



Superior Clamping and Gripping



## Product Information

Universal gripper PZN-plus

# PZN-plus

Universal gripper

## Reliable. Robust. Flexible. Universal gripper PZN-plus

Universal 3-finger centric gripper with high gripping force and maximum moments due to multi-tooth guidance

### Field of application

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

### Advantages – Your benefits

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

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

**Wedge-hook design** for high power transmission and synchronized gripping

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

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

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

**Fastening at one gripper side in two screw directions** for universal and flexible gripper assembly



Sizes  
Quantity: 11



Weight  
0.13 .. 80 kg



Gripping force  
255 .. 57300 N



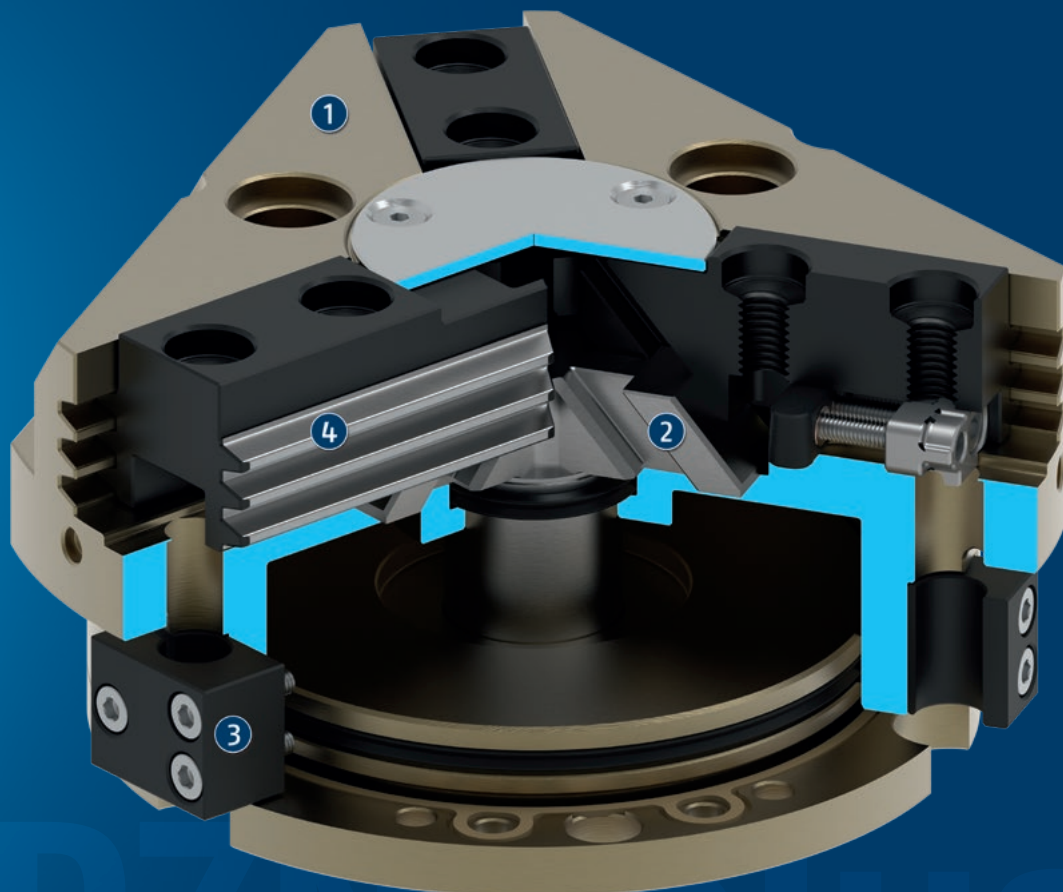
Stroke per jaw  
2 .. 45 mm



Workpiece weight  
1.3 .. 227 kg

## Functional description

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



① **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy

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

③ **Sensor system**  
Brackets for proximity switches and adjustable control cams in the housing

④ **Multi-tooth guidance**  
precise gripping through base jaw guidance with a high load capacity and a minimum Play

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Base jaw material:** Steel

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

**Warranty:** 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 14644-1:1999:** 5

## Application example

Insertion tool for assembly of small to medium-sized axes. Due to the rotary feed-through, the axes can be rotated several times infinitely ( $> 360^\circ$ ) during the assembly process. Slip ring contacts integrated in the rotary feed-through reliably supply the gripper with power.

- 1 Rotary feed-through DDF 2
- 2 Quick-change system SWS
- 3 3-finger centric gripper PZN-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.



Compensation unit



Universal intermediate jaw



Jaw quick-change system



Pressure maintenance valve



Inductive proximity switches



Magnetic switches



Finger blank

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

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

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

**ATEX version EX:** for explosive environments

**H1G compliant grease:** for use in the food and pharmaceutical industries

**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.

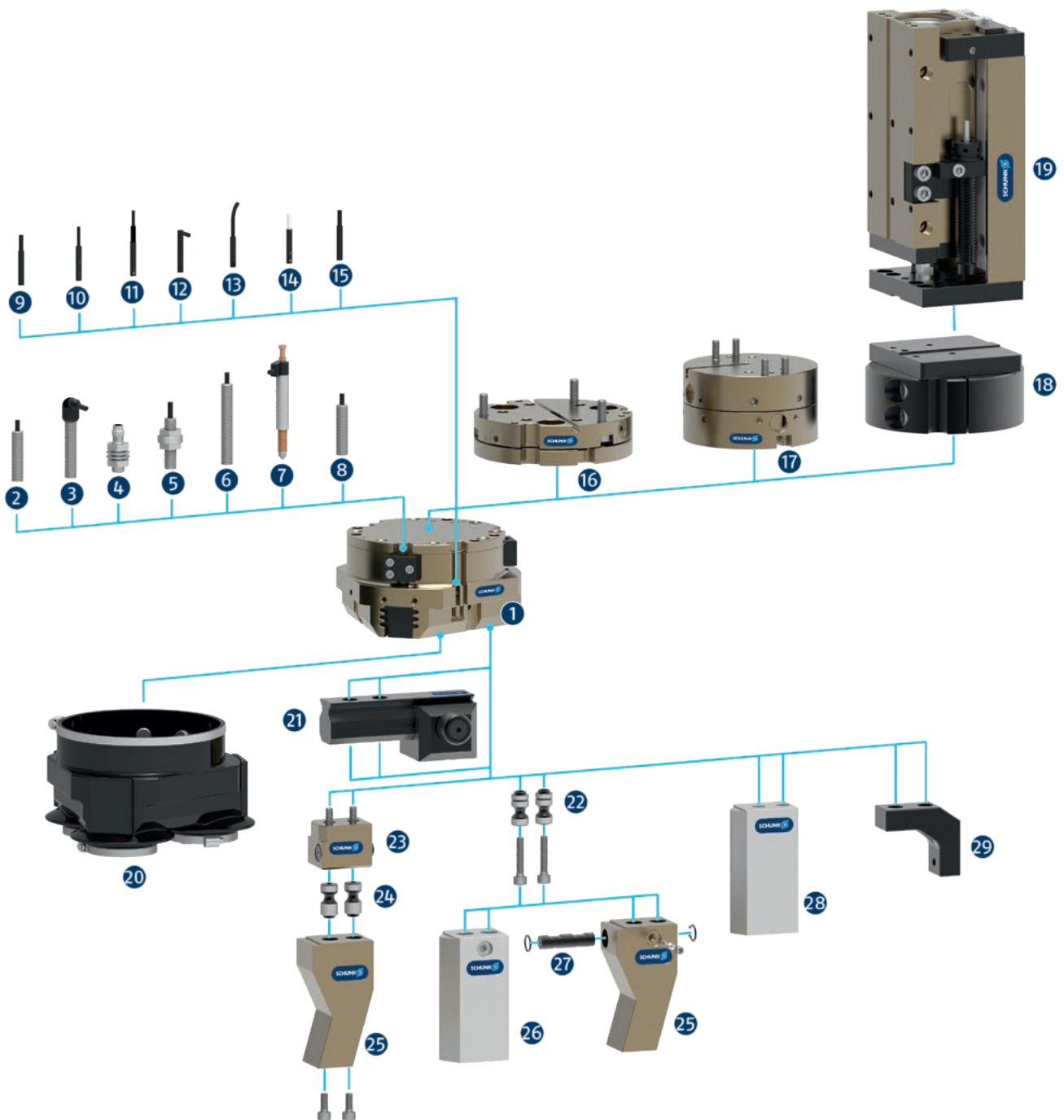
**Additional versions:** Various options can be combined with each other.

# PZN-plus

Universal gripper

## SCHUNK gripper PZN-plus

### Overview Accessories



- 1 **PZN-plus**  
Universal 3-finger centric gripper with high gripping force and maximum moments due to 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-M1S**  
Mechanical measuring system for precise position detection of the gripper jaw with analog output
- 8 **RMS**  
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 **TCU**  
Tolerance compensation unit for compensating small tolerances in the plane
- 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

## Finger Accessories

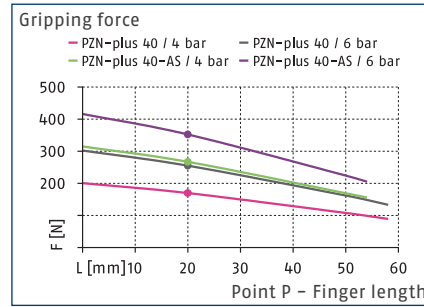
- 21 **UZB**  
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.
- 22 **BSWS-AR**  
Adapter coupling of jaw quick-change system for fast, manual change of top jaws
- 23 **BSWS-B**  
Locking mechanism of the jaw quick-change system for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

# PZN-plus 40

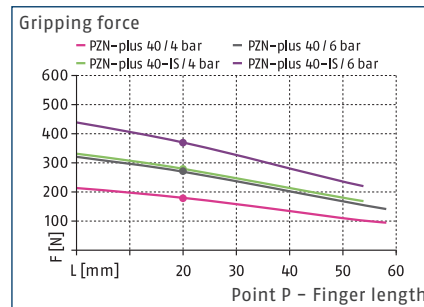
Universal gripper



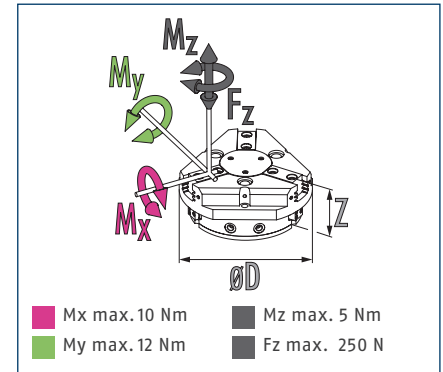
## Gripping force O.D. gripping



## 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.

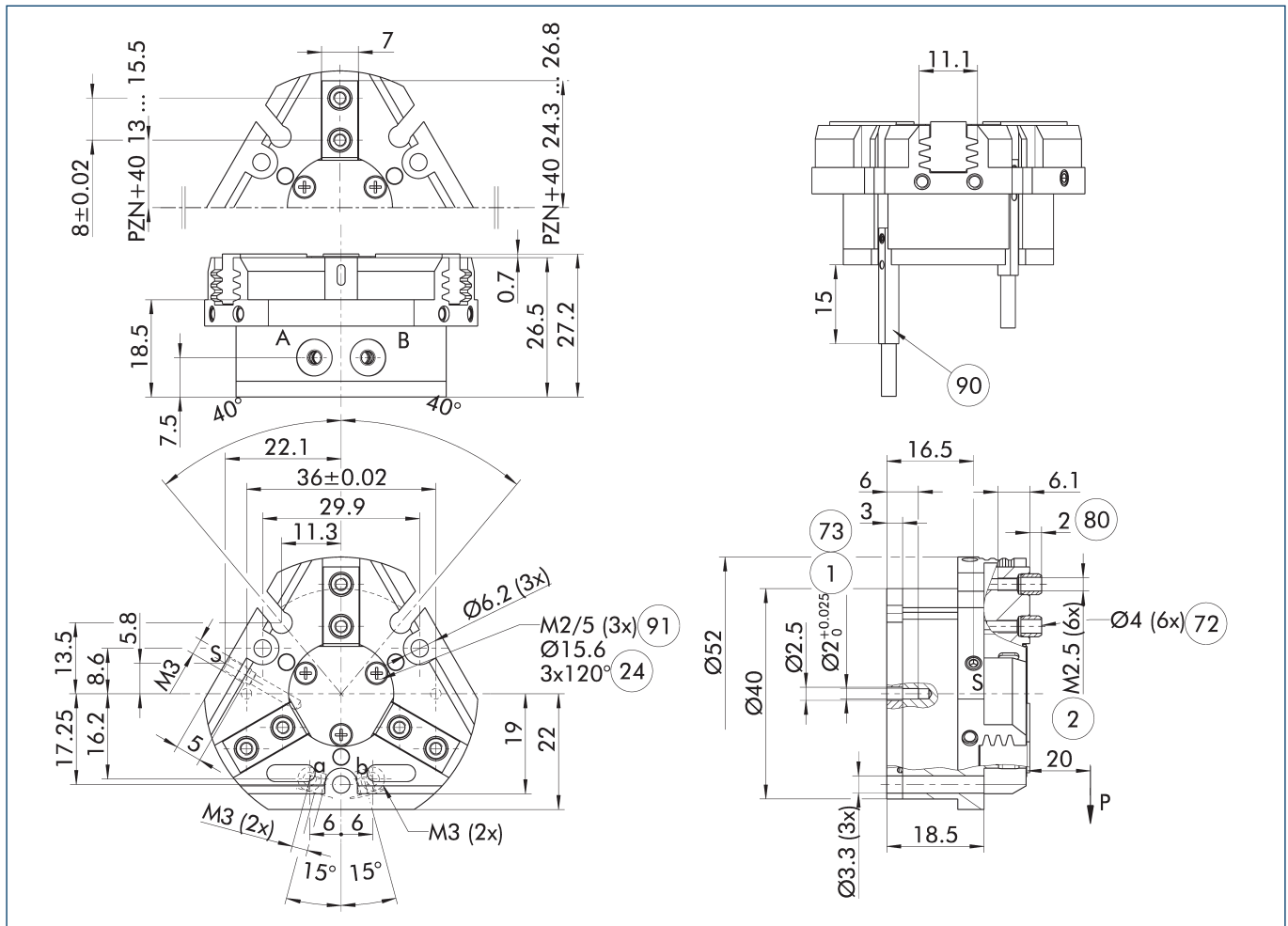
## Technical data

Description		PZN-plus 40	PZN-plus 40-AS	PZN-plus 40-IS
ID		0303308	0303508	0303538
Stroke per jaw	[mm]	2.5	2.5	2.5
Closing/opening force	[N]	255/270	355/-	-/370
Min. spring force	[N]		100	100
Weight	[kg]	0.13	0.15	0.15
Recommended workpiece weight	[kg]	1.3	1.3	1.3
Fluid consumption double stroke	[cm <sup>3</sup> ]	5	9	9
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.03/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.08	0.08
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 Ø D x Z	[mm]	52 x 27.2	52 x 35.2	52 x 35.2
Options and their characteristics				
Dustproof version		37303308	37303508	37303538
IP protection class		64	64	64
Weight	[kg]	0.16	0.18	0.18
Corrosion-protected version		38303308	38303508	38303538
High-temperature version		39303308	39303508	39303538
Min./max. ambient temperature	[°C]	5/130	5/130	5/130
Power booster version		0372199	0372219	0372239
Closing/opening force	[N]	363/381	446/-	-/463
Weight	[kg]	0.19	0.21	0.21
Maximum pressure	[bar]	6	6	6
Max. permissible finger length	[mm]	50	40	40
Precision version		0303338	0303488	

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.

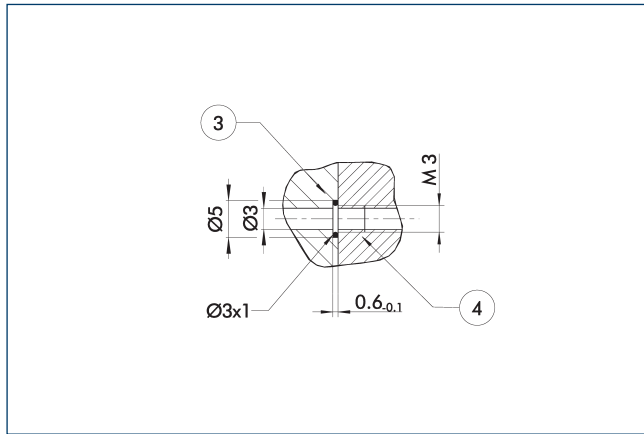
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨② Thread below the cover for fastening external attachments |
| ②④ Bolt circle                                 |  |

# PZN-plus 40

Universal gripper

## Hose-free direct connection M3

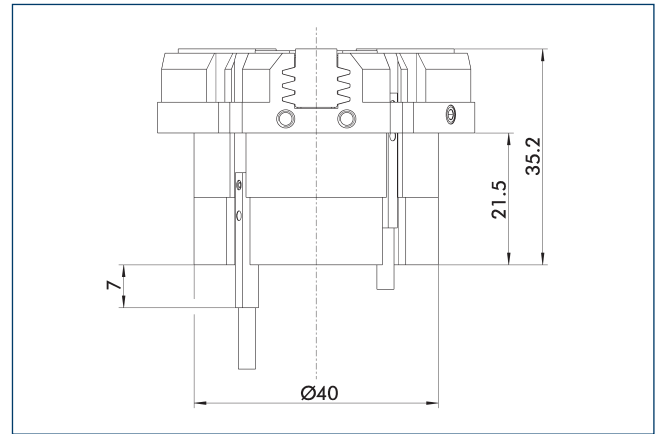


③ Adapter

④ Grippers

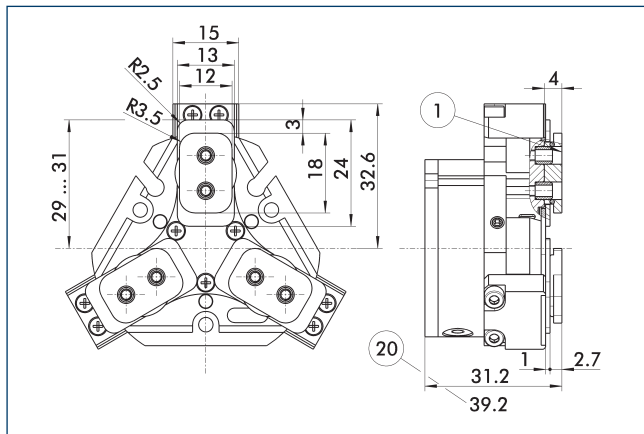
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



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

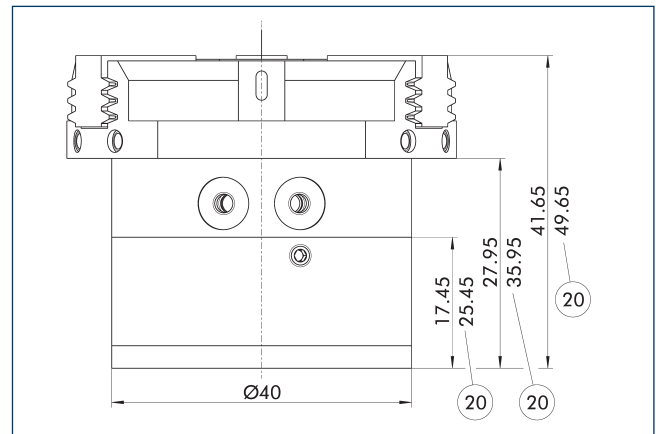


① Gripper connection

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.

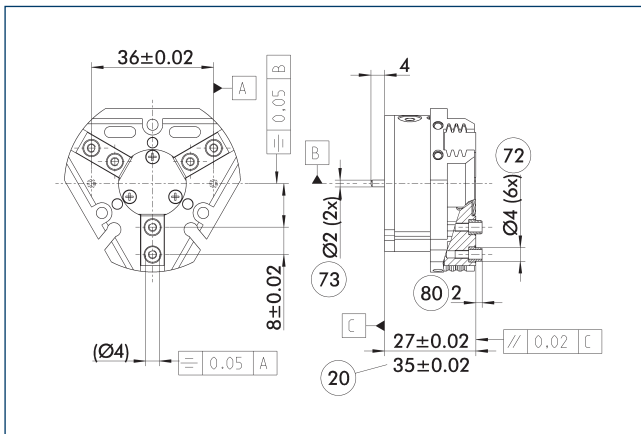
## Power booster version



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.

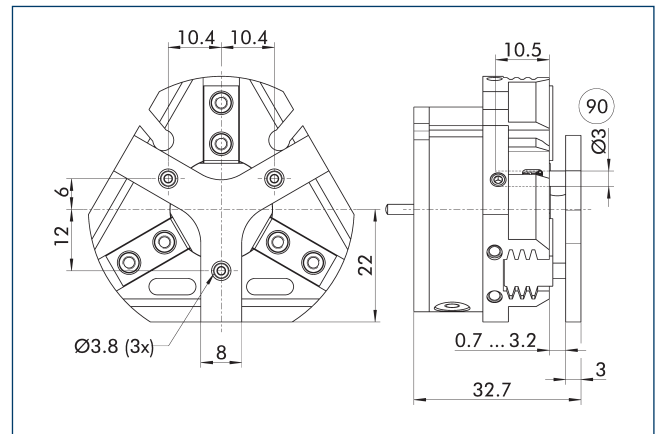
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



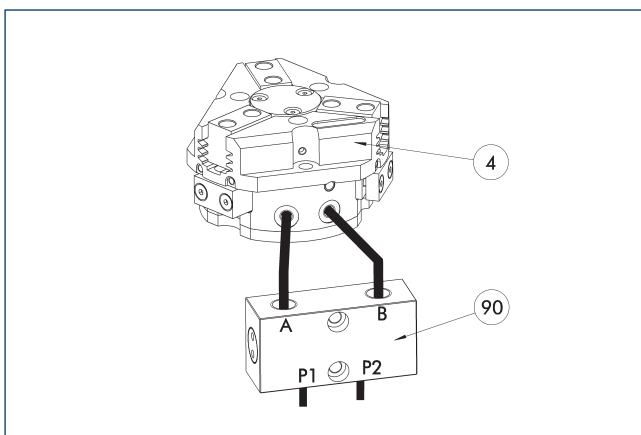
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus 40	0303718	2.5	5

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



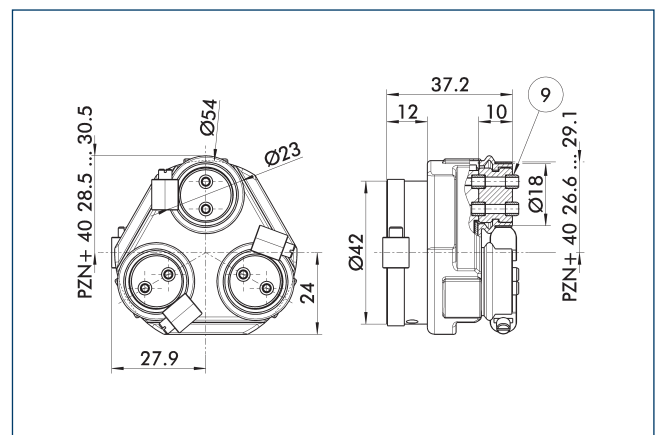
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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.

## Protective cover HUE PZN-plus 40



- ⑨ For mounting screw connection diagram, see basic version

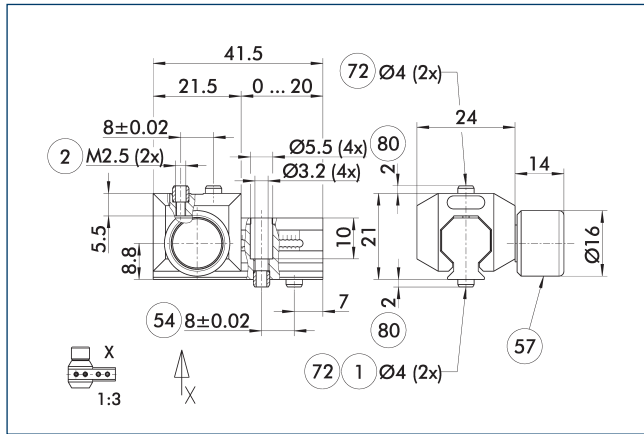
The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate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

Description	ID	IP protection class
Protection cover		
HUE PZN-plus 40	0303478	65

# PZN-plus 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.

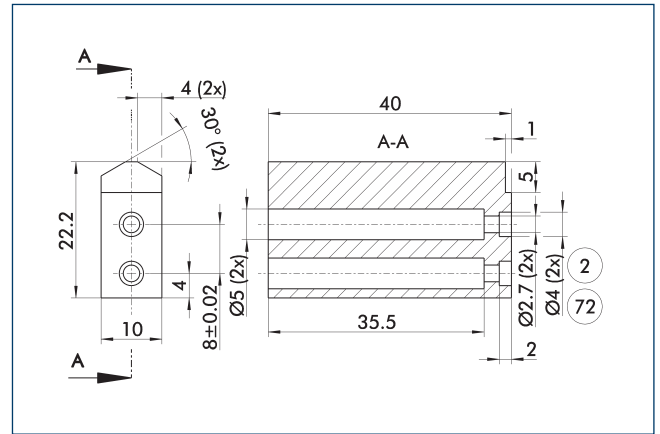
Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 40	0300040	1
Finger blank		
ABR-PGZN-plus 40	0300008	
SBR-PGZN-plus 40	0300018	

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	40	-1 (6 bar)	■■■■
PZN-plus	40	-1-AS / -1-IS (6 bar)	■■■□
PZN-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.

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

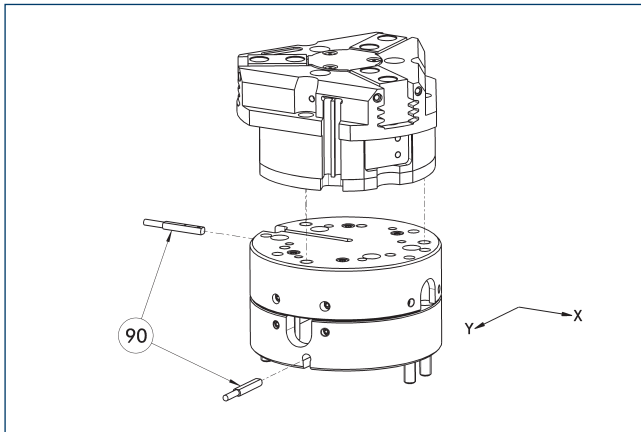


- ② Finger connection
- ⑦2 Fit for centering sleeves

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

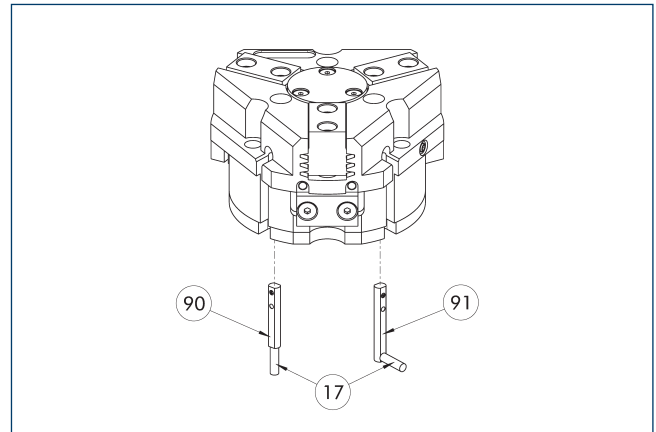


90 Monitoring

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

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	●

### 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.

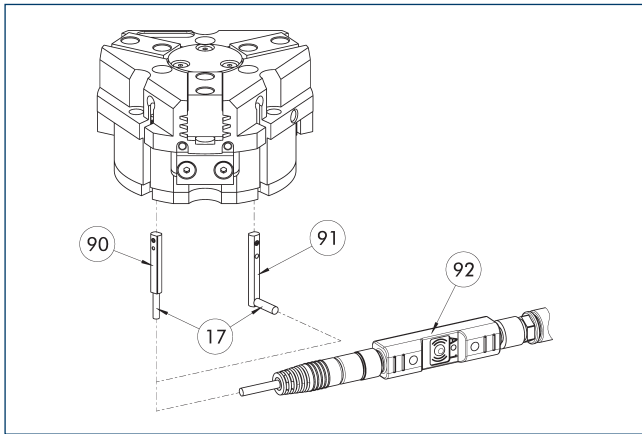
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 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.

# PZN-plus 40

Universal gripper

## Programmable magnetic switch MMS 22-PI1



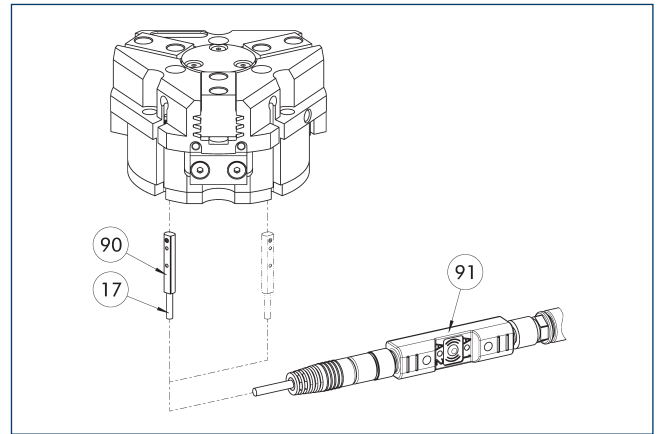
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...
- ①⑫ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

## Programmable magnetic switch MMS 22-PI2



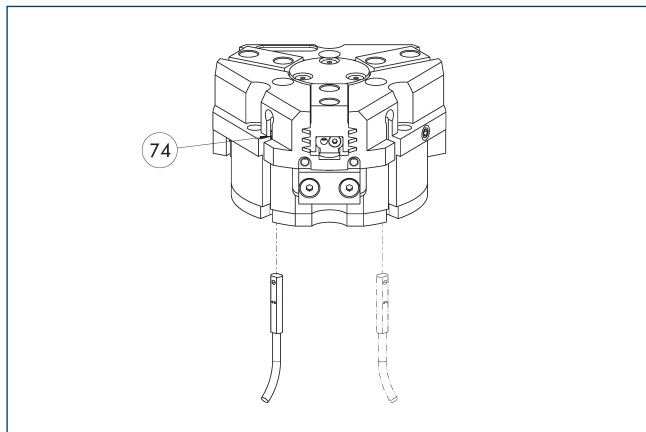
- ①⑦ Cable outlet
- ①⑨ Connector teaching tool ST
- ①⑩ MMS 22...-PI2-... sensor

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

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	

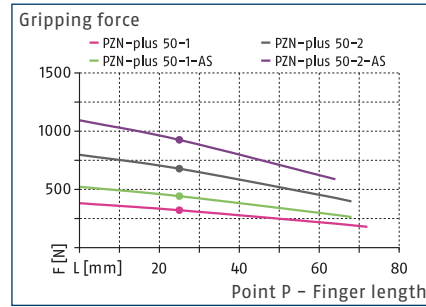
① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

# PZN-plus 50

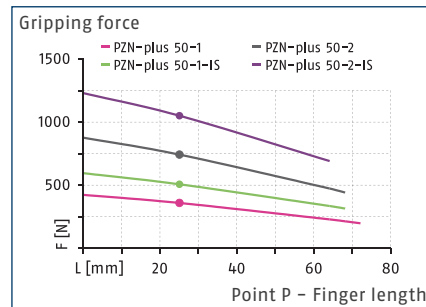
Universal gripper



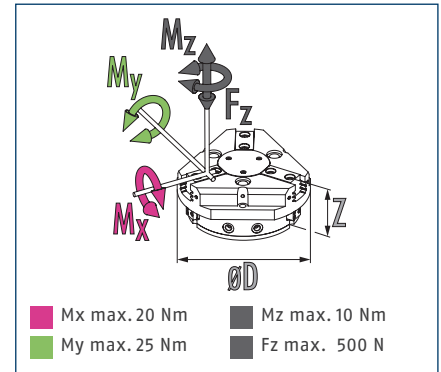
## Gripping force O.D. gripping



## 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.

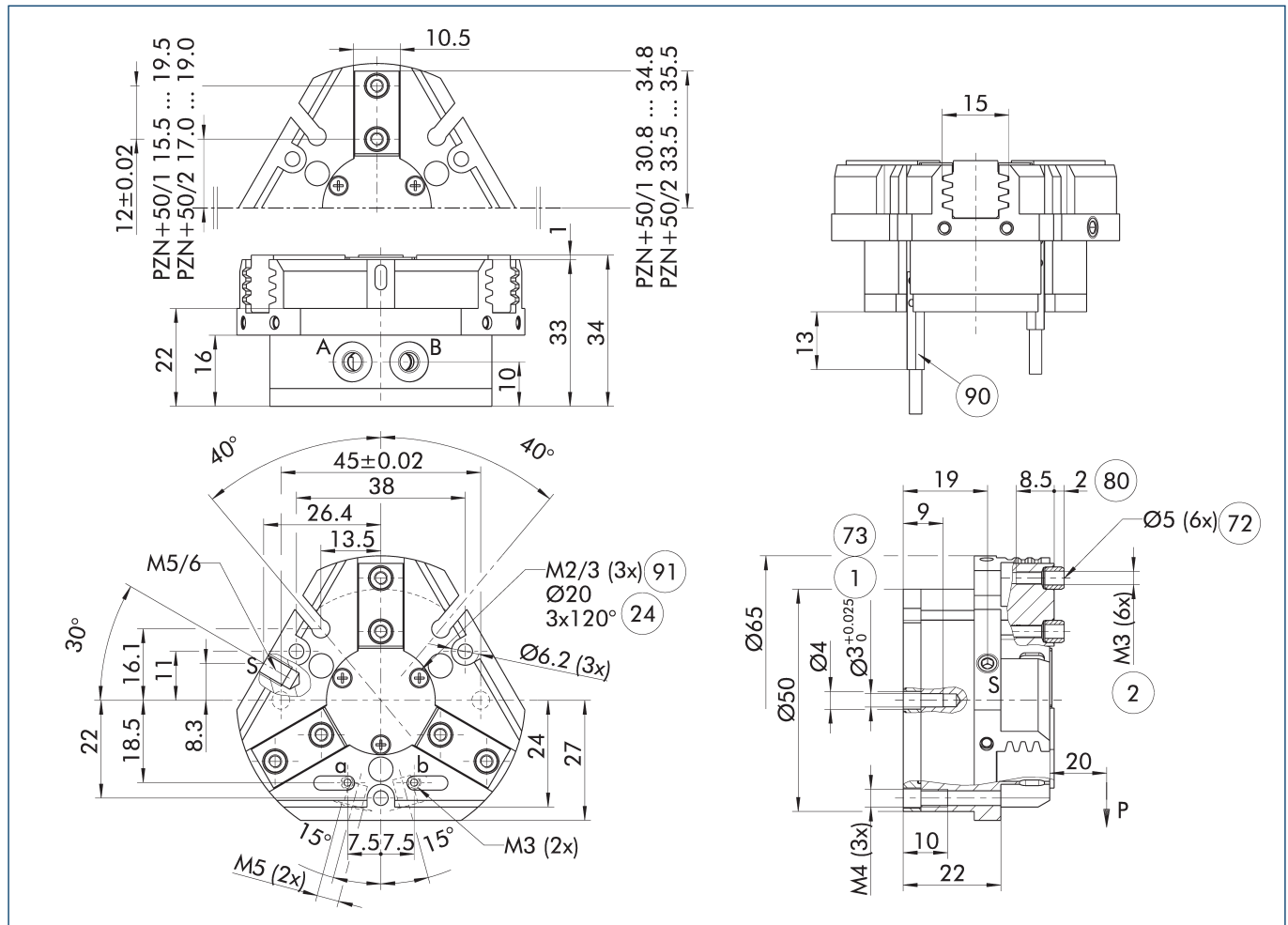
## Technical data

Description		PZN-plus 50-1	PZN-plus 50-2	PZN-plus 50-1-AS	PZN-plus 50-2-AS	PZN-plus 50-1-IS	PZN-plus 50-2-IS
ID		0303309	0303409	0303509	0303609	0303539	0303639
Stroke per jaw	[mm]	4	2	4	2	4	2
Closing/opening force	[N]	325/355	680/740	445/-	925/-	-/505	-/1050
Min. spring force	[N]			120	245	150	310
Weight	[kg]	0.27	0.27	0.35	0.35	0.35	0.35
Recommended workpiece weight	[kg]	1.65	3.4	1.65	3.4	1.65	3.4
Fluid consumption double stroke	[cm <sup>3</sup> ]	9	9	18	18	18	18
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	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 Ø D x Z	[mm]	65 x 34	65 x 34	65 x 44.5	65 x 44.5	65 x 44.5	65 x 44.5
<b>Options and their characteristics</b>							
Dustproof version		37303309	37303409	37303509	37303609	37303539	37303639
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.33	0.33	0.41	0.41	0.41	0.41
Corrosion-protected version		38303309	38303409	38303509	38303609	38303539	38303639
High-temperature version		39303309	39303409	39303509	39303609	39303539	39303639
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372200	0372210	0372220		0372240	
Closing/opening force	[N]	460/505	970/1050	560/-		-/631	
Weight	[kg]	0.38	0.38	0.46		0.46	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	64	50	50		50	
Precision version		0303339	0303439	0303489	0303589		

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.

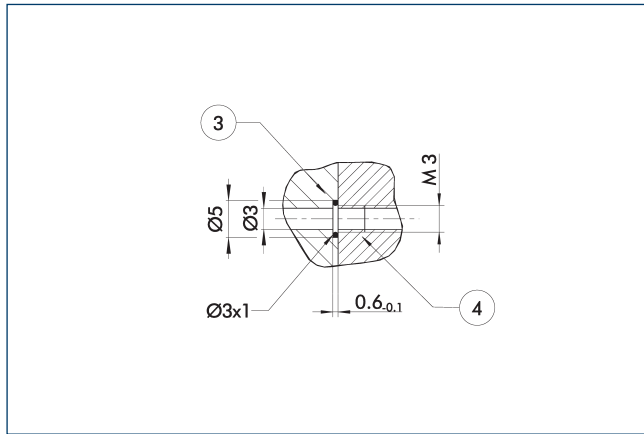
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨② Thread below the cover for fastening external attachments |
| ②④ Bolt circle                                 |  |

# PZN-plus 50

Universal gripper

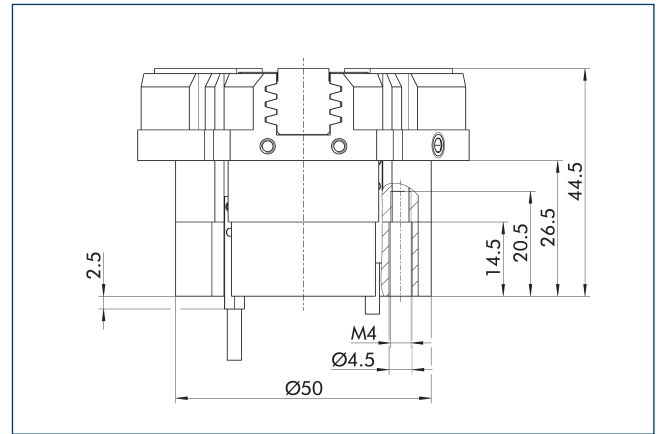
## Hose-free direct connection M3



- ③ Adapter
- ④ Grippers

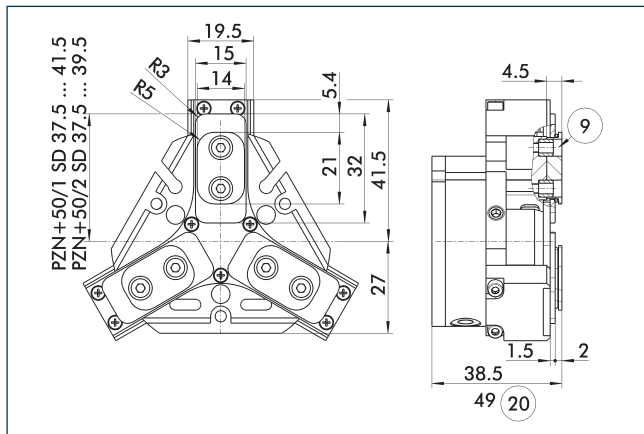
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



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.

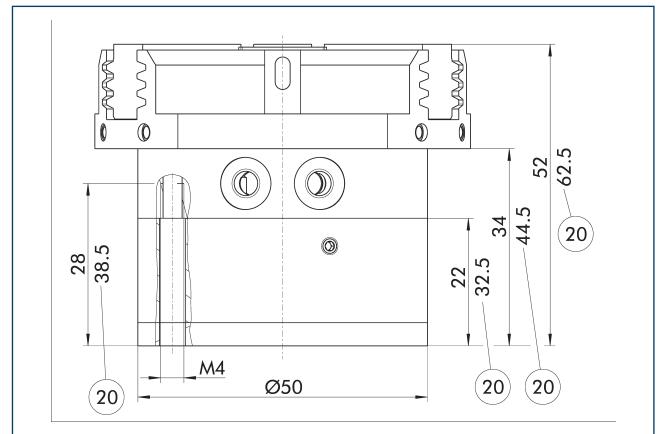
## Dustproof version



- 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.

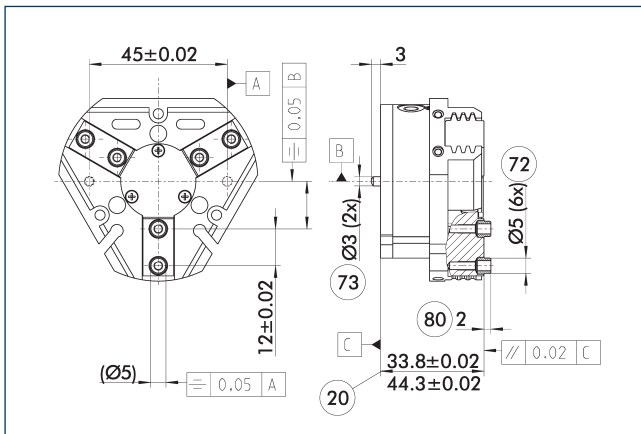
## Power booster version



- 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.

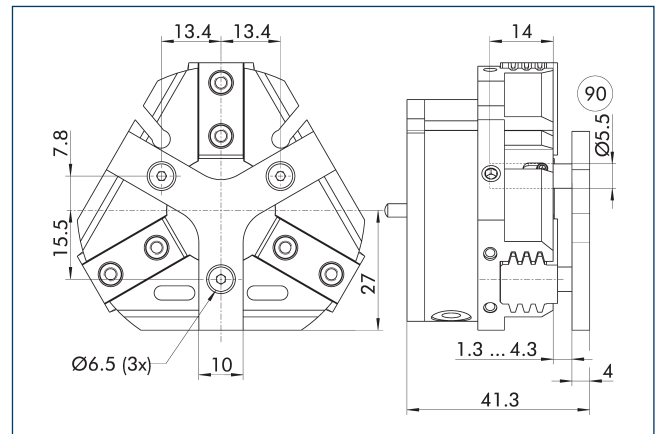
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



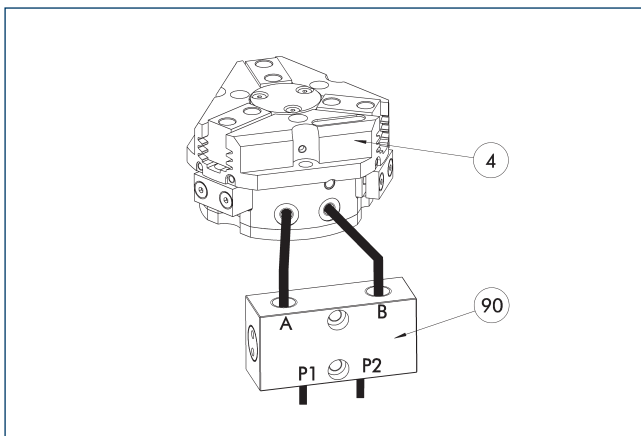
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus 50	0303719	3	12

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



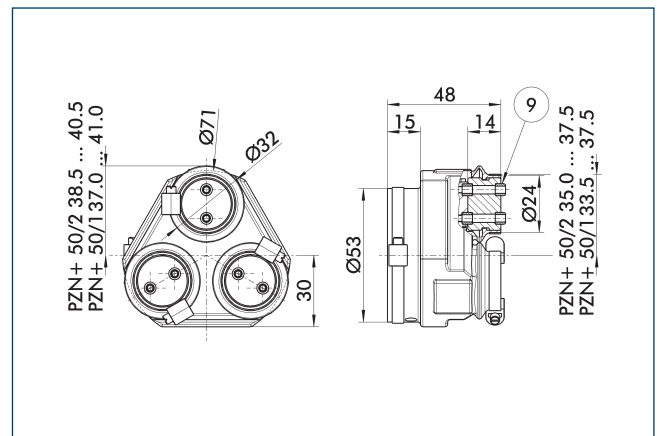
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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.

## Protective cover HUE PZN-plus 50



- ⑨ For mounting screw connection diagram, see basic version

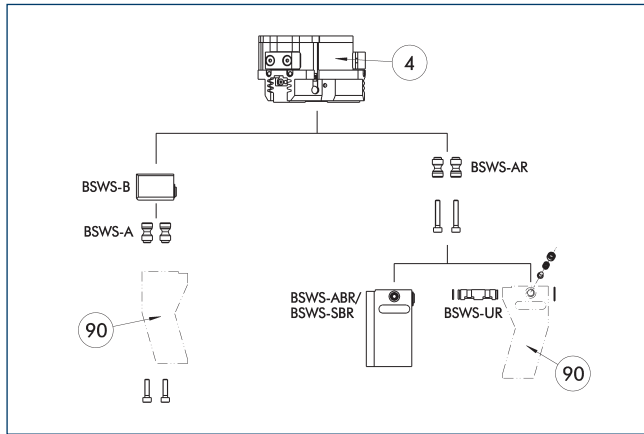
The HUE protective cover fully protects the gripper against external influences. The cover is suitable for applications of up to IP65 if an additional sealing of the cover bottom is provided. For detailed information, please see the HUE series. The connection diagram shifts by the height of the intermediate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

Description	ID	IP protection class
Protection cover		
HUE PZN-plus 50	0303479	65

# PZN-plus 50

Universal gripper

## 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
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

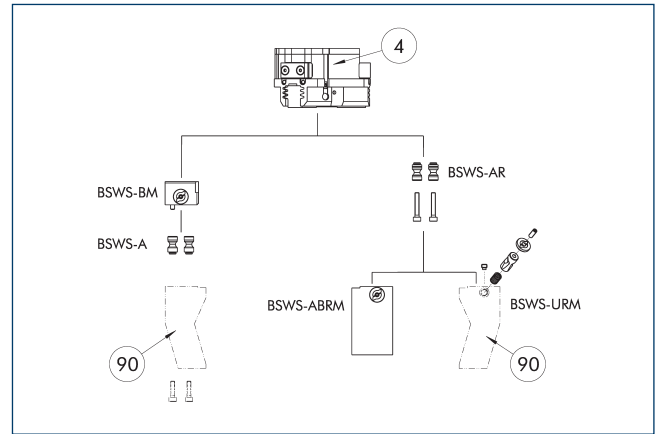
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	50	-1 (6 bar)	■■■■■
PZN-plus	50	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	50	-2 (6 bar)	■■■■■
PZN-plus	50	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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
Jaw quick-change system adapter pin		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
Quick-change jaw system base		
BSWS-BM 50	1313899	1
Jaw quick-change system finger blank		
BSWS-ABRM-PGZN-plus 50	1420850	1
Jaw quick-change system locking mechanism		
BSWS-URM 50	1380614	1

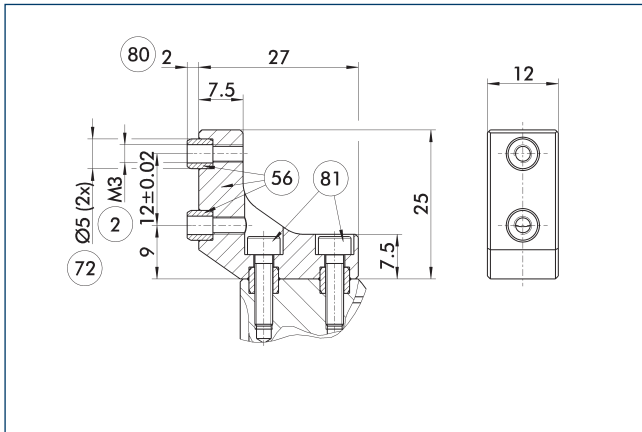
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	50	-1 (6 bar)	■■■■■
PZN-plus	50	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	50	-2 (6 bar)	■■■■■
PZN-plus	50	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

## ZBA-L-plus 50 intermediate jaws

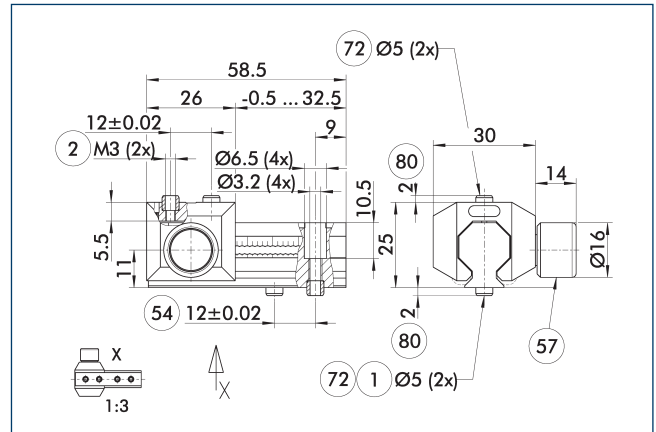


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

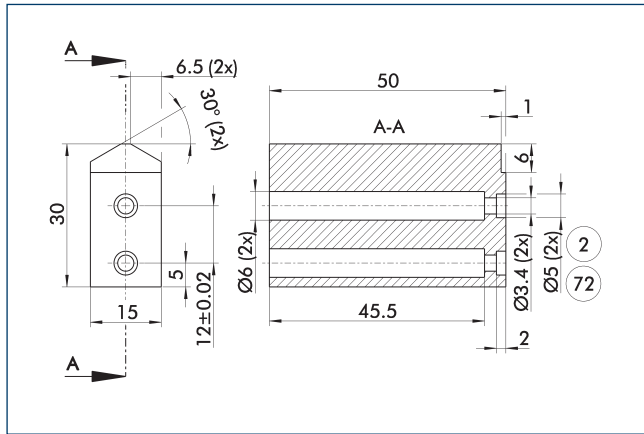
Series	Size	Variant	Suitability
PZN-plus	50	-1 (6 bar)	■■■■
PZN-plus	50	-1-AS / -1-IS (6 bar)	■■■□
PZN-plus	50	-2 (6 bar)	□□□□
PZN-plus	50	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	50	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■■□	Use with restrictions (see loading limits)		
□□□□	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.

# PZN-plus 50

Universal gripper

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

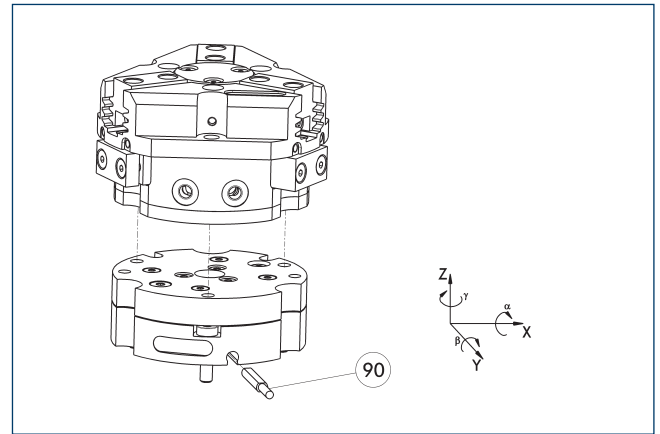


- ② Finger connection
- ⑦② Fit for centering sleeves

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

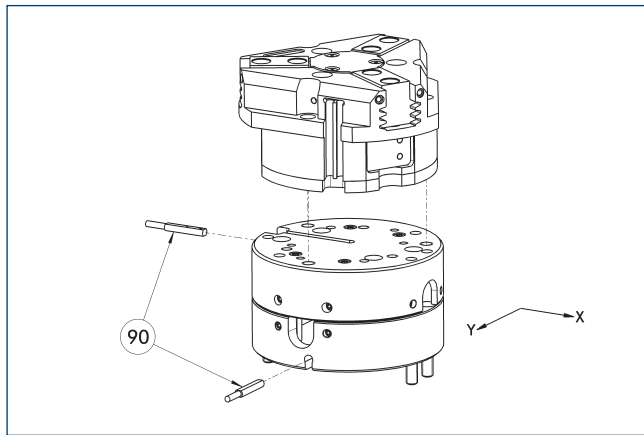


- ⑨⑩ Monitoring of locking

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-Z-050-3-0V	0324749	no	±1°±1°±1,5°

## Compensation unit AGE-F

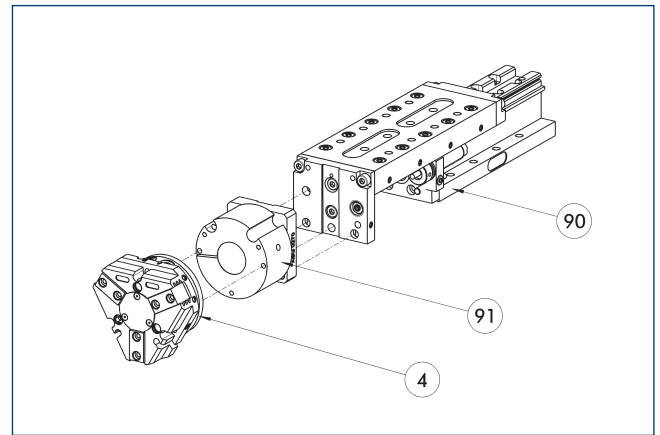


- ⑨⑩ Monitoring

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

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	●

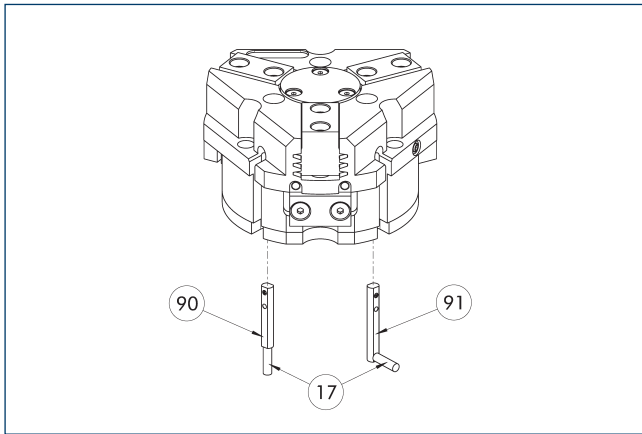
## Modular Assembly Automation



- 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".

Electronic magnetic switch MMS



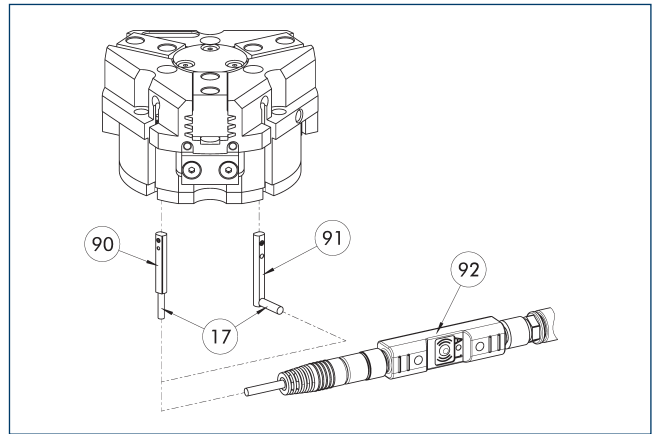
- ① Cable outlet
- ② Sensor MMS 22...-SA
- ③ Sensor MMS 22..

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	

- 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.

Programmable magnetic switch MMS 22-PI1



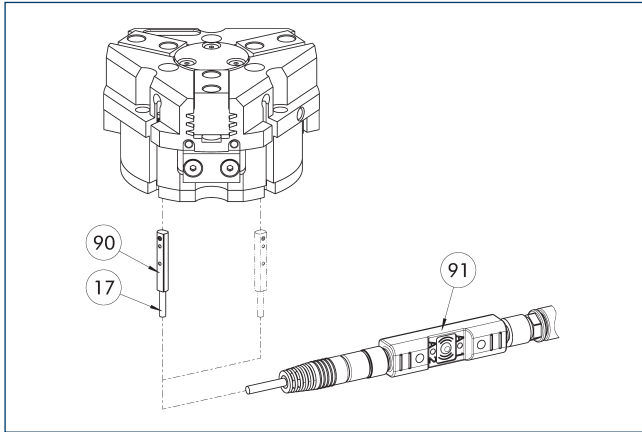
- ① Cable outlet
- ② Sensor MMS 22 ..-PI1-...-SA
- ③ Sensor MMS 22 PI1-...
- ④ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ④ Two sensors (closer/S) are required for each unit and extension cables are available as an option.

### Programmable magnetic switch MMS 22-PI2



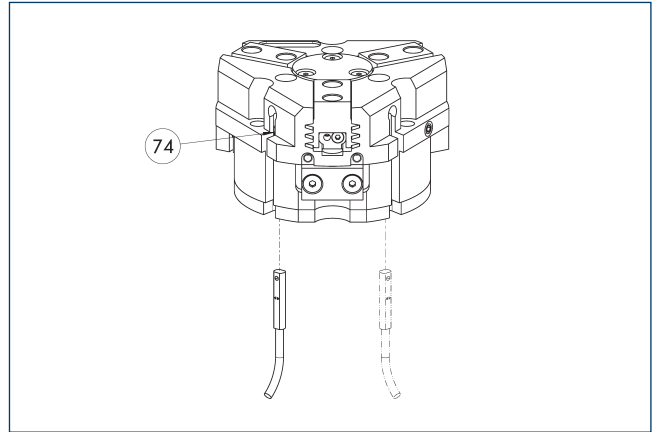
- ①⑦ Cable outlet
- ①⑨ MMS 22...-PI2-... sensor
- ①⑨ Connector teaching tool ST

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

### MMS-P programmable magnetic switch



- ①⑦ 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	

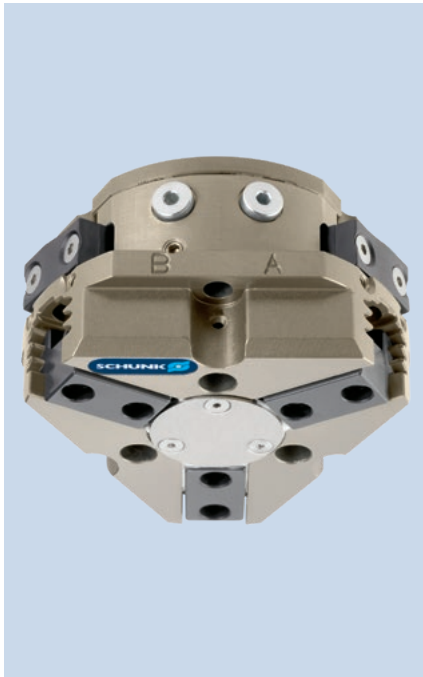
- ① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.



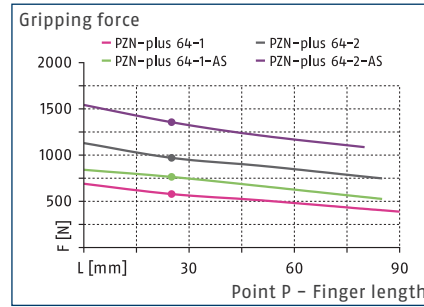


# PZN-plus 64

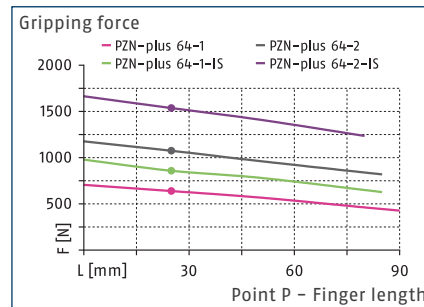
Universal gripper



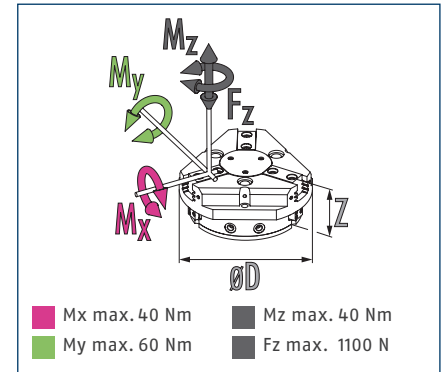
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



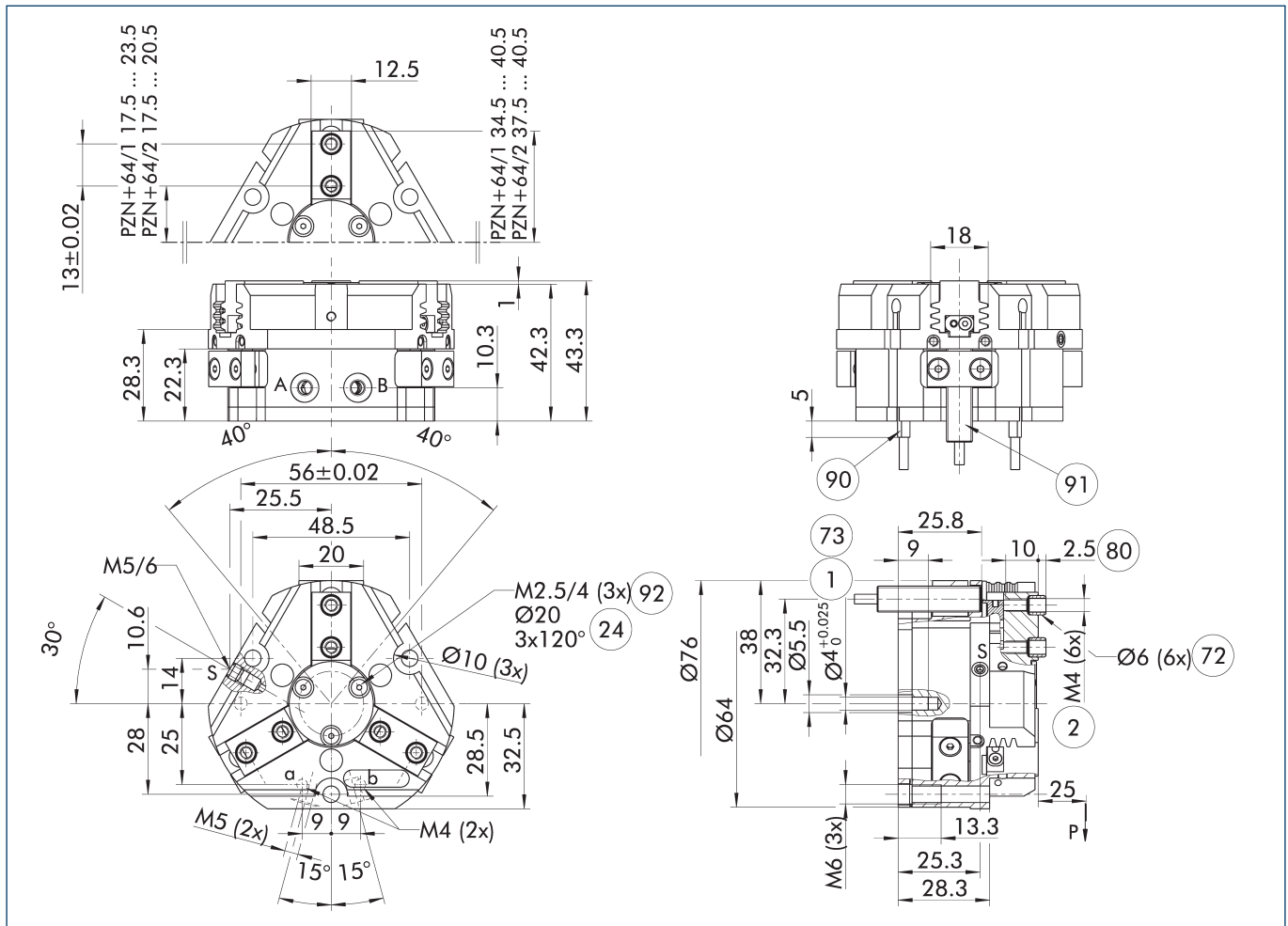
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 64-1	PZN-plus 64-2	PZN-plus 64-1-AS	PZN-plus 64-2-AS	PZN-plus 64-1-IS	PZN-plus 64-2-IS
ID		0303310	0303410	0303510	0303610	0303540	0303640
Stroke per jaw	[mm]	6	3	6	3	6	3
Closing/opening force	[N]	580/640	970/1075	765/-	1285/-	-/860	-/1535
Min. spring force	[N]			185	315	220	460
Weight	[kg]	0.43	0.43	0.54	0.54	0.54	0.54
Recommended workpiece weight	[kg]	2.9	4.85	2.9	4.85	2.9	4.85
Fluid consumption double stroke	[cm <sup>3</sup> ]	25	25	48	48	48	48
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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 Ø D x Z	[mm]	76 x 43.3	76 x 43.3	76 x 56.8	76 x 56.8	76 x 56.8	76 x 56.8
<b>Options and their characteristics</b>							
Dustproof version		37303310	37303410	37303510	37303610	37303540	37303640
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.6	0.6	0.71	0.71	0.71	0.71
Corrosion-protected version		38303310	38303410	38303510	38303610	38303540	38303640
High-temperature version		39303310	39303410	39303510	39303610	39303540	39303640
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372201	0372211	0372221		0372241	
Closing/opening force	[N]	933/1083	1585/1833	1153/-		-/1250	
Weight	[kg]	0.7	0.7	0.8		0.8	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	80	64	64		64	
Precision version		0303340	0303440	0303490	0303590		

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.

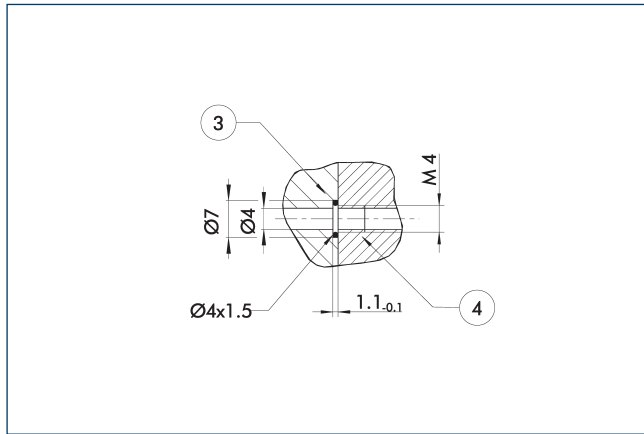
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨① Sensor IN ...   |
| ②④ Bolt circle                                 | ⑨② Thread below the cover for fastening external attachments |

# PZN-plus 64

Universal gripper

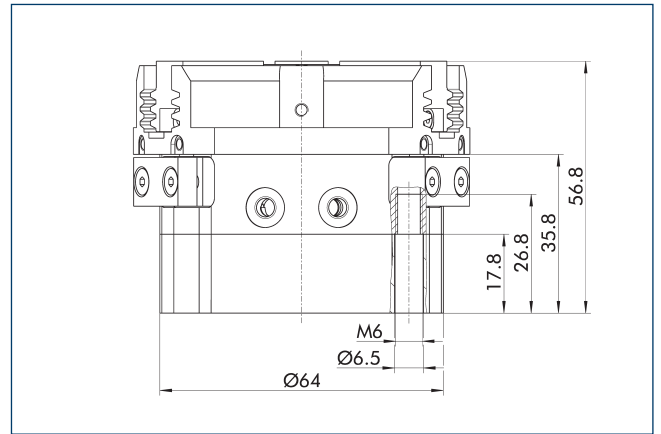
## Hose-free direct connection M4



- ③ Adapter
- ④ Grippers

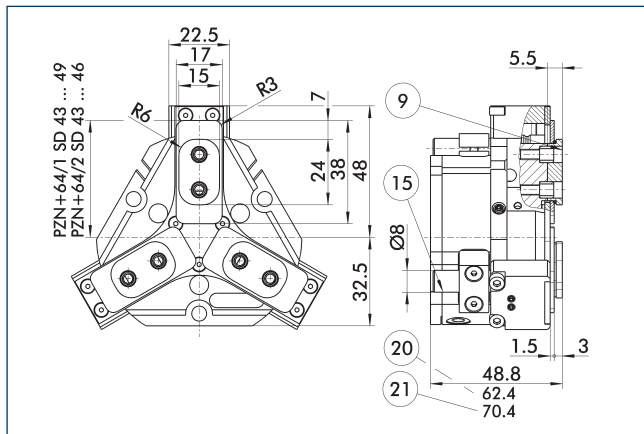
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

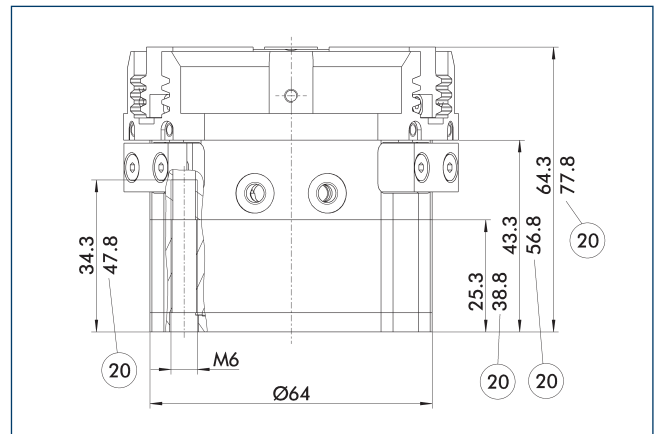
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ 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.

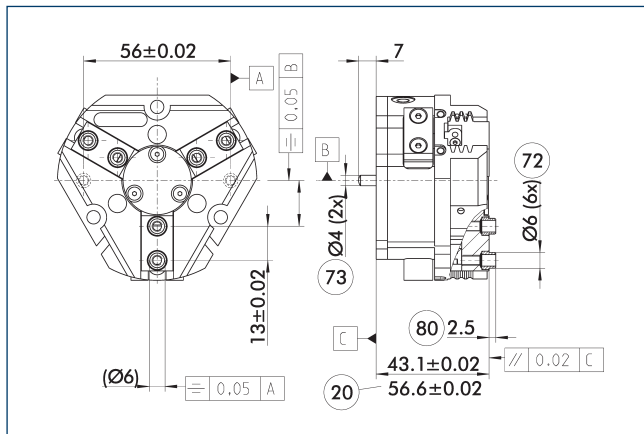
## Power booster version



- 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.

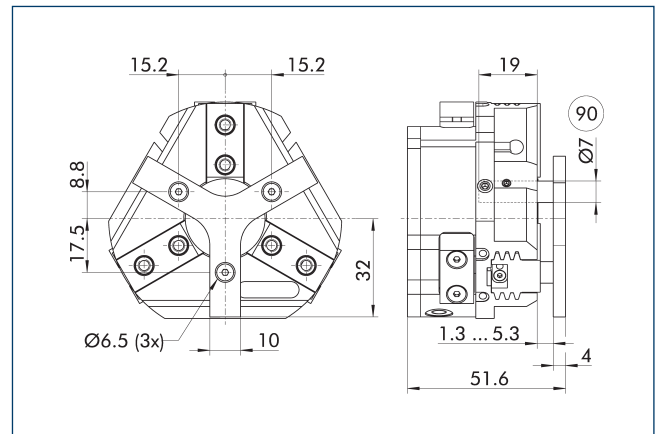
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



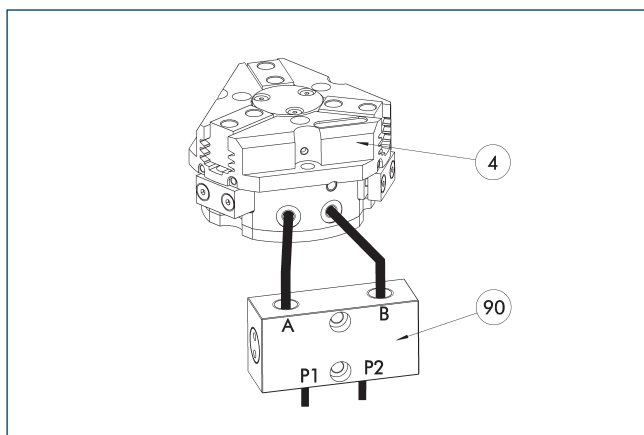
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 64	0303720	4	11

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



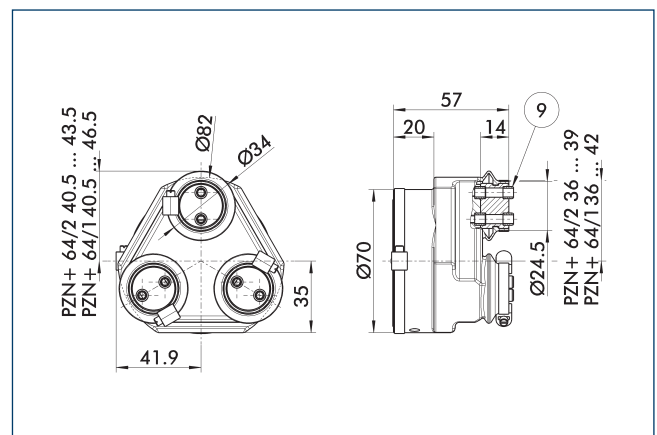
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
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.

## Protective cover HUE PZN-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.

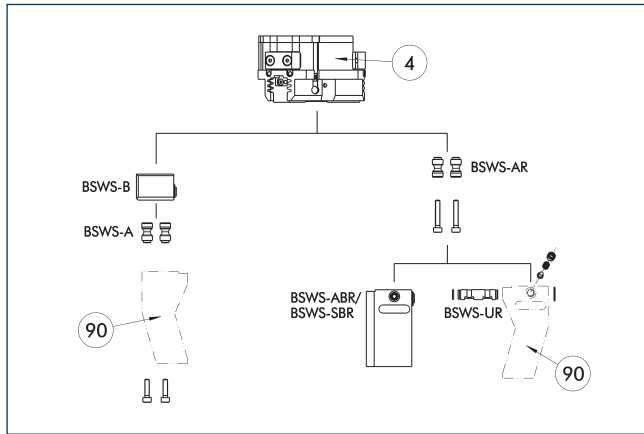
Description	ID	IP protection class
Protection cover		
HUE PZN-plus 64	0303480	65

- ① An inductive monitoring of the gripper in connection with the protective cover HUE is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper version.

# PZN-plus 64

Universal gripper

## 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 64	0303022	2
BSWS-AR 64	0300092	2
<b>Quick-change jaw system base</b>		
BSWS-B 64	0303023	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 64	0300072	1
BSWS-SBR-PGZN-plus 64	0300082	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 64	0302991	1

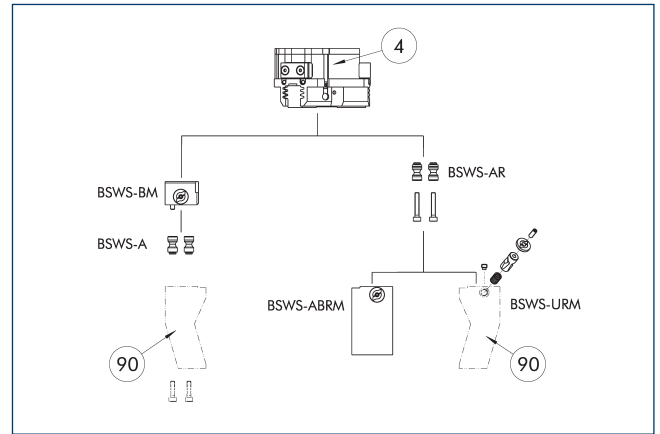
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	64	-1 (6 bar)	■■■■■
PZN-plus	64	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	64	-2 (6 bar)	■■■■■
PZN-plus	64	-2-AS / -2-IS (6 bar)	■■■□□
PZN-plus	64	-...-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 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

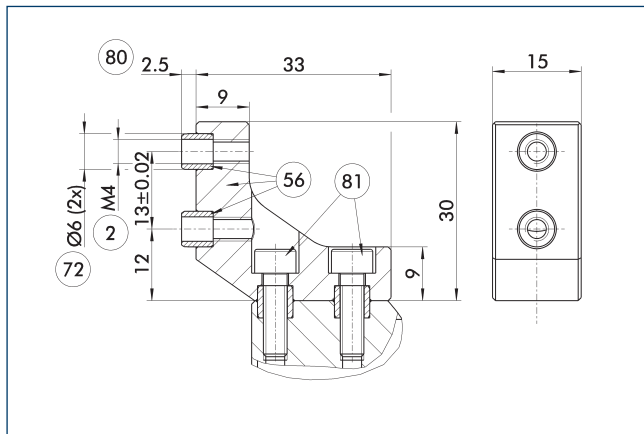
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	64	-1 (6 bar)	■■■■■
PZN-plus	64	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	64	-2 (6 bar)	■■■■■
PZN-plus	64	-2-AS / -2-IS (6 bar)	■■■□□
PZN-plus	64	-...-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 64 intermediate jaws

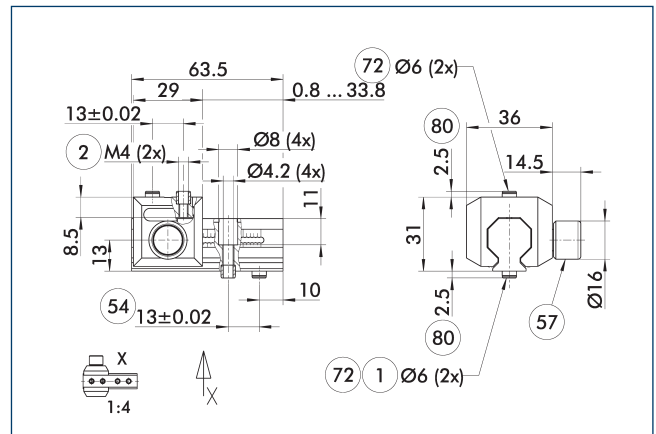


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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 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
- 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 64	0300042	1.5
Finger blank		
ABR-PGZN-plus 64	0300010	
SBR-PGZN-plus 64	0300020	

Fields of application

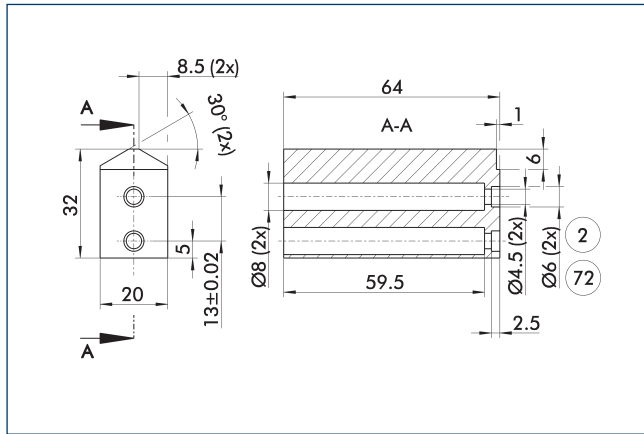
Series	Size	Variant	Suitability
PZN-plus	64	-1 (6 bar)	■■■■■
PZN-plus	64	-1-AS / -1-IS (6 bar)	■■■□□
PZN-plus	64	-2 (6 bar)	□□□□
PZN-plus	64	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	64	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	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.

# PZN-plus 64

Universal gripper

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

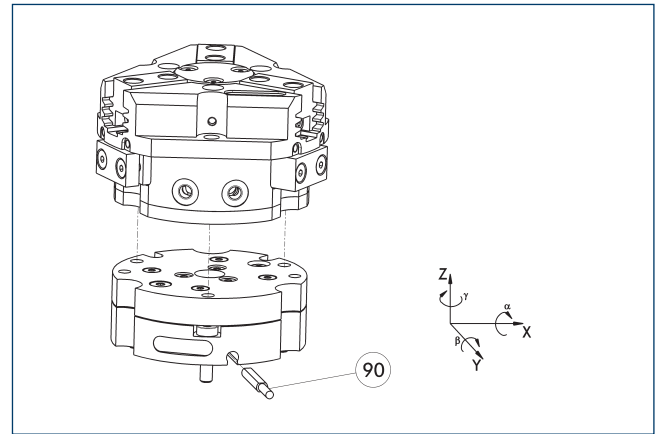


- 2 Finger connection
- 72 Fit for centering sleeves

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

## Tolerance compensation unit TCU

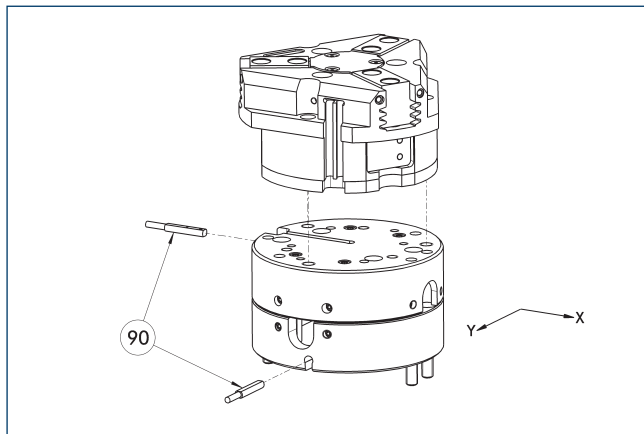


- 90 Monitoring of locking

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-Z-064-3-MV	0324766	yes	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	●
TCU-Z-064-3-0V	0324767	no	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	

## Compensation unit AGE-F

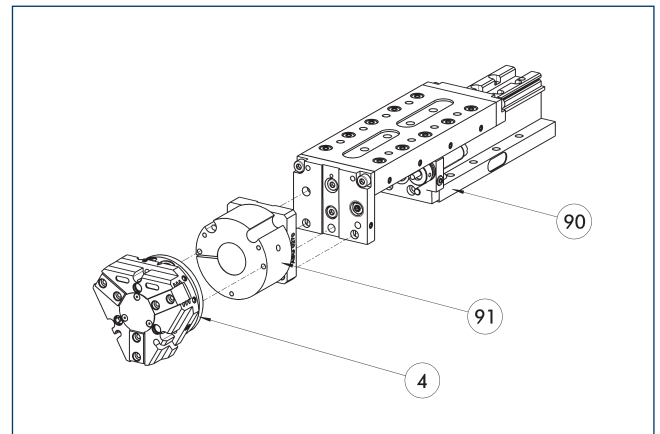


- 90 Monitoring

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

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	●

## Modular Assembly Automation

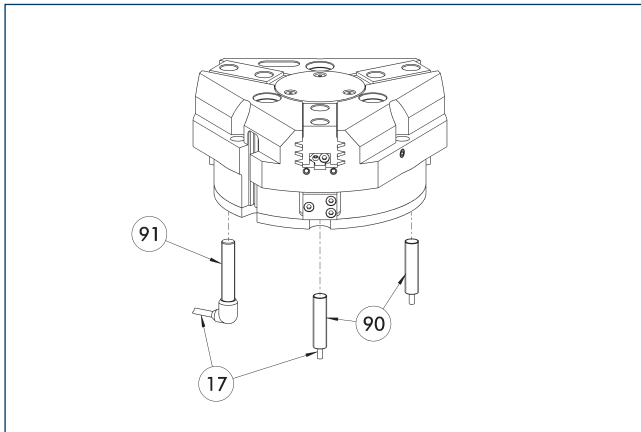


- 4 Grippers
- 90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- 91 ASG adapter plate

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".



## Inductive proximity switches



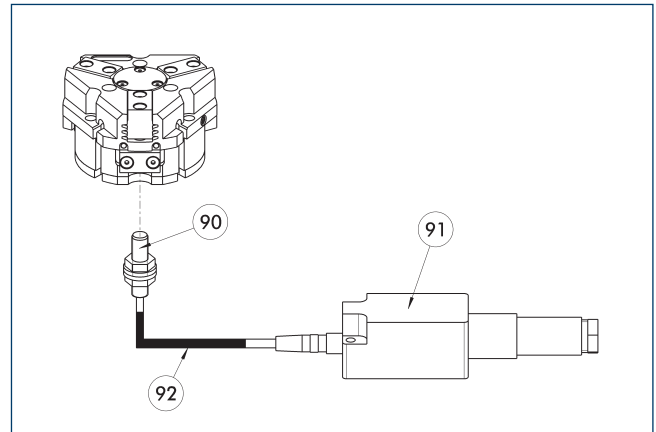
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

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.

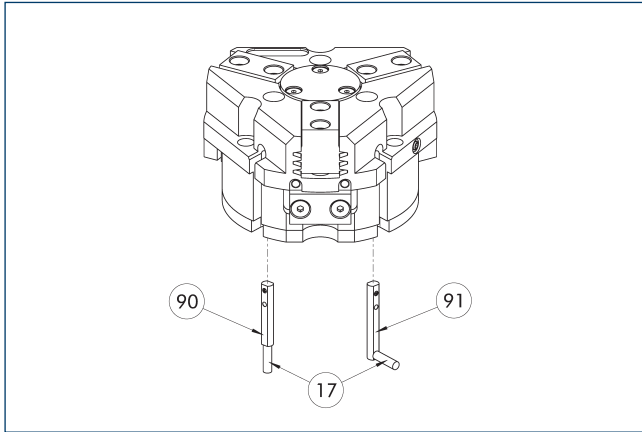
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 64-1/80-2	0301630	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

- 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."

# PZN-plus 64

Universal gripper

## Electronic magnetic switch MMS



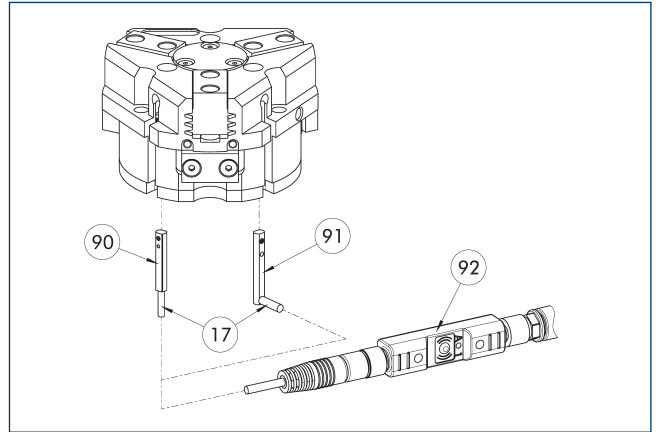
- ① Cable outlet
- ② Sensor MMS 22...-SA
- ③ Sensor MMS 22..

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	

- 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.

## Programmable magnetic switch MMS 22-PI1



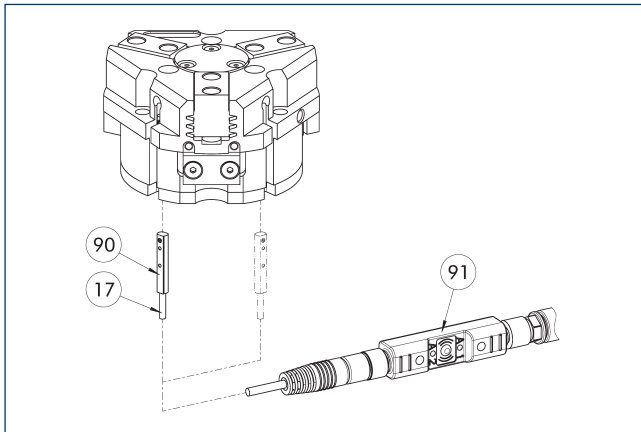
- ① Cable outlet
- ② Sensor MMS 22 ..-PI1-...-SA
- ③ Sensor MMS 22 PI1-...
- ④ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ④ Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



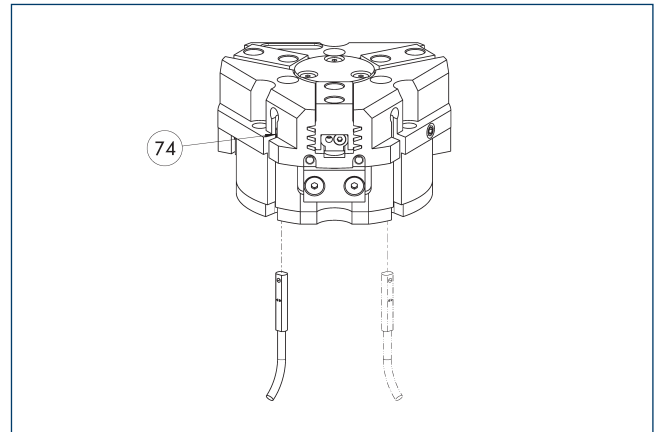
- ①7 Cable outlet
- ①9 MMS 22...-PI2-... sensor
- ①91 Connector teaching tool ST

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

**MMS-P programmable magnetic switch**



- ①74 Limit stop for sensor

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

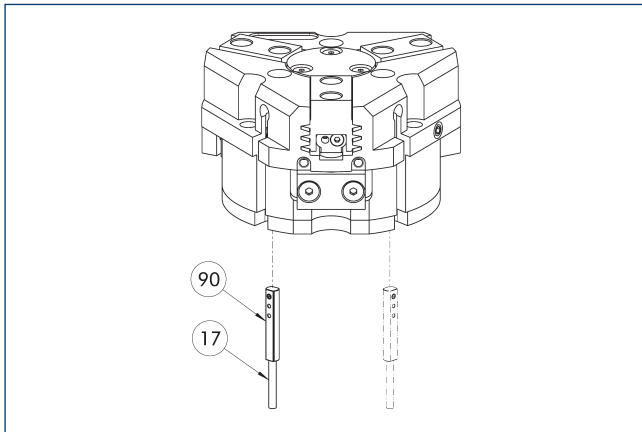
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
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.

# PZN-plus 64

Universal gripper

## Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

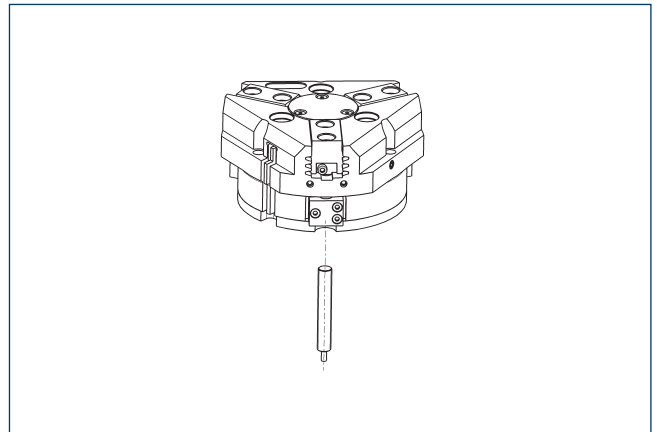
⑨⑩ Sensor MMS 22-IO-Link...

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

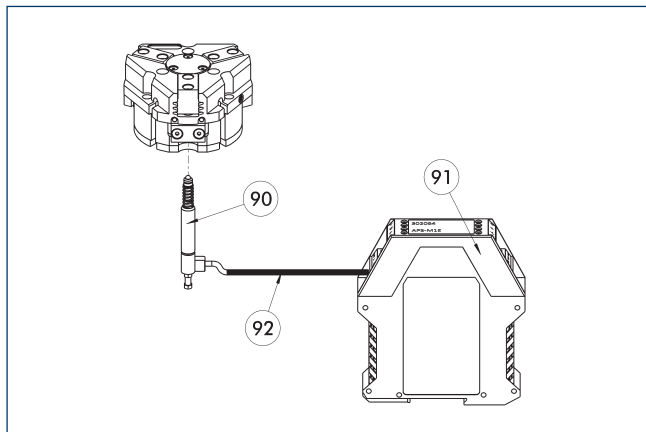


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 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.

## APS-M1 analog position sensor



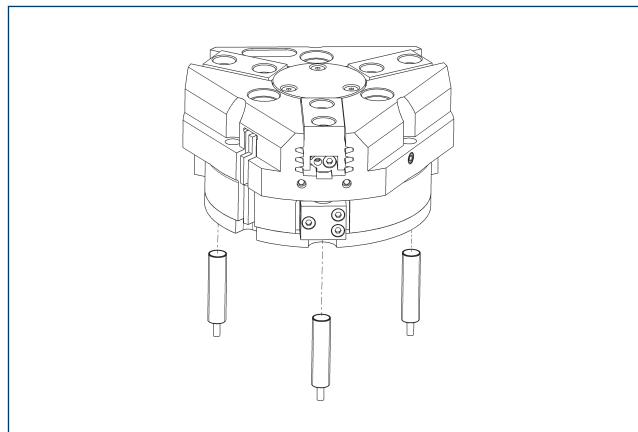
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 64-1	0302075	
AS-APS-M1-PGZN-plus 64-2	0302076	
<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



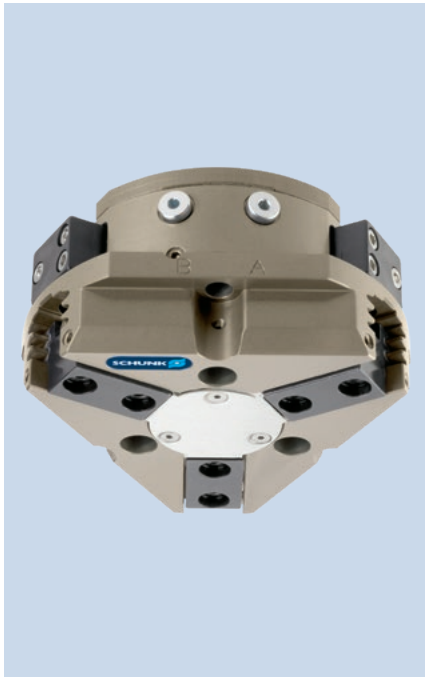
End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

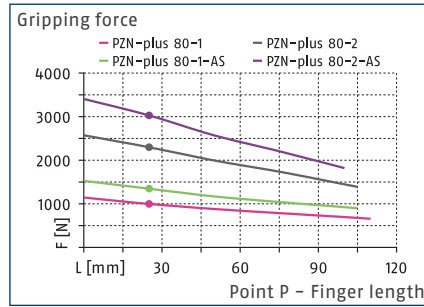
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PZN-plus 80

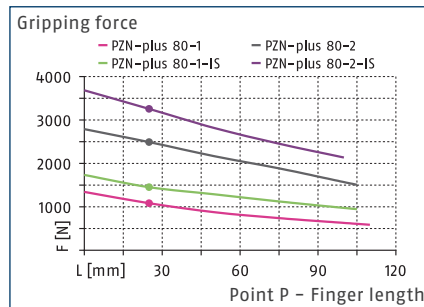
Universal gripper



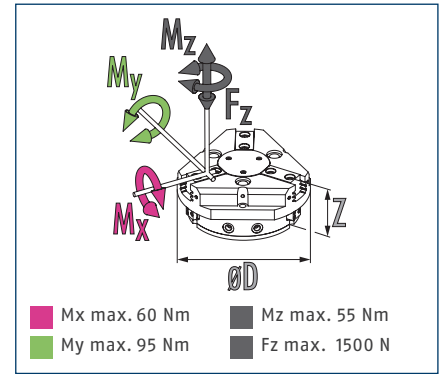
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



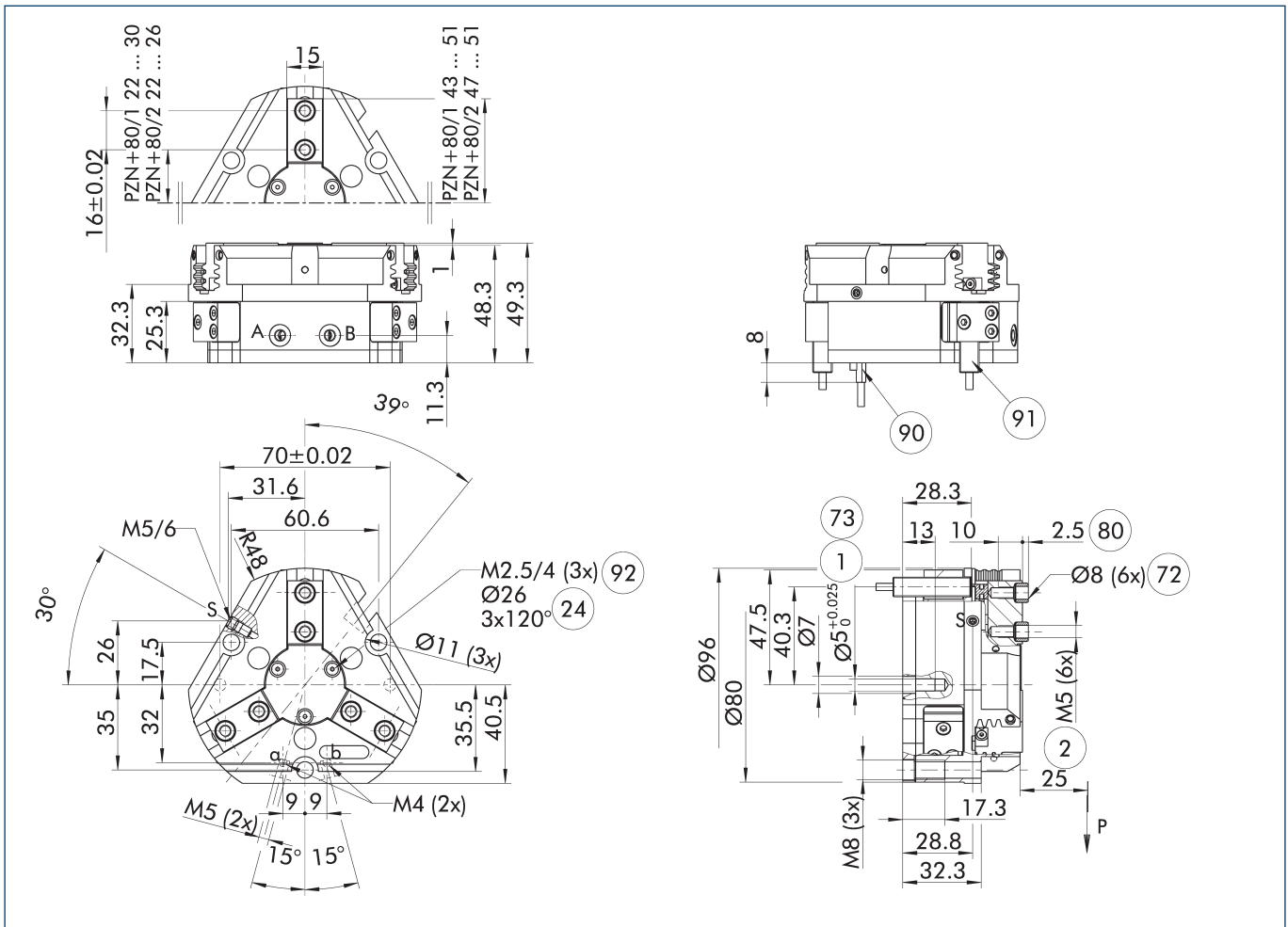
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 80-1	PZN-plus 80-2	PZN-plus 80-1-AS	PZN-plus 80-2-AS	PZN-plus 80-1-IS	PZN-plus 80-2-IS
ID		0303311	0303411	0303511	0303611	0303541	0303641
Stroke per jaw	[mm]	8	4	8	4	8	4
Closing/opening force	[N]	1000/1080	2300/2490	1350/-	3030/-	-/1450	-/3250
Min. spring force	[N]			350	730	370	760
Weight	[kg]	0.79	0.79	0.96	0.96	0.96	0.96
Recommended workpiece weight	[kg]	5	11.5	5	11.5	5	11.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	60	60	108	108	108	108
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.06/0.04	0.06/0.04
Closing/opening time with spring	[s]			0.19	0.19	0.19	0.19
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 Ø D x Z	[mm]	96 x 49.3	96 x 49.3	96 x 64.3	96 x 64.3	96 x 64.3	96 x 64.3
<b>Options and their characteristics</b>							
Dustproof version		37303311	37303411	37303511	37303611	37303541	37303641
IP protection class		64	64	64	64	64	64
Weight	[kg]	1	1	1.17	1.17	1.17	1.17
Corrosion-protected version		38303311	38303411	38303511	38303611	38303541	38303641
High-temperature version		39303311	39303411	39303511	39303611	39303541	39303641
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372202	0372212	0372222		0372242	
Closing/opening force	[N]	1654/1685	3866/4182	1971/-		-/2032	
Weight	[kg]	1.2	1.2	1.4		1.4	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	100	80	80		80	
Precision version		0303341	0303441	0303491	0303591		

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.

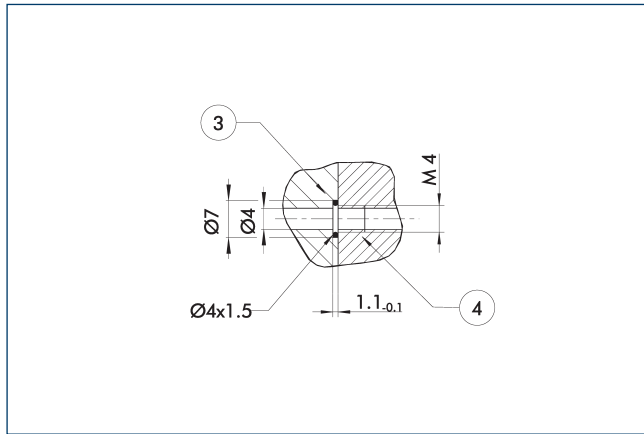
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨② Thread below the cover for fastening external attachments |
| ②④ Bolt circle                                 |  |

# PZN-plus 80

Universal gripper

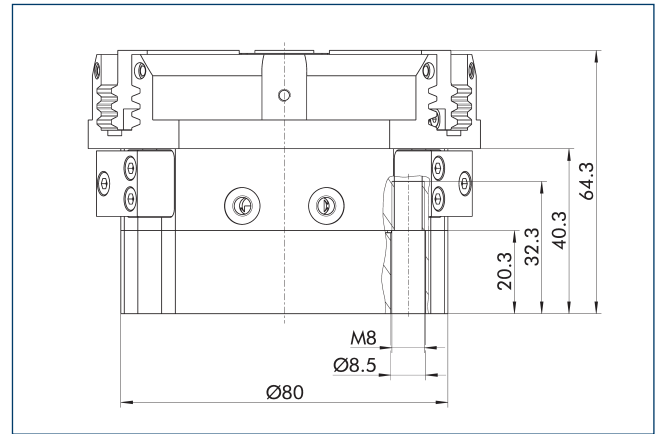
## Hose-free direct connection M4



- ③ Adapter
- ④ Grippers

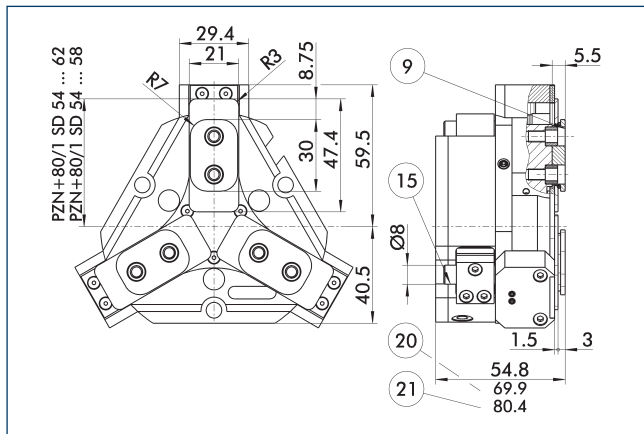
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

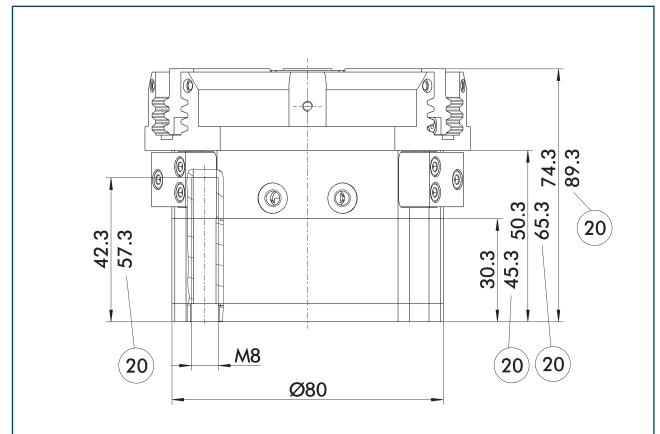
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ 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

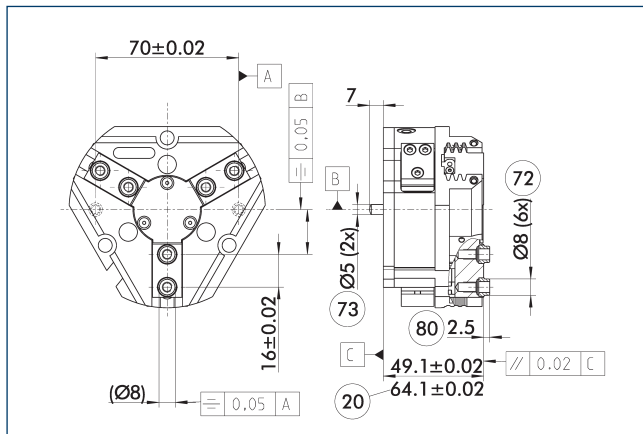


- ⑫ For AS / IS version

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.



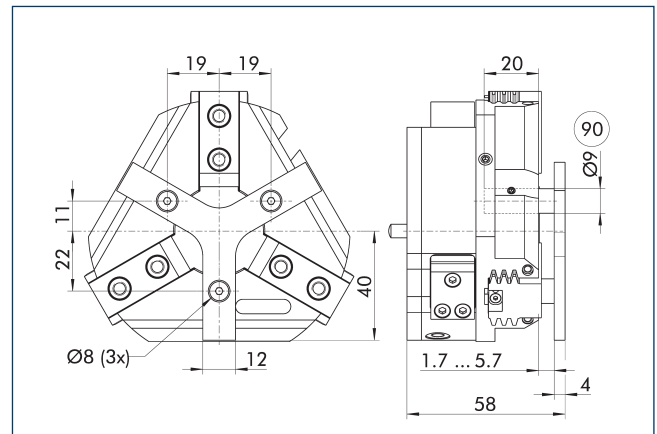
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



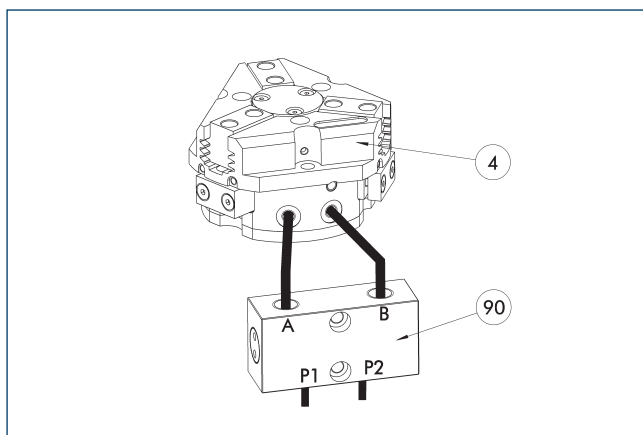
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 80	0303721	4	18

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



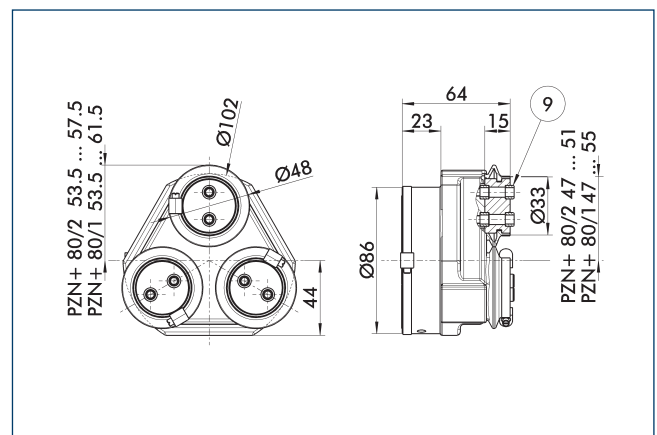
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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 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.

## Protective cover HUE PZN-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.

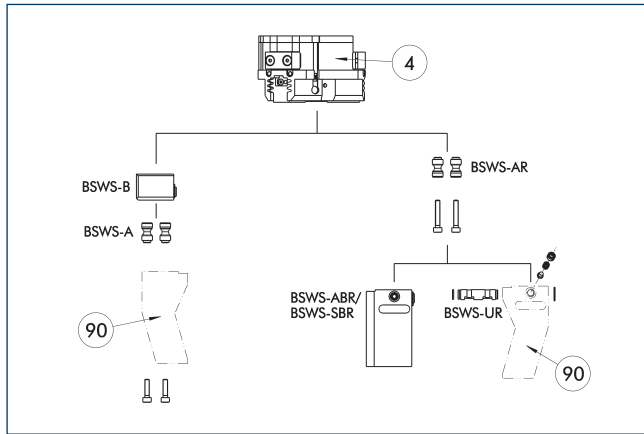
Description	ID	IP protection class
Protection cover		
HUE PZN-plus 80	0303481	65

- ① An inductive monitoring of the gripper in connection with the protective cover HUE is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper version.

# PZN-plus 80

Universal gripper

## 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
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

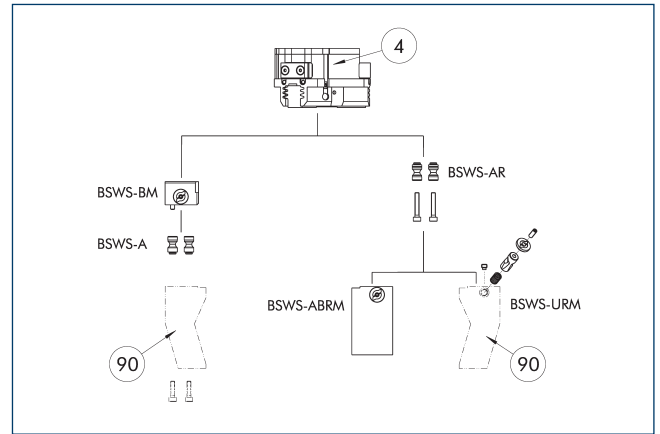
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	80	-1 (6 bar)	■■■■■
PZN-plus	80	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	80	-2 (6 bar)	■■■■■
PZN-plus	80	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

## 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

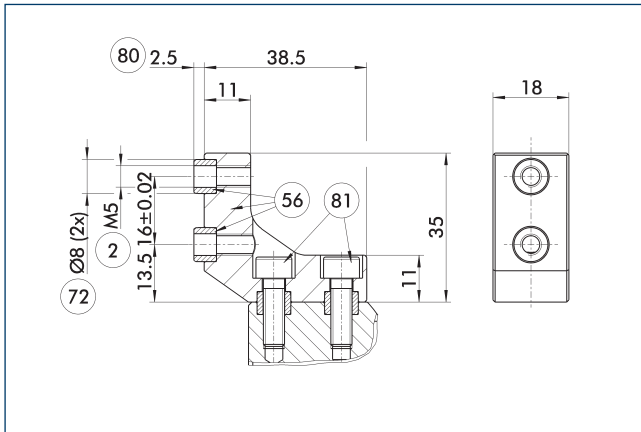
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	80	-1 (6 bar)	■■■■■
PZN-plus	80	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	80	-2 (6 bar)	■■■■■
PZN-plus	80	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

## ZBA-L-plus 80 intermediate jaws

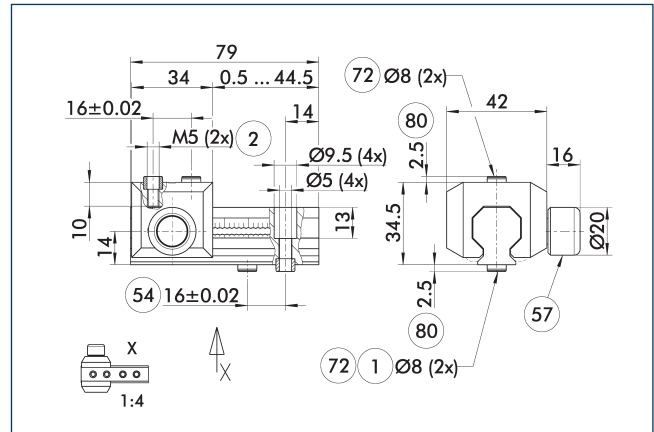


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

## UZZ 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 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]
Universal intermediate jaw		
UZZ 80	0300043	2
Finger blank		
ABR-PGZN-plus 80	0300011	
SBR-PGZN-plus 80	0300021	
Slide for universal intermediate jaw		
UZZ-S 80	5518271	2

## Fields of application

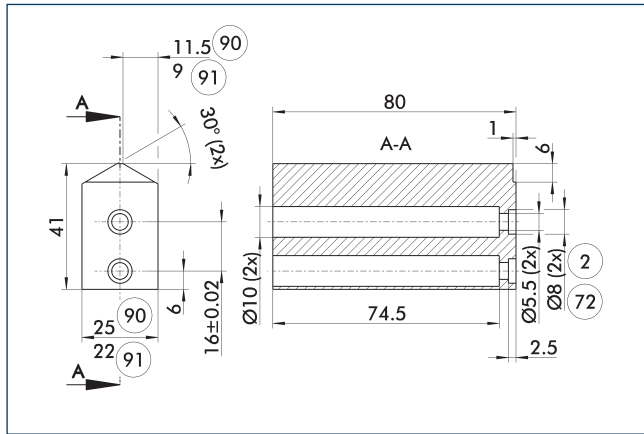
Series	Size	Variant	Suitability
PZN-plus	80	-1 (6 bar)	■■■■■
PZN-plus	80	-1-AS / -1-IS (6 bar)	■■■□□
PZN-plus	80	-2 (6 bar)	□□□□
PZN-plus	80	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	80	-...-KVZ (6 bar)	□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□	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.

# PZN-plus 80

Universal gripper

## Finger blanks ABR- / SBR-PGZN-plus 80

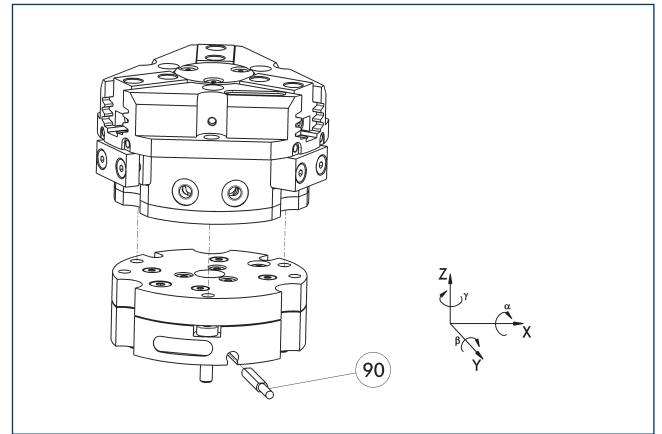


- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨① ABR-PGZN-plus
- ⑨② SBR-PGZN-plus

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 80	0300011	Aluminum (3.4365)	1
SBR-PGZN-plus 80	0300021	Steel (1.7131)	1

## Tolerance compensation unit TCU

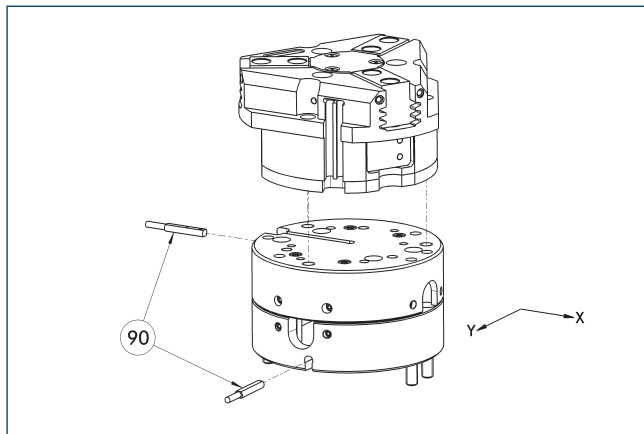


- ⑨① Monitoring of locking

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-Z-080-3-MV	0324784	yes	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	●
TCU-Z-080-3-0V	0324785	no	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	

## Compensation unit AGE-F

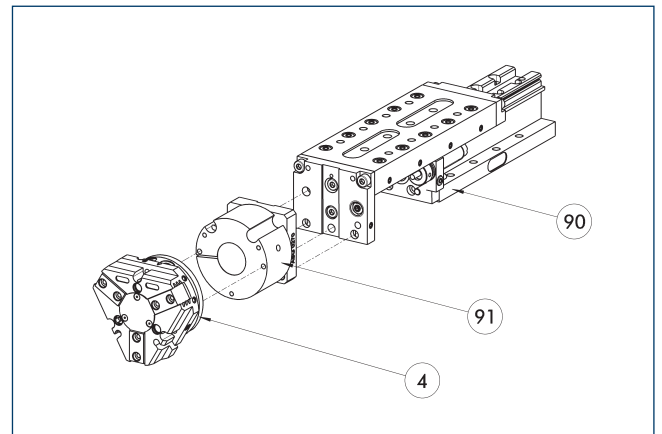


- ⑨① Monitoring

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

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
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	●

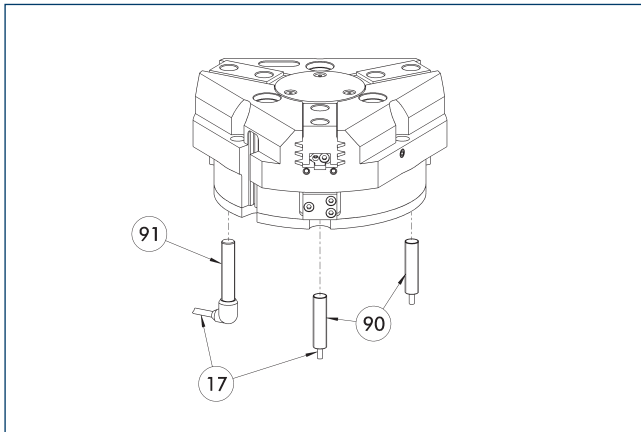
## Modular Assembly Automation



- 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".

## Inductive proximity switches



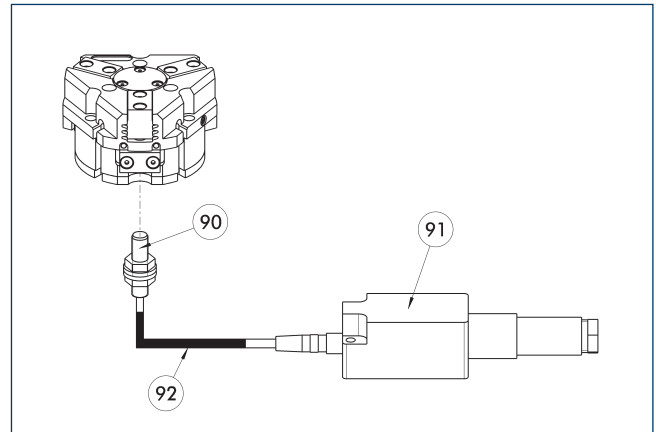
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

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.

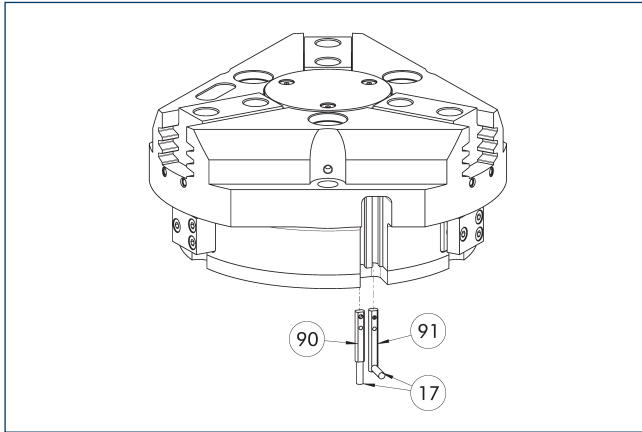
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 64-1/80-2	0301630	
AS-FPS-PGZN-plus 80-1/PZB 80/PZB 100	0301632	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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."

# PZN-plus 80

Universal gripper

## Electronic magnetic switch MMS



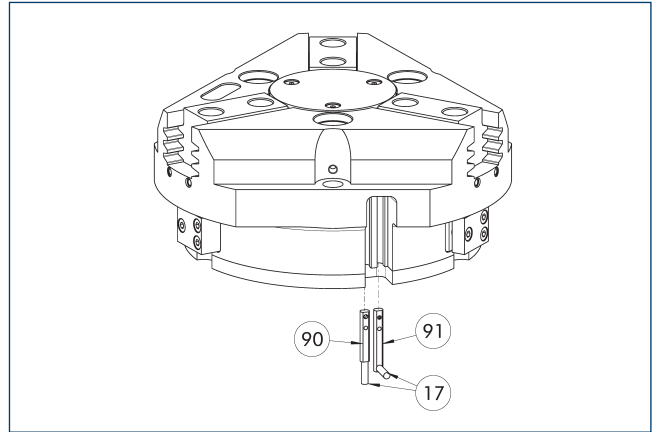
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

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



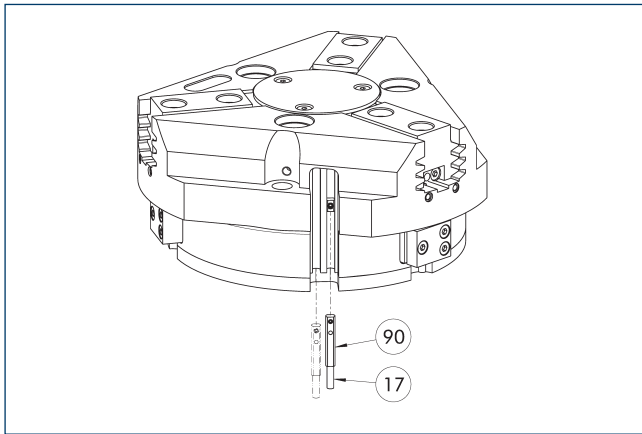
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

Position monitoring with 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-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

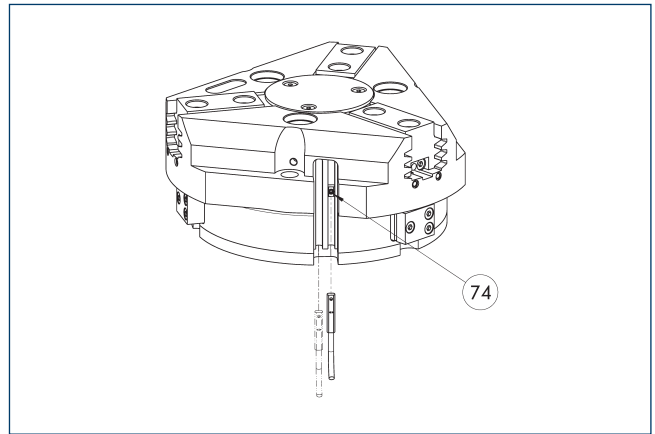
⑨⑩ MMS 22...-PI2-... sensor

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.

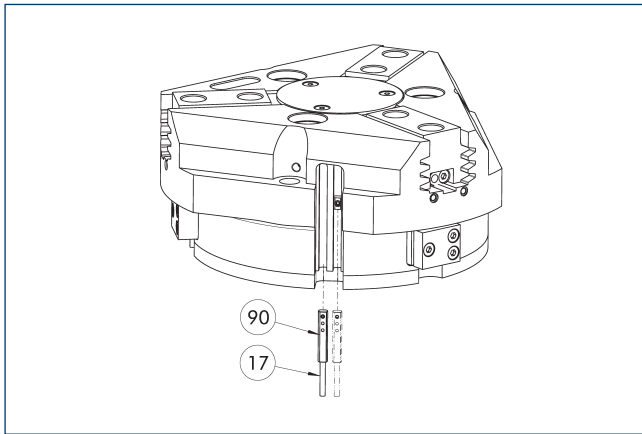
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
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.

# PZN-plus 80

Universal gripper

## Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

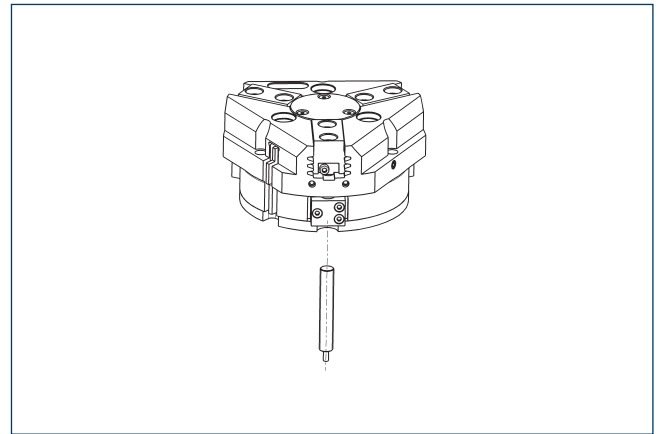
⑨⑩ Sensor MMS 22-IO-Link...

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



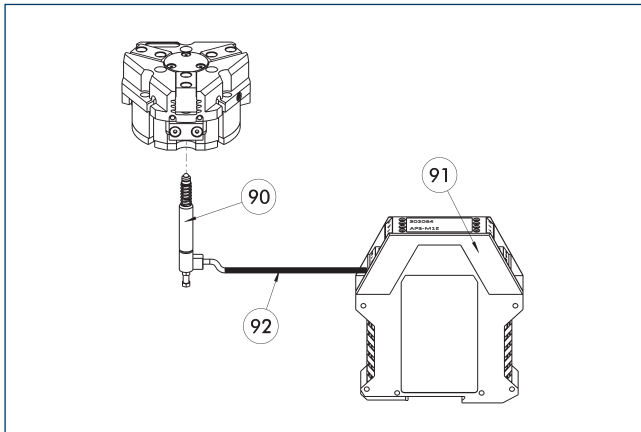
No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 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.



## APS-M1 analog position sensor



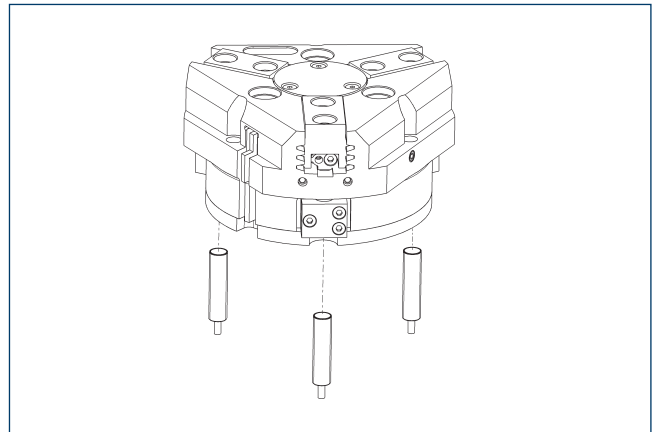
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 80-1	0302077	
AS-APS-M1-PGZN-plus 80-2	0302078	
<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



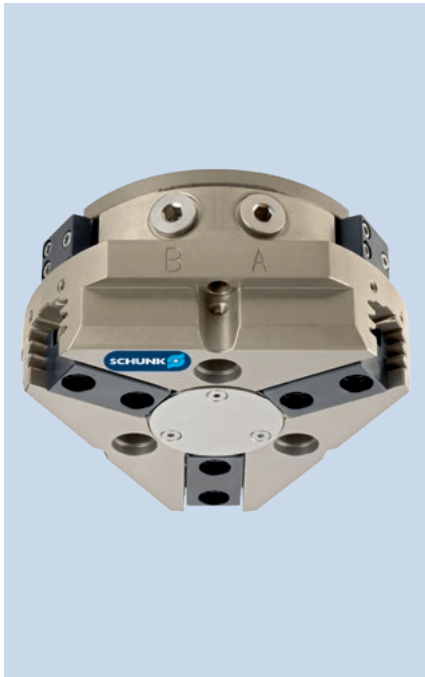
End position monitoring can be mounted with an attachment kit.

Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

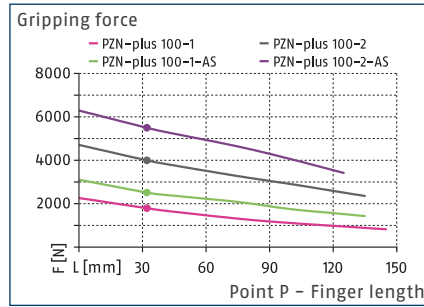
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PZN-plus 100

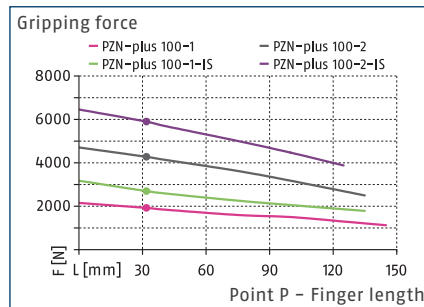
Universal gripper



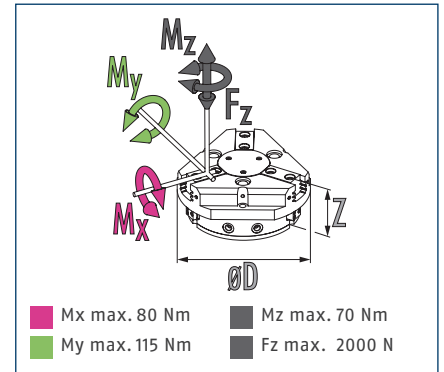
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



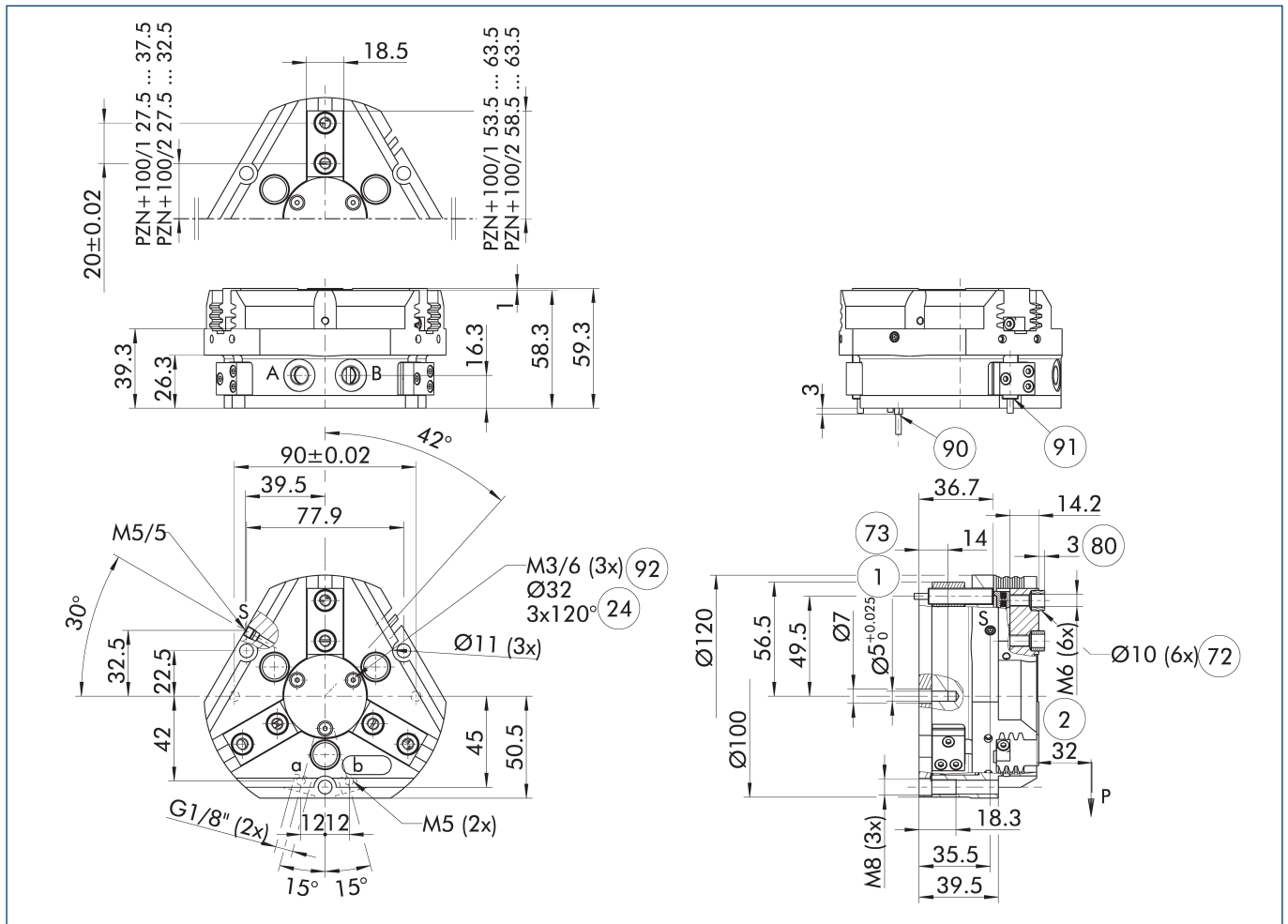
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 100-1	PZN-plus 100-2	PZN-plus 100-1-AS	PZN-plus 100-2-AS	PZN-plus 100-1-IS	PZN-plus 100-2-IS
ID		0303312	0303412	0303512	0303612	0303542	0303642
Stroke per jaw	[mm]	10	5	10	5	10	5
Closing/opening force	[N]	1800/1920	4000/4280	2520/-	5500/-	-/2700	-/5900
Min. spring force	[N]			720	1500	780	1620
Weight	[kg]	1.41	1.41	1.95	1.95	1.95	1.95
Recommended workpiece weight	[kg]	9	20	9	20	9	20
Fluid consumption double stroke	[cm³]	120	120	210	210	210	210
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]			0.25	0.25	0.25	0.25
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 Ø D x Z	[mm]	120 x 59.3	120 x 59.3	120 x 79.3	120 x 79.3	120 x 79.3	120 x 79.3
<b>Options and their characteristics</b>							
Dustproof version		37303312	37303412	37303512	37303612	37303542	37303642
IP protection class		64	64	64	64	64	64
Weight	[kg]	1.9	1.9	2.44	2.44	2.44	2.44
Corrosion-protected version		38303312	38303412	38303512	38303612	38303542	38303642
High-temperature version		39303312	39303412	39303512	39303612	39303542	39303642
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372203	0372213	0372223		0372243	
Closing/opening force	[N]	2774/3222	6493/7274	3372/-		-/3755	
Weight	[kg]	2.3	2.3	2.7		2.7	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	100	80	80		80	
Precision version		0303342	0303442	0303492	0303592		

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

②④ Bolt circle

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Sensor MMS 22..

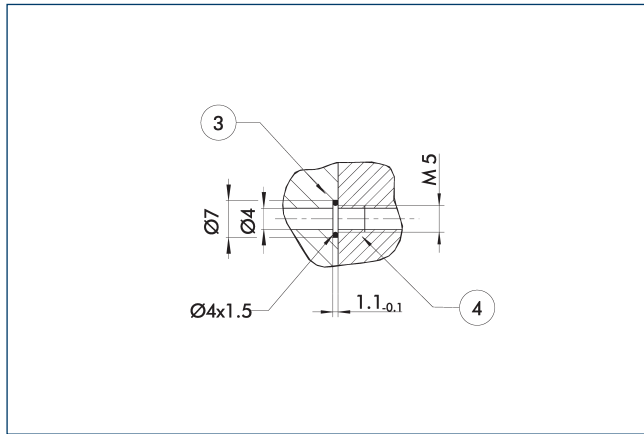
⑨① Sensor IN ...

⑨② Thread below the cover for fastening external attachments

# PZN-plus 100

Universal gripper

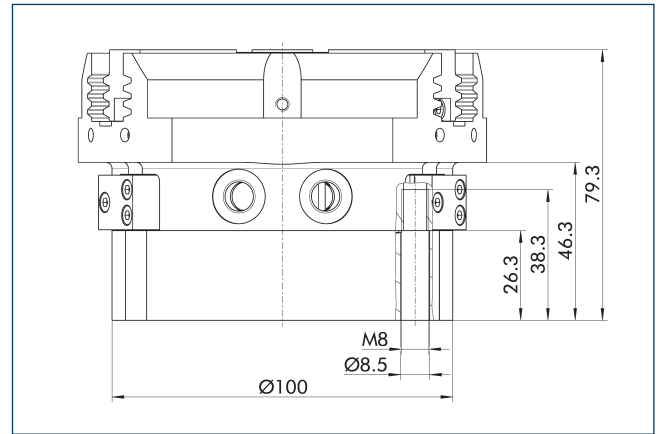
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

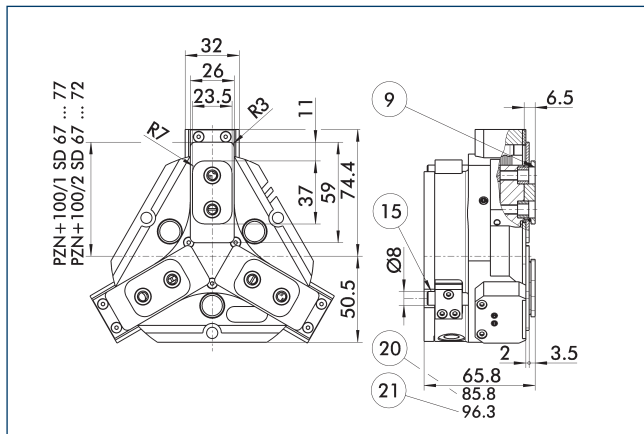
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

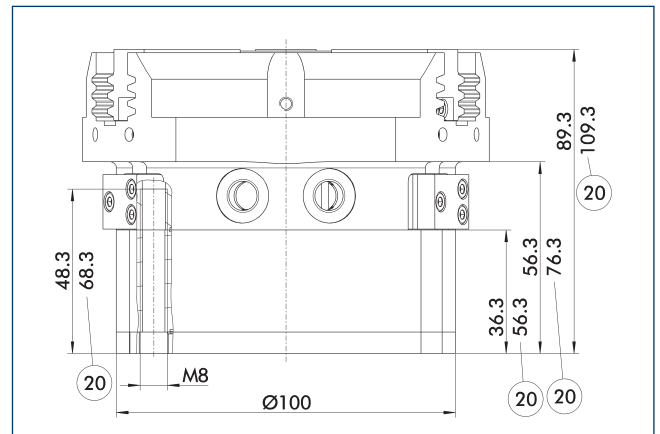
## Dustproof version



- ⑨ For mounting screw connection diagram, see basic version
- 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.

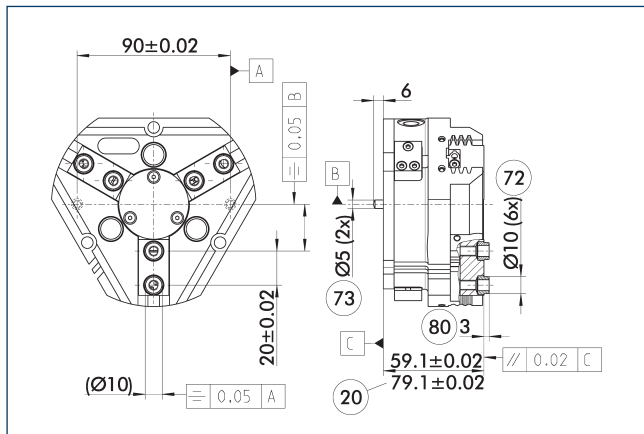
## Power booster version



- 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.

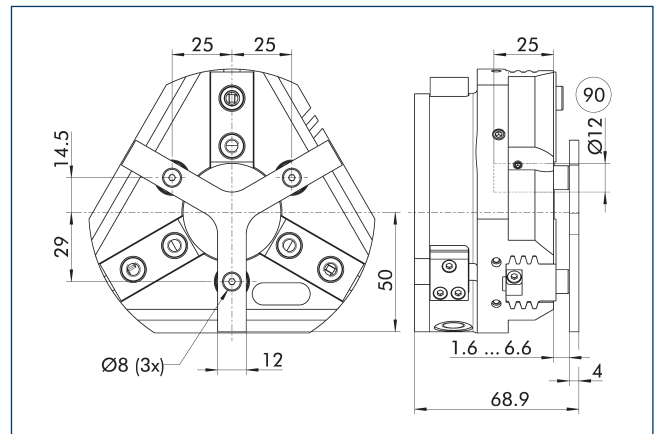
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



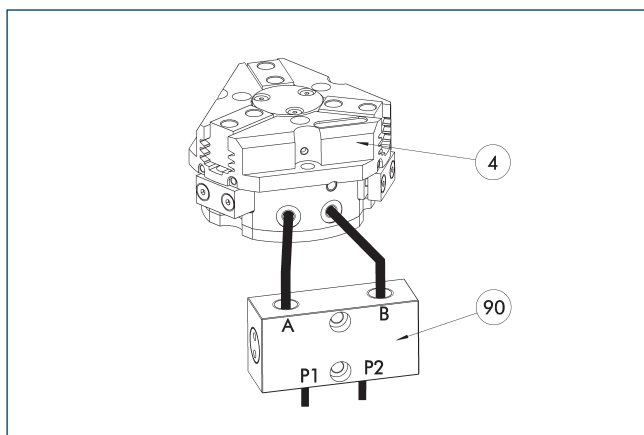
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	5	35

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



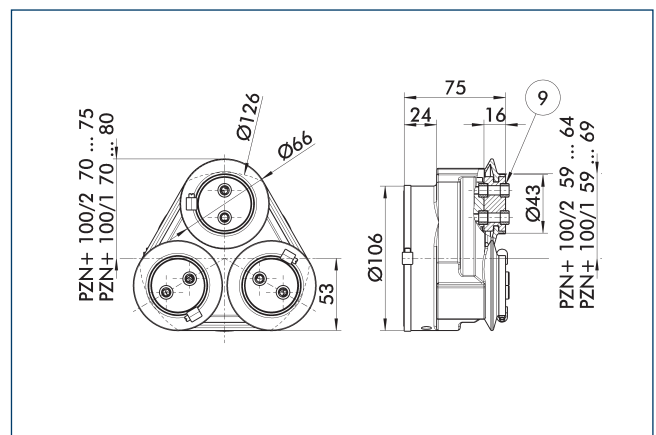
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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 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.

## Protective cover HUE PZN-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.

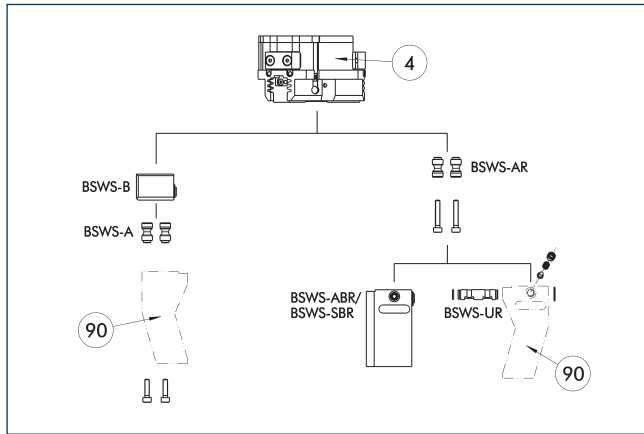
Description	ID	IP protection class
Protection cover		
HUE PZN-plus 100	0303482	65

- ① An inductive monitoring of the gripper in connection with the protective cover HUE is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper version.

# PZN-plus 100

Universal gripper

## 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

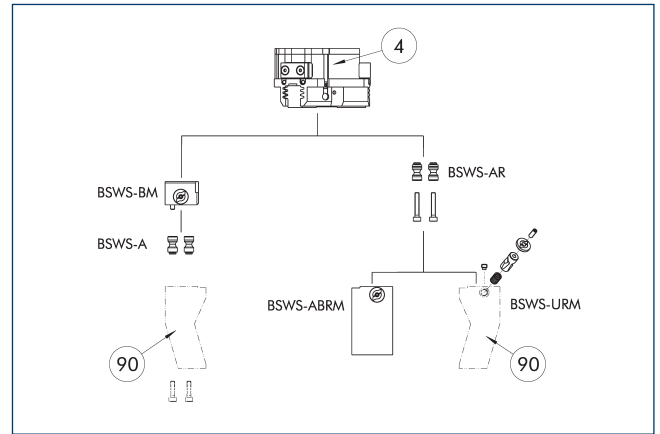
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	100	-1 (6 bar)	■■■■■
PZN-plus	100	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	100	-2 (6 bar)	■■■□□
PZN-plus	100	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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

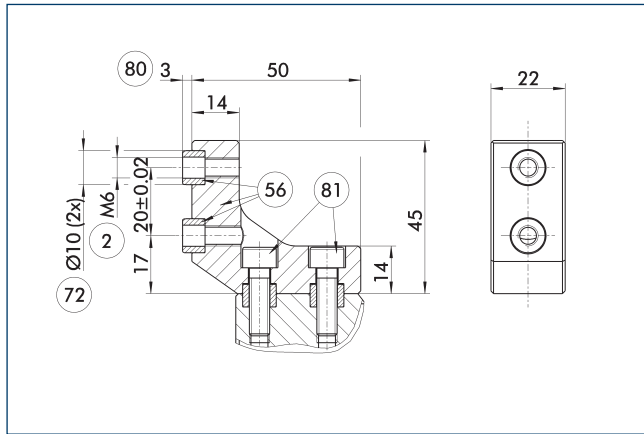
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	100	-1 (6 bar)	■■■■■
PZN-plus	100	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	100	-2 (6 bar)	■■■□□
PZN-plus	100	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

ZBA-L-plus 100 intermediate jaws

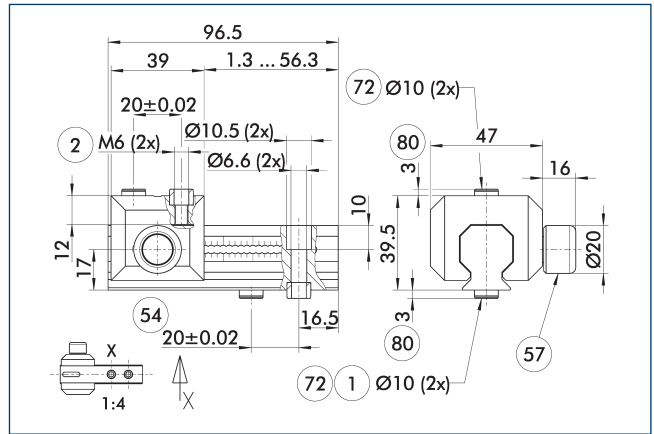


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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
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

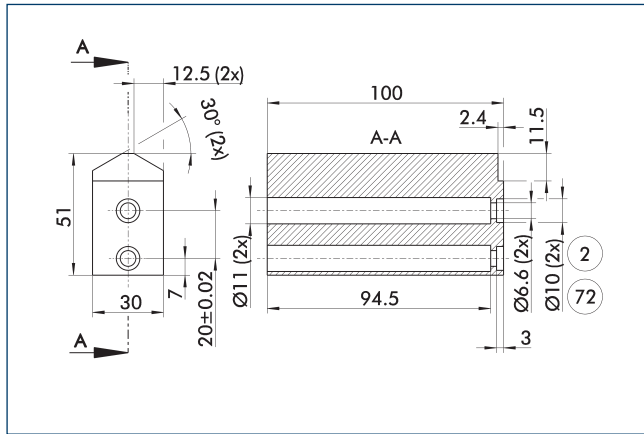
Series	Size	Variant	Suitability
PZN-plus	100	-1 (6 bar)	■■■■
PZN-plus	100	-1-AS / -1-IS (6 bar)	■■□□
PZN-plus	100	-2 (6 bar)	□□□□
PZN-plus	100	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	100	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	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.

# PZN-plus 100

Universal gripper

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

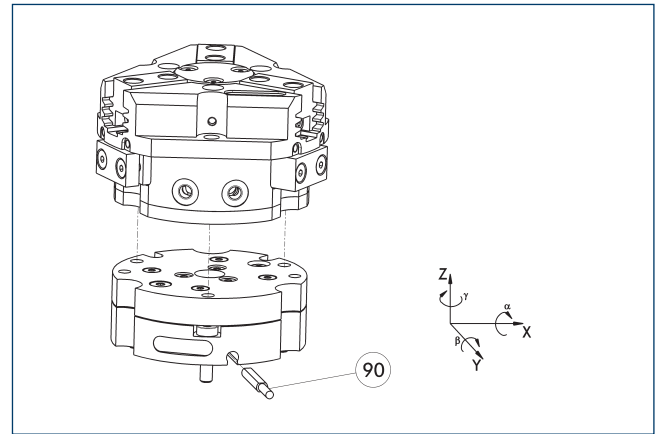


- 2 Finger connection
- 72 Fit for centering sleeves

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 (3.4365)	1
SBR-PGZN-plus 100	0300022	Steel (1.7131)	1

## Tolerance compensation unit TCU

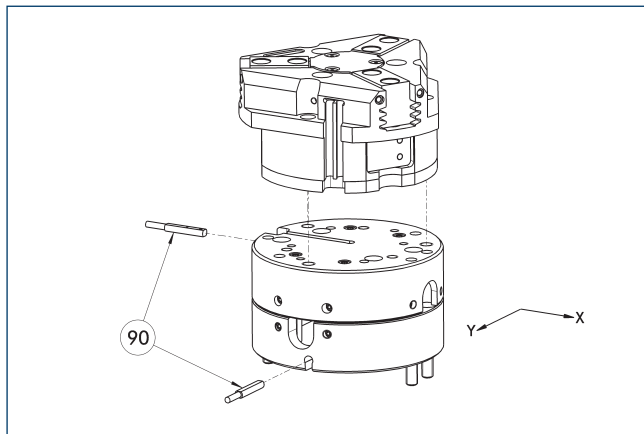


- 90 Monitoring of locking

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-Z-100-2-MV	0324798	yes	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	●
TCU-Z-100-2-0V	0324799	no	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	

## Compensation unit AGE-F

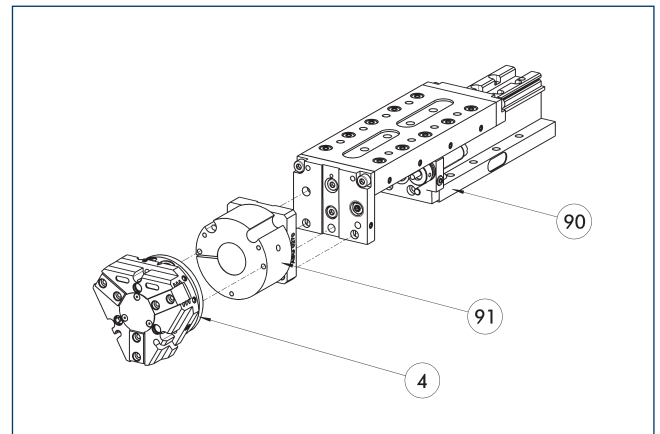


- 90 Monitoring

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

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	●

## Modular Assembly Automation

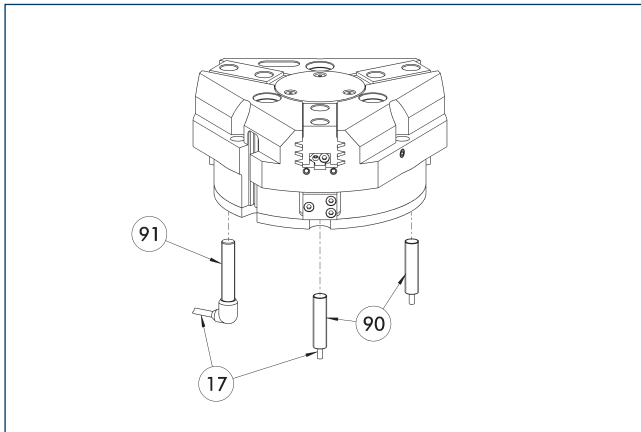


- 4 Grippers
- 90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- 91 ASG adapter plate

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".



Inductive proximity switches



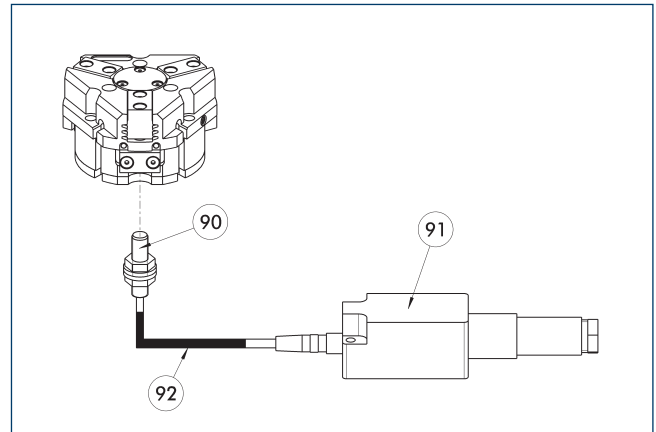
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

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



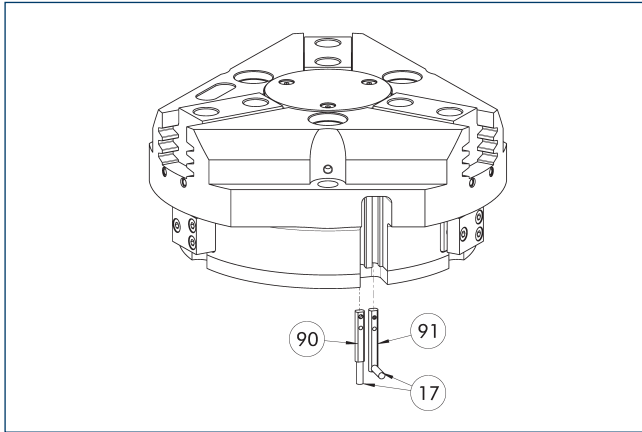
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 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



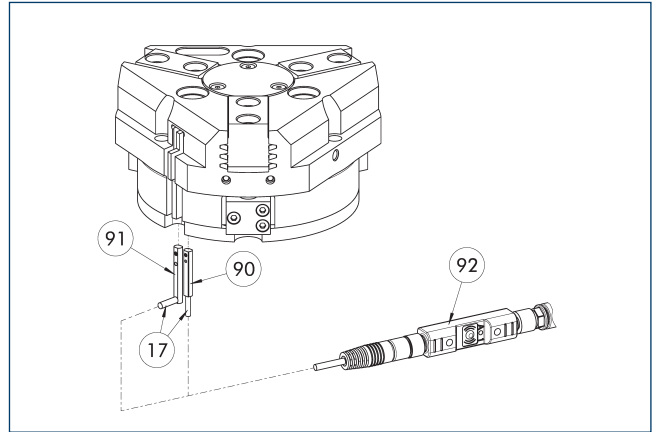
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22..
- ①⑩ Sensor MMS 22...-SA

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



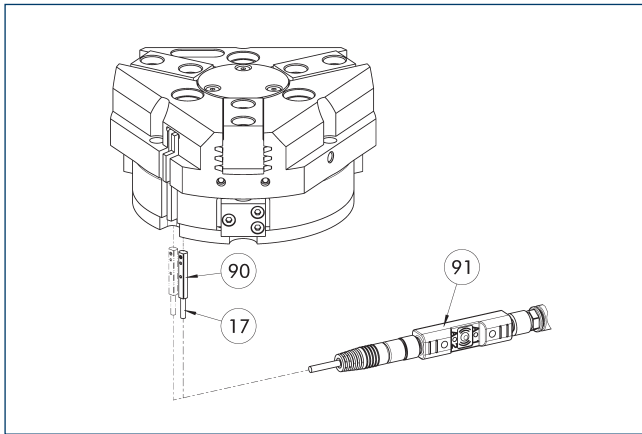
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...
- ①⑫ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



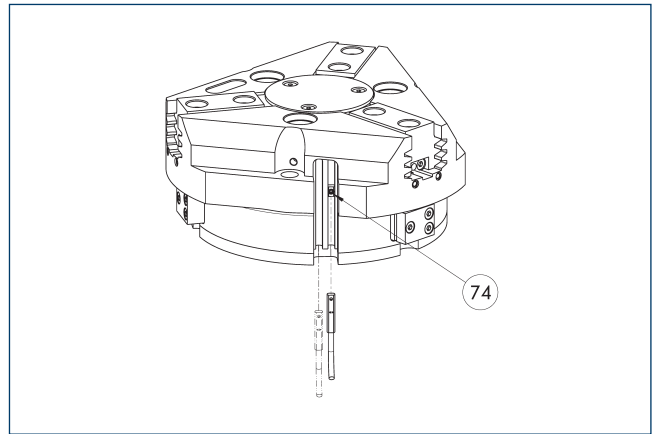
- ①⑦ Cable outlet
- ①⑨ Connector teaching tool ST
- ①⑩ MMS 22...-PI2-... sensor

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

**MMS-P programmable magnetic switch**



- ①④ Limit stop for sensor

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

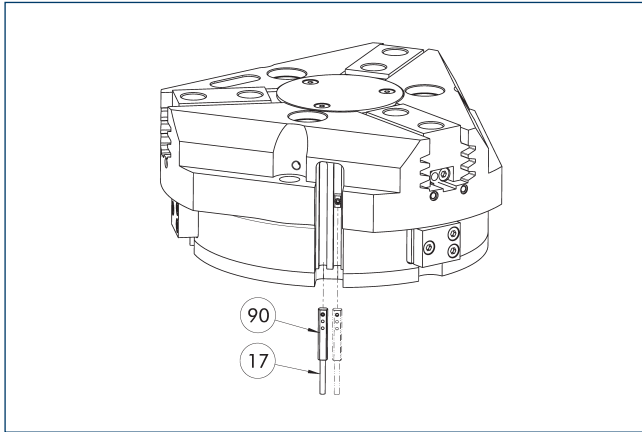
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
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.

# PZN-plus 100

Universal gripper

## Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

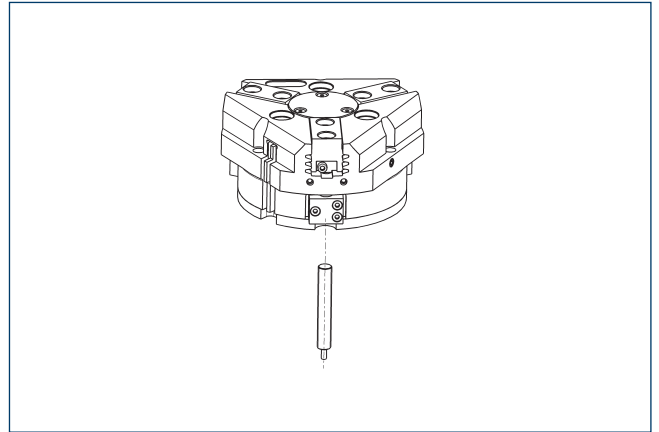
⑨⑩ Sensor MMS 22-IO-Link...

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

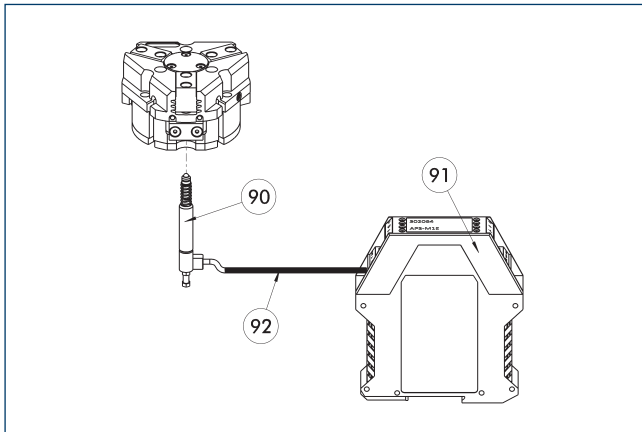


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 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.

## APS-M1 analog position sensor



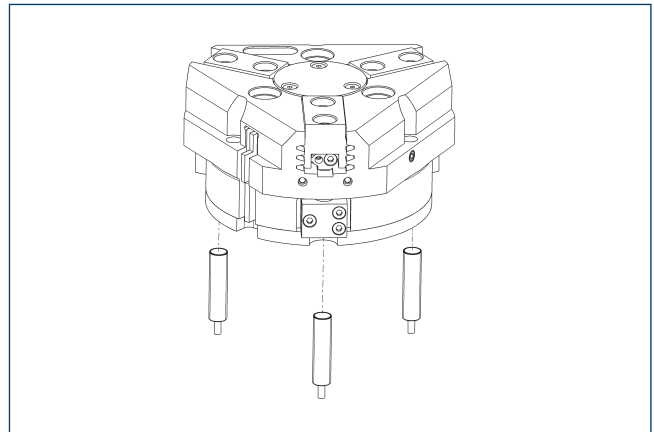
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 100-1	0302079	
AS-APS-M1-PGZN-plus 100-2	0302080	
<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



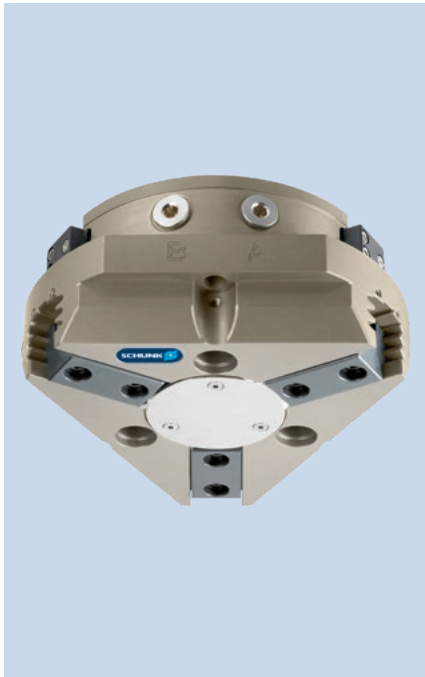
End position monitoring can be mounted with an attachment kit.

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	

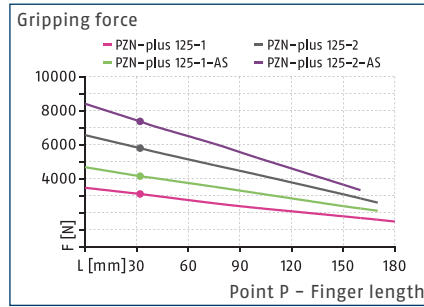
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PZN-plus 125

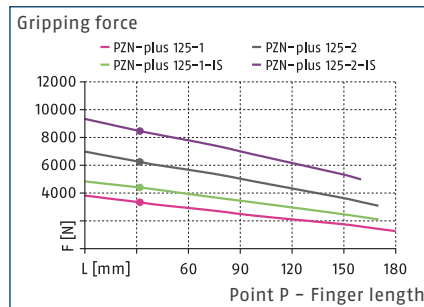
Universal gripper



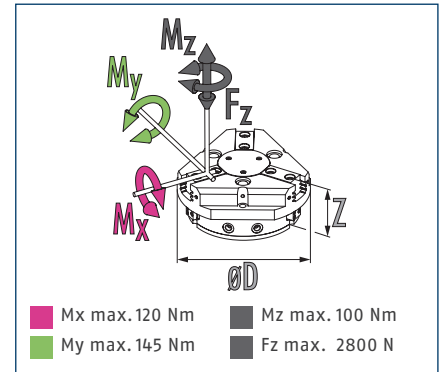
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



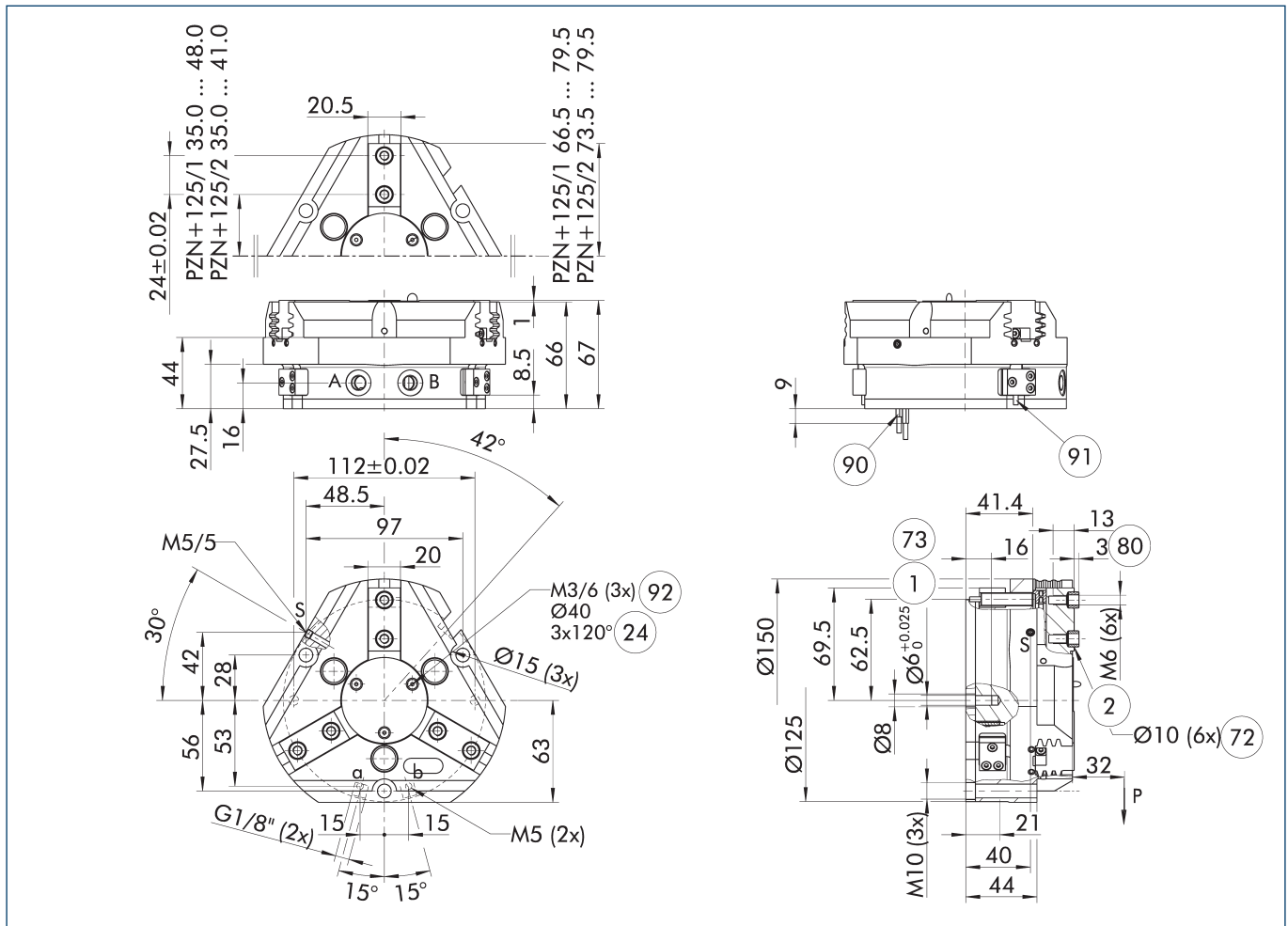
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 125-1	PZN-plus 125-2	PZN-plus 125-1-AS	PZN-plus 125-2-AS	PZN-plus 125-1-IS	PZN-plus 125-2-IS
ID		0303313	0303413	0303513	0303613	0303543	0303643
Stroke per jaw	[mm]	13	6	13	6	13	6
Closing/opening force	[N]	3100/3330	5800/6240	4150/-	7970/-	-/4400	-/8450
Min. spring force	[N]			1050	2170	1070	2210
Weight	[kg]	2.47	2.47	3.34	3.34	3.34	3.34
Recommended workpiece weight	[kg]	15.5	29	15.5	29	15.5	29
Fluid consumption double stroke	[cm³]	230	230	383	383	383	383
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	0.2/0.2	0.2/0.2	0.17/0.35	0.17/0.35	0.35/0.17	0.35/0.17
Closing/opening time with spring	[s]			0.40	0.40	0.40	0.40
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 Ø D x Z	[mm]	150 x 67	150 x 67	150 x 91.5	150 x 91.5	150 x 91.5	150 x 91.5
<b>Options and their characteristics</b>							
Dustproof version		37303313	37303413	37303513	37303613	37303543	37303643
IP protection class		64	64	64	64	64	64
Weight	[kg]	2.9	2.9	3.7	3.7	3.7	3.7
Corrosion-protected version		38303313	38303413	38303513	38303613	38303543	38303643
High-temperature version		39303313	39303413	39303513	39303613	39303543	39303643
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372204	0372214	0372224		0372244	
Closing/opening force	[N]	5209/5450	9674/10489	6097/-		-/6565	
Weight	[kg]	3.7	3.7	4.5		4.5	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	125	100	100		100	
Precision version		0303343	0303443	0303493	0303593		

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

②④ Bolt circle

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Sensor MMS 22..

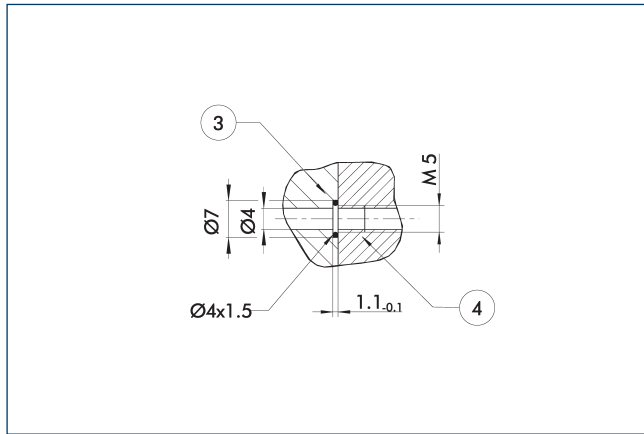
⑨① Sensor IN ...

⑨② Thread below the cover for fastening external attachments

# PZN-plus 125

Universal gripper

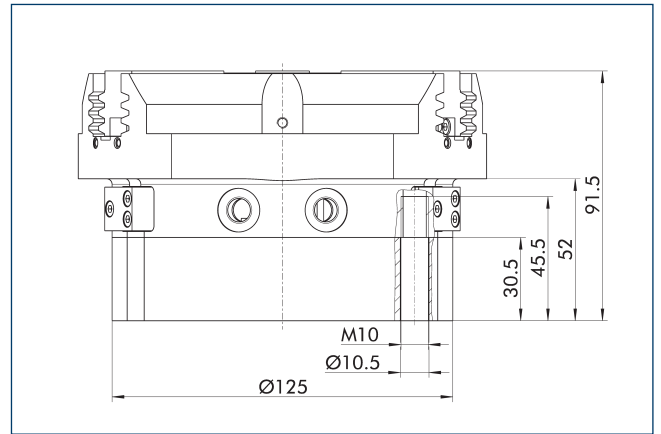
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

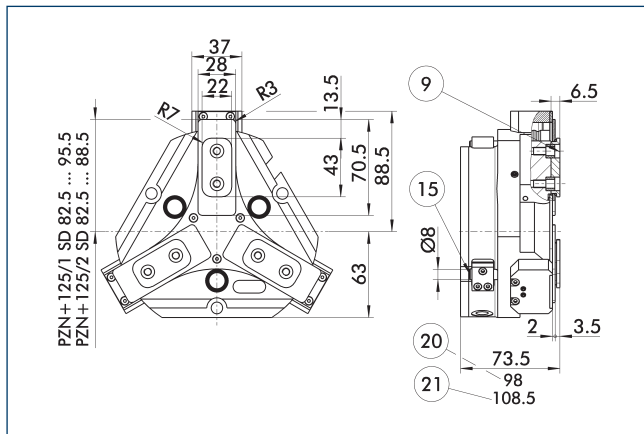
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

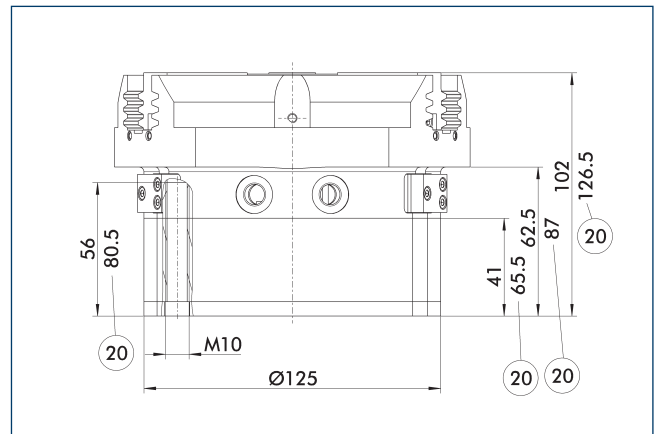
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ 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

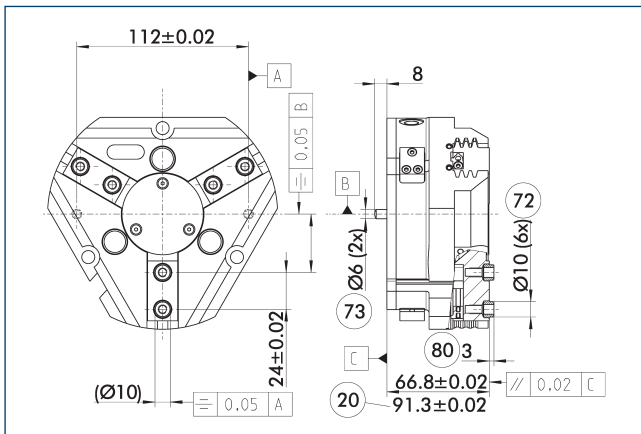


- ⑬ For AS / IS version

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.



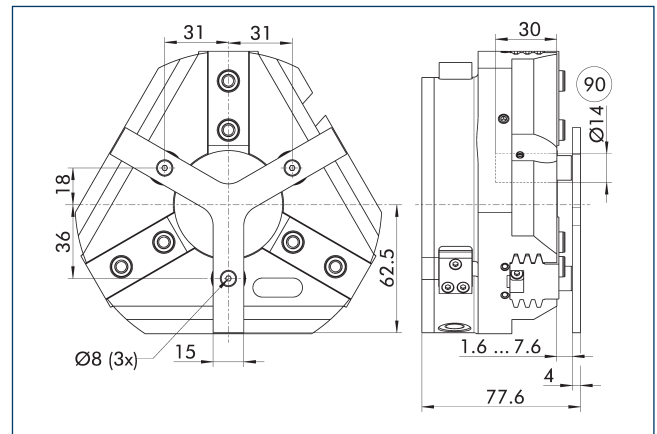
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



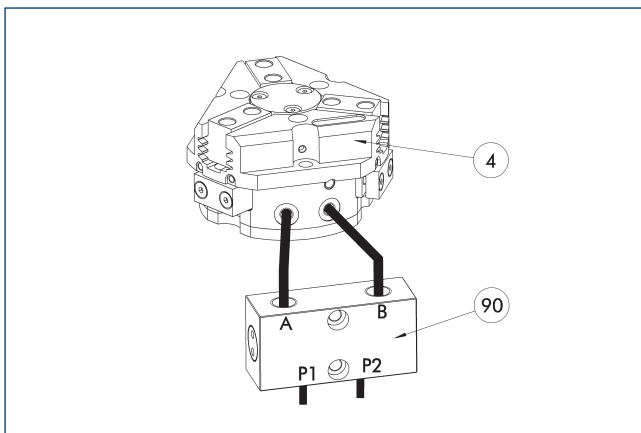
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 125	0303723	6	105

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



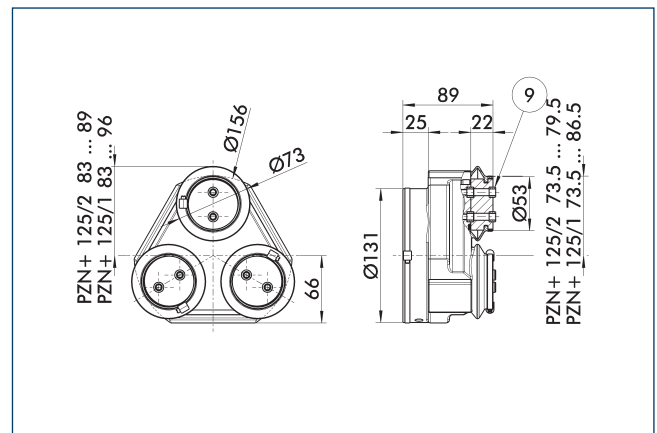
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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 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.

## Protective cover HUE PZN-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.

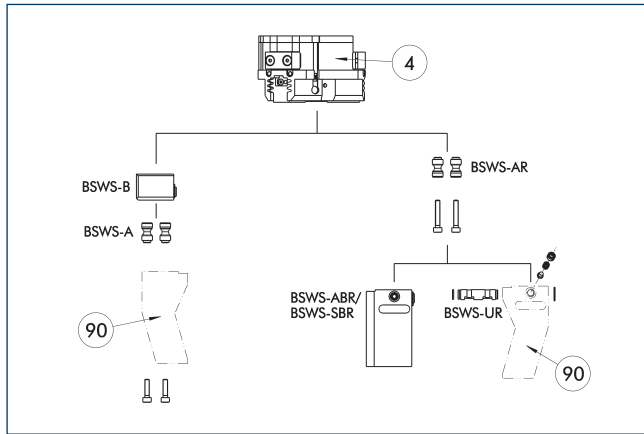
Description	ID	IP protection class
Protection cover		
HUE PZN-plus 125	0303483	65

- ① An inductive monitoring of the gripper in connection with the protective cover HUE is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper version.

# PZN-plus 125

Universal gripper

## 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
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

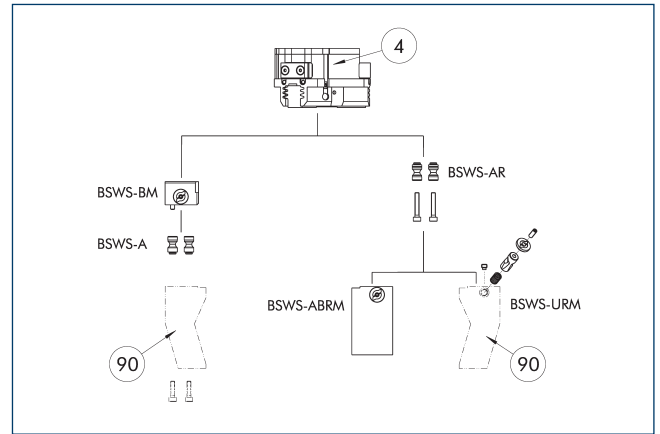
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	125	-1 (6 bar)	■■■■■
PZN-plus	125	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	125	-2 (6 bar)	■■■■■
PZN-plus	125	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

## 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

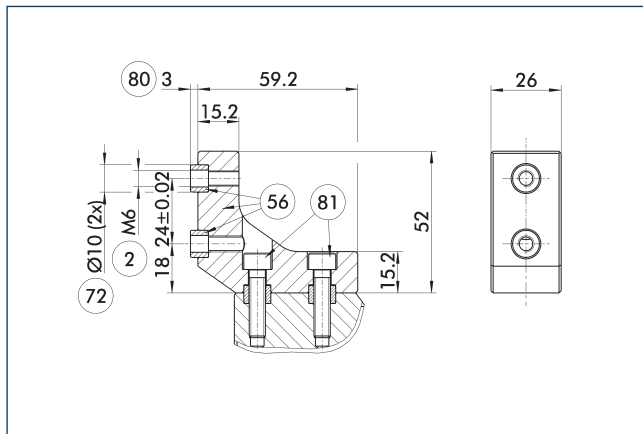
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	125	-1 (6 bar)	■■■■■
PZN-plus	125	-1-AS / -1-IS (6 bar)	■■■■■
PZN-plus	125	-2 (6 bar)	■■■■■
PZN-plus	125	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

### ZBA-L-plus 125 intermediate jaws

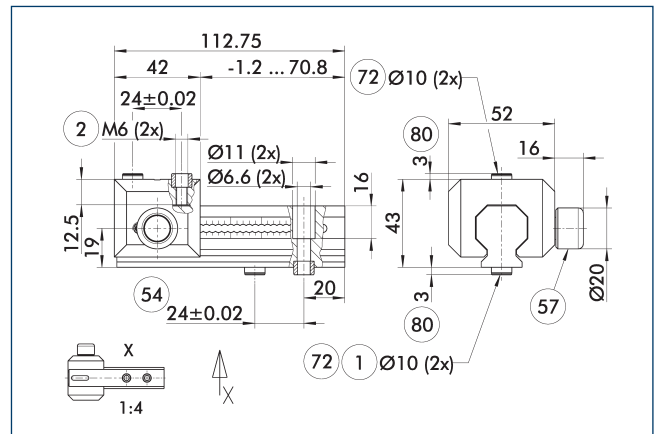


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

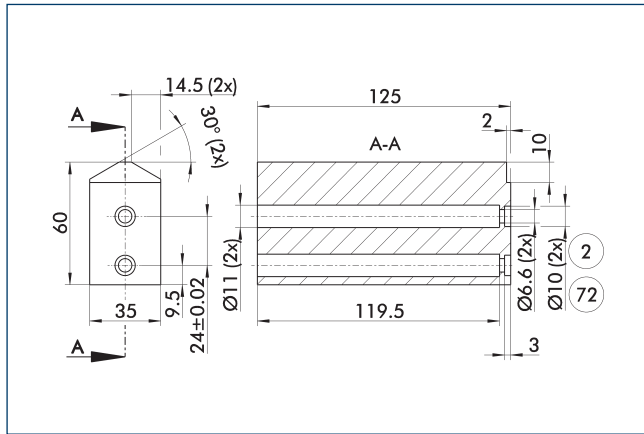
Series	Size	Variant	Suitability
PZN-plus	125	-1 (6 bar)	■■■■
PZN-plus	125	-1-AS / -1-IS (6 bar)	■■□□
PZN-plus	125	-2 (6 bar)	□□□□
PZN-plus	125	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	125	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	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.

# PZN-plus 125

Universal gripper

## Finger blanks ABR- / SBR-PGZN-plus 125

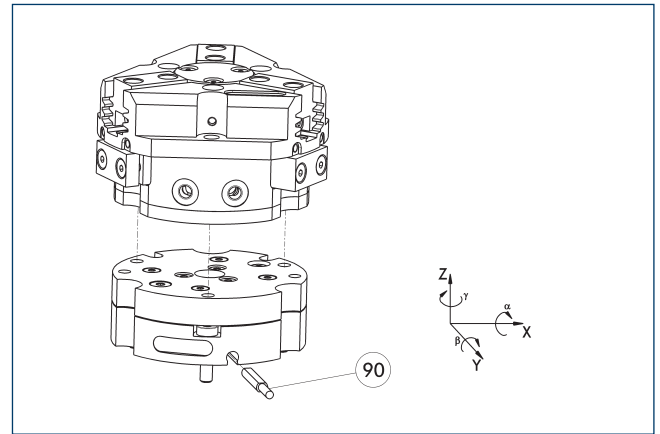


- ② Finger connection
- ⑦② Fit for centering sleeves

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 (3.4365)	1
SBR-PGZN-plus 125	0300023	Steel (1.7131)	1

## Tolerance compensation unit TCU

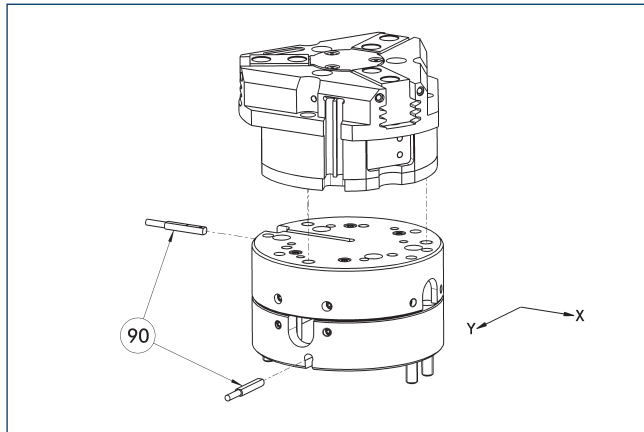


- ⑨⑩ Monitoring of locking

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-Z-125-3-MV	0324820	yes	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	●
TCU-Z-125-3-0V	0324821	no	$\pm 1^\circ / \pm 1^\circ / \pm 1^\circ$	

## Compensation unit AGE-F

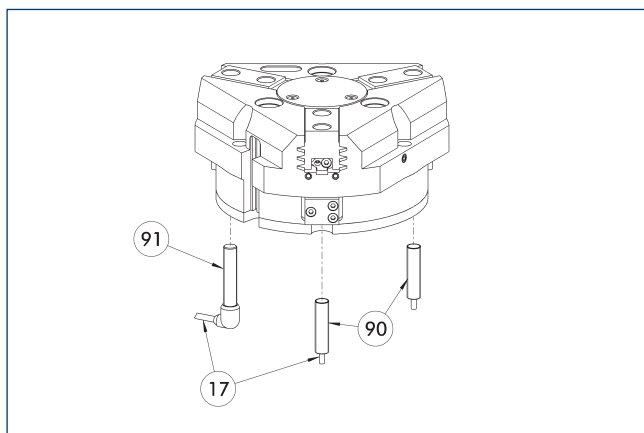


- ⑨⑩ Monitoring

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

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	●

## Inductive proximity switches



17 Cable outlet

91 Sensor IN..-SA

90 Sensor IN ...

Directly mounted end position monitoring.

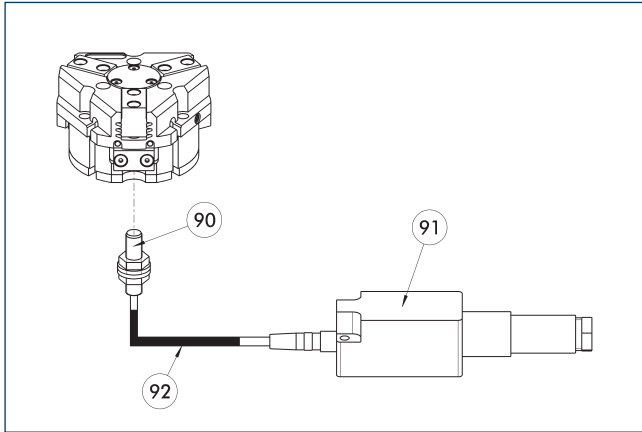
Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>Inductive proximity switch with lateral cable outlet</b>		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	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.

# PZN-plus 125

Universal gripper

## Flexible position sensor



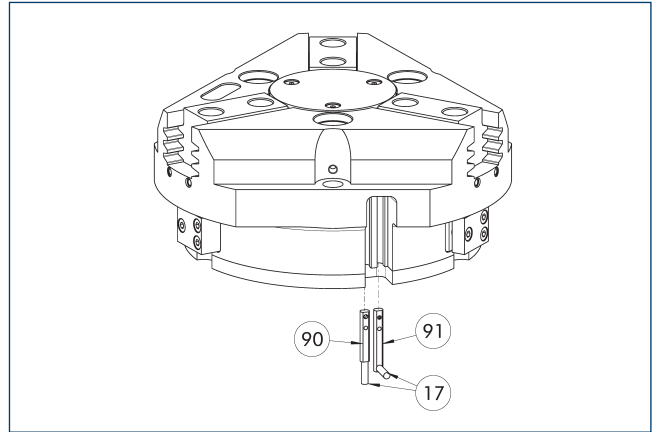
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 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



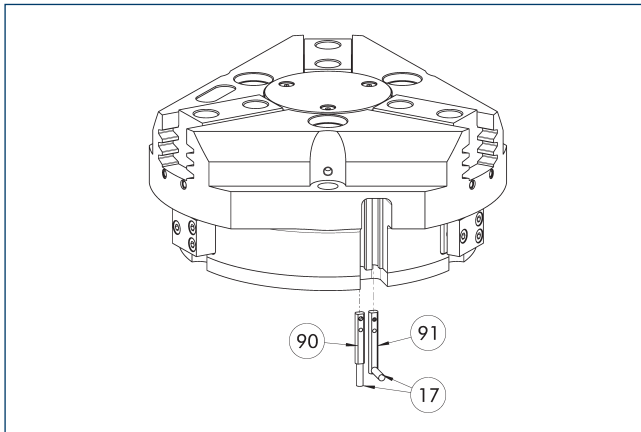
- ①⑦ Cable outlet
- ①⑧ Sensor MMS 22..
- ①⑨ Sensor MMS 22...-SA

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



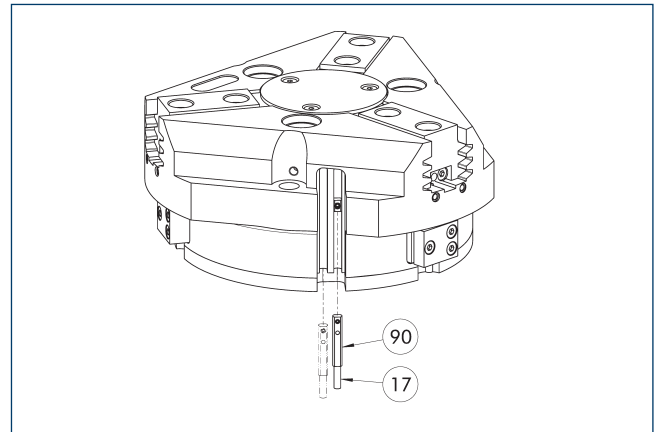
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨① Sensor MMS 22 PI1-...

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-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
- ⑨① 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.

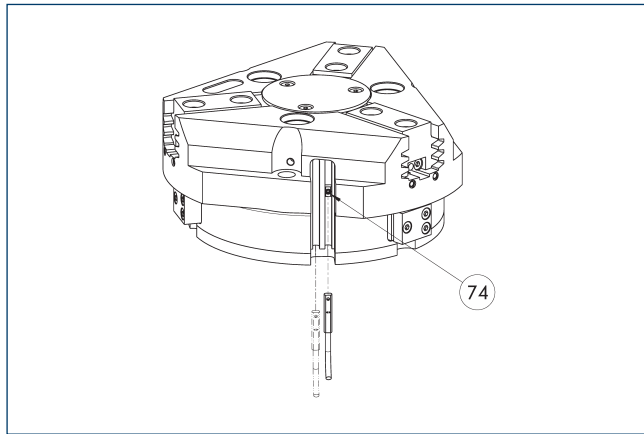
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

# PZN-plus 125

Universal gripper

## MMS-P programmable magnetic switch



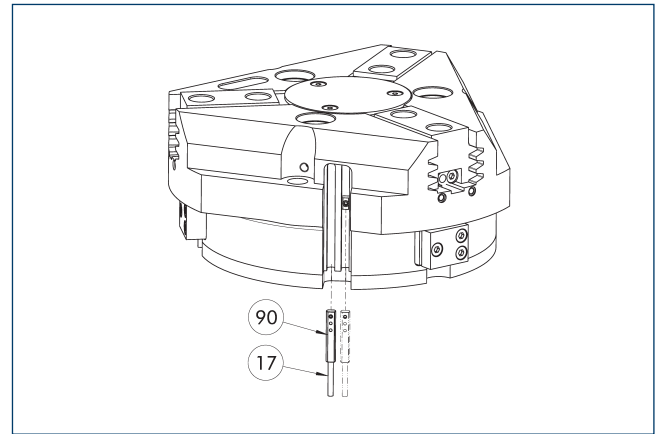
74 Limit stop for sensor

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.

## Programmable magnetic switch MMS-I0-Link



17 Cable outlet

90 Sensor MMS 22-I0L-...

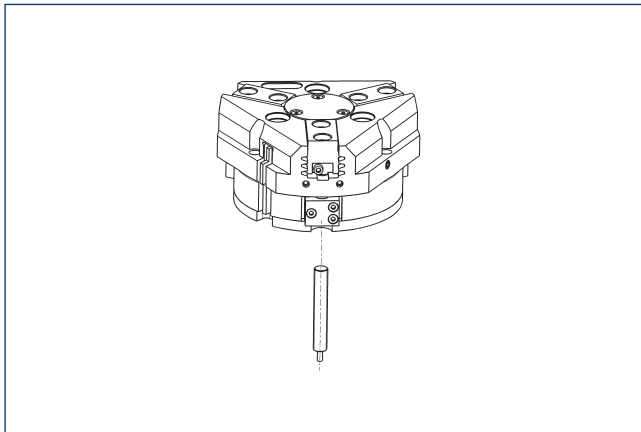
Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the I0-Link interface or the MT magnetic teach tool (included in scope of delivery). An I0-Link master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

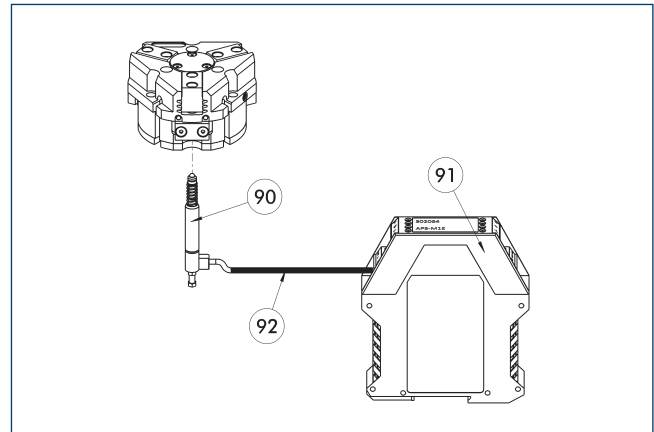


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 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.

## 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

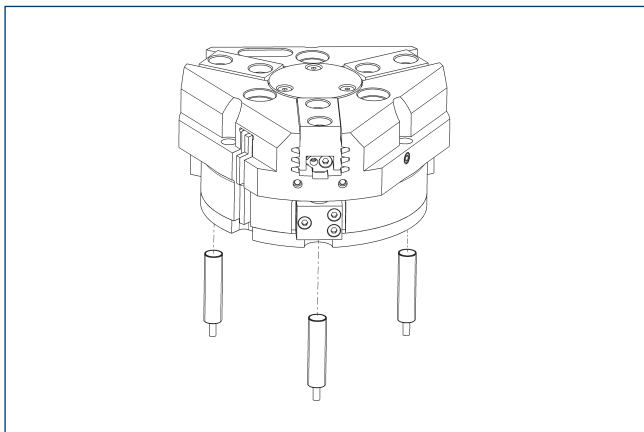
Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 125-1	0302081	
AS-APS-M1-PGZN-plus 125-2	0302082	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

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.

# PZN-plus 125

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 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.

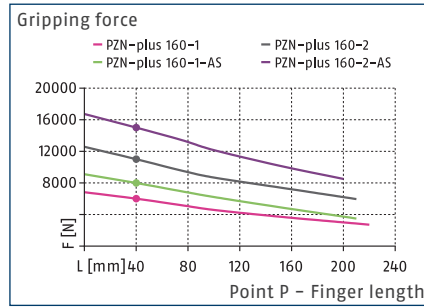


# PZN-plus 160

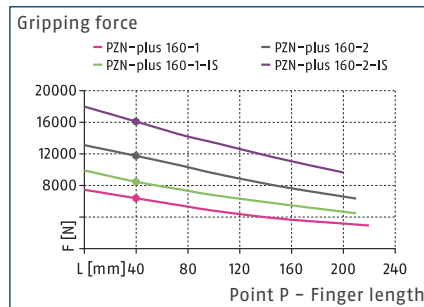
Universal gripper



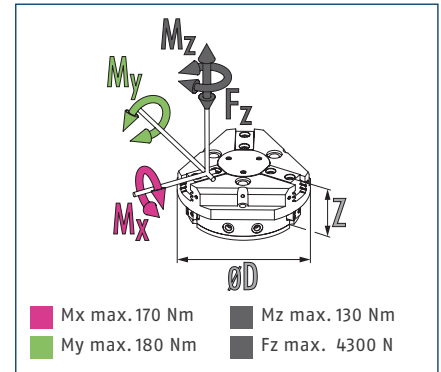
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



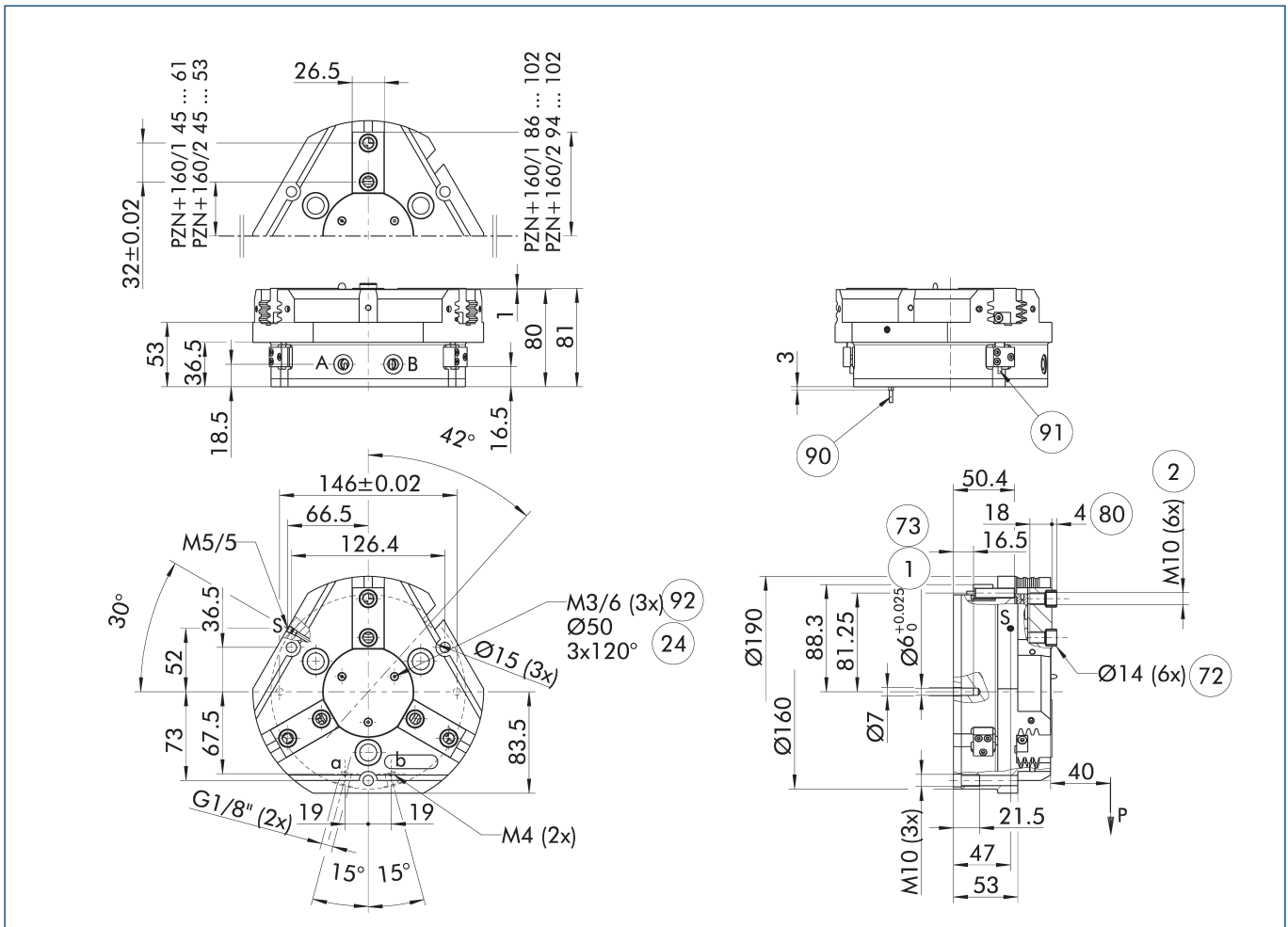
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 160-1	PZN-plus 160-2	PZN-plus 160-1-AS	PZN-plus 160-2-AS	PZN-plus 160-1-IS	PZN-plus 160-2-IS
ID		0303314	0303414	0303514	0303614	0303544	0303644
Stroke per jaw	[mm]	16	8	16	8	16	8
Closing/opening force	[N]	6000/6390	11000/11750	7990/-	15010/-	-/8480	-/16090
Min. spring force	[N]			1990	4010	2090	4340
Weight	[kg]	5.6	5.6	8	8	8	8
Recommended workpiece weight	[kg]	30	55	30	55	30	55
Fluid consumption double stroke	[cm <sup>3</sup> ]	520	520	875	875	875	875
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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	0.4/0.8	0.4/0.8	0.8/0.4	0.8/0.4
Closing/opening time with spring	[s]			0.80	0.80	0.80	0.80
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]	0.02	0.02	0.02	0.02	0.02	0.02
Dimensions Ø D x Z	[mm]	190 x 81	190 x 81	190 x 111	190 x 111	190 x 111	190 x 111
<b>Options and their characteristics</b>							
Dustproof version		37303314	37303414	37303514	37303614	37303544	37303644
IP protection class		64	64	64	64	64	64
Weight	[kg]	6.5	6.5	8.9	8.9	8.9	8.9
Corrosion-protected version		38303314	38303414	38303514	38303614	38303544	38303644
High-temperature version		39303314	39303414	39303514	39303614	39303544	39303644
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372205	0372215	0372225		0372245	
Closing/opening force	[N]	9980/10431	18229/19796	11620/-		-/12160	
Weight	[kg]	7.8	7.8	9.6		9.6	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	125	100	100		100	
Precision version		0303344	0303444	0303494	0303594		

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

②④ Bolt circle

⑦② Fit for centering sleeves

⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Sensor MMS 22..

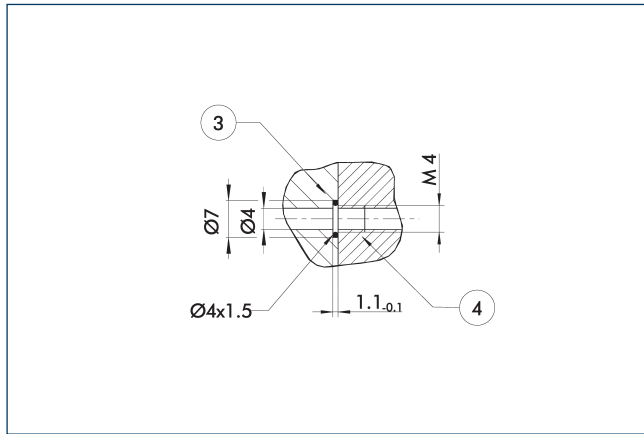
⑨① Sensor IN ...

⑨② Thread below the cover for fastening external attachments

# PZN-plus 160

Universal gripper

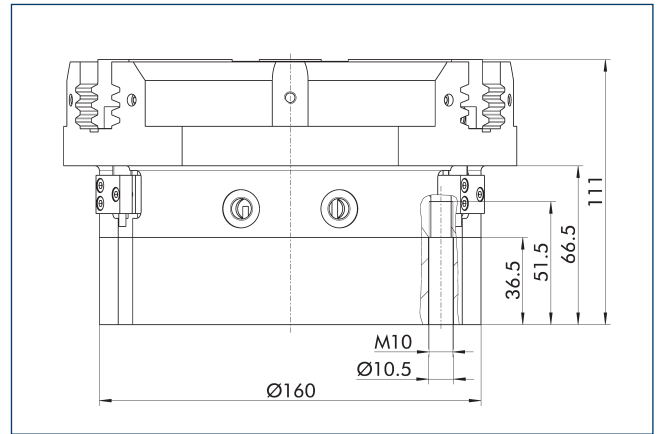
## Hose-free direct connection M4



- ③ Adapter
- ④ Grippers

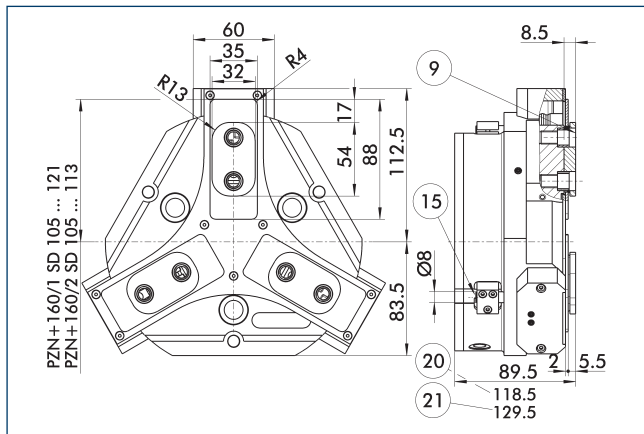
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

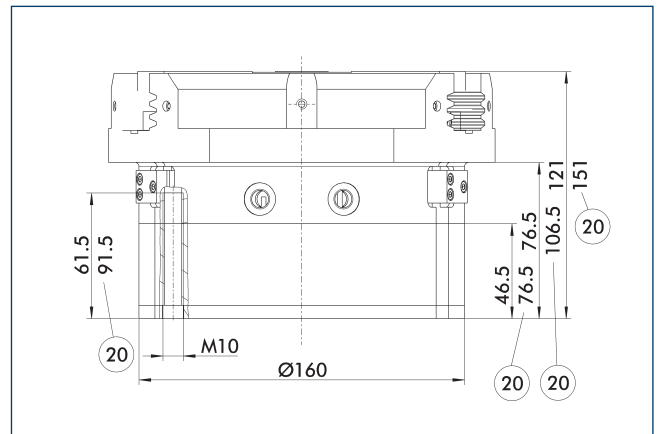
## Dustproof version



- ⑨ For mounting screw connection
- ⑩ For AS / IS version diagram, see basic version
- ⑪ Sealing bolt
- ⑫ 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.

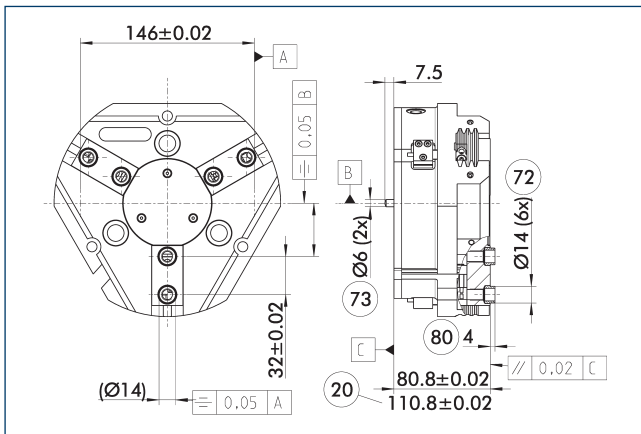
## Power booster version



- ⑬ 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.

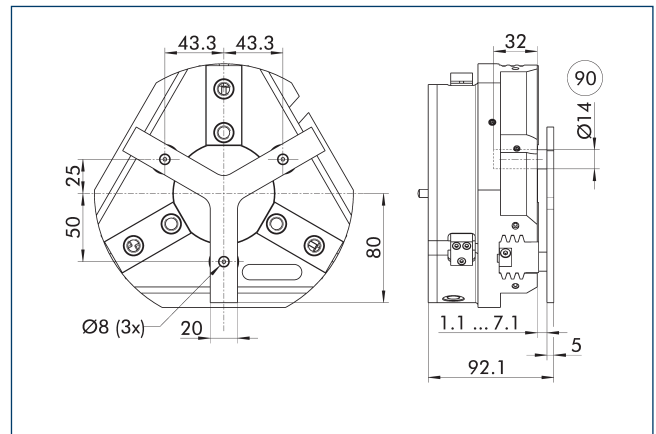
## Precision version



- ②0 For AS / IS version
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- 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.

## Spring-loaded pressure piece



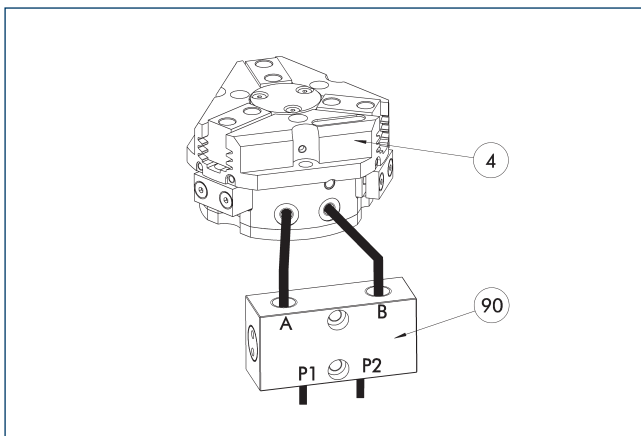
- ⑨0 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6	150

- ① The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## SDV-P pressure maintenance valve



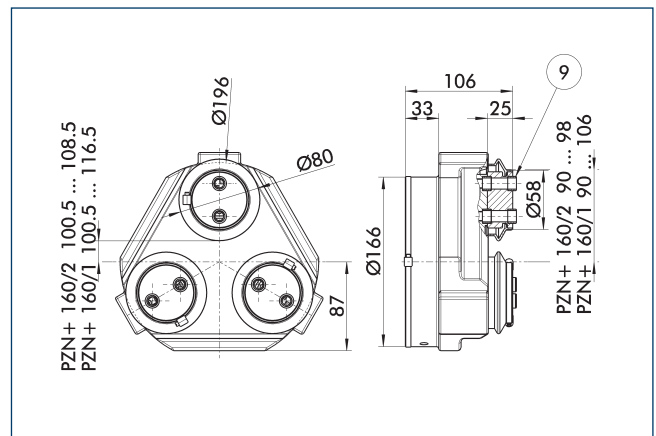
- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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 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.

## Protective cover HUE PZN-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.

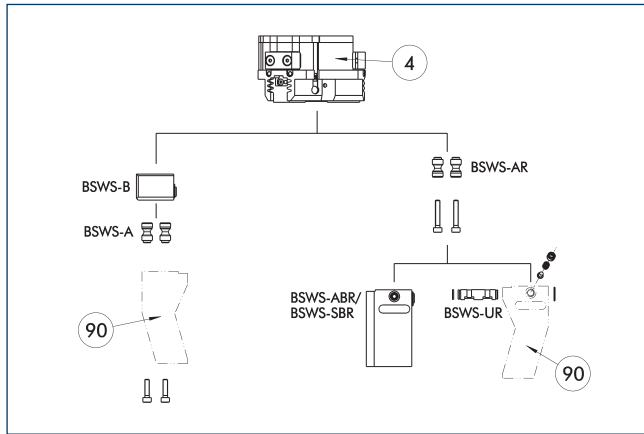
Description	ID	IP protection class
Protection cover		
HUE PZN-plus 160	0303484	65

- ① An inductive monitoring of the gripper in connection with the protective cover HUE is not possible. SCHUNK recommends the use of magnetic sensors that are approved for the respective gripper version.

# PZN-plus 160

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
<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

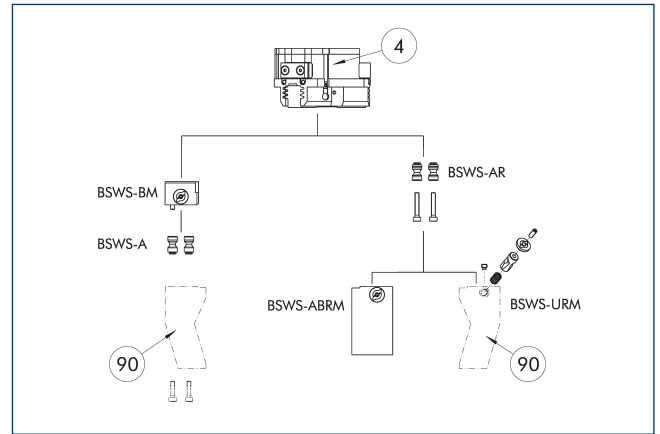
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	160	-1 (6 bar)	■■■■■
PZN-plus	160	-1-AS / -1-IS (6 bar)	■■■□□
PZN-plus	160	-2 (6 bar)	■■■□□
PZN-plus	160	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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.

## 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
<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.

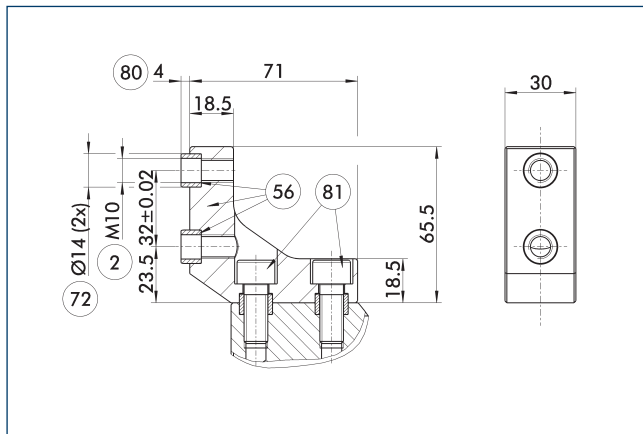
### Fields of application

Series	Size	Variant	Suitability
PZN-plus	160	-1 (6 bar)	■■■■■
PZN-plus	160	-1-AS / -1-IS (6 bar)	■■■□□
PZN-plus	160	-2 (6 bar)	■■■□□
PZN-plus	160	-2-AS / -2-IS (6 bar)	■■■□□
PZN-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

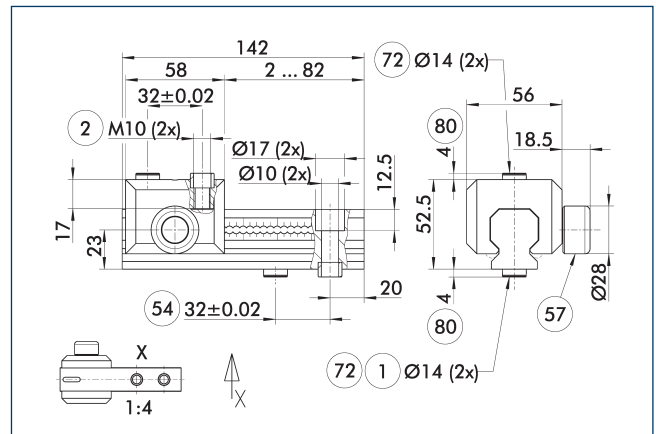


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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
PZN-plus	160	-1 (6 bar)	■■■■
PZN-plus	160	-1-AS / -1-IS (6 bar)	■■□□
PZN-plus	160	-2 (6 bar)	□□□□
PZN-plus	160	-2-AS / -2-IS (6 bar)	□□□□
PZN-plus	160	-...-KVZ (6 bar)	□□□□
Legend			
■■■■	Can be combined without restrictions		
■■□□	Use with restrictions (see loading limits)		
□□□□	cannot be combined		

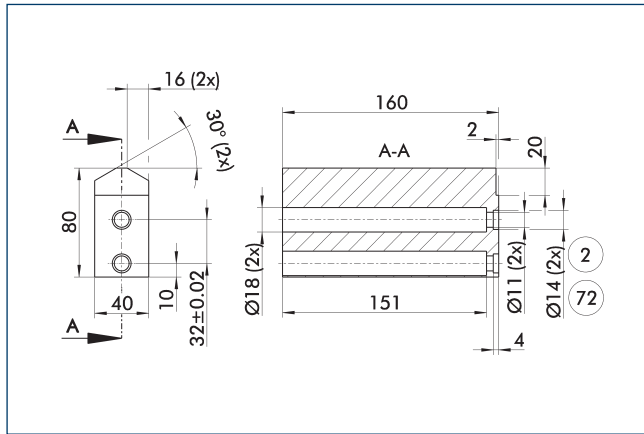
The load limits for describing the application limits can be found in the catalog chapter of the corresponding accessories.

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

# PZN-plus 160

Universal gripper

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

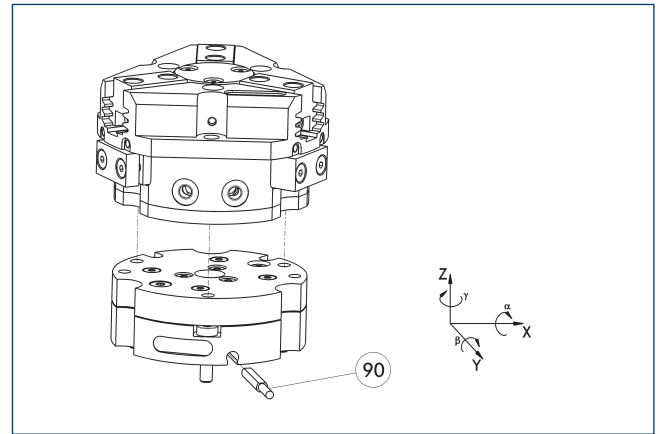


- 2 Finger connection
- 72 Fit for centering sleeves

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

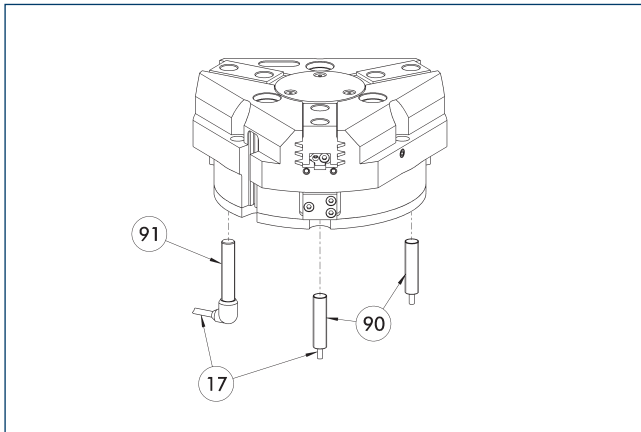


- 90 Monitoring of locking

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-Z-160-3-MV	0324838	yes	±1°/±1°/±1°	●
TCU-Z-160-3-0V	0324839	no	±1°/±1°/±1°	

## Inductive proximity switches



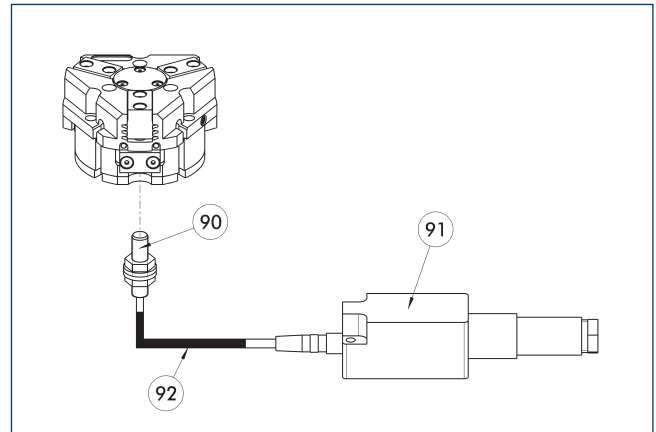
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

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



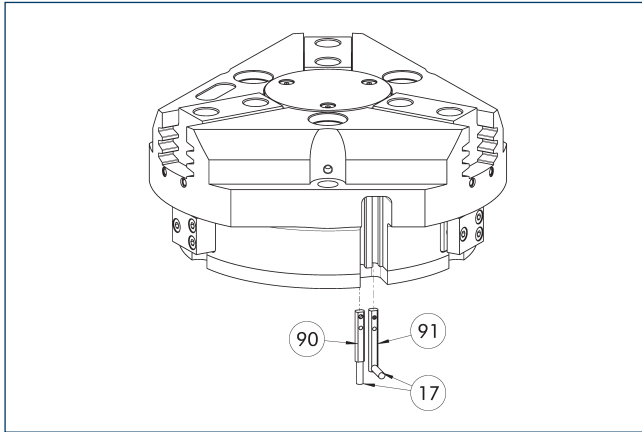
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

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



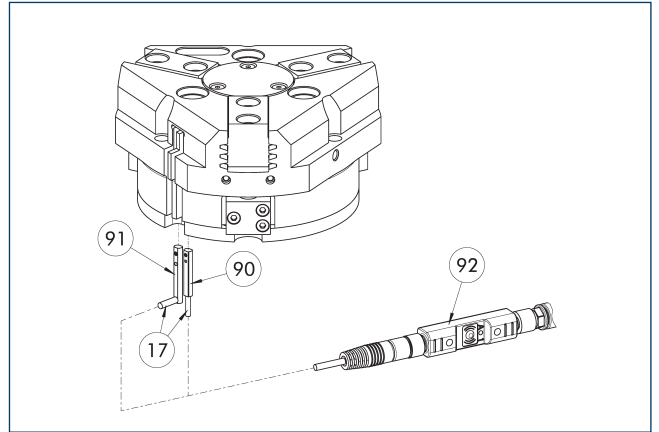
- ①7 Cable outlet
- ①91 Sensor MMS 22...-SA
- ①90 Sensor MMS 22..

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



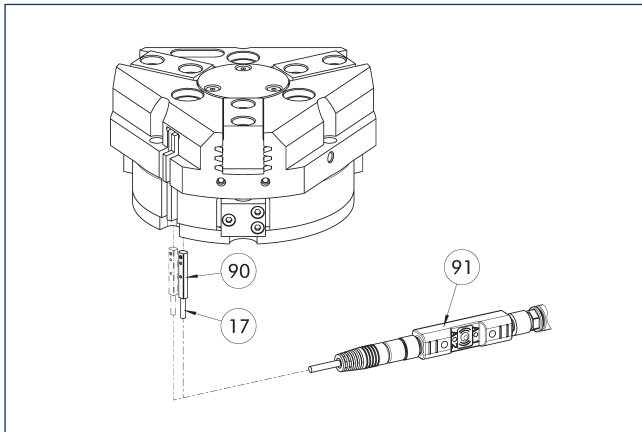
- ①7 Cable outlet
- ①91 Sensor MMS 22 ..-PI1-...-SA
- ①90 Sensor MMS 22 PI1-...
- ①92 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



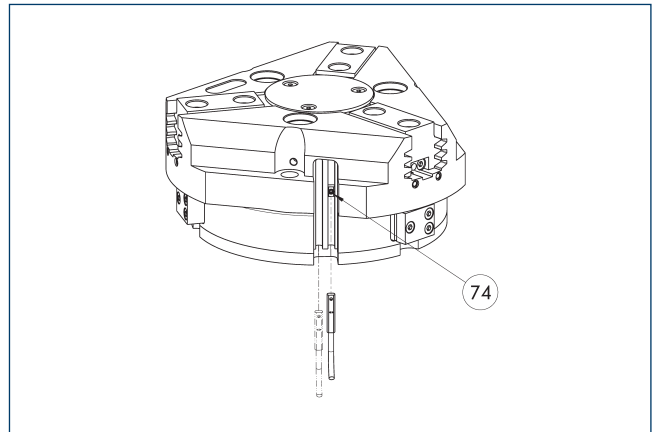
- ①⑦ Cable outlet
- ①⑨ Connector teaching tool ST
- ①⑩ MMS 22...-PI2-... sensor

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

**MMS-P programmable magnetic switch**



- ①④ Limit stop for sensor

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

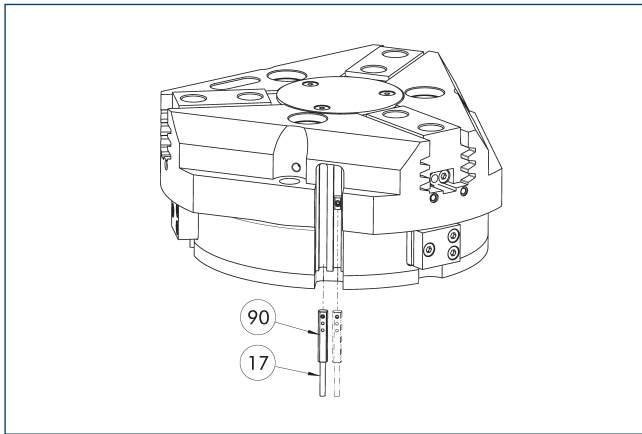
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
<b>Connection cables</b>		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
<b>clip for plug/socket</b>		
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.

# PZN-plus 160

Universal gripper

## Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

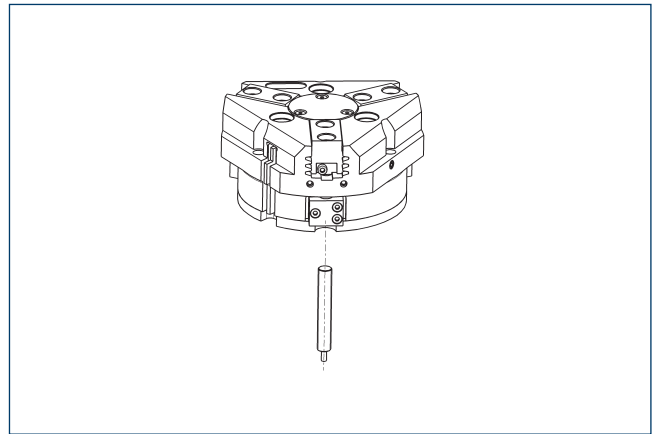
⑨⑩ Sensor MMS 22-IO-Link...

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

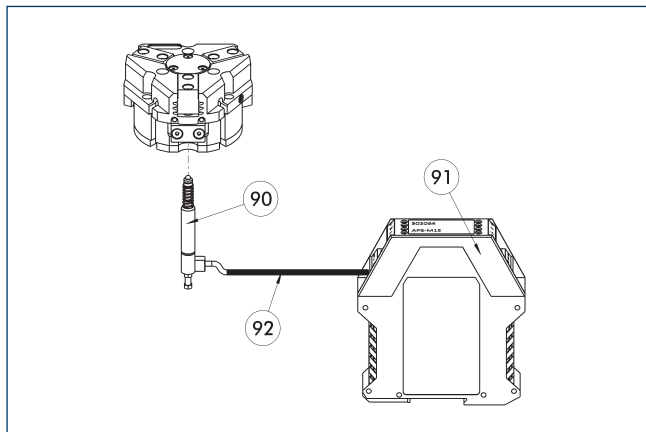


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 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



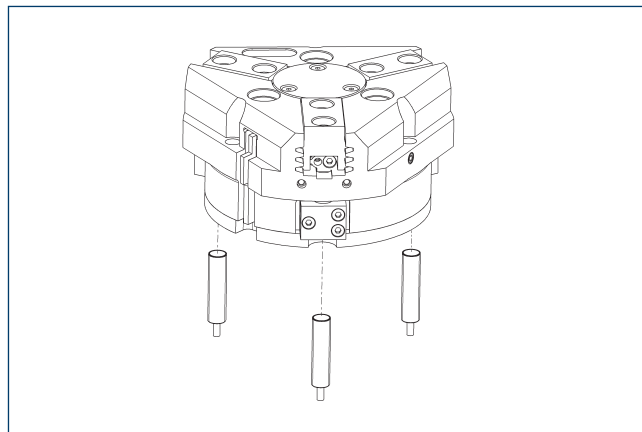
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

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



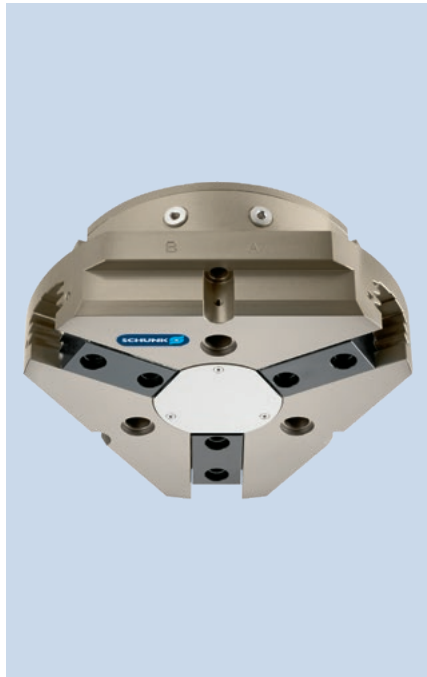
End position monitoring can be mounted with an attachment kit.

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	

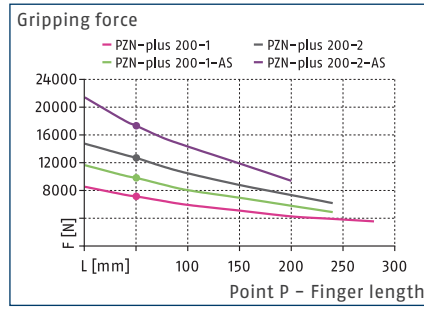
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# PZN-plus 200

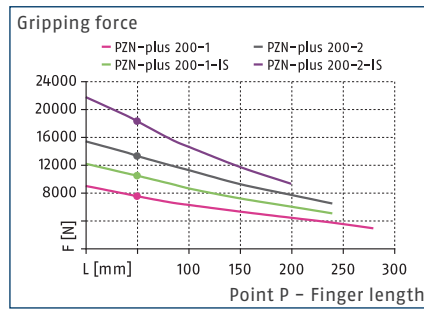
Universal gripper



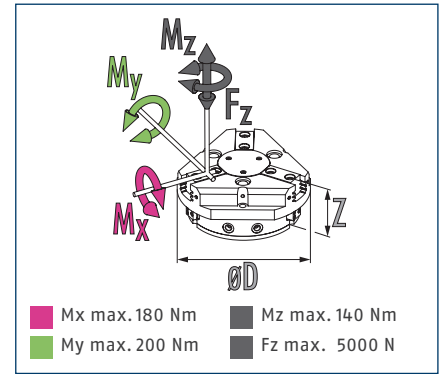
## Gripping force O.D. gripping



## 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.

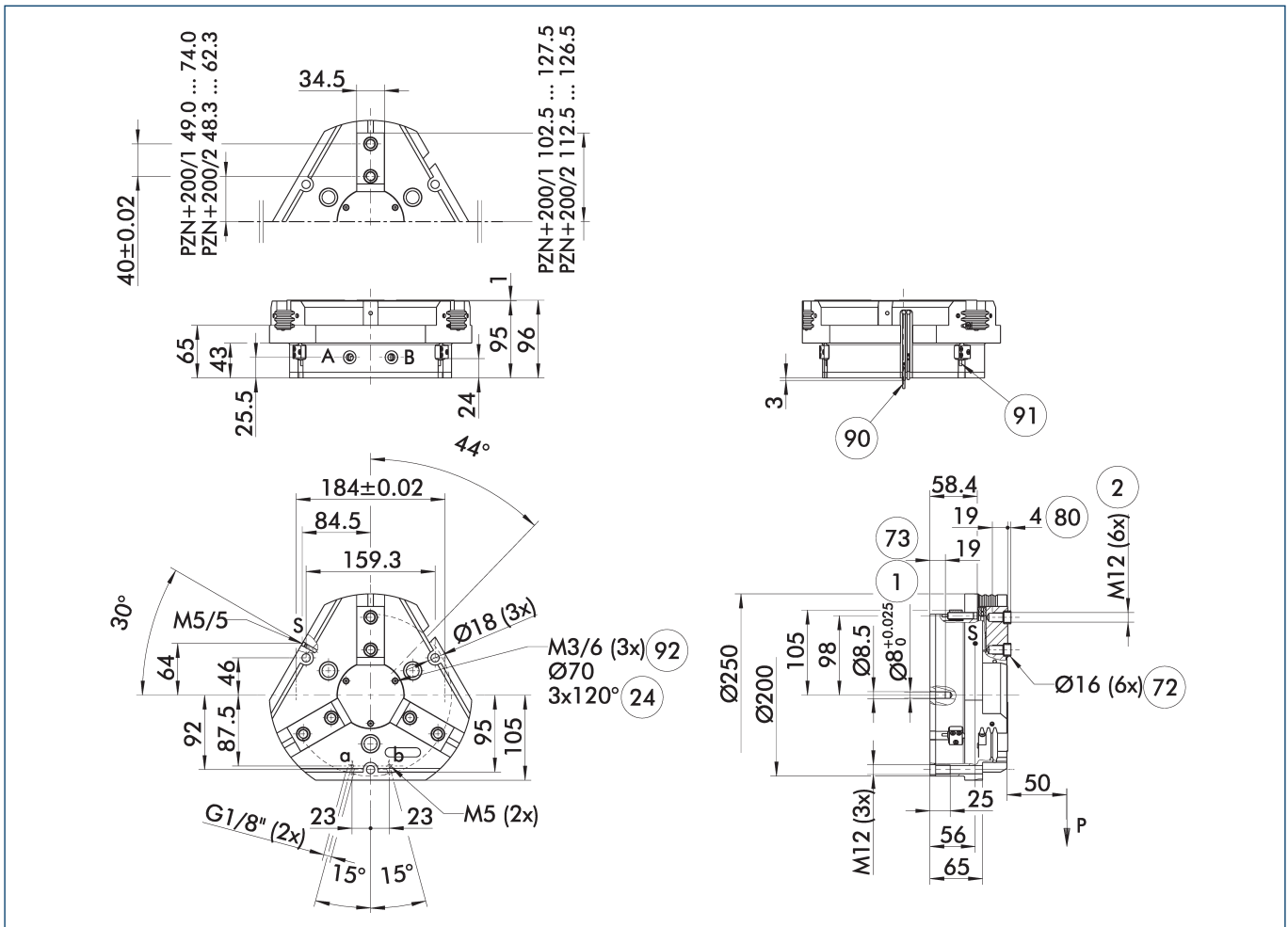
## Technical data

Description		PZN-plus 200-1	PZN-plus 200-2	PZN-plus 200-1-AS	PZN-plus 200-2-AS	PZN-plus 200-1-IS	PZN-plus 200-2-IS
ID		0303315	0303415	0303515	0303615	0303545	0303645
Stroke per jaw	[mm]	25	14	25	14	25	14
Closing/opening force	[N]	7100/7540	12700/13330	9800/-	17380/-	-/10500	-/18330
Min. spring force	[N]			2700	4680	2960	5000
Weight	[kg]	11	11	15.7	15.7	15.7	15.7
Recommended workpiece weight	[kg]	35.5	63.5	35.5	63.5	35.5	63.5
Fluid consumption double stroke	[cm³]	1040	1040	1725	1725	1725	1725
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	1.2/1.2	1.2/1.2	1/1.5	1/1.5	1.5/1	1.5/1
Closing/opening time with spring	[s]			1.50	1.50	1.50	1.50
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]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions Ø D x Z	[mm]	250 x 96	250 x 96	250 x 132	250 x 132	250 x 132	250 x 132
<b>Options and their characteristics</b>							
Dustproof version		37303315	37303415	37303515	37303615	37303545	37303645
IP protection class		64	64	64	64	64	64
Weight	[kg]	12	12	16.7	16.7	16.7	16.7
Corrosion-protected version		38303315	38303415	38303515	38303615	38303545	38303645
High-temperature version		39303315	39303415	39303515	39303615	39303545	39303645
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0303345	0303445	0303495	0303595		

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.

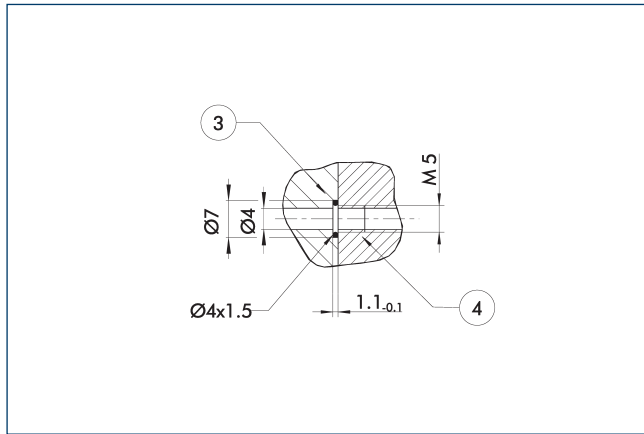
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨② Sensor IN ...   |
| ②④ Bolt circle                                 | ⑨③ Thread below the cover for fastening external attachments |

# PZN-plus 200

Universal gripper

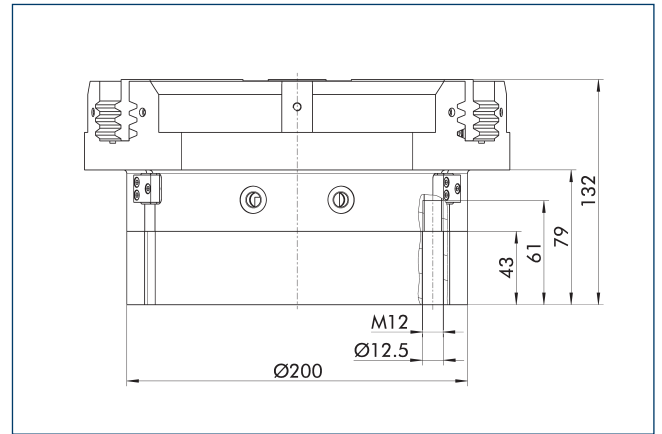
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

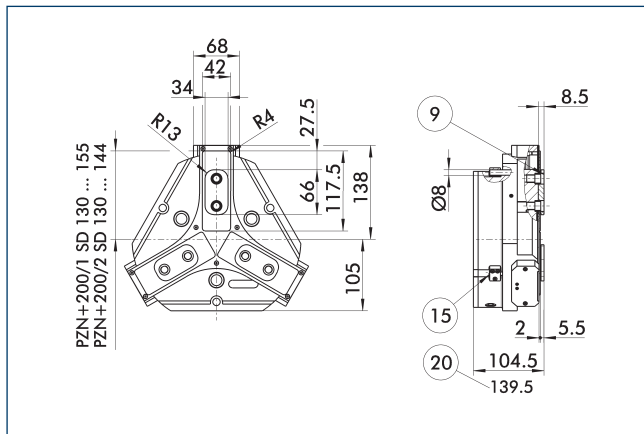
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

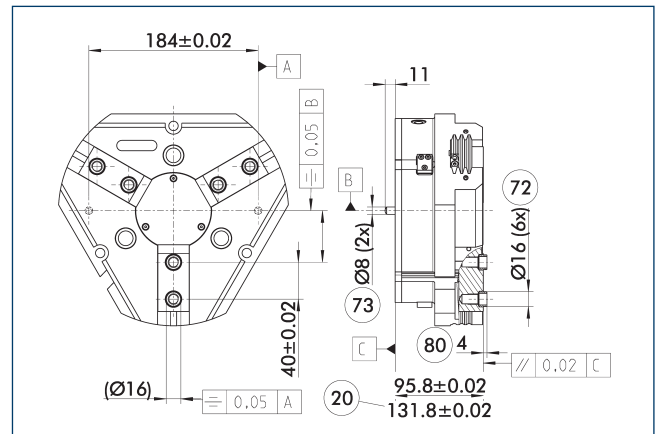
## Dustproof version



- 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.

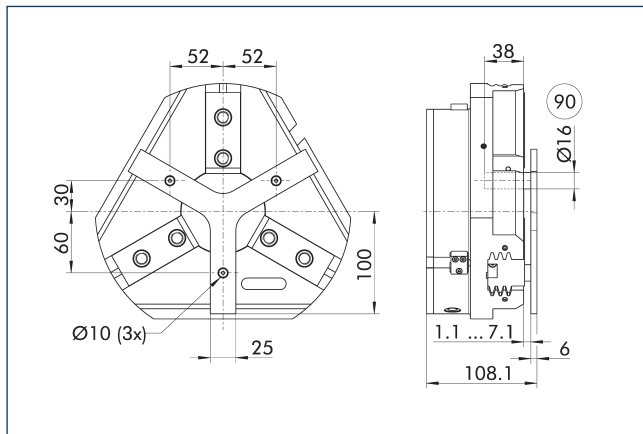
## Precision version



- ⑳ For AS / IS version
- ⑦③ Fit for centering pins
- 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.

## Spring-loaded pressure piece



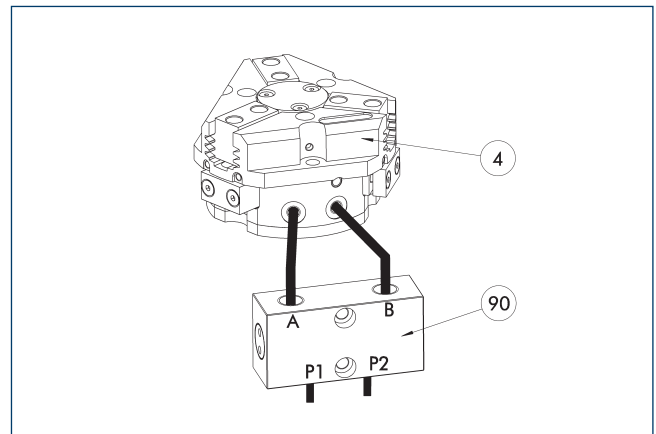
90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 200	0303725	6	200

ⓘ The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## 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.

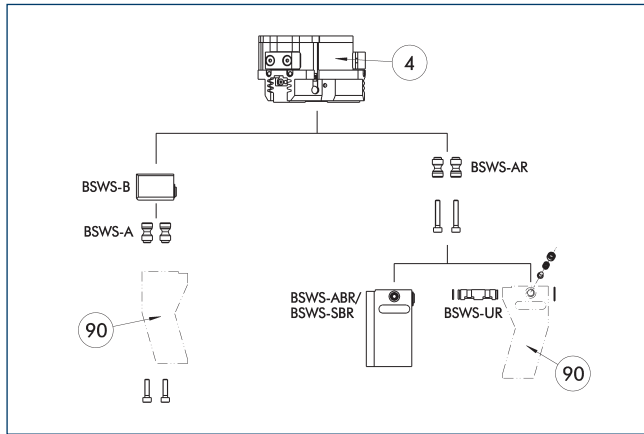
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

ⓘ 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).

# PZN-plus 200

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
Quick-change jaw system base		
BSWS-B 200	0303033	1
Jaw quick-change system adapter pin		
BSWS-A 200	0303032	2

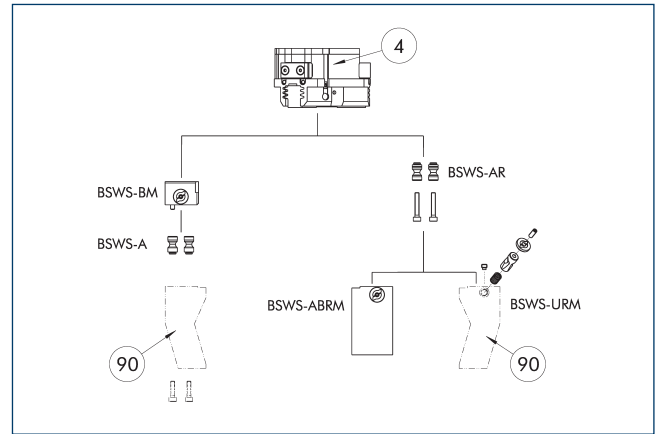
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	200	-1 (6 bar)	■■■■
PZN-plus	200	-1-AS / -1-IS (6 bar)	■■■■
PZN-plus	200	-2 (6 bar)	■■□□
PZN-plus	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.

## 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
Quick-change jaw system base		
BSWS-BM 200	1419306	1
Jaw quick-change system adapter pin		
BSWS-A 200	0303032	2

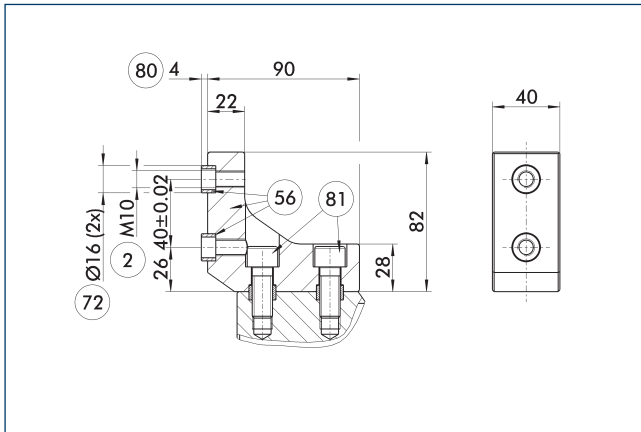
① Only systems that are listed in the table, can be used.

### Fields of application

Series	Size	Variant	Suitability
PZN-plus	200	-1 (6 bar)	■■■■
PZN-plus	200	-1-AS / -1-IS (6 bar)	■■■■
PZN-plus	200	-2 (6 bar)	■■□□
PZN-plus	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

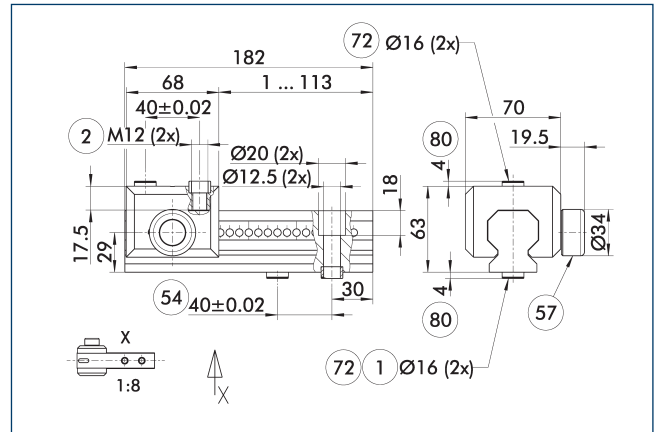


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

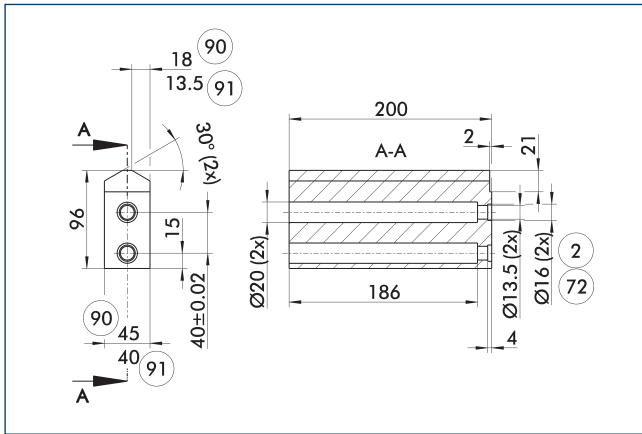
Series	Size	Variant	Suitability
PZN-plus	200	-1 (6 bar)	■■■■■
PZN-plus	200	-1-AS / -1-IS (6 bar)	■■■□□
PZN-plus	200	-2 (6 bar)	□□□□□
PZN-plus	200	-2-AS / -2-IS (6 bar)	□□□□□
Legend			
■■■■■	Can be combined without restrictions		
■■■□□	Use with restrictions (see loading limits)		
□□□□□	cannot be combined		

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.

# PZN-plus 200

Universal gripper

## Finger blanks ABR- / SBR-PGZN-plus 200

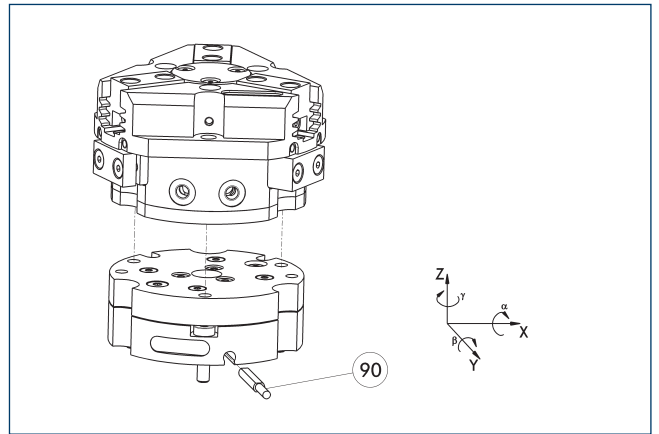


- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨① ABR-PGZN-plus
- ⑨① SBR-PGZN-plus

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 200	0300015	Aluminum (3.4365)	1
SBR-PGZN-plus 200	0300025	Steel (1.7131)	1

## Tolerance compensation unit TCU

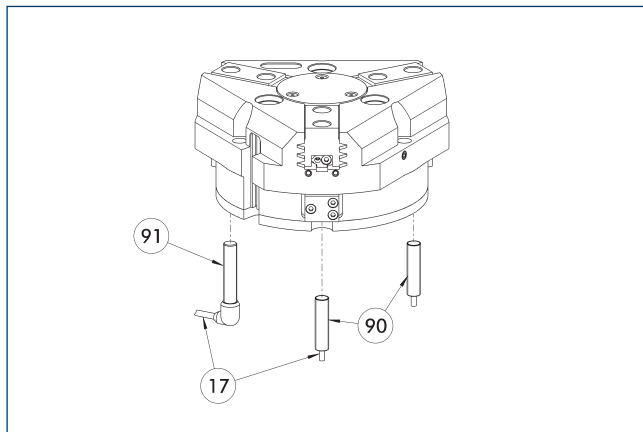


- ⑨① Monitoring of locking

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-Z-200-3-MV	0324856	yes	±1°/±1°/±1°	●
TCU-Z-200-3-0V	0324857	no	±1°/±1°/±1°	

## Inductive proximity switches



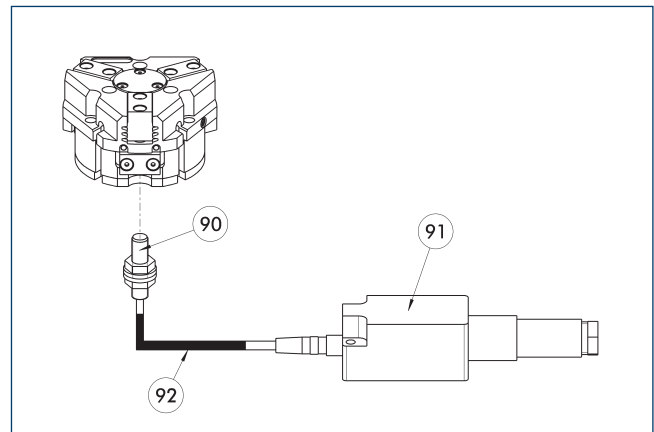
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

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.

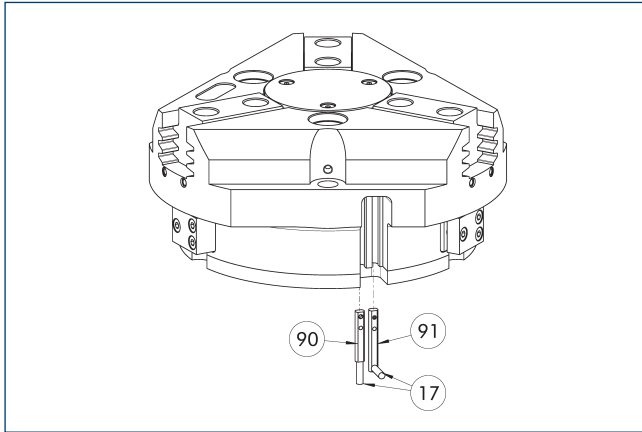
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 200-1	0301640	
AS-FPS-PGZN-plus 200-2	0301641	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

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."

# PZN-plus 200

Universal gripper

## Electronic magnetic switch MMS



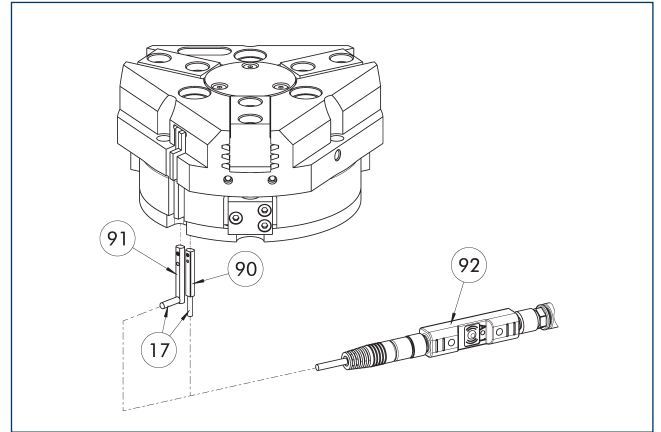
- ① Cable outlet
- ② Sensor MMS 22...-SA
- ③ Sensor MMS 22..

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	

- 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.

## Programmable magnetic switch MMS 22-PI1



- ① Cable outlet
- ② Sensor MMS 22 ..-PI1...-SA
- ③ Sensor MMS 22 PI1-...
- ④ Connector teaching tool ST

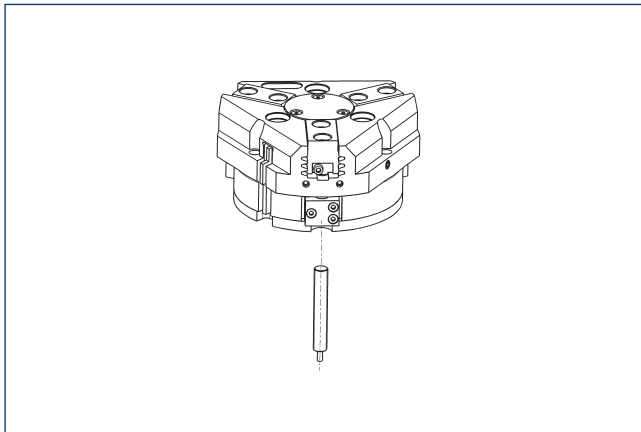
Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ④ Two sensors (closer/S) are required for each unit and extension cables are available as an option.



## APS-Z80 analog position sensor

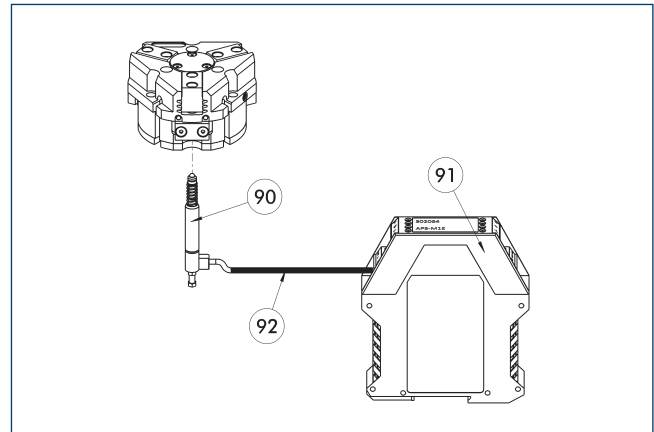


No-contact measuring, analog multi-position monitoring for any number of positions.

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

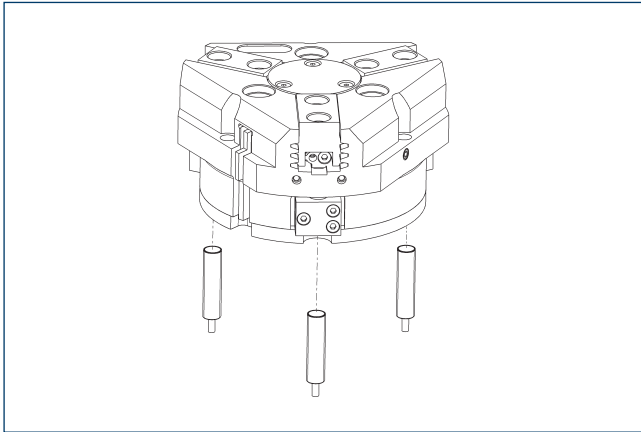
Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 200-1/380-2	0302085	
AS-APS-M1-PGZN-plus 200-2	0302086	
<b>Analog position sensor</b>		
APS-M1S	0302062	
<b>Connection cables</b>		
APS-K0200	0302066	
APS-K0700	0302068	
<b>Evaluation electronics</b>		
APS-M1E	0302064	

- 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.

# PZN-plus 200

Universal gripper

## Cylindrical reed switches



End position monitoring can be mounted with an attachment kit.

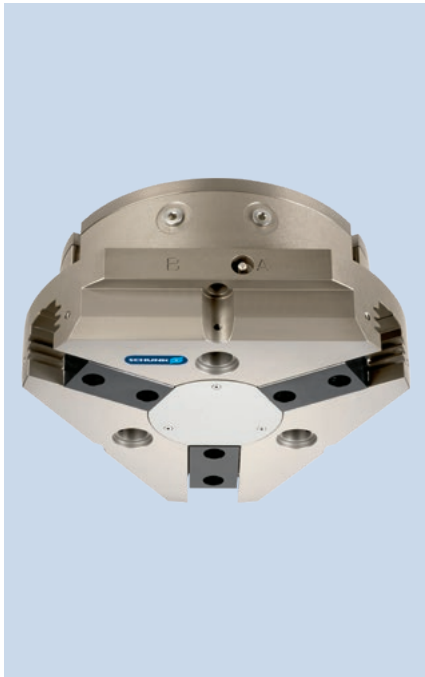
Description	ID	
Attachment kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 160-380	0377727	
Reed Switches		
RMS 80-S-M8	0377721	

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.

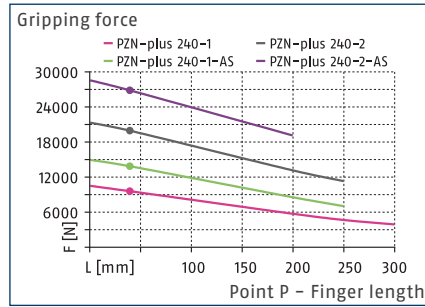


# PZN-plus 240

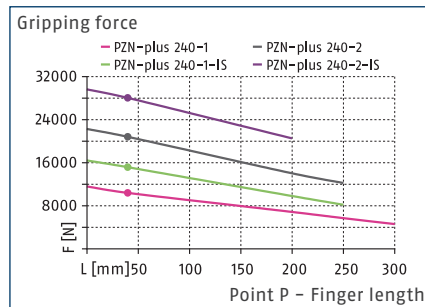
Universal gripper



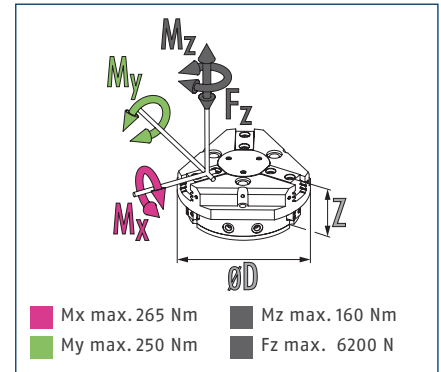
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



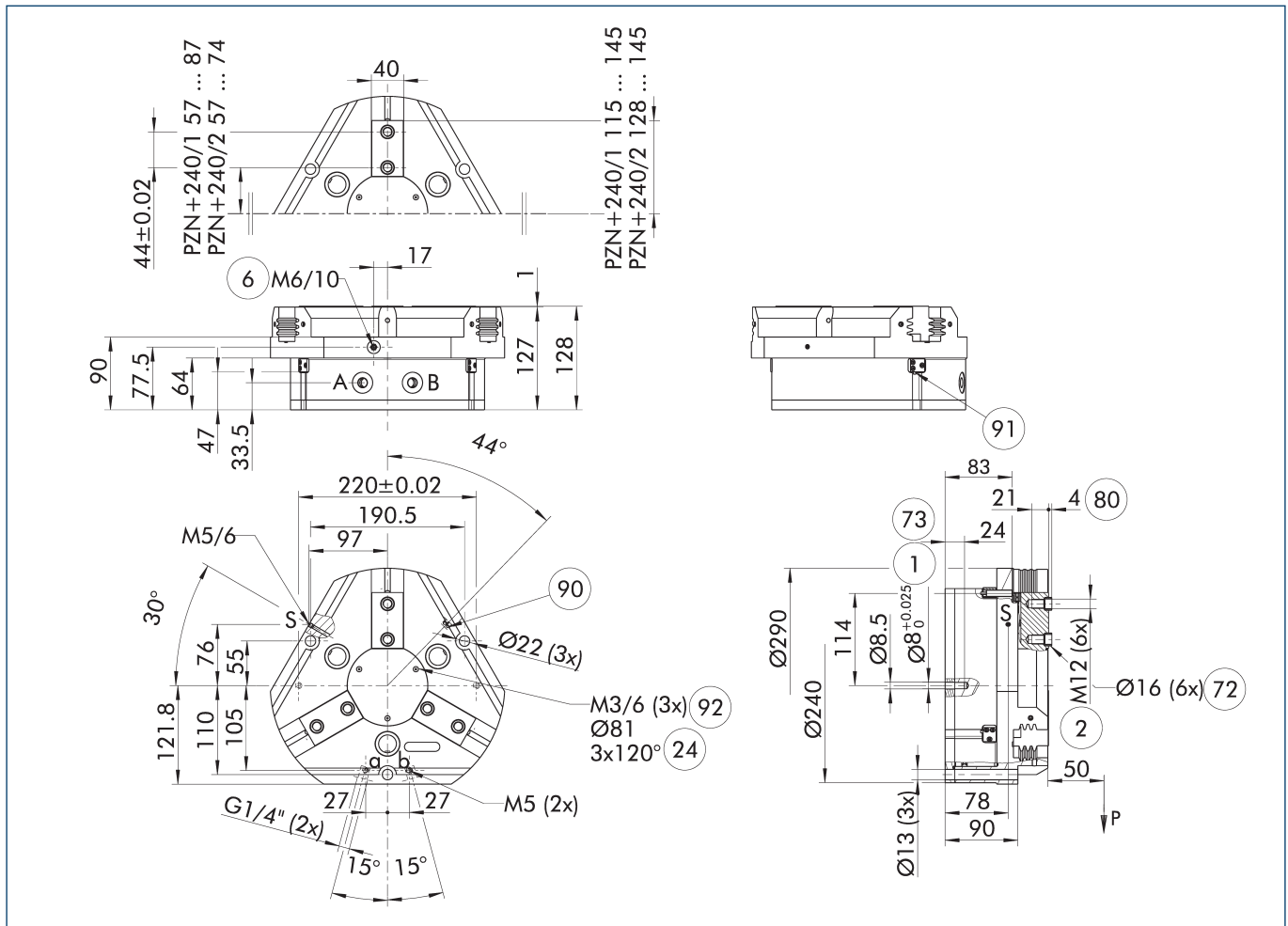
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 240-1	PZN-plus 240-2	PZN-plus 240-1-AS	PZN-plus 240-2-AS	PZN-plus 240-1-IS	PZN-plus 240-2-IS
ID		0303316	0303416	0303516	0303616	0303546	0303646
Stroke per jaw	[mm]	30	17	30	17	30	17
Closing/opening force	[N]	9500/10400	19700/20800	13720/-	26500/-	-/15170	-/28000
Min. spring force	[N]			4220	6800	4770	7200
Weight	[kg]	20	20	24	24	24	24
Recommended workpiece weight	[kg]	50	100.5	50	100.5	50	100.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	1780	1780	3090	3090	3090	3090
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	1.25/1.25	1.25/1.25	1.1/2.1	1.1/2.1	1.7/1.1	1.7/1.1
Closing/opening time with spring	[s]			2.00	2.00	2.00	2.00
Max. permissible finger length	[mm]	300	250	250	200	250	200
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]	0.05	0.05	0.05	0.05	0.05	0.05
Dimensions Ø D x Z	[mm]	290 x 128	290 x 128	290 x 172	290 x 172	290 x 172	290 x 172
<b>Options and their characteristics</b>							
Dustproof version		37303316	37303416	37303516	37303616	37303546	37303646
IP protection class		64	64	64	64	64	64
Weight	[kg]	21.5	21.5	25.5	25.5	25.5	25.5
Corrosion-protected version		38303316	38303416	38303516	38303616	38303546	38303646
High-temperature version		39303316	39303416	39303516	39303616	39303546	39303646
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0303346	0303446	0303496	0303596		

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.

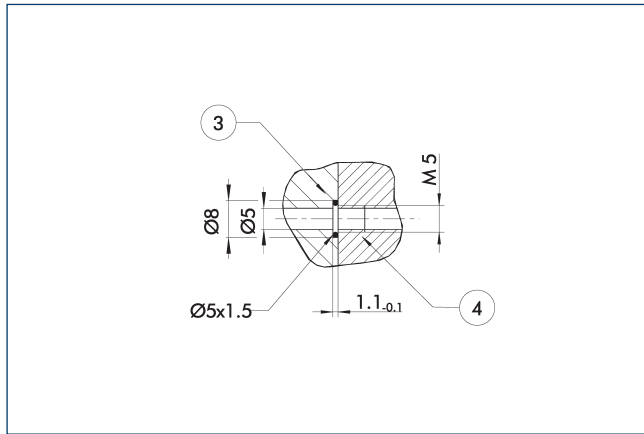
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | 72 Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | 73 Fit for centering pins                                    |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part    |
| 1 Gripper connection                           | 90 Sensor MMS 22..   |
| 2 Finger connection                            | 91 Sensor IN ...   |
| 6 Lubricating nipple connection                | 92 Thread below the cover for fastening external attachments |
| 24 Bolt circle                                 |  |

# PZN-plus 240

Universal gripper

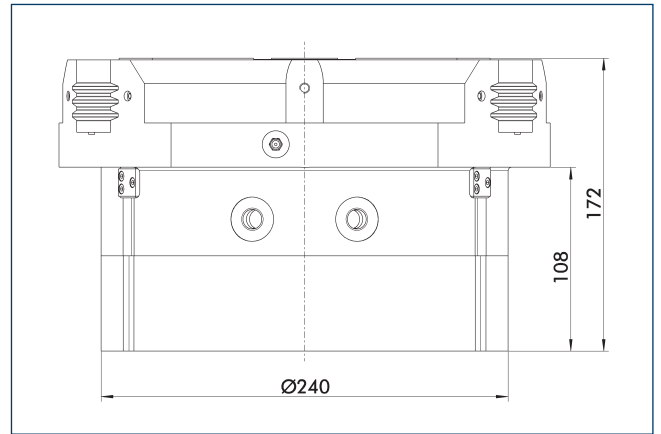
## Hose-free direct connection M5



- ③ Adapter
- ④ Grippers

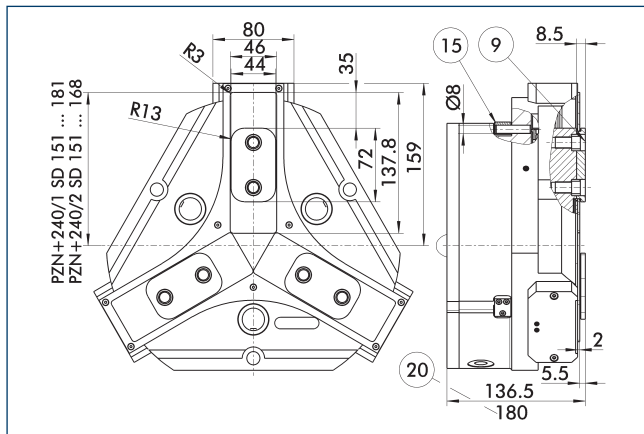
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

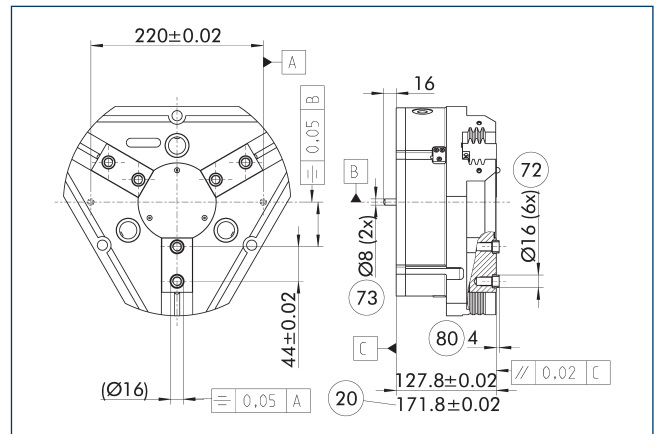
## Dustproof version



- 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.

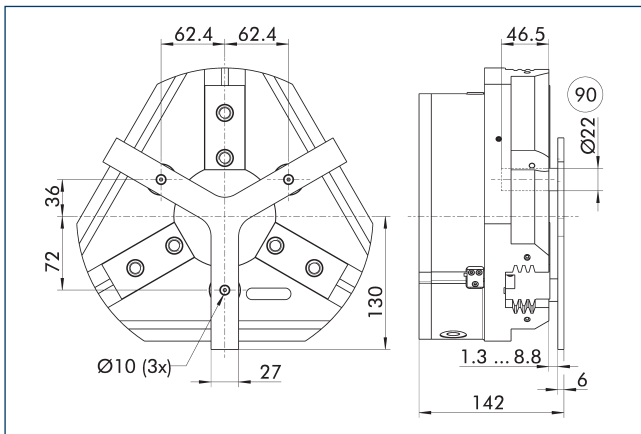
## Precision version



- ⑳ For AS / IS version
- ⑦③ Fit for centering pins
- 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.

## Spring-loaded pressure piece



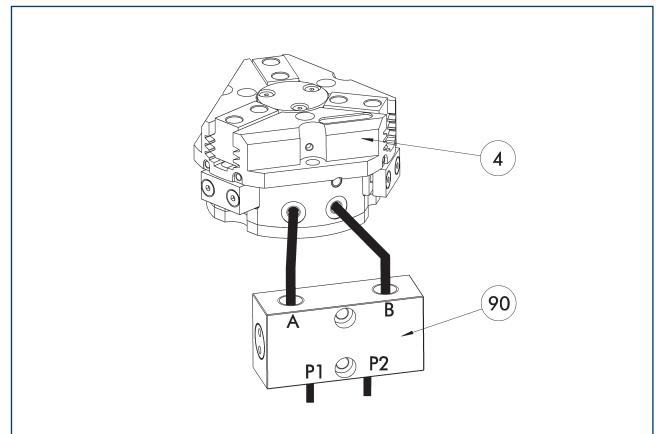
90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 240	0303726	7.5	240

ⓘ The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## 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.

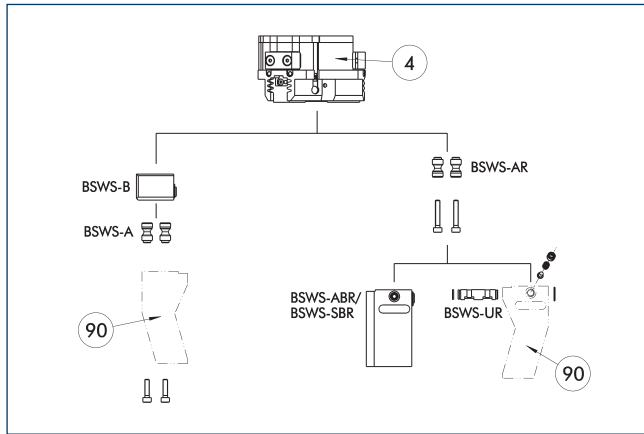
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

ⓘ 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).

# PZN-plus 240

Universal gripper

## 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
Quick-change jaw system base		
BSWS-B 240	0303035	1
Jaw quick-change system adapter pin		
BSWS-A 240	0303034	2

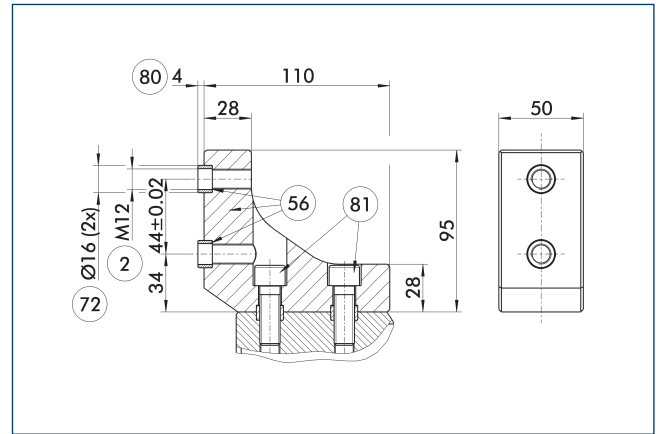
① Only systems that are listed in the table, can be used.

### Fields of application

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



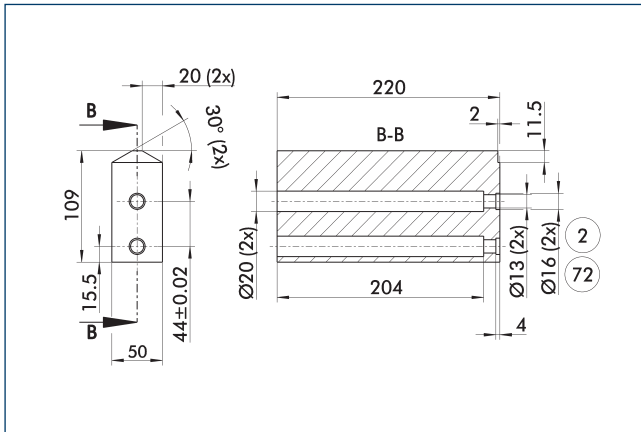
- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

The optional ZBA-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

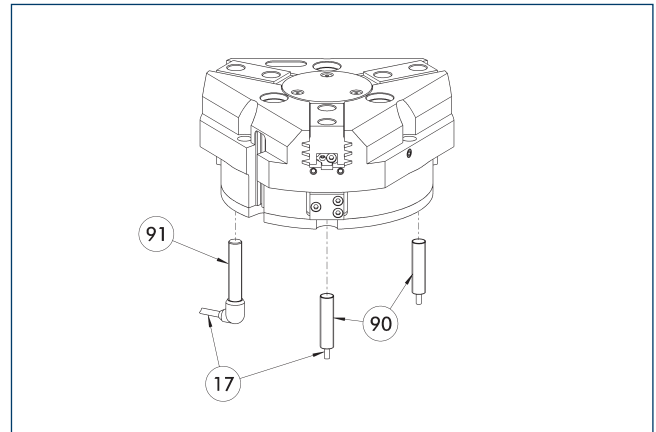


- ② Finger connection      ⑦② Fit for centering sleeves

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

## Inductive proximity switches



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

Directly mounted end position monitoring.

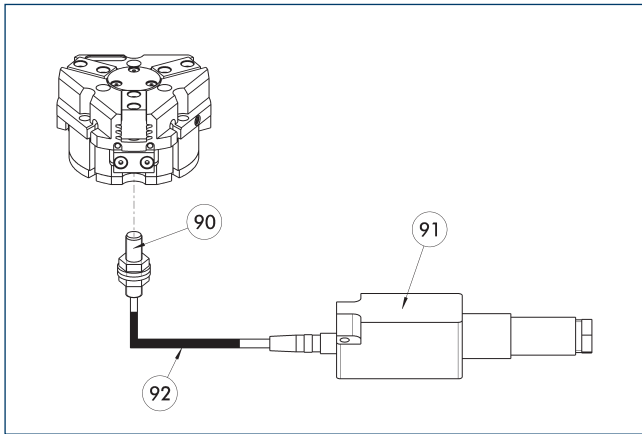
Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 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.

# PZN-plus 240

Universal gripper

## Flexible position sensor



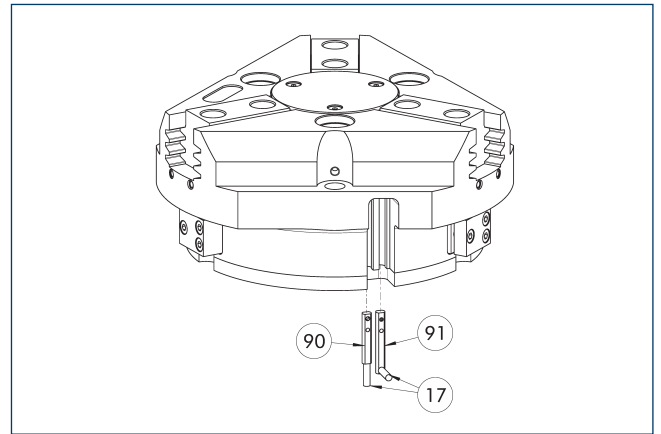
- ⑨⑩ FPS-S sensor
- ⑨① FPS-F5 evaluation electronic
- ⑨② Cable extension

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



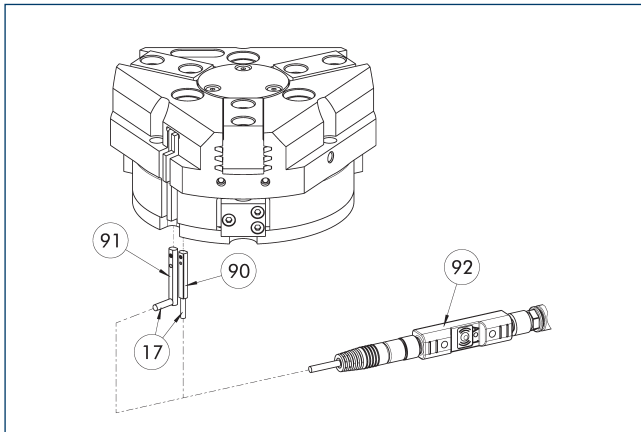
- ①⑦ Cable outlet
- ①⑧ Sensor MMS 22..
- ①⑨ Sensor MMS 22...-SA

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



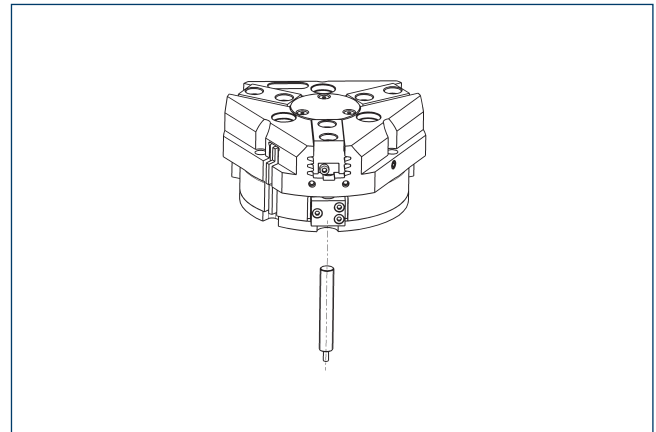
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...
- ①⑪ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

## APS-Z80 analog position sensor



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

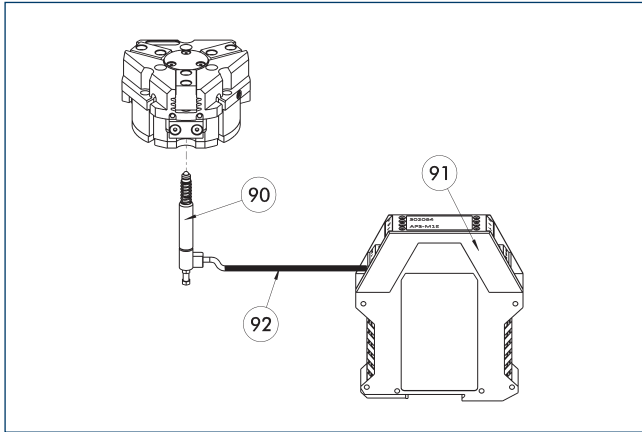
Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 160-1/200-2/240-2	0302113	
AS-APS-Z80-PGZN-plus 240-1	0302116	
<b>Analog position sensor</b>		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

- 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.

# PZN-plus 240

Universal gripper

## APS-M1 analog position sensor



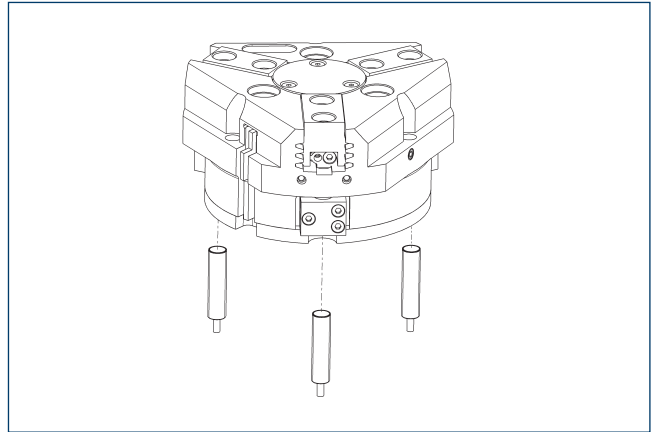
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

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.

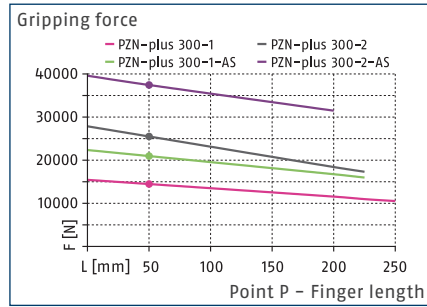


# PZN-plus 300

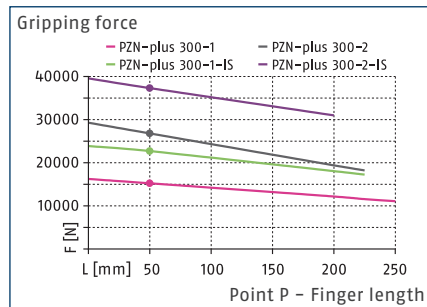
Universal gripper



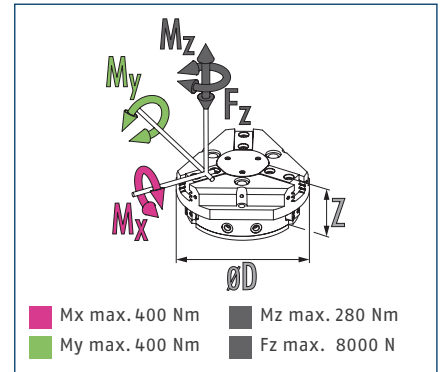
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



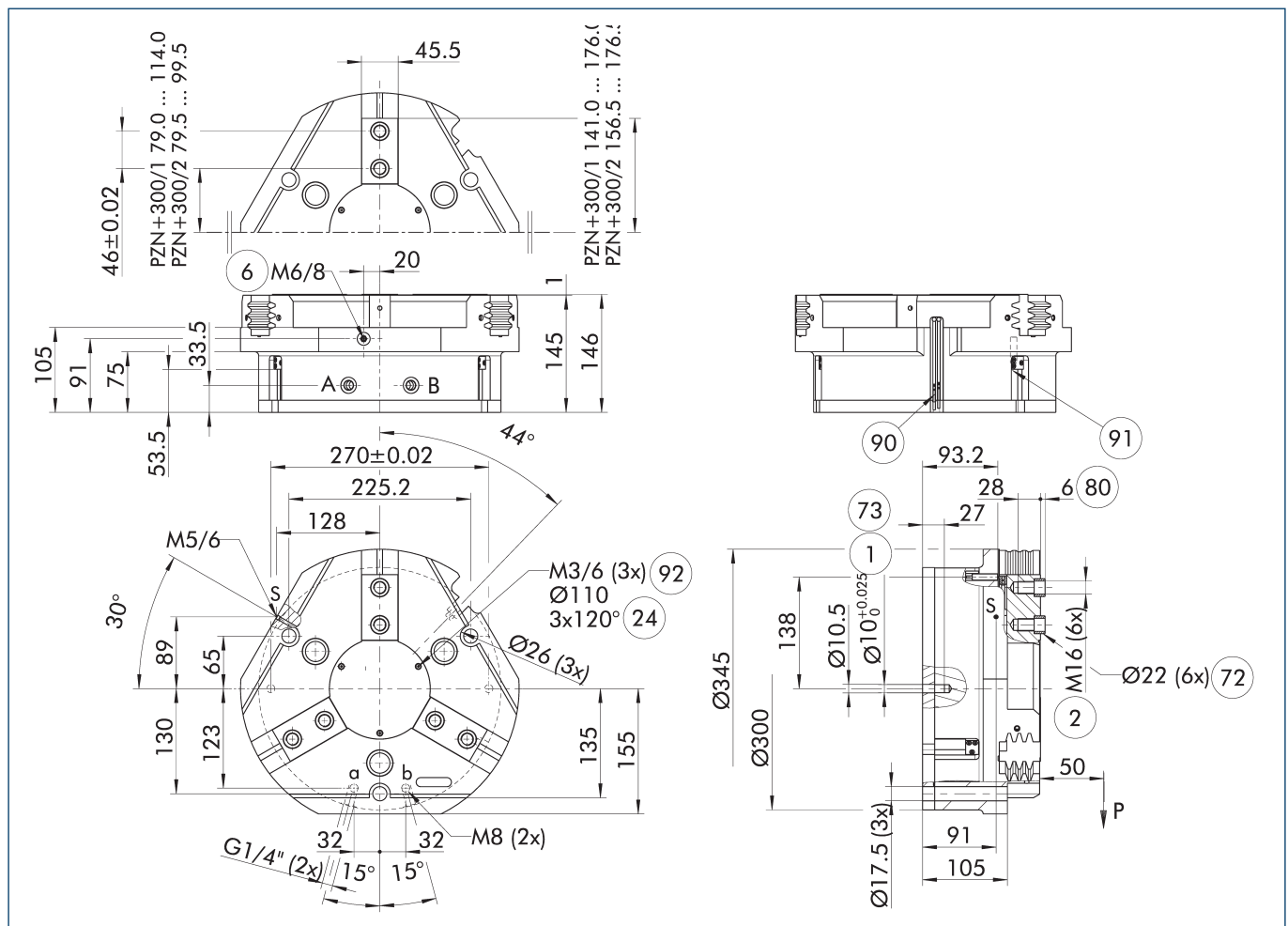
① The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		PZN-plus 300-1	PZN-plus 300-2	PZN-plus 300-1-AS	PZN-plus 300-2-AS	PZN-plus 300-1-IS	PZN-plus 300-2-IS
ID		0303317	0303417	0303517	0303617	0303547	0303647
Stroke per jaw	[mm]	35	20	35	20	35	20
Closing/opening force	[N]	14500/15200	25500/26800	21000/-	35500/-	-/22700	-/37300
Min. spring force	[N]			6500	10000	7500	10500
Weight	[kg]	33	33	43.5	43.5	43.5	43.5
Recommended workpiece weight	[kg]	72.5	127.5	72.5	127.5	72.5	127.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	2850	2850	5050	5050	5050	5050
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	1.3/1.3	1.3/1.3	1.2/2.5	1.2/2.5	2/1.2	2/1.2
Closing/opening time with spring	[s]			2.50	2.50	2.00	2.00
Max. permissible finger length	[mm]	250	225	225	200	225	200
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 Ø D x Z	[mm]	345 x 146	345 x 146	345 x 196	345 x 196	345 x 196	345 x 196
<b>Options and their characteristics</b>							
Dustproof version		37303317	37303417	37303517	37303617	37303547	37303647
IP protection class		64	64	64	64	64	64
Weight	[kg]	35.5	35.5	46	46	46	46
Corrosion-protected version		38303317	38303417	38303517	38303617	38303547	38303647
High-temperature version		39303317	39303417	39303517	39303617	39303547	39303647
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0303347	0303447	0303497	0303597		

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.

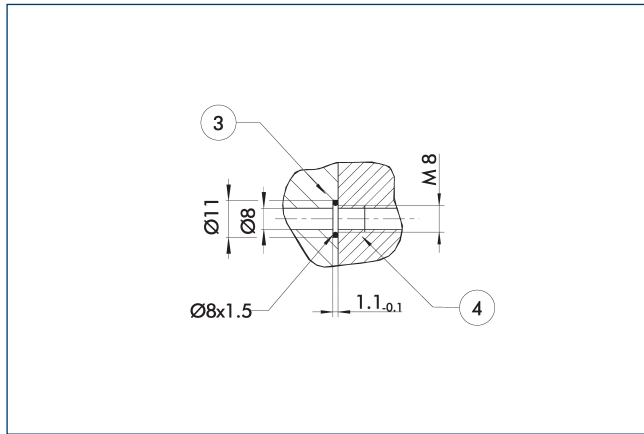
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Sensor MMS 22..   |
| ② Finger connection                            | ⑨② Sensor IN ...   |
| ⑥ Lubricating nipple connection                | ⑨③ Thread below the cover for fastening external attachments |
| ②④ Bolt circle                                 |  |

# PZN-plus 300

Universal gripper

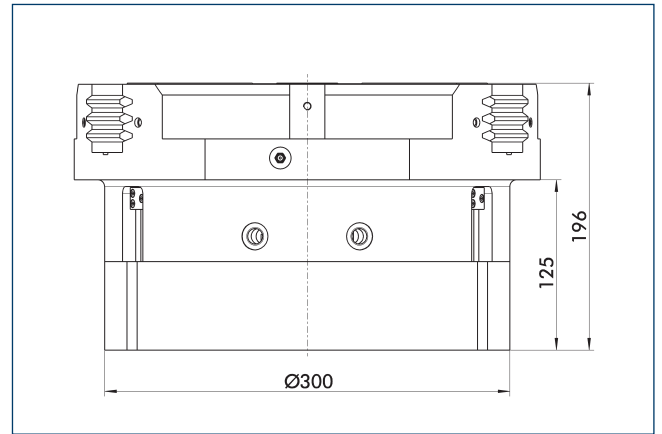
## Hose-free direct connection M8



- ③ Adapter
- ④ Grippers

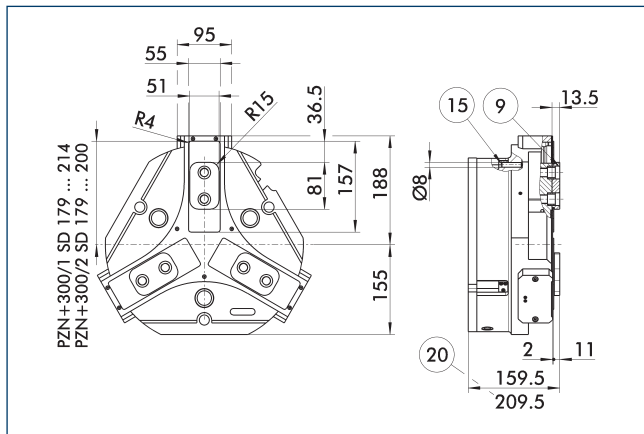
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

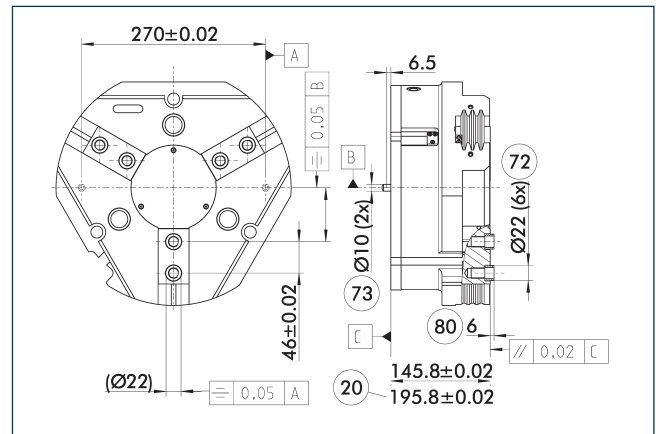
## Dustproof version



- 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

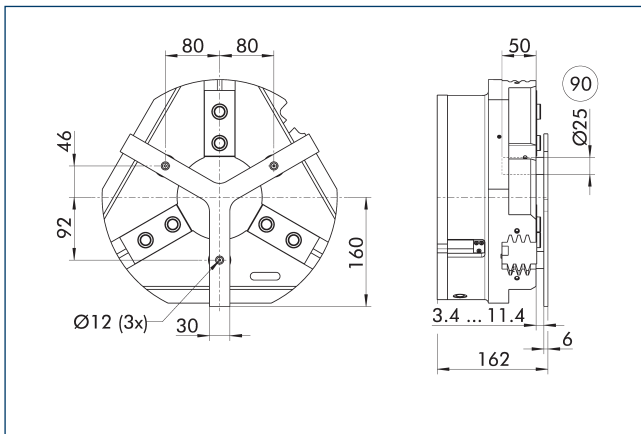


- ⑳ For AS / IS version
- ⑦③ Fit for centering pins
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.



## Spring-loaded pressure piece



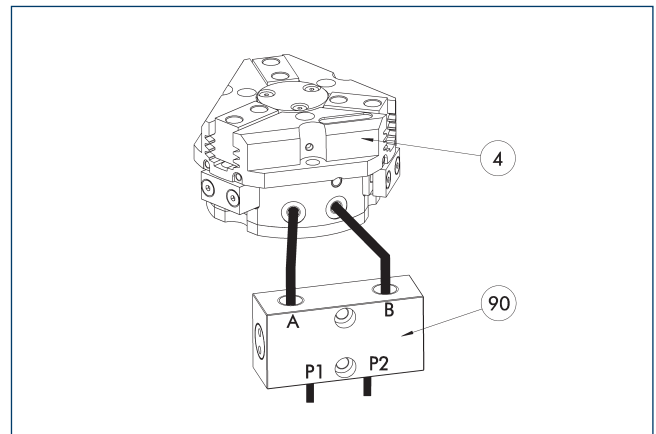
90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 300	0303727	8	300

ⓘ The pressure piece cannot be combined with the dustproof option. Please contact us if you require a customized pressure piece.

## 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.

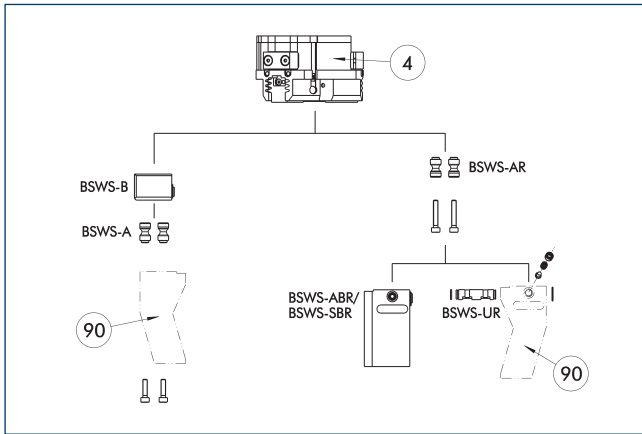
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 07-E	0300121	8
SDV-P 10-E	0300109	10

ⓘ 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).

# PZN-plus 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

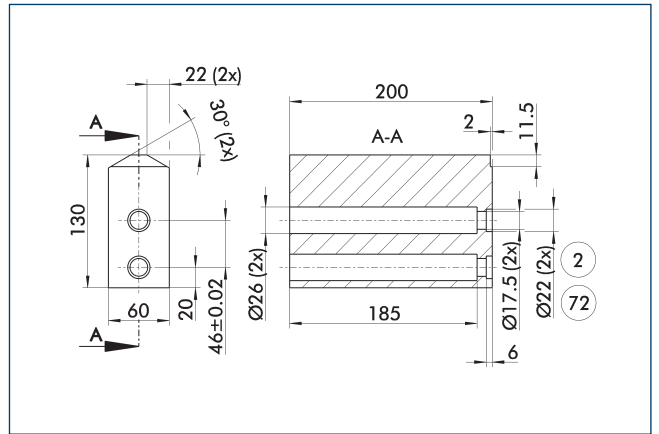
① Only systems that are listed in the table, can be used.

## Fields of application

Series	Size	Variant	Suitability
PZN-plus	300	-1 (6 bar)	■■■■
PZN-plus	300	-1-AS / -1-IS (6 bar)	■■□□
PZN-plus	300	-2 (6 bar)	■■□□
PZN-plus	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



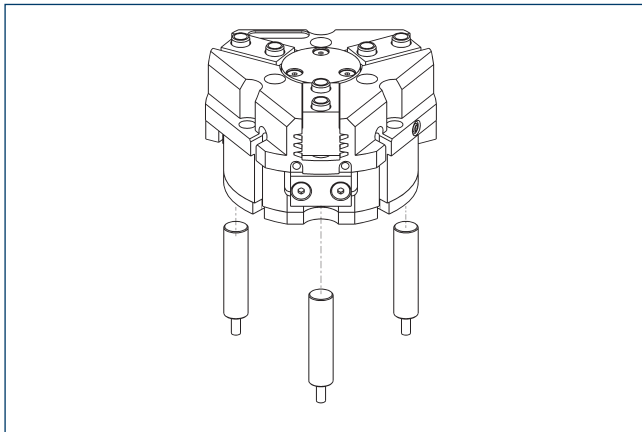
② Finger connection

⑦ 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

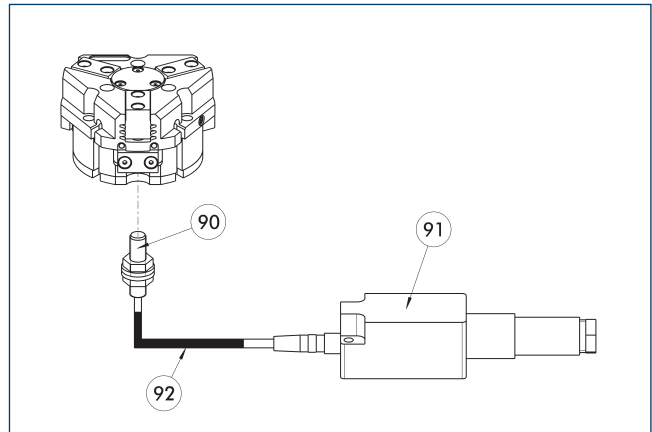


Directly mounted end position monitoring.

Description	ID	Often combined
<b>Inductive proximity switches</b>		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
<b>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



- ⑨ FPS-S sensor  
 ⑨ Cable extension  
 ⑨ FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

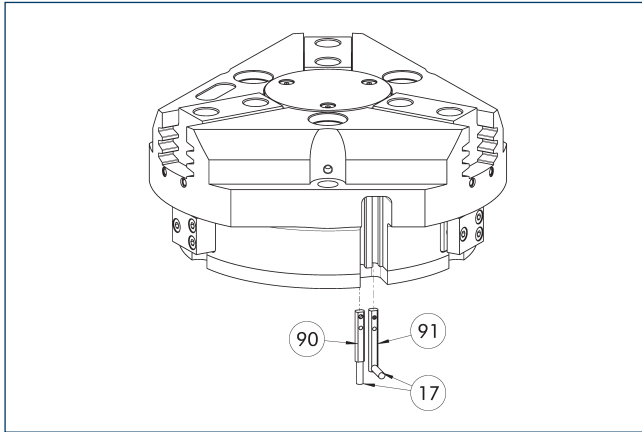
Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 300-2	0301642	
<b>Sensor</b>		
FPS-S M8	0301704	
<b>Evaluation electronics</b>		
FPS-F5	0301805	
<b>Cable extension</b>		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	

- 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.”

# PZN-plus 300

Universal gripper

## Electronic magnetic switch MMS



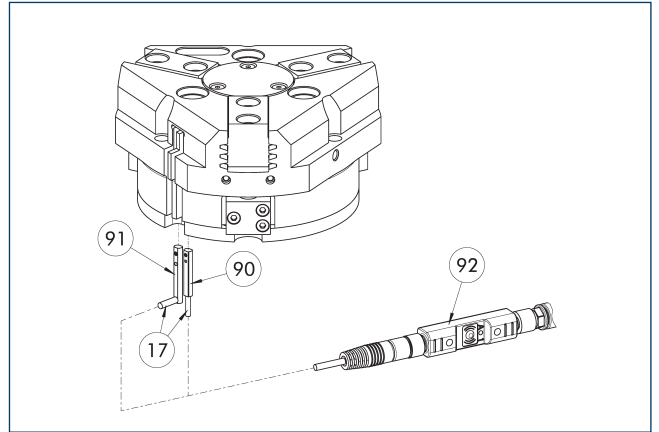
- ① Cable outlet
- ② Sensor MMS 22...-SA
- ③ Sensor MMS 22..

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	

- 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.

## Programmable magnetic switch MMS 22-PI1



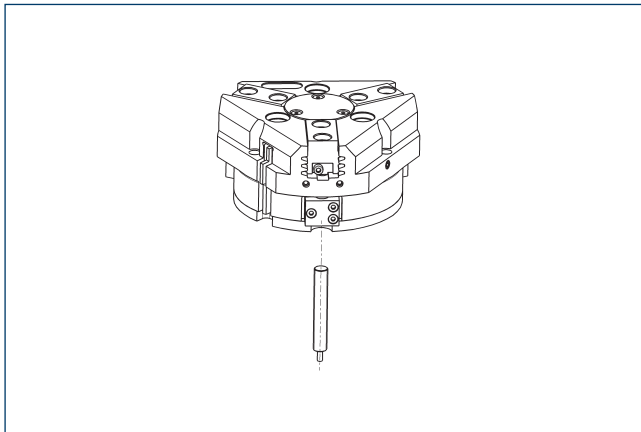
- ① Cable outlet
- ② Sensor MMS 22 ..-PI1...-SA
- ③ Sensor MMS 22 PI1-...
- ④ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ④ Two sensors (closer/S) are required for each unit and extension cables are available as an option.

## APS-Z80 analog position sensor

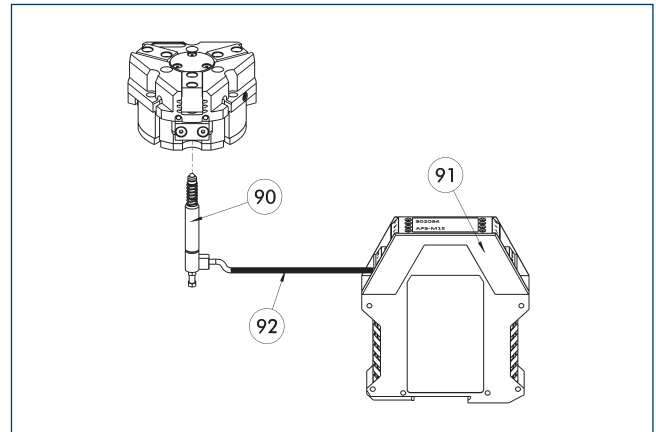


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 300-1	0302117	
AS-APS-Z80-PGZN-plus 300-2	0302118	
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

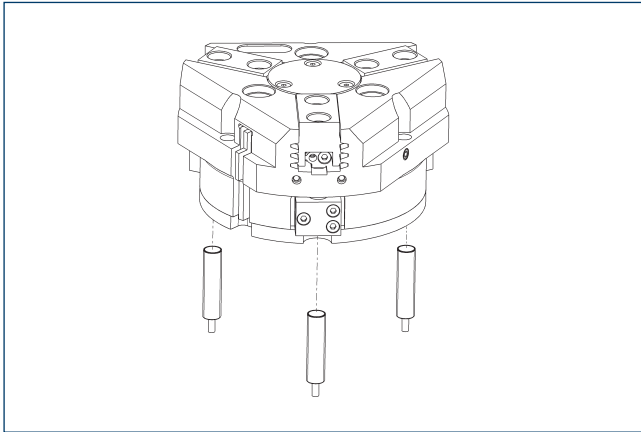
Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 300-1	0302088	
AS-APS-M1-PGZN-plus 300-2	0302089	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

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.

# PZN-plus 300

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.

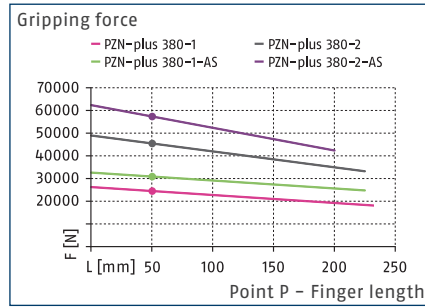


# PZN-plus 380

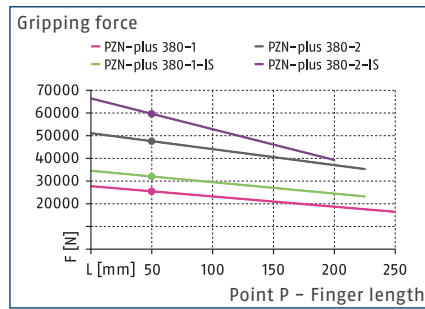
Universal gripper



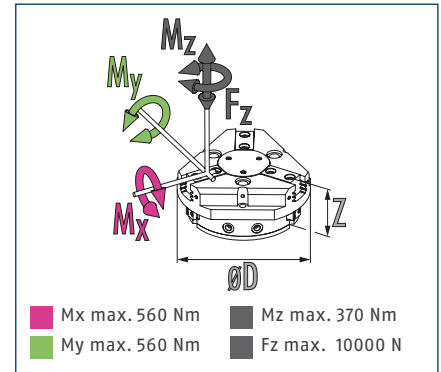
## Gripping force O.D. gripping



## 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.

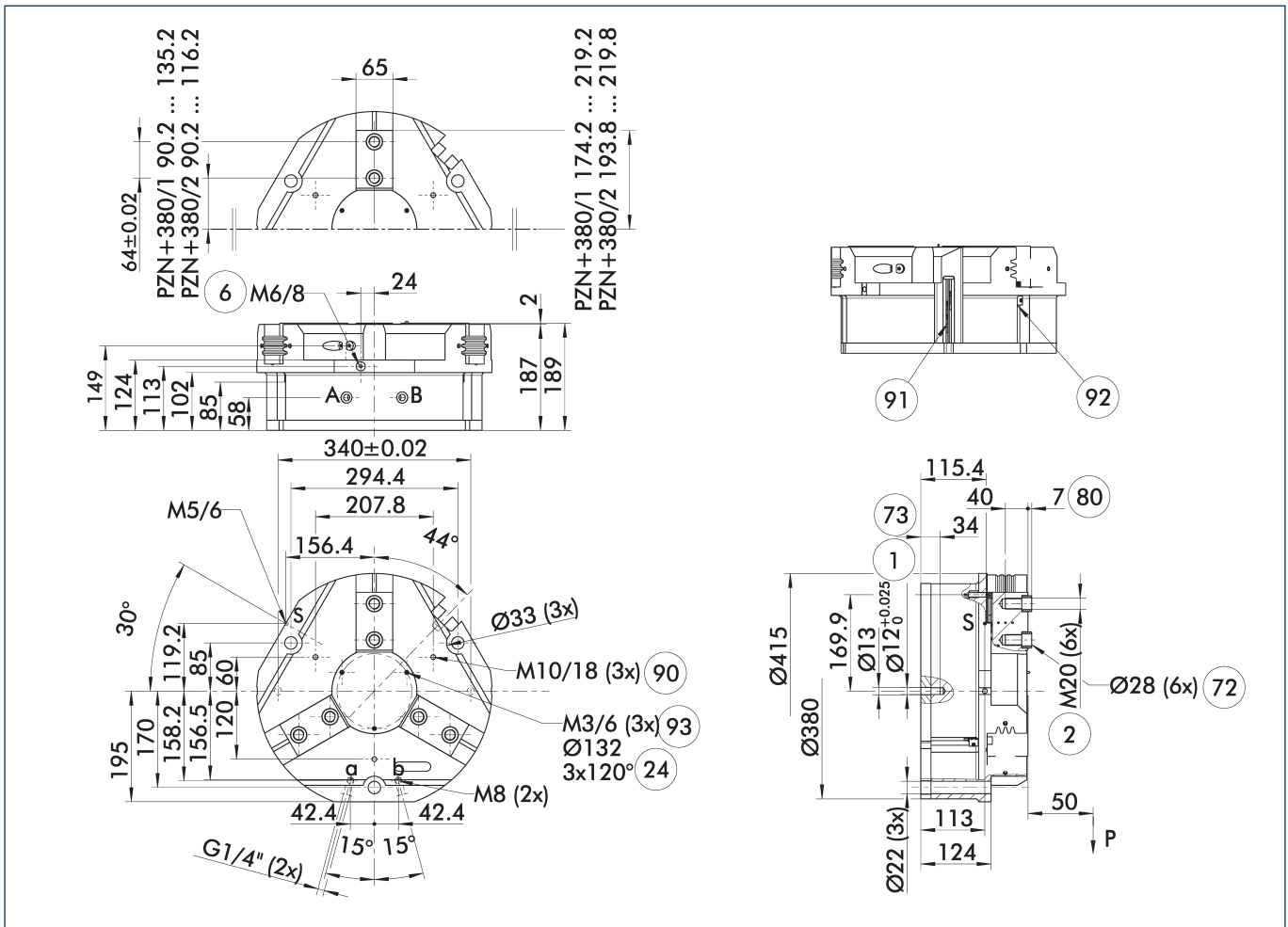
## Technical data

Description		PZN-plus 380-1	PZN-plus 380-2	PZN-plus 380-1-AS	PZN-plus 380-2-AS	PZN-plus 380-1-IS	PZN-plus 380-2-IS
ID		0303318	0303418	0303518	0303618	0303548	0303648
Stroke per jaw	[mm]	45	26	45	26	45	26
Closing/opening force	[N]	24400/25500	45400/47500	30800/-	57300/-	-/32000	-/59500
Min. spring force	[N]			6400	11900	6500	12000
Weight	[kg]	64	66	75	77	75	77
Recommended workpiece weight	[kg]	122	227	122	227	122	227
Fluid consumption double stroke	[cm <sup>3</sup> ]	7200	7200	9300	9300	11500	11500
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	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]	2.2/2.2	2.2/2.2	1.9/3	1.9/3	4.6/1.9	4.6/1.9
Closing/opening time with spring	[s]			2.60	2.60	2.20	2.20
Max. permissible finger length	[mm]	250	225	225	200	225	200
Max. permissible mass per finger	[kg]	13.5	13.5	13.5	13.5	13.5	13.5
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 Ø D x Z	[mm]	415 x 189	415 x 189	415 x 251	415 x 251	415 x 251	415 x 251
<b>Options and their characteristics</b>							
Dustproof version		37303318	37303418	37303518	37303618	37303548	37303648
IP protection class		64	64	64	64	64	64
Weight	[kg]	67	69	78	80	78	80
Corrosion-protected version		38303318	38303418	38303518	38303618	38303548	38303648
High-temperature version		39303318	39303418	39303518	39303618	39303548	39303648
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Precision version		0303348	0303437	0303498	0303598		

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.

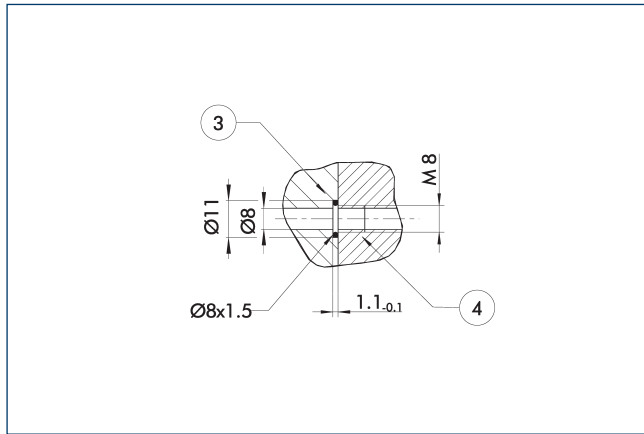
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |  |
|--|--|
| A, a Main / direct connection, gripper opening | 72 Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | 73 Fit for centering pins                                    |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part    |
| 1 Gripper connection                           | 90 Transport thread  |
| 2 Finger connection                            | 91 Sensor MMS 22..   |
| 6 Lubricating nipple connection                | 92 Sensor IN ...   |
| 24 Bolt circle                                 | 93 Thread below the cover for fastening external attachments |

# PZN-plus 380

Universal gripper

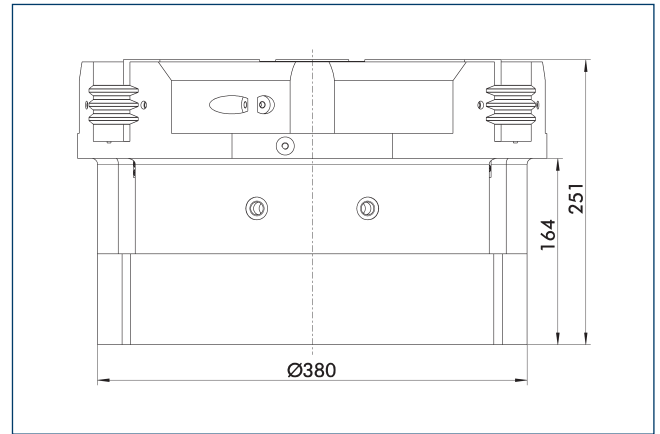
## Hose-free direct connection M8



- ③ Adapter
- ④ Grippers

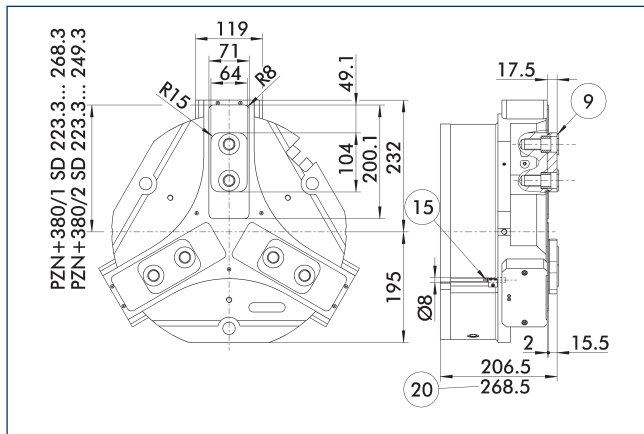
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

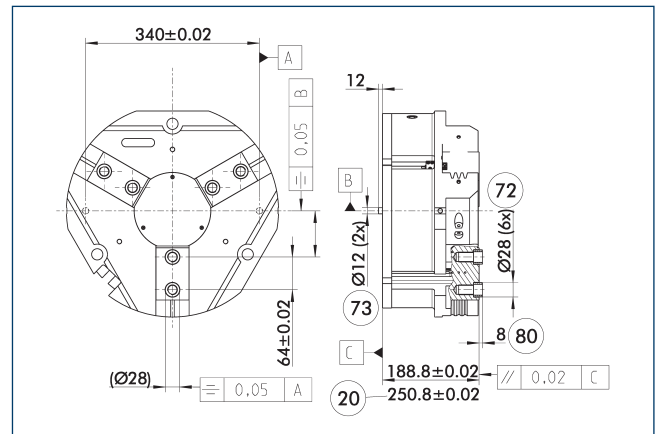
## Dustproof version



- 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.

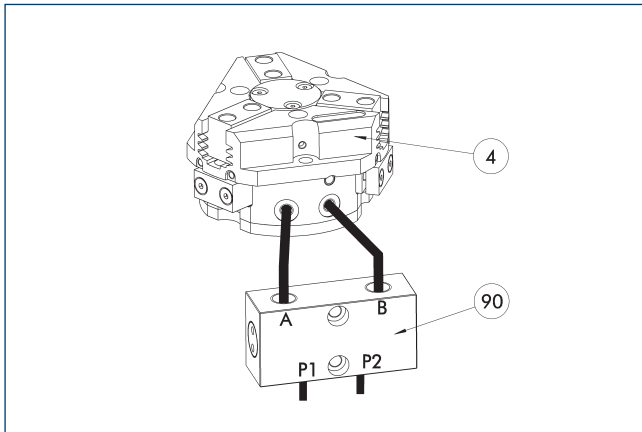
## Precision version



- ⑳ For AS / IS version
- ⑦③ Fit for centering pins
- 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

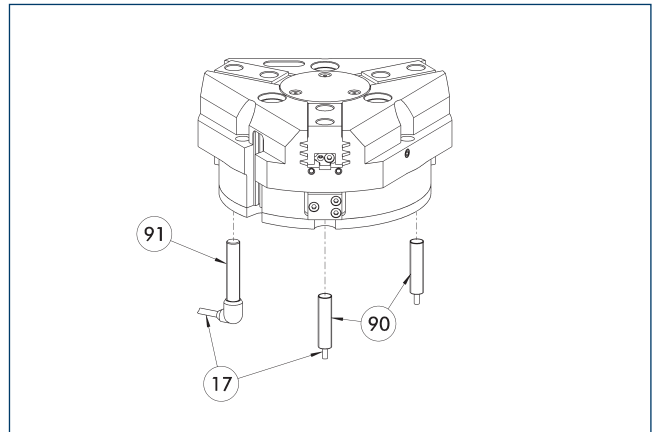
⑨⑩ SDV-P pressure maintenance valve

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



①⑦ Cable outlet

⑨⑩ Sensor IN ...

⑨① Sensor IN...-SA

Directly mounted end position monitoring.

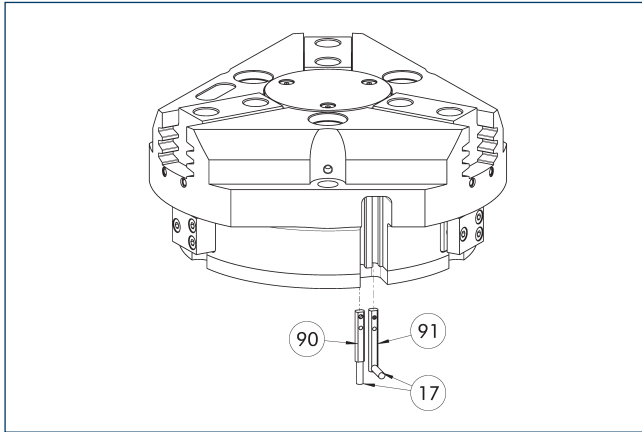
Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA 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.

# PZN-plus 380

Universal gripper

## Electronic magnetic switch MMS



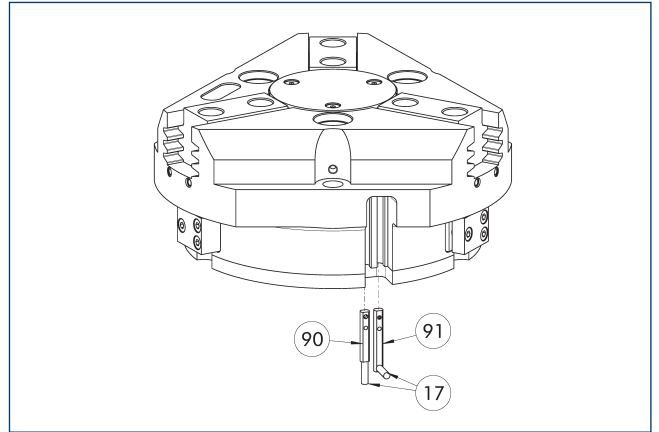
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...
- ①⑩ Sensor MMS 22..

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>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



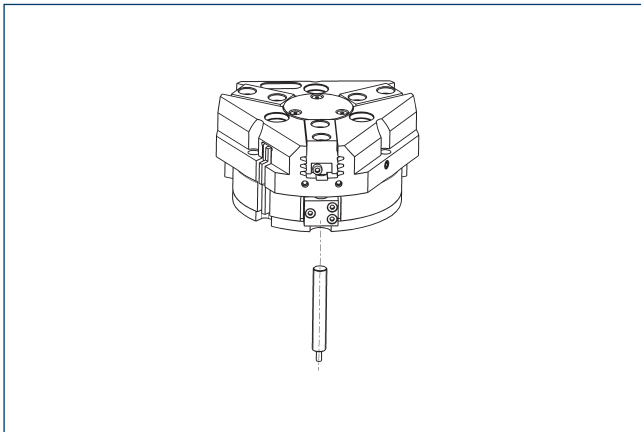
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1...-SA
- ①⑩ Sensor MMS 22 PI1...

Position monitoring with 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-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

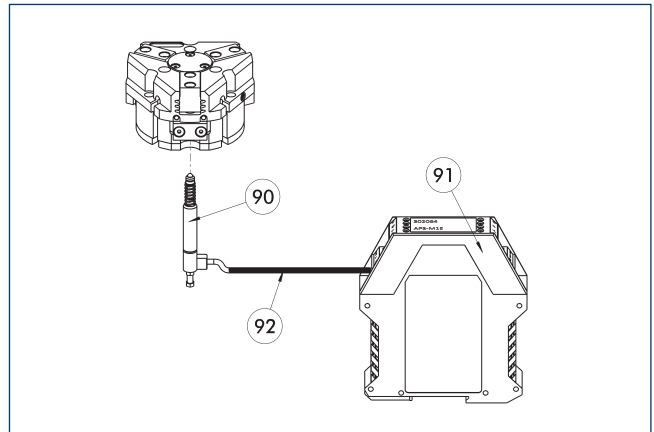


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 380-1	0302101	
AS-APS-Z80-PGZN-plus 380-2	0302119	
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

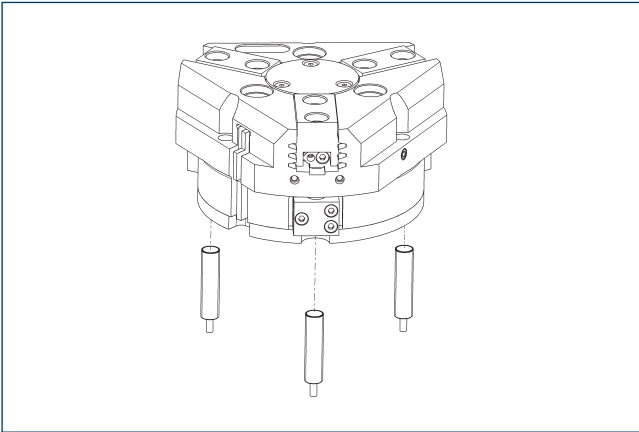
Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 200-1/380-2	0302085	
AS-APS-M1-PGZN-plus 380-1	0302090	
Analog position sensor		
APS-M1S	0302062	
Connection cables		
APS-K0200	0302066	
APS-K0700	0302068	
Evaluation electronics		
APS-M1E	0302064	

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.

# PZN-plus 380

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.





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schunk.com

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Superior Clamping and Gripping



## Product Information

Universal gripper JGZ

## Loadable. Reliable. Compact.

### Universal gripper JGZ

Universal 3-finger centric gripper of the compact class with T-slot guidance and best cost-performance ratio

#### Field of application

Optimum standard solution for many fields of application. Universal application in clean and slightly dirty surroundings in machine building and plant building industry, assembly and handling as well as automotive industry.

#### Advantages – Your benefits

**A firm focus on the essentials** for maximum profitability

**Sturdy T-slot guidance** for the precise handling of different workpieces

**Compact dimensions and low weight** for minimal interfering contours in handling

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

**Wedge-hook design** for high power transmission and synchronized gripping

**Comprehensive sensor accessories** for monitoring and control of the stroke position

**Fastening at one gripper side in two 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



Sizes  
Quantity: 7

m

Weight  
0.12 .. 8 kg



Gripping force  
255 .. 7990 N



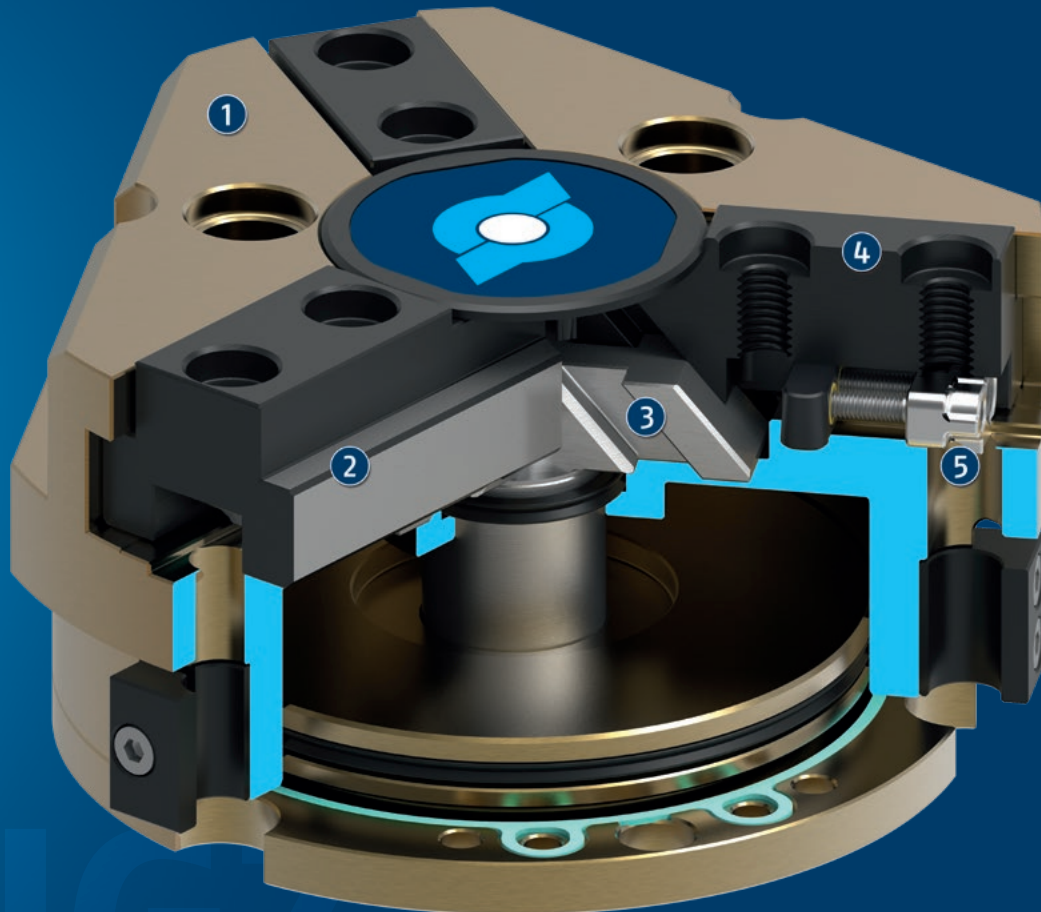
Stroke per jaw  
2.5 .. 16 mm



Workpiece weight  
1.25 .. 30 kg

## Functional description

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



- ① **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ② **T-slot guidance**  
loadable, robust base jaw guidance for extremely long gripper fingers
- ③ **Wedge-hook design**  
for high force transmission and centric gripping
- ④ **Base Jaw**  
for the connection of workpiece-specific gripper fingers
- ⑤ **Sensor system**  
Proximity switch can be assembled without mounting kit

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Base jaw material:** Steel

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

**Warranty:** 24 months

**Scope of delivery:** 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.

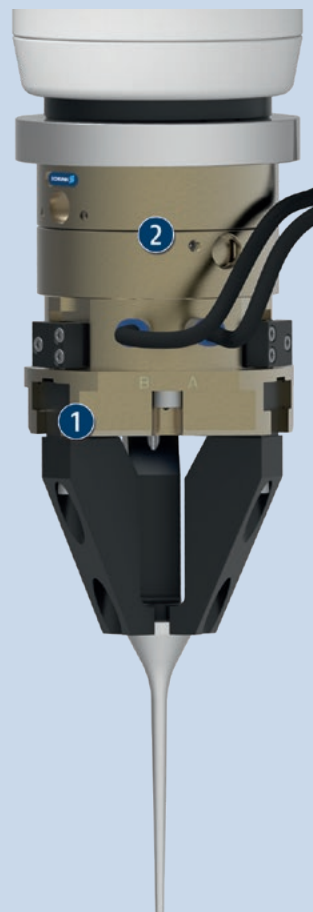
**Workpiece weight:** is calculated for force-fit gripping with a coefficient of static friction of 0.1 and a safety factor of 2 against workpiece slippage at acceleration due to gravity g. For form-fit or capture gripping, there are significantly higher permissible workpiece weights.

**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

Tactile assembly of insertion aids in cylinder heads

- 1 3-finger centric gripper JGZ with workpiece-specific gripper fingers
- 2 Compensation unit AGE-F

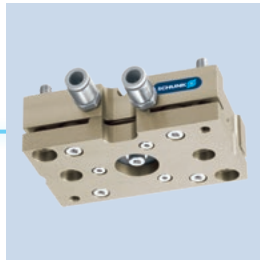


## SCHUNK offers more ...

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



Compensation unit



Tolerance compensation unit



Pressure maintenance valve



Universal intermediate jaw



Flexible position sensor



Analog position sensor



Finger blank



Jaw quick-change system



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.

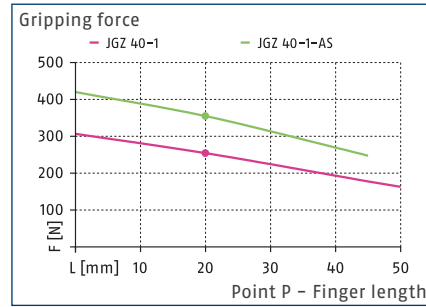
The JGZ series is especially suitable for economic handling solutions and distinguishes by its high cost-benefit ratio.

# JGZ 40

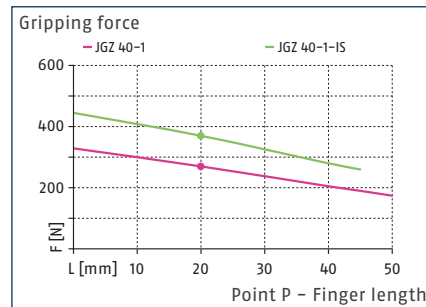
Universal gripper



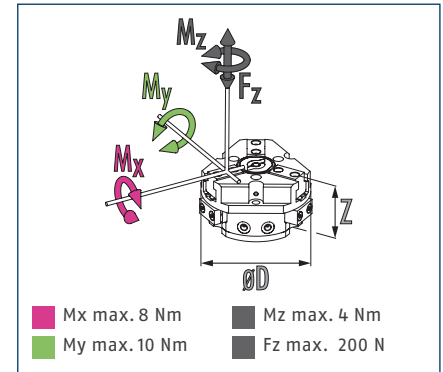
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



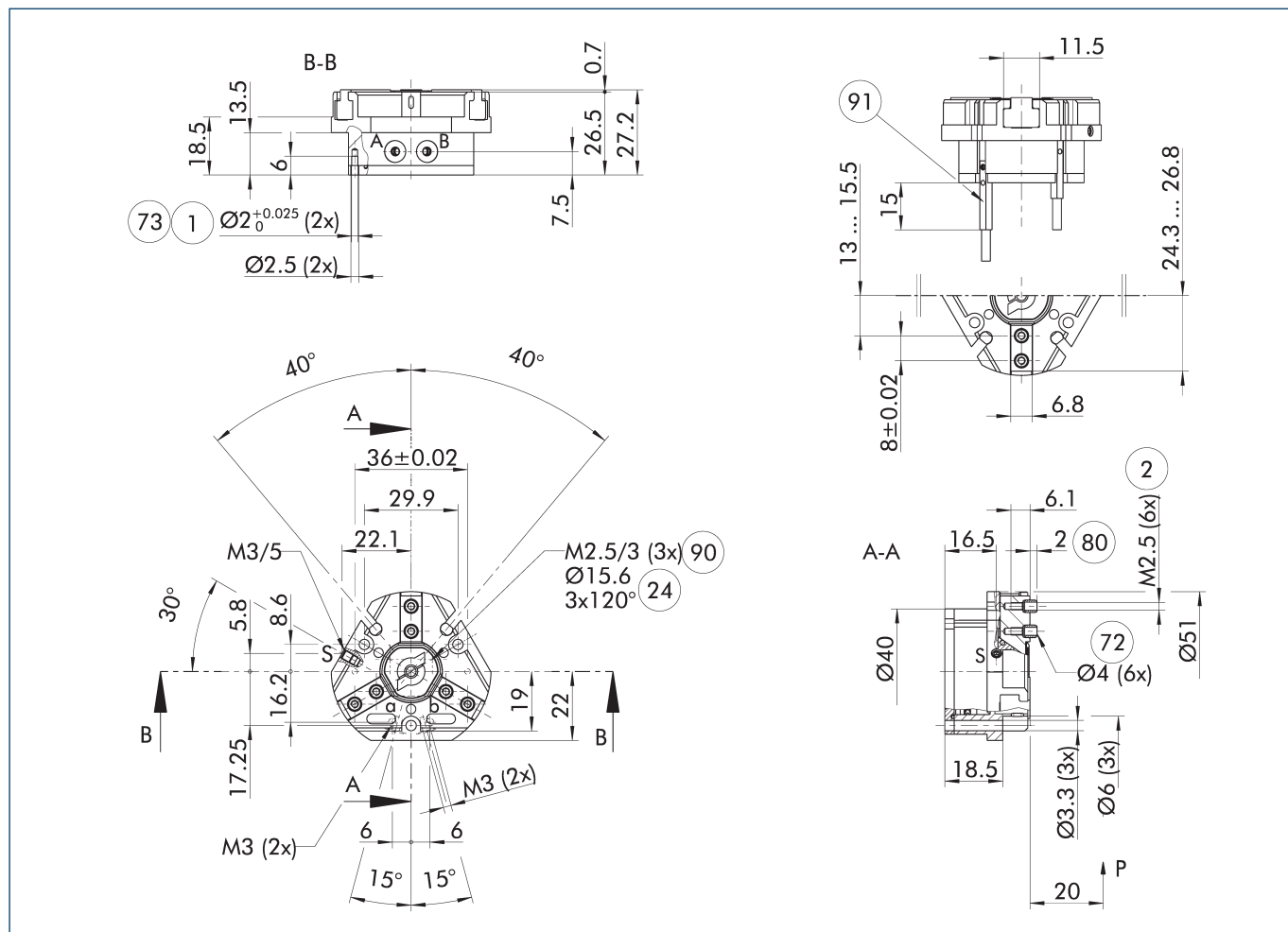
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		JGZ 40	JGZ 40-AS	JGZ 40-IS
ID		0308900	0308901	0308902
Stroke per jaw	[mm]	2.5	2.5	2.5
Closing/opening force	[N]	255/270	355/-	-/370
Min. spring force	[N]		100	100
Weight	[kg]	0.12	0.15	0.15
Recommended workpiece weight	[kg]	1.25	1.25	1.25
Fluid consumption double stroke	[cm <sup>3</sup> ]	5	9	9
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.02/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.05	0.05
Max. permissible finger length	[mm]	50	45	45
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 Ø D x Z	[mm]	51 x 27.2	51 x 35.2	51 x 35.2

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

②④ Bolt circle

⑦② Fit for centering sleeves

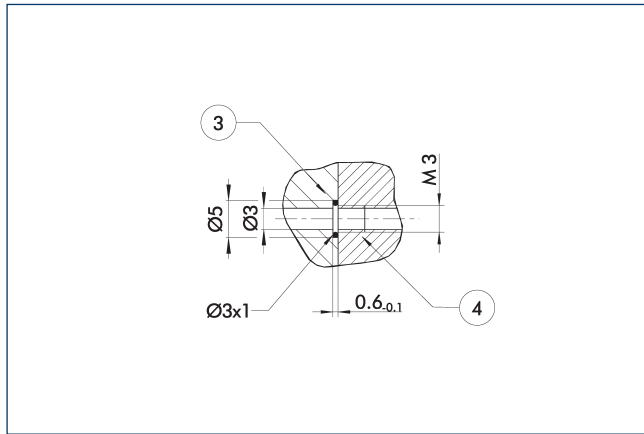
⑦③ Fit for centering pins

⑧① Depth of the centering sleeve hole in the counter part

⑨① Thread below the cover for fastening external attachments

⑨① Sensor MMS 22..

### Hose-free direct connection M3

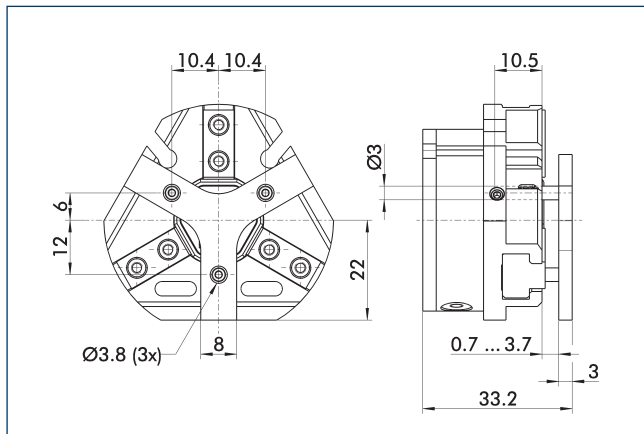


③ Adapter

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.

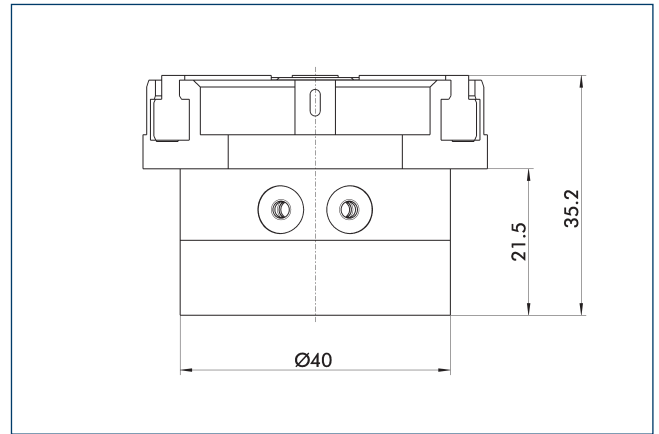
### Spring-loaded pressure piece



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

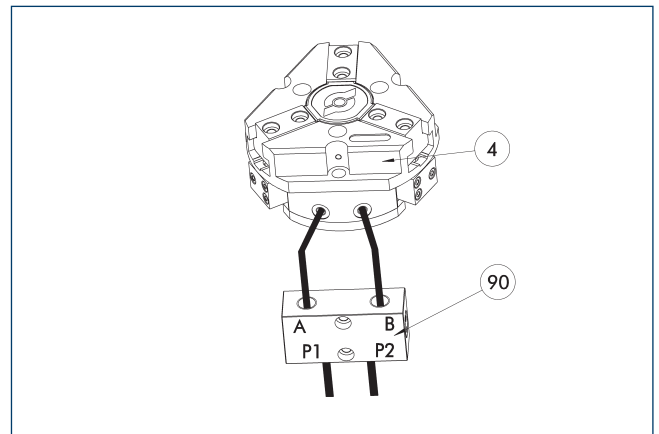
Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus 40	0303718	2.5	5

### 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.

### SDV-P pressure maintenance valve



④ Grippers

⑨⑩ SDV-P pressure maintenance valve

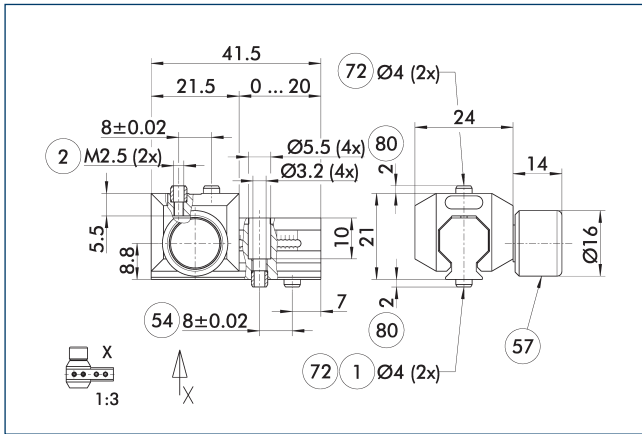
The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

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).



UZB 40 universal intermediate jaw

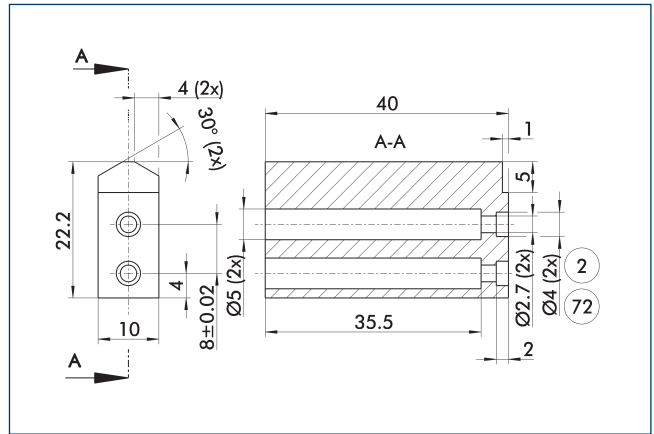


- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

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	

Finger blanks ABR- / SBR-PGZN-plus 40

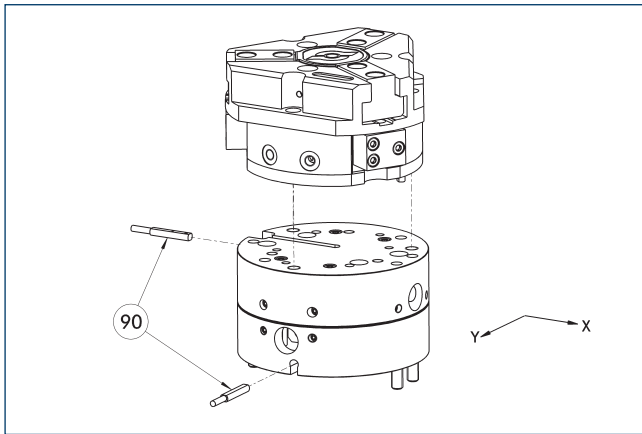


- ② Finger connection
- ⑦2 Fit for centering sleeves

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	1
SBR-PGZN-plus 40	0300018	Steel	1

Compensation unit AGE-F

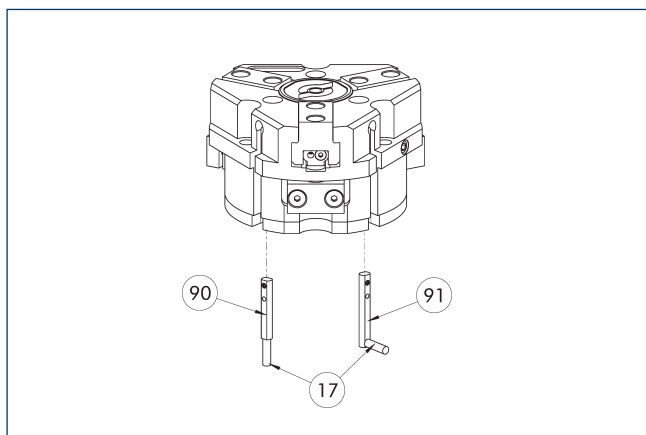


- ⑨0 Monitoring

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

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
Compensation unit				
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	●

### Electronic magnetic switch MMS



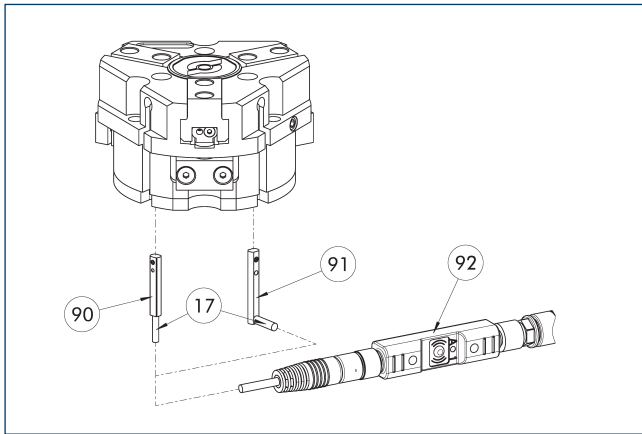
- ①7 Cable outlet
- ①91 Sensor MMS 22...-SA
- ①90 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<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**



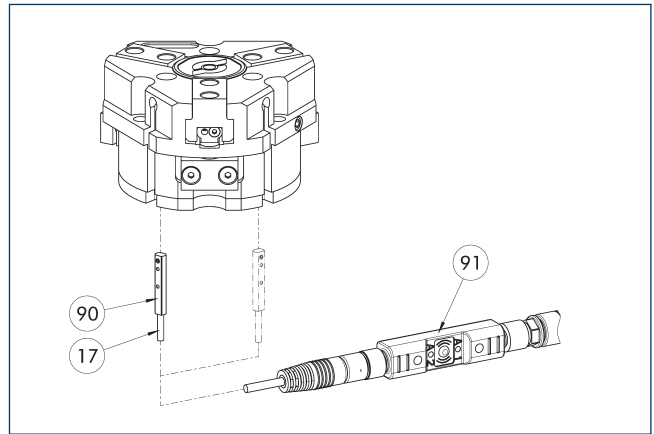
- ①7 Cable outlet
- ①9 Sensor MMS 22 ..-PI1-...-SA
- ①0 Sensor MMS 22 PI1-...
- ①2 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



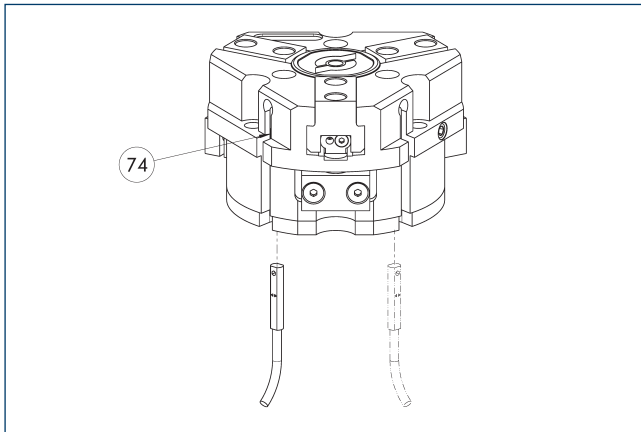
- ①7 Cable outlet
- ①9 Connector teaching tool ST
- ①0 MMS 22...-PI2-... sensor

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

### MMS-P programmable magnetic switch



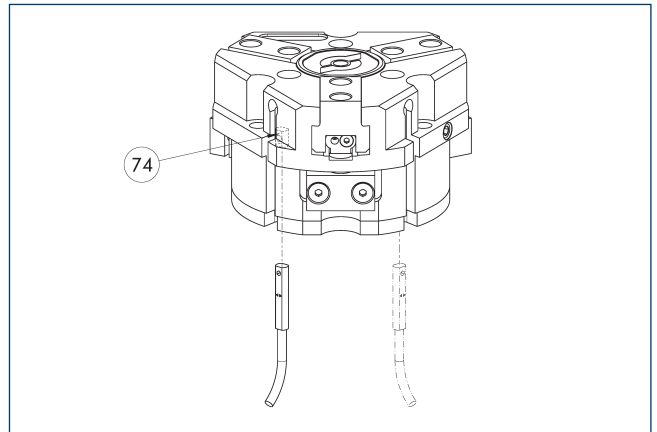
74 Limit stop for sensor

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.

### 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.

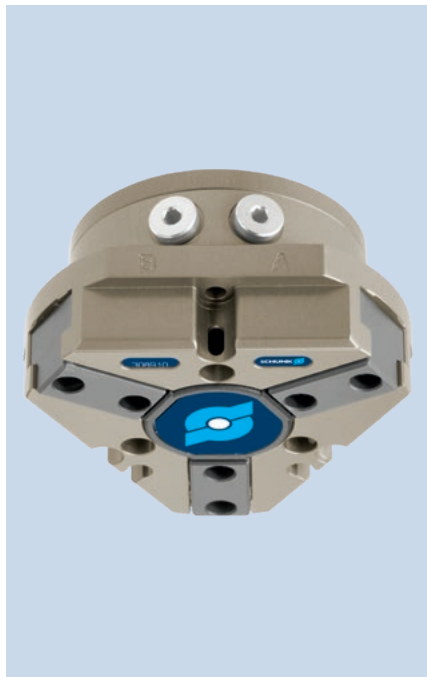
Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

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.

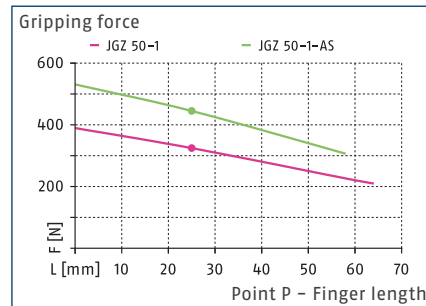


# JGZ 50

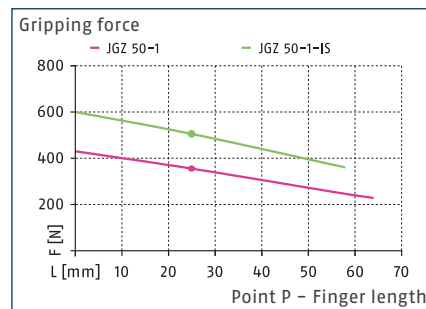
Universal gripper



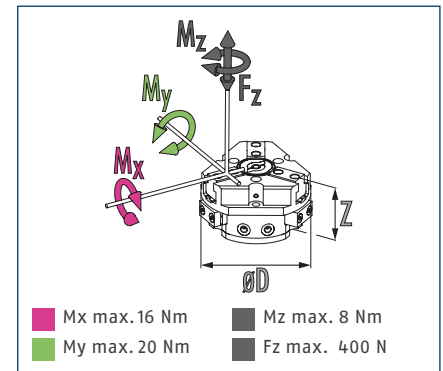
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



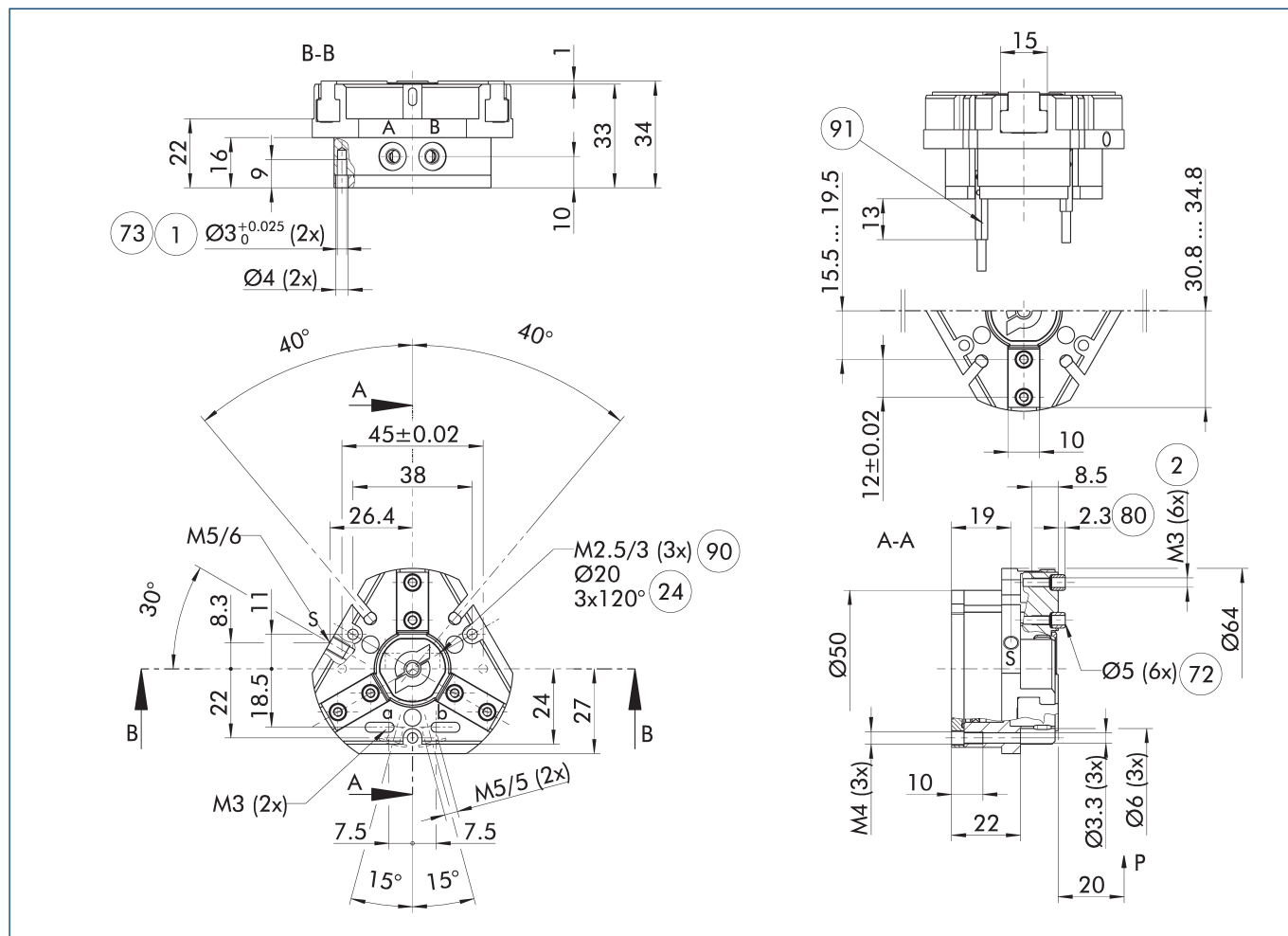
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		JGZ 50-1	JGZ 50-1-AS	JGZ 50-1-IS
ID		0308910	0308911	0308912
Stroke per jaw	[mm]	4	4	4
Closing/opening force	[N]	325/355	445/-	-/505
Min. spring force	[N]		120	150
Weight	[kg]	0.25	0.3	0.3
Recommended workpiece weight	[kg]	1.6	1.6	1.6
Fluid consumption double stroke	[cm <sup>3</sup> ]	9	18	18
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.03/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.05	0.05
Max. permissible finger length	[mm]	64	58	58
Max. permissible mass per finger	[kg]	0.18	0.18	0.18
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 Ø D x Z	[mm]	64 x 34	64 x 44.5	64 x 44.5

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

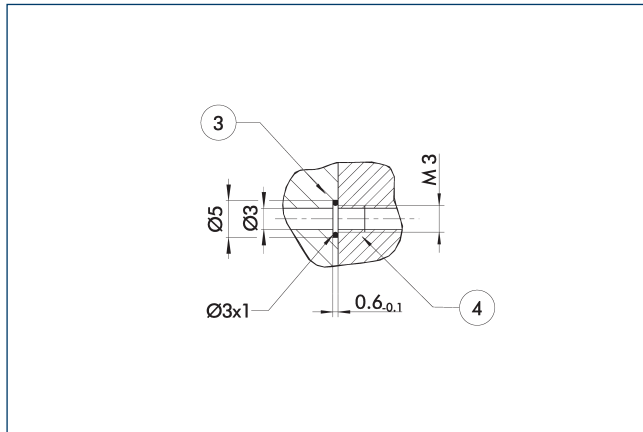


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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
- ②④ Bolt circle
- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Thread below the cover for fastening external attachments
- ⑨① Sensor MMS 22..

### Hose-free direct connection M3

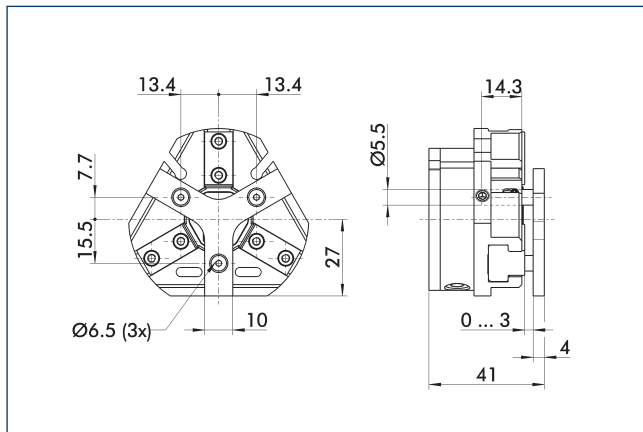


③ Adapter

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.

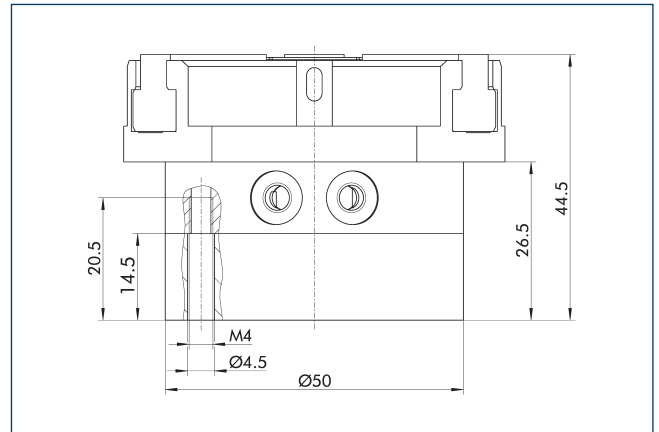
### Spring-loaded pressure piece



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

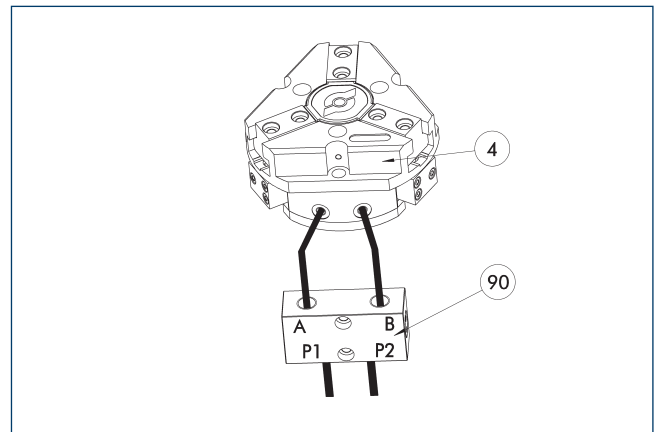
Description	ID	Stroke [mm]	Min. force [N]
<b>Spring-loaded pressure piece</b>			
A-PZN-plus 50	0303719	3	12

### 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.

### SDV-P pressure maintenance valve



④ Grippers

⑨⑩ SDV-P pressure maintenance valve

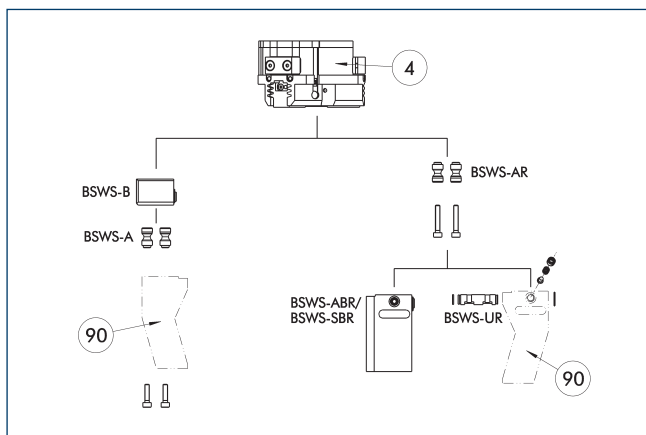
The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

Description	ID	Recommended hose diameter [mm]
<b>Pressure maintenance valve</b>		
SDV-P 04	0403130	6
<b>Pressure maintenance valve with air bleed screw</b>		
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).



### BSWS jaw quick-change jaw systems



④ Grippers

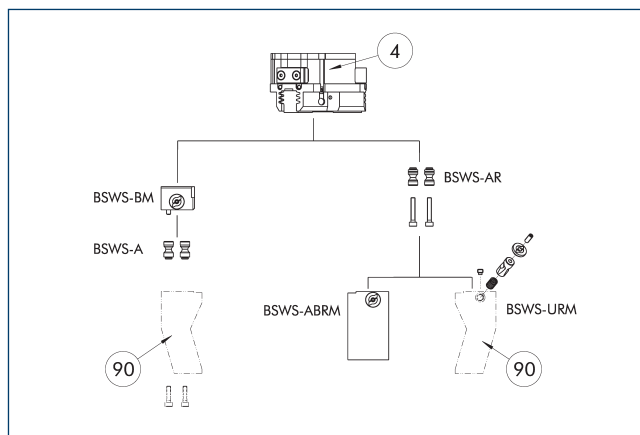
⑨⑩ Customized gripper fingers

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 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

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

### 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.

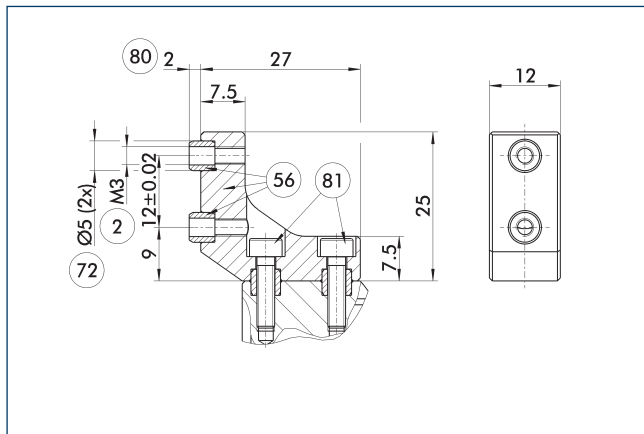
Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 50	0303020	2
BSWS-AR 50	0300091	2
<b>Quick-change jaw system base</b>		
BSWS-BM 50	1313899	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 50	1420850	1
<b>Jaw quick-change system locking mechanism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

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

# JGZ 50

Universal gripper

## ZBA-L-plus 50 intermediate jaws

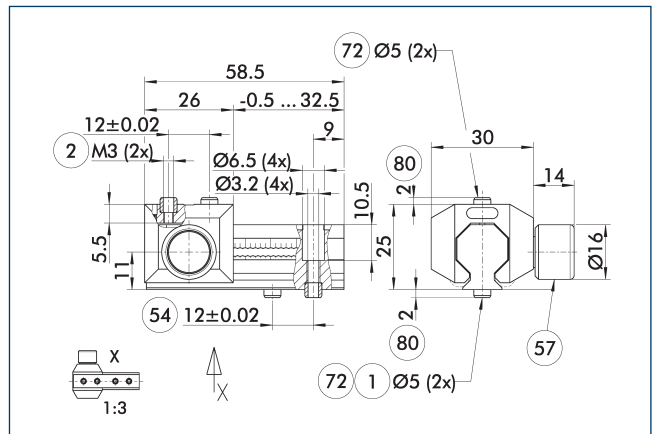


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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
Intermediate jaw				
ZBA-L-plus 50	0311712	Aluminum	PGN-plus 50	1

## UZB 50 universal intermediate jaw

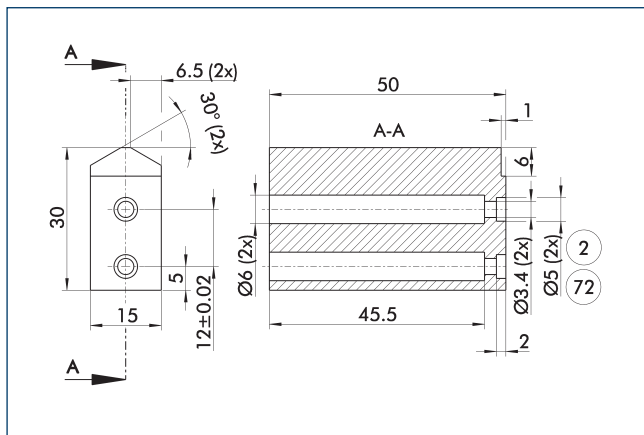


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

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

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

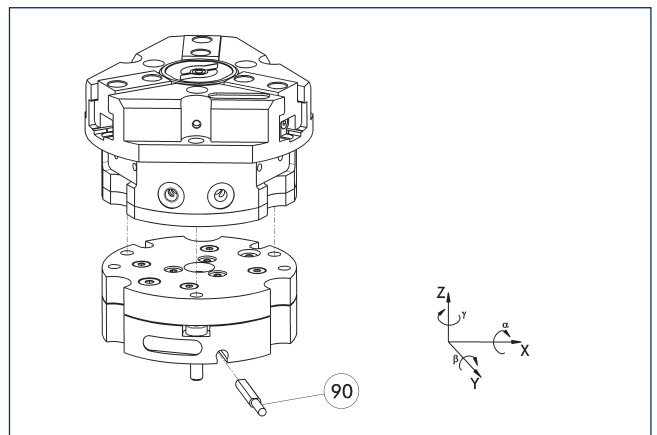


- ② Finger connection
- ⑦② Fit for centering sleeves

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

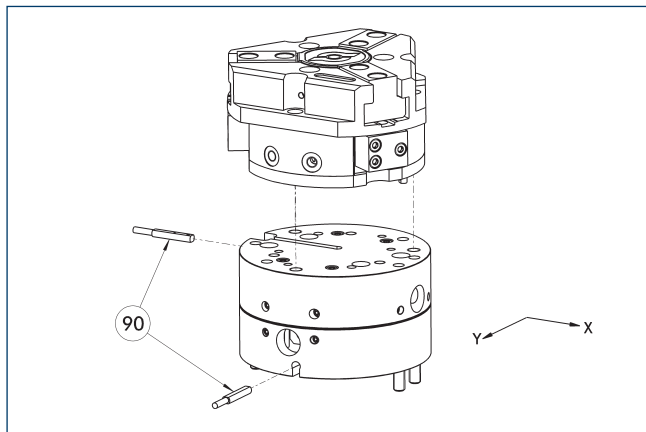


- ⑨⑩ Monitoring of locking

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-Z-050-3-0V	0324749	no	±1°/±1°/±1,5°

Compensation unit AGE-F

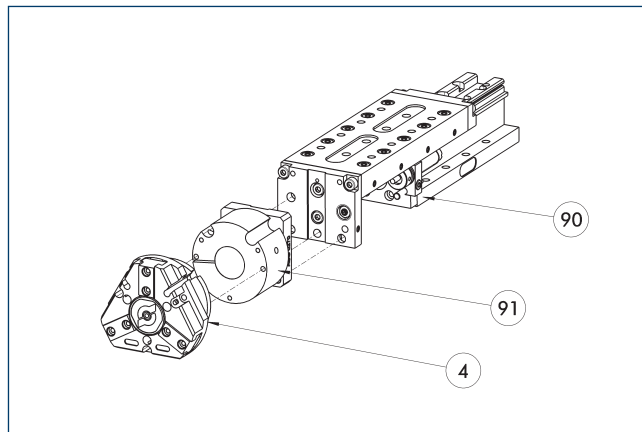


90 Monitoring

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

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
<b>Compensation unit</b>				
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	●

Modular Assembly Automation



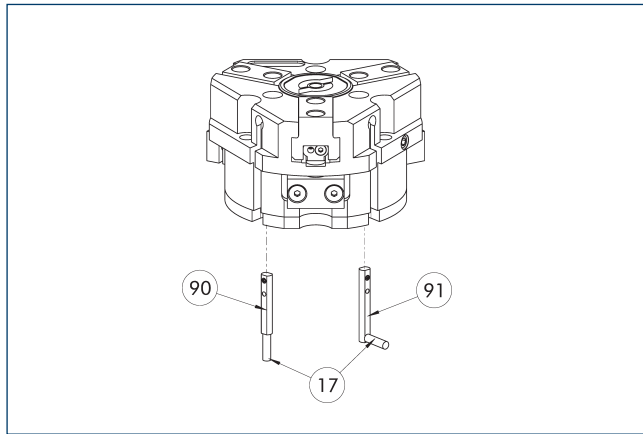
4 Grippers

91 ASG adapter plate

90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

### Electronic magnetic switch MMS



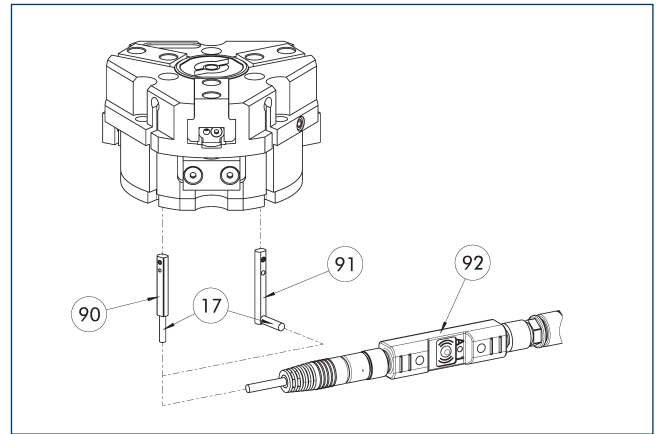
- ① Cable outlet
- ② Sensor MMS 22...-SA
- ③ Sensor MMS 22..

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	

- 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.

### Programmable magnetic switch MMS 22-PI1



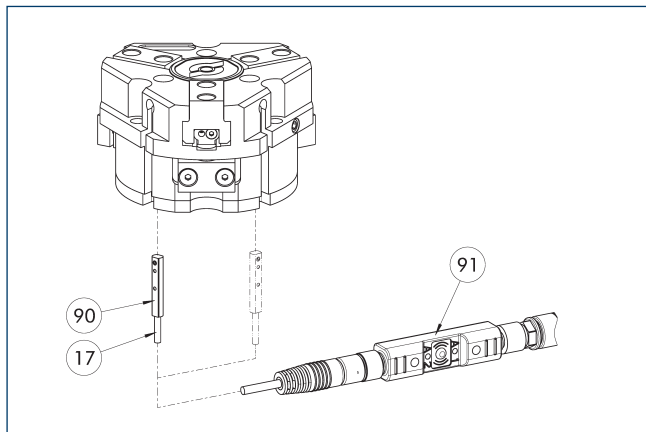
- ① Cable outlet
- ② Sensor MMS 22 ..-PI1-...-SA
- ③ Sensor MMS 22 PI1-...
- ④ Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ④ Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



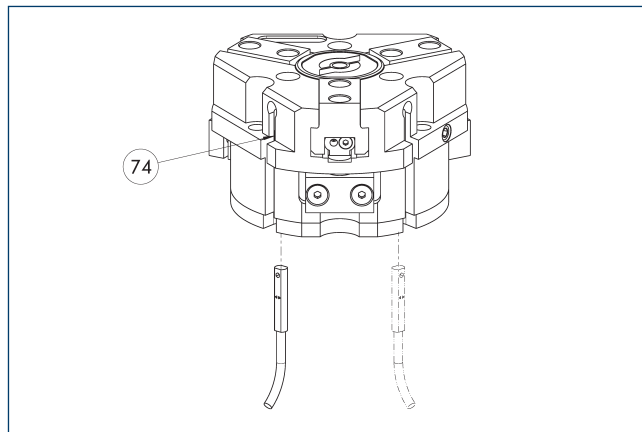
- ①7 Cable outlet
- ①9 MMS 22...-PI2-... sensor
- ①91 Connector teaching tool ST

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

**MMS-P programmable magnetic switch**



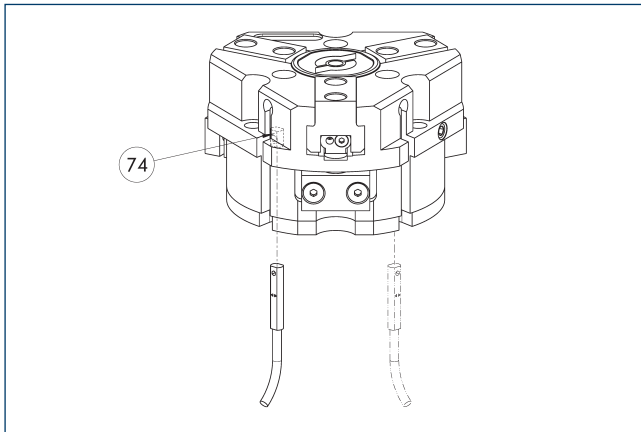
- ①74 Limit stop for sensor

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.

### 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.

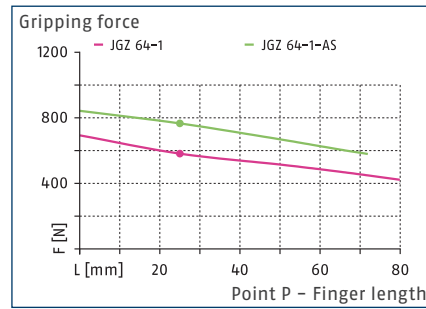


# JGZ 64

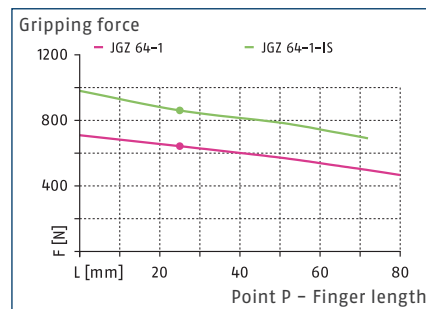
Universal gripper



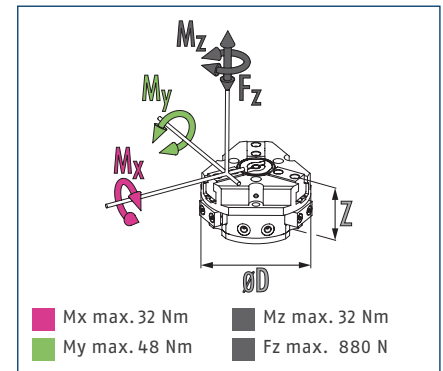
## Gripping force O.D. gripping



## 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.

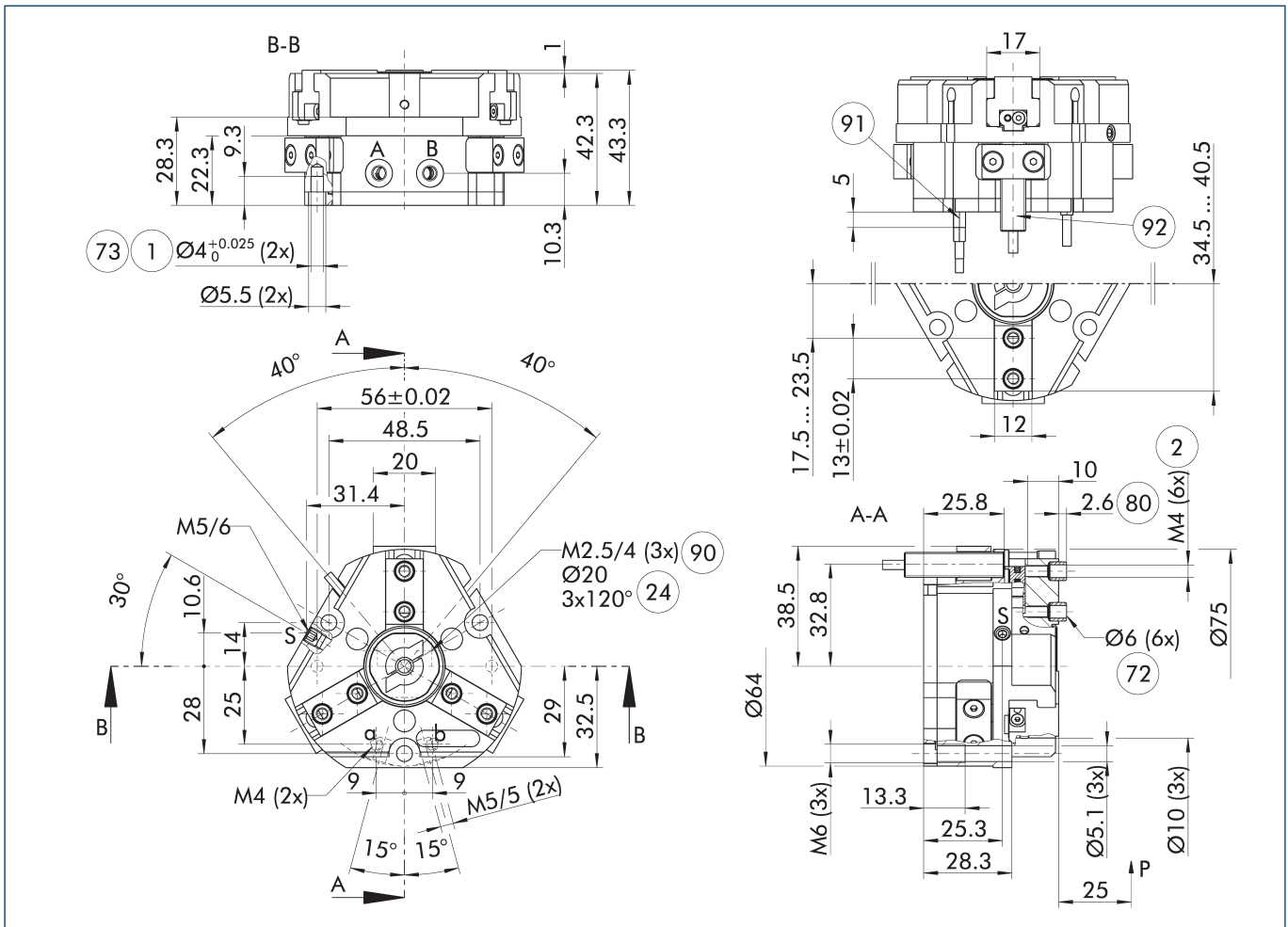
## Technical data

Description		JGZ 64-1	JGZ 64-1-AS	JGZ 64-1-IS
ID		0308920	0308921	0308922
Stroke per jaw	[mm]	6	6	6
Closing/opening force	[N]	580/640	765/-	-/860
Min. spring force	[N]		185	220
Weight	[kg]	0.43	0.54	0.54
Recommended workpiece weight	[kg]	2.9	2.9	2.9
Fluid consumption double stroke	[cm <sup>3</sup> ]	25	25	25
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.03/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.08	0.08
Max. permissible finger length	[mm]	80	72	72
Max. permissible mass per finger	[kg]	0.35	0.35	0.35
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 Ø D x Z	[mm]	75 x 43.3	75 x 56.8	75 x 56.8

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

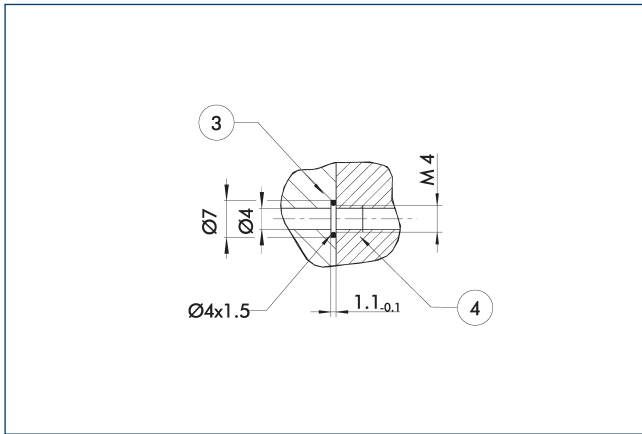


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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 | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Thread below the cover for fastening external attachments |
| ② Finger connection                            | ⑨① Sensor MMS 22..   |
| ②④ Bolt circle                                 | ⑨② Sensor IN ...   |

## Hose-free direct connection M4

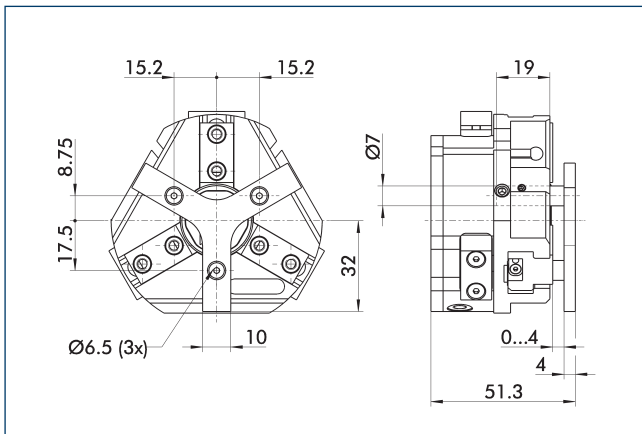


③ Adapter

④ Grippers

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

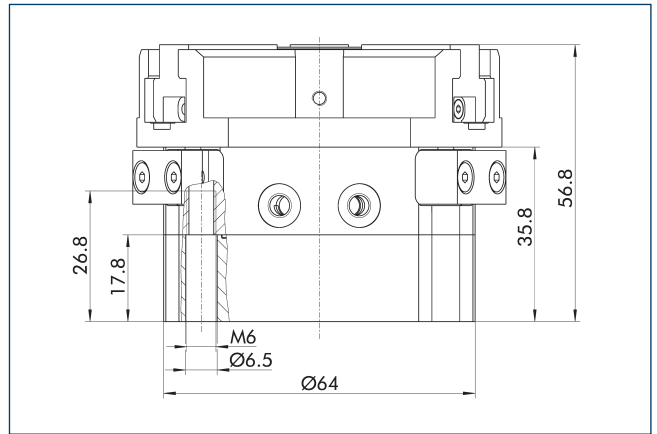
## Spring-loaded pressure piece



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

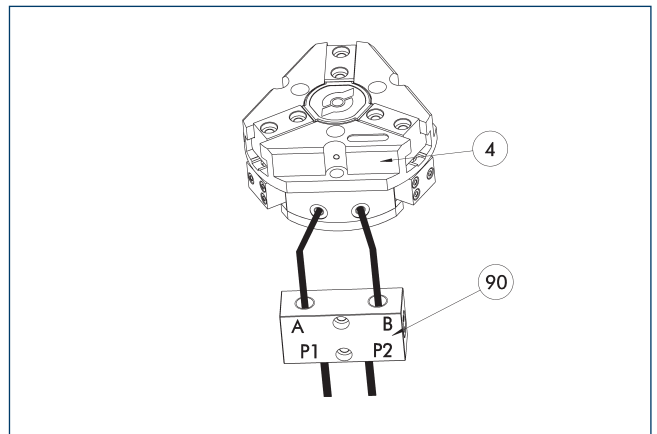
Description	ID	Stroke [mm]	Min. force [N]
<b>Spring-loaded pressure piece</b>			
A-PZN-plus/DPZ-plus 64	0303720	4	11

## 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.

## SDV-P pressure maintenance valve



④ Grippers

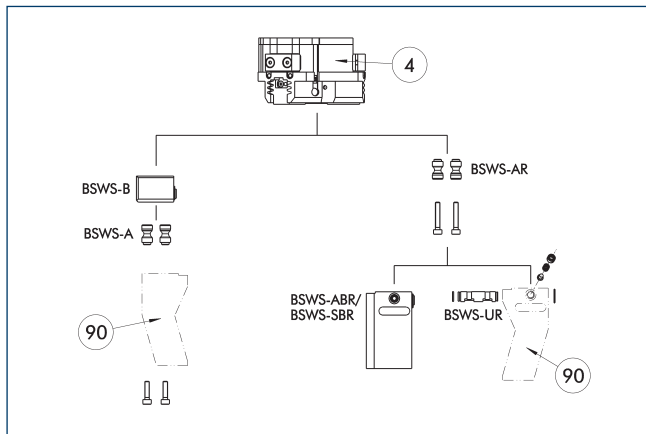
⑨⑩ SDV-P pressure maintenance valve

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 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.

**BSWS jaw quick-change jaw systems**



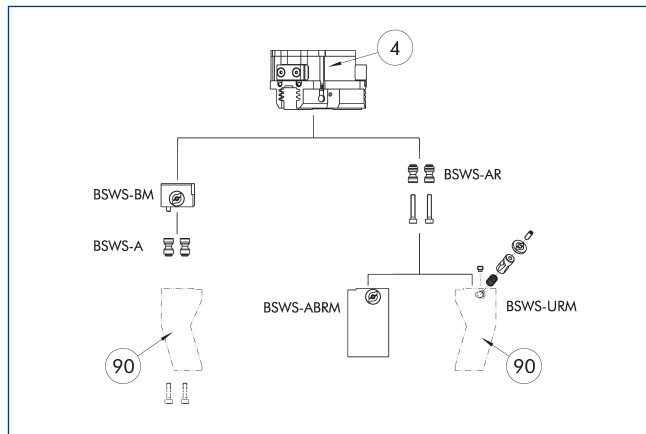
④ Grippers                      ⑨0 Customized gripper fingers

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
<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-B 64	0303023	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 64	0300072	1
BSWS-SBR-PGZN-plus 64	0300082	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 64	0302991	1

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

**Jaw quick-change system BSWS-M**



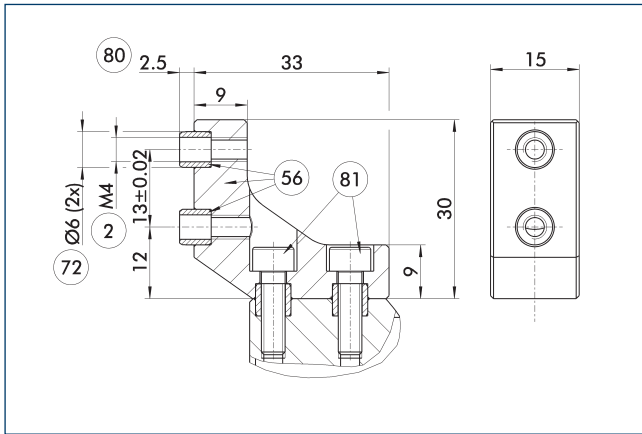
④ Grippers                      ⑨0 Customized gripper fingers

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
<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.

## ZBA-L-plus 64 intermediate jaws

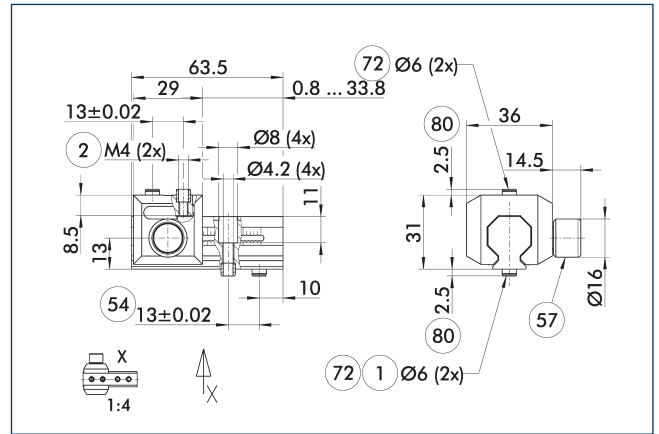


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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 64	0311722	Aluminum	PGN-plus 64	1

## UZB 64 universal intermediate jaw

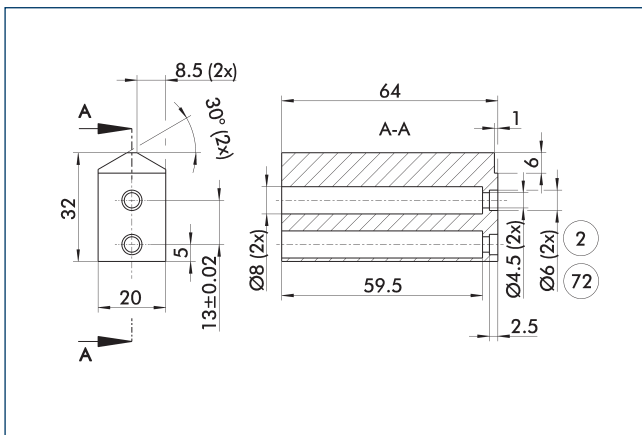


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw.

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

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

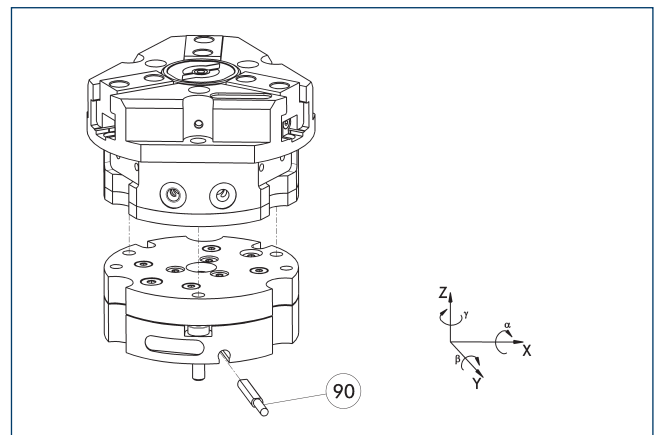


- ② Finger connection
- ⑦② Fit for centering sleeves

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

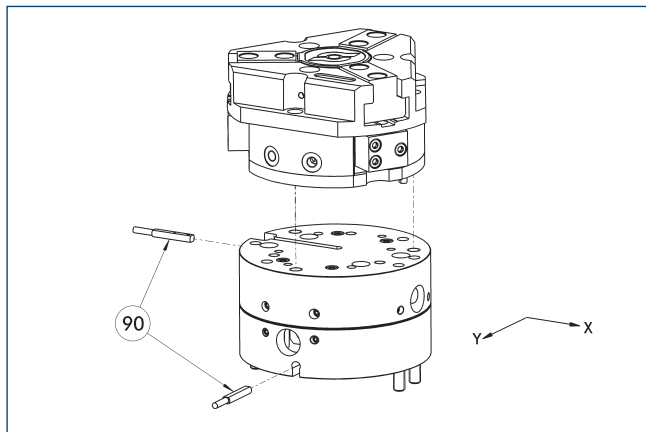


- ⑨① Monitoring of locking

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-Z-064-3-MV	0324766	yes	±1°/±1°/±1°	●
TCU-Z-064-3-0V	0324767	no	±1°/±1°/±1°	

Compensation unit AGE-F

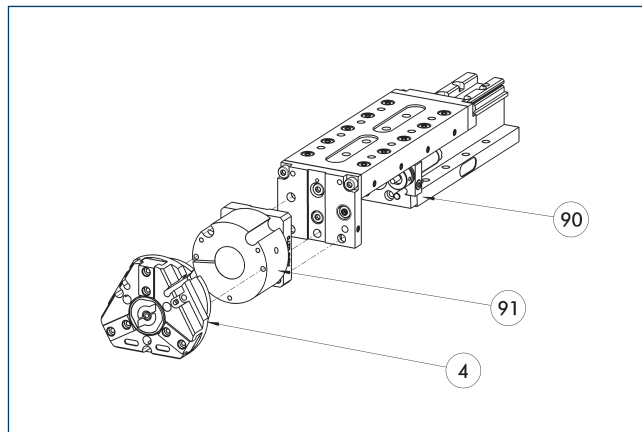


90 Monitoring

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

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

Modular Assembly Automation



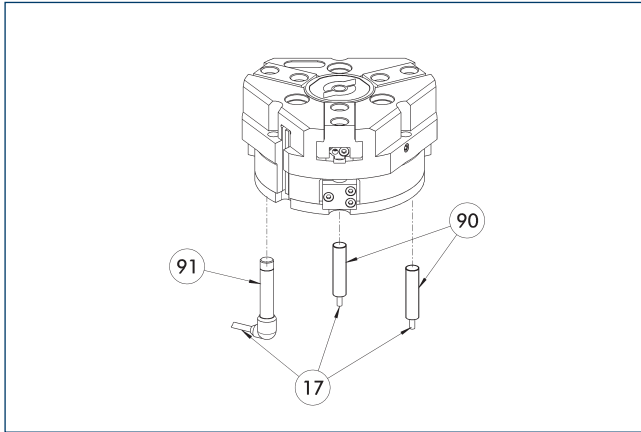
4 Grippers

91 ASG adapter plate

90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

### Inductive Proximity Switches



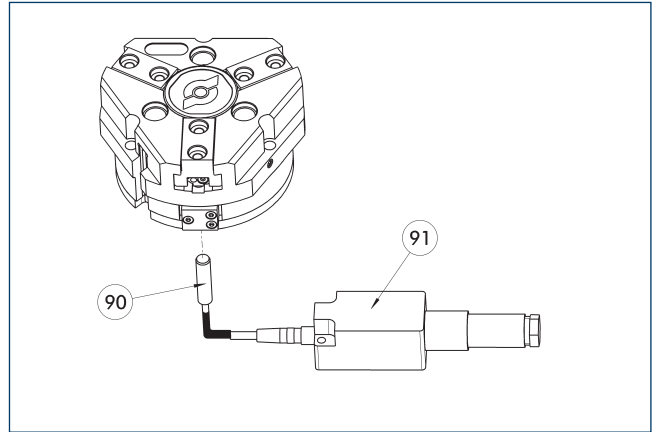
- ①⑦ Cable outlet
- ①⑨ Sensor IN..-SA
- ①⑩ Sensor IN ...

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.

### Flexible position sensor



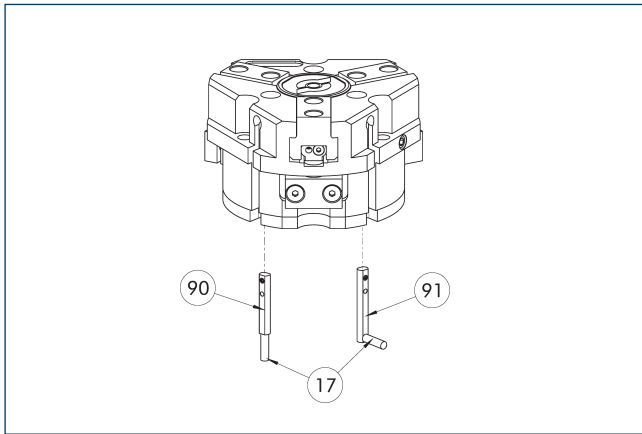
- ①⑩ FPS-S sensor
- ①⑨ FPS-F5 evaluation electronic

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**



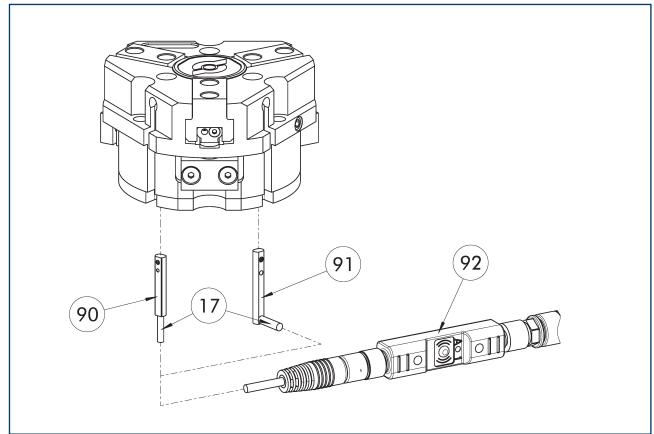
- ①7 Cable outlet
- ①90 Sensor MMS 22..
- ①91 Sensor MMS 22...-SA

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**



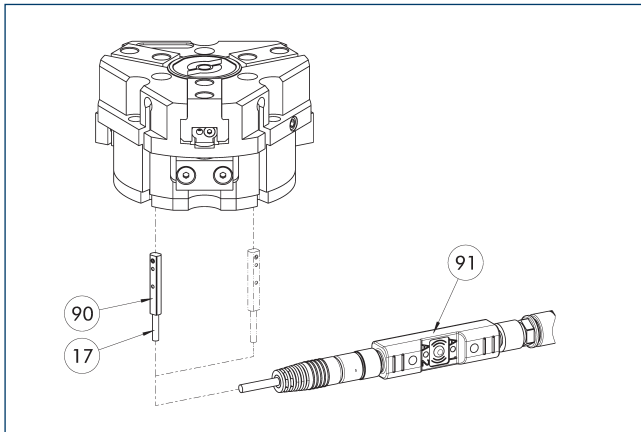
- ①7 Cable outlet
- ①90 Sensor MMS 22 PI1-...
- ①91 Sensor MMS 22 ...-PI1-...-SA
- ①92 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

### Programmable magnetic switch MMS 22-PI2



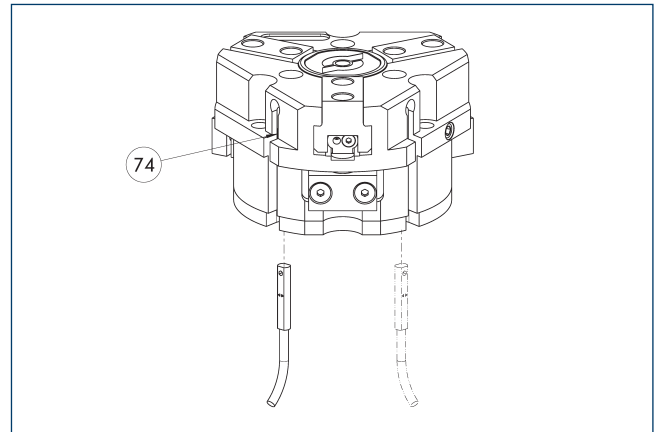
- ①⑦ Cable outlet
- ①⑨ MMS 22...-PI2-... sensor
- ①① Connector teaching tool ST

Position monitoring with two programmable switching points per sensor, mountable directly in the C-slot. The electronics are built into the sensor. Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI2-PNP	0301026	

- ① Per unit, at least one sensor (closer/S) and an optional cable extension are required. A maximum of one sensor per C-slot or sensor bracket can be mounted.

### MMS-P programmable magnetic switch



- ①⑦ Limit stop for sensor

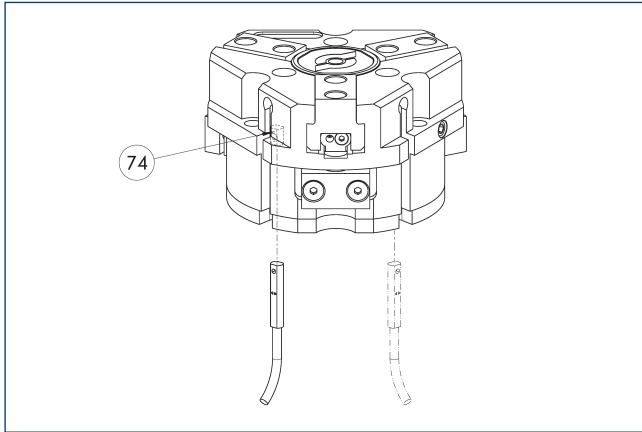
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

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.



**Programmable magnetic switch MMS-I0-Link**



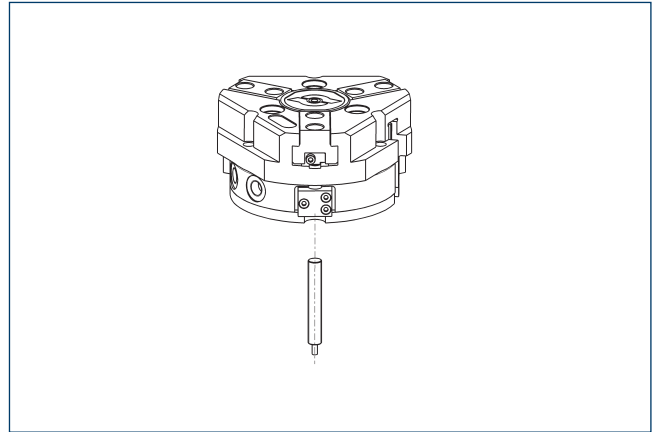
74 Limit stop for sensor

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	
<b>Programmable magnetic switch</b>		
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**

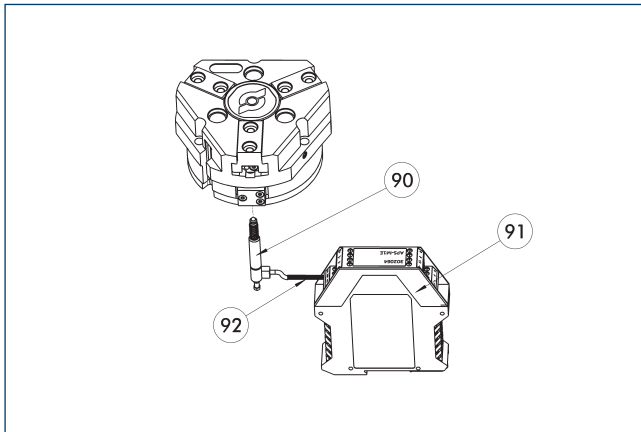


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
<b>Mounting kit for APS-Z80</b>		
AS-APS-Z80-PGZN-plus 64-1	0302105	
<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



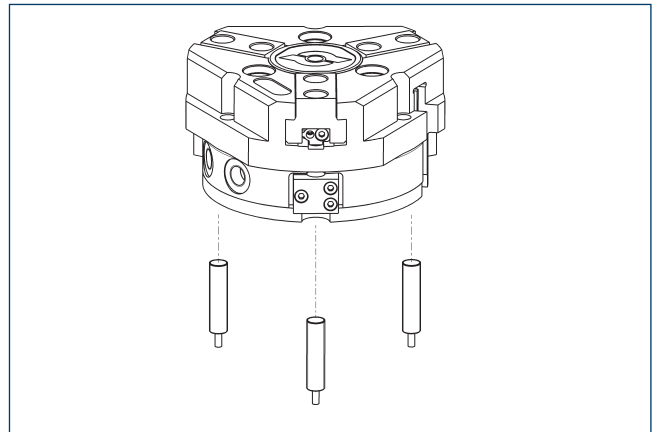
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 64-1	0302075	
<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.

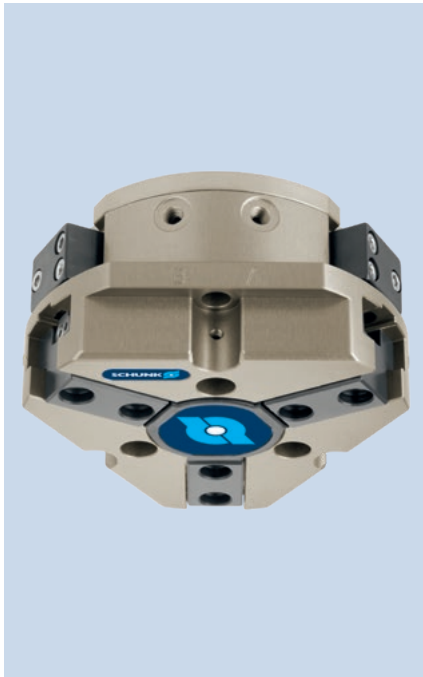
Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

- 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.

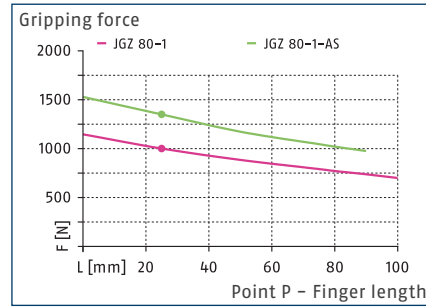


# JGZ 80

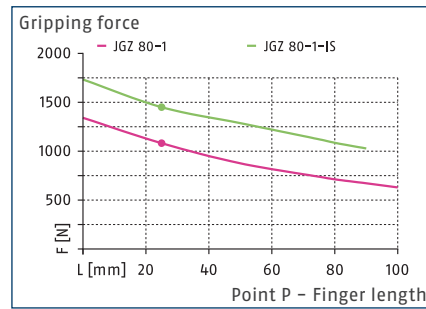
Universal gripper



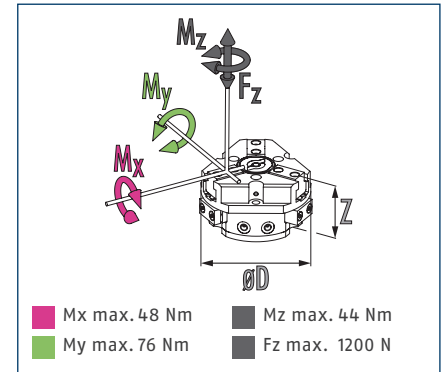
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



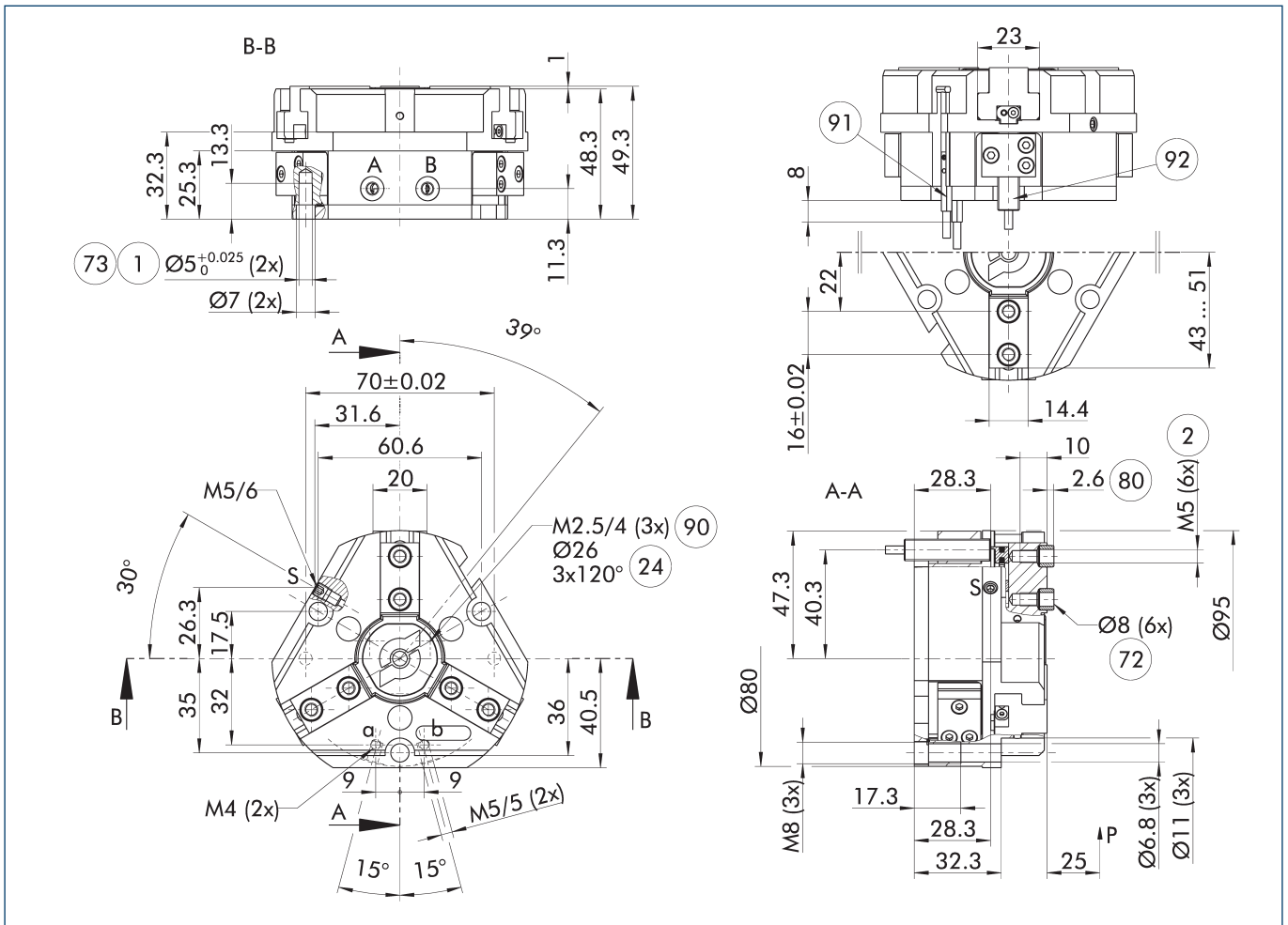
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		JGZ 80-1	JGZ 80-1-AS	JGZ 80-1-IS
ID		0308930	0308931	0308932
Stroke per jaw	[mm]	8	8	8
Closing/opening force	[N]	1000/1080	1350/-	-/1450
Min. spring force	[N]		350	370
Weight	[kg]	0.79	0.96	0.96
Recommended workpiece weight	[kg]	5	5	5
Fluid consumption double stroke	[cm <sup>3</sup> ]	60	60	60
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.05/0.05	0.03/0.05	0.06/0.04
Closing/opening time with spring	[s]		0.19	0.19
Max. permissible finger length	[mm]	100	90	90
Max. permissible mass per finger	[kg]	0.6	0.6	0.6
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 Ø D x Z	[mm]	95 x 49.3	95 x 64.3	95 x 64.3

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

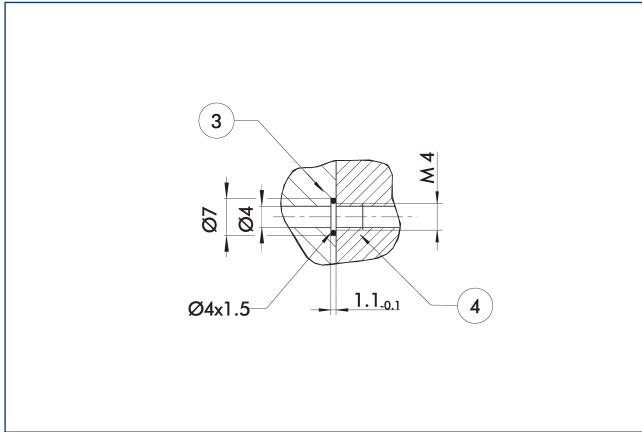


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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 | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Thread below the cover for fastening external attachments |
| ② Finger connection                            | ⑨① Sensor MMS 22..   |
| ②④ Bolt circle                                 | ⑨② Sensor IN ...   |

## Hose-free direct connection M4

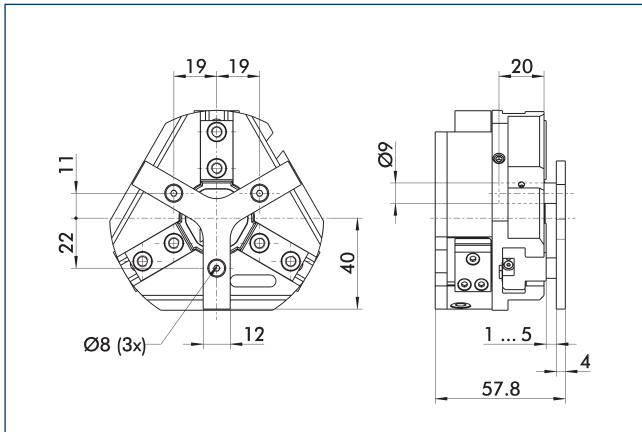


③ Adapter

④ Grippers

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

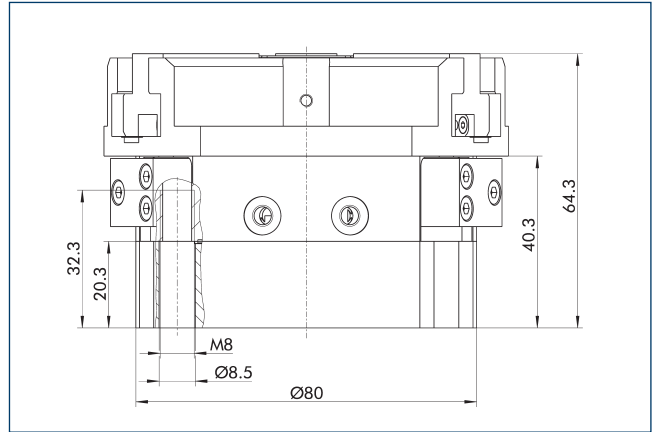
## Spring-loaded pressure piece



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

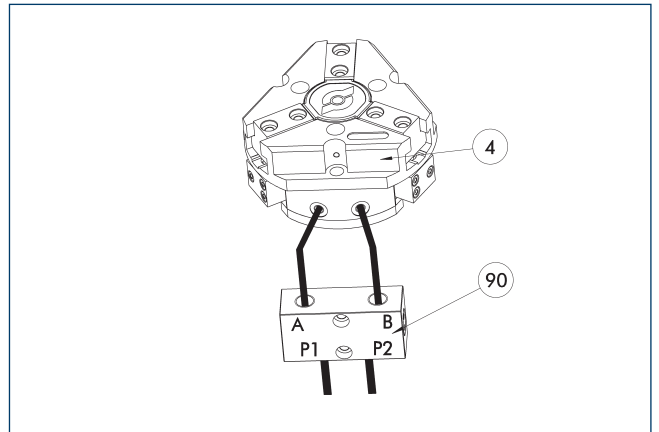
Description	ID	Stroke [mm]	Min. force [N]
<b>Spring-loaded pressure piece</b>			
A-PZN-plus/DPZ-plus 80	0303721	4	18

## 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.

## SDV-P pressure maintenance valve



④ Grippers

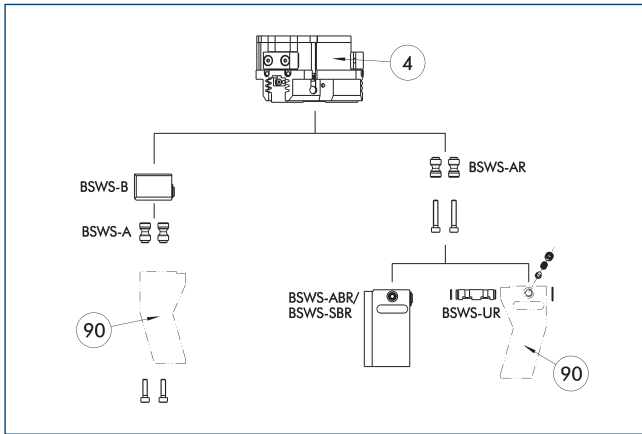
⑨ SDV-P pressure maintenance valve

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

Description	ID	Recommended hose diameter [mm]
<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

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

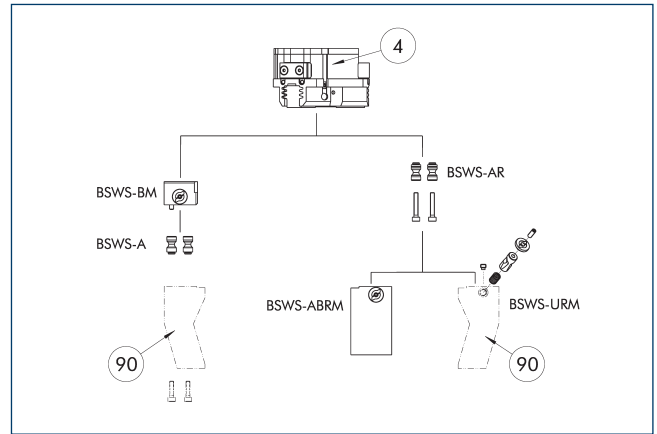
⑨⑩ Customized gripper fingers

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>Jaw quick-change system adapter pin</b>		
BSWS-A 80	0303024	2
BSWS-AR 80	0300093	2
<b>Quick-change jaw system base</b>		
BSWS-B 80	0303025	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 80	0300073	1
BSWS-SBR-PGZN-plus 80	0300083	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 80	0302992	1

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

**Jaw quick-change system BSWS-M**



④ Grippers

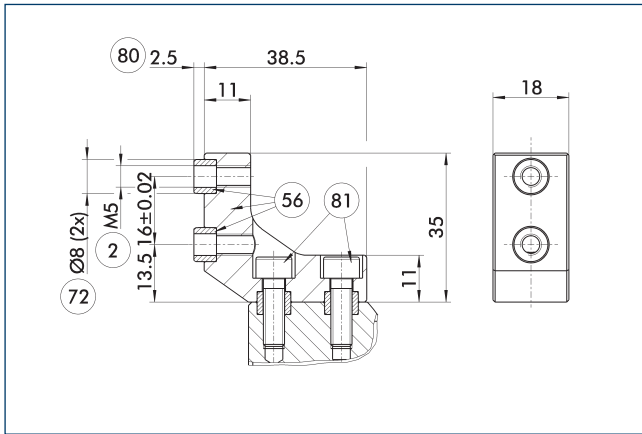
⑨⑩ Customized gripper fingers

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 80	0303024	2
BSWS-AR 80	0300093	2
<b>Quick-change jaw system base</b>		
BSWS-BM 80	1313901	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 80	1420852	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 80	1398402	1

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

## ZBA-L-plus 80 intermediate jaws

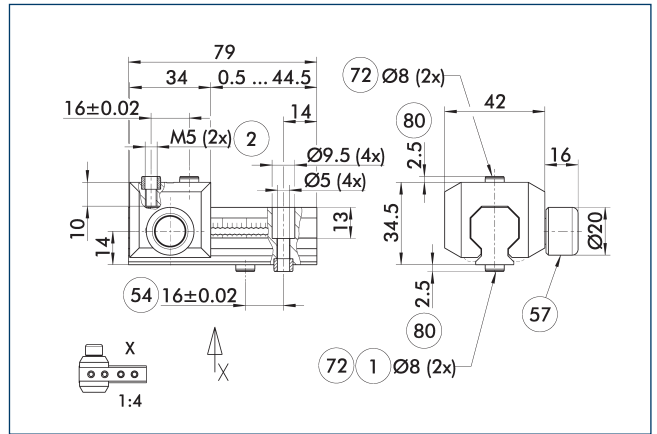


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

## UZB 80 universal intermediate jaw

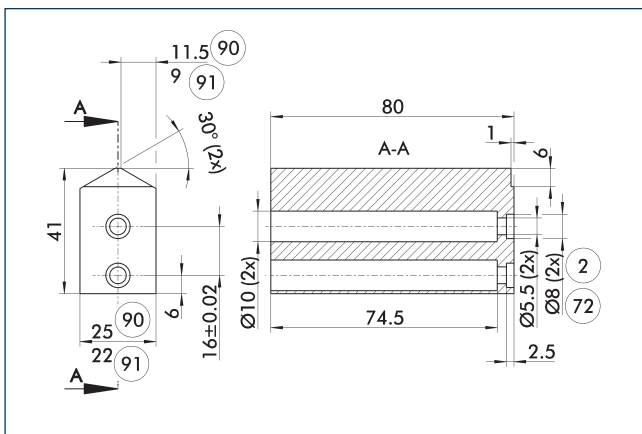


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

The drawing shows the UZB universal intermediate jaw. 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 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

## Finger blanks ABR- / SBR-PGZN-plus 80



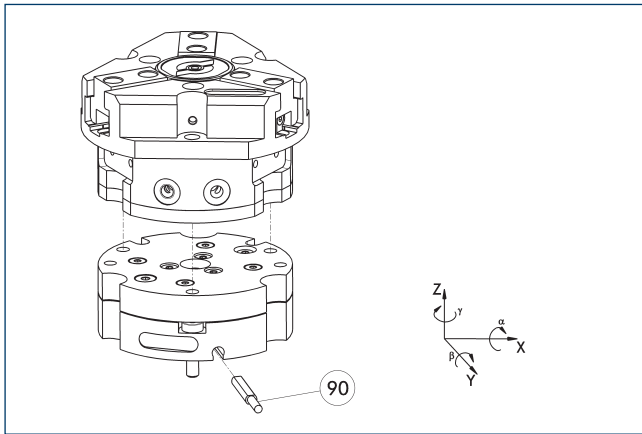
- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨⑩ ABR-PGZN-plus
- ⑨① SBR-PGZN-plus

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**

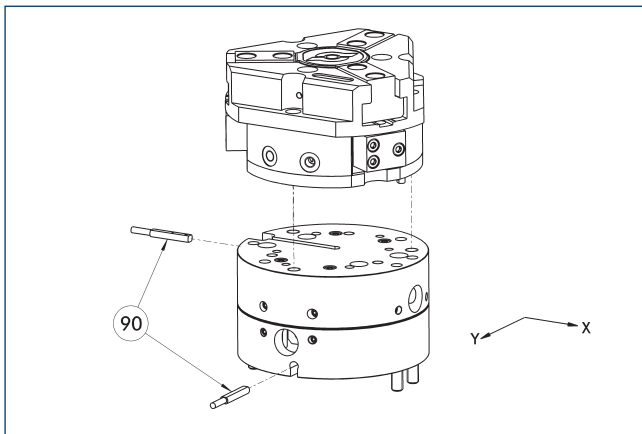


**90** Monitoring of locking

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-Z-080-3-MV	0324784	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-080-3-0V	0324785	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

**Compensation unit AGE-F**

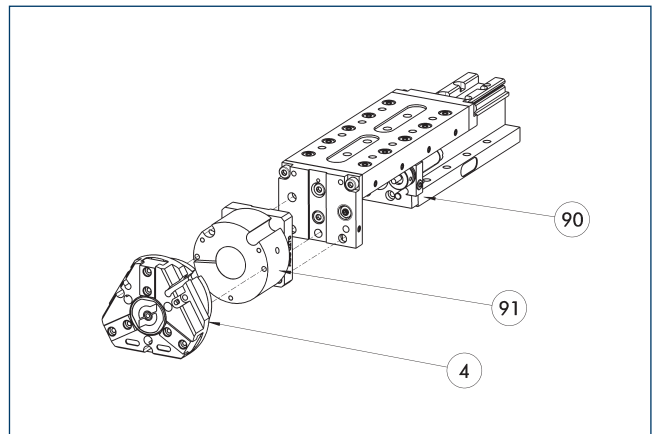


**90** Monitoring

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

Description	ID	Compensation XY	Reset force	Often combined
		[mm]	[N]	
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	●

**Modular Assembly Automation**

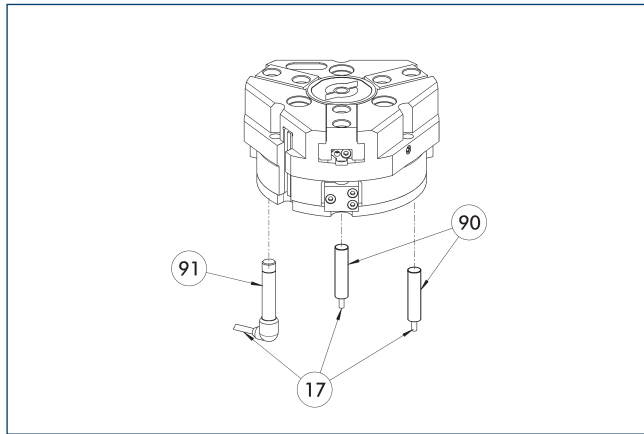


**4** Grippers **91** ASG adapter plate

**90** CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

### Inductive Proximity Switches



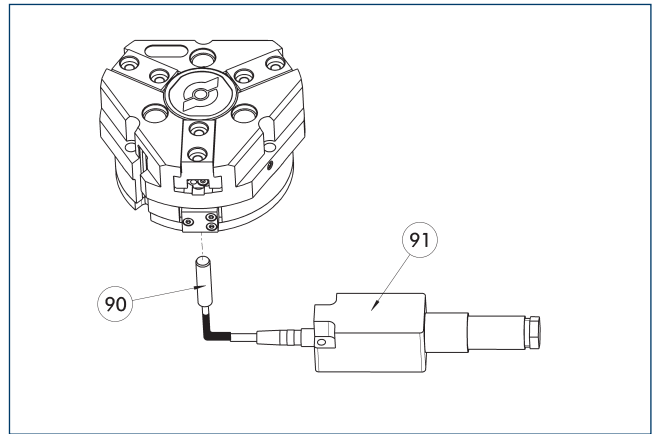
- 17 Cable outlet  
91 Sensor IN..-SA  
90 Sensor IN ...

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



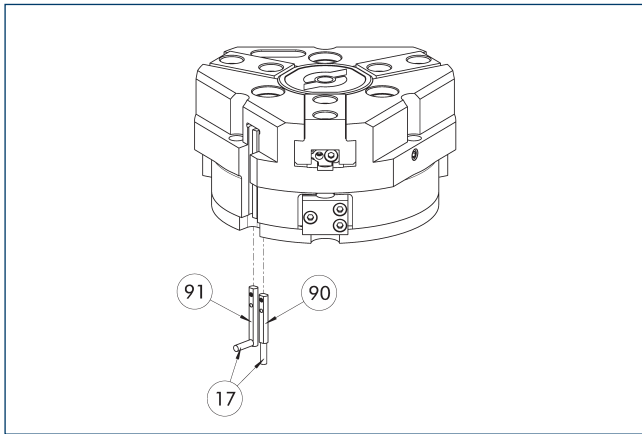
- 90 FPS-S sensor  
91 FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

Description	ID
<b>Attachment kit for FPS</b>	
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**



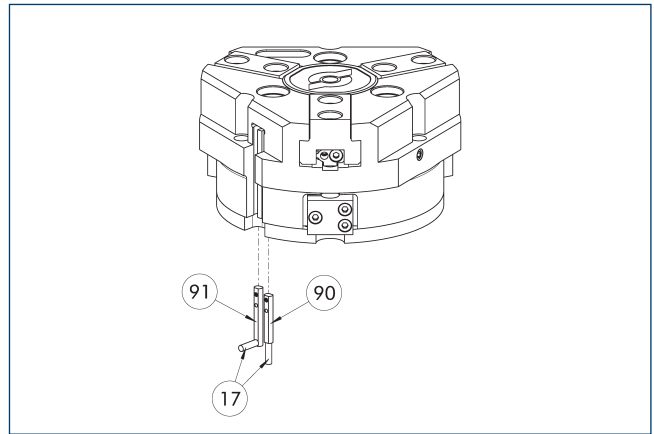
- ⑰ Cable outlet
- ① Sensor MMS 22...-SA
- ⑨ Sensor MMS 22..

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**



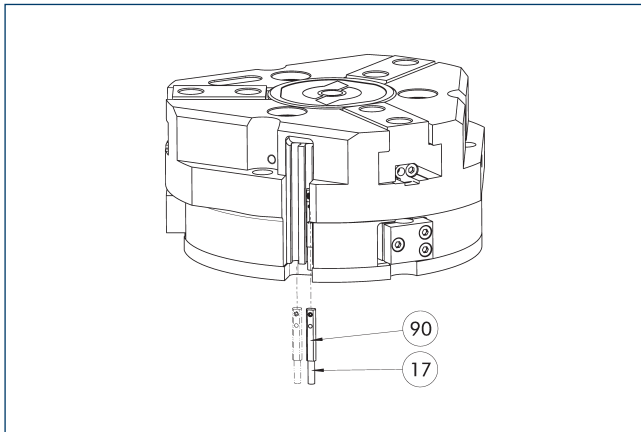
- ⑰ Cable outlet
- ① Sensor MMS 22 ..-PI1...-SA
- ⑨ Sensor MMS 22 PI1-...

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

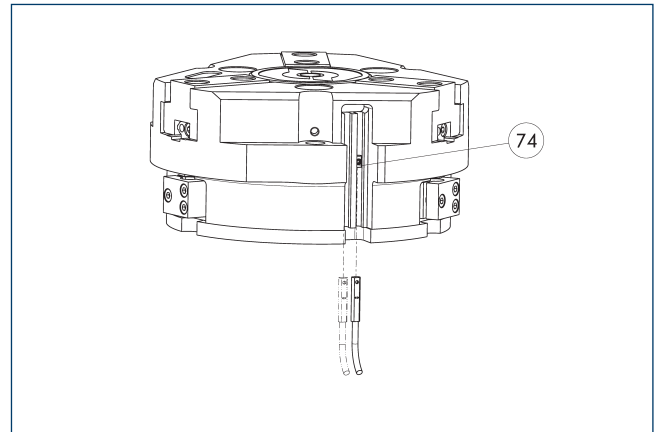
90 MMS 22...-PI2-... sensor

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



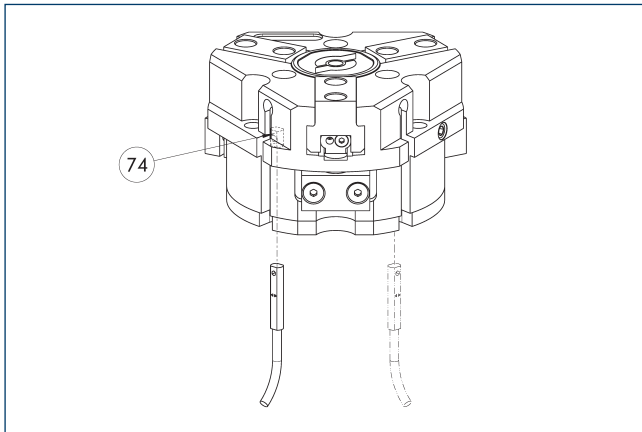
74 Limit stop for sensor

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.

**Programmable magnetic switch MMS-I0-Link**



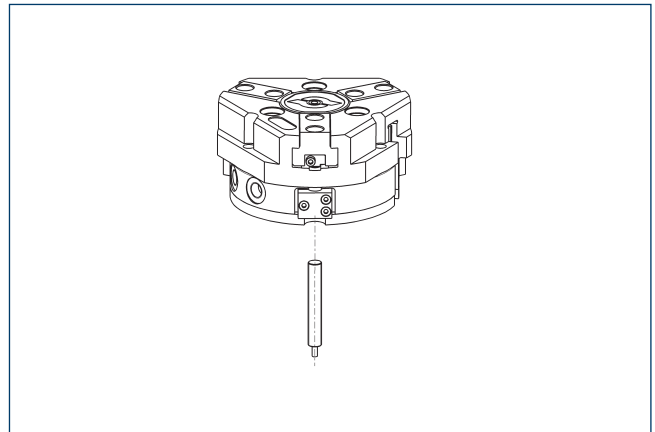
74 Limit stop for sensor

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**

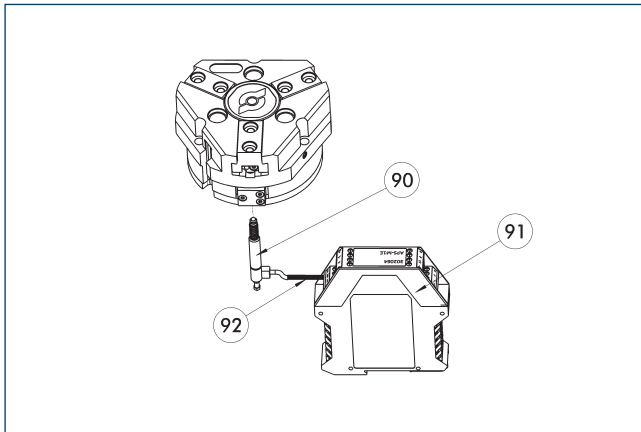


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 80-1	0302107	
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



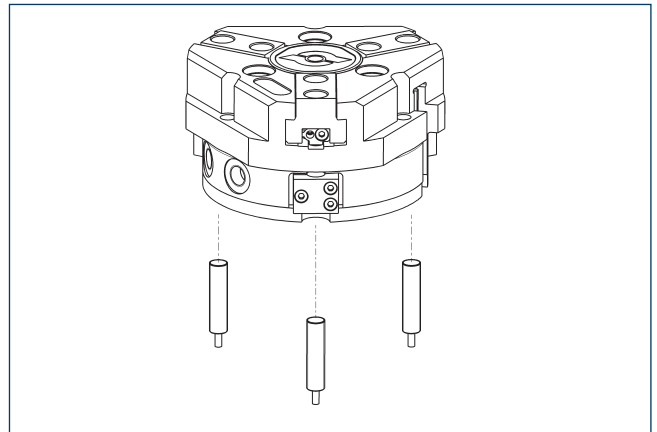
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 80-1	0302077	
<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 64/80	0377725	
<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.

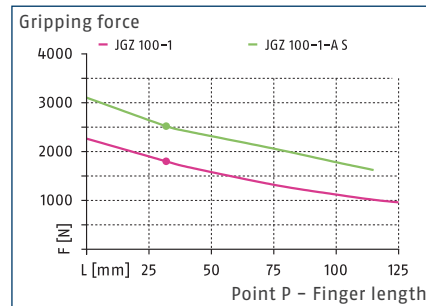


# JGZ 100

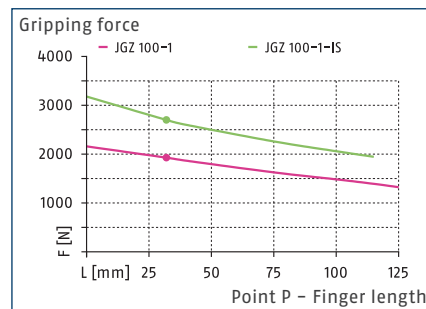
Universal gripper



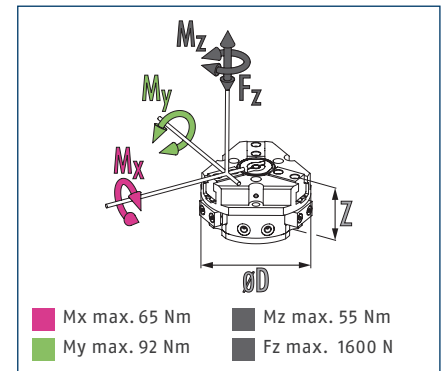
## Gripping force O.D. gripping



## 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.

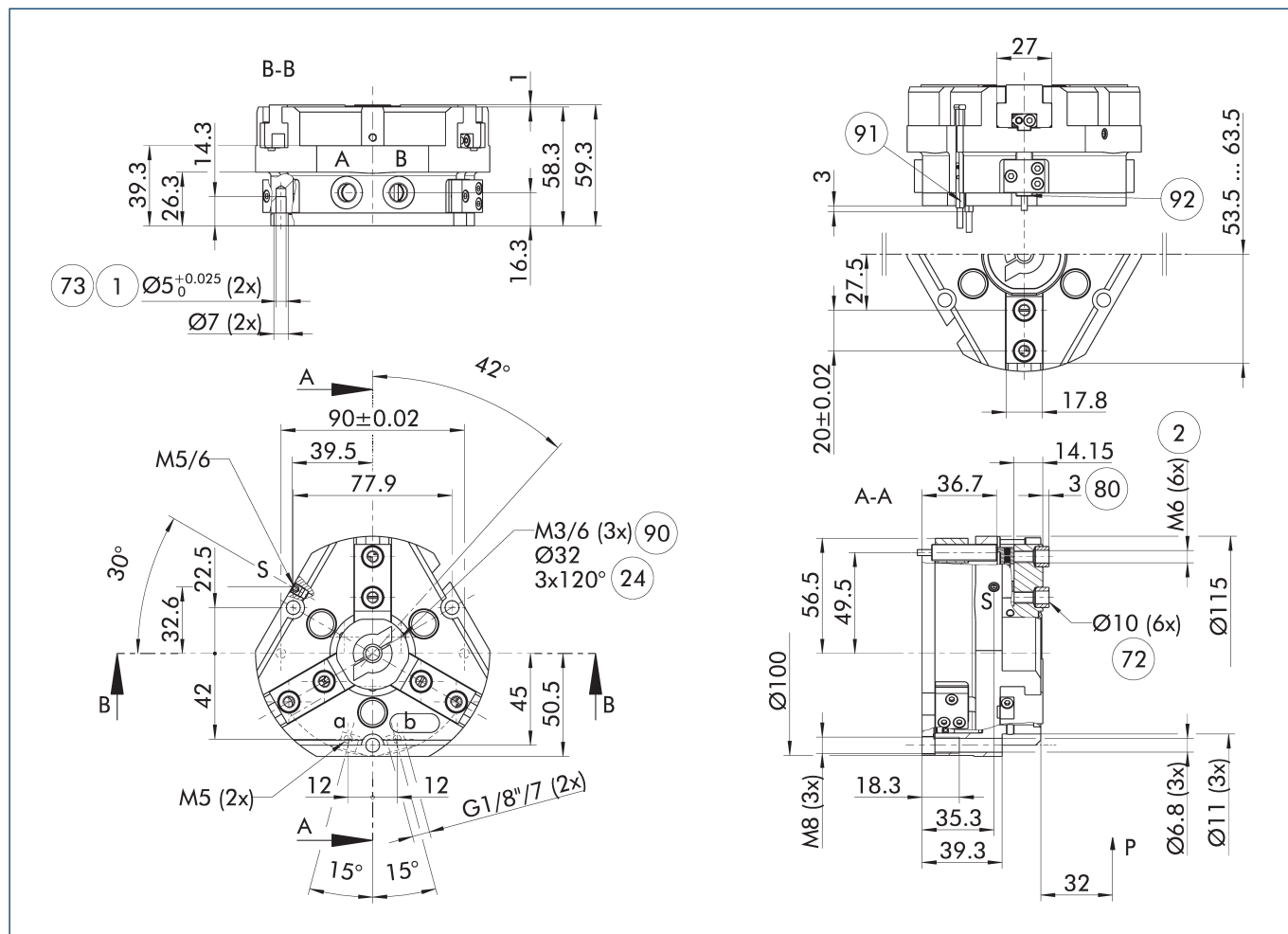
## Technical data

Description		JGZ 100-1	JGZ 100-1-A5	JGZ 100-1-IS
ID		0308940	0308941	0308942
Stroke per jaw	[mm]	10	10	10
Closing/opening force	[N]	1800/1920	2520/-	-/2700
Min. spring force	[N]		720	780
Weight	[kg]	1.41	1.95	1.95
Recommended workpiece weight	[kg]	9	9	9
Fluid consumption double stroke	[cm <sup>3</sup> ]	120	120	120
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.1/0.1	0.1/0.2	0.2/0.1
Closing/opening time with spring	[s]		0.25	0.25
Max. permissible finger length	[mm]	125	115	115
Max. permissible mass per finger	[kg]	1.1	1.1	1.1
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 Ø D x Z	[mm]	115 x 59.3	115 x 79.3	115 x 79.3

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

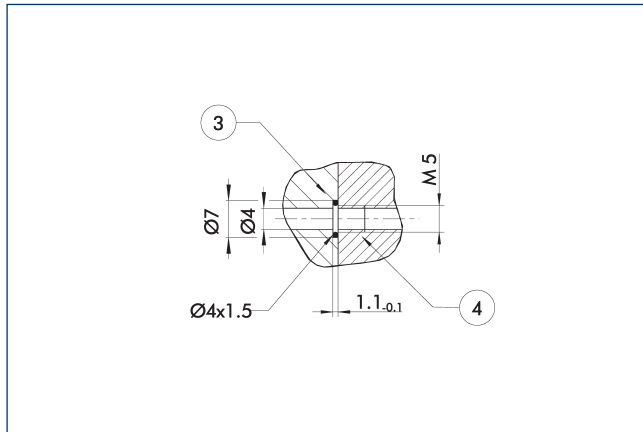


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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 | 72 Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | 73 Fit for centering pins                                    |
| S Air purge connection                         | 80 Depth of the centering sleeve hole in the counter part    |
| 1 Gripper connection                           | 90 Thread below the cover for fastening external attachments |
| 2 Finger connection                            | 91 Sensor MMS 22..   |
| 24 Bolt circle                                 | 92 Sensor IN ...   |

## Hose-free direct connection M5

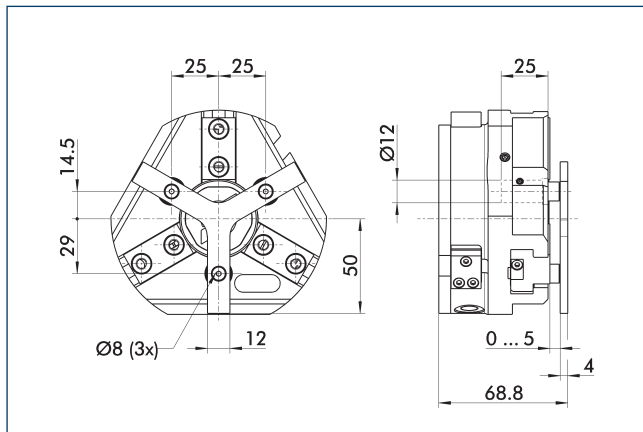


③ Adapter

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.

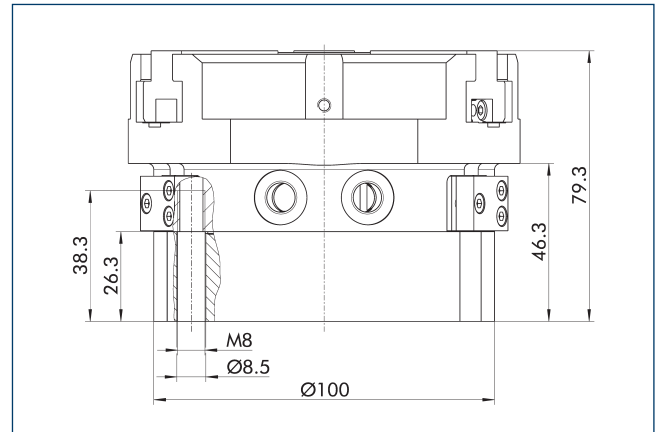
## Spring-loaded pressure piece



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

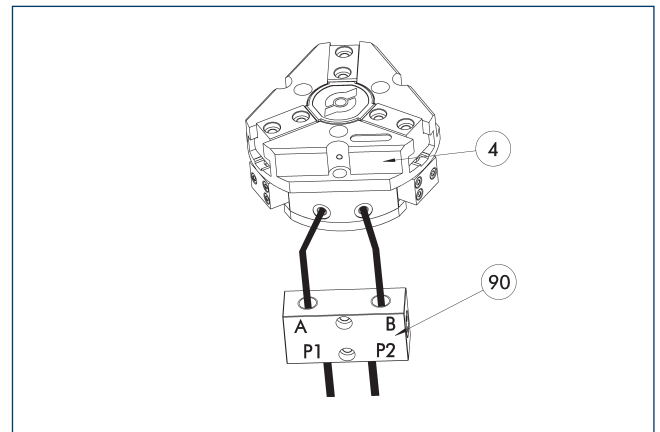
Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	5	35

## 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.

## SDV-P pressure maintenance valve



④ Grippers

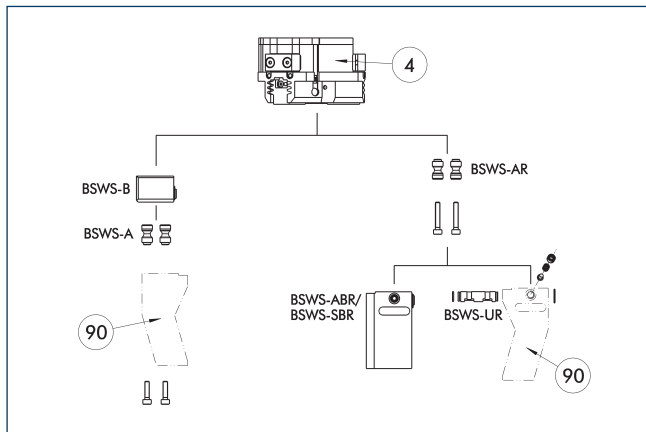
⑨⑩ SDV-P pressure maintenance valve

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

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**



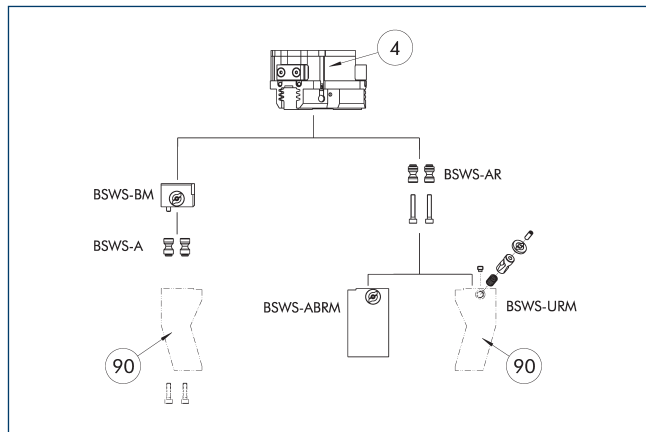
④ Grippers                      ⑨0 Customized gripper fingers

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
<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.

**Jaw quick-change system BSWS-M**



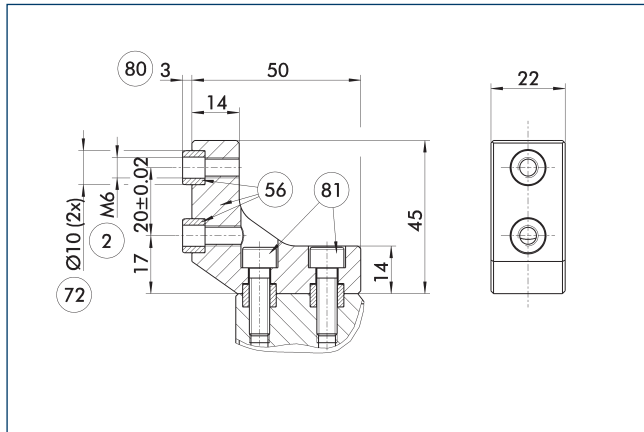
④ Grippers                      ⑨0 Customized gripper fingers

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
<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.

### ZBA-L-plus 100 intermediate jaws

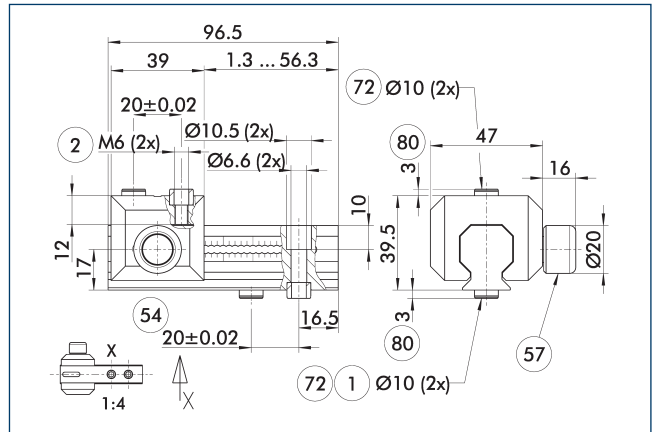


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

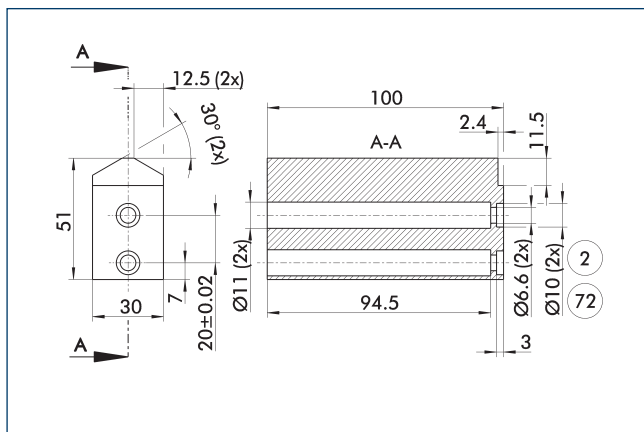


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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

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

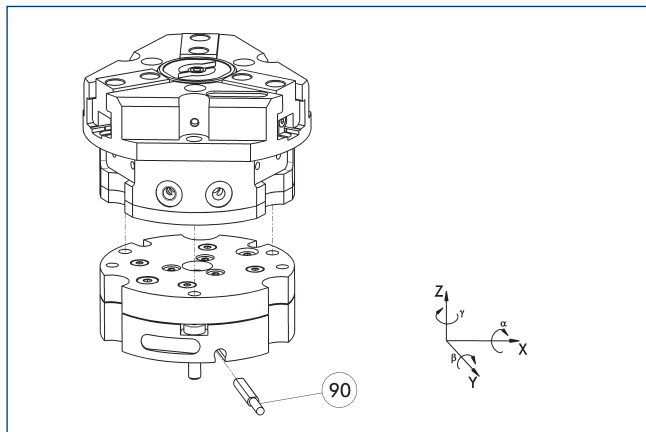


- ② Finger connection
- ⑦② Fit for centering sleeves

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**

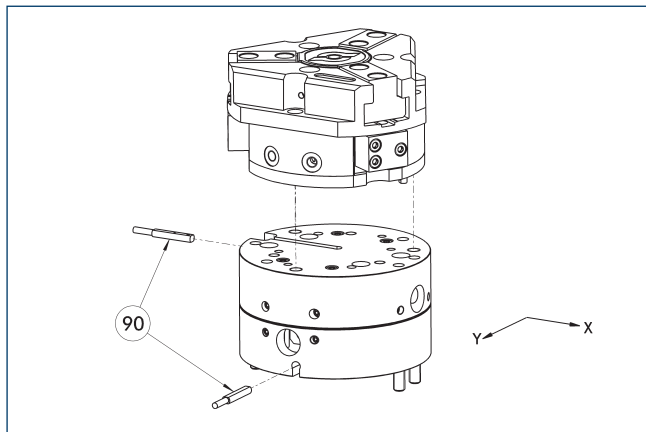


90 Monitoring of locking

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-Z-100-2-MV	0324798	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-100-2-0V	0324799	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

**Compensation unit AGE-F**

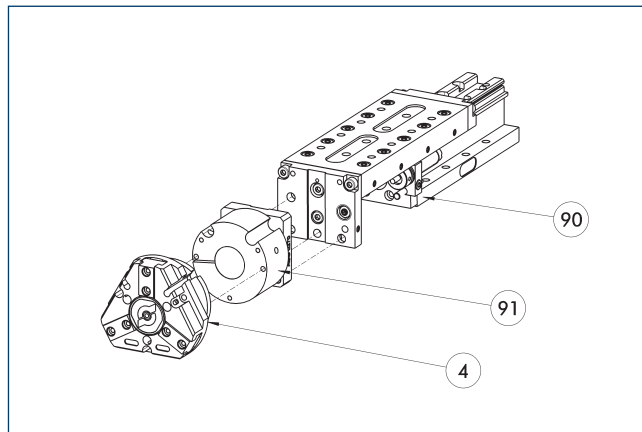


90 Monitoring

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

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	●

**Modular Assembly Automation**

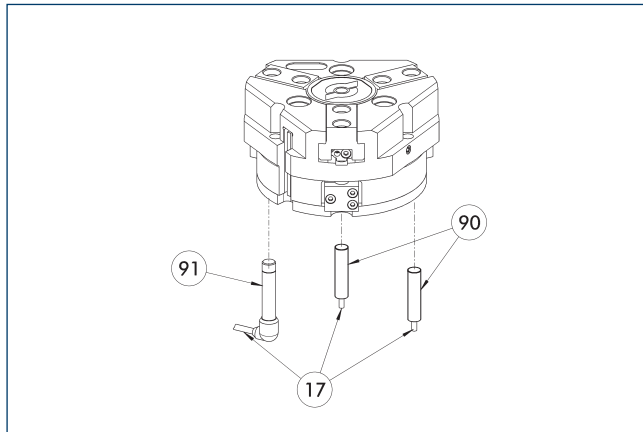


4 Grippers 91 ASG adapter plate

90 CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

### Inductive Proximity Switches



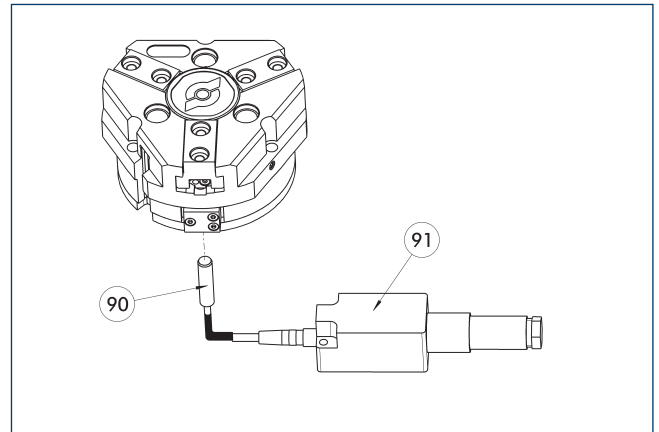
- 17 Cable outlet  
91 Sensor IN..-SA  
90 Sensor IN ...

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



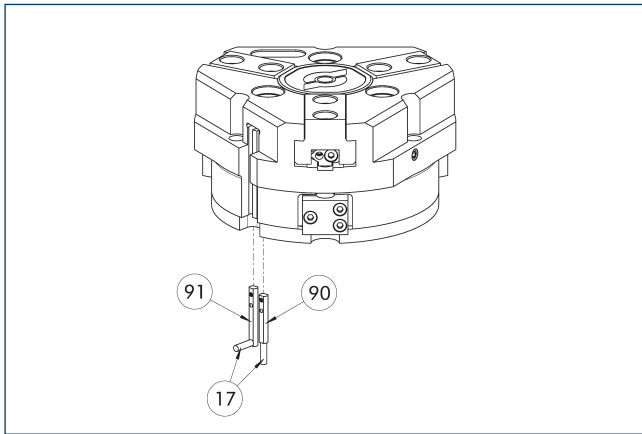
- 90 FPS-S sensor  
91 FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 100-1	0301634	
<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



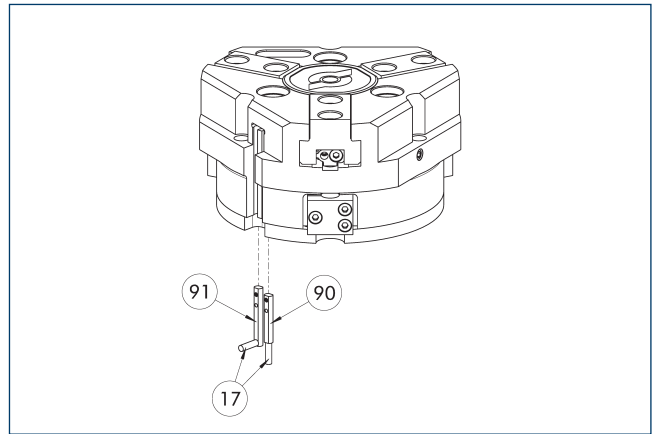
- 17 Cable outlet
- 90 Sensor MMS 22..
- 91 Sensor MMS 22...-SA

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



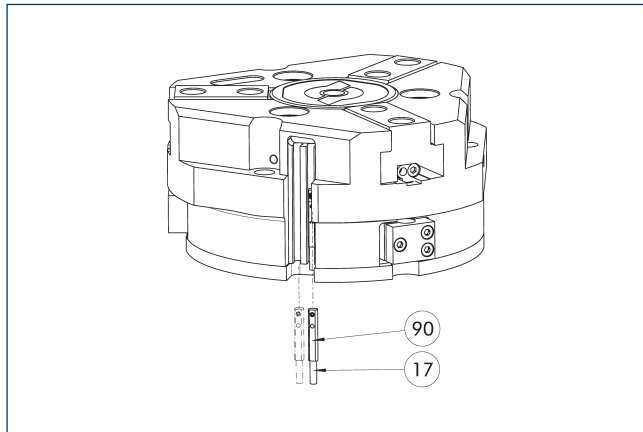
- 17 Cable outlet
- 90 Sensor MMS 22 PI1...
- 91 Sensor MMS 22 ..-PI1...-SA

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

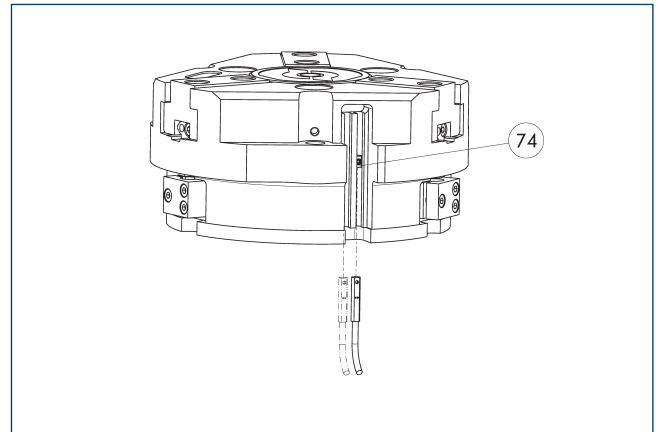
90 MMS 22...-PI2-... sensor

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

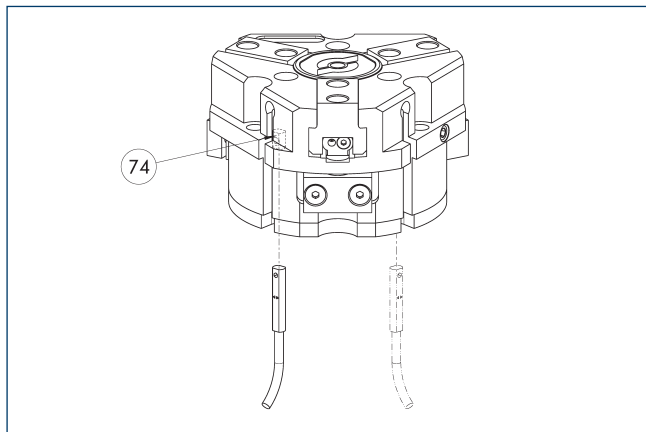
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

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.



**Programmable magnetic switch MMS-I0-Link**



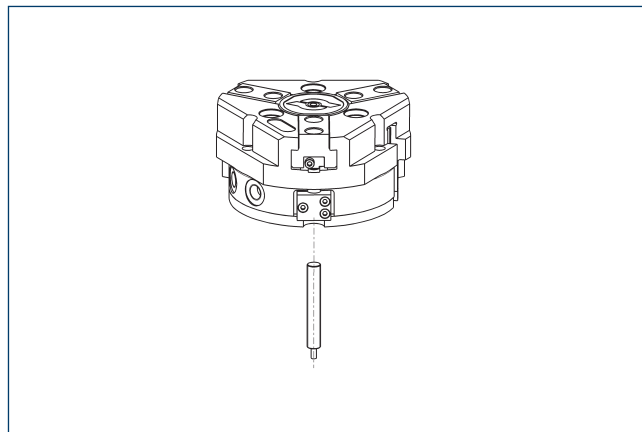
74 Limit stop for sensor

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**

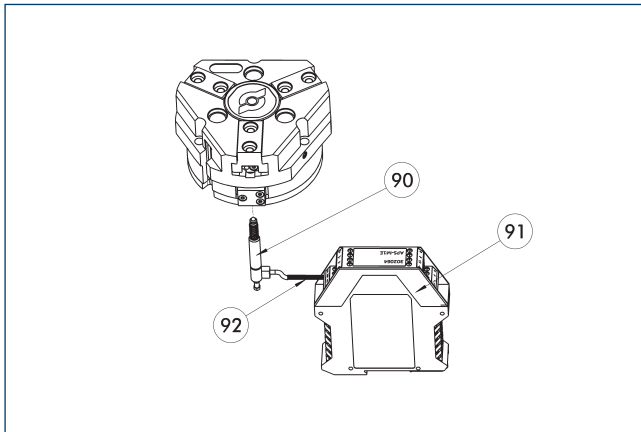


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 100-1	0302109	
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



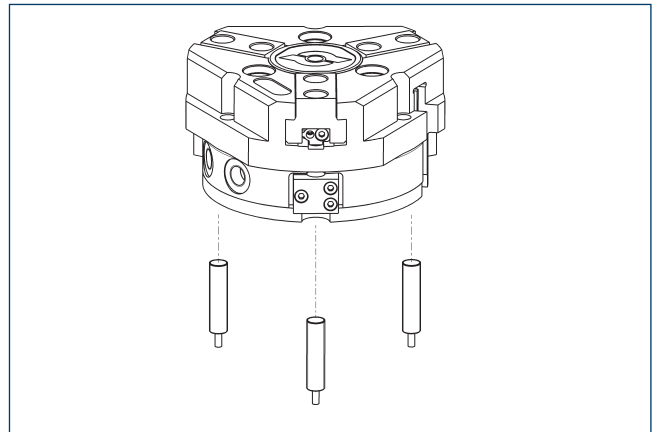
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 100-1	0302079	
<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.

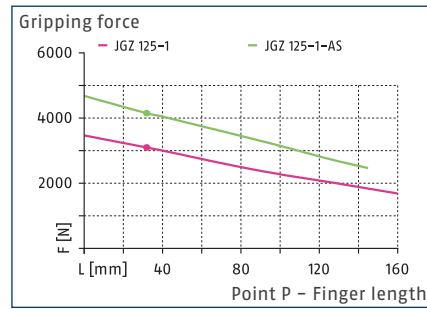
Description	ID	
<b>Attachment kit for proximity switch</b>		
AS-RMS 80 PGN/PZN-plus 100/125	0377726	
<b>Reed Switches</b>		
RMS 80-S-M8	0377721	

- 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.

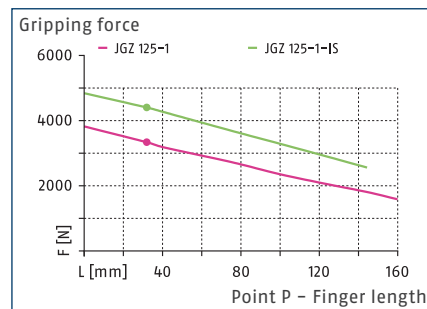




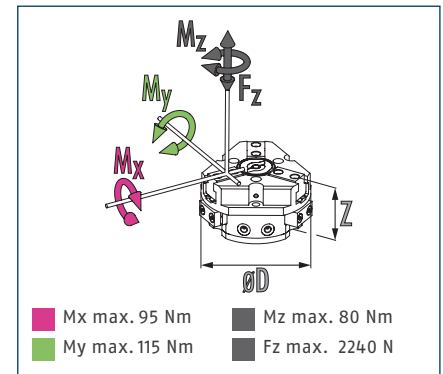
### Gripping force O.D. gripping



### Gripping force I.D. gripping



### Dimensions and maximum loads



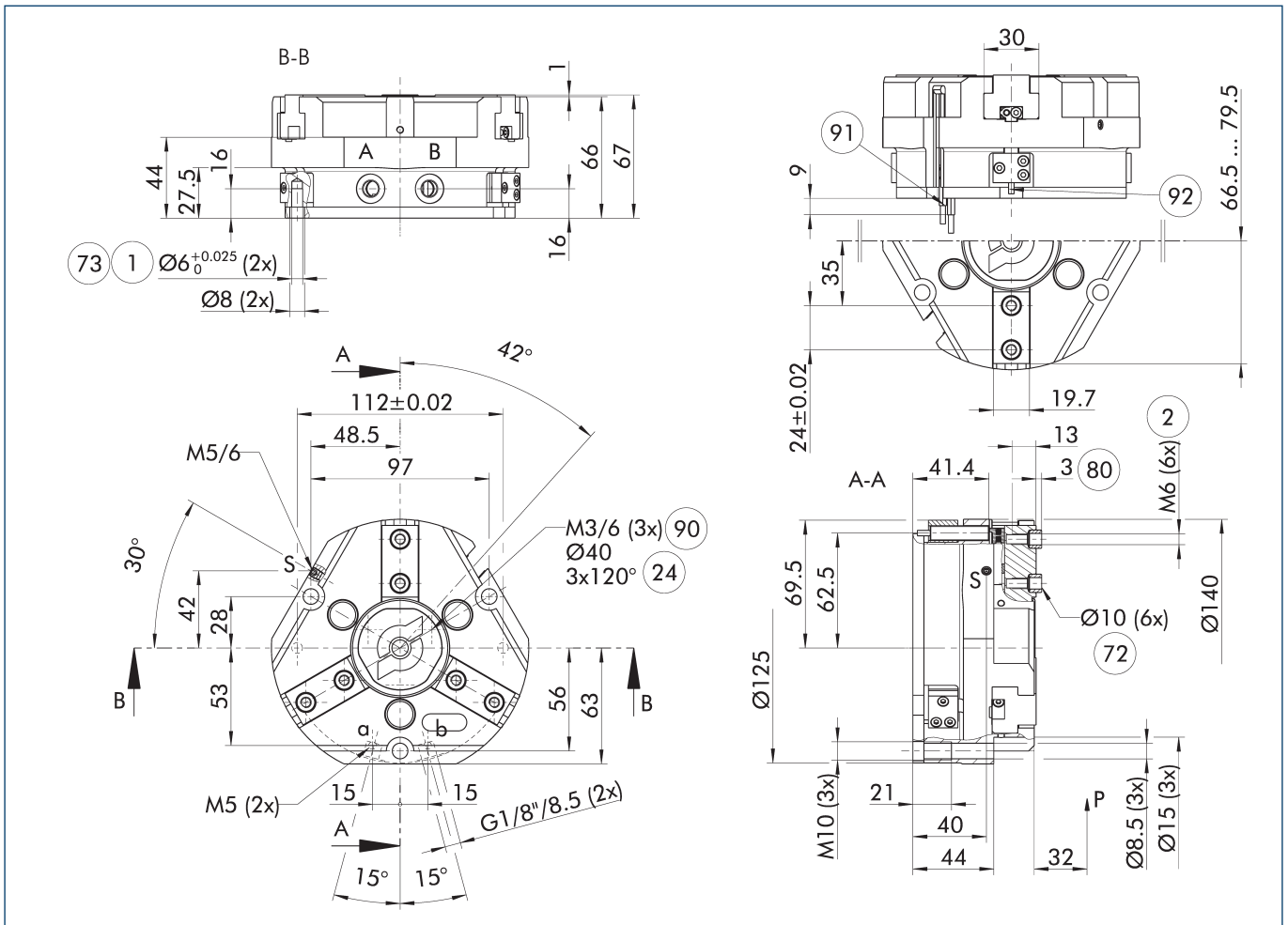
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

### Technical data

Description		JGZ 125-1	JGZ 125-1-AS	JGZ 125-1-IS
ID		0308950	0308951	0308952
Stroke per jaw	[mm]	13	13	13
Closing/opening force	[N]	3100/3330	4150/-	-/4400
Min. spring force	[N]		1050	1070
Weight	[kg]	2.8	3.6	3.6
Recommended workpiece weight	[kg]	15.5	15.5	15.5
Fluid consumption double stroke	[cm <sup>3</sup> ]	230	230	230
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.2/0.2	0.17/0.35	0.35/0.17
Closing/opening time with spring	[s]		0.40	0.40
Max. permissible finger length	[mm]	160	145	145
Max. permissible mass per finger	[kg]	2.1	2.1	2.1
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 Ø D x Z	[mm]	140 x 67	140 x 91.5	140 x 91.5

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

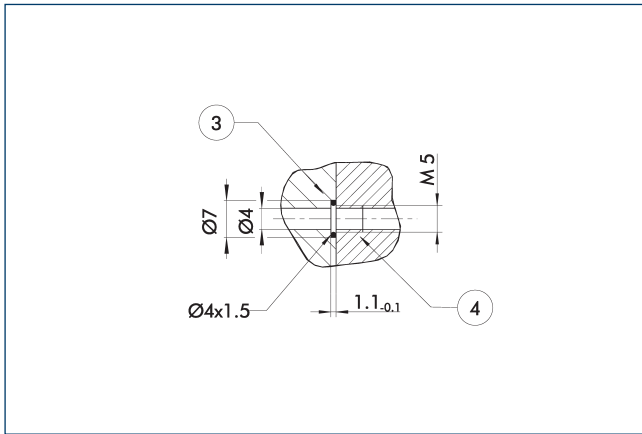


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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 | ⑦② Fit for centering sleeves                                 |
| B, b Main / direct connection, gripper closing | ⑦③ Fit for centering pins                                    |
| S Air purge connection                         | ⑧① Depth of the centering sleeve hole in the counter part    |
| ① Gripper connection                           | ⑨① Thread below the cover for fastening external attachments |
| ② Finger connection                            | ⑨① Sensor MMS 22..   |
| ②④ Bolt circle                                 | ⑨② Sensor IN ...   |

## Hose-free direct connection M5

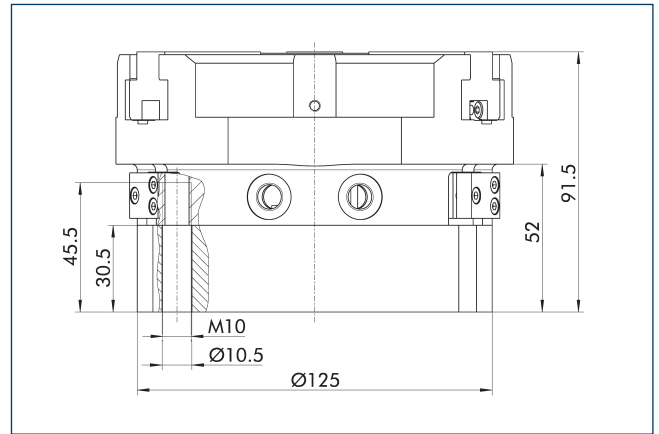


③ Adapter

④ Grippers

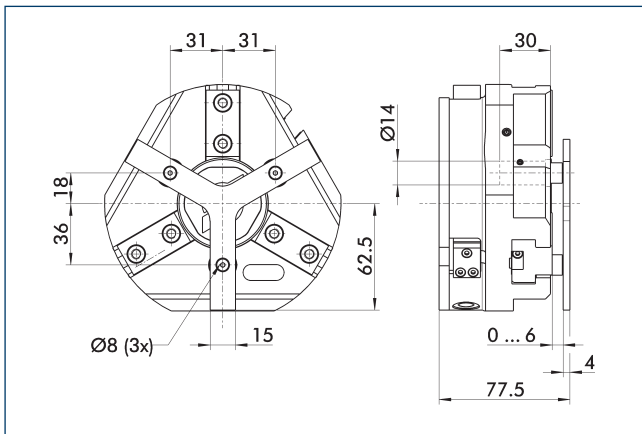
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## 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.

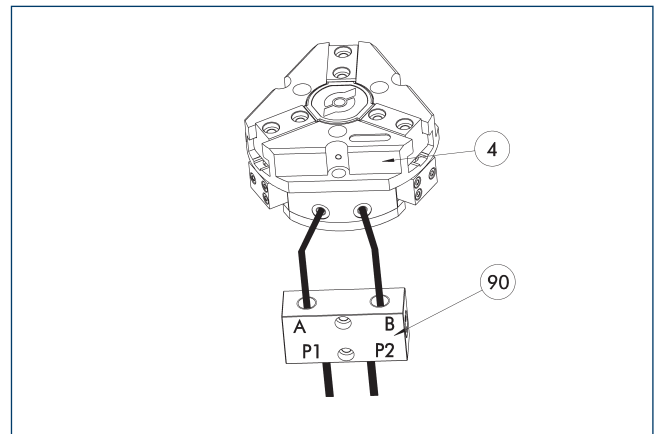
## Spring-loaded pressure piece



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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 125	0303723	6	105

## SDV-P pressure maintenance valve



④ Grippers

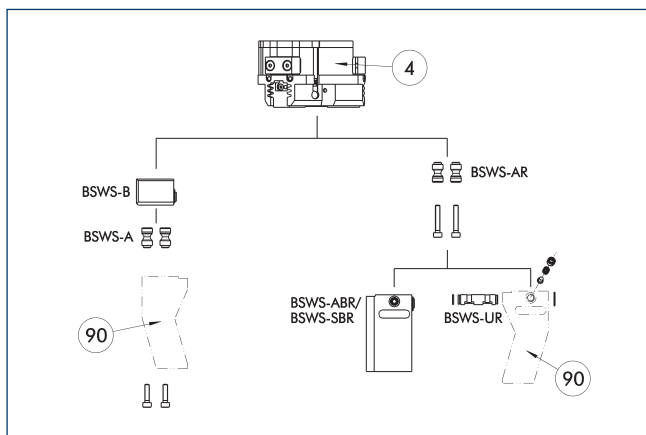
⑨⑩ SDV-P pressure maintenance valve

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

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**



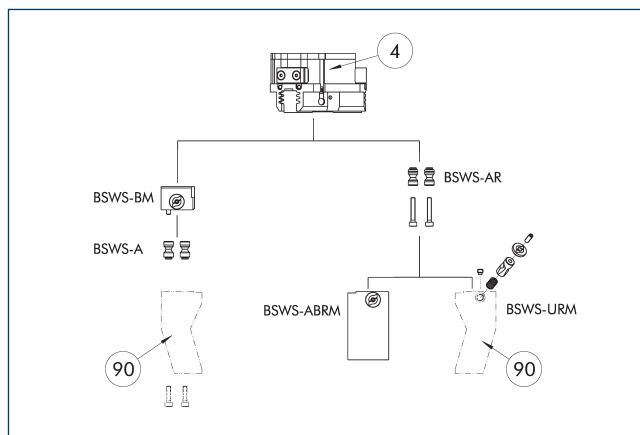
④ Grippers                      ⑨0 Customized gripper fingers

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
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 125	0303028	2
BSWS-AR 125	0300095	2
<b>Quick-change jaw system base</b>		
BSWS-B 125	0303029	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABR-PGZN-plus 125	0300075	1
BSWS-SBR-PGZN-plus 125	0300085	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-UR 125	0302994	1

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

**Jaw quick-change system BSWS-M**



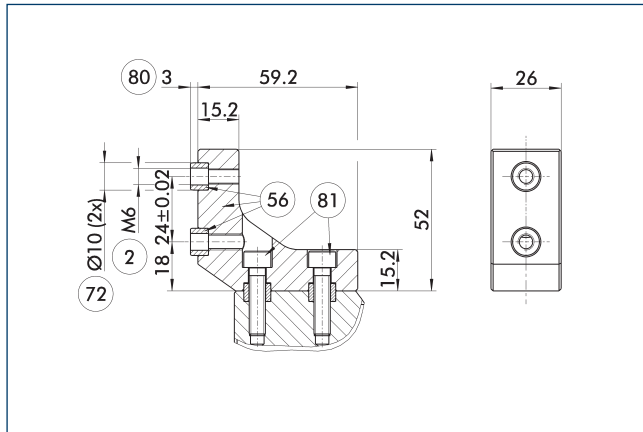
④ Grippers                      ⑨0 Customized gripper fingers

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
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 125	0303028	2
BSWS-AR 125	0300095	2
<b>Quick-change jaw system base</b>		
BSWS-BM 125	1302006	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 125	1420854	1
<b>Jaw quick-change system locking mechanism</b>		
BSWS-URM 125	1398404	1

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

### ZBA-L-plus 125 intermediate jaws

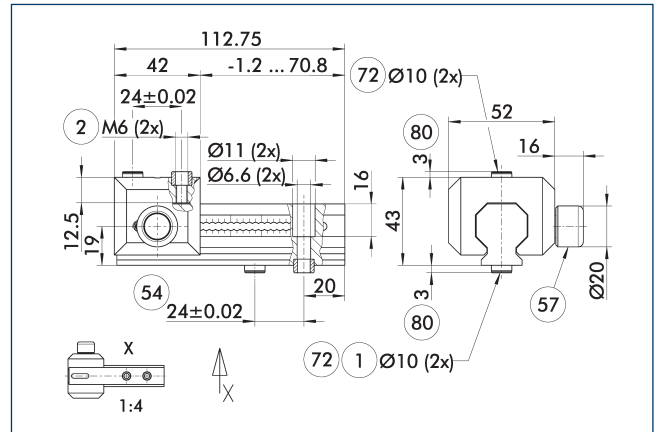


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

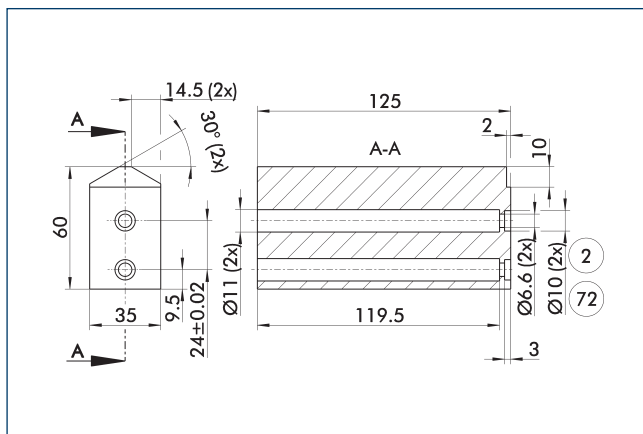


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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
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

### Finger blanks ABR- / SBR-PGZN-plus 125



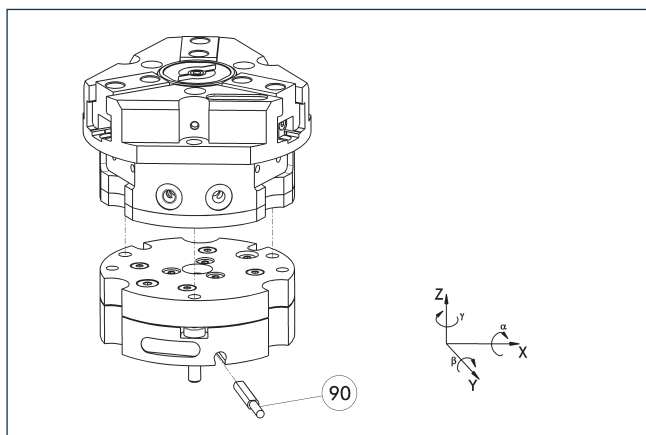
- ② Finger connection
- ⑦② Fit for centering sleeves

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**

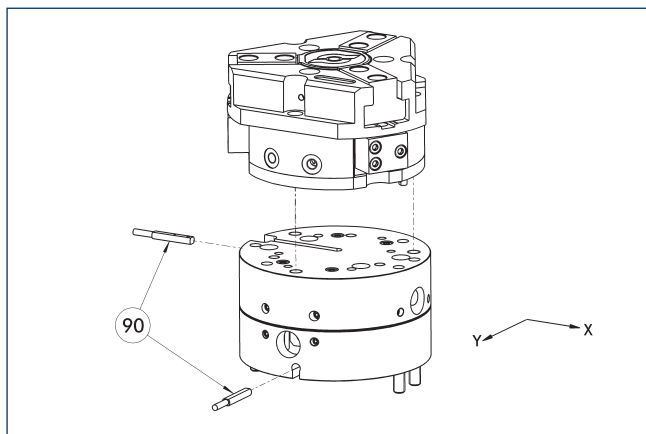


**90** Monitoring of locking

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-Z-125-3-MV	0324820	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-125-3-0V	0324821	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

**Compensation unit AGE-F**

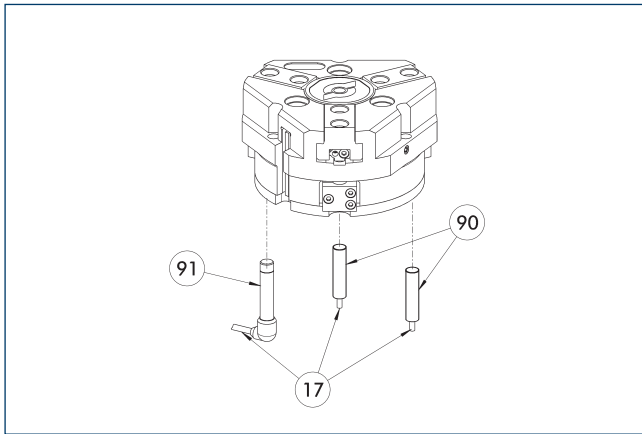


**90** Monitoring

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

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	●

### Inductive Proximity Switches



17 Cable outlet

91 Sensor IN..-SA

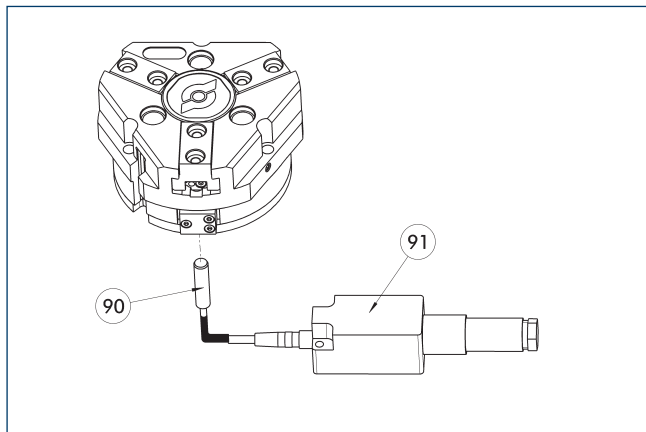
90 Sensor IN ...

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**



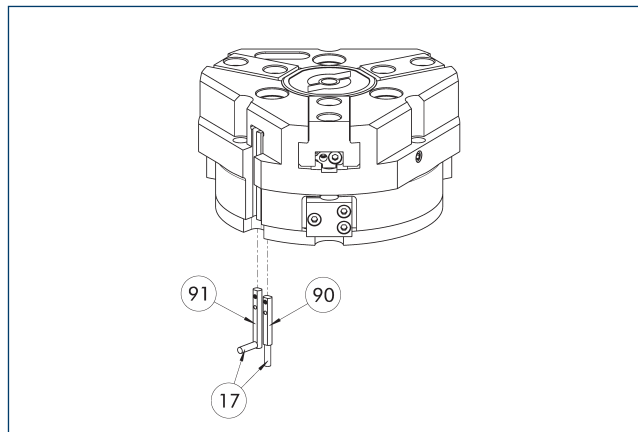
90 FPS-S sensor                      91 FPS-F5 evaluation electronic

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	
<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**



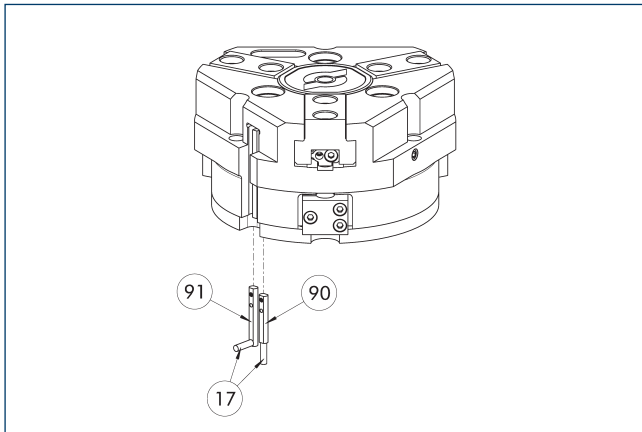
17 Cable outlet                      91 Sensor MMS 22...-SA  
90 Sensor MMS 22..

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



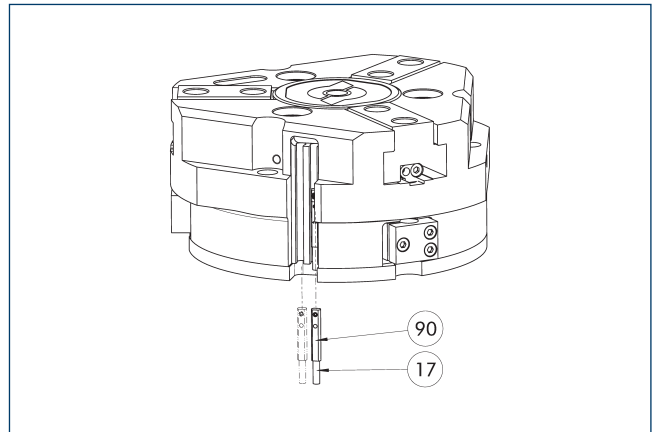
- ⑰ Cable outlet
- ① Sensor MMS 22 ..-PI1-...-SA
- ⑨ Sensor MMS 22 PI1-...

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



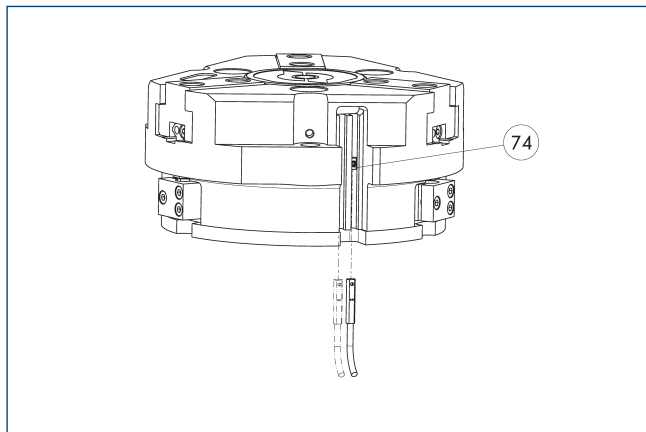
- ⑰ Cable outlet
- ⑨ MMS 22...-PI2-... sensor

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**



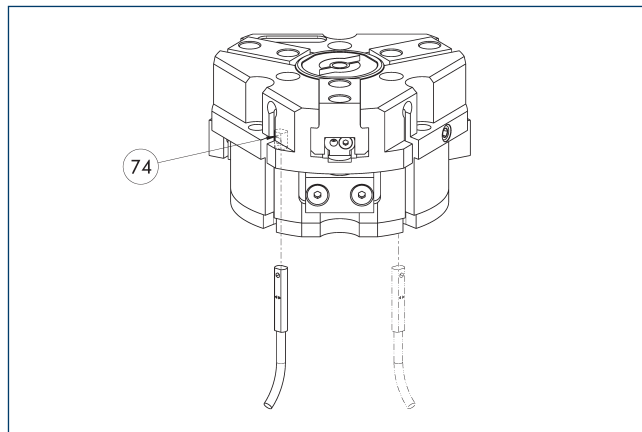
74 Limit stop for sensor

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 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.

**Programmable magnetic switch MMS-IO-Link**



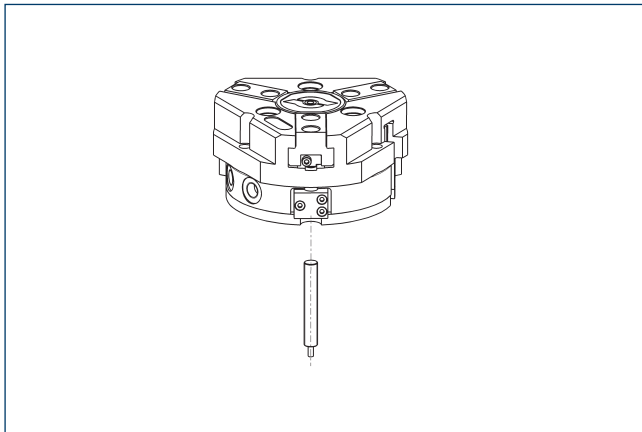
74 Limit stop for sensor

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

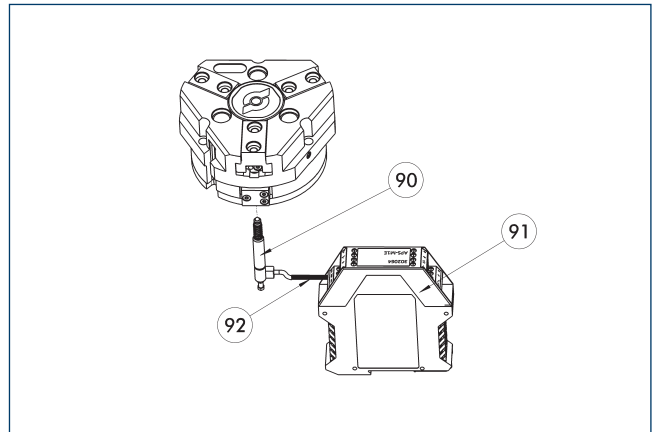


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 125-1	0302111	
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



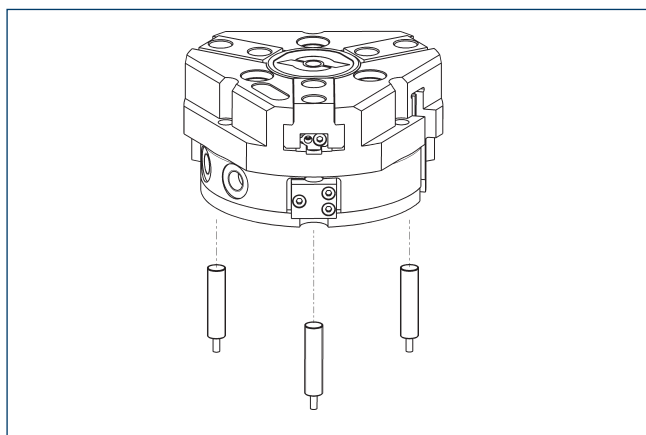
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Description	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 125-1	0302081	
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	

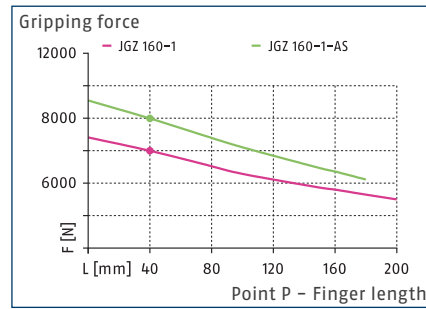
① Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. Two mounting kits are required for each gripper. For sensor cables, note the minimum permissible bending radii. These are generally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

# JGZ 160

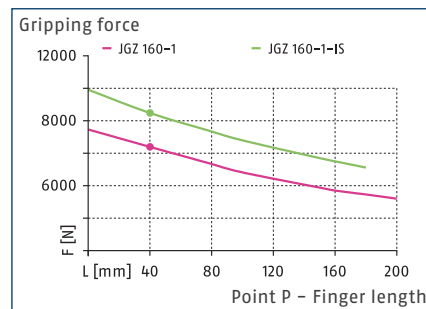
Universal gripper



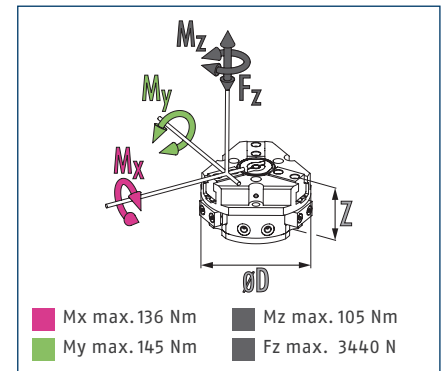
## Gripping force O.D. gripping



## 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.

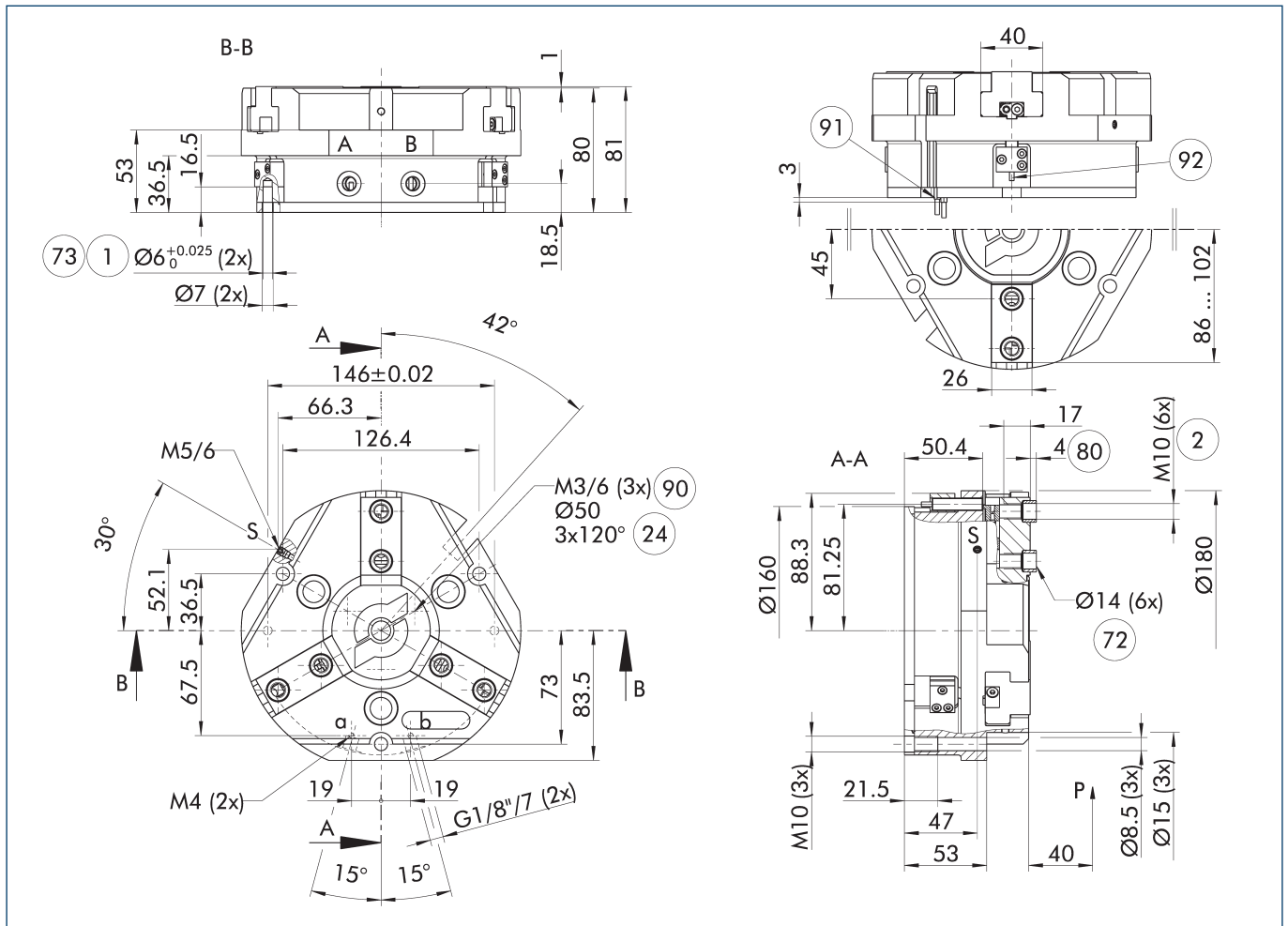
## Technical data

Description		JGZ 160-1	JGZ 160-1-AS	JGZ 160-1-IS
ID		0308960	0308961	0308962
Stroke per jaw	[mm]	16	16	16
Closing/opening force	[N]	6000/6390	7990/-	-/8480
Min. spring force	[N]		1990	2090
Weight	[kg]	5.6	8	8
Recommended workpiece weight	[kg]	30	30	30
Fluid consumption double stroke	[cm <sup>3</sup> ]	520	520	520
Min./nom./max. operating pressure	[bar]	2/6/8	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]	0.5/0.5	0.4/0.8	0.8/0.4
Closing/opening time with spring	[s]		0.80	0.80
Max. permissible finger length	[mm]	200	180	180
Max. permissible mass per finger	[kg]	3.5	3.5	3.5
IP protection class		40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02
Dimensions Ø D x Z	[mm]	180 x 81	180 x 111	180 x 111

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.

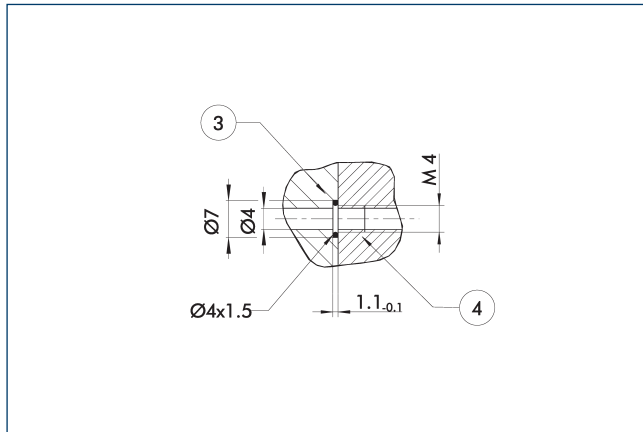
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- ②④ Bolt circle
- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑨⑩ Thread below the cover for fastening external attachments
- ⑨① Sensor MMS 22..
- ⑨② Sensor IN ...

# JGZ 160

Universal gripper

## Hose-free direct connection M4

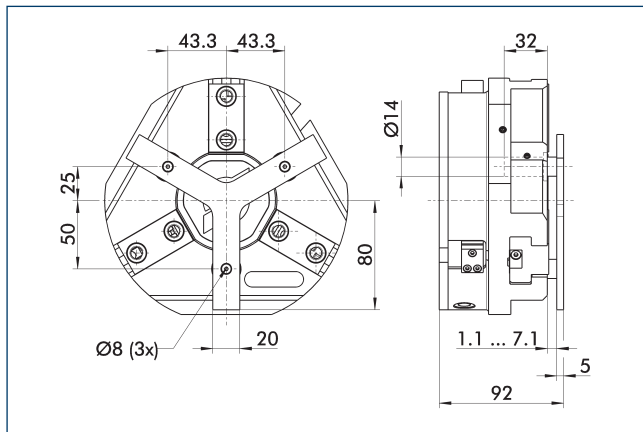


③ Adapter

④ Grippers

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

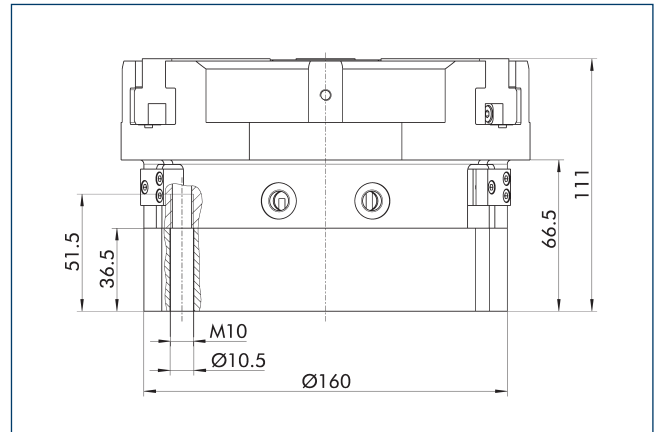
## Spring-loaded pressure piece



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

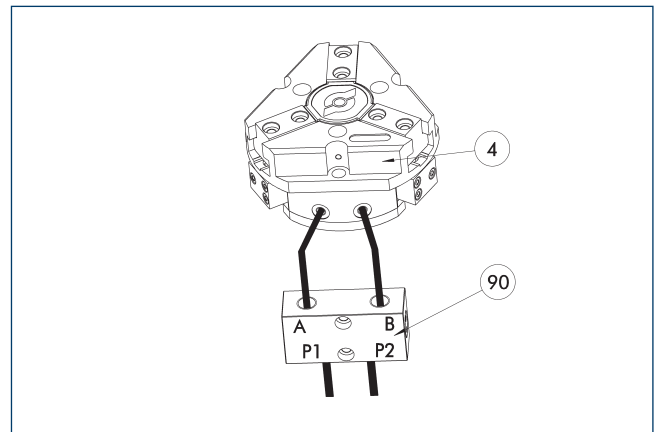
Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6	150

## 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.

## SDV-P pressure maintenance valve



④ Grippers

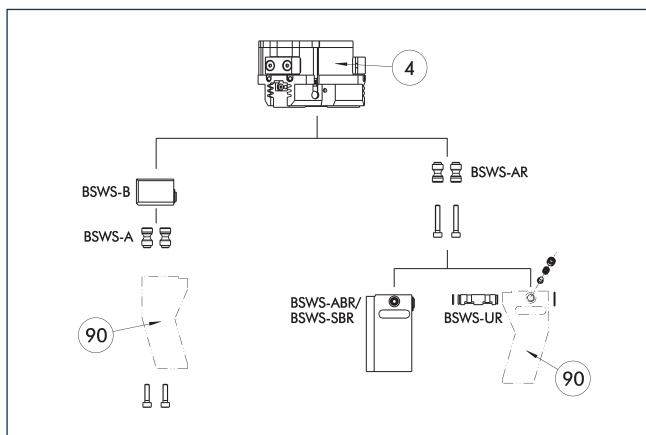
⑨⑩ SDV-P pressure maintenance valve

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

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**



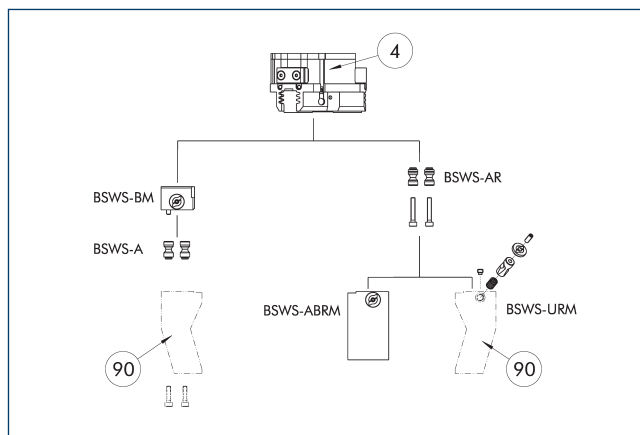
④ Grippers                      ⑨0 Customized gripper fingers

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
<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.

**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.

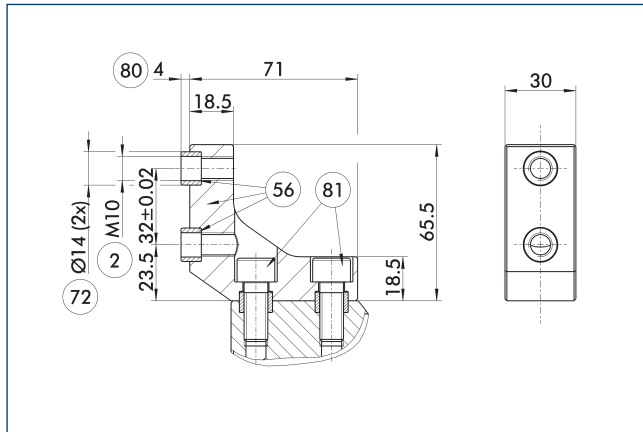
Description	ID	Scope of delivery
<b>Jaw quick-change system adapter pin</b>		
BSWS-A 160	0303030	2
BSWS-AR 160	0300096	2
<b>Quick-change jaw system base</b>		
BSWS-BM 160	1418962	1
<b>Jaw quick-change system finger blank</b>		
BSWS-ABRM-PGZN-plus 160	1420855	1
<b>Jaw quick-change system locking mechanism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

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

# JGZ 160

Universal gripper

## ZBA-L-plus 160 intermediate jaws

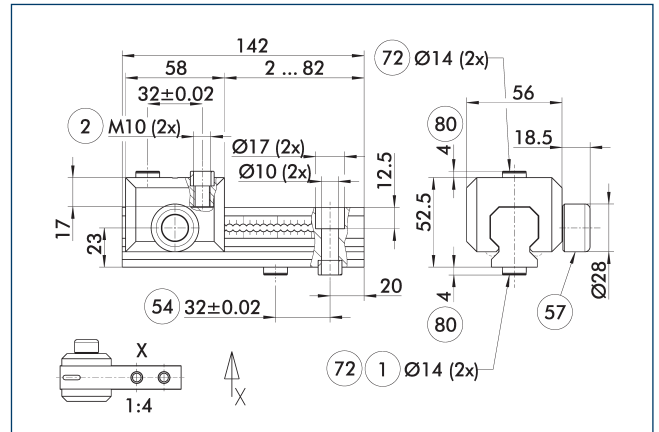


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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
Intermediate jaw				
ZBA-L-plus 160	0311762	Aluminum	PGN-plus 160	1

## UZB 160 universal intermediate jaw

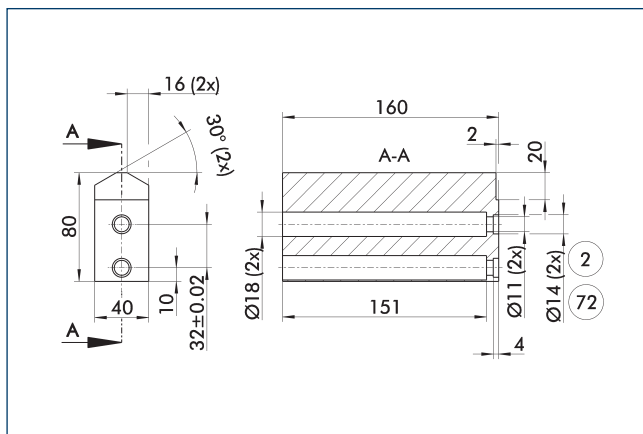


- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧⑩ Depth of the centering sleeve hole in the counter part

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 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

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

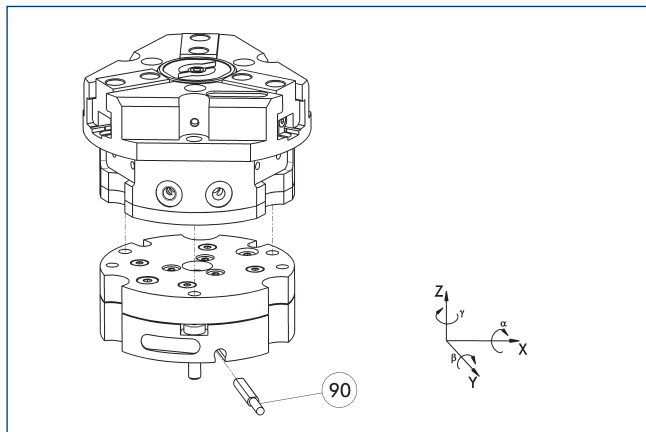


- ② Finger connection
- ⑦② Fit for centering sleeves

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	1
SBR-PGZN-plus 160	0300024	Steel	1

Tolerance compensation unit TCU

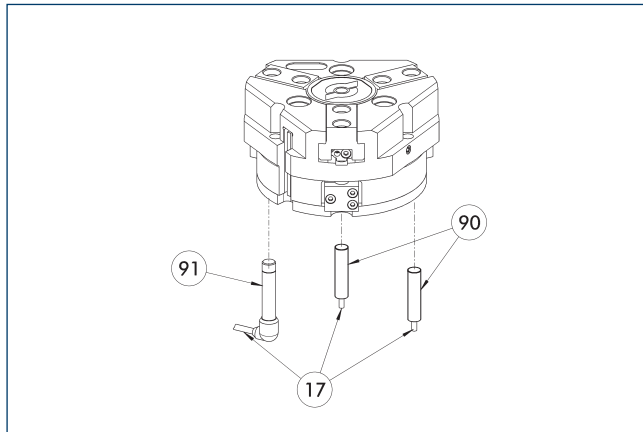


90 Monitoring of locking

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-Z-160-3-MV	0324838	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-160-3-0V	0324839	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

### Inductive Proximity Switches



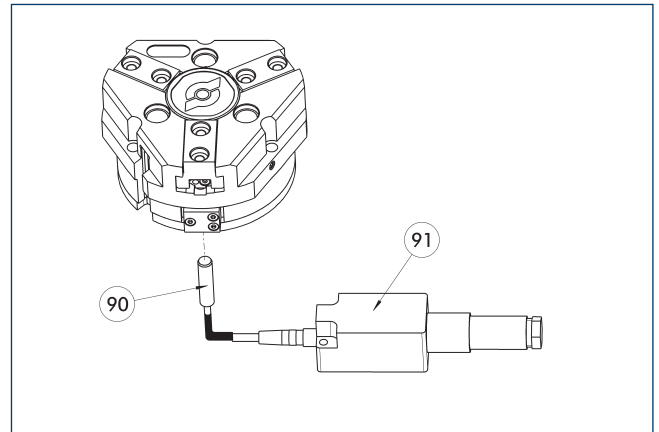
- ①⑦ Cable outlet
- ①⑨ Sensor IN..-SA
- ①⑩ Sensor IN ...

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	
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



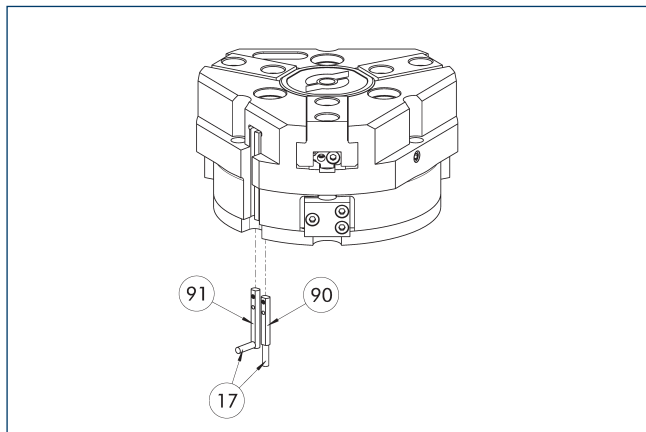
- ①⑨ FPS-S sensor
- ①⑩ FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

Description	ID	
<b>Attachment kit for FPS</b>		
AS-FPS-PGZN-plus 160-1	0301638	
<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**



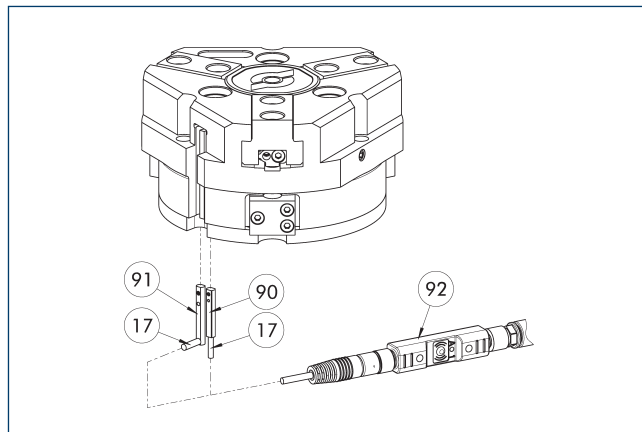
- ①7 Cable outlet
- ①90 Sensor MMS 22..
- ①91 Sensor MMS 22...-SA

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 informational and technical data can be found in the catalog chapter sensor system.

**Programmable magnetic switch MMS 22-PI1**



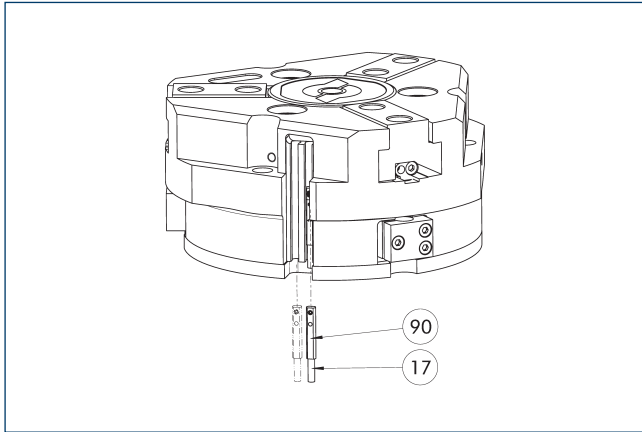
- ①7 Cable outlet
- ①90 Sensor MMS 22 PI1-...
- ①91 Sensor MMS 22 ..-PI1-...-SA
- ①92 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

### Programmable magnetic switch MMS 22-PI2



17 Cable outlet

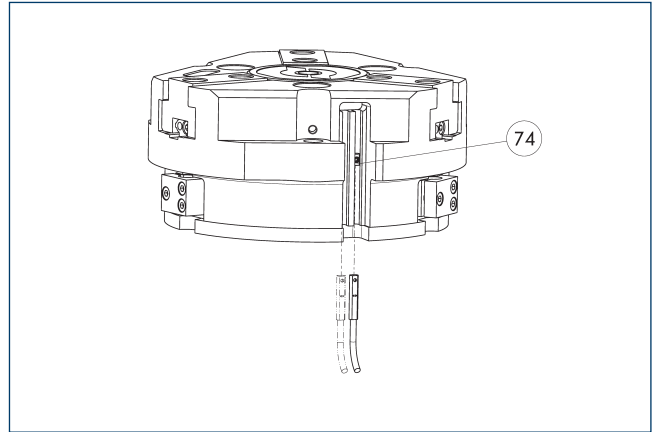
90 MMS 22...-PI2-... sensor

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

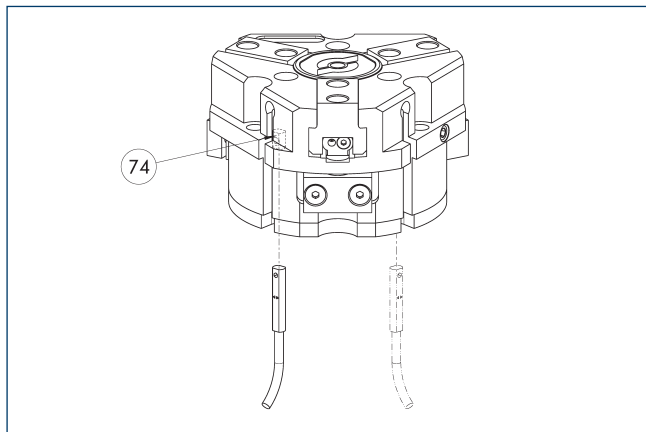
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

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.



**Programmable magnetic switch MMS-I0-Link**



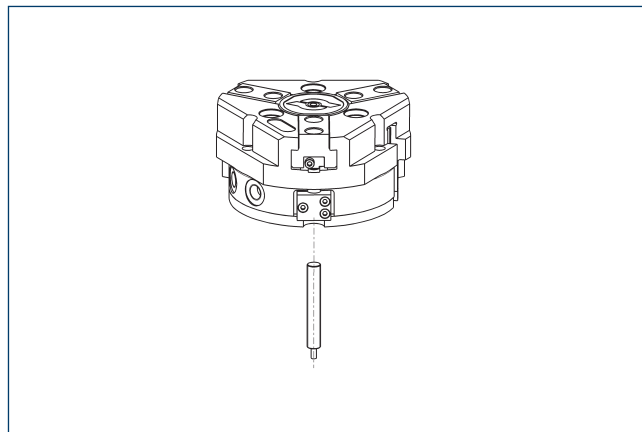
74 Limit stop for sensor

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**

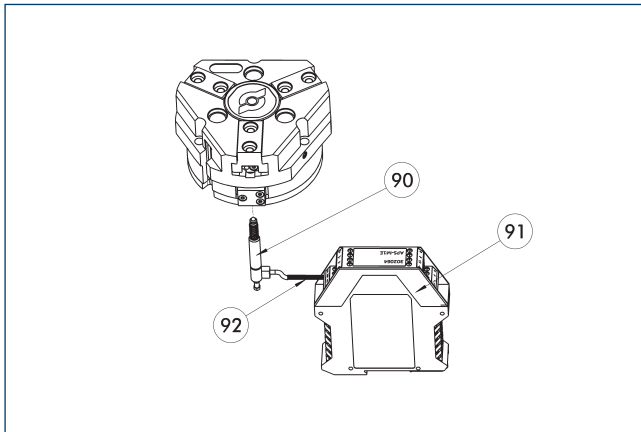


No-contact measuring, analog multi-position monitoring for any number of positions.

Description	ID	Often combined
Mounting kit for APS-Z80		
AS-APS-Z80-PGZN-plus 160-1/200-2/240-2	0302113	
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



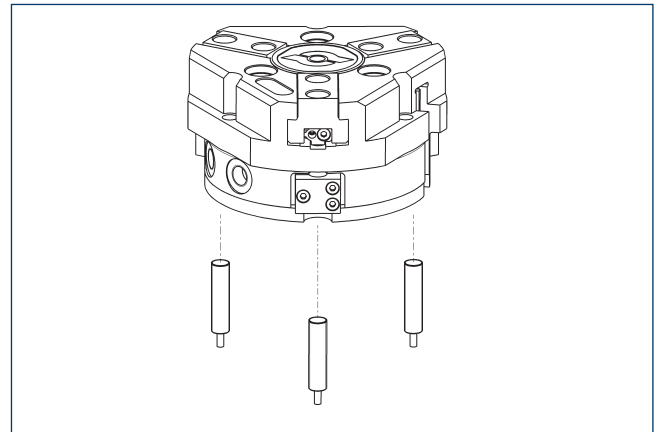
- ⑨⑩ APS-M1S sensor
- ⑨② APS-K extension cable
- ⑨① APS-M1E electronic processor

Analog multi position monitoring for any desired positions

Description	ID	
<b>Mounting kit for APS-M1</b>		
AS-APS-M1-PGZN-plus 160-1/240-2	0302083	
<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 MPZ

# MPZ

Gripper for small components

## Precise. Compact. Reliable.

### Gripper for small components MPZ

Small 3-finger centric gripper with base jaws guided on T-slots

#### Field of application

for universal use in clean to slightly dirty working environments, especially suitable for gripping small workpieces

#### Advantages – Your benefits

**T-slot guidance** for precise gripping at high moment loads

**Finger position monitoring** also possible via FPS

**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



Sizes  
Quantity: 6



Weight  
0.01 .. 0.29 kg



Gripping force  
20 .. 310 N



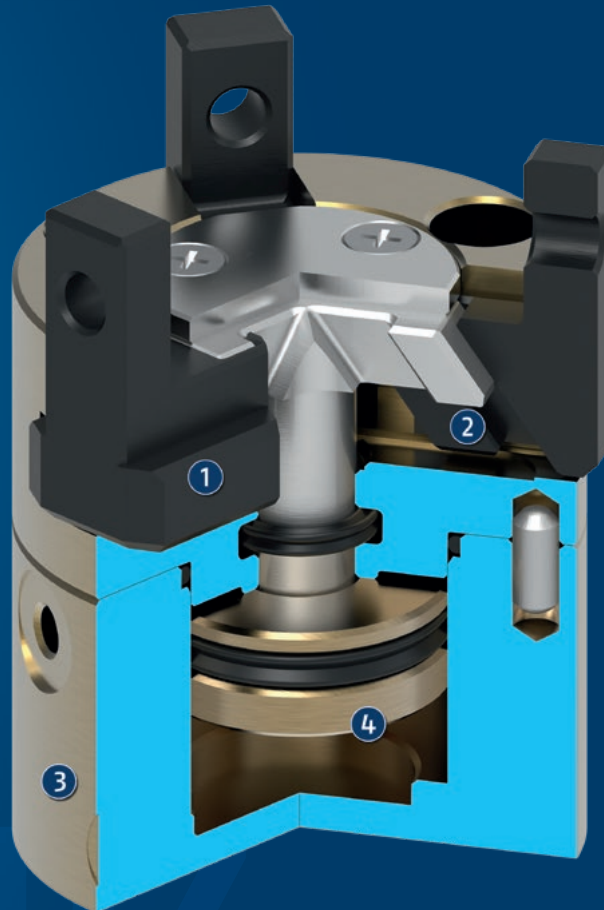
Stroke per jaw  
1 .. 5 mm



Workpiece weight  
0.05 .. 1.15 kg

## Functional description

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



- ① **T-slot guidance**  
for precise gripping with high moment loads
- ② **Wedge-hook design**  
for high force transmission and centric gripping

- ③ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ④ **Drive**  
pneumatic, efficient, and easy to handle

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Base jaw material:** Steel

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

**Warranty:** 24 months

**Scope of delivery:** Centering sleeves, centering pins, 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).

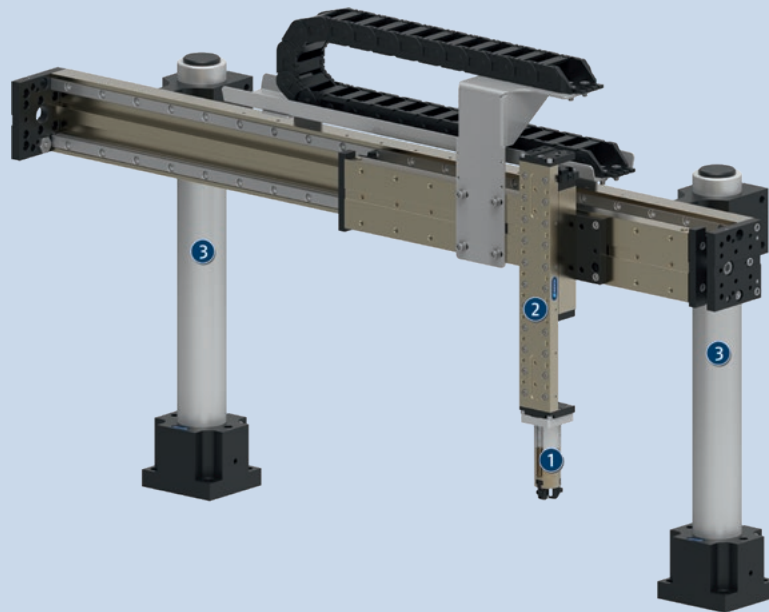
**Finger length:** is measured from the reference surface as the distance P in direction to the main axis.

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

Pneumatically driven 2-axis line gantry with centric gripper for gripping and repositioning small round workpieces.

- ① 3-finger centric gripper MPZ
- ② Linear module LM

- ③ Pillar assembly system SAS



## SCHUNK offers more ...

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



Miniature swivel unit



Linear module



Pick & Place Unit



Quick change system



Flexible position sensor



Micro valve



Pressure maintenance valve



Finger blank



Magnetic 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.

**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.

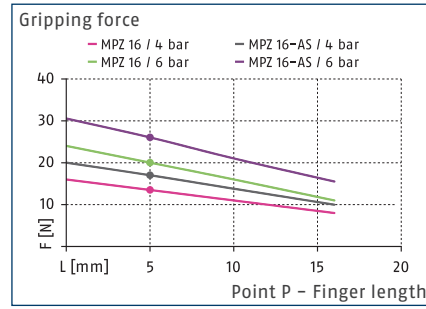
**NEW: Version with food -compliant lubrication (H1G):** as a solution for an easy entry into medical technology, lab automation, pharmaceutical and food industry. The requirements of EN 1672-2:2020 are not fully met.

# MPZ 16

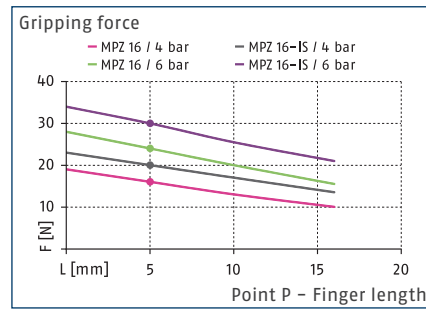
Gripper for small components



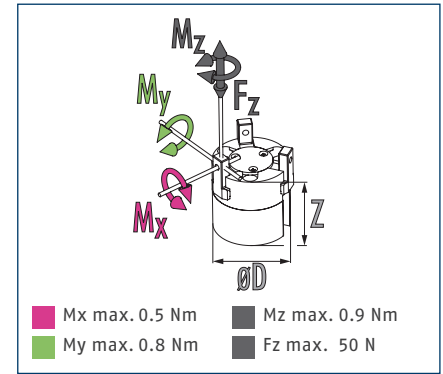
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



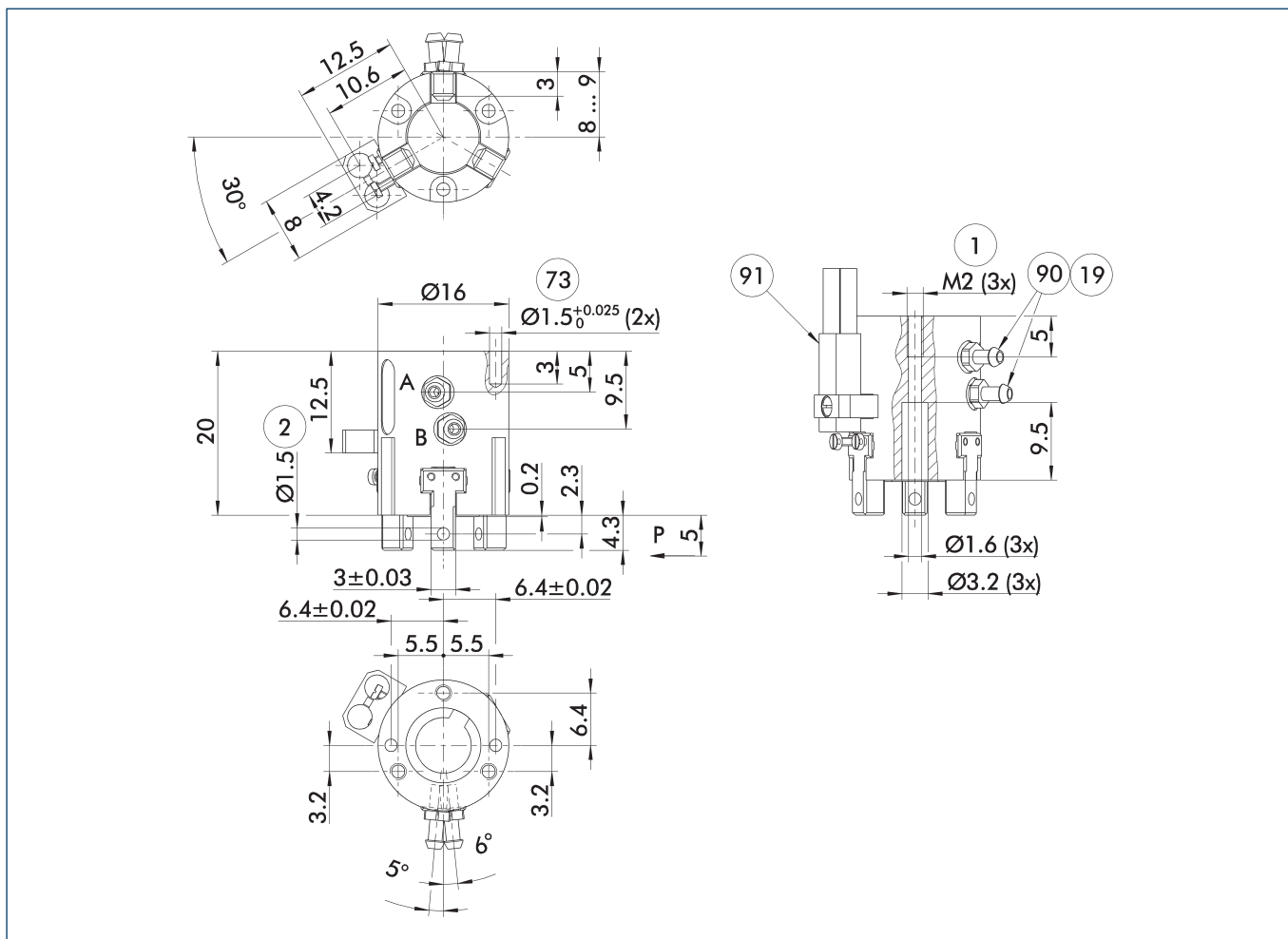
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPZ 16	MPZ 16-AS	MPZ 16-IS
ID		0340480	0340481	0340482
Stroke per jaw	[mm]	1	1	1
Closing/opening force	[N]	20/24	26/-	-/30
Min. spring force	[N]		6	6
Weight	[kg]	0.01	0.02	0.02
Recommended workpiece weight	[kg]	0.05	0.05	0.05
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.15	0.4	0.4
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	16	16	16
Max. permissible mass per finger	[kg]	0.02	0.02	0.02
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
Cleanroom class ISO 14644-1:1999		5	5	5
Dimensions Ø D x Z	[mm]	16 x 20	16 x 26	16 x 26
<b>Options and their characteristics</b>				
H1 grease version		1475795	1475796	1475797

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

① Gripper connection

② Finger connection

⑱ Air connection

⑭ Fit for centering pins

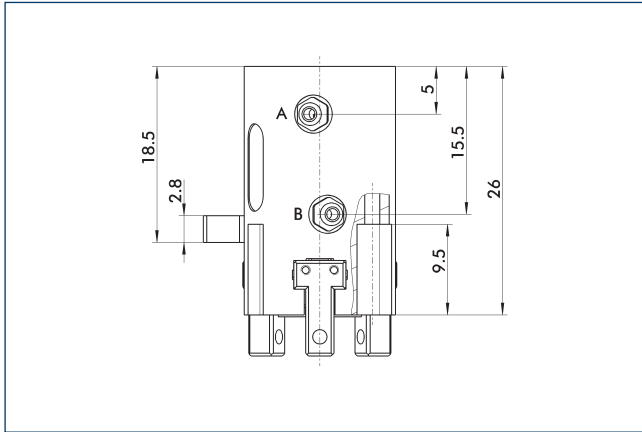
⑲ Bosch-Rexroth compressed air hose, TU1-S (Ø 3.0-0.6) series, Order no.: 1820712066 (-67/-68/-69)

⑲ Sensor IN ...

# MPZ 16

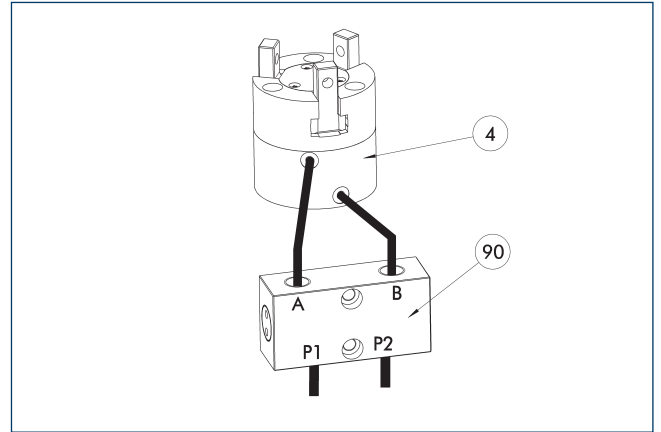
Gripper for small components

## 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.

## SDV-P pressure maintenance valve



④ Grippers

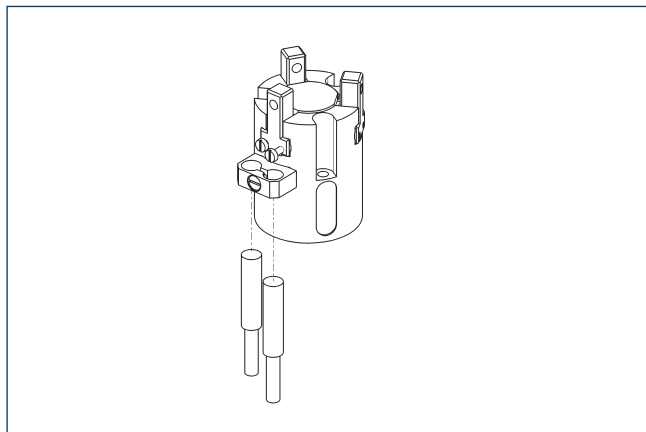
⑨⑩ SDV-P pressure maintenance valve

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).

## Inductive proximity switches



Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switches		
IN 30K-S-M8-PNP	1001272	
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	

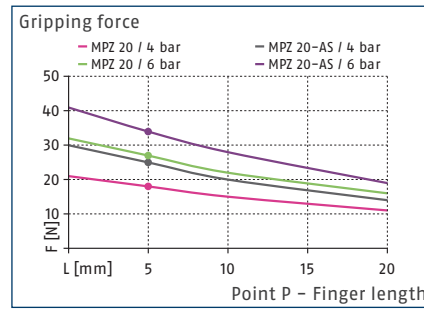
- ① Two sensors are required per unit for monitoring two positions. On option, extension cables and sensor distributors are available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor system.

# MPZ 20

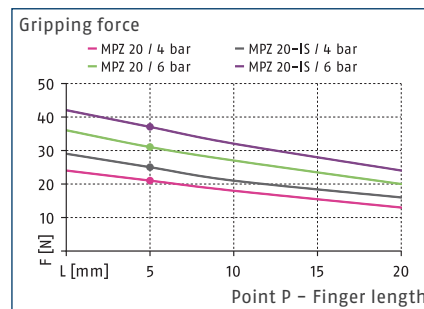
Gripper for small components



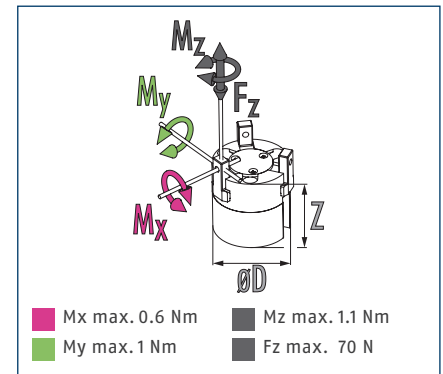
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



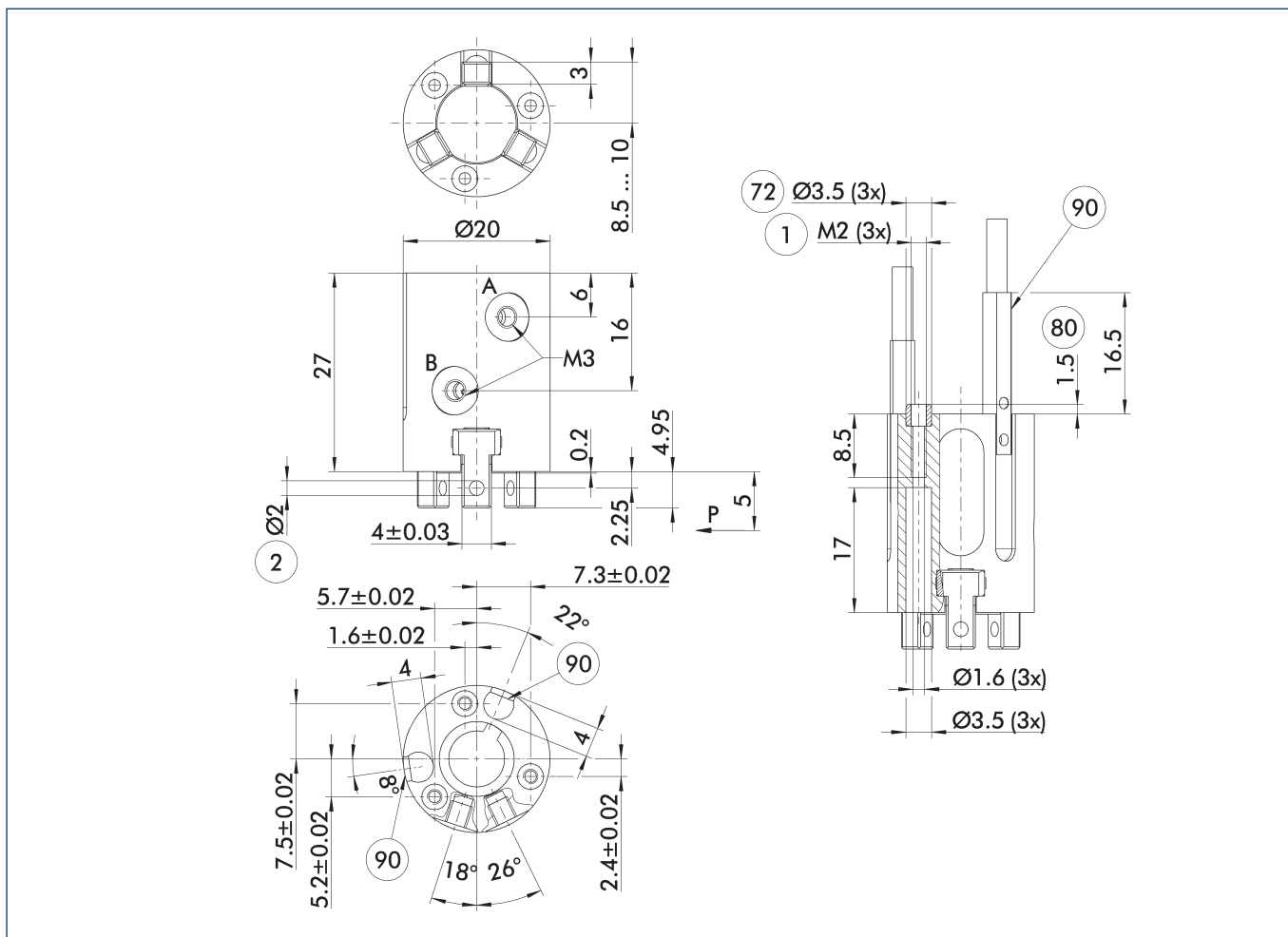
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPZ 20	MPZ 20-AS	MPZ 20-IS
ID		0340490	0340491	0340492
Stroke per jaw	[mm]	1.5	1.5	1.5
Closing/opening force	[N]	26/30	34/-	-/38
Min. spring force	[N]		8	8
Weight	[kg]	0.02	0.03	0.03
Recommended workpiece weight	[kg]	0.1	0.1	0.1
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.3	0.7	0.7
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	20	20	20
Max. permissible mass per finger	[kg]	0.03	0.03	0.03
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
Cleanroom class ISO 14644-1:1999		5	5	5
Dimensions Ø D x Z	[mm]	20 x 27	20 x 33	20 x 33
<b>Options and their characteristics</b>				
H1 grease version		1475798	1475799	1475820

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

① Gripper connection

② Finger connection

⑦ Fit for centering sleeves

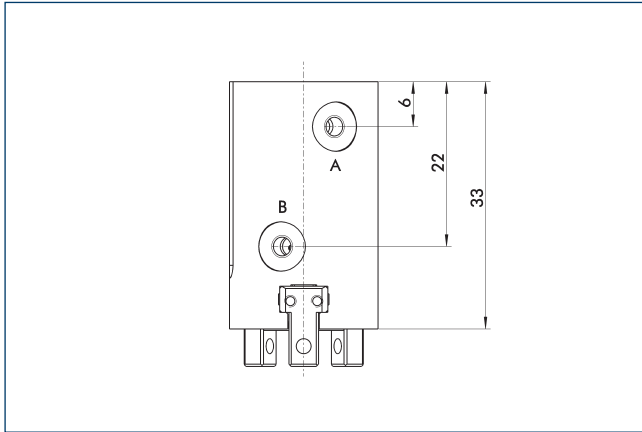
⑧ Depth of the centering sleeve hole in the counter part

⑨ Sensor MMS 22..

# MPZ 20

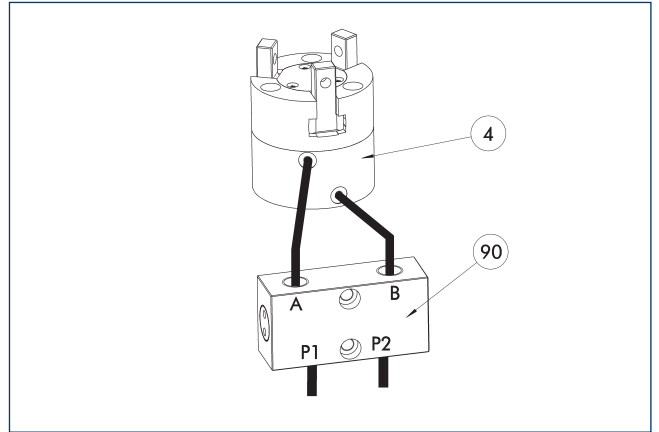
Gripper for small components

## 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.

## SDV-P pressure maintenance valve



④ Grippers

⑨⑩ SDV-P pressure maintenance valve

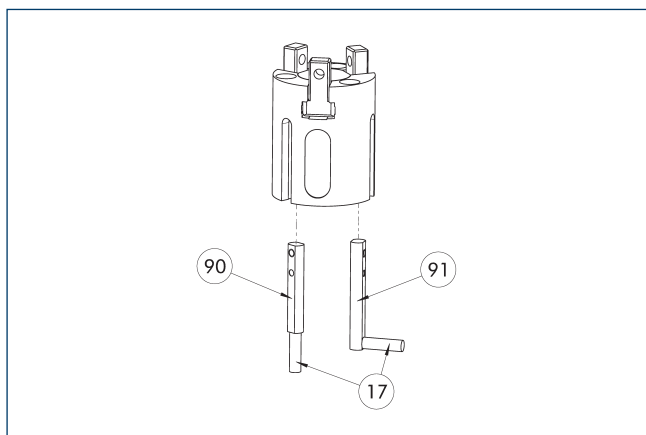
The SDV-P pressure maintenance valve ensures in emergency STOP situations that the pressure in the piston chamber of pneumatic gripper, swivel, linear, and quick-change modules is temporarily maintained.

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).



**Programmable magnetic switch MMS 22-PI1**



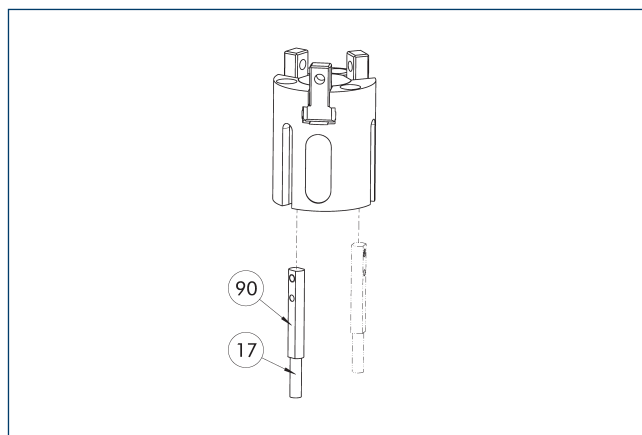
- ⑰ Cable outlet
- ① Sensor MMS 22 ..-PI1-...-SA
- ⑨ Sensor MMS 22 PI1-...

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.

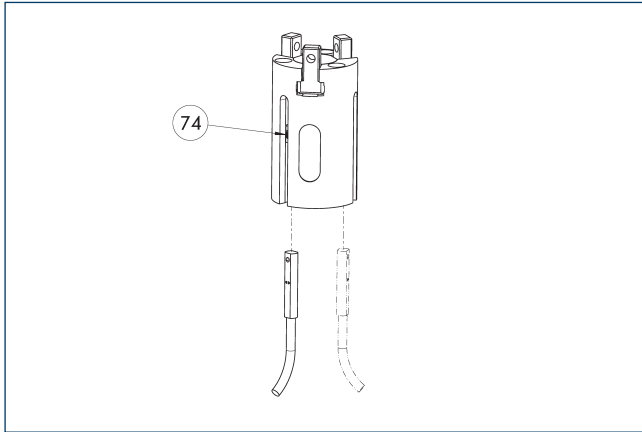
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

# MPZ 20

Gripper for small components

## 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.

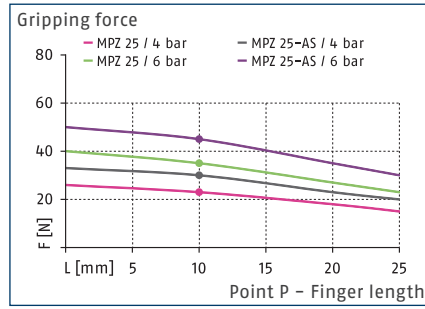


# MPZ 25

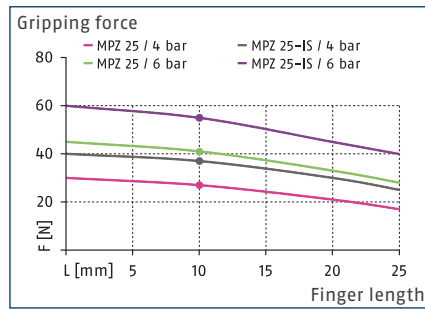
Gripper for small components



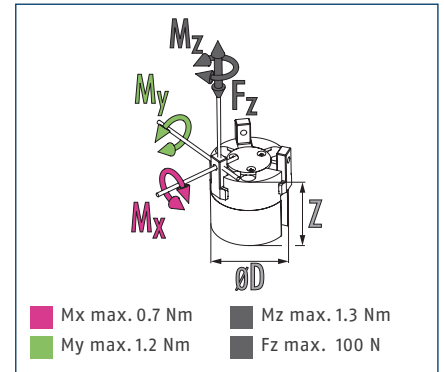
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



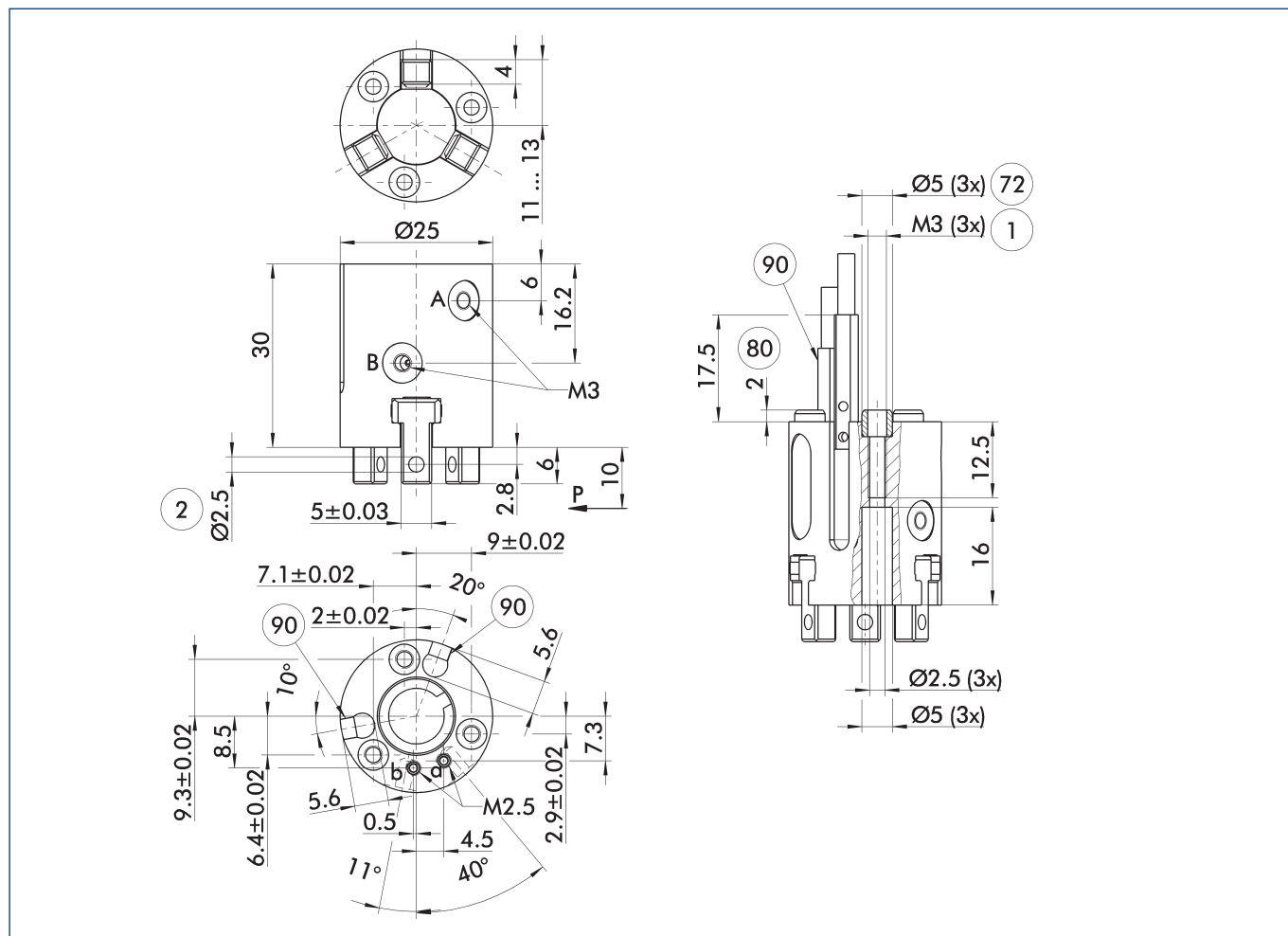
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		MPZ 25	MPZ 25-AS	MPZ 25-IS
ID		0340500	0340501	0340502
Stroke per jaw	[mm]	2	2	2
Closing/opening force	[N]	35/40	47/-	-/55
Min. spring force	[N]		12	15
Weight	[kg]	0.04	0.06	0.06
Recommended workpiece weight	[kg]	0.2	0.2	0.2
Fluid consumption double stroke	[cm <sup>3</sup> ]	0.6	1.8	1.8
Min./nom./max. operating pressure	[bar]	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.20	0.20
Max. permissible finger length	[mm]	25	25	25
Max. permissible mass per finger	[kg]	0.03	0.03	0.03
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
Cleanroom class ISO 14644-1:1999		5	5	5
Dimensions Ø D x Z	[mm]	25 x 30	25 x 42	25 x 42
<b>Options and their characteristics</b>				
H1 grease version		1377410	1314605	1475821

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).

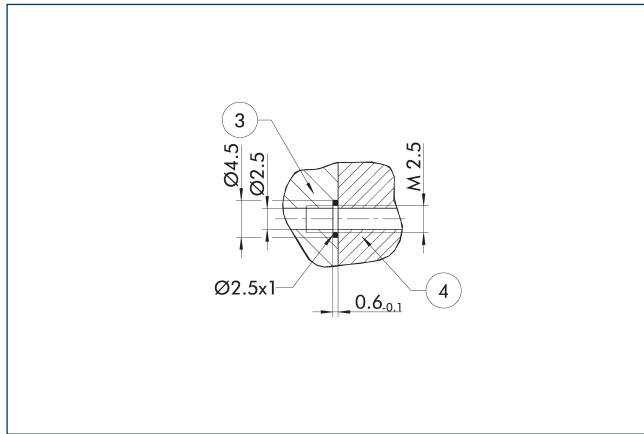
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- ① Gripper connection

- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Sensor MMS 22..

# MPZ 25

Gripper for small components

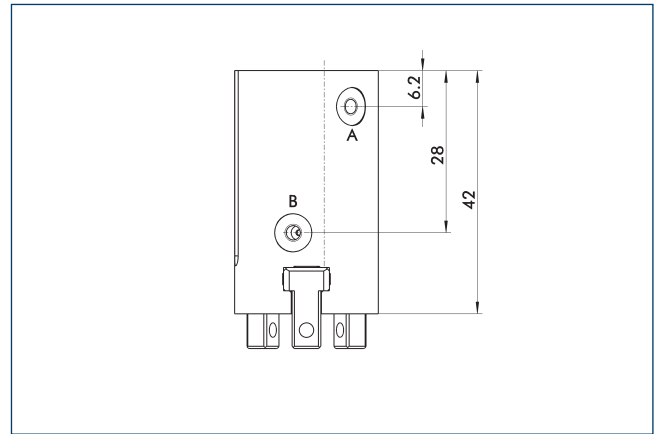
## Hose-free direct connection M2.5



- ③ Adapter
- ④ Grippers

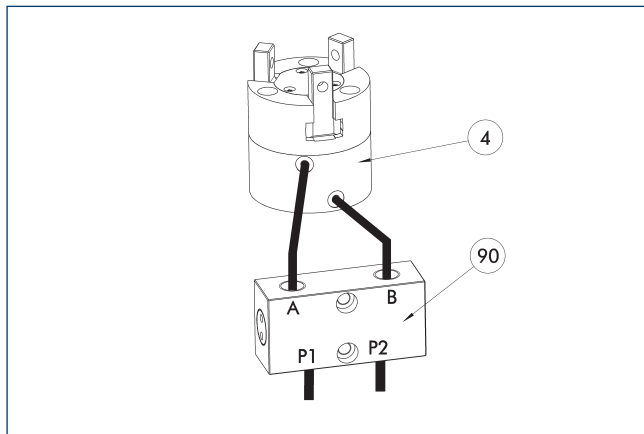
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



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

## SDV-P pressure maintenance valve



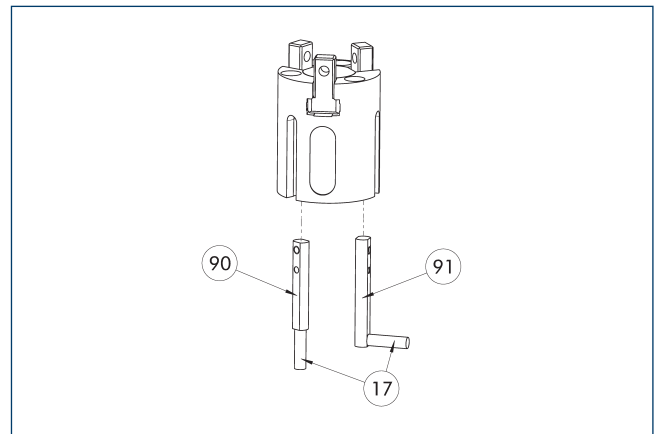
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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.

## Programmable magnetic switch MMS 22-PI1



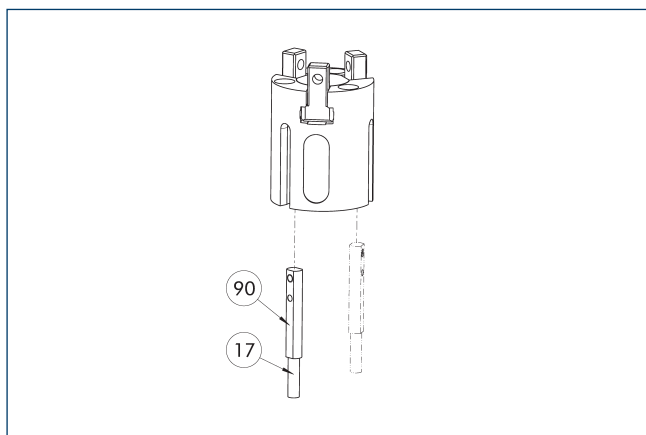
- ①⑦ Cable outlet
- ⑨⑩ Sensor MMS 22 PI1-...
- ⑨① Sensor MMS 22 ...-PI1-...-SA

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

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

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

**Programmable magnetic switch MMS 22-PI2**



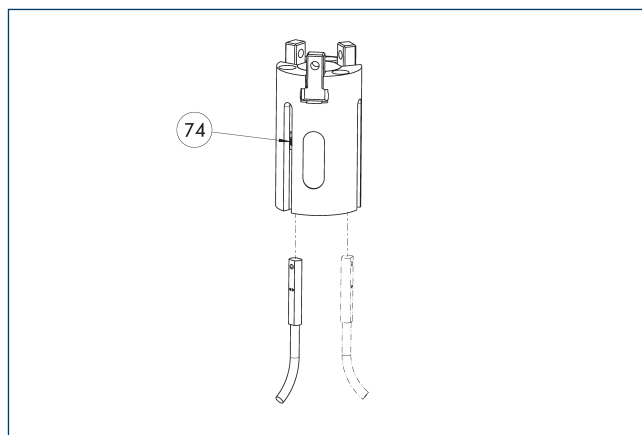
⑰ Cable outlet                      ⑨⑩ MMS 22...-PI2-... sensor

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	

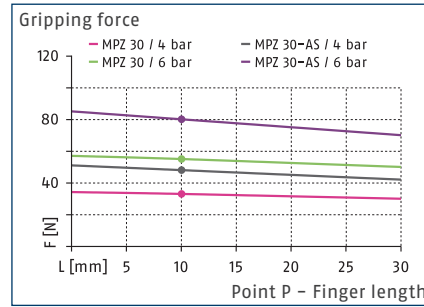
① One sensor is required per unit for monitoring two positions. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

# MPZ 30

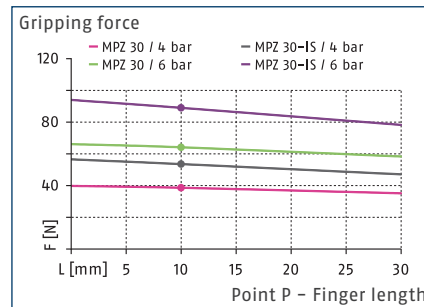
Gripper for small components



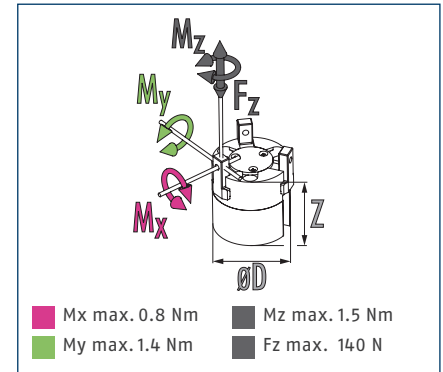
## Gripping force O.D. gripping



## 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.

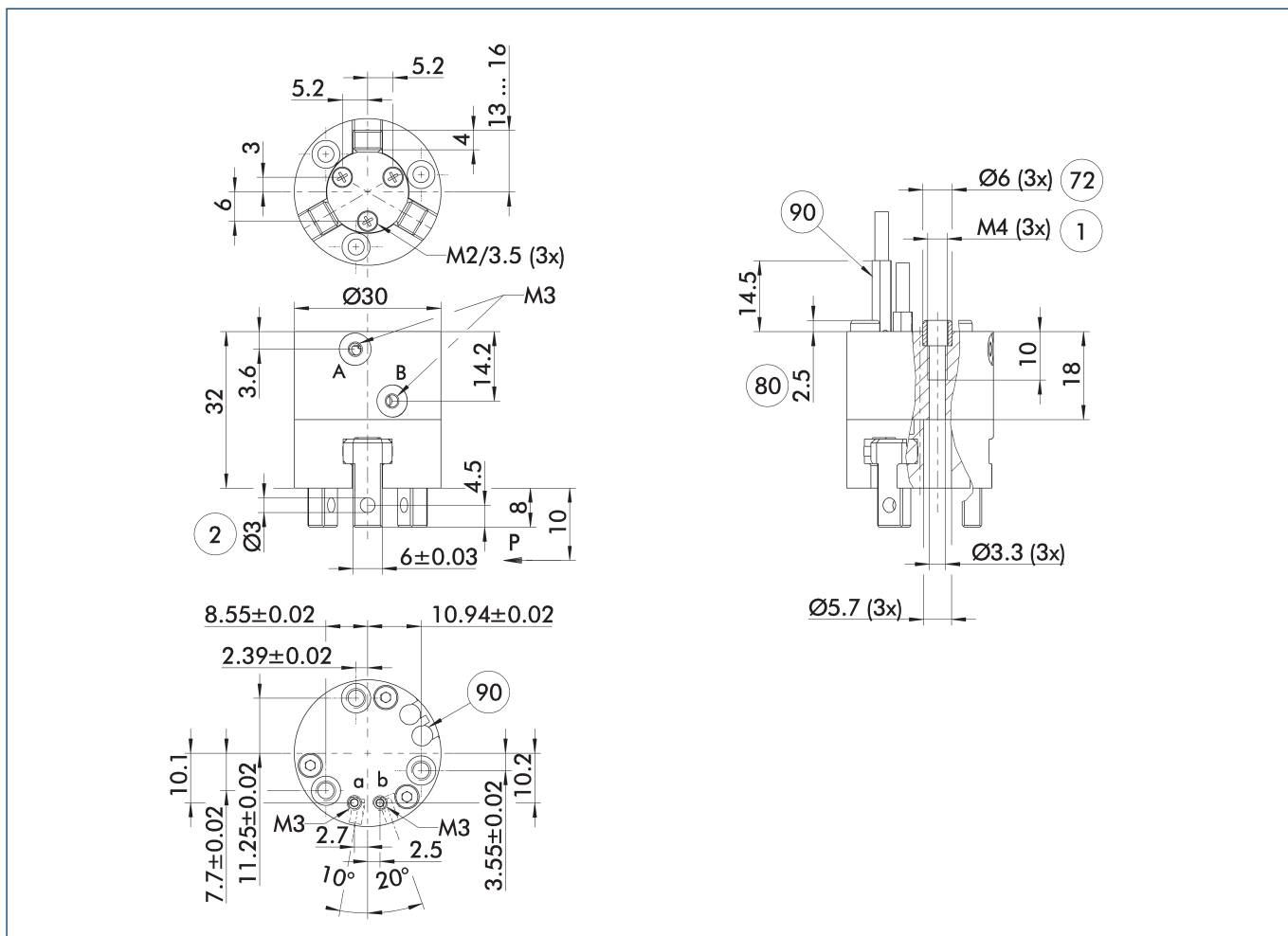
## Technical data

Description		MPZ 30	MPZ 30-FPS	MPZ 30-AS	MPZ 30-IS
ID		0340510	0340513	0340511	0340512
Stroke per jaw	[mm]	3	3	3	3
Closing/opening force	[N]	55/65	55/65	80/-	-/90
Min. spring force	[N]			25	25
Weight	[kg]	0.08	0.1	0.09	0.09
Recommended workpiece weight	[kg]	0.28	0.28	0.28	0.28
Fluid consumption double stroke	[cm <sup>3</sup> ]	1.8	1.8	4.2	3.2
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]			0.30	0.30
Max. permissible finger length	[mm]	30	30	30	30
Max. permissible mass per finger	[kg]	0.03	0.03	0.03	0.03
IP protection class		40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class ISO 14644-1:1999		5	5	5	5
Dimensions Ø D x Z	[mm]	30 x 32	30 x 46	30 x 45	30 x 45
<b>Options and their characteristics</b>					
H1 grease version		30028778	1475822	30075342	30041802

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).

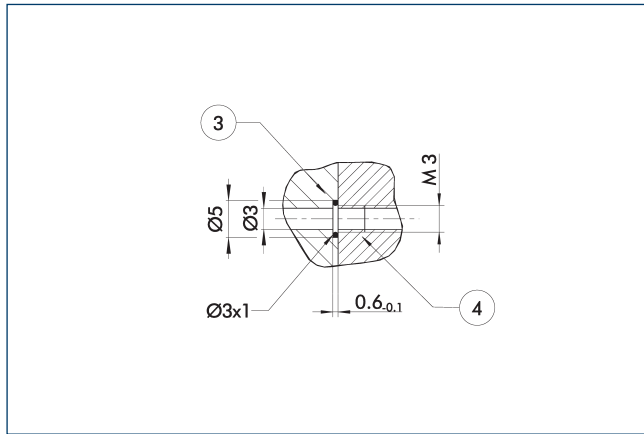
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- ① Gripper connection

- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑧② Depth of the centering sleeve hole in the counter part
- ⑨② Sensor MMS 22..

# MPZ 30

Gripper for small components

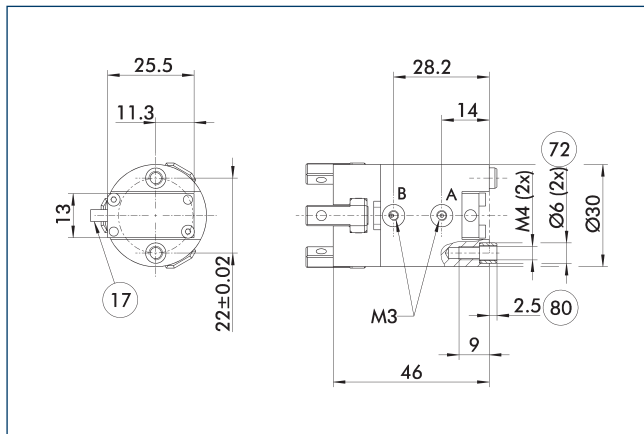
## Hose-free direct connection M3



- 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.

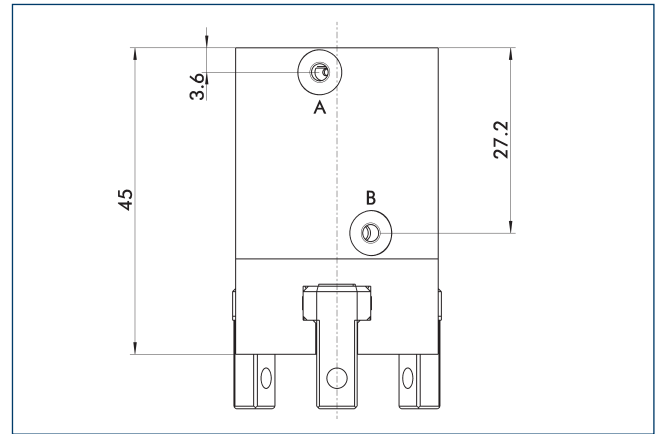
## Flexible position sensor



- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

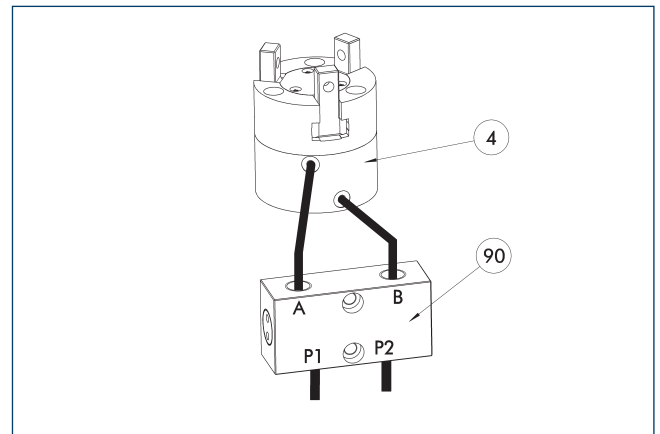
The following FPS position sensor can differentiate between five programmable areas or switching points for the stroke of a gripper, and can be used in connection with a PC as a measuring system.

## 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.

## SDV-P pressure maintenance valve



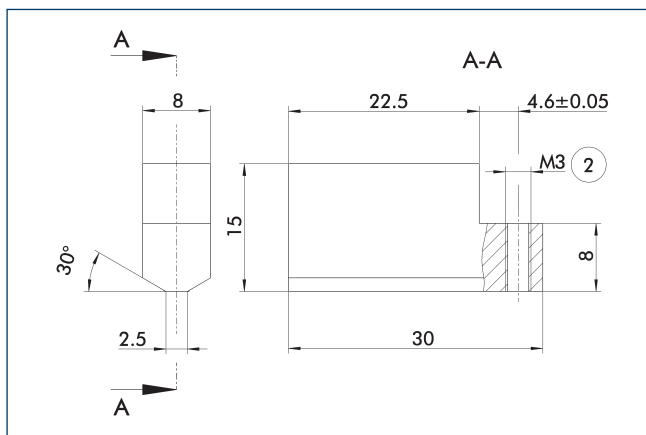
- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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).

Finger blanks ABR-MPZ 30

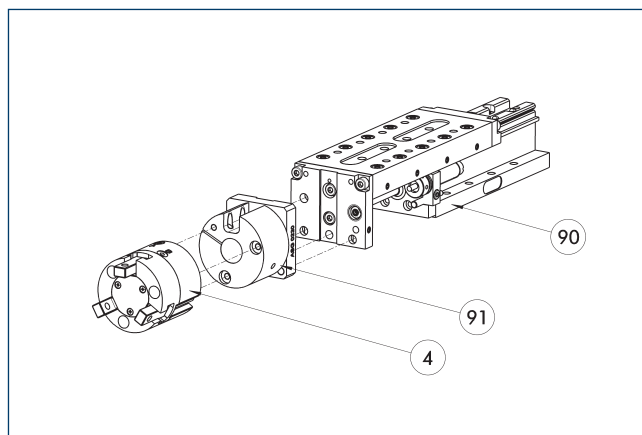


② Finger connection

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPZ 30	0340519	Aluminum (3.4365)	3

Modular Assembly Automation



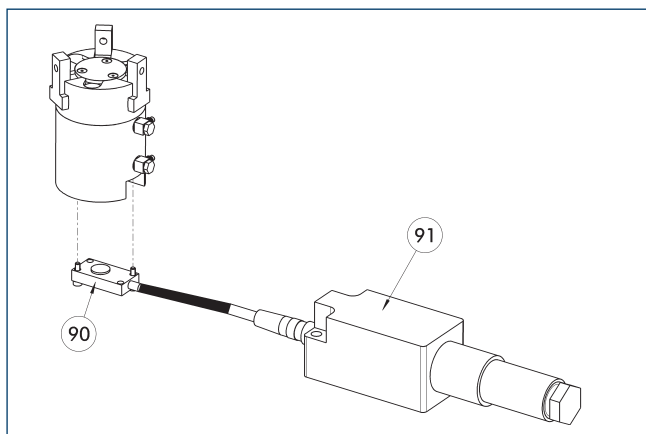
④ Grippers

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".

Flexible position sensor



⑨② FPS-S sensor

⑨① FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

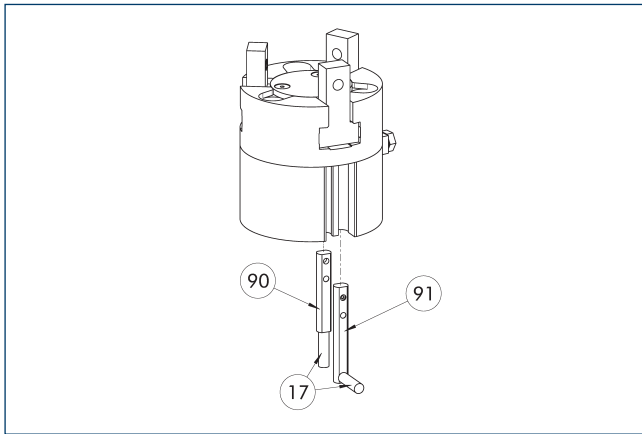
Description	ID	Often combined
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Connection cables		
KA BG16-L 12P-1000	0301801	
clip for plug/socket		
CLI-M8	0301463	

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."

# MPZ 30

Gripper for small components

## Electronic magnetic switch MMS



17 Cable outlet

91 Sensor MMS 22...-SA

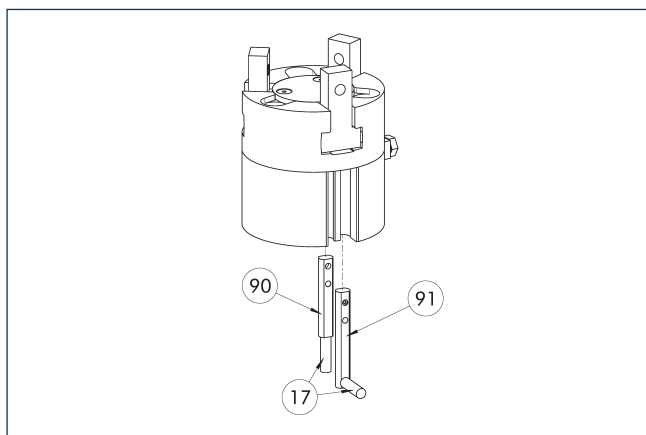
90 Sensor MMS 22..

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**



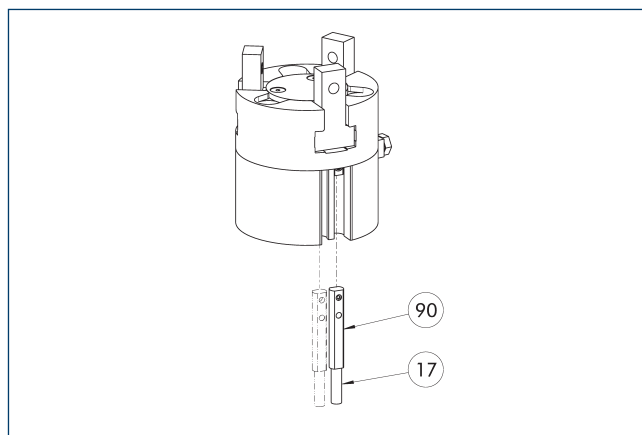
- ⑰ Cable outlet
- ⑲① Sensor MMS 22 ..-PI1-...-SA
- ⑲② Sensor MMS 22 PI1-...

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	

⑰ 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
- ⑲② 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.

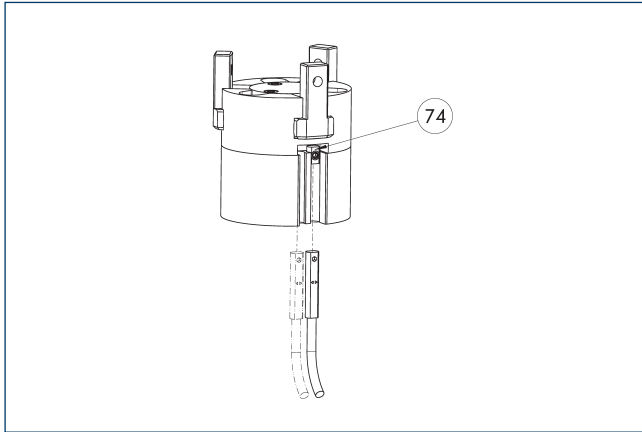
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

⑰ 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.

# MPZ 30

Gripper for small components

## MMS-P programmable magnetic switch



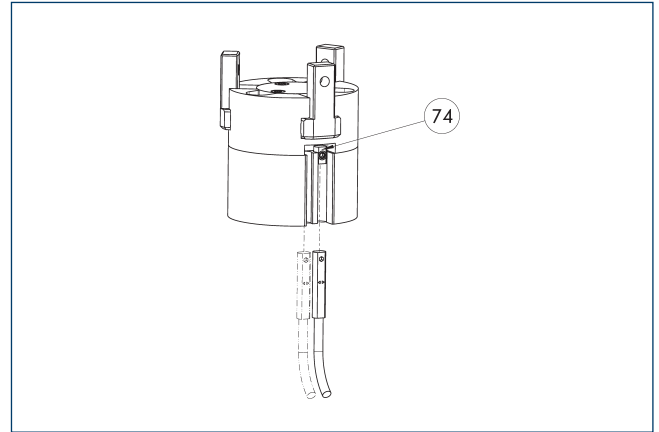
74 Limit stop for sensor

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.

## 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.

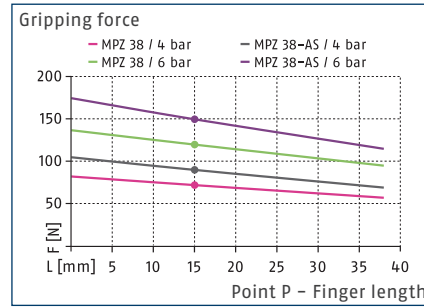


# MPZ 38

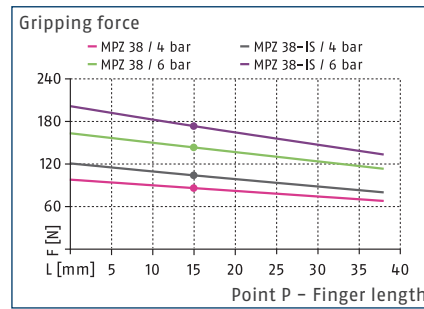
Gripper for small components



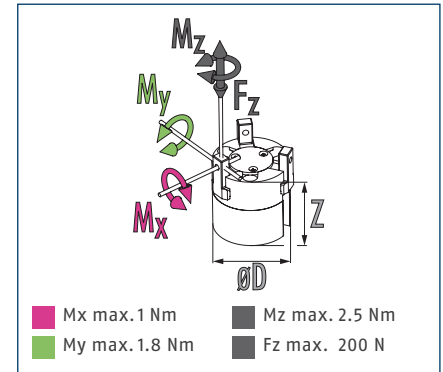
## Gripping force O.D. gripping



## 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.

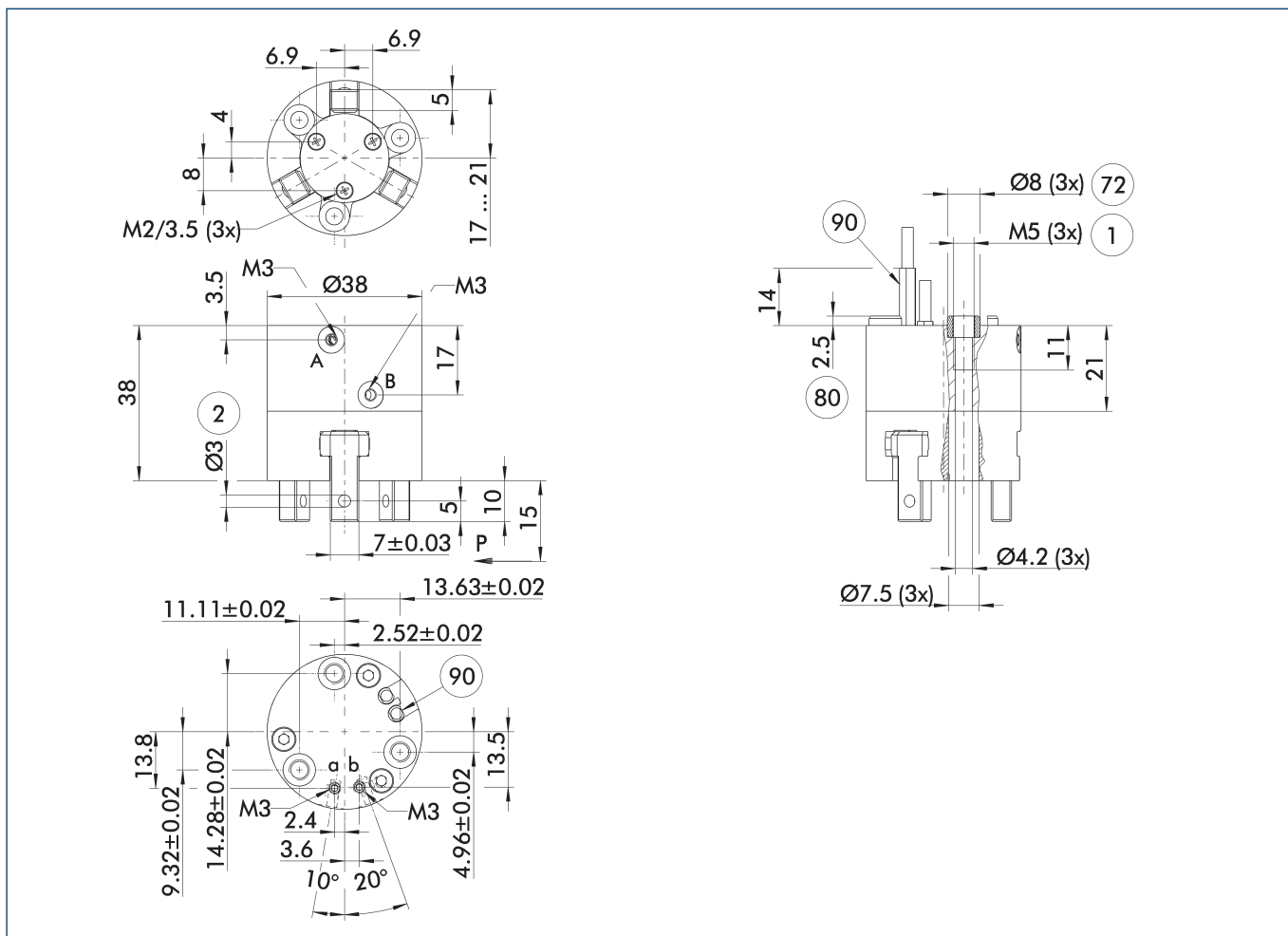
## Technical data

Description		MPZ 38	MPZ 38-FPS	MPZ 38-AS	MPZ 38-IS
ID		0340520	0340523	0340521	0340522
Stroke per jaw	[mm]	4	4	4	4
Closing/opening force	[N]	120/140	120/140	150/-	-/180
Min. spring force	[N]			30	40
Weight	[kg]	0.14	0.19	0.19	0.19
Recommended workpiece weight	[kg]	0.6	0.6	0.6	0.6
Fluid consumption double stroke	[cm <sup>3</sup> ]	3.5	3.5	10.3	8.4
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]			0.20	0.20
Max. permissible finger length	[mm]	38	38	38	38
Max. permissible mass per finger	[kg]	0.05	0.05	0.05	0.05
IP protection class		40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class ISO 14644-1:1999		5	5	5	5
Dimensions Ø D x Z	[mm]	38 x 38	38 x 53	38 x 59	38 x 59
<b>Options and their characteristics</b>					
H1 grease version		30046783	1475823	1441506	30047905

ⓘ 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

① Gripper connection

② Finger connection

⑦ Fit for centering sleeves

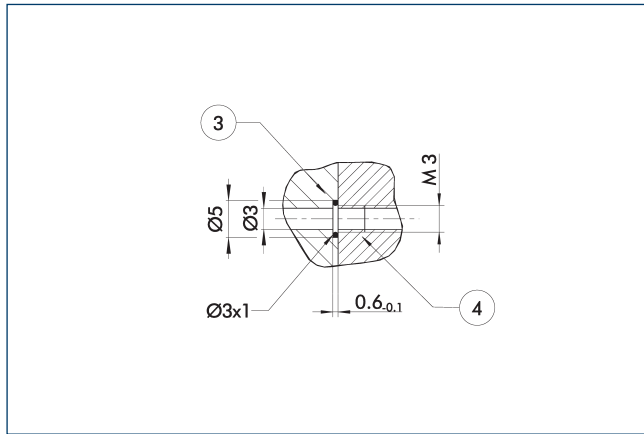
⑧ Depth of the centering sleeve hole in the counter part

⑨ Sensor MMS 22..

# MPZ 38

Gripper for small components

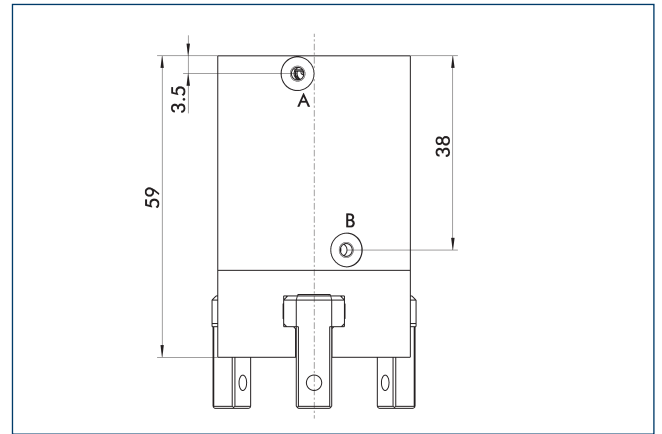
## Hose-free direct connection M3



- ③ Adapter
- ④ Grippers

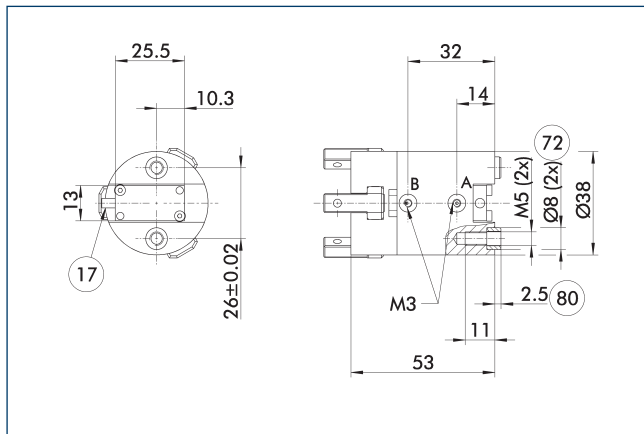
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



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

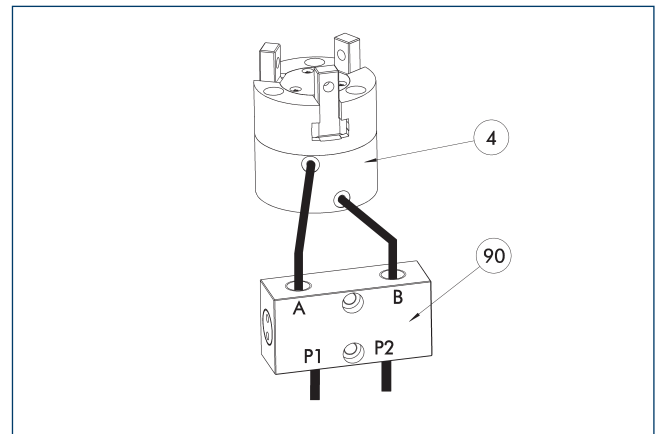
## Flexible position sensor



- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



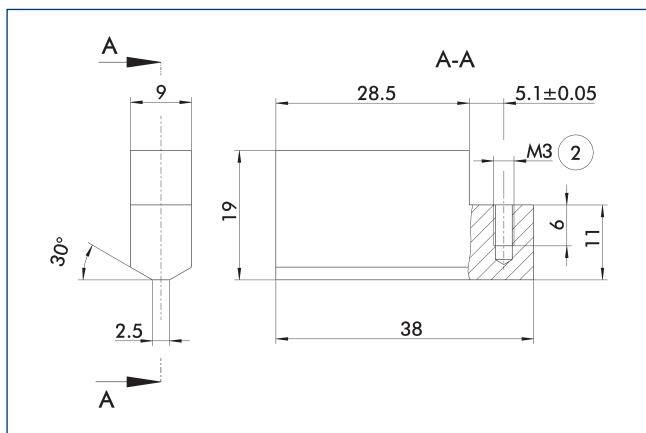
- ④ Grippers
- ⑨① SDV-P pressure maintenance valve

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).

## Finger blanks ABR-MPZ 38

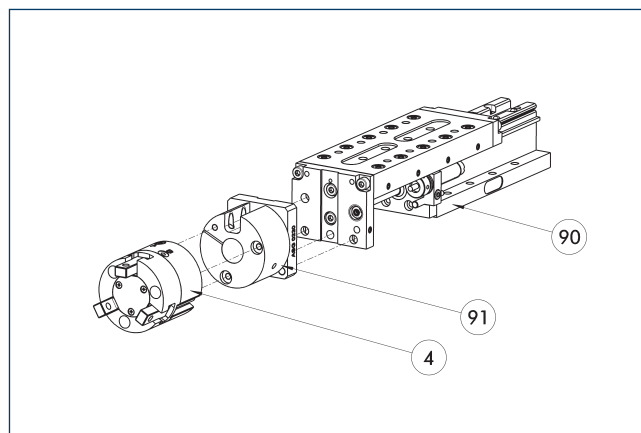


### ② Finger connection

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPZ 38	0340529	Aluminum (3.4365)	3

## Modular Assembly Automation



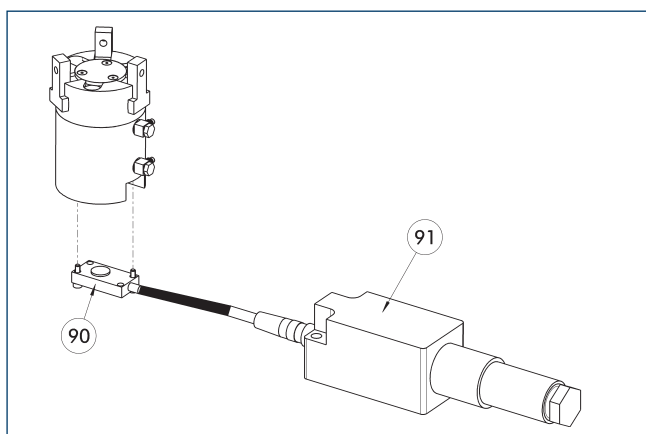
### ④ Grippers

### 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".

## Flexible position sensor



### ⑨② FPS-S sensor

### ⑨① FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

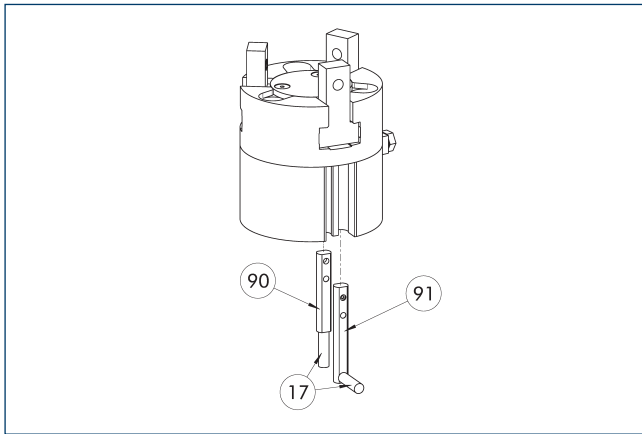
Description	ID	Often combined
Sensor		
FPS-S 13	0301705	
Evaluation electronics		
FPS-F5	0301805	●
Cable extension		
KV BG08-SG08 3P-0050	0301598	
KV BG08-SG08 3P-0100	0301599	
Connection cables		
KA BG16-L 12P-1000	0301801	
clip for plug/socket		
CLI-M8	0301463	

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."

# MPZ 38

Gripper for small components

## Electronic magnetic switch MMS



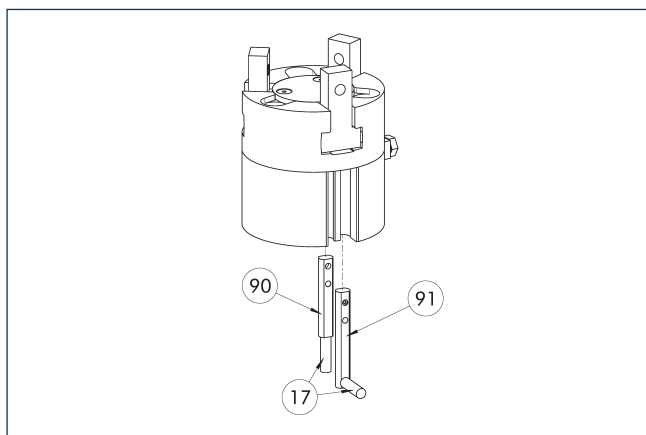
- ⑰ Cable outlet
- ⑨① Sensor MMS 22...-SA
- ⑨① Sensor MMS 22..

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**



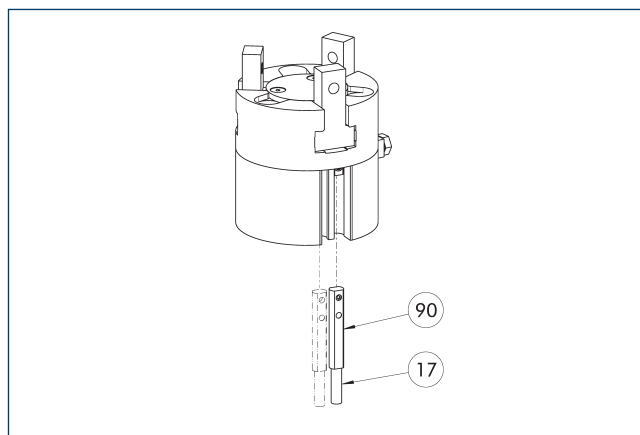
- ⑰ Cable outlet
- ⑲① Sensor MMS 22 ..-PI1-...-SA
- ⑲② Sensor MMS 22 PI1-...

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	

⑰ 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
- ⑲② 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.

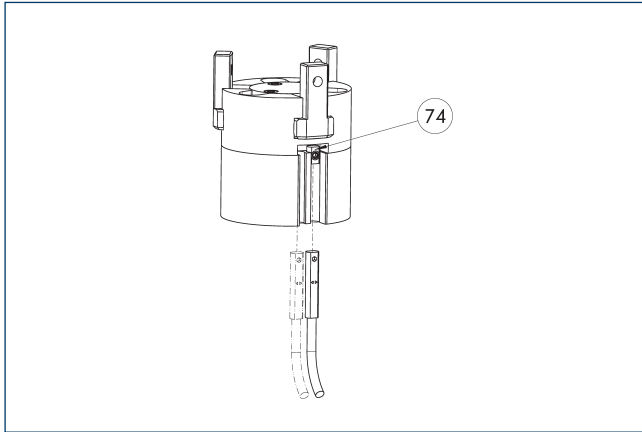
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

⑰ 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.

# MPZ 38

Gripper for small components

## MMS-P programmable magnetic switch



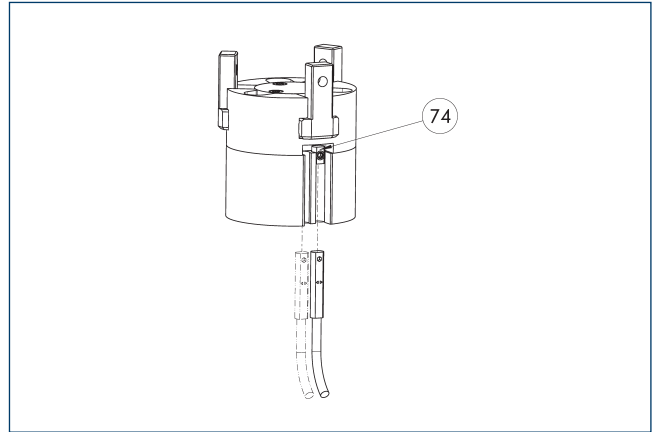
74 Limit stop for sensor

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.

## 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.

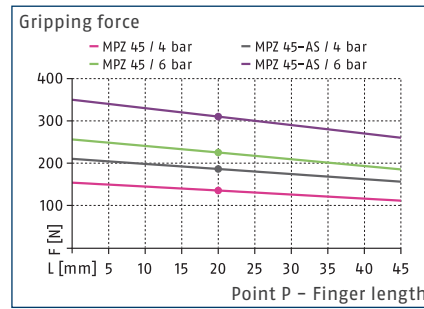


# MPZ 45

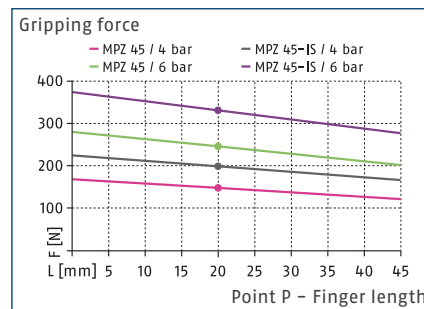
Gripper for small components



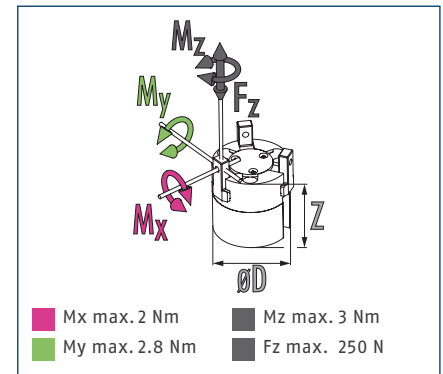
## Gripping force O.D. gripping



## 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.

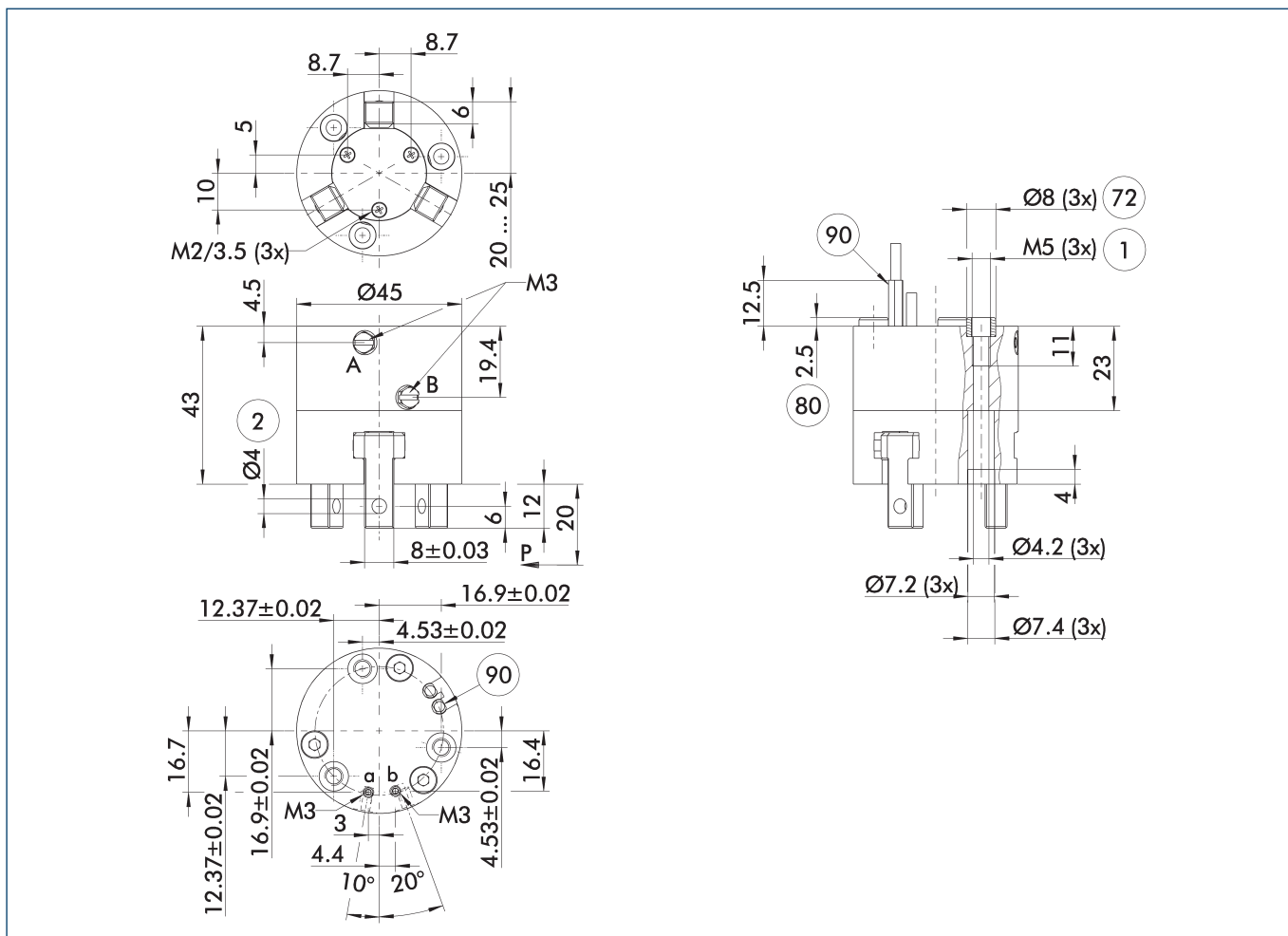
## Technical data

Description		MPZ 45	MPZ 45-FPS	MPZ 45-AS	MPZ 45-IS
ID		0340530	0340533	0340531	0340532
Stroke per jaw	[mm]	5	5	5	5
Closing/opening force	[N]	225/245	225/245	310/-	-/340
Min. spring force	[N]			85	95
Weight	[kg]	0.22	0.29	0.28	0.28
Recommended workpiece weight	[kg]	1.15	1.15	1.15	1.15
Fluid consumption double stroke	[cm <sup>3</sup> ]	8.9	8.9	18.4	15.2
Min./nom./max. operating pressure	[bar]	2/6/8	2/6/8	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.05/0.06	0.06/0.05
Closing/opening time with spring	[s]			0.30	0.30
Max. permissible finger length	[mm]	45	45	45	45
Max. permissible mass per finger	[kg]	0.08	0.08	0.08	0.08
IP protection class		40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01
Cleanroom class ISO 14644-1:1999		5	5	5	5
Dimensions Ø D x Z	[mm]	45 x 43	45 x 60	45 x 58	45 x 58
<b>Options and their characteristics</b>					
H1 grease version		30047560	1475826	1475824	1475825

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.

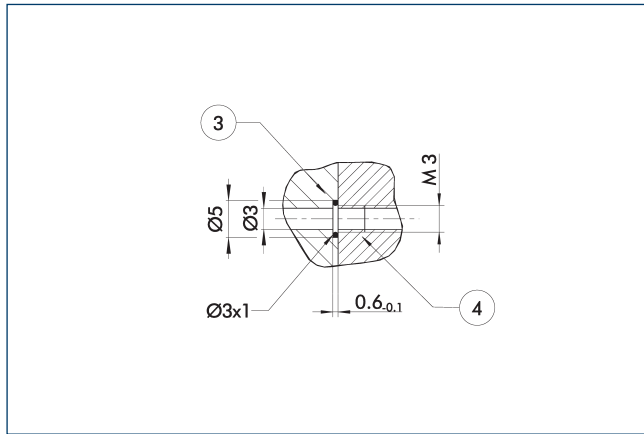
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- 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..

# MPZ 45

Gripper for small components

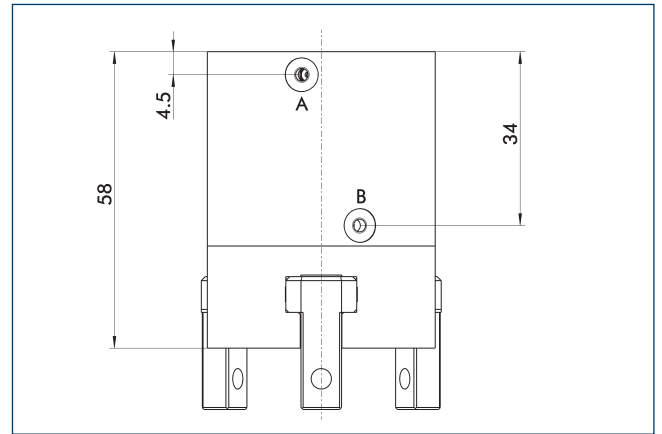
## Hose-free direct connection M3



- ③ Adapter
- ④ Grippers

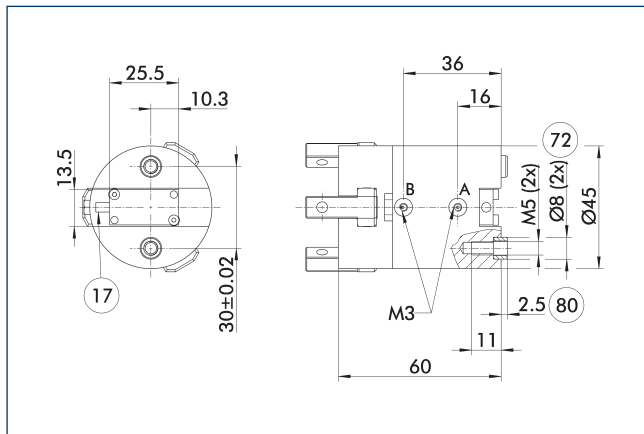
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

## Gripping force maintenance device AS / IS



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

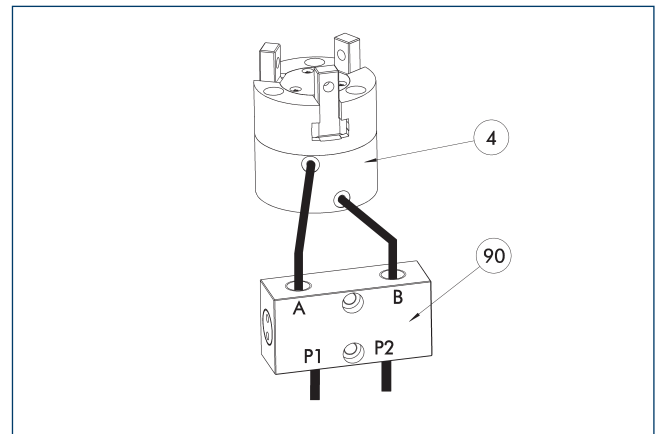
## Flexible position sensor



- ①⑦ Cable outlet
- ①⑦ Fit for centering sleeves
- ①⑧ Depth of the centering sleeve hole in the counter part

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.

## SDV-P pressure maintenance valve



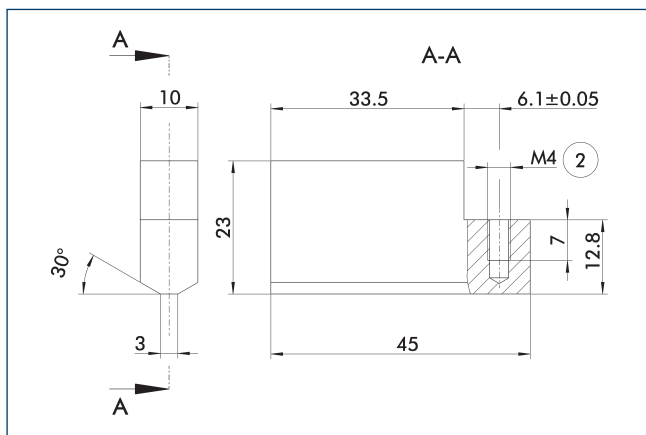
- ④ Grippers
- ⑨⑩ SDV-P pressure maintenance valve

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 ABR-MPZ 45

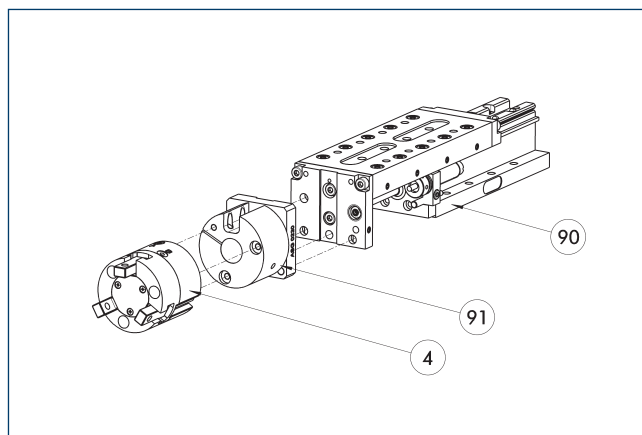


② Finger connection

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPZ 45	0340539	Aluminum (3.4365)	3

Modular Assembly Automation



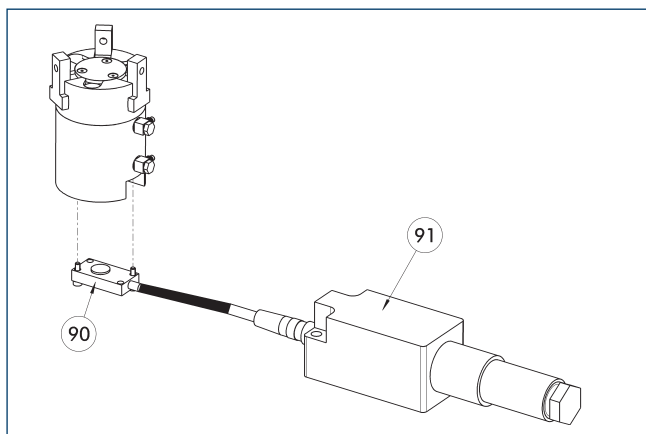
④ Grippers

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".

Flexible position sensor



⑨② FPS-S sensor

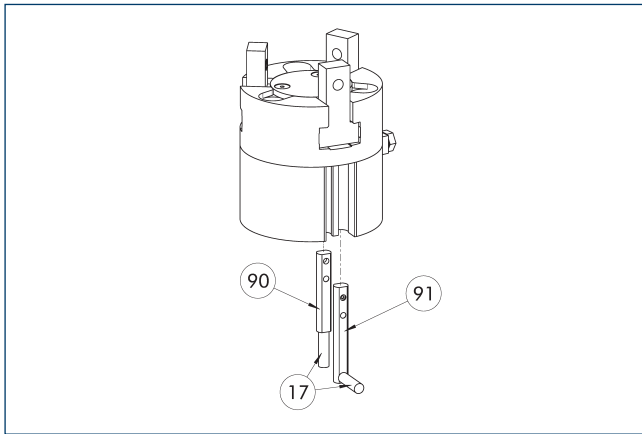
⑨① FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

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

## Electronic magnetic switch MMS



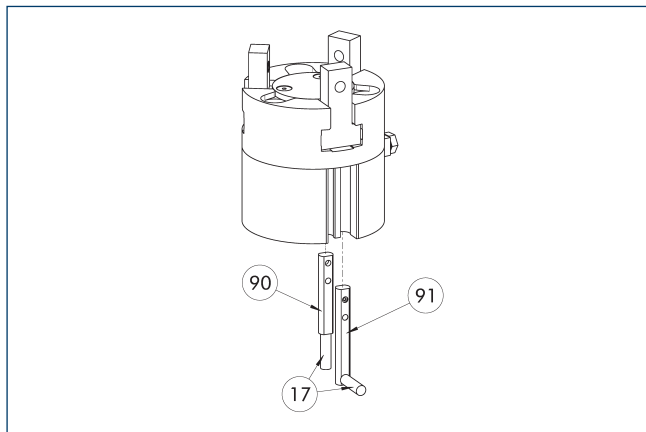
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22..
- ①⑩ Sensor MMS 22...-SA

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**



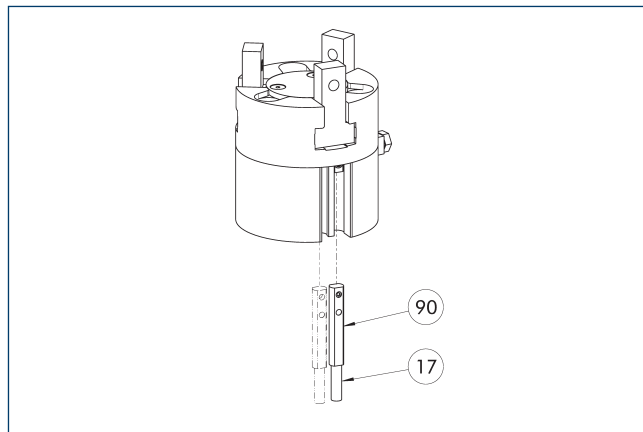
- ⑰ Cable outlet
- ⑲ Sensor MMS 22 ..-PI1-...-SA
- ① Sensor MMS 22 PI1-...

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**



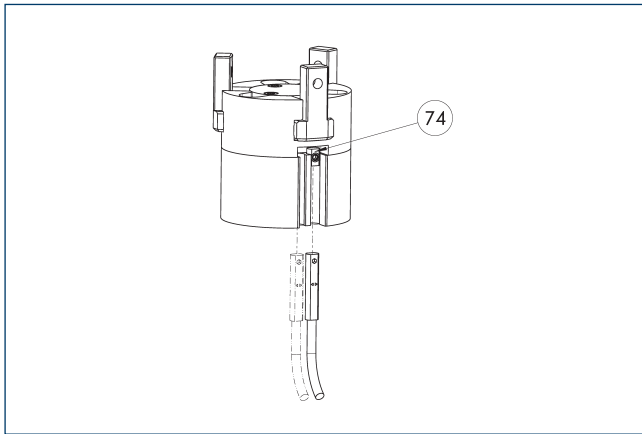
- ⑰ Cable outlet
- ① MMS 22...-PI2-... sensor

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.

## 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.





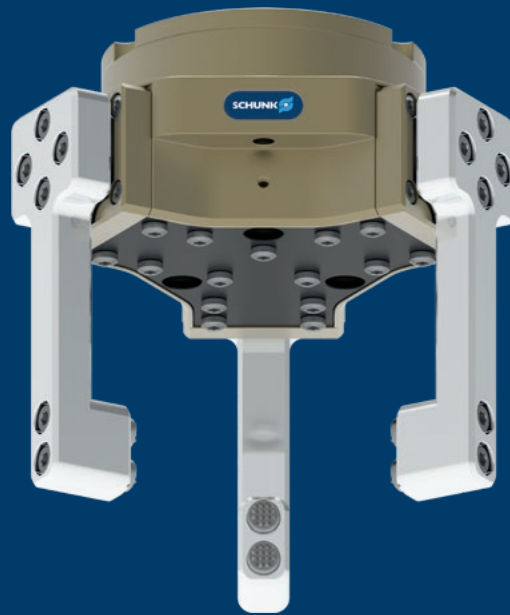
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schunk.com

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Superior Clamping and Gripping



## Product Information

Sealed universal gripper DPZ-plus

# DPZ-plus

Sealed universal gripper

## Fully encapsulated. Reliable. Precise.

### Sealed gripper DPZ-plus

Despite the high moment load of the base jaws, this sealed 3-finger centric gripper meets the requirements of IP67 and does not permit the ingress of any substances from the working environment into the interior of the component.

#### Field of application

The gripper is ideally suitable for handling of rough or dirty workpieces. Its field of application extends from the loading and unloading of machines, such as in the case of sanitary blocks, grinding machines, lathes or milling machines, to handling tasks in painting plants, in powder-processing or underwater.

#### Advantages – Your benefits

**Robust interior multi-tooth guidance** for the precise handling of different workpieces

**Lip seal at the outside round guidance** for permanent, secure gripper sealing

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

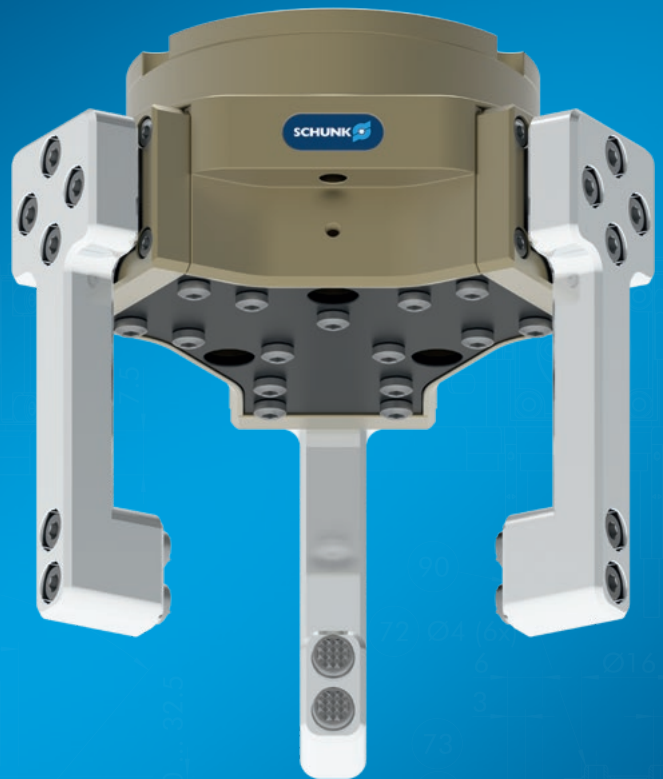
**Sealed 3-finger centric gripper** complies to IP67 requirements despite a high moment load

**Fastening at one gripper side in two screw directions** for universal and flexible gripper assembly

**Maximum gripping forces at a compact design** for a wide range of applications

**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



Sizes  
Quantity: 8



Weight  
0.2 .. 20.1 kg



Gripping force  
230 .. 16500 N



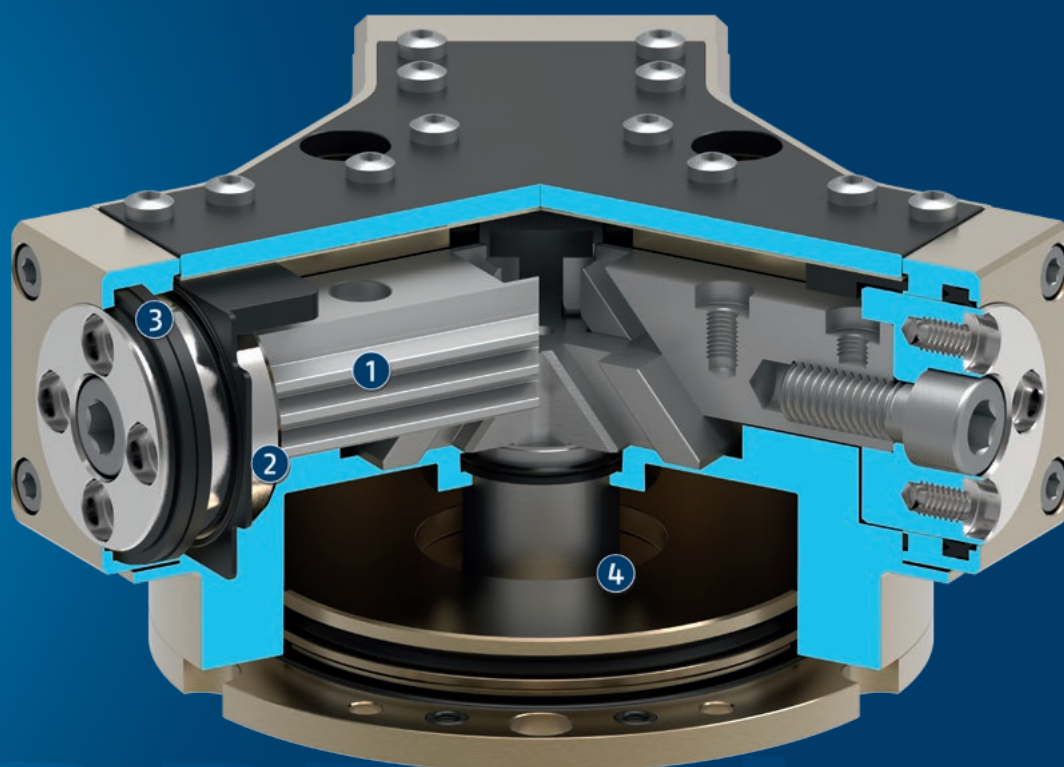
Stroke per jaw  
2 .. 25 mm



Workpiece weight  
1.15 .. 60 kg

## Functional description

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



- ① **Inner base jaw with multi-tooth guidance**  
for high moment loads
- ② **External round base jaw**  
providing a sealable, round surface
- ③ **Lip seal**  
for permanent, secure gripper sealing
- ④ **Round piston with rod and wedge-hook**  
for power generation

# DPZ-plus

Sealed universal gripper

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, anodized

**Base jaw material:** Steel

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

**Warranty:** 36 months

**Scope of delivery:** Centering sleeves, centering pins, 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

**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.

**Note – tightness:** Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

**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

Insertion tool for assembly of small to medium-sized workpieces. The tool can be used in both clean and dirty environments. Due to its quick-change system, other tools can alternately be fixed to the robot flange.

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

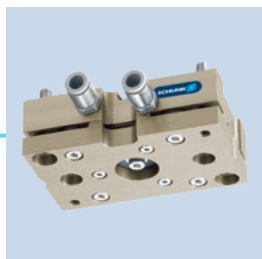


## SCHUNK offers more ...

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



Compensation unit



Tolerance compensation unit



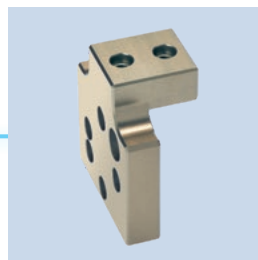
Pressure maintenance valve



Universal intermediate jaw



Magnetic switches



Intermediate jaw



Jaw quick-change system

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.

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

**ATEX version EX:** for explosive environments

**Additional versions:** Various options can be combined with each other. Numerous additional options are also available – just tell us what your task is!

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

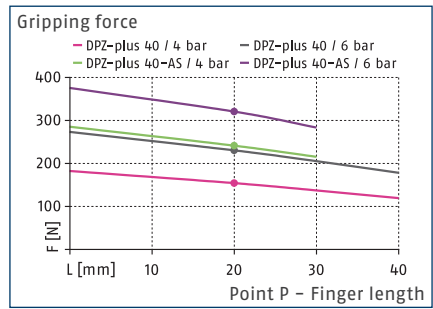
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

# DPZ-plus 40

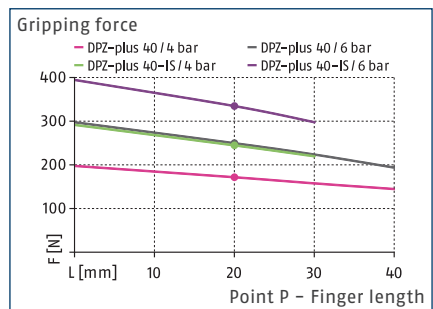
Sealed universal gripper



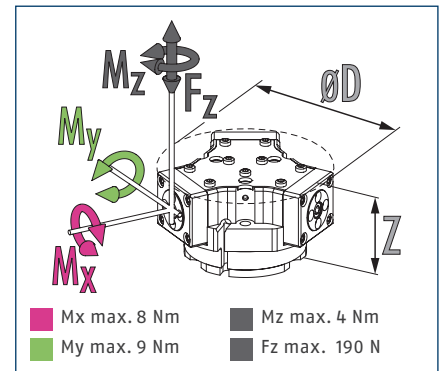
## Gripping force O.D. gripping



## Gripping force I.D. gripping



## Dimensions and maximum loads



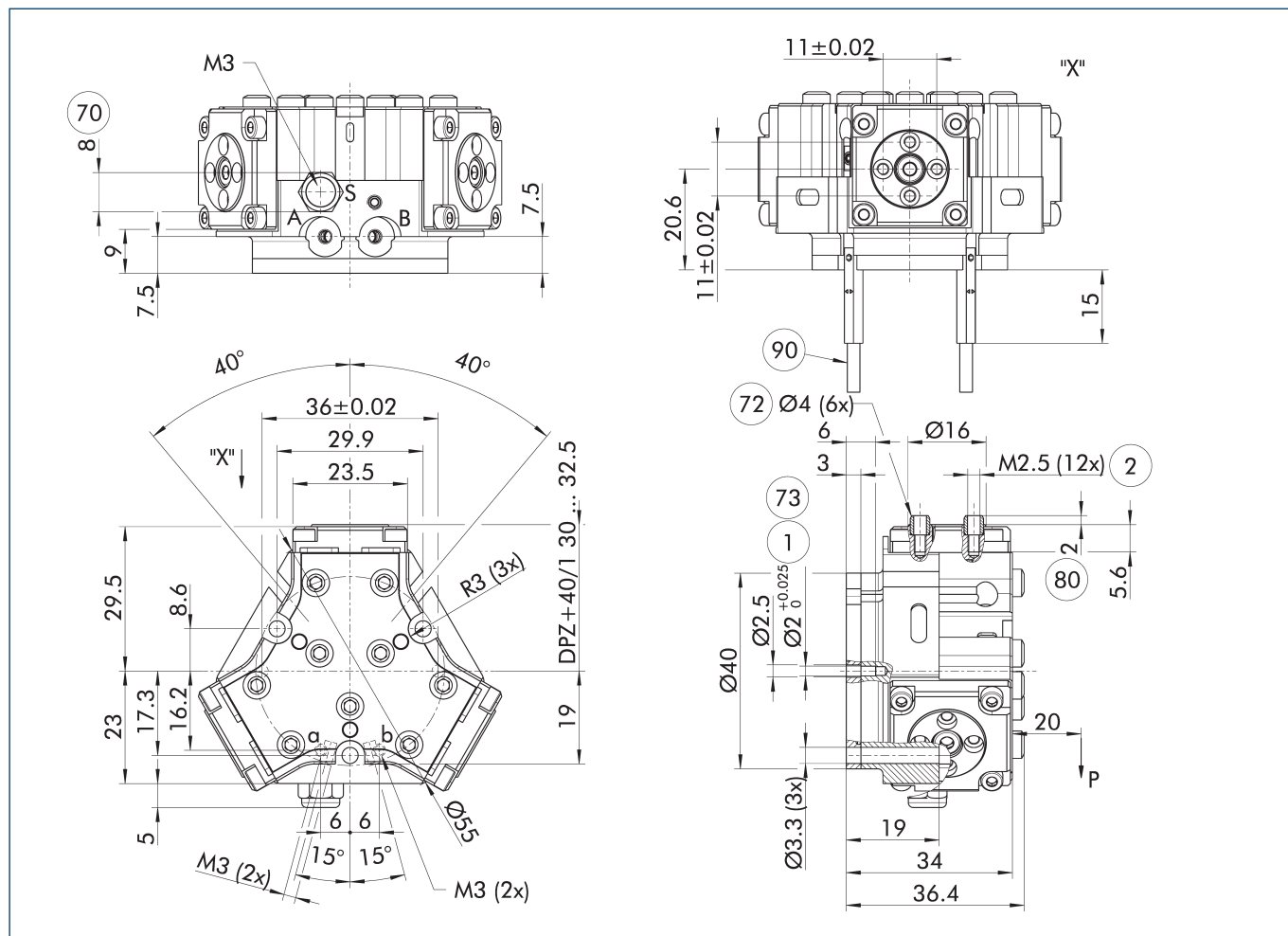
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		DPZ-plus 40	DPZ-plus 40-AS	DPZ-plus 40-IS
ID		1316263	1316265	1316267
Stroke per jaw	[mm]	2.5	2.5	2.5
Closing/opening force	[N]	230/250	320/-	-/355
Min. spring force	[N]		90	105
Weight	[kg]	0.2	0.25	0.25
Recommended workpiece weight	[kg]	1.15	1.15	1.15
Fluid consumption double stroke	[cm <sup>3</sup> ]	5	9	9
Min./nom./max. operating pressure	[bar]	2.5/6/8	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.03/0.03	0.03/0.05	0.03/0.05
Max. permissible finger length	[mm]	40	30	30
Max. permissible mass per finger	[kg]	0.1	0.1	0.1
IP protection class		67	67	67
Min./max. ambient temperature	[°C]	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01
Cleanroom class ISO 14644-1:1999		5	5	5
Dimensions Ø D x Z	[mm]	63 x 34	63 x 42	63 x 42
<b>Options and their characteristics</b>				
High-temperature version		1321291	1321292	1321293
Min./max. ambient temperature	[°C]	5/130	5/130	5/130

① Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54. It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

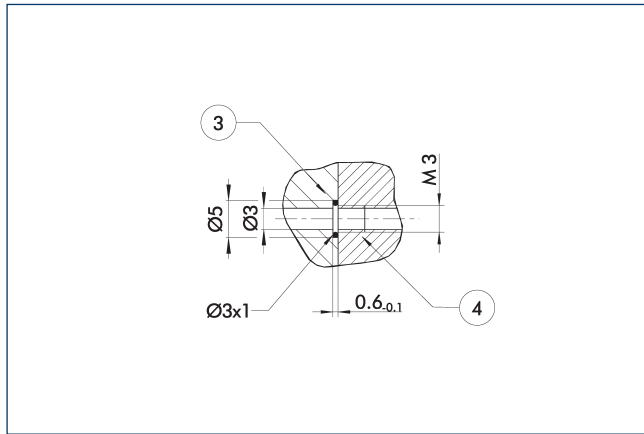
① The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

- |  |   |
|--|---|
| A, a Main / direct connection, gripper opening | ② Finger connection                                       |
| B, b Main / direct connection, gripper closing | ⑦ Wrench size   |
| S, E Air purge connection, or deaeration bore  | ⑦② Fit for centering sleeves                              |
| ① Gripper connection                           | ⑦③ Fit for centering pins                                 |
|  | ⑧① Depth of the centering sleeve hole in the counter part |
|  | ⑨① Sensor MMS 22..  |

# DPZ-plus 40

Sealed universal gripper

## Hose-free direct connection M3

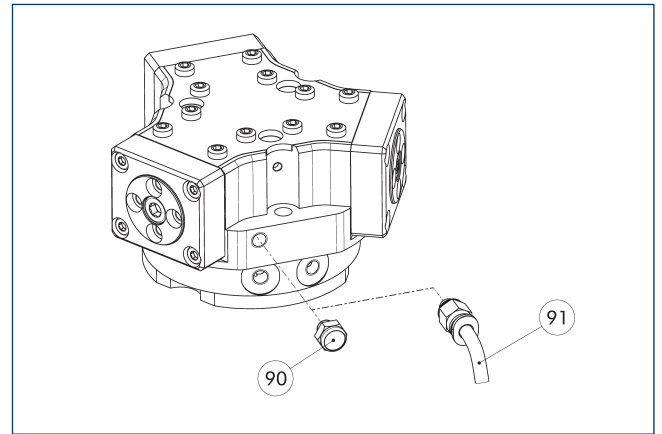


③ Adapter

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.

## Connect the air purge connection

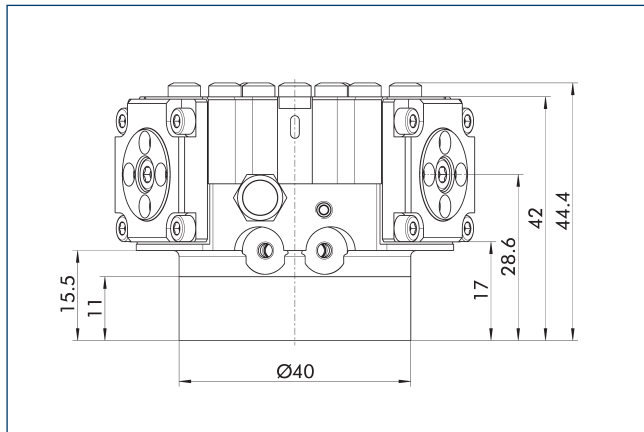


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

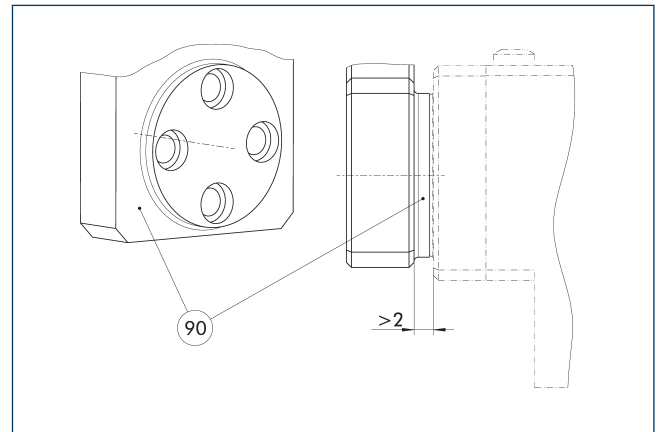
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

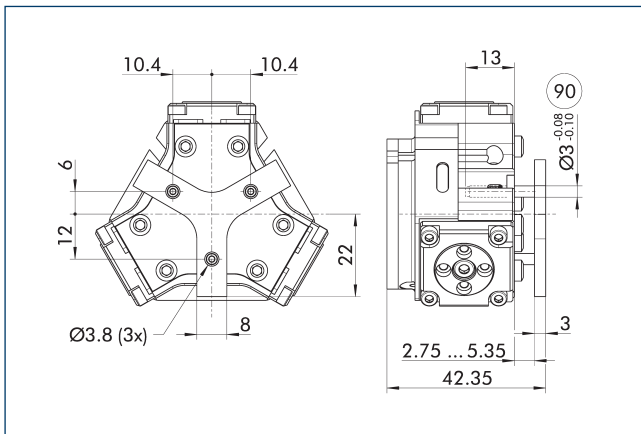


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

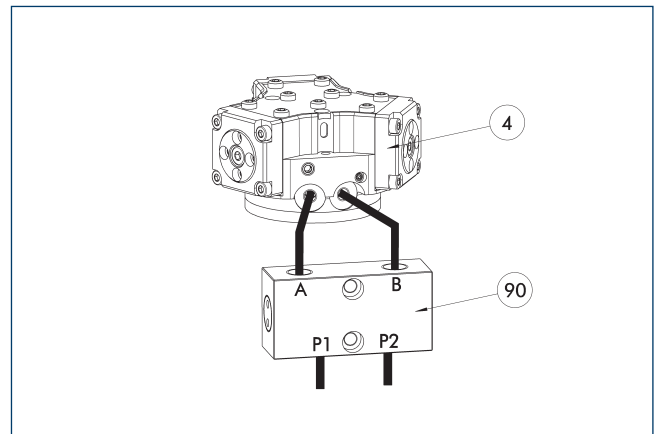


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-DPZ-plus 40	0303730	2.6	11

## SDV-P pressure maintenance valve



4 Grippers

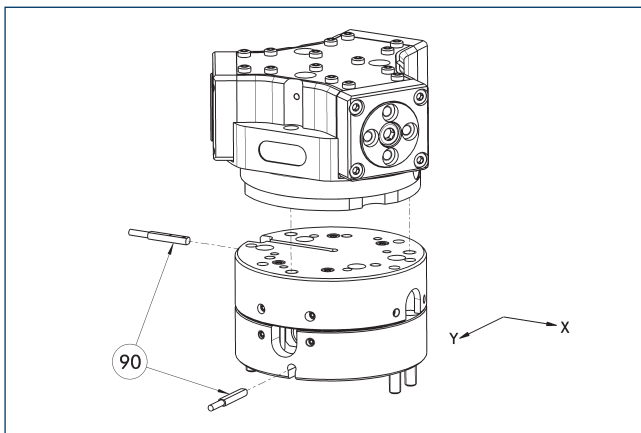
90 SDV-P pressure maintenance valve

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).

## Compensation unit AGE-F



90 Monitoring

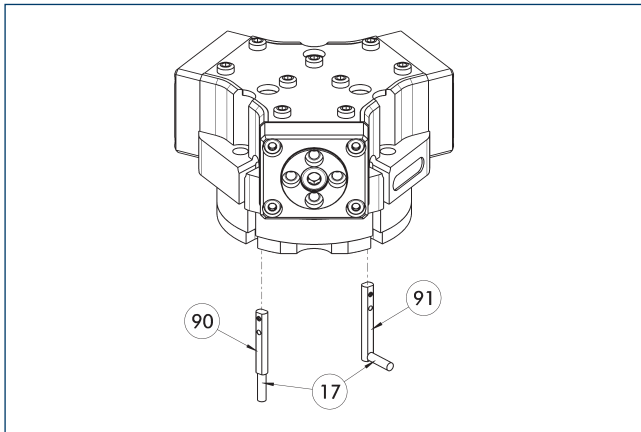
Grippers can be directly mounted without an adapter plate. For details see our catalog Gripping or Robot Accessories.

Description	ID	Compensation XY [mm]	Reset force [N]	Often combined
Compensation unit				
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	●

# DPZ-plus 40

Sealed universal gripper

## Electronic magnetic switch MMS



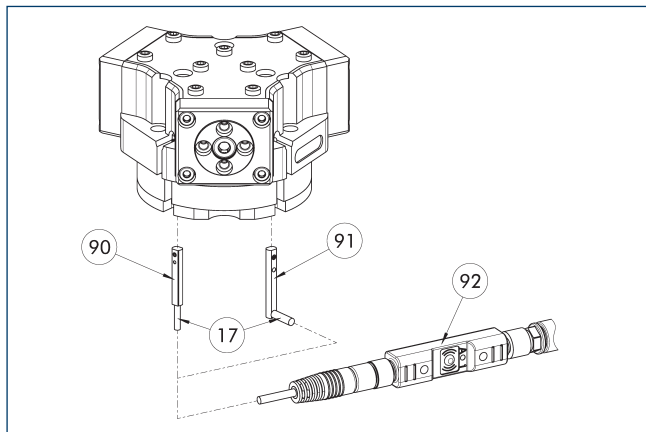
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

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**



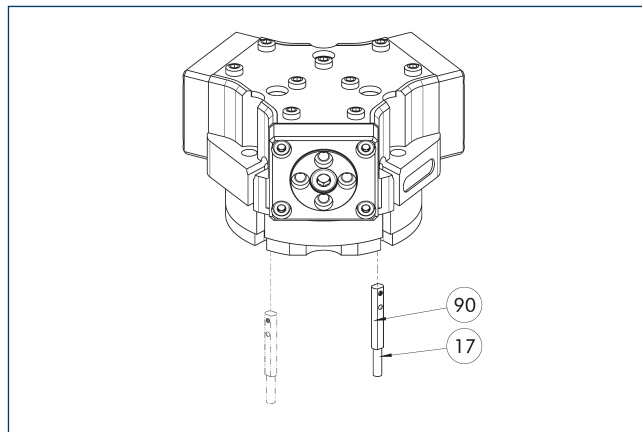
- ①7 Cable outlet
- ①91 Sensor MMS 22 ..-PI1-...-SA
- ①90 Sensor MMS 22 PI1-...
- ①92 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

**Programmable magnetic switch MMS 22-PI2**



- ①7 Cable outlet
- ①90 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.

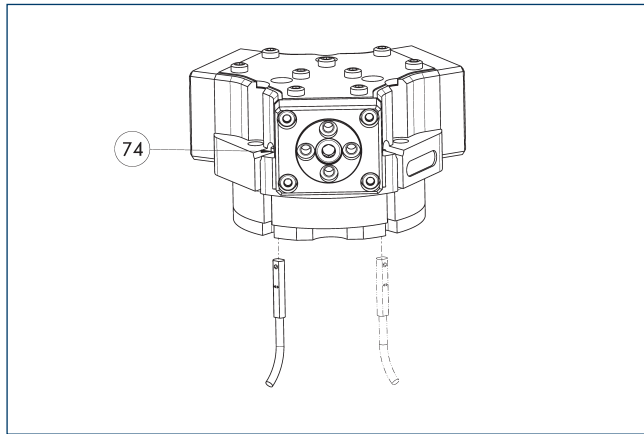
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

# DPZ-plus 40

Sealed universal gripper

## MMS-P programmable magnetic switch



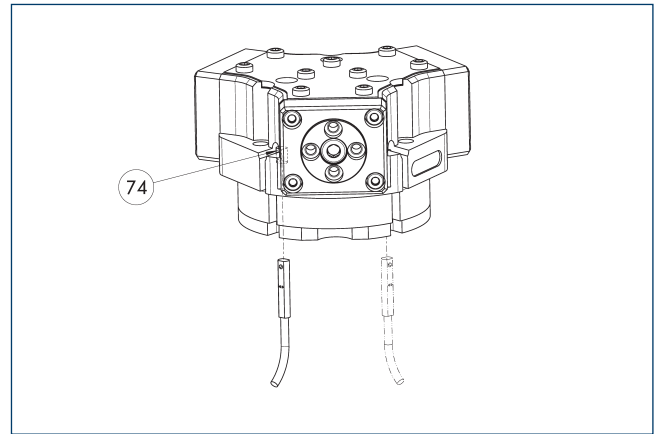
74 Limit stop for sensor

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>		
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.

## 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.

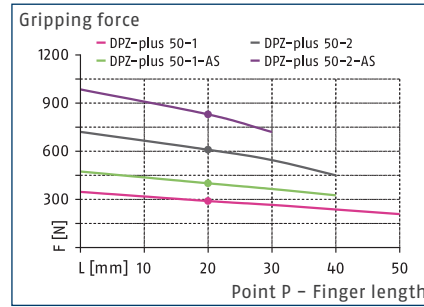


# DPZ-plus 50

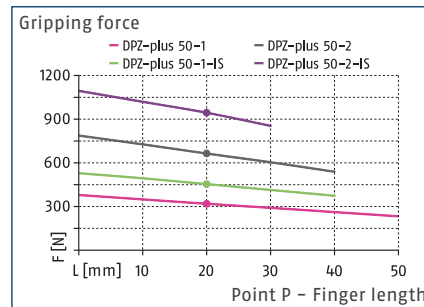
Sealed universal gripper



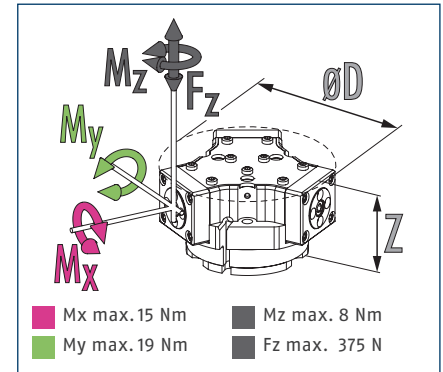
## Gripping force O.D. gripping



## 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.

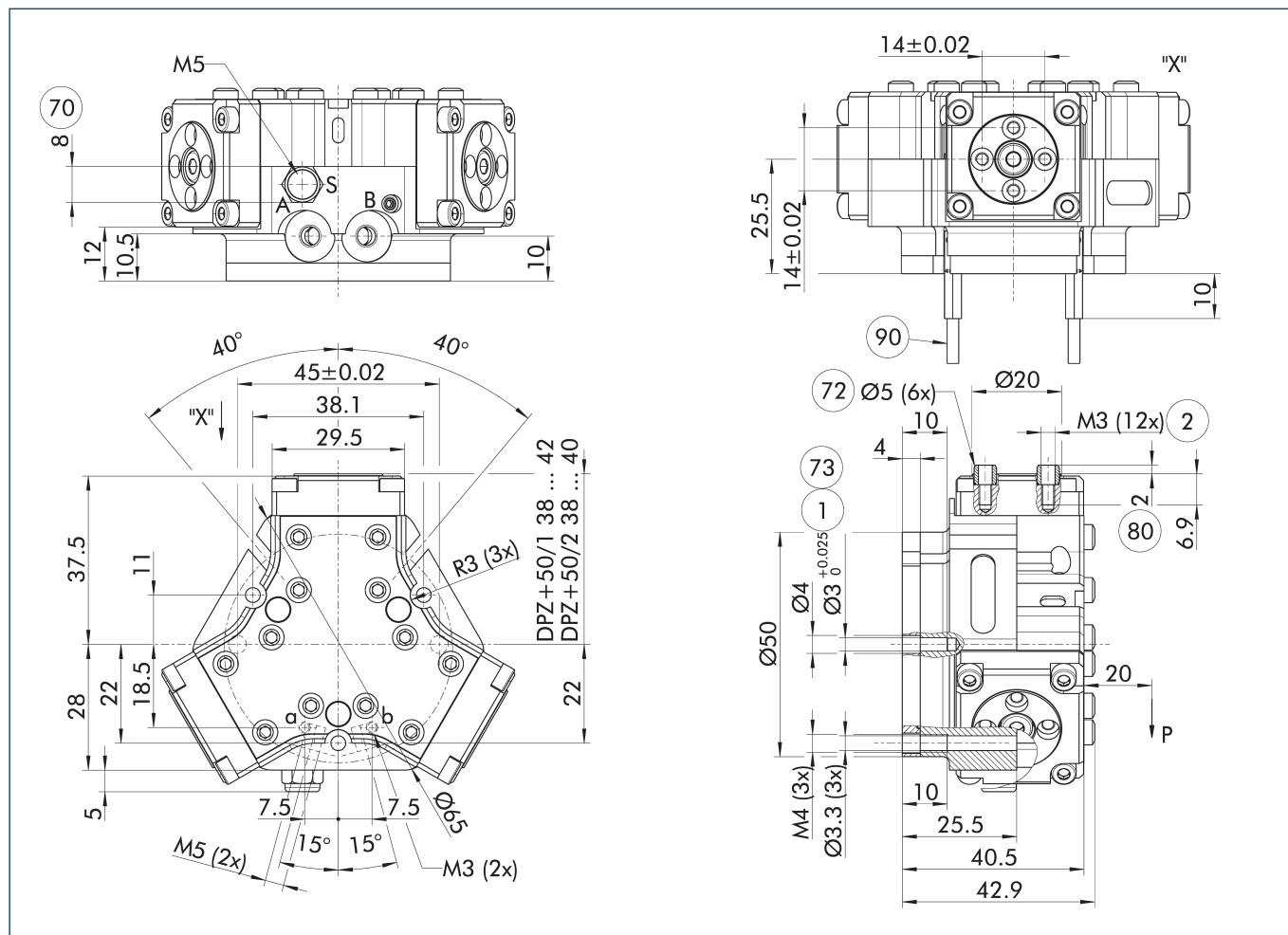
## Technical data

Description		DPZ-plus 50-1	DPZ-plus 50-2	DPZ-plus 50-1-AS	DPZ-plus 50-2-AS	DPZ-plus 50-1-IS	DPZ-plus 50-2-IS
ID		1316268	1316271	1316272	1316275	1316276	1316277
Stroke per jaw	[mm]	4	2	4	2	4	2
Closing/opening force	[N]	290/320	610/665	400/-	830/-	-/455	-/945
Min. spring force	[N]			110	220	135	280
Weight	[kg]	0.37	0.37	0.45	0.45	0.45	0.45
Recommended workpiece weight	[kg]	1.45	3.06	1.45	3.06	1.45	3.06
Fluid consumption double stroke	[cm <sup>3</sup> ]	9	9	18	18	18	18
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Max. permissible finger length	[mm]	50	40	40	30	40	30
Max. permissible mass per finger	[kg]	0.15	0.15	0.15	0.15	0.15	0.15
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions Ø D x Z	[mm]	80.6 x 40.5	80.6 x 40.5	80.6 x 50.9	80.6 x 50.9	80.6 x 50.9	80.6 x 50.9
<b>Options and their characteristics</b>							
High-temperature version		1321294	1321296	1321297	1321299	1321301	1321302
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130

① Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

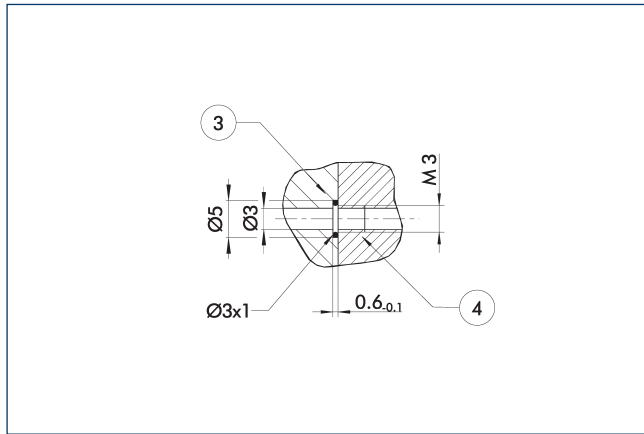
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦⑩ Wrench size
- ⑦⑫ Fit for centering sleeves
- ⑦⑬ Fit for centering pins
- ⑧⑭ Depth of the centering sleeve hole in the counter part
- ⑨⑮ Sensor MMS 22..

# DPZ-plus 50

Sealed universal gripper

## Hose-free direct connection M3

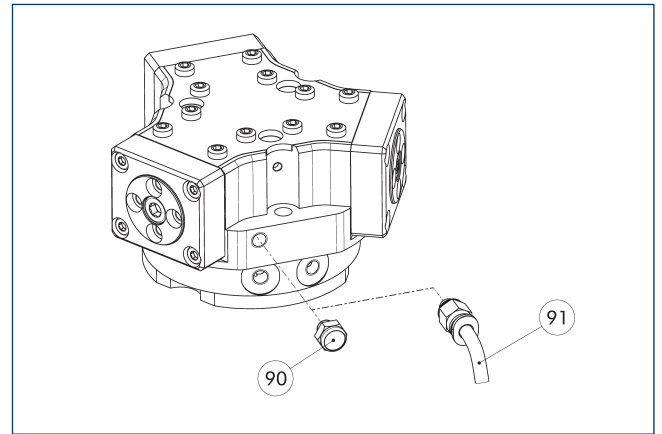


③ Adapter

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.

## Connect the air purge connection

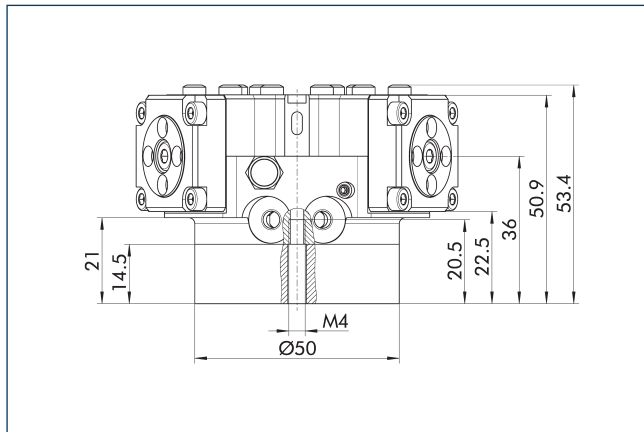


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

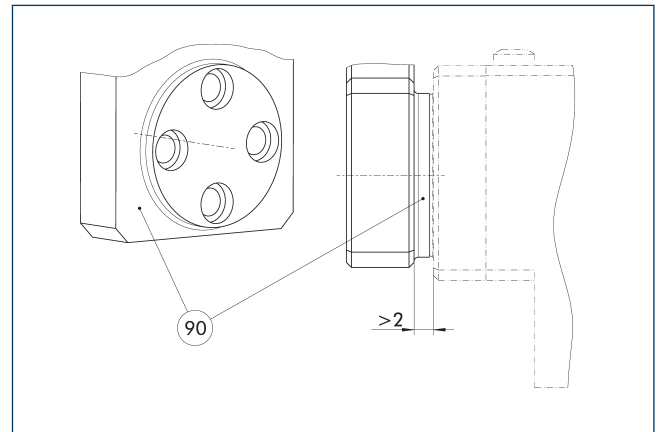
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

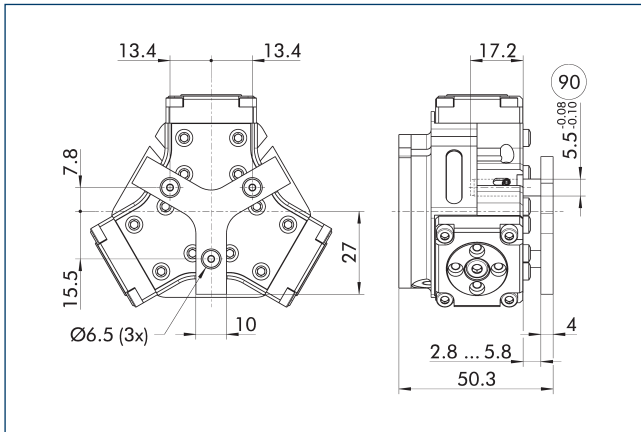


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

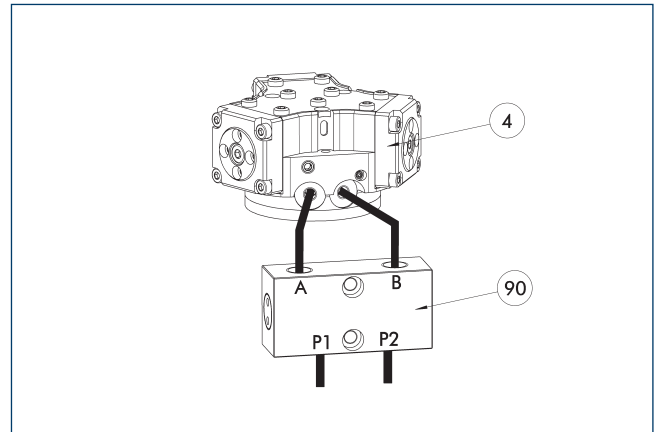


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-DPZ-plus 50	0303731	3	18

## SDV-P pressure maintenance valve



4 Grippers

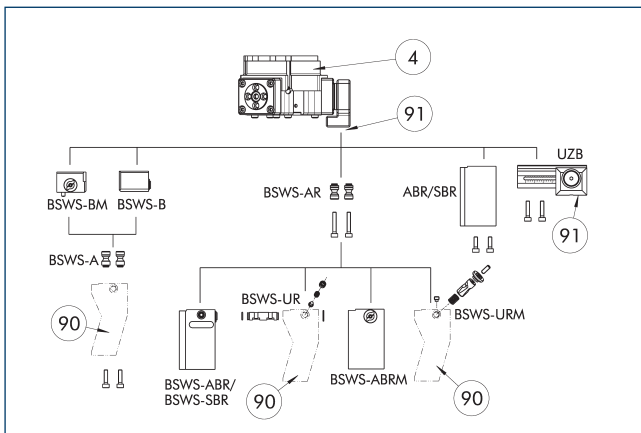
90 SDV-P pressure maintenance valve

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.

## Intermediate jaw interface



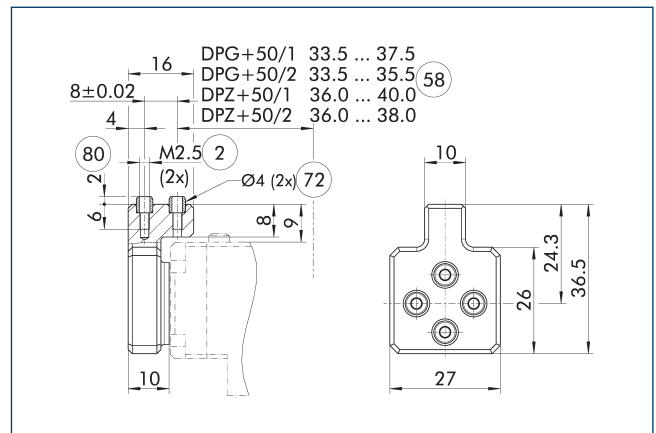
4 Grippers

91 Uniform screw connection pattern

90 Customized gripper fingers

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

## ZBA DPG-plus/DPZ-plus 50-40 intermediate jaw



2 Finger connection

72 Fit for centering sleeves

58 Distance from center of gripper

80 Depth of the centering sleeve hole in the counter part

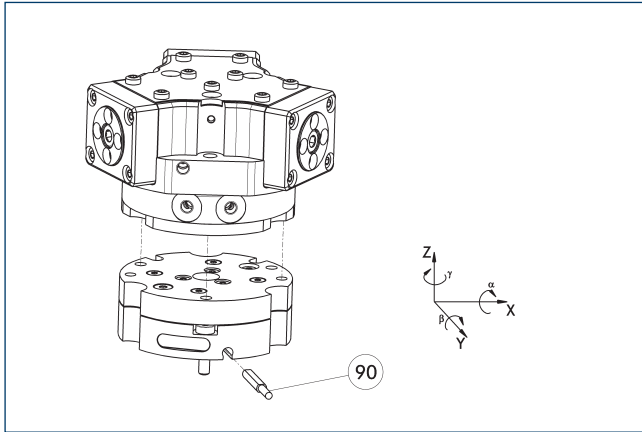
Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-DPG-DPZ-plus 50-40	0300191	Aluminum	PGN-plus 40	1

# DPZ-plus 50

Sealed universal gripper

## Tolerance compensation unit TCU

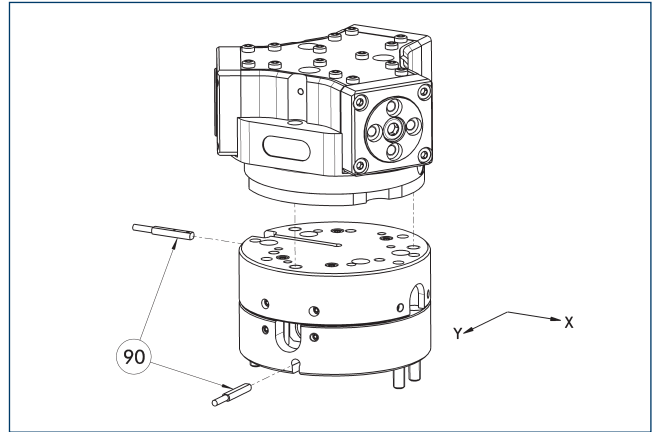


### 90 Monitoring of locking

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
Compensation unit			
TCU-Z-050-3-0V	0324749	no	$\pm 1^\circ / \pm 1^\circ / \pm 1,5^\circ$

## Compensation unit AGE-F

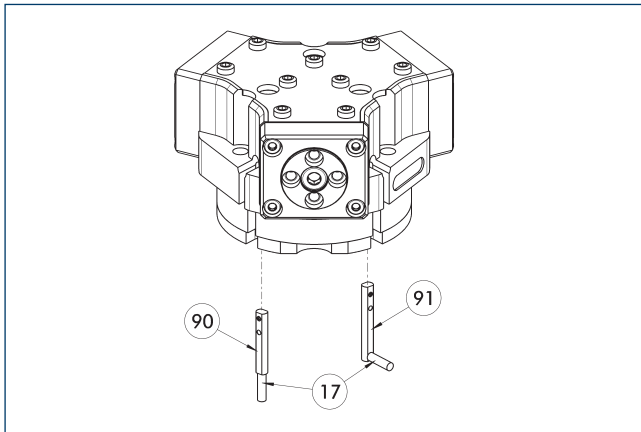


### 90 Monitoring

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

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	●

Electronic magnetic switch MMS



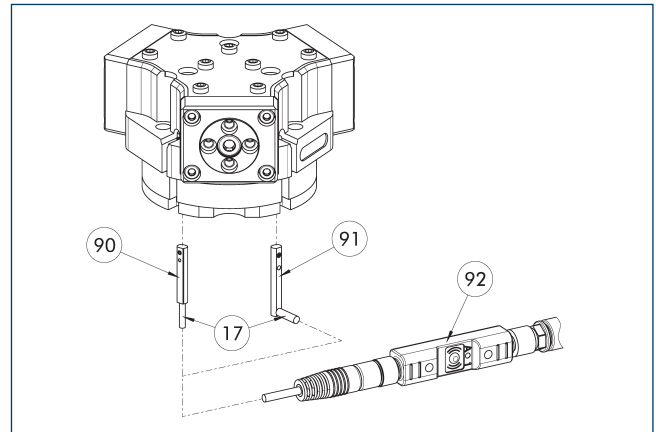
- 17 Cable outlet
- 90 Sensor MMS 22..
- 91 Sensor MMS 22...-SA

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
<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
- 90 Sensor MMS 22 PI1-...
- 91 Sensor MMS 22 ..-PI1-...-SA
- 92 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

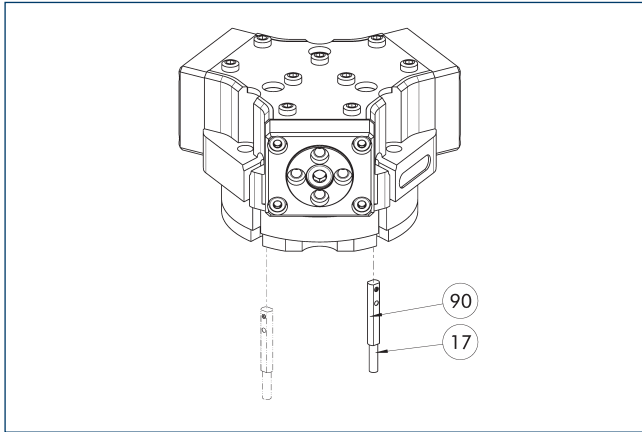
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel housing</b>		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

# DPZ-plus 50

Sealed universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

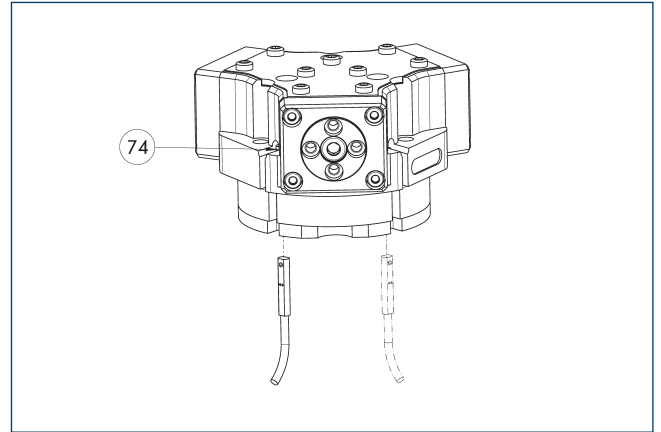
90 MMS 22...-PI2-... sensor

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



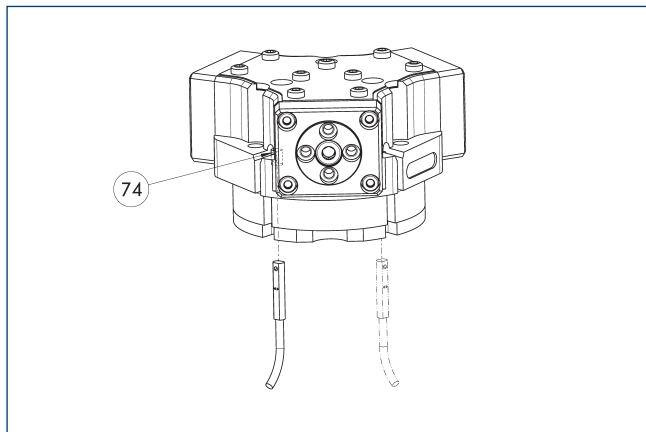
74 Limit stop for sensor

Position monitoring with two programmable positions per sensor 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>		
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.

## 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	

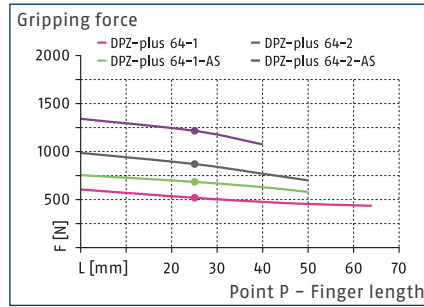
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# DPZ-plus 64

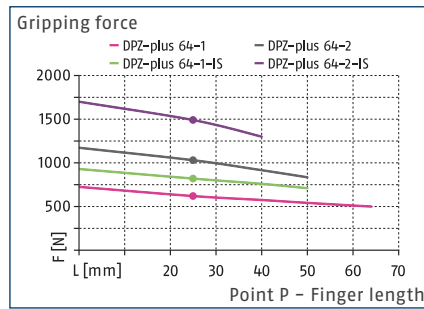
Sealed universal gripper



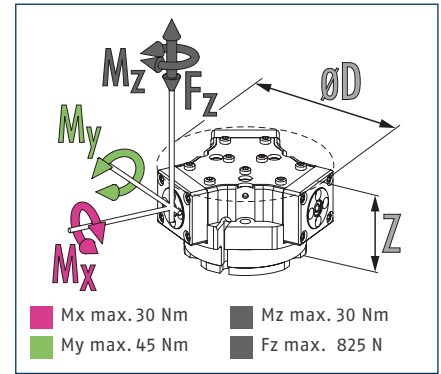
## Gripping force O.D. gripping



## 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.

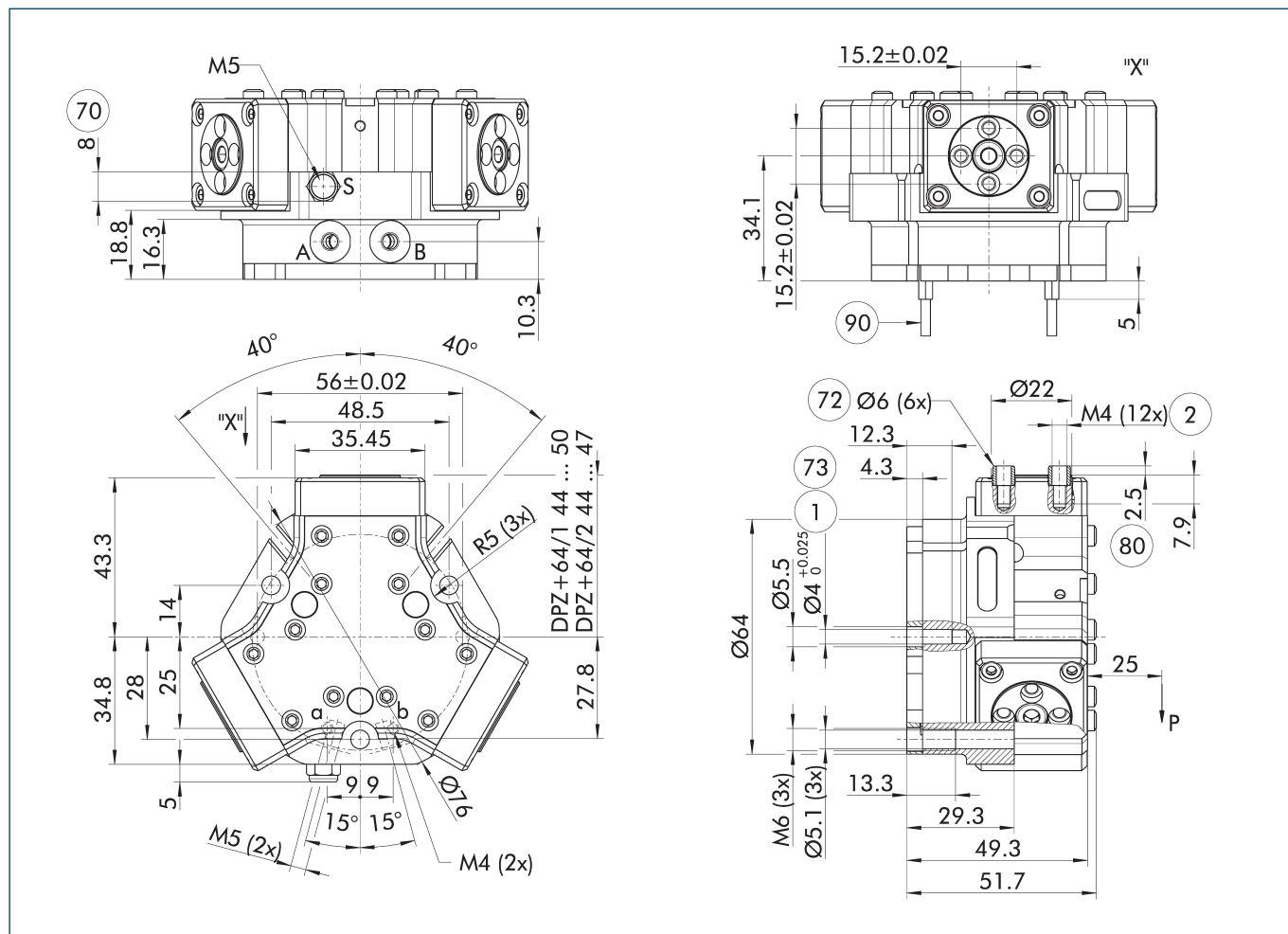
## Technical data

Description		DPZ-plus 64-1	DPZ-plus 64-2	DPZ-plus 64-1-AS	DPZ-plus 64-2-AS	DPZ-plus 64-1-IS	DPZ-plus 64-2-IS
ID		1316280	1316282	1316283	1316284	1316286	1316287
Stroke per jaw	[mm]	6	3	6	3	6	3
Closing/opening force	[N]	520/620	870/1030	685/-	1215/-	-/820	-/1490
Min. spring force	[N]			165	345	200	460
Weight	[kg]	0.62	0.62	0.75	0.75	0.75	0.75
Recommended workpiece weight	[kg]	2.6	4.35	2.6	4.35	2.6	4.35
Fluid consumption double stroke	[cm <sup>3</sup> ]	25	25	48	48	48	48
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
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
Max. permissible finger length	[mm]	64	50	50	40	50	40
Max. permissible mass per finger	[kg]	0.3	0.3	0.3	0.3	0.3	0.3
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions Ø D x Z	[mm]	93.6 x 49.3	93.6 x 49.3	93.6 x 62.7	93.6 x 62.7	93.6 x 62.7	93.6 x 62.7
<b>Options and their characteristics</b>							
High-temperature version		1321310	1321311	1321312	1321313	1321318	1321319
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		1316281					
Closing/opening force	[N]	849/935					
Weight	[kg]	0.92					
Maximum pressure	[bar]	6					
Max. permissible finger length	[mm]	40					

① Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

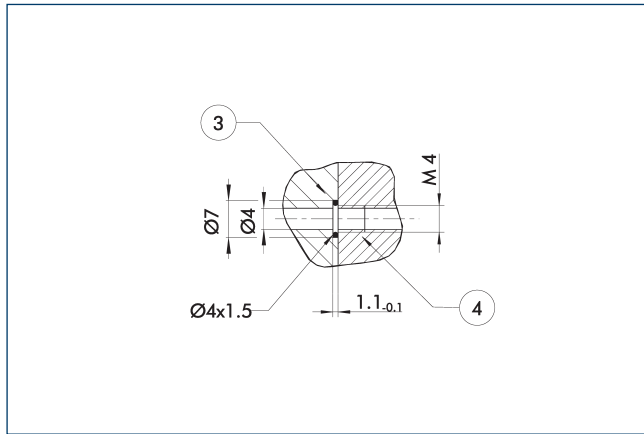
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦ Wrench size
- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Sensor MMS 22..

# DPZ-plus 64

Sealed universal gripper

## Hose-free direct connection M4

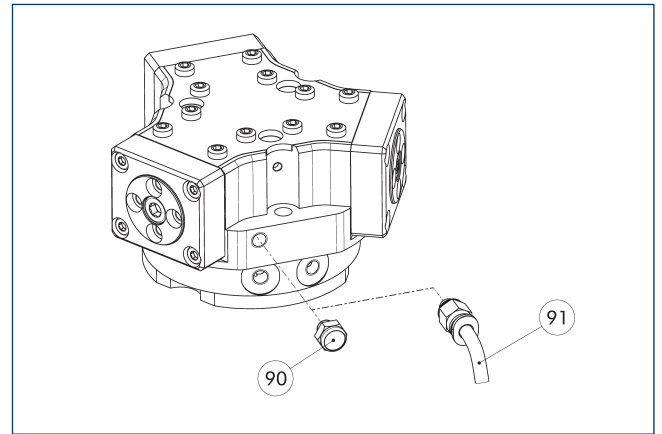


③ Adapter

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.

## Connect the air purge connection

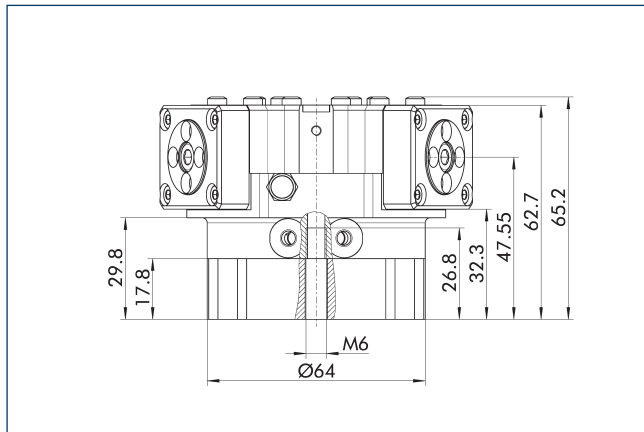


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

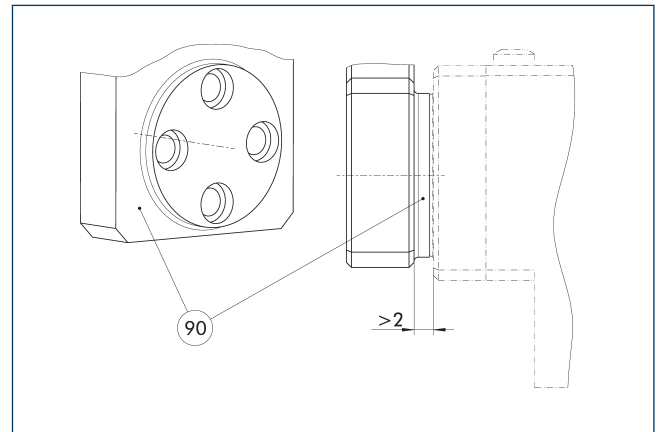
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

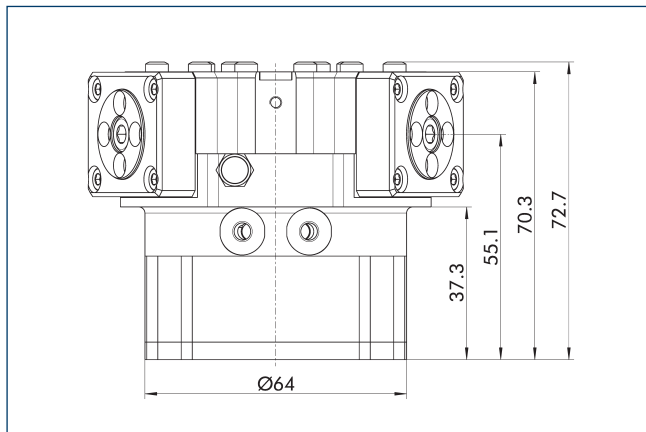


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

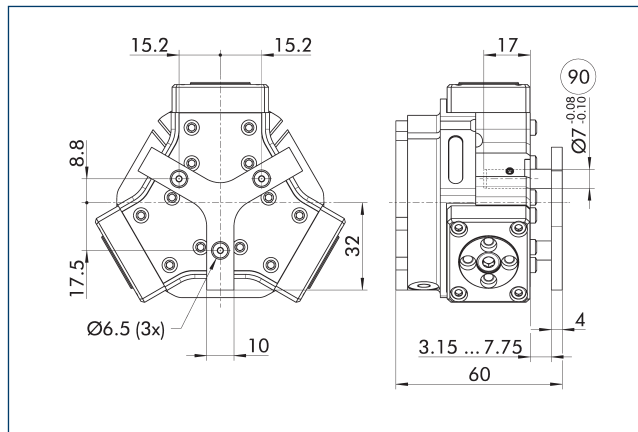


## Power booster version



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.

## Spring-loaded pressure piece

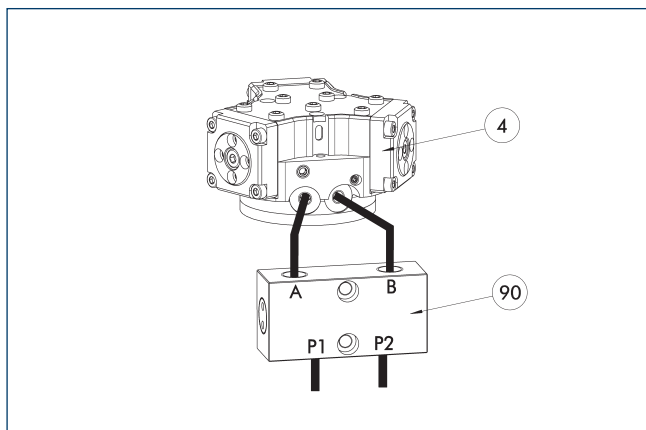


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 64	0303720	4.6	11

## SDV-P pressure maintenance valve



4 Grippers

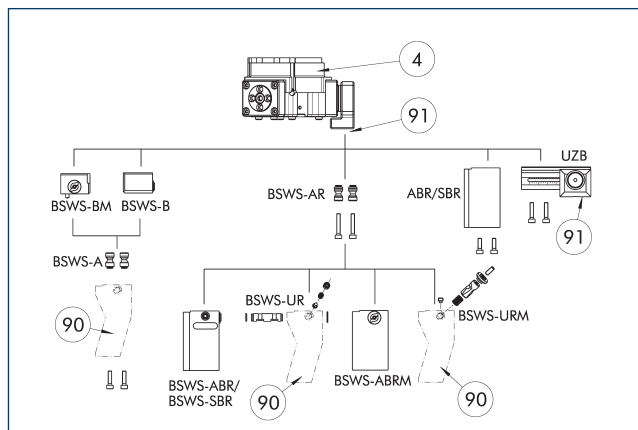
90 SDV-P pressure maintenance valve

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
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.

## Intermediate jaw interface



4 Grippers

90 Customized gripper fingers

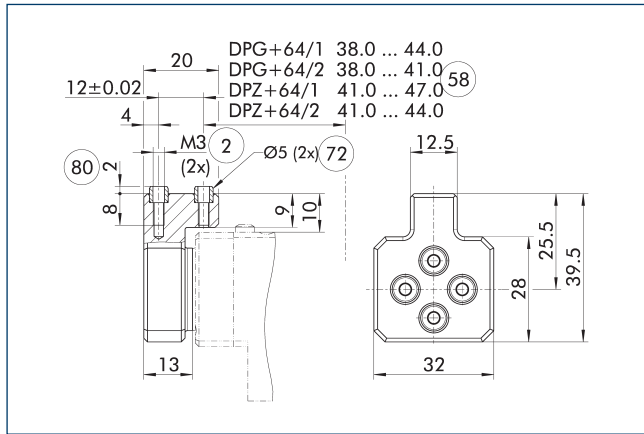
91 Uniform screw connection pattern

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

# DPZ-plus 64

Sealed universal gripper

## ZBA DPG-plus/DPZ-plus 64-50 intermediate jaw

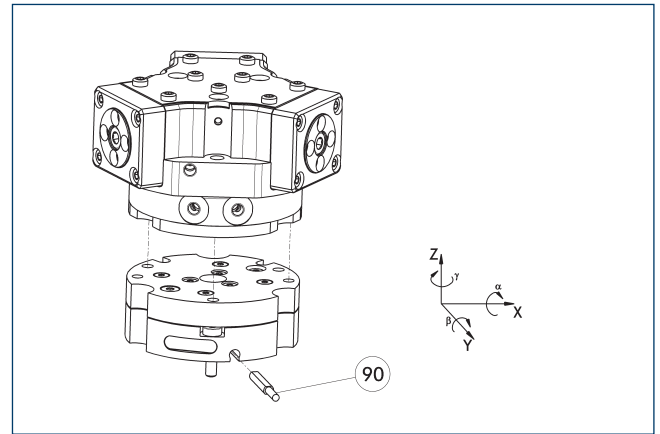


- ② Finger connection
- ⑤⑧ Distance from center of gripper
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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-DPG-DPZ-plus 64-50	0300192	Aluminum	PGN-plus 50	1

## Tolerance compensation unit TCU

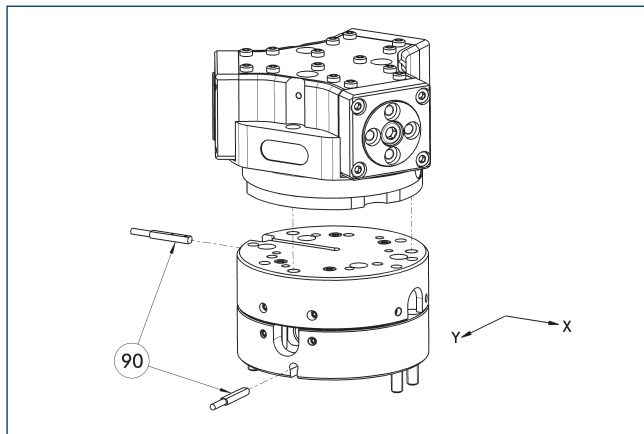


- ⑨① Monitoring of locking

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-Z-064-3-MV	0324766	yes	±1°/±1°/±1°	●
TCU-Z-064-3-OV	0324767	no	±1°/±1°/±1°	

## Compensation unit AGE-F

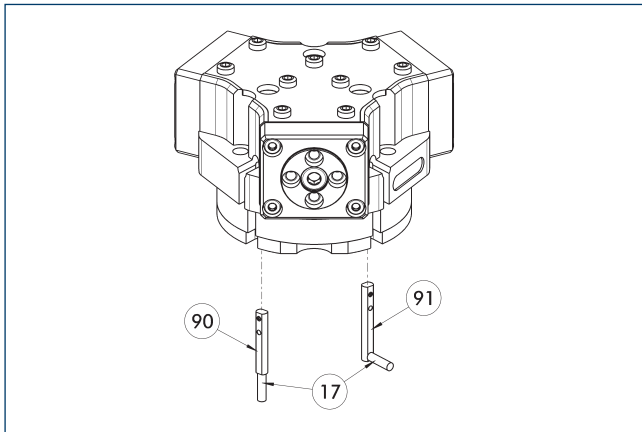


- ⑨① Monitoring

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

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	●

**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.

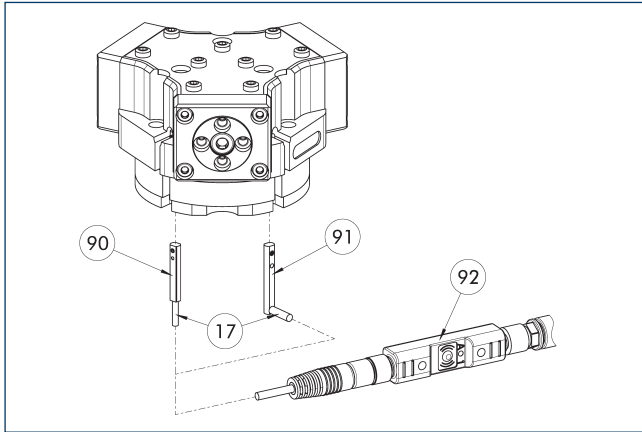
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 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.

# DPZ-plus 64

Sealed universal gripper

## Programmable magnetic switch MMS 22-PI1



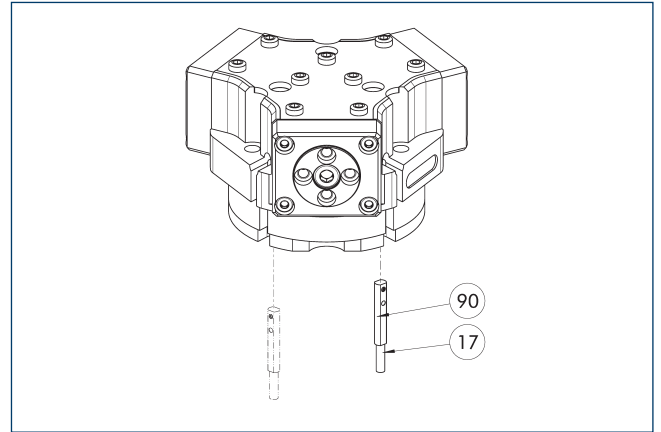
- ① 7 Cable outlet
- ① 0 Sensor MMS 22 PI1-...
- ① 1 Sensor MMS 22 ..-PI1-...-SA
- ① 2 Connector teaching tool ST

Position monitoring with one programmable switching point per sensor, directly mountable in the C-slot. The electronics are built into the sensor. The cable outlet can be located either axially or laterally (MMS 22...-SA). Programmed using the plug teaching tool ST (to be ordered separately).

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	
<b>Plug teaching tool</b>		
ST-MMS 22-PI1-PNP	0301025	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option.

## Programmable magnetic switch MMS 22-PI2



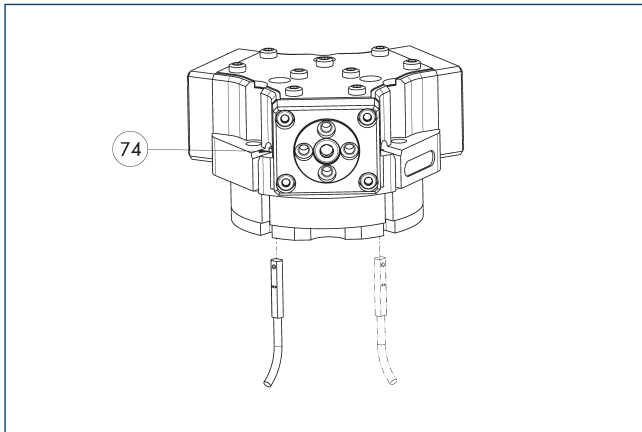
- ① 7 Cable outlet
- ① 0 MMS 22...-PI2-... sensor

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**



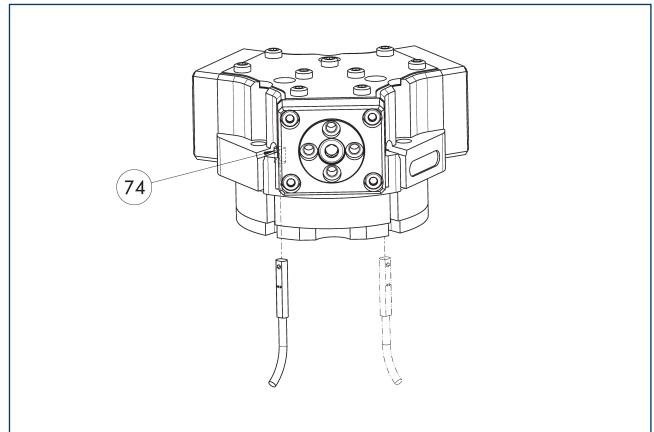
74 Limit stop for sensor

Position monitoring with two programmable positions per sensor 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>		
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.

**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	

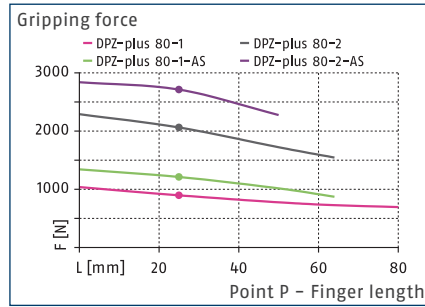
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# DPZ-plus 80

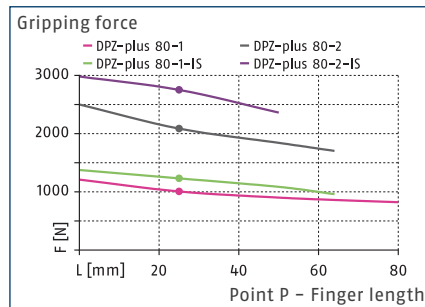
Sealed universal gripper



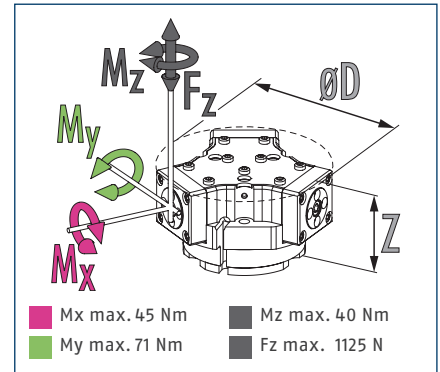
## Gripping force O.D. gripping



## 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.

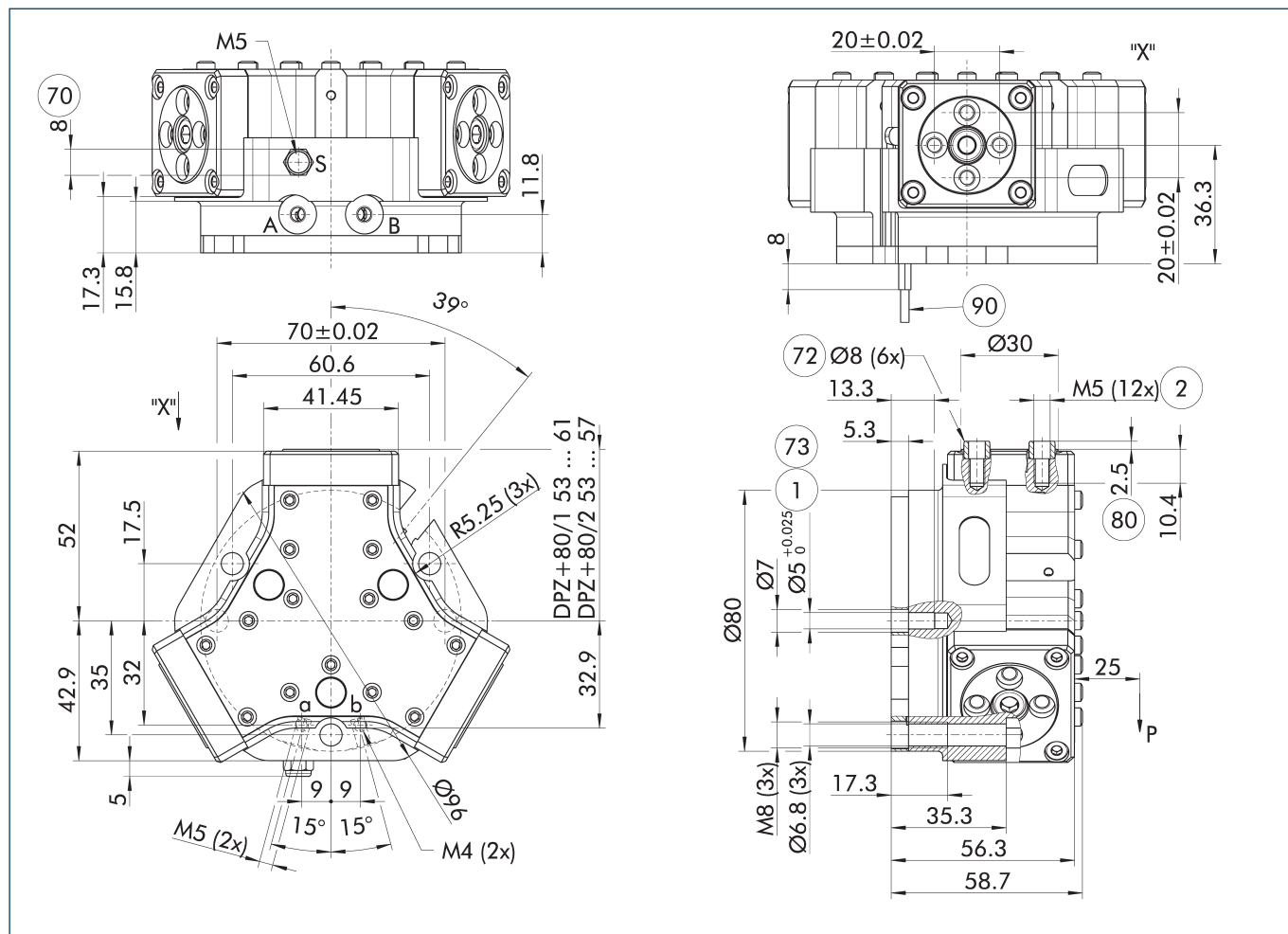
## Technical data

Description		DPZ-plus 80-1	DPZ-plus 80-2	DPZ-plus 80-1-AS	DPZ-plus 80-2-AS	DPZ-plus 80-1-IS	DPZ-plus 80-2-IS
ID		1316288	1316290	1316291	1316292	1316293	1316295
Stroke per jaw	[mm]	8	4	8	4	8	4
Closing/opening force	[N]	900/1000	2070/2085	1215/-	2725/-	-/1330	-/2765
Min. spring force	[N]			315	655	330	680
Weight	[kg]	1.3	1.3	1.45	1.45	1.45	1.45
Recommended workpiece weight	[kg]	4.5	10.35	4.5	10.35	4.5	10.35
Fluid consumption double stroke	[cm <sup>3</sup> ]	60	60	108	108	108	108
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.07/0.07	0.07/0.07	0.05/0.08	0.05/0.08	0.08/0.05	0.08/0.05
Max. permissible finger length	[mm]	80	64	64	50	64	50
Max. permissible mass per finger	[kg]	0.5	0.5	0.5	0.5	0.5	0.5
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions Ø D x Z	[mm]	112 x 56.3	112 x 56.3	112 x 71.2	112 x 71.2	112 x 71.2	112 x 71.2
<b>Options and their characteristics</b>							
High-temperature version		1321320	1321321	1321323	1321324	1321325	1321328
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		1316289					
Closing/opening force	[N]	1478/1545					
Weight	[kg]	1.6					
Maximum pressure	[bar]	6					
Max. permissible finger length	[mm]	50					

① Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

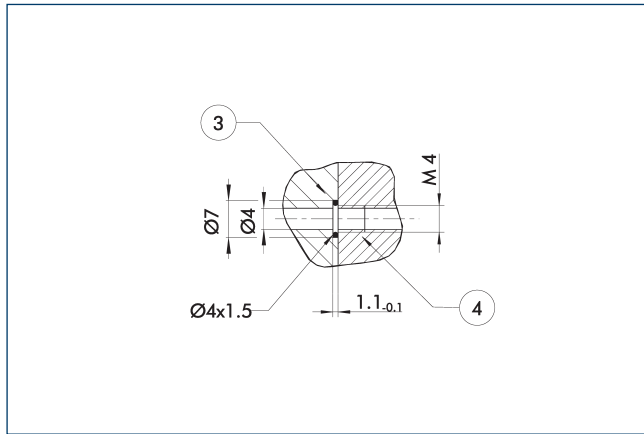
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦0 Wrench size
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑧0 Depth of the centering sleeve hole in the counter part
- ⑨0 Sensor MMS 22..

# DPZ-plus 80

Sealed universal gripper

## Hose-free direct connection M4

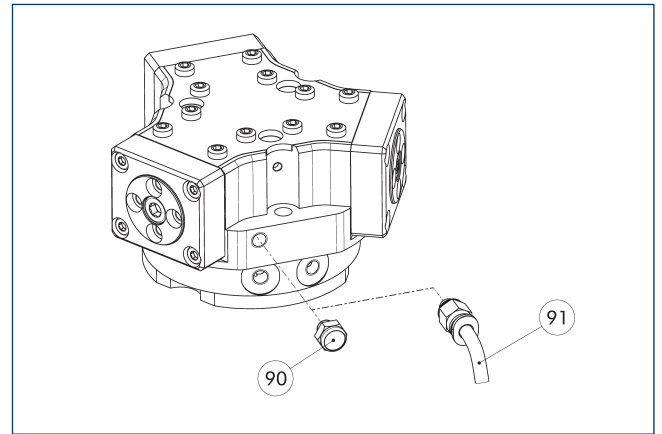


③ Adapter

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.

## Connect the air purge connection

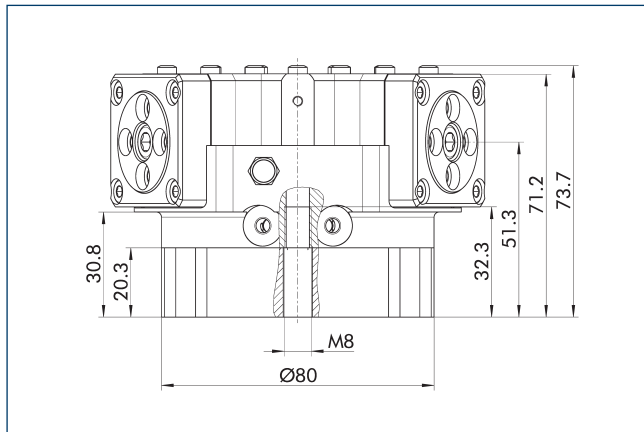


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

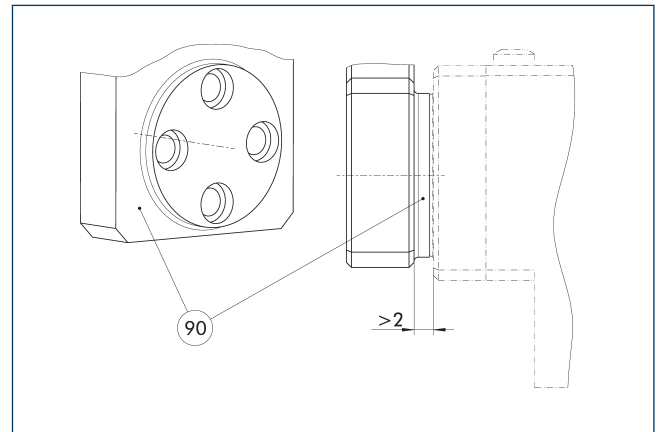
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

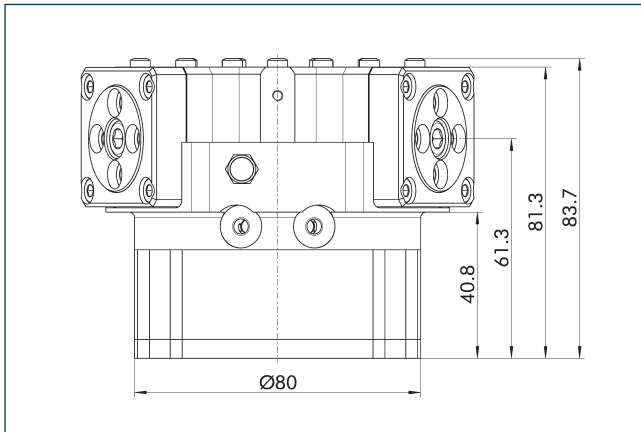


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.

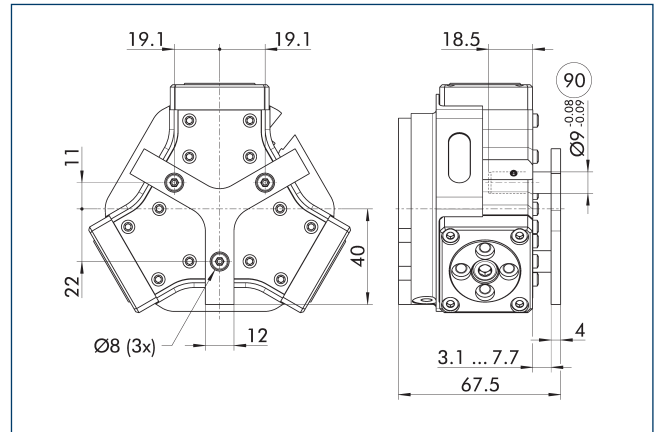


## Power booster version



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.

## Spring-loaded pressure piece

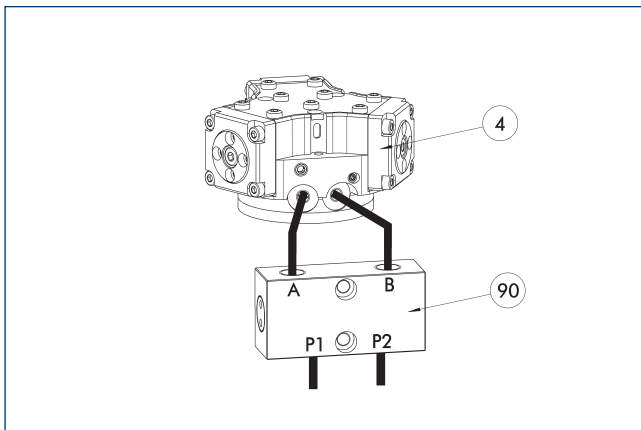


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 80	0303721	4.6	18

## SDV-P pressure maintenance valve



4 Grippers

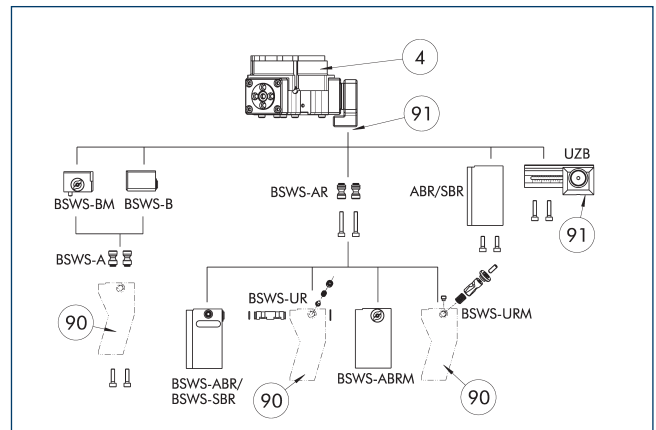
90 SDV-P pressure maintenance valve

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
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

ⓘ 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.

## Intermediate jaw interface



4 Grippers

90 Customized gripper fingers

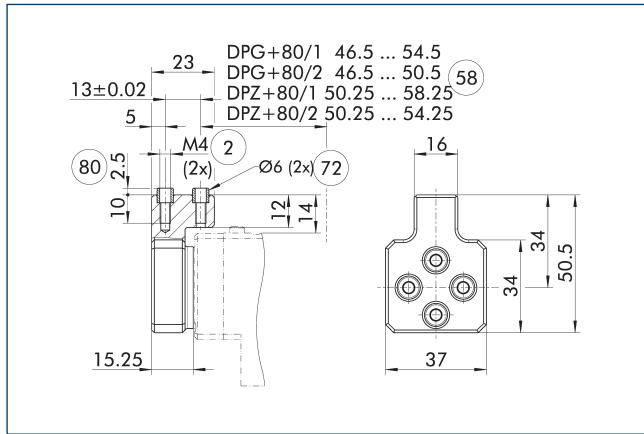
91 Uniform screw connection pattern

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

# DPZ-plus 80

Sealed universal gripper

## ZBA DPG-plus/DPZ-plus 80-64 intermediate jaw

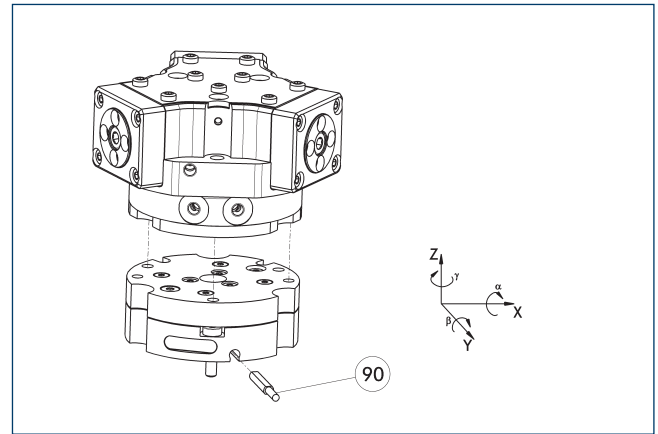


- ② Finger connection
- ⑤⑧ Distance from center of gripper
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

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-DPG-DPZ-plus 80-64	0300193	Aluminum	PGN-plus 64	1

## Tolerance compensation unit TCU

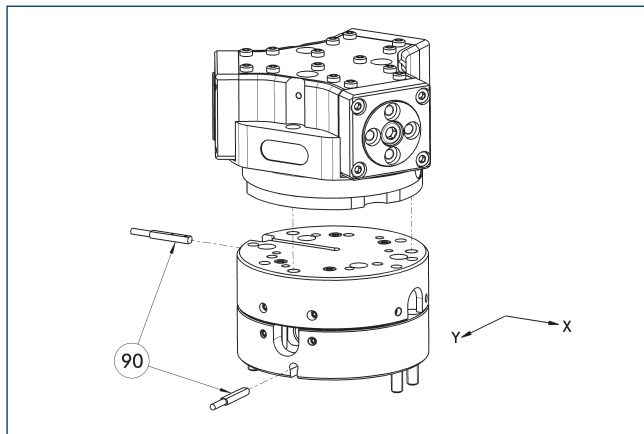


- ⑨① Monitoring of locking

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-Z-080-3-MV	0324784	yes	±1°/±1°/±1°	●
TCU-Z-080-3-OV	0324785	no	±1°/±1°/±1°	

## Compensation unit AGE-F

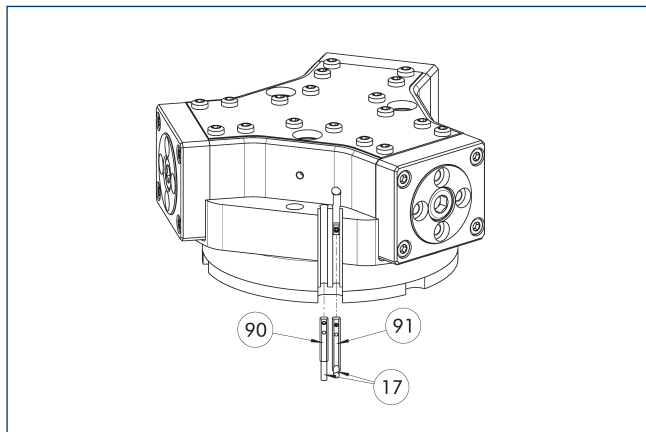


- ⑨① Monitoring

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

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	●

### 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.

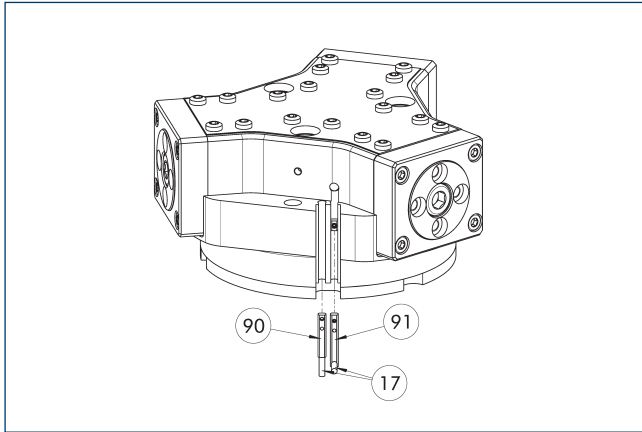
Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Reed Switches</b>		
RMS 22-S-M8	0377720	●
<b>Connection cables</b>		
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.

# DPZ-plus 80

Sealed universal gripper

## Programmable magnetic switch MMS 22-PI1



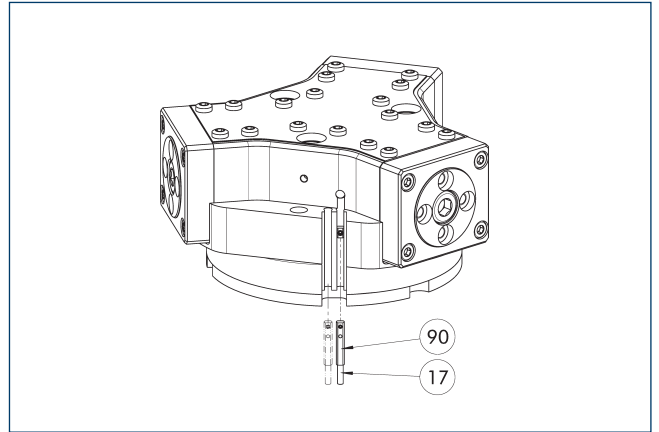
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨② Sensor MMS 22 PI1-...

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



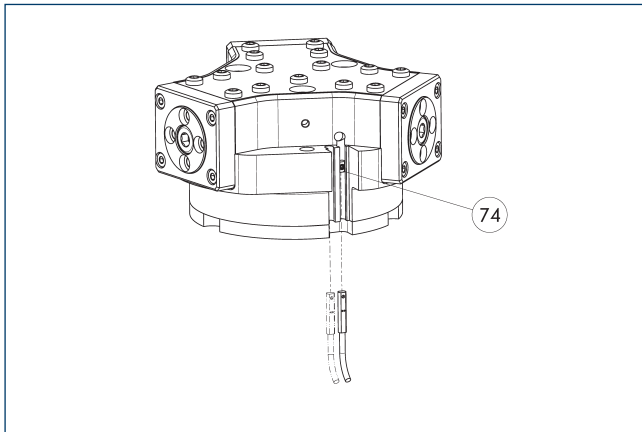
- ⑰ Cable outlet
- ⑨② MMS 22...-PI2-... sensor

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**



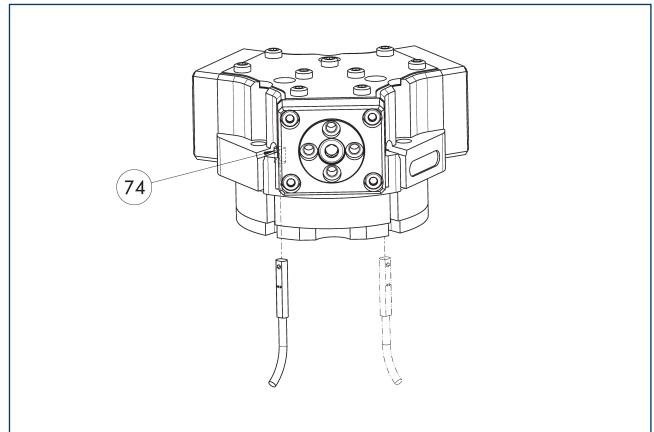
74 Limit stop for sensor

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

Description	ID	Often combined
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.

**Programmable magnetic switch MMS-IO-Link**



74 Limit stop for sensor

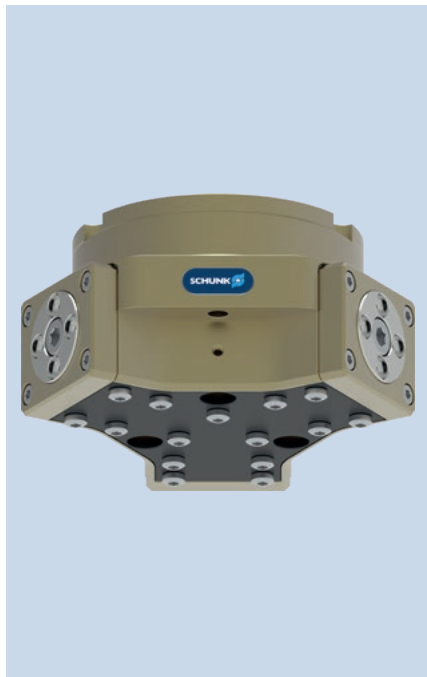
Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master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

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

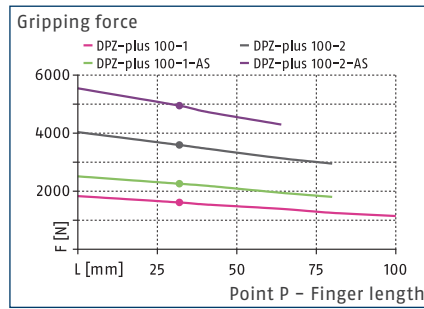
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# DPZ-plus 100

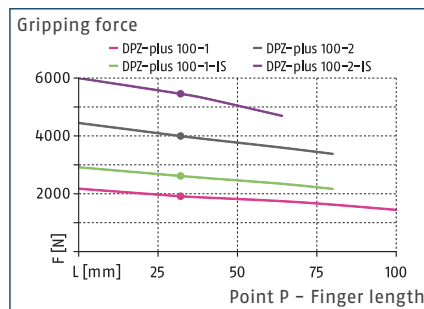
Sealed universal gripper



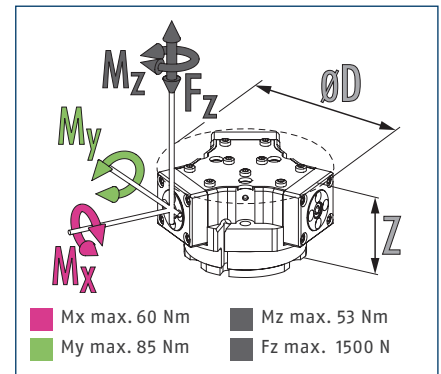
## Gripping force O.D. gripping



## 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.

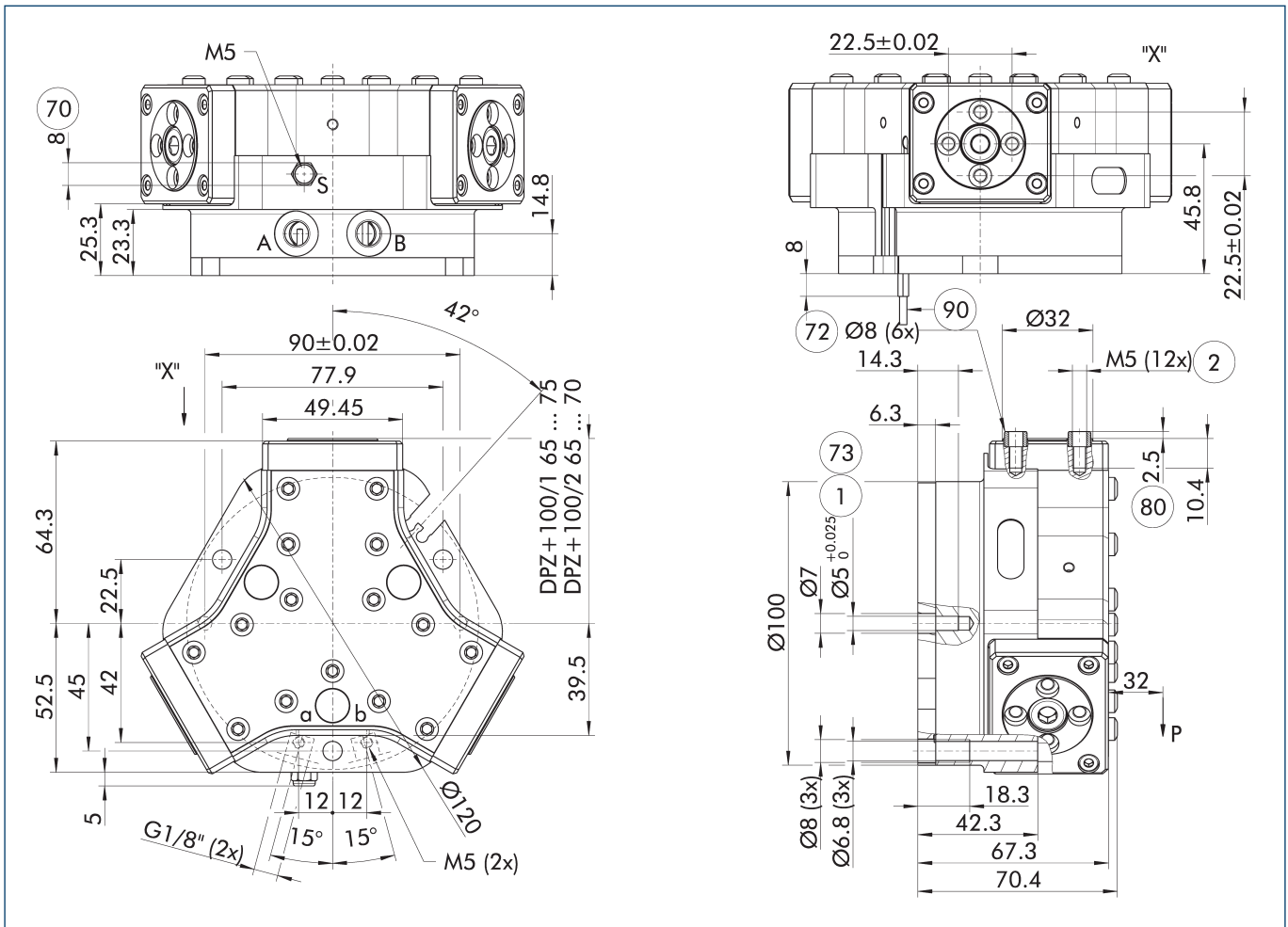
## Technical data

Description		DPZ-plus 100-1	DPZ-plus 100-2	DPZ-plus 100-1-AS	DPZ-plus 100-2-AS	DPZ-plus 100-1-IS	DPZ-plus 100-2-IS
ID		1316296	1316297	1316299	1316300	1316301	1316302
Stroke per jaw	[mm]	10	5	10	5	10	5
Closing/opening force	[N]	1620/1920	3600/4000	2265/-	4950/-	-/2620	-/5460
Min. spring force	[N]			645	1350	700	1460
Weight	[kg]	1.9	1.9	2.3	2.3	2.3	2.3
Recommended workpiece weight	[kg]	8.1	18	8.1	18	8.1	18
Fluid consumption double stroke	[cm³]	120	120	210	210	210	210
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.13/0.13	0.13/0.13	0.13/0.25	0.13/0.25	0.25/0.13	0.25/0.13
Max. permissible finger length	[mm]	100	80	80	64	80	64
Max. permissible mass per finger	[kg]	0.95	0.95	0.95	0.95	0.95	0.95
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions ø D x Z	[mm]	137.8 x 67.3	137.8 x 67.3	137.8 x 87.2	137.8 x 87.2	137.8 x 87.2	137.8 x 87.2
<b>Options and their characteristics</b>							
High-temperature version		1321329	1321331	1321332	1321334	1321336	1321340
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130

ⓘ Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

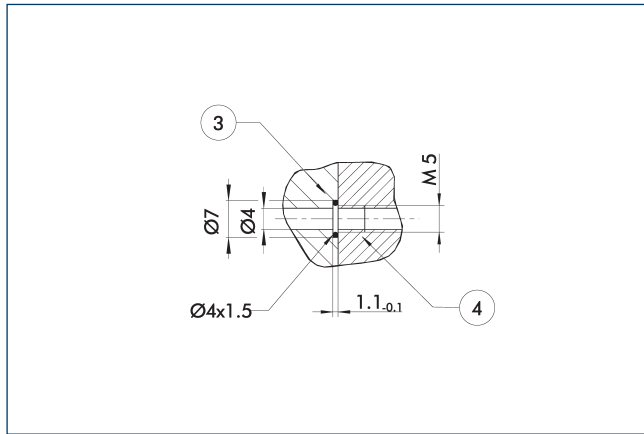
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦0 Wrench size
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑧0 Depth of the centering sleeve hole in the counter part
- ⑨0 Sensor MMS 22..

# DPZ-plus 100

Sealed universal gripper

## Hose-free direct connection M5

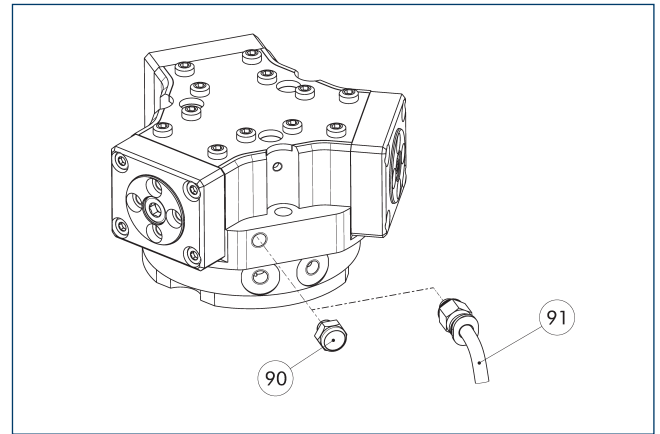


③ Adapter

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.

## Connect the air purge connection

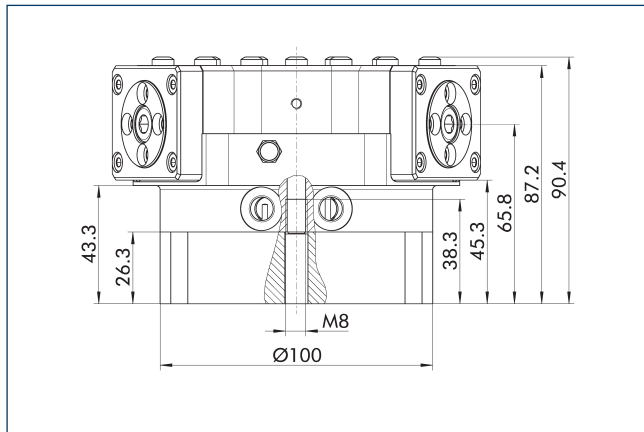


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

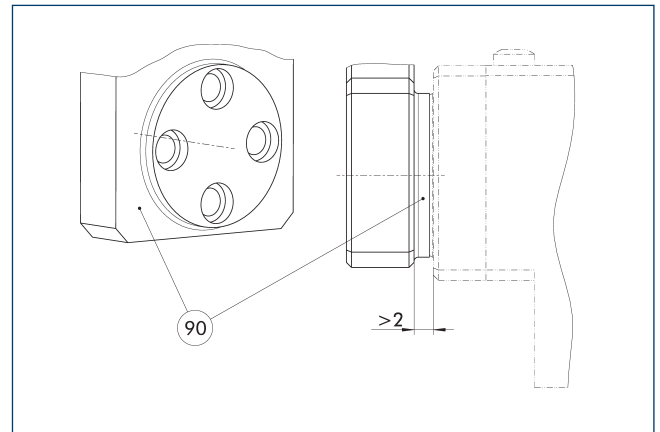
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

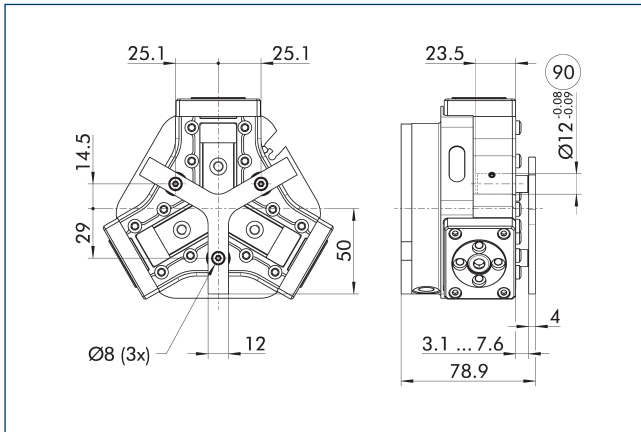


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

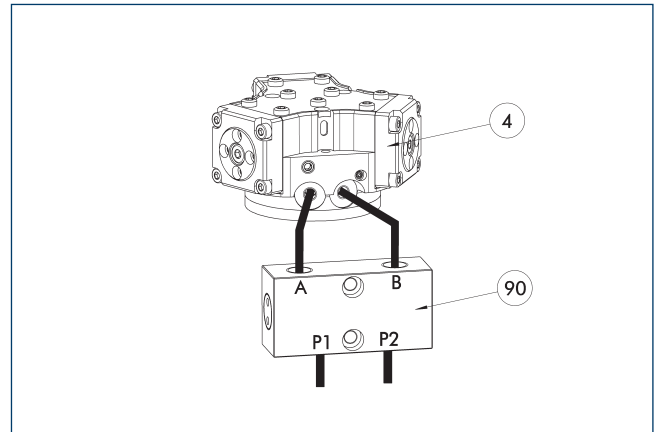


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 100	0303722	4.5	35

## SDV-P pressure maintenance valve



4 Grippers

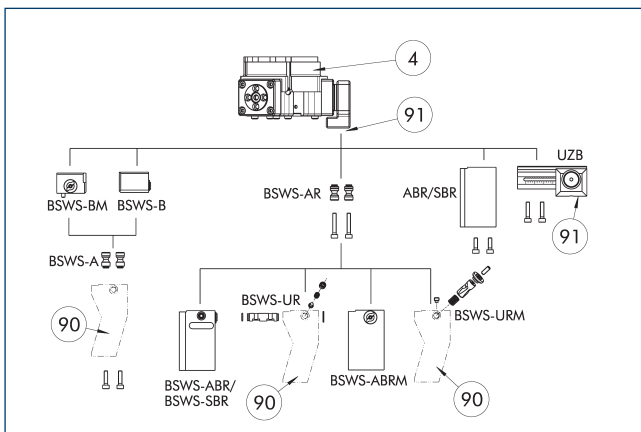
90 SDV-P pressure maintenance valve

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
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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.

## Intermediate jaw interface



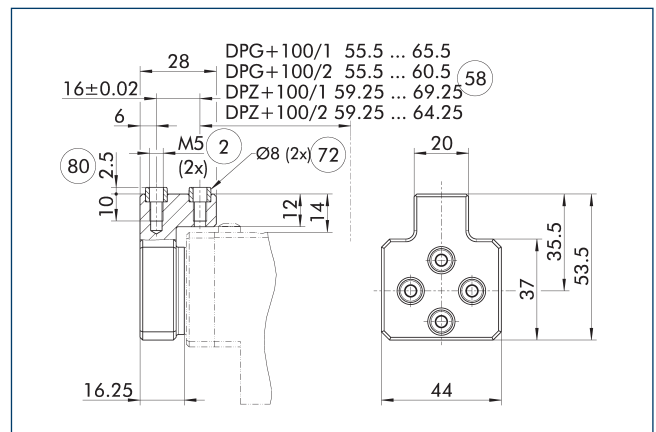
4 Grippers

91 Uniform screw connection pattern

90 Customized gripper fingers

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

## ZBA DPG-plus/DPZ-plus 100-80 intermediate jaw



2 Finger connection

72 Fit for centering sleeves

58 Distance from center of gripper

80 Depth of the centering sleeve hole in the counter part

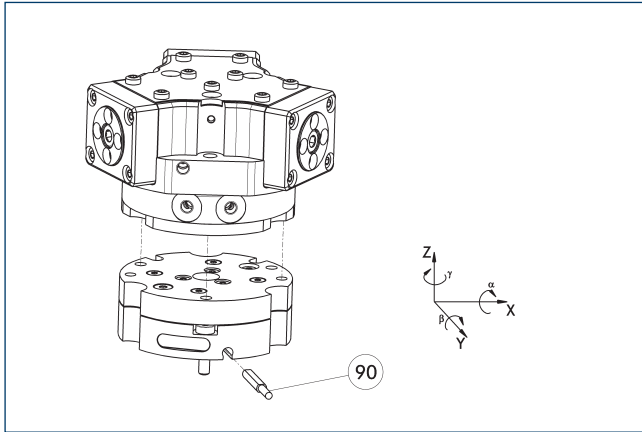
Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-DPG-DPZ-plus 100-80	0300194	Aluminum	PGN-plus 80	1

# DPZ-plus 100

Sealed universal gripper

## Tolerance compensation unit TCU

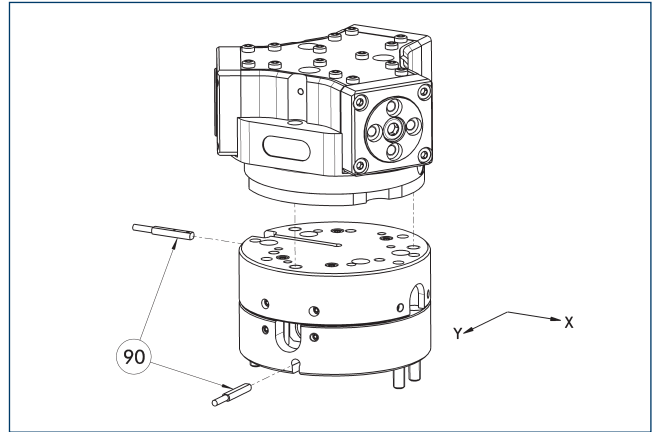


### 90 Monitoring of locking

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-Z-100-2-MV	0324798	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-100-2-0V	0324799	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

## Compensation unit AGE-F

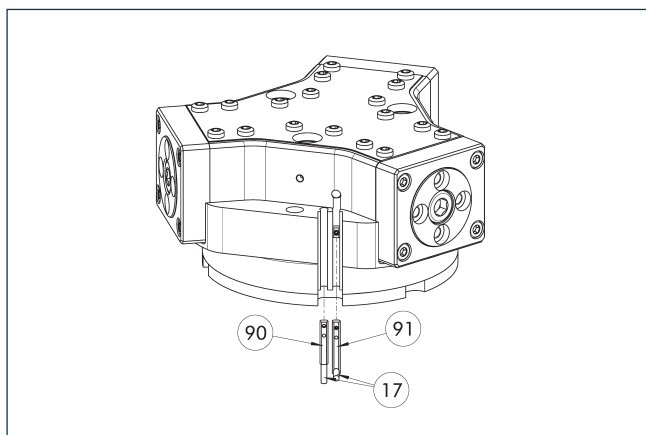


### 90 Monitoring

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

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	●

## Electronic magnetic switch MMS



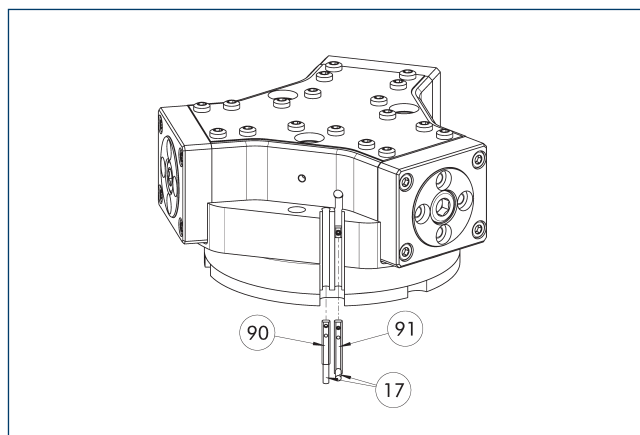
- ⑰ Cable outlet
- ① Sensor MMS 22...-SA
- ⑨ Sensor MMS 22..

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
- 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.

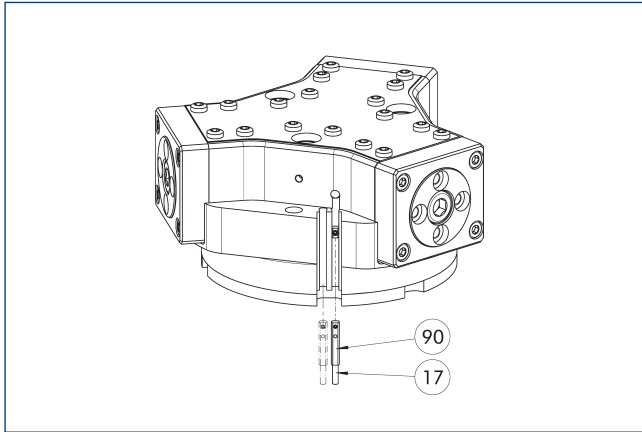
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

# DPZ-plus 100

Sealed universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

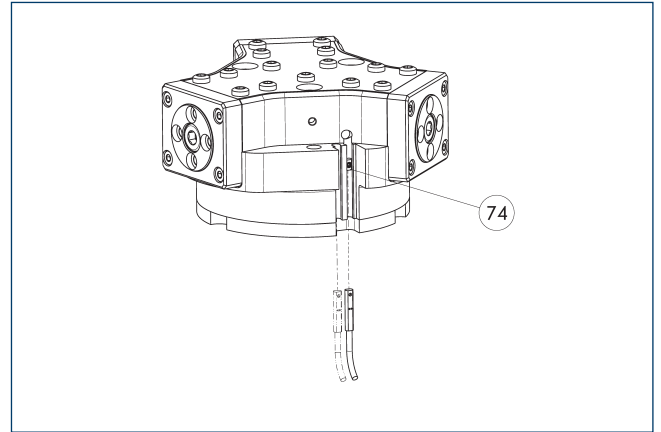
90 MMS 22...-PI2-... sensor

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



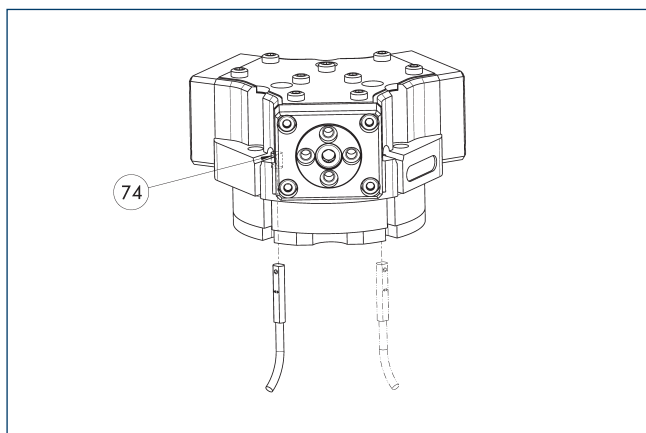
74 Limit stop for sensor

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.

## Programmable magnetic switch MMS-I0-Link



### 74 Limit stop for sensor

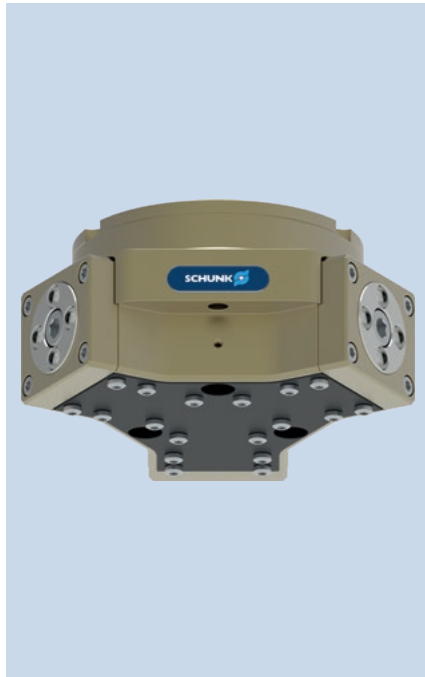
Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master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

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

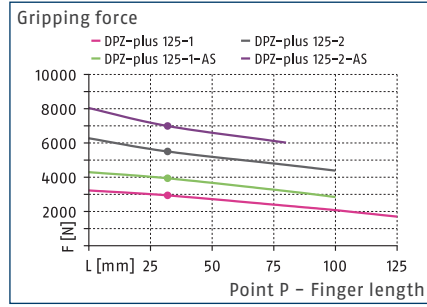
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# DPZ-plus 125

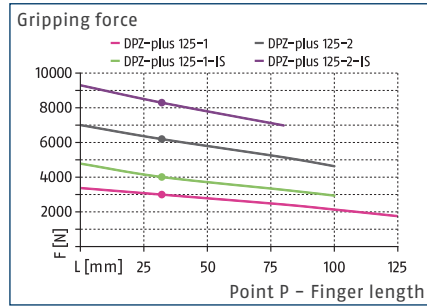
Sealed universal gripper



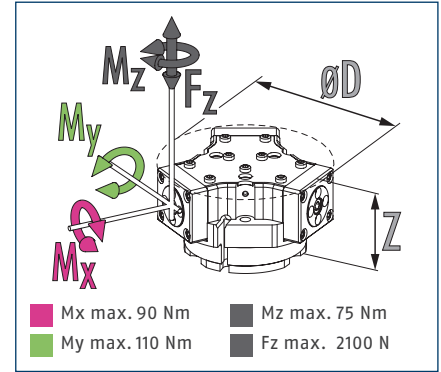
## Gripping force O.D. gripping



## 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		DPZ-plus 125-1	DPZ-plus 125-2	DPZ-plus 125-1-AS	DPZ-plus 125-2-AS	DPZ-plus 125-1-IS	DPZ-plus 125-2-IS
ID		1316303	1316304	1316306	1316307	1316308	1316309
Stroke per jaw	[mm]	13	6	13	6	13	6
Closing/opening force	[N]	2945/3000	5510/6200	3940/-	7000/-	-/4015	-/8300
Min. spring force	[N]			995	1490	1015	2100
Weight	[kg]	3.5	3.5	4.7	4.7	4.7	4.7
Recommended workpiece weight	[kg]	14.7	27.5	14.7	27.5	14.7	27.5
Fluid consumption double stroke	[cm³]	230	230	383	383	383	383
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.25/0.25	0.25/0.25	0.22/0.45	0.22/0.45	0.45/0.22	0.45/0.22
Max. permissible finger length	[mm]	125	100	100	80	100	80
Max. permissible mass per finger	[kg]	1.75	1.75	1.75	1.75	1.75	1.75
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions Ø D x Z	[mm]	172.2 x 76.75	172.2 x 76.75	172.2 x 101.15	172.2 x 101.15	172.2 x 101.15	172.2 x 101.15
<b>Options and their characteristics</b>							
High-temperature version		1321341	1321342	1321343	1321344	1321345	1321346
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130

ⓘ Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

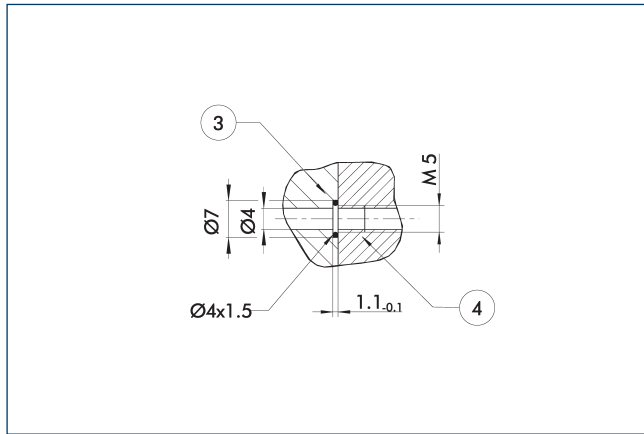
It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.



# DPZ-plus 125

Sealed universal gripper

## Hose-free direct connection M5

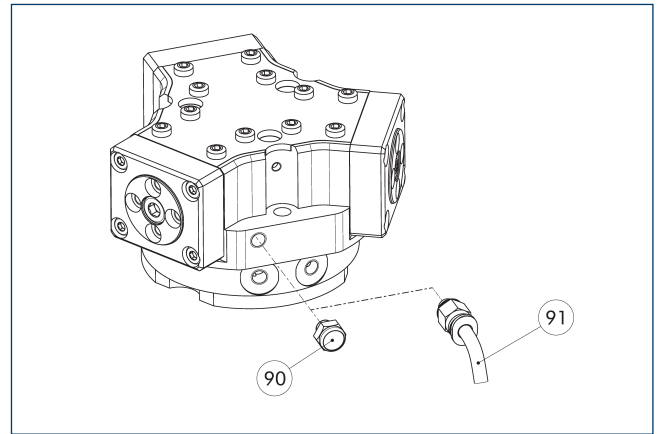


③ Adapter

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.

## Connect the air purge connection

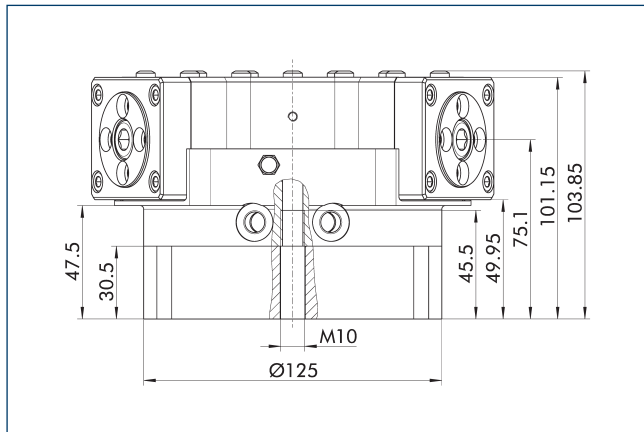


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

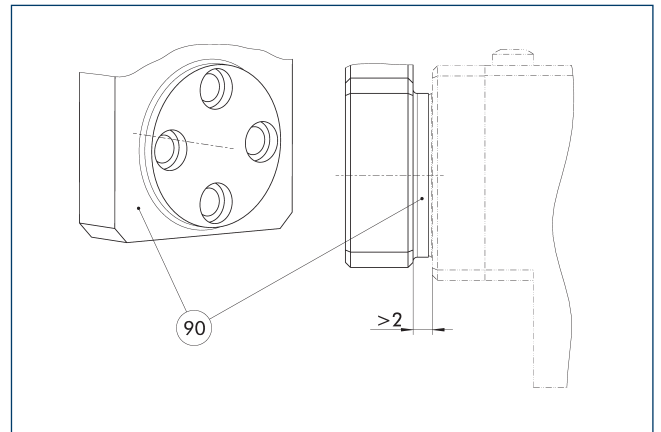
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

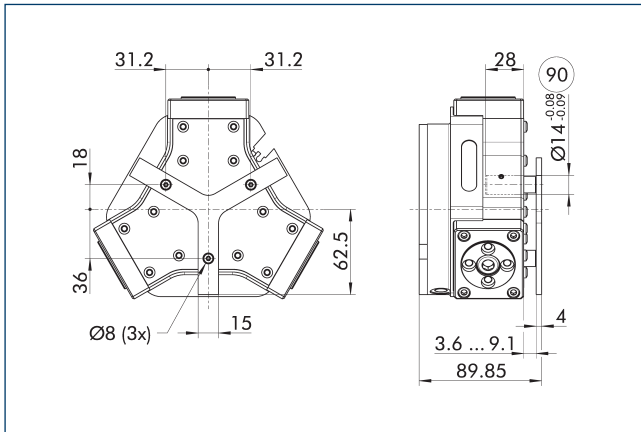


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

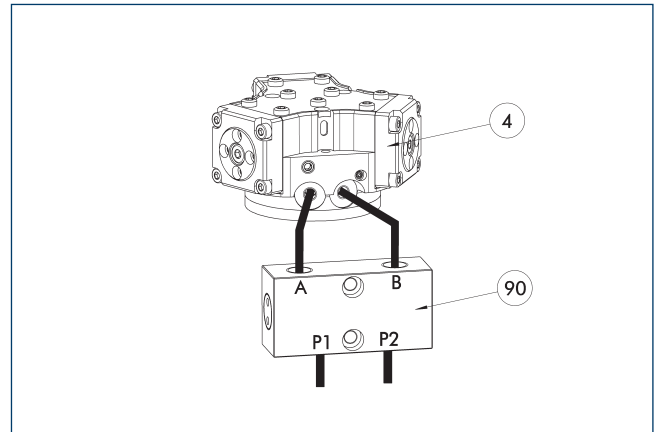


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 125	0303723	5.5	105

## SDV-P pressure maintenance valve



4 Grippers

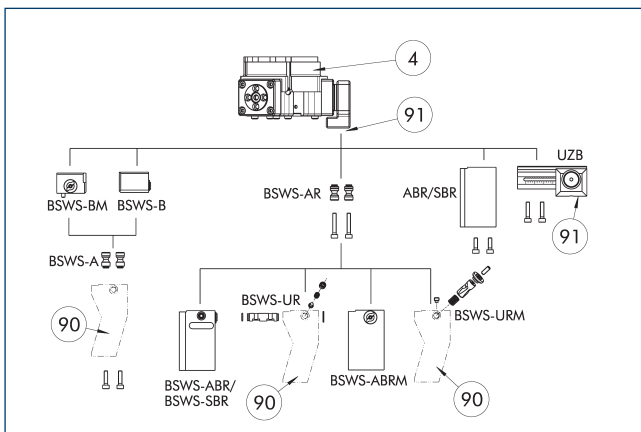
90 SDV-P pressure maintenance valve

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
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.

## Intermediate jaw interface



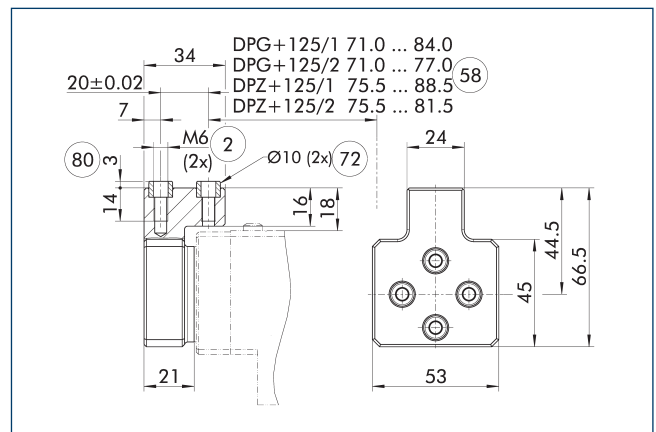
4 Grippers

91 Uniform screw connection pattern

90 Customized gripper fingers

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

## ZBA DPG-plus/DPZ-plus 125-100 intermediate jaw



2 Finger connection

72 Fit for centering sleeves

58 Distance from center of gripper

80 Depth of the centering sleeve hole in the counter part

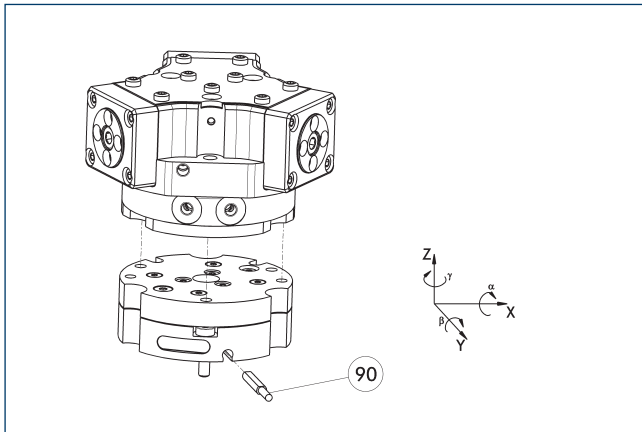
Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-DPG-DPZ-plus 125-100	0300195	Aluminum	PGN-plus 100	1

# DPZ-plus 125

Sealed universal gripper

## Tolerance compensation unit TCU

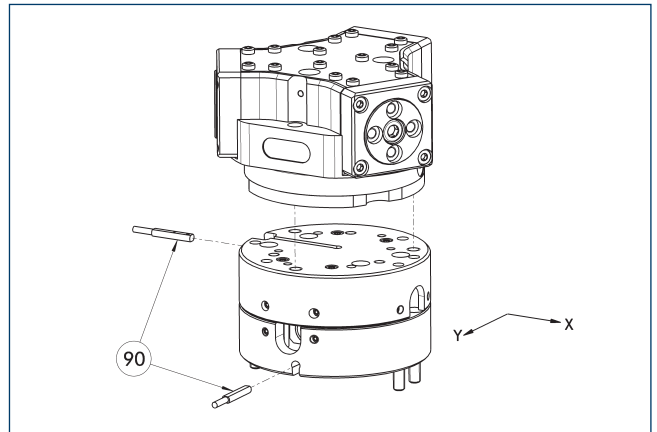


### 90 Monitoring of locking

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-Z-125-3-MV	0324820	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-125-3-0V	0324821	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

## Compensation unit AGE-F

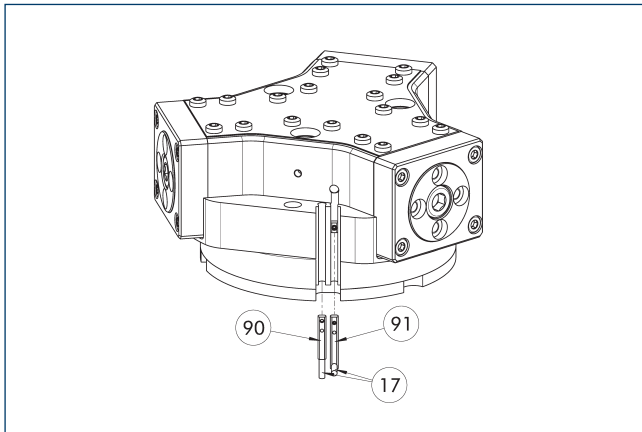


### 90 Monitoring

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

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	●

Electronic magnetic switch MMS



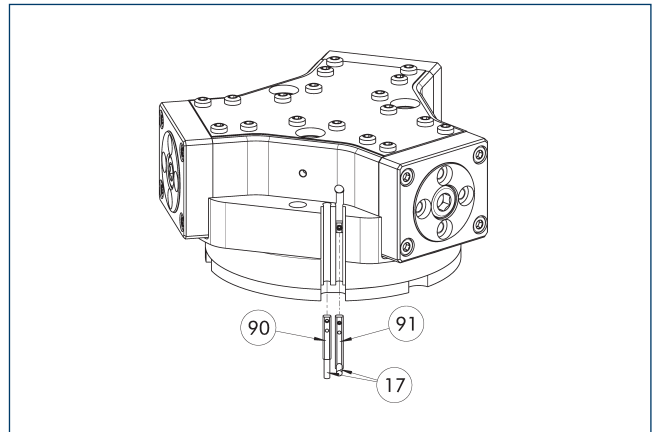
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

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.

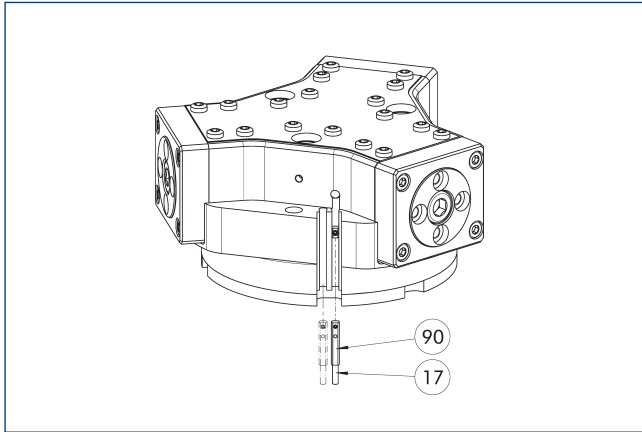
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
<b>Programmable magnetic switch with stainless steel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

# DPZ-plus 125

Sealed universal gripper

## Programmable magnetic switch MMS 22-PI2



17 Cable outlet

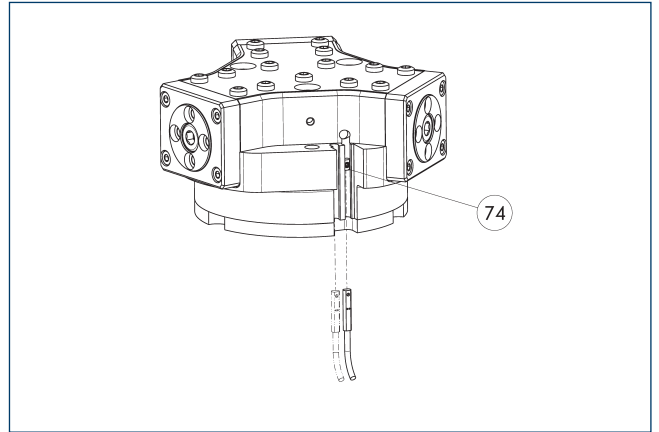
90 MMS 22...-PI2-... sensor

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



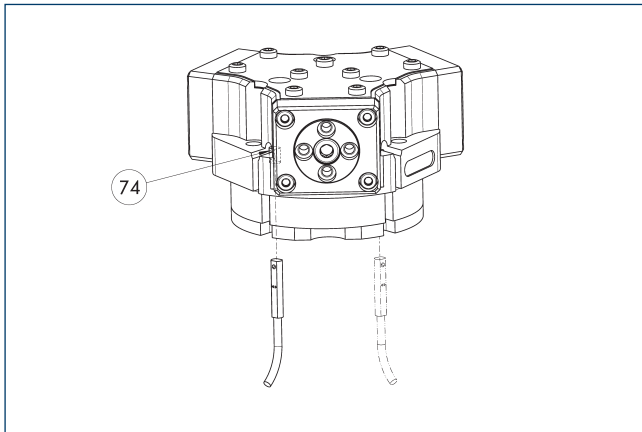
74 Limit stop for sensor

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.

## Programmable magnetic switch MMS-IO-Link



### 74 Limit stop for sensor

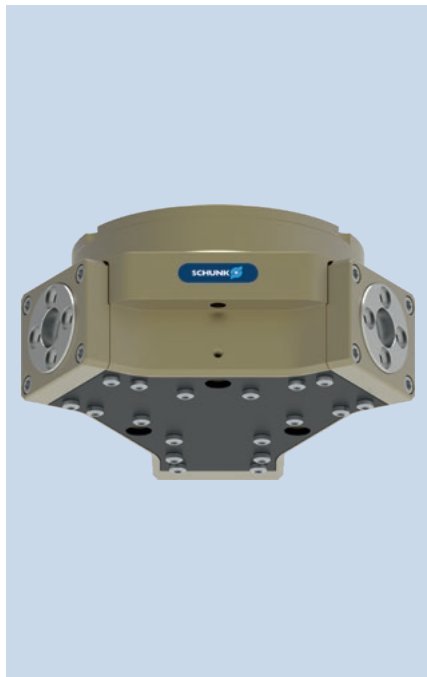
Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. Sensor programming on the gripper takes place via the IO-Link interface or the MT magnetic teach tool (included in scope of delivery). An IO-Link master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

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

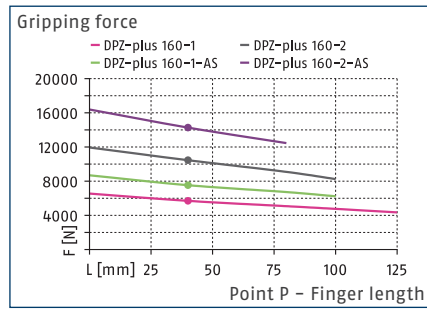
① One sensor is required for each gripper. No additional mounting kit is required – the gripper is equipped for use of the sensor by default. Further information and technical data can be found in the catalog chapter sensor systems.

# DPZ-plus 160

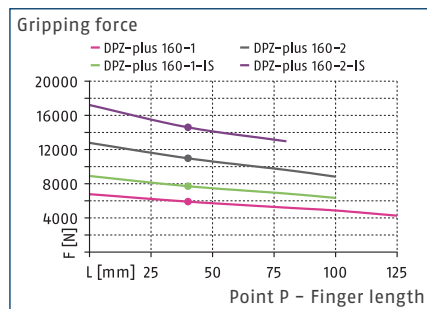
Sealed universal gripper



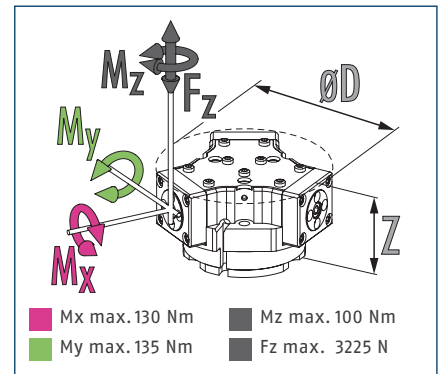
## Gripping force O.D. gripping



## Gripping force O.D. gripping



## Dimensions and maximum loads



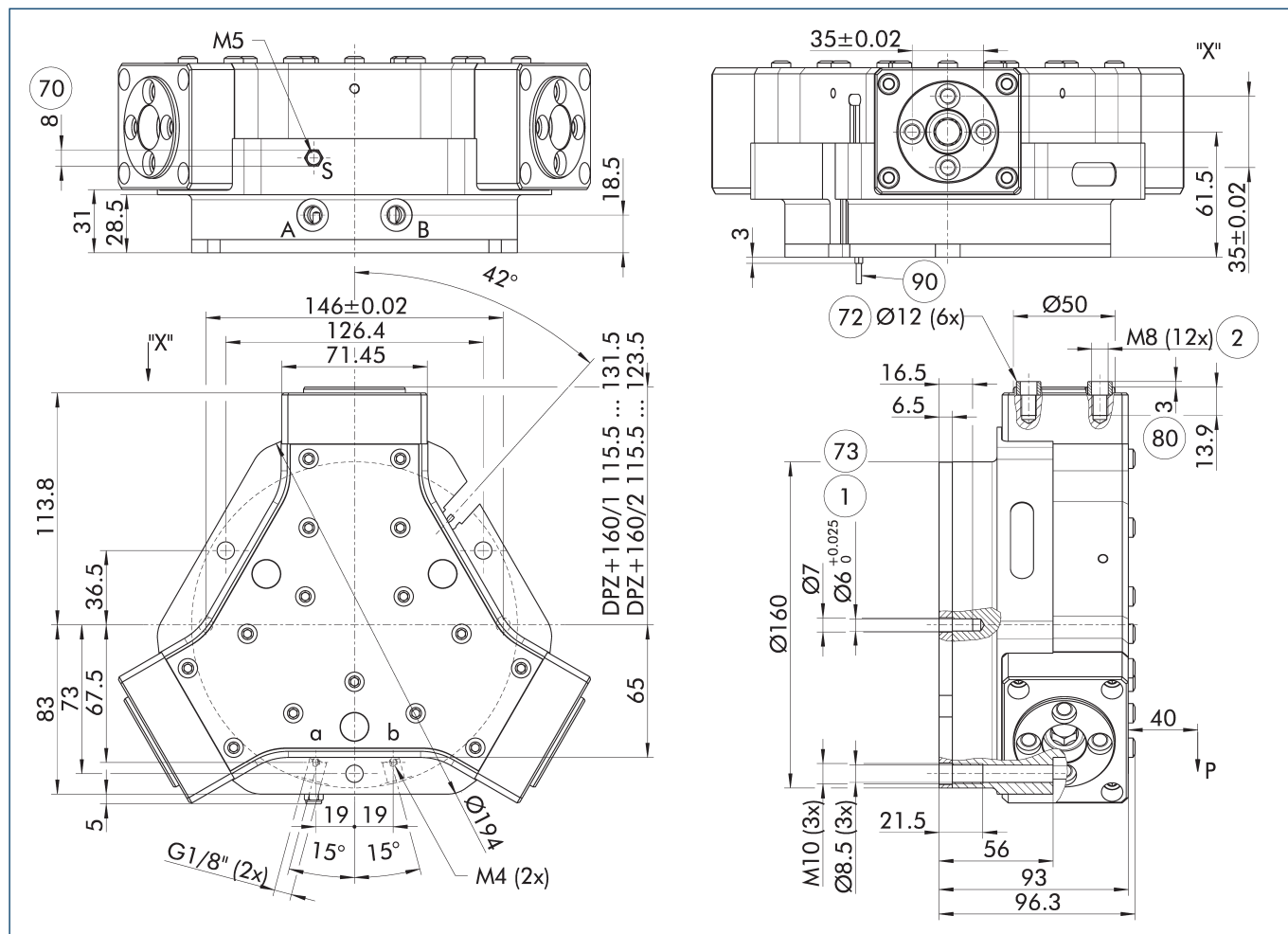
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## Technical data

Description		DPZ-plus 160-1	DPZ-plus 160-2	DPZ-plus 160-1-AS	DPZ-plus 160-2-AS	DPZ-plus 160-1-IS	DPZ-plus 160-2-IS
ID		1316310	1316312	1316313	1316314	1316315	1316316
Stroke per jaw	[mm]	16	8	16	8	16	8
Closing/opening force	[N]	5700/5880	10450/10950	7530/-	14260/-	-/7865	-/15070
Min. spring force	[N]			1830	3810	1985	4120
Weight	[kg]	7.9	7.9	9.7	9.7	9.7	9.7
Recommended workpiece weight	[kg]	28.5	52	28.5	52	28.5	52
Fluid consumption double stroke	[cm³]	520	520	875	875	875	875
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	0.6/0.6	0.6/0.6	0.5/1	0.5/1	1/0.5	1/0.5
Max. permissible finger length	[mm]	125	100	100	80	100	80
Max. permissible mass per finger	[kg]	3	3	3	3	3	3
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions Ø D x Z	[mm]	238.6 x 93	238.6 x 93	238.6 x 122.9	238.6 x 122.9	238.6 x 122.9	238.6 x 122.9
<b>Options and their characteristics</b>							
High-temperature version		1321347	1321350	1321351	1321352	1321354	1321355
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130

① Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54. It may take a few 100 gripping cycles until the full gripping force (as indicated in the data table) will be available.

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

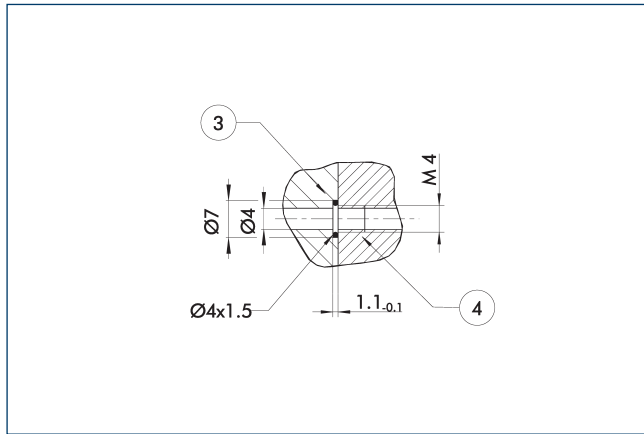
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦ Wrench size
- ⑦② Fit for centering sleeves
- ⑦③ Fit for centering pins
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Sensor MMS 22..

# DPZ-plus 160

Sealed universal gripper

## Hose-free direct connection M4

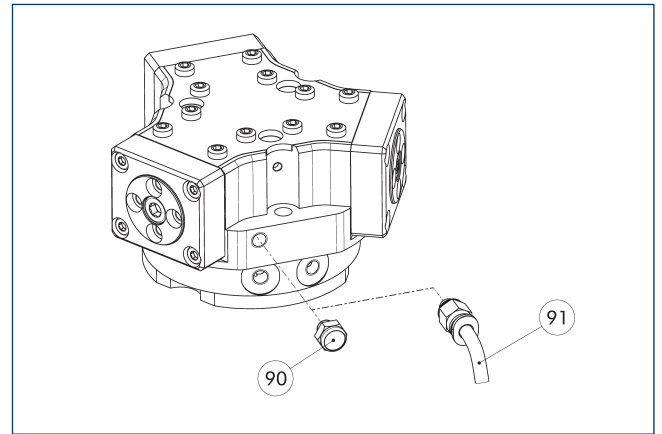


③ Adapter

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.

## Connect the air purge connection

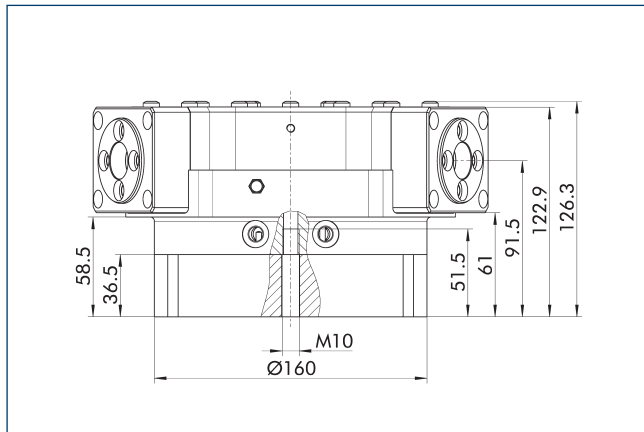


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

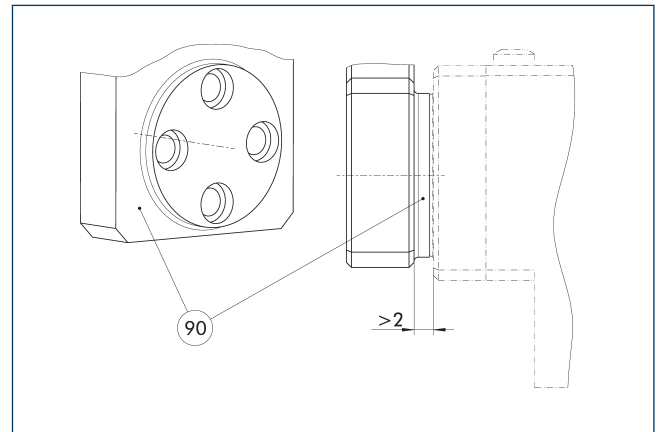
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

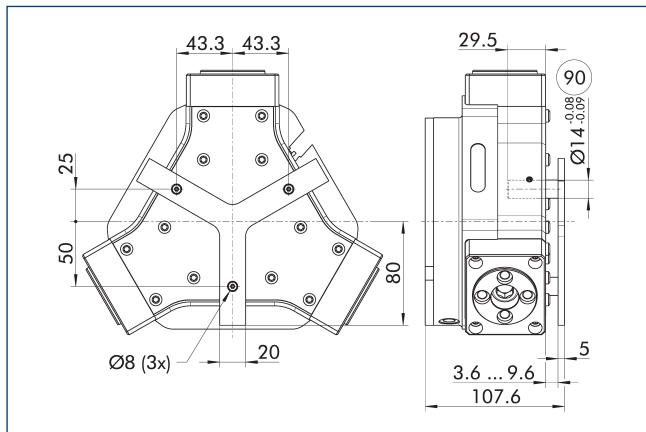


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

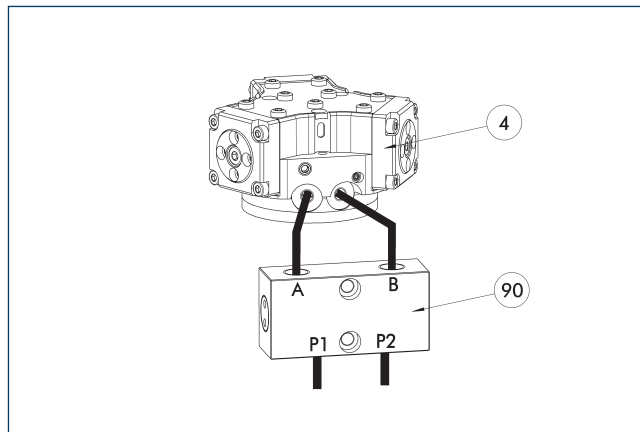


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 160	0303724	6	150

## SDV-P pressure maintenance valve



4 Grippers

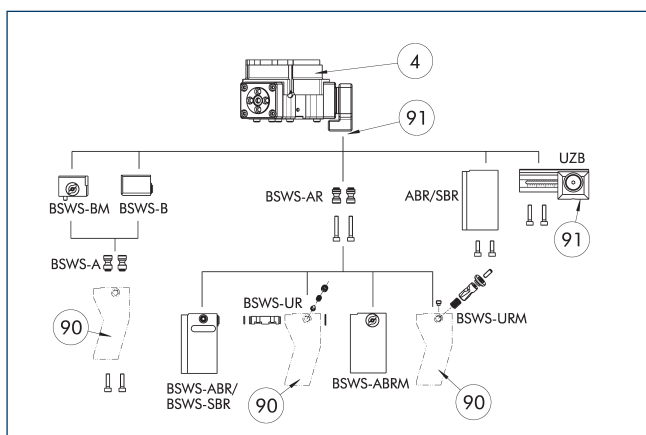
90 SDV-P pressure maintenance valve

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
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.

## Intermediate jaw interface



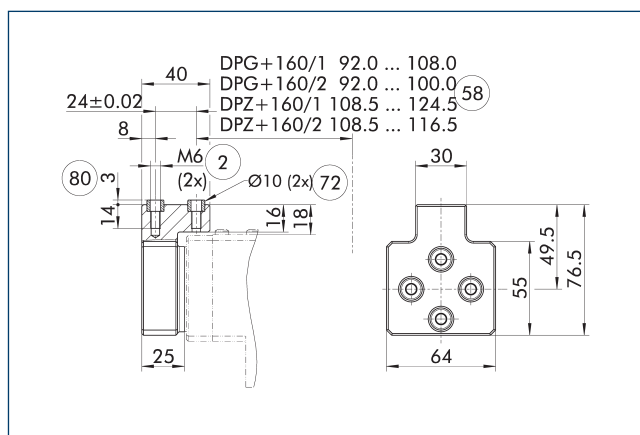
4 Grippers

91 Uniform screw connection pattern

90 Customized gripper fingers

By using the intermediate jaw, you have the possibility of directly connecting a wide range of accessories directly. This includes jaw quick-change systems, finger blanks, and universal intermediate jaws.

## ZBA DPG-plus/DPZ-plus 160-125 intermediate jaw



2 Finger connection

72 Fit for centering sleeves

58 Distance from center of gripper

80 Depth of the centering sleeve hole in the counter part

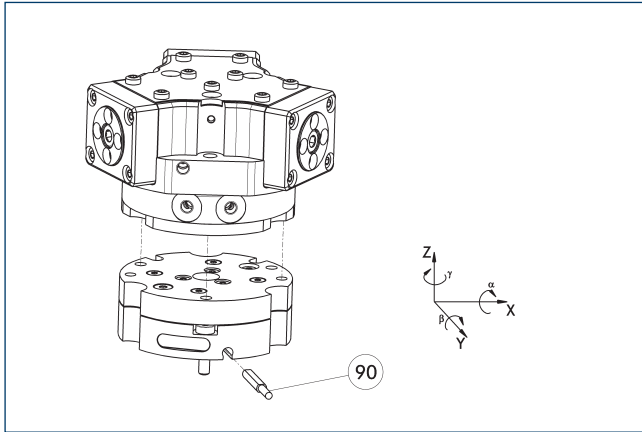
Optionally intermediate jaws can be used, enabling direct connection and alignment of top jaws and various standard accessories in Z-direction.

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-DPG-DPZ-plus 160-125	0300196	Aluminum	PGN-plus 125	1

# DPZ-plus 160

Sealed universal gripper

## Tolerance compensation unit TCU

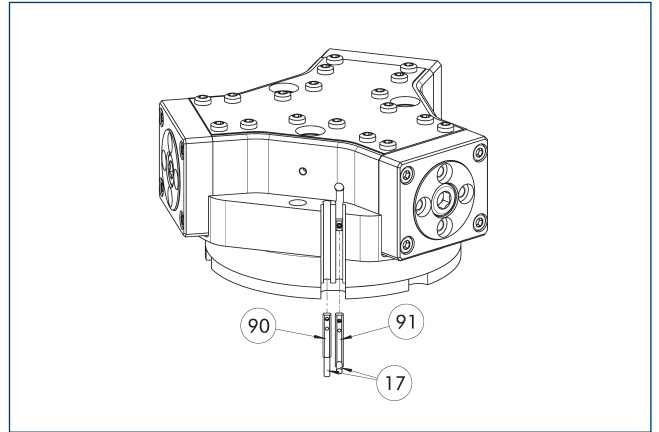


### 90 Monitoring of locking

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-Z-160-3-MV	0324838	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-160-3-0V	0324839	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

## Electronic magnetic switch MMS



### 17 Cable outlet

### 91 Sensor MMS 22...-SA

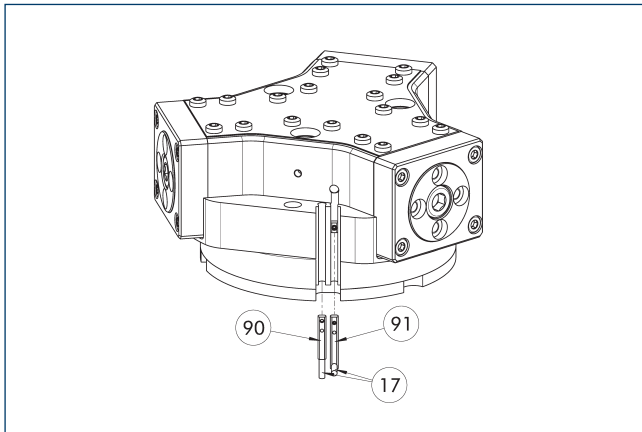
### 90 Sensor MMS 22..

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>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**



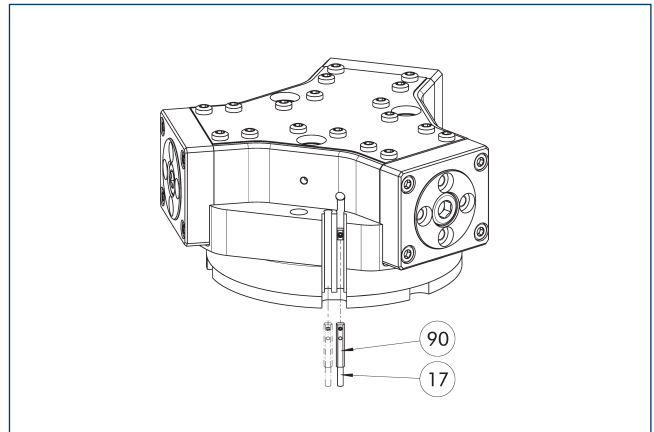
- ⑰ Cable outlet
- ⑨① Sensor MMS 22 ..-PI1-...-SA
- ⑨① Sensor MMS 22 PI1-...

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
- ⑨① 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.

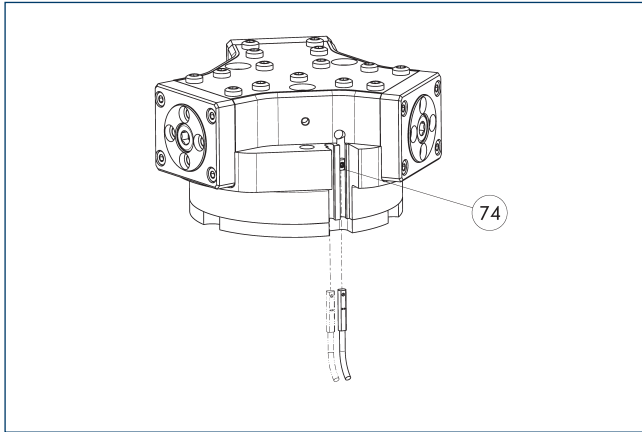
Description	ID	Often combined
<b>Programmable magnetic switch</b>		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
<b>Programmable magnetic switch with lateral cable outlet</b>		
MMS 22-PI2-S-M8-PNP-SA	0301186	●
MMSK 22-PI2-S-PNP-SA	0301188	
<b>Programmable magnetic switch with stainless steel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

# DPZ-plus 160

Sealed universal gripper

## MMS-P programmable magnetic switch



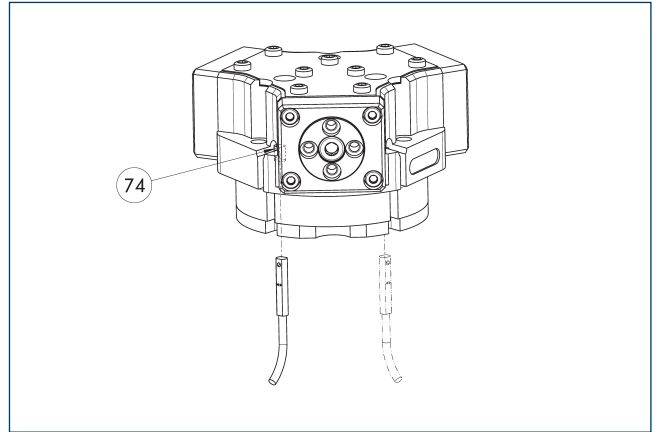
74 Limit stop for sensor

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.

## 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.

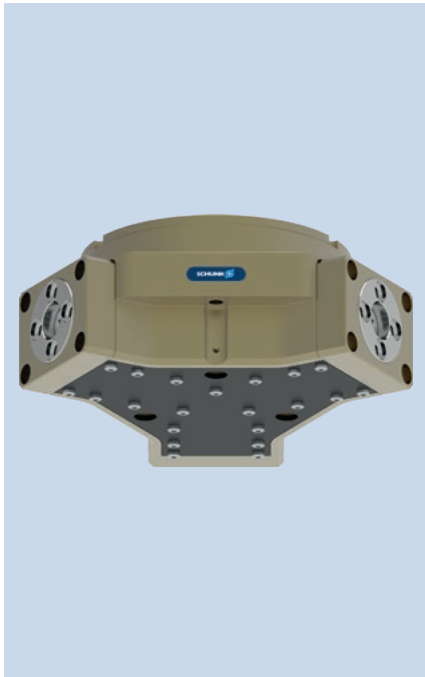
Description	ID	
Programmable magnetic switch		
MMS 22-IO-L-M08	0315830	
MMS 22-IO-L-M12	0315835	

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.

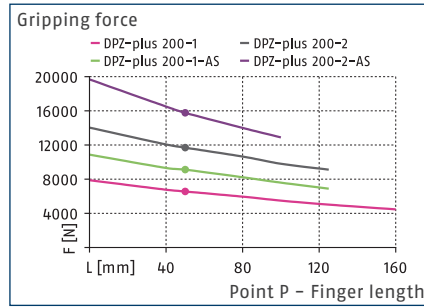


# DPZ-plus 200

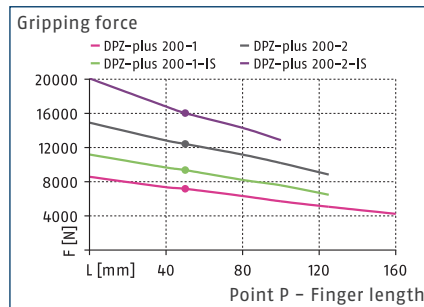
Sealed universal gripper



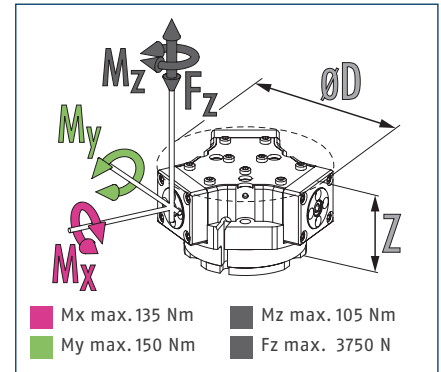
## Gripping force O.D. gripping



## 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.

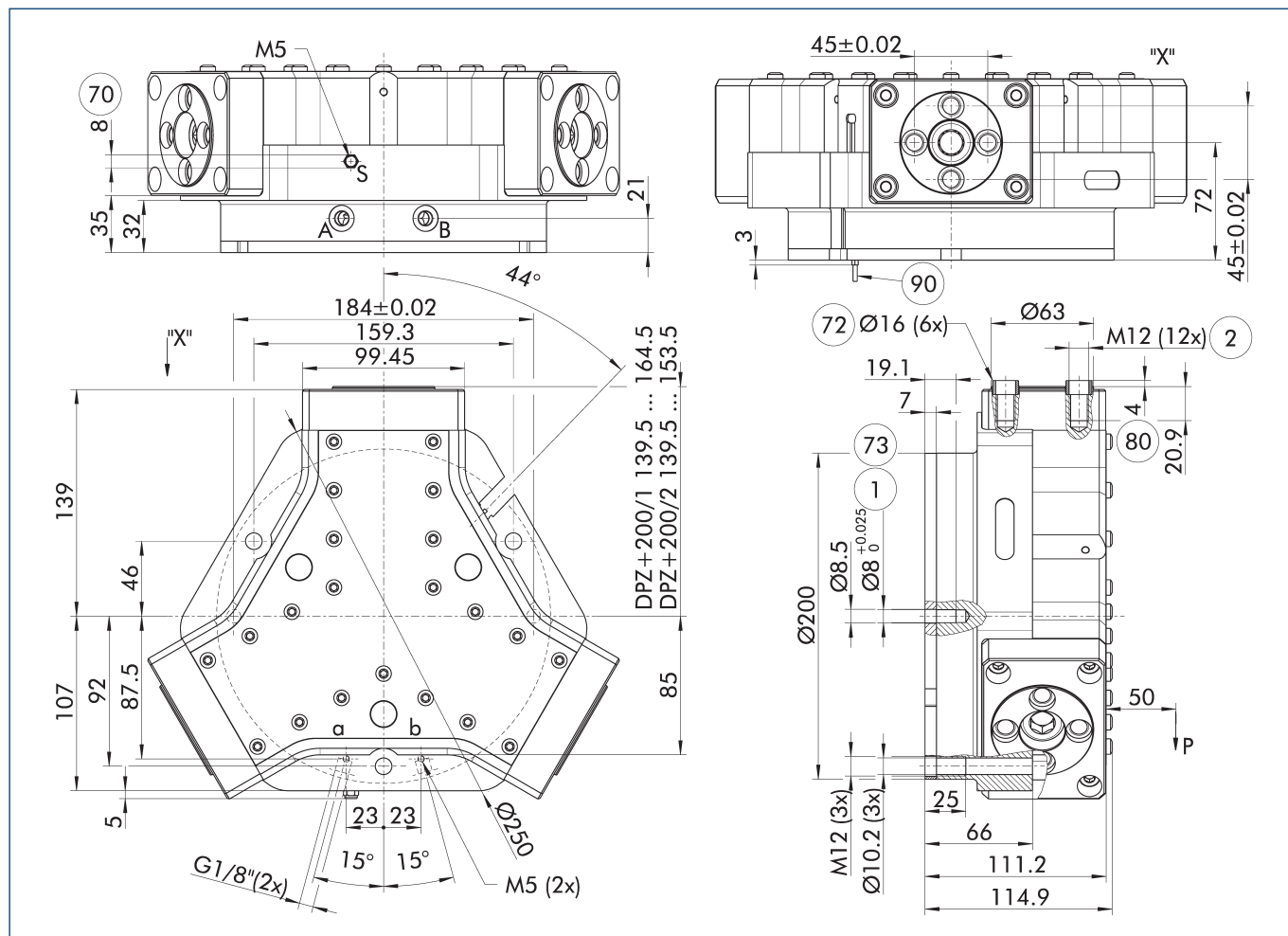
## Technical data

Description		DPZ-plus 200-1	DPZ-plus 200-2	DPZ-plus 200-1-AS	DPZ-plus 200-2-AS	DPZ-plus 200-1-IS	DPZ-plus 200-2-IS
ID		1316317	1316318	1316320	1316321	1316322	1316323
Stroke per jaw	[mm]	25	14	25	14	25	14
Closing/opening force	[N]	6750/7160	12060/12410	9300/-	16500/-	-/9910	-/17150
Min. spring force	[N]			2550	4440	2750	4740
Weight	[kg]	15.6	15.6	20.1	20.1	20.1	20.1
Recommended workpiece weight	[kg]	33.5	60	33.5	60	33.5	60
Fluid consumption double stroke	[cm³]	1040	1040	1725	1725	1725	1725
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]	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5	0.2/0.5
Closing/opening time	[s]	1.5/1.5	1.5/1.5	1.2/1.8	1.2/1.8	1.8/1.2	1.8/1.2
Max. permissible finger length	[mm]	160	125	125	100	125	100
Max. permissible mass per finger	[kg]	5.5	5.5	5.5	5.5	5.5	5.5
IP protection class		67	67	67	67	67	67
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
Cleanroom class ISO 14644-1:1999		5	5	5	5	5	5
Dimensions ø D x Z	[mm]	295.3 x 110.9	295.3 x 110.9	295.3 x 146.9	295.3 x 146.9	295.3 x 146.9	295.3 x 146.9
<b>Options and their characteristics</b>							
High-temperature version		1321356	1321357	1321358	1321360	1321361	1321362
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130

ⓘ Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

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

## Main view



For finger connection, we recommend only to use two of the four centering bores for each finger. The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① The SDV-P pressure maintenance valve can also be used 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).

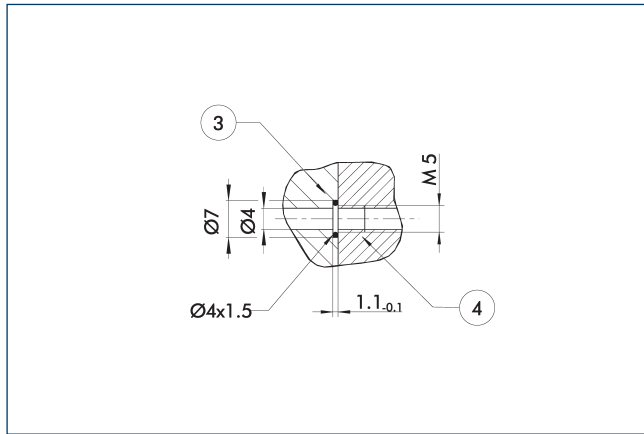
- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S, E Air purge connection, or deaeration bore
- ① Gripper connection

- ② Finger connection
- ⑦0 Wrench size
- ⑦2 Fit for centering sleeves
- ⑦3 Fit for centering pins
- ⑧0 Depth of the centering sleeve hole in the counter part
- ⑨0 Sensor MMS 22..

# DPZ-plus 200

Sealed universal gripper

## Hose-free direct connection M5

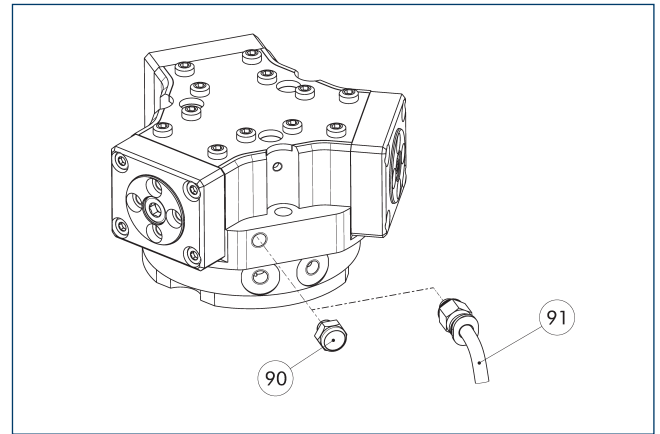


③ Adapter

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.

## Connect the air purge connection

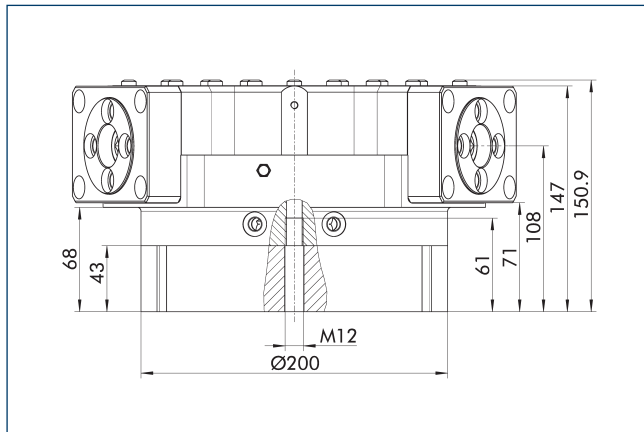


⑨⑩ Sinter filter

⑨① Hose for ventilation or air purge connection

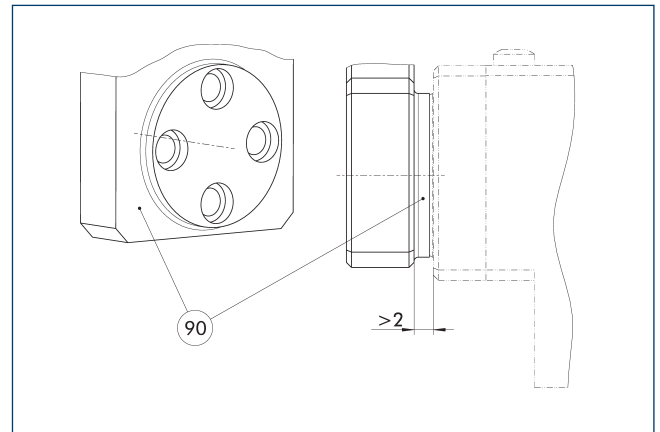
Please note that to achieve an IP 67 protection class, the gripper requires an additional hose for ventilation or a switchable air purge connection. For detailed information, please refer to the assembly and operating manual. Alternatively, a sinter filter (supplied) mounted on the air purge connection can prevent the penetration of dirt particles > 0.12 mm. However, this reduces the protection class to IP 54.

## 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.

## Proposed jaw design

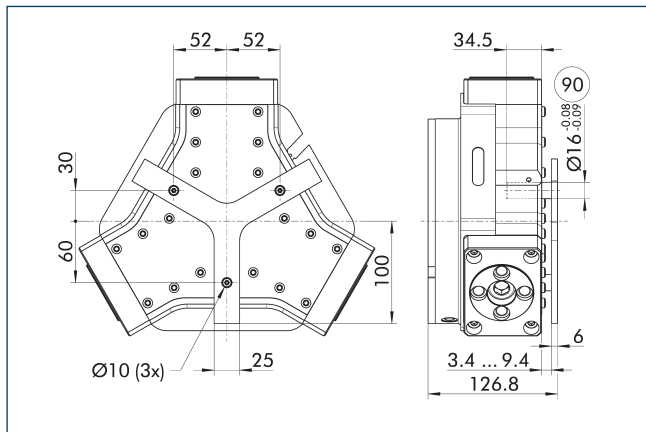


⑨⑩ Step

In order to avoid impairment of the stroke due to contamination or chips, there should be a sufficient distance between the top jaws and the gripper.



## Spring-loaded pressure piece

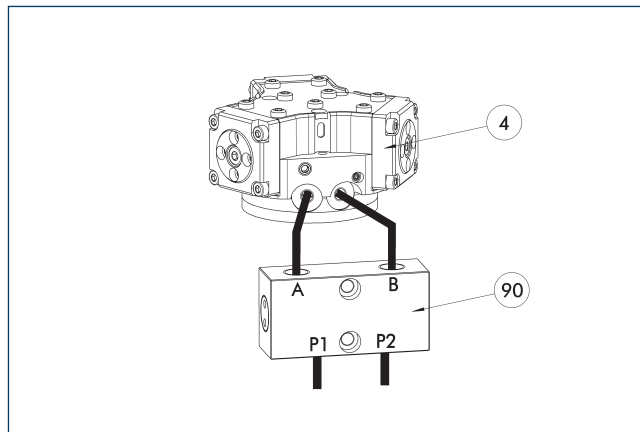


90 Guide pin

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

Description	ID	Stroke [mm]	Min. force [N]
Spring-loaded pressure piece			
A-PZN-plus/DPZ-plus 200	0303725	6	200

## 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.

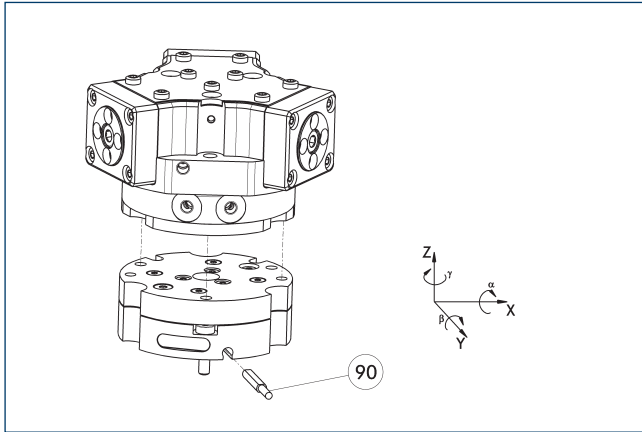
Description	ID	Recommended hose diameter [mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

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).

# DPZ-plus 200

Sealed universal gripper

## Tolerance compensation unit TCU

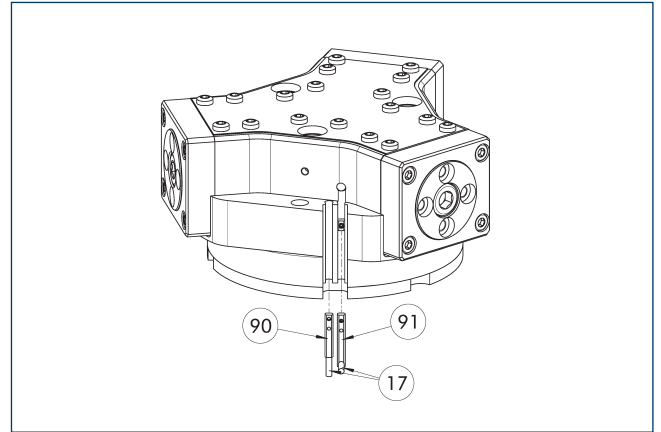


90 Monitoring of locking

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-Z-200-3-MV	0324856	yes	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	●
TCU-Z-200-3-0V	0324857	no	$\pm 1^\circ/\pm 1^\circ/\pm 1^\circ$	

## Electronic magnetic switch MMS



17 Cable outlet

91 Sensor MMS 22...-SA

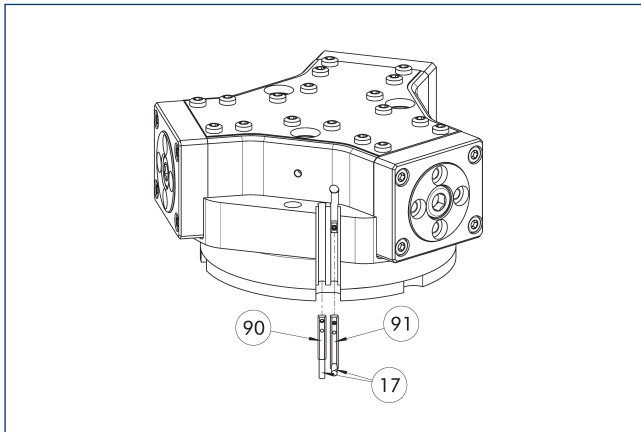
90 Sensor MMS 22..

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



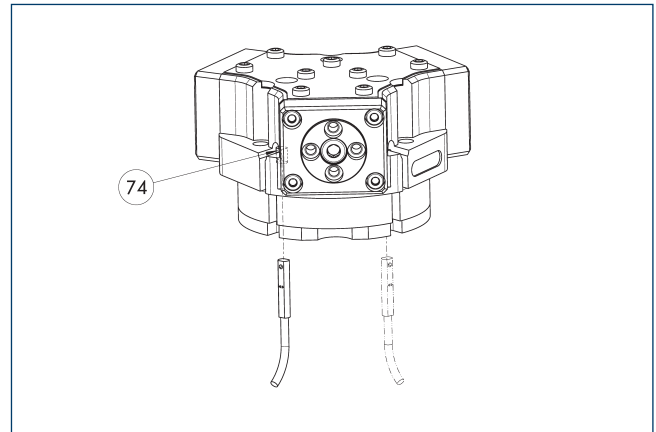
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1-...-SA
- ①⑩ Sensor MMS 22 PI1-...

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.

## Programmable magnetic switch MMS-IO-Link



- ①④ 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.



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