



Superior Clamping and Gripping



Product Information

Universal gripper PGN-plus 80

PGN-plus

Universal gripper

Reliable. Robust. Flexible.

Universal gripper PGN-plus

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

Field of application

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

Advantages – Your benefits

Robust multi-tooth guidance for precise handling

High maximum moments possible suitable for using long gripper fingers

Drive concept oval piston for maximum gripping forces

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

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

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

Compact dimensions for minimal interfering contours in handling

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



Sizes
Quantity: 11



Weight
0.08 .. 39.5 kg



Gripping force
123 .. 21150 N



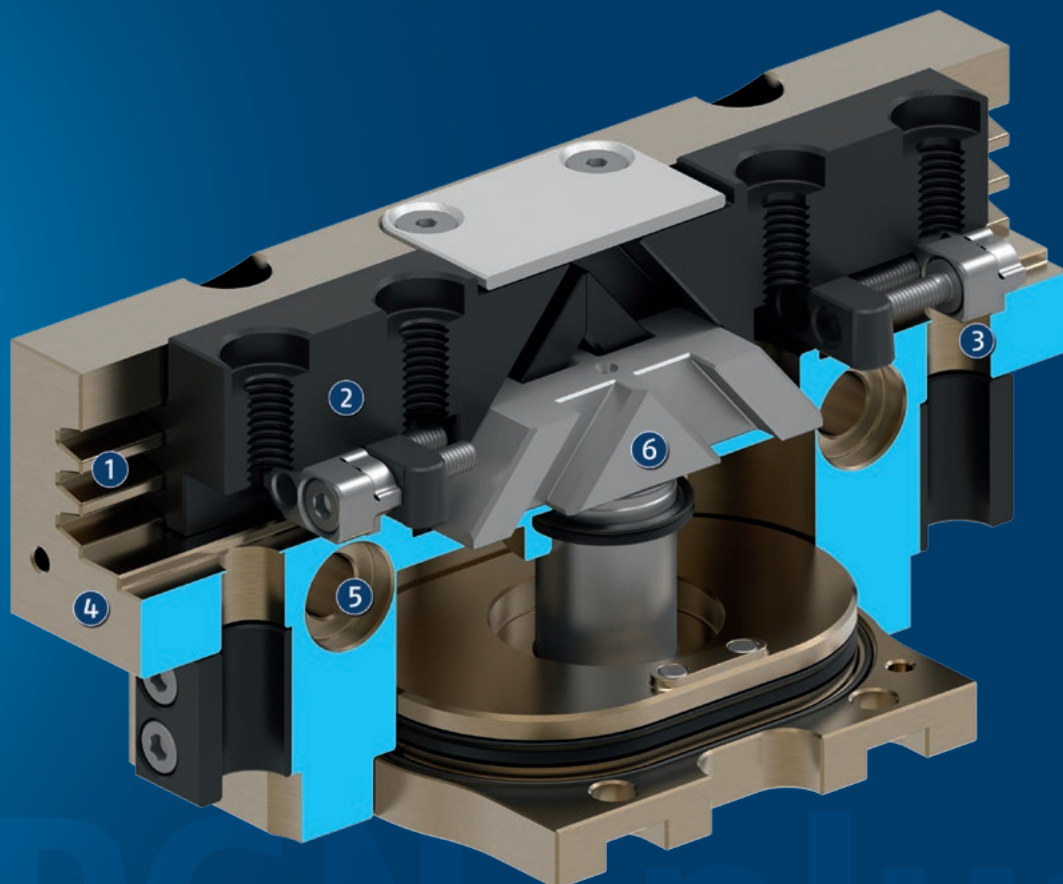
Stroke per jaw
2 .. 45 mm



Workpiece weight
0.62 .. 80.5 kg

Functional description

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



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

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

General notes about the series

Operating principle: Wedge gear with surface power transmission

Housing material: Aluminum

Base jaw material: Steel

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

Warranty: 36 months

Longlife: 30 years functional warranty (details can be found online)

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

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

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

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

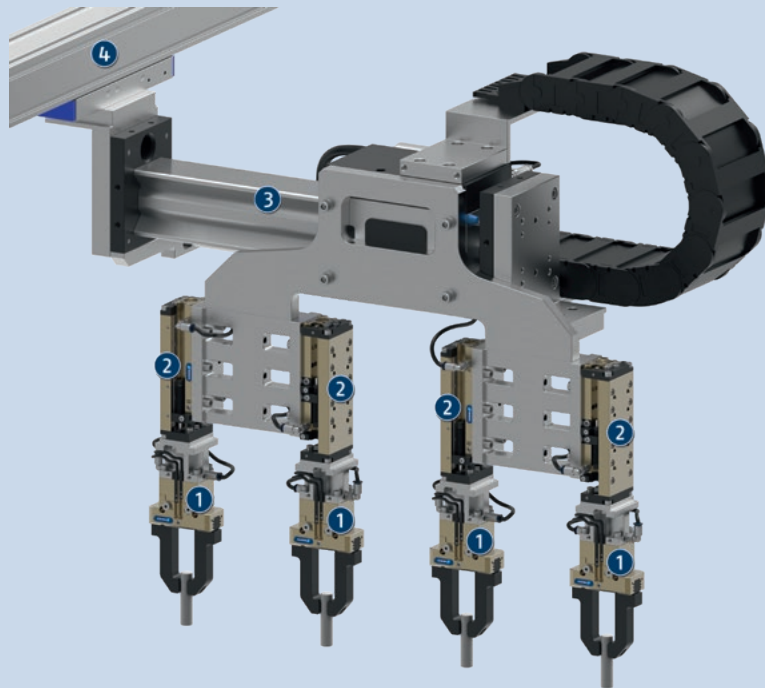
The maximum permissible finger length applies until the nominal operating pressure is achieved. With higher pressures, the finger length must be reduced proportionally to the nominal operating pressure.

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

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

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

Cleanroom class ISO 14644-1: 5



Application example

Handling gantry with multiple grippers for simultaneous removal of several workpieces

- ① 2-finger parallel gripper PGN-plus
- ② Linear module CLM

- ③ Universal linear module LDN
- ④ Universal linear module Beta

SCHUNK offers more ...

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



Linear module



Quick change system



Universal swivel unit



Compensation unit



Jaw quick-change system



Universal intermediate jaw



Pressure maintenance valve



Manual change system



Finger blank



Flexible position sensor



Magnetic switches



Inductive proximity switches

① For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special information

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

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

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

Power booster version KVZ: if higher gripping forces are required

Precision version P: for the highest accuracy

ATEX version EX: for explosive environments

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

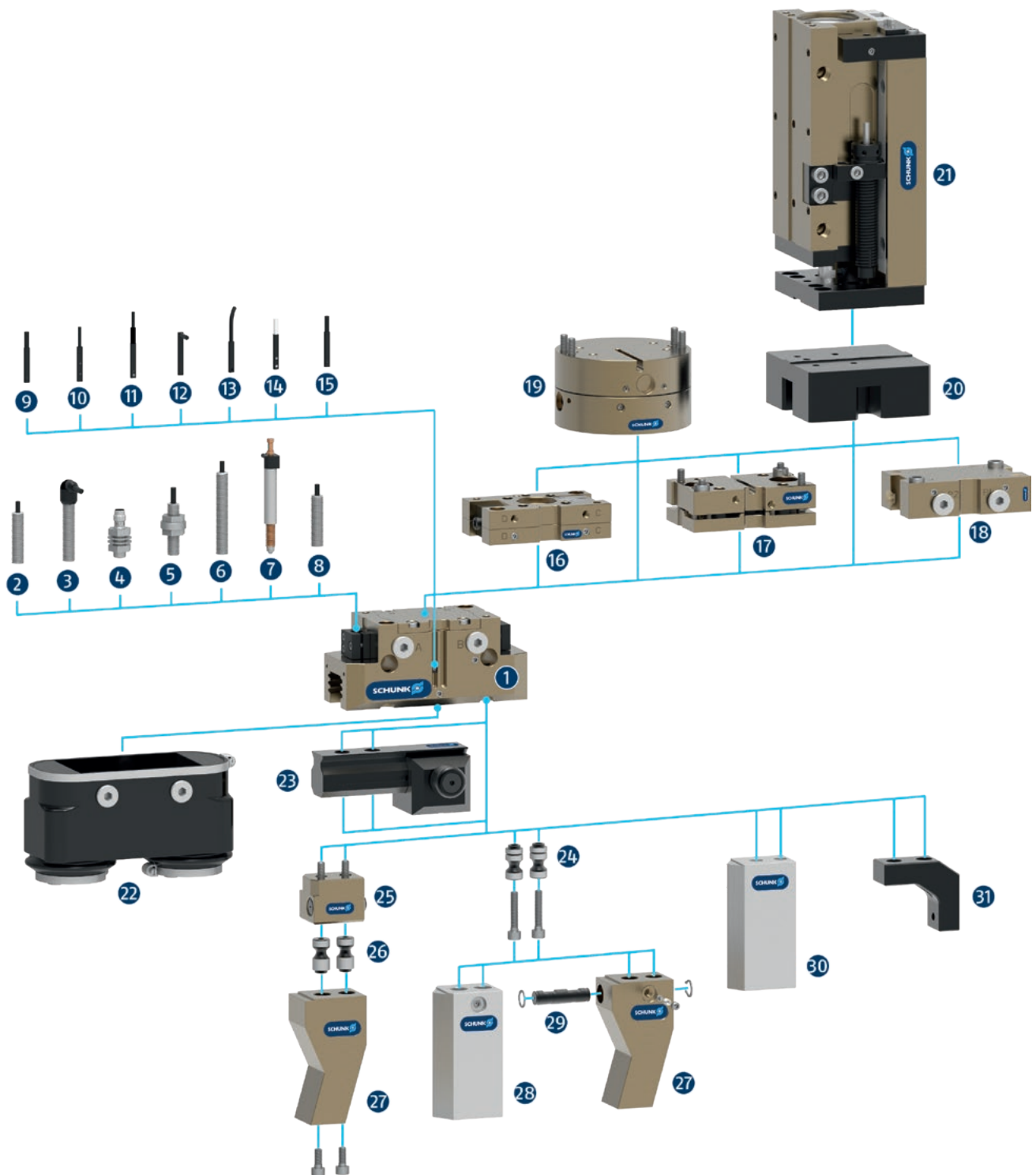
Additional versions: Various options can be combined with each other.

PGN-plus

Universal gripper

SCHUNK gripper PGN-plus

Overview Accessories



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

Sensor system

- 2 **IN ...**
Inductive proximity switch with molded cable and straight cable outlet
- 3 **IN ...-SA**
Inductive proximity switch with molded cable and lateral cable outlet
- 4 **IN-C 80**
Inductive proximity switch, directly pluggable
- 5 **FPS**
Flexible position sensor for monitoring up to five different, freely selectable positions
- 6 **APS-Z80**
Inductive position sensor for precise position detection of the gripper jaws with analog output
- 7 **APS-M15**
Mechanical measuring system for precise position detection of the gripper jaw with analog output
- 8 **RMS 80**
Reed switch in round version
- 9 **MMS 22**
Magnetic switch with straight cable outlet for monitoring a position

MMS 22-PI1
Magnetic switch with straight cable outlet for monitoring a freely programmable position
- 10 **MMS 22-PI2**
Magnetic switch with straight cable outlet for monitoring two freely programmable positions
- 11 **MMS 22-PI1-HD**
MMS 22-PI1 in robust design

MMS 22-PI2-HD
MMS 22-PI2 in robust design
- 12 **MMS 22-SA**
Magnetic switch with lateral cable outlet for monitoring a position

MMS 22-PI1-SA
Magnetic switch with side cable outlet for monitoring a freely programmable position
- 13 **MMS-P**
Magnetic switch with straight cable outlet for monitoring two freely programmable positions
- 14 **MMS 22-A**
Analog magnetic switch with straight cable outlet for measuring the gripper jaw position with analog output and teach function

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

Complementary products

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

Fingerzubehör

- 23 **UZB**
The universal intermediate jaw allows fast tool-free and reliable plugging and shifting of top jaws at the gripper.
- 24 **BSWS-AR**
Adapter coupling of jaw quick-change system for fast, manual change of top jaws
- 25 **BSWS-B**
Locking mechanism of the jaw quick-change system for fast, manual exchange of top jaws
- 26 **BSWS-A**
Adapter coupling of the jaw quick-change system for adaptation to the customized finger
- 27 **Customized fingers**
- 28 **BSWS-ABR**
Finger blank made of aluminum with interface to the jaw quick-change system

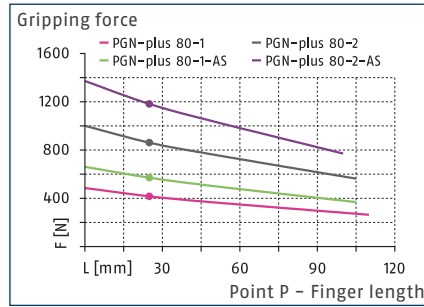
BSWS-SBR
Finger blank made of steel with interface to the jaw quick-change system
- 29 **BSWS-UR**
Locking mechanism for the integration of the jaw quick-change system into customized fingers
- 30 **ABR/SBR**
Finger blanks made of steel or aluminum with standardized screw connection diagram
- 31 **ZBA**
Intermediate jaws for reorientation of the mounting surface

PGN-plus 80

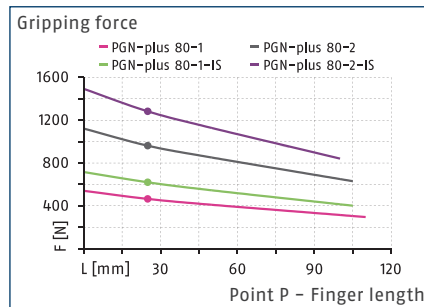
Universal gripper



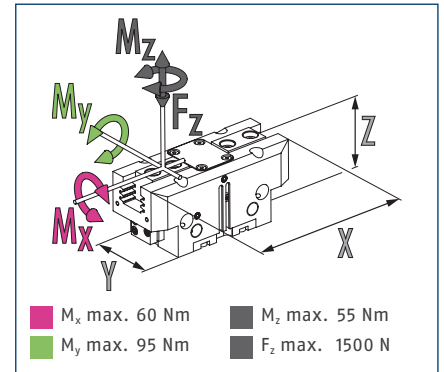
Gripping force O.D. gripping



Gripping force I.D. gripping



Dimensions and maximum loads



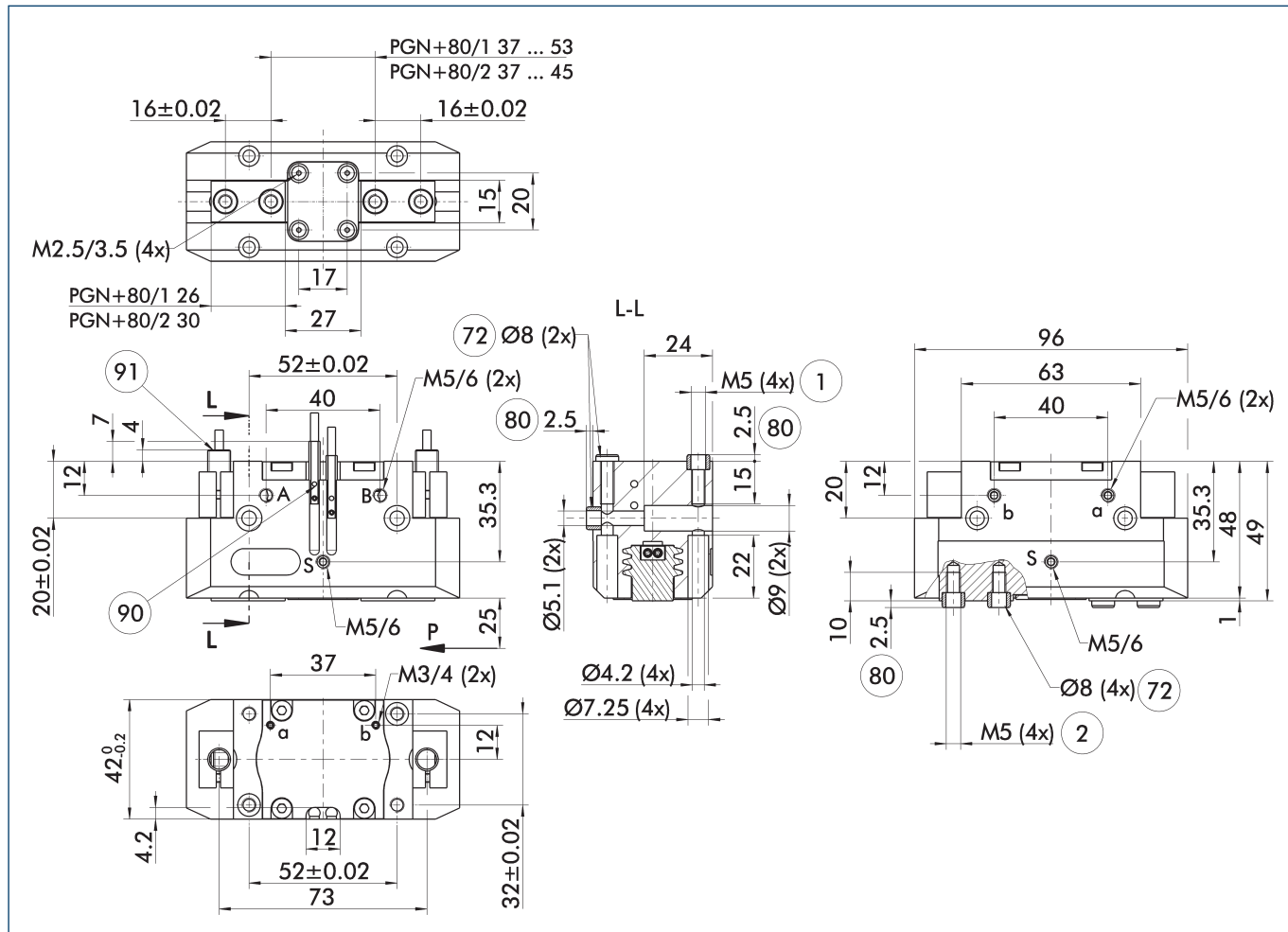
① The indicated moments and forces are static values, apply for each base jaw and should not appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

Characterization		PGN-plus 80-1	PGN-plus 80-2	PGN-plus 80-1-AS	PGN-plus 80-2-AS	PGN-plus 80-1-IS	PGN-plus 80-2-IS
ID		0371101	0371151	0371401	0371451	0371461	0371471
Stroke per jaw	[mm]	8	4	8	4	8	4
Closing/opening force	[N]	415/465	860/960	570/-	1180/-	-/620	-/1280
Min. spring force	[N]			155	320	155	320
Weight	[kg]	0.5	0.5	0.6	0.6	0.6	0.6
Recommended workpiece weight	[kg]	2.1	4.3	2.1	4.3	2.1	4.3
Fluid consumption double stroke	[cm ³]	22.5	22.5	36	36	42.5	42.5
Min./nom./max. operating pressure	[bar]	2.5/6/8	2.5/6/8	4/6/6.5	4/6/6.5	4/6/6.5	4/6/6.5
Min./max. air purge pressure	[bar]	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1	0.5/1
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Closing/opening time with spring	[s]			0.10	0.10	0.10	0.10
Max. permissible finger length	[mm]	110	105	105	100	105	100
Max. permissible mass per finger	[kg]	0.6	0.6	0.6	0.6	0.6	0.6
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.01	0.01	0.01	0.01	0.01	0.01
Dimensions X x Y x Z	[mm]	96 x 42 x 49	96 x 42 x 49	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67	96 x 42 x 67
Options and their characteristics							
Dustproof version		37371101	37371151	37371401	37371451	37371461	37371471
IP protection class		64	64	64	64	64	64
Weight	[kg]	0.6	0.6	0.7	0.7	0.7	0.7
Corrosion-protected version		38371101	38371151	38371401	38371451	38371461	38371471
High-temperature version		39371101	39371151	39371401	39371451	39371461	39371471
Min./max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Power booster version		0372101	0372151	0372401		0372461	
Closing/opening force	[N]	675/760	1410/1570	810/-		-/895	
Weight	[kg]	0.65	0.65	0.75		0.75	
Maximum pressure	[bar]	6	6	6		6	
Max. permissible finger length	[mm]	100	80	80		80	
Precision version		0371123	0371173	0371423	0371438		

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

Main view

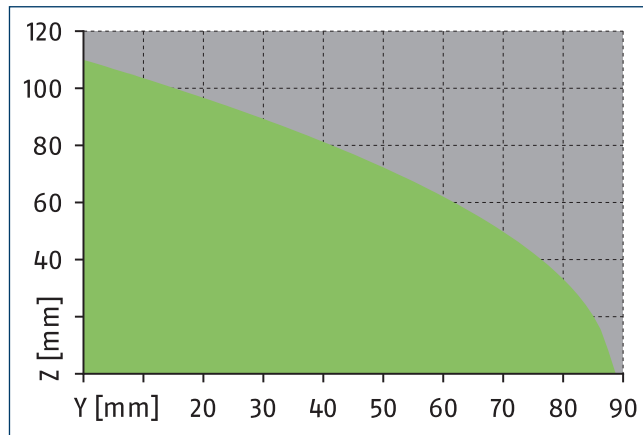
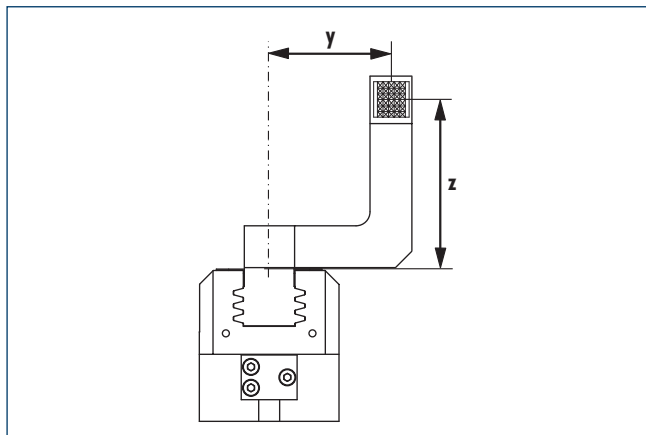


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

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

- A, a Main / direct connection, gripper opening
- B, b Main / direct connection, gripper closing
- S Air purge connection
- ① Gripper connection
- ② Finger connection
- 72 Fit for centering sleeves
- 80 Depth of the centering sleeve hole in the counter part
- 90 Sensor MMS 22..
- 91 Sensor IN ...

Maximum permitted finger projection



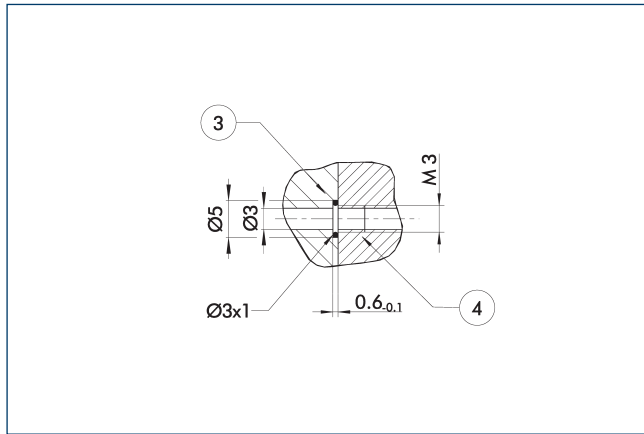
■ Permitted range ■ Inadmissible range

The curve applies for stroke version 1. For other versions, the curve must be parallelly off-set to the max. permissible finger length.

PGN-plus 80

Universal gripper

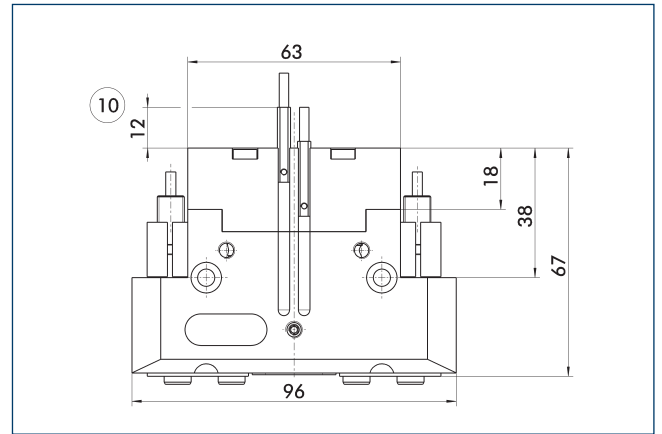
Hose-free direct connection M3



- ③ Adapter
- ④ Grippers

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

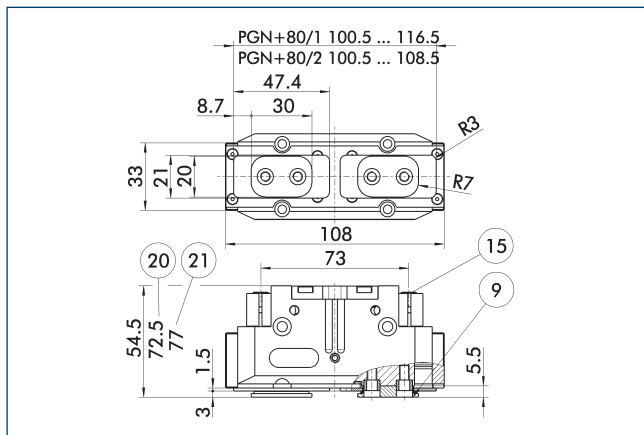
Gripping force maintenance device AS / IS



- ⑩ Projection applies only for AS version

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

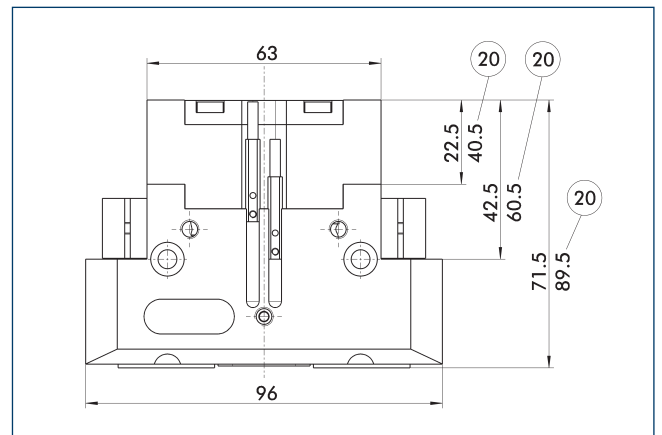
Dustproof version



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

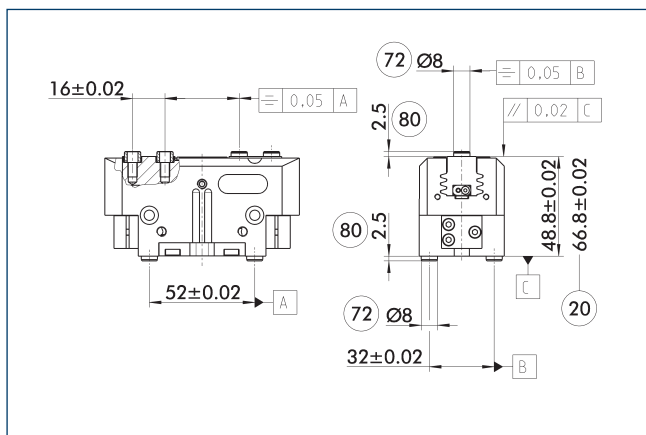
Power booster version



- ⑰ For AS / IS version

The KVZ cylinder increases the gripping forces during opening and closing. A second, in series-connected piston also increases the force on the wedge hook. Please consider that grippers which are equipped with a gripping force maintenance device are higher.

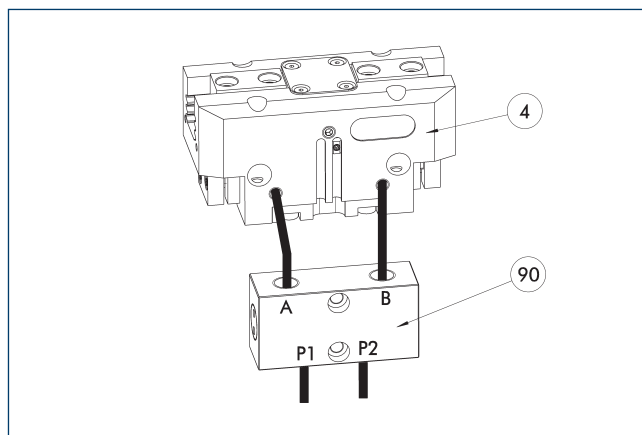
Precision version



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

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

SDV-P pressure maintenance valve



- ④ Grippers
- ⑨0 SDV-P pressure maintenance valve

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

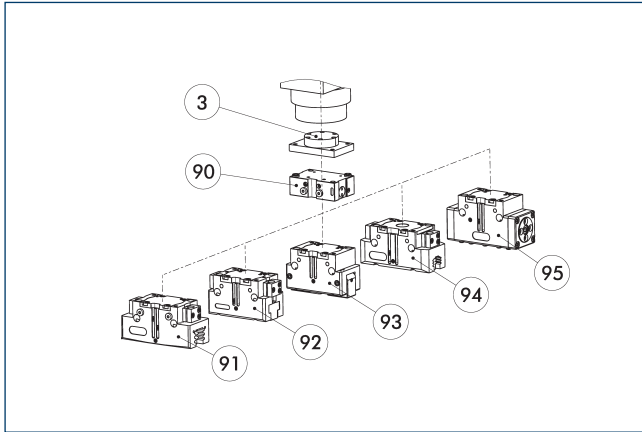
Characterization	ID	Recommended hose diameter
		[mm]
Pressure maintenance valve		
SDV-P 04	0403130	6
SDV-P 07	0403131	8
Pressure maintenance valve with air bleed screw		
SDV-P 04-E	0300120	6
SDV-P 07-E	0300121	8

- 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.

PGN-plus 80

Universal gripper

SDV-P E-P pressure maintenance valve

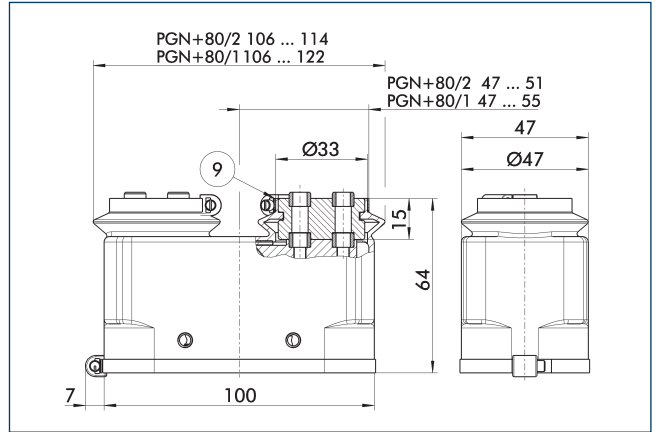


- ③ Adapter
- ⑨① PGN-plus / PGN-plus-P 2-finger parallel gripper
- ⑨② JGP 2-finger parallel grippers
- ⑨③ 2-finger angular gripper PWG-plus
- ⑨④ 2-finger parallel gripper PGB parallel gripper
- ⑨⑤ Sealed DPG-plus gripper

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

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

Protective cover HUE PGN-plus 80



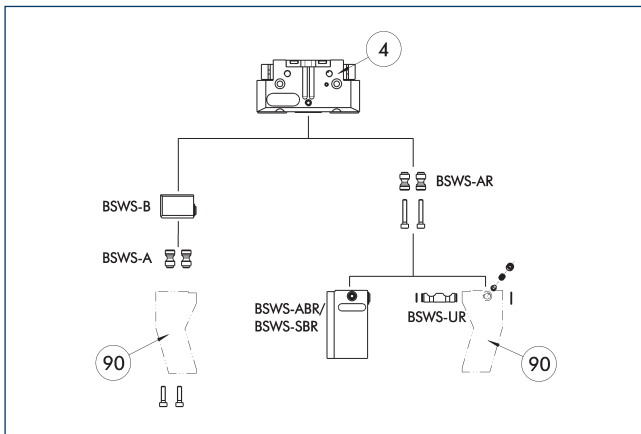
- ⑨ For mounting screw connection diagram, see basic version

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

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

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

BSWS jaw quick-change jaw systems



- ④ Grippers
- ⑨⑩ Customized gripper fingers

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

Characterization	ID	Scope of delivery
Jaw quick-change system adapter plate		
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

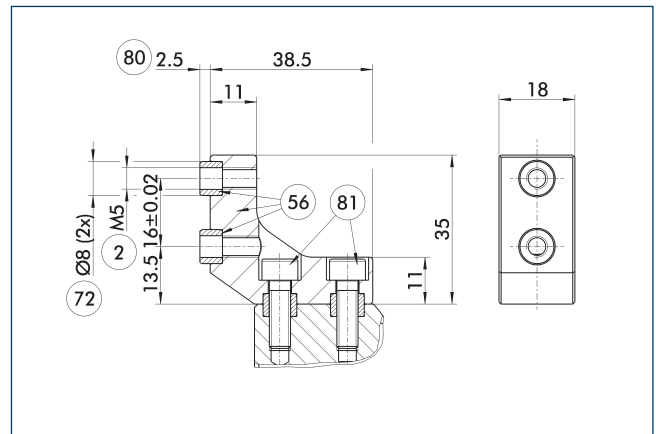
④ Only systems that are listed in the table, can be used.

Fields of application

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

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

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

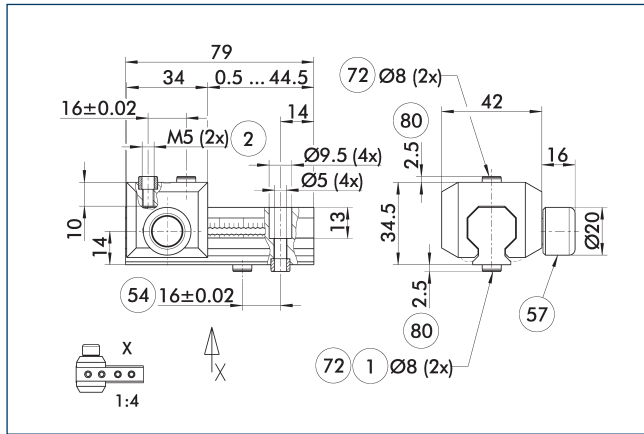
The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

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

PGN-plus 80

Universal gripper

UZB 80 universal intermediate jaw



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

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

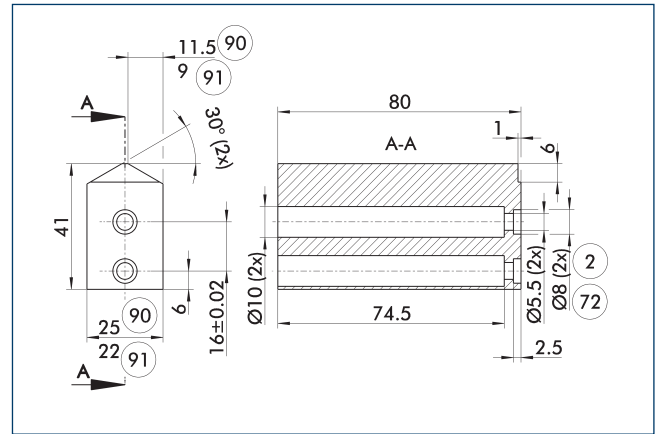
Characterization	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZB 80	0300043	2
Finger blank		
ABR-PGZN-plus 80	0300011	
SBR-PGZN-plus 80	0300021	
Slide for universal intermediate jaw		
UZB-S 80	5518271	2

Fields of application

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

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

Finger blanks ABR- / SBR-PGZN-plus 80

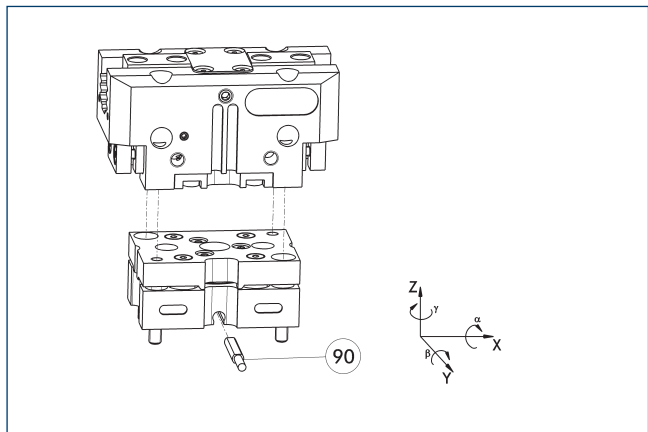


- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑨① ABR-PGZN-plus
- ⑨① SBR-PGZN-plus

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

Characterization	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

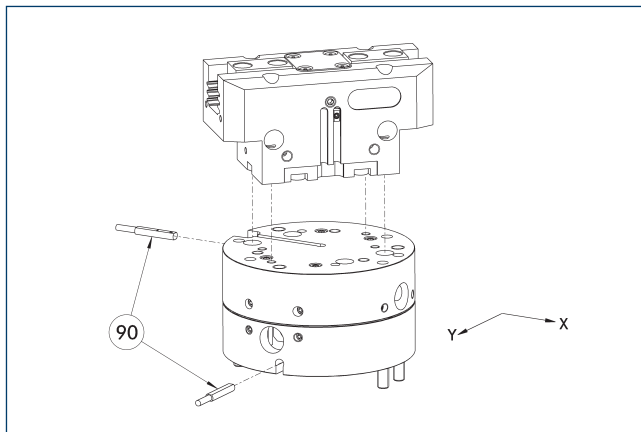


90 Monitoring of locking

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.

Characterization	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-080-3-MV	0324792	yes	$\pm 1^\circ / \pm 1,5^\circ / \pm 2^\circ$	●
TCU-P-080-3-0V	0324793	no	$\pm 1^\circ / \pm 1,5^\circ / \pm 2^\circ$	

Compensation unit AGE-F



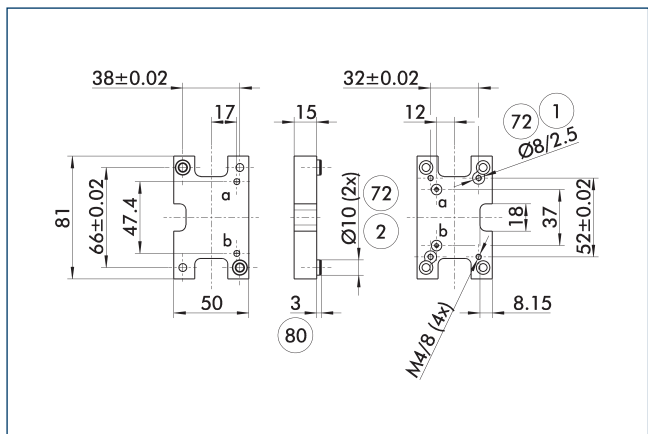
90 Monitoring

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

Characterization	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	●

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

Adapter plate PGN-plus 80



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

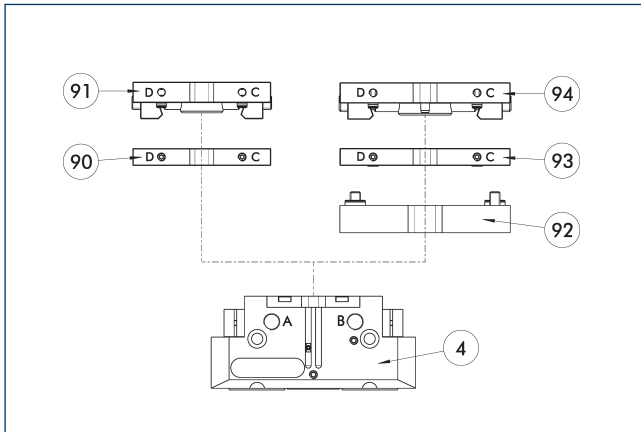
The adapter plate has integrated air feed-throughs in order to be able to use the hose-free direct connection of the appropriate gripper.

Characterization	ID
Tool side	
A-CWA-100-080-P	0305804

PGN-plus 80

Universal gripper

Compact change system for grippers

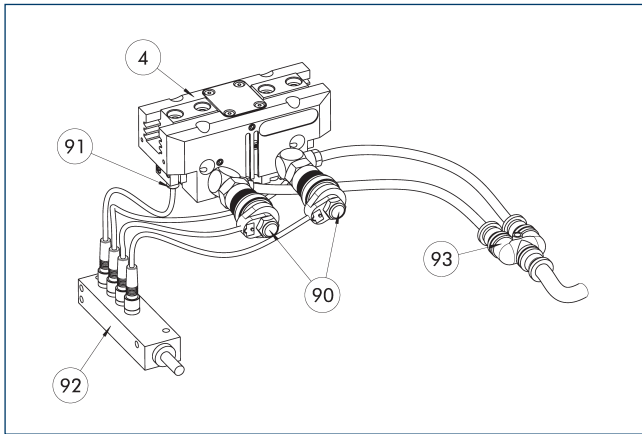


- ④ Grippers
- ⑨② A-CWA adapter plate
- ⑨① CWA compact change adapter
- ⑨③ CWA compact change adapter
- ⑨① CWK compact change master
- ⑨④ CWK compact change master

The CWS is a manual change system with integrated air feed-through for simple exchange of the handling components. The gripper can either be attached directly to a change system of the same size or mounted to a change system one size larger via an adapter plate. The adapter plate also has integrated air feed-throughs.

Characterization	ID	
Tool side		
A-CWA-100-080-P	0305804	
CWA compact change adapter		
CWA-080-P	0305781	
CWK compact change master		
CWK-080-P	0305780	

Attachment valves



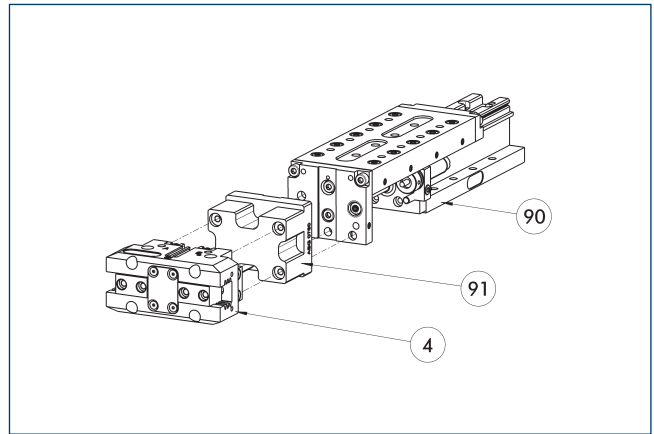
- ④ Grippers
- ⑨② Sensor distributor
- ⑨① Micro valves
- ⑨③ Y distributor
- ⑨① Sensor

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

Characterization	ID	Often combined
Attachment valve		
ABV-MV25-M5	0303326	
ABV-MV25-M5-V2-M8	0303392	
ABV-MV25-M5-V4-M8	0303362	●
ABV-MV25-M5-V8-M8	0303363	

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

Modular Assembly Automation



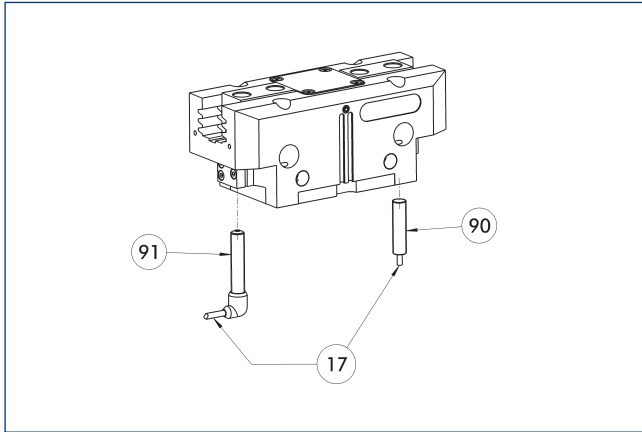
- ④ Grippers
- ⑨① CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules
- ⑨① ASG adapter plate

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".

PGN-plus 80

Universal gripper

Inductive Proximity Switches



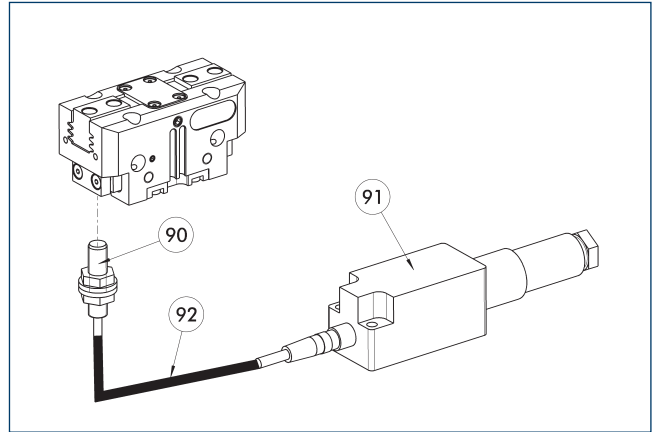
- 17 Cable outlet
- 90 Sensor IN ...
- 91 Sensor IN..-SA

Directly mounted end position monitoring.

Characterization	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	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
clip for plug/socket		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M12	0301776	●
V2-M8	0301775	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

- 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



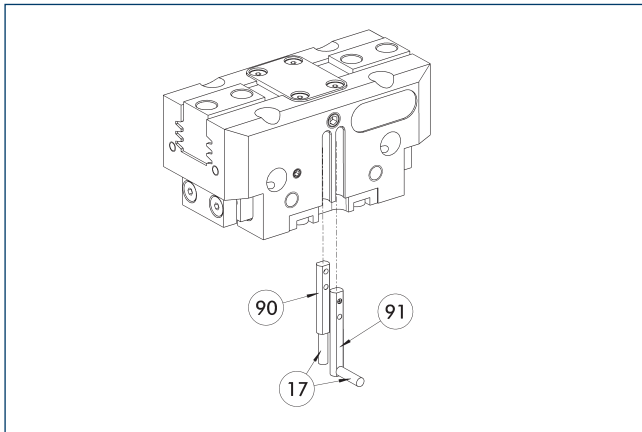
- 90 FPS-S sensor
- 91 FPS-F5 evaluation electronic
- 92 Cable extension

Flexible position monitoring of up to five positions.

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

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

Electronic magnetic switch MMS



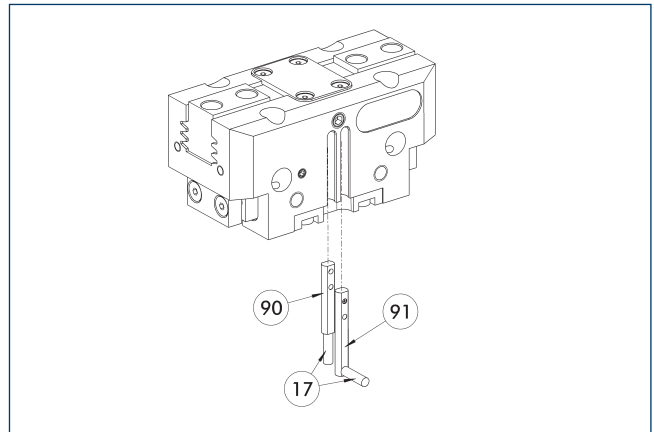
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22...-SA
- ①⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

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

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

Programmable magnetic switch MMS 22-PI1



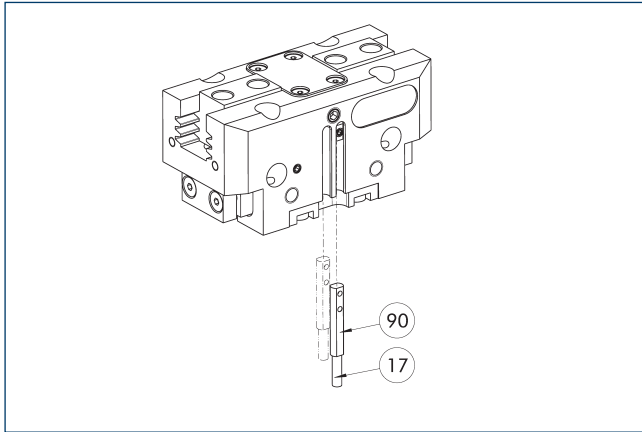
- ①⑦ Cable outlet
- ①⑨ Sensor MMS 22 ..-PI1...-SA
- ①⑩ Sensor MMS 22 PI1...

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.

Characterization	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

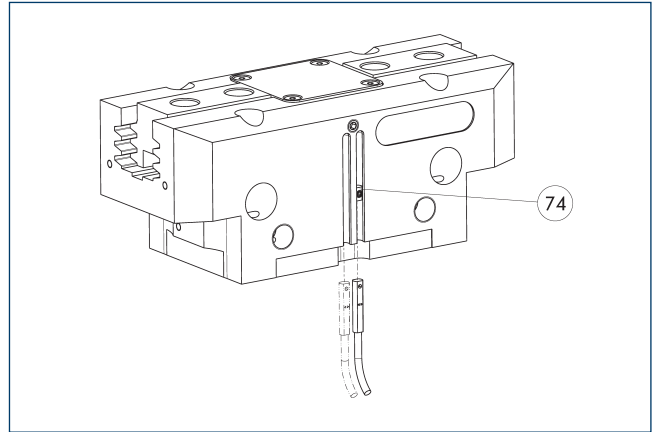
90 MMS 22...-PI2-... sensor

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.

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

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

MMS-P programmable magnetic switch



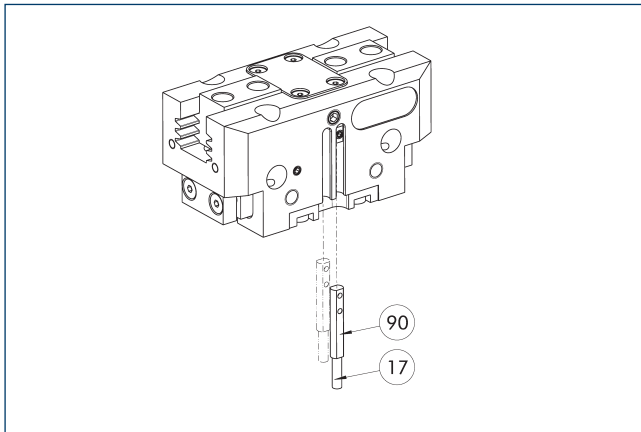
74 Limit stop for sensor

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

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

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

MMS-A analog position sensor



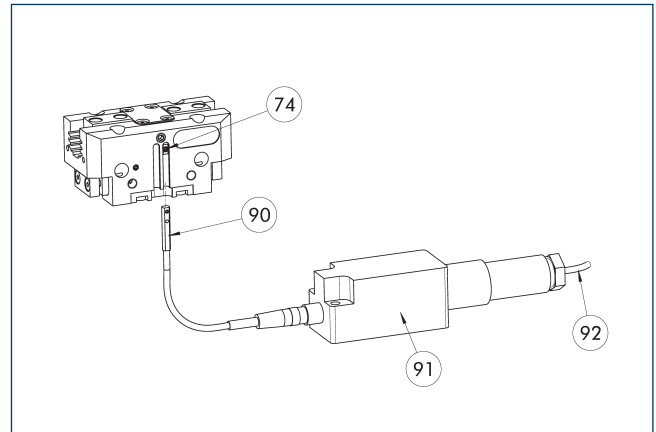
- ①⑦ Cable outlet
- ①⑩ MMS 22-A-... sensor

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

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

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

Flexible position sensor with MMS-A



- ①④ Limit stop for sensor
- ①⑩ MMS 22-A-... sensor
- ①① FPS-F5 evaluation electronic
- ①② Connection cables

Flexible position monitoring of up to five positions.

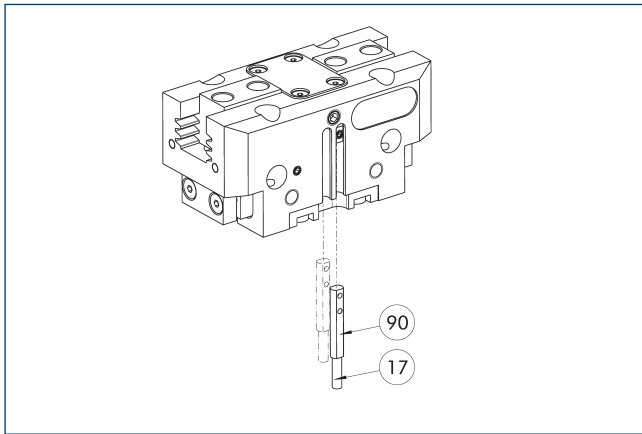
Characterization	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Connection cables	
KA BG16-L 12P-1000	0301801

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

PGN-plus 80

Universal gripper

Programmable magnetic switch MMS-IO-Link



⑰ Cable outlet

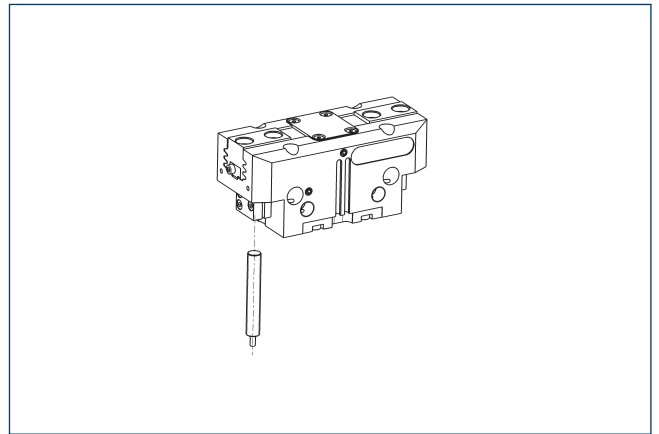
⑨⑩ Sensor MMS 22-IO-Link...

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.

Characterization	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

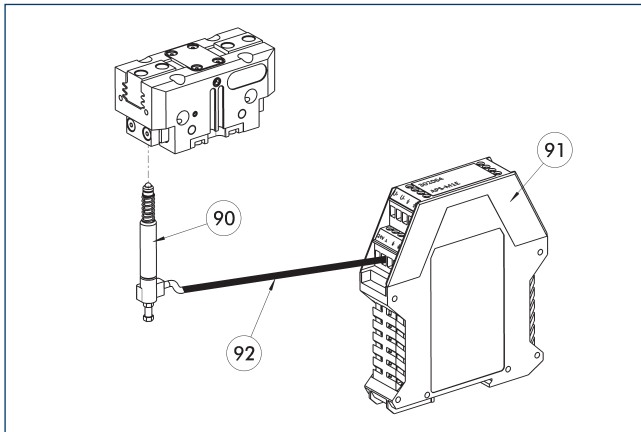


No-contact measuring, analog multi-position monitoring for any number of positions.

Characterization	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



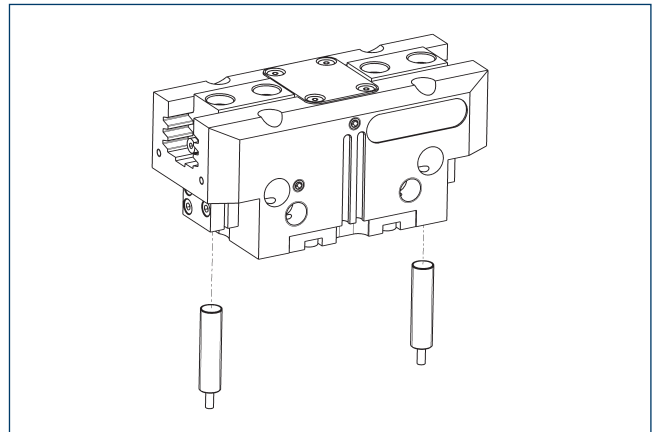
- ⑨⑩ APS-M1S sensor
- ⑨① APS-M1E electronic processor
- ⑨② APS-K extension cable

Analog multi position monitoring for any desired positions

Characterization	ID	
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 80-1	0302077	
AS-APS-M1-PGZN-plus 80-2	0302078	
Analog position sensor		
APS-M1S	0302062	

- 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.

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

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

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