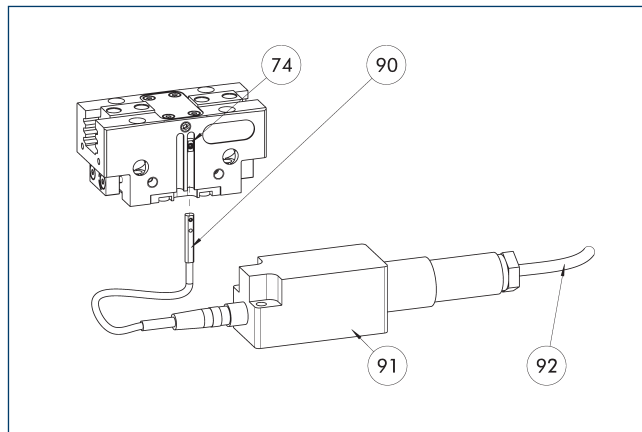
74 Limit stop for sensor

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.

## 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.

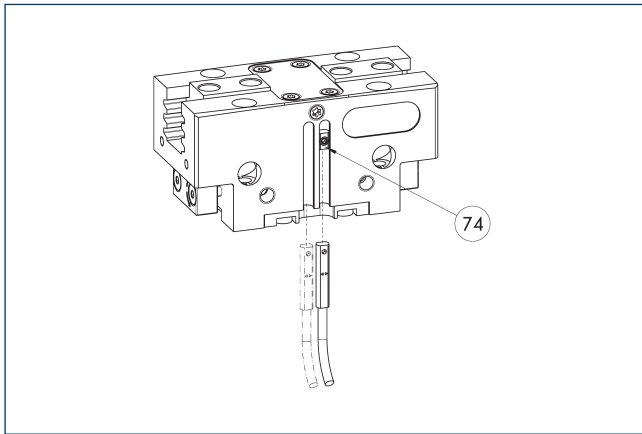
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

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."

# PGN-plus-P 80

Universal gripper

## Programmable magnetic switch MMS-I0-Link



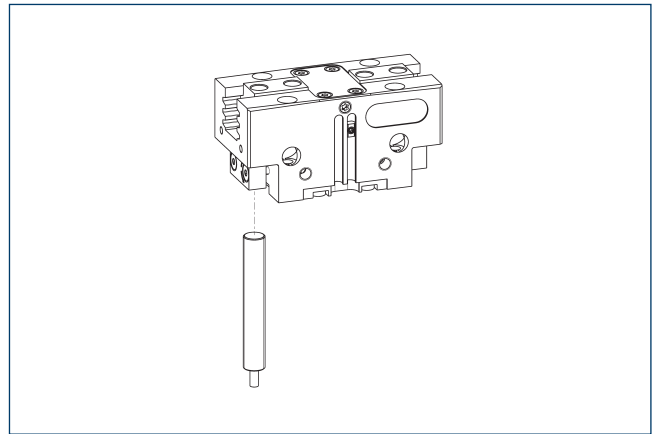
74 Limit stop for sensor

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-I0L-M08	0315830	
MMS 22-I0L-M12	0315835	

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

## APS-Z80 analog position sensor

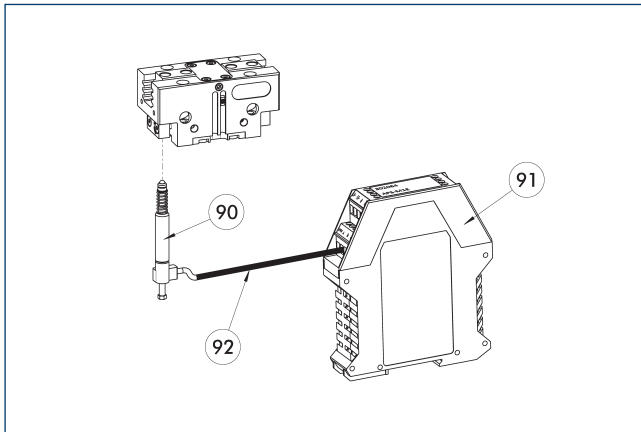


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 80-1	1366209	
AS-APS-Z80-PGN-plus-P 80-2	1366215	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGN-plus-P 80-1	1363725	
AS-APS-M1-PGN-plus-P 80-2	1363731	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

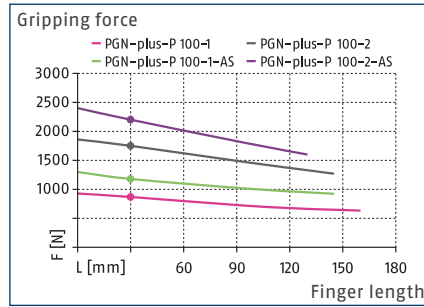
- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus-P 100

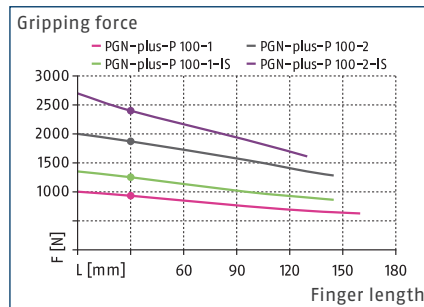
Universal gripper



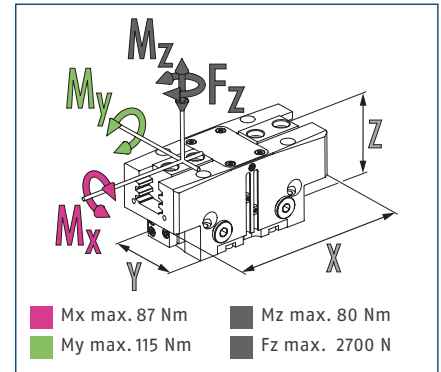
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



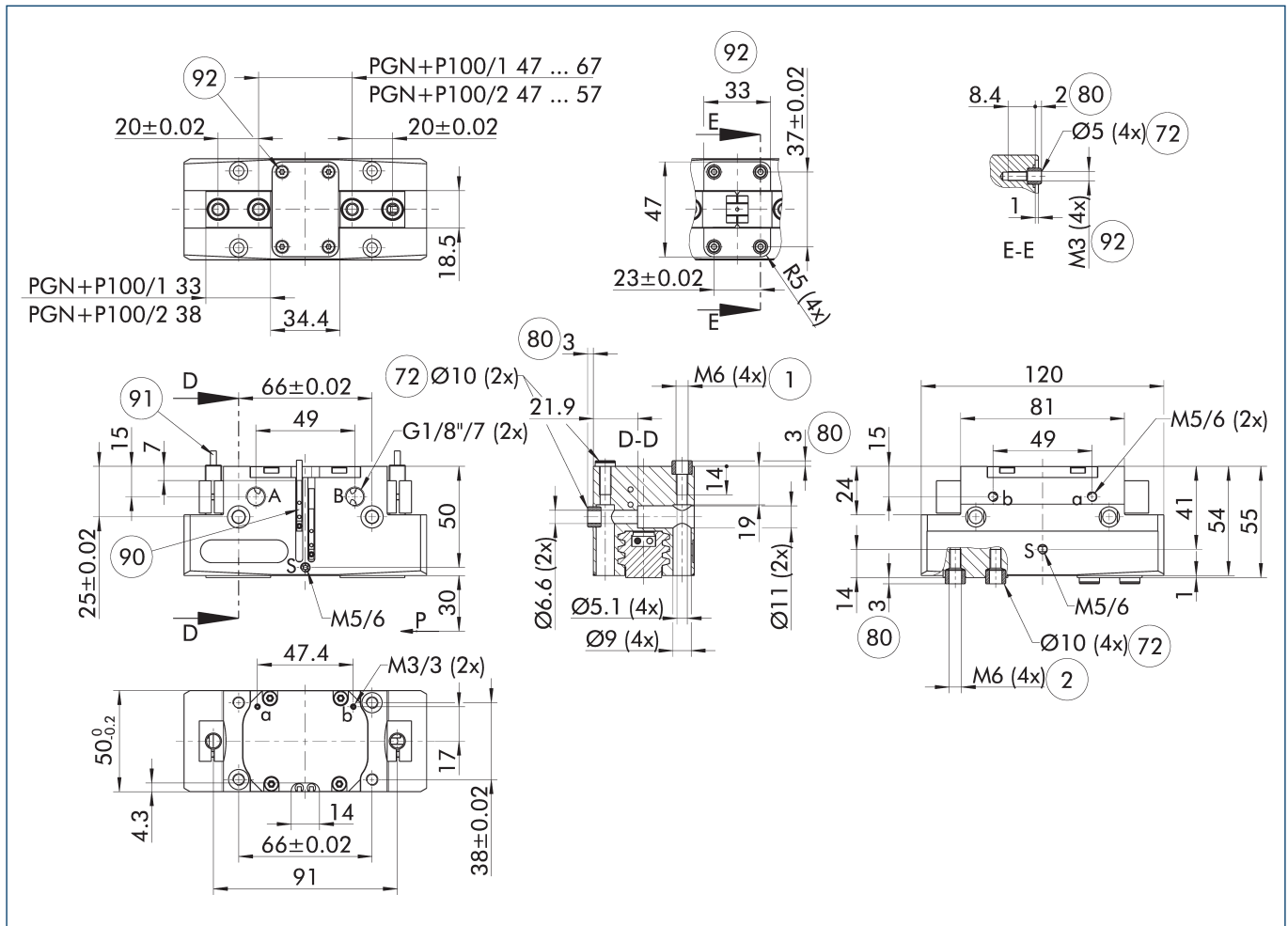
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 100-1	PGN-plus-P 100-2	PGN-plus-P 100-1-AS	PGN-plus-P 100-2-AS	PGN-plus-P 100-1-IS	PGN-plus-P 100-2-IS
ID		0318544	0318545	0318546	0318547	0318548	0318549
Stroke per jaw	[mm]	10	5	10	5	10	5
Closing/opening force	[N]	870/930	1750/1870	1180/-	2200/-	-/1250	-/2400
Min. spring force	[N]			310	450	320	530
Weight	[kg]	0.9	0.9	1.1	1.1	1.1	1.1
Recommended workpiece weight	[kg]	4.35	8.75	4.35	8.75	4.35	8.75
Fluid consumption double stroke	[cm <sup>3</sup> ]	55	55	84	84	92	92
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.06/0.06	0.06/0.06	0.05/0.09	0.05/0.09	0.09/0.05	0.09/0.05
Closing/opening time with spring	[s]			0.10	0.10	0.10	0.10
Max. permissible finger length	[mm]	160	145	145	130	145	130
Max. permissible mass per finger	[kg]	1.3	1.3	1.3	1.3	1.3	1.3
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	120 x 50 x 55	120 x 50 x 55	120 x 50 x 81	120 x 50 x 81	120 x 50 x 81	120 x 50 x 81
<b>Options and their characteristics</b>							
Dustproof version		1317570	1317571	1317572	1317574	1317578	1317581
IP protection class		64	64	64	64	64	64
Weight	[kg]	1.02	1.02	1.22	1.22	1.22	1.22
Corrosion-protected version		38318544	38318545	38318546	38318547	38318548	38318549
High-temperature version		39318544	39318545	39318546	39318547	39318548	39318549
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0318550	0318551	0318552	0318553		
H1 grease version		1353820	1475855	1353821	1431141	1353822	1475926
Dustproof/H1 grease version		1475854	1475856	1475857	1475858	1475925	1475928
Weight	[kg]	1.02	1.02	1.22	1.22	1.22	1.22
IP protection class		64	64	64	64	64	64

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

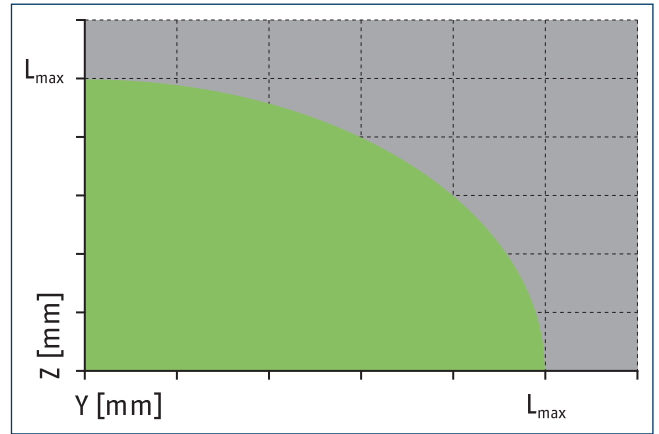
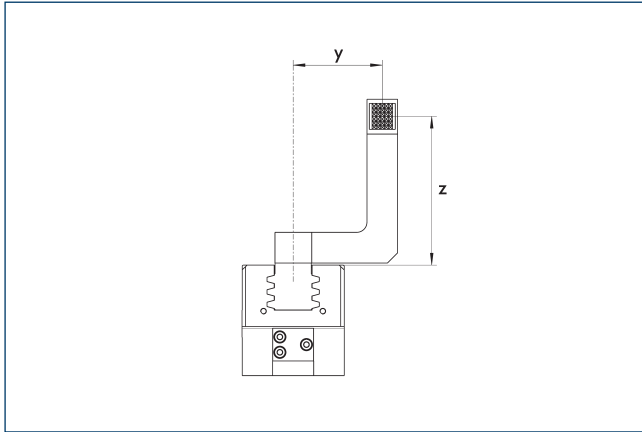
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦② Fit for centering sleeves

- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Sensor MMS 22..
- ⑨① Sensor IN ...
- ⑨② Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 100

Universal gripper

## Maximum permitted finger projection

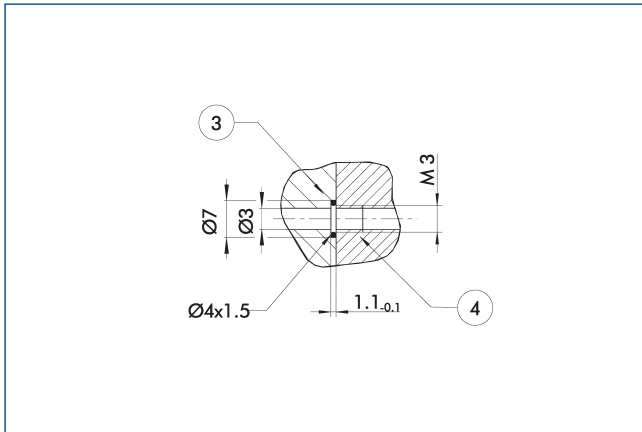


■ Permitted range

■ Inadmissible range

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

## Hose-free direct connection M3

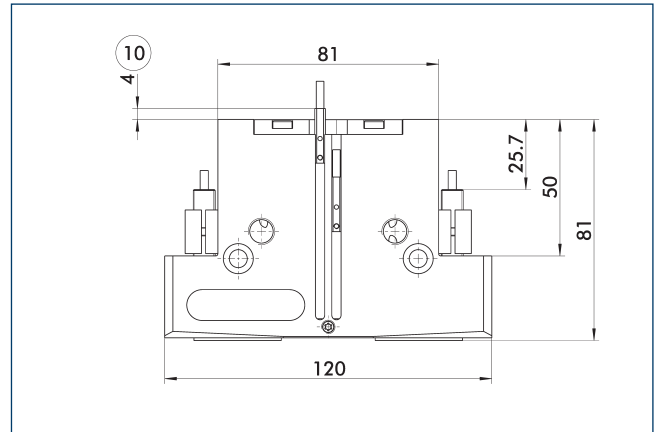


③ Adapter

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 device AS / IS



⑩ Projection applies only for AS version

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.

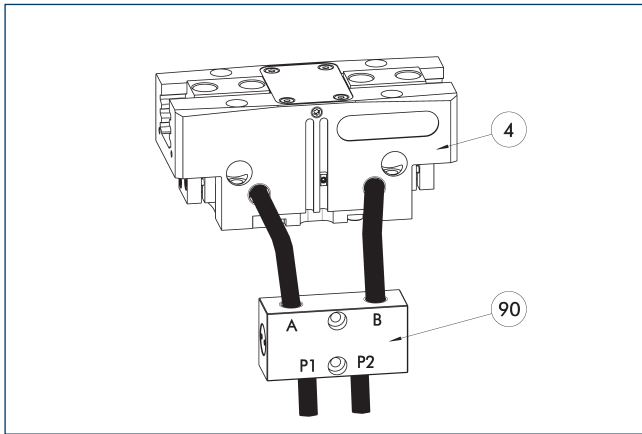




# PGN-plus-P 100

Universal gripper

## SDV-P pressure maintenance valve



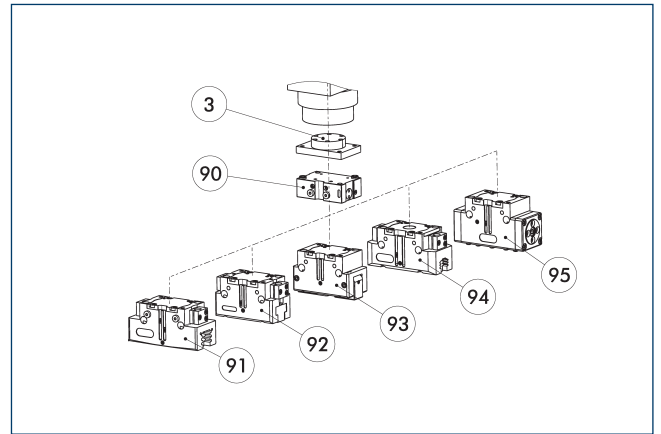
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

## SDV-P E-P pressure maintenance valve

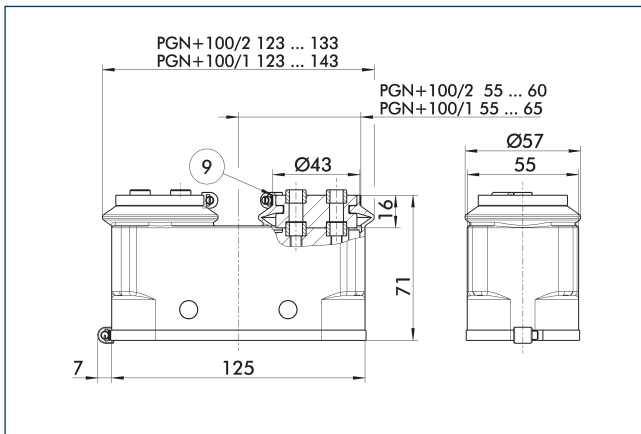


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID	
Pressure maintenance valve		
SDV-P 100-E-P	0300126	

## Protective cover HUE PGN-plus 100



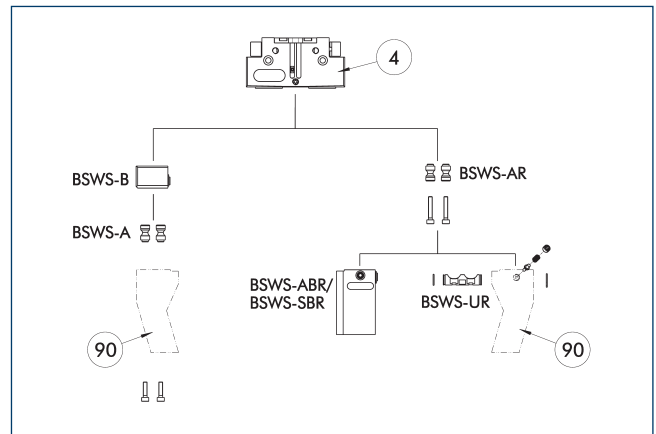
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 100	0371482	65

⑩ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
Quick-change jaw system base		
BSWS-B 100	0303027	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 100	0300074	1
BSWS-SBR-PGZN-plus 100	0300084	1
Jaw quick-change system locking mechanism		
BSWS-UR 100	0302993	1

⑩ Only systems that are listed in the table, can be used.

## Fields of application

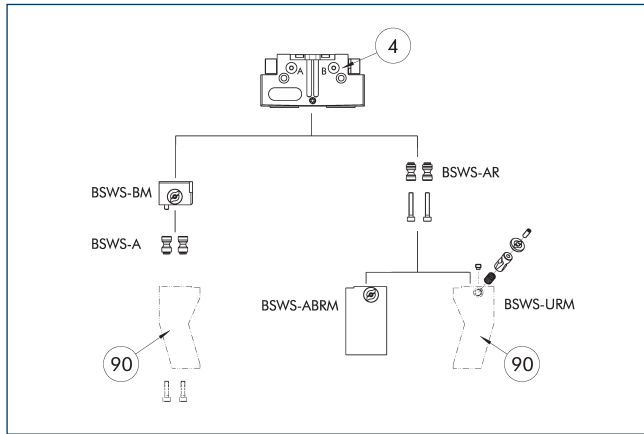
Series	Size	Variant	Suitability
PGN-plus-P	100	-1 (6 bar)	■■■■■
PGN-plus-P	100	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	100	-2 (6 bar)	■■■■■
PGN-plus-P	100	-2-AS / -2-IS (6 bar)	■■■■■
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 100

Universal gripper

## Jaw quick-change system BSWs-M



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
Quick-change jaw system base		
BSWS-BM 100	1313902	1
Jaw quick-change system finger blank		
BSWS-ABRM-PGZN-plus 100	1420853	1
Jaw quick-change system locking mechanism		
BSWS-URM 100	1398403	1

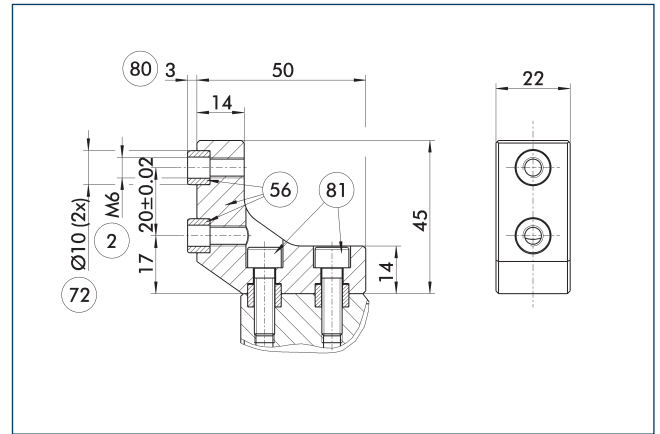
① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	100	-1 (6 bar)	■■■■■
PGN-plus-P	100	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	100	-2 (6 bar)	■■■■■
PGN-plus-P	100	-2-AS / -2-IS (6 bar)	■■■■■
Legend			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 100 intermediate jaws

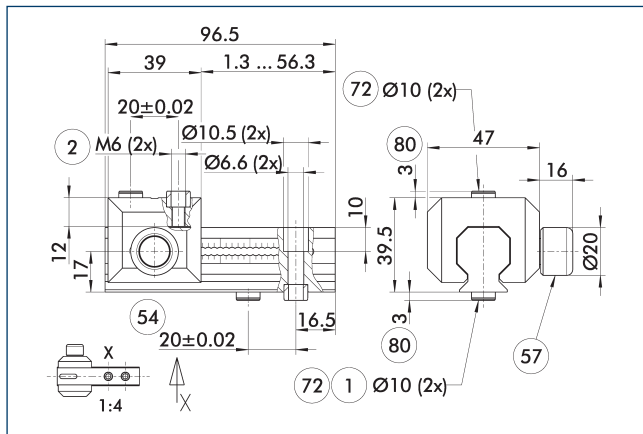


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 100	0311742	Aluminum	PGN-plus 100	1

## UZB 100 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S slide (can also be ordered separately) allows for a quick jaw change.

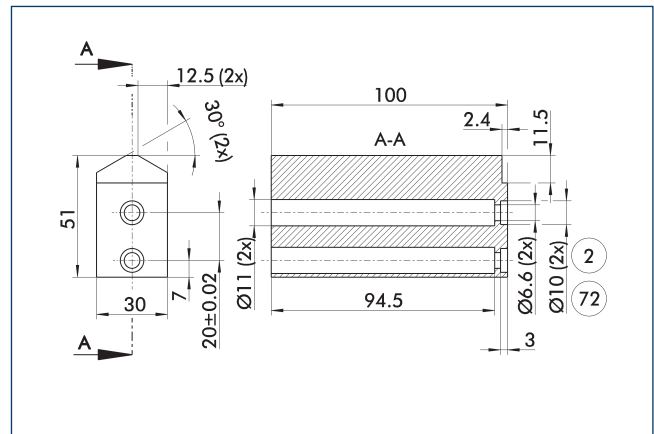
Description	ID	Grid dimension
		[mm]
<b>Universal intermediate jaw</b>		
UZB 100	0300044	2.5
<b>Finger blank</b>		
ABR-PGZN-plus 100	0300012	
SBR-PGZN-plus 100	0300022	
<b>Slide for universal intermediate jaw</b>		
UZB-S 100	5518272	2.5

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	100	-1 (6 bar)	■■■■
PGN-plus-P	100	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	100	-2 (6 bar)	■■□□
PGN-plus-P	100	-2-AS / -2-IS (6 bar)	□□□□
<b>Legend</b>			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 100



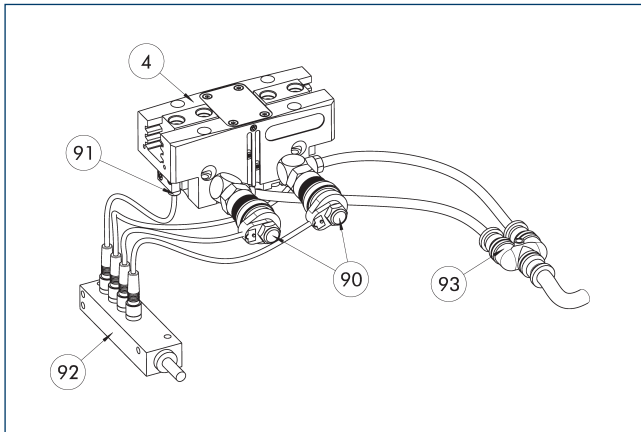
- ② Finger connection
- ⑦2 Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
<b>Finger blank</b>			
ABR-PGZN-plus 100	0300012	Aluminum (3.4365)	1
SBR-PGZN-plus 100	0300022	Steel (1.7131)	1



## Attachment valves



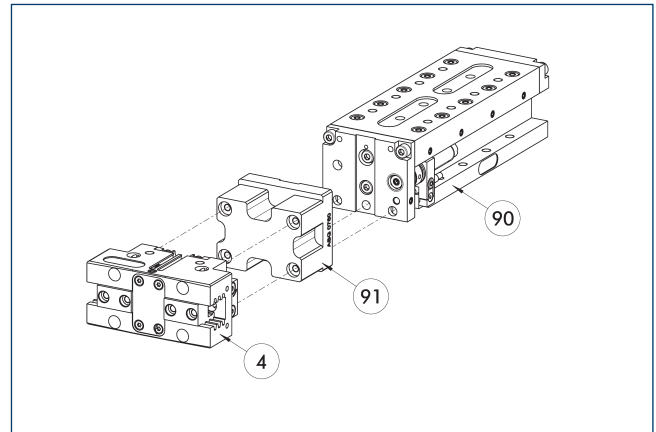
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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

## Modular Assembly Automation



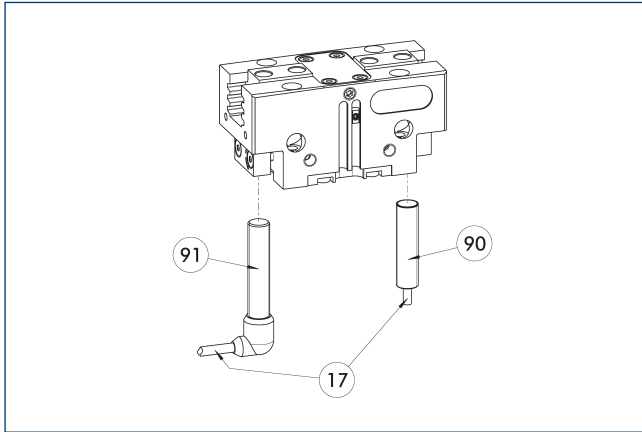
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

# PGN-plus-P 100

Universal gripper

## Inductive proximity switches



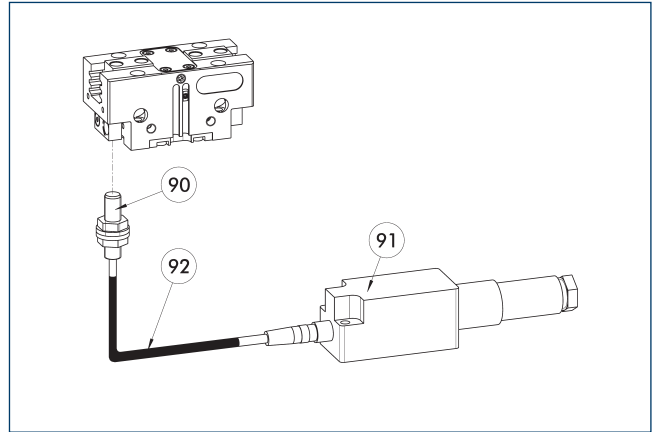
- ① Cable outlet
- ② Sensor IN...-SA
- ③ Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ④ 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



- ⑤ FPS-S sensor
- ⑥ FPS-F5 evaluation electronic
- ⑦ Cable extension

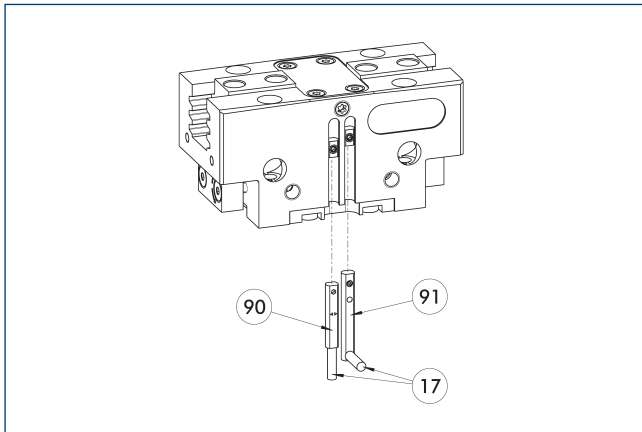
Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 100	1363897	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

- ④ 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.”



## Electronic magnetic switch MMS



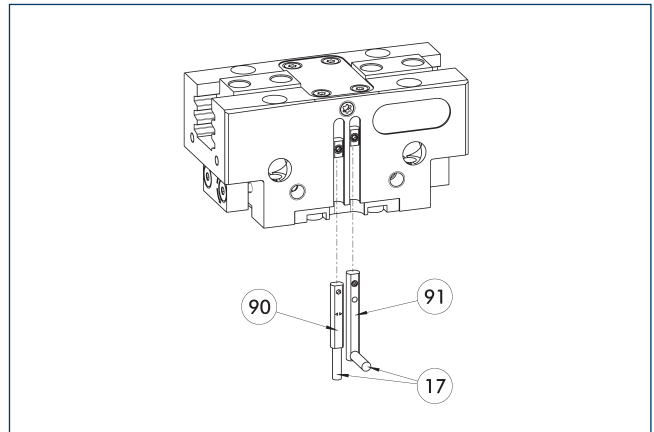
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



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

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

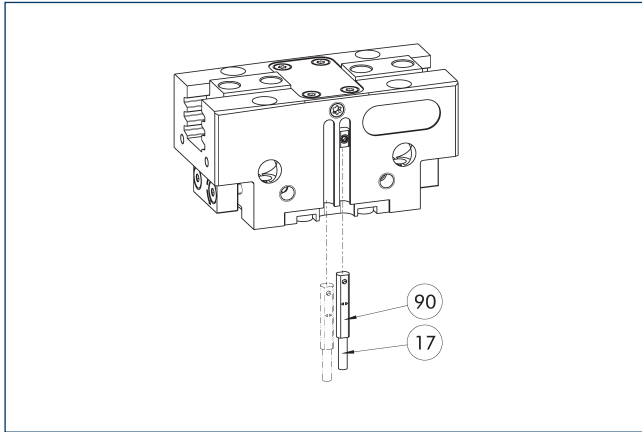
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 100

Universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

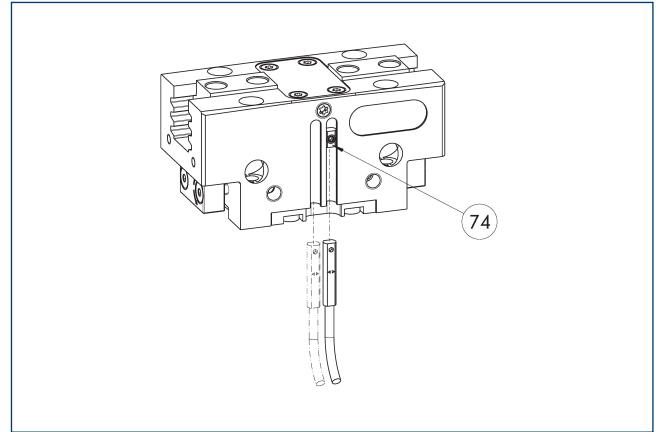
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



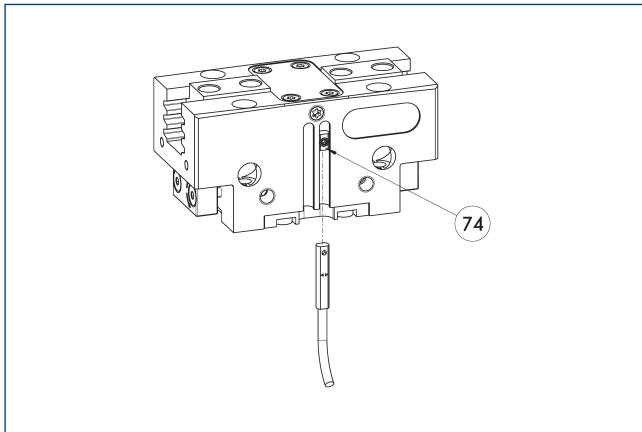
74 Limit stop for sensor

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

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

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

## MMS-A analog position sensor



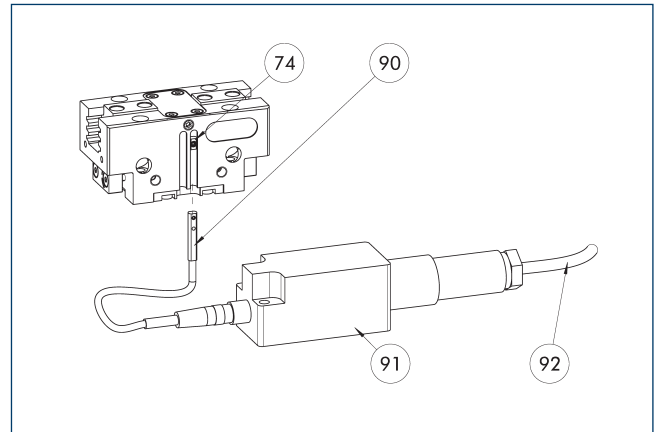
74 Limit stop for sensor

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.

## 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.

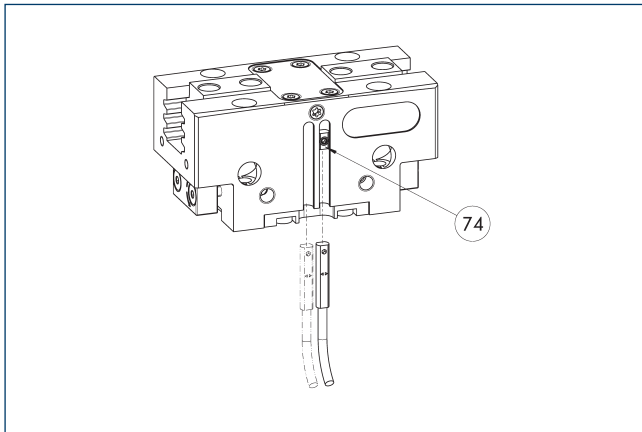
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

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."

# PGN-plus-P 100

Universal gripper

## Programmable magnetic switch MMS-IO-Link



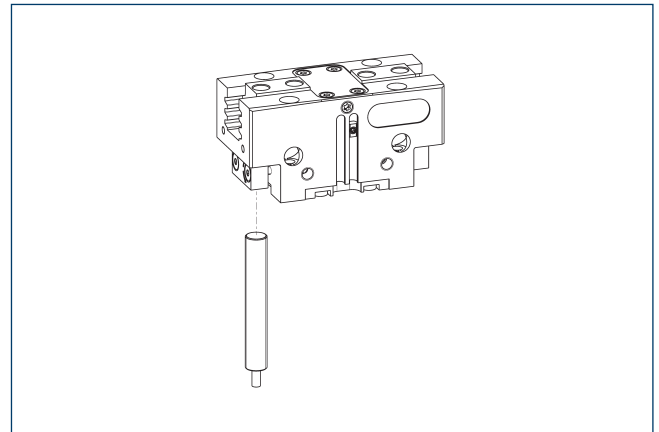
⑦④ Limit stop for sensor

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.

## APS-Z80 analog position sensor

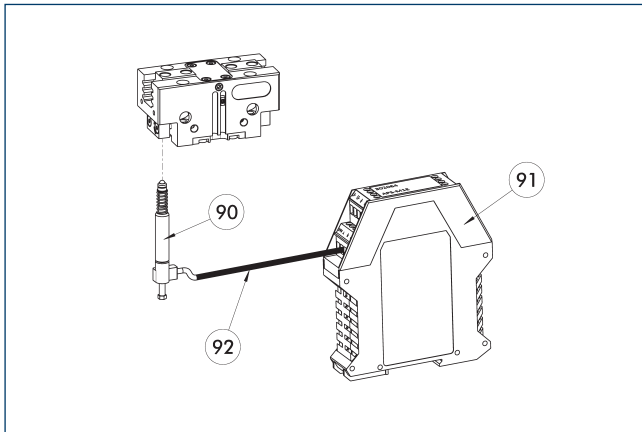


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 100-1	1366219	
AS-APS-Z80-PGN-plus-P 100-2	1366224	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGN-plus-P 100-1	1363733	
AS-APS-M1-PGN-plus-P 100-2	1363737	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

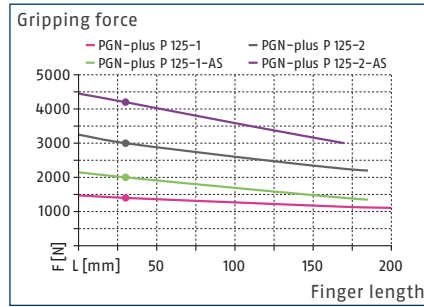
- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus-P 125

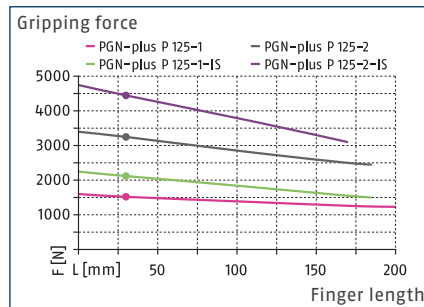
Universal gripper



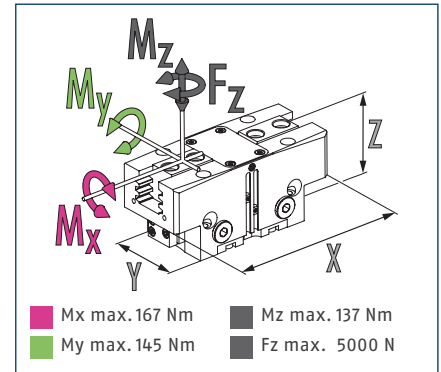
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



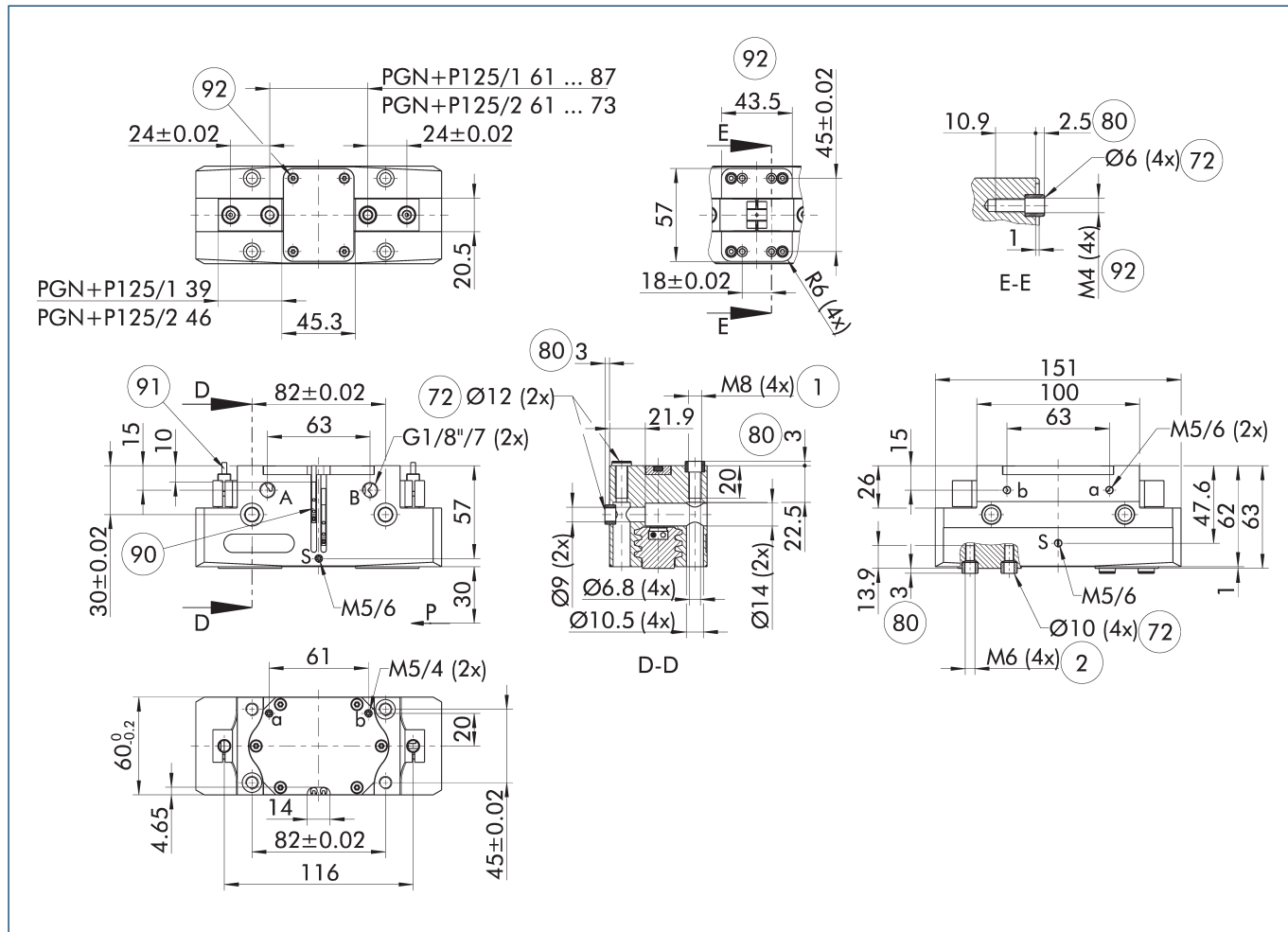
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 125-1	PGN-plus-P 125-2	PGN-plus-P 125-1-AS	PGN-plus-P 125-2-AS	PGN-plus-P 125-1-IS	PGN-plus-P 125-2-IS
ID		0318568	0318569	0318570	0318571	0318572	0318573
Stroke per jaw	[mm]	13	6	13	6	13	6
Closing/opening force	[N]	1400/1520	3000/3250	2000/-	4200/-	-/2120	-/4450
Min. spring force	[N]			600	1200	600	1200
Weight	[kg]	1.4	1.4	1.9	1.9	1.9	1.9
Recommended workpiece weight	[kg]	7	15	7	15	7	15
Fluid consumption double stroke	[cm³]	110	110	160	160	185	185
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.09/0.09	0.09/0.09	0.08/0.12	0.08/0.12	0.12/0.08	0.12/0.08
Closing/opening time with spring	[s]			0.15	0.15	0.15	0.15
Max. permissible finger length	[mm]	200	185	185	170	185	170
Max. permissible mass per finger	[kg]	2.4	2.4	2.4	2.4	2.4	2.4
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	151 x 60 x 63	151 x 60 x 63	151 x 60 x 93	151 x 60 x 93	151 x 60 x 93	151 x 60 x 93
<b>Options and their characteristics</b>							
Dustproof version		1317584	1317585	1317590	1317591	1317592	1317593
IP protection class		64	64	64	64	64	64
Weight	[kg]	1.6	1.6	2.1	2.1	2.1	2.1
Corrosion-protected version		38318568	38318569	38318570	38318571	38318572	38318573
High-temperature version		39318568	39318569	39318570	39318571	39318572	39318573
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0318574	0318575	0318576	0318577		

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

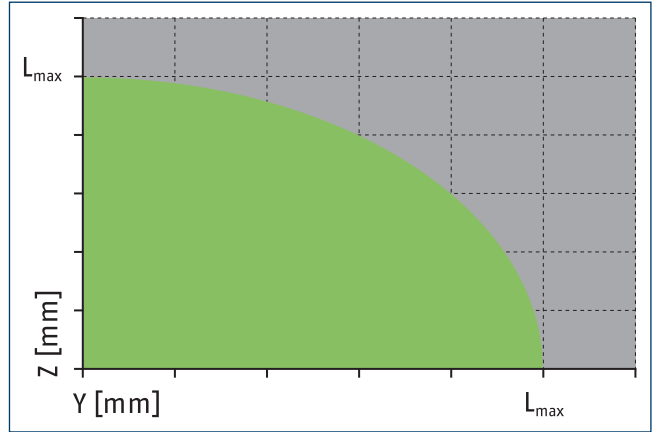
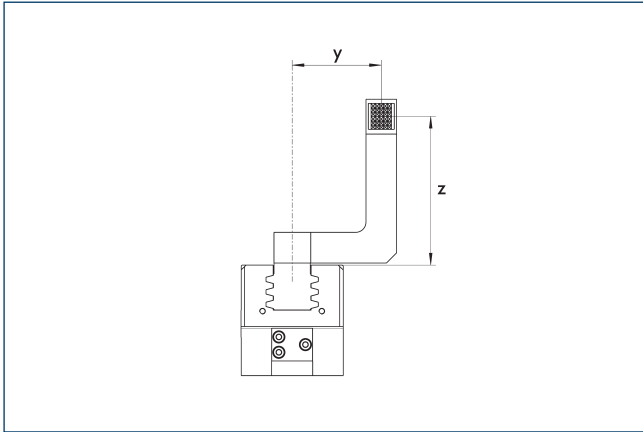
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦ Fit for centering sleeves

- ⑧ Depth of the centering sleeve hole in the counter part
- ⑨ Sensor MMS 22..
- ⑩ Sensor IN ...
- ⑪ Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 125

Universal gripper

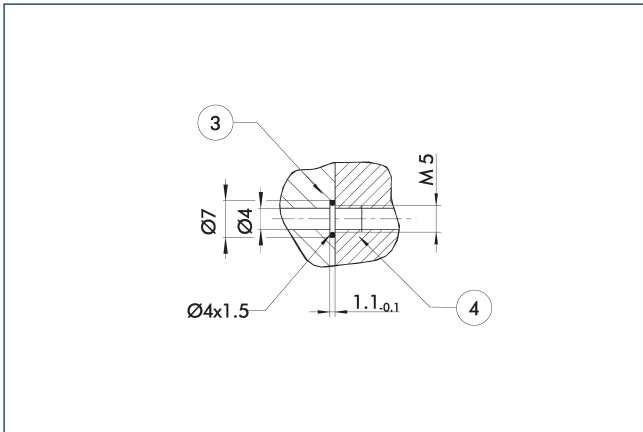
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M5

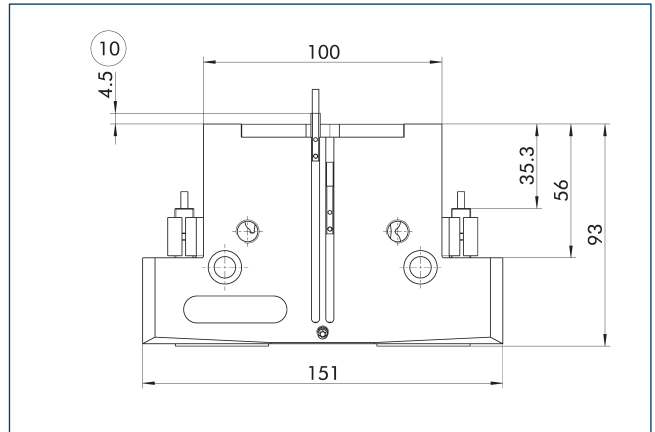


③ Adapter

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

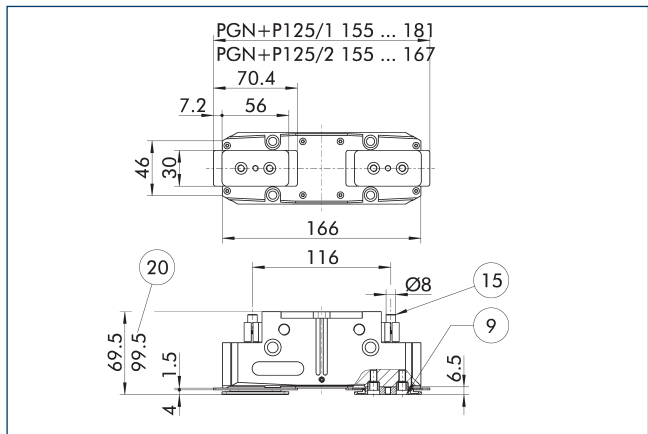


⑩ Projection applies only for AS version

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.



## Dustproof version



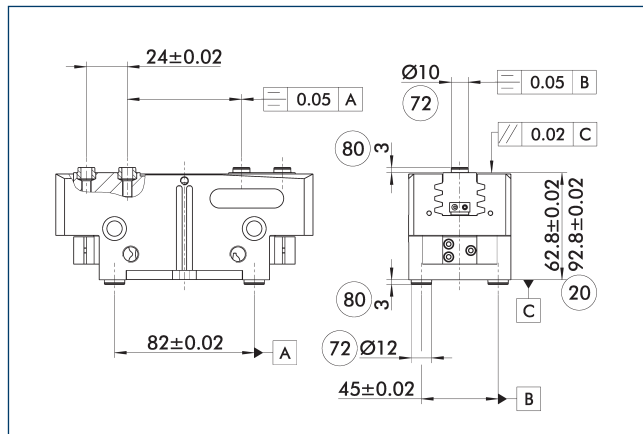
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 125	1347572

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



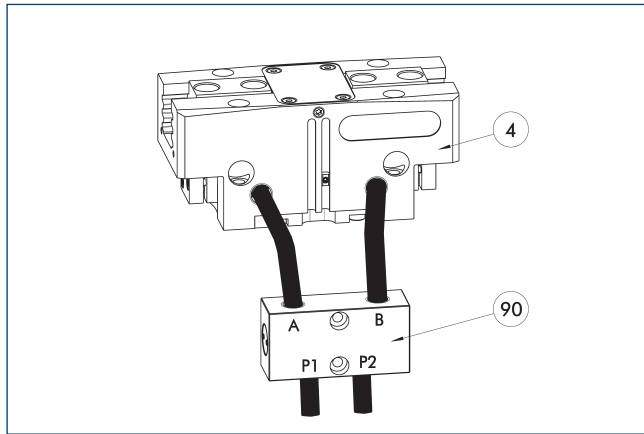
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 125

Universal gripper

## SDV-P pressure maintenance valve



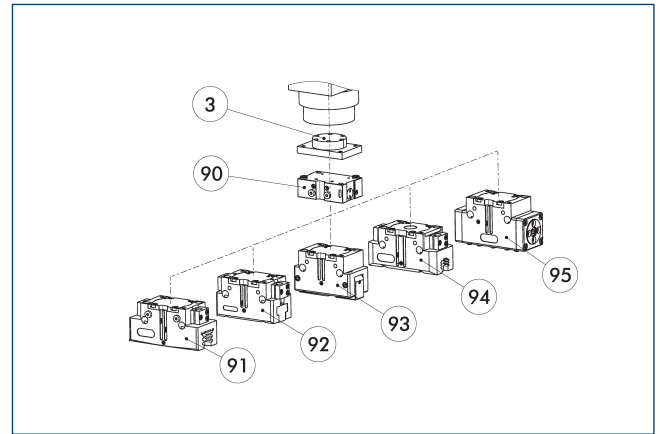
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

## SDV-P E-P pressure maintenance valve

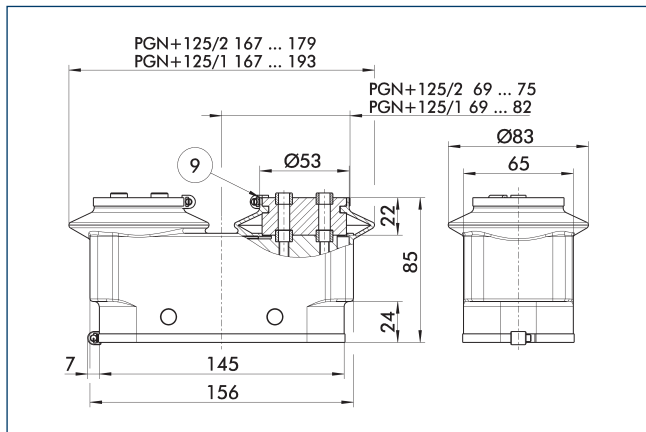


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID	
Pressure maintenance valve		
SDV-P 125-E-P	0300127	

## Protective cover HUE PGN-plus 125



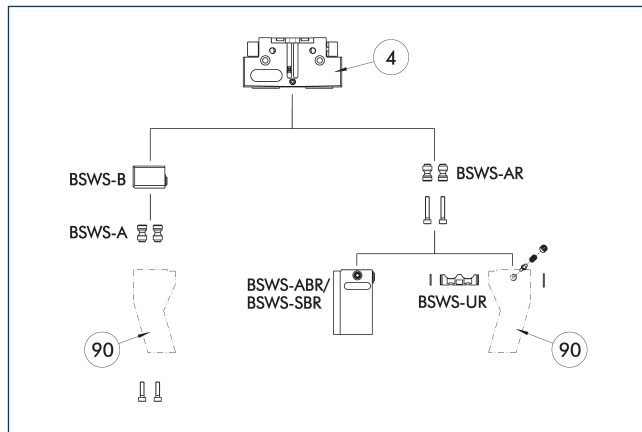
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 125	0371483	65

① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 125	0303028	2
BSWS-AR 125	0300095	2
Quick-change jaw system base		
BSWS-B 125	0303029	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 125	0300075	1
BSWS-SBR-PGZN-plus 125	0300085	1
Jaw quick-change system locking mechanism		
BSWS-UR 125	0302994	1

① Only systems that are listed in the table, can be used. This accessory product can only be used in combination with the PGN-plus-P 125 gripper with the stroke variant -1.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	125	-1 (6 bar)	■■■■■
PGN-plus-P	125	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	125	-2 (6 bar)	■■■□□
PGN-plus-P	125	-2-AS / -2-IS (6 bar)	■■■□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

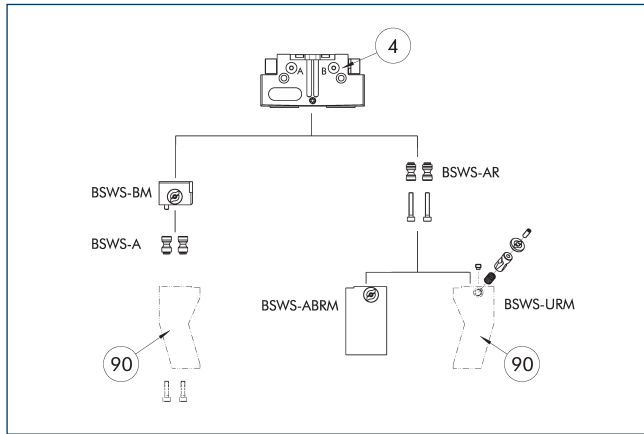
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 125

Universal gripper

## Jaw quick-change system BSWS-M



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 125	0303028	2
BSWS-AR 125	0300095	2
Quick-change jaw system base		
BSWS-BM 125	1302006	1
Jaw quick-change system finger blank		
BSWS-ABRM-PGZN-plus 125	1420854	1
Jaw quick-change system locking mechanism		
BSWS-URM 125	1398404	1

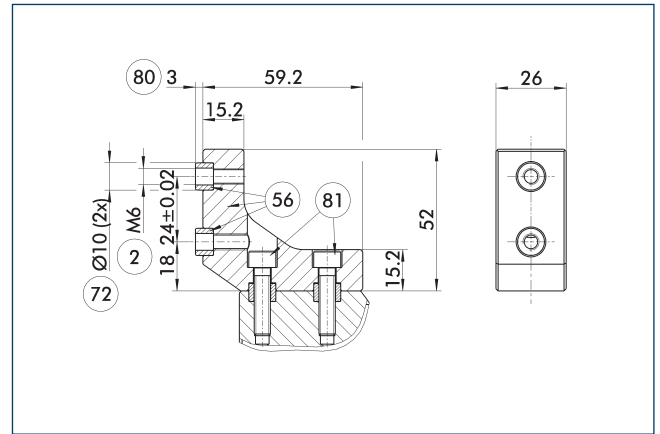
① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	125	-1 (6 bar)	■■■■
PGN-plus-P	125	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus-P	125	-2 (6 bar)	■■□□
PGN-plus-P	125	-2-AS / -2-IS (6 bar)	■■□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 125 intermediate jaws

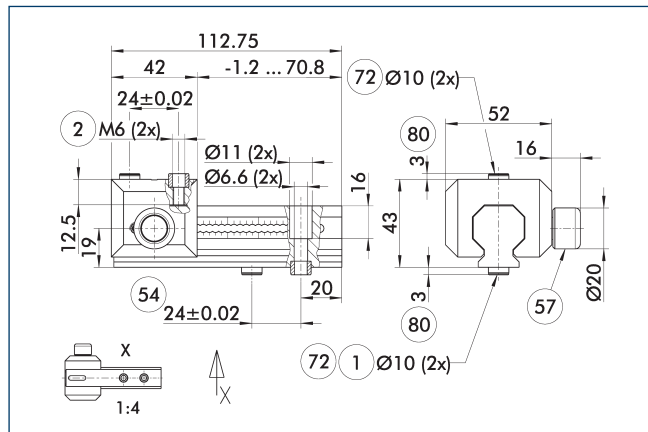


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 125	0311752	Aluminum	PGN-plus 125	1

UZZ 125 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The drawing shows the UZZ universal intermediate jaw. The fully removable UZZ-S slide (can also be ordered separately) allows for a quick jaw change.

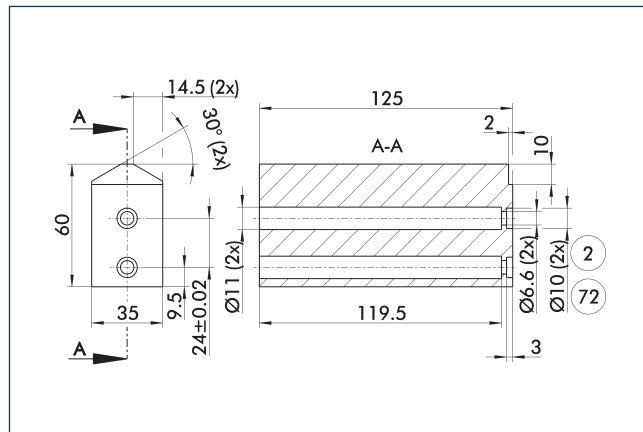
Description	ID	Grid dimension [mm]
<b>Universal intermediate jaw</b>		
UZZ 125	0300045	3
<b>Finger blank</b>		
ABR-PGZN-plus 125	0300013	
SBR-PGZN-plus 125	0300023	
<b>Slide for universal intermediate jaw</b>		
UZZ-S 125	5518273	3

Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	125	-1 (6 bar)	■■■■
PGN-plus-P	125	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	125	-2 (6 bar)	■■□□
PGN-plus-P	125	-2-AS / -2-IS (6 bar)	□□□□
<b>Legend</b>			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

Finger blanks ABR- / SBR-PGZN-plus 125



- ② Finger connection
- ⑦2 Fit for centering sleeves

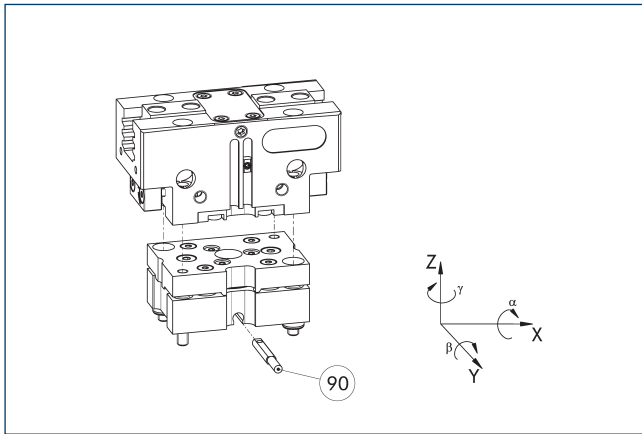
The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
<b>Finger blank</b>			
ABR-PGZN-plus 125	0300013	Aluminum (3.4365)	1
SBR-PGZN-plus 125	0300023	Steel (1.7131)	1

# PGN-plus-P 125

Universal gripper

## Tolerance compensation unit TCU

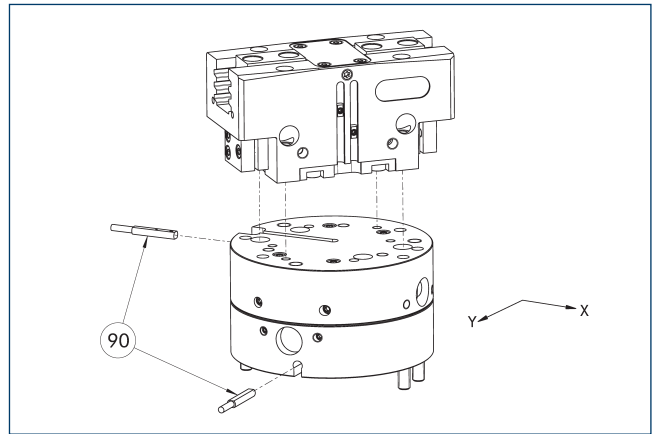


90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-125-3-MV	0324828	yes	$\pm 1^\circ/\pm 1,5^\circ/\pm 1,5^\circ$	●
TCU-P-125-3-0V	0324829	no	$\pm 1^\circ/\pm 1,5^\circ/\pm 1,5^\circ$	

## Compensation unit AGE-F



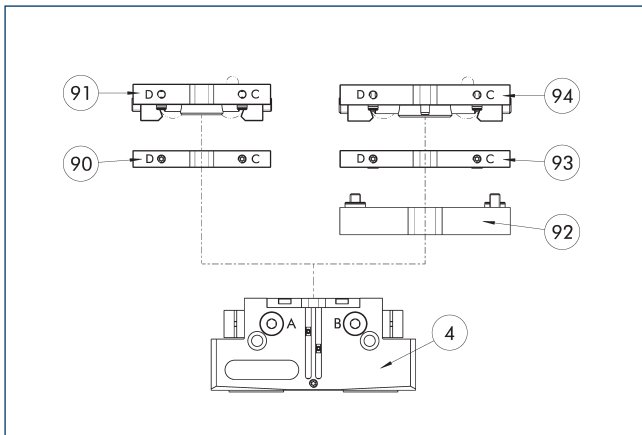
90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-080-1	0324960	$\pm 5$	39	
AGE-F-XY-080-2	0324961	$\pm 5$	85	
AGE-F-XY-080-3	0324962	$\pm 5$	90	●

① Due to the interfering contour, monitoring of the gripper is not possible.

## Compact change system for grippers

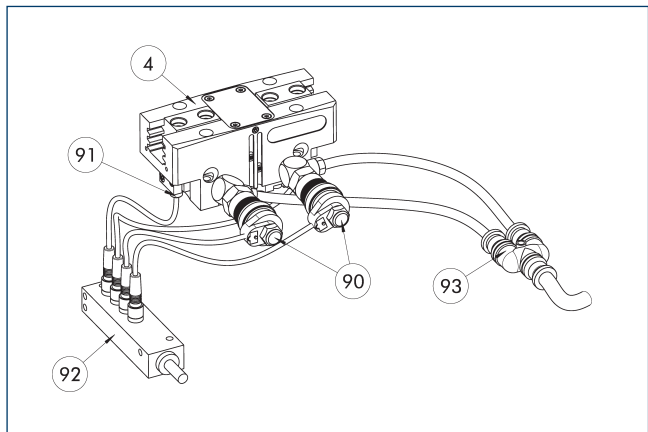


- 4 Grippers
- 90 CWA compact change adapter
- 91 CWK compact change master
- 92 A-CWA adapter plate
- 93 CWA compact change adapter
- 94 CWK compact change master

Grippers can be directly mounted without an adapter plate. For details see our catalog Gripping or Robot Accessories.

Description	ID	
CWA compact change adapter		
CWA-125-P	0305826	
CWK compact change master		
CWK-125-P	0305825	

## Attachment valves



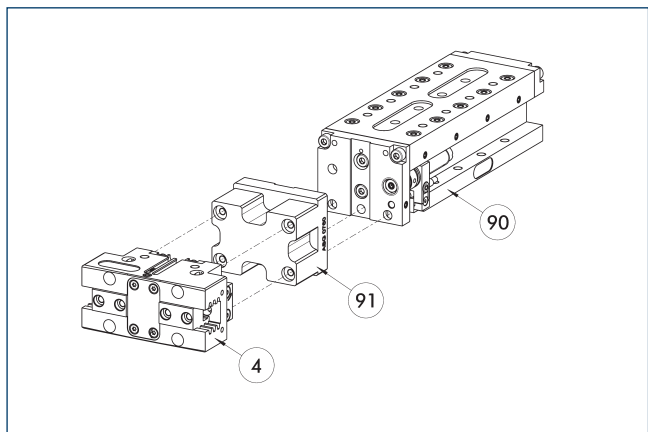
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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

## Modular Assembly Automation



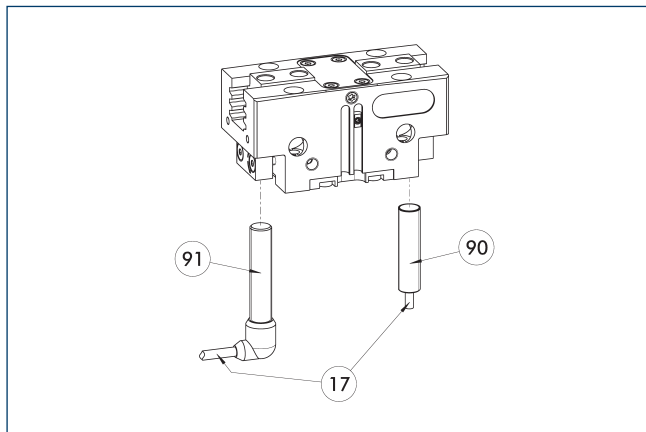
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

# PGN-plus-P 125

Universal gripper

## Inductive proximity switches



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

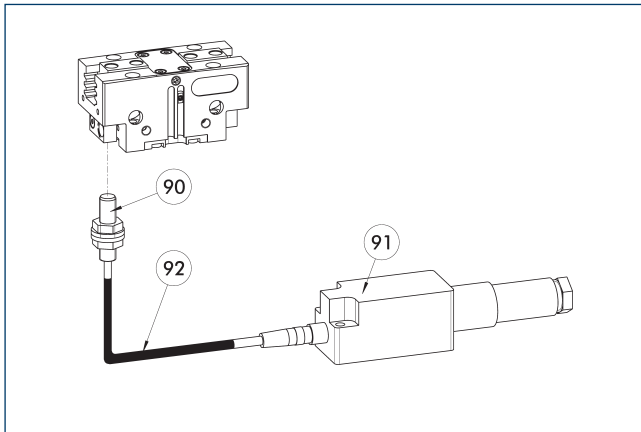
Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.



## Flexible position sensor



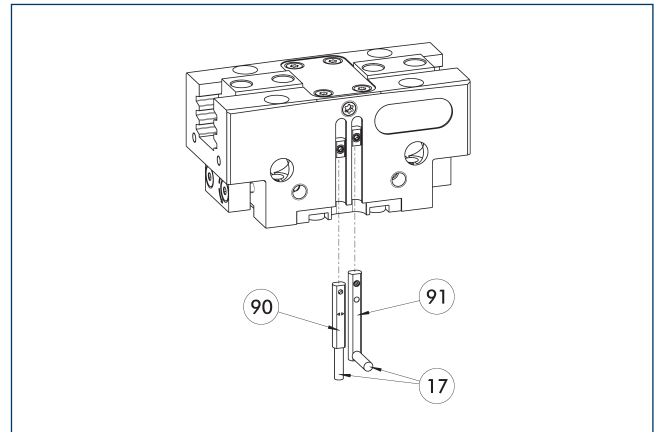
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 125-1	1363894	
AS-FPS-PGN-plus-P 125-2	1366173	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 Pi1-...
- ①⑩ Sensor MMS 22 Pi1-...

End position monitoring for mounting in the C-slot.

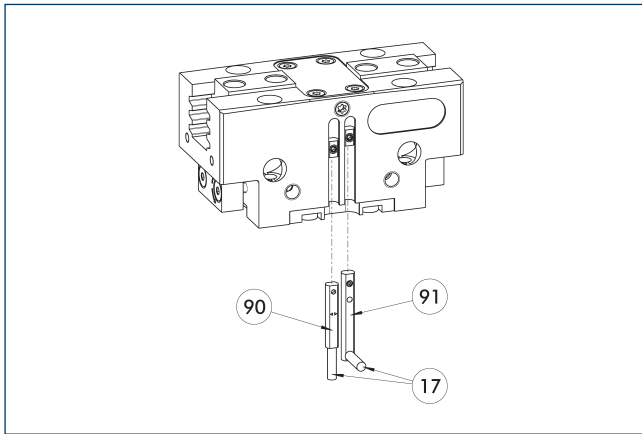
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

# PGN-plus-P 125

Universal gripper

## Programmable magnetic switch MMS 22-PI1



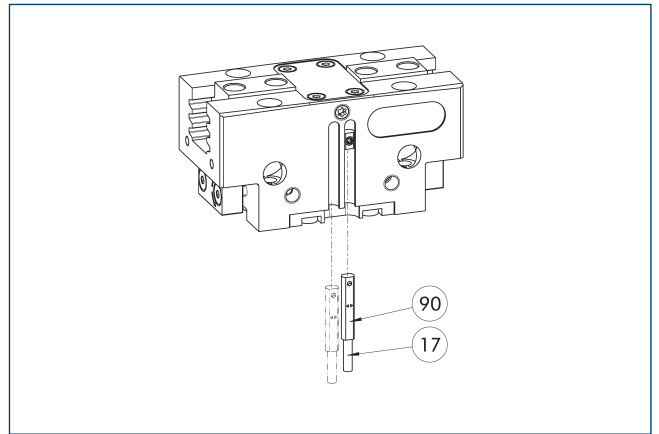
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

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

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

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

## Programmable magnetic switch MMS 22-PI2



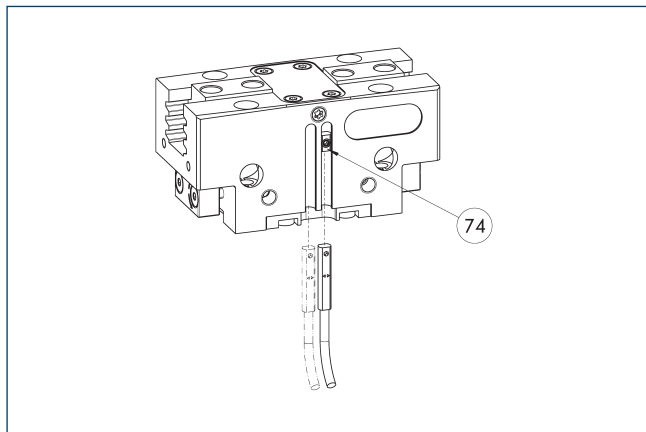
- ⑰ Cable outlet
- ⑨② MMS 22...-PI2-... sensor

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

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

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

**MMS-P programmable magnetic switch**



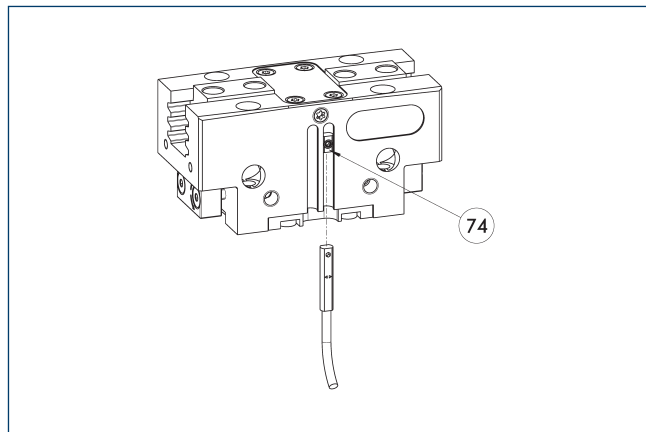
74 Limit stop for sensor

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

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

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

**MMS-A analog position sensor**



74 Limit stop for sensor

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

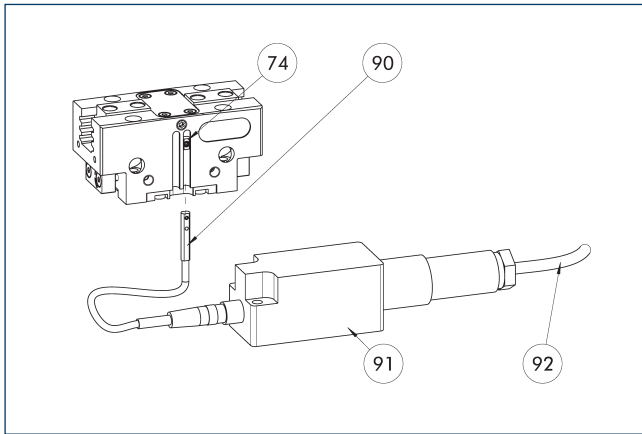
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

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

# PGN-plus-P 125

Universal gripper

## Flexible position sensor with MMS-A



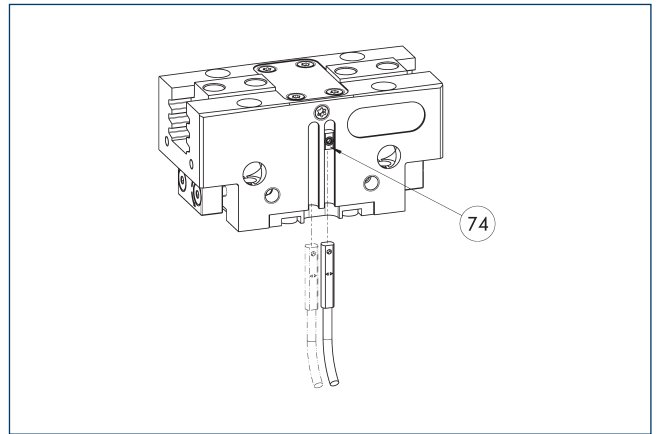
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

## Programmable magnetic switch MMS-IO-Link



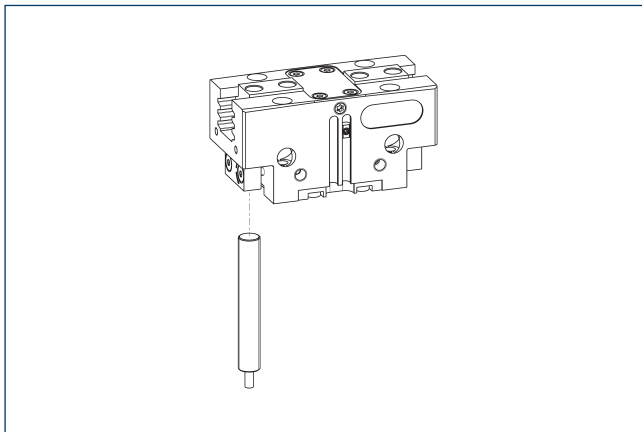
- ⑦④ Limit stop for sensor

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

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

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

## APS-Z80 analog position sensor

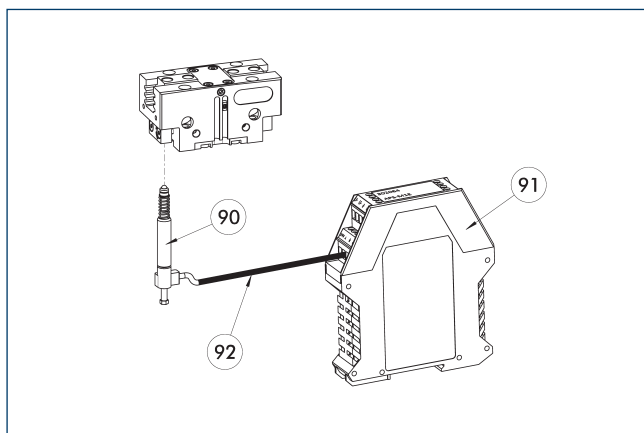


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 125-1	1366226	
AS-APS-Z80-PGN-plus-P 125-2	1366228	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGN-plus-P 125-1	1363743	
AS-APS-M1-PGN-plus-P 125-2	1363745	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

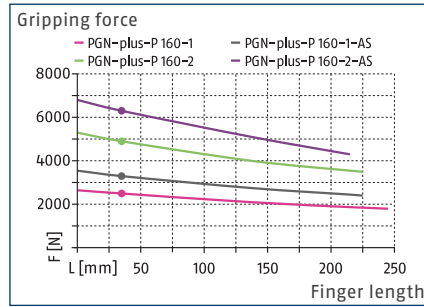
- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus-P 160

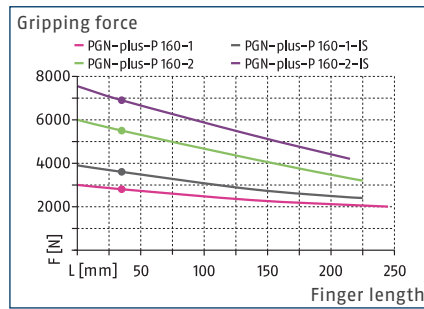
Universal gripper



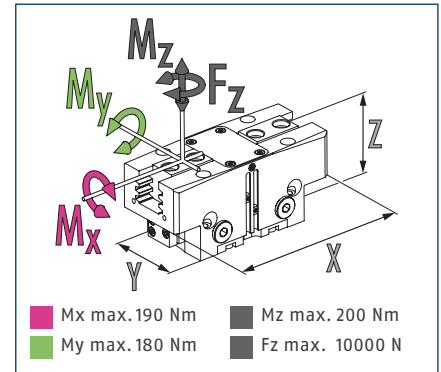
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



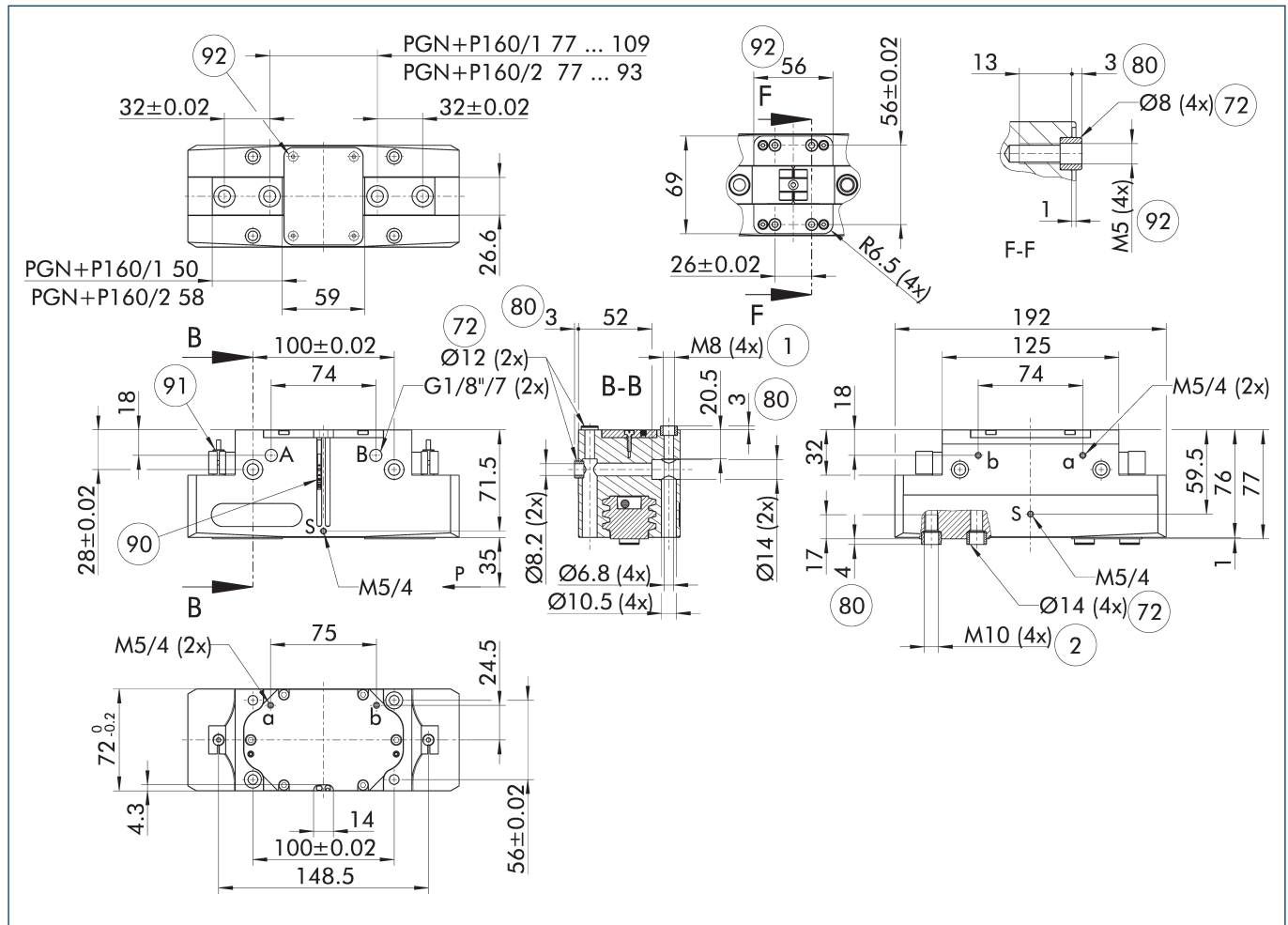
ⓘ The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 160-1	PGN-plus-P 160-2	PGN-plus-P 160-1-AS	PGN-plus-P 160-2-AS	PGN-plus-P 160-1-IS	PGN-plus-P 160-2-IS
ID		0318592	0318593	0318594	0318595	0318596	0318597
Stroke per jaw	[mm]	16	8	16	8	16	8
Closing/opening force	[N]	2500/2800	4900/5500	3300/-	6300/-	-/3600	-/6900
Min. spring force	[N]			800	1400	800	1400
Weight	[kg]	3	3	3.8	3.8	3.8	3.8
Recommended workpiece weight	[kg]	12.5	24.5	12.5	24.5	12.5	24.5
Fluid consumption double stroke	[cm³]	200	200	355	355	380	380
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.1/0.1	0.1/0.1	0.1/0.2	0.1/0.2	0.2/0.1	0.2/0.1
Closing/opening time with spring	[s]			0.20	0.20	0.20	0.20
Max. permissible finger length	[mm]	245	225	225	215	225	215
Max. permissible mass per finger	[kg]	3.8	3.8	3.8	3.8	3.8	3.8
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	192 x 72 x 77	192 x 72 x 77	192 x 72 x 117	192 x 72 x 117	192 x 72 x 117	192 x 72 x 117
<b>Options and their characteristics</b>							
Dustproof version		1317645	1317647	1317649	1317652	1317653	1317654
IP protection class		64	64	64	64	64	64
Weight	[kg]	3.2	3.2	4	4	4	4
Corrosion-protected version		1317631	1317632	1317638	1317639	1317641	1317644
High-temperature version		1317594	1317596	1317599	1317600	1317625	1317629
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		1317656	1317659	1317658	1317660		

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

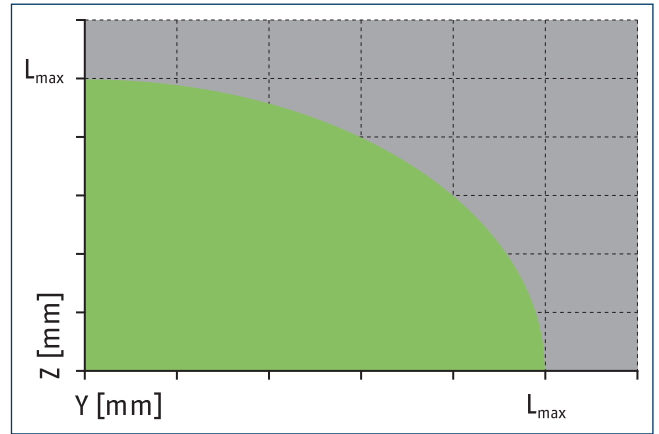
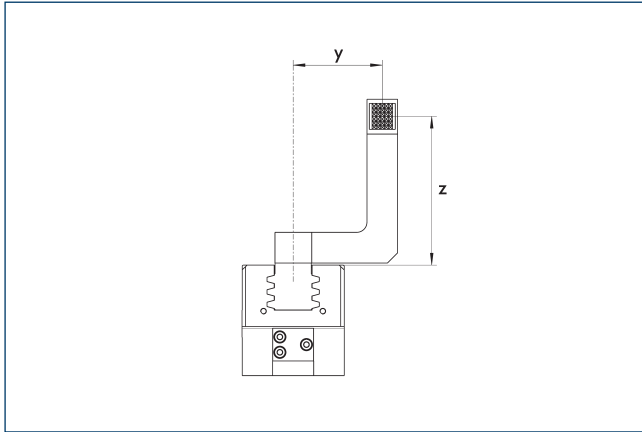
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦ Fit for centering sleeves

- ⑧ Depth of the centering sleeve hole in the counter part
- ⑨ Sensor MMS 22..
- ⑩ Sensor IN ...
- ⑪ Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 160

Universal gripper

## Maximum permitted finger projection

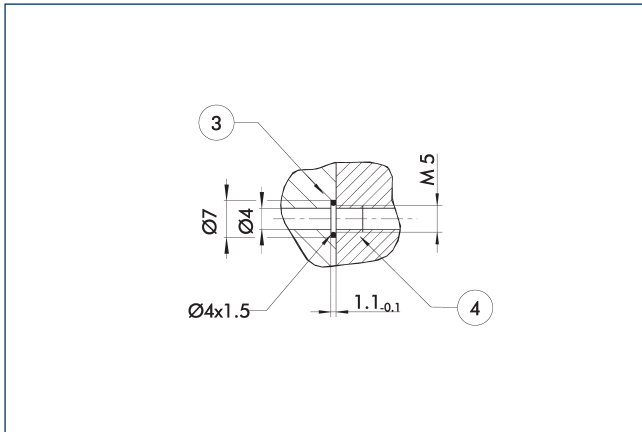


■ Permitted range

■ Inadmissible range

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

## Hose-free direct connection M5

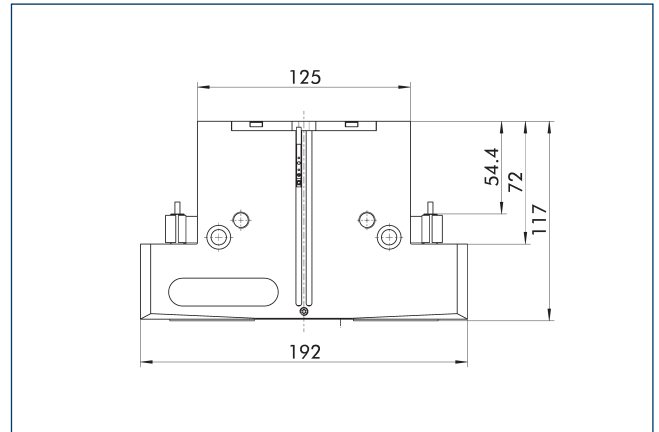


③ Adapter

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.

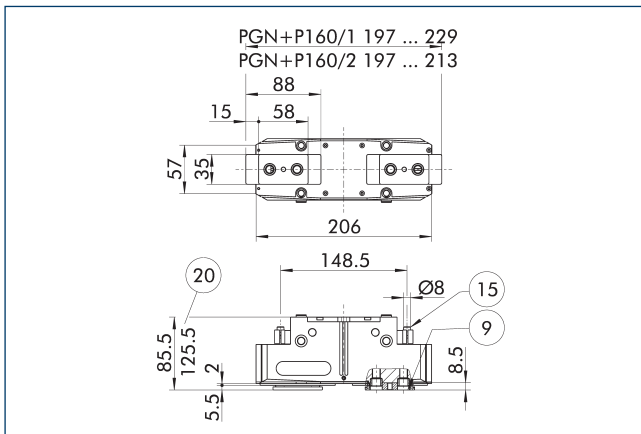
## Gripping force maintenance device AS / IS



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.



## Dustproof version



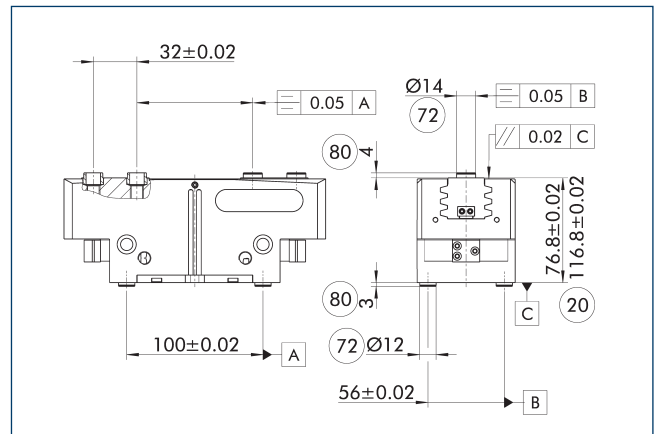
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 160	1347575

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



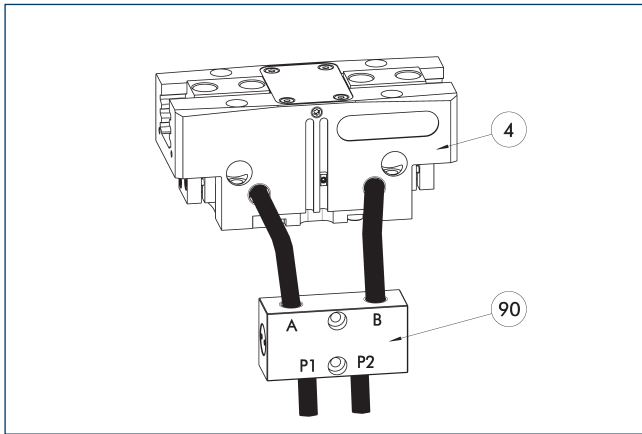
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 160

Universal gripper

## SDV-P pressure maintenance valve



④ Grippers

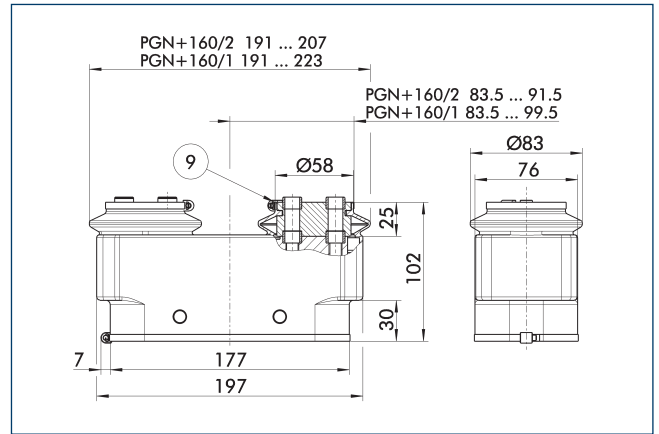
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

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

## Protective cover HUE PGN-plus 160



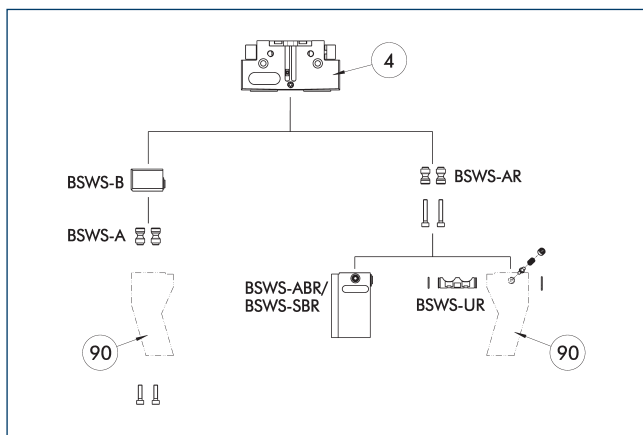
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 160	0371484	65

① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers      ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 160	0303030	2
BSWS-AR 160	0300096	2
<b>Quick-change jaw system base</b>		
BSWS-B 160	0303031	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 160	0300076	1
BSWS-SBR-PGZN-plus 160	0300086	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 160	0302995	1

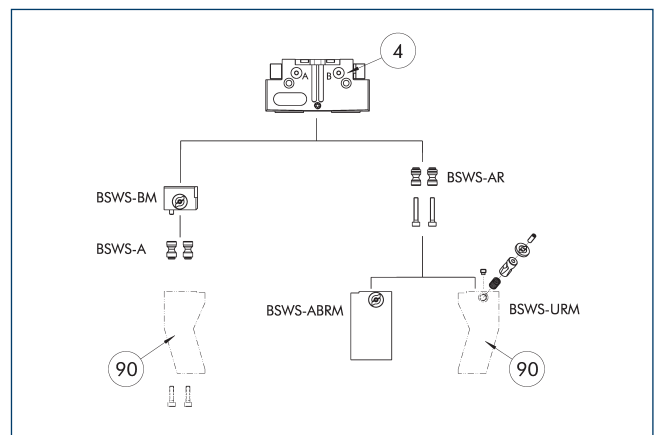
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	160	-1 (6 bar)	■■■■■
PGN-plus-P	160	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	160	-2 (6 bar)	■■■□□
PGN-plus-P	160	-2-AS / -2-IS (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Jaw quick-change system BSWS-M



④ Grippers      ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 160	0303030	2
BSWS-AR 160	0300096	2
<b>Quick-change jaw system base</b>		
BSWS-BM 160	1418962	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 160	1420855	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 160	1420541	1

① Only systems that are listed in the table, can be used.

### Fields of application

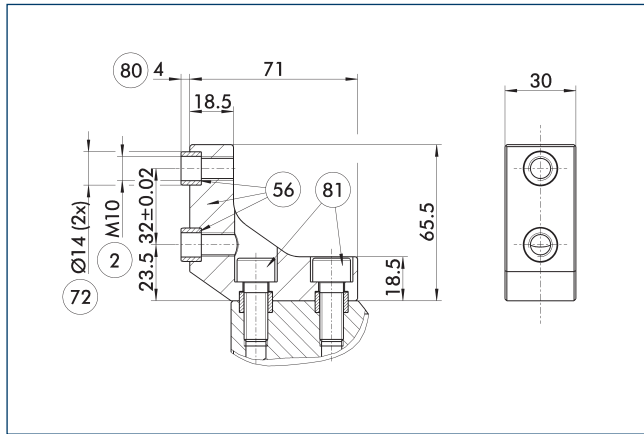
Series	Size	Variant	Suitability
PGN-plus-P	160	-1 (6 bar)	■■■■■
PGN-plus-P	160	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus-P	160	-2 (6 bar)	■■■□□
PGN-plus-P	160	-2-AS / -2-IS (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus-P 160

Universal gripper

## ZBA-L-plus 160 intermediate jaws

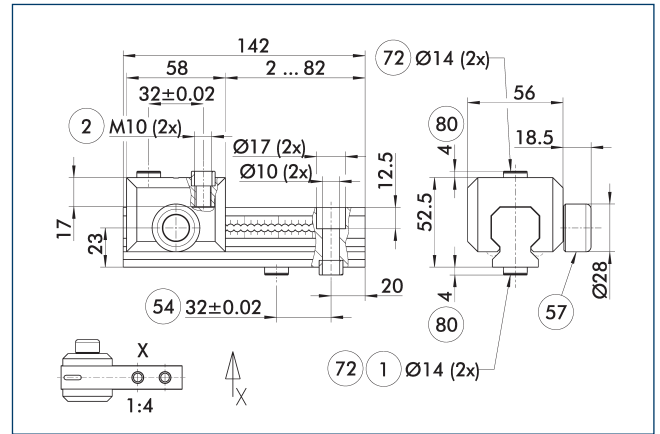


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 160	0311762	Aluminum	PGN-plus 160	1

## UZB 160 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S slide (can also be ordered separately) allows for a quick jaw change.

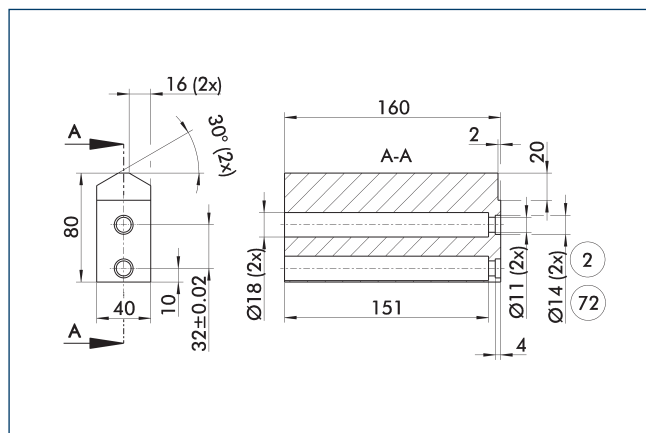
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 160	0300046	4
Finger blank		
ABR-PGZN-plus 160	0300014	
SBR-PGZN-plus 160	0300024	
Slide for universal intermediate jaw		
UZB-S 160	5518274	4

## Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	160	-1 (6 bar)	■■■■
PGN-plus-P	160	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	160	-2 (6 bar)	■■□□
PGN-plus-P	160	-2-AS / -2-IS (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 160



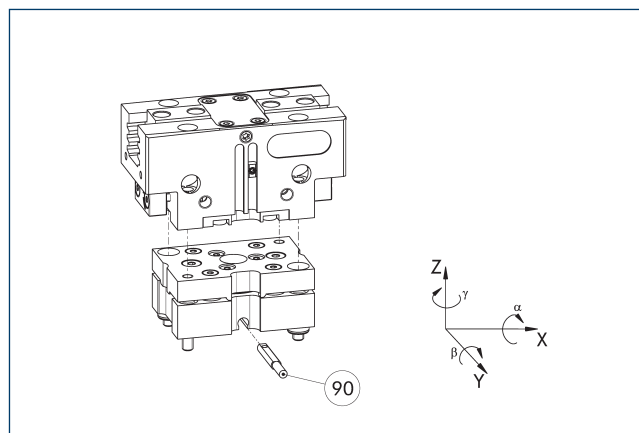
② Finger connection

⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 160	0300014	Aluminum (3.4365)	1
SBR-PGZN-plus 160	0300024	Steel (1.7131)	1

## Tolerance compensation unit TCU



⑨⑩ Monitoring of locking

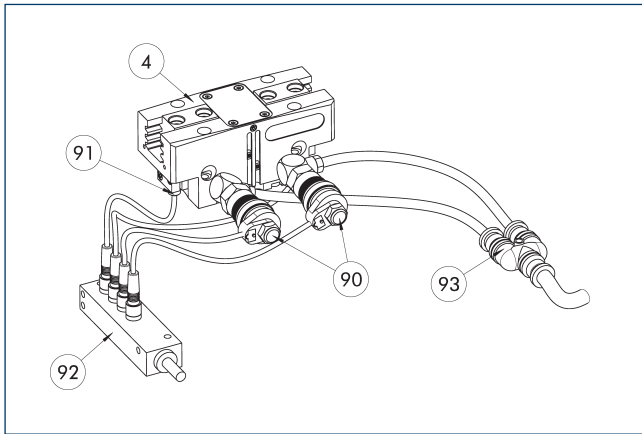
Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-160-3-MV	0324846	yes	$\pm 1^\circ / \pm 2^\circ / \pm 1,5^\circ$	●
TCU-P-160-3-OV	0324847	no	$\pm 1^\circ / \pm 2^\circ / \pm 1,5^\circ$	

# PGN-plus-P 160

Universal gripper

## Attachment valves



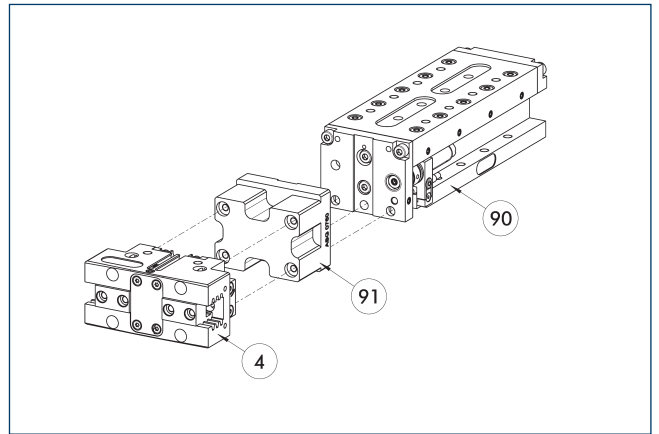
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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

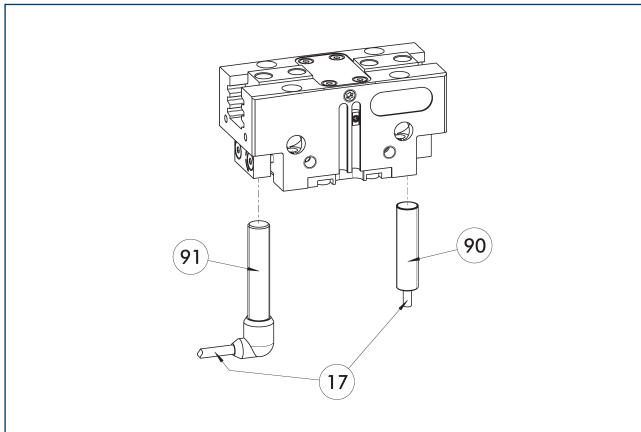
## Modular Assembly Automation



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

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

## Inductive proximity switches



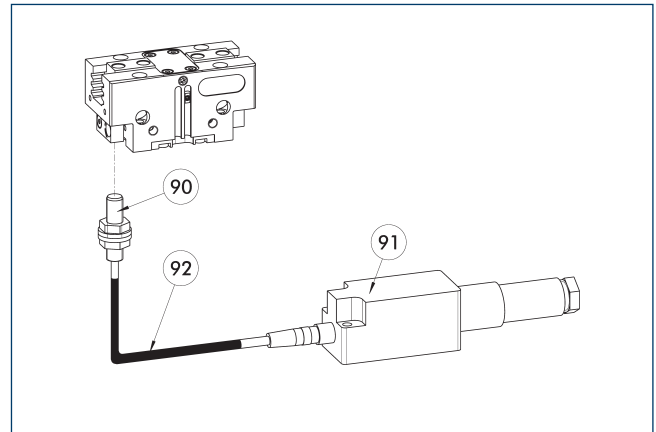
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

## Flexible position sensor



- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

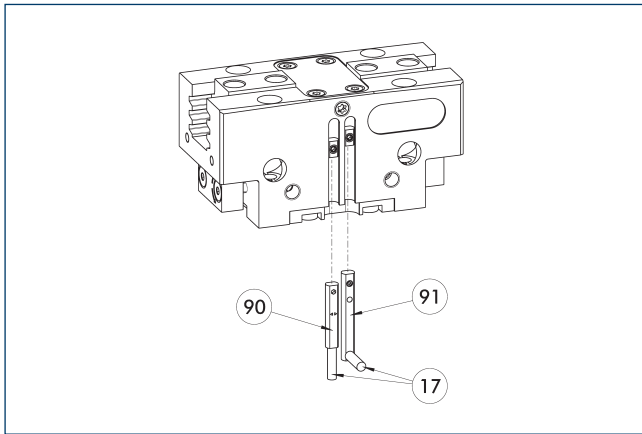
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 160-1	1388823	
AS-FPS-PGN-plus-P 160-2	1388826	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

# PGN-plus-P 160

Universal gripper

## Electronic magnetic switch MMS



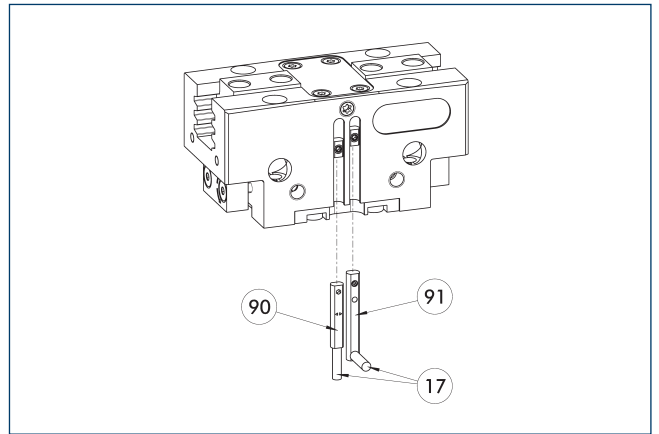
- ① Cable outlet
- ② Sensor MMS 22 ..-PI1-...-SA
- ③ Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



- ① Cable outlet
- ② Sensor MMS 22 ..-PI1-...-SA
- ③ Sensor MMS 22 PI1-...

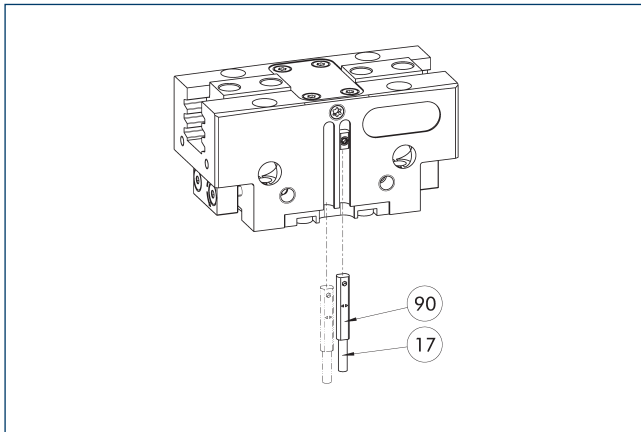
Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching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

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

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



## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

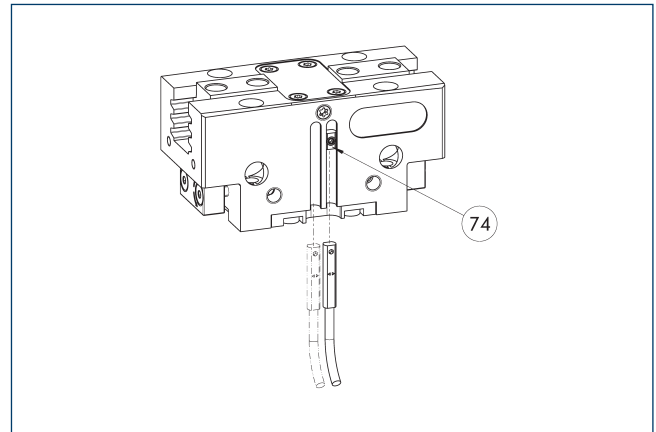
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



74 Limit stop for sensor

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

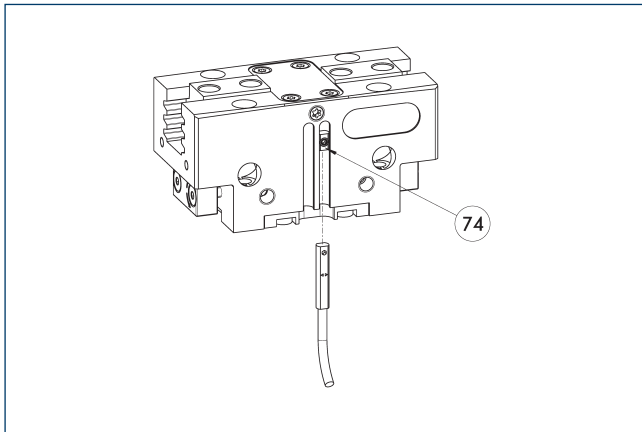
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>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

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

# PGN-plus-P 160

Universal gripper

## MMS-A analog position sensor



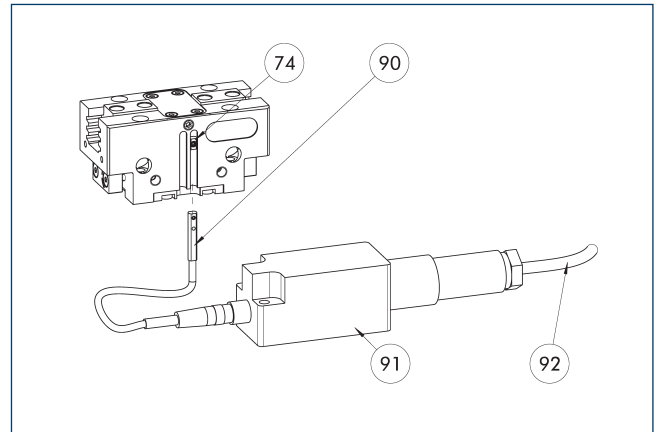
74 Limit stop for sensor

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.

## Flexible position sensor with MMS-A



74 Limit stop for sensor

90 MMS 22-A-... sensor

91 FPS-F5 evaluation electronic

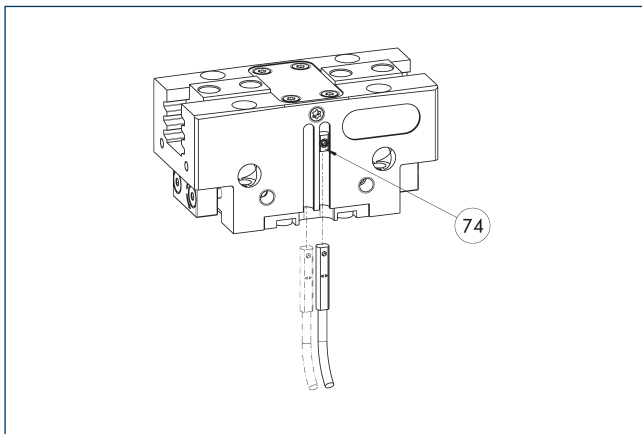
92 Connection cables

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



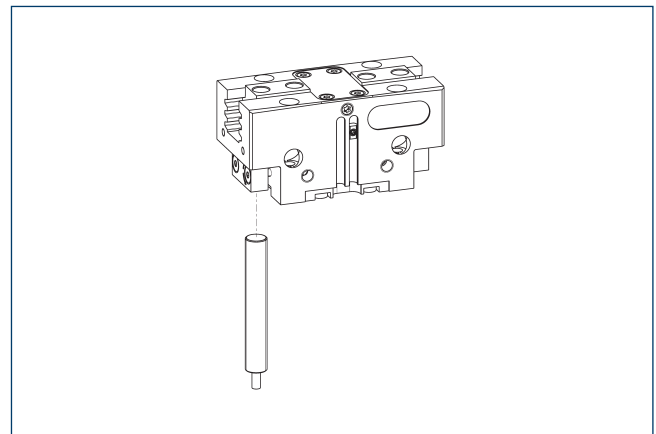
### 74 Limit stop for sensor

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.

## APS-Z80 analog position sensor



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

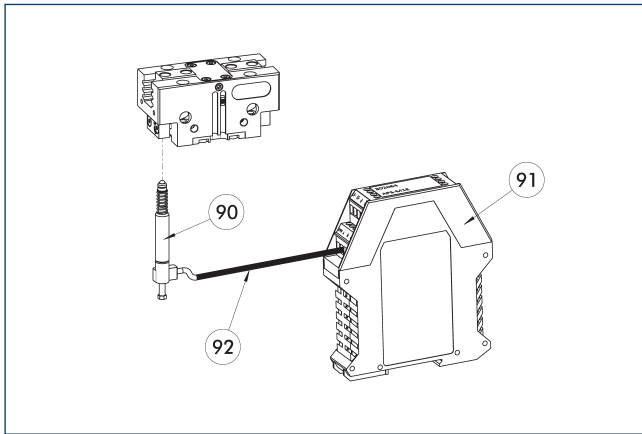
Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 160-1	1374181	
AS-APS-Z80-PGN-plus-P 160-2	1374182	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus-P 160

Universal gripper

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGN-plus-P 160-1	1374144	
AS-APS-M1-PGN-plus-P 160-2	1374159	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

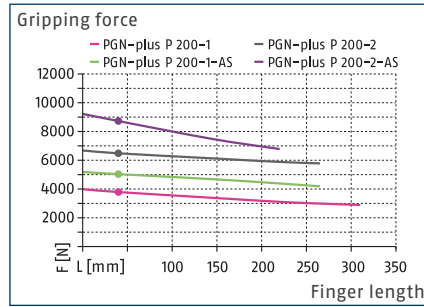


# PGN-plus-P 200

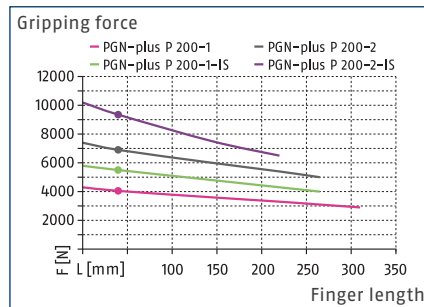
Universal gripper



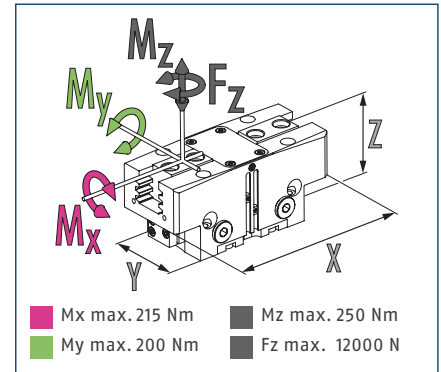
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

Description		PGN-plus-P 200-1	PGN-plus-P 200-2	PGN-plus-P 200-1-AS	PGN-plus-P 200-2-AS	PGN-plus-P 200-1-IS	PGN-plus-P 200-2-IS
ID		0318616	0318617	0318618	0318619	0318620	0318621
Stroke per jaw	[mm]	25	14	25	14	25	14
Closing/opening force	[N]	3800/4050	6500/6900	5050/-	8750/-	-/5500	-/9350
Min. spring force	[N]			1250	2250	1450	2450
Weight	[kg]	5.4	5.4	7	7	6.8	6.8
Recommended workpiece weight	[kg]	19	32.5	19	32.5	19	32.5
Fluid consumption double stroke	[cm³]	510	510	810	810	890	890
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.28/0.28	0.28/0.28	0.24/0.55	0.24/0.55	0.55/0.24	0.55/0.24
Closing/opening time with spring	[s]			0.40	0.40	0.40	0.40
Max. permissible finger length	[mm]	310	265	265	220	265	220
Max. permissible mass per finger	[kg]	6.5	6.5	6.5	6.5	6.5	6.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	234 x 100 x 91	234 x 100 x 91	234 x 100 x 141	234 x 100 x 141	234 x 100 x 141	234 x 100 x 141
<b>Options and their characteristics</b>							
Dustproof version		1317683	1317691	1317695	1317696	1317701	1317703
IP protection class		64	64	64	64	64	64
Weight	[kg]	6	6	7.6	7.6	7.4	7.4
Corrosion-protected version		1317675	1317676	1317678	1317679	1317680	1317681
High-temperature version		1317663	1317665	1317666	1317667	1317670	1317674
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		1317705	1317706	1317708	1317710		

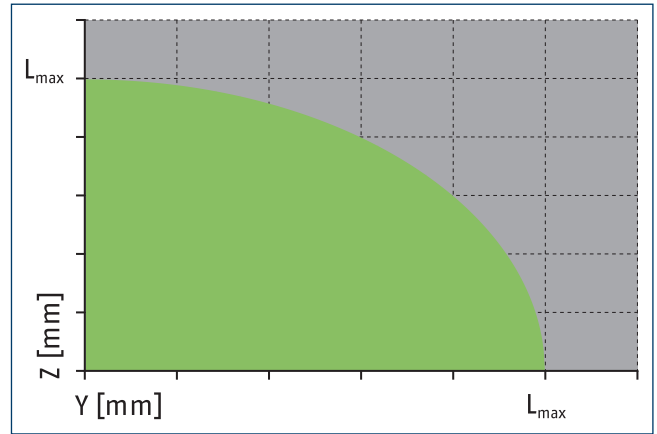
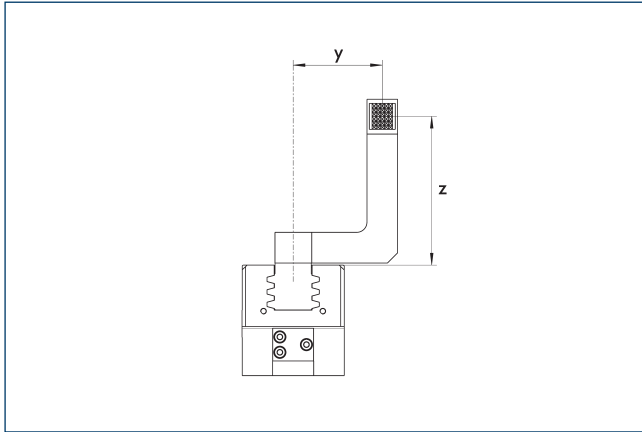
① It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.



# PGN-plus-P 200

Universal gripper

## Maximum permitted finger projection

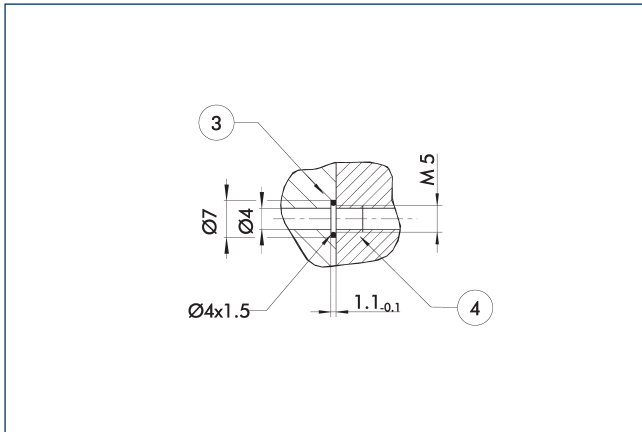


■ Permitted range

■ Inadmissible range

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

## Hose-free direct connection M5

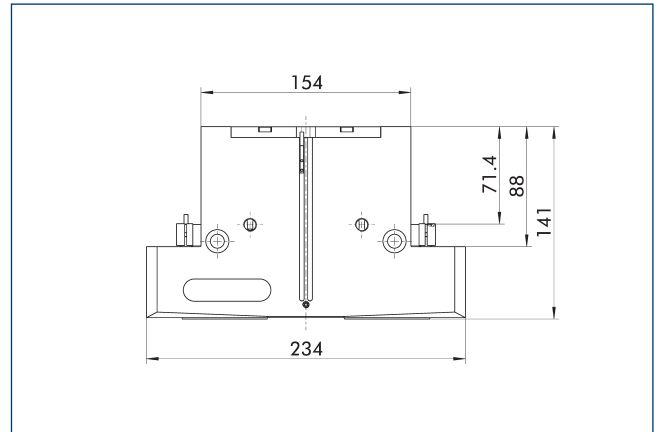


③ Adapter

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.

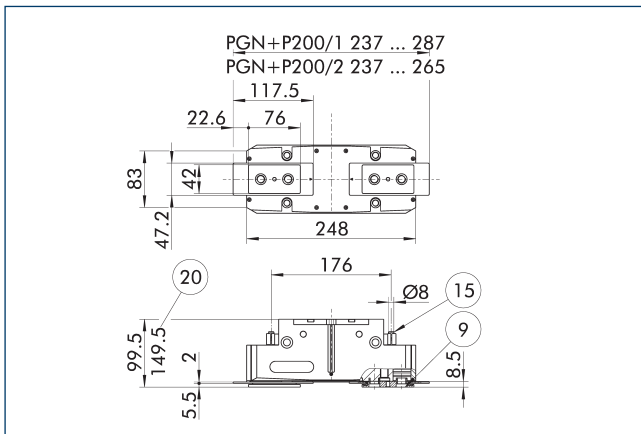
## Gripping force maintenance device AS / IS



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.



## Dustproof version



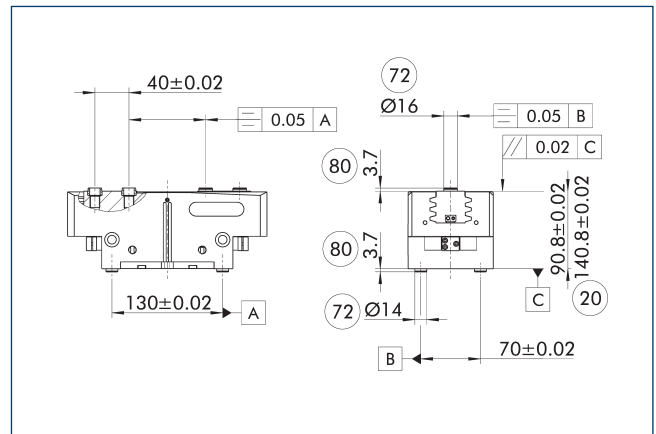
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 200	1347583

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



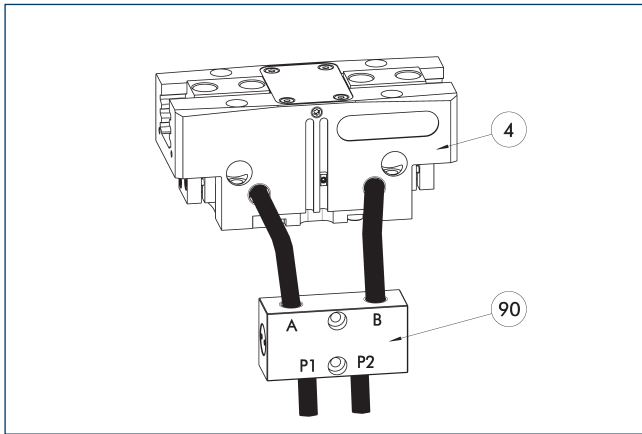
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ㉔ Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 200

Universal gripper

## SDV-P pressure maintenance valve



④ Grippers

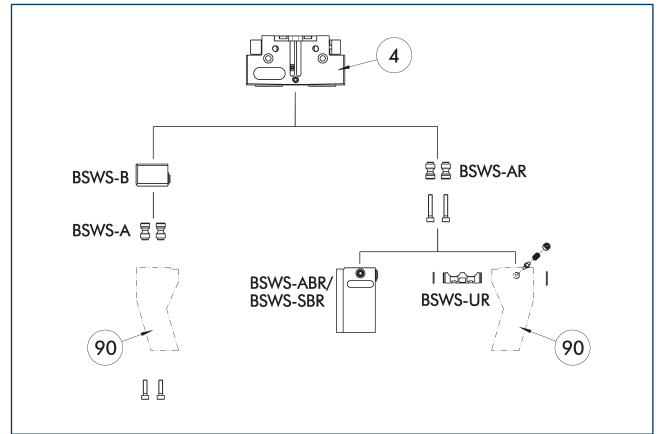
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

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

## BSWS jaw quick-change jaw systems



④ Grippers

⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Quick-change jaw system base</b>		
BSWS-B 200	0303033	1
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 200	0303032	2

① Only systems that are listed in the table, can be used.

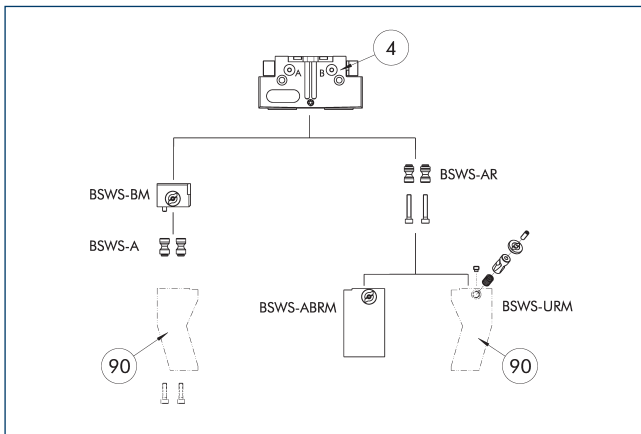
### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	200	-1 (6 bar)	■■■■
PGN-plus-P	200	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	200	-2 (6 bar)	■■□□
PGN-plus-P	200	-2-AS / -2-IS (6 bar)	■■□□
<b>Legend</b>			
■■■■			Can be combined without restrictions
■■□□			Use with restrictions (see loading limits)
□□□□			cannot be combined

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Jaw quick-change system BSWs-M



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Quick-change jaw system base		
BSWS-BM 200	1419306	1
Jaw quick-change system adapter pin		
BSWS-A 200	0303032	2

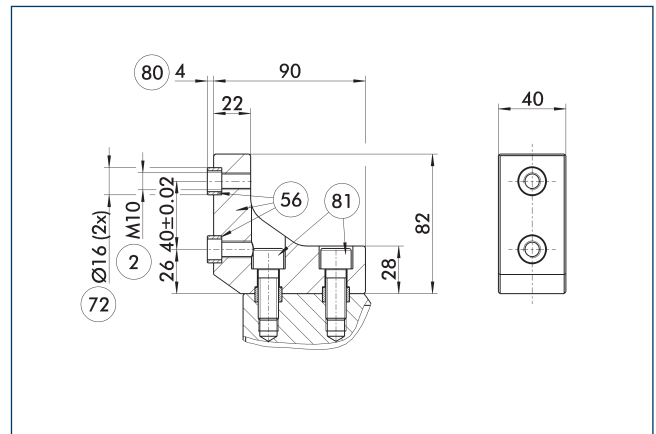
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	200	-1 (6 bar)	■■■■
PGN-plus-P	200	-1-AS / -1-IS (6 bar)	■■□□
PGN-plus-P	200	-2 (6 bar)	■■□□
PGN-plus-P	200	-2-AS / -2-IS (6 bar)	■■□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.  
If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## ZBA-L-plus 200 intermediate jaws



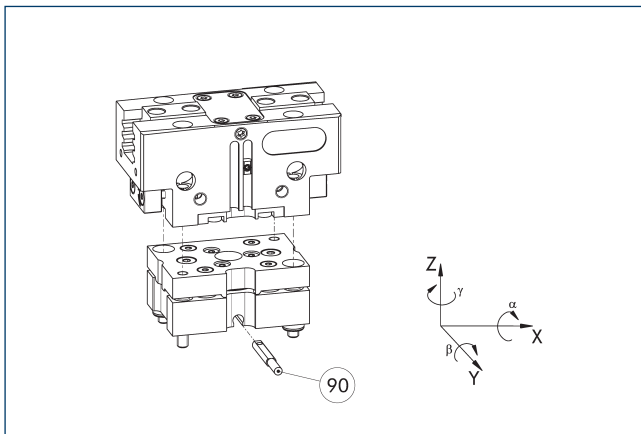
- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 200	0311772	Aluminum	PGN-plus 200	1



## Tolerance compensation unit TCU

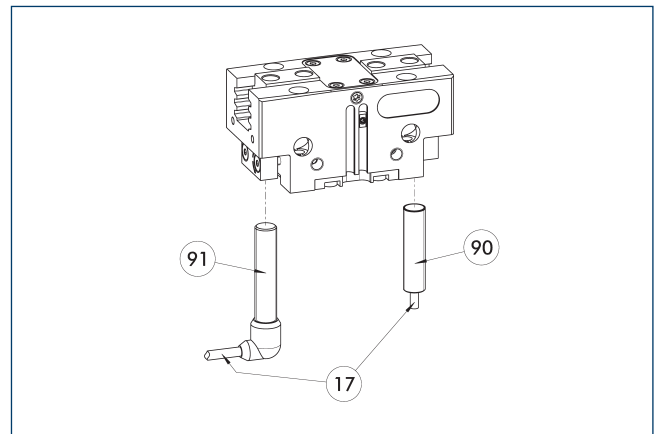


### 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
<b>Compensation unit</b>				
TCU-P-200-3-MV	0324864	yes	$\pm 1^\circ / \pm 2^\circ / \pm 1,5^\circ$	●
TCU-P-200-3-0V	0324865	no	$\pm 1^\circ / \pm 2^\circ / \pm 1,5^\circ$	

## Inductive proximity switches



### 17 Cable outlet

### 90 Sensor IN...-SA

### 90 Sensor IN ...

Directly mounted end position monitoring.

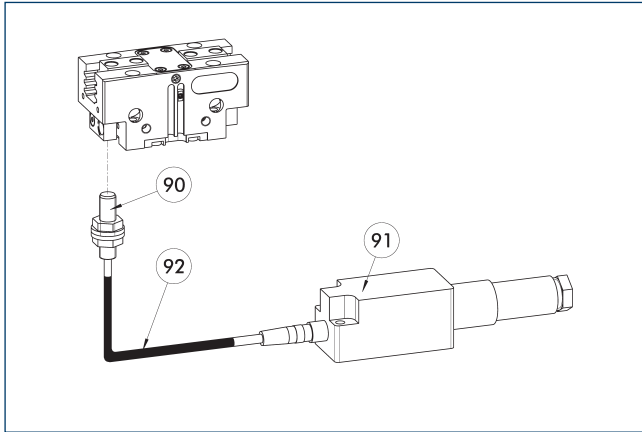
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

# PGN-plus-P 200

Universal gripper

## Flexible position sensor



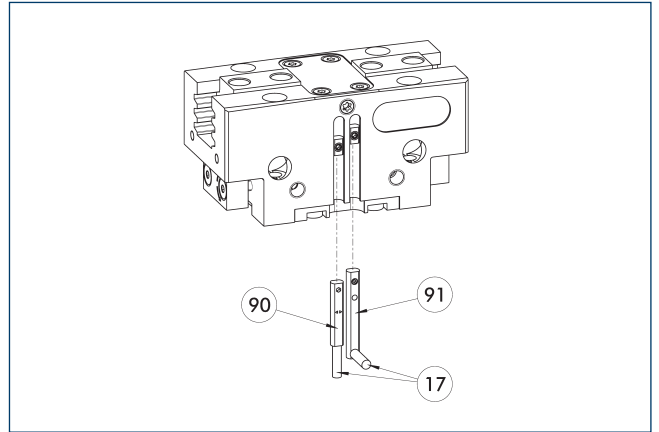
- ⑨⑩ FPS-S sensor
- ⑨① Cable extension
- ⑨② FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 200-1	1388827	
AS-FPS-PGN-plus-P 200-2	1388829	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



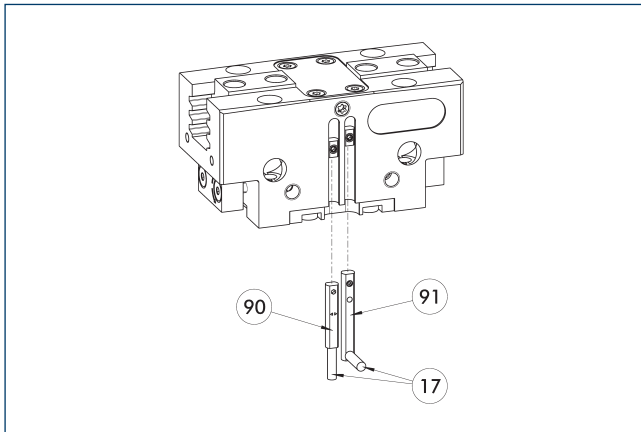
- ①⑦ Cable outlet
- ⑨① Sensor MMS 22 ...-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



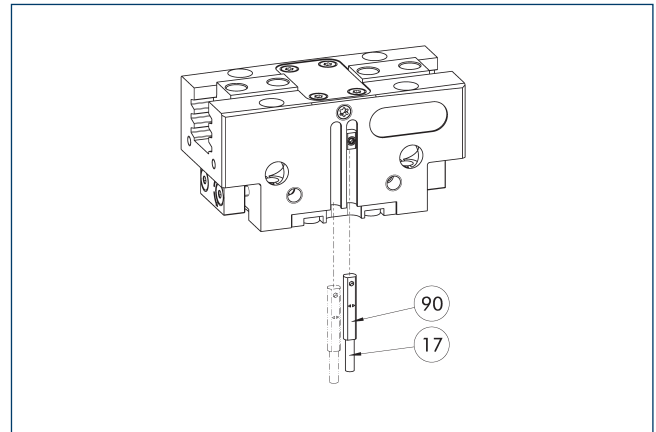
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

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

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

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

## Programmable magnetic switch MMS 22-PI2



- ⑰ Cable outlet
- ⑨② MMS 22...-PI2-... sensor

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

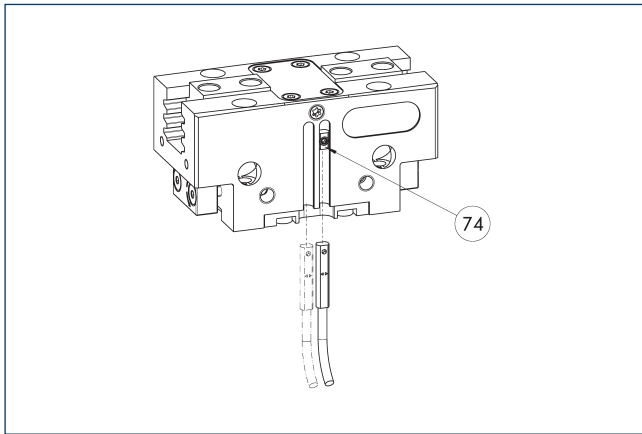
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus-P 200

Universal gripper

## MMS-P programmable magnetic switch



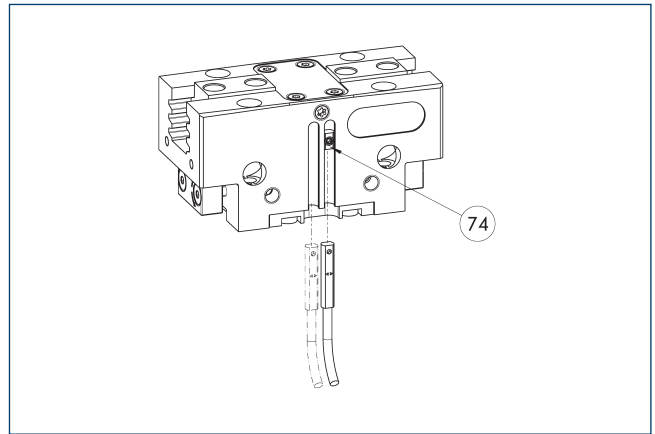
74 Limit stop for sensor

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	●
Connection cables		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
clip for plug/socket		
CLI-M8	0301463	
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



74 Limit stop for sensor

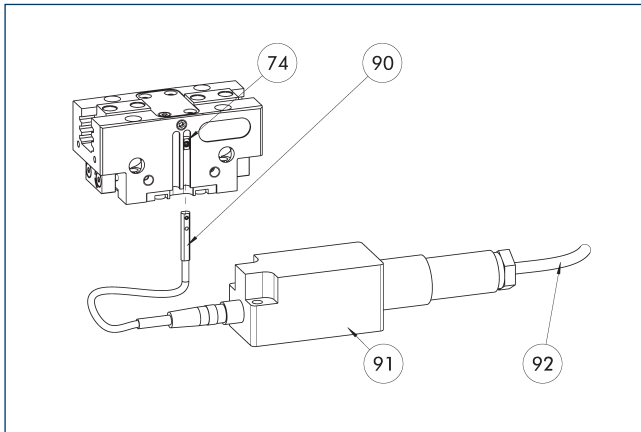
No-contact measuring, analog multi-position monitoring for any number of positions.

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

① One sensor is required per unit. The output voltage of the sensor differs according to the unit and is typically between 0.3 and 10 V. The resolution of the sensor can be smaller in the peripheral areas of the gripper. For further information on the product, see operating manual.



## Flexible position sensor with MMS-A



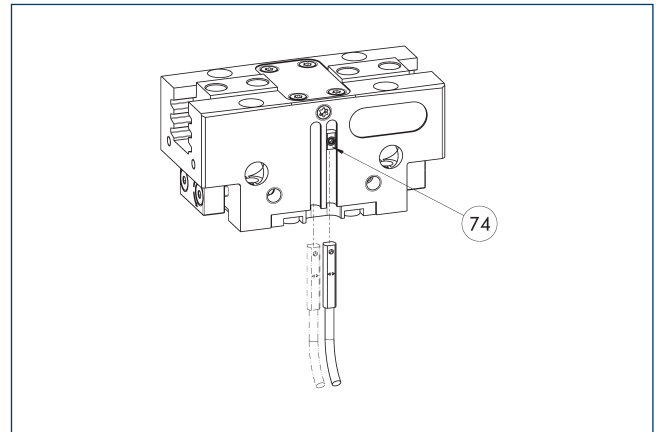
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

- ① When using an FPS system, one MMS 22-A-05V as well as one evaluation electronics (FPS-F5) are required per each gripper, as well as an attachment kit (AS), if listed. On option, cable extensions (KV) are available – see catalog chapter “Accessories.” The resolution of the sensor can be lower in the peripheral areas of the gripper. For further information on the product, see operating manual.

## Programmable magnetic switch MMS-IO-Link



- ⑦④ Limit stop for sensor

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

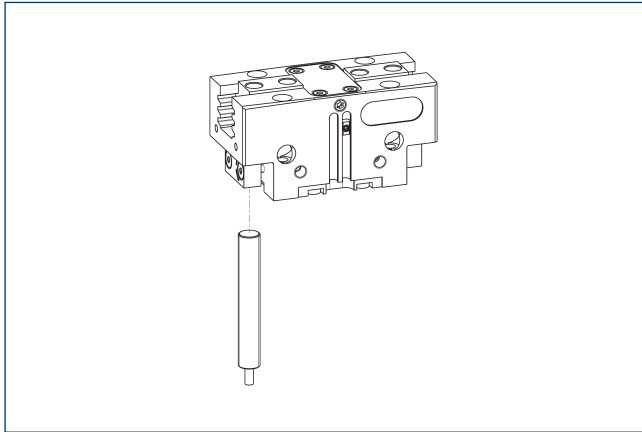
Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

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

# PGN-plus-P 200

Universal gripper

## APS-Z80 analog position sensor

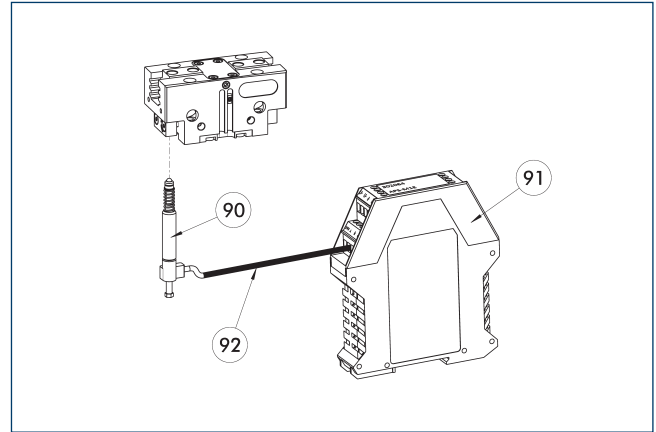


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGN-plus-P 200-1	1374183	
AS-APS-Z80-PGN-plus-P 200-2	1374184	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



⑨⑩ APS-M1S sensor      ⑨② APS-K extension cable  
 ⑨① APS-M1E electronic processor

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGN-plus-P 200-1	1374166	
AS-APS-M1-PGN-plus-P 200-2	1374175	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

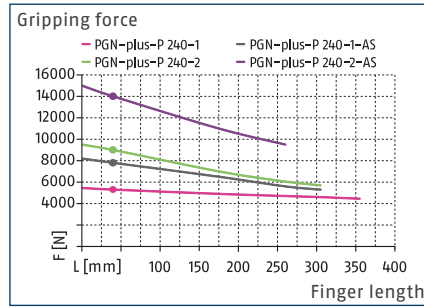


# PGN-plus-P 240

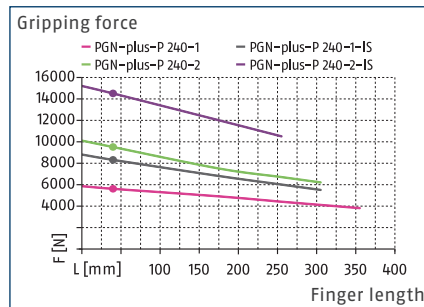
Universal gripper



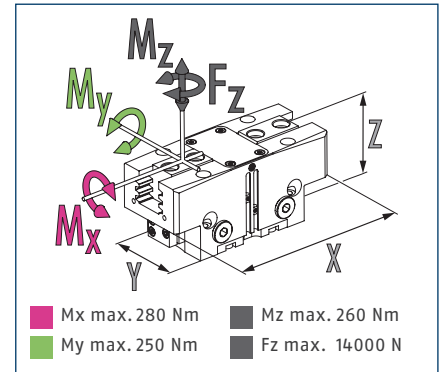
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



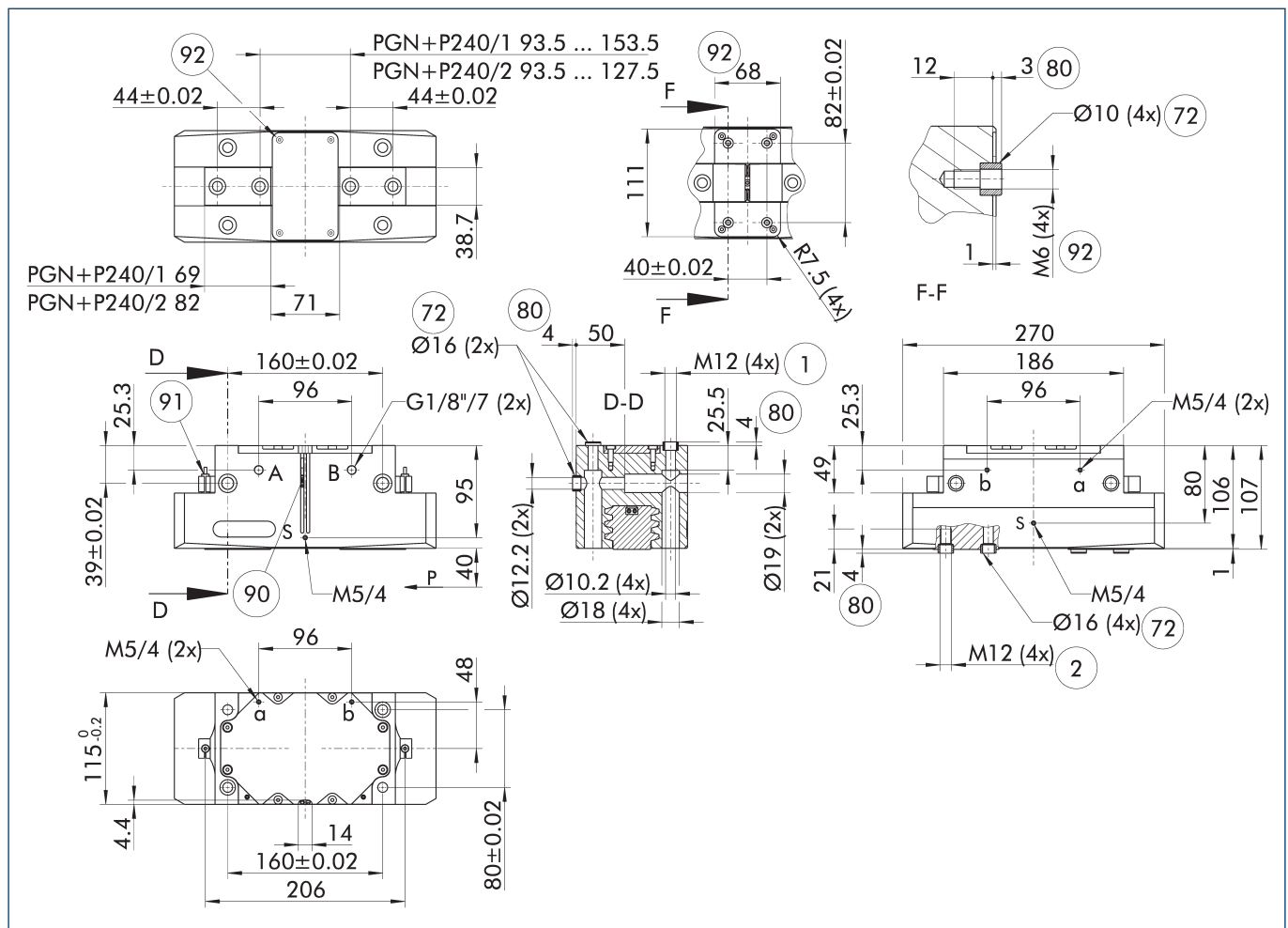
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 240-1	PGN-plus-P 240-2	PGN-plus-P 240-1-AS	PGN-plus-P 240-2-AS	PGN-plus-P 240-1-IS	PGN-plus-P 240-2-IS
ID		0318640	0318641	0318642	0318643	0318644	0318645
Stroke per jaw	[mm]	30	17	30	17	30	17
Closing/opening force	[N]	5300/5600	9000/9500	7800/-	14000/-	-/8300	-/14500
Min. spring force	[N]			2500	5000	2700	5000
Weight	[kg]	8.7	8.9	11.8	12	11.5	11.7
Recommended workpiece weight	[kg]	26.5	45	26.5	45	26.5	45
Fluid consumption double stroke	[cm <sup>3</sup> ]	900	900	1300	1300	1400	1400
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.5/0.5	0.5/0.5	0.45/0.9	0.45/0.9	0.9/0.45	0.9/0.45
Closing/opening time with spring	[s]			0.60	0.60	0.60	0.60
Max. permissible finger length	[mm]	355	305	305	260	305	260
Max. permissible mass per finger	[kg]	9.5	9.5	9.5	9.5	9.5	9.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.04	0.04	0.04	0.04	0.04	0.04
Dimensions X x Y x Z	[mm]	270 x 115 x 107	270 x 115 x 107	270 x 115 x 163.5	270 x 115 x 163.5	270 x 115 x 163.5	270 x 115 x 163.5
<b>Options and their characteristics</b>							
Dustproof version		1317742	1317744	1317745	1317749	1317752	1317755
IP protection class		64	64	64	64	64	64
Weight	[kg]	9.4	9.6	12.5	12.7	12.2	12.4
Corrosion-protected version		1317732	1317735	1317737	1317738	1317739	1317740
High-temperature version		1317715	1317717	1317722	1317724	1317725	1317729
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		1317758	1317759	1317760	1317761		

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

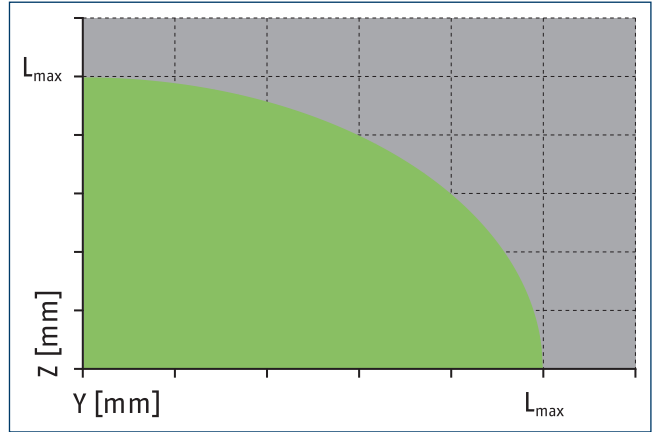
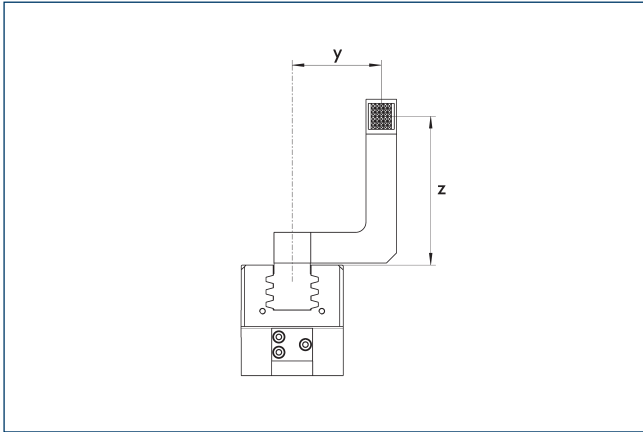
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦ Fit for centering sleeves

- ⑧ Depth of the centering sleeve hole in the counter part
- ⑨ Sensor MMS 22..
- ⑩ Sensor IN ...
- ⑪ Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 240

Universal gripper

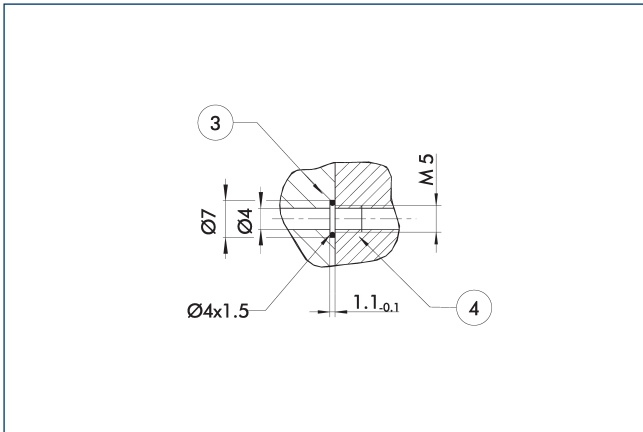
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M5

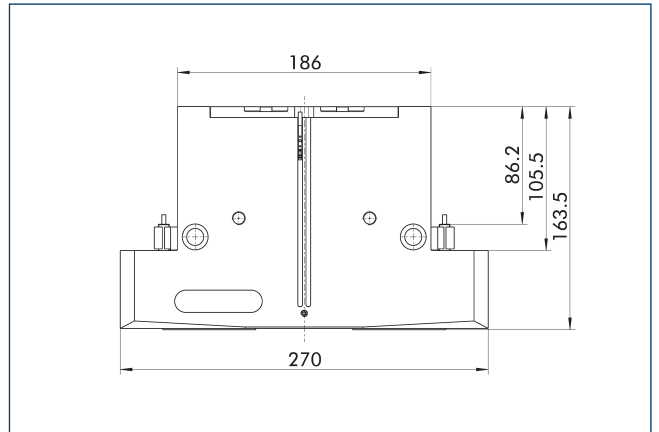


③ Adapter

④ Grippers

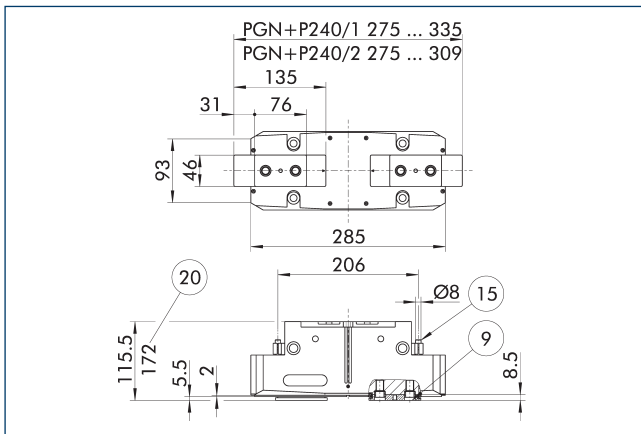
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

## Dustproof version



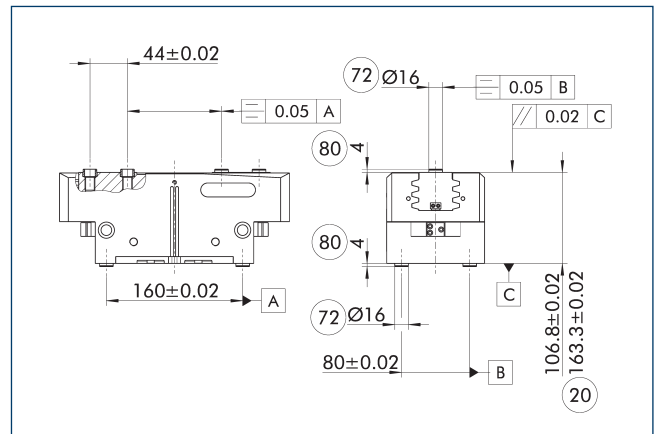
- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 240	1347587

- ① The "dustproof" option can either be ordered as a pre-mounted gripper version or can be retrofitted to the gripper using the "SAD PGN-plus-P" retrofit kit.

## Precision version



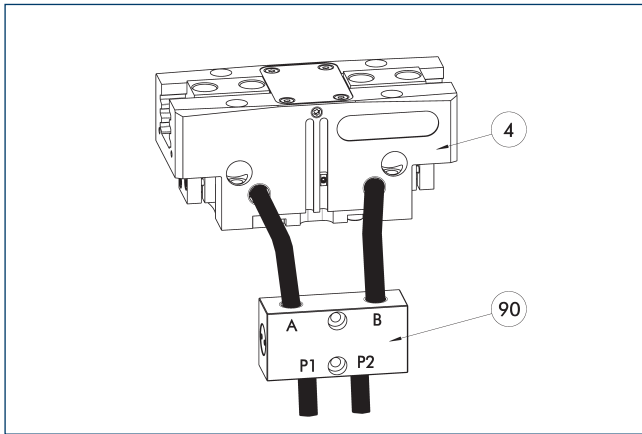
- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ㉔ Depth of the centering sleeve hole in the counter part

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.

# PGN-plus-P 240

Universal gripper

## SDV-P pressure maintenance valve



④ Grippers

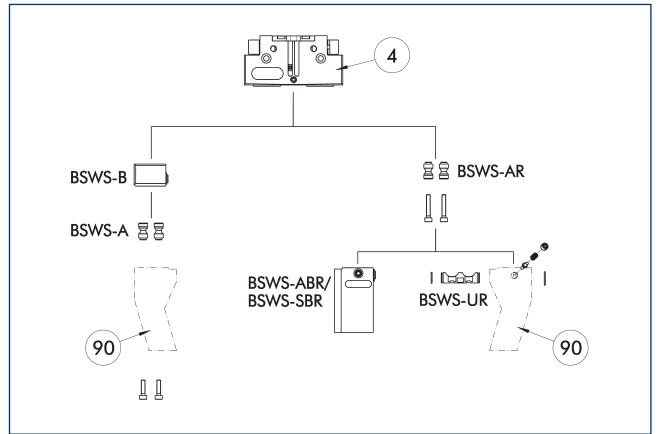
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

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.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Quick-change jaw system base</b>		
BSWS-B 240	0303035	1
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 240	0303034	2

① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	240	-1 (6 bar)	■■■■
PGN-plus-P	240	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus-P	240	-2 (6 bar)	■■□□
PGN-plus-P	240	-2-AS / -2-IS (6 bar)	■■□□

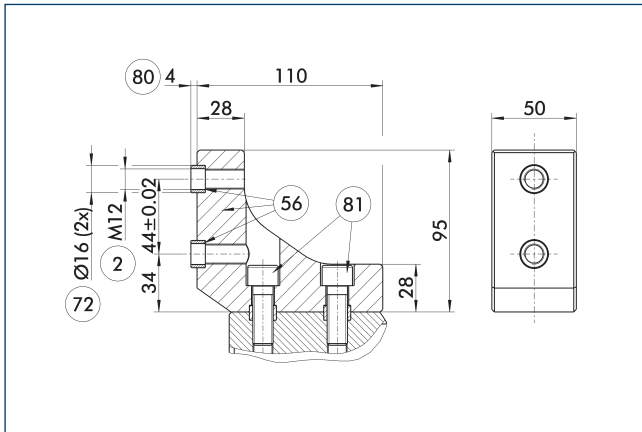
Legend	
■■■■	Can be combined without restrictions
■■□□	Use with restrictions (see loading limits)
□□□□	cannot be combined

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.



ZBA-L-plus 240 intermediate jaws

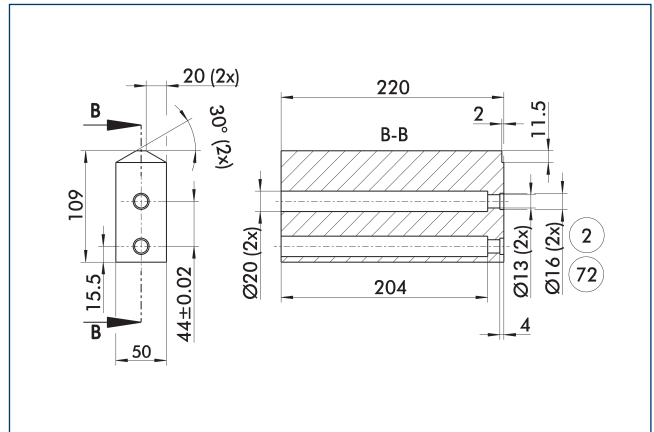


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 240	0311782	Aluminum	PGN-plus 240	1

Finger blanks ABR- / SBR-PGZN-plus 240

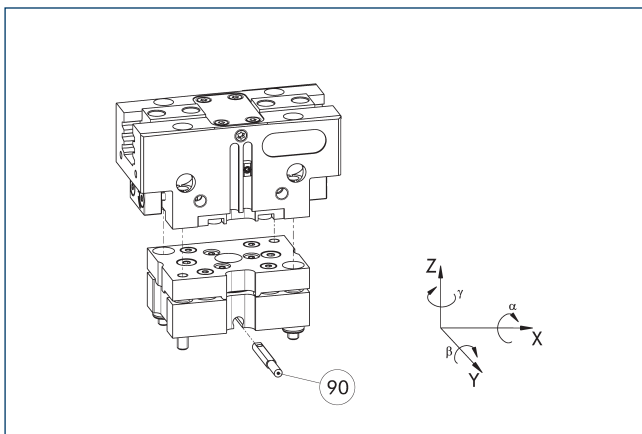


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 240	0300017	Aluminum (3.4365)	1
SBR-PGZN-plus 240	0300027	Steel (1.7131)	1

Tolerance compensation unit TCU



- ⑨⑩ Monitoring of locking

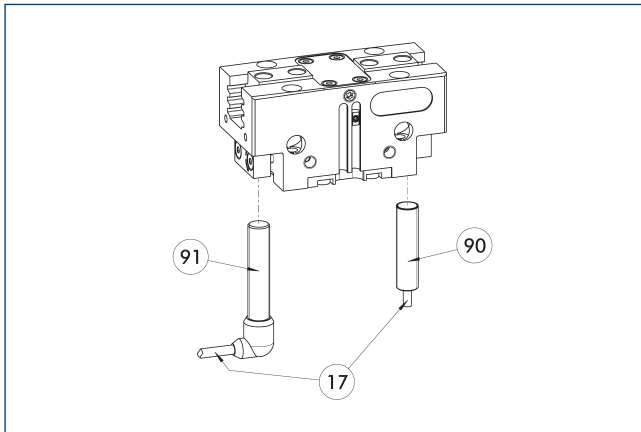
Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-240-3-MV	0324730	yes	±1°/±1,5°/±1°	●
TCU-P-240-3-OV	0324731	no	±1°/±1,5°/±1°	

# PGN-plus-P 240

Universal gripper

## Inductive proximity switches



17 Cable outlet

91 Sensor IN..-SA

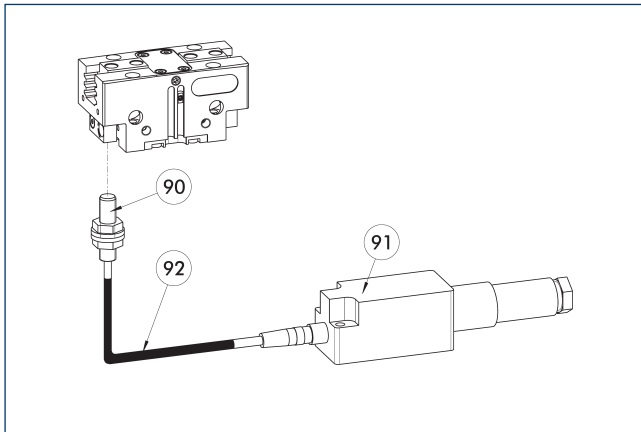
90 Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

## Flexible position sensor



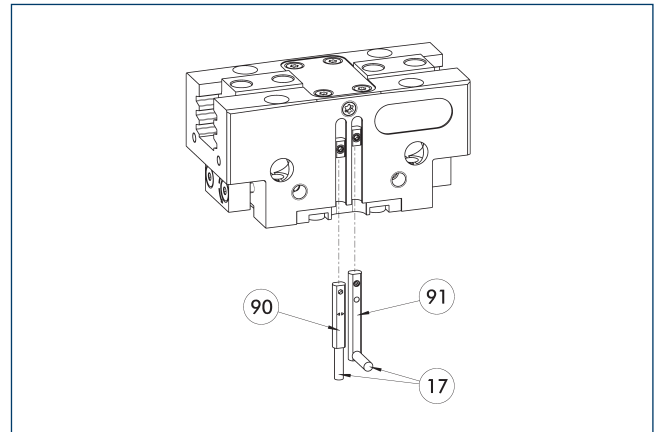
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 240-1	1388834	
AS-FPS-PGN-plus-P 240-2	1388840	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 Pi1-...
- ①⑩ Sensor MMS 22 Pi1-...

End position monitoring for mounting in the C-slot.

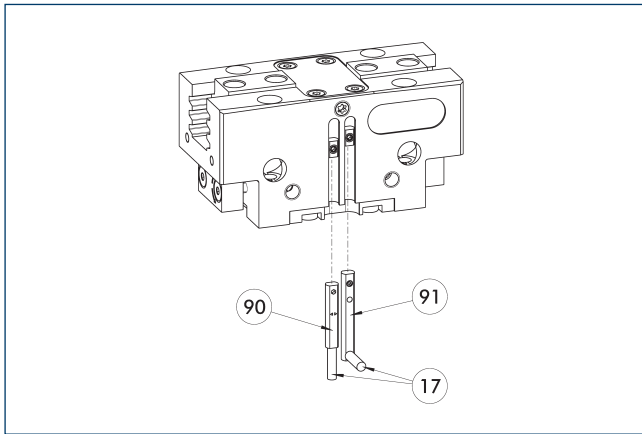
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

# PGN-plus-P 240

Universal gripper

## Programmable magnetic switch MMS 22-PI1



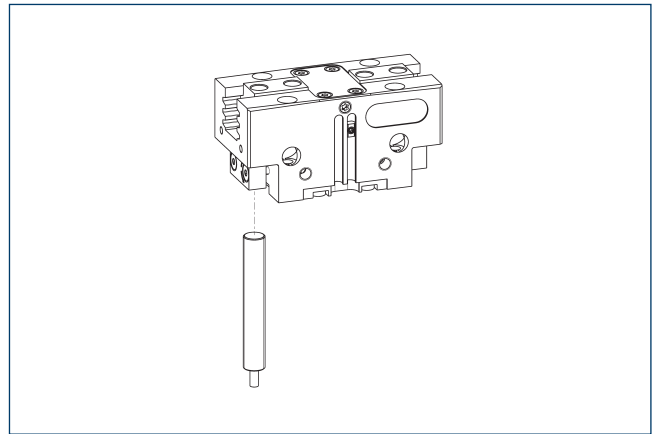
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

## APS-Z80 analog position sensor

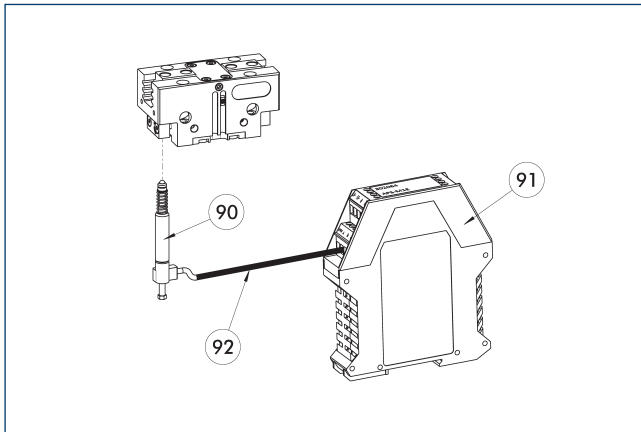


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGN-plus-P 240-1	1374185	
AS-APS-Z80-PGN-plus-P 240-2	1374186	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGN-plus-P 240-1	1374178	
AS-APS-M1-PGN-plus-P 240-2	1374180	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

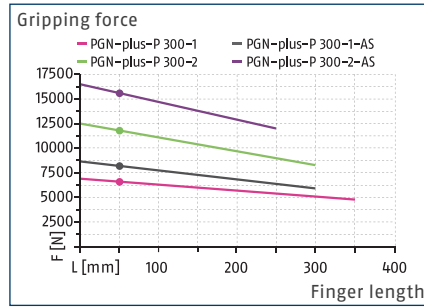
- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus-P 300

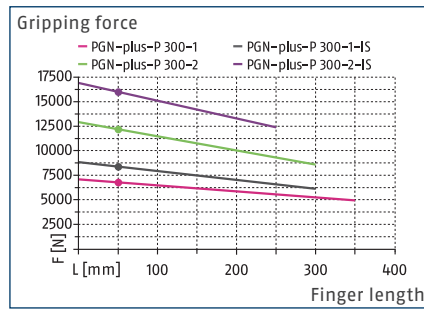
Universal gripper



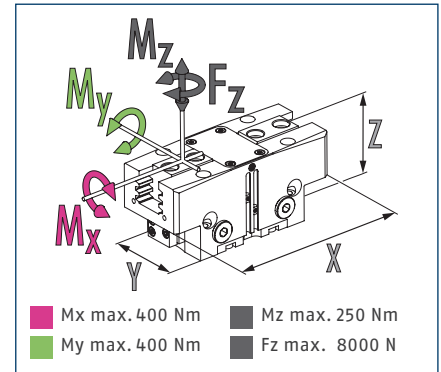
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



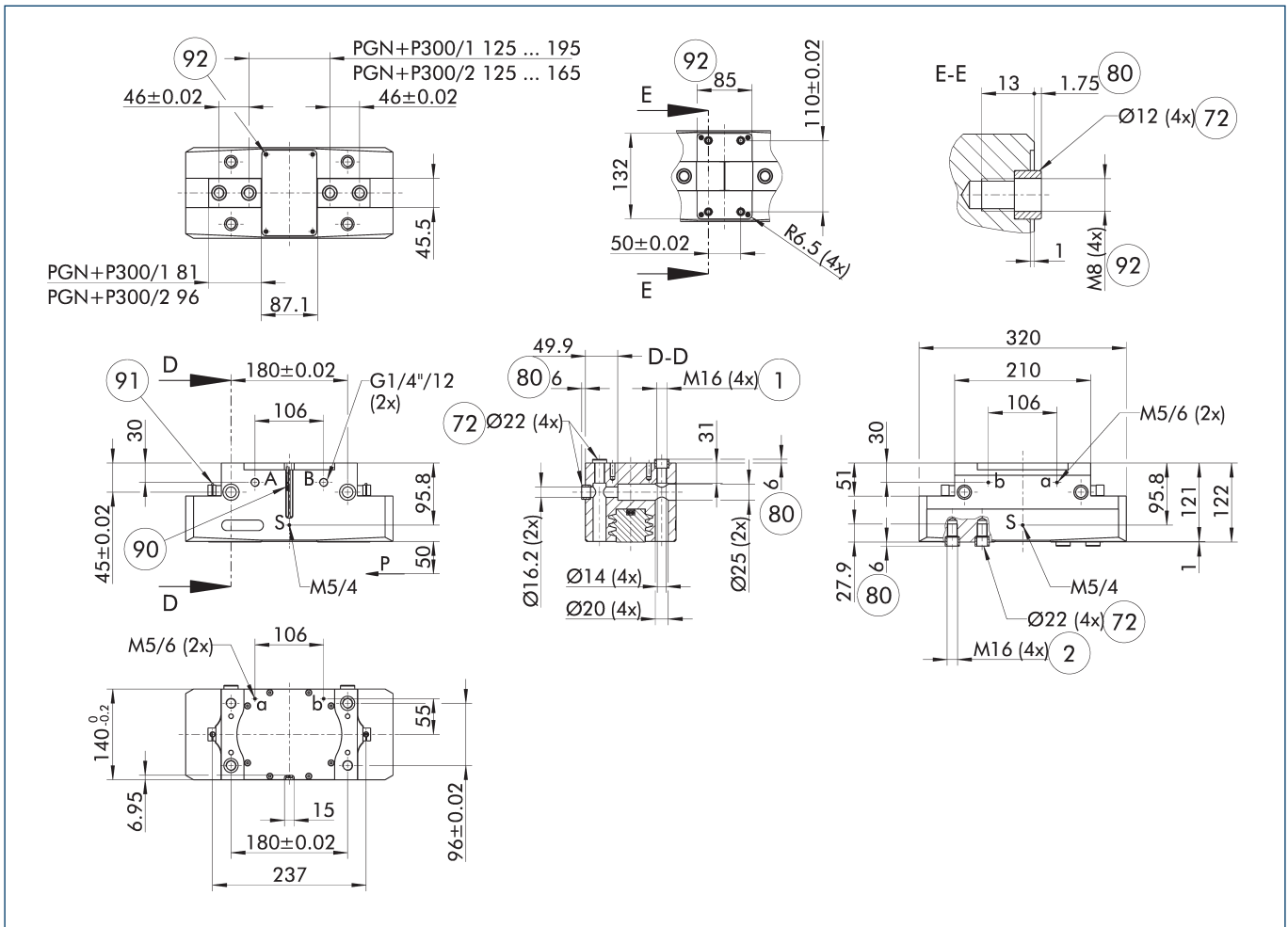
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus-P 300-1	PGN-plus-P 300-2	PGN-plus-P 300-1-AS	PGN-plus-P 300-2-AS	PGN-plus-P 300-1-IS	PGN-plus-P 300-2-IS
ID		1377846	1377878	1377881	1377887	1377888	1377889
Stroke per jaw	[mm]	35	20	35	20	35	20
Closing/opening force	[N]	6600/6800	11800/12200	8200/-	15600/-	-/8400	-/16000
Min. spring force	[N]			1600	3800	1600	3800
Weight	[kg]	13.7	13.7	17.2	17.2	17.2	17.2
Recommended workpiece weight	[kg]	33	59	33	59	33	59
Fluid consumption double stroke	[cm <sup>3</sup> ]	1040	1040	1295	1295	1560	1560
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.5/0.5	0.5/0.5	0.4/0.7	0.4/0.7	0.7/0.4	0.7/0.4
Closing/opening time with spring	[s]			0.60	0.60	0.60	0.60
Max. permissible finger length	[mm]	350	300	300	250	300	250
Max. permissible mass per finger	[kg]	11.5	11.5	11.5	11.5	11.5	11.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	320 x 140 x 122	320 x 140 x 122	320 x 140 x 172	320 x 140 x 172	320 x 140 x 172	320 x 140 x 172
<b>Options and their characteristics</b>							
Dustproof version		1377936	1377942	1377947	1377950	1377951	1377958
IP protection class		64	64	64	64	64	64
Weight	[kg]	15.2	15.2	18.7	18.7	18.7	18.7
Corrosion-protected version		1377922	1377923	1377927	1377928	1377930	1377933
High-temperature version		1377892	1377896	1377903	1377912	1377919	1377920
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		1377966	1377973	1377980	1377986		

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

## Main view



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

① The SDV-P pressure maintenance valve can 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).

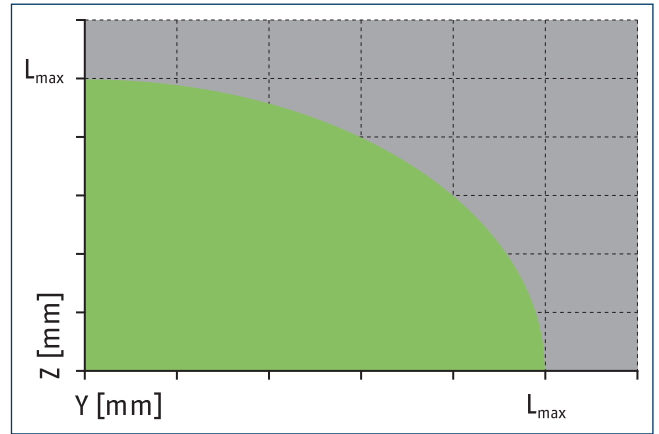
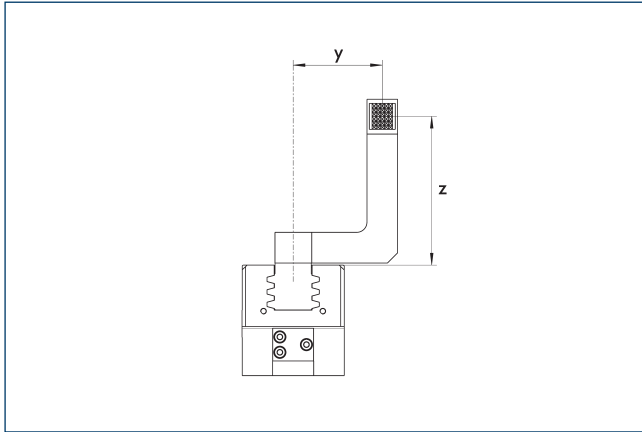
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ⑦ Fit for centering sleeves

- ⑧ Depth of the centering sleeve hole in the counter part
- ⑨ MMS 22 sensor
- ⑩ Sensor IN ...
- ⑫ Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 300

Universal gripper

## Maximum permitted finger projection

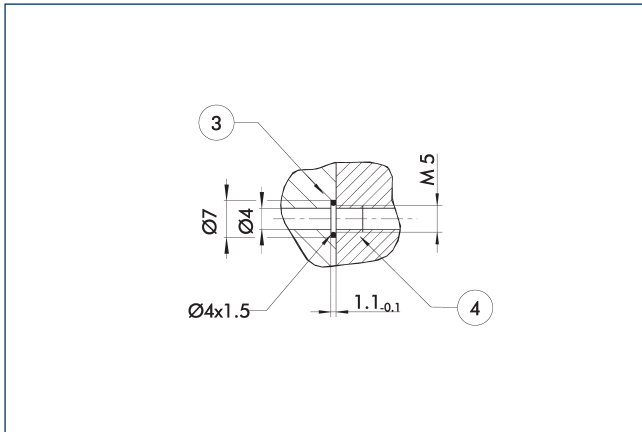


■ Permitted range

■ Inadmissible range

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

## Hose-free direct connection M5

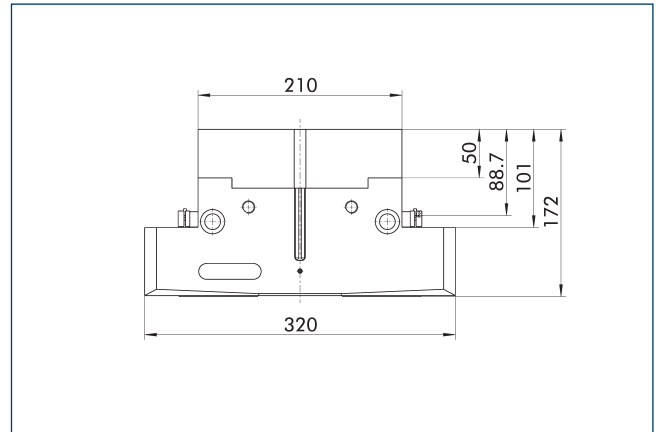


③ Adapter

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.

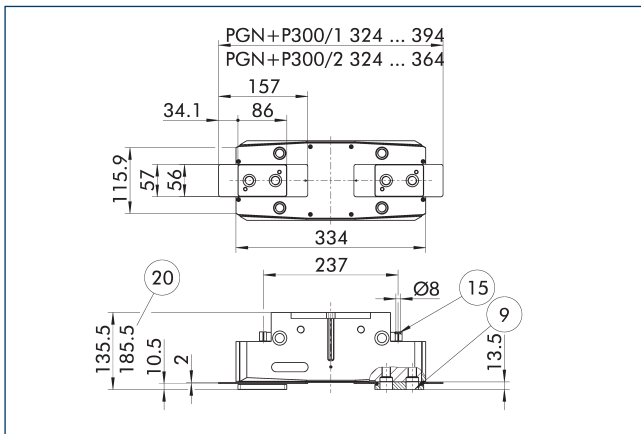
## Gripping force maintenance device AS / IS



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.



## Dustproof version

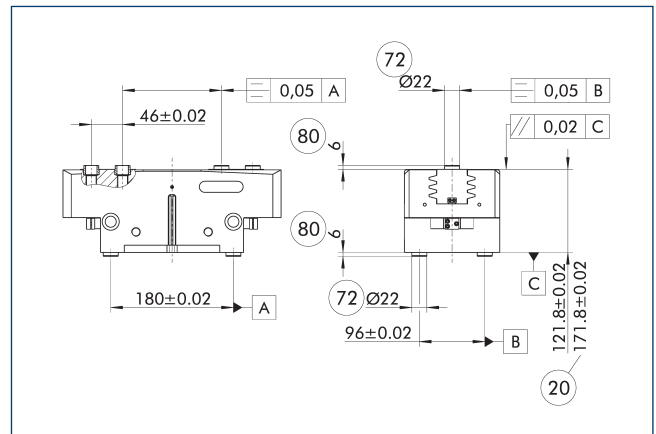


- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 300	1347590

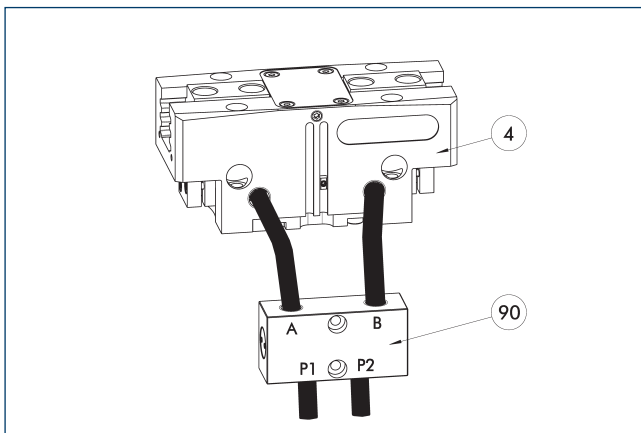
## Precision version



- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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

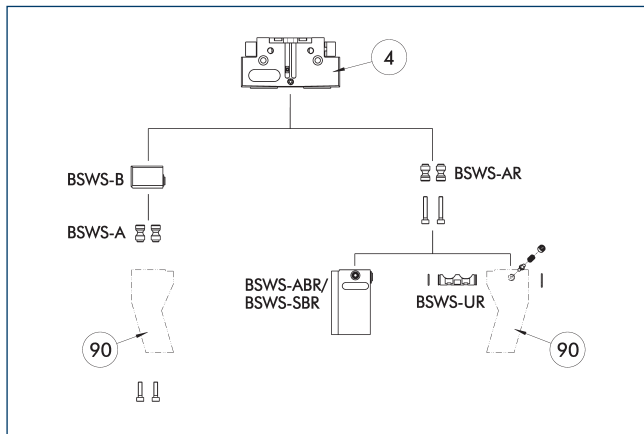
Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

- 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.

# PGN-plus-P 300

Universal gripper

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Quick-change jaw system base		
BSWS-B 300	0303037	1
Jaw quick-change system adapter pin		
BSWS-A 300	0303036	2

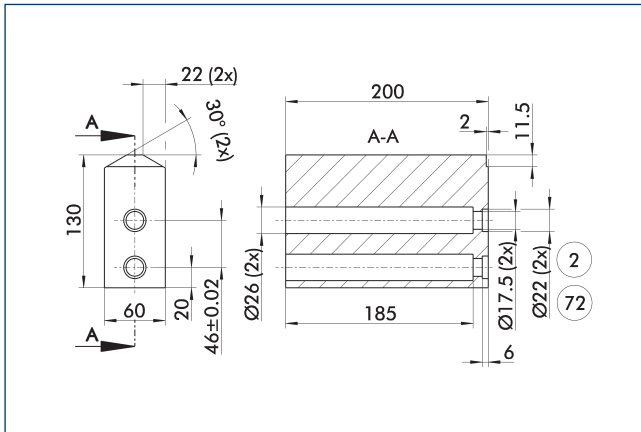
ⓘ Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus-P	300	-1 (6 bar)	■■■■
PGN-plus-P	300	-1-AS / -1-IS (6 bar)	■■■□
PGN-plus-P	300	-2 (6 bar)	■■■□
PGN-plus-P	300	-2-AS / -2-IS (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.  
If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 300

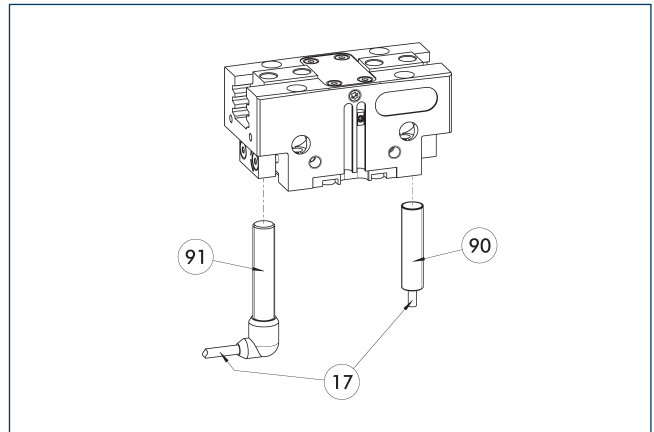


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 300	0300016	Aluminum (3.4365)	1
SBR-PGZN-plus 300	0300026	Steel (1.7131)	1

## Inductive proximity switches



- ①⑦ Cable outlet
- ⑨① Sensor IN...-SA
- ⑨② Sensor IN ...

Directly mounted end position monitoring.

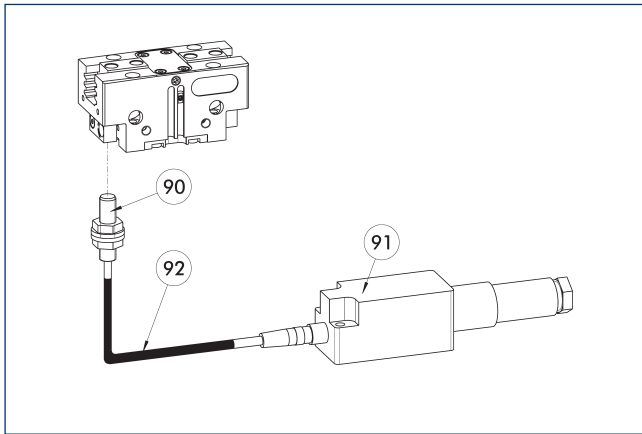
Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 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	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
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	
Sensor distributor		
V2-M12	0301776	●
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.

# PGN-plus-P 300

Universal gripper

## Flexible position sensor



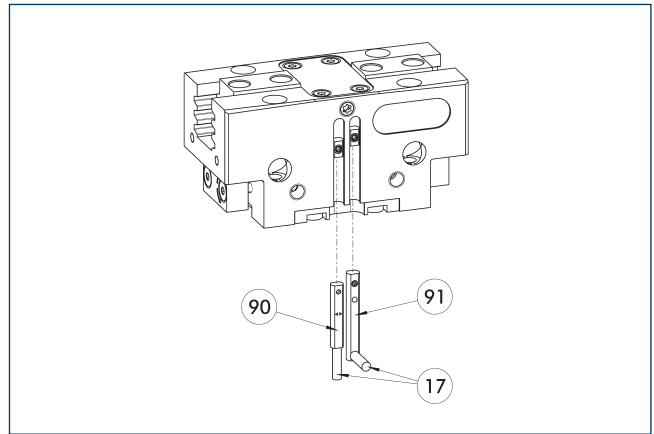
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
Attachment kit for FPS		
AS-FPS-PGN-plus-P 300-2	1395867	
Sensor		
FPS-S M8	0301704	
Evaluation electronics		
FPS-F5	0301805	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



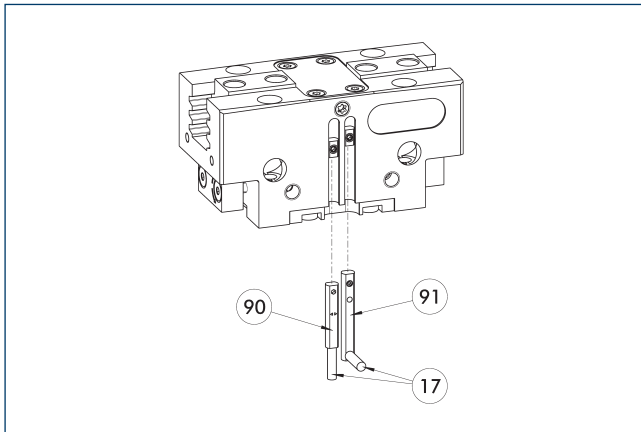
- 17 Cable outlet
- 90 Sensor MMS 22 PI1-...
- 91 Sensor MMS 22 ...-PI1-...-SA

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
clip for plug/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



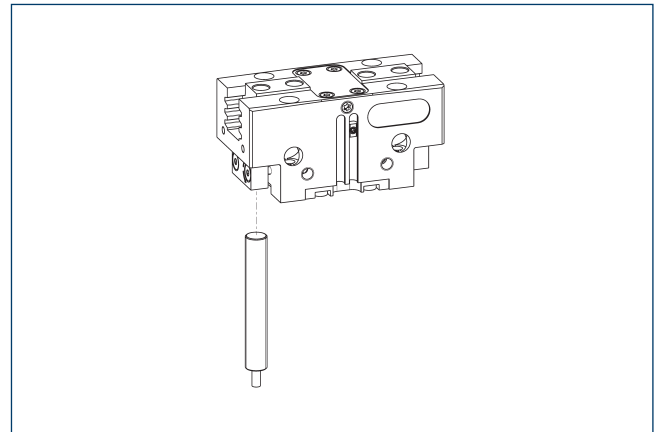
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

## APS-Z80 analog position sensor



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

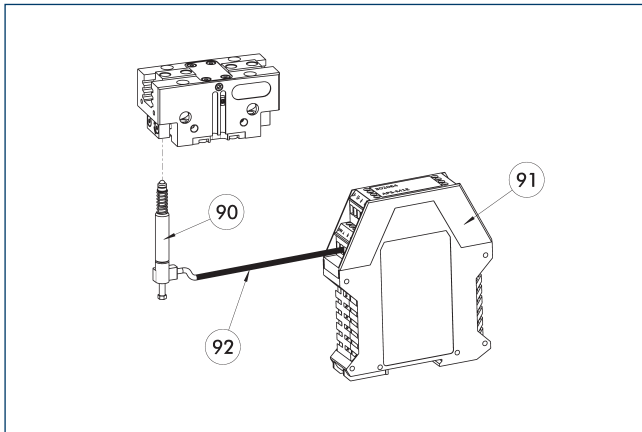
Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGN-plus-P 300-1	1395892	
AS-APS-Z80-PGN-plus-P 300-2	1395894	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus-P 300

Universal gripper

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor                      ⑨② APS-K extension cable  
⑨① APS-M1E electronic processor

Analog multi position monitoring for any desired positions

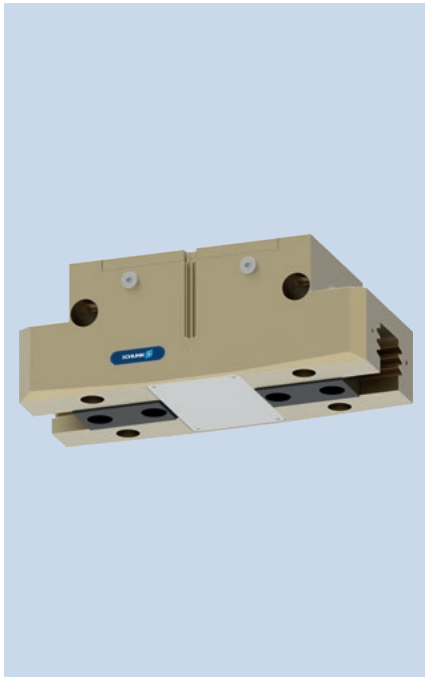
Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGN-plus-P 300-1	1395905	
AS-APS-M1-PGN-plus-P 300-2	1395907	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

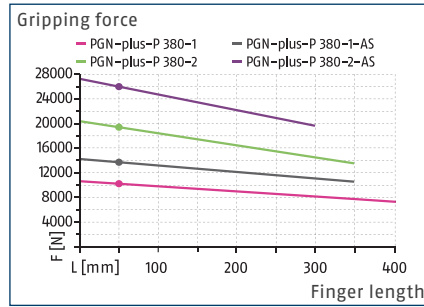


# PGN-plus-P 380

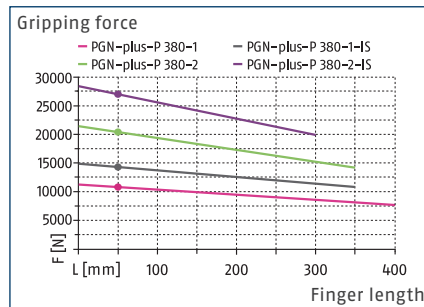
Universal gripper



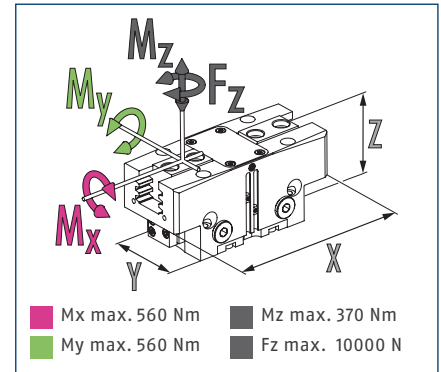
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

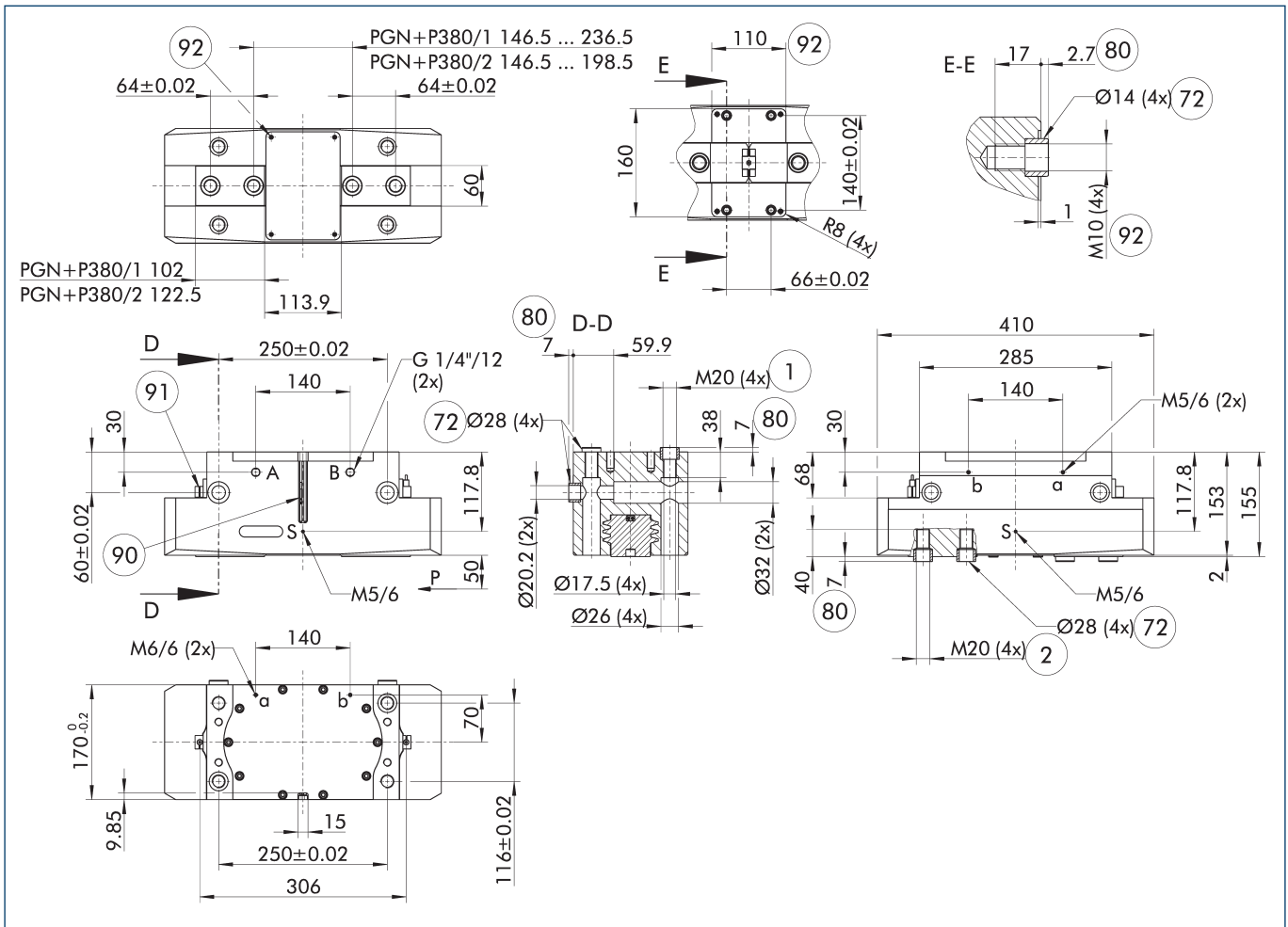
## Technical data

Description		PGN-plus-P 380-1	PGN-plus-P 380-2	PGN-plus-P 380-1-AS	PGN-plus-P 380-2-AS	PGN-plus-P 380-1-IS	PGN-plus-P 380-2-IS
ID		1378012	1378019	1378022	1378029	1378035	1378037
Stroke per jaw	[mm]	45	26	45	26	45	26
Closing/opening force	[N]	10300/10800	19500/20400	13800/-	26100/-	-/14300	-/27000
Min. spring force	[N]			3500	6600	3500	6600
Weight	[kg]	26.5	27.5	36	37	36	37
Recommended workpiece weight	[kg]	51.5	97.5	51.5	97.5	51.5	97.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	2275	2275	2705	2705	3175	3175
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.6/0.6	0.6/0.6	0.5/0.8	0.5/0.8	0.8/0.5	0.8/0.5
Closing/opening time with spring	[s]			0.80	0.80	0.80	0.80
Max. permissible finger length	[mm]	400	350	350	300	350	300
Max. permissible mass per finger	[kg]	17	17	17	17	17	17
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	410 x 170 x 155	410 x 170 x 155	410 x 170 x 226.5	410 x 170 x 226.5	410 x 170 x 226.5	410 x 170 x 226.5
<b>Options and their characteristics</b>							
Dustproof version		1378074	1378108	1378110	1378111	1378114	1378118
IP protection class		64	64	64	64	64	64
Weight	[kg]	29.3	30.3	38.8	39.8	38.8	39.8
Corrosion-protected version		1378059	1378061	1378064	1378066	1378070	1378072
High-temperature version		1378038	1378042	1378047	1378048	1378050	1378056
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		1378120	1378124	1378128	1378130		

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



## Main view



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

① The SDV-P pressure maintenance valve can 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).

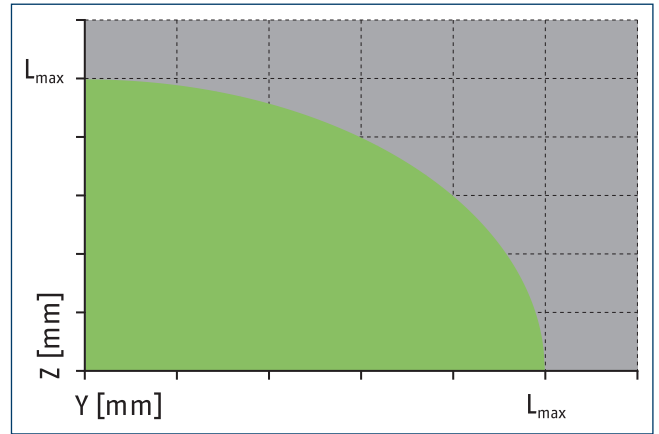
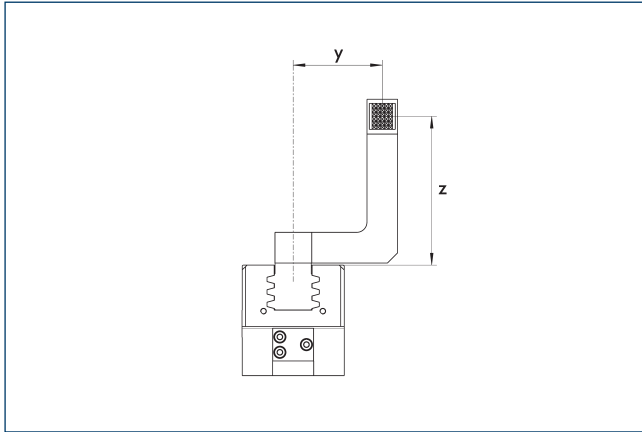
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves

- 80 Depth of the centering sleeve hole in the counter part
- 90 MMS 22 sensor
- 91 Sensor IN ...
- 92 Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

# PGN-plus-P 380

Universal gripper

## Maximum permitted finger projection

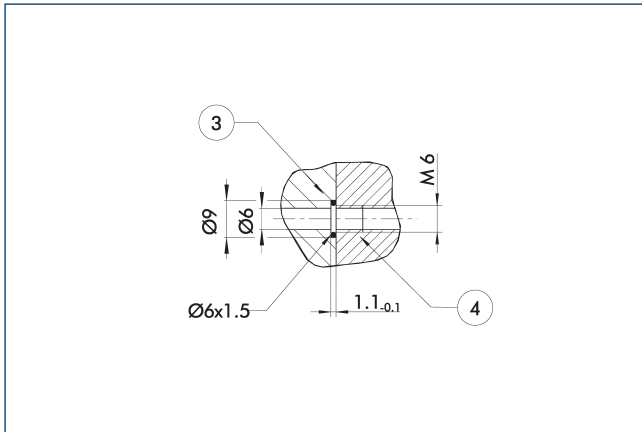


■ Permitted range

■ Inadmissible range

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

## Hose-free direct connection M6

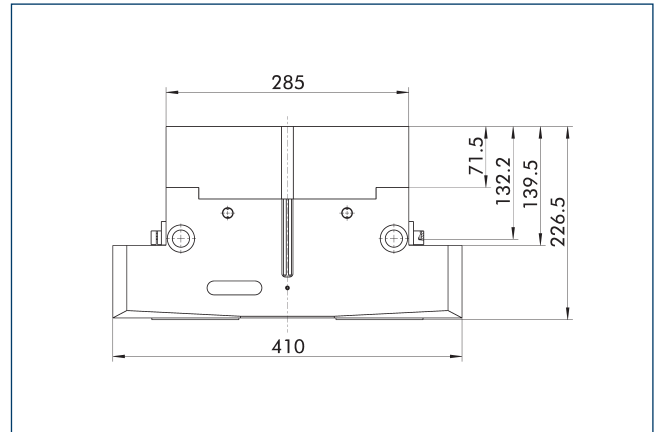


③ Adapter

④ Grippers

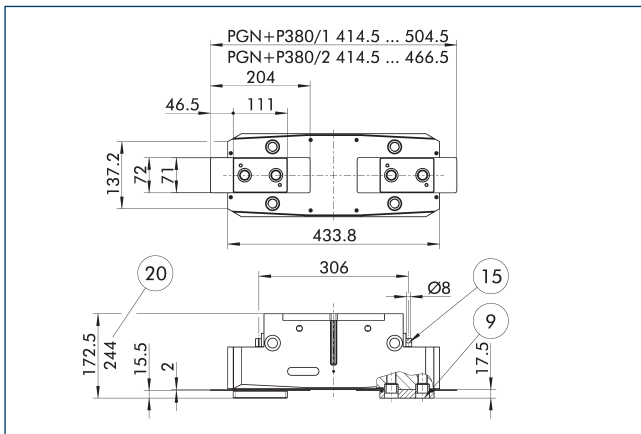
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

## Dustproof version

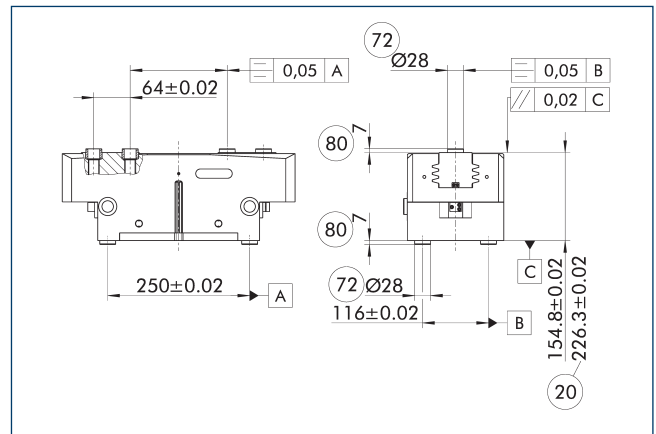


- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

Description	ID
Dust cover	
SAD PGN-plus-P 380	1347597

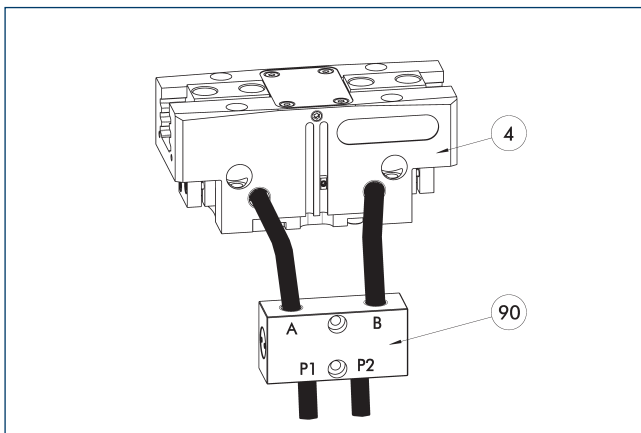
## Precision version



- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① 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.

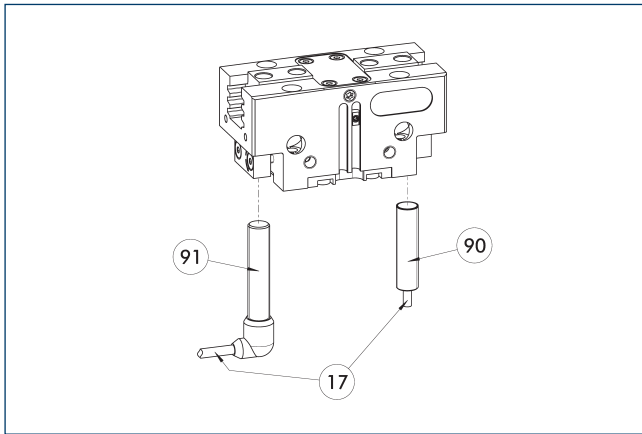
Description	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve with air bleed screw		
SDV-P 10-E	0300109	10

- 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.

# PGN-plus-P 380

Universal gripper

## Inductive proximity switches



17 Cable outlet

91 Sensor IN..-SA

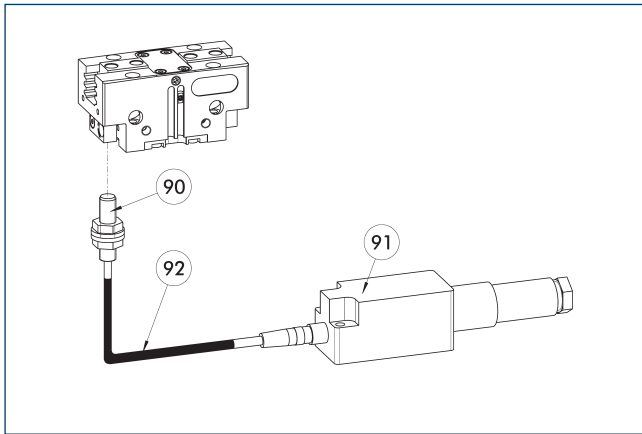
90 Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

**Flexible position sensor**



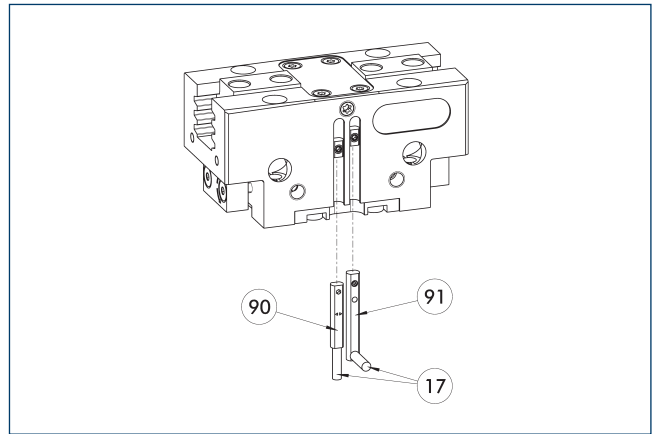
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGN-plus-P 380-2	1395872	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

**Electronic magnetic switch MMS**



- 17 Cable outlet
- 90 Sensor MMS 22 Pi1-...
- 91 Sensor MMS 22 ...-Pi1-...-SA

End position monitoring for mounting in the C-slot.

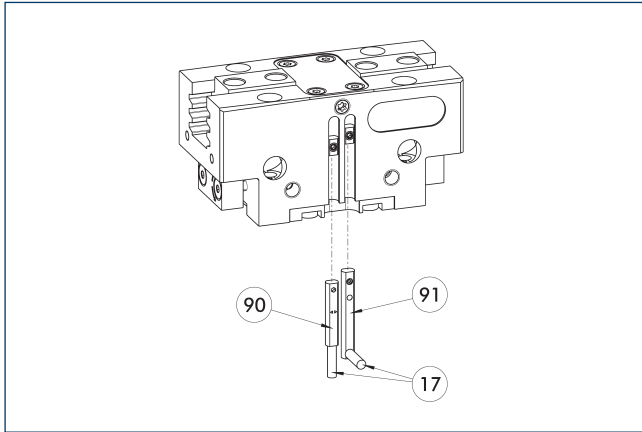
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

# PGN-plus-P 380

Universal gripper

## Programmable magnetic switch MMS 22-PI1



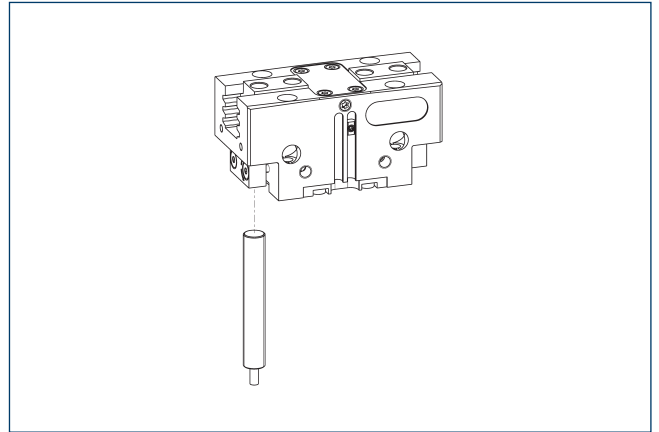
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

## APS-Z80 analog position sensor

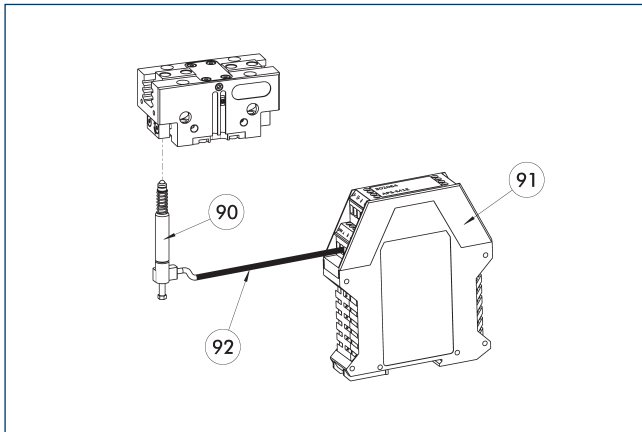


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGN-plus-P 380-1	1395900	
AS-APS-Z80-PGN-plus-P 380-2	1395903	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGN-plus-P 380-1	1395912	
AS-APS-M1-PGN-plus-P 380-2	1395916	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.



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Superior Clamping and Gripping



## Product Information

Universal gripper PGN-plus

# PGN-plus

Universal gripper

## Reliable. Robust. Flexible.

### Universal gripper PGN-plus

Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the use of a multi-tooth guidance

#### Field of application

Optimal standard solution for many fields of application. For universal use in clean to slightly dirty environments. Special versions available for dirty environments.

#### Advantages – Your benefits

**Robust multi-tooth guidance** for precise handling

**High maximum moments possible** suitable for using long gripper fingers

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

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

**Air supply via hose-free direct connection or screw connections** for universal and flexible gripper assembly

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

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

**Manifold options** for special optimization for your specific case of application (dustproof, high-temperature, corrosion-protected, etc.)



Sizes  
Quantity: 11



Weight  
0.08 .. 39.5 kg



Gripping force  
123 .. 21150 N



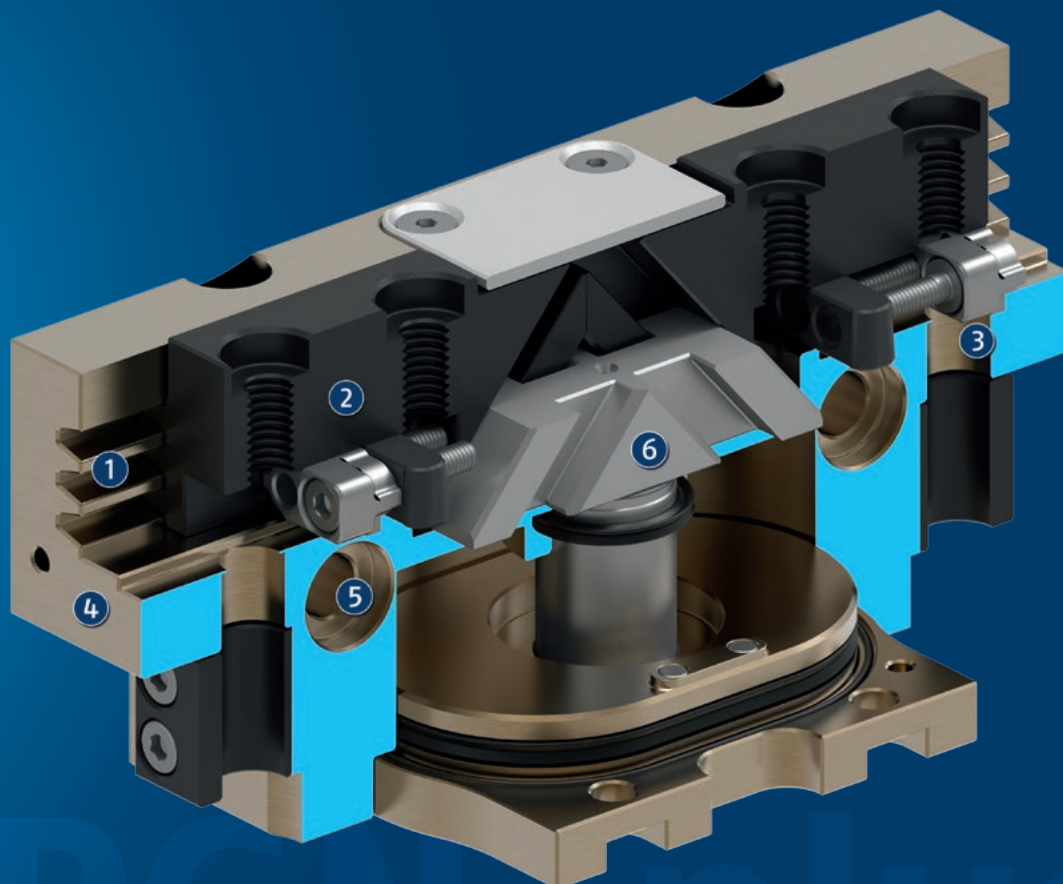
Stroke per jaw  
2 .. 45 mm



Workpiece weight  
0.62 .. 80.5 kg

## Functional description

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



- ① **Multi-tooth guidance**  
highly loadable, nearly backlash-free base jaw guidance for long finger lengths
- ② **Base Jaw**  
for the connection of workpiece-specific gripper fingers
- ③ **Sensor system**  
Brackets for proximity switches and adjustable control cams in the housing

- ④ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ⑤ **Centering and mounting possibilities**  
for universal assembly of the gripper
- ⑥ **Wedge-hook design**  
for high force transmission and centric gripping

## General notes about the series

**Operating principle:** Wedge gear with surface power transmission

**Housing material:** Aluminum

**Base jaw material:** Steel

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

**Warranty:** 36 months

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

**Gripping force maintenance device:** possible by using the version with mechanical gripping force maintenance or pressure maintenance valve SDV-P

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

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

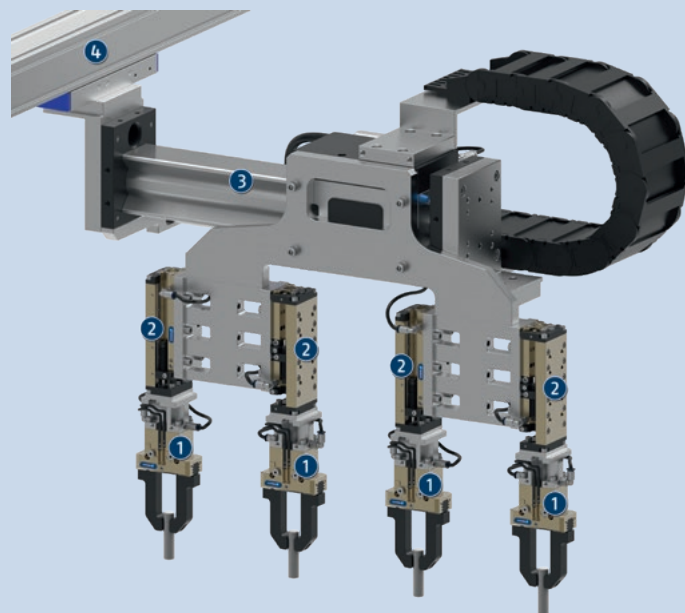
The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

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

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

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

**Cleanroom class ISO 14644-1:** 5



## Application example

Handling gantry with multiple grippers for simultaneous removal of several workpieces

① 2-finger parallel gripper PGN-plus

② Linear module CLM

③ Universal linear module LDN

④ Universal linear module Beta

## SCHUNK offers more ...

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



Linear module



Quick change system



Universal swivel unit



Compensation unit



Jaw quick-change system



Universal intermediate jaw



Pressure maintenance valve



Manual change system



Finger blank



Flexible position sensor



Magnetic switches



Inductive proximity switches

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

## Options and special information

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

**Anti-corrosion version K:** for use in corrosion-inducing atmospheres

**High-temperature version V/HT:** for use in hot environments

**Power booster version KVZ:** if higher gripping forces are required

**Precision version P:** for the highest accuracy

**ATEX version EX:** for explosive environments

**Dustproof version SD:** absolutely dustproof, increased degree of protection against ingress of materials.

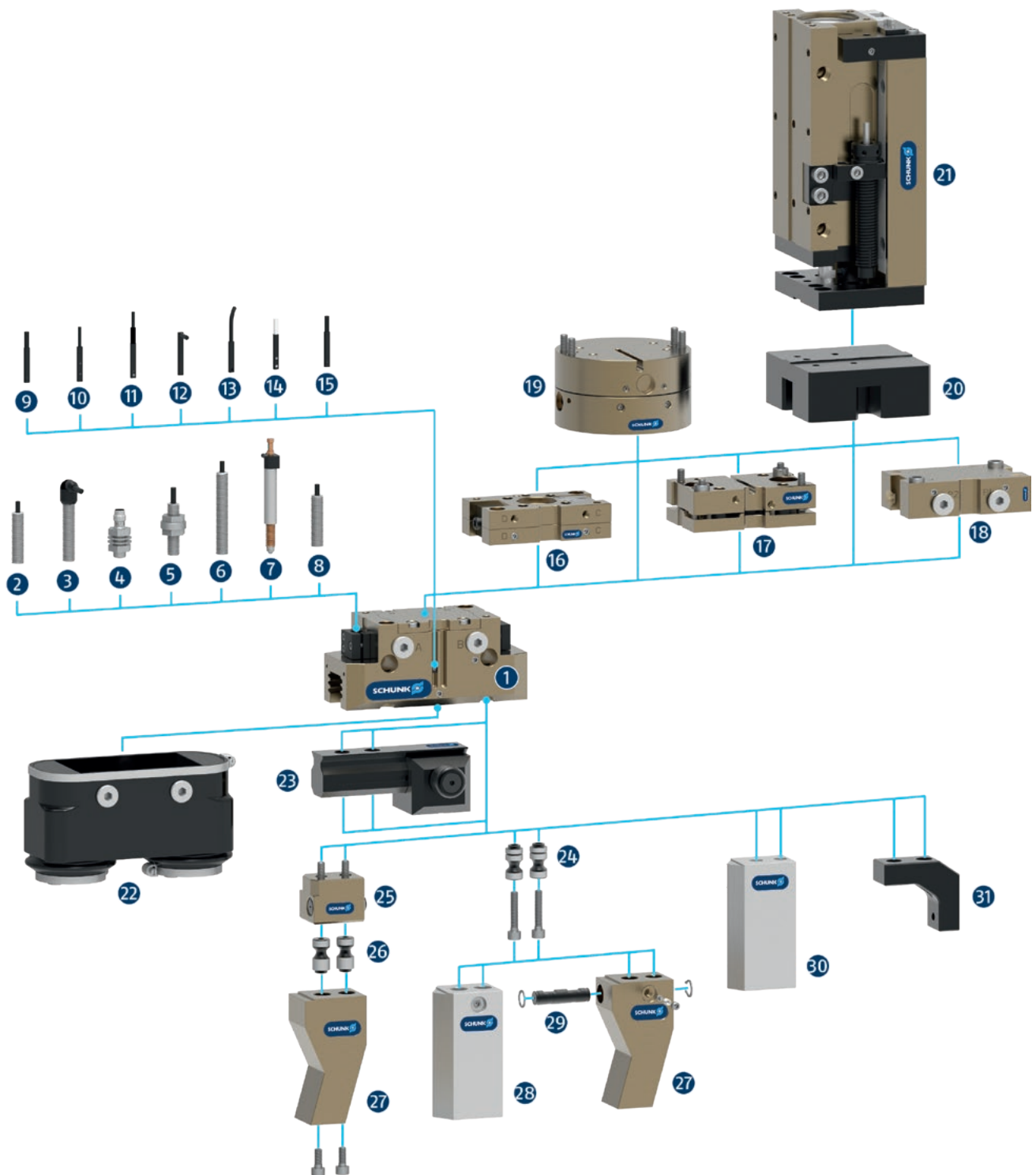
**Additional versions:** Various options can be combined with each other.

# PGN-plus

Universal gripper

## SCHUNK gripper PGN-plus

### Overview Accessories





- 1 **PGN-plus**  
Universal 2-finger parallel gripper with a high gripping force and high maximum moments due to the use of a multi-tooth guidance

### Sensor system

- 2 **IN ...**  
Inductive proximity switch with molded cable and straight cable outlet
- 3 **IN ...-SA**  
Inductive proximity switch with molded cable and lateral cable outlet
- 4 **IN-C 80**  
Inductive proximity switch, directly pluggable
- 5 **FPS**  
Flexible position sensor for monitoring up to five different, freely selectable positions
- 6 **APS-Z80**  
Inductive position sensor for precise position detection of the gripper jaws with analog output
- 7 **APS-M15**  
Mechanical measuring system for precise position detection of the gripper jaw with analog output
- 8 **RMS 80**  
Reed switch in round version
- 9 **MMS 22**  
Magnetic switch with straight cable outlet for monitoring a position  
  
**MMS 22-PI1**  
Magnetic switch with straight cable outlet for monitoring a freely programmable position
- 10 **MMS 22-PI2**  
Magnetic switch with straight cable outlet for monitoring two freely programmable positions
- 11 **MMS 22-PI1-HD**  
MMS 22-PI1 in robust design  
  
**MMS 22-PI2-HD**  
MMS 22-PI2 in robust design
- 12 **MMS 22-SA**  
Magnetic switch with lateral cable outlet for monitoring a position  
  
**MMS 22-PI1-SA**  
Magnetic switch with side cable outlet for monitoring a freely programmable position
- 13 **MMS-P**  
Magnetic switch with straight cable outlet for monitoring two freely programmable positions
- 14 **MMS 22-A**  
Analog magnetic switch with straight cable outlet for measuring the gripper jaw position with analog output and teach function

- 15 **RMS 22**  
Reed switch for direct assembly in the C-slot

### Complementary products

- 16 **CWS**  
Manual change system with integrated air feed-through for simple exchange of the handling components
- 17 **TCU**  
Tolerance compensation unit for compensating small tolerances in the plane
- 18 **SDV-P-E-P**  
Pressure maintenance valve for temporary force and position maintenance
- 19 **AGE**  
Compensation unit for compensation of large tolerances along the X and Y axes
- 20 **ASG**  
Adapter plate for combining various automation components in the modular system
- 21 **CLM**  
Linear module with pneumatic drive and scope-free pre-loaded junction rollers
- 22 **HUE**  
Sleeve for protection against dirt

### Finger Accessories

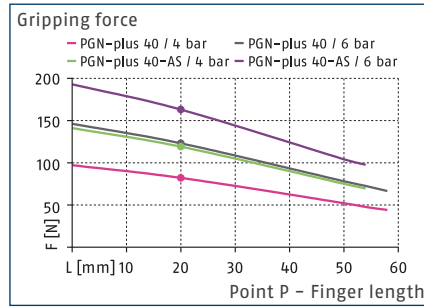
- 23 **UZB**  
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.
- 24 **BSWS-AR**  
Adapter coupling of jaw quick-change system for fast, manual change of top jaws
- 25 **BSWS-B**  
Locking mechanism of the jaw quick-change system for fast, manual exchange of top jaws
- 26 **BSWS-A**  
Adapter coupling of the jaw quick-change system for adaptation to the customized finger
- 27 **Customized fingers**
- 28 **BSWS-ABR**  
Finger blank made of aluminum with interface to the jaw quick-change system  
  
**BSWS-SBR**  
Finger blank made of steel with interface to the jaw quick-change system
- 29 **BSWS-UR**  
Locking mechanism for the integration of the jaw quick-change system into customized fingers
- 30 **ABR/SBR**  
Finger blanks made of steel or aluminum with standardized screw connection diagram
- 31 **ZBA**  
Intermediate jaws for reorientation of the mounting surface

# PGN-plus 40

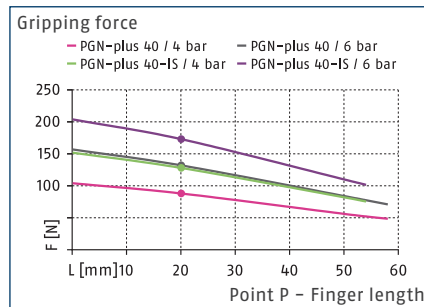
Universal gripper



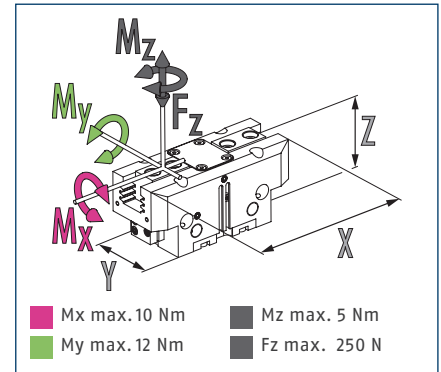
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

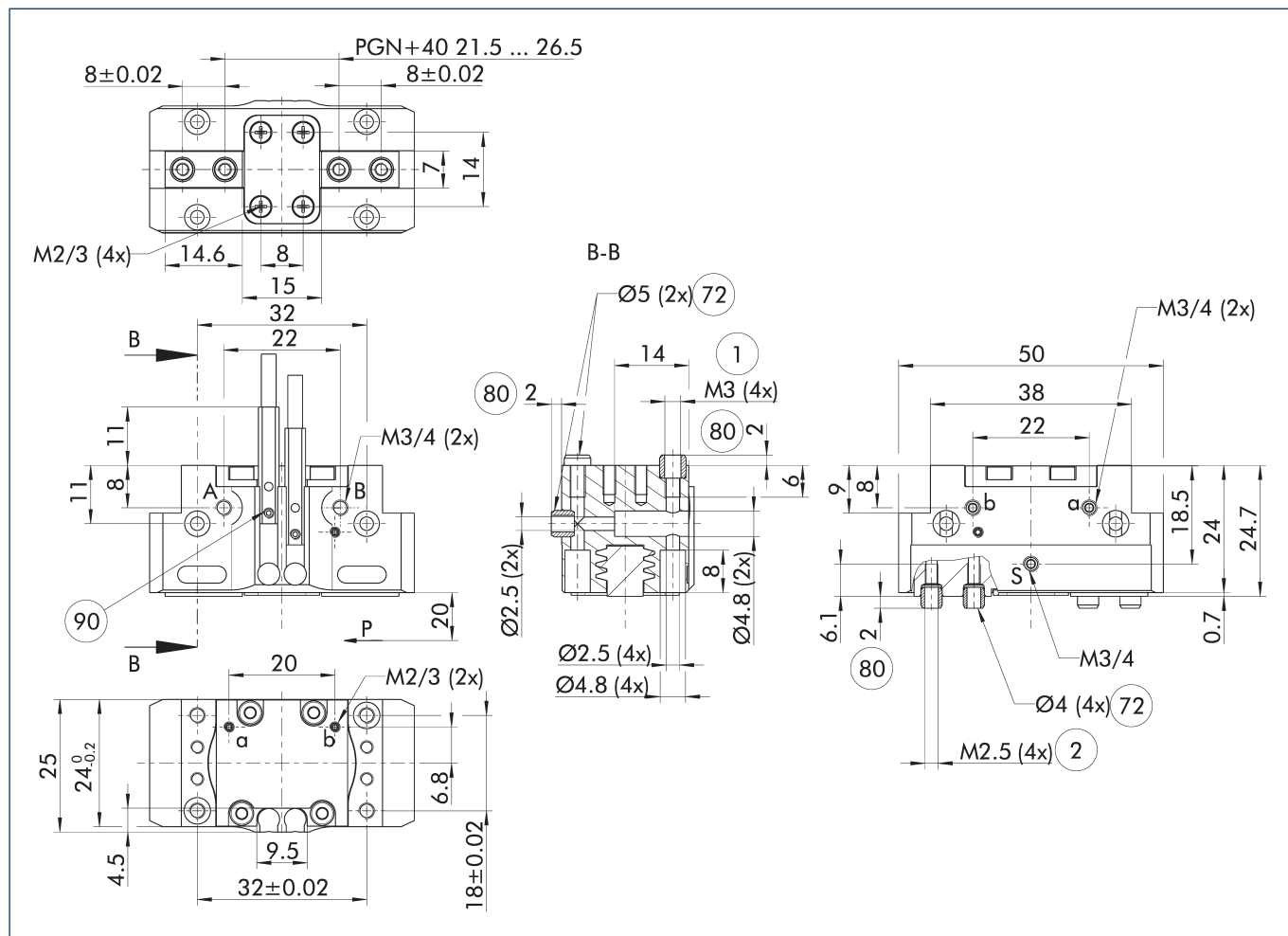
## Technical data

Description		PGN-plus 40	PGN-plus 40-AS	PGN-plus 40-IS
ID		0371080	0371082	0371084
Stroke per jaw	[mm]	2.5	2.5	2.5
Closing/opening force	[N]	123/132	163/-	-/182
Min. spring force	[N]		40	50
Weight	[kg]	0.08	0.1	0.1
Recommended workpiece weight	[kg]	0.62	0.62	0.62
Fluid consumption double stroke	[cm <sup>3</sup> ]	2.5	4.5	5.5
Min./nom./max. operating pressure	[bar]	2.5/6/8	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.02/0.02	0.02/0.03	0.03/0.02
Closing/opening time with spring	[s]		0.05	0.05
Max. permissible finger length	[mm]	58	54	54
Max. permissible mass per finger	[kg]	0.1	0.1	0.1
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	50 x 25 x 24.6	50 x 25 x 33.7	50 x 25 x 33.7
<b>Options and their characteristics</b>				
Dustproof version		37371080	37371082	37371084
IP protection class		64	64	64
Weight	[kg]	0.1	0.12	0.12
Corrosion-protected version		38371080	38371082	38371084
High-temperature version		39371080	39371082	39371084
Min./max. ambient temperature	[°C]	5/130	5/130	5/130
Power booster version		0372098	0372398	0372458
Closing/opening force	[N]	202/210	235/-	-/254
Weight	[kg]	0.11	0.13	0.13
Maximum pressure	[bar]	6	6	6
Max. permissible finger length	[mm]	50	50	50
Precision version		0371120	0371420	

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



## Main view

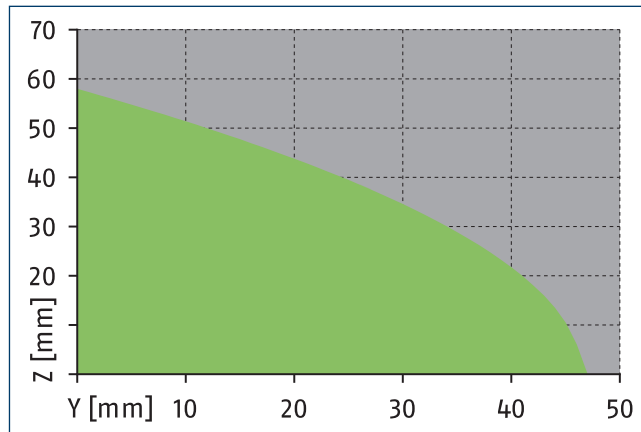
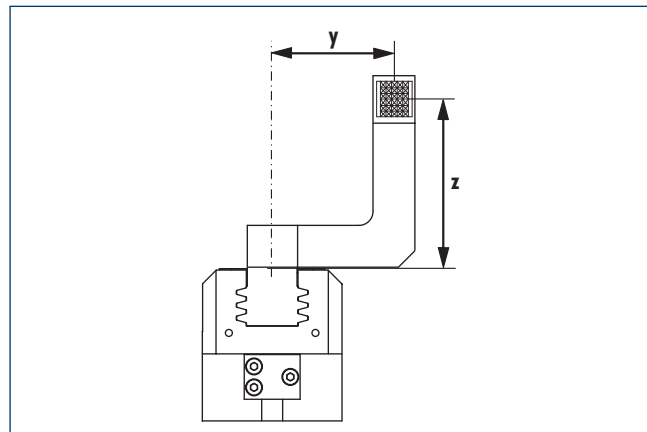


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 Sensor MMS 22..

## Maximum permitted finger projection



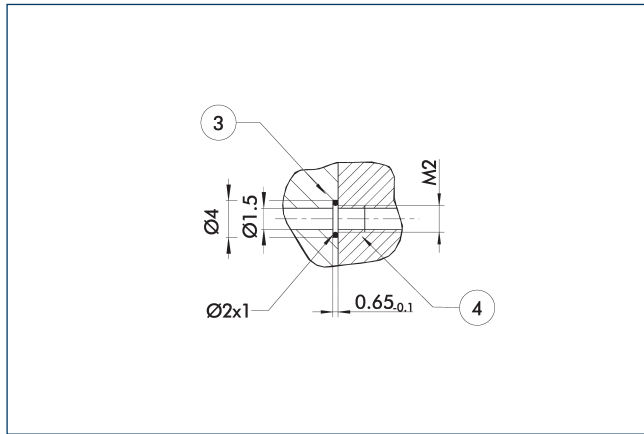
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 40

Universal gripper

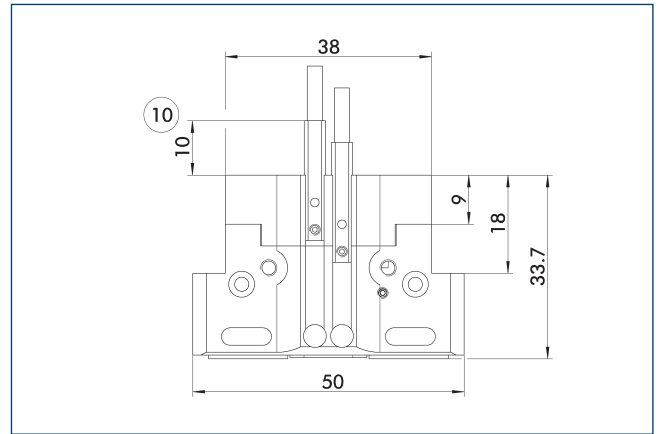
## Hose-free direct connection M2



- 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.

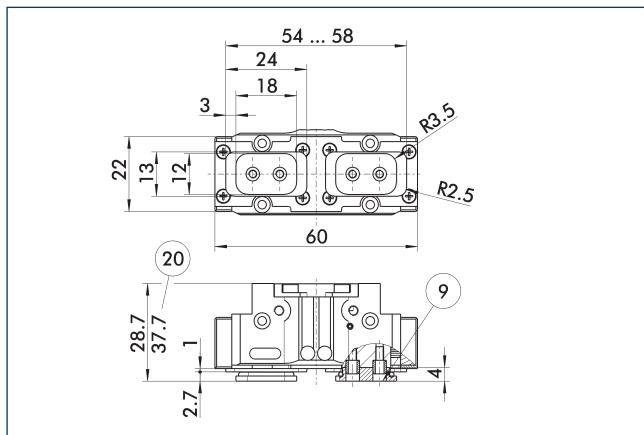
## Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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.

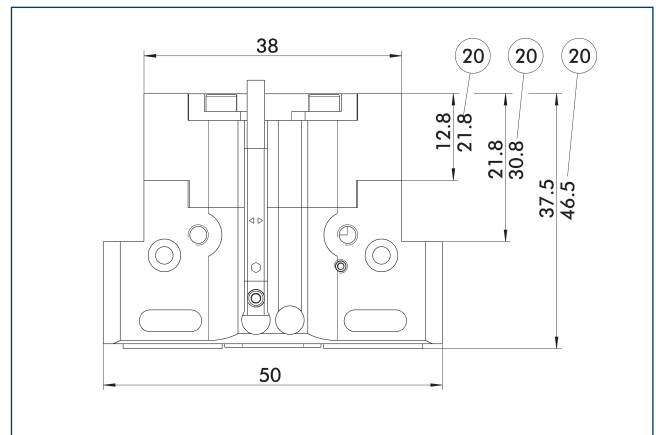
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

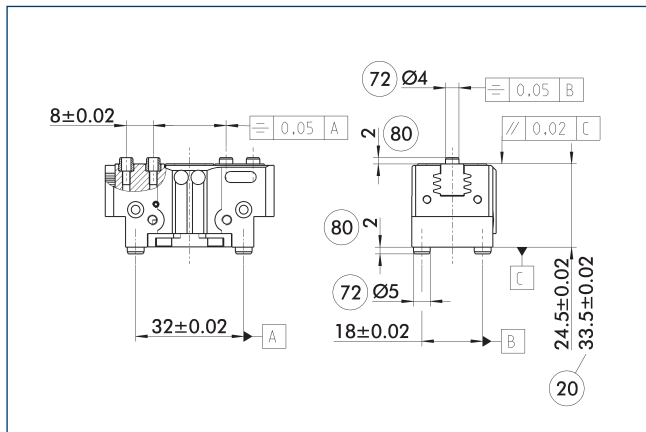
## Power booster version



- ⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

## Precision version



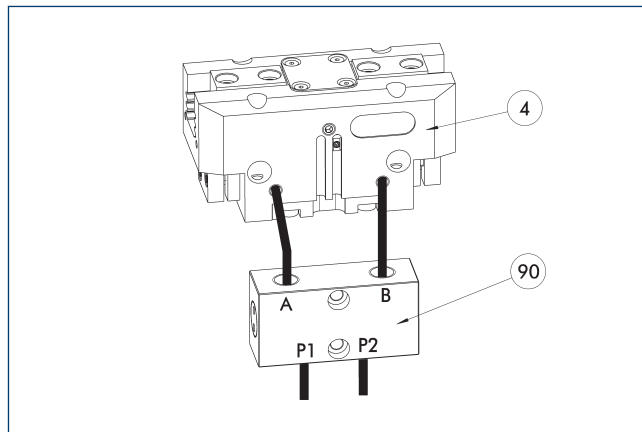
②① For AS / IS version

⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



④ Grippers

⑨① SDV-P pressure maintenance valve

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

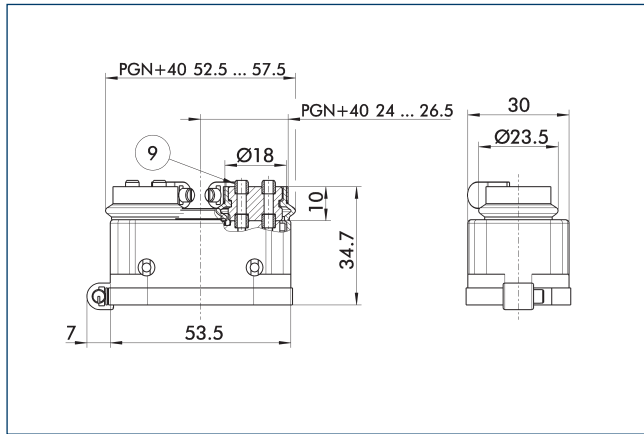
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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

# PGN-plus 40

Universal gripper

## Protective cover HUE PGN-plus 40



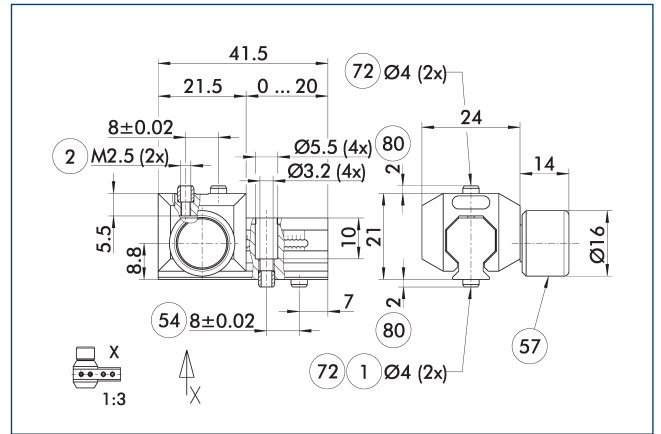
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 40	0371490	65

ⓘ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## UZB 40 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 40	0300040	1
Finger blank		
ABR-PGZN-plus 40	0300008	
SBR-PGZN-plus 40	0300018	

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	40	-1 (6 bar)	■■■■
PGN-plus	40	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus	40	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

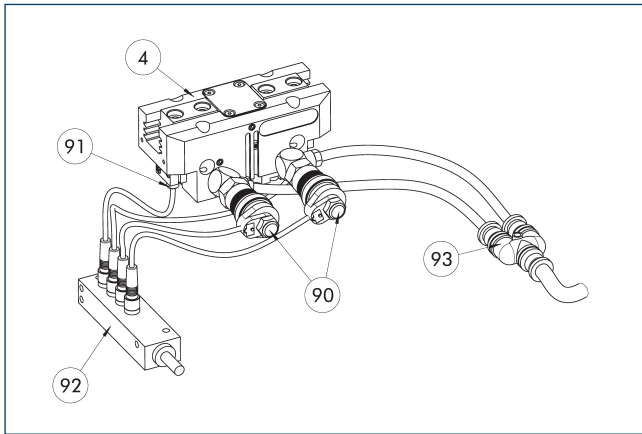
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.



# PGN-plus 40

Universal gripper

## Attachment valves



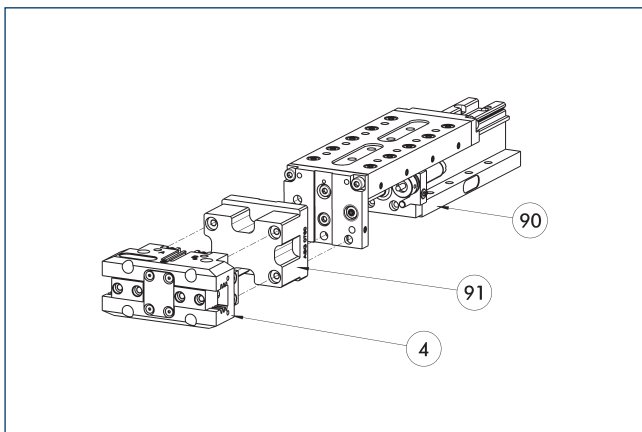
- ④ Grippers
- ⑨① Sensor
- ⑨② Sensor distributor
- ⑨③ Y distributor
- ⑨② Micro valves

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

Description	ID	Often combined
Attachment valve		
ABV-MV15-M3	0303322	
ABV-MV15-M3-V2-M8	0303384	
ABV-MV15-M3-V4-M8	0303354	●
ABV-MV15-M3-V8-M8	0303355	

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

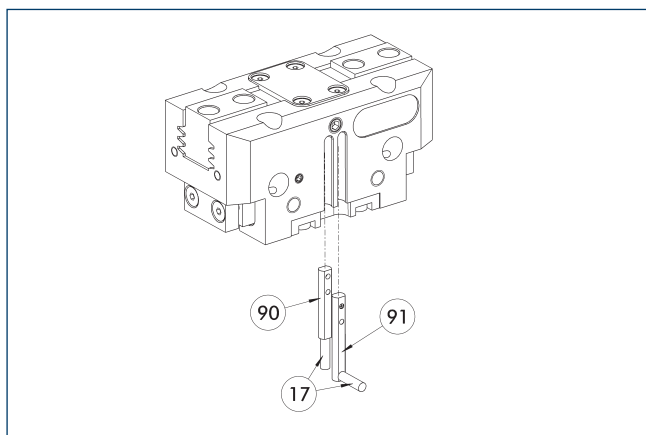
## Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨② 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".

Electronic magnetic switch MMS



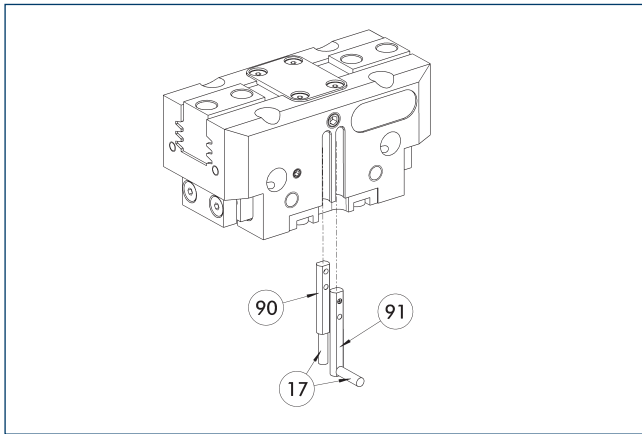
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

### Programmable magnetic switch MMS 22-PI1



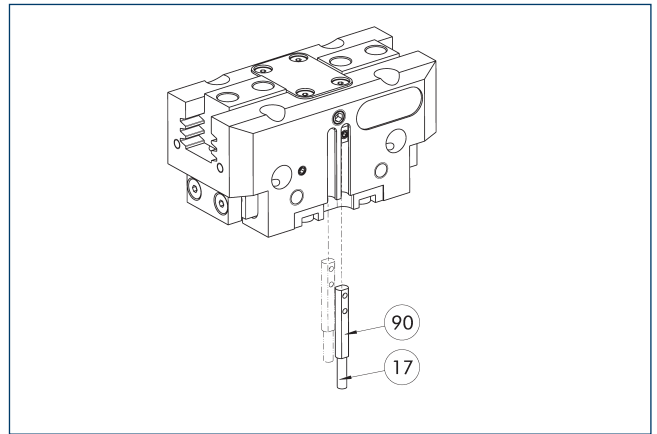
- ⑰ Cable outlet
- ① Sensor MMS 22 ..-PI1-...-SA
- ⑨ Sensor MMS 22 PI1-...

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

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

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

### Programmable magnetic switch MMS 22-PI2



- ⑰ Cable outlet
- ⑨ MMS 22...-PI2-... sensor

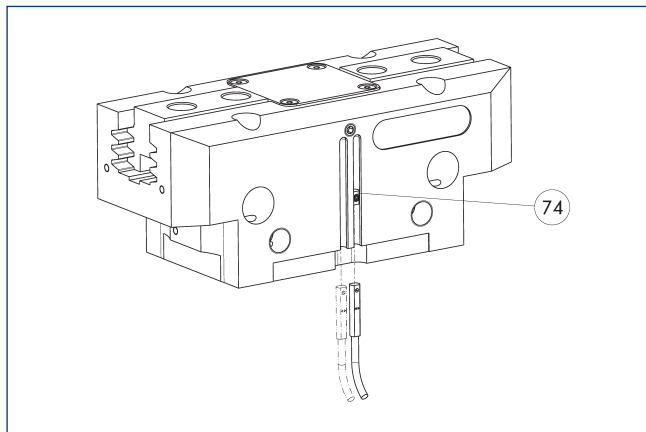
Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching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

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

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



**MMS-P programmable magnetic switch**



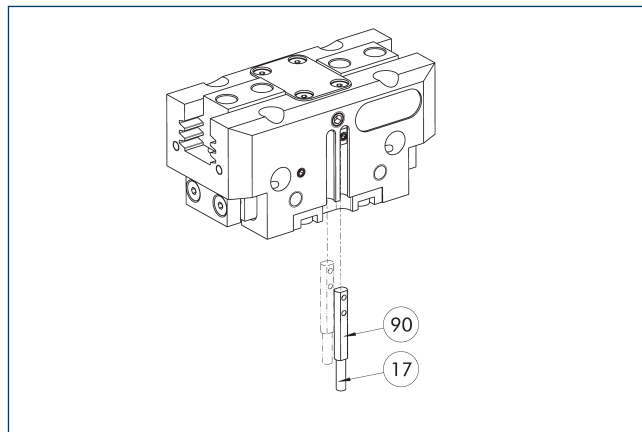
74 Limit stop for sensor

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	●
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	
clip for plug/socket		
CLI-M8	0301463	
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**



17 Cable outlet

90 MMS 22-A-... sensor

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

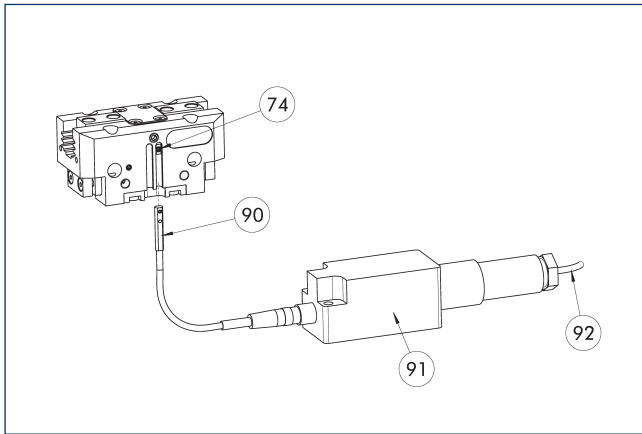
Description	ID	
Analog position sensor		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

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.

# PGN-plus 40

Universal gripper

## Flexible position sensor with MMS-A



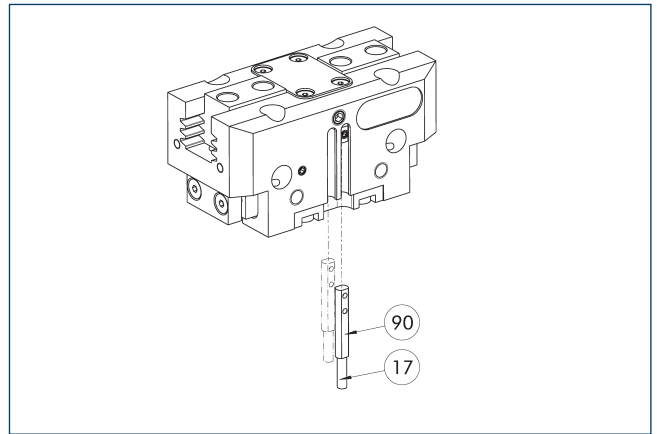
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

## Programmable magnetic switch MMS-IO-Link



- ①⑦ Cable outlet
- ⑨① Sensor MMS 22-IO-Link

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

Description	ID	
Programmable magnetic switch		
MMS 22-IO-Link-M08	0315830	
MMS 22-IO-Link-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.

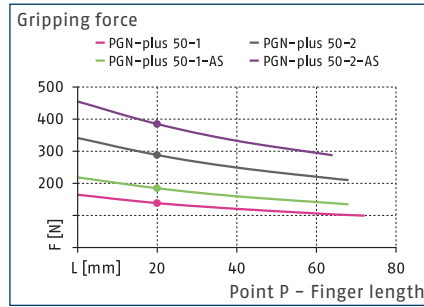


# PGN-plus 50

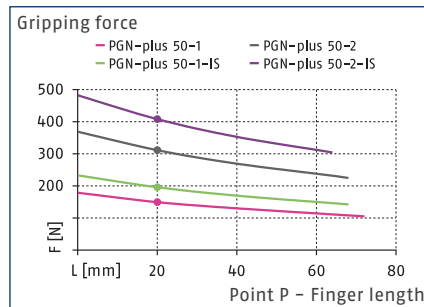
Universal gripper



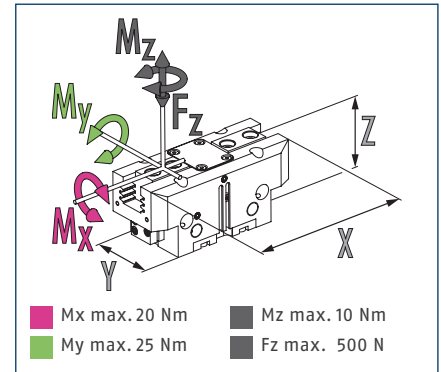
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



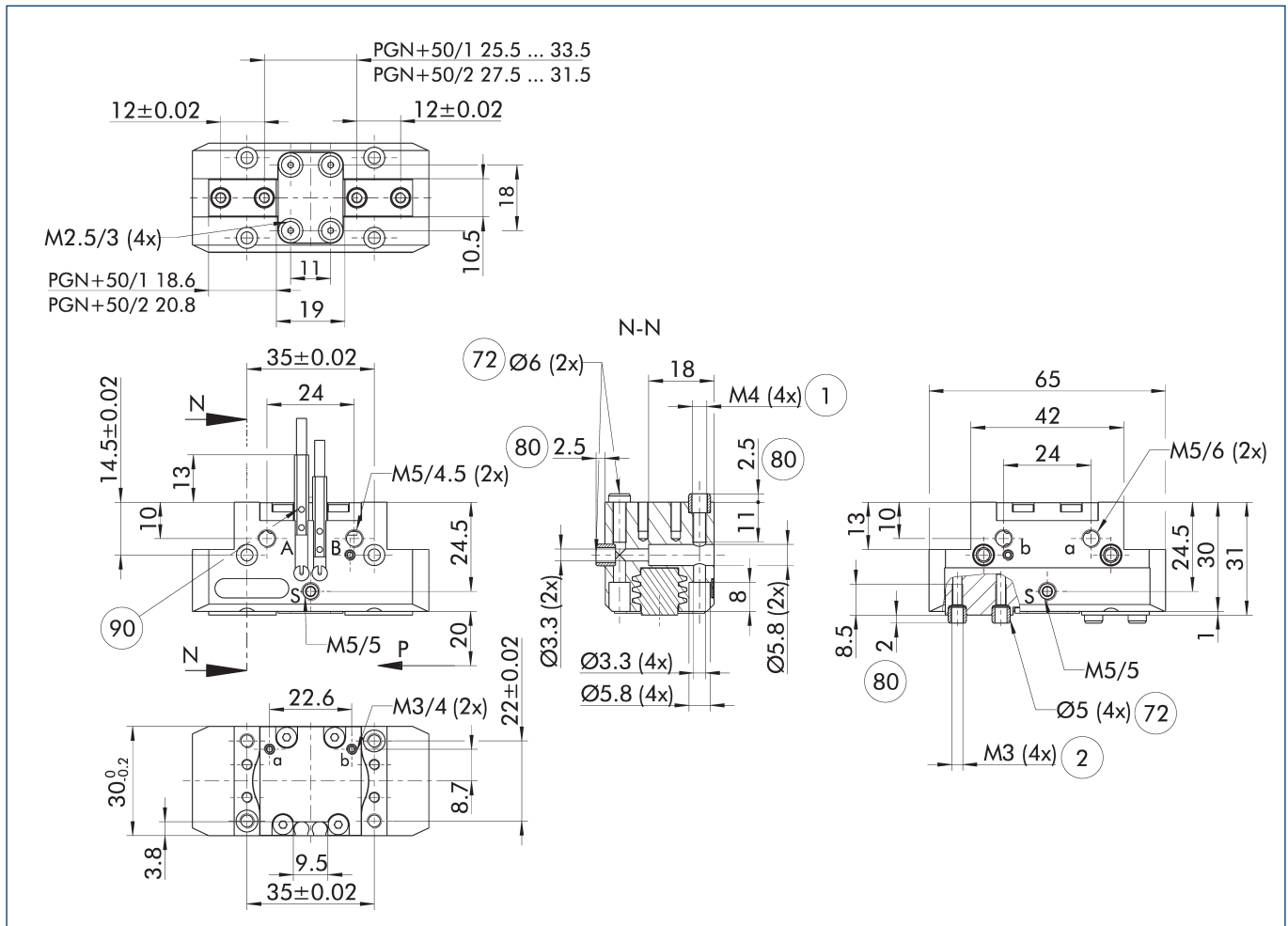
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus 50-1	PGN-plus 50-2	PGN-plus 50-1-AS	PGN-plus 50-2-AS	PGN-plus 50-1-IS	PGN-plus 50-2-IS
ID		0371099	0371149	0371399	0371449	0371459	0371469
Stroke per jaw	[mm]	4	2	4	2	4	2
Closing/opening force	[N]	135/145	285/310	180/-	380/-	-/190	-/405
Min. spring force	[N]			45	95	45	95
Weight	[kg]	0.17	0.17	0.21	0.21	0.21	0.21
Recommended workpiece weight	[kg]	0.7	1.45	0.7	1.45	0.7	1.45
Fluid consumption double stroke	[cm <sup>3</sup> ]	5	5	8.5	8.5	11	11
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.03	0.02/0.03	0.03/0.02	0.03/0.02
Closing/opening time with spring	[s]			0.05	0.05	0.05	0.05
Max. permissible finger length	[mm]	72	68	68	64	68	64
Max. permissible mass per finger	[kg]	0.18	0.18	0.18	0.18	0.18	0.18
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	65 x 30 x 31	65 x 30 x 31	65 x 30 x 47	65 x 30 x 47	65 x 30 x 47	65 x 30 x 47
<b>Options and their characteristics</b>							
Dustproof version		37371099	37371149	37371399	37371449	37371459	37371469
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.2	0.2	0.24	0.24	0.24	0.24
Corrosion-protected version		38371099	38371149	38371399	38371449	38371459	38371469
High-temperature version		39371099	39371149	39371399	39371449	39371459	39371469
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372099	0372149	0372399		0372459	
Closing/opening force	[N]	224/231	467/503	261/-		-/268	
Weight	[kg]	0.21	0.21	0.26		0.26	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	64	50	50		50	
Precision version		0371121	0371171	0371421	0371436		

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

## Main view



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

① The SDV-P pressure maintenance valve can 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

S Air purge connection

① Gripper connection

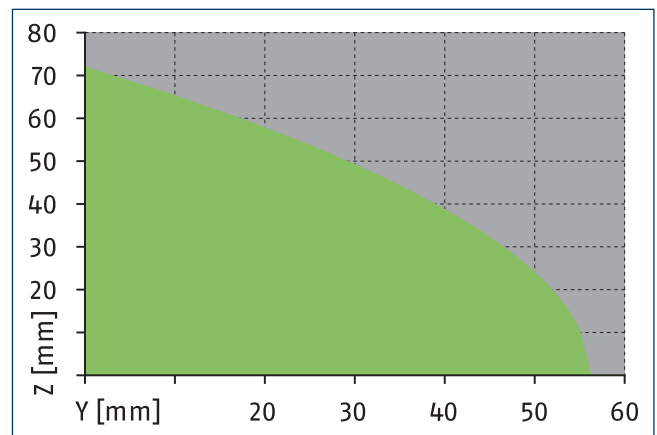
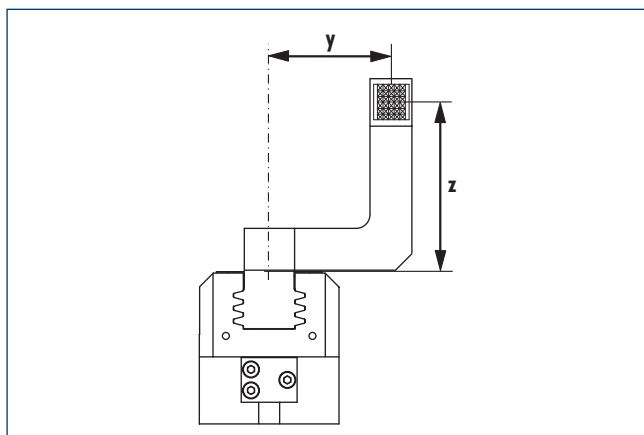
② Finger connection

72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

90 Sensor MMS 22..

## Maximum permitted finger projection



■ Permitted range

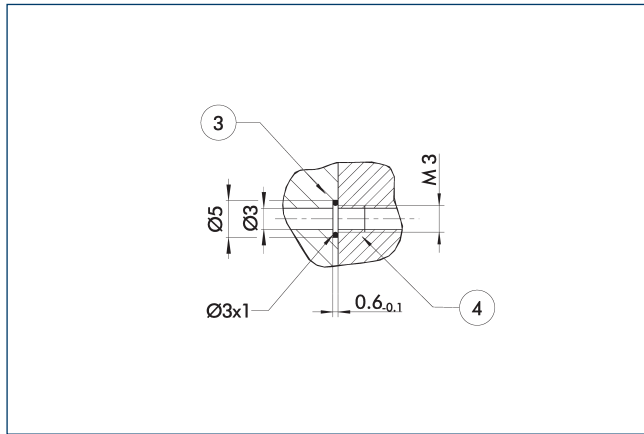
■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 50

Universal gripper

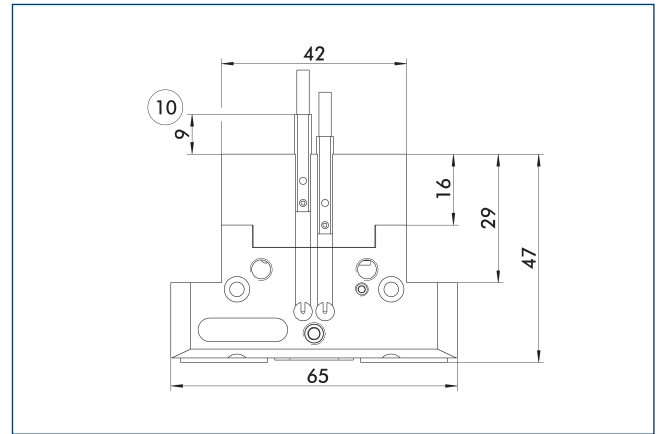
## Hose-free direct connection M3



- 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.

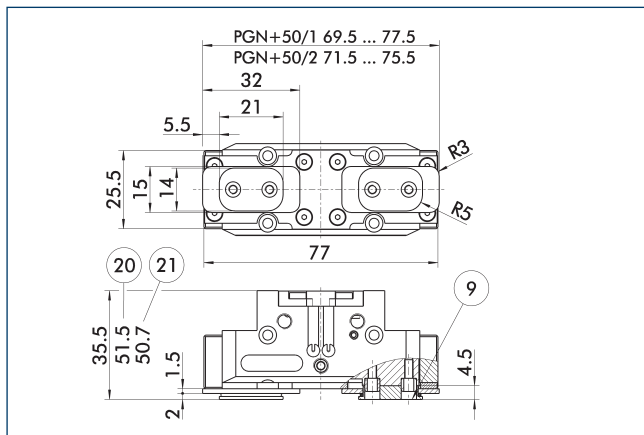
## Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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.

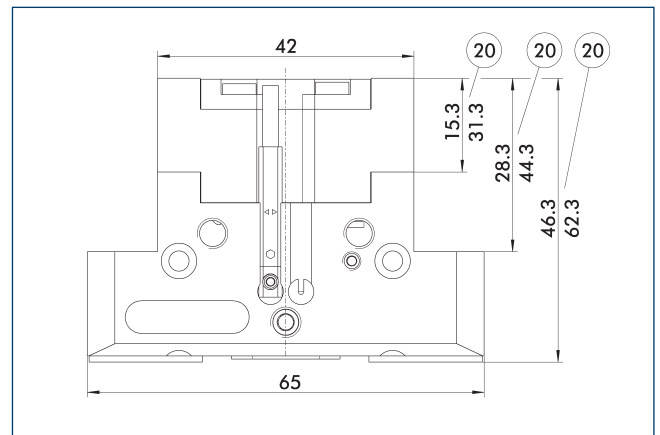
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ⑪ Applies for KVZ version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

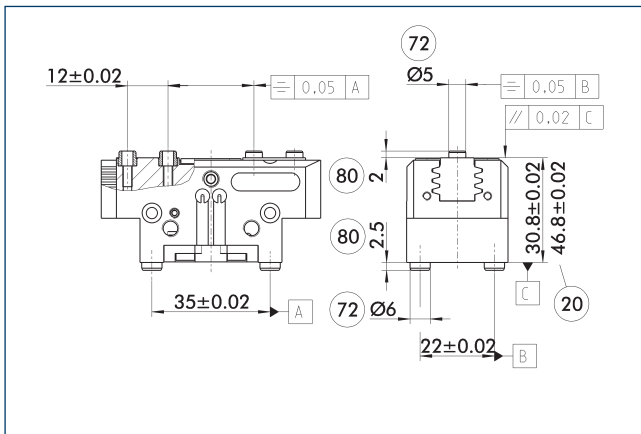
## Power booster version



- ⑩ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

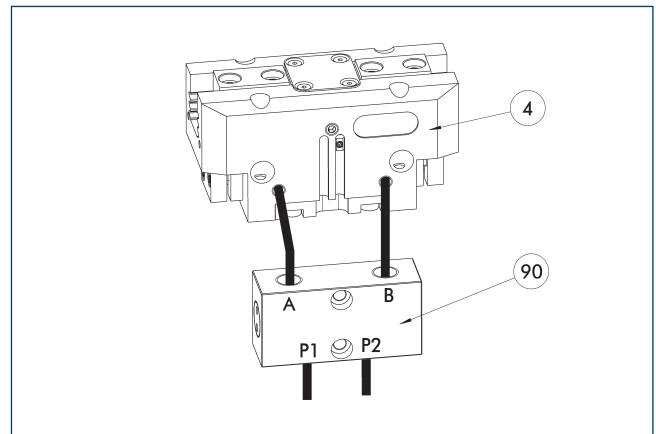
## Precision version



- ②① For AS / IS version
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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

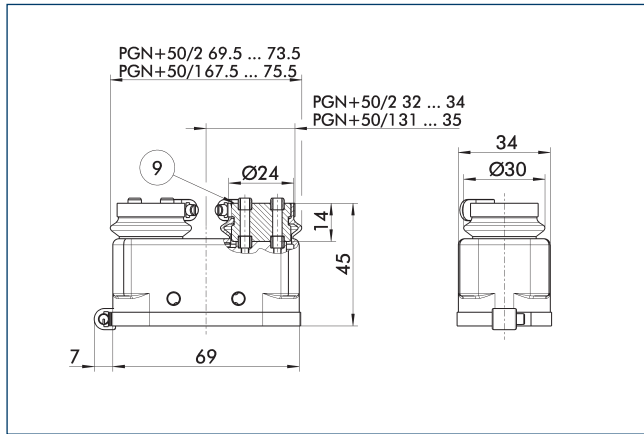
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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

# PGN-plus 50

Universal gripper

## Protective cover HUE PGN-plus 50



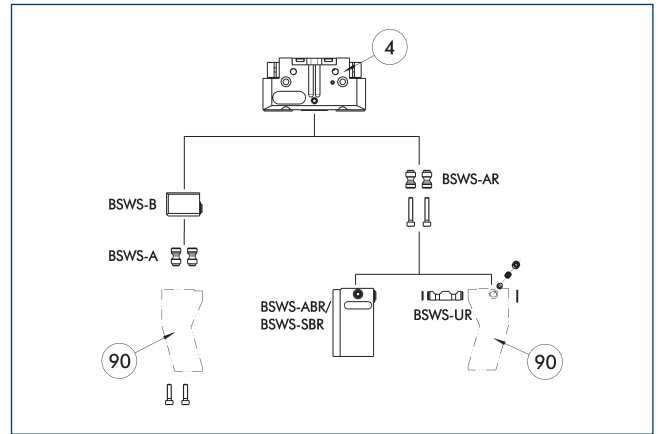
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 50	0371479	65

ⓘ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
Quick-change jaw system base		
BSWS-B 50	0303021	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 50	0300071	1
BSWS-SBR-PGZN-plus 50	0300081	1
Jaw quick-change system locking mechanism		
BSWS-UR 50	0302990	1

ⓘ Only systems that are listed in the table, can be used.

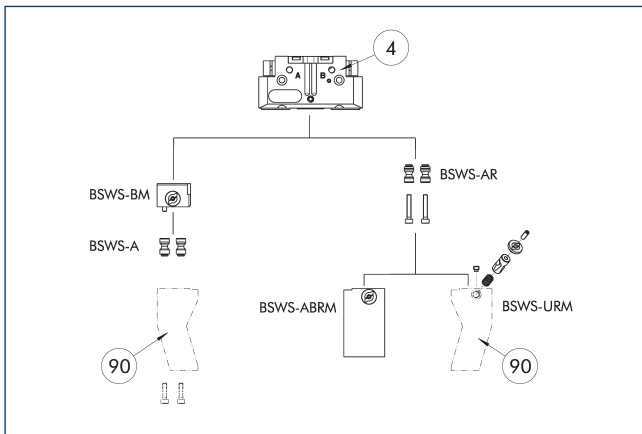
## Fields of application

Series	Size	Variant	Suitability
PGN-plus	50	-1 (6 bar)	■■■■■
PGN-plus	50	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	50	-2 (6 bar)	■■■■■
PGN-plus	50	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	50	-...-KVZ (6 bar)	■■■□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.



**Jaw quick-change system BSWs-M**



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
<b>Quick-change jaw system base</b>		
BSWS-BM 50	1313899	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 50	1420850	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 50	1380614	1

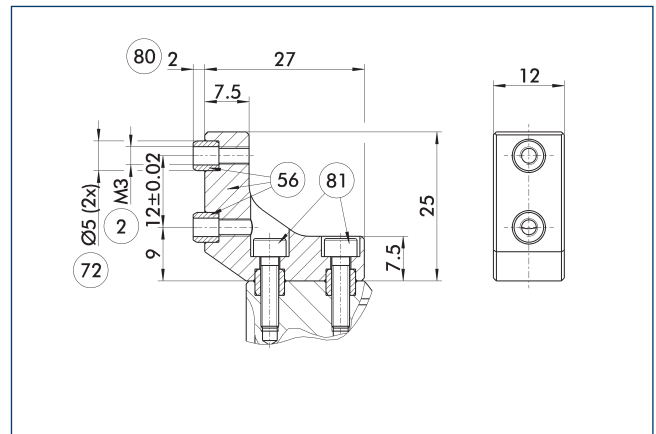
① Only systems that are listed in the table, can be used.

**Fields of application**

Series	Size	Variant	Suitability
PGN-plus	50	-1 (6 bar)	■■■■■
PGN-plus	50	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	50	-2 (6 bar)	■■■■■
PGN-plus	50	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	50	...-KVZ (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

**ZBA-L-plus 50 intermediate jaws**



- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

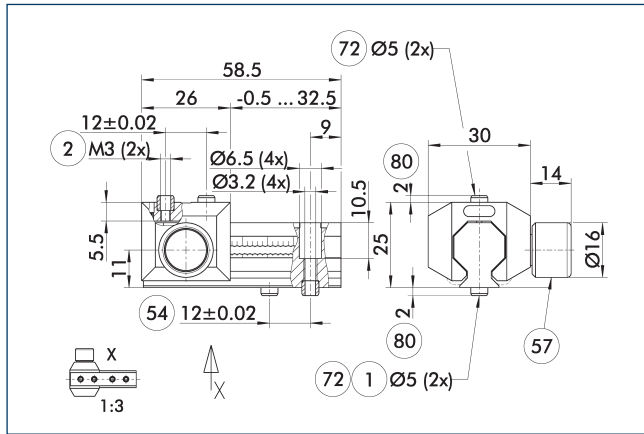
The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
<b>Intermediate jaw</b>				
ZBA-L-plus 50	0311712	Aluminum	PGN-plus 50	1

# PGN-plus 50

Universal gripper

## UZB 50 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

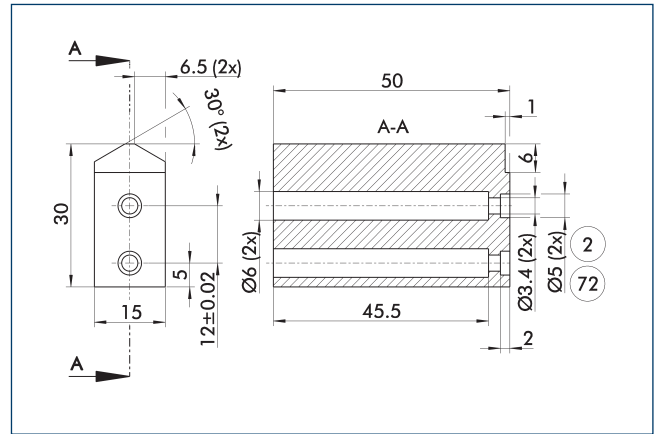
Description	ID	Grid dimension
[mm]		
Universal intermediate jaw		
UZB 50	0300041	1.5
Finger blank		
ABR-PGZN-plus 50	0300009	
SBR-PGZN-plus 50	0300019	

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	50	-1 (6 bar)	■■■■■
PGN-plus	50	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	50	-2 (6 bar)	■■■■■
PGN-plus	50	-2-AS / -2-IS (6 bar)	■■■□
PGN-plus	50	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blank ABR- / SBR-PGZN-plus 50

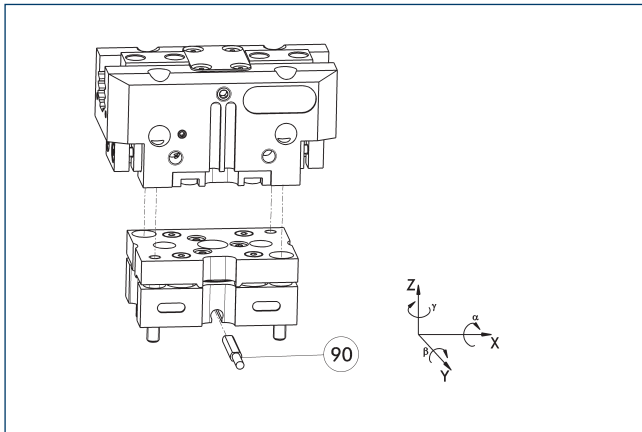


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 50	0300009	Aluminum	1
SBR-PGZN-plus 50	0300019	Steel	1

## Tolerance compensation unit TCU

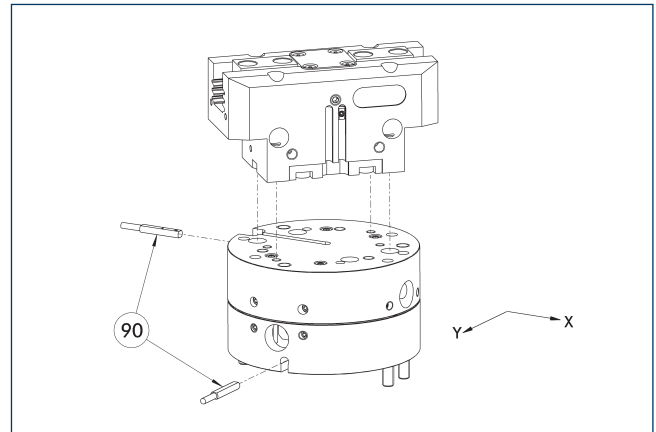


### 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection
Compensation unit			
TCU-P-050-3-0V	0324757	no	$\pm 1^\circ / \pm 1^\circ / \pm 1,5^\circ$

## Compensation unit AGE-F



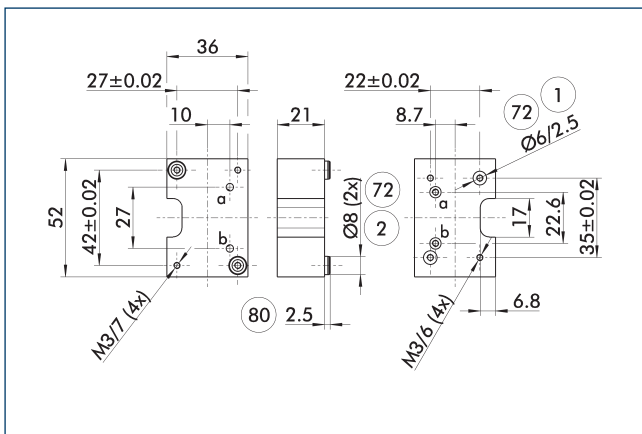
### 90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-040-1	0324920	$\pm 2$	3	
AGE-F-XY-040-2	0324921	$\pm 2$	4	
AGE-F-XY-040-3	0324922	$\pm 2$	4.5	●

① Due to the interfering contour, monitoring of the gripper is not possible.

## Adapter plate for PGN-plus 50



- ① Robot-side connection
- ② Tool-side connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part

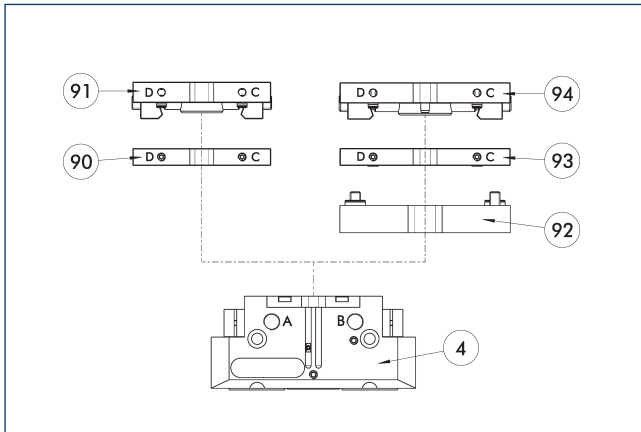
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-064-050-P	0305768

# PGN-plus 50

Universal gripper

## Compact change system for grippers

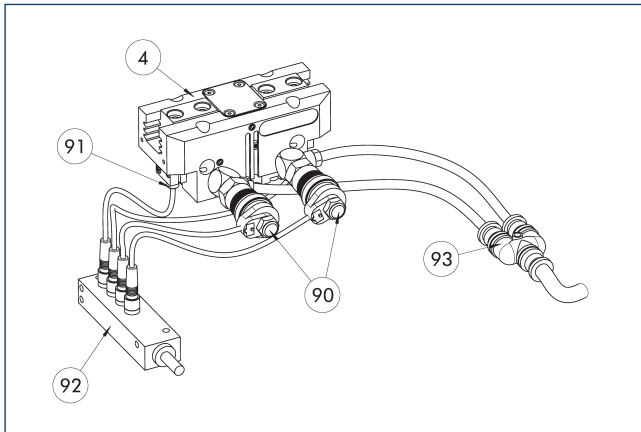


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨① CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Description	ID	
Tool side		
A-CWA-064-050-P	0305768	
CWA compact change adapter		
CWA-050-P	0305751	
CWK compact change master		
CWK-050-P	0305750	

## Attachment valves



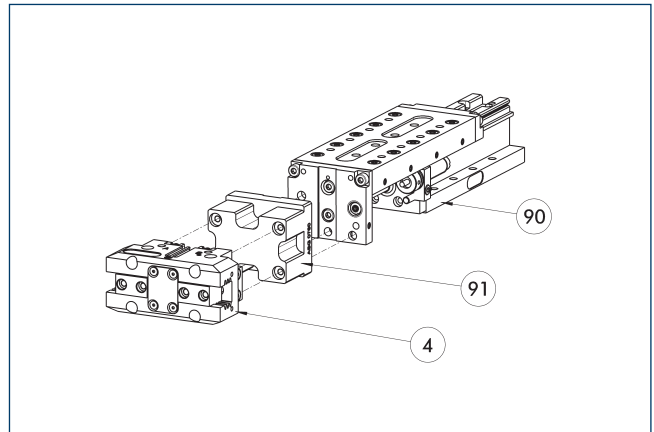
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

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

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

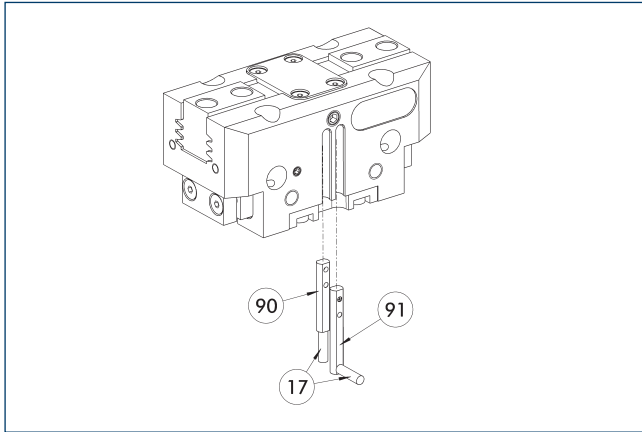
## Modular Assembly Automation



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

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

### Electronic magnetic switch MMS



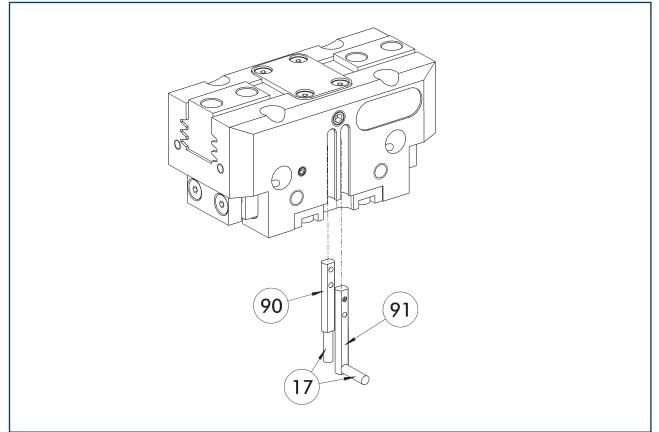
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

### Programmable magnetic switch MMS 22-PI1



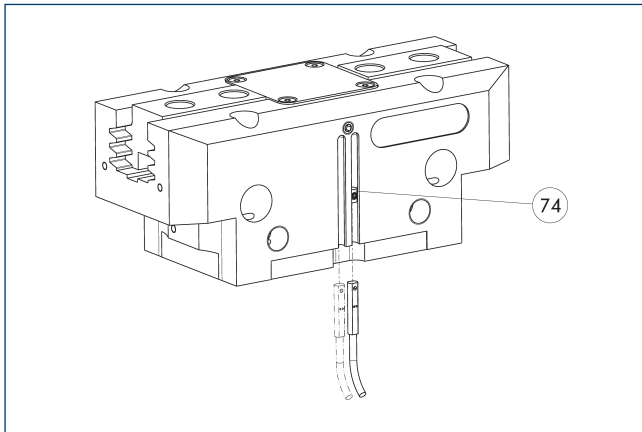
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1...-SA
- ①⑩ Sensor MMS 22 PI1...

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

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

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

MMS-P programmable magnetic switch



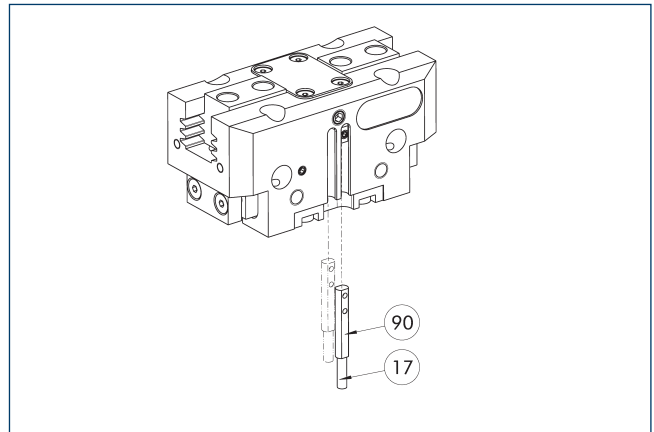
74 Limit stop for sensor

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	●
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	
clip for plug/socket		
CLI-M8	0301463	
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.

Programmable magnetic switch MMS-IO-Link



17 Cable outlet

90 Sensor MMS 22-IO-L...

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

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

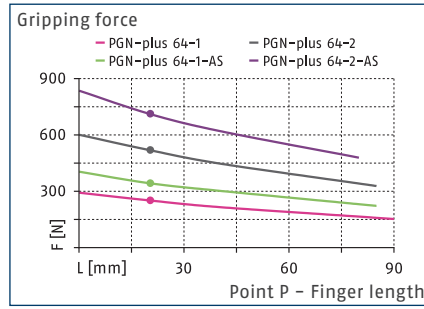
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# PGN-plus 64

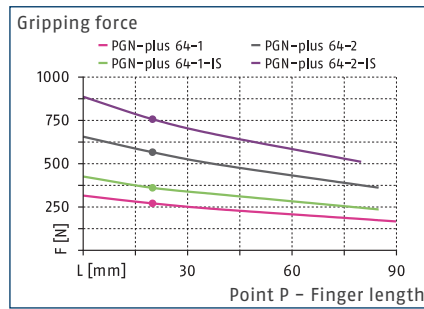
Universal gripper



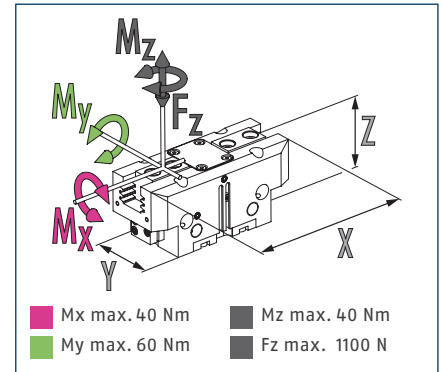
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

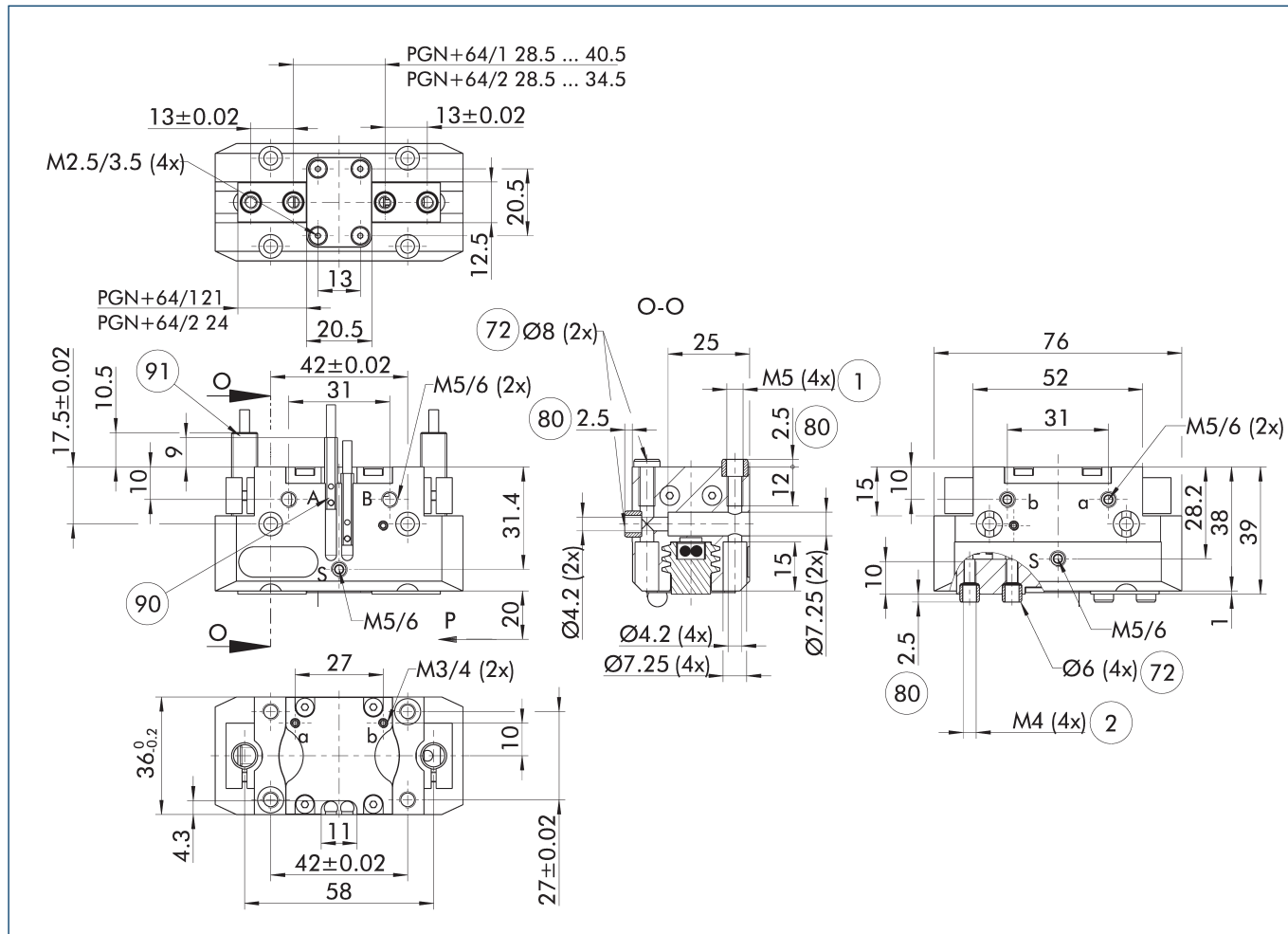
## Technical data

Description		PGN-plus 64-1	PGN-plus 64-2	PGN-plus 64-1-AS	PGN-plus 64-2-AS	PGN-plus 64-1-IS	PGN-plus 64-2-IS
ID		0371090	0371091	0371092	0371093	0371094	0371095
Stroke per jaw	[mm]	6	3	6	3	6	3
Closing/opening force	[N]	250/270	520/565	340/-	710/-	-/360	-/755
Min. spring force	[N]			90	190	90	190
Weight	[kg]	0.28	0.28	0.37	0.37	0.37	0.37
Recommended workpiece weight	[kg]	1.25	2.6	1.25	2.6	1.25	2.6
Fluid consumption double stroke	[cm <sup>3</sup> ]		10	17	17	21	21
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.02/0.04	0.02/0.04	0.04/0.02	0.04/0.02
Closing/opening time with spring	[s]			0.08	0.08	0.08	0.08
Max. permissible finger length	[mm]	90	85	85	80	85	80
Max. permissible mass per finger	[kg]	0.35	0.35	0.35	0.35	0.35	0.35
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	76 x 36 x 39	76 x 36 x 39	76 x 36 x 57	76 x 36 x 57	76 x 36 x 57	76 x 36 x 57
<b>Options and their characteristics</b>							
Dustproof version		37371090	37371091	37371092	37371093	37371094	37371095
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.35	0.35	0.44	0.44	0.44	0.44
Corrosion-protected version		38371090	38371091	38371092	38371093	38371094	38371095
High-temperature version		39371090	39371091	39371092	39371093	39371094	39371095
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372090	0372091	0372092		0372093	
Closing/opening force	[N]	410/440	855/925	480/-		-/510	
Weight	[kg]	0.35	0.35	0.43		0.43	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	80	64	64		64	
Precision version		0371122	0371172	0371422	0371437		

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



## Main view

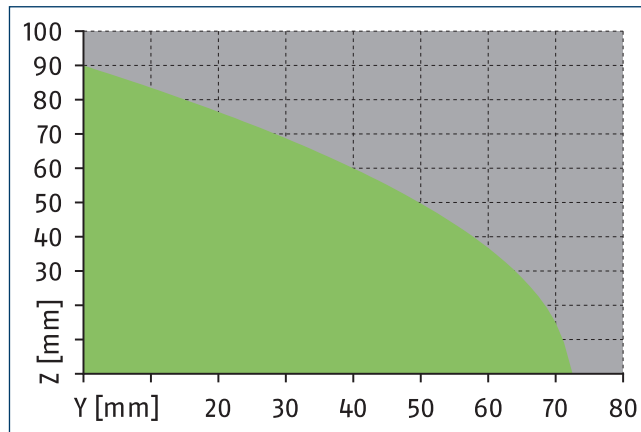
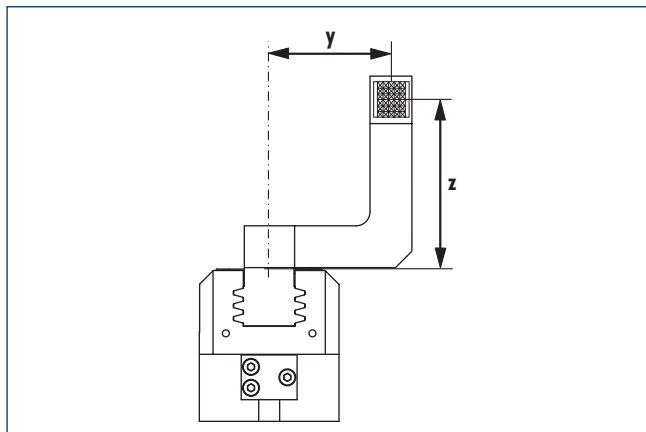


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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 | ② Finger connection                                      |
| B, b Main / direct connection, gripper closing | ⑦ Fit for centering sleeves                              |
| S Air purge connection                         | ⑧ Depth of the centering sleeve hole in the counter part |
| ① Gripper connection                           | ⑨ Sensor MMS 22..  |
|  | ⑩ Sensor IN ...  |

## Maximum permitted finger projection



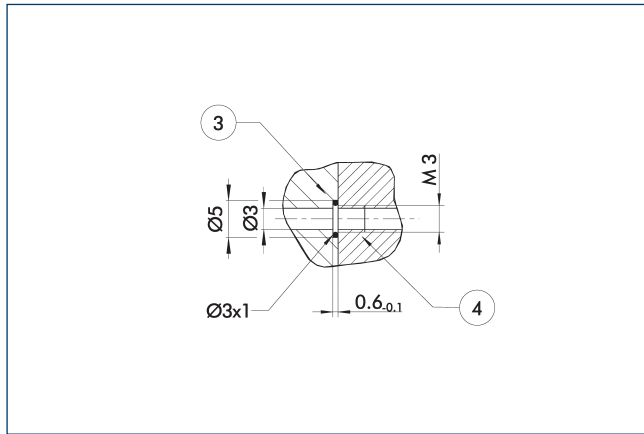
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 64

Universal gripper

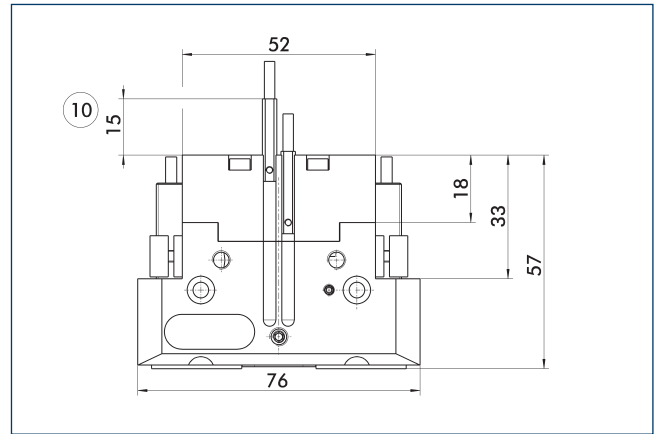
## Hose-free direct connection M3



- 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.

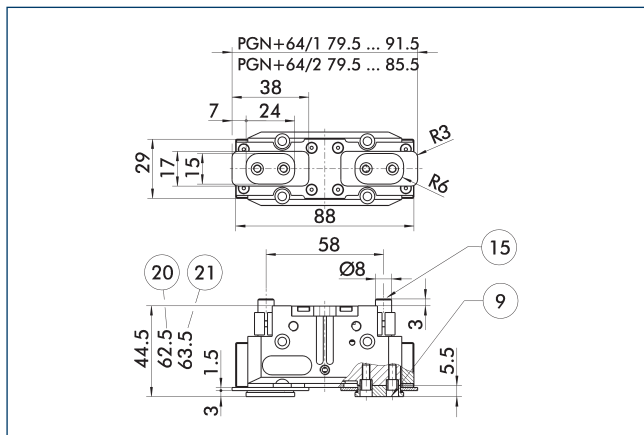
## Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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.

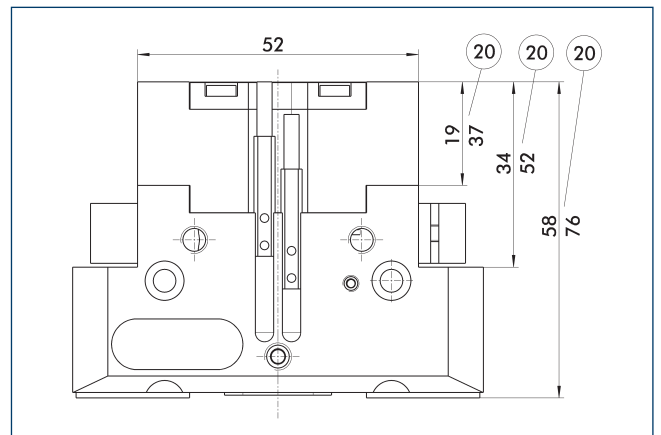
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ⑮ Sealing bolt
- ⑰ Applies for KVZ version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

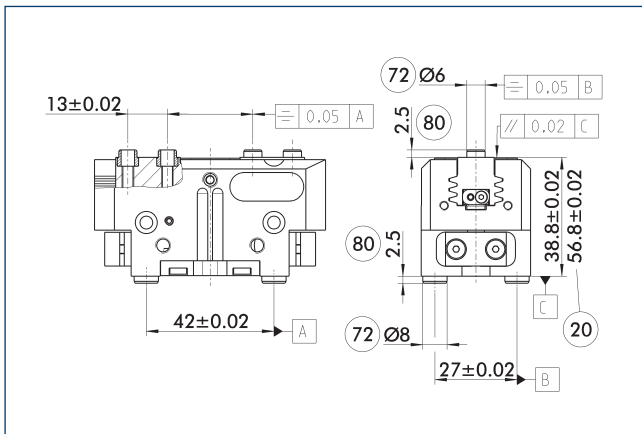
## Power booster version



- ⑳ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

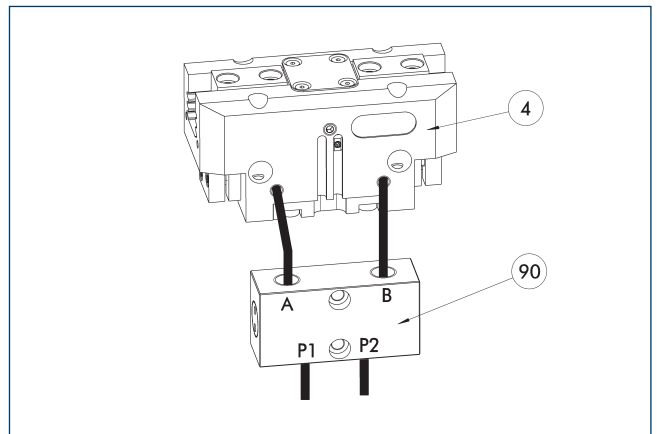
## Precision version



- ②① For AS / IS version
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① 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.

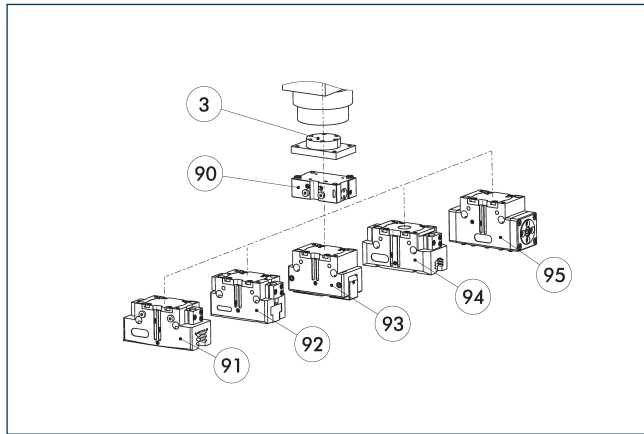
Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

# PGN-plus 64

Universal gripper

## SDV-P E-P pressure maintenance valve

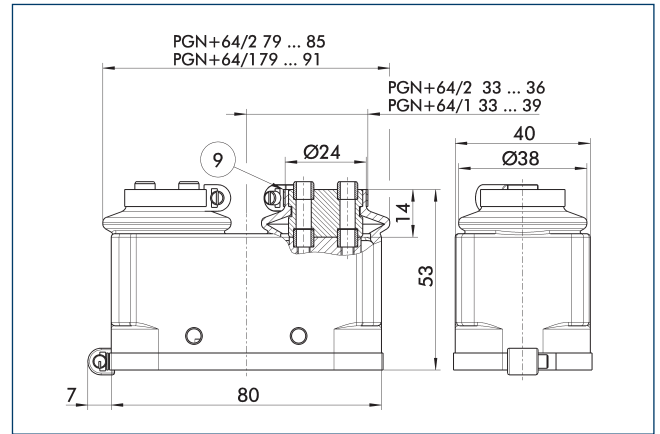


- ③ Adapter
- ⑨① SDV-P E-P pressure maintenance valve
- ⑨② PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB parallel gripper
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID
Pressure maintenance valve	
SDV-P 64-E-P	0300124

## Protective cover HUE PGN-plus 64



- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 64	0371480	65

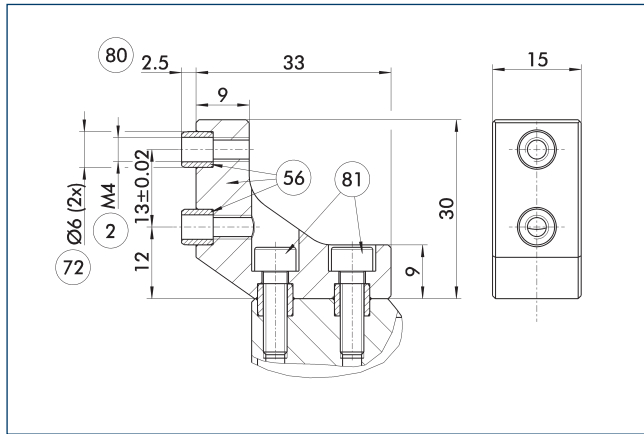
- ① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.



# PGN-plus 64

Universal gripper

## ZBA-L-plus 64 intermediate jaws

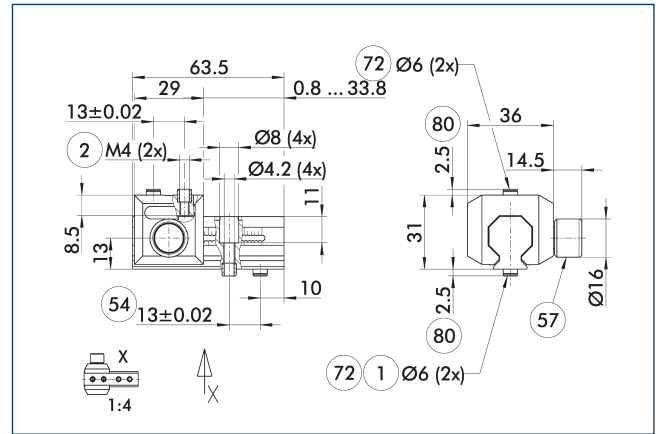


- 2 Finger connection
- 56 Included in the scope of delivery
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 81 Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 64	0311722	Aluminum	PGN-plus 64	1

## UZB 64 universal intermediate jaw



- 1 Gripper connection
- 2 Finger connection
- 54 Optional right or left connection
- 57 Locking
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

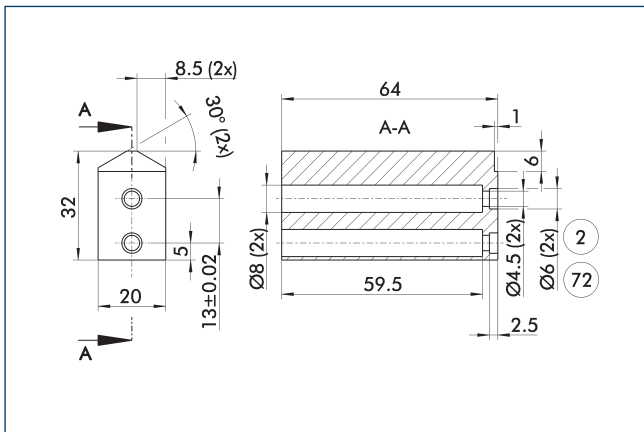
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 64	0300042	1.5
Finger blank		
ABR-PGZN-plus 64	0300010	
SBR-PGZN-plus 64	0300020	

## Fields of application

Series	Size	Variant	Suitability
PGN-plus	64	-1 (6 bar)	■■■■
PGN-plus	64	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus	64	-2 (6 bar)	■■■■
PGN-plus	64	-2-AS / -2-IS (6 bar)	■■□□
PGN-plus	64	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

Finger blanks ABR- / SBR-PGZN-plus 64

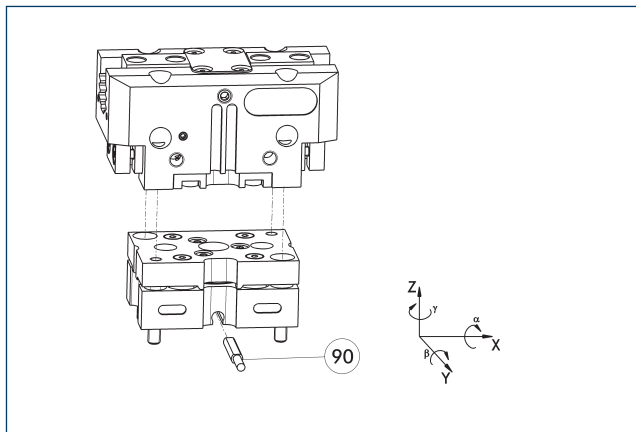


- 2 Finger connection
- 72 Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 64	0300010	Aluminum	1
SBR-PGZN-plus 64	0300020	Steel	1

Tolerance compensation unit TCU

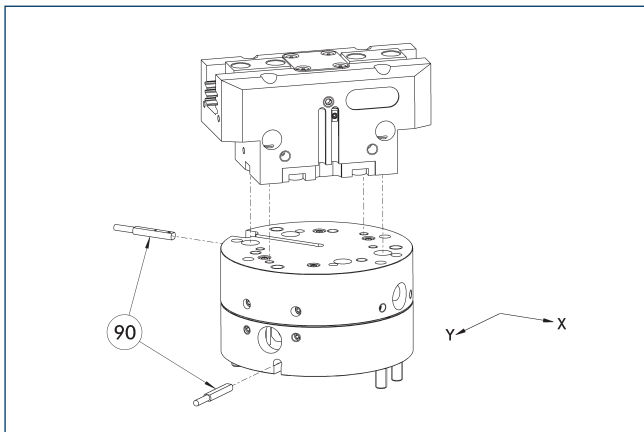


- 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-064-3-MV	0324774	yes	±1°/±1,5°/±2°	●
TCU-P-064-3-0V	0324775	no	±1°/±1,5°/±2°	

Compensation unit AGE-F



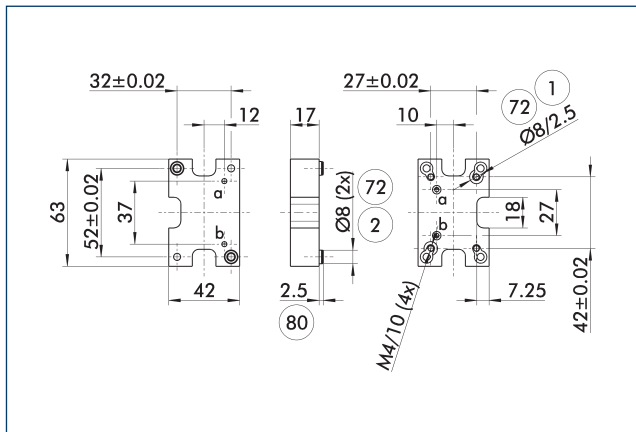
- 90 Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-063-1	0324940	± 4	12	
AGE-F-XY-063-2	0324941	± 4	16	
AGE-F-XY-063-3	0324942	± 4	20	●

Due to the interfering contour, monitoring of the gripper is not possible.

Adapter plate for PGN-plus 64



- 1 Robot-side connection
- 2 Tool-side connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part

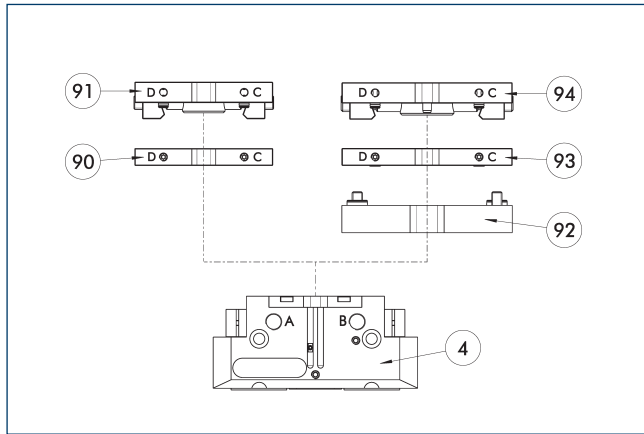
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-080-064-P	0305784

# PGN-plus 64

Universal gripper

## Compact change system for grippers

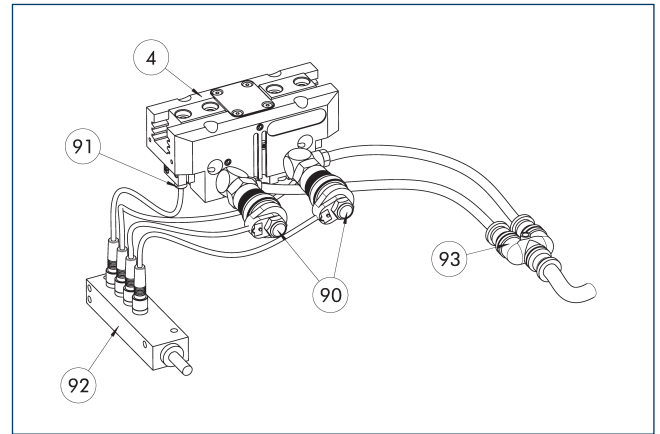


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨⑩ CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Description	ID
<b>Tool side</b>	
A-CWA-080-064-P	0305784
<b>CWA compact change adapter</b>	
CWA-064-P	0305765
<b>CWK compact change master</b>	
CWK-064-P	0305764

## Attachment valves



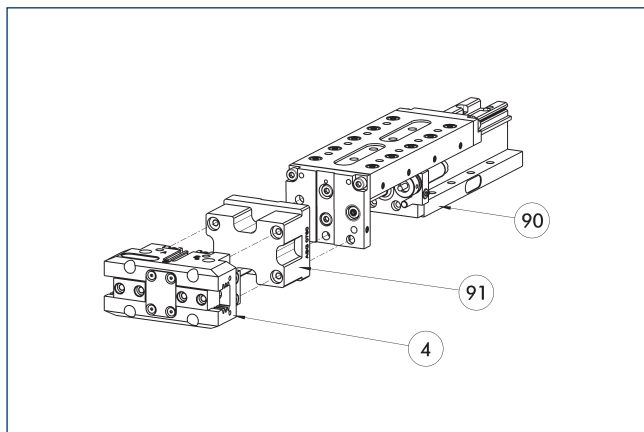
- ④ Grippers
- ⑨② Sensor distributor
- ⑨⑩ Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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
<b>Attachment valve</b>		
ABV-MV15-M5	0303323	
ABV-MV15-M5-V2-M8	0303386	
ABV-MV15-M5-V4-M8	0303356	●
ABV-MV15-M5-V8-M8	0303357	

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

## Modular Assembly Automation

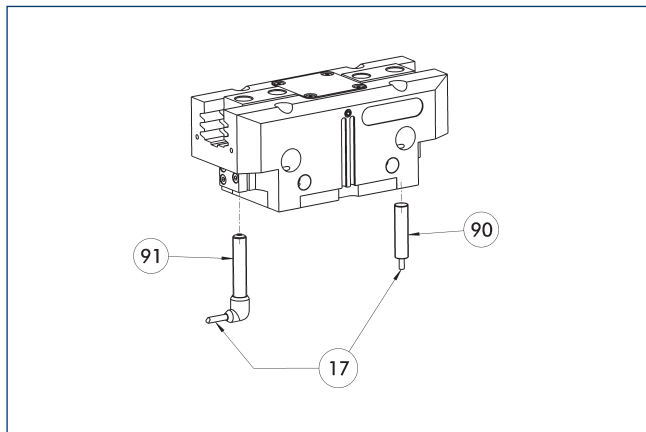


- ④ Grippers
- ⑨① ASG adapter plate
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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



- ①⑦ Cable outlet
- ①⑨ Sensor IN..-SA
- ①⑩ Sensor IN ...

Directly mounted end position monitoring.

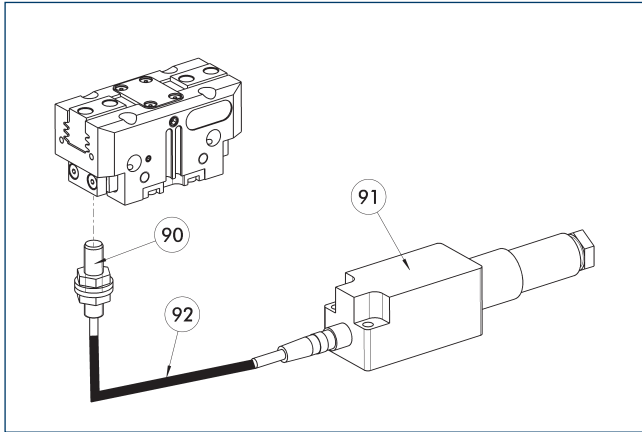
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

# PGN-plus 64

Universal gripper

## Flexible position sensor



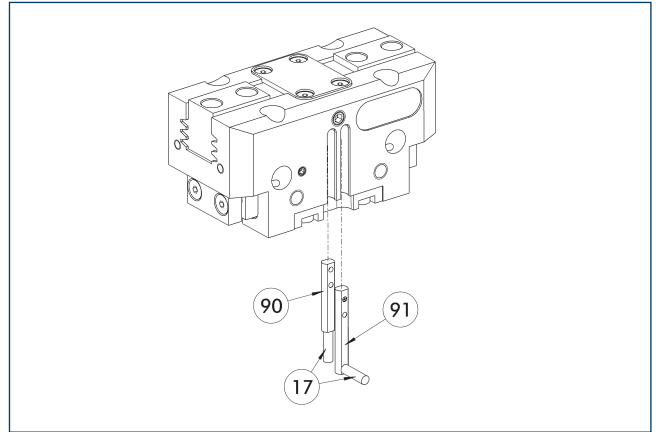
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 64-1/80-2	0301630	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



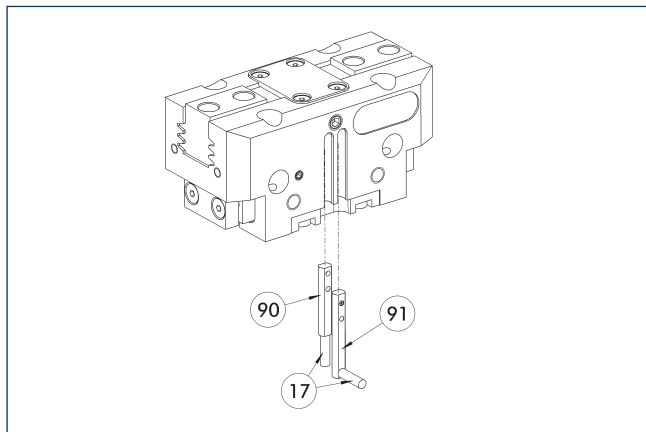
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22..
- ①⑩ Sensor MMS 22...-SA

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

**Programmable magnetic switch MMS 22-PI1**



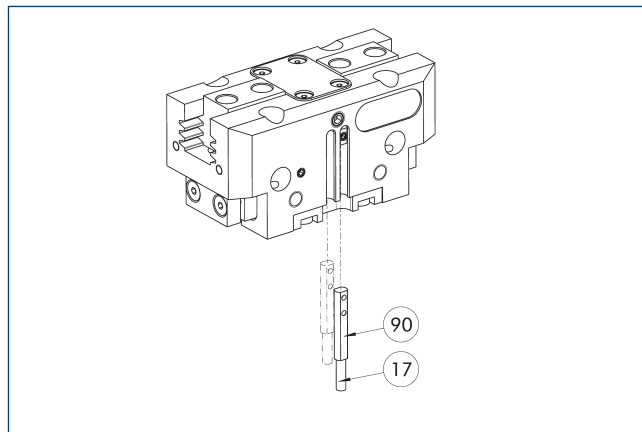
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

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

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

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

**Programmable magnetic switch MMS 22-PI2**



- ⑰ Cable outlet
- ⑨② MMS 22...-PI2-... sensor

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

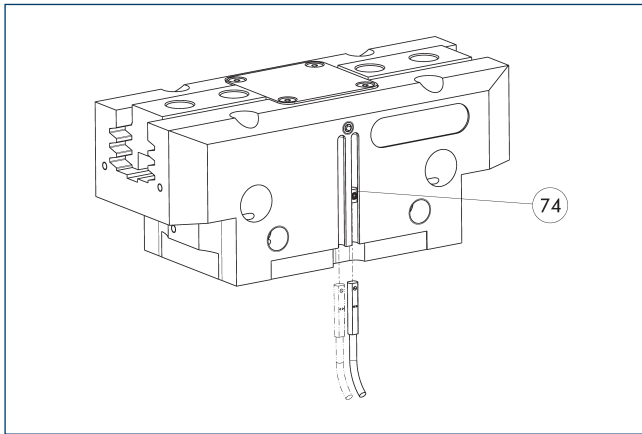
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus 64

Universal gripper

## MMS-P programmable magnetic switch



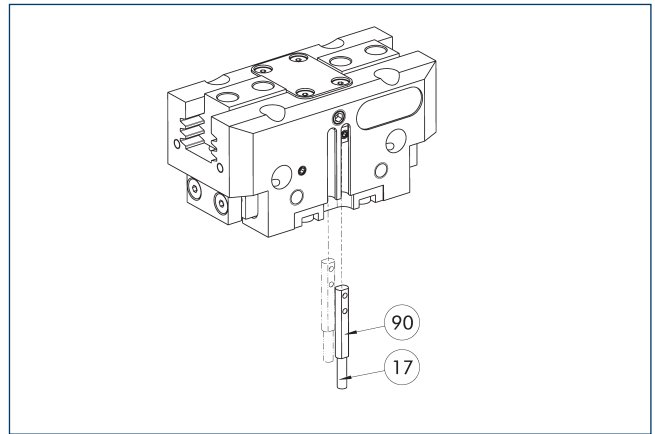
74 Limit stop for sensor

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	●
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	
clip for plug/socket		
CLI-M8	0301463	
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



17 Cable outlet

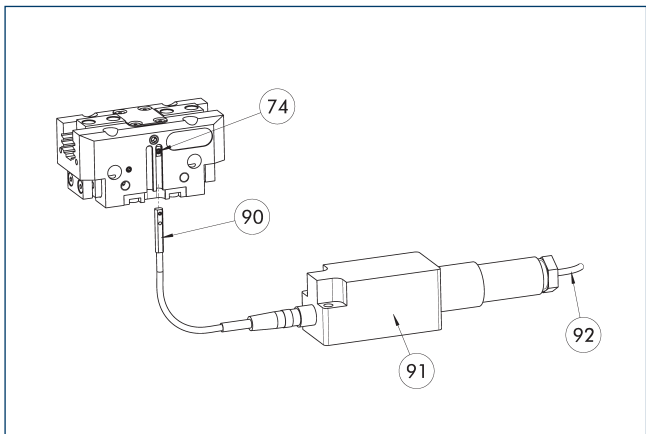
90 MMS 22-A... sensor

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.

**Flexible position sensor with MMS-A**



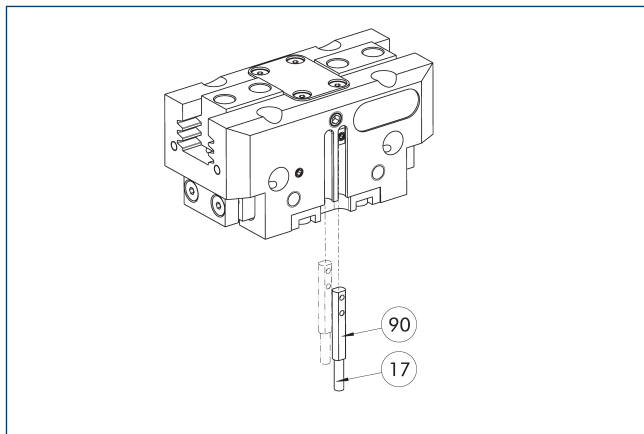
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

**Programmable magnetic switch MMS-I0-Link**



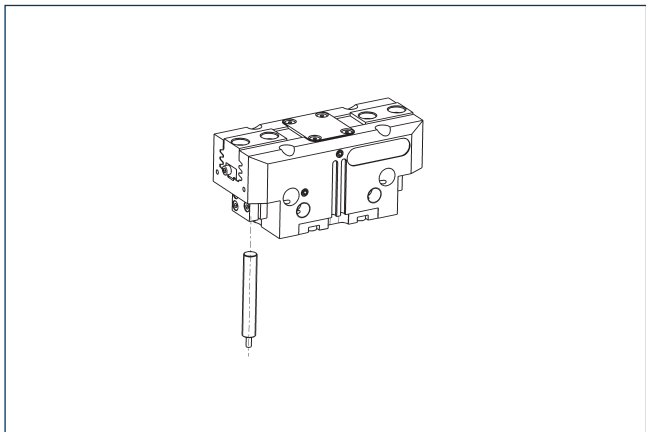
- ①⑦ Cable outlet
- ⑨① Sensor MMS 22-I0L-...

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

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

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

**APS-Z80 analog position sensor**



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

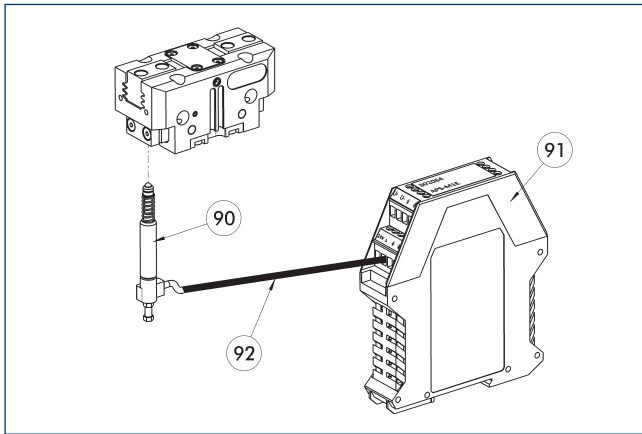
Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 64-1	0302105	
AS-APS-Z80-PGZN-plus 64-2	0302106	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 64

Universal gripper

## APS-M1 analog position sensor



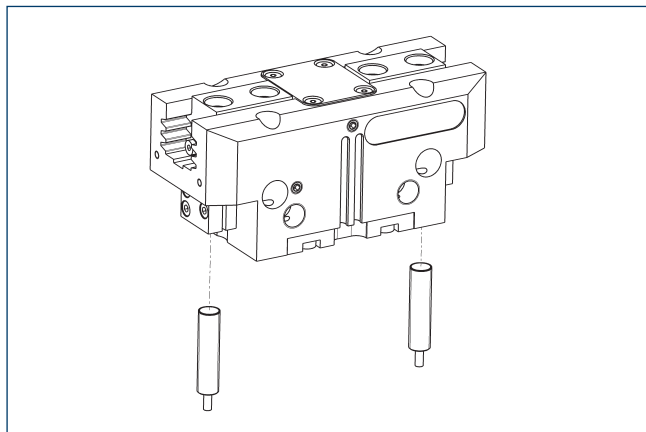
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 64-1	0302075	
AS-APS-M1-PGZN-plus 64-2	0302076	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
Reed Switches		
RMS 80-S-M8	0377721	

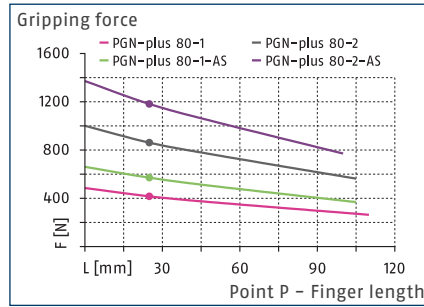
① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PGN-plus 80

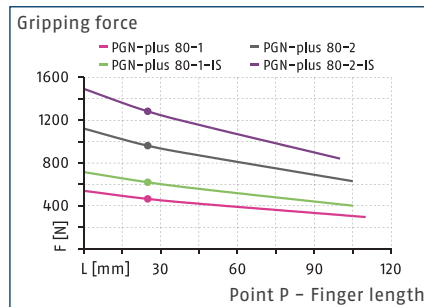
Universal gripper



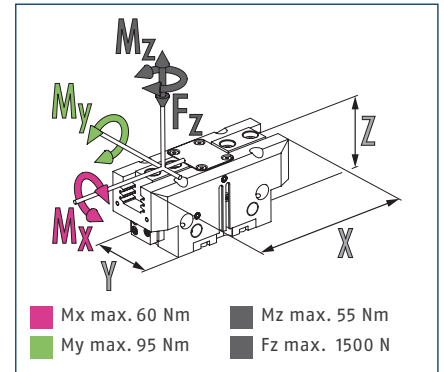
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

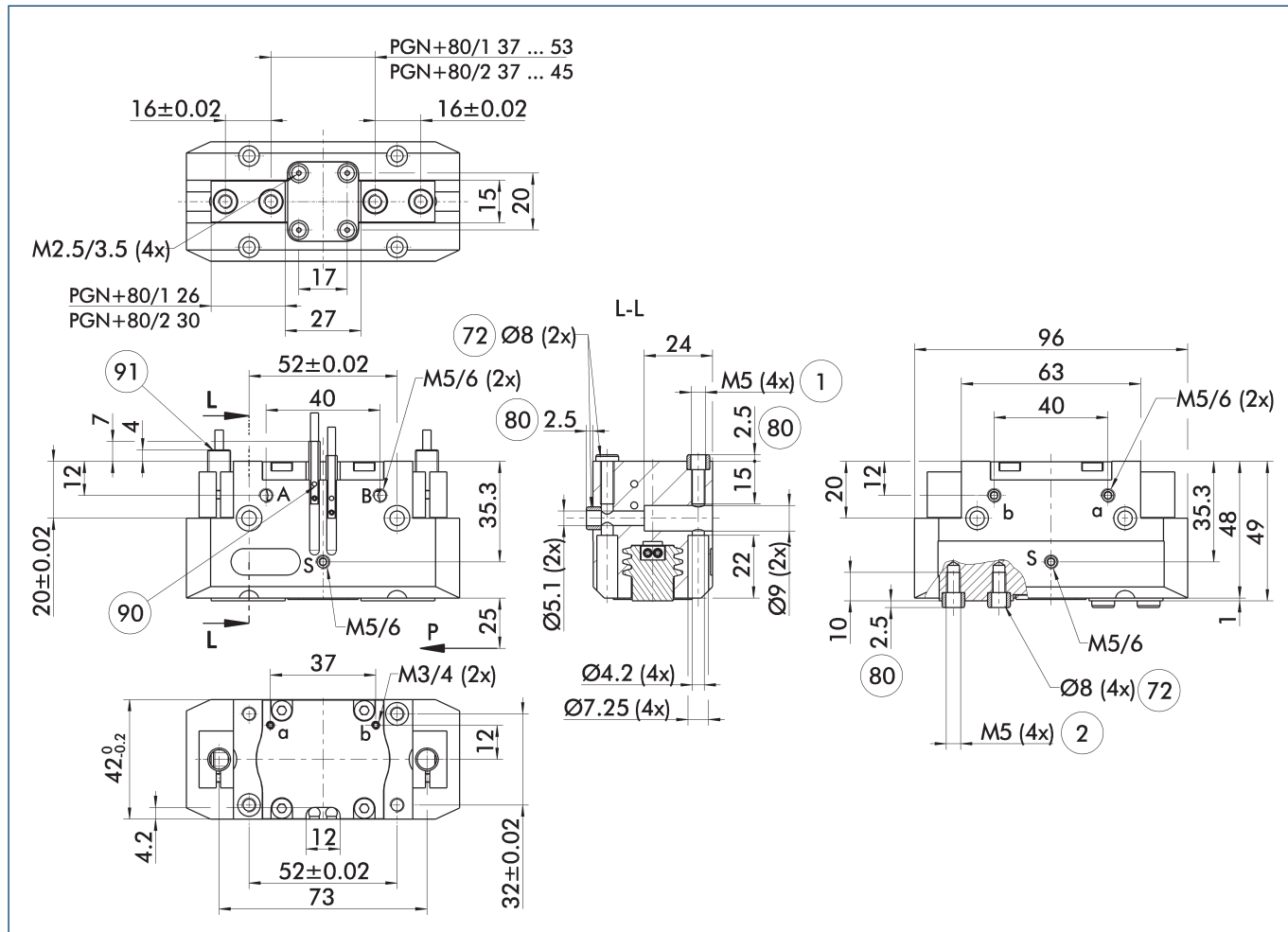
## Technical data

Description		PGN-plus 80-1	PGN-plus 80-2	PGN-plus 80-1-AS	PGN-plus 80-2-AS	PGN-plus 80-1-IS	PGN-plus 80-2-IS
ID		0371101	0371151	0371401	0371451	0371461	0371471
Stroke per jaw	[mm]	8	4	8	4	8	4
Closing/opening force	[N]	415/465	860/960	570/-	1180/-	-/620	-/1280
Min. spring force	[N]			155	320	155	320
Weight	[kg]	0.5	0.5	0.6	0.6	0.6	0.6
Recommended workpiece weight	[kg]	2.1	4.3	2.1	4.3	2.1	4.3
Fluid consumption double stroke	[cm <sup>3</sup> ]	22.5	22.5	36	36	42.5	42.5
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Closing/opening time with spring	[s]			0.10	0.10	0.10	0.10
Max. permissible finger length	[mm]	110	105	105	100	105	100
Max. permissible mass per finger	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	96 x 42 x 49	96 x 42 x 49	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67
<b>Options and their characteristics</b>							
Dustproof version		37371101	37371151	37371401	37371451	37371461	37371471
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.6	0.6	0.7	0.7	0.7	0.7
Corrosion-protected version		38371101	38371151	38371401	38371451	38371461	38371471
High-temperature version		39371101	39371151	39371401	39371451	39371461	39371471
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372101	0372151	0372401		0372461	
Closing/opening force	[N]	675/760	1410/1570	810/-		-/895	
Weight	[kg]	0.65	0.65	0.75		0.75	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	100	80	80		80	
Precision version		0371123	0371173	0371423	0371438		

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



## Main view

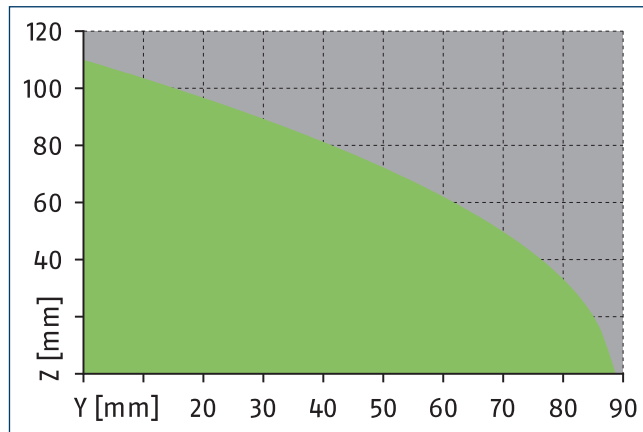
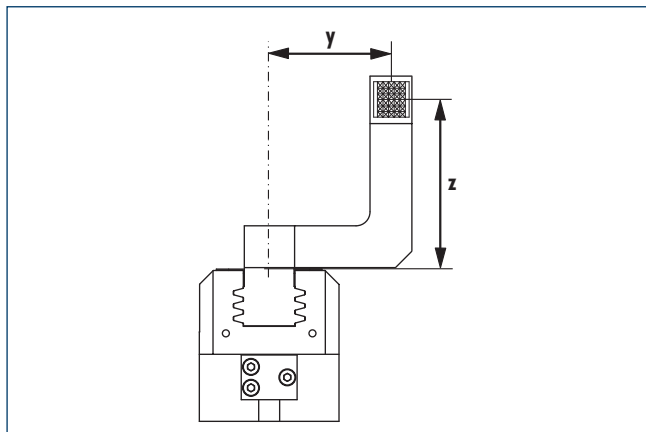


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 Sensor MMS 22..
- 91 Sensor IN ...

## Maximum permitted finger projection



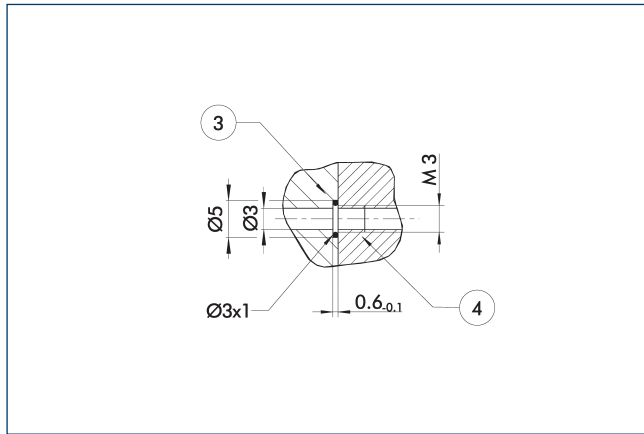
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 80

Universal gripper

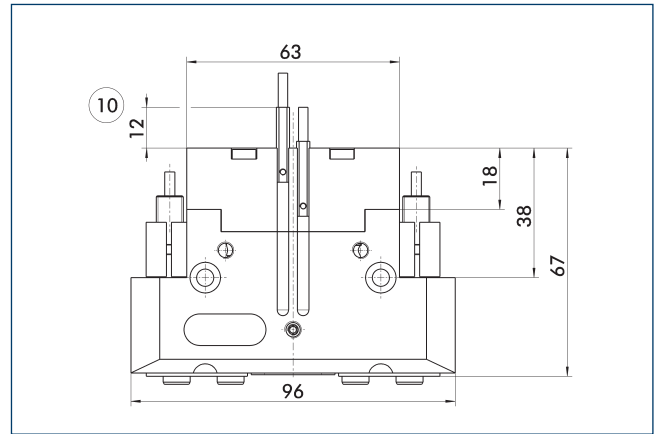
## Hose-free direct connection M3



- 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.

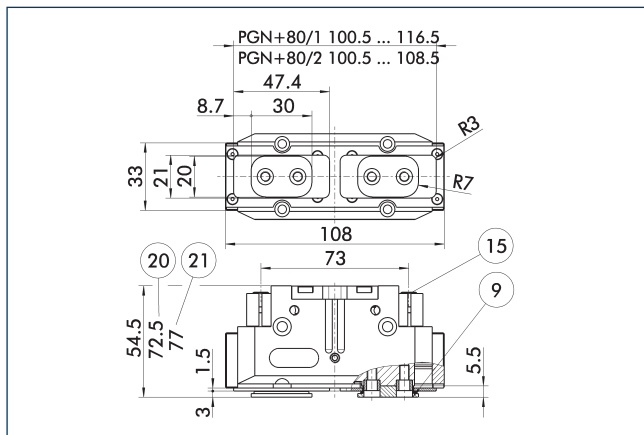
## Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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.

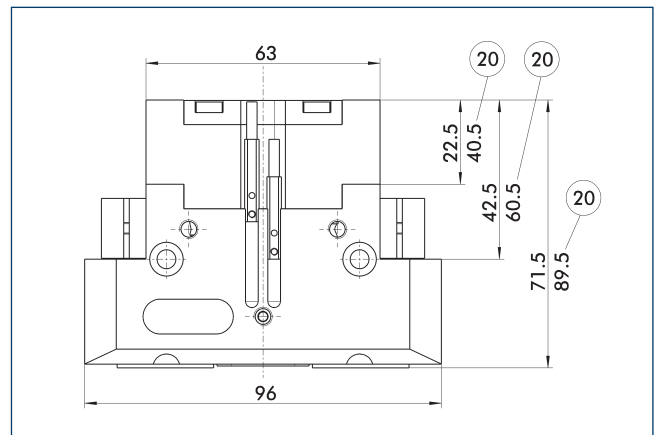
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ⑪ Sealing bolt
- ⑫ Applies for KVZ version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

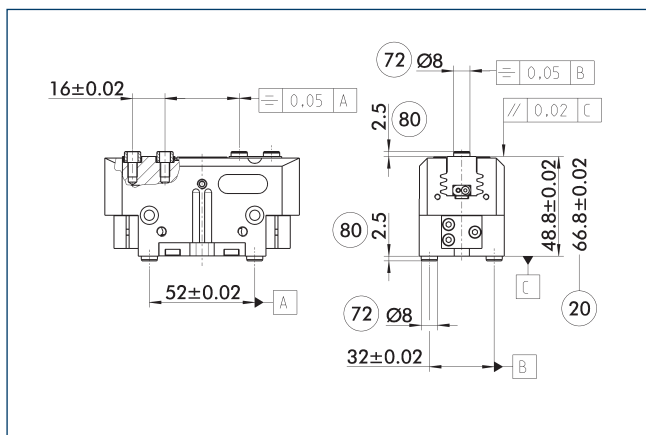
## Power booster version



- ⑫ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

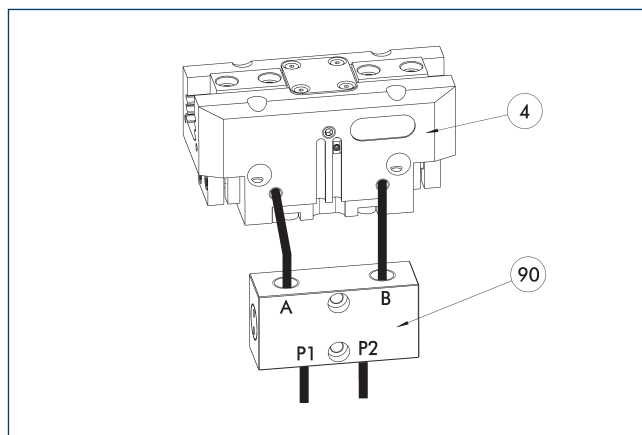
## Precision version



- ②① For AS / IS version
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① 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.

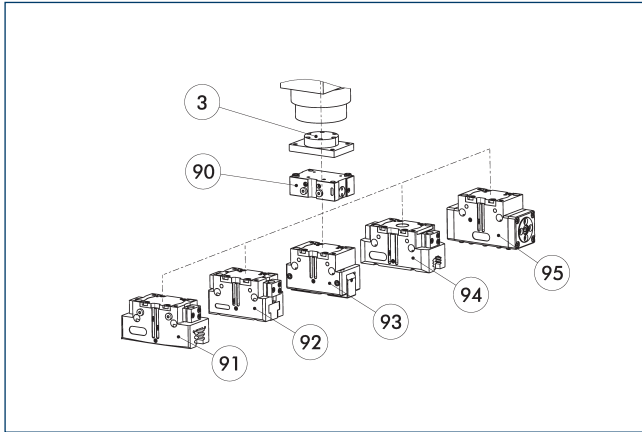
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

# PGN-plus 80

Universal gripper

## SDV-P E-P pressure maintenance valve

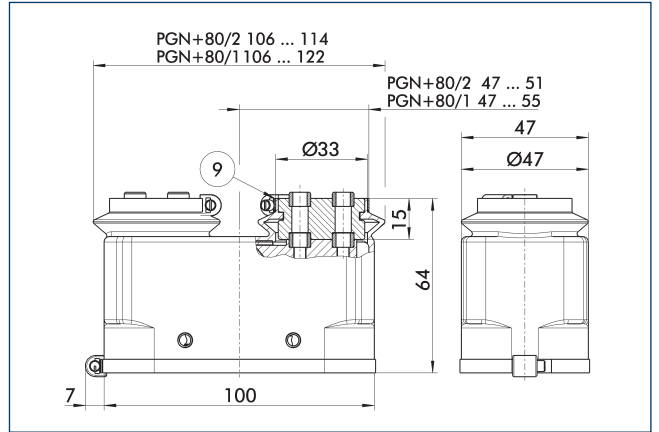


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB parallel gripper
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID
Pressure maintenance valve	
SDV-P 80-E-P	0300125

## Protective cover HUE PGN-plus 80



- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 80	0371481	65

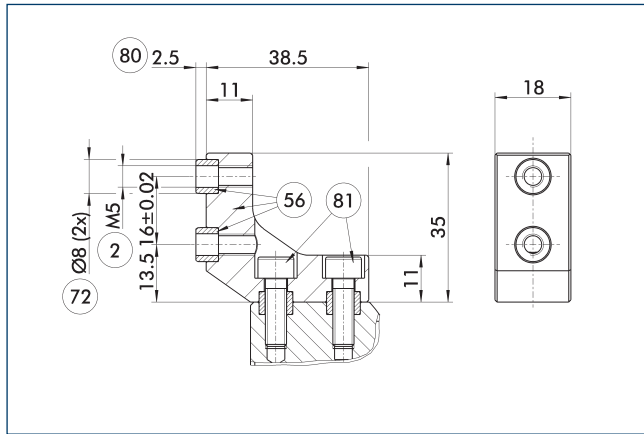
- ⑩ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.



# PGN-plus 80

Universal gripper

## ZBA-L-plus 80 intermediate jaws

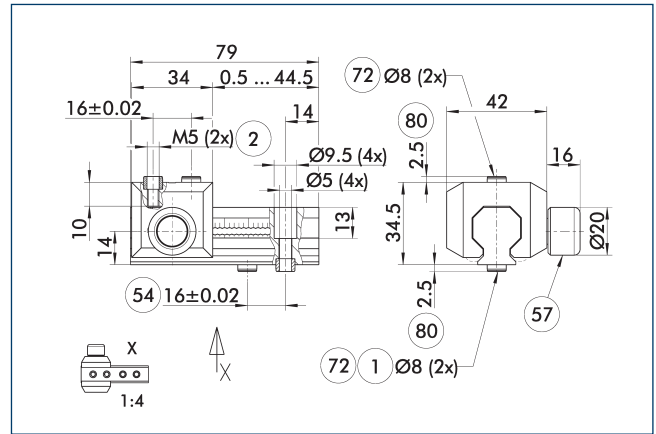


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 80	0311732	Aluminum	PGN-plus 80	1

## UZB 80 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S slide (can also be ordered separately) allows for a quick jaw change.

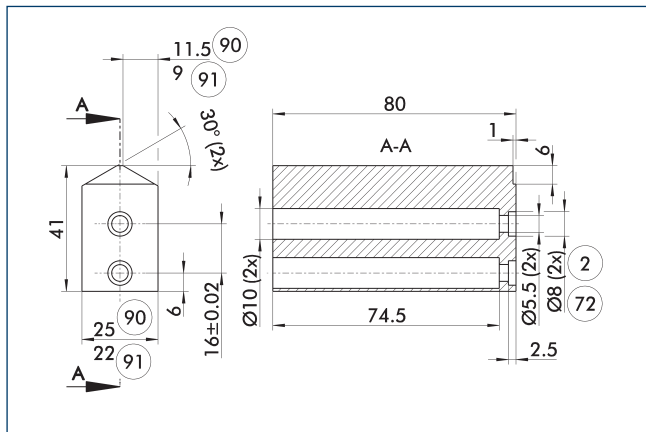
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 80	0300043	2
Finger blank		
ABR-PGZN-plus 80	0300011	
SBR-PGZN-plus 80	0300021	
Slide for universal intermediate jaw		
UZB-S 80	5518271	2

## Fields of application

Series	Size	Variant	Suitability
PGN-plus	80	-1 (6 bar)	■■■■■
PGN-plus	80	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	80	-2 (6 bar)	■■■■■
PGN-plus	80	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	80	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■■■	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

Finger blanks ABR- / SBR-PGZN-plus 80

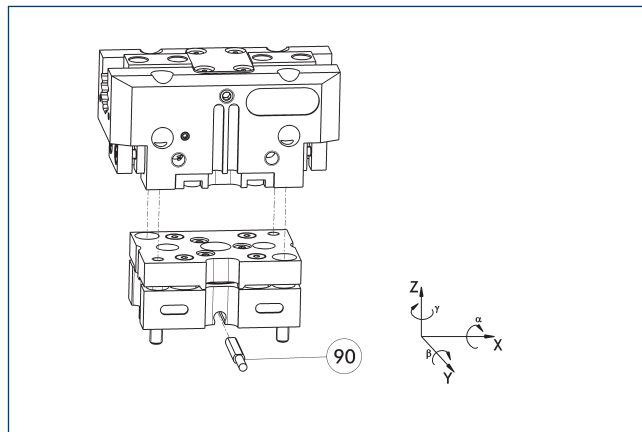


- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨① ABR-PGZN-plus
- ⑨① SBR-PGZN-plus

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 80	0300011	Aluminum	1
SBR-PGZN-plus 80	0300021	Steel	1

Tolerance compensation unit TCU

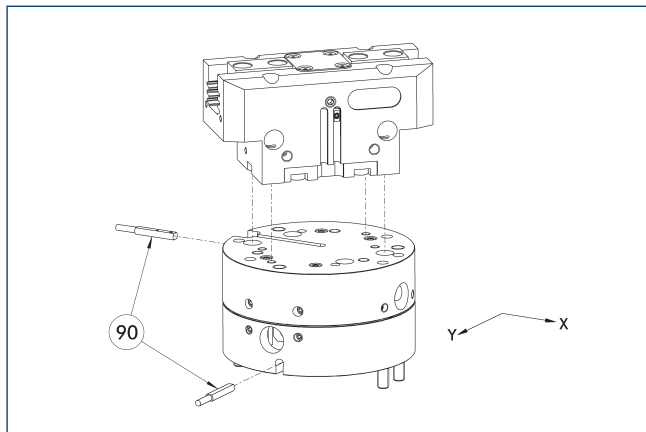


- ⑨① Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-080-3-MV	0324792	yes	±1°/±1,5°/±2°	●
TCU-P-080-3-OV	0324793	no	±1°/±1,5°/±2°	

Compensation unit AGE-F



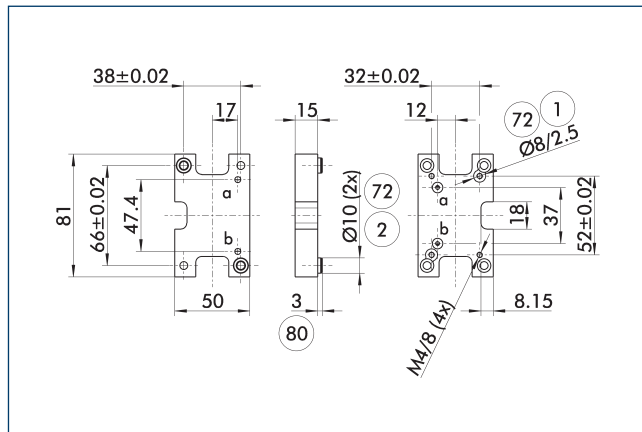
- ⑨① Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-063-1	0324940	± 4	12	
AGE-F-XY-063-2	0324941	± 4	16	
AGE-F-XY-063-3	0324942	± 4	20	●

ⓘ Due to the interfering contour, monitoring of the gripper is not possible.

Adapter plate PGN-plus 80



- ① Robot-side connection
- ② Tool-side connection
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

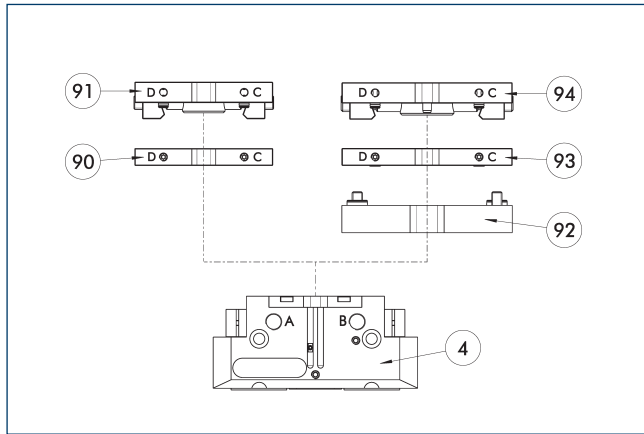
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-100-080-P	0305804

# PGN-plus 80

Universal gripper

## Compact change system for grippers

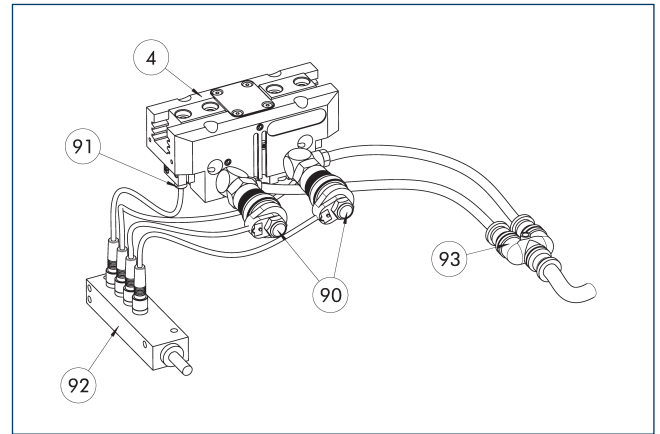


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨⑩ CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Description	ID
<b>Tool side</b>	
A-CWA-100-080-P	0305804
<b>CWA compact change adapter</b>	
CWA-080-P	0305781
<b>CWK compact change master</b>	
CWK-080-P	0305780

## Attachment valves



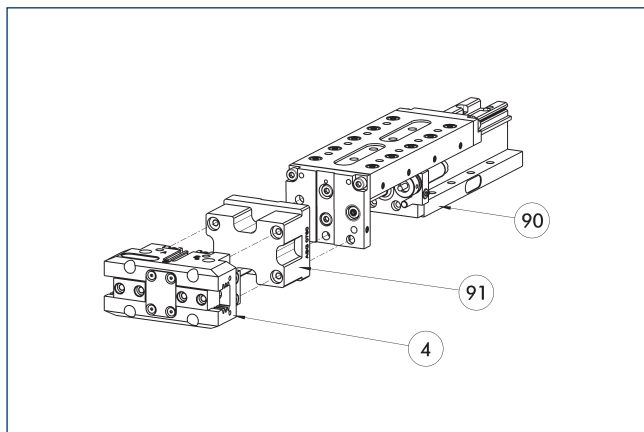
- ④ Grippers
- ⑨② Sensor distributor
- ⑨⑩ Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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 hoses 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
<b>Attachment valve</b>		
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.

## Modular Assembly Automation

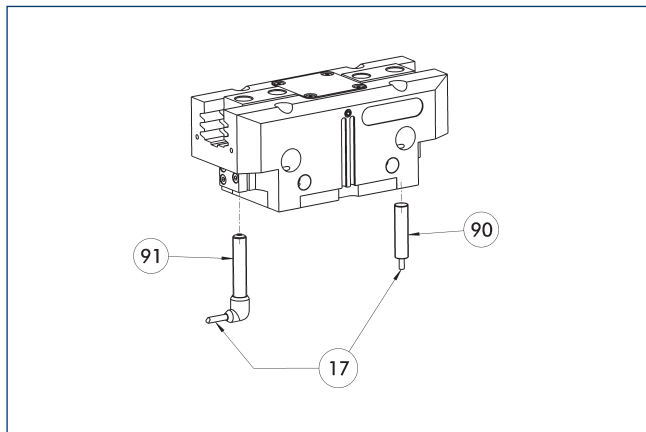


- ④ Grippers
- ⑨① ASG adapter plate
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

Directly mounted end position monitoring.

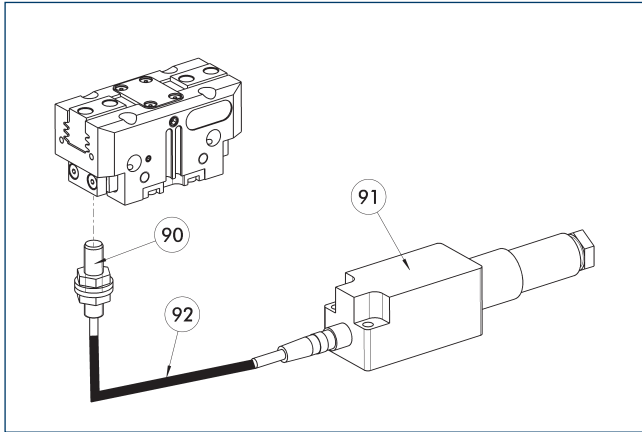
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

# PGN-plus 80

Universal gripper

## Flexible position sensor



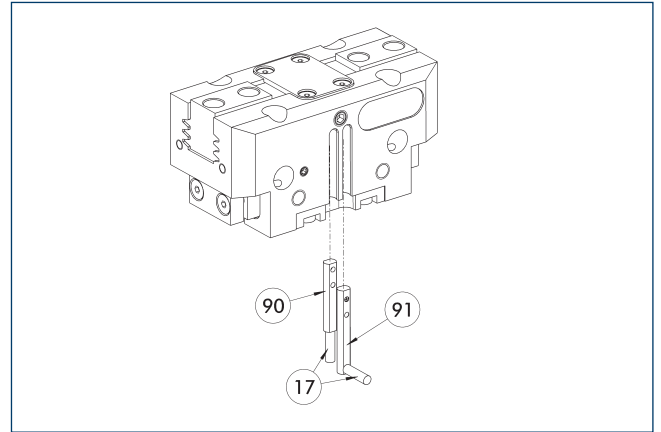
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 64-1/80-2	0301630	
AS-FPS-PGZN-plus 80-1/PZB 80/PZB 100	0301632	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



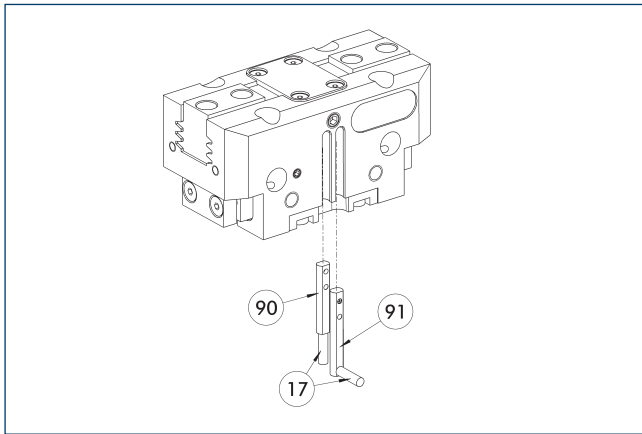
- ①⑦ Cable outlet
- ①⑧ Sensor MMS 22...
- ①⑨ Sensor MMS 22..
- ①⑩ Sensor MMS 22...-SA

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

**Programmable magnetic switch MMS 22-PI1**



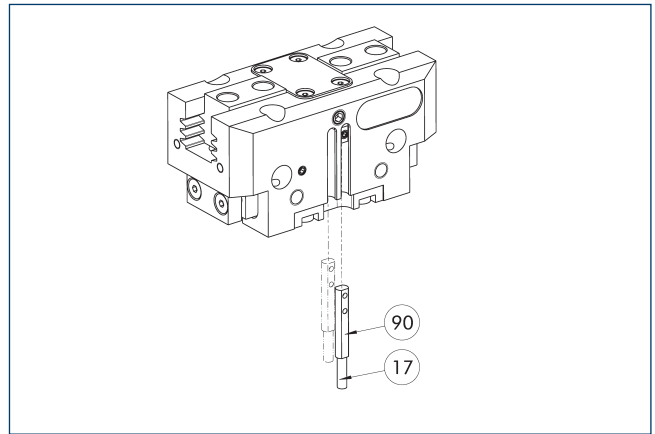
- ⑰ Cable outlet
- ⑲ Sensor MMS 22 ..-PI1-...-SA
- ⑼ Sensor MMS 22 PI1-...

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

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

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

**Programmable magnetic switch MMS 22-PI2**



- ⑰ Cable outlet
- ⑼ MMS 22...-PI2-... sensor

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

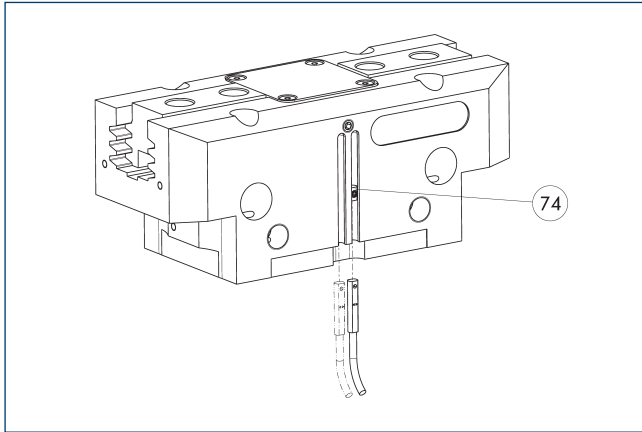
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus 80

Universal gripper

## MMS-P programmable magnetic switch



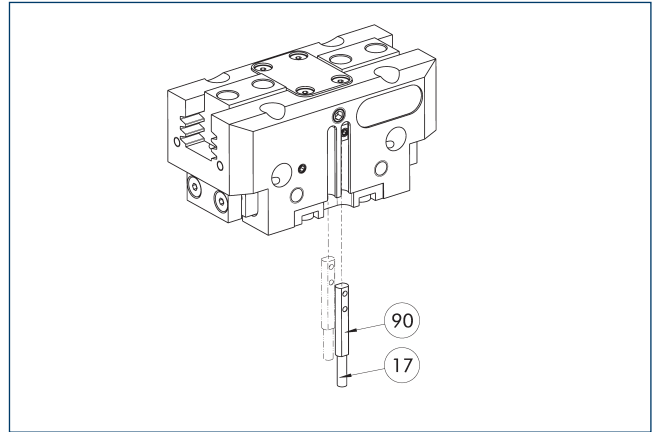
74 Limit stop for sensor

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	●
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	
clip for plug/socket		
CLI-M8	0301463	
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



17 Cable outlet

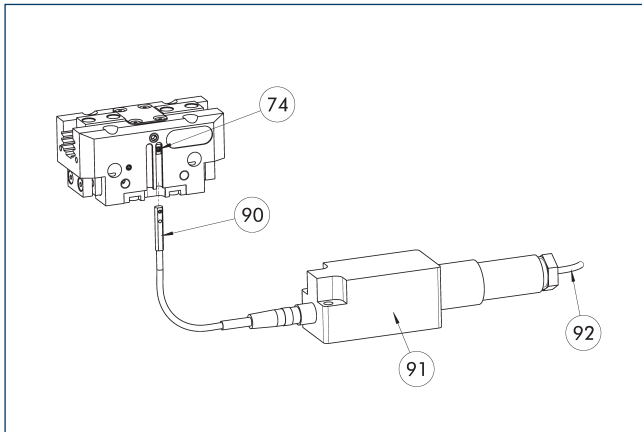
90 MMS 22-A... sensor

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.

## Flexible position sensor with MMS-A



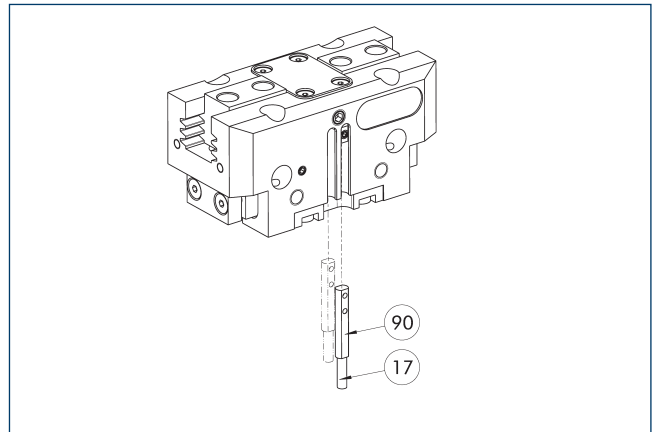
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

## Programmable magnetic switch MMS-I0-Link



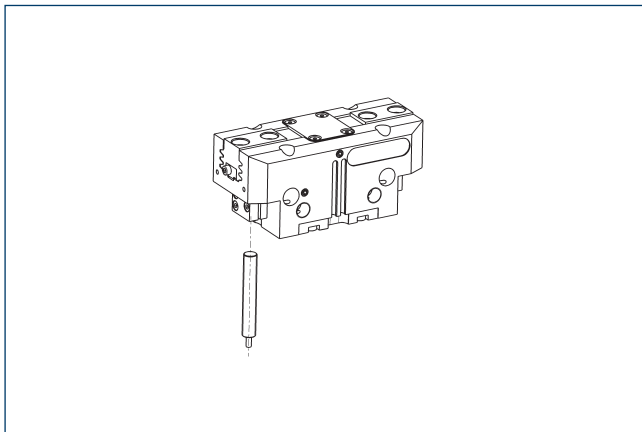
- ①⑦ Cable outlet
- ⑨① Sensor MMS 22-I0L-...

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

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

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

## APS-Z80 analog position sensor



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

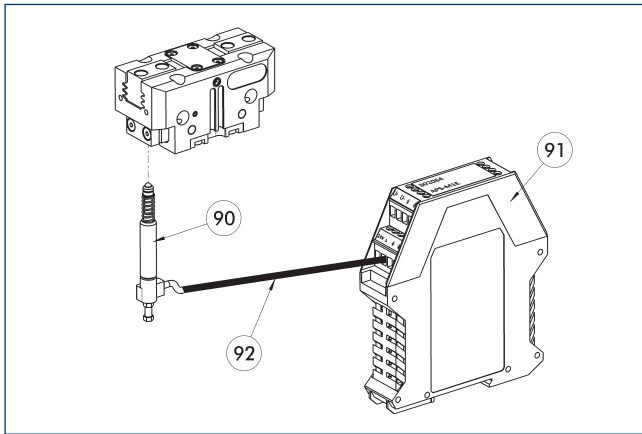
Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 80-1	0302107	
AS-APS-Z80-PGZN-plus 80-2	0302108	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 80

Universal gripper

## APS-M1 analog position sensor



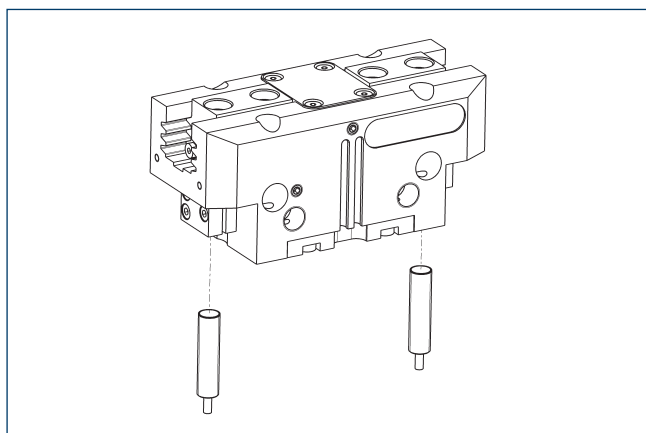
- 90 APS-M1S sensor
- 91 APS-M1E electronic processor
- 92 APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 80-1	0302077	
AS-APS-M1-PGZN-plus 80-2	0302078	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
Reed Switches		
RMS 80-S-M8	0377721	

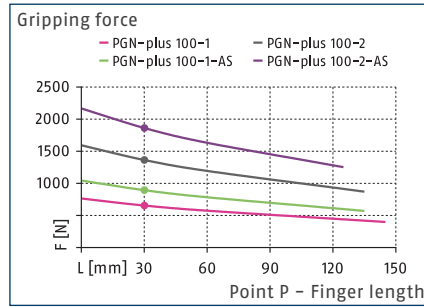
① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PGN-plus 100

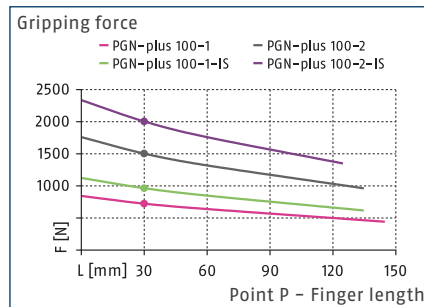
Universal gripper



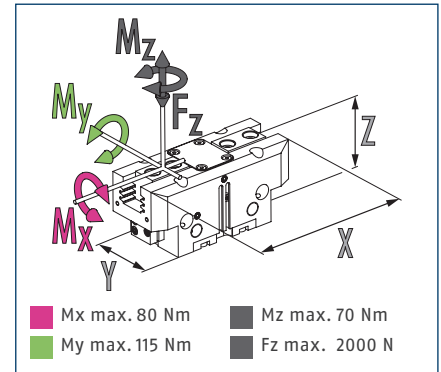
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

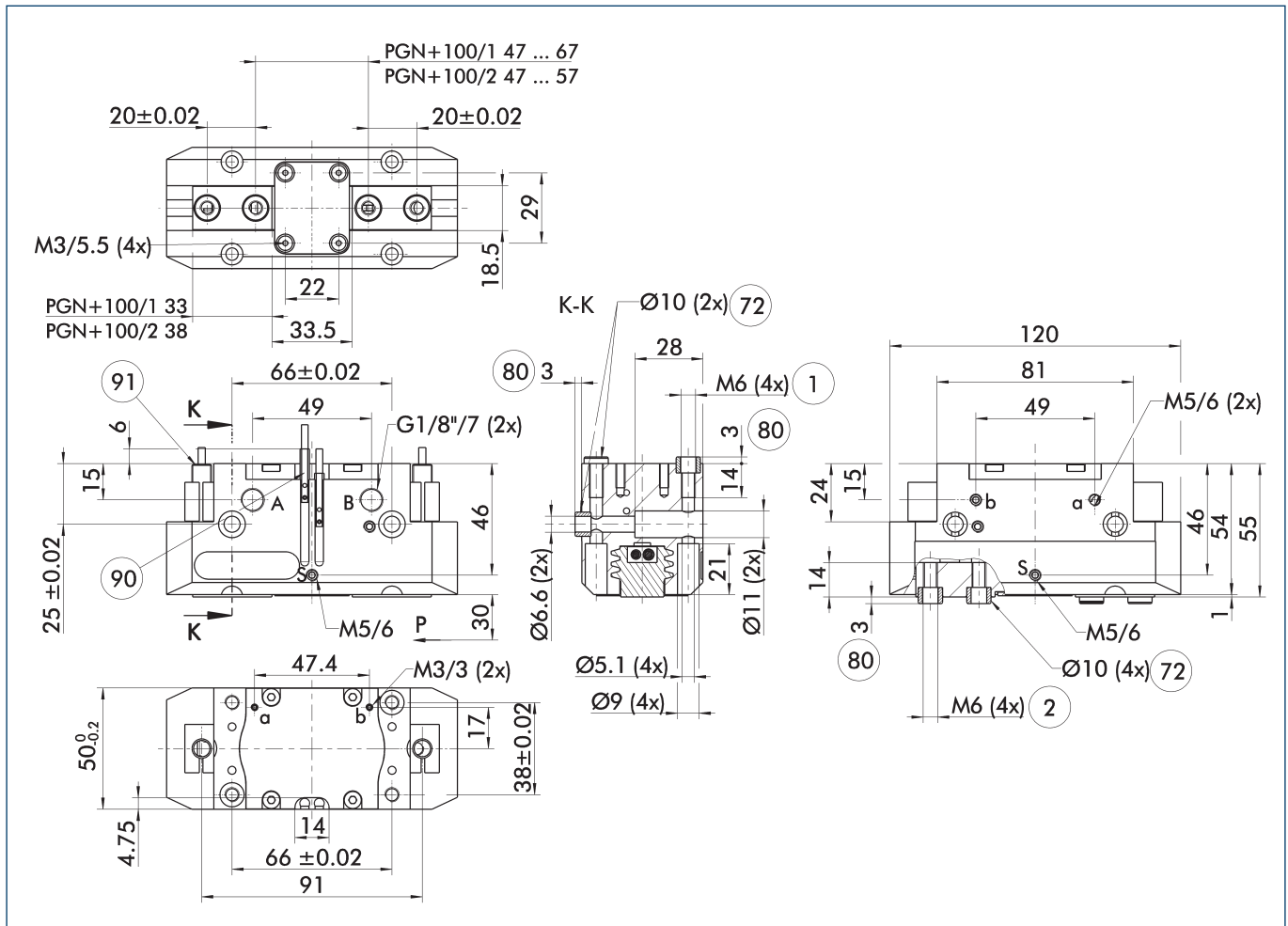
## Technical data

Description		PGN-plus 100-1	PGN-plus 100-2	PGN-plus 100-1-AS	PGN-plus 100-2-AS	PGN-plus 100-1-IS	PGN-plus 100-2-IS
ID		0371102	0371152	0371402	0371452	0371462	0371472
Stroke per jaw	[mm]	10	5	10	5	10	5
Closing/opening force	[N]	660/725	1370/1505	900/-	1870/-	-/965	-/2005
Min. spring force	[N]			240	500	240	500
Weight	[kg]	0.81	0.81	1	1	1	1
Recommended workpiece weight	[kg]	3.3	6.85	3.3	6.85	3.3	6.85
Fluid consumption double stroke	[cm³]	45	45	79	79	90	90
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.07/0.07	0.07/0.07	0.05/0.09	0.05/0.09	0.09/0.05	0.09/0.05
Closing/opening time with spring	[s]			0.20	0.20	0.20	0.20
Max. permissible finger length	[mm]	145	135	135	125	135	125
Max. permissible mass per finger	[kg]	1.1	1.1	1.1	1.1	1.1	1.1
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	120 x 50 x 55	120 x 50 x 55	120 x 50 x 81	120 x 50 x 81	120 x 50 x 81	120 x 50 x 81
<b>Options and their characteristics</b>							
Dustproof version		37371102	37371152	37371402	37371452	37371462	37371472
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.99	0.99	1.18	1.18	1.18	1.18
Corrosion-protected version		38371102	38371152	38371402	38371452	38371462	38371472
High-temperature version		39371102	39371152	39371402	39371452	39371462	39371472
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372102	0372152	0372402		0372462	
Closing/opening force	[N]	1080/1185	2235/2445	1280/-		-/1385	
Weight	[kg]	1.05	1.05	1.3		1.3	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	125	100	100		100	
Precision version		0371124	0371174	0371424	0371439		

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



## Main view

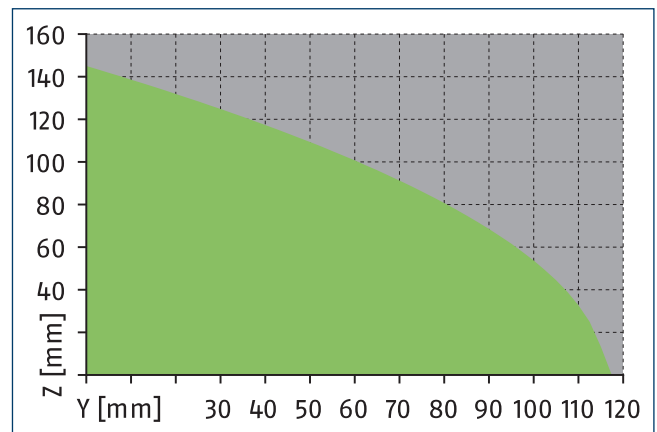
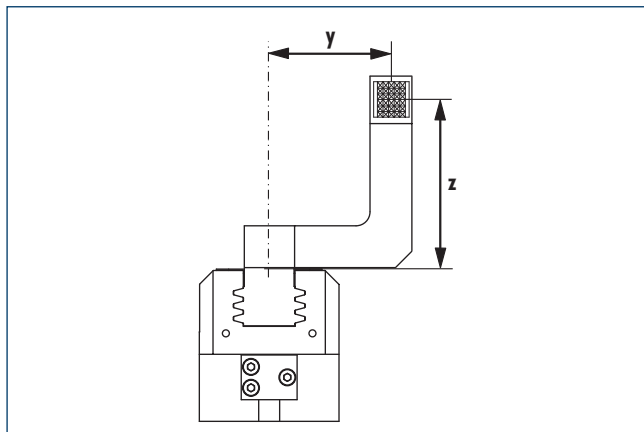


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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 | ② Finger connection                                       |
| B, b Main / direct connection, gripper closing | 72 Fit for centering sleeves                              |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part |
| ① Gripper connection                           | 90 Sensor MMS 22..  |
|  | 91 Sensor IN ...  |

## Maximum permitted finger projection



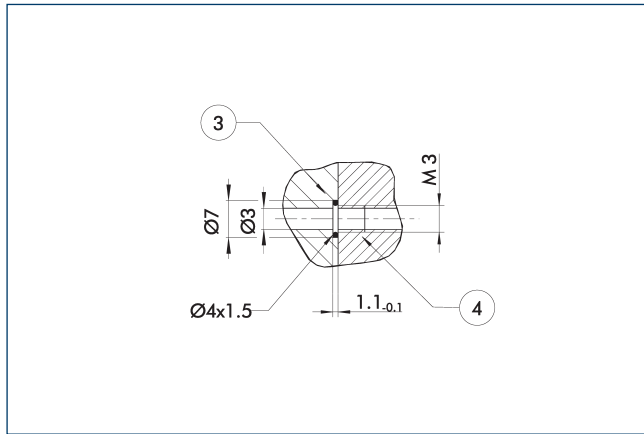
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 100

Universal gripper

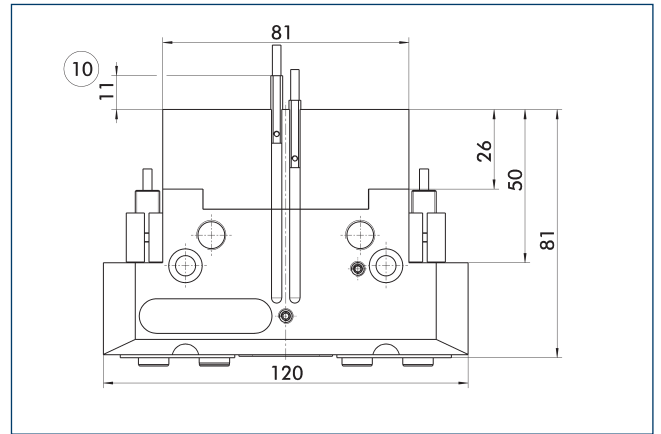
## Hose-free direct connection M3



- 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.

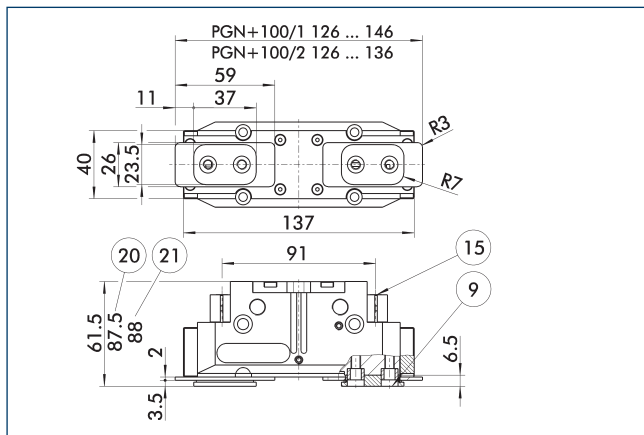
## Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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.

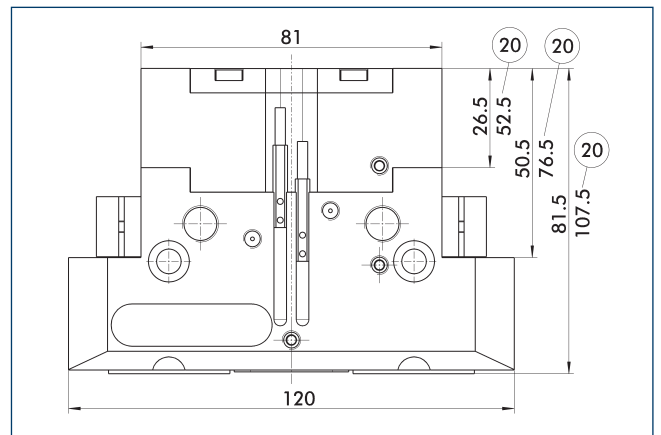
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ⑪ Applies for KVZ version
- ⑫ Sealing bolt

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

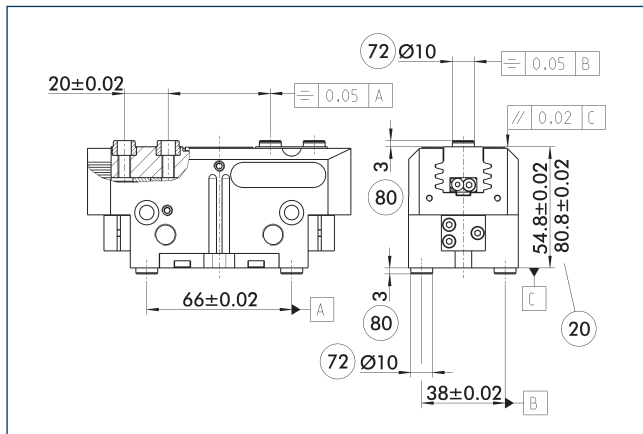
## Power booster version



- ⑫ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

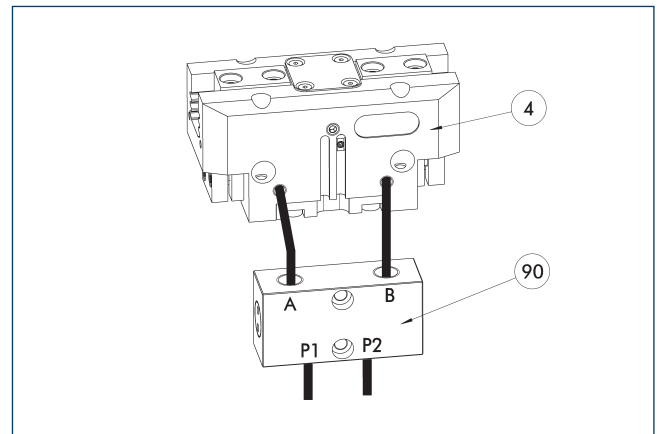
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

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.

## 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.

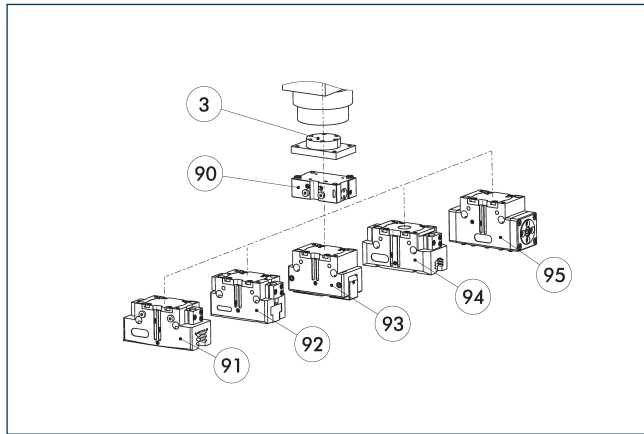
Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

# PGN-plus 100

Universal gripper

## SDV-P E-P pressure maintenance valve

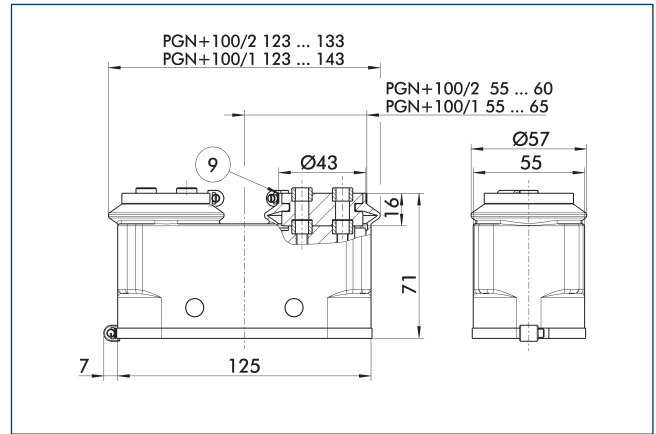


- ③ Adapter
- ⑨⑩ SDV-P E-P pressure maintenance valve
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID
Pressure maintenance valve	
SDV-P 100-E-P	0300126

## Protective cover HUE PGN-plus 100



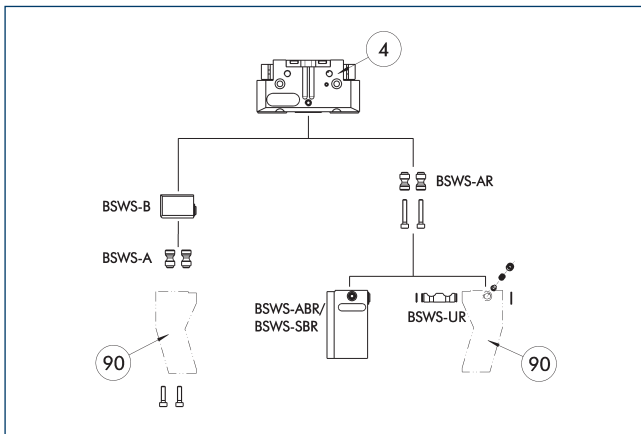
- ⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 100	0371482	65

- ⑩ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

### BSWS jaw quick-change jaw systems



④ Grippers      ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
<b>Quick-change jaw system base</b>		
BSWS-B 100	0303027	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 100	0300074	1
BSWS-SBR-PGZN-plus 100	0300084	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 100	0302993	1

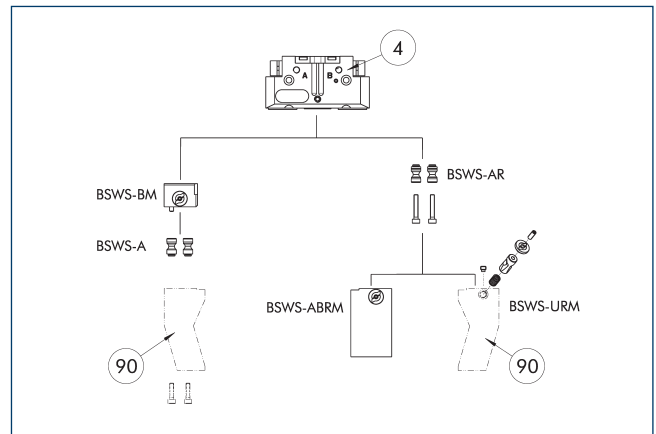
① Only systems that are listed in the table, can be used.

#### Fields of application

Series	Size	Variant	Suitability
PGN-plus	100	-1 (6 bar)	■■■■■
PGN-plus	100	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	100	-2 (6 bar)	■■■■■
PGN-plus	100	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	100	-...-KVZ (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

### Jaw quick-change system BSWS-M



④ Grippers      ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
<b>Quick-change jaw system base</b>		
BSWS-BM 100	1313902	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 100	1420853	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 100	1398403	1

① Only systems that are listed in the table, can be used.

#### Fields of application

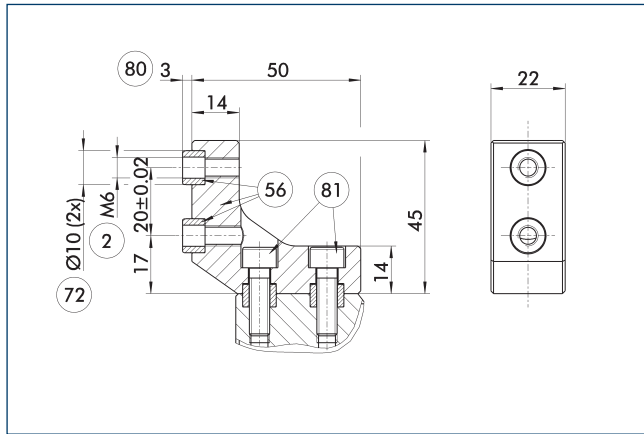
Series	Size	Variant	Suitability
PGN-plus	100	-1 (6 bar)	■■■■■
PGN-plus	100	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	100	-2 (6 bar)	■■■■■
PGN-plus	100	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	100	-...-KVZ (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus 100

Universal gripper

## ZBA-L-plus 100 intermediate jaws

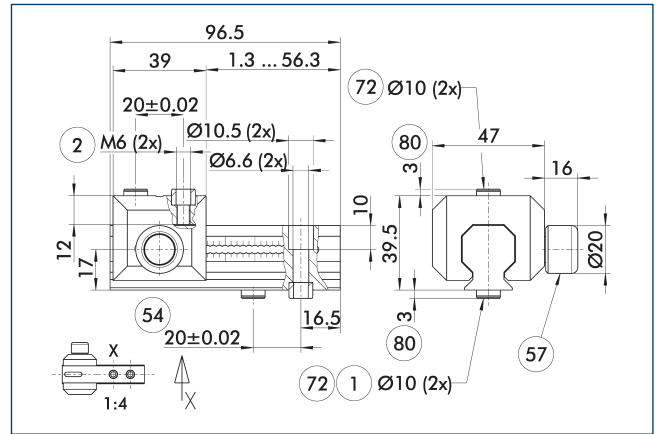


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 100	0311742	Aluminum	PGN-plus 100	1

## UZB 100 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S slide (can also be ordered separately) allows for a quick jaw change.

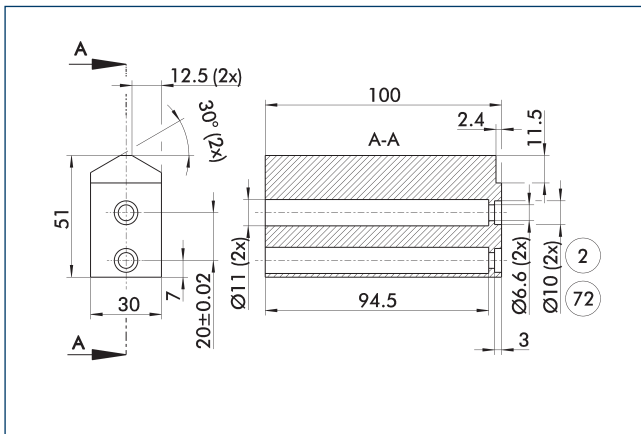
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 100	0300044	2.5
Finger blank		
ABR-PGZN-plus 100	0300012	
SBR-PGZN-plus 100	0300022	
Slide for universal intermediate jaw		
UZB-S 100	5518272	2.5

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	100	-1 (6 bar)	■■■■■
PGN-plus	100	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	100	-2 (6 bar)	■■■■■
PGN-plus	100	-2-AS / -2-IS (6 bar)	■■■□
PGN-plus	100	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 100

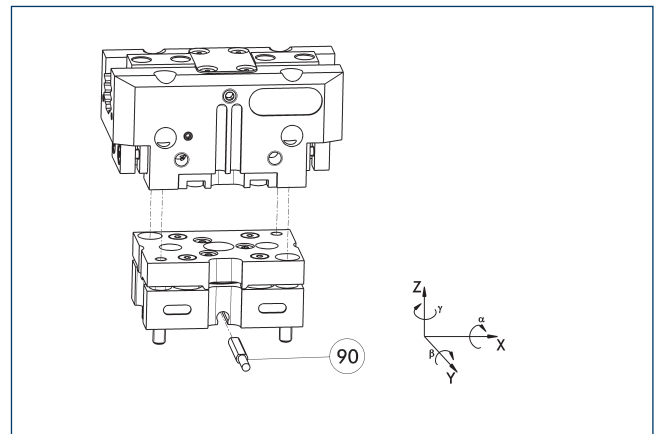


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 100	0300012	Aluminum	1
SBR-PGZN-plus 100	0300022	Steel	1

## Tolerance compensation unit TCU

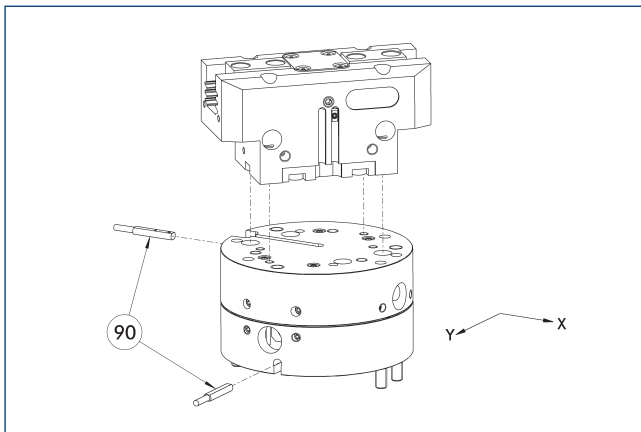


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-100-2-MV	0324808	yes	$\pm 1^\circ / \pm 1,5^\circ / \pm 1,2^\circ$	●
TCU-P-100-3-0V	0324811	no	$\pm 1^\circ / \pm 1,5^\circ / \pm 1,2^\circ$	

## Compensation unit AGE-F



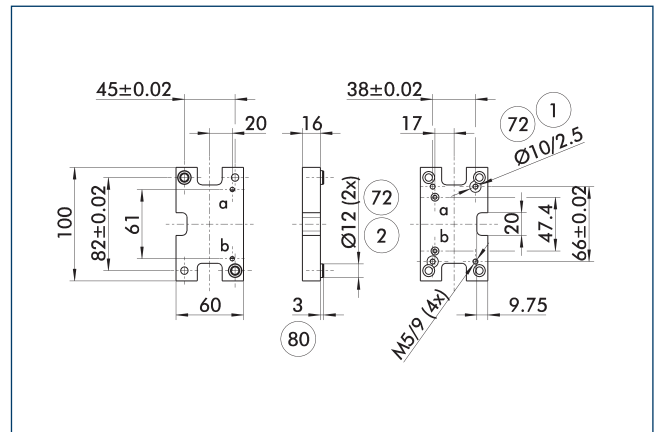
- ⑨⑩ Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-080-1	0324960	± 5	39	
AGE-F-XY-080-2	0324961	± 5	85	
AGE-F-XY-080-3	0324962	± 5	90	●

- ⓘ Due to the interfering contour, monitoring of the gripper is not possible.

## Adapter plate for PGN-plus 100



- ① Robot-side connection
- ② Tool-side connection
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

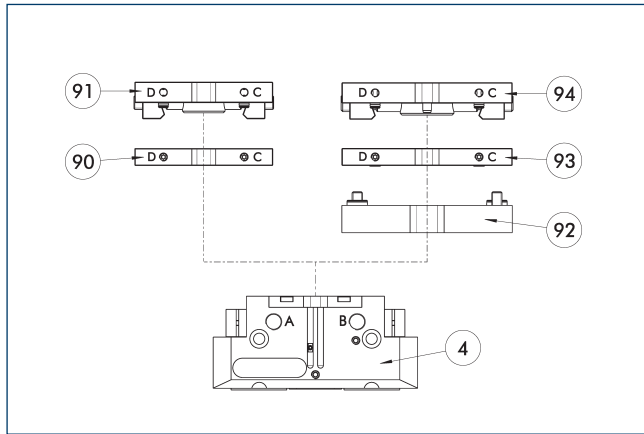
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Description	ID
Tool side	
A-CWA-125-100-P	0305829

# PGN-plus 100

Universal gripper

## Compact change system for grippers

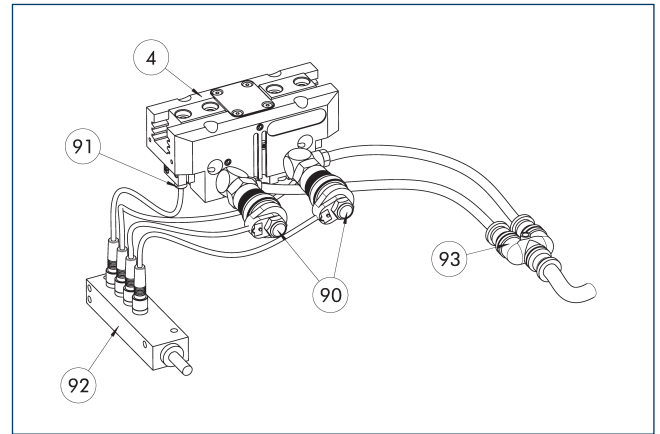


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨⑩ CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Description	ID
<b>Tool side</b>	
A-CWA-125-100-P	0305829
<b>CWA compact change adapter</b>	
CWA-100-P	0305801
<b>CWK compact change master</b>	
CWK-100-P	0305800

## Attachment valves



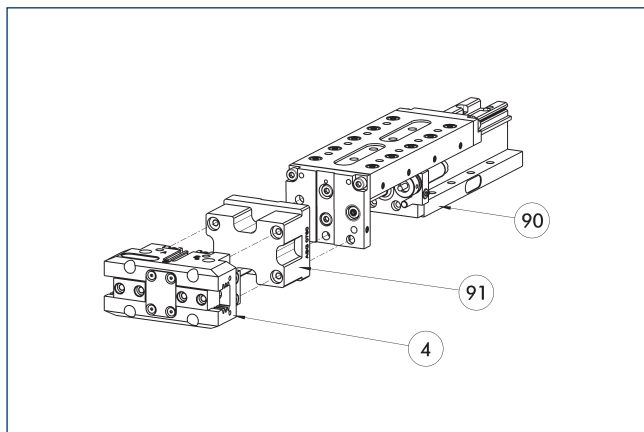
- ④ Grippers
- ⑨② Sensor distributor
- ⑨⑩ Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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
<b>Attachment valve</b>		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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

## Modular Assembly Automation

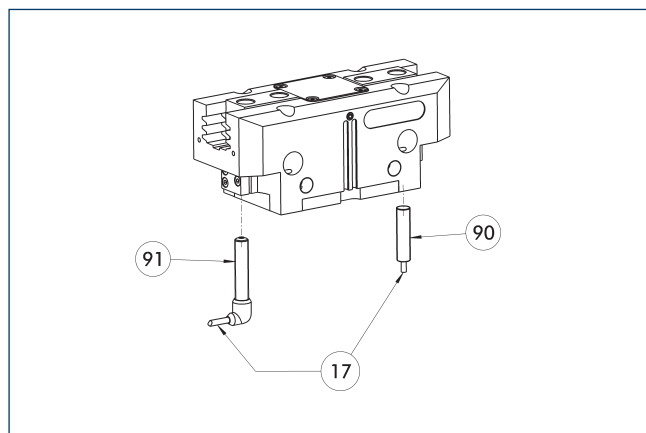


- ④ Grippers
- ⑨① ASG adapter plate
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

Directly mounted end position monitoring.

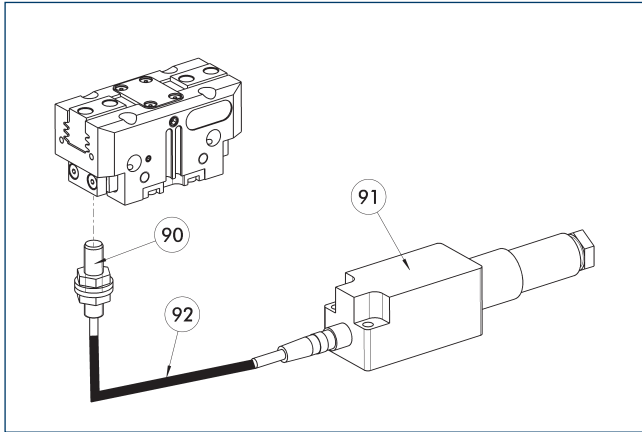
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

# PGN-plus 100

Universal gripper

## Flexible position sensor



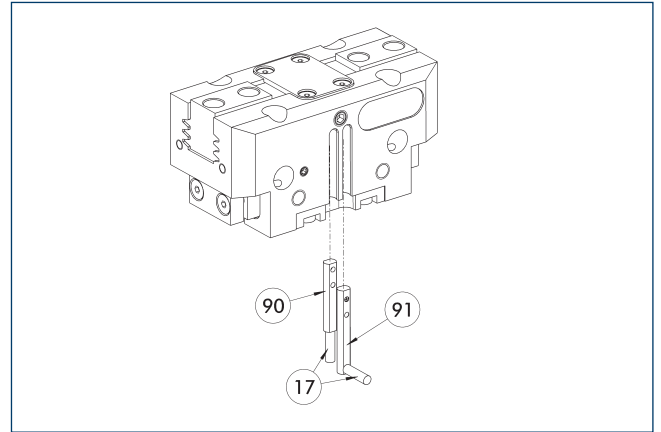
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 100-1	0301634	
AS-FPS-PGZN-plus 100-2/PZB 125	0301635	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



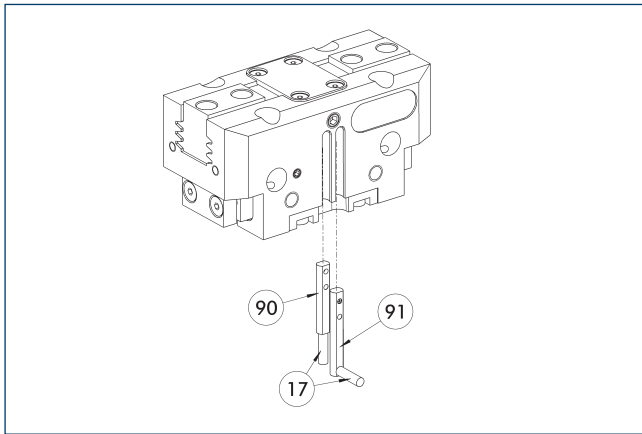
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22..
- ①⑩ Sensor MMS 22...
- ①① Sensor MMS 22...-SA

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Wireless sensor system</b>		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

**Programmable magnetic switch MMS 22-PI1**



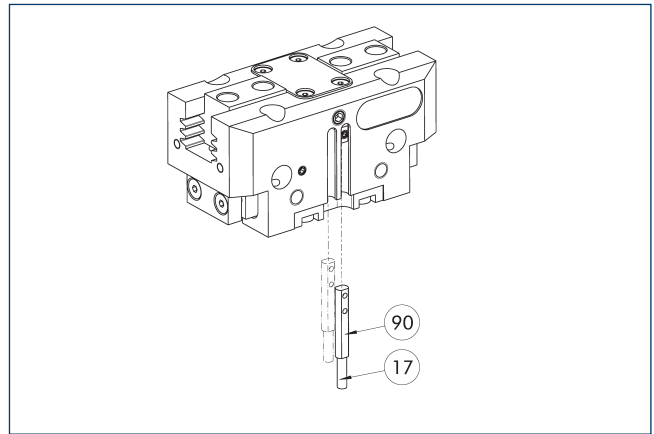
- ⑰ Cable outlet
- ⑲ Sensor MMS 22 ..-PI1-...-SA
- ① Sensor MMS 22 PI1-...

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

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

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

**Programmable magnetic switch MMS 22-PI2**



- ⑰ Cable outlet
- ① MMS 22...-PI2-... sensor

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

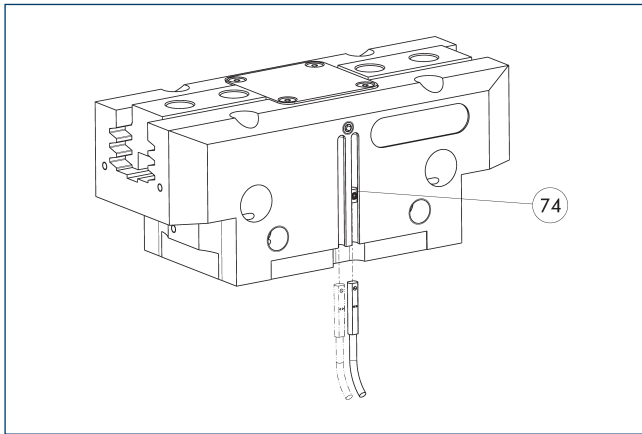
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

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

# PGN-plus 100

Universal gripper

## MMS-P programmable magnetic switch



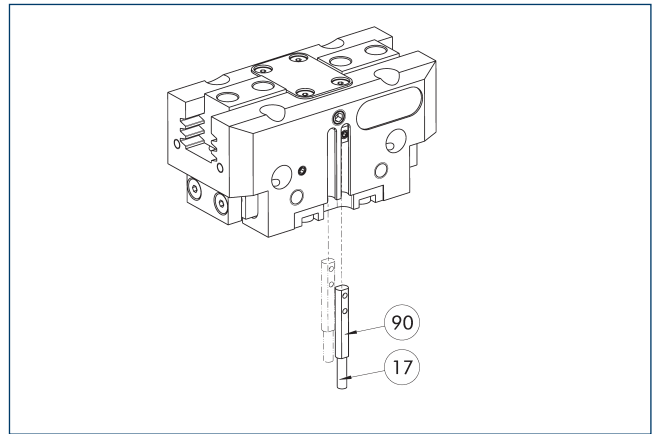
74 Limit stop for sensor

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	●
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	
clip for plug/socket		
CLI-M8	0301463	
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



17 Cable outlet

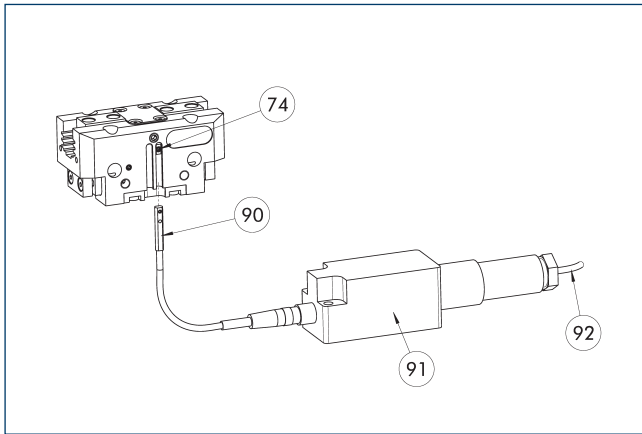
90 MMS 22-A-... sensor

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.

**Flexible position sensor with MMS-A**



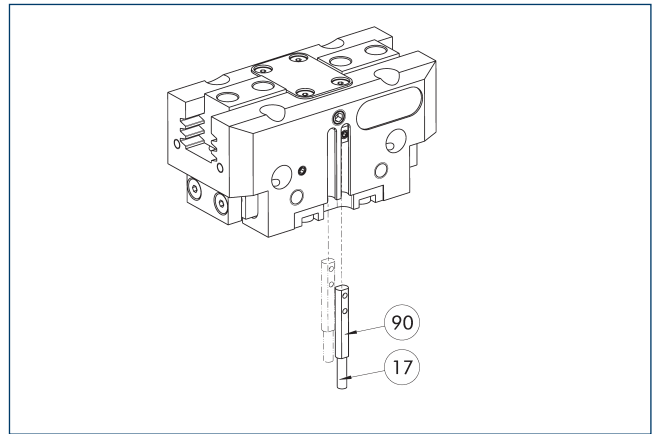
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

**Programmable magnetic switch MMS-I0-Link**



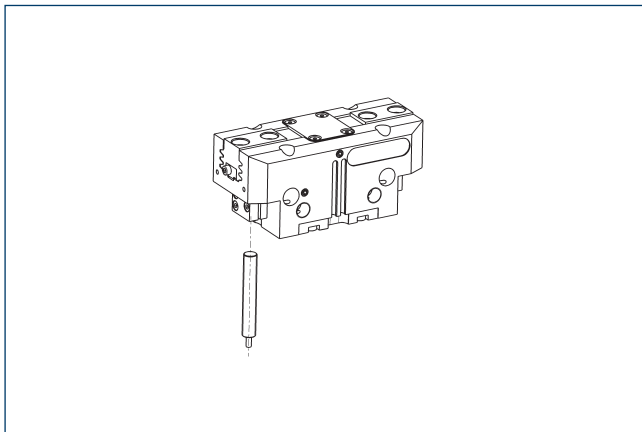
- ①⑦ Cable outlet
- ⑨① Sensor MMS 22-I0L-...

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

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

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

**APS-Z80 analog position sensor**



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

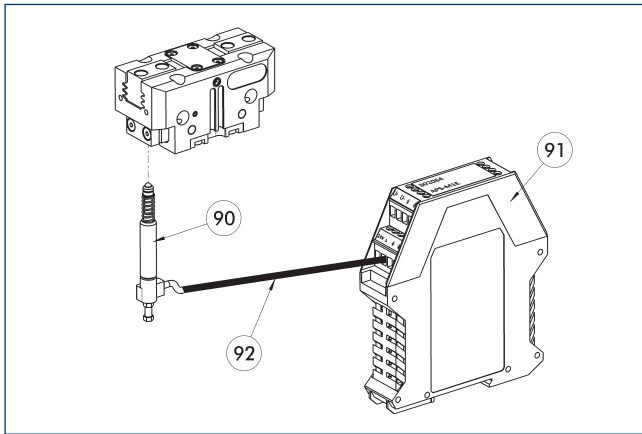
Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 100-1	0302109	
AS-APS-Z80-PGZN-plus 100-2	0302110	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 100

Universal gripper

## APS-M1 analog position sensor



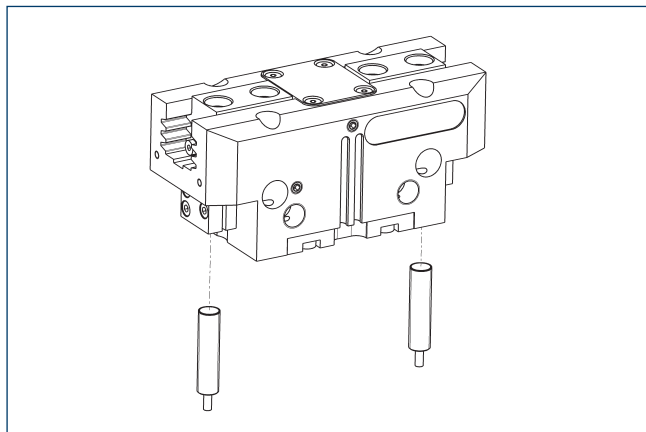
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 100-1	0302079	
AS-APS-M1-PGZN-plus 100-2	0302080	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 100/125	0377726	
Reed Switches		
RMS 80-S-M8	0377721	

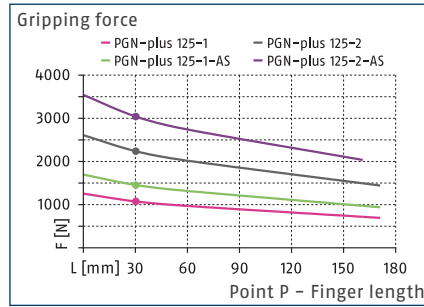
① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PGN-plus 125

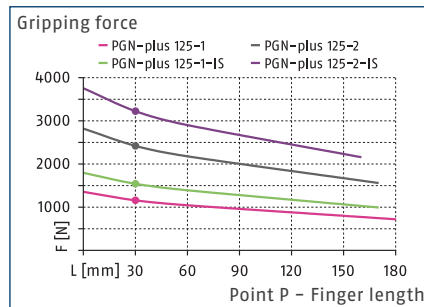
Universal gripper



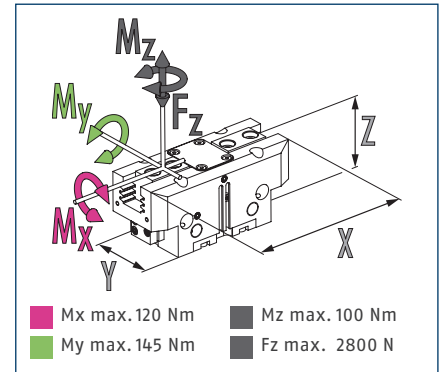
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

Description		PGN-plus 125-1	PGN-plus 125-2	PGN-plus 125-1-AS	PGN-plus 125-2-AS	PGN-plus 125-1-IS	PGN-plus 125-2-IS
ID		0371103	0371153	0371403	0371453	0371463	0371473
Stroke per jaw	[mm]	13	6	13	6	13	6
Closing/opening force	[N]	1080/1170	2240/2420	1470/-	3040/-	-/1560	-/3220
Min. spring force	[N]			390	800	390	800
Weight	[kg]	1.35	1.35	1.85	1.85	1.85	1.85
Recommended workpiece weight	[kg]	5.4	11.2	5.4	11.2	5.4	11.2
Fluid consumption double stroke	[cm <sup>3</sup> ]	87	87	119	119	166	166
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.1/0.1	0.1/0.1	0.08/0.12	0.08/0.12	0.12/0.08	0.12/0.08
Closing/opening time with spring	[s]			0.30	0.30	0.30	0.30
Max. permissible finger length	[mm]	180	170	170	160	170	160
Max. permissible mass per finger	[kg]	2.1	2.1	2.1	2.1	2.1	2.1
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	151 x 60 x 63	151 x 60 x 63	151 x 60 x 93	151 x 60 x 93	151 x 60 x 93	151 x 60 x 93
<b>Options and their characteristics</b>							
Dustproof version		37371103	37371153	37371403	37371453	37371463	37371473
IP protection class		64	64	64	64	64	64
Weight	[kg]	1.55	1.55	2.05	2.05	2.05	2.05
Corrosion-protected version		38371103	38371153	38371403	38371453	38371463	38371473
High-temperature version		39371103	39371153	39371403	39371453	39371463	39371473
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372103	0372153	0372403		0372463	
Closing/opening force	[N]	1765/1910	3955/4110	2095/-		-/2960	
Weight	[kg]	1.85	1.85	2.3		2.3	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	160	125	125		125	
Precision version		0371125	0371175	0371425	0371440		

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

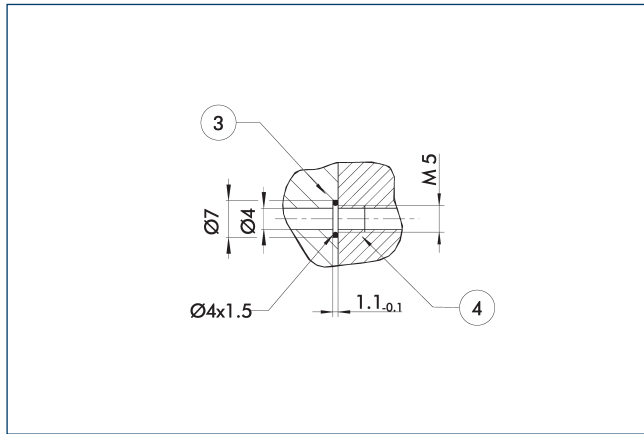




# PGN-plus 125

Universal gripper

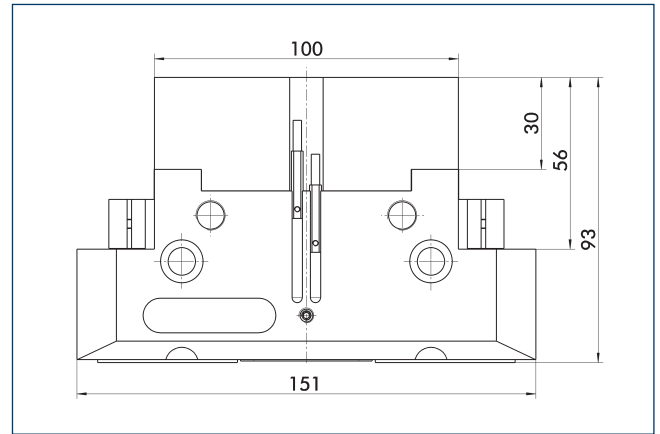
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

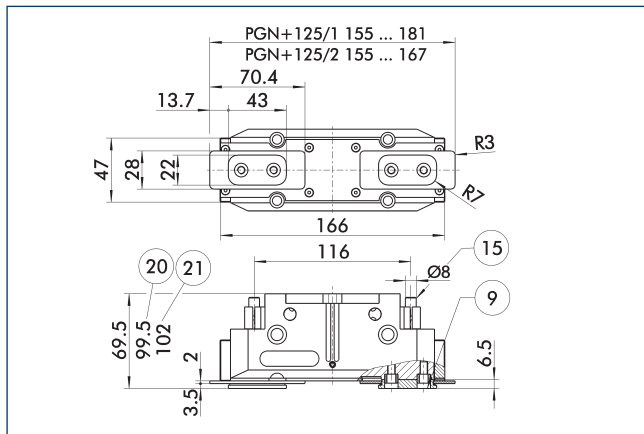
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

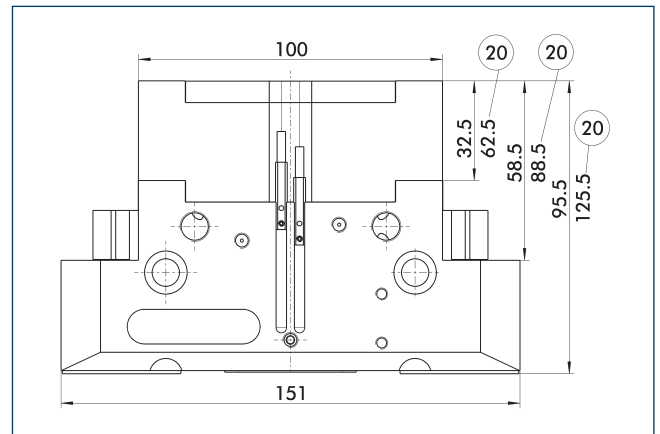
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ For AS / IS version
- ⑬ Applies for KVZ version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

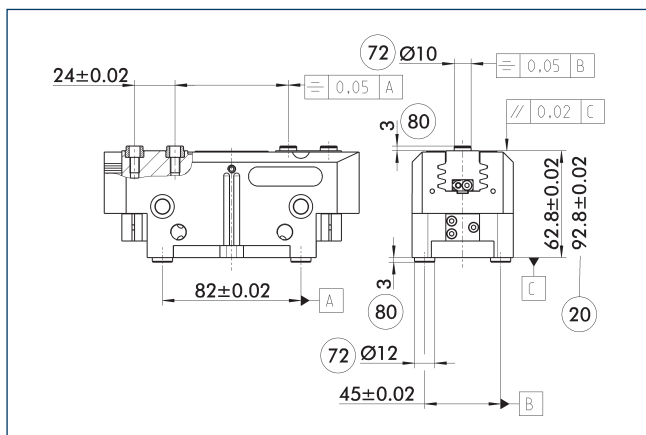
## Power booster version



- ⑭ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

## Precision version



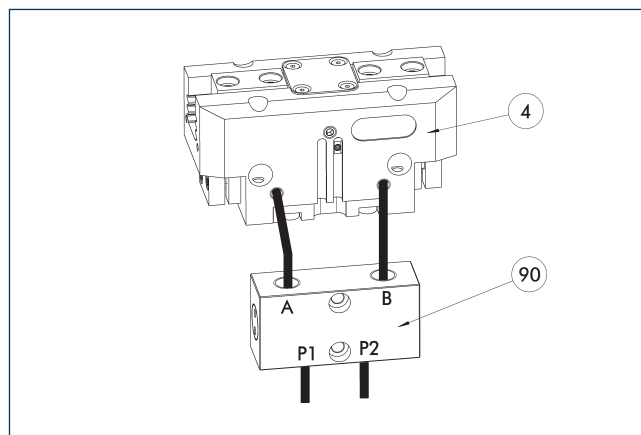
②① For AS / IS version

⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



④ Grippers

⑨① 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.

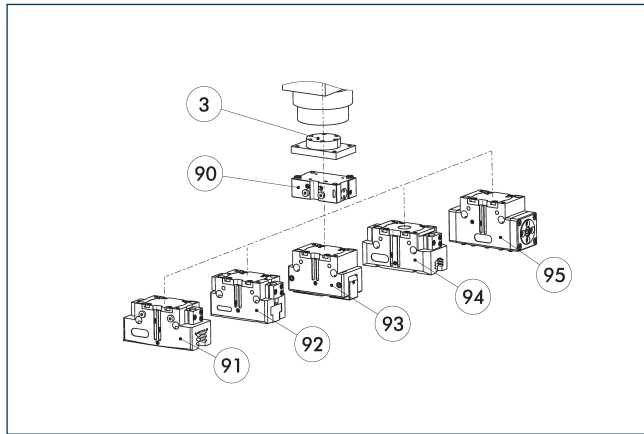
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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

# PGN-plus 125

Universal gripper

## SDV-P E-P pressure maintenance valve

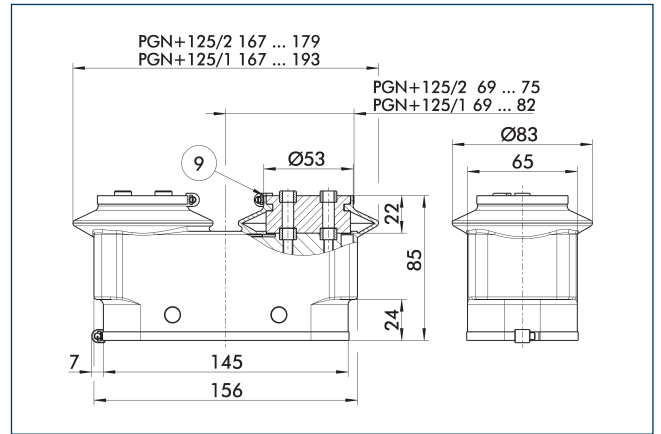


- ③ Adapter
- ⑨① SDV-P E-P pressure maintenance valve
- ⑨② PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB parallel gripper
- ⑨⑤ Sealed DPG-plus gripper

The SDV-P E-P pressure maintenance valves ensure that the pressure in the piston chamber is maintained temporarily during an emergency stop. SDV-P E-P can be directly connected to the listed grippers without the need for additional pneumatic hoses.

Description	ID
Pressure maintenance valve	
SDV-P 125-E-P	0300127

## Protective cover HUE PGN-plus 125



- ⑨ For mounting screw connection diagram, see basic version

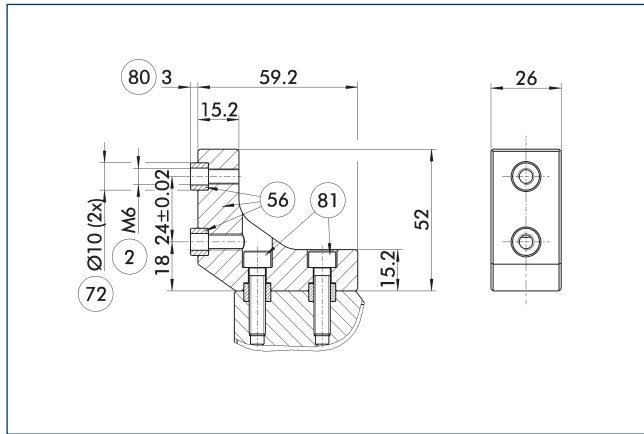
The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 125	0371483	65

- ① The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.



### ZBA-L-plus 125 intermediate jaws

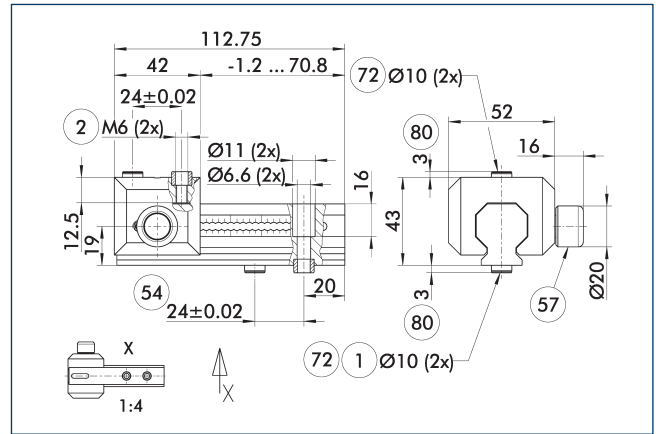


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 125	0311752	Aluminum	PGN-plus 125	1

### UZB 125 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S slide (can also be ordered separately) allows for a quick jaw change.

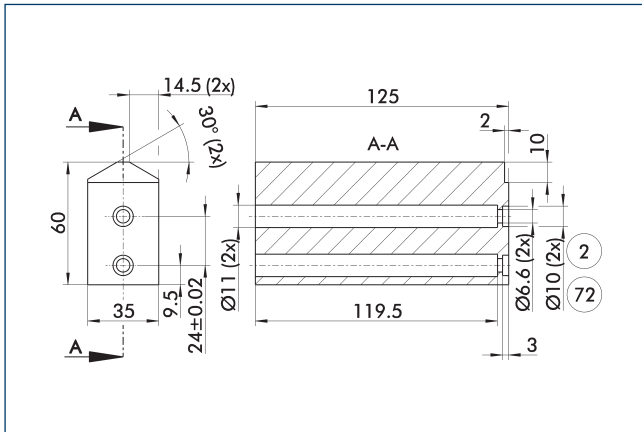
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 125	0300045	3
Finger blank		
ABR-PGZN-plus 125	0300013	
SBR-PGZN-plus 125	0300023	
Slide for universal intermediate jaw		
UZB-S 125	5518273	3

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	125	-1 (6 bar)	■■■■■
PGN-plus	125	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	125	-2 (6 bar)	■■■■■
PGN-plus	125	-2-AS / -2-IS (6 bar)	■■■□
PGN-plus	125	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Finger blanks ABR- / SBR-PGZN-plus 125

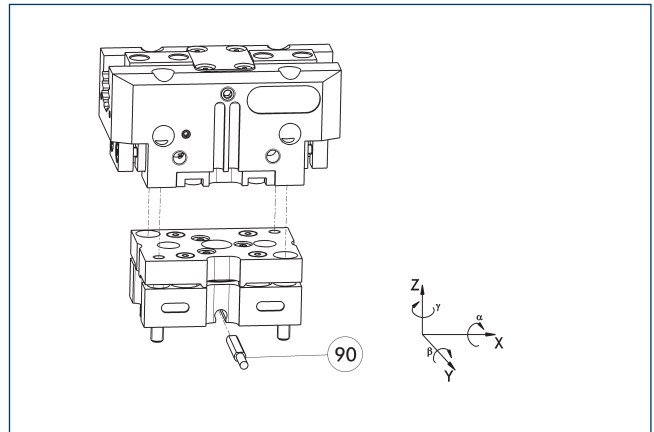


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 125	0300013	Aluminum	1
SBR-PGZN-plus 125	0300023	Steel	1

## Tolerance compensation unit TCU

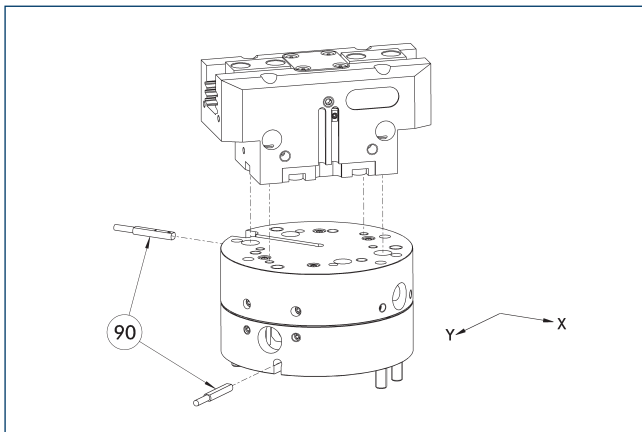


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-125-3-MV	0324828	yes	±1°/±1,5°/±1,5°	●
TCU-P-125-3-0V	0324829	no	±1°/±1,5°/±1,5°	

## Compensation unit AGE-F



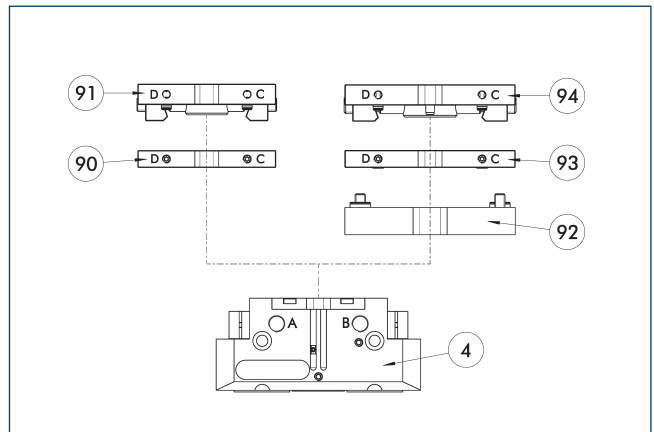
- ⑨⑩ Monitoring

The unit has direct connection possibilities for different grippers of the PGN-plus, PGN-plus-P and PZN-plus series. For more detailed information, please refer to the main view.

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
AGE-F-XY-080-1	0324960	± 5	39	
AGE-F-XY-080-2	0324961	± 5	85	
AGE-F-XY-080-3	0324962	± 5	90	●

- ① Due to the interfering contour, monitoring of the gripper is not possible.

## Compact change system for grippers



- ④ Grippers
- ⑨⑩ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨② A-CWA adapter plate
- ⑨③ CWA compact change adapter
- ⑨④ CWK compact change master

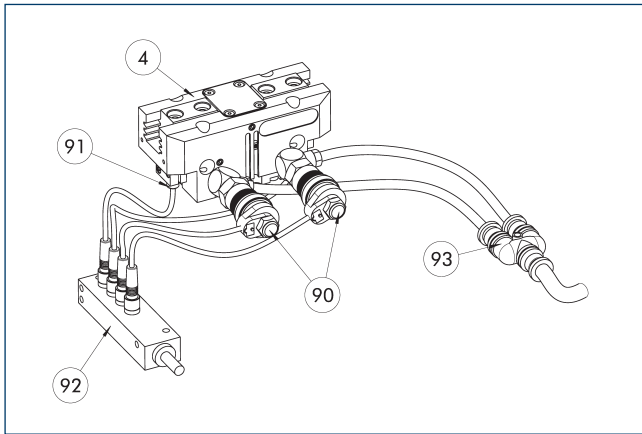
The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Description	ID
CWA compact change adapter	
CWA-125-P	0305826
CWK compact change master	
CWK-125-P	0305825

# PGN-plus 125

Universal gripper

## Attachment valves



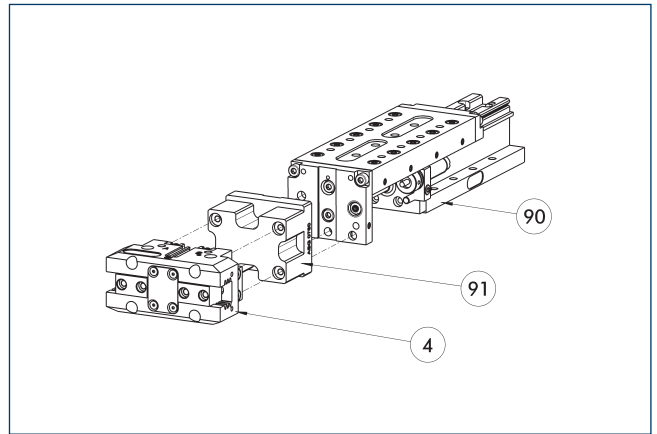
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Attachment valve		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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 and outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

## Modular Assembly Automation

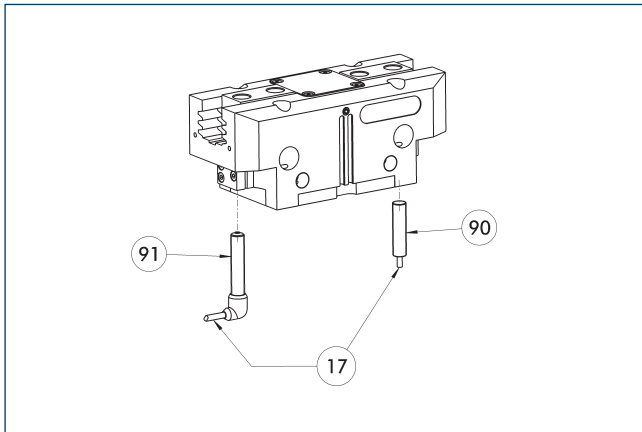


- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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



Inductive Proximity Switches



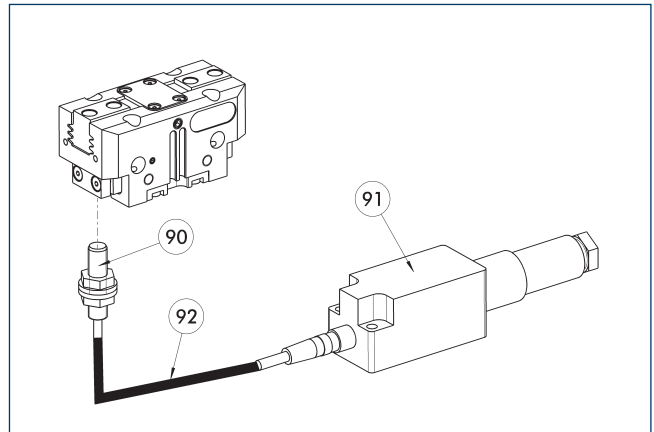
- 17 Cable outlet
- 90 Sensor IN...SA
- 91 Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

Flexible position sensor



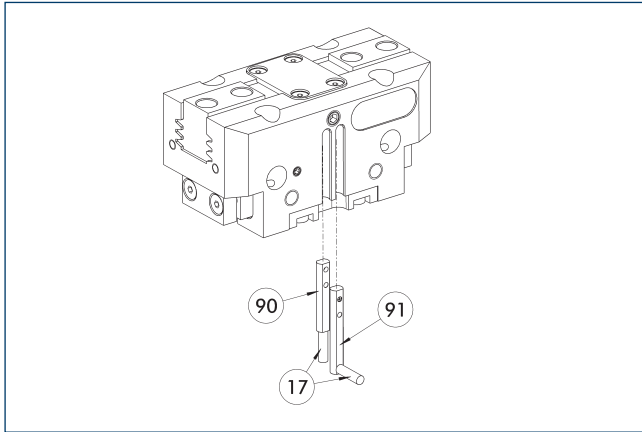
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 125-1/PZB 160	0301636	
AS-FPS-PGZN-plus 125-2	0301637	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

### Electronic magnetic switch MMS



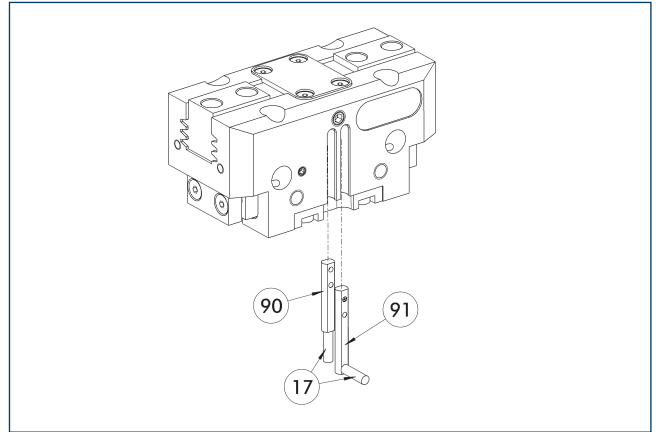
- ①7 Cable outlet
- ①9 Sensor MMS 22...
- ①9 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Wireless sensor system</b>		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

### Programmable magnetic switch MMS 22-PI1



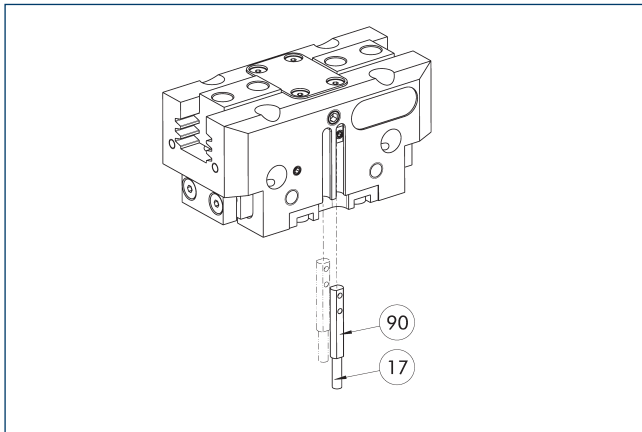
- ①7 Cable outlet
- ①9 Sensor MMS 22 ..-PI1...-SA
- ①9 Sensor MMS 22 PI1...

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

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

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

**Programmable magnetic switch MMS 22-PI2**



17 Cable outlet

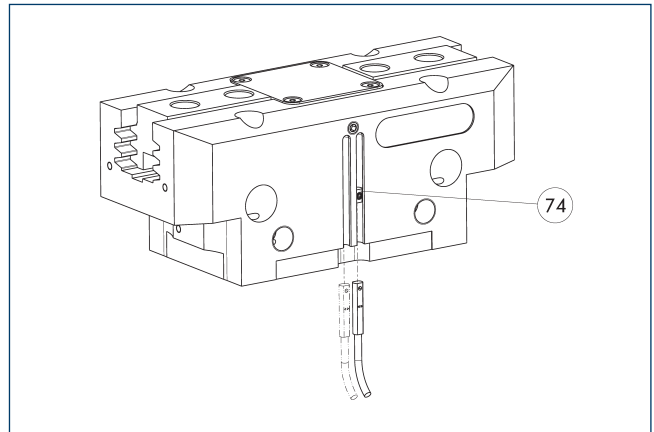
90 MMS 22...-PI2-... sensor

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

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

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

**MMS-P programmable magnetic switch**



74 Limit stop for sensor

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

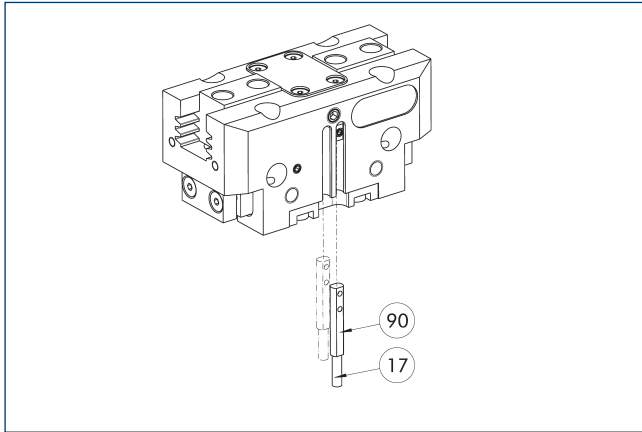
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463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

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

# PGN-plus 125

Universal gripper

## MMS-A analog position sensor



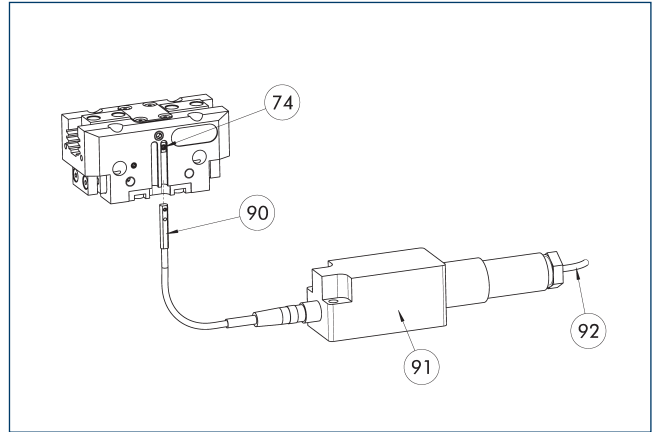
- ①⑦ Cable outlet
- ①⑩ MMS 22-A-... sensor

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.

## Flexible position sensor with MMS-A



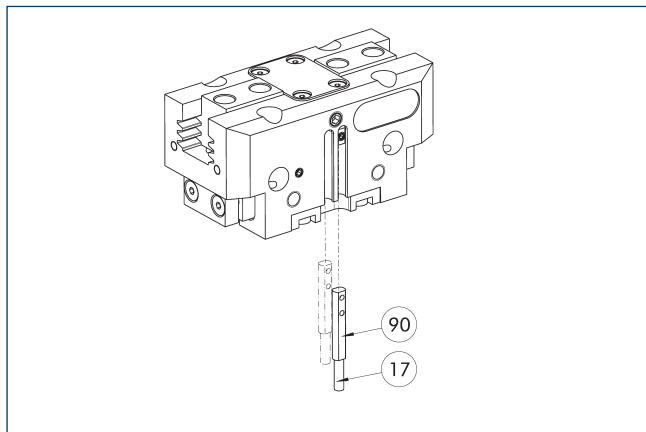
- ①④ Limit stop for sensor
- ①⑩ MMS 22-A-... sensor
- ①① FPS-F5 evaluation electronic
- ①② Connection cables

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**



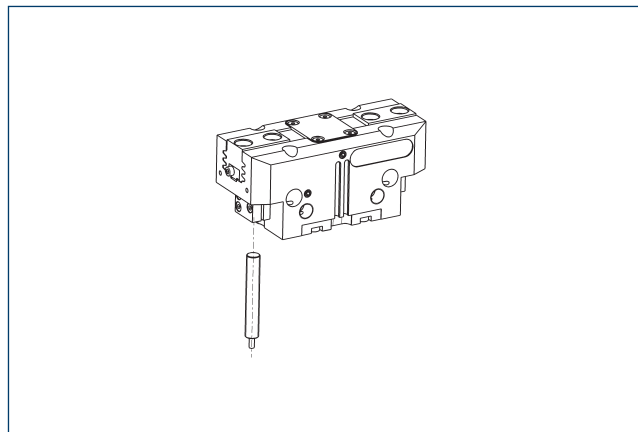
⑰ Cable outlet                      ⑨⑩ Sensor MMS 22-IO-Link...

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

Description	ID	
Programmable magnetic switch		
MMS 22-IO-Link-M08	0315830	
MMS 22-IO-Link-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.

**APS-Z80 analog position sensor**



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

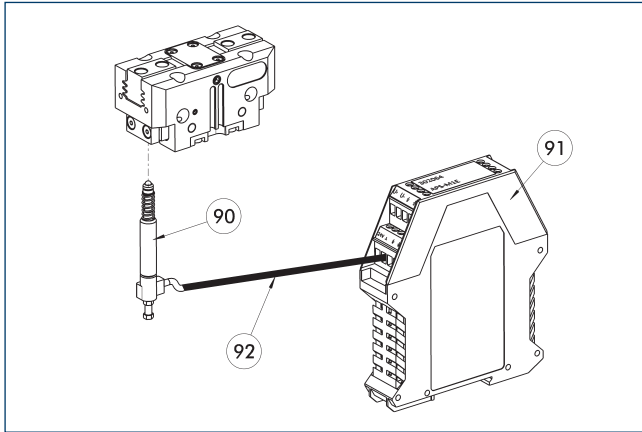
Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 125-1	0302111	
AS-APS-Z80-PGZN-plus 125-2	0302112	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 125

Universal gripper

## APS-M1 analog position sensor



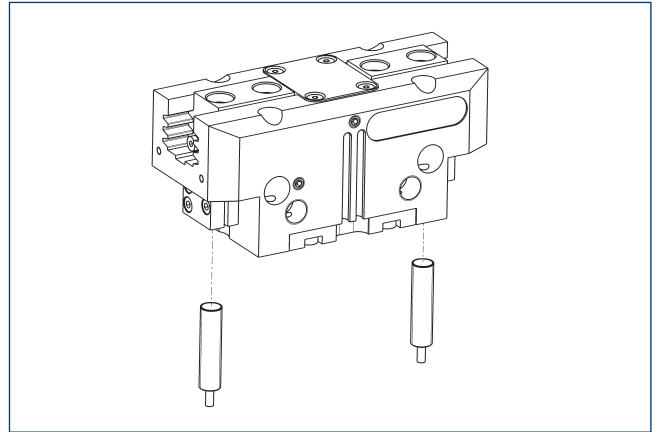
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 125-1	0302081	
AS-APS-M1-PGZN-plus 125-2	0302082	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 100/125	0377726	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

- 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. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

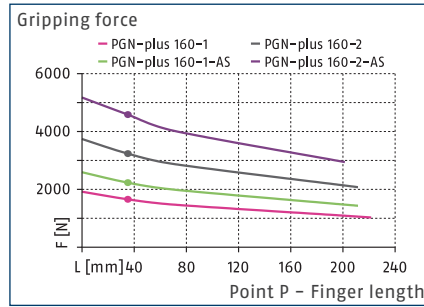


# PGN-plus 160

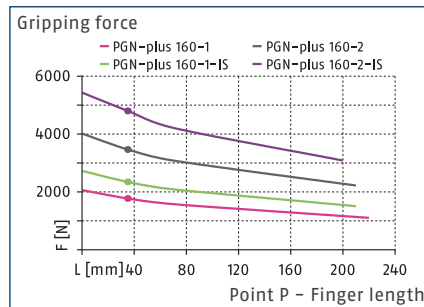
Universal gripper



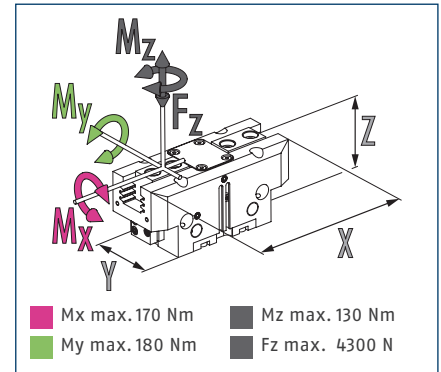
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

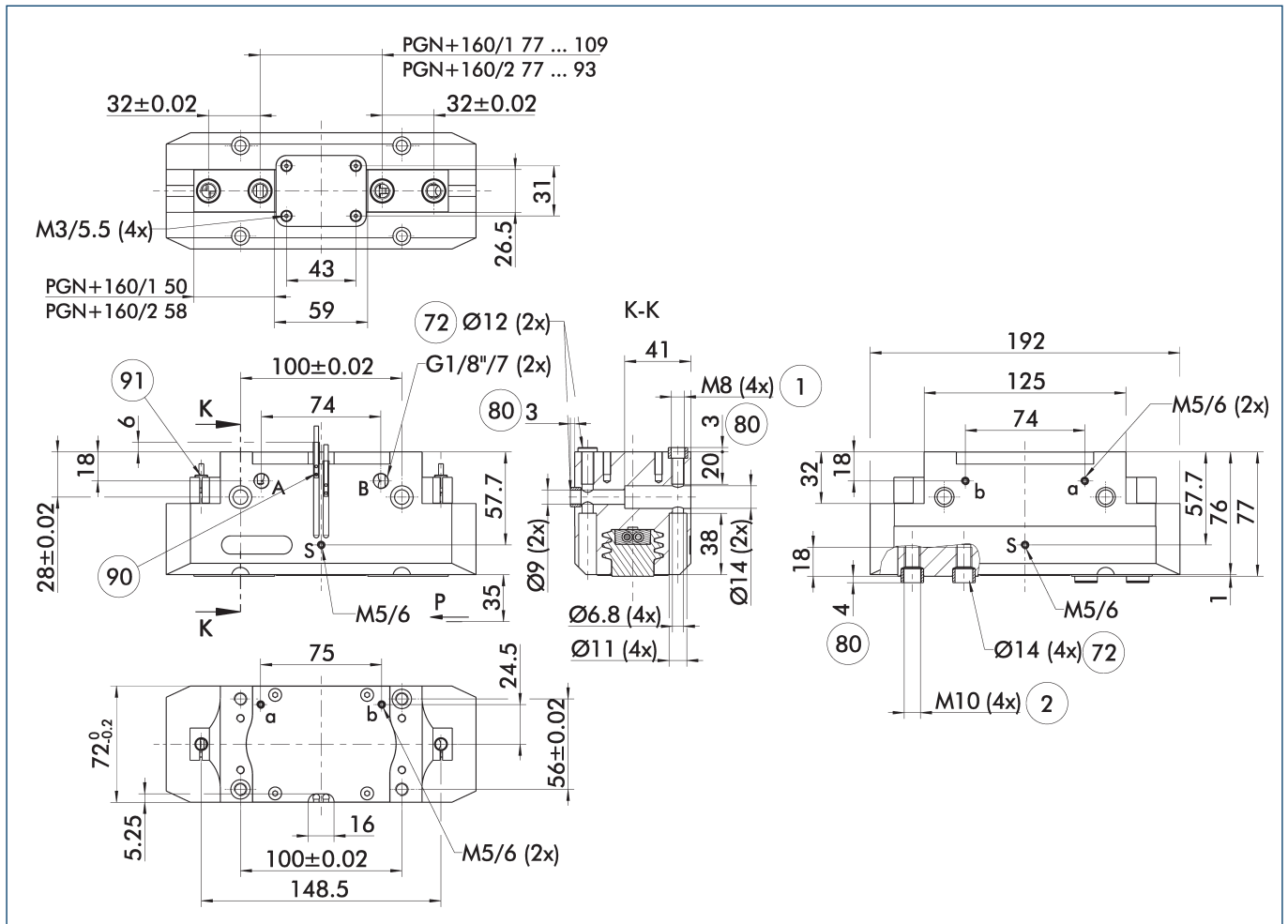
## Technical data

Description		PGN-plus 160-1	PGN-plus 160-2	PGN-plus 160-1-AS	PGN-plus 160-2-AS	PGN-plus 160-1-IS	PGN-plus 160-2-IS
ID		0371104	0371154	0371404	0371454	0371464	0371474
Stroke per jaw	[mm]	16	8	16	8	16	8
Closing/opening force	[N]	1640/1770	3200/3460	2210/-	4420/-	-/2340	-/4680
Min. spring force	[N]			570	1220	570	1220
Weight	[kg]	2.6	2.6	3.6	3.6	3.6	3.6
Recommended workpiece weight	[kg]	8.2	16	8.2	16	8.2	16
Fluid consumption double stroke	[cm <sup>3</sup> ]	164	164	210	210	265	265
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.15/0.15	0.15/0.15	0.12/0.25	0.12/0.25	0.25/0.12	0.25/0.12
Closing/opening time with spring	[s]			0.45	0.45	0.45	0.45
Max. permissible finger length	[mm]	220	210	210	200	210	200
Max. permissible mass per finger	[kg]	3.5	3.5	3.5	3.5	3.5	3.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	192 x 72 x 77	192 x 72 x 77	192 x 72 x 117	192 x 72 x 117	192 x 72 x 117	192 x 72 x 117
<b>Options and their characteristics</b>							
Dustproof version		37371104	37371154	37371404	37371454	37371464	37371474
IP protection class		64	64	64	64	64	64
Weight	[kg]	3	3	4	4	4	4
Corrosion-protected version		38371104	38371154	38371404	38371454	38371464	38371474
High-temperature version		39371104	39371154	39371404	39371454	39371464	39371474
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372104	0372154	0372404		0372464	
Closing/opening force	[N]	2690/2900	5260/5685	3165/-		-/3375	
Weight	[kg]	3.4	3.4	4.4		4.4	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	160	125	125		125	
Precision version		0371126	0371176	0371426	0371441		

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



## Main view



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

① The SDV-P pressure maintenance valve can 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

S Air purge connection

① Gripper connection

② Finger connection

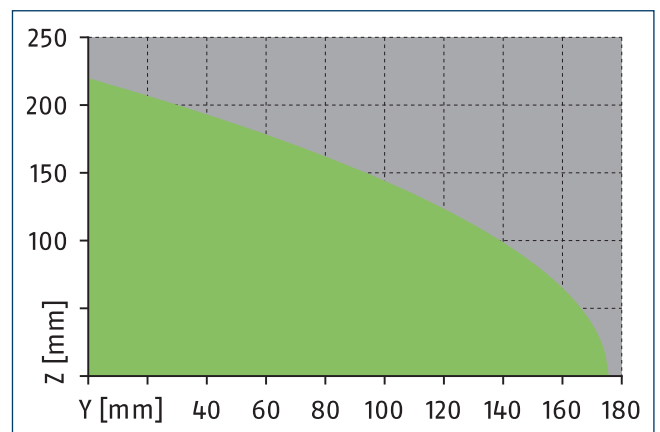
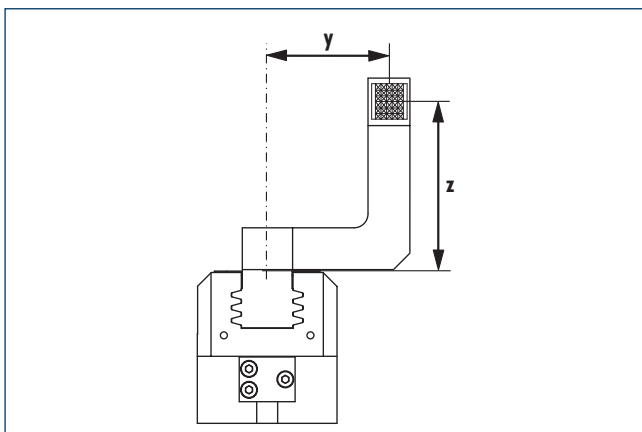
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

90 Sensor MMS 22..

91 Sensor IN ...

## Maximum permitted finger projection



■ Permitted range

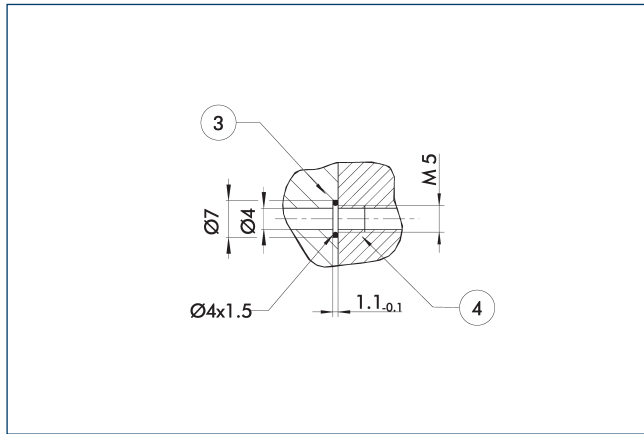
■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 160

Universal gripper

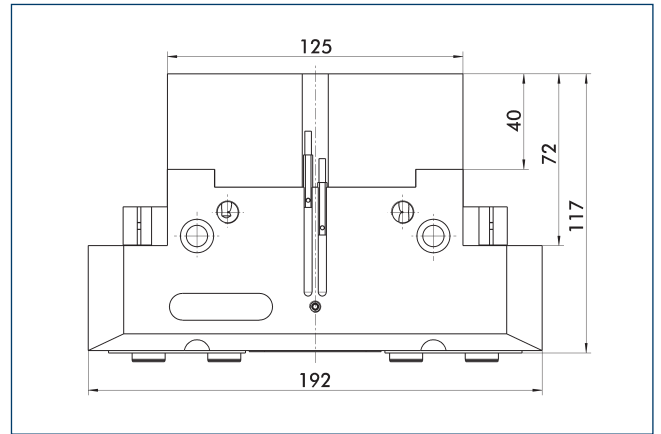
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

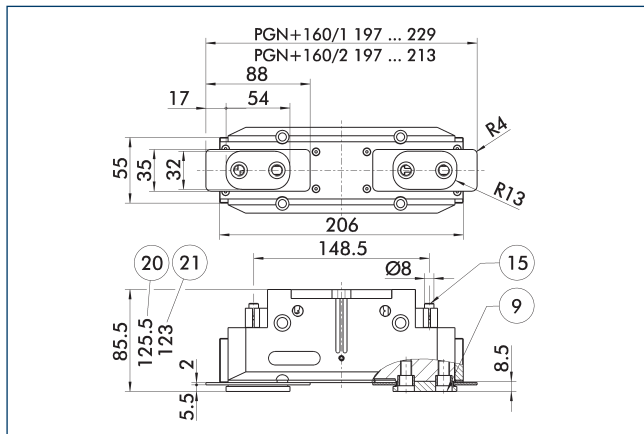
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

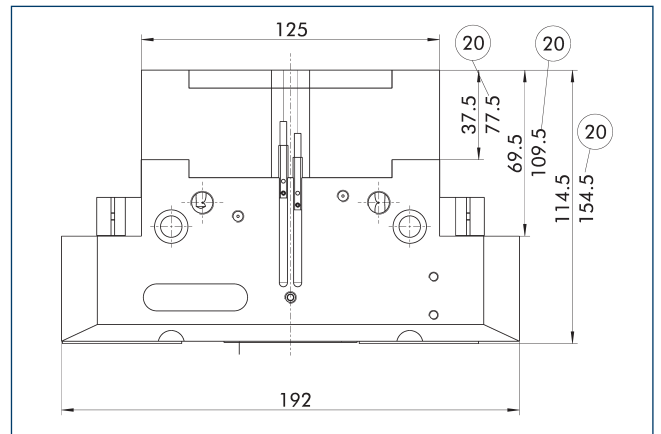
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ For AS / IS version
- ⑬ Applies for KVZ version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

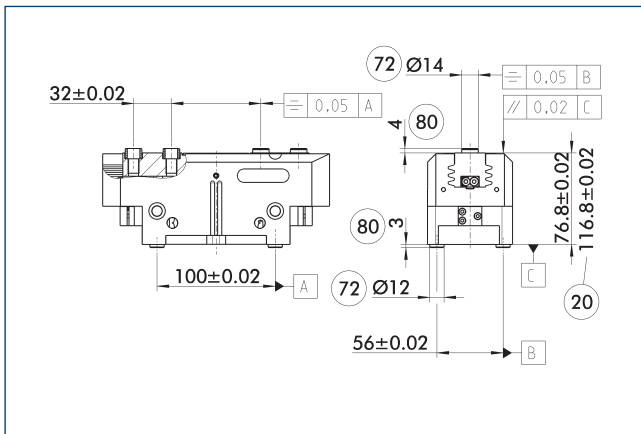
## Power booster version



- ⑭ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

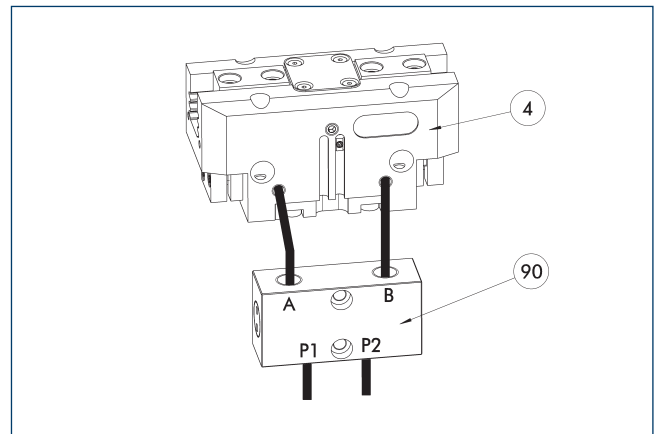
## Precision version



- ②① For AS / IS version
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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

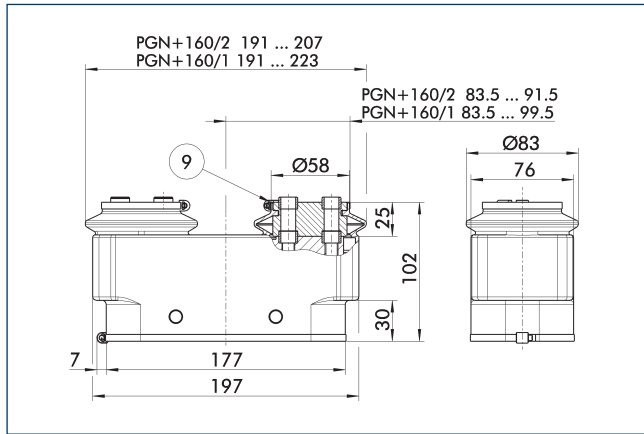
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8

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

# PGN-plus 160

Universal gripper

## Protective cover HUE PGN-plus 160



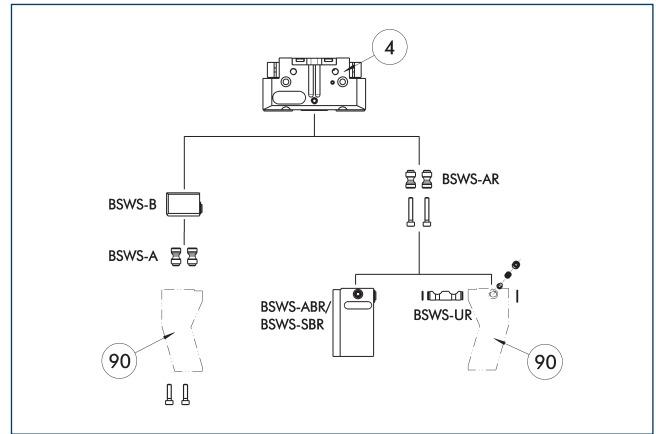
⑨ For mounting screw connection diagram, see basic version

The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate jaw.

Description	ID	IP protection class
Protection cover		
HUE PGN-plus 160	0371484	65

ⓘ The HUE protective cover is not suitable for use on grippers with gripping force maintenance. An inductive monitoring of the gripper in connection with the HUE protective cover is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper variant.

## BSWS jaw quick-change jaw systems



④ Grippers

⑨ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 160	0303030	2
BSWS-AR 160	0300096	2
Quick-change jaw system base		
BSWS-B 160	0303031	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 160	0300076	1
BSWS-SBR-PGZN-plus 160	0300086	1
Jaw quick-change system locking mechanism		
BSWS-UR 160	0302995	1

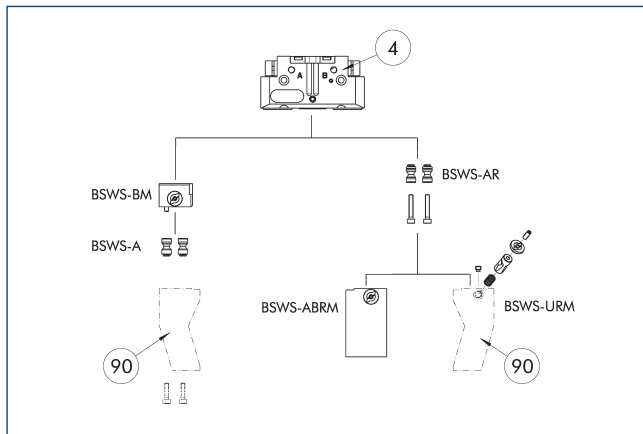
ⓘ Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PGN-plus	160	-1 (6 bar)	■■■■■
PGN-plus	160	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	160	-2 (6 bar)	■■■■■
PGN-plus	160	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	160	-...-KVZ (6 bar)	■■■□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

**Jaw quick-change system BSWs-M**



- ④ Grippers
- ⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 160	0303030	2
BSWS-AR 160	0300096	2
<b>Quick-change jaw system base</b>		
BSWS-BM 160	1418962	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 160	1420855	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 160	1420541	1

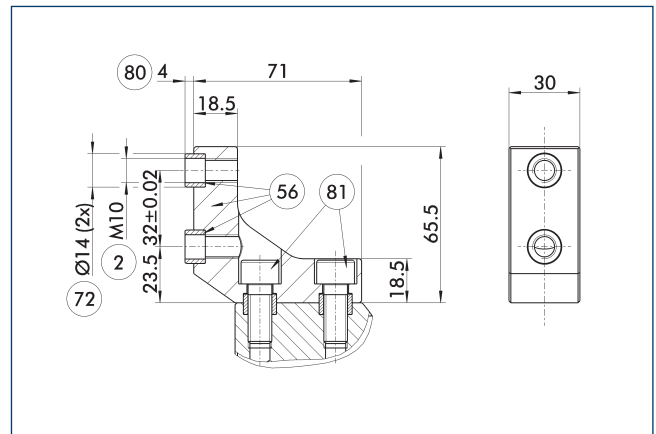
① Only systems that are listed in the table, can be used.

**Fields of application**

Series	Size	Variant	Suitability
PGN-plus	160	-1 (6 bar)	■■■■■
PGN-plus	160	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	160	-2 (6 bar)	■■■■■
PGN-plus	160	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	160	...-KVZ (6 bar)	■■■□□
<b>Legend</b>			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

**ZBA-L-plus 160 intermediate jaws**



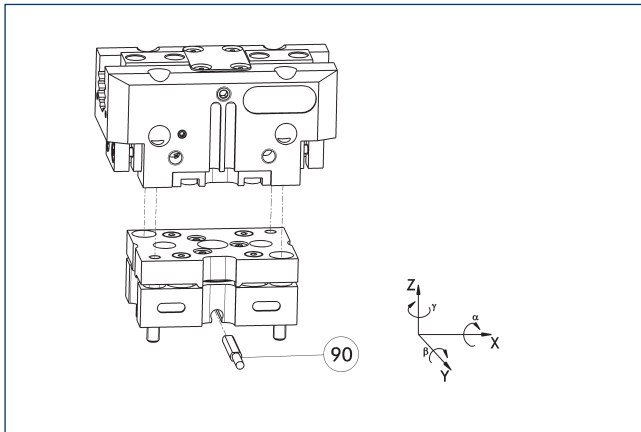
- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
<b>Intermediate jaw</b>				
ZBA-L-plus 160	0311762	Aluminum	PGN-plus 160	1



## Tolerance compensation unit TCU

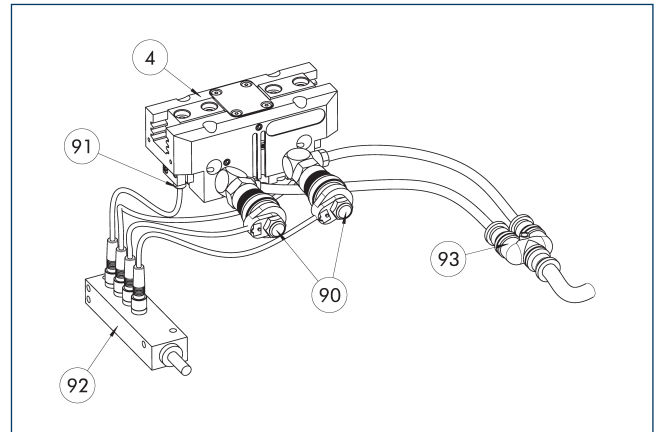


### 90 Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-160-3-MV	0324846	yes	$\pm 1^\circ/\pm 2^\circ/\pm 1,5^\circ$	●
TCU-P-160-3-0V	0324847	no	$\pm 1^\circ/\pm 2^\circ/\pm 1,5^\circ$	

## 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.

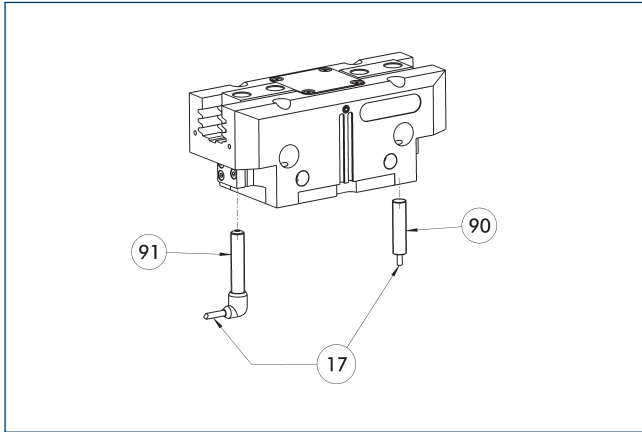
Description	ID	Often combined
Attachment valve		
ABV-MV30-G1/8	0303328	
ABV-MV30-G1/8-V2-M8	0303396	
ABV-MV30-G1/8-V4-M8	0303366	●
ABV-MV30-G1/8-V8-M8	0303367	

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.

# PGN-plus 160

Universal gripper

## Inductive Proximity Switches



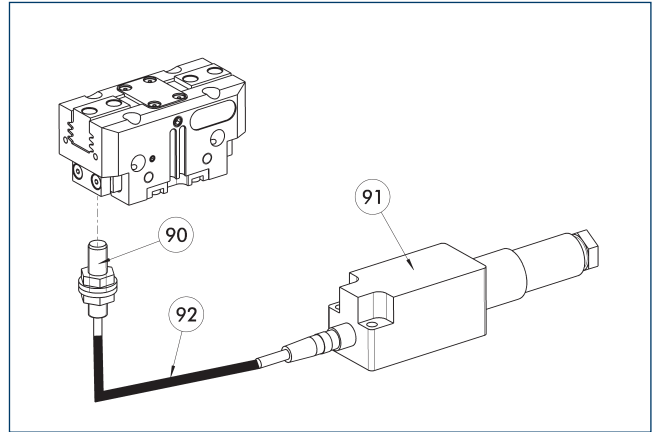
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

## Flexible position sensor



- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

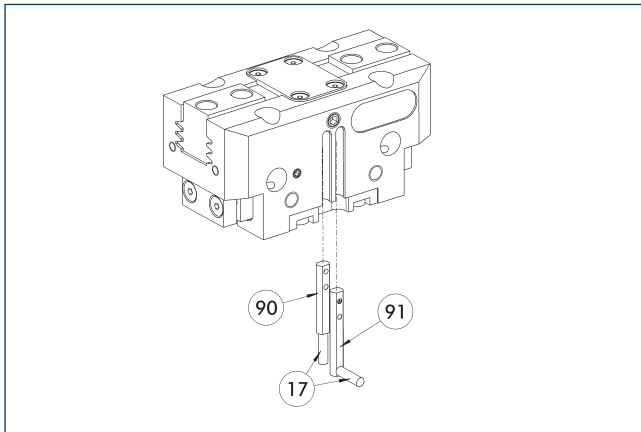
Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 160-1	0301638	
AS-FPS-PGZN-plus 160-2	0301639	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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



Electronic magnetic switch MMS



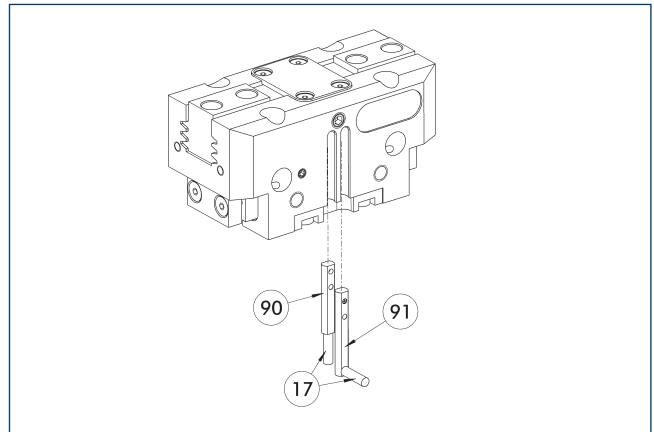
- 17 Cable outlet
- 91 Sensor MMS 22...-SA
- 90 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Wireless sensor system</b>		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

Programmable magnetic switch MMS 22-PI1



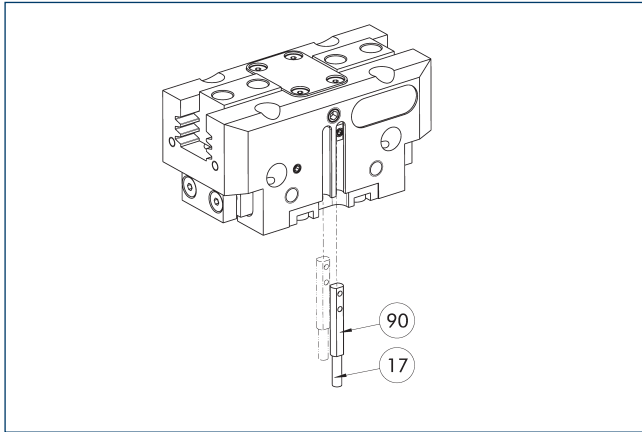
- 17 Cable outlet
- 91 Sensor MMS 22 ..-PI1...-SA
- 90 Sensor MMS 22 PI1...

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

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

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

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

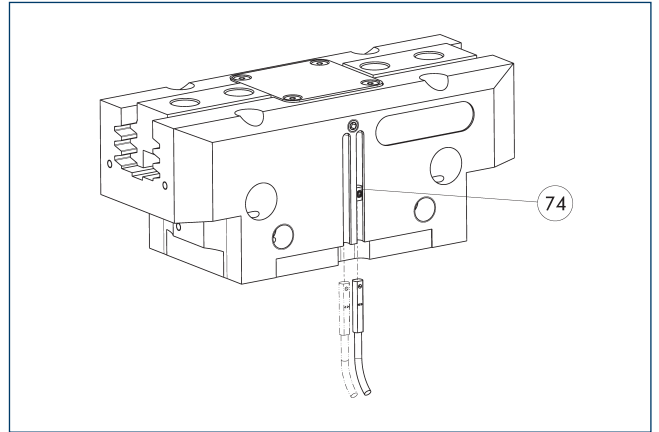
90 MMS 22...-PI2-... sensor

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

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

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

## MMS-P programmable magnetic switch



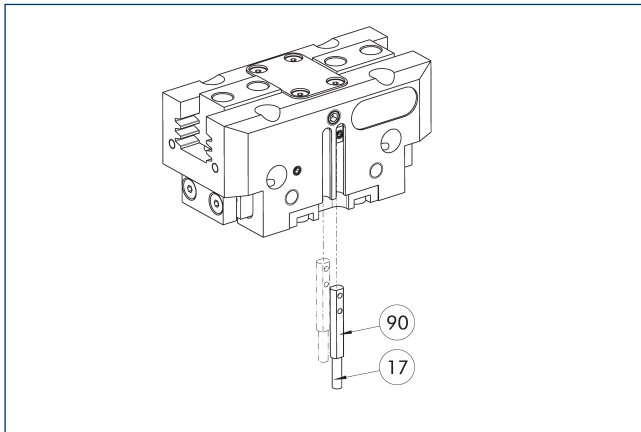
74 Limit stop for sensor

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

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

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

## MMS-A analog position sensor



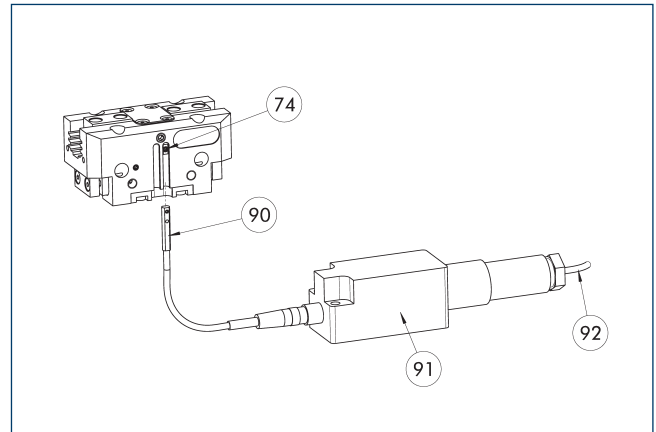
- ①⑦ Cable outlet
- ①⑩ MMS 22-A-... sensor

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.

## Flexible position sensor with MMS-A



- ①④ Limit stop for sensor
- ①⑩ MMS 22-A-... sensor
- ①① FPS-F5 evaluation electronic
- ①② Connection cables

Flexible position monitoring of up to five positions.

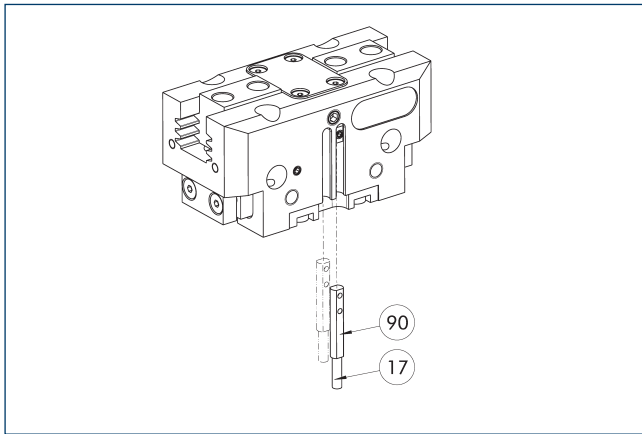
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

- 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."

# PGN-plus 160

Universal gripper

## Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

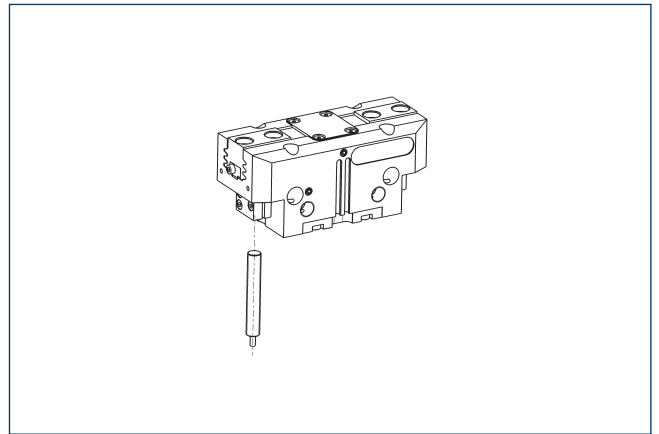
⑨⑩ Sensor MMS 22-IO-L-...

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

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

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

## APS-Z80 analog position sensor

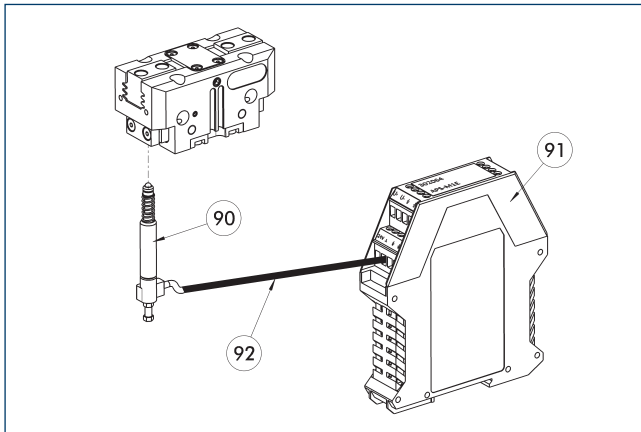


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 160-1/200-2/240-2	0302113	
AS-APS-Z80-PGZN-plus 160-2	0302114	
Analog position sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



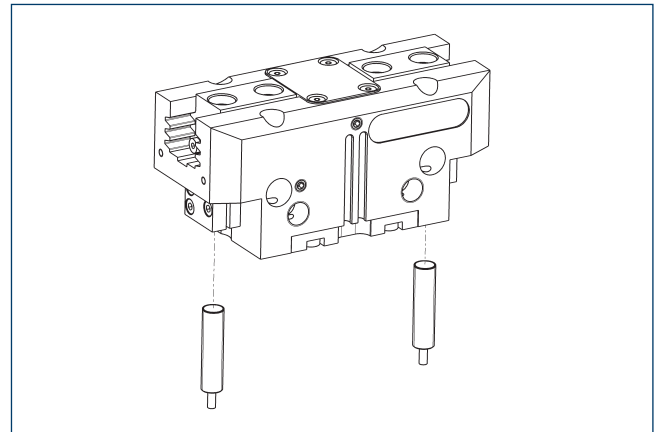
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 160-1/240-2	0302083	
AS-APS-M1-PGZN-plus 160-2	0302084	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

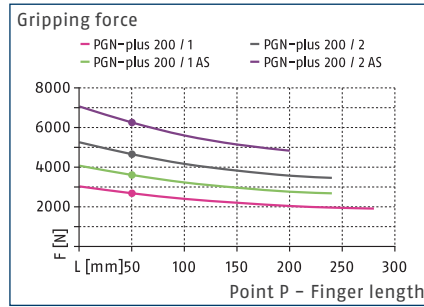
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PGN-plus 200

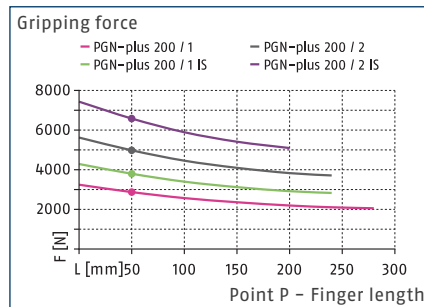
Universal gripper



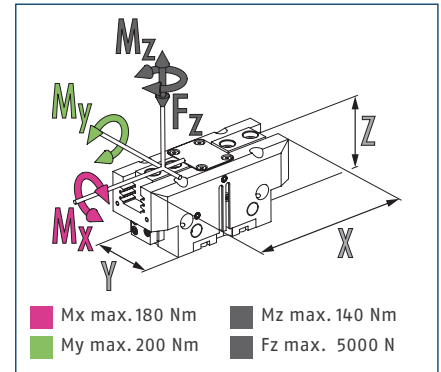
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



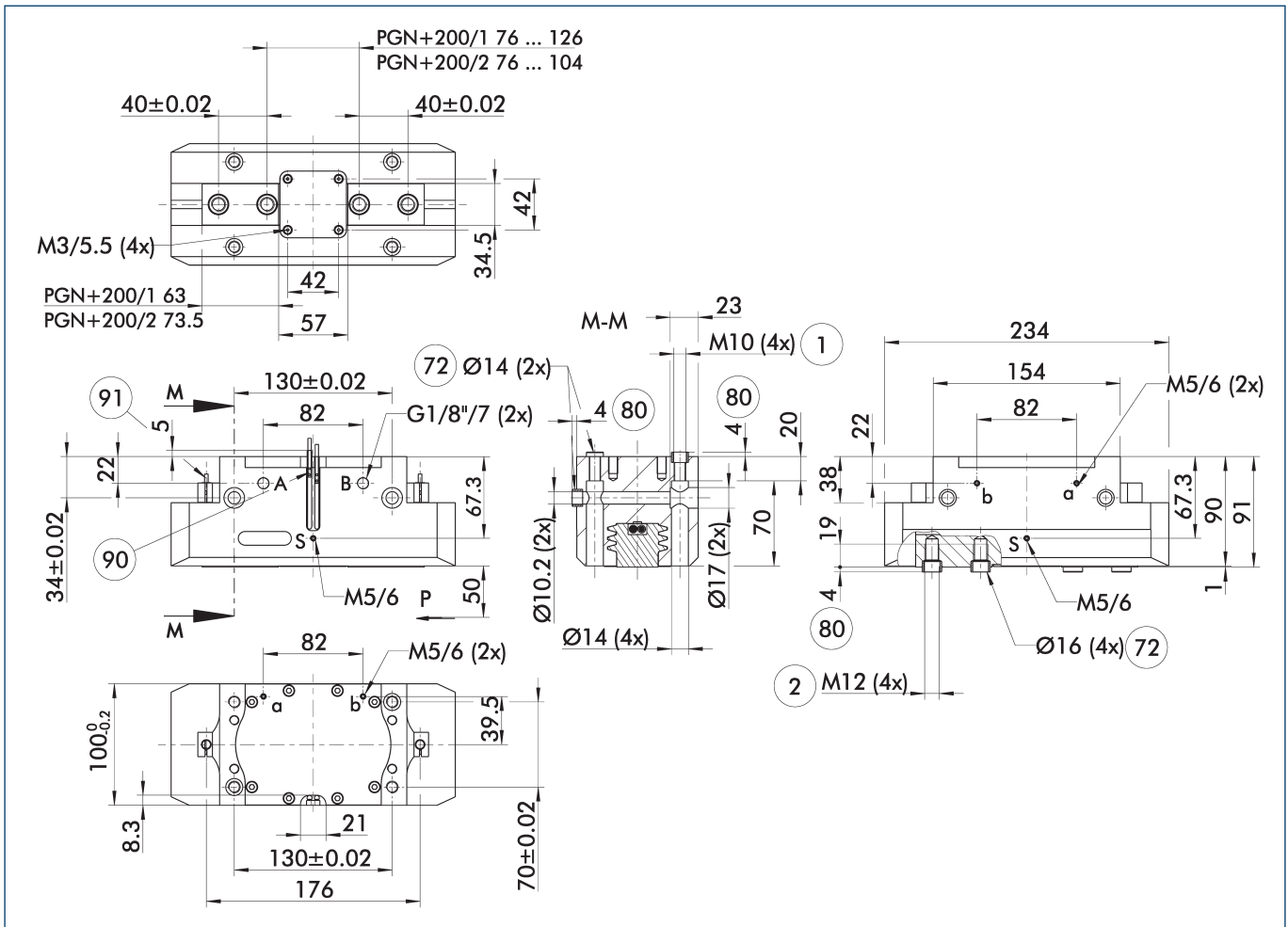
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus 200-1	PGN-plus 200-2	PGN-plus 200-1-AS	PGN-plus 200-2-AS	PGN-plus 200-1-IS	PGN-plus 200-2-IS
ID		0371105	0371155	0371405	0371455	0371465	0371475
Stroke per jaw	[mm]	25	14	25	14	25	14
Closing/opening force	[N]	2700/2870	4650/4980	3610/-	6250/-	-/3780	-/6580
Min. spring force	[N]			910	1600	910	1600
Weight	[kg]	5.4	5.4	7.5	7.5	7.5	7.5
Recommended workpiece weight	[kg]	13.5	23.5	13.5	23.5	13.5	23.5
Fluid consumption double stroke	[cm³]	385	385	495	495	620	620
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.35/0.35	0.35/0.35	0.3/0.6	0.3/0.6	0.6/0.3	0.6/0.3
Closing/opening time with spring	[s]			0.50	0.50	0.50	0.50
Max. permissible finger length	[mm]	280	240	240	200	240	200
Max. permissible mass per finger	[kg]	6.5	6.5	6.5	6.5	6.5	6.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	234 x 100 x 91	234 x 100 x 91	234 x 100 x 141	234 x 100 x 141	234 x 100 x 141	234 x 100 x 141
<b>Options and their characteristics</b>							
Dustproof version		37371105	37371155	37371405	37371455	37371465	37371475
IP protection class		64	64	64	64	64	64
Weight	[kg]	6	6	8.1	8.1	8.1	8.1
Corrosion-protected version		38371105	38371155	38371405	38371455	38371465	38371475
High-temperature version		39371105	39371155	39371405	39371455	39371465	39371475
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372105	0372155	0372405		0372465	
Closing/opening force	[N]	4513/4794	7768/8322	5608/-		-/5584	
Weight	[kg]	6.7	6.7	9		9	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	200	160	160		160	
Precision version		0371127	0371177	0371427	0371442		

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

## Main view

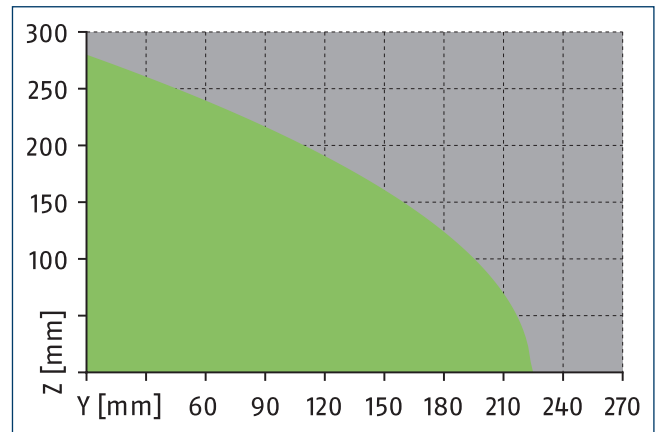
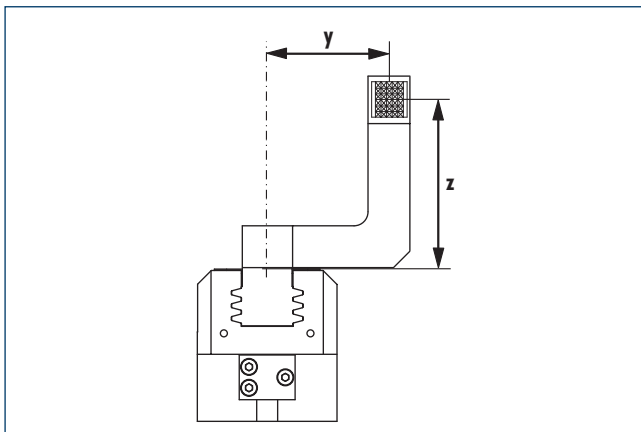


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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 | ② Finger connection                                       |
| B, b Main / direct connection, gripper closing | 72 Fit for centering sleeves                              |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part |
| ① Gripper connection                           | 90 Sensor MMS 22..  |
|  | 91 Sensor IN ...  |

## Maximum permitted finger projection



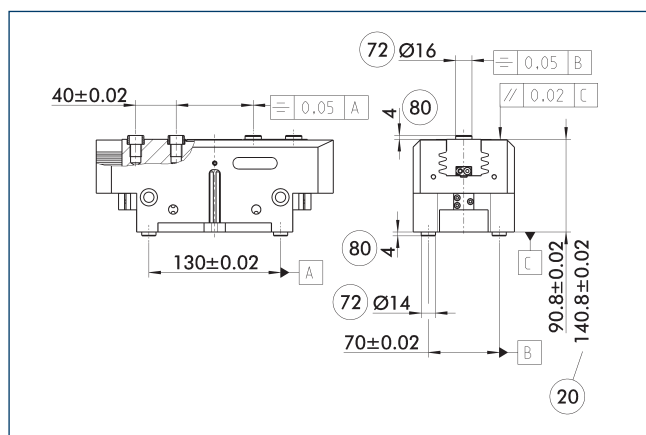
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.





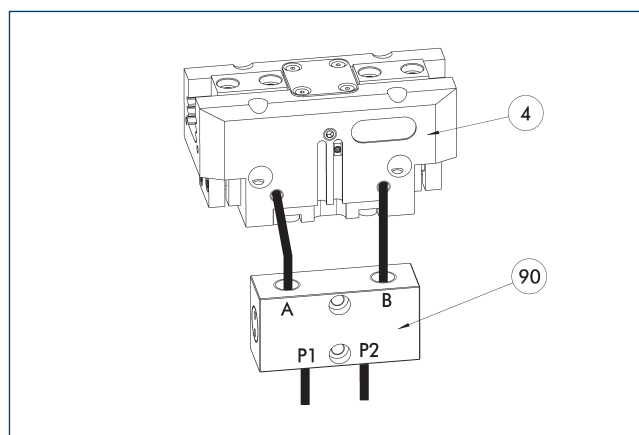
## Precision version



- ②① For AS / IS version
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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

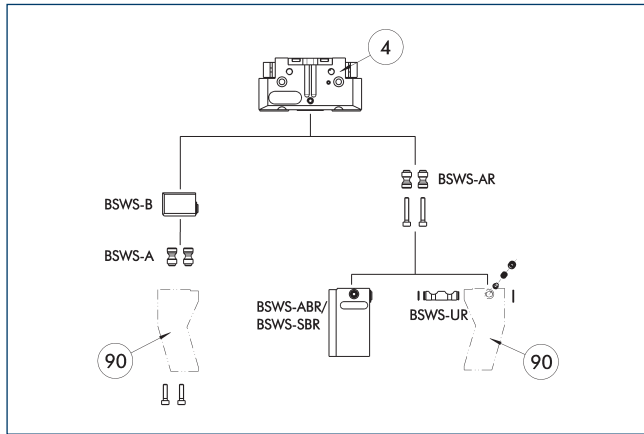
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8

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

# PGN-plus 200

Universal gripper

## BSWS jaw quick-change jaw systems



④ Grippers                      ⑨0 Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Quick-change jaw system base		
BSWS-B 200	0303033	1
Jaw quick-change system adapter pin		
BSWS-A 200	0303032	2

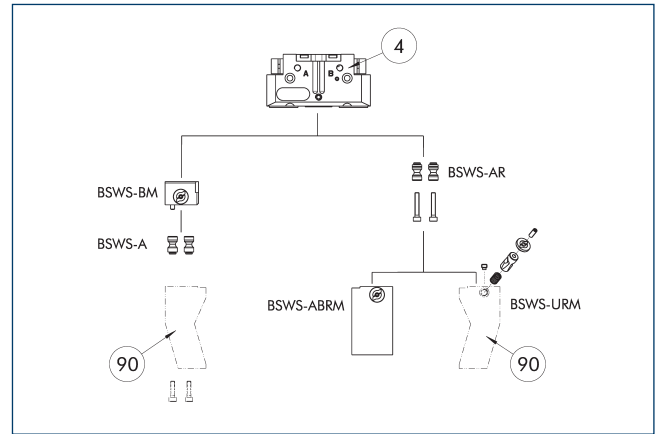
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	200	-1 (6 bar)	■■■■■
PGN-plus	200	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	200	-2 (6 bar)	■■■■■
PGN-plus	200	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	200	-...-KVZ (6 bar)	■■■□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

## Jaw quick-change system BSWS-M



④ Grippers                      ⑨0 Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Quick-change jaw system base		
BSWS-BM 200	1419306	1
Jaw quick-change system adapter pin		
BSWS-A 200	0303032	2

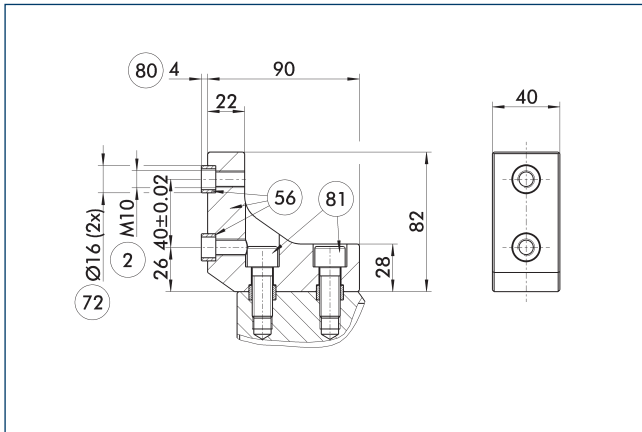
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	200	-1 (6 bar)	■■■■■
PGN-plus	200	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	200	-2 (6 bar)	■■■■■
PGN-plus	200	-2-AS / -2-IS (6 bar)	■■■■■
PGN-plus	200	-...-KVZ (6 bar)	■■■□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

ZBA-L-plus 200 intermediate jaws

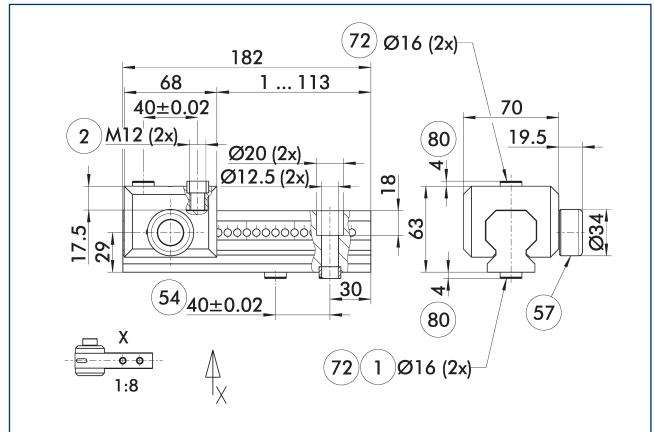


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 200	0311772	Aluminum	PGN-plus 200	1

UZB 200 universal intermediate jaw



- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. The fully removable UZB-S Slide (can also be ordered separately) allows for a quick jaw change.

Description	ID	Grid dimension
Universal intermediate jaw		
UZB 200	0300047	7
Finger blank		
ABR-PGZN-plus 200	0300015	
SBR-PGZN-plus 200	0300025	
Slide for universal intermediate jaw		
UZB-S 200	5518275	7

Fields of application

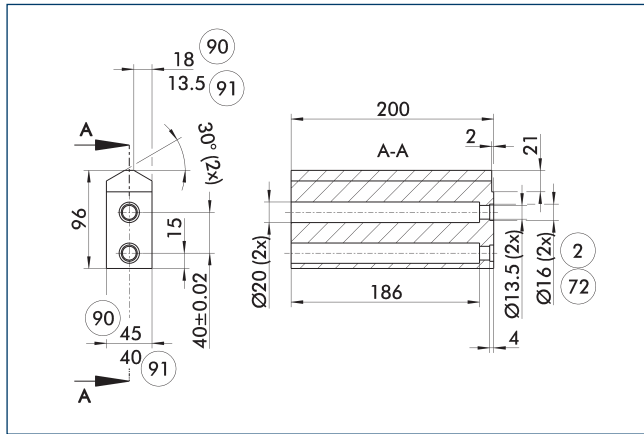
Series	Size	Variant	Suitability
PGN-plus	200	-1 (6 bar)	■■■■■
PGN-plus	200	-1-AS / -1-IS (6 bar)	■■■■■
PGN-plus	200	-2 (6 bar)	■■■■■
PGN-plus	200	-2-AS / -2-IS (6 bar)	■■■□□
PGN-plus	200	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories. If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus 200

Universal gripper

## Finger blanks ABR- / SBR-PGZN-plus 200

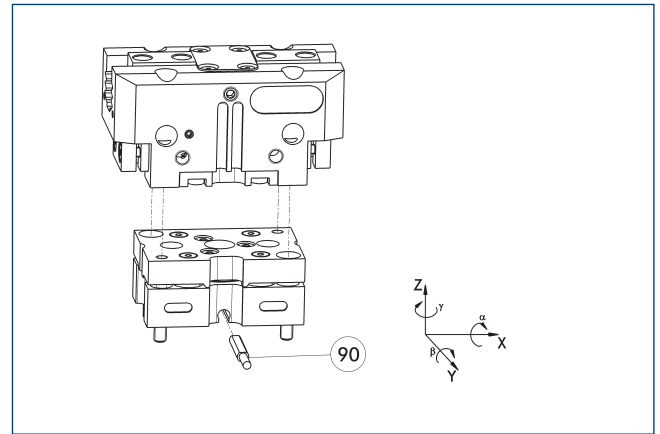


- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨① ABR-PGZN-plus
- ⑨② SBR-PGZN-plus

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 200	0300015	Aluminum	1
SBR-PGZN-plus 200	0300025	Steel	1

## Tolerance compensation unit TCU

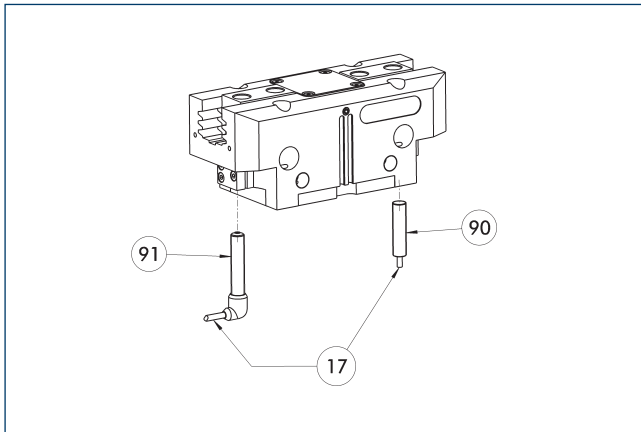


- ⑨① Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-200-3-MV	0324864	yes	±1°/±2°/±1,5°	●
TCU-P-200-3-OV	0324865	no	±1°/±2°/±1,5°	

## Inductive Proximity Switches



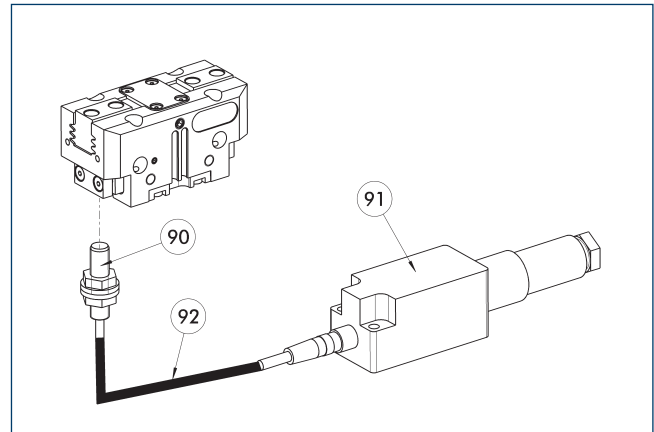
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- 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.

## Flexible position sensor



- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

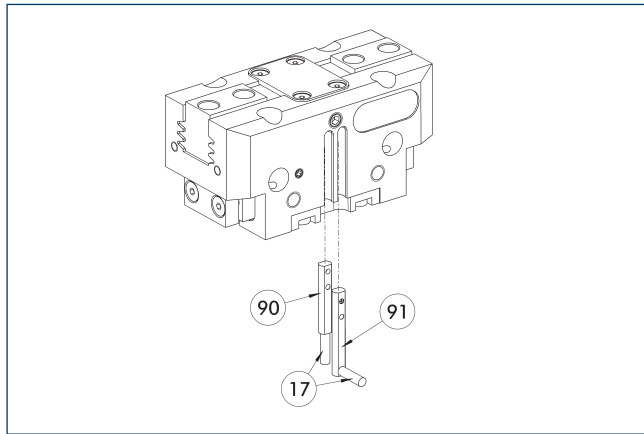
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 200-1	0301640	
AS-FPS-PGZN-plus 200-2	0301641	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

# PGN-plus 200

Universal gripper

## Electronic magnetic switch MMS



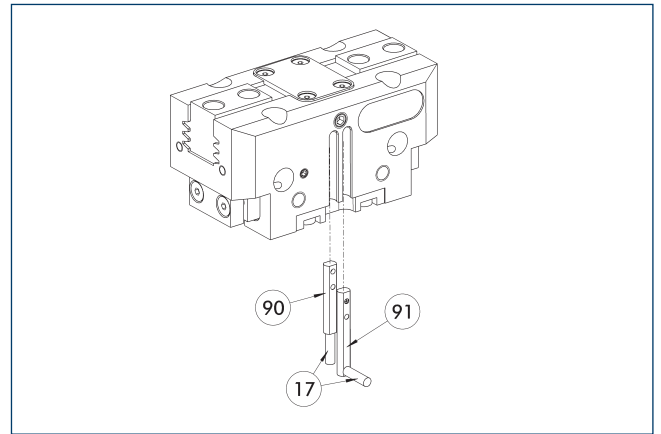
- 17 Cable outlet
- 91 Sensor MMS 22...-SA
- 90 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Wireless sensor system</b>		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

## Programmable magnetic switch MMS 22-PI1



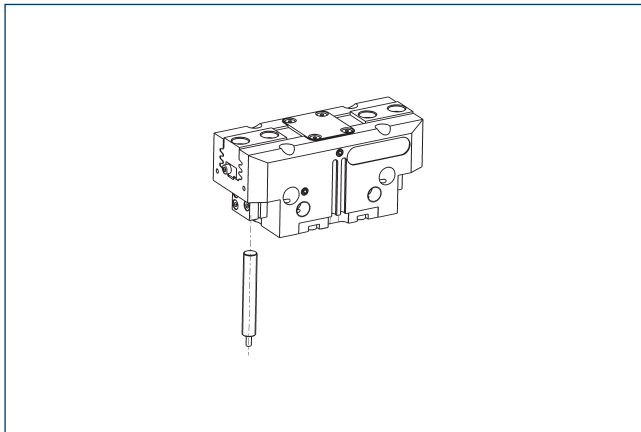
- 17 Cable outlet
- 91 Sensor MMS 22 ..-PI1...-SA
- 90 Sensor MMS 22 PI1...

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

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

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

## APS-Z80 analog position sensor

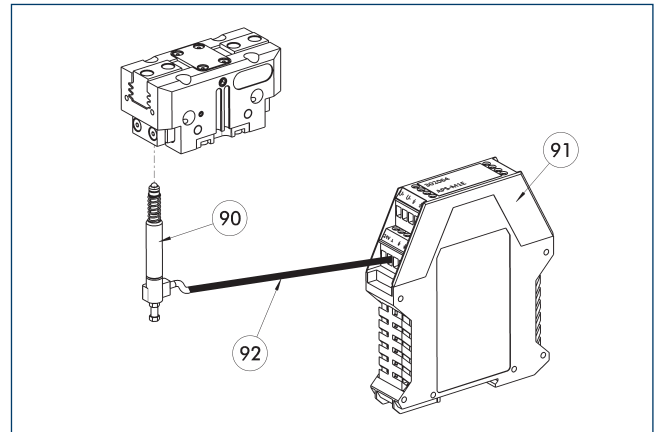


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 160-1/200-2/240-2	0302113	
AS-APS-Z80-PGZN-plus 200-1	0302115	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

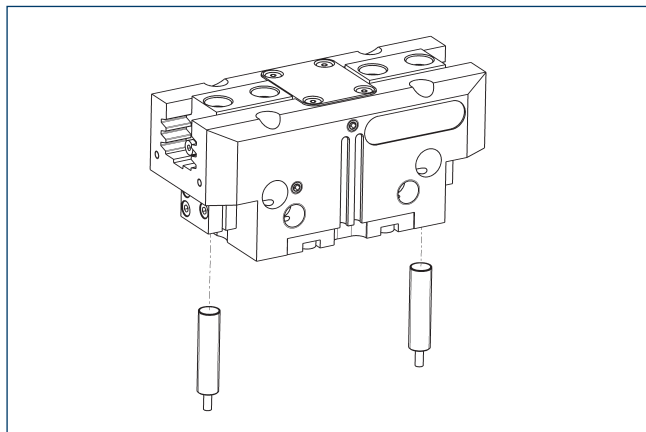
Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 200-1/380-2	0302085	
AS-APS-M1-PGZN-plus 200-2	0302086	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

# PGN-plus 200

Universal gripper

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
Reed Switches		
RMS 80-S-M8	0377721	

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. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



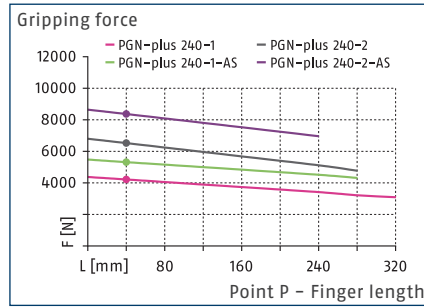


# PGN-plus 240

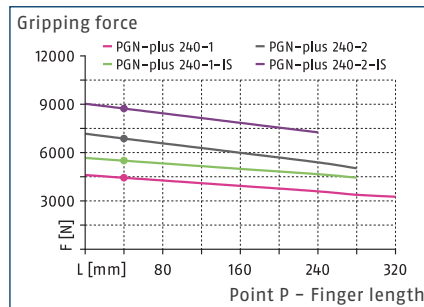
Universal gripper



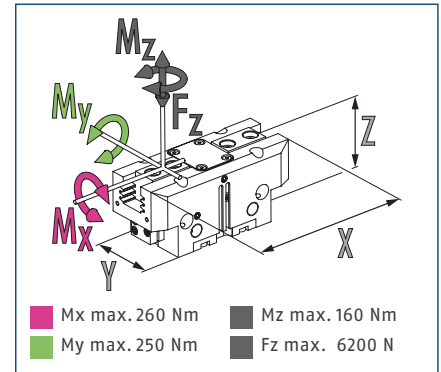
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

Description		PGN-plus 240-1	PGN-plus 240-2	PGN-plus 240-1-AS	PGN-plus 240-2-AS	PGN-plus 240-1-IS	PGN-plus 240-2-IS
ID		0371108	0371158	0371408	0371458	0371468	0371478
Stroke per jaw	[mm]	30	17	30	17	30	17
Closing/opening force	[N]	4200/4440	6500/6870	5300/-	8340/-	-/5540	-/8710
Min. spring force	[N]			1100	1840	1100	1840
Weight	[kg]	8.5	8.5	12	12	12	12
Recommended workpiece weight	[kg]	21.5	33	21.5	33	21.5	33
Fluid consumption double stroke	[cm <sup>3</sup> ]	650	650	810	810	995	995
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.45/0.45	0.45/0.45	0.35/0.65	0.35/0.65	0.65/0.35	0.65/0.35
Closing/opening time with spring	[s]			0.55	0.55	0.55	0.55
Max. permissible finger length	[mm]	320	280	280	240	280	240
Max. permissible mass per finger	[kg]	8.5	8.5	8.5	8.5	8.5	8.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.04	0.04	0.04	0.04	0.04	0.04
Dimensions X x Y x Z	[mm]	270 x 115 x 107	270 x 115 x 107	270 x 115 x 163.5	270 x 115 x 163.5	270 x 115 x 163.5	270 x 115 x 163.5
<b>Options and their characteristics</b>							
Dustproof version		37371108	37371158	37371408	37371458	37371468	37371478
IP protection class		64	64	64	64	64	64
Weight	[kg]	9.1	9.1	12.6	12.6	12.6	12.6
Corrosion-protected version		38371108	38371158	38371408	38371458	38371468	38371478
High-temperature version		39371108	39371158	39371408	39371458	39371468	39371478
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0371128	0371178	0371428	0371443		

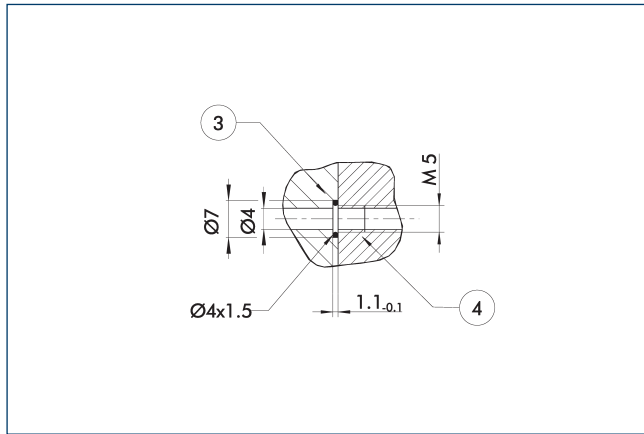
① It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.



# PGN-plus 240

Universal gripper

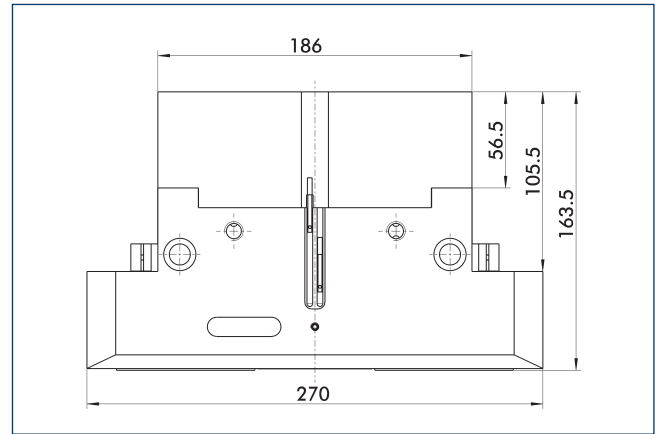
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

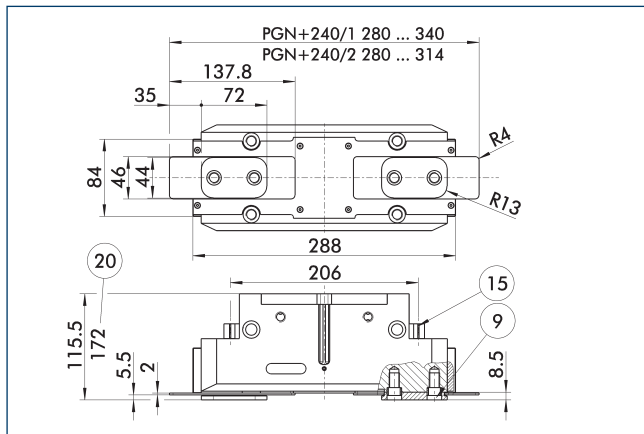
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

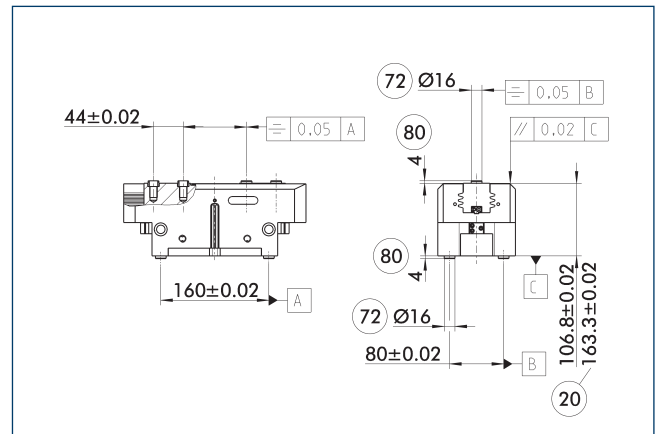
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

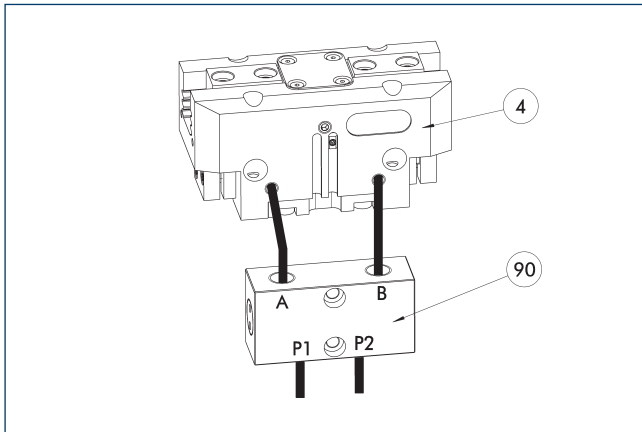
## Precision version



- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



④ Grippers

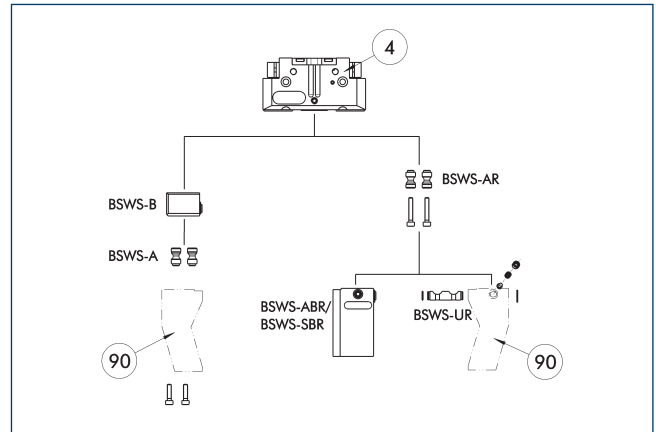
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

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

## BSWS jaw quick-change jaw systems



④ Grippers

⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Quick-change jaw system base</b>		
BSWS-B 240	0303035	1
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 240	0303034	2

① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	240	-1 (6 bar)	■■■■
PGN-plus	240	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus	240	-2 (6 bar)	■■■■
PGN-plus	240	-2-AS / -2-IS (6 bar)	■■■■
<b>Legend</b>			
■■■■			Can be combined without restrictions
■■□□			Use with restrictions (see loading limits)
□□□□			cannot be combined

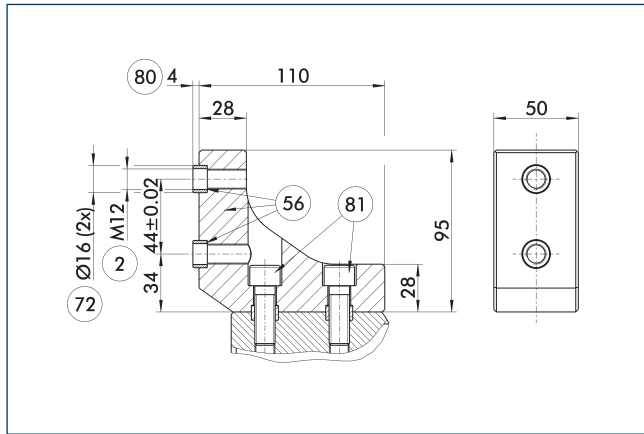
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus 240

Universal gripper

## ZBA-L-plus 240 intermediate jaws

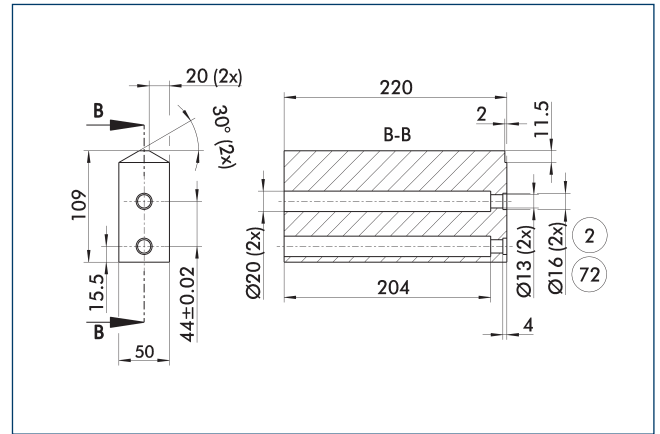


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 240	0311782	Aluminum	PGN-plus 240	1

## Finger blanks ABR- / SBR-PGZN-plus 240

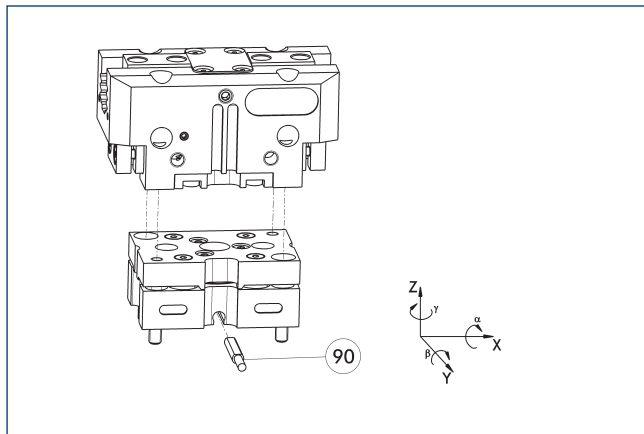


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 240	0300017	Aluminum	1
SBR-PGZN-plus 240	0300027	Steel	1

## Tolerance compensation unit TCU

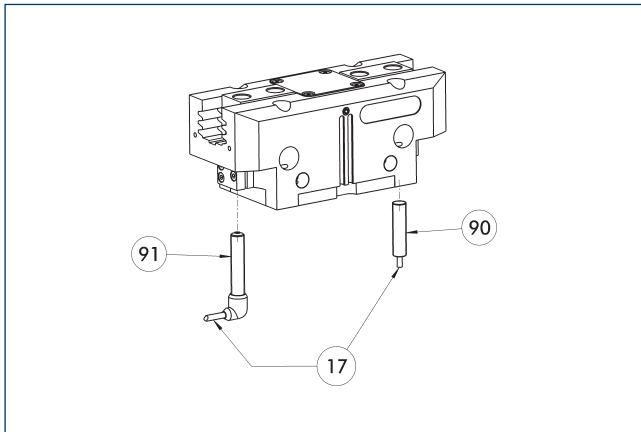


- ⑨⑩ Monitoring of locking

Grippers can be directly mounted without an adapter plate. Tolerance compensation unit and gripper have an identical screw connection diagram. Therefore the tolerance compensation units can be assembled later. Please consider the additional assembly height of the tolerance compensation unit. For details please refer to our catalog robot accessories.

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-240-3-MV	0324730	yes	±1°/±1,5°/±1°	●
TCU-P-240-3-0V	0324731	no	±1°/±1,5°/±1°	

## Inductive Proximity Switches



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

Directly mounted end position monitoring.

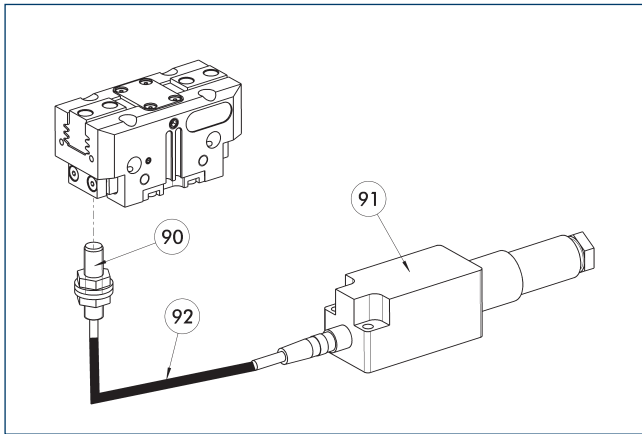
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

# PGN-plus 240

Universal gripper

## Flexible position sensor



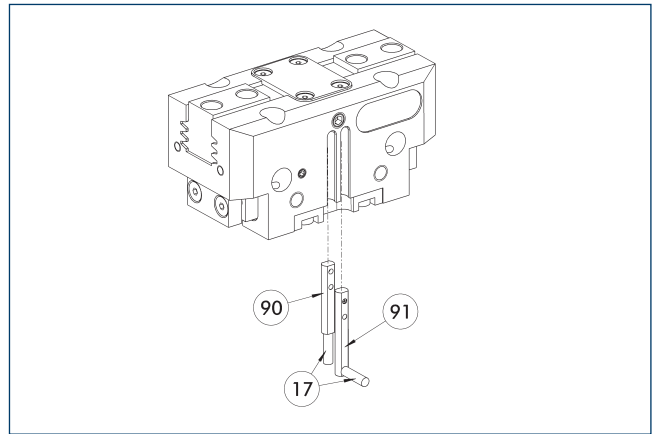
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 240-1	0301643	
AS-FPS-PGZN-plus 240-2	0301644	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



- ①⑦ Cable outlet
- ①⑧ Sensor MMS 22..
- ①⑨ Sensor MMS 22...-SA

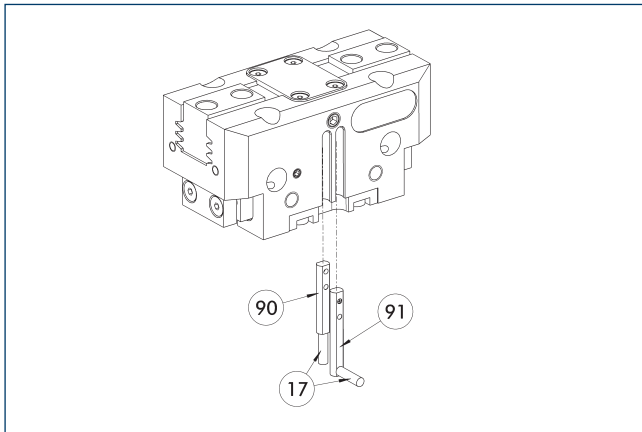
End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Wireless sensor system</b>		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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



**Programmable magnetic switch MMS 22-PI1**



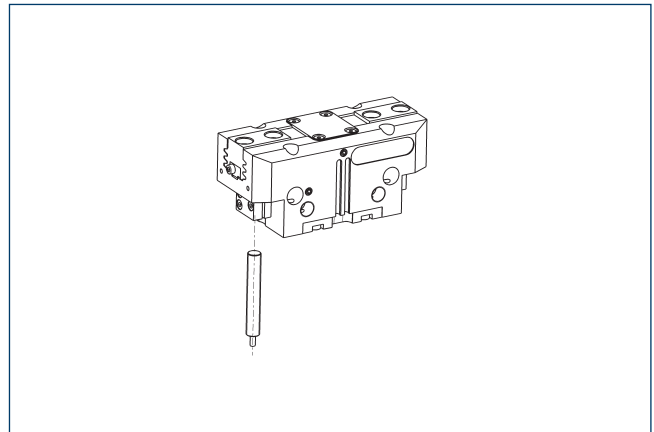
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

**APS-Z80 analog position sensor**



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

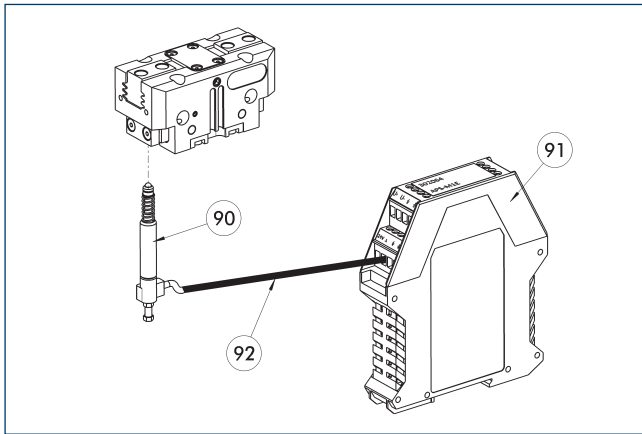
Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 160-1/200-2/240-2	0302113	
AS-APS-Z80-PGZN-plus 240-1	0302116	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 240

Universal gripper

## APS-M1 analog position sensor



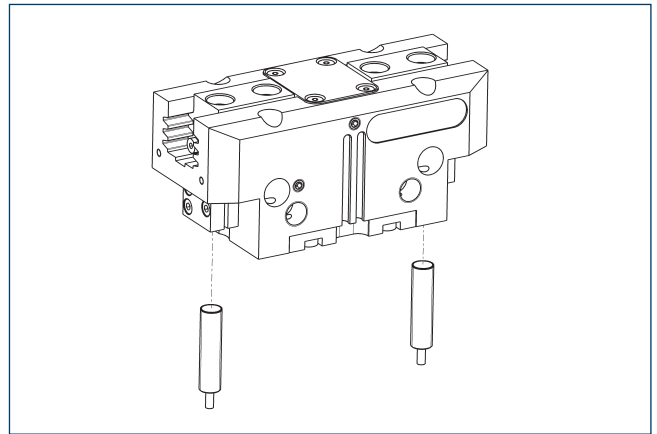
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 160-1/240-2	0302083	
AS-APS-M1-PGZN-plus 240-1	0302087	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

- 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. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

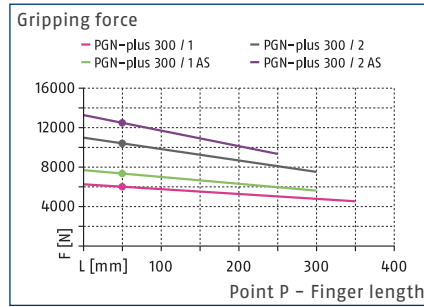


# PGN-plus 300

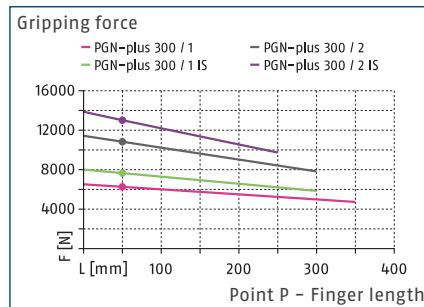
Universal gripper



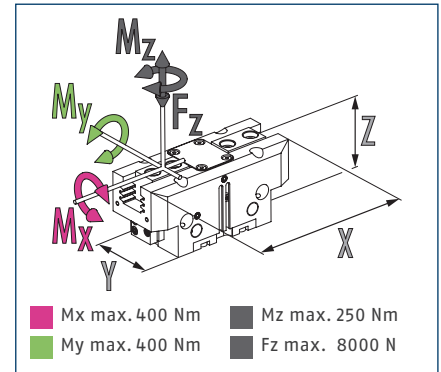
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



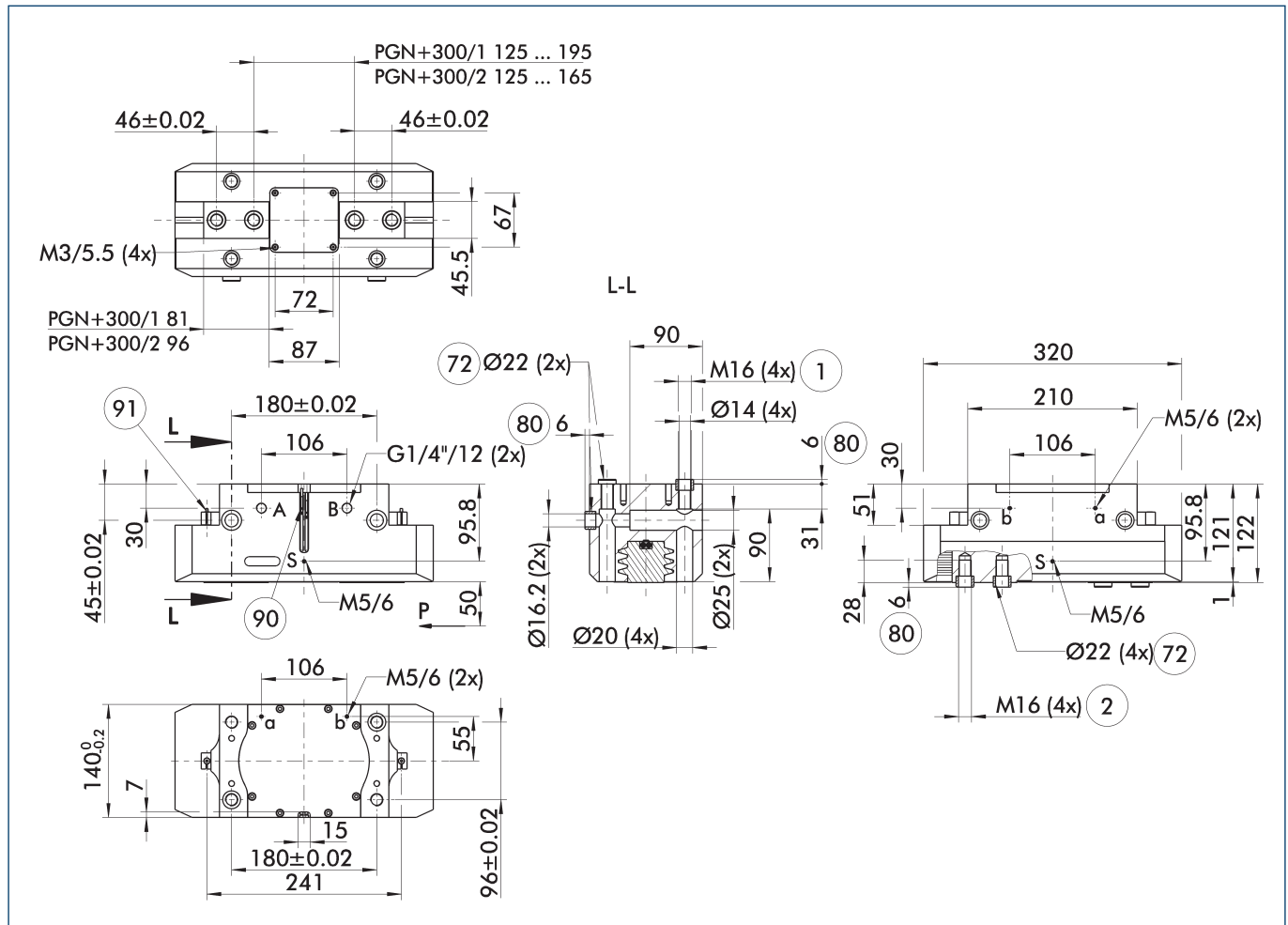
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus 300-1	PGN-plus 300-2	PGN-plus 300-1-AS	PGN-plus 300-2-AS	PGN-plus 300-1-IS	PGN-plus 300-2-IS
ID		0371106	0371156	0371406	0371456	0371466	0371476
Stroke per jaw	[mm]	35	20	35	20	35	20
Closing/opening force	[N]	6000/6260	10300/10800	7400/-	12500/-	-/7660	-/13000
Min. spring force	[N]			1400	2200	1400	2200
Weight	[kg]	13.9	13.9	17.2	17.2	17.2	17.2
Recommended workpiece weight	[kg]	30	51.5	30	51.5	30	51.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	1040	1040	1295	1295	1560	1560
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.5/0.5	0.5/0.5	0.4/0.7	0.4/0.7	0.7/0.4	0.7/0.4
Closing/opening time with spring	[s]			0.60	0.60	0.60	0.60
Max. permissible finger length	[mm]	350	300	300	250	300	250
Max. permissible mass per finger	[kg]	11.5	11.5	11.5	11.5	11.5	11.5
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	320 x 140 x 122	320 x 140 x 122	320 x 140 x 172	320 x 140 x 172	320 x 140 x 172	320 x 140 x 172
<b>Options and their characteristics</b>							
Dustproof version		37371106	37371156	37371406	37371456	37371466	37371476
IP protection class		64	64	64	64	64	64
Weight	[kg]	14.9	14.9	18.2	18.2	18.2	18.2
Corrosion-protected version		38371106	38371156	38371406	38371456	38371466	38371476
High-temperature version		39371106	39371156	39371406	39371456	39371466	39371476
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0371129	0371179	0371429	0371444		

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

## Main view

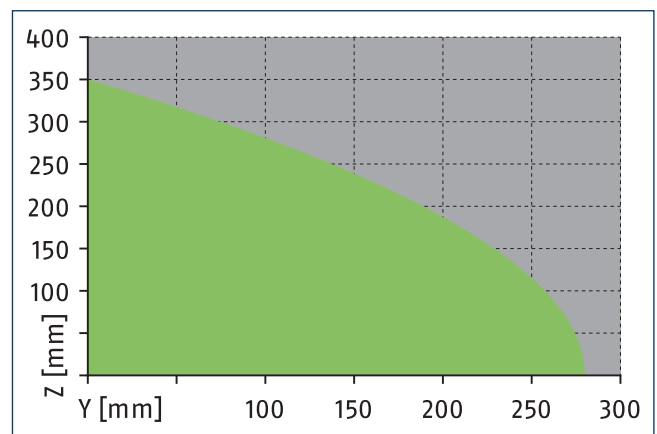
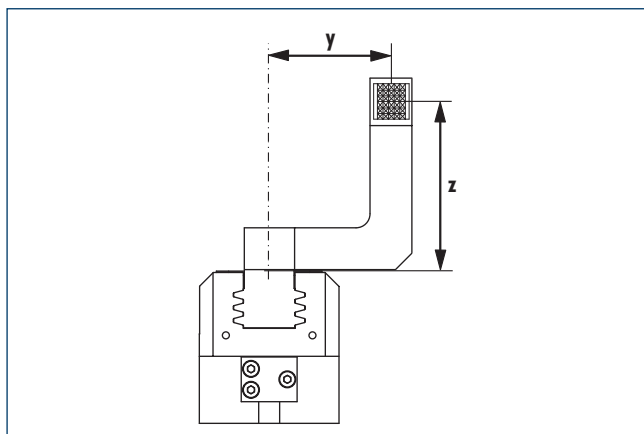


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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 | ② Finger connection                                      |
| B, b Main / direct connection, gripper closing | ⑦ Fit for centering sleeves                              |
| S Air purge connection                         | ⑧ Depth of the centering sleeve hole in the counter part |
| ① Gripper connection                           | ⑨ Sensor MMS 22..  |
|  | ⑩ Sensor IN ...  |

## Maximum permitted finger projection



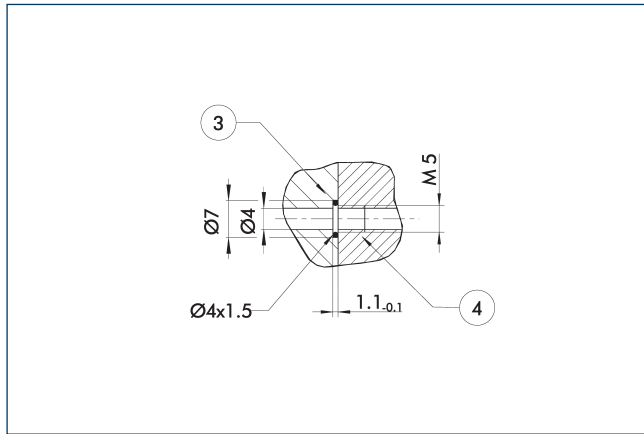
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 300

Universal gripper

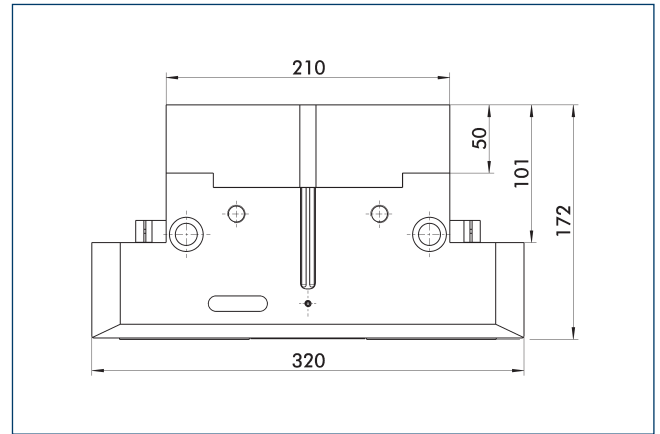
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

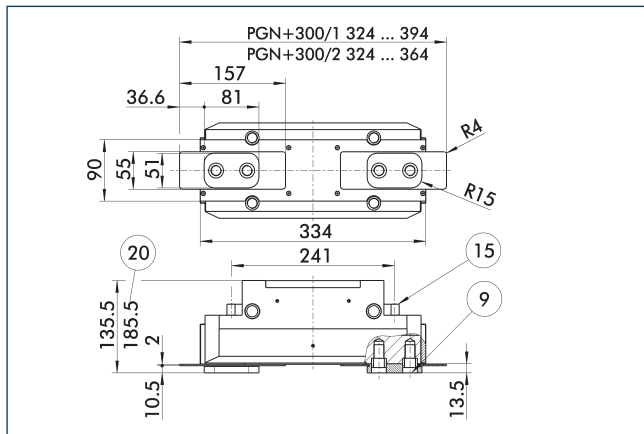
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

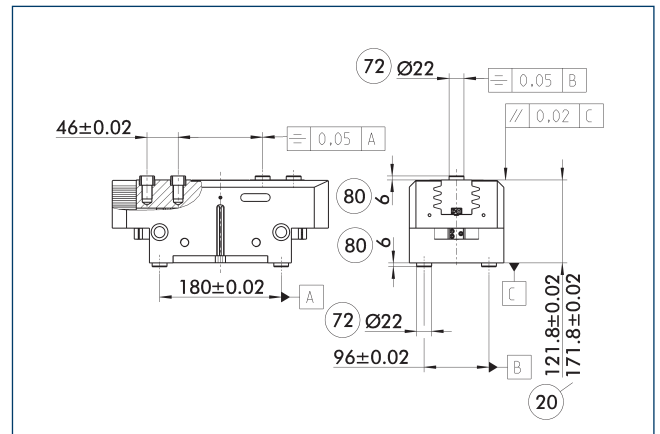
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

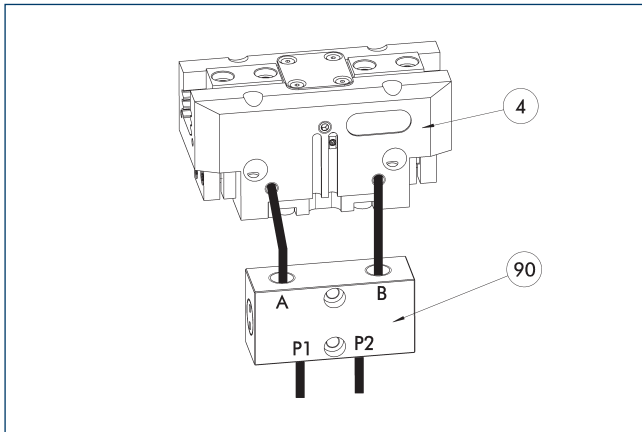
## Precision version



- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



④ Grippers

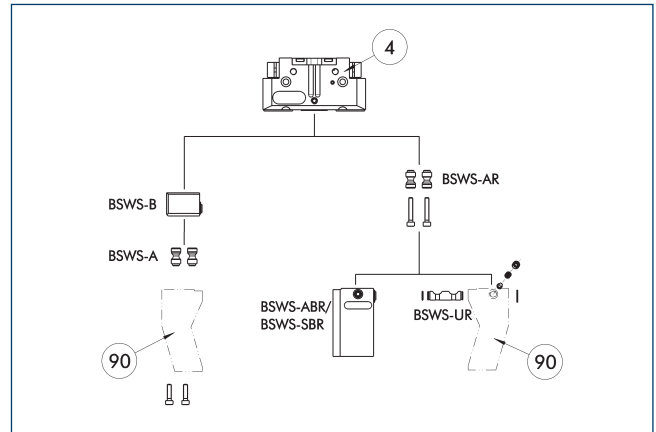
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 07	0403131	8
<b>Pressure maintenance valve with air bleed screw</b>		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

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

## BSWS jaw quick-change jaw systems



④ Grippers

⑨⑩ Customized gripper fingers

There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
<b>Quick-change jaw system base</b>		
BSWS-B 300	0303037	1
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 300	0303036	2

① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PGN-plus	300	-1 (6 bar)	■■■■
PGN-plus	300	-1-AS / -1-IS (6 bar)	■■■■
PGN-plus	300	-2 (6 bar)	■■■■
PGN-plus	300	-2-AS / -2-IS (6 bar)	■■■■
<b>Legend</b>			
■■■■			Can be combined without restrictions
■■□□			Use with restrictions (see loading limits)
□□□□			cannot be combined

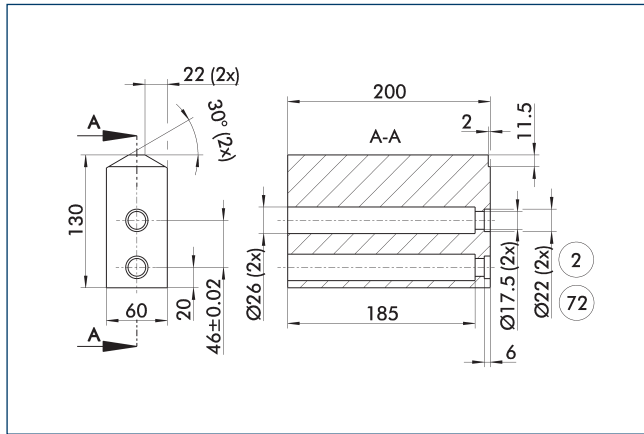
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

If the operating pressure is higher than 6 bar, suitability for use above the application limits must be checked.

# PGN-plus 300

Universal gripper

## Finger blanks ABR- / SBR-PGZN-plus 300

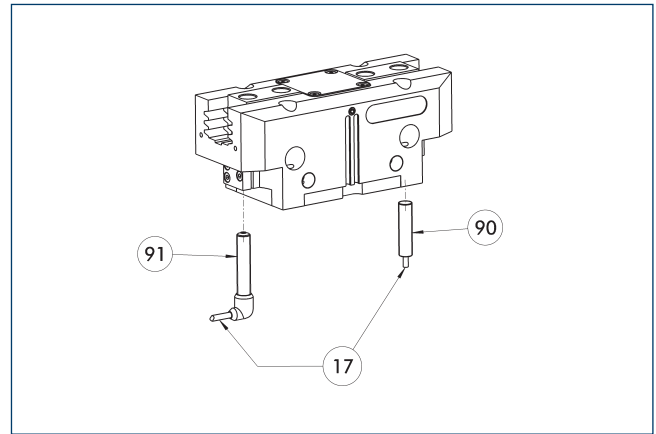


- ② Finger connection
- ⑦② Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 300	0300016	Aluminum	1
SBR-PGZN-plus 300	0300026	Steel	1

## Inductive Proximity Switches



- ①⑦ Cable outlet
- ⑨① Sensor IN...-SA
- ⑨② Sensor IN ...

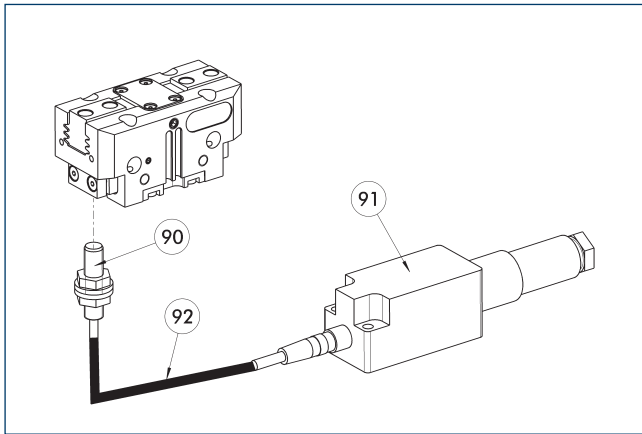
Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
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	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
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	
Sensor distributor		
V2-M12	0301776	●
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.



Flexible position sensor



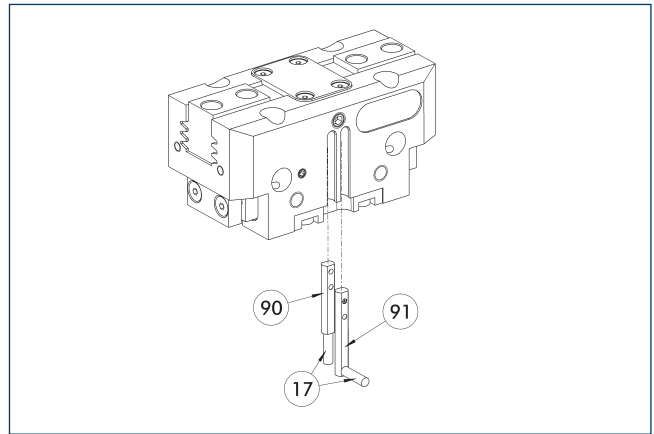
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
Attachment kit for FPS		
AS-FPS-PGZN-plus 300-2	0301642	
Sensor		
FPS-S M8	0301704	
Evaluation electronics		
FPS-F5	0301805	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

Electronic magnetic switch MMS



- 17 Cable outlet
- 90 Sensor MMS 22..
- 91 Sensor MMS 22...-SA

End position monitoring for mounting in the C-slot.

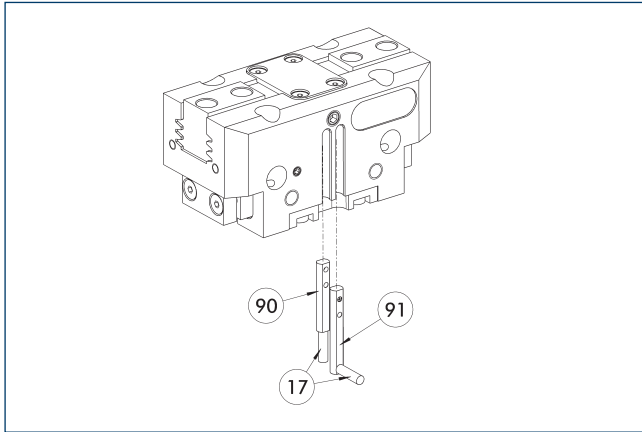
Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Reed Switches		
RMS 22-S-M8	0377720	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
clip for plug/socket		
CLI-M8	0301463	
Wireless sensor system		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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

# PGN-plus 300

Universal gripper

## Programmable magnetic switch MMS 22-PI1



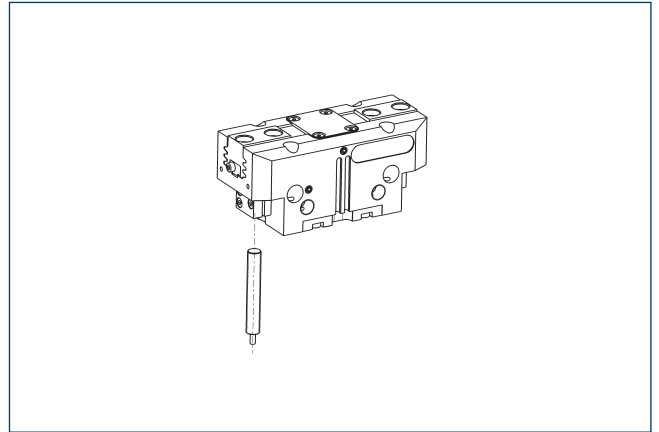
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

## APS-Z80 analog position sensor

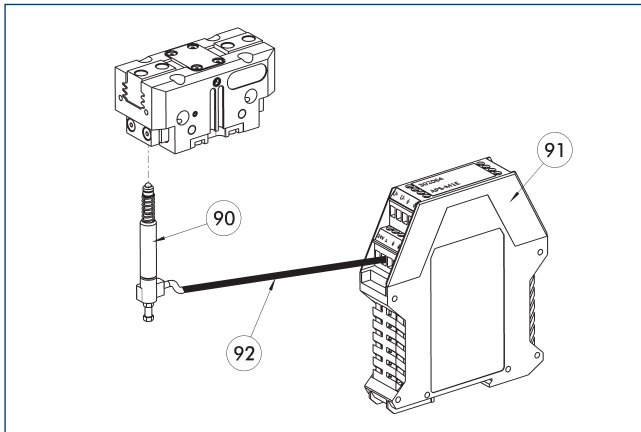


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 300-1	0302117	
AS-APS-Z80-PGZN-plus 300-2	0302118	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

## APS-M1 analog position sensor



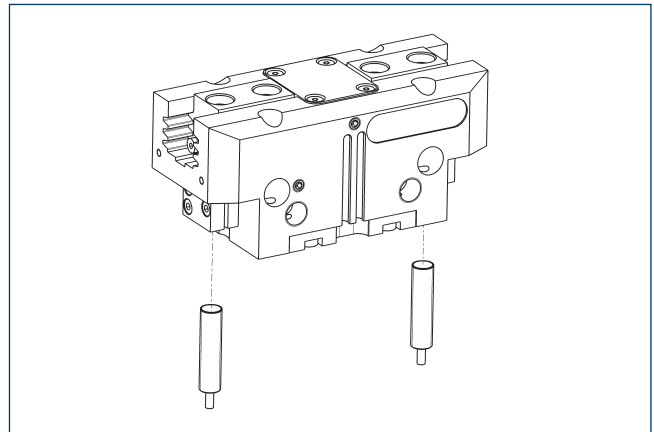
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 300-1	0302088	
AS-APS-M1-PGZN-plus 300-2	0302089	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

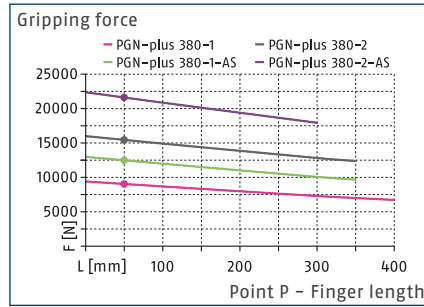
- ① Two sensors (closer/s) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PGN-plus 380

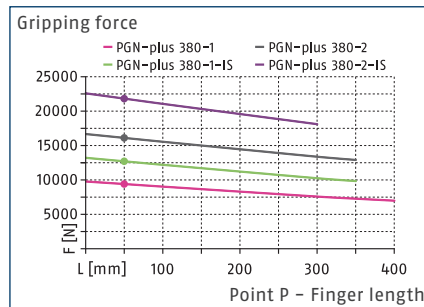
Universal gripper



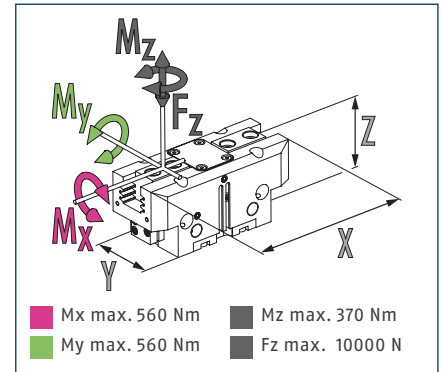
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



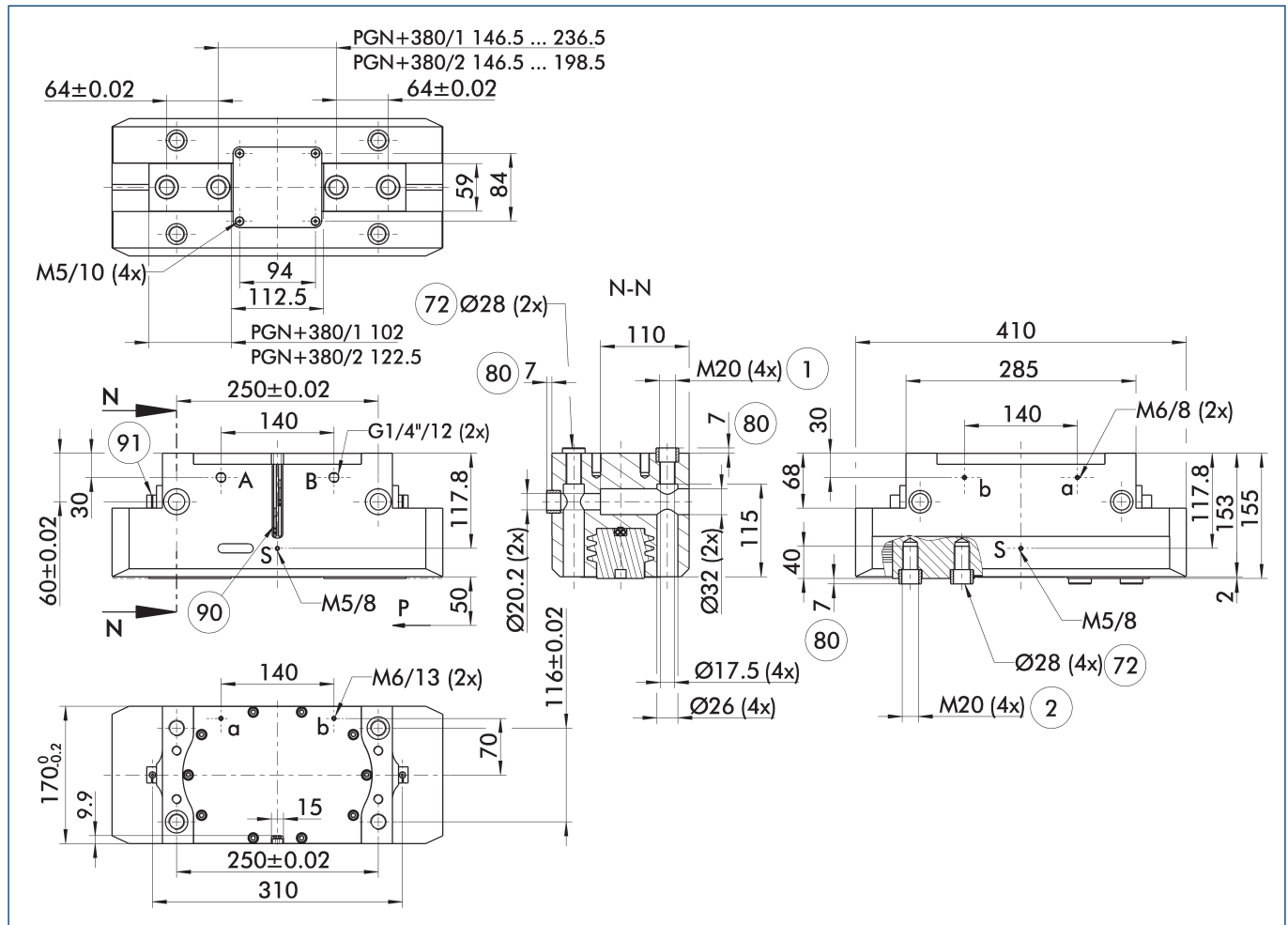
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PGN-plus 380-1	PGN-plus 380-2	PGN-plus 380-1-AS	PGN-plus 380-2-AS	PGN-plus 380-1-IS	PGN-plus 380-2-IS
ID		0371107	0371157	0371407	0371457	0371467	0371477
Stroke per jaw	[mm]	45	26	45	26	45	26
Closing/opening force	[N]	9050/9400	15450/16100	12350/-	21150/-	-/12700	-/21800
Min. spring force	[N]			3300	5700	3300	5700
Weight	[kg]	28	29	36.5	37.5	36.5	37.5
Recommended workpiece weight	[kg]	47	80.5	47	80.5	47	80.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	2275	2275	2705	2705	3175	3175
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.6/0.6	0.6/0.6	0.5/0.8	0.5/0.8	0.8/0.5	0.8/0.5
Closing/opening time with spring	[s]			0.80	0.80	0.80	0.80
Max. permissible finger length	[mm]	400	350	350	300	350	300
Max. permissible mass per finger	[kg]	17	17	17	17	17	17
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions X x Y x Z	[mm]	410 x 170 x 155	410 x 170 x 155	410 x 170 x 226.5	410 x 170 x 226.5	410 x 170 x 226.5	410 x 170 x 226.5
<b>Options and their characteristics</b>							
Dustproof version		37371107	37371157	37371407	37371457	37371467	37371477
IP protection class		64	64	64	64	64	64
Weight	[kg]	30	31	38.5	39.5	38.5	39.5
Corrosion-protected version		38371107	38371157	38371407	38371457	38371467	38371477
High-temperature version		39371107	39371157	39371407	39371457	39371467	39371477
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0371130	0371180	0371430	0371445		

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

## Main view

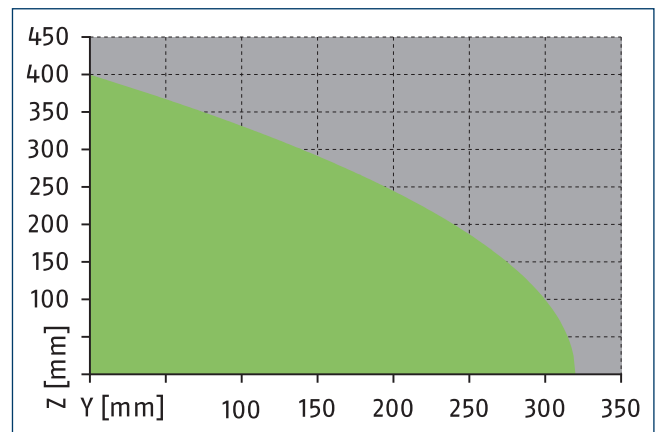
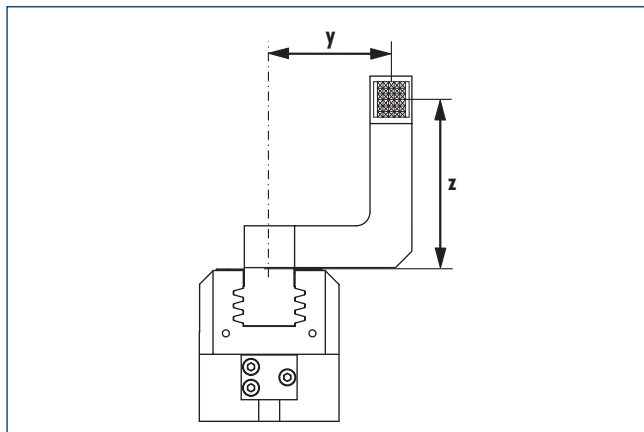


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can 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 | ② Finger connection                                       |
| B, b Main / direct connection, gripper closing | 72 Fit for centering sleeves                              |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part |
| ① Gripper connection                           | 90 Sensor MMS 22..  |
|  | 91 Sensor IN ...  |

## Maximum permitted finger projection



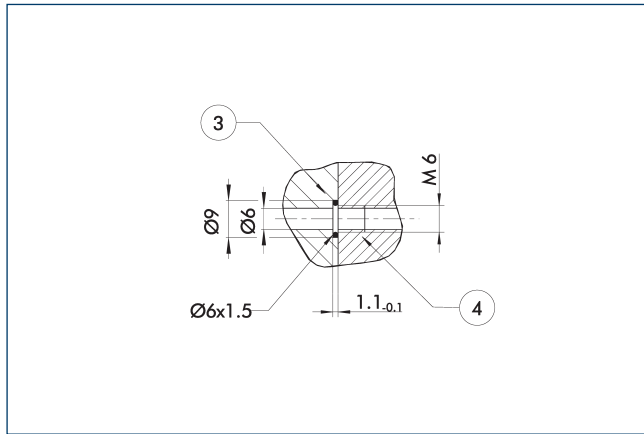
■ Permitted range      ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

# PGN-plus 380

Universal gripper

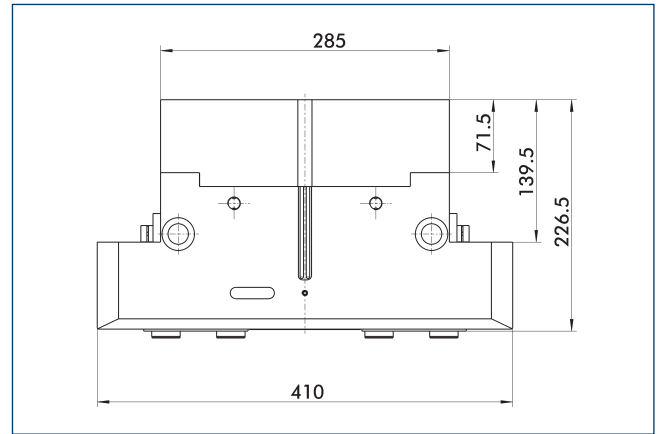
## Hose-free direct connection M6



- ③ Adapter
- ④ Grippers

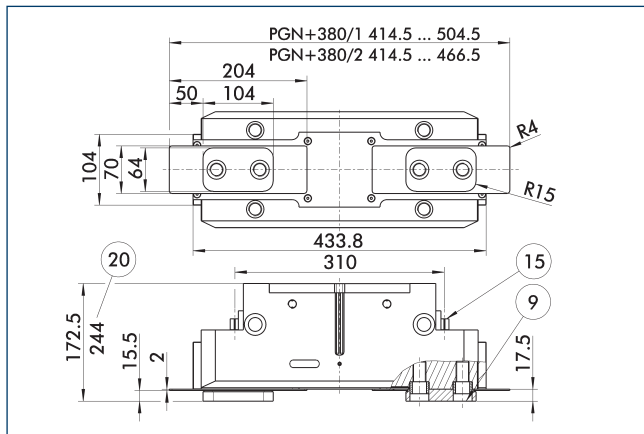
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

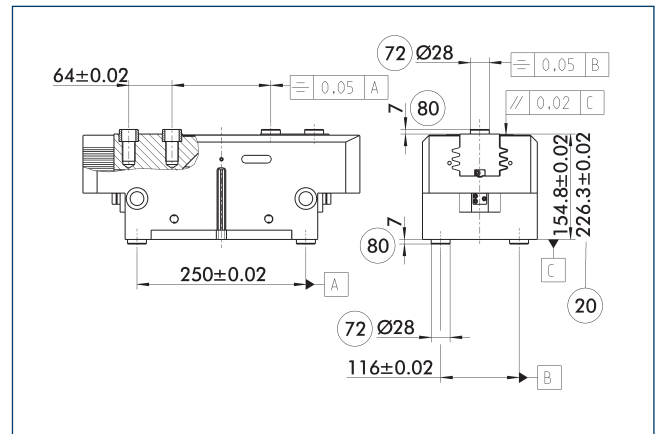
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- ⑮ Sealing bolt
- ⑳ For AS / IS version

The "dustproof" option increases the degree of protection against penetrating substances. The assembly diagram shifts by the height of the intermediate jaw. The finger length is still measured from the upper edge of the gripper housing.

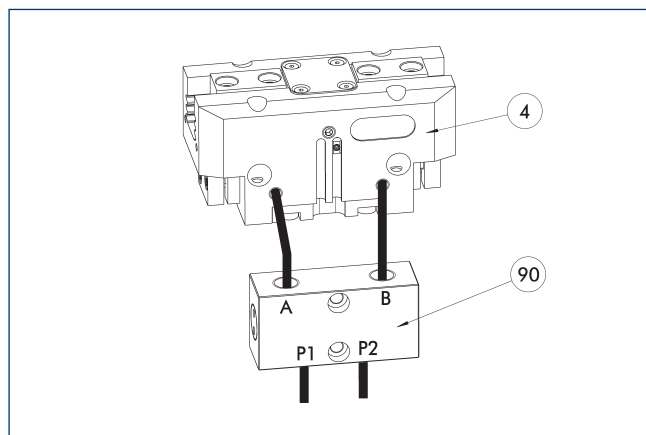
## Precision version



- ⑳ For AS / IS version
- ㉓ Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



④ Grippers

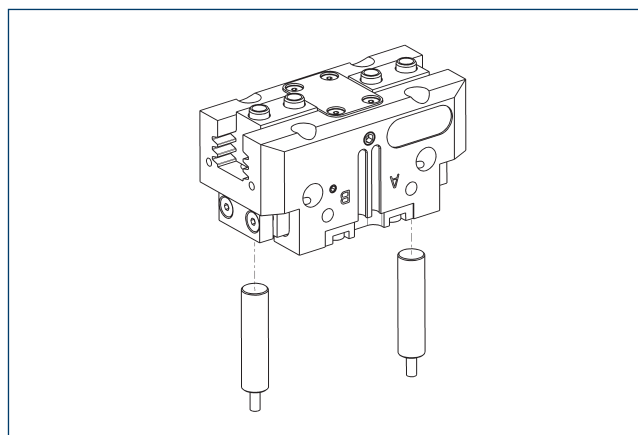
⑨⑩ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve with air bleed screw		
SDV-P 10-E	0300109	10

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

## Inductive Proximity Switches



Directly mounted end position monitoring.

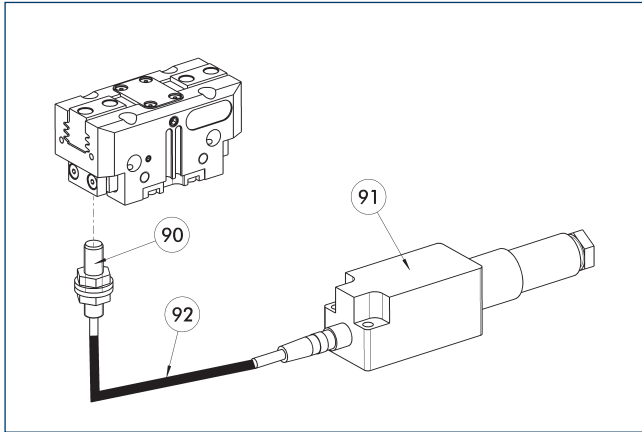
Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
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	
Sensor distributor		
V2-M12	0301776	●
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.

# PGN-plus 380

Universal gripper

## Flexible position sensor



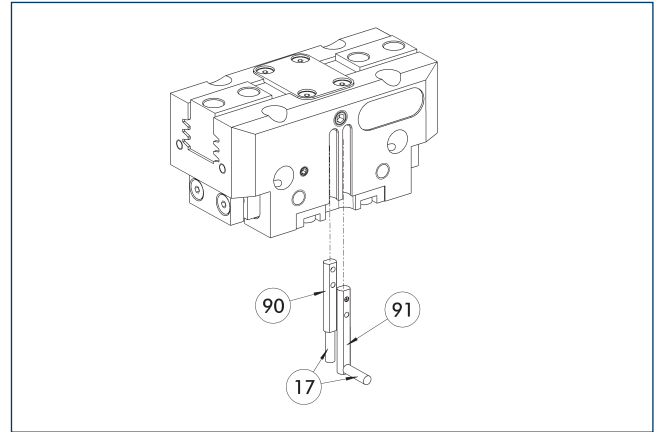
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
Attachment kit for FPS		
AS-FPS-PGN-plus 380-2	0301645	
Sensor		
FPS-S M8	0301704	
Evaluation electronics		
FPS-F5	0301805	
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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

## Electronic magnetic switch MMS



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

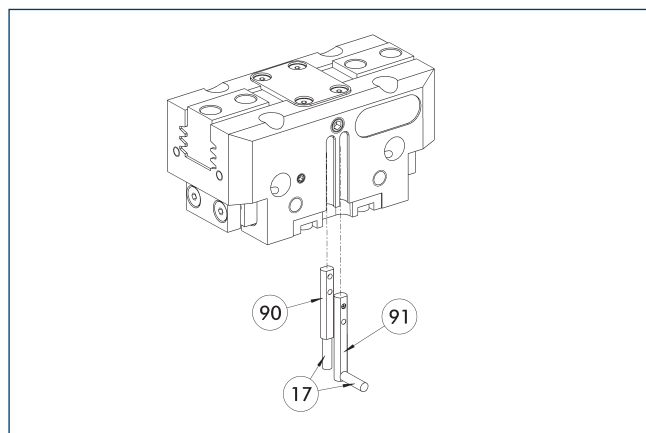
End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Reed Switches		
RMS 22-S-M8	0377720	●
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
clip for plug/socket		
CLI-M8	0301463	
Wireless sensor system		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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



## Programmable magnetic switch MMS 22-PI1



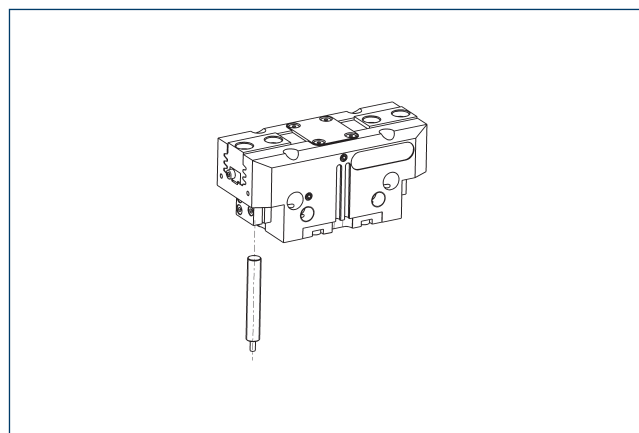
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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

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

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

## APS-Z80 analog position sensor



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

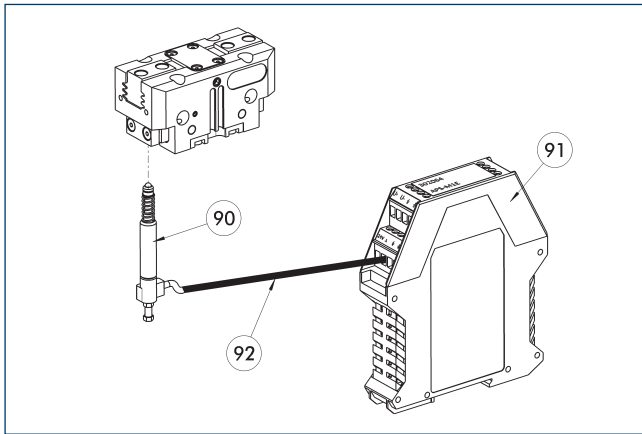
Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 380-1	0302101	
AS-APS-Z80-PGZN-plus 380-2	0302119	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- ① When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper. The resolution of the sensor can be lower in the peripheral areas of the gripper. You can find further information on the product in the operating manual.

# PGN-plus 380

Universal gripper

## APS-M1 analog position sensor



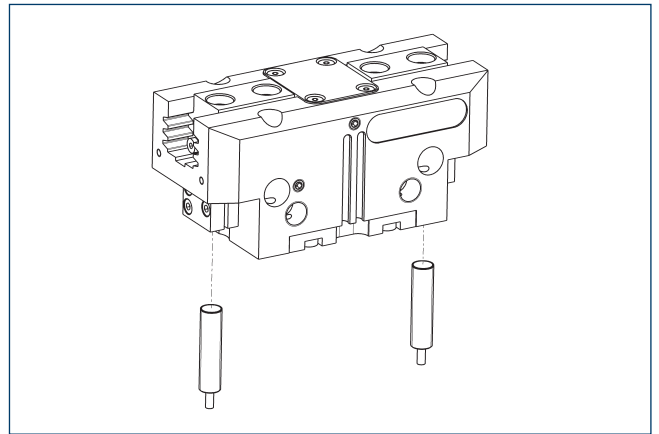
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 200-1/380-2	0302085	
AS-APS-M1-PGZN-plus 380-1	0302090	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- ① When using an APS system, for each gripper an attachment kit (AS-APS-M1), an APS-M1S sensor (incl. 3 m cable) as well as an electronics (APS-M1e) are required. An extension cable (APS-K) can be connected between the sensor and the electronics as an option. The max. cable length between the sensor and the electronics is 10 m, between the electronics and their control unit (PLC) it is max. 1 m.

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

- 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. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.





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Superior Clamping and Gripping



## Product Information

Gripper for small components MPG-plus

# MPG-plus

Gripper for small components

## Powerful. Fast. Long fingers.

# Gripper for small components MPG-plus

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

## Field of application

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

## Advantages – Your benefits

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

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

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

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

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

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

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

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

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



12520002



Sizes  
Quantity: 9



Weight  
0.01 .. 0.63 kg



Gripping force  
9 .. 370 N



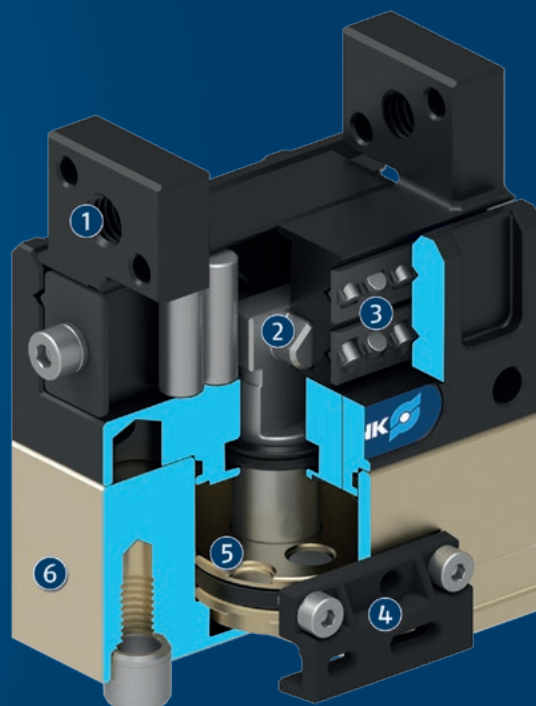
Stroke per jaw  
1 .. 10 mm



Workpiece weight  
0.05 .. 1.25 kg

## Functional description

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



- ① **Base Jaw**  
for the connection of workpiece-specific gripper fingers
- ② **Wedge-hook design**  
for high force transmission and centric gripping
- ③ **Cross roller guidance**  
precise gripping due to backlash-free base jaw guidance
- ④ **Sensor system**  
for monitoring two switching points
- ⑤ **Oval piston drive**  
for power generation
- ⑥ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy

# MPG-plus

Gripper for small components

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Cover housing material:** Steel

**Base jaw material:** Steel

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

**Warranty:** 24 months

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

**Gripping force maintenance device:** possible by using the version with mechanical gripping force maintenance or pressure maintenance valve SDV-P

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

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

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

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

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

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

## Application example

Pneumatic pick & place unit for small components.

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





## SCHUNK offers more ...

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



Rotation unit



Linear module



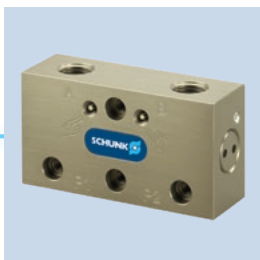
Pick & Place Unit



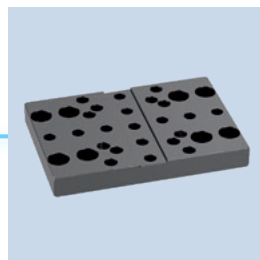
Manual change system



Attachment valve



Pressure maintenance valve



Adapter plate



Finger blank



Flexible position sensor



Magnetic switches



Inductive proximity switches

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

## Options and special information

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

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

**Precision version P:** for 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.

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

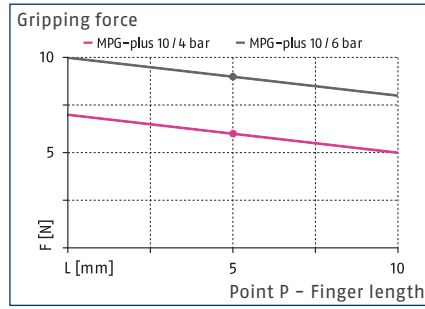
**Food-grade lubrication:** The requirements of EN 1672-2:2020 are not fully met.

# MPG-plus 10

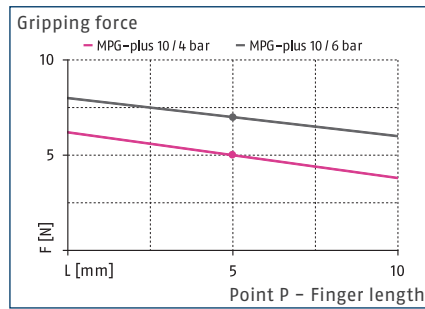
Gripper for small components



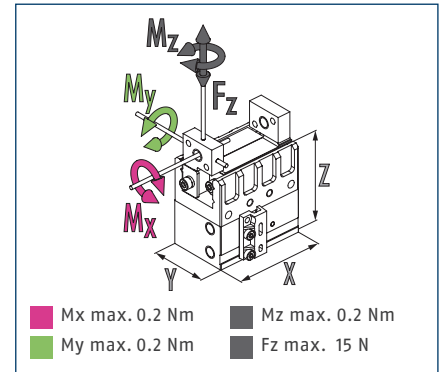
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

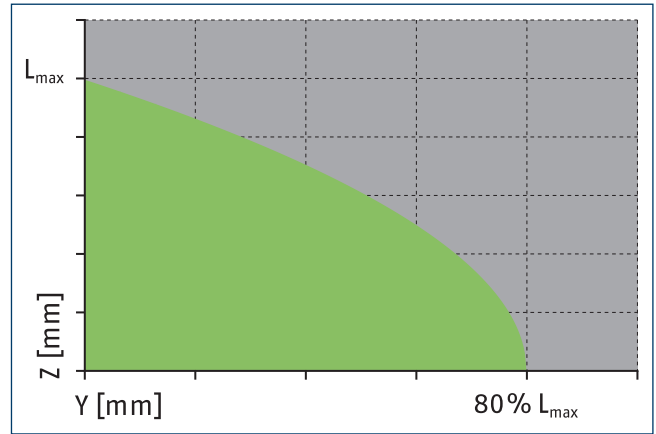
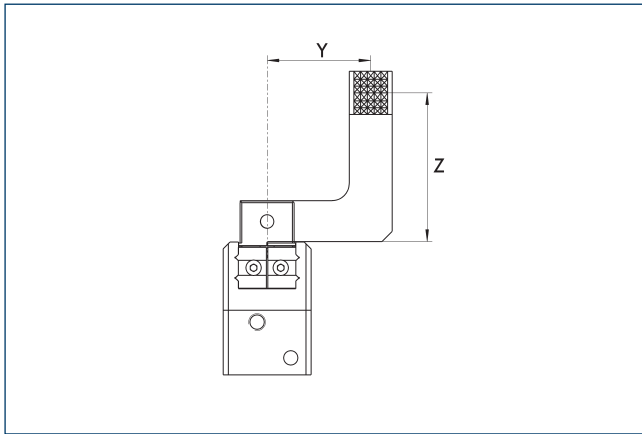
Description		MPG-plus 10
ID		0340006
Stroke per jaw	[mm]	1
Closing/opening force	[N]	9/7
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.12
Min./nom./max. operating pressure	[bar]	3/6/6
Closing/opening time	[s]	0.01/0.01
Max. permissible finger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



# MPG-plus 10

Gripper for small components

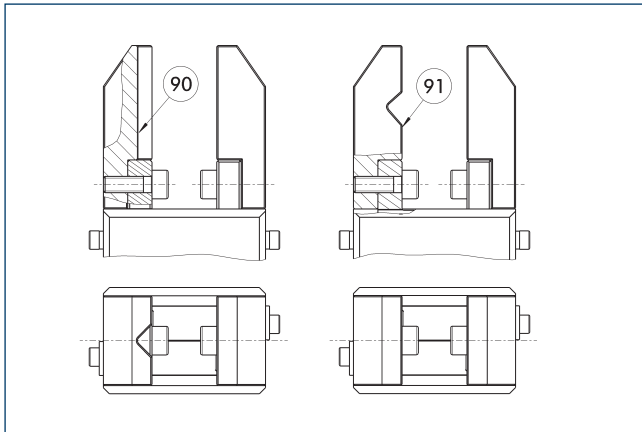
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

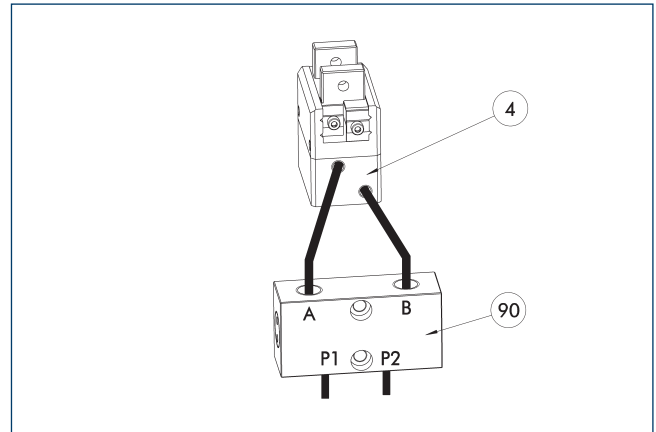
## Jaw design



90 Vertically positioned prism      91 Horizontally positioned prism

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

## SDV-P pressure maintenance valve



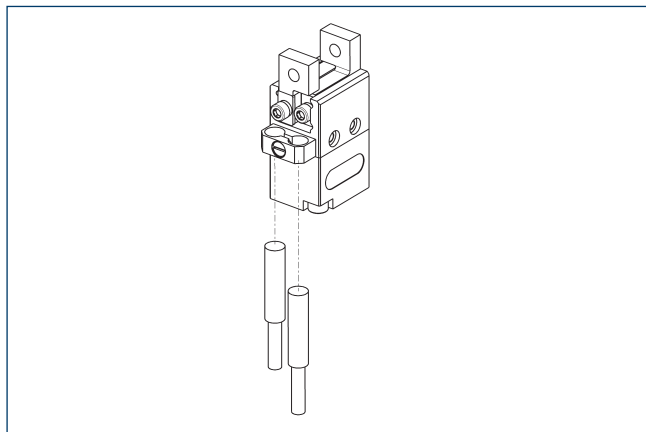
4 Grippers      90 SDV-P pressure maintenance valve

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

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

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

## Inductive proximity switches



Directly mounted end position monitoring.

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

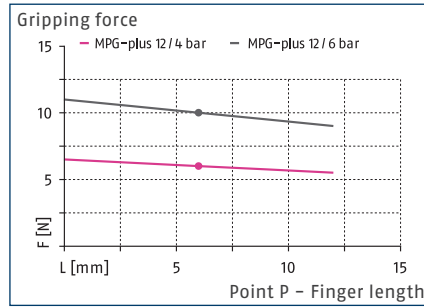
① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 12

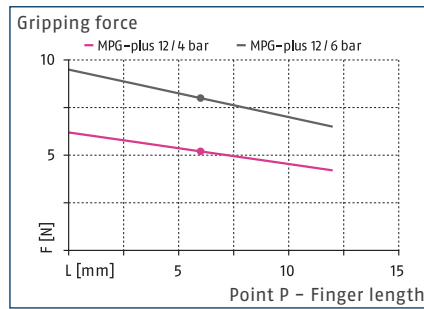
Gripper for small components



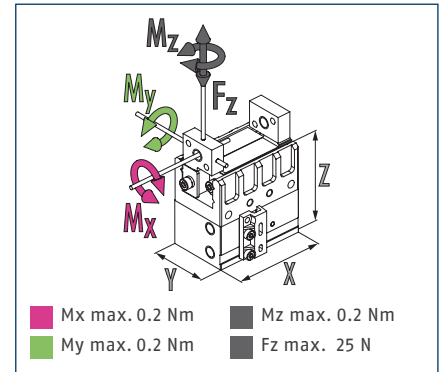
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

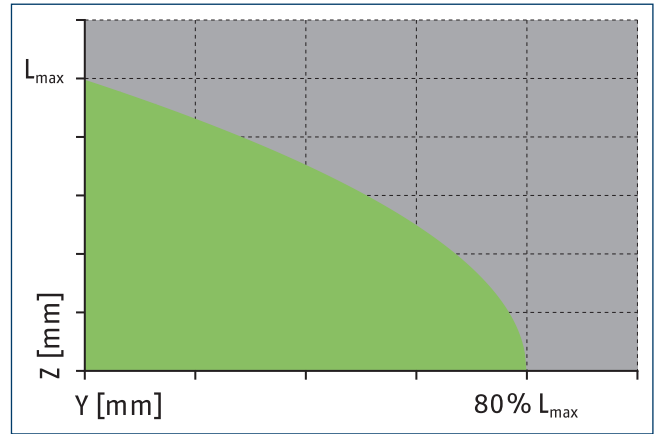
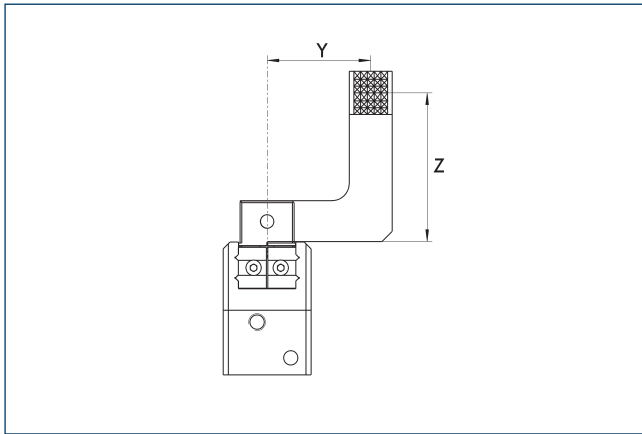
Description		MPG-plus 12
ID		0340007
Stroke per jaw	[mm]	1.2
Closing/opening force	[N]	10/8
Weight	[kg]	0.01
Recommended workpiece weight	[kg]	0.05
Fluid consumption double stroke	[cm³]	0.17
Min./nom./max. operating pressure	[bar]	3/6/6
Closing/opening time	[s]	0.01/0.01
Max. permissible finger length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



# MPG-plus 12

Gripper for small components

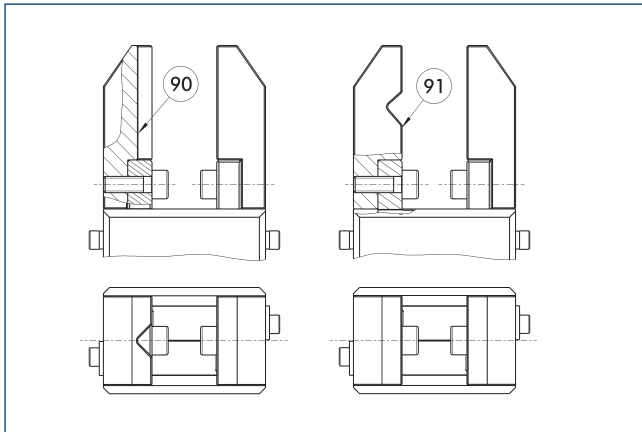
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

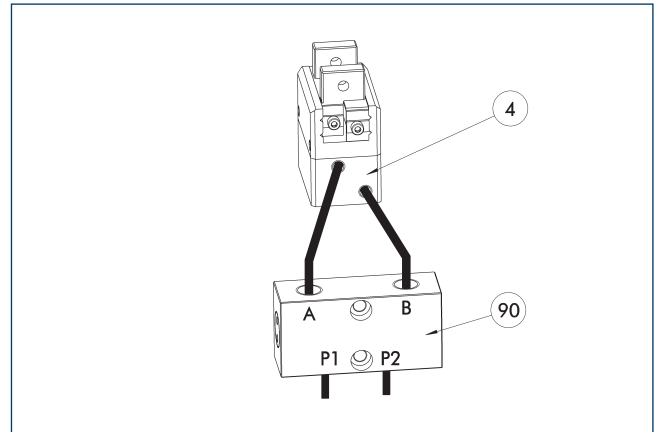
## Jaw design



90 Vertically positioned prism      91 Horizontally positioned prism

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

## SDV-P pressure maintenance valve



4 Grippers      90 SDV-P pressure maintenance valve

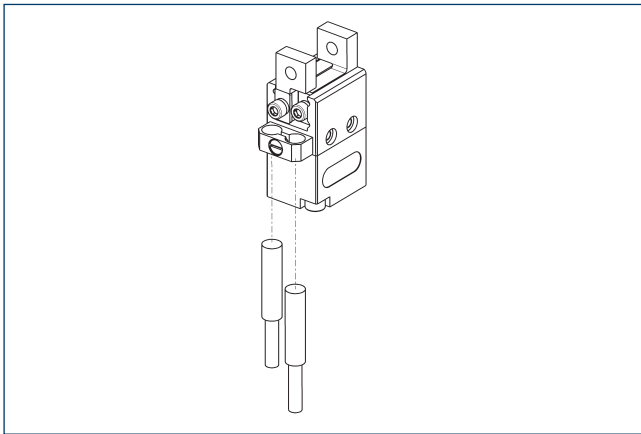
The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

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

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



## Inductive proximity switches



Directly mounted end position monitoring.

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

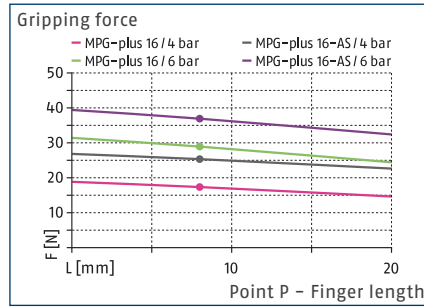
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 16

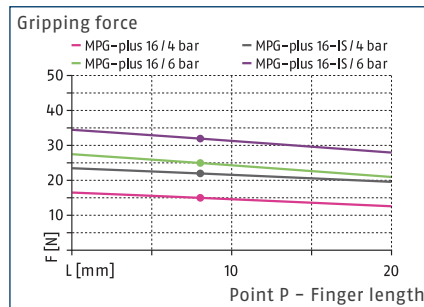
Gripper for small components



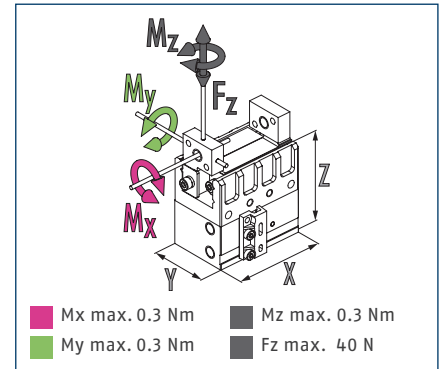
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

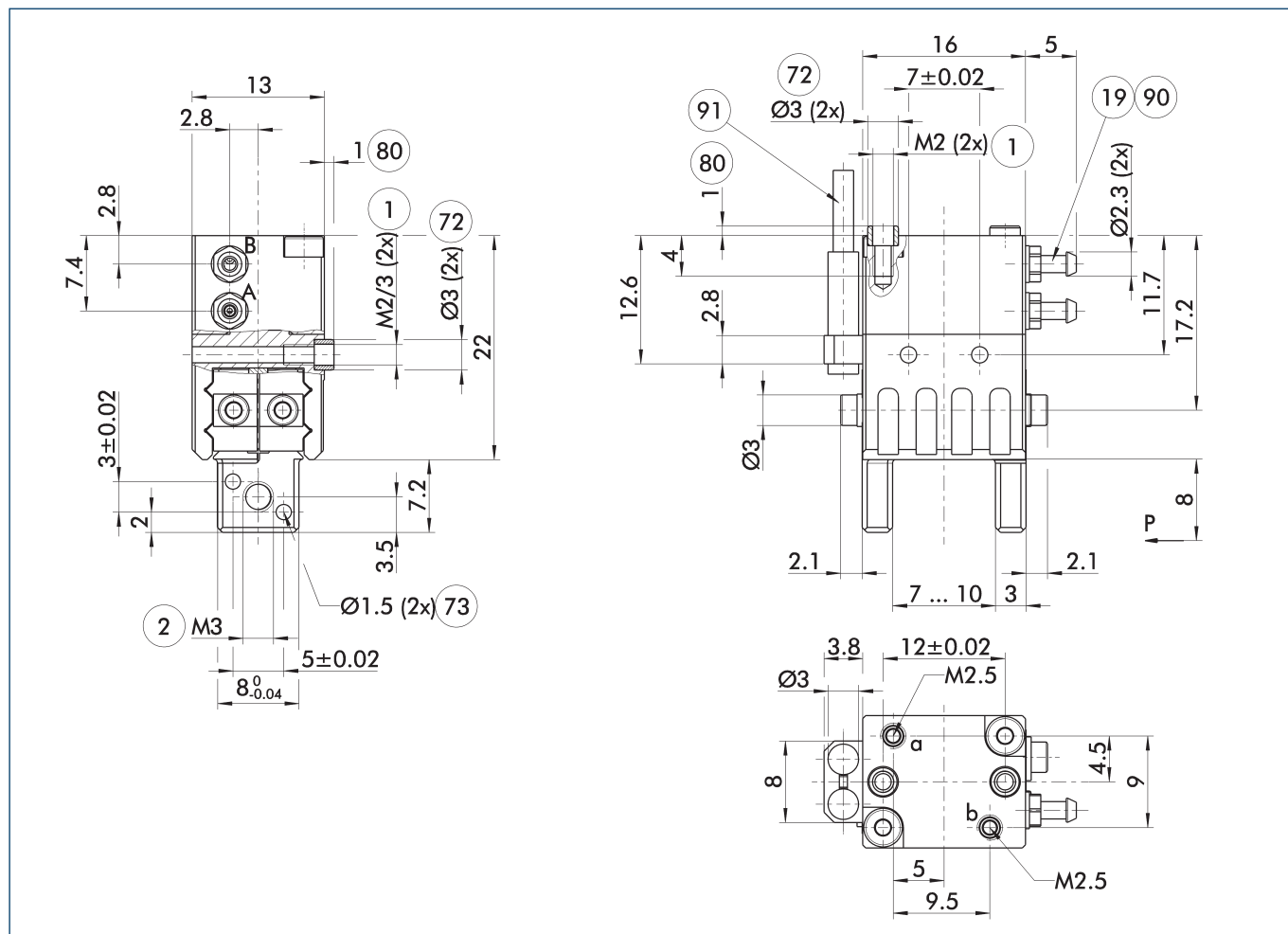


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

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

## Main view



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

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

A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

⑬ Air connection

⑭ Fit for centering sleeves

⑭ Fit for centering pins

⑮ Depth of the centering sleeve hole in the counter part

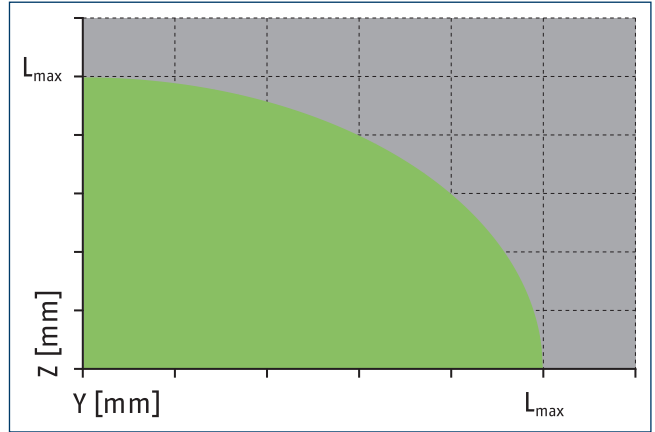
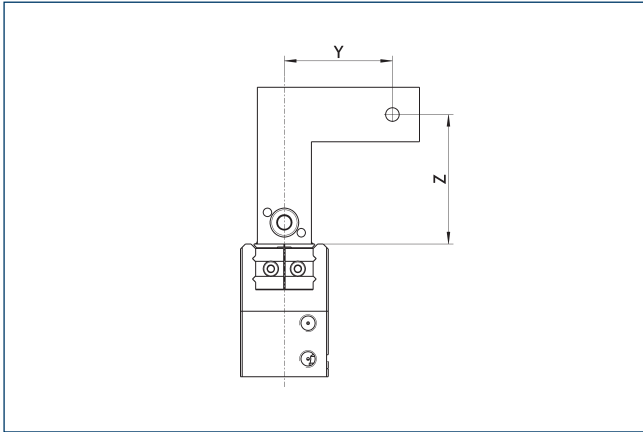
⑯ Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0-0.6) series, Order no.: 1820712066 (-67/-68/-69)

⑰ Sensor IN ...

# MPG-plus 16

Gripper for small components

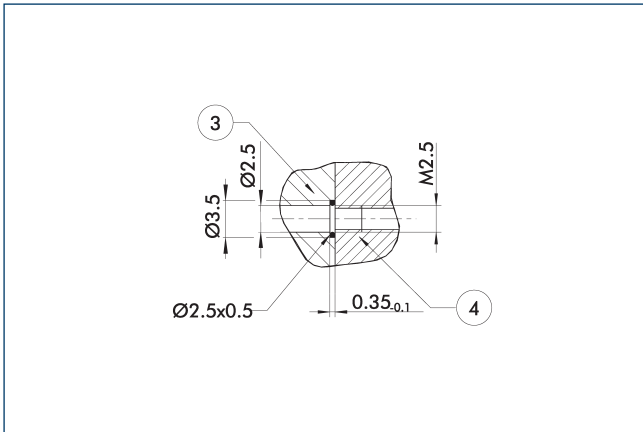
## Maximum permitted finger projection



■ Permitted range      ■ Inadmissible range

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

## Hose-free direct connection M2.5

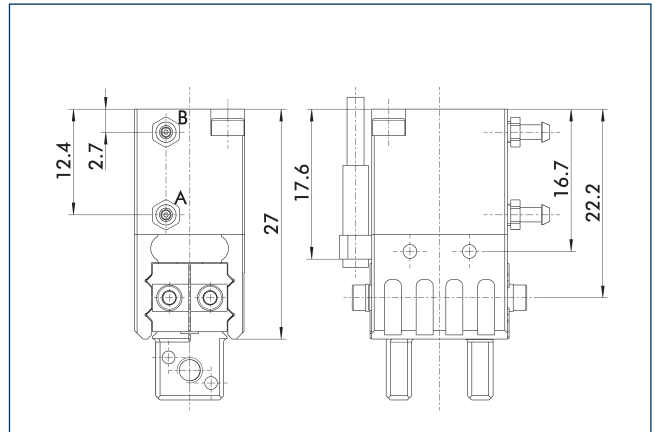


③ Adapter

④ Grippers

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

## Gripping force maintenance device AS / IS



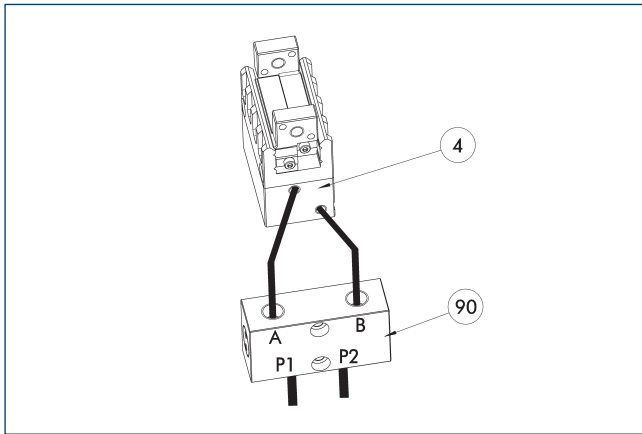
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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



# MPG-plus 16

Gripper for small components

## SDV-P pressure maintenance valve



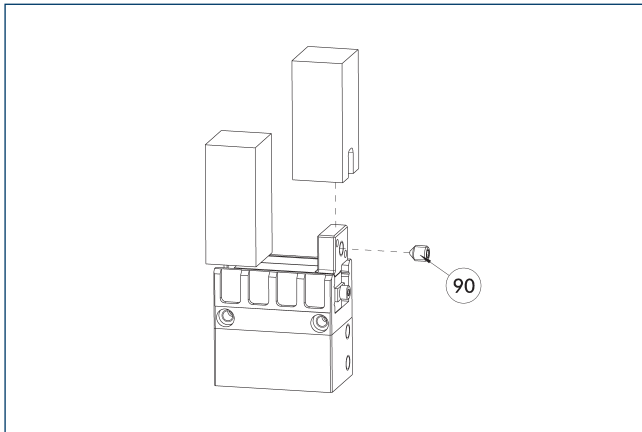
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

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

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

## Finger blanks with BSWS

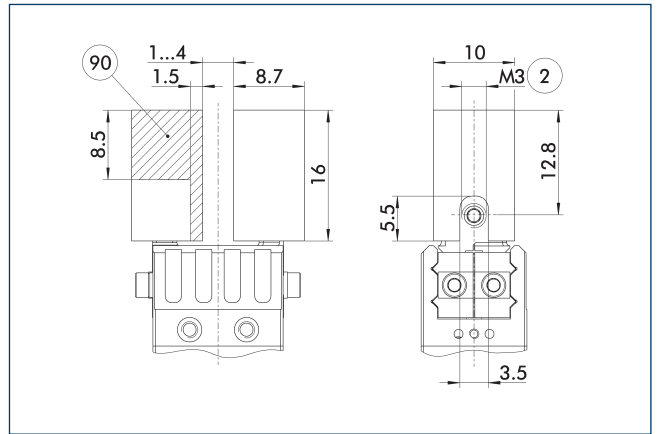


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

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

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

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

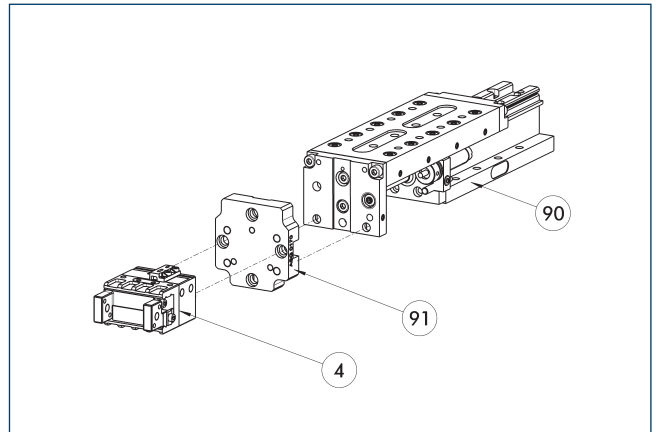


- ② Finger connection
- ⑨⑩ Machining volume

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

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

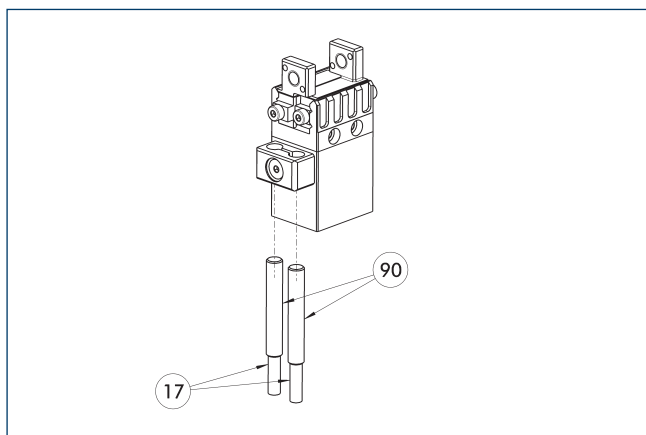
## Modular Assembly Automation



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

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

## Inductive proximity switches



17 Cable outlet

90 Sensor IN ...

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

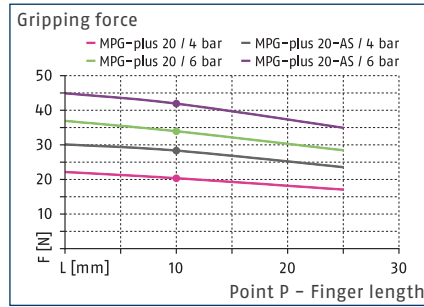
① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPG-plus 20

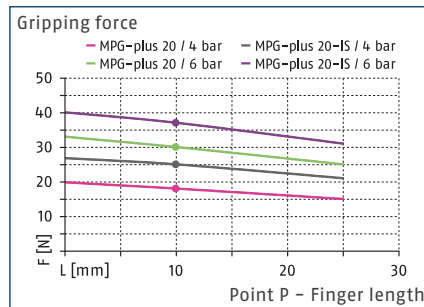
Gripper for small components



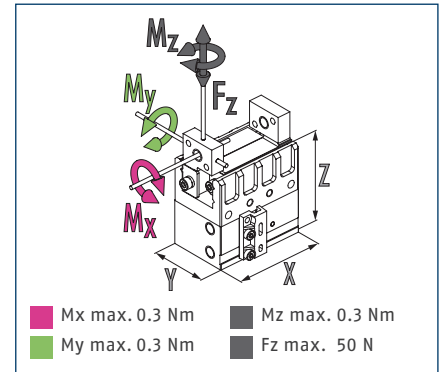
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



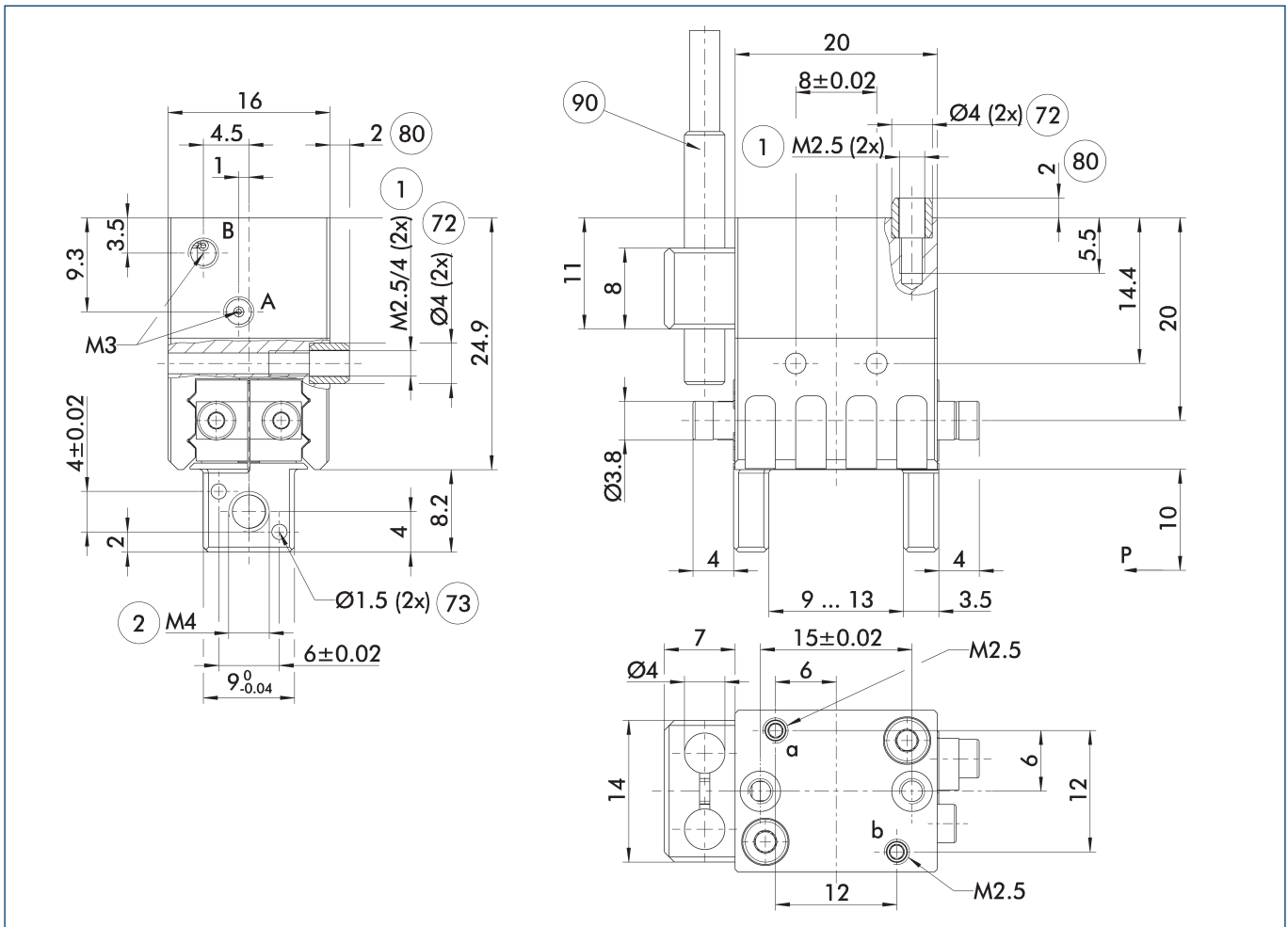
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

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



## Main view



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

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

A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

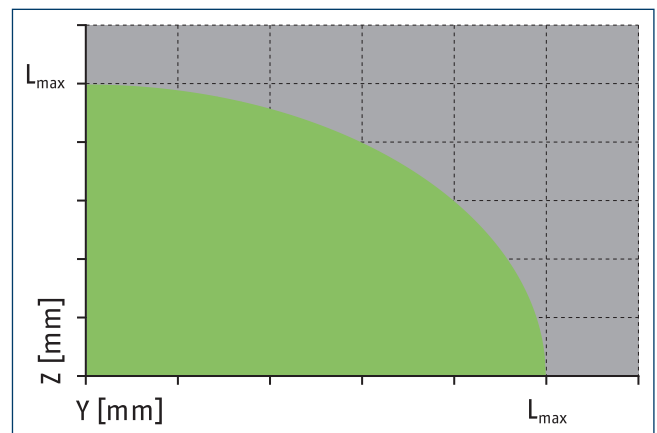
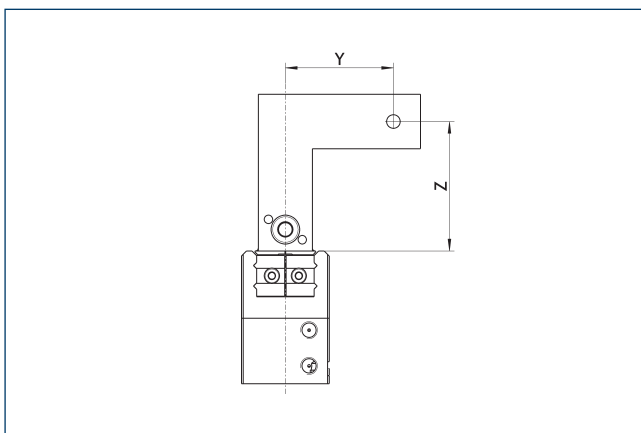
⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Sensor IN ...

## Maximum permitted finger projection



■ Permitted range

■ Inadmissible range

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

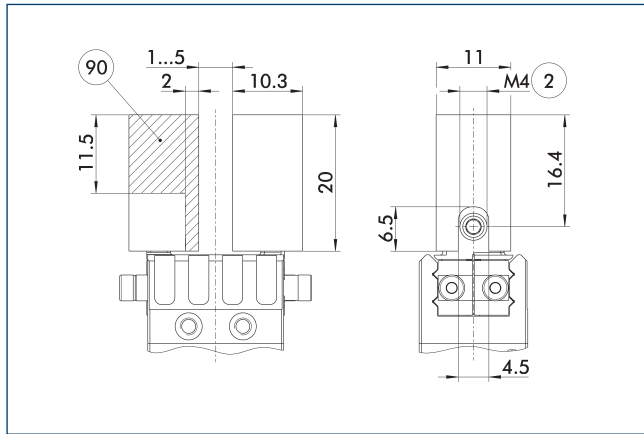




# MPG-plus 20

Gripper for small components

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

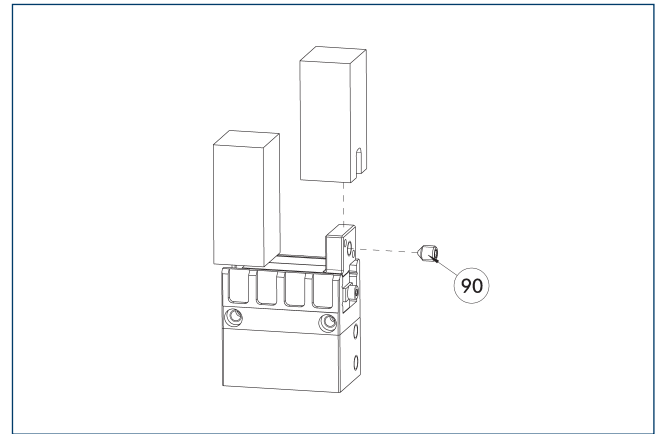


- ② Finger connection
- ⑨⑩ Machining volume

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

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

## Finger blanks with BSWS

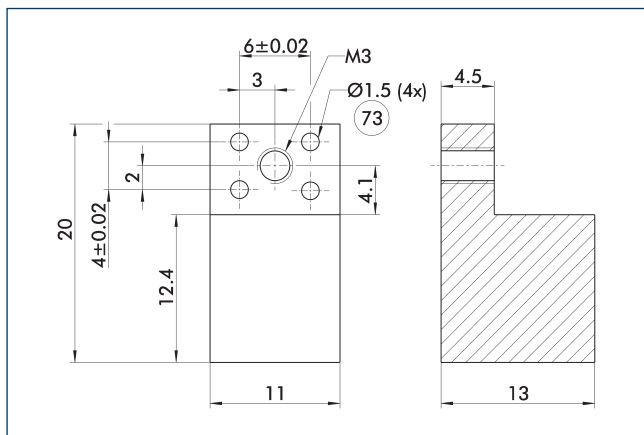


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

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

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

## Finger blanks ABR-MPG-plus 20

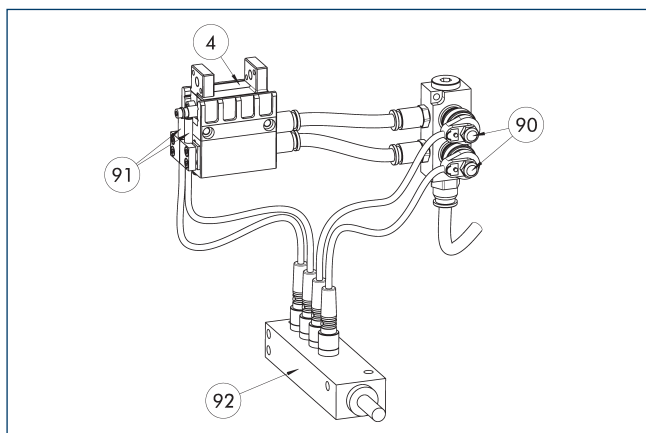


- ⑦③ Fit for centering pins

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

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

## Attachment valves



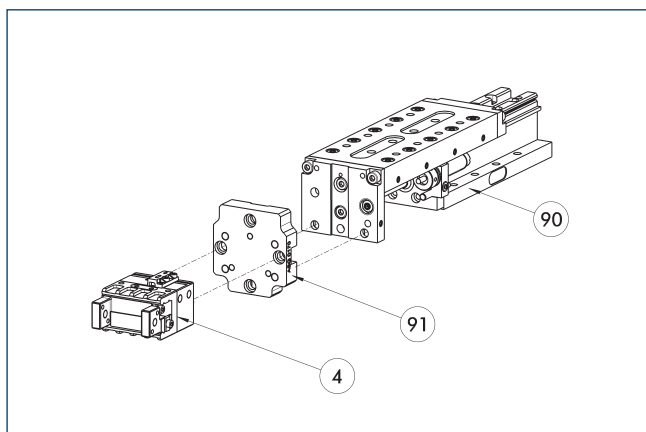
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

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

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

## Modular Assembly Automation



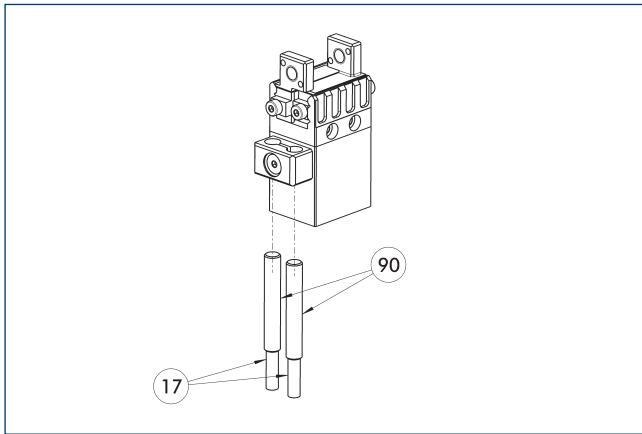
- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

# MPG-plus 20

Gripper for small components

## Inductive proximity switches



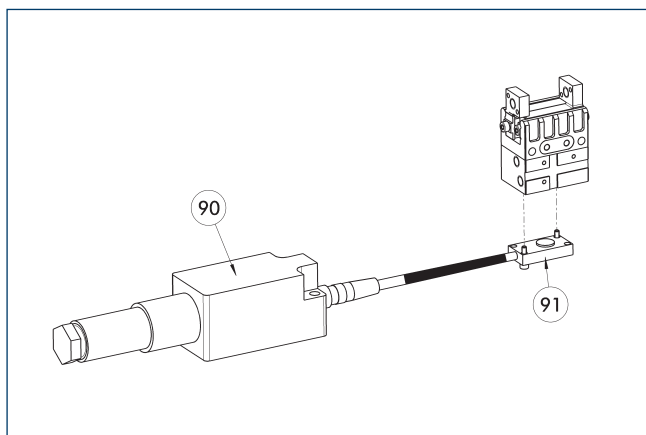
17 Cable outlet

90 Sensor IN ...

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
<b>clip for plug/socket</b>		
CLI-M12	0301464	
CLI-M8	0301463	
<b>Cable extension</b>		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
<b>Sensor distributor</b>		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

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.

## Flexible position sensor



90 FPS-F5 evaluation electronic      91 FPS-S sensor

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

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

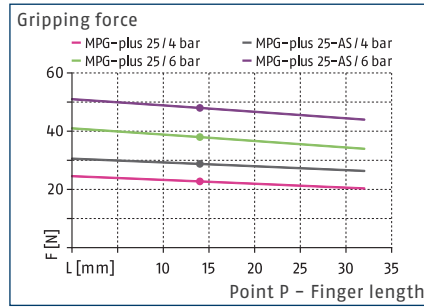
① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

# MPG-plus 25

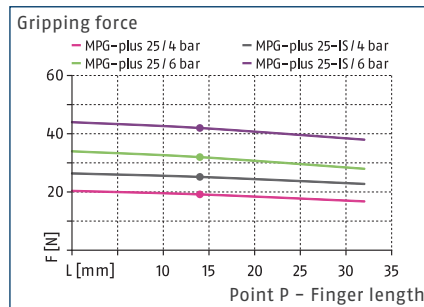
Gripper for small components



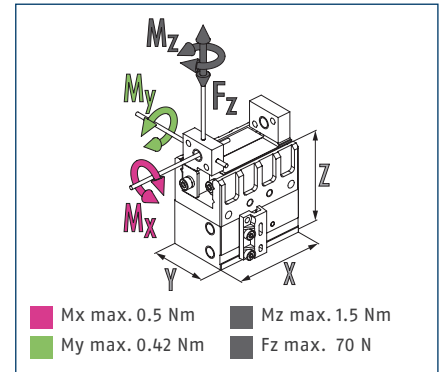
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



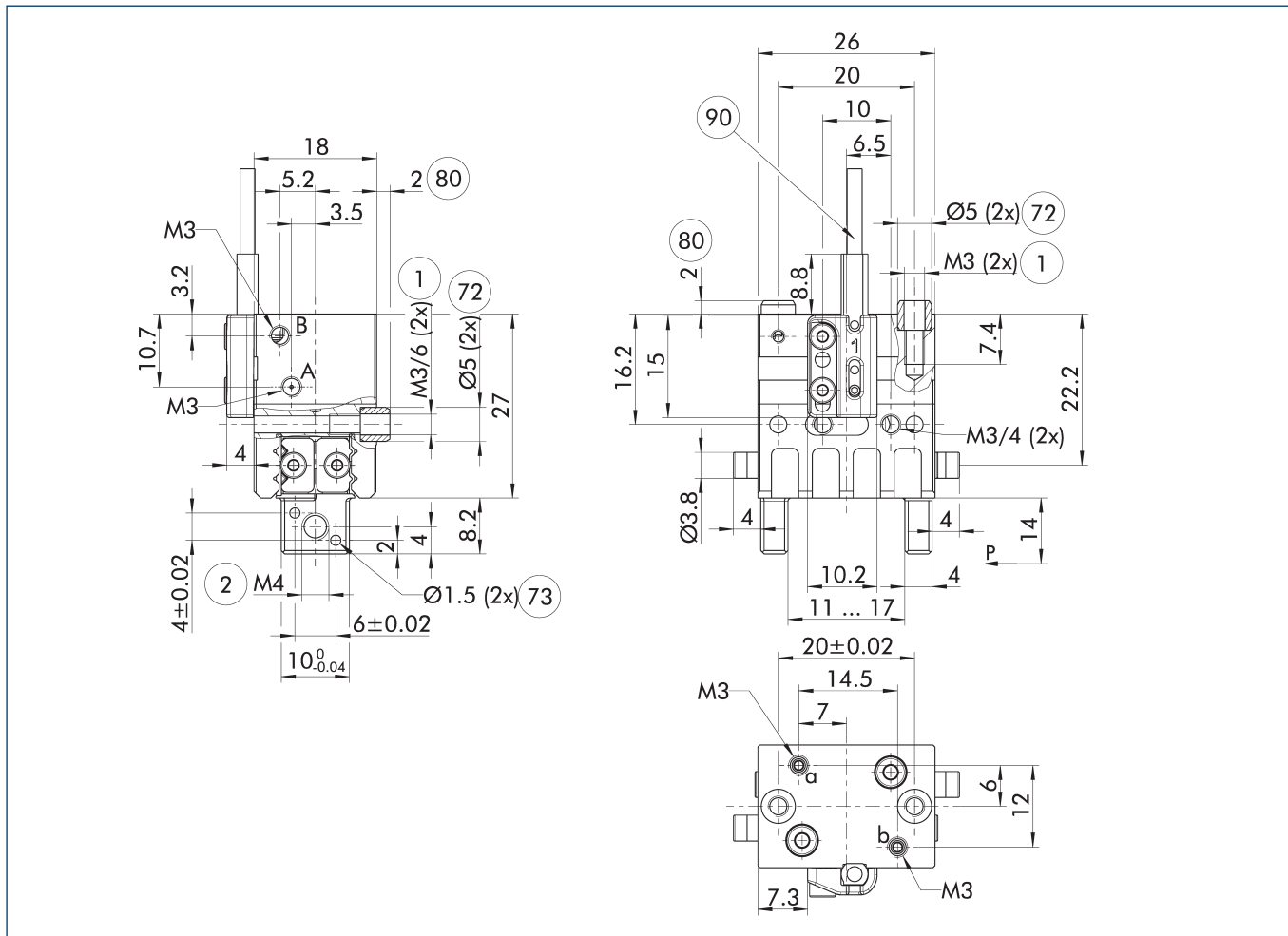
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

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



## Main view



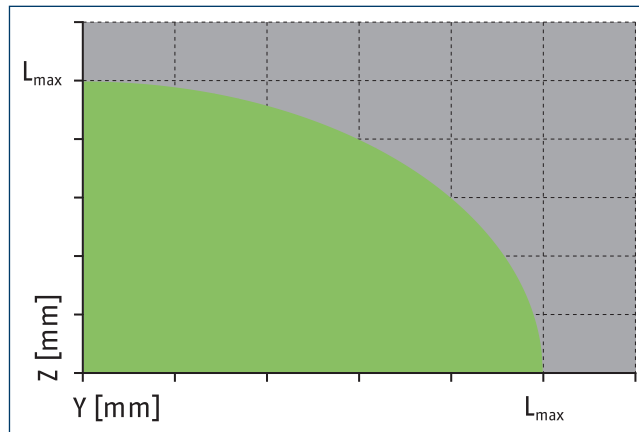
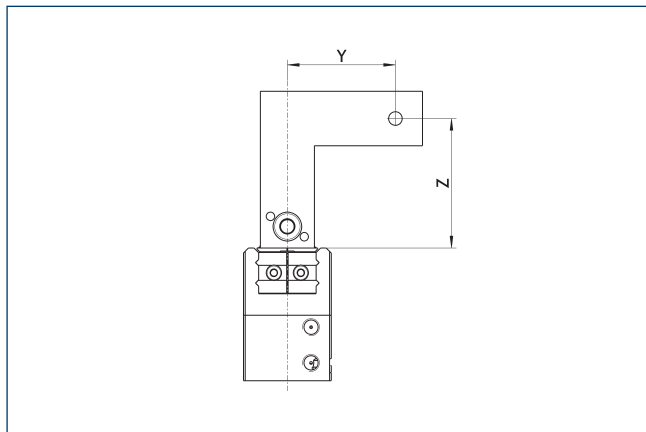
The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

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

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

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

## Maximum permitted finger projection



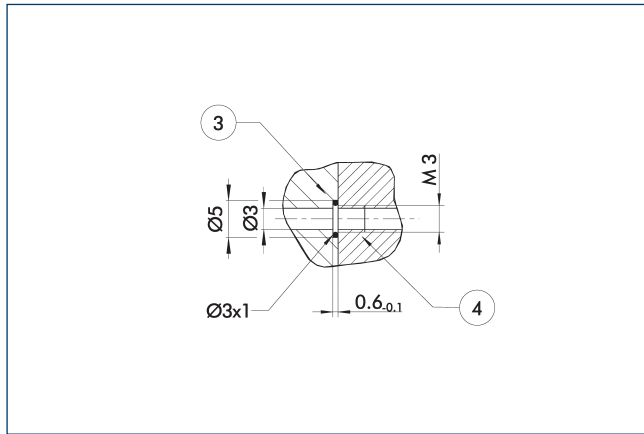
■ Permitted range      ■ Inadmissible range

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

# MPG-plus 25

Gripper for small components

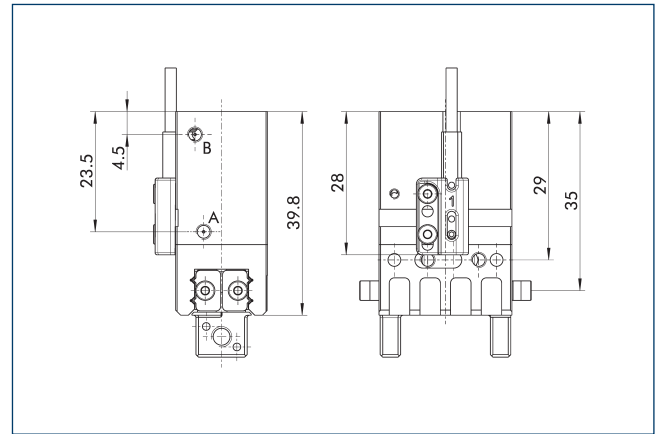
## Hose-free direct connection M3



③ Adapter                      ④ Grippers

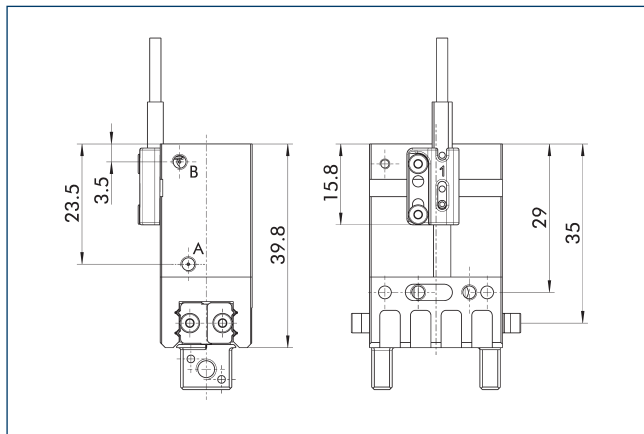
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



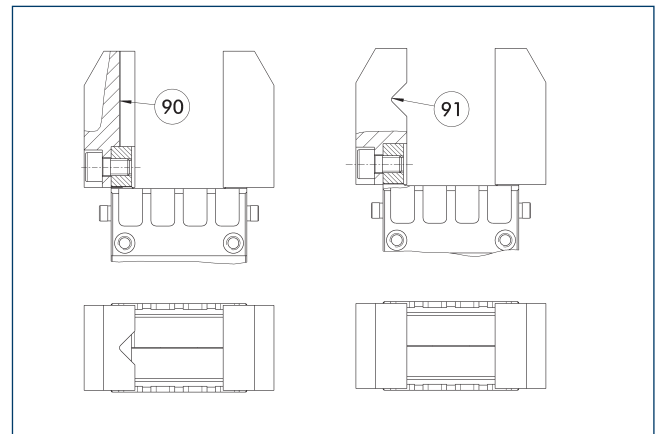
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

## Gripping force maintenance IS



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

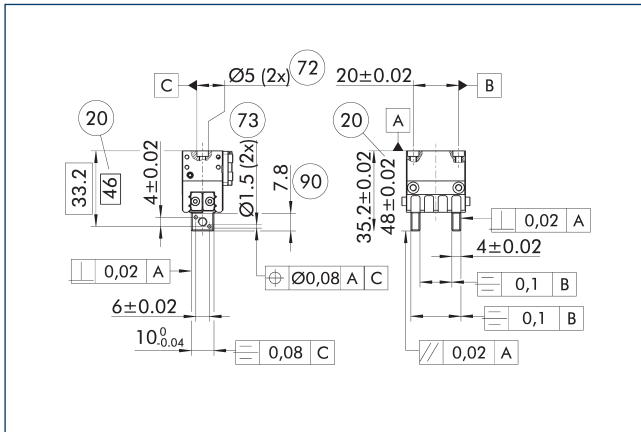
## Jaw design



⑨⑩ Vertically positioned prism                      ⑨⑪ Horizontally positioned prism

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

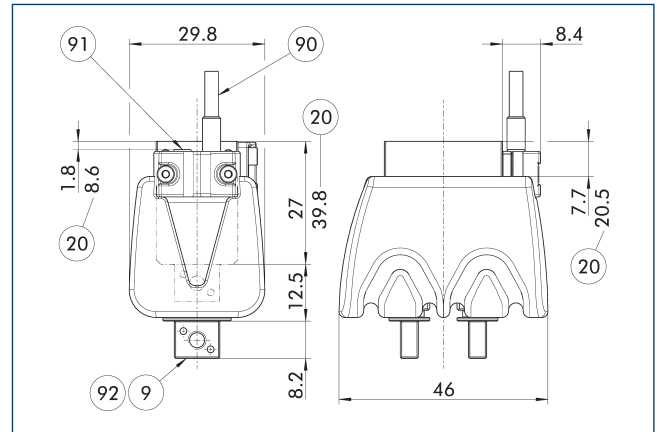
## Precision version



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

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

## Protection cover HUE

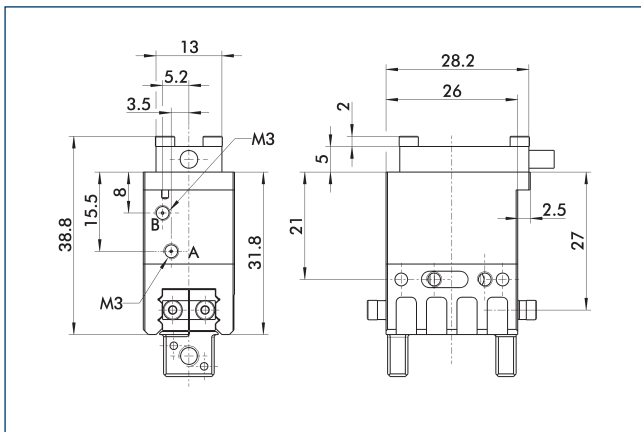


- ⑨ For mounting screw connection diagram, see basic version
- ⑩ For AS / IS version
- ㉑ Cylindrical pins
- ㉒ Intermediate jaw (stainless steel)

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

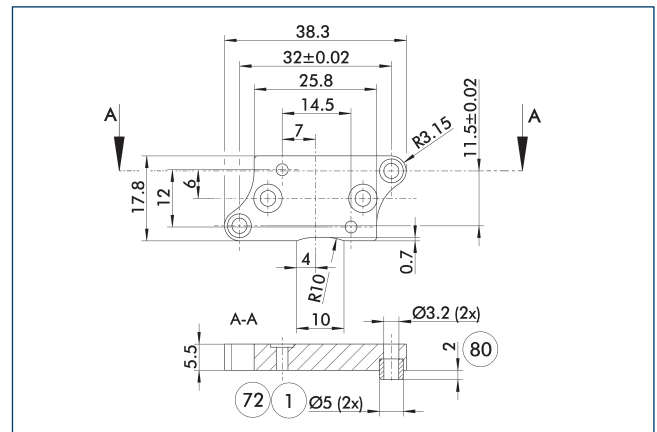
- ① Two sensors are required per unit for monitoring two positions. Only sensors from the IN 40 series can be used. The gripper is prepared for this, and no additional mounting kit is required. Monitoring with magnetic sensors is not possible. The bracket for magnetic sensors is not included in the scope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

## Flexible position sensor



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

## Adapter plate



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

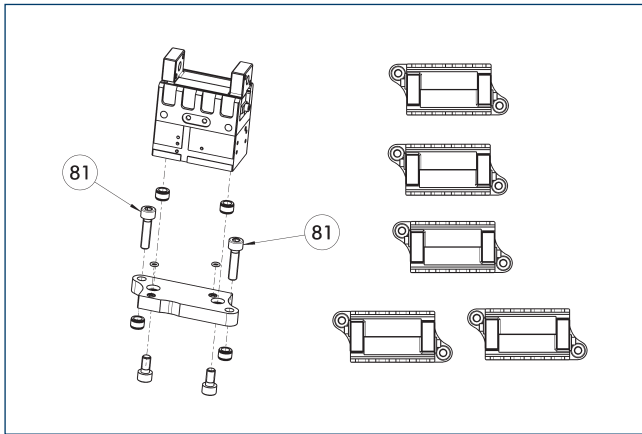
Description	ID
Adapter plate	
APL-MPG-plus 25	0305507

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

# MPG-plus 25

Gripper for small components

## Adapter plate



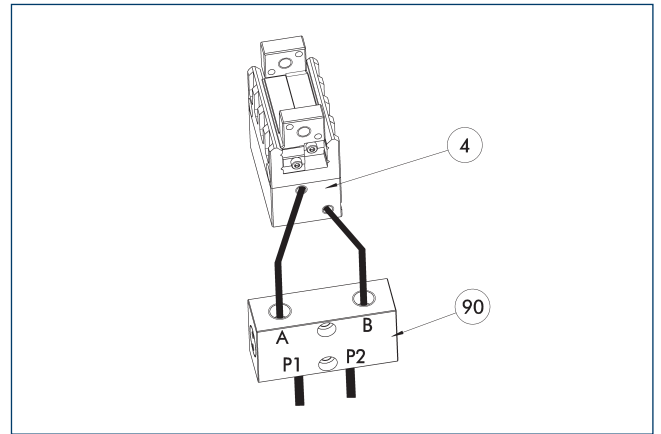
⑧① Not included in the scope of delivery

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

Description	ID	
Adapter plate		
APL-MPG-plus 25	0305507	

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

## SDV-P pressure maintenance valve



④ Grippers

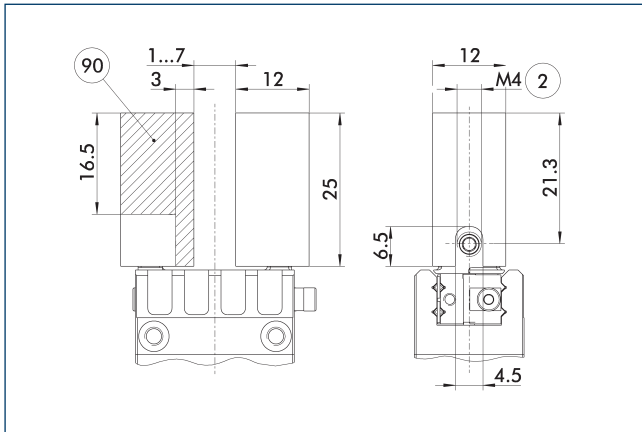
⑨⑩ SDV-P pressure maintenance valve

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

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

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

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



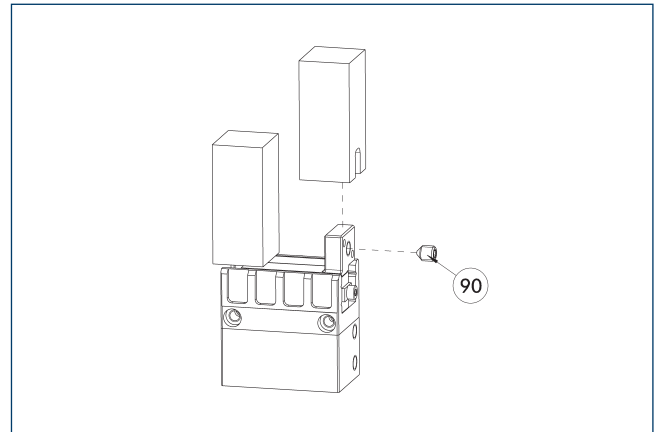
② Finger connection

⑨⑩ Machining volume

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

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

## Finger blanks with BSWs

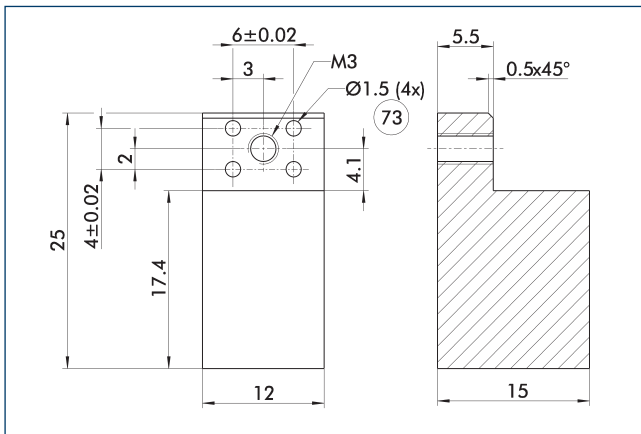


⑨⑩ Included in the jaw quick-change system's scope of delivery

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

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

## Finger blanks ABR-MPG-plus 25

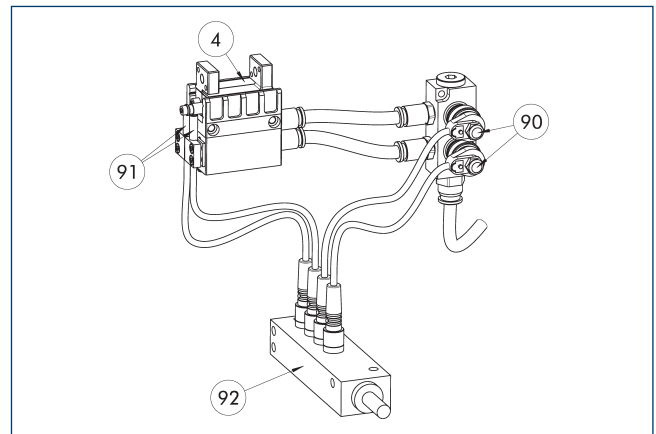


73 Fit for centering pins

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

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

## Attachment valves



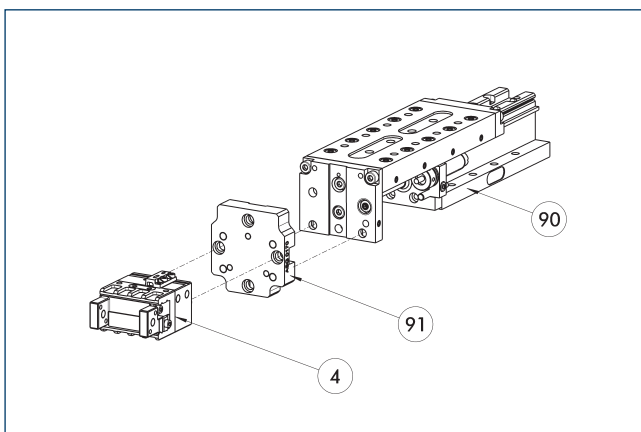
- 4 Grippers
- 90 Micro valves
- 91 Sensor
- 92 Sensor distributor
- 93 Y distributor

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

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

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

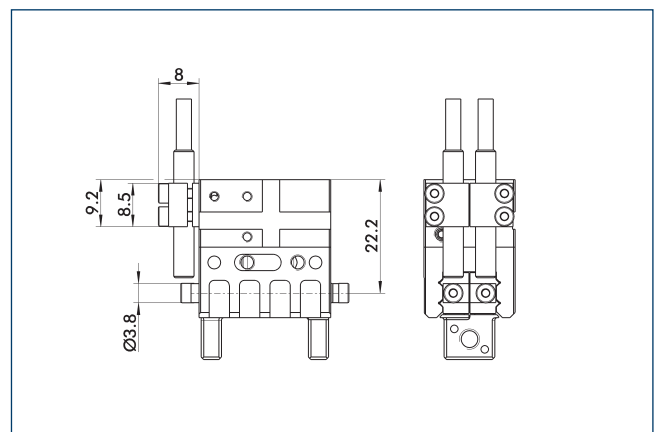
## Modular Assembly Automation



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

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

## Attachment kit for proximity switch IN 40



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

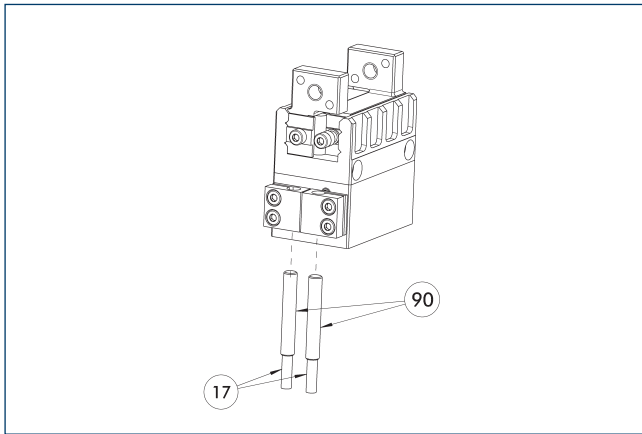
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 25	0305505	

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

# MPG-plus 25

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

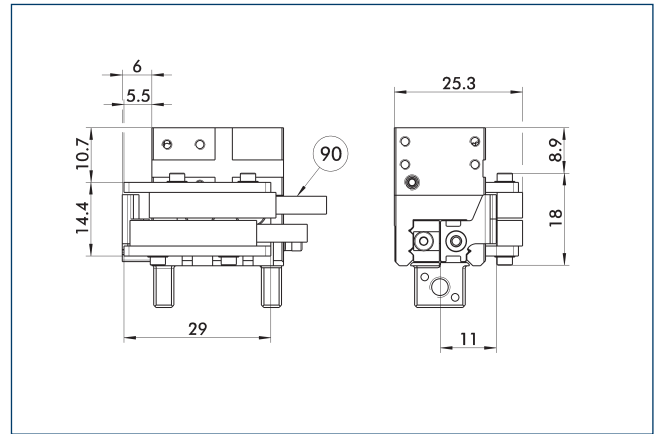
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

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

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

## Attachment kit for proximity switch IN 5



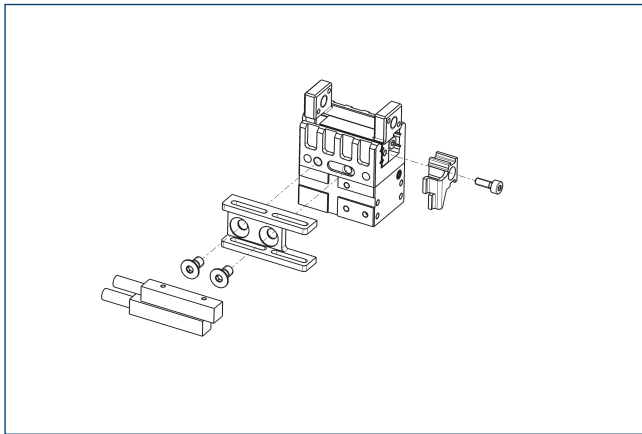
90 Sensor IN ...

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

Description	ID	
Attachment kit for proximity switch		
AS-IN5-MPG-plus 25	0340150	

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

## IN 5 inductive proximity switches

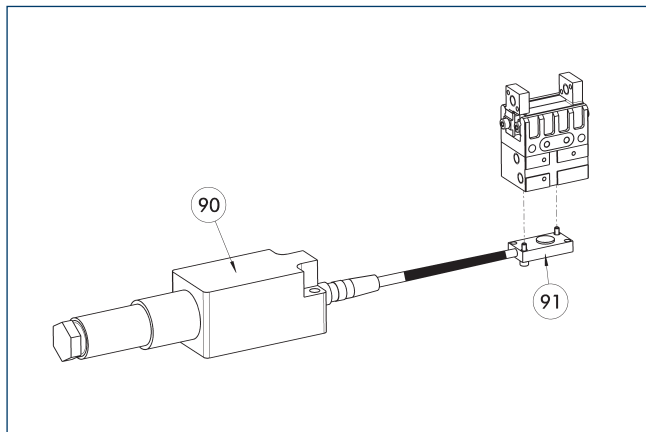


End position monitoring can be mounted with an attachment kit.

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

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

## Flexible position sensor



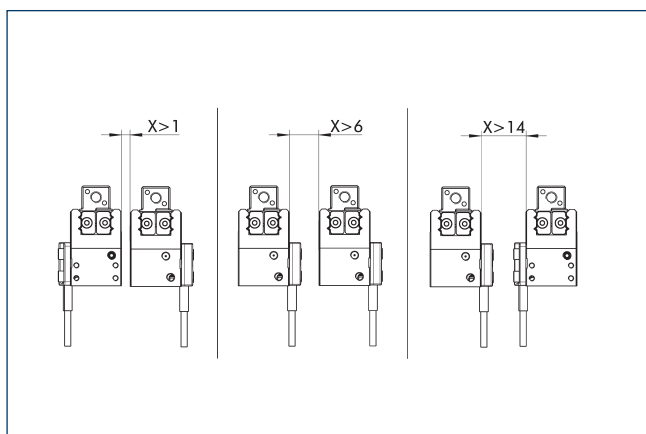
90 FPS-F5 evaluation electronic    91 FPS-S sensor

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

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

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

## Monitoring for stacked arrangements

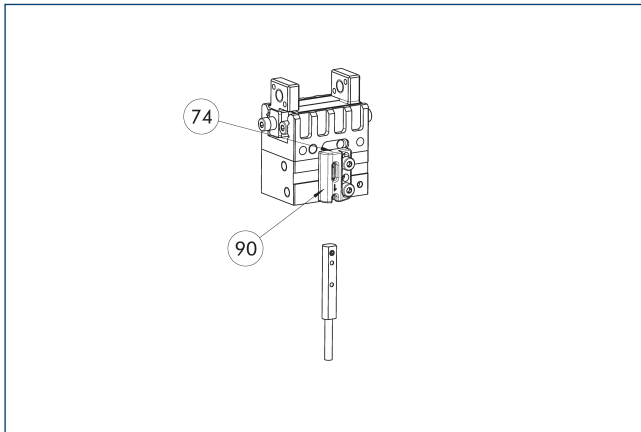


CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 25

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

90 Vertical attachment of the bracket

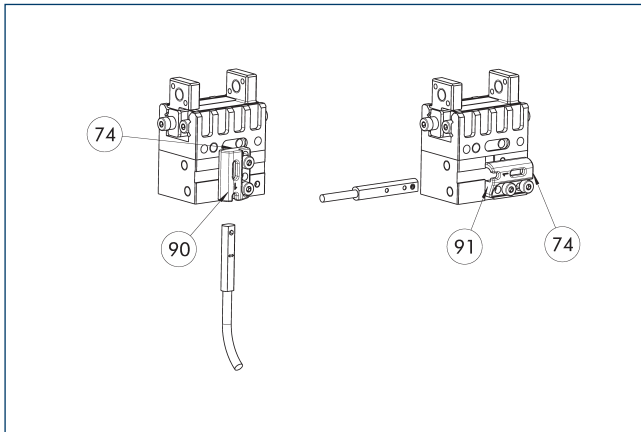
Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching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

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

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



## MMS-P programmable magnetic switch



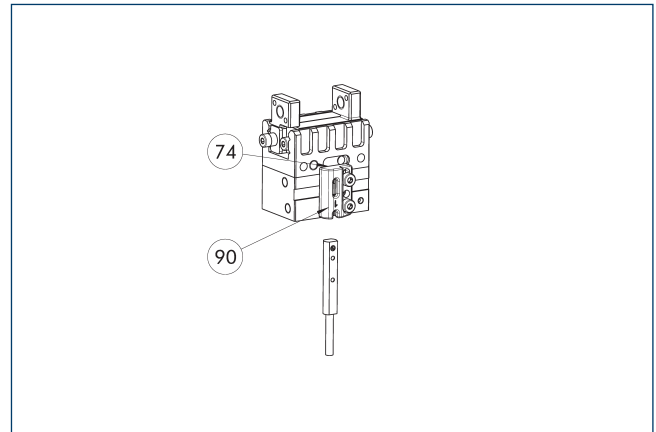
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

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

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

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

## Analog position sensor MMS-A



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

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

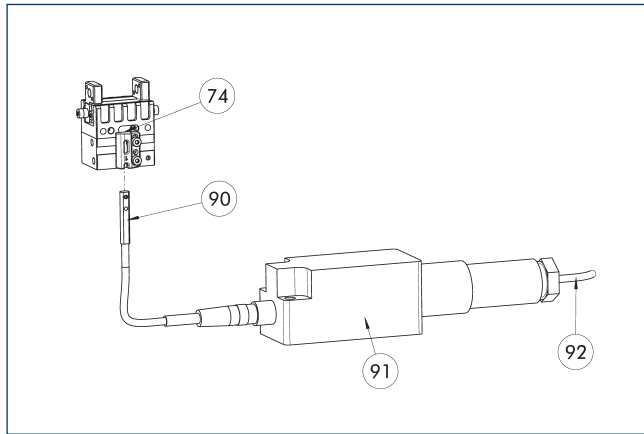
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

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

# MPG-plus 25

Gripper for small components

## Flexible position sensor with MMS-A



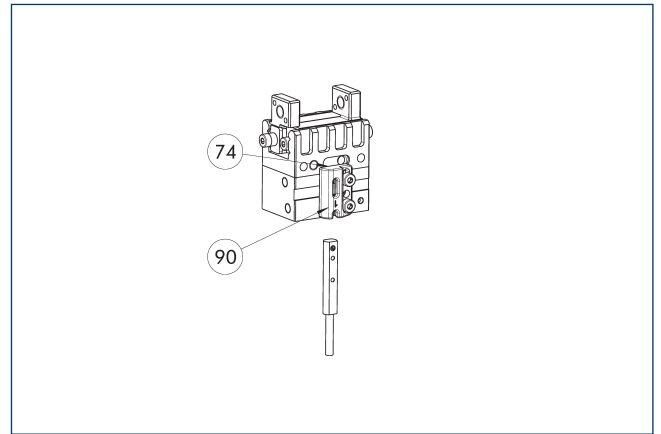
- 74 Limit stop for sensor
- 90 MMS 22-A-... sensor
- 91 FPS-F5 evaluation electronic
- 92 Connection cables

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-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

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

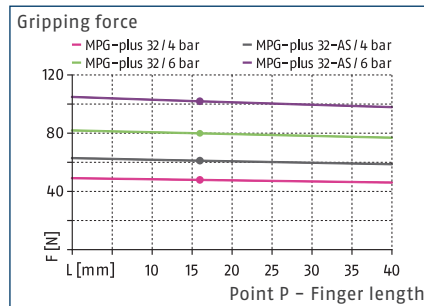


# MPG-plus 32

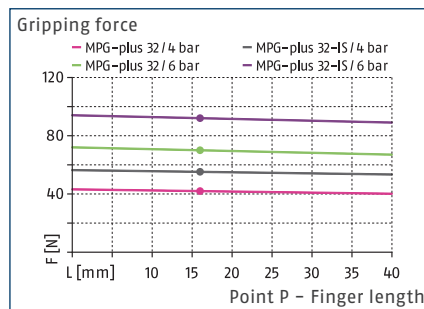
Gripper for small components



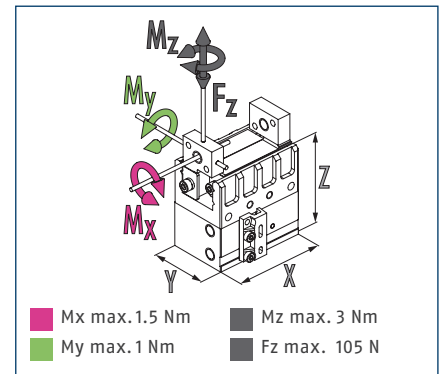
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads

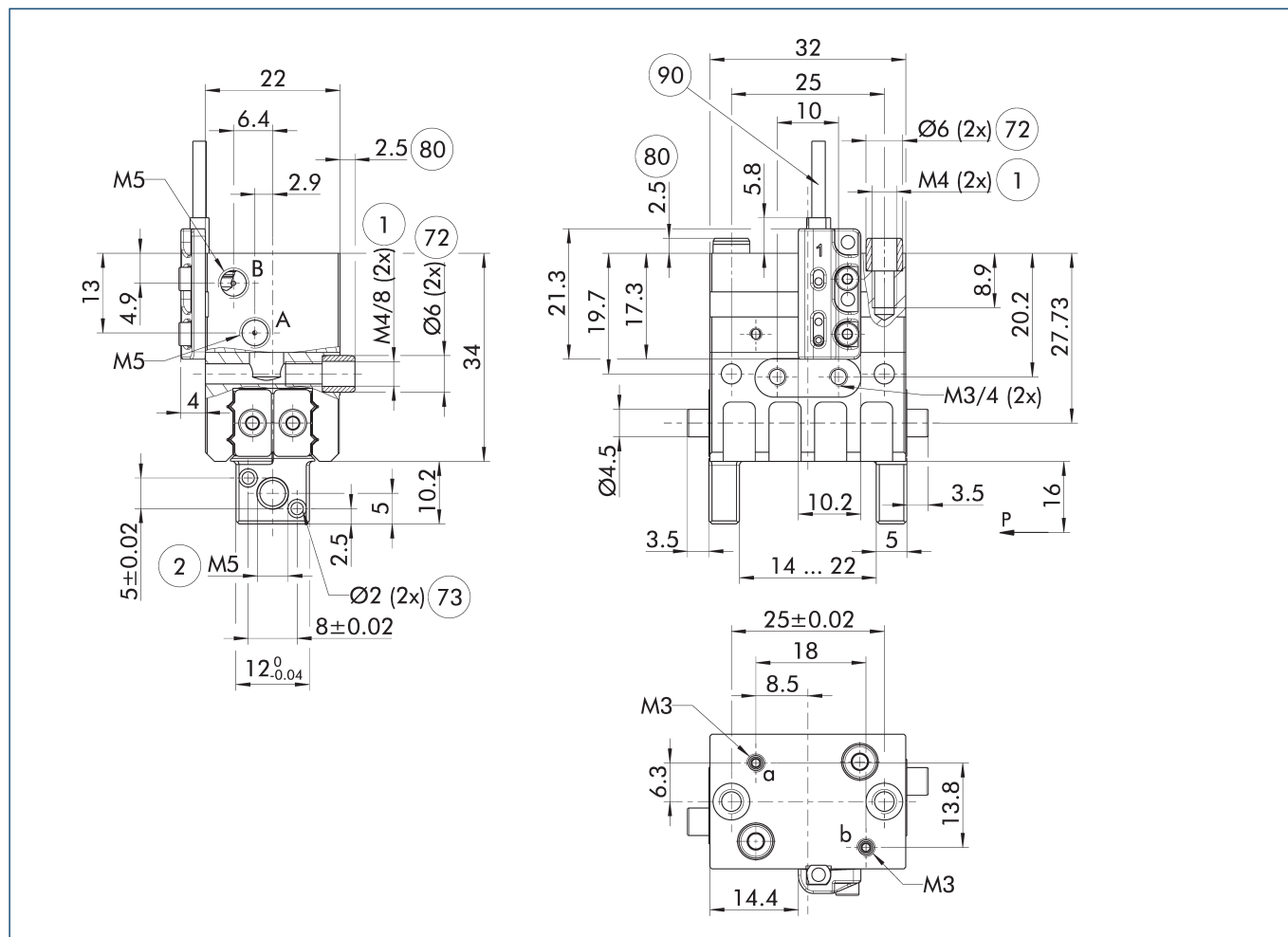


① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

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

## Main view

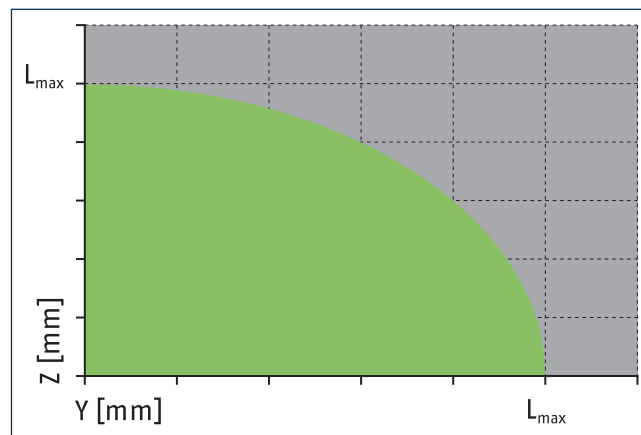
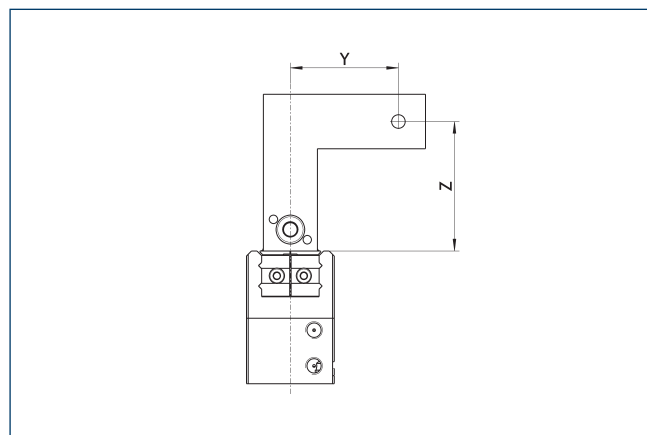


The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

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

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

## Maximum permitted finger projection



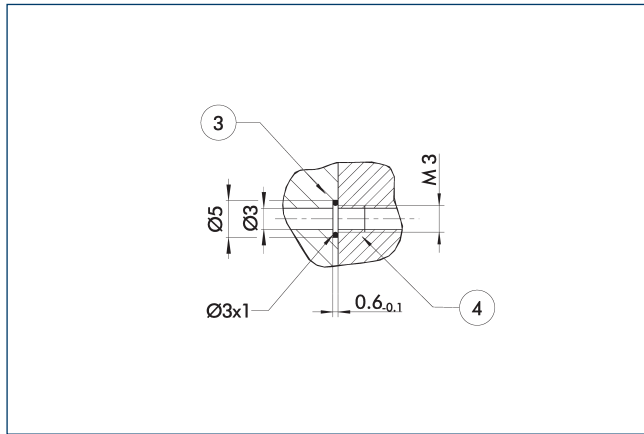
■ Permitted range      ■ Inadmissible range

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

# MPG-plus 32

Gripper for small components

## Hose-free direct connection M3

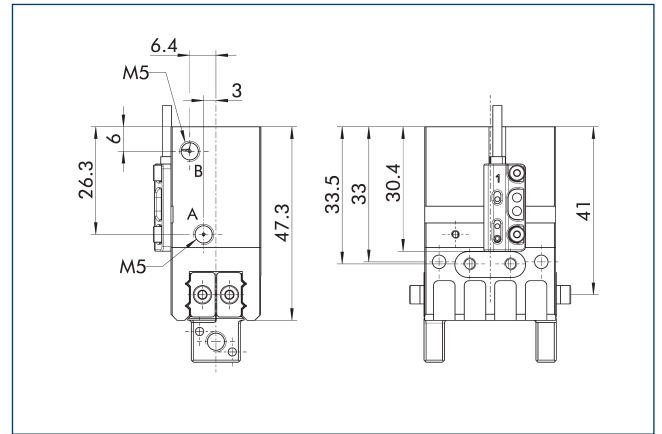


③ Adapter

④ Grippers

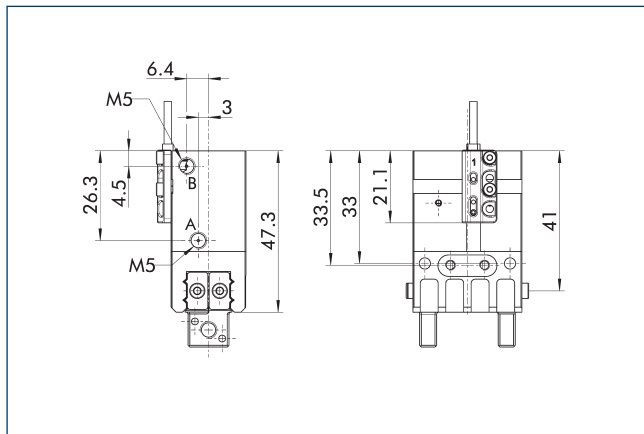
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



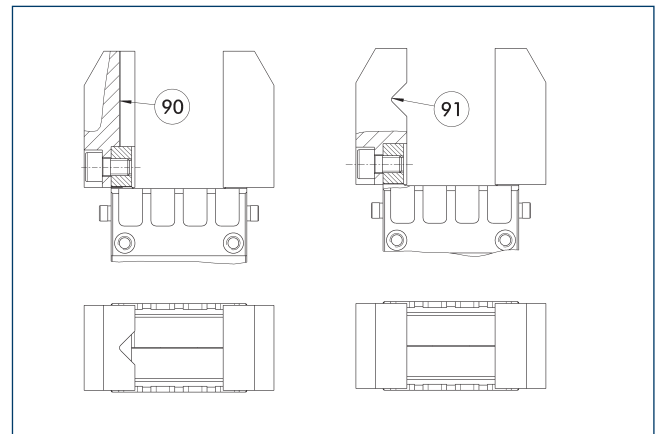
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

## Gripping force maintenance IS



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

## Jaw design

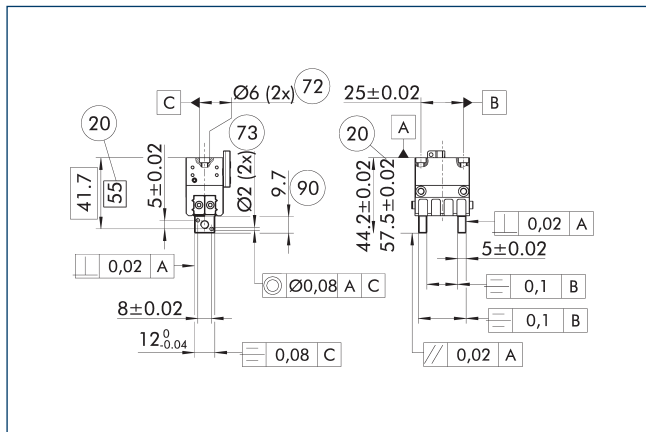


⑨⑩ Vertically positioned prism

⑨⑪ Horizontally positioned prism

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

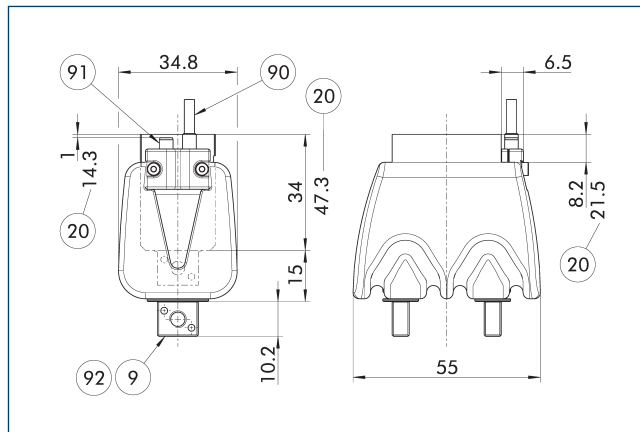
## Precision version



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

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

## Protection cover HUE

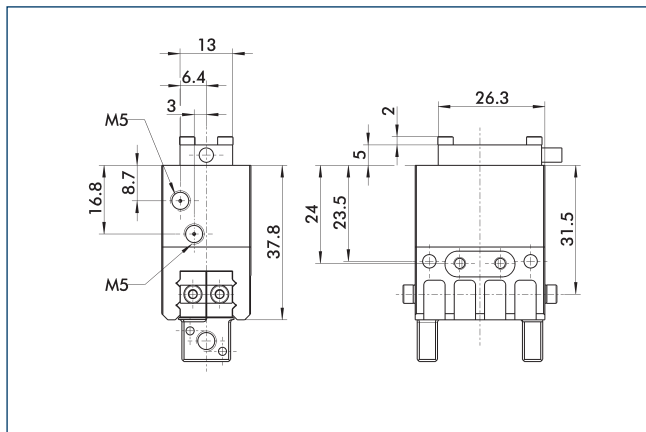


- ⑨ For mounting screw connection diagram, see basic version
- ②0 For AS / IS version
- ⑨0 Sensor IN ...
- ⑨1 Cylindrical pins
- ⑨2 Intermediate jaw (stainless steel)

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

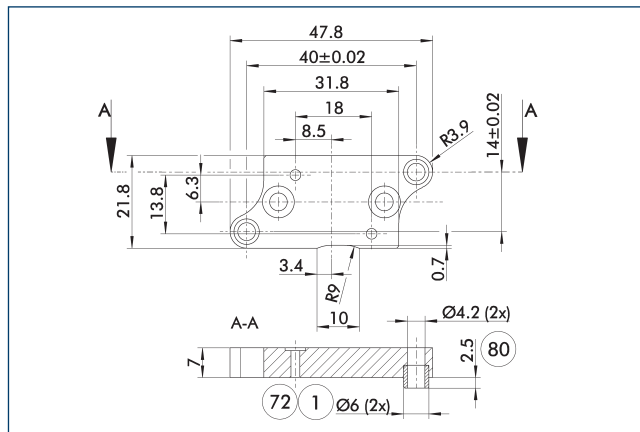
- ④ Two sensors are required per unit for monitoring two positions. Only sensors from the IN 40 series can be used. The gripper is prepared for this, and no additional mounting kit is required. Monitoring with magnetic sensors is not possible. The bracket for magnetic sensors is not included in the scope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

## Flexible position sensor



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

## Adapter plate



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

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

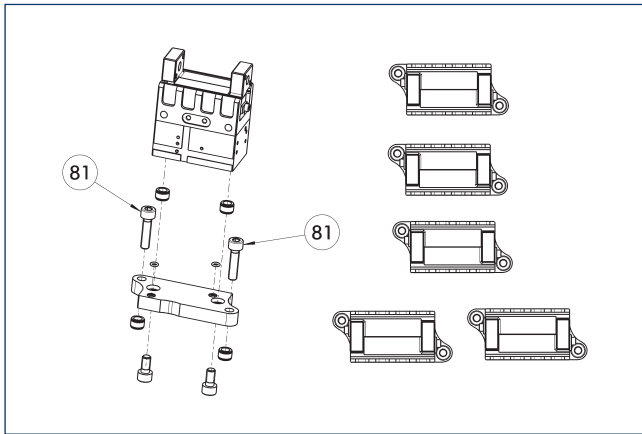
Description	ID
Adapter plate	
APL-MPG-plus 32	0305517

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

# MPG-plus 32

Gripper for small components

## Adapter plate



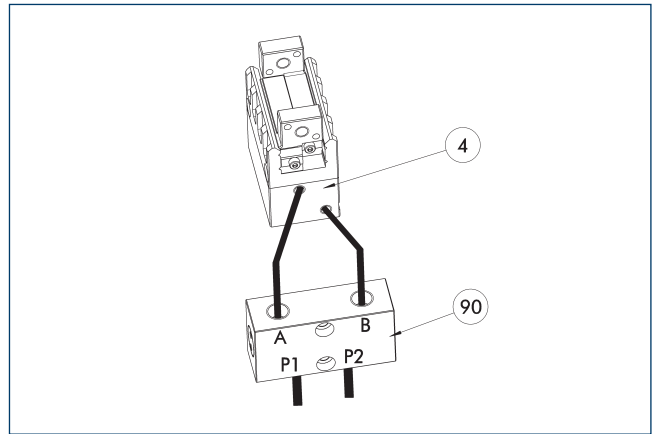
81 Not included in the scope of delivery

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

Description	ID	
Adapter plate		
APL-MPG-plus 32	0305517	

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

## SDV-P pressure maintenance valve



4 Grippers

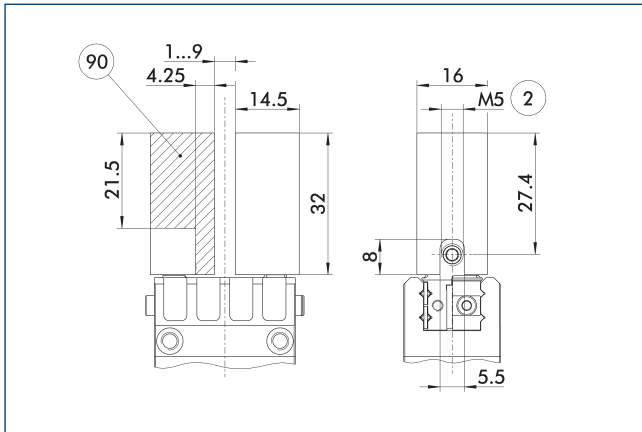
90 SDV-P pressure maintenance valve

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

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

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

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



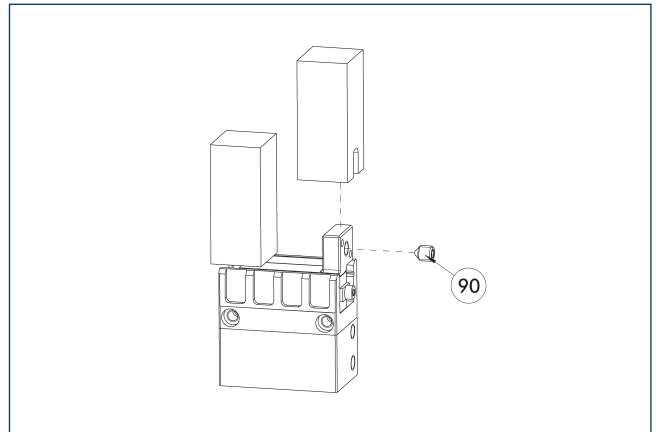
2 Finger connection

90 Machining volume

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

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

## Finger blanks with BSWs



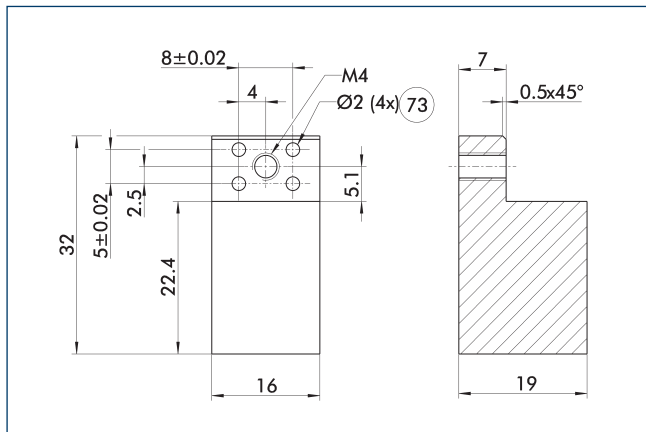
90 Included in the jaw quick-change system's scope of delivery

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

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



## Finger blanks ABR-MPG-plus 32

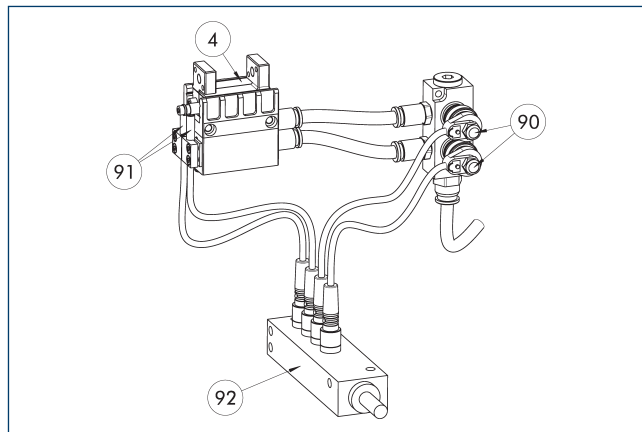


73 Fit for centering pins

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

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

## Attachment valves



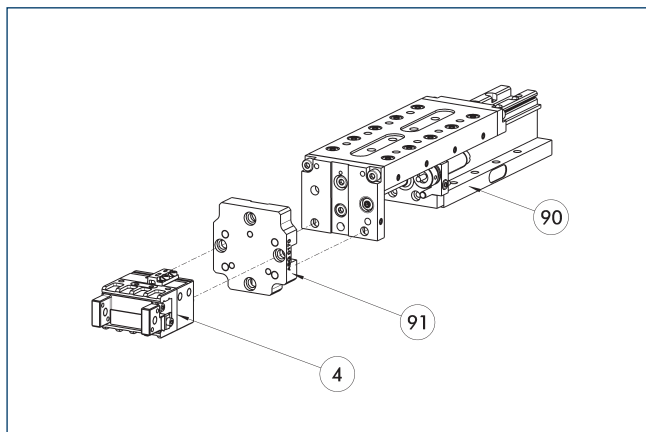
- 4 Grippers
- 90 Micro valves
- 91 Sensor
- 92 Sensor distributor
- 93 Y distributor

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

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

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

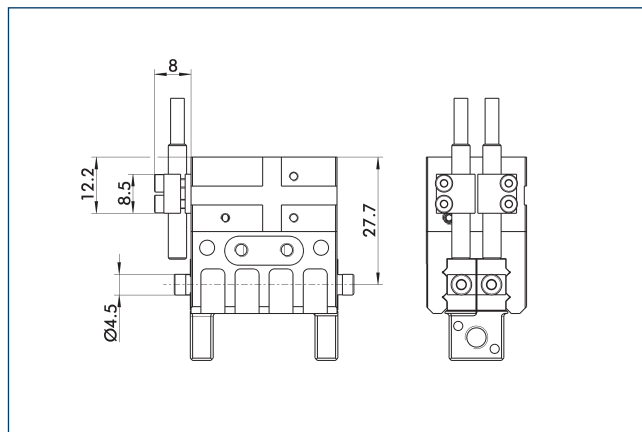
## Modular Assembly Automation



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

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

## Attachment kit for proximity switch IN 40



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

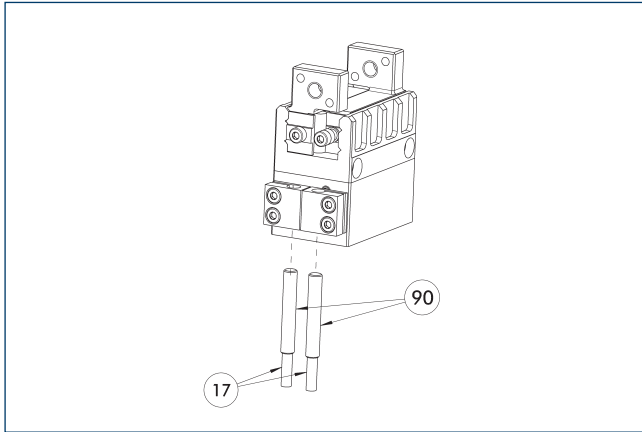
Description	ID
Attachment kit for proximity switch	
AS-IN40-MPG-plus 32	0305515

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

# MPG-plus 32

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

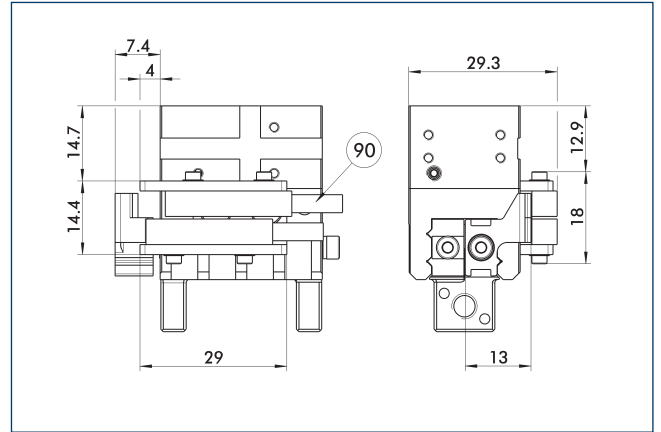
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

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

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

## Attachment kit for proximity switch IN 5



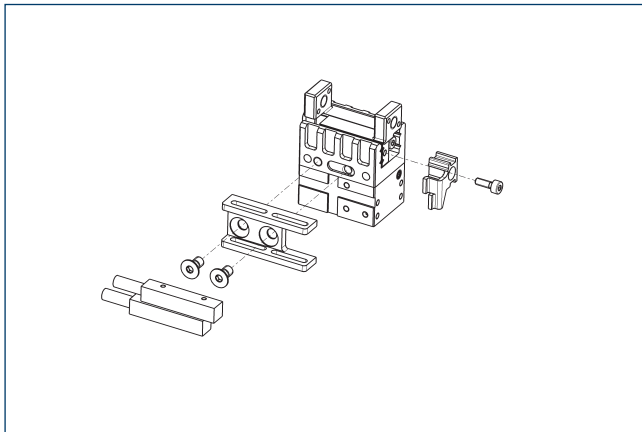
90 Sensor IN ...

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

Description	ID	
Attachment kit for proximity switch		
AS-IN5-MPG-plus 32	0340151	

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

## IN 5 inductive proximity switches

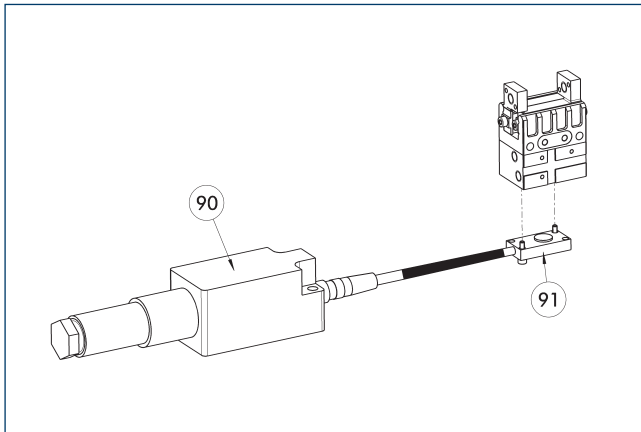


End position monitoring can be mounted with an attachment kit.

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

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

## Flexible position sensor



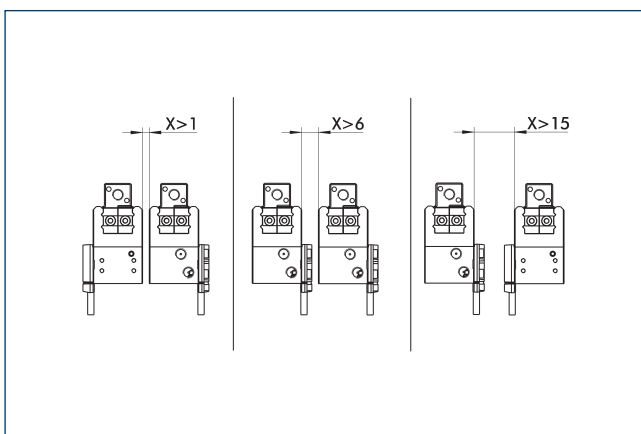
90 FPS-F5 evaluation electronic    91 FPS-S sensor

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

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

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

## Monitoring for stacked arrangements

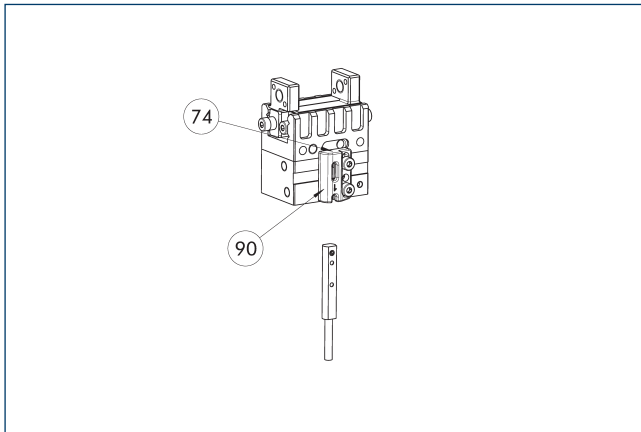


CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 32

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

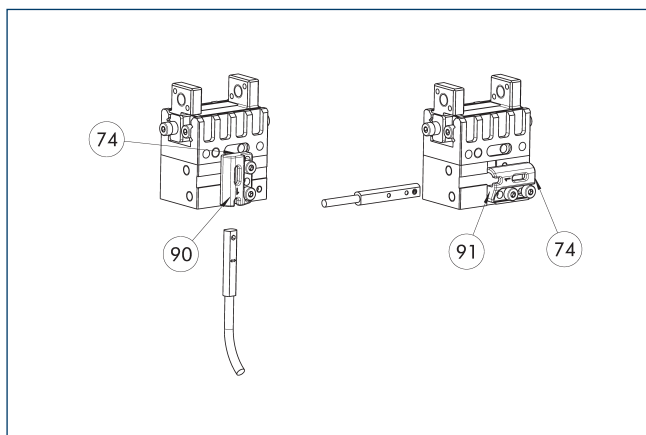
90 Vertical attachment of the bracket

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

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

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

## MMS-P programmable magnetic switch



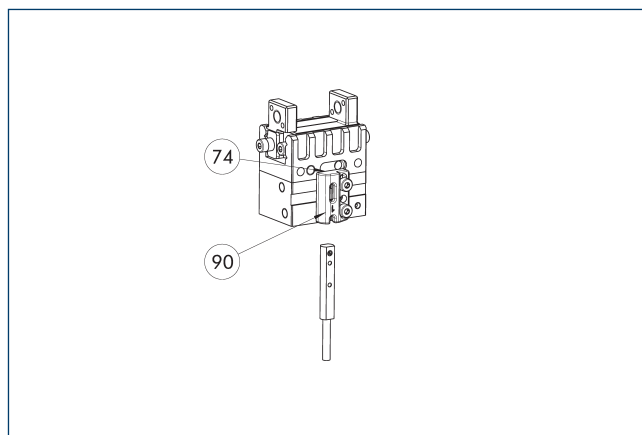
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

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

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

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

## Analog position sensor MMS-A



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

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

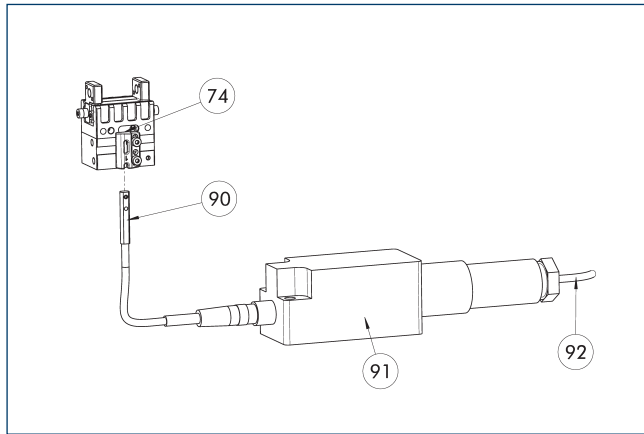
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

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

# MPG-plus 32

Gripper for small components

## Flexible position sensor with MMS-A



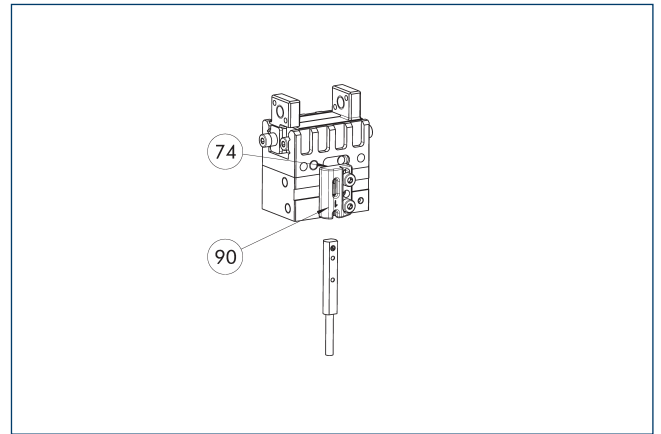
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

## Programmable magnetic switch MMS-I0-Link



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

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

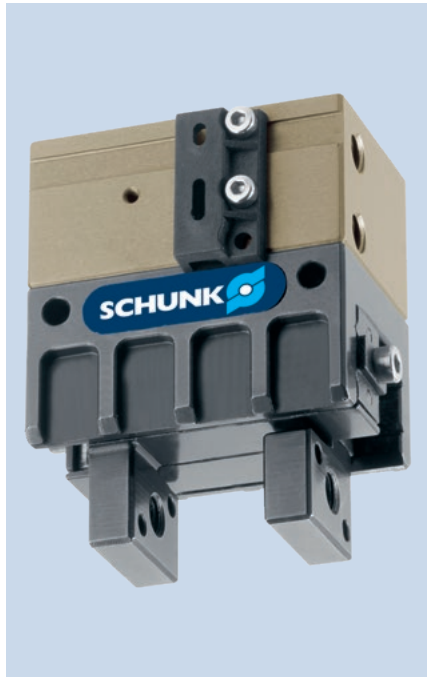
Description	ID	
Programmable magnetic switch		
MMS 22-I0L-M08	0315830	
MMS 22-I0L-M12	0315835	

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

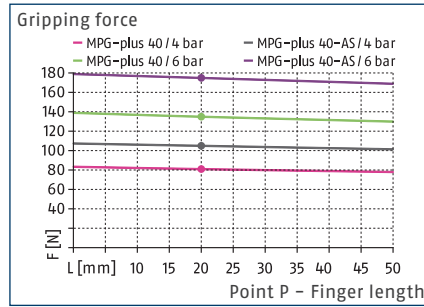


# MPG-plus 40

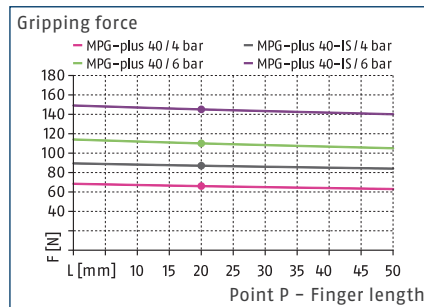
Gripper for small components



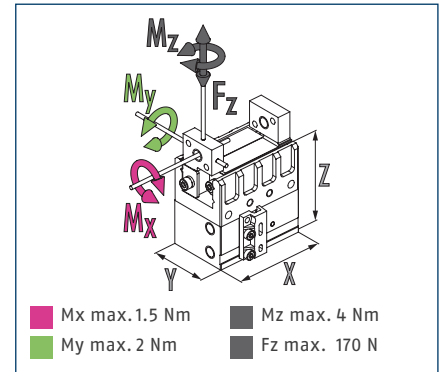
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



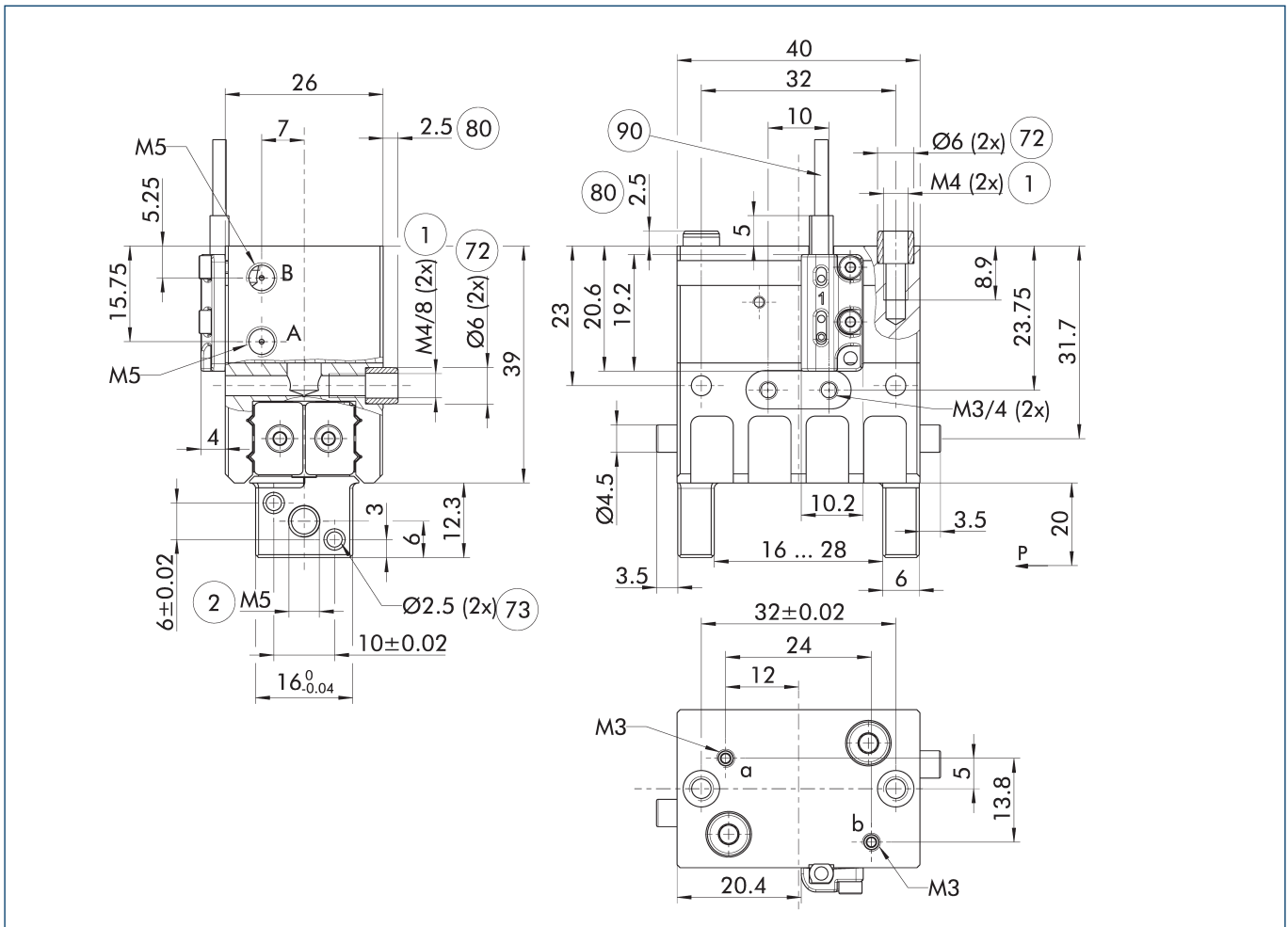
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

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



## Main view



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

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

A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

② Finger connection

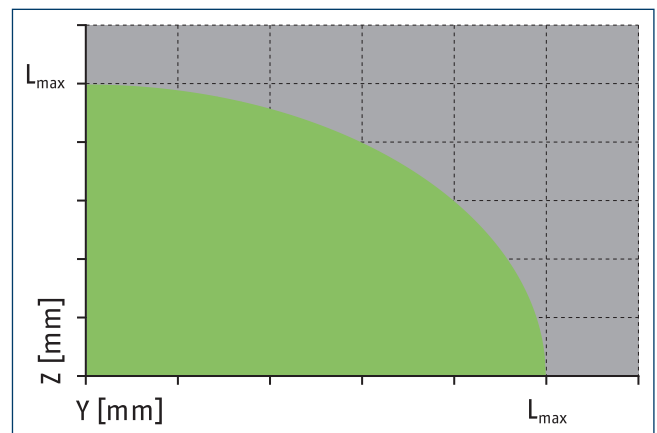
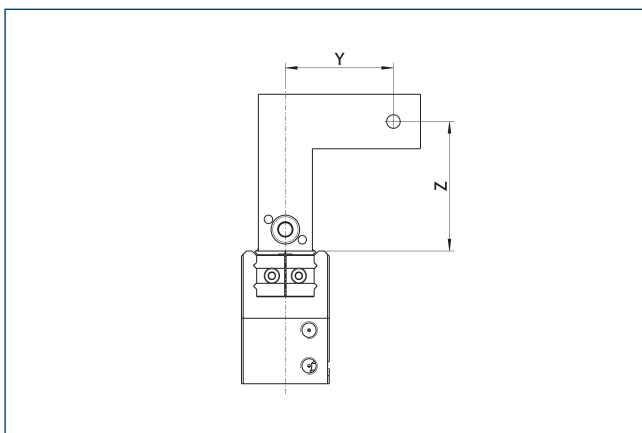
⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

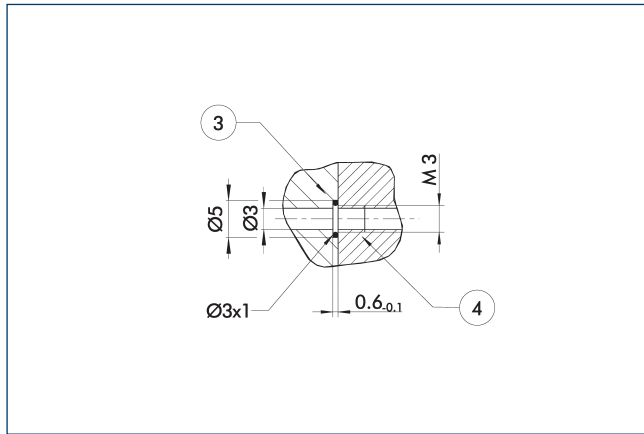
■ Inadmissible range

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

# MPG-plus 40

Gripper for small components

## Hose-free direct connection M3

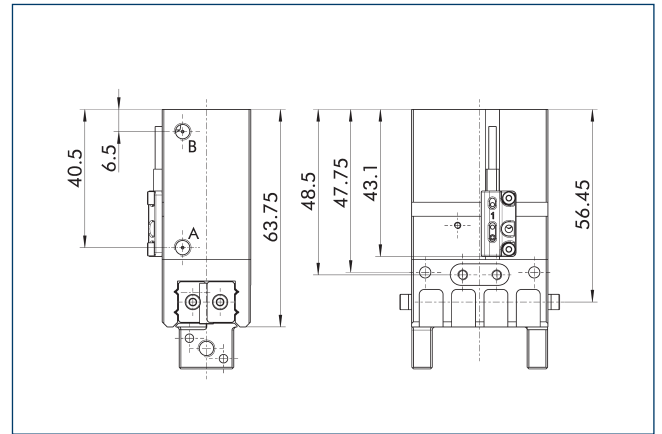


③ Adapter

④ Grippers

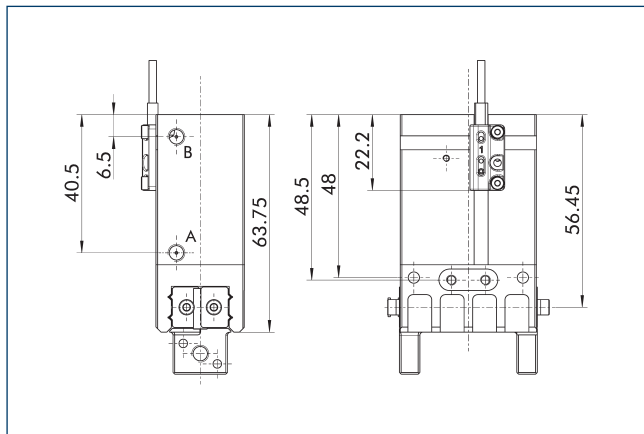
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



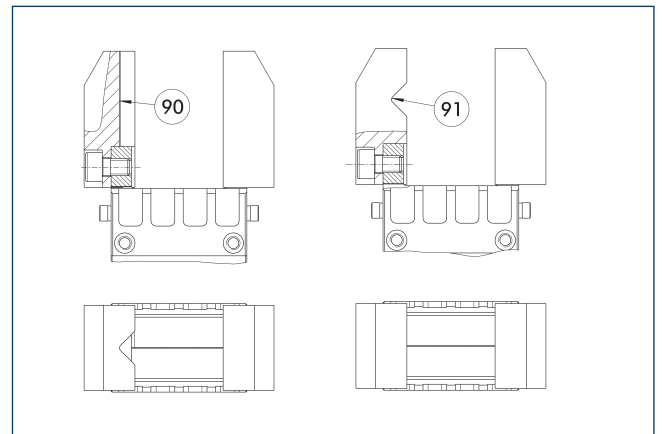
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

## Gripping force maintenance IS



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

## Jaw design



⑨⑩ Vertically positioned prism

⑨⑪ Horizontally positioned prism

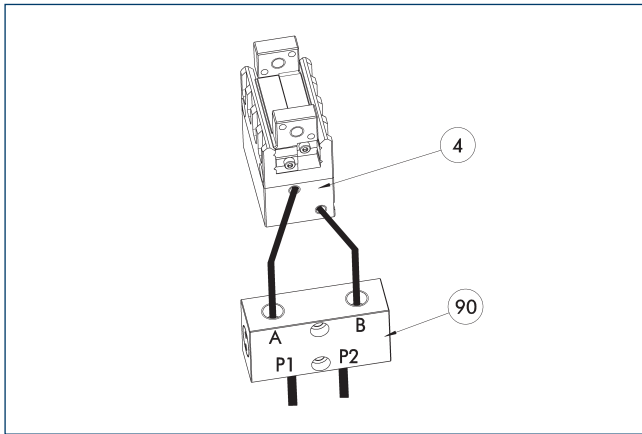
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.



# MPG-plus 40

Gripper for small components

## SDV-P pressure maintenance valve



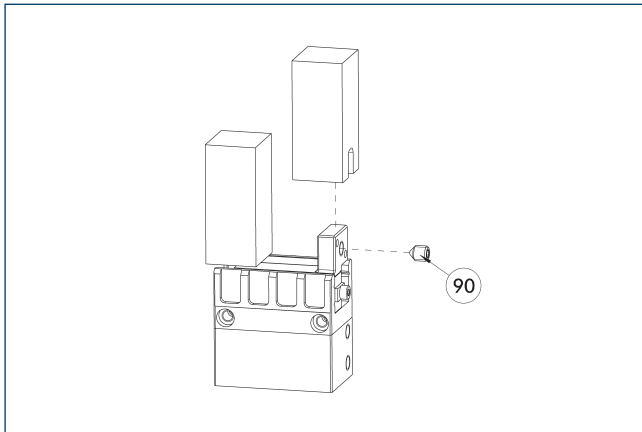
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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

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

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

## Finger blanks with BSWS

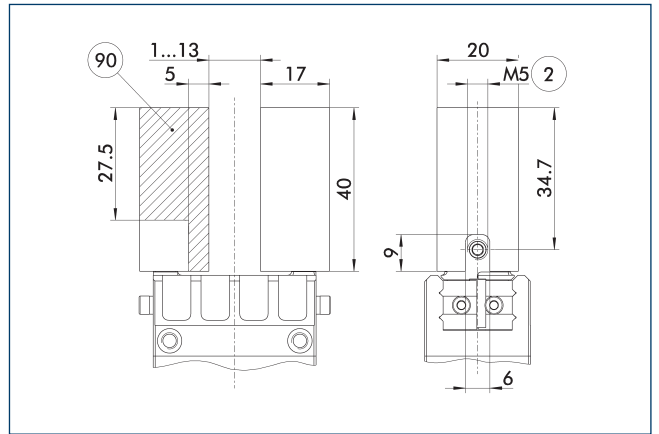


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

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

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

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

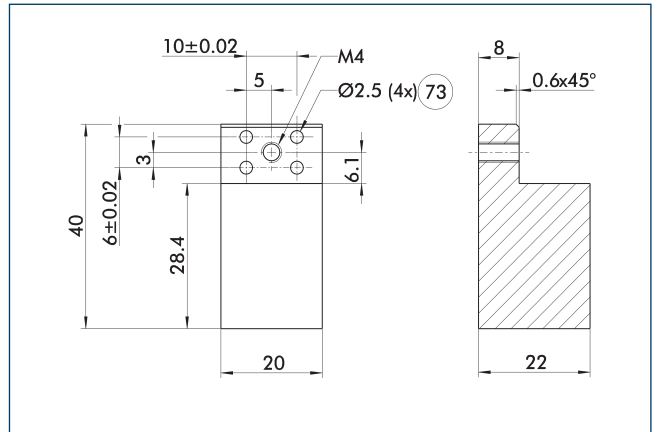


- ② Finger connection
- ⑨⑩ Machining volume

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

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

## Finger blanks ABR-MPG-plus 40

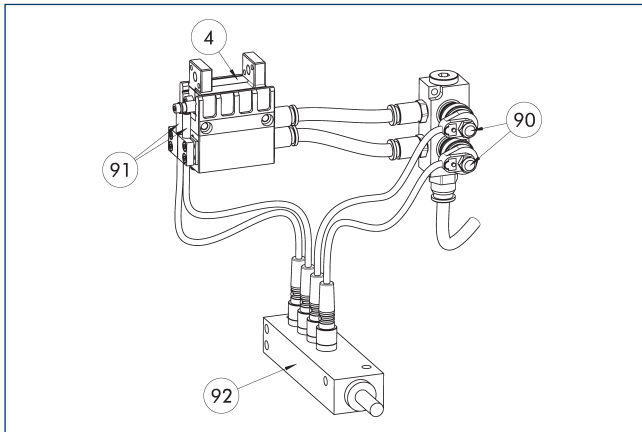


- ⑦③ Fit for centering pins

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

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

## Attachment valves



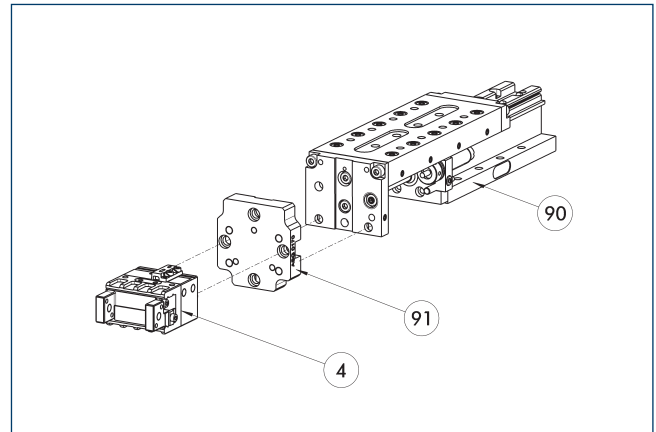
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Description	ID	Often combined
Add-on valve set		
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.

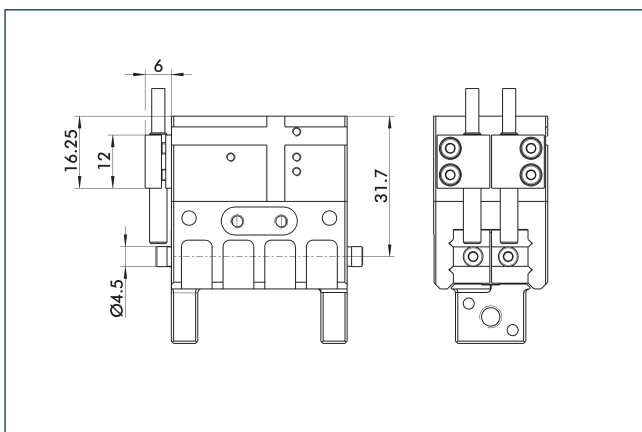
## Modular Assembly Automation



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

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

## Attachment kit for proximity switch IN 40



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

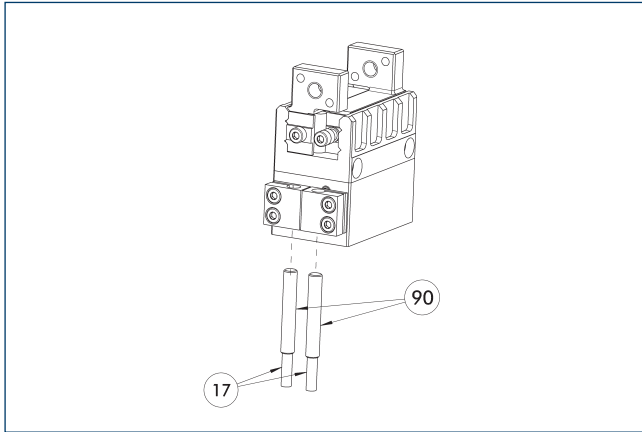
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 40	0305525	

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

# MPG-plus 40

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

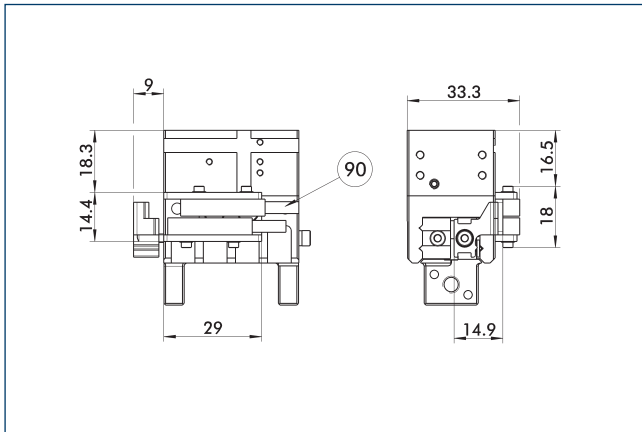
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

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

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

## Attachment kit for proximity switch IN 5



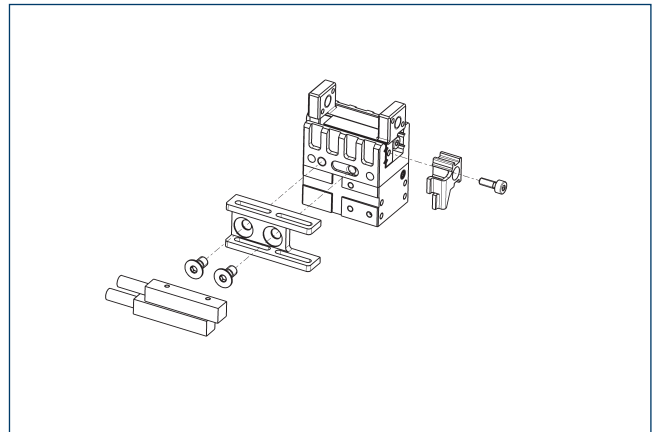
90 Sensor IN ...

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

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

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

## IN 5 inductive proximity switches

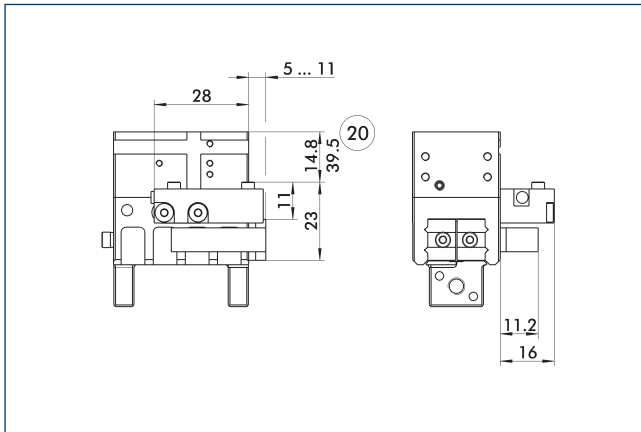


End position monitoring can be mounted with an attachment kit.

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

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

## Attachment kit for FPS



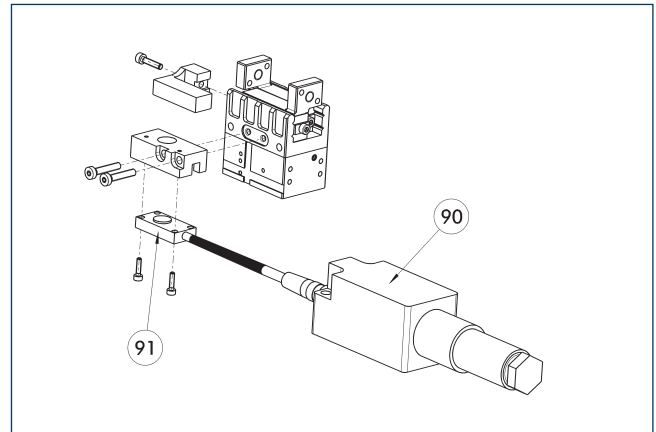
②① For AS / IS version

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

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

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

## Flexible position sensor



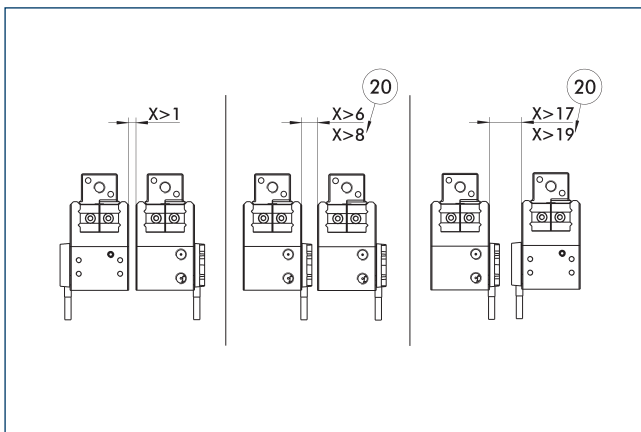
②① FPS-F5 evaluation electronic    ②① FPS-S sensor

Flexible position monitoring of up to five positions.

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

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

## Monitoring for stacked arrangements



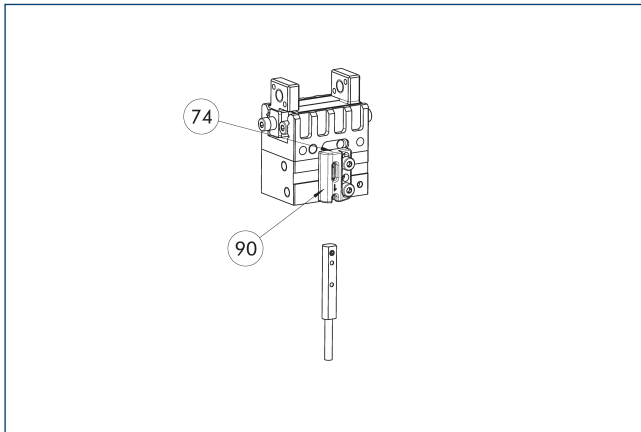
②① For AS / IS version

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

# MPG-plus 40

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



74 Limit stop for sensor

90 Vertical attachment of the bracket

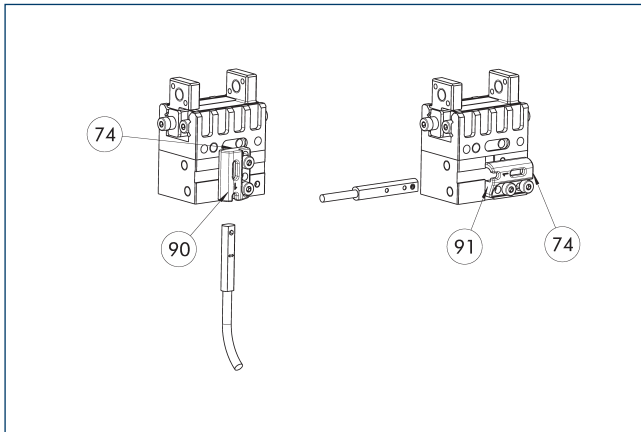
Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching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

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

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



## MMS-P programmable magnetic switch



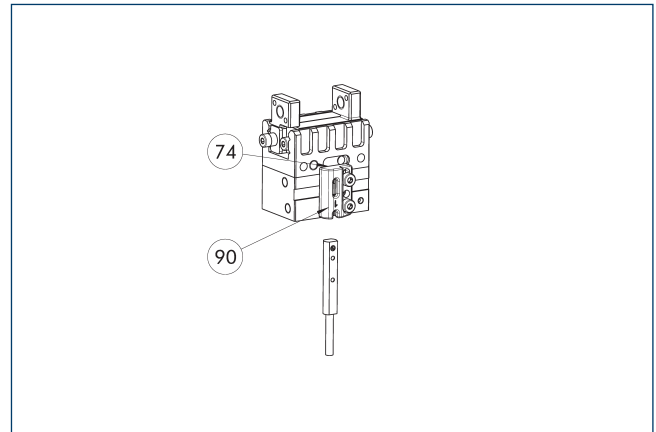
- ⑦④ Limit stop for sensor
- ⑨① Horizontal attachment of the bracket
- ⑨① Vertical attachment of the bracket

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

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

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

## Analog position sensor MMS-A



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

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

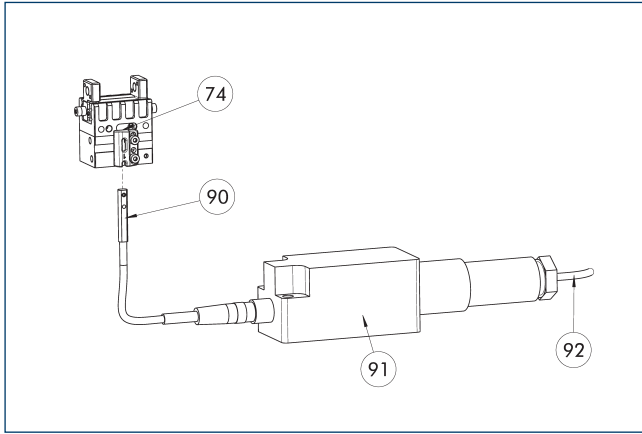
Description	ID	
<b>Analog position sensor</b>		
MMS 22-A-10V-M08	0315825	
MMS 22-A-10V-M12	0315828	

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

# MPG-plus 40

Gripper for small components

## Flexible position sensor with MMS-A



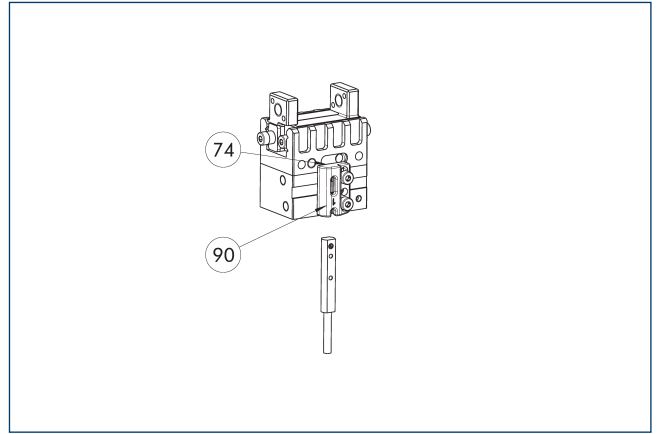
- ⑦④ Limit stop for sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨① MMS 22-A-... sensor
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

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

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

## Programmable magnetic switch MMS-IO-Link



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

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

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

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

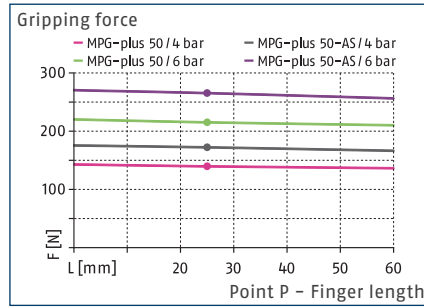


# MPG-plus 50

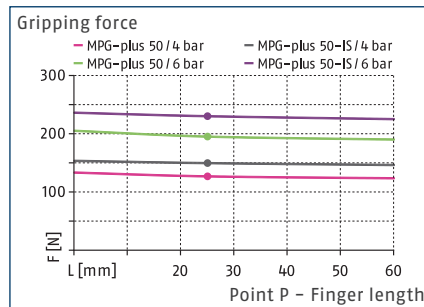
Gripper for small components



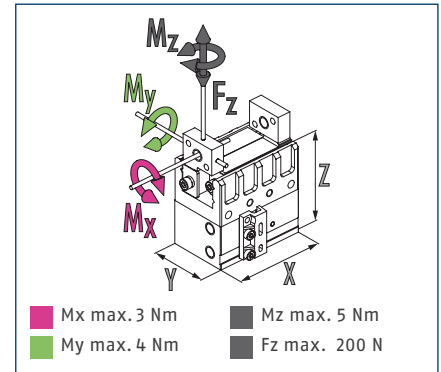
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



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

## Technical data

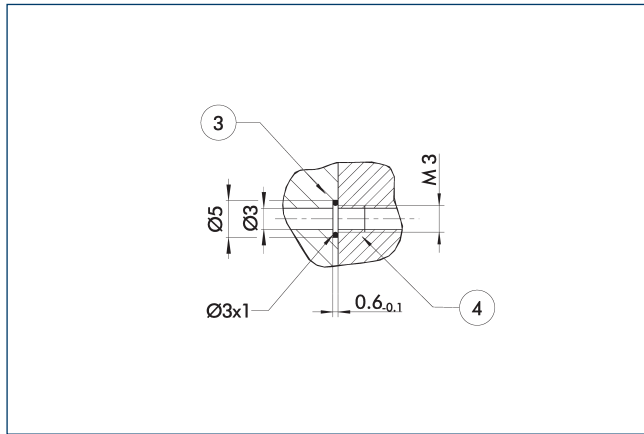
Description		MPG-plus 50	MPG-plus 50-AS	MPG-plus 50-IS
ID		0305531	0305532	0305533
Stroke per jaw	[mm]	8	8	8
Closing/opening force	[N]	215/195	265/-	-/230
Min. spring force	[N]		50	35
Weight	[kg]	0.31	0.37	0.38
Recommended workpiece weight	[kg]	1.05	1.05	1.05
Fluid consumption double stroke	[cm <sup>3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



# MPG-plus 50

Gripper for small components

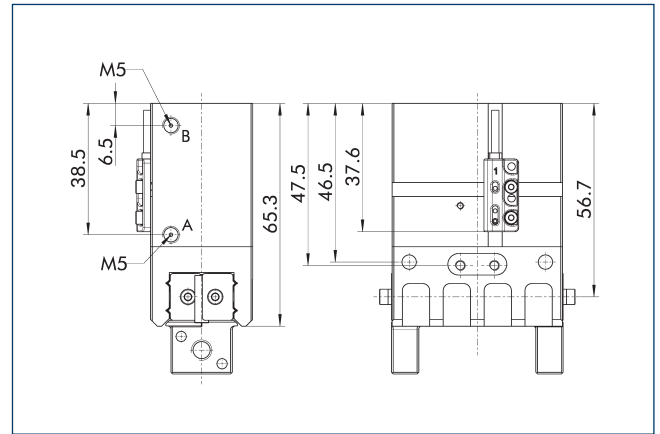
## Hose-free direct connection M3



- ③ Adapter
- ④ Grippers

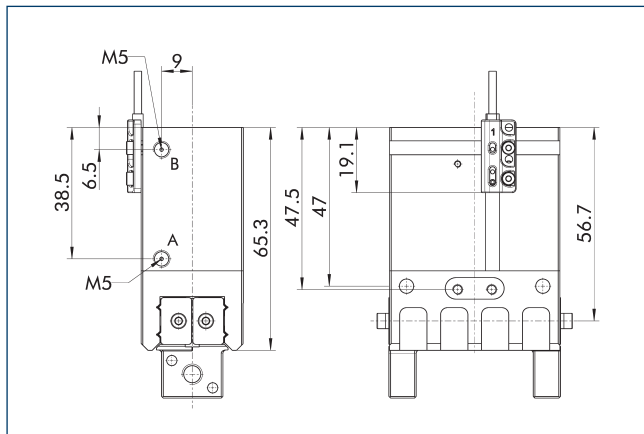
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



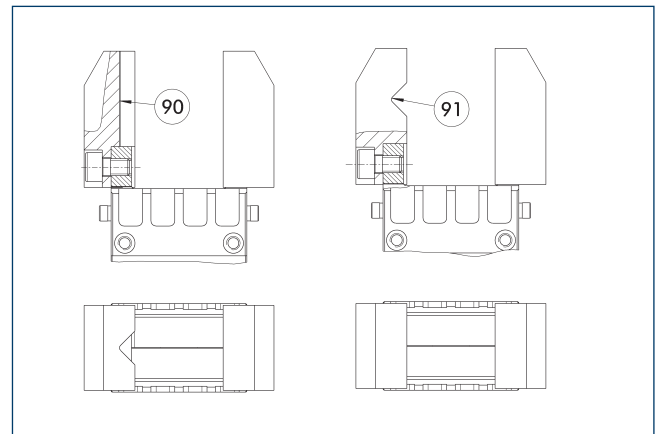
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase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

## Gripping force maintenance IS



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

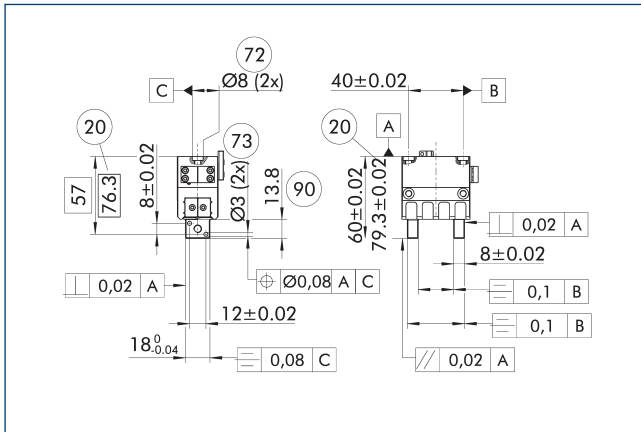
## Jaw design



- ⑨0 Vertically positioned prism
- ⑨1 Horizontally positioned prism

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

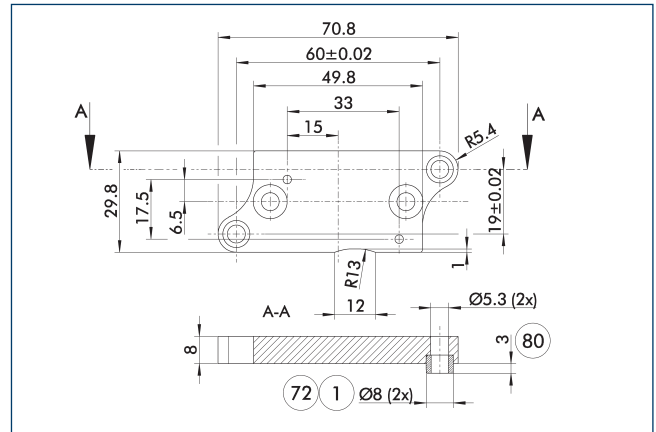
## Precision version



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

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

## Adapter plate



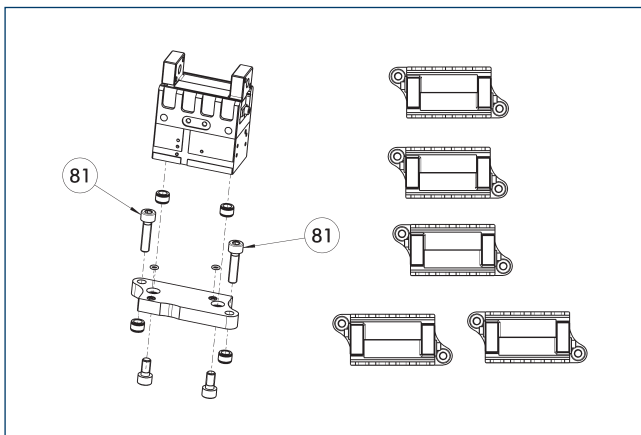
- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

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

Description	ID
Adapter plate	
APL-MPG-plus 50	0305537

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

## Adapter plate



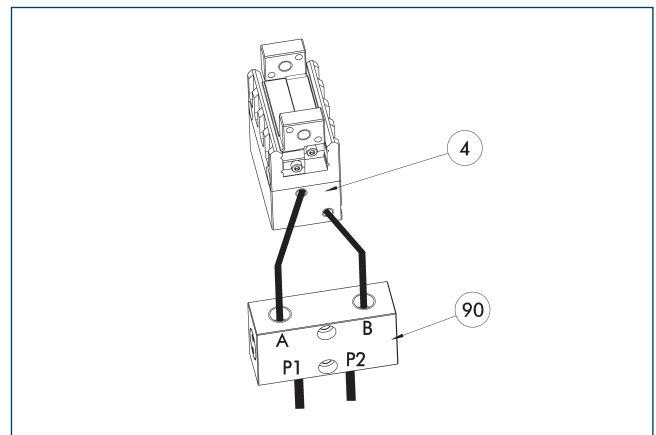
- ⑧1 Not included in the scope of delivery

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

Description	ID
Adapter plate	
APL-MPG-plus 50	0305537

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

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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

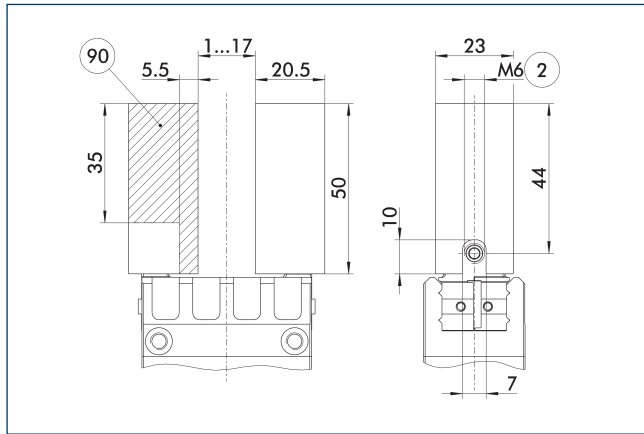
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

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

# MPG-plus 50

Gripper for small components

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

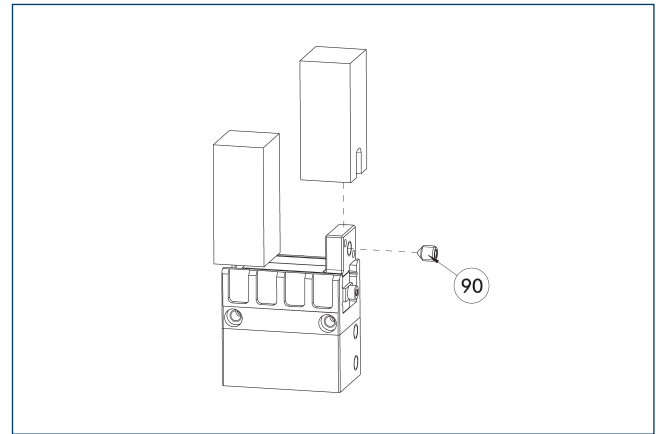


- ② Finger connection
- ⑨⑩ Machining volume

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

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

## Finger blanks with BSWS

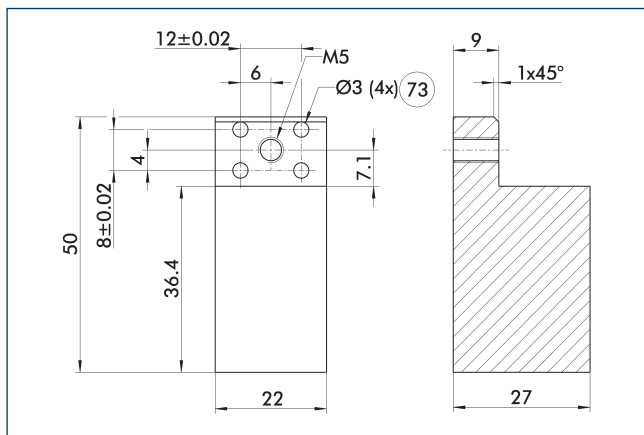


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

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

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

## Finger blanks ABR-MPG-plus 50



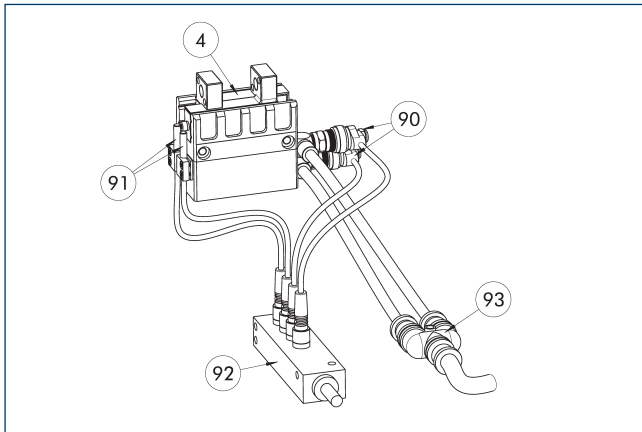
- ⑦③ Fit for centering pins

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

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



## Attachment valves



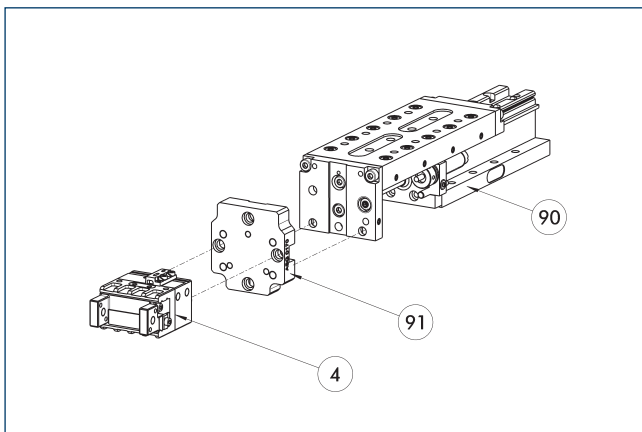
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

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

① A set of attachment valves ABV is required per actuator. The ABV set contains two 3/2 micro valves, an Y-distributor for compressed air supply and optionally a sensor distributor with two, four or eight inputs or outputs. Sensors for monitoring the gripper need to be ordered separately. Pneumatic hoses are not included in the scope of delivery.

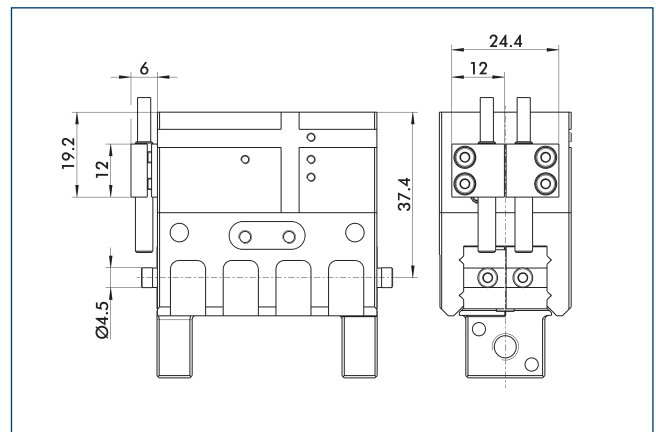
## Modular Assembly Automation



- ④ Grippers
- ⑨① ASG adapter plate
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40



The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

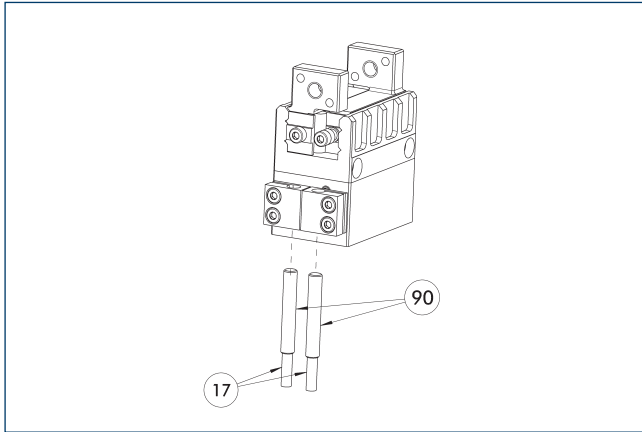
Description	ID	
Attachment kit for proximity switch		
AS-IN40-MPG-plus 50	0305535	

① This attachment kit needs to be ordered optionally as an accessory.

# MPG-plus 50

Gripper for small components

## IN 40 inductive proximity switches



17 Cable outlet

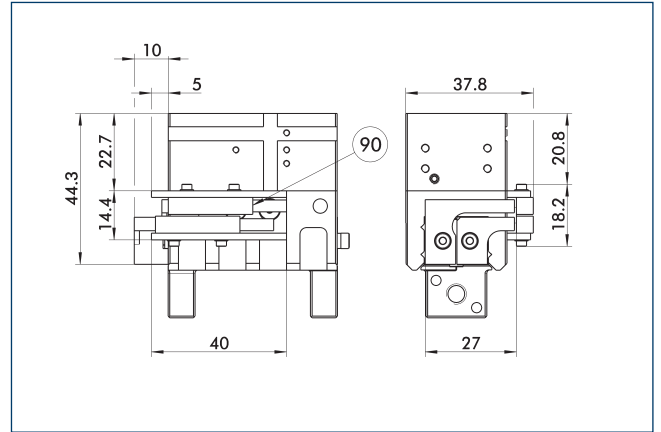
90 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus 50	0305535	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

## Attachment kit for proximity switch IN 5



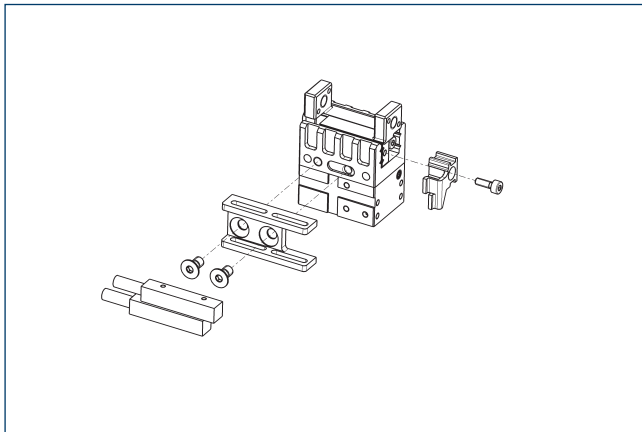
90 Sensor IN ...

The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

Description	ID	
Attachment kit for proximity switch		
AS-IN5-MPG-plus 50	0340153	

① This attachment kit needs to be ordered optionally as an accessory.

## IN 5 inductive proximity switches

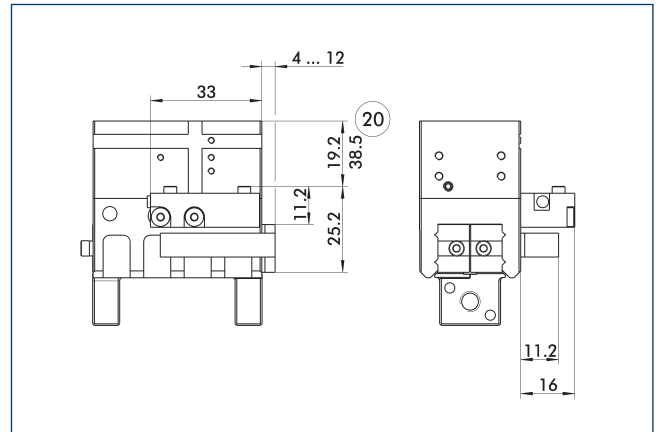


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN5-MPG-plus 50	0340153	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

## Attachment kit for FPS



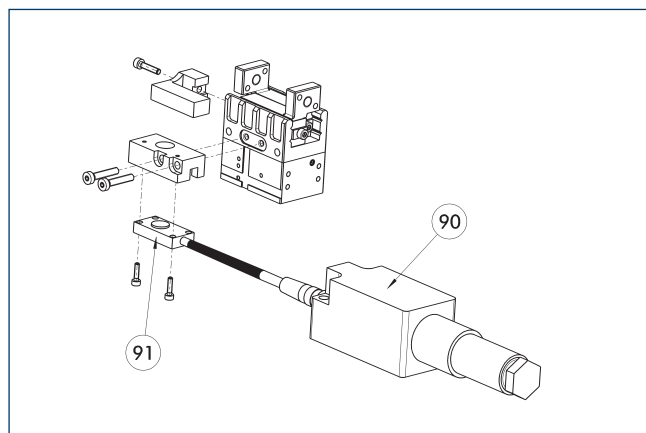
20 For AS / IS version

The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

Description	ID	
Attachment kit for FPS		
AS-FPS-MPG-plus 50	0301763	

① This attachment kit needs to be ordered optionally as an accessory.

## Flexible position sensor



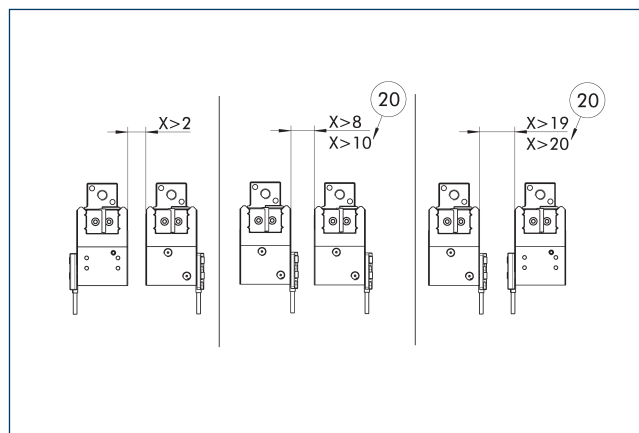
90 FPS-F5 evaluation electronic    91 FPS-S sensor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Attachment kit for FPS		
AS-FPS-MPG-plus 50	0301763	
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

① When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter “Accessories.”

## Monitoring for stacked arrangements



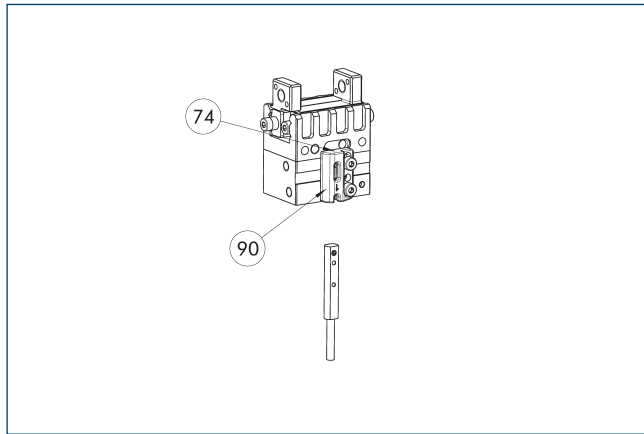
20 For AS / IS version

CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

# MPG-plus 50

Gripper for small components

## Programmable magnetic switch MMS 22-PI2



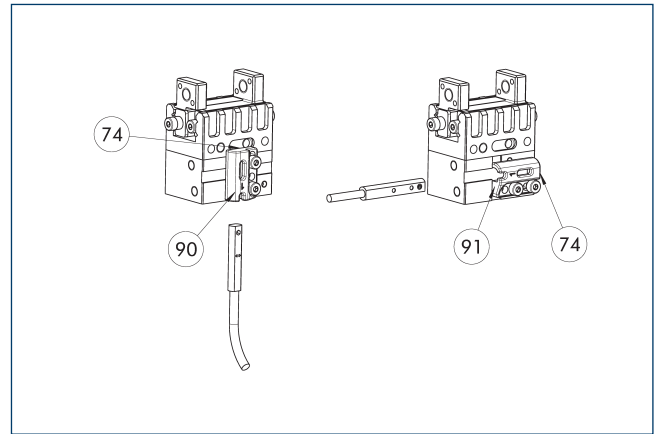
74 Limit stop for sensor      90 Vertical attachment of the bracket

Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel housing</b>		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

## MMS-P programmable magnetic switch



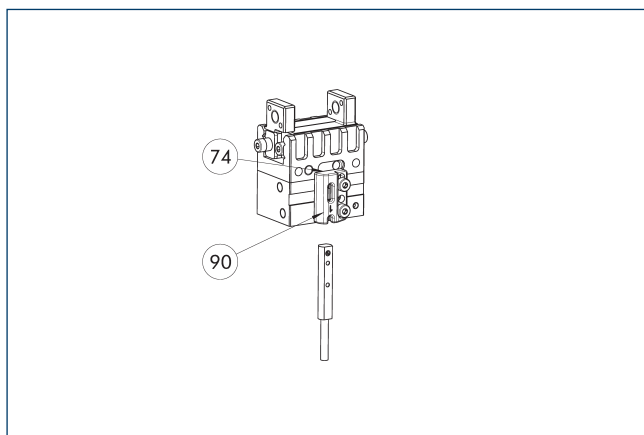
74 Limit stop for sensor      90 Vertical attachment of the bracket  
 91 Horizontal attachment of the bracket

Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Sensor distributor</b>		
V2-M8-4P-2XM8-3P	0301380	

- ① The bracket (90) is delivered vertically mounted. To use the magnetic sensor in a horizontal orientation, the bracket can be horizontally assembled (91). The mounting bracket has an internal stop for the MMS-P (74).

## Analog position sensor MMS-A



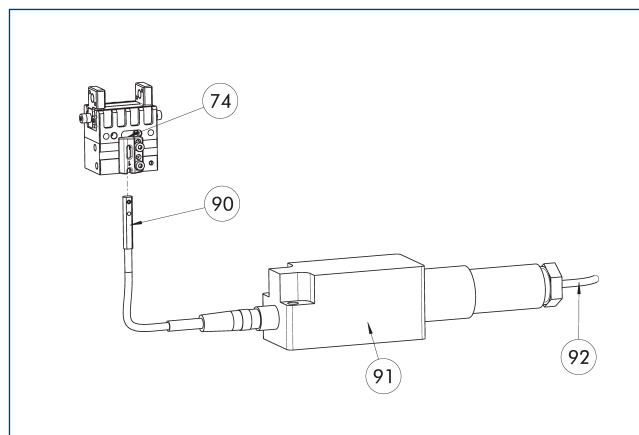
- 74 Limit stop for sensor
- 90 Vertical attachment of the bracket

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.

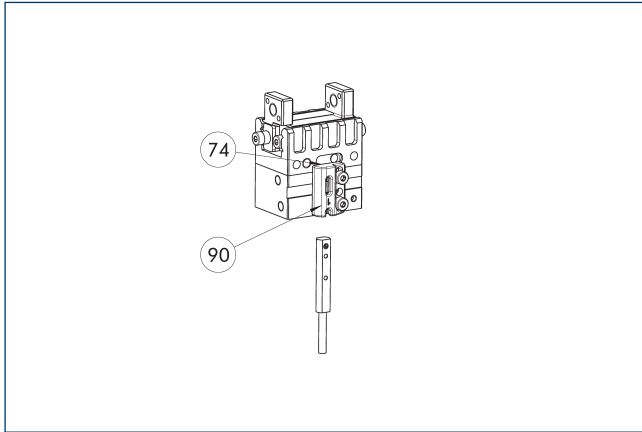
Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

- 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."

# MPG-plus 50

Gripper for small components

## Programmable magnetic switch MMS-IO-Link



74 Limit stop for sensor

90 Vertical attachment of the bracket

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

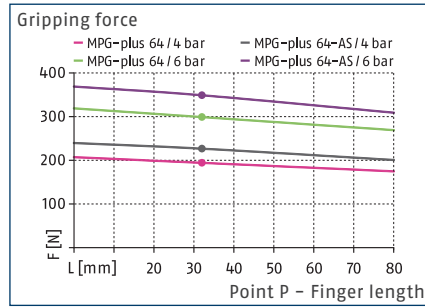


# MPG-plus 64

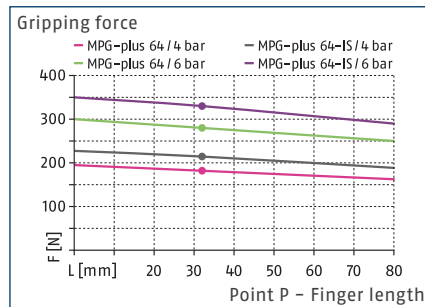
Gripper for small components



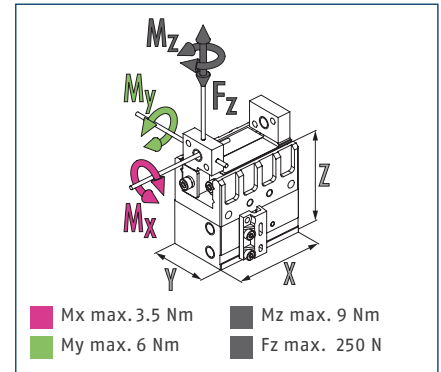
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



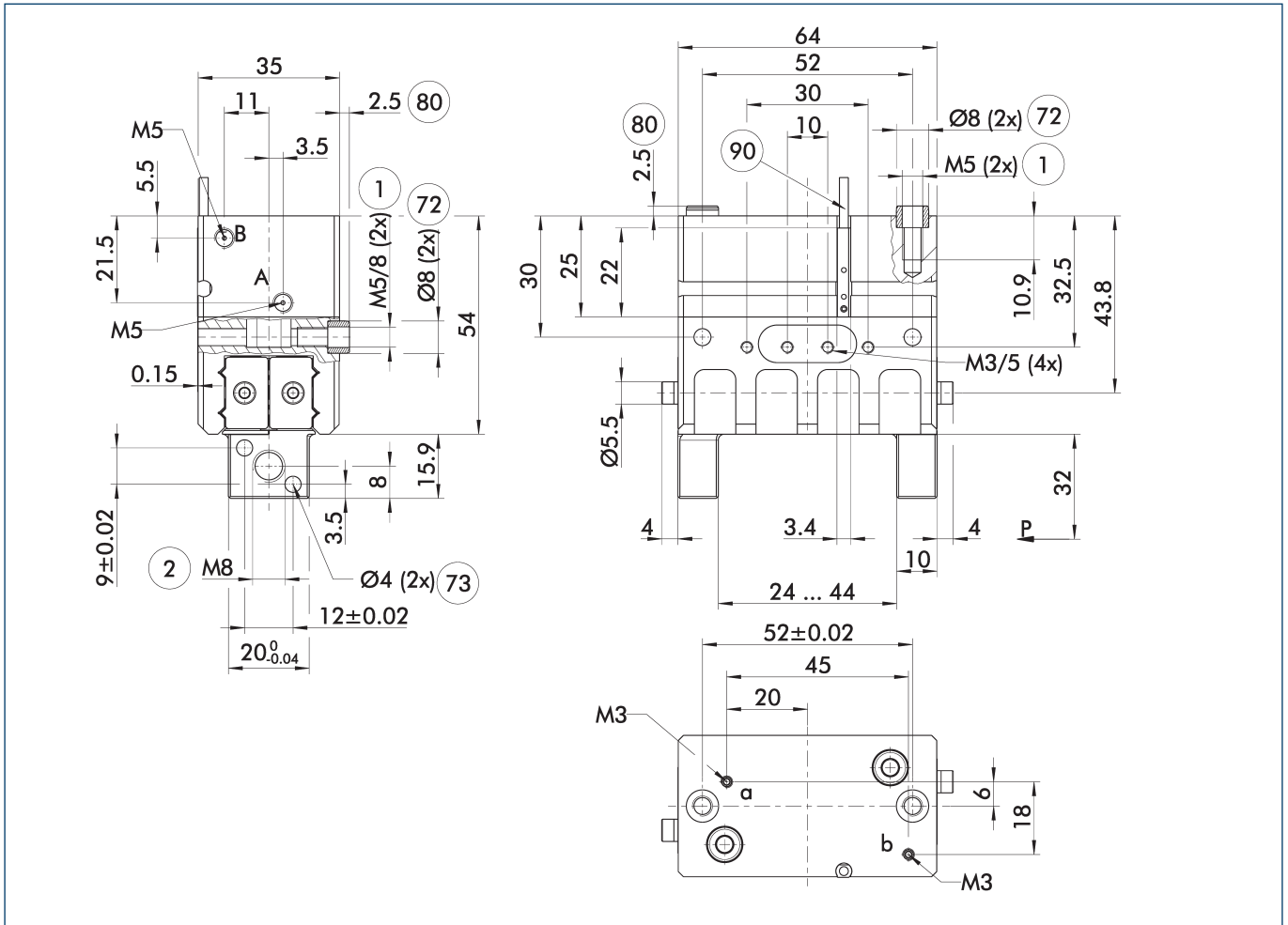
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPG-plus 64	MPG-plus 64-AS	MPG-plus 64-IS
ID		0305541	0305542	0305543
Stroke per jaw	[mm]	10	10	10
Closing/opening force	[N]	300/280	370/-	-/335
Min. spring force	[N]		70	55
Weight	[kg]	0.53	0.62	0.63
Recommended workpiece weight	[kg]	1.25	1.25	1.25
Fluid consumption double stroke	[cm <sup>3</sup> ]	15	27	24.5
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.08/0.08	0.085/0.12	0.12/0.085
Closing/opening time with spring	[s]		0.30	0.30
Max. permissible finger length	[mm]	80	80	80
Max. permissible mass per finger	[kg]	0.24	0.24	0.24
IP protection class		30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Cleanroom class ISO 14644-1:2015		6	6	6
Dimensions X x Y x Z	[mm]	64 x 35 x 54	64 x 35 x 69	64 x 35 x 69
<b>Options and their characteristics</b>				
High-temperature version		39305541	39305542	39305543
Min./max. ambient temperature	[°C]	5/100	5/100	5/100
Precision version		0305546	0305548	0305549



## Main view



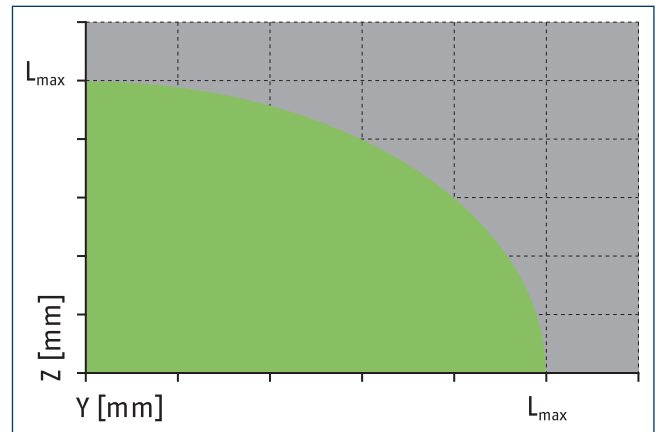
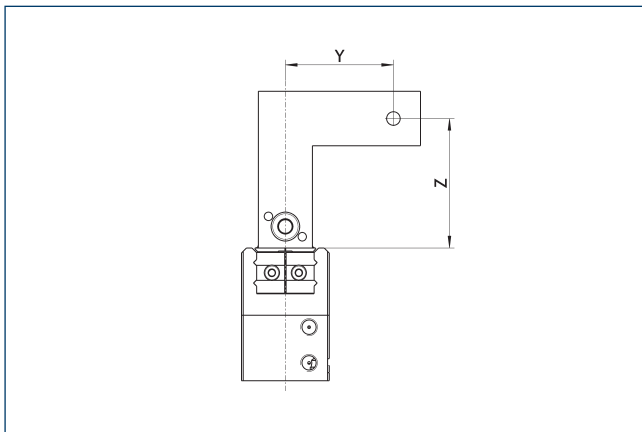
The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- ① Gripper connection
- ② Finger connection

- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① MMS 22...-PI2-... sensor

## Maximum permitted finger projection



■ Permitted range

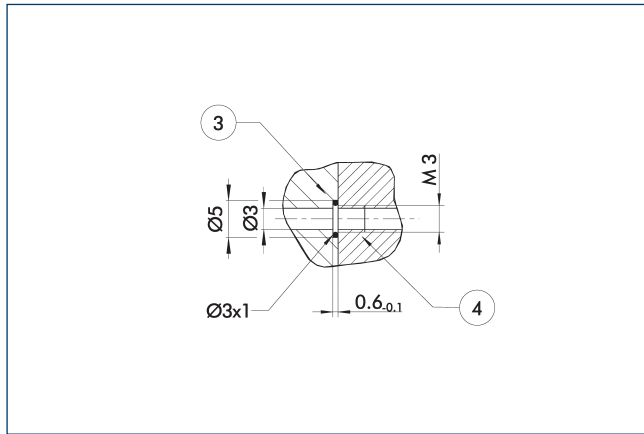
■ Inadmissible range

$L_{max}$  is equivalent to the maximum permitted finger length, see the technical data table.

# MPG-plus 64

Gripper for small components

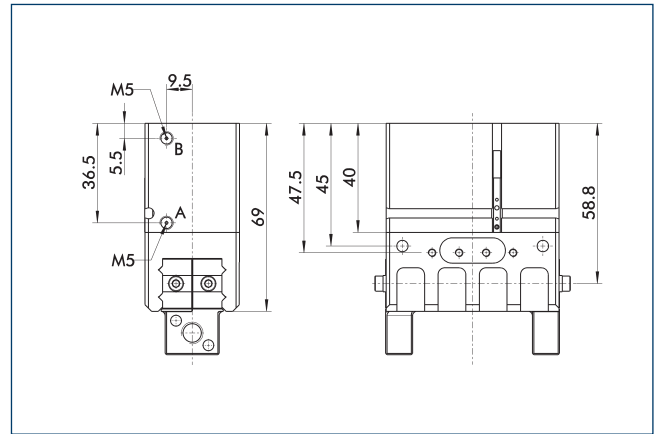
## Hose-free direct connection M3



③ Adapter                      ④ Grippers

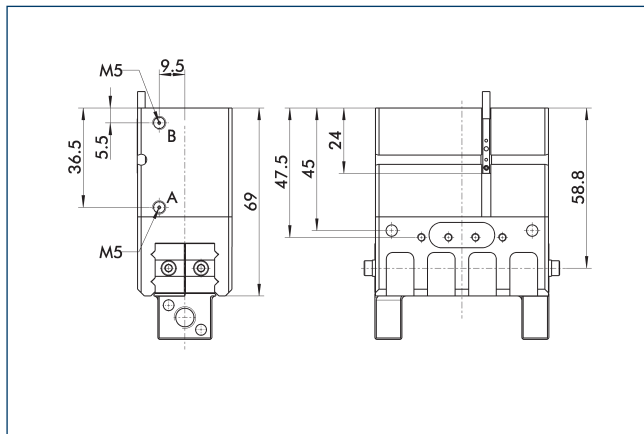
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance AS



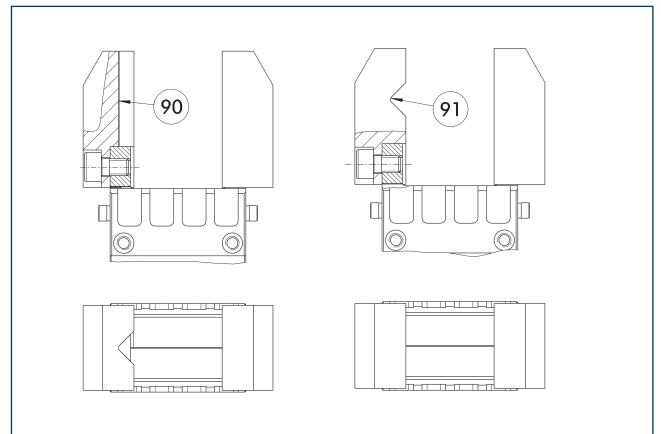
The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

## Gripping force maintenance IS



The mechanical gripping force maintenance device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

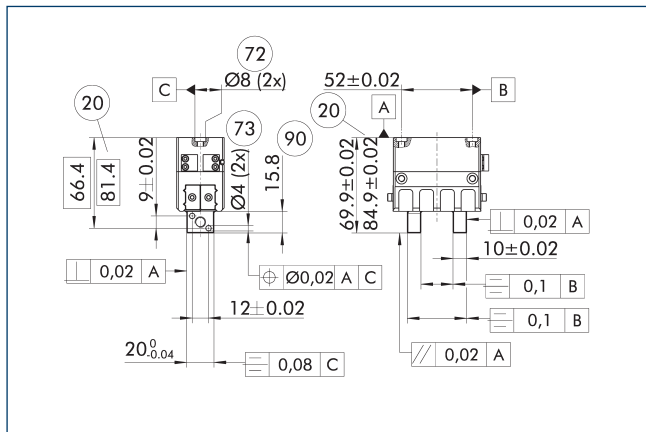
## Jaw design



⑨⑩ Vertically positioned prism                      ⑨① Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

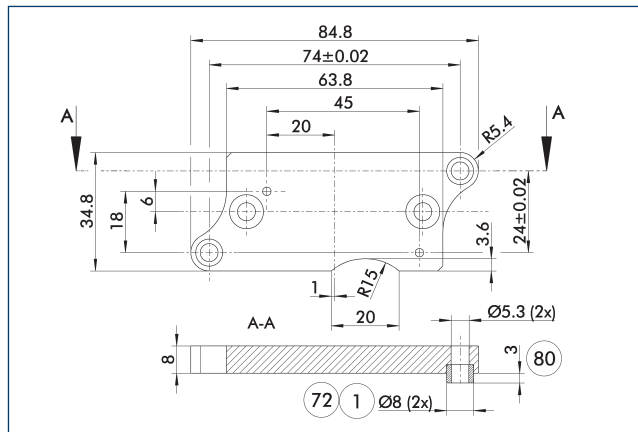
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑨0 Length of the usable finger surface

The indicated tolerances just refer to the variants of precision versions shown in the chart of technical specifications. All other variants of precision versions are available on request.

## Adapter plate



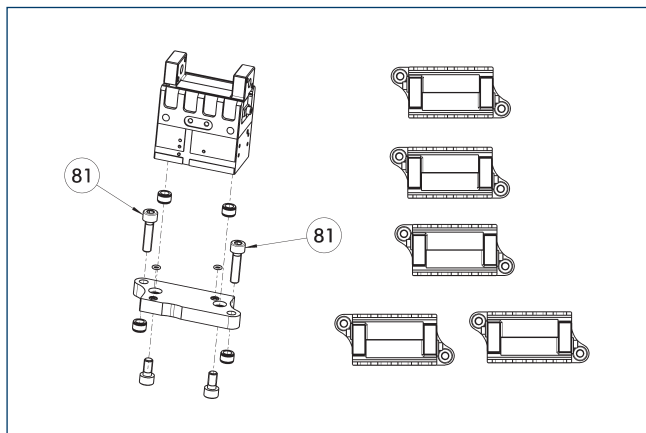
- ① Gripper connection
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 64	0305547

① The adapter plate is a separately ordered, optional accessory.

## Adapter plate



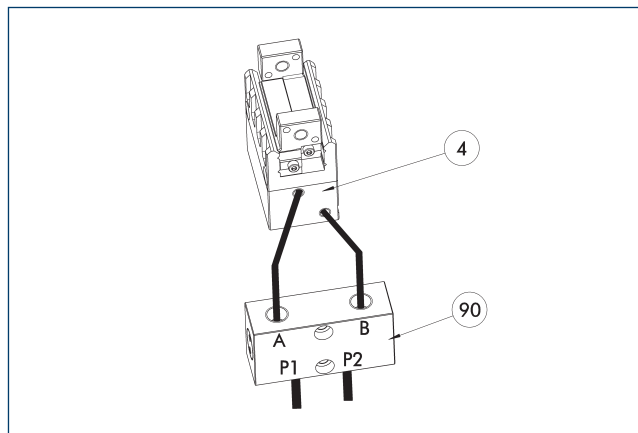
- ⑧1 Not included in the scope of delivery

The adapter plate includes an O-ring\* for a direct air connection, additional centering sleeves, and screws for mounting the gripper.  
\*Optional only with pneumatic actuators

Description	ID
Adapter plate	
APL-MPG-plus 64	0305547

① The adapter plate is a separately ordered, optional accessory.

## SDV-P pressure maintenance valve



- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

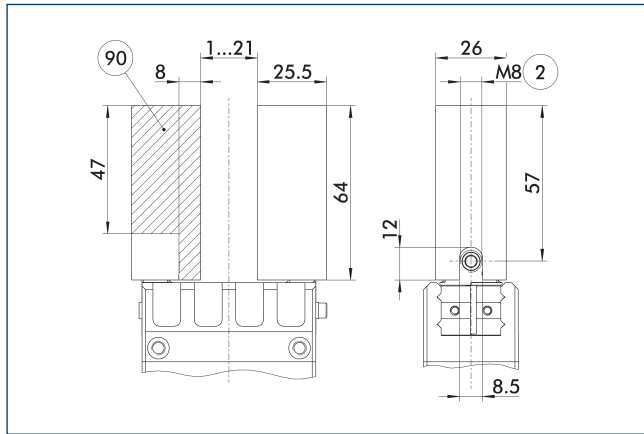
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6

① In order to achieve the specified closing and opening time for each gripper variant, the recommended hose diameter must be used. The direct allocation of the respective variant of the gripper for the respective SDV-P can be found at schunk.com.

# MPG-plus 64

Gripper for small components

## Finger blanks with BSWS ABR-BSWS-MPG-plus 64

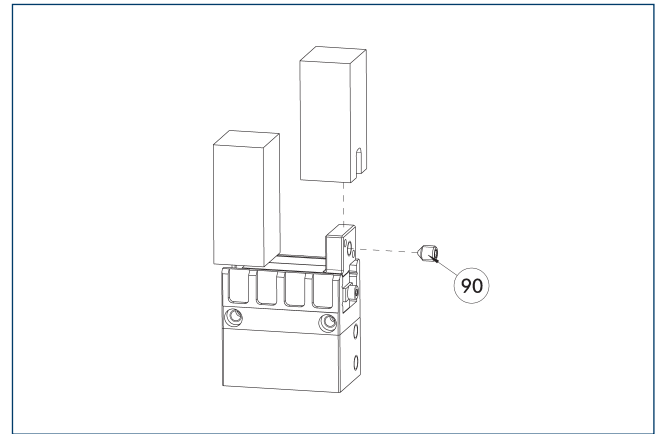


- ② Finger connection
- ⑨⑩ Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 64	0302898	2

## Finger blanks with BSWS

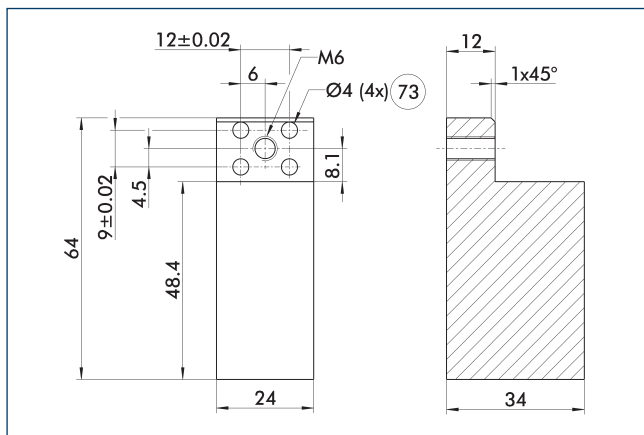


- ⑨⑩ Included in the jaw quick-change system's scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

Description	ID	Scope of delivery
Finger blank with jaw quick-change system		
ABR-BSWS-MPG-plus 64	0302898	2

## Finger blanks ABR-MPG-plus 64

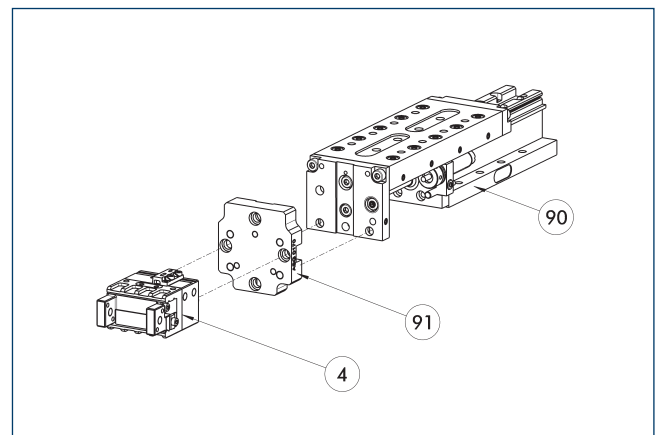


- ⑦③ Fit for centering pins

The drawing shows the finger blank which can be reworked by the customer.

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 64	0340215	Aluminum (3.4365)	2

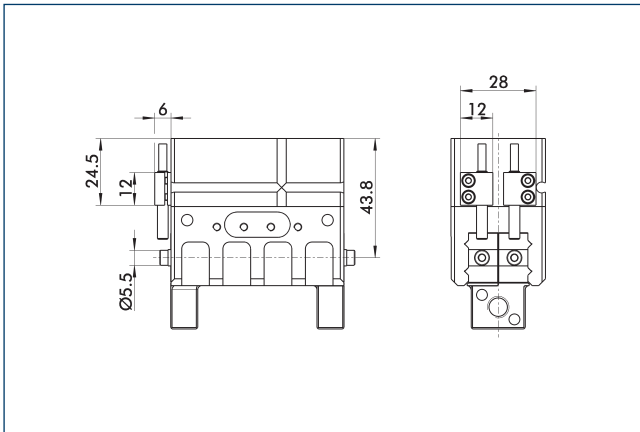
## Modular Assembly Automation



- ④ Grippers
- ⑨⑩ CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- ⑨① ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

## Attachment kit for proximity switch IN 40

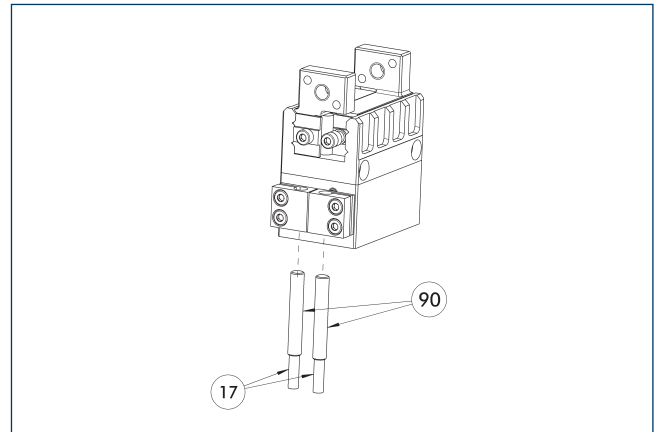


The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

Description	ID
Attachment kit for proximity switch	
AS-IN40-MPG-plus	0305545

① This attachment kit needs to be ordered optionally as an accessory.

## IN 40 inductive proximity switches



①7 Cable outlet

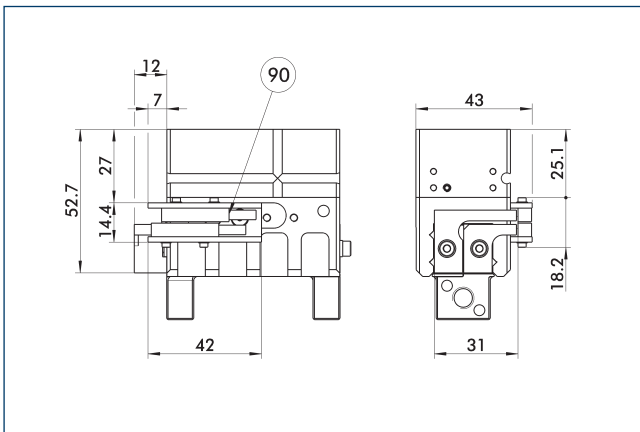
⑨0 Sensor IN ...

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-IN40-MPG-plus	0305545	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

## Attachment kit for proximity switch IN 5



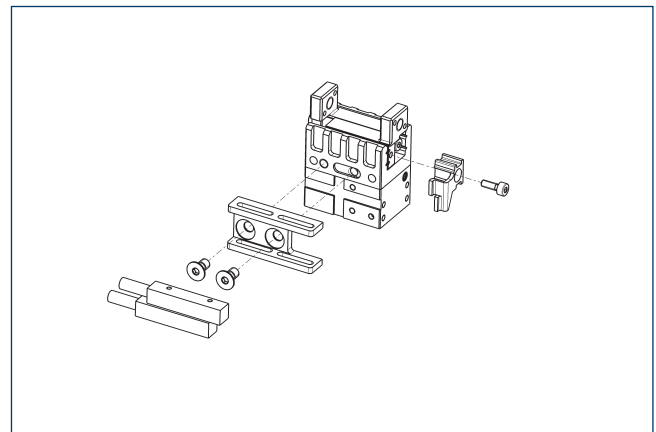
⑨0 Sensor IN ...

The attachment kit includes a bracket, switch cams, and mounting screws. Proximity switches have to be ordered separately.

Description	ID
Attachment kit for proximity switch	
AS-MPG 64	0340154

① This attachment kit needs to be ordered optionally as an accessory.

## IN 5 inductive proximity switches



End position monitoring can be mounted with an attachment kit.

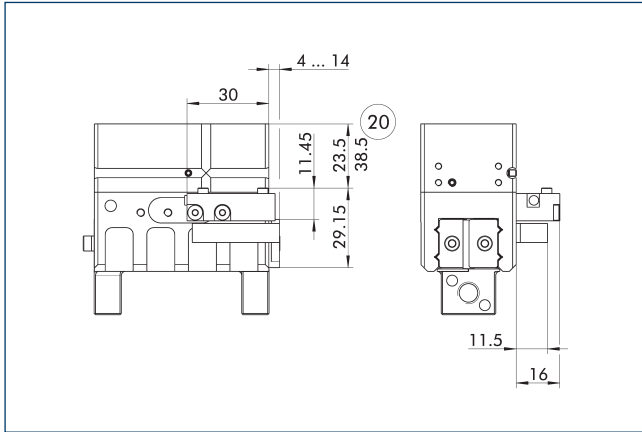
Description	ID	Often combined
Attachment kit for proximity switch		
AS-MPG 64	0340154	
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	●

① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

# MPG-plus 64

Gripper for small components

## Attachment kit for FPS



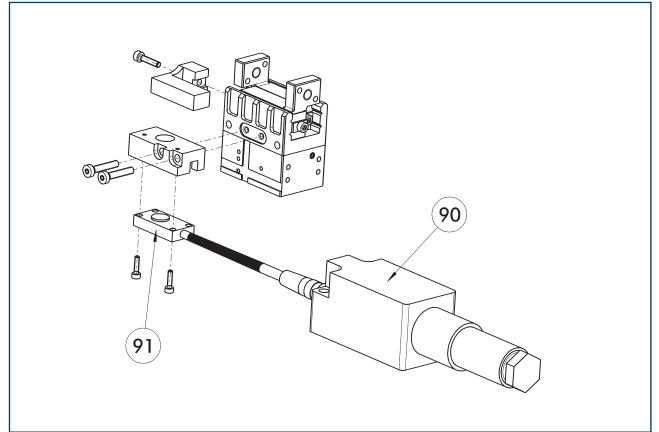
20 For AS / IS version

The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

Description	ID
Attachment kit for FPS	
AS-FPS-MPG 64	0301764

ⓘ This attachment kit needs to be ordered optionally as an accessory.

## Flexible position sensor



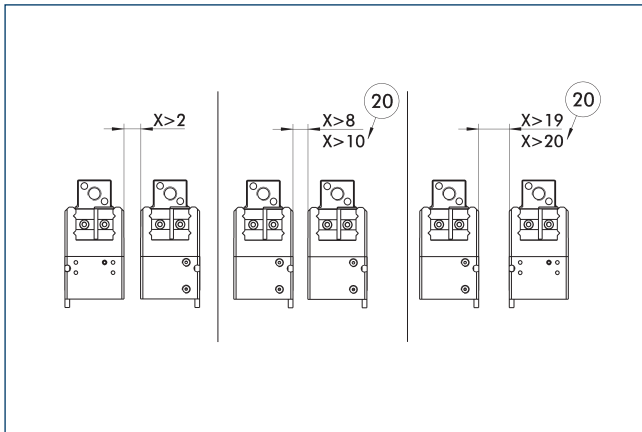
90 FPS-F5 evaluation electronic 91 FPS-S sensor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Attachment kit for FPS		
AS-FPS-MPG 64	0301764	
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

ⓘ When using an FPS system, an FPS sensor (FPS-S) as well as an electronic processor (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter “Accessories.”

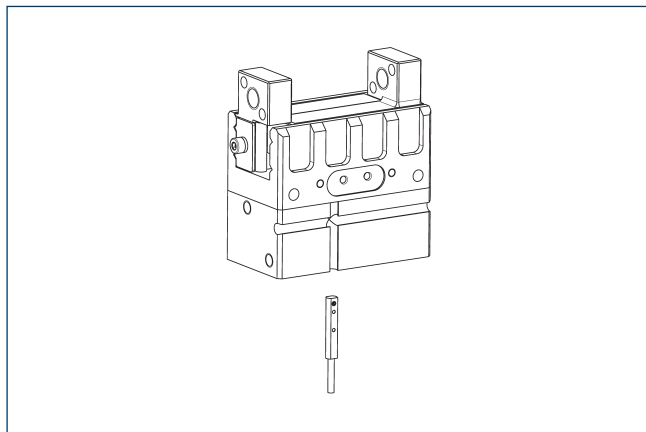
## Monitoring for stacked arrangements



20 For AS / IS version

CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

## Programmable magnetic switch MMS 22-PI2



Position monitoring with two programmable positions per sensor and electronics built into the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

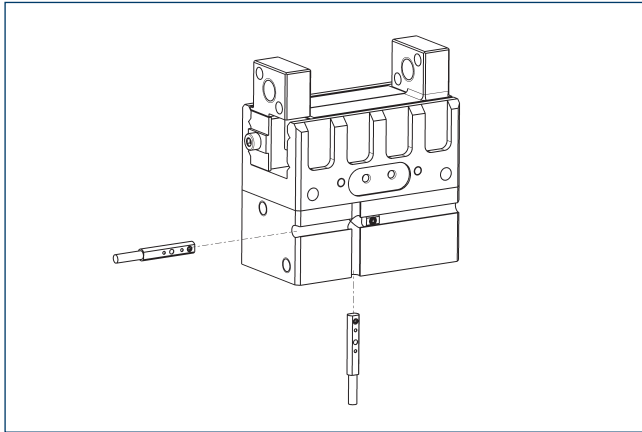
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel housing</b>		
MMS 22-PI2-S-M8-PNP-HD	0301130	
MMSK 22-PI2-S-PNP-HD	0301132	

- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

# MPG-plus 64

Gripper for small components

## MMS-P programmable magnetic switch

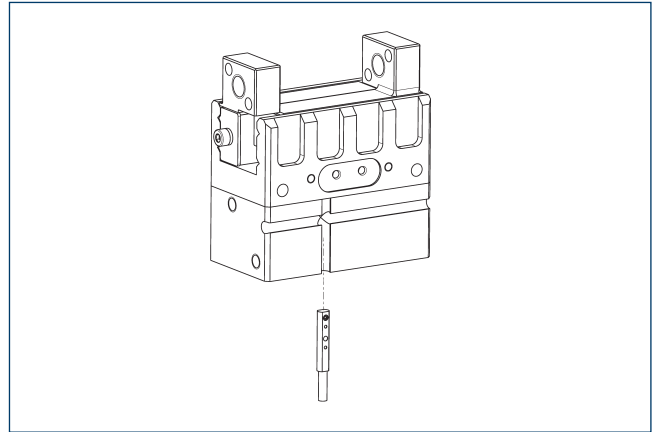


Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Connection cables		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
clip for plug/socket		
CLI-M8	0301463	
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.

## Analog position sensor MMS-A



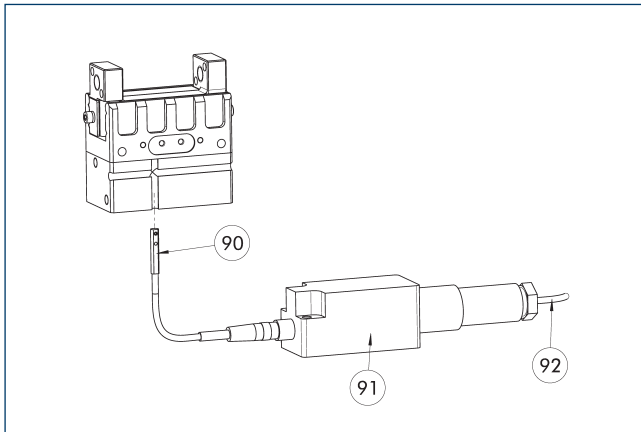
No-contact measuring, analog multi-position monitoring for any number of positions.

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



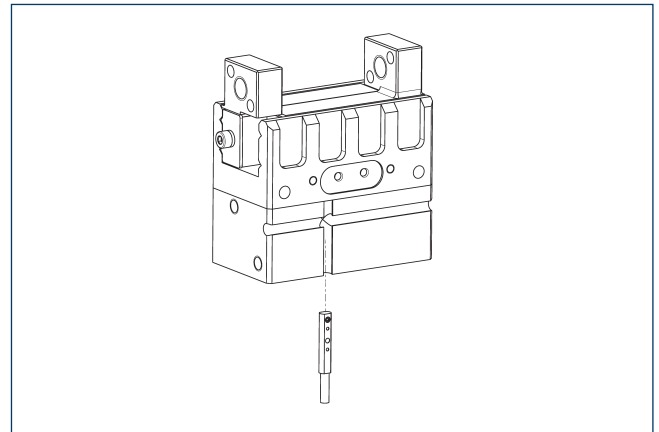
- ⑨⑩ MMS 22-A-... sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Connection cables

Flexible position monitoring of up to five positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315805	
Evaluation electronics		
FPS-F5	0301805	
Connection cables		
KA BG16-L 12P-1000	0301801	

- ① When using an FPS system, one MMS 22-A-05V and one electronic processor (FPS-F5) are required per each gripper, as well as a mounting kit (AS), if listed. Cable extensions (KV) are optionally available – see catalog chapter "Accessories."

## Programmable magnetic switch MMS-IO-Link



Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master is required for operation.

Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

- ① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.



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