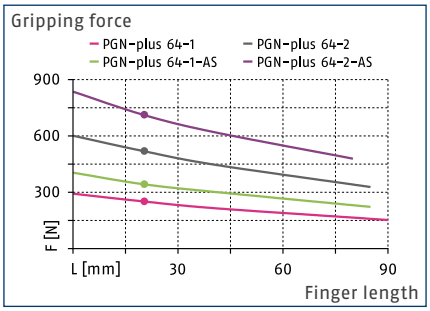
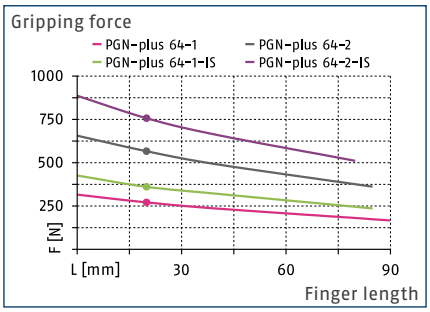
PGN-plus 64

SCHUNK Grippers pneumatic | 2-Finger Parallel Grippers | Universal Gripper

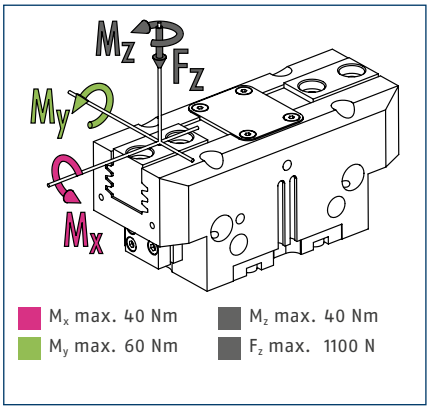
Gripping force, O.D. gripping



Gripping force, I.D. gripping



Finger load



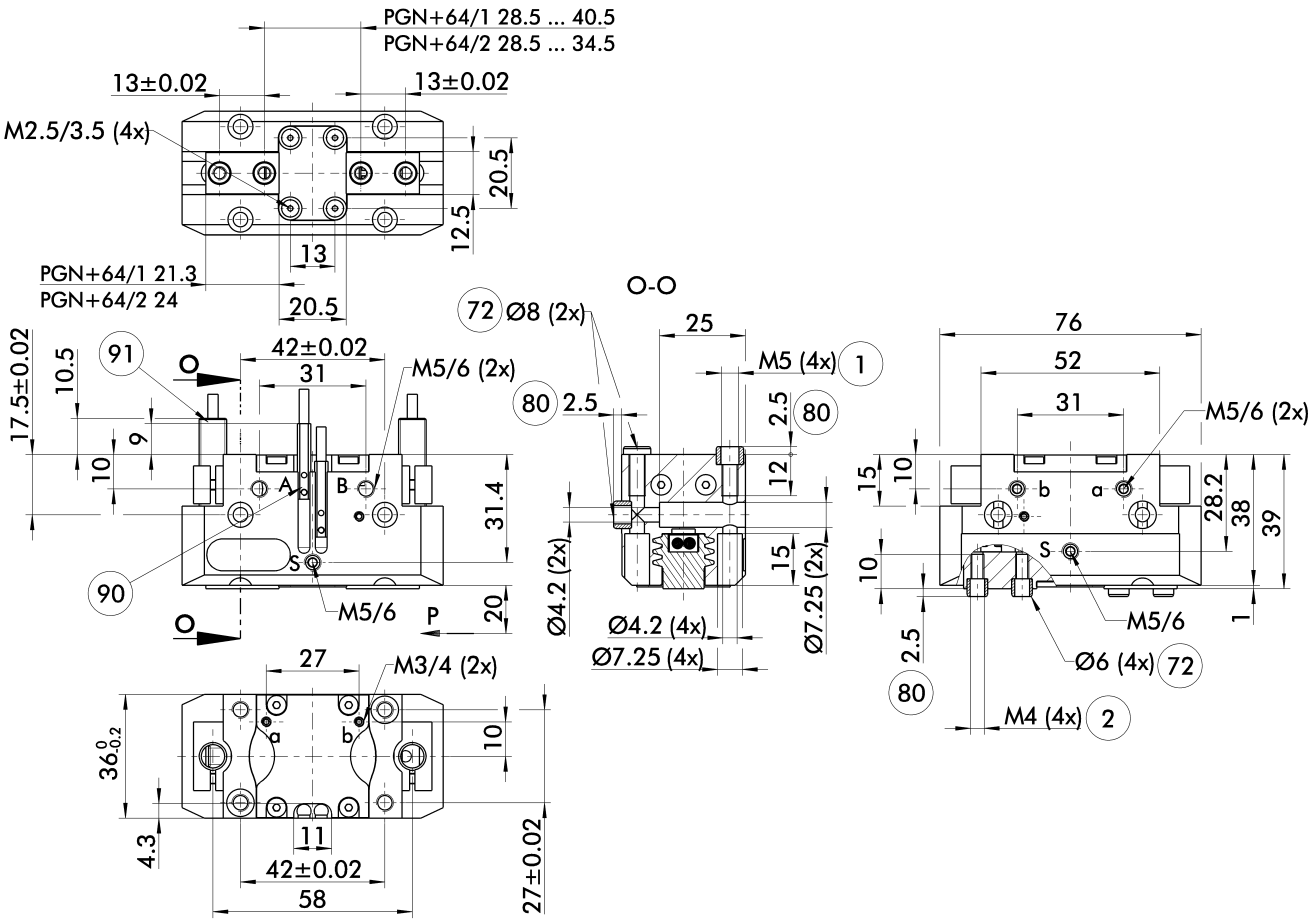
ⓘ The indicated moments and forces are static values, apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is impreative to throttle the air supply so that the jaw movement occurs without any hitting or bouncing. Service life may be reduced.

Technical data

Description		PGN-plus 64-1	PGN-plus 64-2	PGN-plus 64-1-AS	PGN-plus 64-2-AS	PGN-plus 64-1-IS	PGN-plus 64-2-IS
ID		0371090	0371091	0371092	0371093	0371094	0371095
Stroke per jaw	[mm]	6	3	6	3	6	3
Closing- / opening force	[N]	250/270	520/565	340/-	710/-	-/360	-/755
min. spring force	[N]			90	190	90	190
Weight	[kg]	0.28	0.28	0.37	0.37	0.37	0.37
Recommended workpiece weight	[kg]	1.25	2.6	1.25	2.6	1.25	2.6
Fluid consumption per double stroke	[cm³]	10	10	17	17	21	21
min. / max. operating pressure	[bar]	2.5/8	2.5/8	4/6.5	4/6.5	4/6.5	4/6.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
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 only with spring	[s]			0.08	0.08	0.08	0.08
max. permitted finger length	[mm]	90	85	85	80	85	80
max. permitted weight per finger	[kg]	0.35	0.35	0.35	0.35	0.35	0.35
IP 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
Cleanroom class ISO 14644-1		5	5	5	5	5	5
Options and their characteristics							
Dust-tight version		37371090	37371091	37371092	37371093	37371094	37371095
IP class		64	64	64	64	64	64
Weight	[kg]	0.35	0.35	0.44	0.44	0.44	0.44
Anti-corrosion version		38371090	38371091	38371092	38371093	38371094	38371095
High-temperature version		39371090	39371091	39371092	39371093	39371094	39371095
min. / max. ambient temperature	[°C]	5/130	5/130	5/130	5/130	5/130	5/130
Force intensified version		0372090	0372091	0372092		0372093	
Closing- / opening force	[N]	450/485	935/1015	540/-		-/575	
Weight	[kg]	0.35	0.35	0.43		0.43	
Maximum pressure	[bar]	6	6	6		6	
max. permitted finger length	[mm]	80	64	64		64	
Precision version		0371122	0371172	0371422	0371437		

ⓘ The full gripping force according to the data table is only realised after around 100 gripping cycles.

Main view



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

ⓘ 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 (0.5 ... 1 bar)

(1) Gripper connection

(2) Finger connection

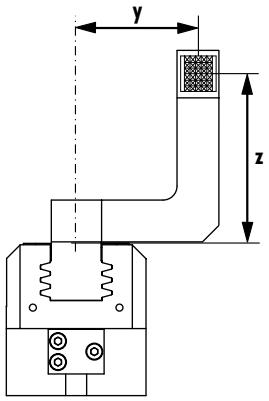
(72) Fit for centering sleeves

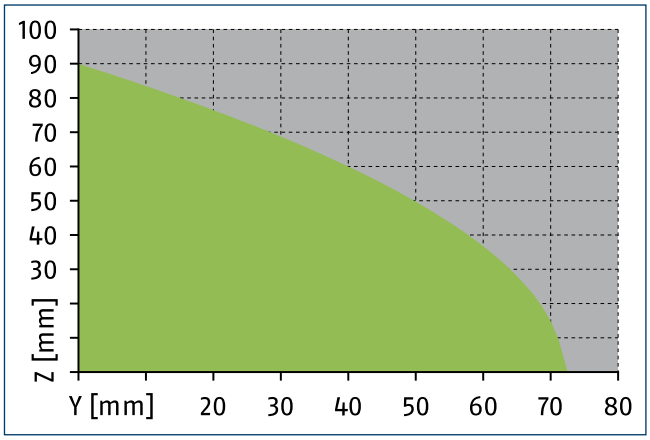
(80) Depth of the centering sleeve hole in the mating part

(90) MMS 22... sensor

(91) IN ... sensor

Maximum permitted finger projection



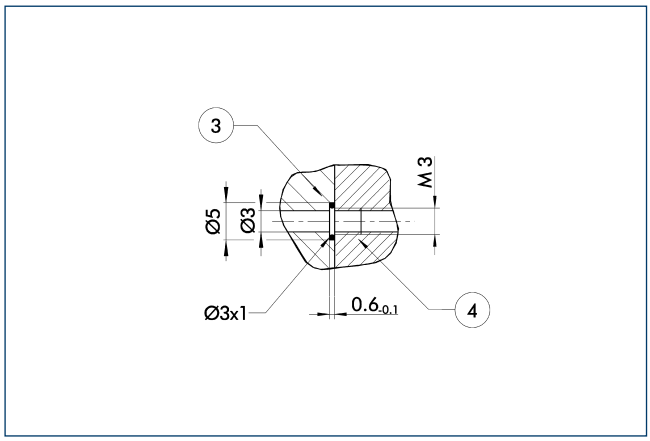


Permitted range

Inadmissible range

The curve applies for the base version (Stroke -1). For other versions, the curve must be offset in parallel corresponding to the max. permissible finger length.

Hose-free direct connection M3

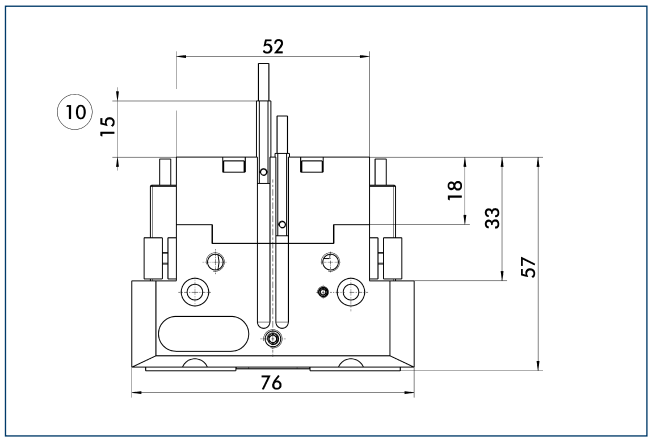


(3) Adapter

(4) Gripper

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

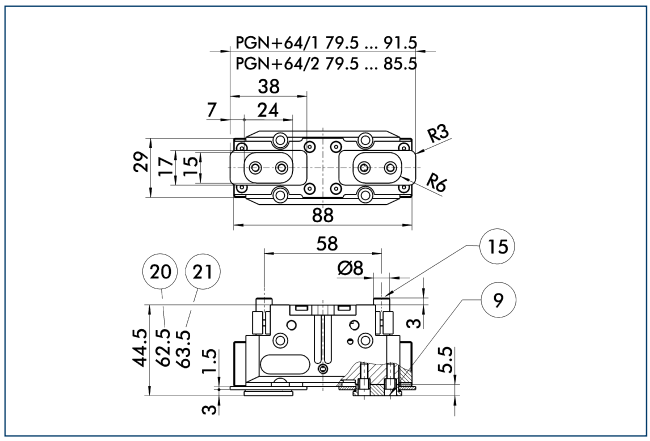
Gripping force maintenance device AS / IS



(10) Projection applies only for AS version

The mechanical maintenance of gripping force also assures a minimum gripping force in the case of a loss of pressure. With the AS / S variant, this acts as a closing force, and as an opening force for the IS variant. The maintenance of gripping force element can also be used as a means for increasing gripping force or for single actuated gripping.

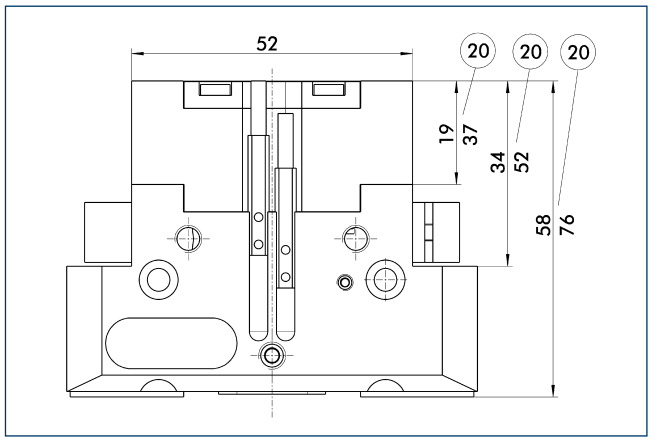
Dust-tight version



(9) For mounting screw connection diagram, see basic version
(15) Sealing bolt
(20) For AS / IS version
(21) For KVZ version

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

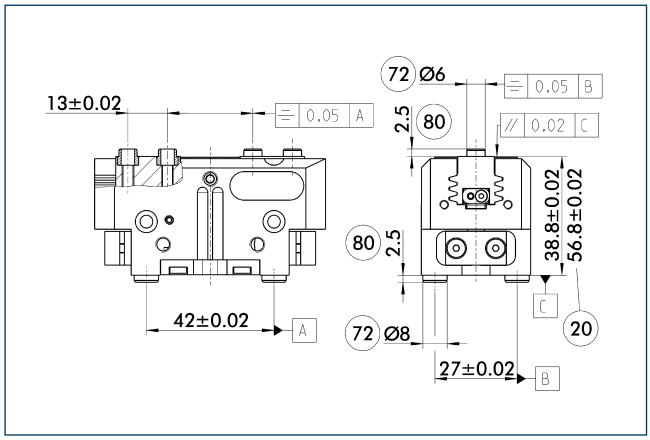
Force intensified version



(20) For AS / IS version

The KVZ power booster cylinder increases gripping forces for opening and closing. A second piston connected in a series increases the force on the diagonal pull for this purpose. If applicable, observe the additional installation height for combination with an element for maintenance of gripping force.

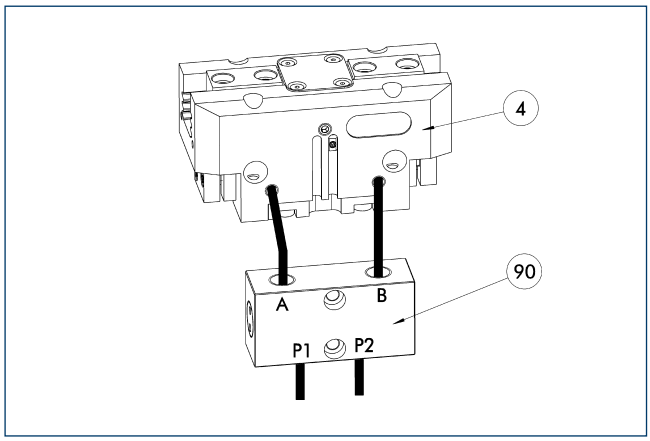
Precision version



(20) For AS / IS version
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the mating part

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

SDV-P pressure maintenance valve



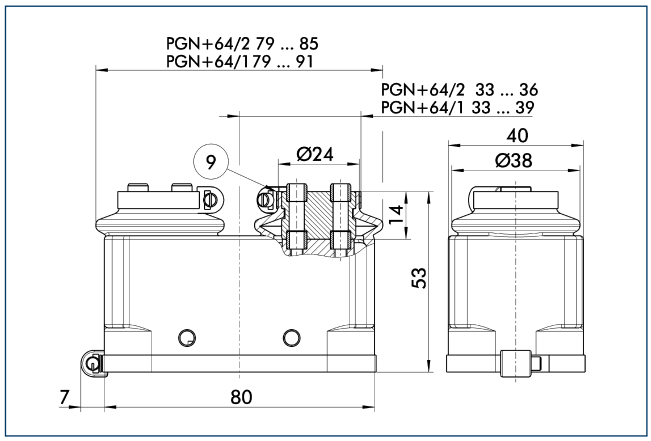
(4) Gripper

(90) SDV-P pressure maintenance valve

The SDV-P pressure maintenance valves ensure that the pressure in the piston chamber of pneumatic gripping, rotary, linear, and quick-change modules is maintained temporarily during an emergency stop.

Description	ID	
Pressure maintenance valve		
SDV-P 04	0403130	

HUE PGN-plus 64 protective cover

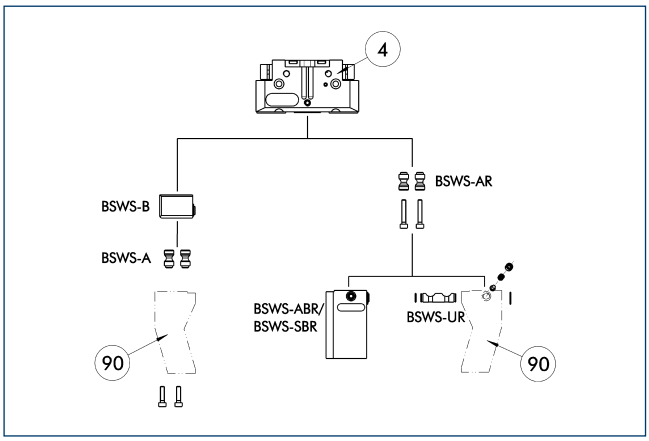


(9) For mounting screw connection diagram, see basic version

The HUE protective cover completely protects the gripper against external influences up to IP65 if an additional sealing of the cover bottom is provided as part of the application. The mounting diagram shifts by the height of the intermediate jaw.

Description	ID	Cleanroom class ISO 14644-1	IP class
Protection cover			
HUE PGN-plus 64	0371480	2	65

BSWS jaw quick-change systems



(4) Gripper

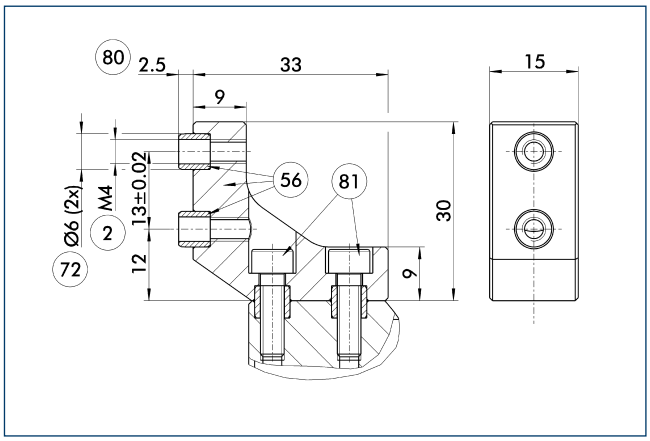
(90) Customized gripper fingers

There are various jaw quick-change systems available for the grippers. For detailed information, refer to the appropriate product.

Description	ID	
Jaw quick-change system adapter		
BSWS-AR 64	0300092	
BSWS-A 64	0303022	
Jaw quick-change system base		
BSWS-B 64	0303023	
Finger blanks with jaw quick-change system		
BSWS-ABR-PGZN-plus 64	0300072	
BSWS-SBR-PGZN-plus 64	0300082	
Jaw quick-change system reversed		
BSWS-UR 64	0302991	

ⓘ Only the systems listed in the table can be used.

ZBA L-plus 64 intermediate jaws



(2) Finger connection

(56) Included in delivery

(72) Fit for centering sleeves

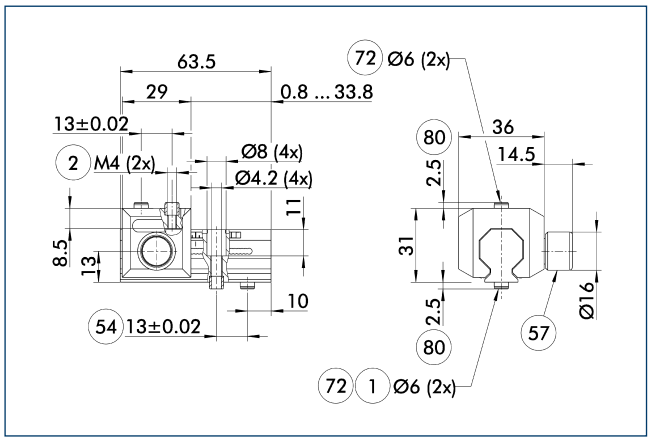
(80) Depth of the centering sleeve hole in the mating part

(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	Scope of delivery
Intermediate jaws			
ZBA-L-plus 64	0311722	Aluminum	1

UZB 64 universal intermediate jaw

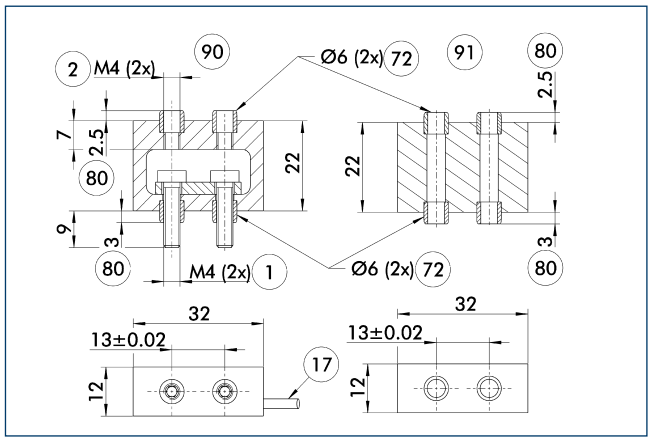


(1) Gripper connection
(2) Finger connection
(54) Optional right or left connection
(57) Locking
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the mating part

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

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

FMS-ZBA / ZBP 64 force-measuring jaws

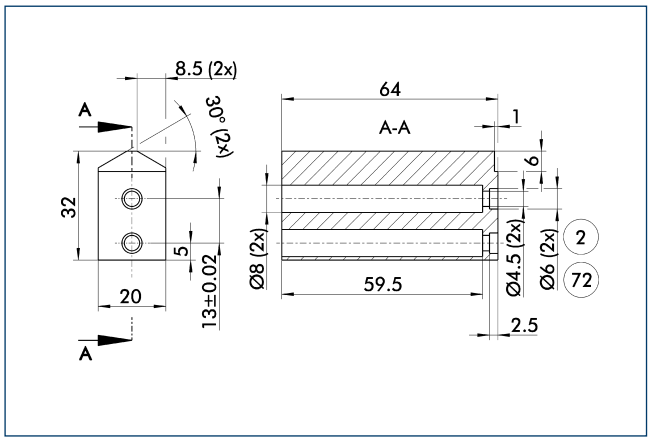


(1) Gripper connection
(2) Finger connection
(17) Cable outlet
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the mating part
(90) Active intermediate jaws
(91) Passive intermediate jaws

Force measuring jaws measure gripping forces, but can also determine workpiece weights or dimensional deviations. There are active and passive intermediate jaws (FMS-ZBA or FMS-ZBP). At least one active force measuring jaw is required per gripper, the rest can be passive. For each active jaw, a FMS-A control unit and a FMS-AK connection cable are required.

Description	ID	Often combined
Active intermediate jaws		
FMS-ZBA 64	0301832	
Passive intermediate jaws		
FMS-ZBP 64	0301833	
Connection cables		
FMS-AK0200	0301820	●
FMS-AK0500	0301821	
FMS-AK1000	0301822	
FMS-AK2000	0301823	
Electronic processor		
FMS-A1	0301810	

ABR- / SBR-PGZN-plus 64 finger blanks

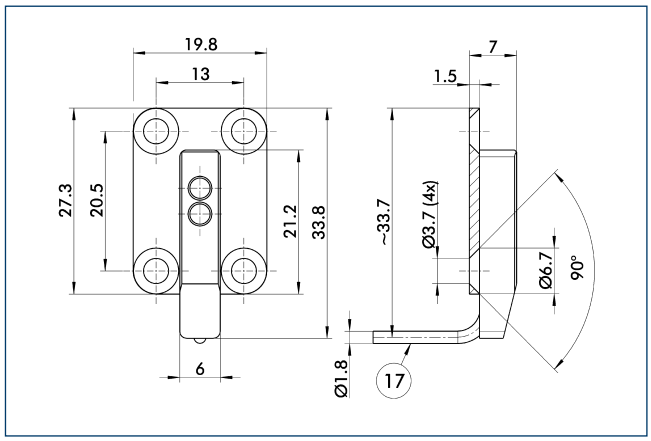


(2) Finger connection
(72) Fit for centering sleeves

Finger blanks for customized subsequent machining.

Description	ID	Material	Scope of delivery
Finger blanks			
ABR-PGZN-plus 64	0300010	Aluminum	1
SBR-PGZN-plus 64	0300020	16MnCr5	1

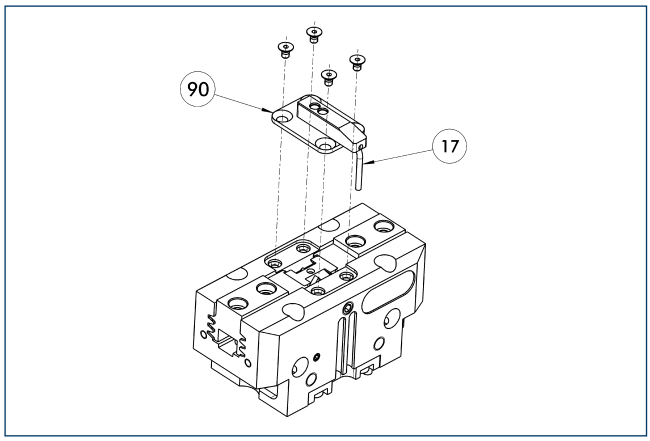
OAS-PGN-plus 64 object distance sensor



(17) Cable outlet

Description	ID	
Object distance sensor		
OAS-PGN-plus 64	0308877	

Object distance sensor



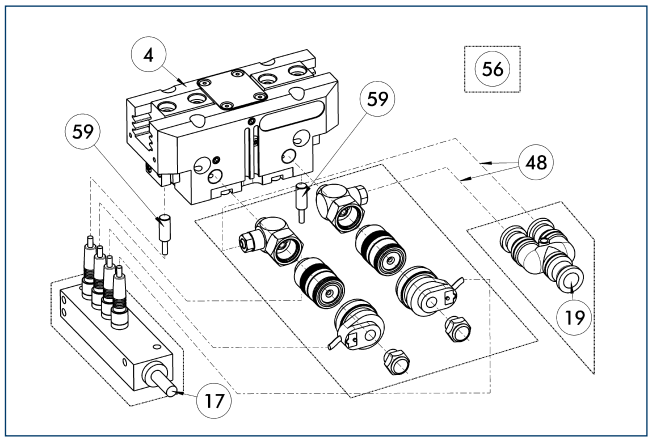
(17) Cable outlet
(90) OAS

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

Description	ID	
Object distance sensor		
OAS-PGN-plus 64	0308877	
Electronic processor		
OAS-V09-D	0308865	
OAS-V10-A	0308867	
OAS-V10-D	0308866	

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

Attachment valves

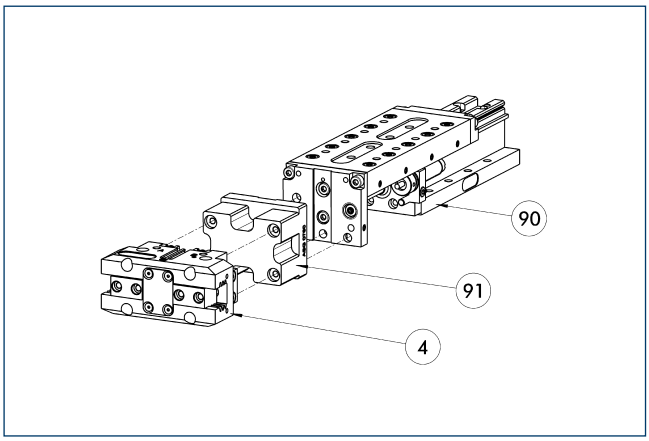


(4) Gripper
(17) Cable outlet
(19) Air connection
(48) Hose
(56) Included in delivery
(59) Monitoring gripping

For each unit one attachment valve ABV is required, optional with distributor for sensors and valves. Attachment valves increase the efficiency, reduce the installation work and air consumption and simplify air supply. For details please refer to the "Accessories" catalog section.

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

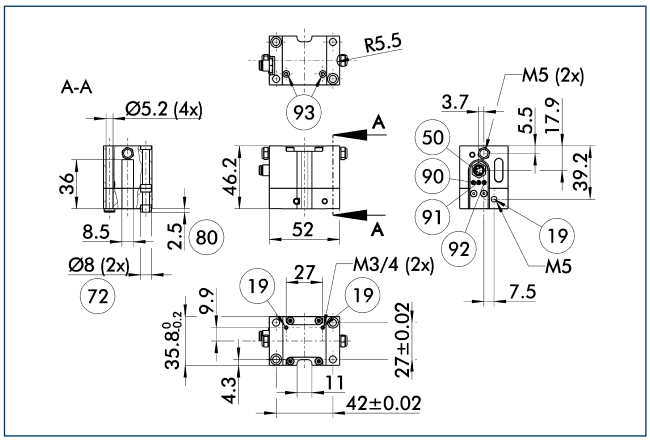
Modular assembly automation



(4) Gripper
(90) CLM / KLM / LM / ELM / ELS / HLM linear module
(91) ASG adapter plate

Gripper and linear modules can be combined with standard adapters out of the modular assembly system. For more information see our catalog "Modular Assembly Automation".

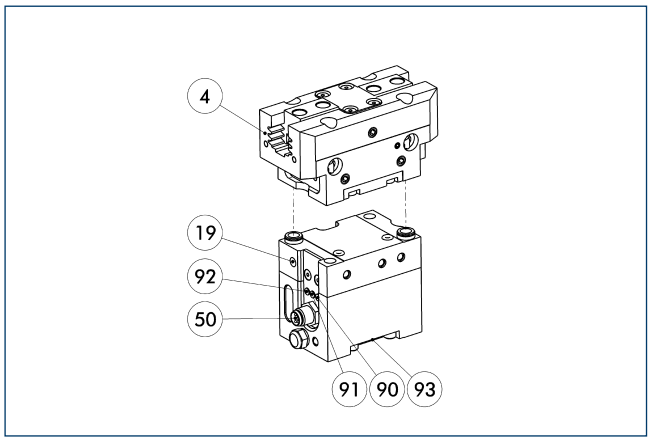
VB-PGN-plus 64 valve box



(19) Air connection
(50) Electrical connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the mating part
(90) Power supply
(91) Valve switched b for gripper opened
(92) Valve switched a for gripper opened
(93) Valve switched a and b

Description	ID	
Valve box		
VB-PGN-plus 64	0310092	

Valve box



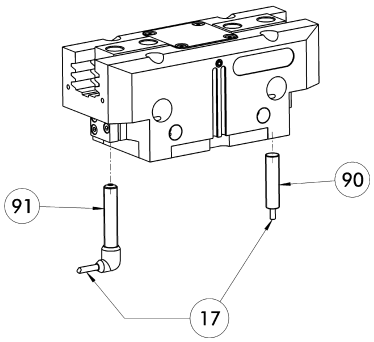
(4) Gripper
(19) Air connection
(50) Electrical connection
(90) Power supply
(91) Valve switched b for gripper opened
(92) Valve switched a for gripper opened
(93) Direct connection for hose-free compressed air supply

Ready to install, local control solution! Valves are attached directly to the handling component. As a result, cycle times are significantly reduced and the number of hoses, commissioning times, and air consumption are minimised while maximum process safety is assured.

Description	ID	Often combined
Valve box		
VB-PGN-plus 64	0310092	
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	
Clip for plug / socket		
CLI-M8	0301463	

ⓘ Valve and sensor signals of the unit can be merged on a bus distributor so that the electrical as well as the pneumatic connections can be decentralized.

Inductive proximity switches



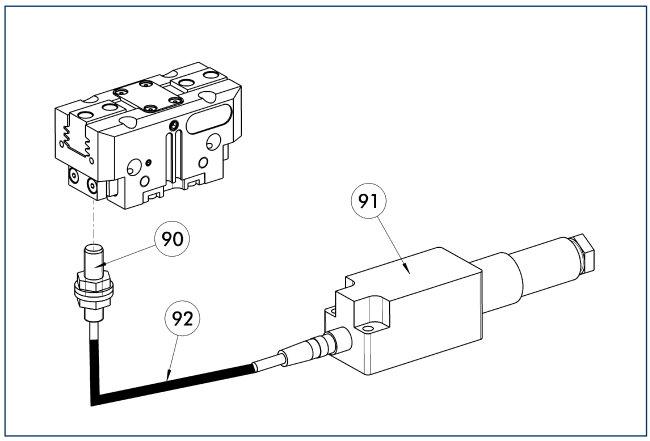
(17) Cable outlet
(90) IN ... sensor
(91) IN ...-SA sensor

Directly mounted limit position monitor.

Description	ID	Often combined
Inductive proximity switches		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switches with lateral outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Cable extensions		
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-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	

ⓘ Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

Flexible position sensor



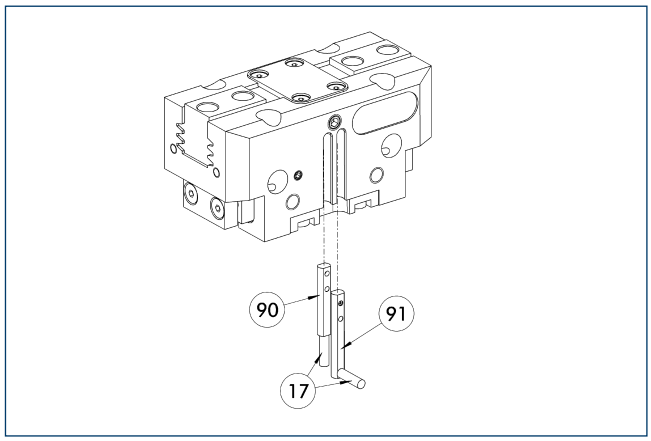
90 FPS-S sensor
92 Cable extensions
91 FPS-F5 / -F5 T electronic processor

Flexible position monitoring of up to five positions.

Description	ID	Often combined
Mounting kit for FPS		
AS-FPS-PGZN-plus 64-1/80-2	0301630	
Electronic processor		
FPS-F5	0301805	●
FPS-F5 T	0301807	
Sensor		
FPS-S M8	0301704	
Clip for plug / socket		
CLI-M8	0301463	

ⓘ When using a FPS system, a FPS sensor (FPS-S) and a control unit (FPS-F5 / F5 T) are required for each gripper as well as a mounting kit (AS), if listed. Cable extensions (KV) are available as options in the “Accessories” catalog section.

MMS electronic magnetic switches



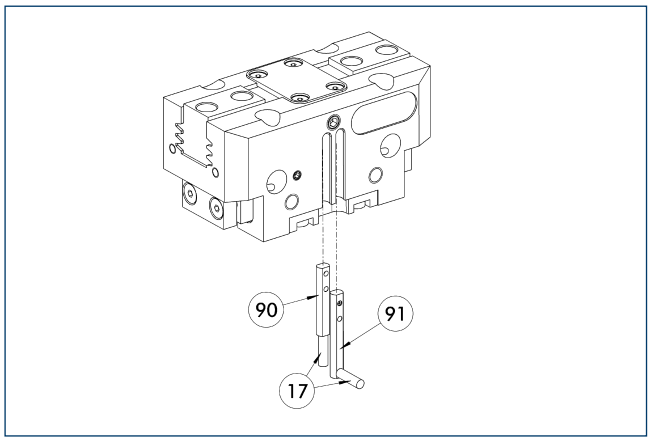
17 Cable outlet
91 MMS 22...-SA sensor
90 MMS 22... sensor

End position monitoring for mounting in the C-slot.

Description	ID	Often combined
Electronic magnetic dwitches MMS		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
MMS electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
Cable extensions		
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	

ⓘ Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

MMS PI1 programmable magnetic switches



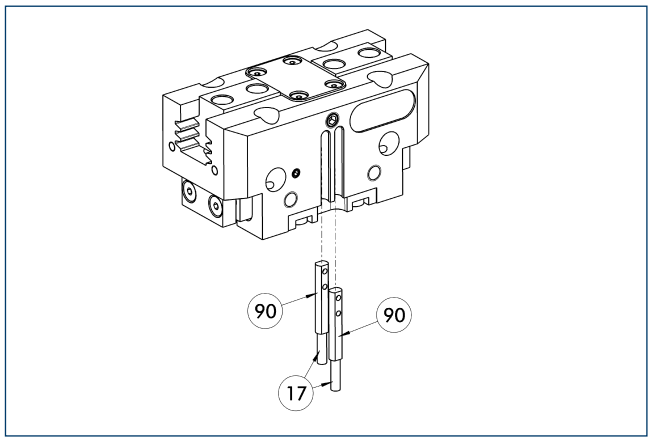
17 Cable outlet
91 MMS 22...-PI1-...-SA sensor
90 MMS 22...-PI1-... sensor

Position query with one programmable position per sensor and electronics integrated in sensor. Programmable via MT magnet teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). Limit position query mounted in C-groove. If the ST plug teaching tools are listed in the table, teaching can only take place with the ST plug teaching tools.

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

ⓘ Two sensors (closer/S) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm. Connection cable, cable extensions, and sensor distributors can be found in the table for the MMS 22.

MMS PI2 programmable magnetic switches



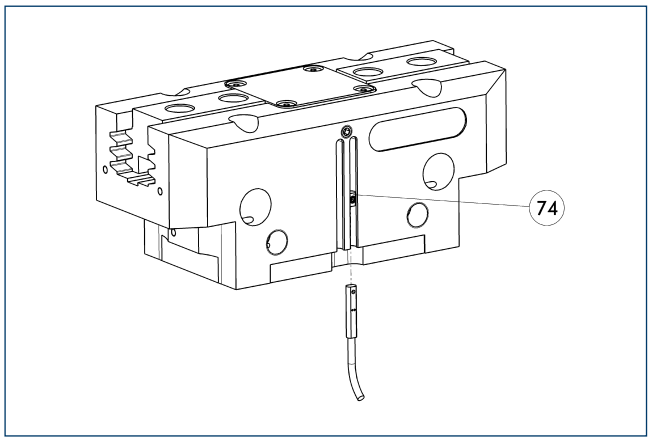
17 Cable outlet
90 MMS 22...-PI2-... sensor

Position query with two programmable positions per sensor and electronics integrated in sensor. Programmable via MT magnet teaching tool (included in the scope of delivery) or ST plug teaching tool (optional). Limit position query mounted in C-groove. If the ST plug teaching tools are listed in the table, teaching can only take place with the ST plug teaching tools.

Description	ID	Often combined
MMS PI2 programmable magnetic switches		
MMS 22-PI2-S-M8-PNP	0301180	●
MMSK 22-PI2-S-PNP	0301182	
MMS PI2-HD programmable magnetic switches with stainless steel housing		
MMS 22-PI2-S-M8-PNP-HD	0301130	●
MMSK 22-PI2-S-PNP-HD	0301132	

ⓘ Per unit one sensor (closer/S) is required, optionally a cable extension. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm. Connection cable, cable extensions, and sensor distributors can be found in the table for the MMS-P 22.

MMS-P programmable magnetic switches



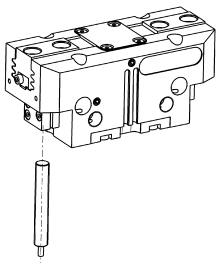
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Often combined
MMS-P programmable magnetic switches		
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	

ⓘ Per unit one sensor (closer/S) is required, optionally a cable extension. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

APS-Z80 analog position sensor

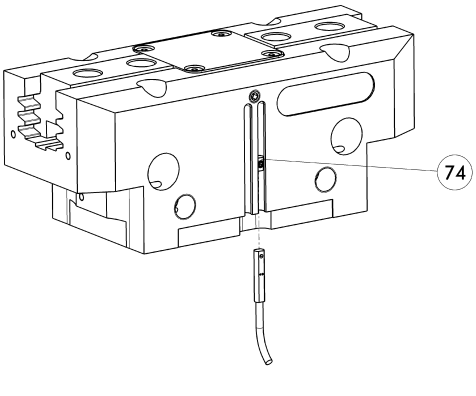


Contactlessly measuring, analog multi-position monitoring for any number of positions.

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	
Sensor		
APS-Z80-K	0302072	
APS-Z80-M8	0302070	●

ⓘ When using an APS system, one mounting kit (AS-APS-Z80) and one APS-Z80 sensor is required per gripper.

MMS-A analog position sensor



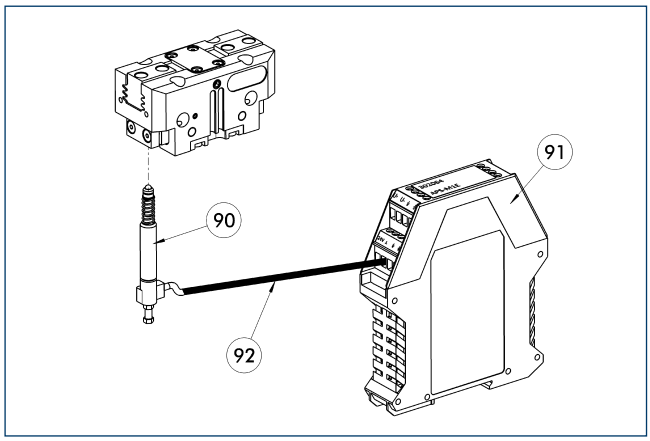
74 Stop for MMS-P

Contactlessly measuring, analog multi-position monitoring for any number of positions.

Description	ID	
Analog position sensor		
MMS 22-A-05V-M08	0315800	
MMS 22-A-10V-M08	0315820	

ⓘ One sensor is needed for each gripper. No additional mounting kit is needed – the standard gripper is equipped for use of the MMS-A.

APS-M1 analog position sensor



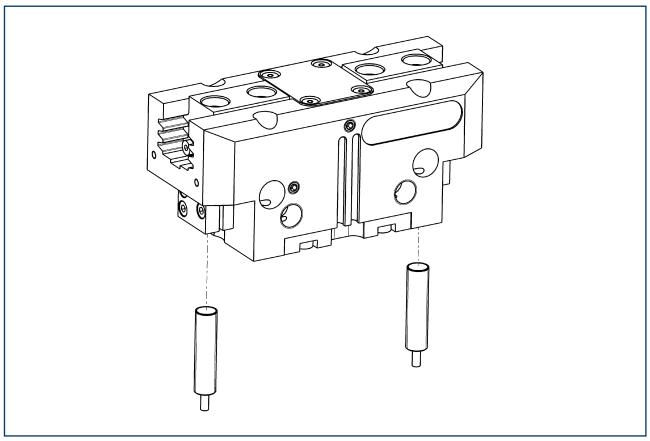
(90) APS-M1S sensor
(91) APS-M1E electronic processor
(92) APS-K extension cable

Analog multi position monitoring for any desired positions.

Description	ID	Often combined
Mounting kit for APS-M1		
AS-APS-M1-PGZN-plus 64-1	0302075	
AS-APS-M1-PGZN-plus 64-2	0302076	
Connection cables		
APS-K0200	0302066	●
APS-K0700	0302068	
Electronic processor		
APS-M1E	0302064	
Sensor		
APS-M1S	0302062	

ⓘ When using an APS system, for each gripper a mounting 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



Limit position monitor can be mounted with mounting kit.

Description	ID	
Mounting kit for proximity switch		
AS-RMS 80 PGN/PZN-plus 64/80	0377725	
Reed switches		
RMS 80-S-M8	0377721	

ⓘ Two sensors (closer/S) are required for each unit, plus extension cables as an option. This mounting kit needs to be ordered optionally as an accessory. Two mounting kits are required per gripper. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.