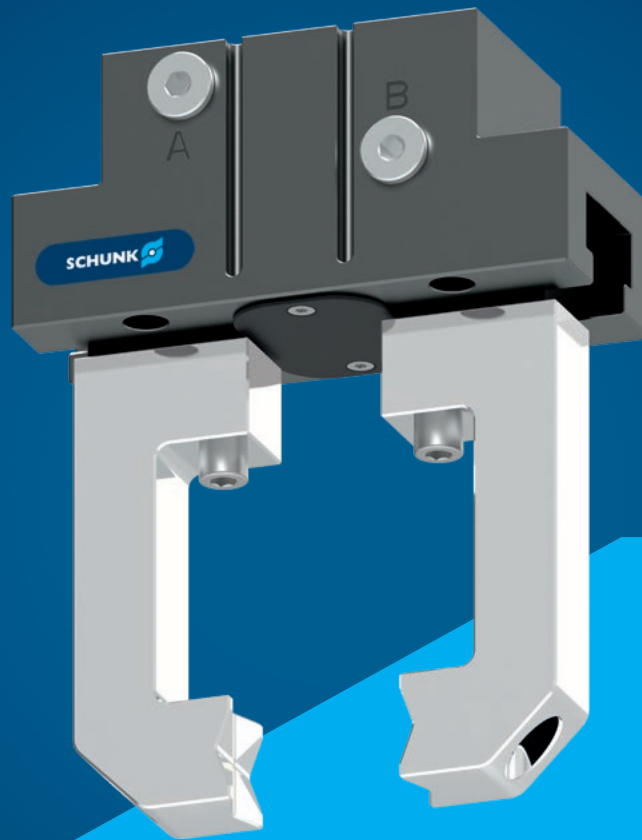




Product data sheet
CGP64-1
Universal gripper

CGP universal gripper

Universal 2-finger parallel gripper with T-slot guidance and the optimum price-performance ratio

Field of application

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

Advantages – Your benefits

- + **A firm focus on the essentials**
for maximum profitability
- + **Sturdy T-slot guidance**
for the precise handling of different workpieces
- + **Wedge-hook design**
for high power transmission and synchronized gripping
- + **Air supply via hose-free direct connection or screw connections**
for universal and flexible gripper assembly



Sizes
Quantity: 4



Weight
0.28 .. 1.86 kg



Gripping force
350 .. 1585 N



Stroke per jaw
6 .. 13 mm

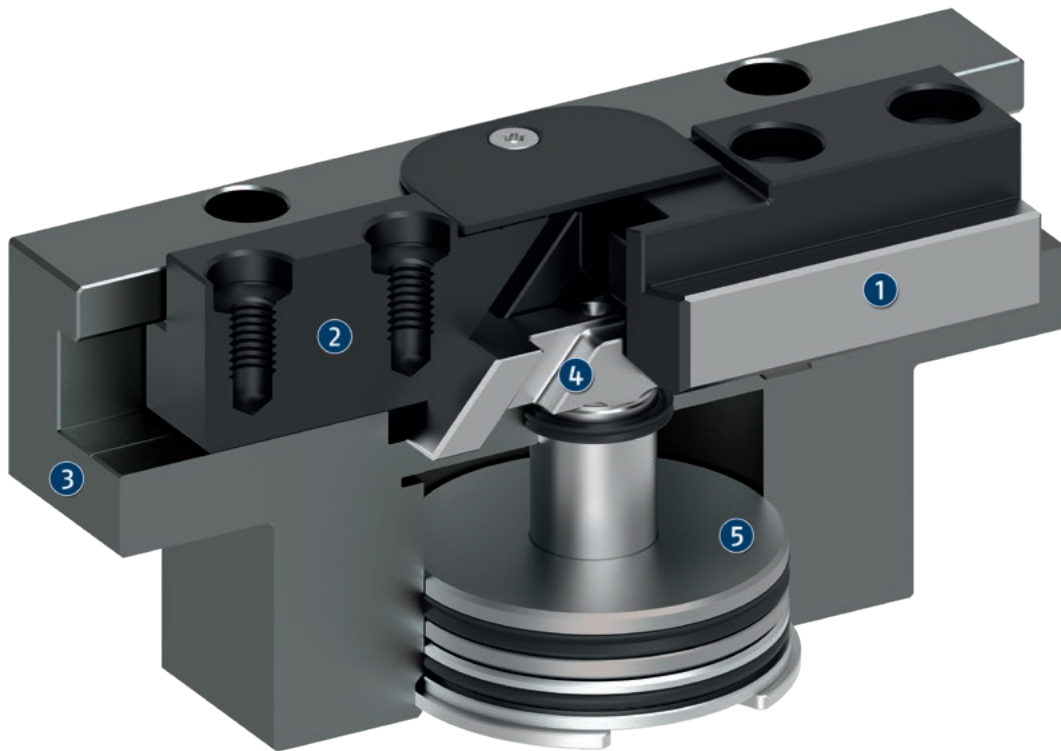


Workpiece weight
1.75 .. 5.6 kg

Functional description

The piston is moved up and down by compressed air.

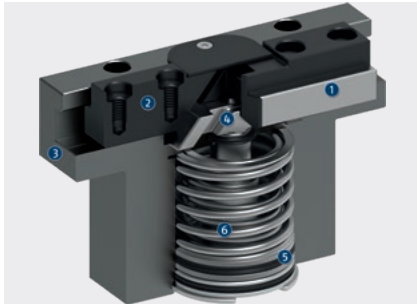
The angled active surfaces of the wedge-hook produce a synchronized, parallel jaw motion.



- ❶ **T-slot guidance**
loadable, robust base jaw guidance for extremely long gripper fingers
- ❷ **Base jaw**
with standardized screw connection diagram for the connection of the workpiece-specific gripper fingers
- ❸ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy
- ❹ **Wedge-hook design**
for high power transmission and minimal wear as a result of larger diagonal pull surfaces
- ❺ **Pneumatic drive piston**
To generate the gripping force

Detailed functional description

Gripping force maintenance version AS/IS



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

- ① T-slot guidance
- ② Base jaw
- ③ Housing
- ④ Wedge-hook design
- ⑤ Piston
- ⑥ Gripping force maintenance by means of a pressure spring

Position monitoring via magnetic switch



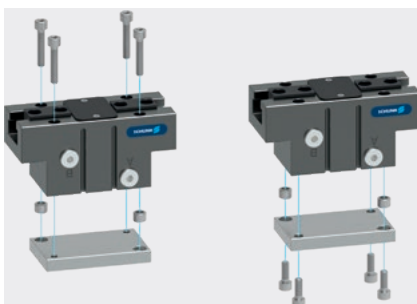
For monitoring with magnetic switches, the gripper is equipped with two sensor slots. The image shows the "gripper open" and "gripper closed" position query with two MMS 22 sensors.

Position monitoring using inductive proximity switches



The gripper variant "-IN" is prepared for monitoring with two inductive proximity switches. The positions "gripper open" and "gripper closed" are preset. Proximity switches must be ordered separately and are inserted to the stop and clamped. Both switching points can be set individually to monitor any other position such as "workpiece gripped" for example.

Centering and mounting options for gripper assembly



The gripper can be mounted from two screw directions.

Pneumatic connections for the power supply



The gripper can be supplied with compressed air from either side.

- ❶ On the front side via the main air connections A and B using air fittings and pneumatic hoses.
- ❷ At the bottom via direct connections a and b, by means of tubeless direct connection and using the O-rings supplied. The pneumatic supply is then provided via the adapter plate.

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: 12 months

Service life characteristics: on request

Scope of delivery: Gripper in the ordered variant, accessory kit (centering sleeves, O-rings for direct connection/detailed contents see operating manual) and safety information. Product-specific instructions can be downloaded at schunk.com/downloads-manuals.

Gripping force maintenance: 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).

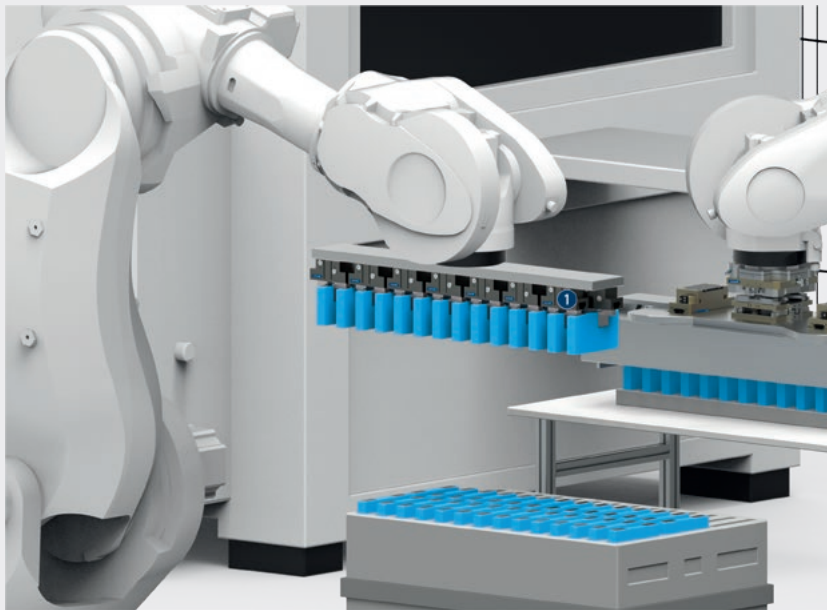
Finger length: is measured from the reference surface as the distance P in direction to the main axis.

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 movement times of the base jaws only, without application-specific gripper fingers. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.



Application example

Multiple gripper unit with several single grippers for simultaneous removal of 14 components from the tray.

① CGP 2-finger parallel gripper

SCHUNK offers more ...

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



Rotary unit



Tool changer



Compensation unit



Linear axis



Jaw quick-change system



Finger blank



Pressure maintenance valve



Universal intermediate jaw



Magnetic switches



Inductive proximity switch

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

Options and special information

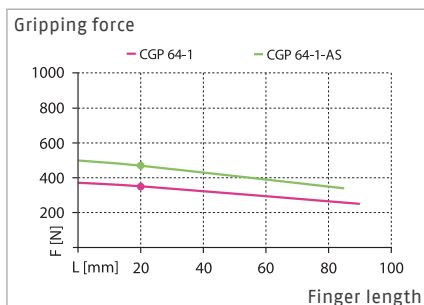
Gripping force maintenance version AS/IS: The mechanical gripping force maintenance version ensures minimum gripping force even in the event of a pressure drop. In the AS/S version this acts as a closing force, in the IS version as an opening force.

Additional versions: Do you have additional requirements for the gripper CGP? Then take a look at the PGN-plus-P gripper model. The PGN-plus-P premium gripper already offers additional options and variants by default.

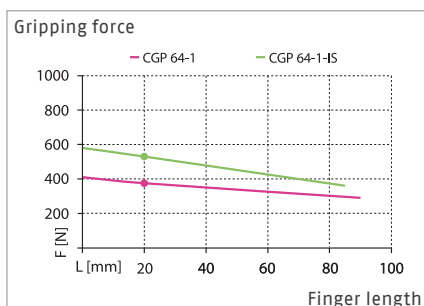
Food-grade lubrication: The product contains food-compliant lubricants as standard. The requirements of EN 1672-2:2020 are not fully met. The relevant NSF certificates are available at <https://info.nsf.org/USDA/Listings.asp> using the lubricant information in the operating manual.



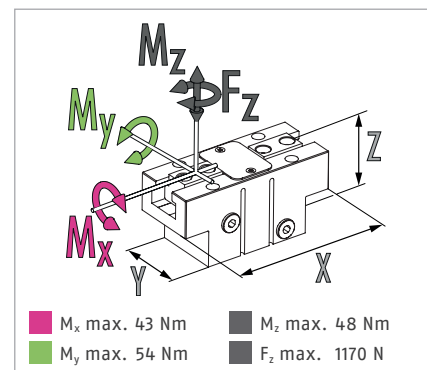
Gripping force O.D. gripping



Gripping force I.D. gripping



Dimensions and maximum loads



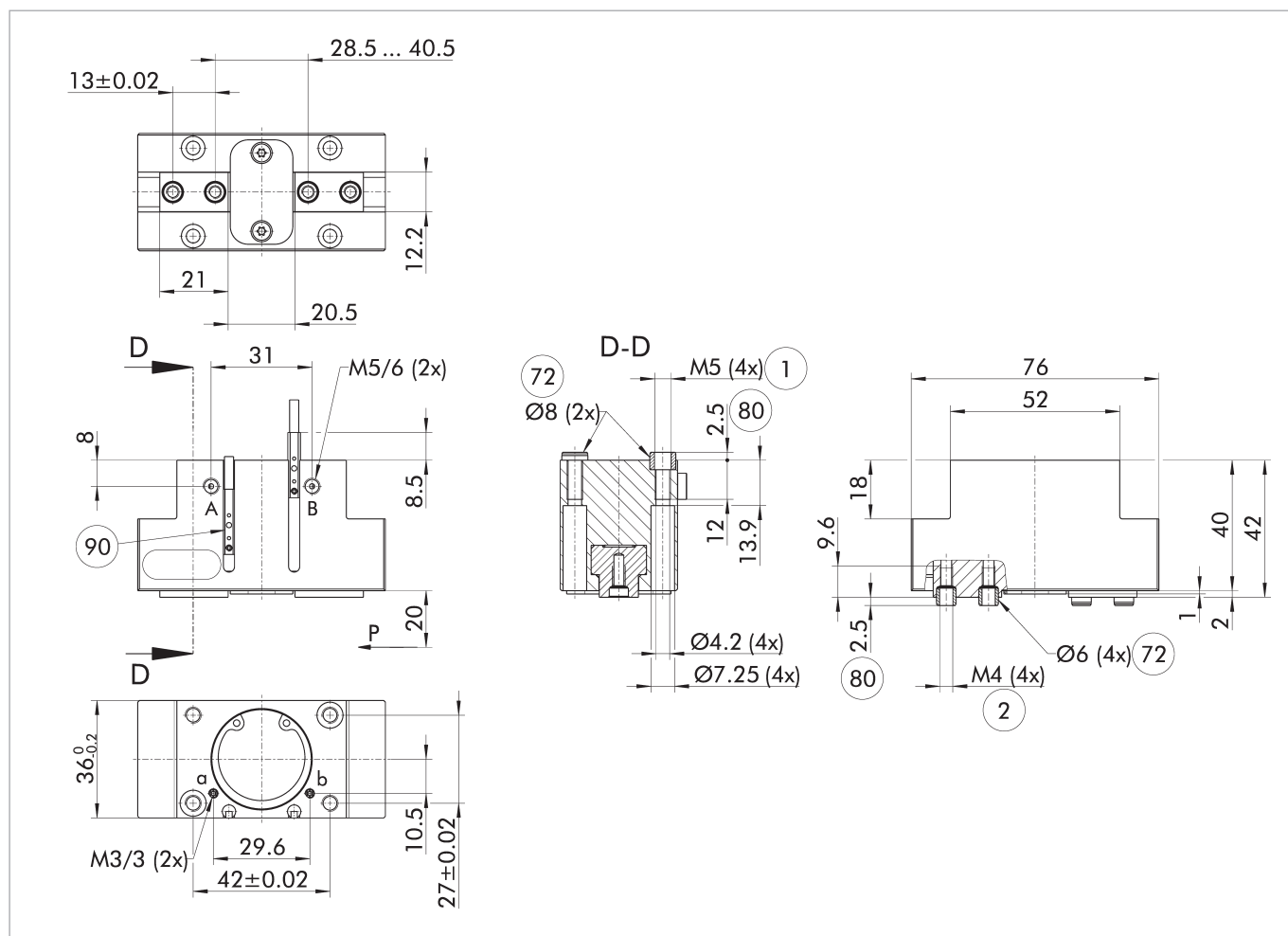
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

Description		CGP 64-1	CGP 64-1-AS	CGP 64-1-IS	CGP 64-1-IN	CGP 64-1-AS-IN	CGP 64-1-IS-IN
ID		1658290	1658303	1658304	1658305	1658306	1658307
Prepared for sensor query		magnetic	magnetic	magnetic	inductive	inductive	inductive
Stroke per jaw	[mm]	6	6	6	6	6	6
Closing/opening force	[N]	350/375	470/-	-/530	350/375	470/-	-/530
Min. spring force	[N]		120	155		120	155
Weight	[kg]	0.28	0.35	0.34	0.28	0.35	0.34
Recommended workpiece weight	[kg]	1.75	1.75	1.75	1.75	1.75	1.75
Cylinder volume per double stroke	[cm³]	11	17	17	11	17	17
Min./nom./max. operating pressure	[bar]	2.5/6/6.5	4/6/6.5	4/6/6.5	2.5/6/6.5	4/6/6.5	4/6/6.5
Closing/opening time	[s]	0.03/0.03	0.02/0.04	0.04/0.02	0.03/0.03	0.02/0.04	0.04/0.02
Closing/opening time with spring	[s]		0.05	0.05		0.05	0.05
Max. permissible finger length	[mm]	90	85	85	90	85	85
Max. permissible weight per finger	[kg]	0.4	0.4	0.4	0.4	0.4	0.4
IP protection class		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Dimensions X x Y x Z	[mm]	76 x 36 x 42	76 x 36 x 57	76 x 36 x 57	76 x 36 x 42	76 x 36 x 57	76 x 36 x 57

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



A, a Main / direct connection, gripper opening

B, b Main / direct connection, gripper closing

① Gripper connection

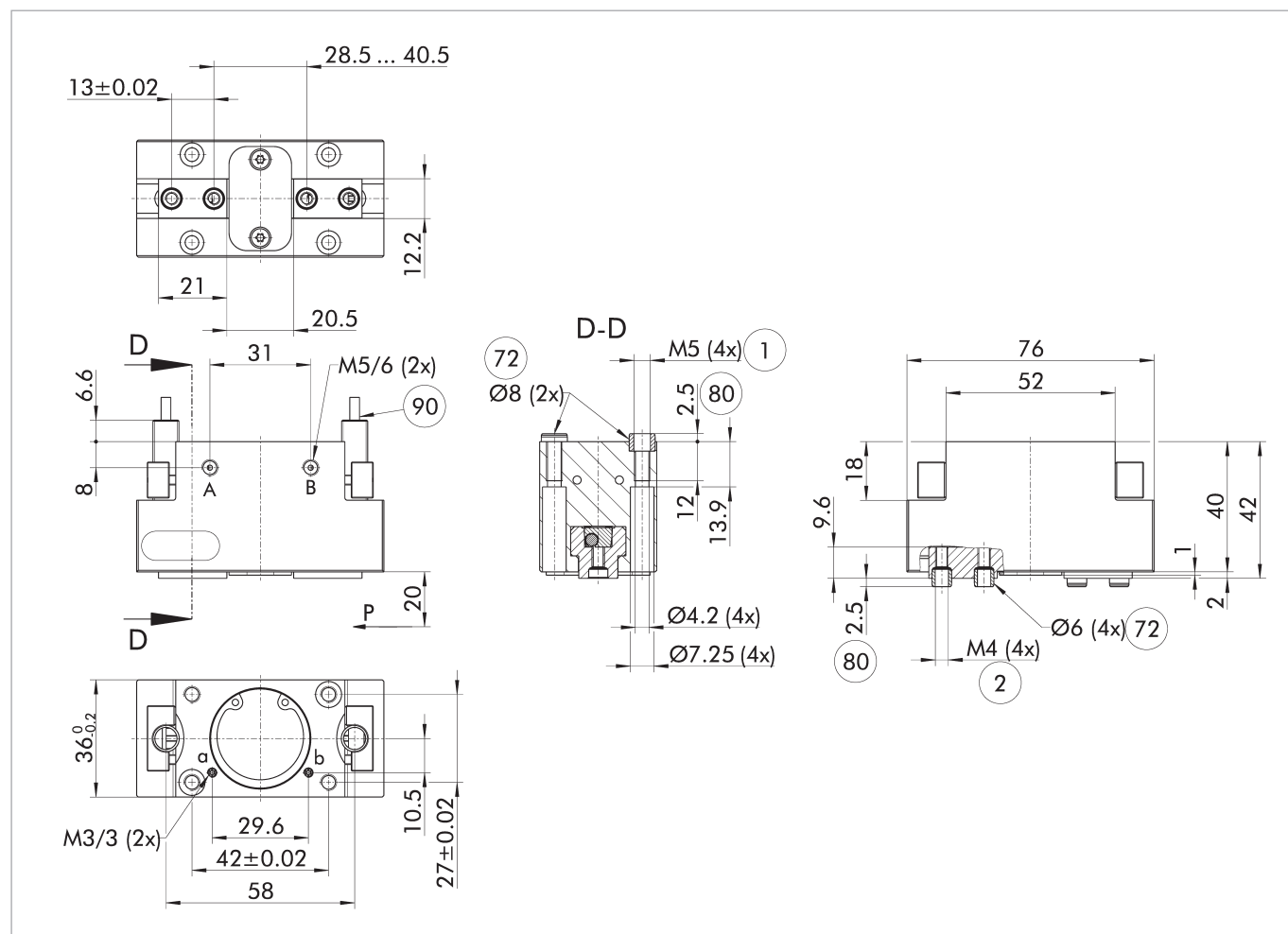
② Finger connection

72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

90 Sensor MMS 22..

Main view -IN version: for inductive proximity switches



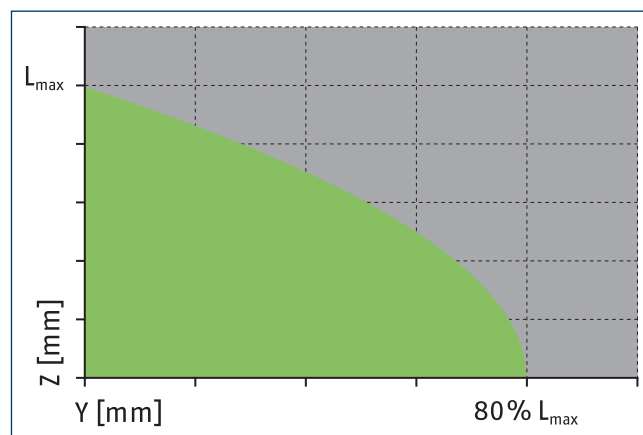
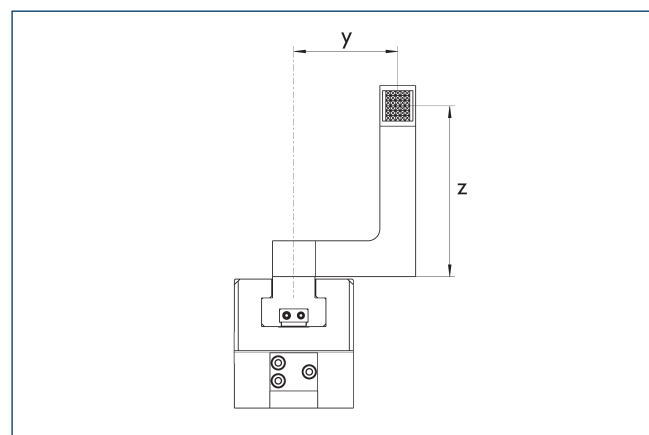
The drawing shows the gripper in the basic version with closed jaws, without dimensional consideration of the options described below.

- ① 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
① Gripper connection

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

Maximum permitted finger projection

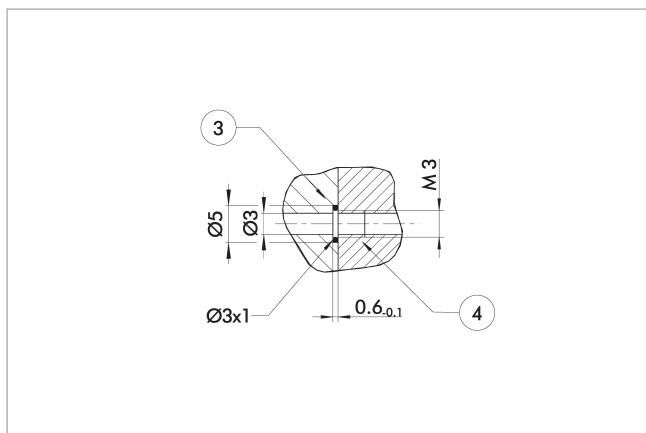


■ Permitted range

■ Inadmissible range

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

Hose-free direct connection M3

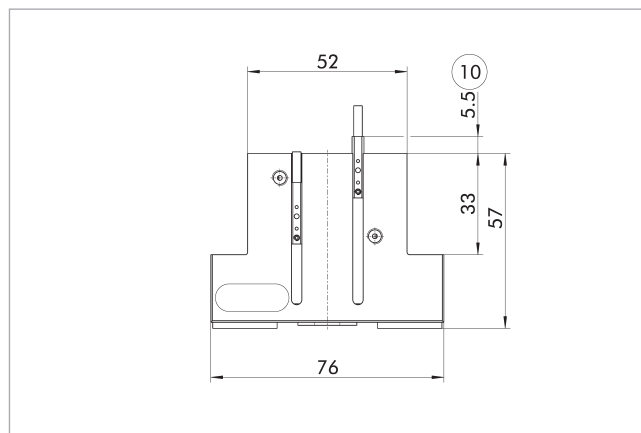


③ Adapter

④ Grippers

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

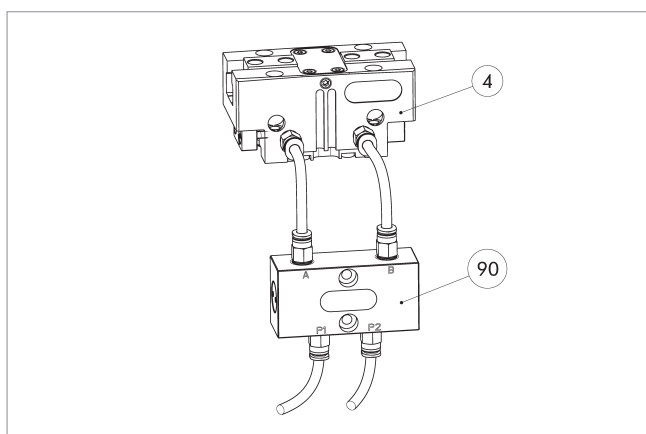
Gripping force maintenance version AS/IS



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.

SDV-P pressure maintenance valve



④ Grippers

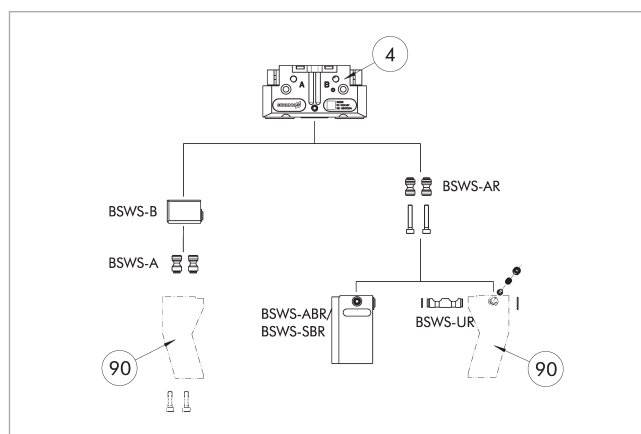
⑨⑩ SDV-P pressure maintenance valve

The SDV-P pressure maintenance valves ensure in emergency stop situations that the pressure in the piston chamber of pneumatic gripper, swivel, and quick-change modules as well as in linear axes is temporarily maintained.

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

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

BSWS jaw quick-change jaw systems



④ Grippers

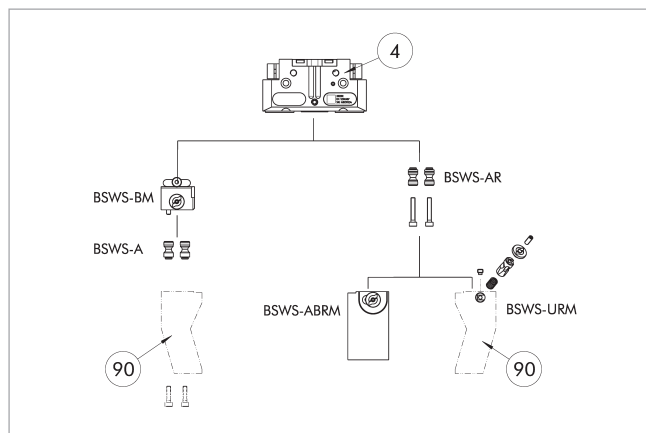
⑨⑩ Customized gripper fingers

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

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

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.

Jaw quick-change system BSWS-M



④ Grippers

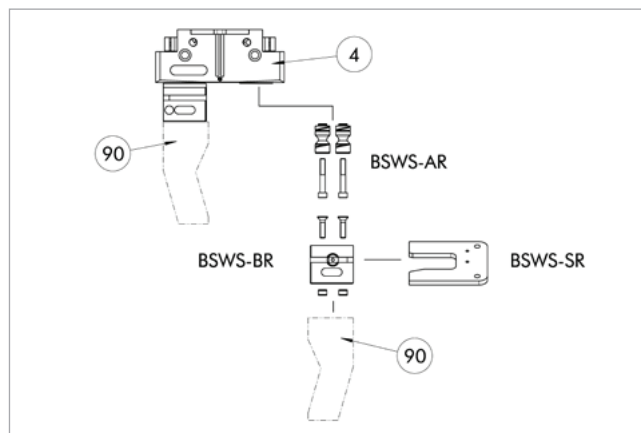
⑨⑩ Customized gripper fingers

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

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

Jaw quick-change system BSWS-R



④ Grippers

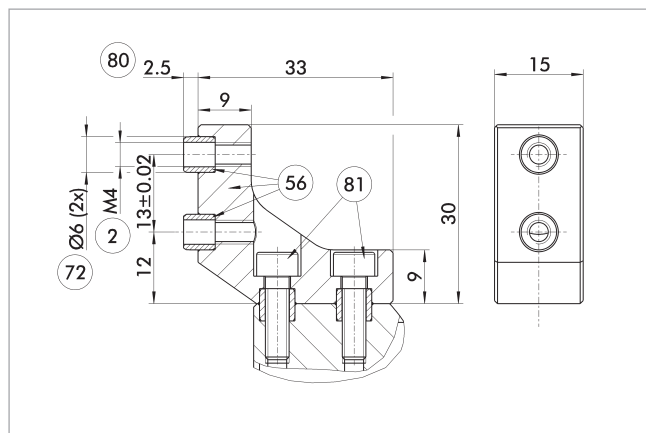
⑨⑩ Customized gripper fingers

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

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-AR 64	0300092	2
Quick-change jaw system base		
BSWS-BR 64	1555914	1
Storage system		
BSWS-SR 64	1555950	1
Attachment kit for proximity switch		
AS-IN40-BSWS-SR 50/64	1561455	1
Inductive proximity switch		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	
INK 40-S	0301555	

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.

ZBA-L-plus 64 intermediate jaws

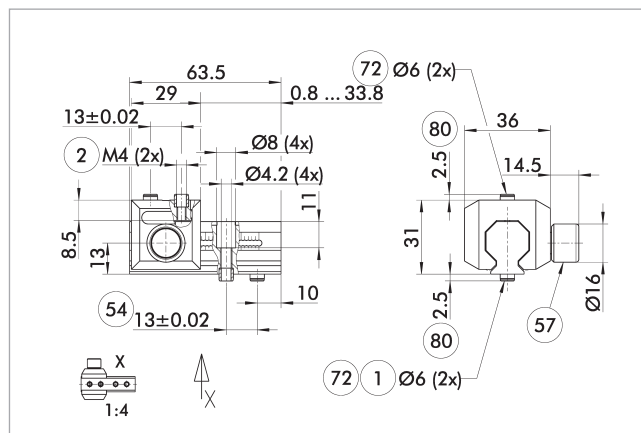


- ② Finger connection
- ⑤⑥ Included in the scope of delivery
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery

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

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

UZZ 64 universal intermediate jaw



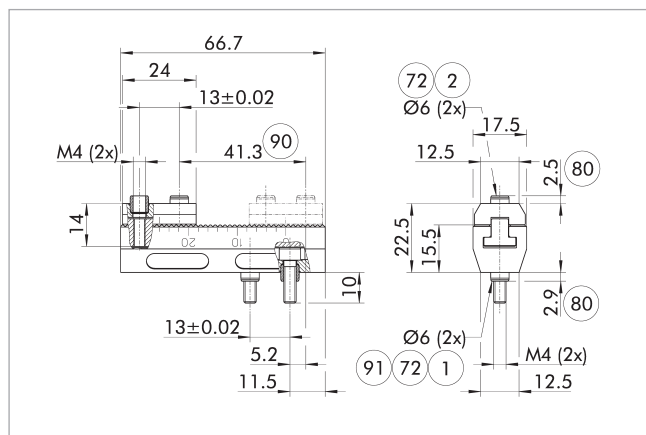
- ① Gripper connection
- ② Finger connection
- ⑤④ Optional right or left connection
- ⑤⑦ Locking
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part

The drawing shows the UZZ universal intermediate jaw.

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

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

Adjustable intermediate jaw VZB 64

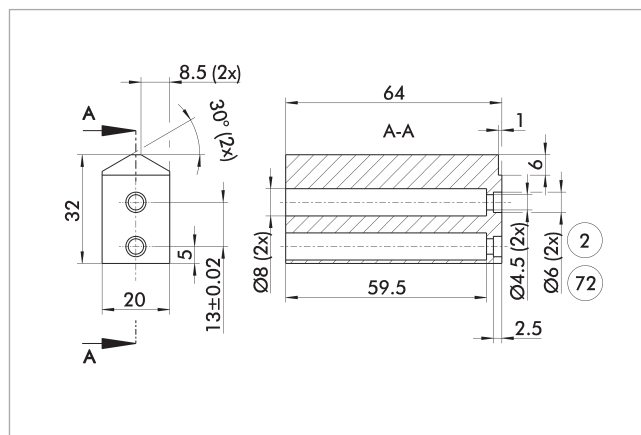


- ① Gripper connection
- ② Finger connection
- ⑦② Fit for centering sleeves
- ⑧① Depth of the centering sleeve hole in the counter part
- ⑨① Max. adjustment travel
- ⑨① Not included in the VZB scope of delivery

The drawing shows the adjustable intermediate jaw VZB.

Description	ID	Grid dimension [mm]
Adjustable intermediate jaw		
VZB 64	1648774	1.6

Finger blanks ABR/SBR-PGZN-plus 64



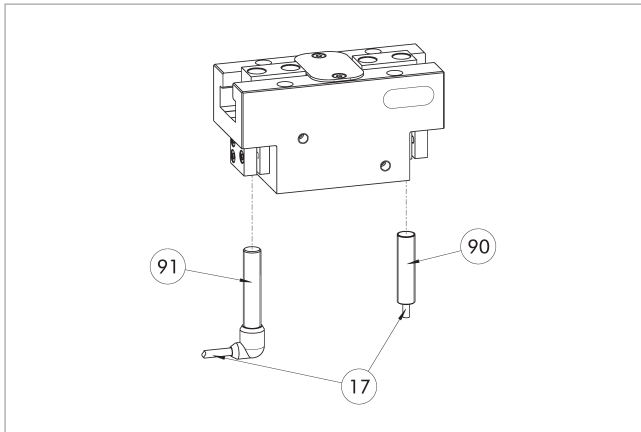
- ② Finger connection
- ⑦② Fit for centering sleeves

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

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

- ① When finger blanks are used, the closing stroke of individual gripper series may be limited. Please check this in detail in advance using the CAD data and adjust the reworking of the fingers accordingly.

Inductive proximity switches



17 Cable outlet

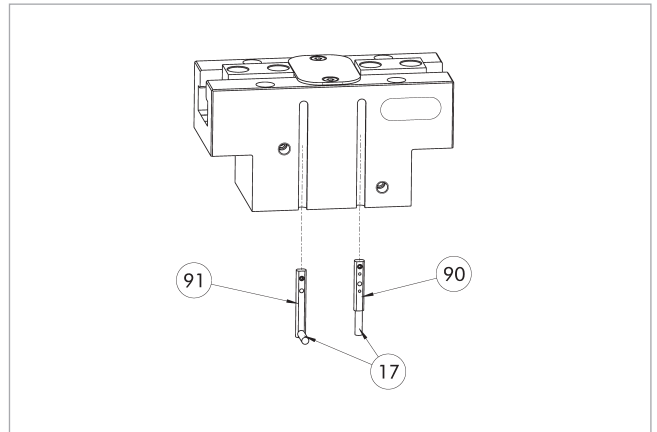
91 Sensor IN...-SA

90 Sensor IN ...

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 lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for 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	

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.

Electronic magnetic switch MMS



17 Cable outlet

91 Sensor MMS 22...-SA

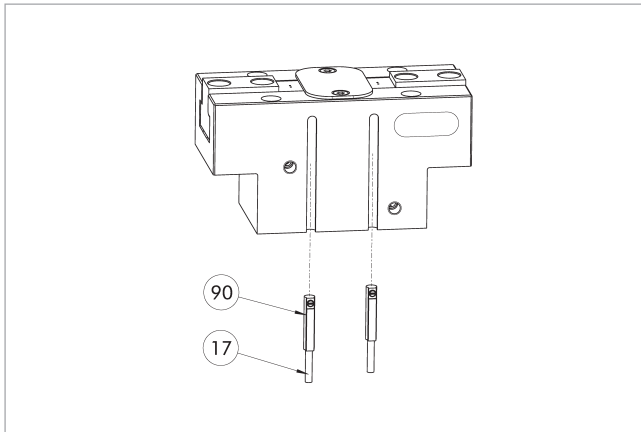
90 Sensor MMS 22..

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	

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.

Magnetic switch J02N/P



①⑦ Cable outlet

①⑨ Magnetic switch J02

Position monitoring with one position per sensor, can be mounted in C-slot. Available in the types NPN (J02N) and PNP (J02P), and with open cable end (2M) or cable plug (Q8). Further information can be found in the product's catalog chapter.

Description	ID
Magnetic switches	
J02N-2M	1353058
J02N-Q8	1353073
J02P-2M	1353035
J02P-Q8	1353072

① Two sensors are required for each unit, as well as optional extension cables. Please consider the minimum permissible bending radii for sensor cables.



SCHUNK SE & Co. KG

Spanntechnik

Greiftechnik

Automatisierungstechnik

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