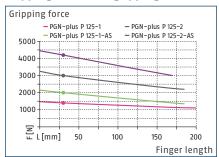
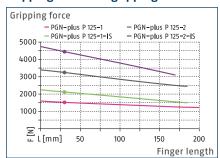


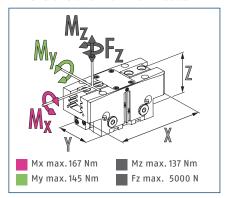
# Gripping force O.D. gripping



# **Gripping force I.D. gripping**



#### **Dimensions and maximum loads**



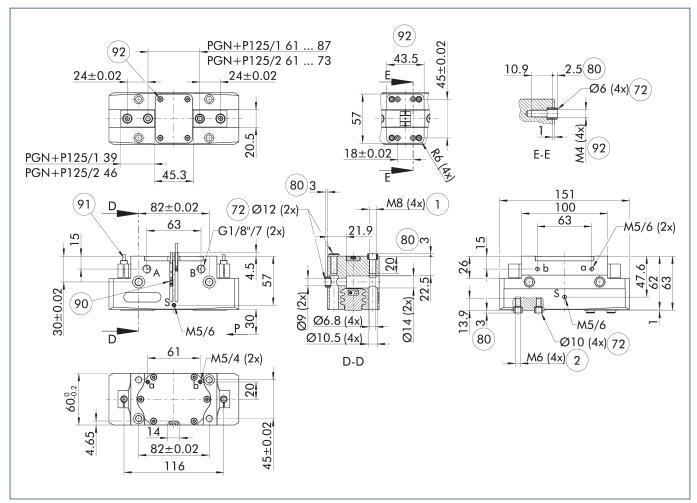
The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

## **Technical data**

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

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

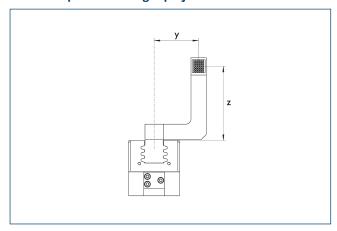
#### Main view

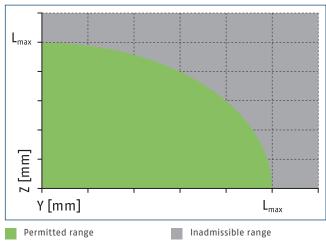


The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- As an alternative/in addition to spring-assisted mechanical gripping force maintenance, the SDV-P pressure maintenance valve can be used for I.D. and O.D. gripping (see "Accessories" section of catalog).
- 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 ...
- Screw connection with centering for customized mounting (these centering sleeves are not included in the scope of delivery)

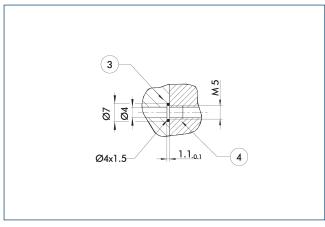
# Maximum permitted finger projection





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

## Hose-free direct connection M5

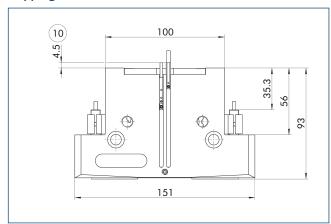


3 Adapter

(4) Grippers

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

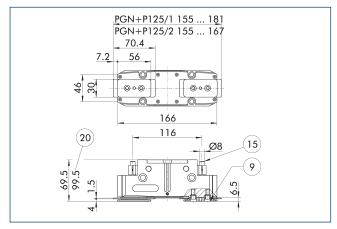
# **Gripping force maintenance version AS/IS**



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. In the AS/S variant this acts as a closing force, in the IS variant as an opening force. Besides this, gripping force maintenance can be used to increase gripping force or for single actuated gripping.

# **Dustproof version**



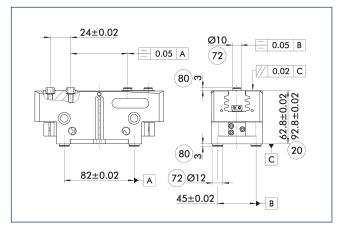
- 9 For mounting screw connection diagram, see basic version
- 15) Sealing bolt
- 20 For version AS/IS

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

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

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

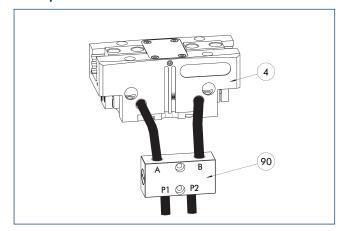
## **Precision version**



- 20 For version AS/IS
- 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

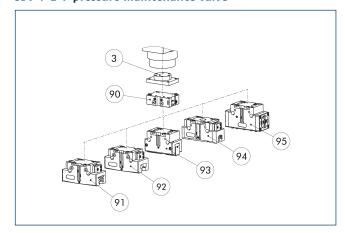
90 SDV-P pressure maintenance

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	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.

## SDV-P E-P pressure maintenance valve

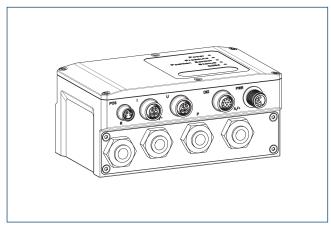


- (3) Adapter
- 90 SDV-P E-P pressure maintenance valve
- 91) 2-finger parallel gripper PGN-plus/PGN-plus-P
- 92 2-finger parallel gripper JGP-P
- 93) 2-finger angular gripper PWG-plus
- (94) 2-finger parallel gripper PGB
- 95) Sealed DPG-plus gripper

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

Description	ID
Pressure maintena	nce valve
SDV-P 125-E-P	0300127

# Pneumatic positioning device PPD

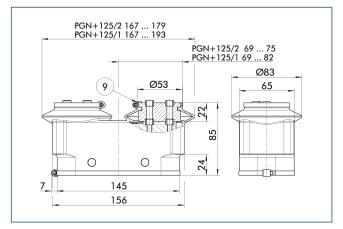


The PPD allows flexibility in all applications with pneumatic grippers through free positioning, gripping force and speed adjustment.

Description	ID	
Pneumatic positioning device		
PPD 20-IOL	1540700	
Adapter		
A GGN0804-1204-A	1540691	
10-Link connection cable		
KA GGN1205-1212-IOL-00100-A	1540697	
Voltage supply connection cable - cab	le track compa	atible
KA GLN12B05-LK-01000-A	1540660	
Cable extension		
KV GGN0804-I0-00150-A	1540662	
KV GGN0804-10-00300-A	1540663	
Assembly set		
Assembly set PPD	1540705	

① In addition to the PPD, a position sensor (SCHUNK IO-Link sensor or analog sensor (4...20 mA)) is required.

# Protective cover HUE PGN-plus 125



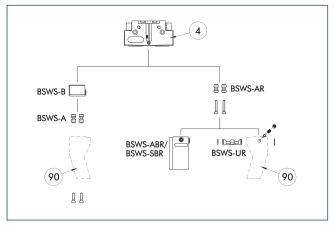
9 For mounting screw connection diagram, see basic version

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

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

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

(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			
Jaw quick-change system adapter pin					
BSWS-A 125	0303028	2			
BSWS-AR 125	0300025	2			
	0300093	Z			
Quick-change jaw system base	0202020	1			
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			

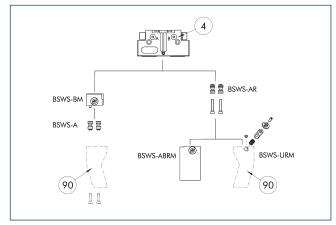
① If the operating pressure is higher than 6 bar, suitability for use beyond the application limits must be checked. Only systems that are listed in the table, can be used. This accessory product can be used in combination with the gripper PGN-plus-P 125 only with stroke variant -1.

#### Fields of application

Series	Size	Variant	Suitability		
PGN-plus-P	125	-1 (6 bar)			
PGN-plus-P	125	-1-AS/1-IS (6 bar)			
PGN-plus-P	125	-2 (6 bar)			
PGN-plus-P	125	-2-AS/2-IS (6 bar)			
Legend					
	Can be combined without restrictions				
	Use with restrictions (see loading limits)				
0000	cannot be combined				

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

## 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			
Jaw quick-change system adapter pin					
BSWS-A 125	0303028	2			
BSWS-AR 125	0300095	2			
Quick-change jaw system base	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			

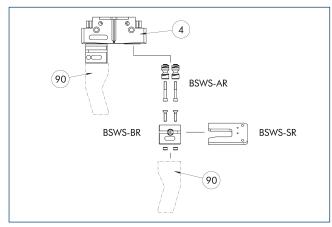
① If the operating pressure is higher than 6 bar, suitability for use beyond the application limits must be checked. Only systems that are listed in the table, can be used.

#### Fields of application

Series	Size	Variant	Suitability		
PGN-plus-P	125	-1 (6 bar)			
PGN-plus-P	125	-1-AS/1-IS (6 bar)			
PGN-plus-P	125	-2 (6 bar)			
PGN-plus-P	125	-2-AS/2-IS (6 bar)			
Legend					
	Can be combined without restrictions				
	Use with restrictions (see loading limits)				
0000	cannot be combined				

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

# Jaw quick-change system BSWS-R



(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			
Jaw quick-change system ada	pter pin				
BSWS-AR 125	0300095	2			
Quick-change jaw system base	9				
BSWS-BR 125	1555937	1			
Storage system					
BSWS-SR 125	1555972	1			
Attachment kit for proximity s	witch				
AS-IN80-BSWS-SR 125/160	1561467	1			
Inductive proximity switch					
IN 80-S-M12	0301578				
IN 80-S-M8	0301478				
INK 80-S	0301550				

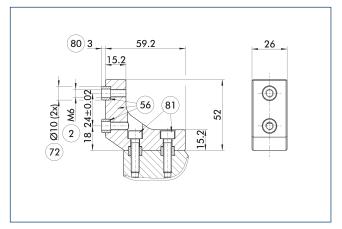
① If the operating pressure is higher than 6 bar, suitability for use beyond the application limits must be checked. Only systems that are listed in the table, can be used.

#### Fields of application

Series	Size	Variant	Suitability		
PGN-plus-P	125	-1 (6 bar)			
PGN-plus-P	125	-1-AS/1-IS (6 bar)			
PGN-plus-P	125	-2 (6 bar)			
PGN-plus-P	125	-2-AS/2-IS (6 bar)			
Legend					
	Can be combined without restrictions				
	Use with restrictions (see loading limits)				
0000	cannot be combined				

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

## ZBA-L-plus 125 intermediate jaws



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

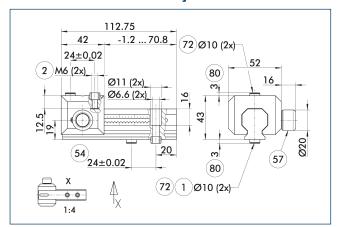
The optional ZBA-L-plus intermediate jaws allow the screw connection diagram of the top jaws to be rotated by 90°. This makes it easier to design and produce top jaws (particularly for long versions) because no deep through-bores are required.

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

# PGN-plus-P 125

Universal gripper

## UZB 125 universal intermediate jaw



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

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

ID	Grid dimension		
עו	uria aimension		
	[mm]		
jaw			
0300045	3		
0300013			
0300023			
Slide for universal intermediate jaw			
5518273	3		
	0300013 0300023 mediate jaw		

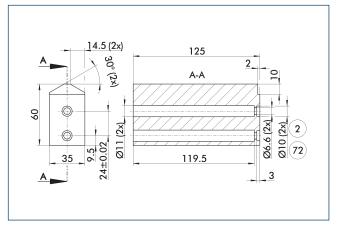
① If the operating pressure is higher than 6 bar, suitability for use beyond the application limits must be checked.

#### Fields of application

Series	Size	Variant	Suitability	
PGN-plus-P	125	-1 (6 bar)		
PGN-plus-P	125	-1-AS/1-IS (6 bar)		
PGN-plus-P	125	-2 (6 bar)		
PGN-plus-P	125	-2-AS/2-IS (6 bar)	0000	
Legend				
	Can be combined without restrictions			
	Use with restrictions (see loading limits)			
0000	cannot be combined			

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

# Finger blanks ABR/SBR-PGZN-plus 125



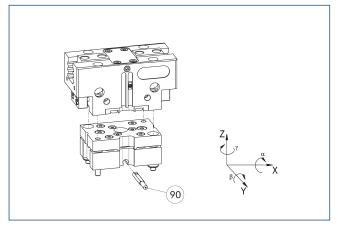
- (2) Finger connection
- (72) Fit for centering sleeves

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

① In the PGL-plus-P gripper series, the use of finger blanks results in a limitation of the closing stroke. Please check this in detail in advance using the CAD data and adjust the reworking of the fingers accordingly.

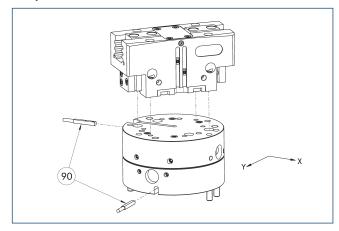
# Tolerance compensation unit TCU



#### 90 Monitoring of locking

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

Description	ID	Locking	Deflection	Often combined
Compensation unit				
TCU-P-125-3-MV	0324828	yes	±1°/±1,5°/±1,5°	•
TCU-P-125-3-0V	0324829	no	±1°/±1,5°/±1,5°	



#### 90 Monitoring

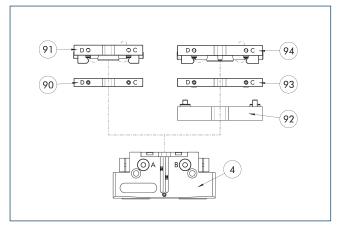
Compensation unit AGE-F

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

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

 $\ensuremath{\textcircled{\scriptsize 1}}$  Due to the interfering contour, monitoring of the gripper is not possible.

# **Compact change system for grippers**

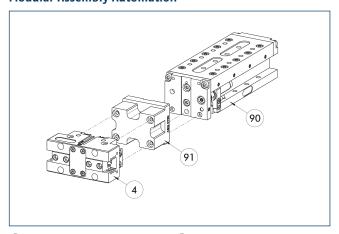


- 4 Grippers
- (90) CWA compact change adapter (91) CWK compact change master
- 92) A-CWA adapter plate
- (93) CWA compact change adapter
- (94) CWK compact change master

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

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

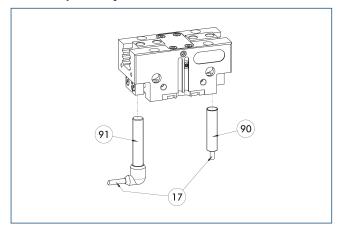
# **Modular Assembly Automation**



- (4) Grippers
- (91) ASG adapter plate
- (90) Linear module CLM/KLM/LM/ELP/ ELM/ELS/HLM

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**



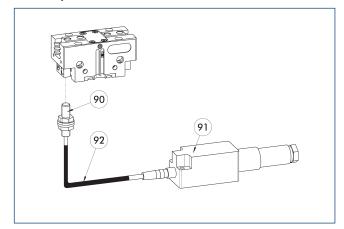
- (17) Cable outlet
- 91) Sensor IN..-SA
- 90 Sensor IN ...

Directly mounted end position monitoring.

Description	ID	Often combined
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	•
INK 80-S	0301550	
Inductive proximity switch with la	teral cable ou	tlet
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 connector/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	

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



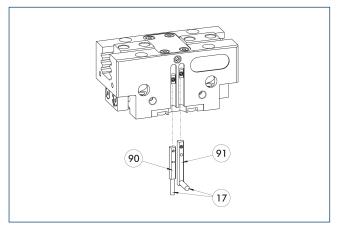
- 90 FPS-S sensor
- 92 Cable extension
- 91) FPS-F5 evaluation electronic

Flexible position monitoring of up to five positions.

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

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

# **Electronic magnetic switch MMS**



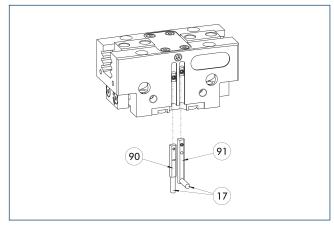
- (17) Cable outlet
- 91) Sensor MMS 22...-SA
- 90 Sensor MMS 22..

End position monitoring for mounting in the C-slot.

Description	ID	Often combined		
Electronic magnetic switch				
MMS 22-S-M8-PNP	0301032	•		
MMSK 22-S-PNP	0301034			
Electronic magnetic switches with	lateral cable (	outlet		
MMS 22-S-M8-PNP-SA	0301042	•		
MMSK 22-S-PNP-SA	0301044			
Connection cables				
KA BG08-L 3P-0300-PNP	0301622	•		
KA BG08-L 3P-0500-PNP	0301623			
KA BW08-L 3P-0300-PNP	0301594			
KA BW08-L 3P-0500-PNP	0301502			
Clip for connector/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			

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

## Programmable magnetic switch MMS 22-PI1



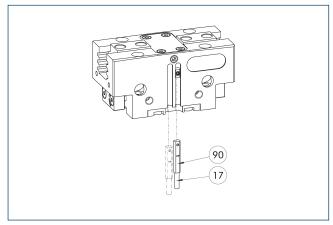
- (17) Cable outlet
- 91) Sensor MMS 22 ..-PI1-...-SA
- 90 Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) 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 o	able 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				

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

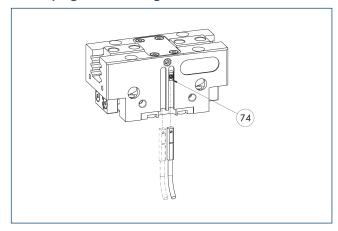
90 MMS 22...-PI2-... sensor

Position monitoring with two programmable positions per sensor and electronics integrated in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) 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.

ID	Often combined				
Programmable magnetic switch					
0301180	•				
0301182					
with lateral c	able outlet				
0301186	•				
0301188					
with stainless	s steel housing				
0301130	•				
0301132					
	0301180 0301182 with lateral c 0301186 0301188 with stainles: 0301130				

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



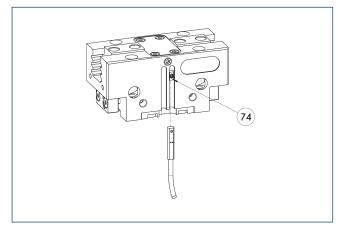
74) Limit stop for sensor

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 connector/socket						
CLI-M8	0301463					
Sensor distributor						
V2-M8-4P-2XM8-3P	0301380					

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

# Analog position sensor MMS-A



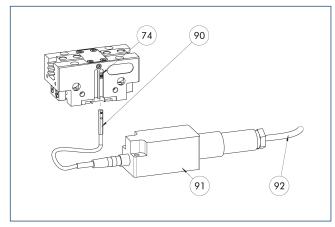
(74) Limit stop for sensor

Non-contact measuring, analog multi-position monitoring for any number of positions, easy to assemble in the C-slot. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) 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 chart provided, teaching is only possible with the ST teaching tools.

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

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

# Flexible position sensor with MMS-A



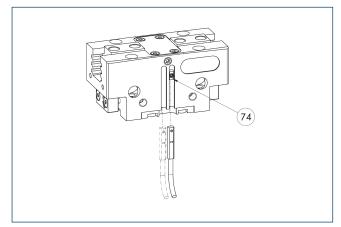
- (74) Limit stop for sensor
- (91) FPS-F5 evaluation electronic
- 90 MMS 22-A-... sensor
- (92) Connection cables

Flexible position monitoring of up to five positions. Sensor can be taught using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) or ST plug teaching tool (optional). If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID
Analog position sensor	
MMS 22-A-05V-M08	0315805
Evaluation electronics	
FPS-F5	0301805
Sensor Teaching Tool	
MT-MMS 22-PI	0301030
Connection cables	
KA BG16-L 12P-1000	0301801

When using an FPS system, one MMS 22-A-05V and one evaluation electronics (FPS-F5) are required per each gripper, as well as an attachment kit (AS), if listed. On option, cable extensions (KV) are available - see catalog chapter "Accessories."

# Programmable magnetic switch MMS-I0-Link



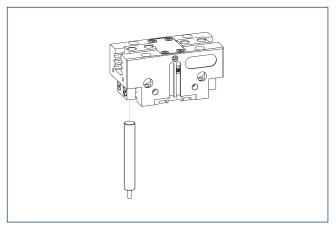
#### (74) Limit stop for sensor

Sensor for multi-position monitoring through detection of the complete gripper stroke. The sensor is mounted directly in the C-slot of the gripper. The sensor is programmed for the gripper via the IO-Link interface, Magnet teaching tool MT (included in scope of delivery; ID 0301030) or the ST plug teaching tool (not included in scope of delivery; ID 0301026). 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



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

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

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.