

Superior Clamping and Gripping



## Product Information

Universal gripper EGN 100

## Robust. Flexible. Strong.

### Universal gripper EGN

Servo-electric 2-finger parallel gripper with high gripping force and moment loads due to the multi-tooth guidance

#### Field of application

Optimal standard solution for many areas of application; flexible use due to controllable gripping force, position, and speed

#### Advantages – Your benefits

**Drive design of servomotor** for flexible use

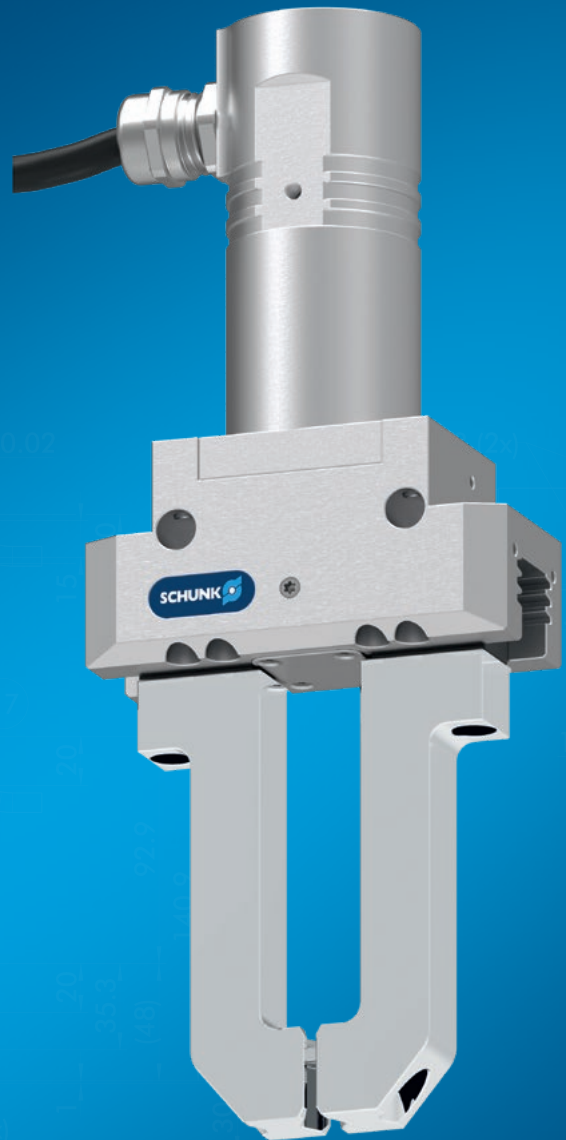
**With external electronics** for simple integration into existing servo controlled concepts via PROFINET

**Pre-positioning capability** to reduce cycle times through a short working stroke

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

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

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



Sizes  
Quantity: 3



Weight  
0.84 .. 3.4 kg



Gripping force  
400 .. 1000 N



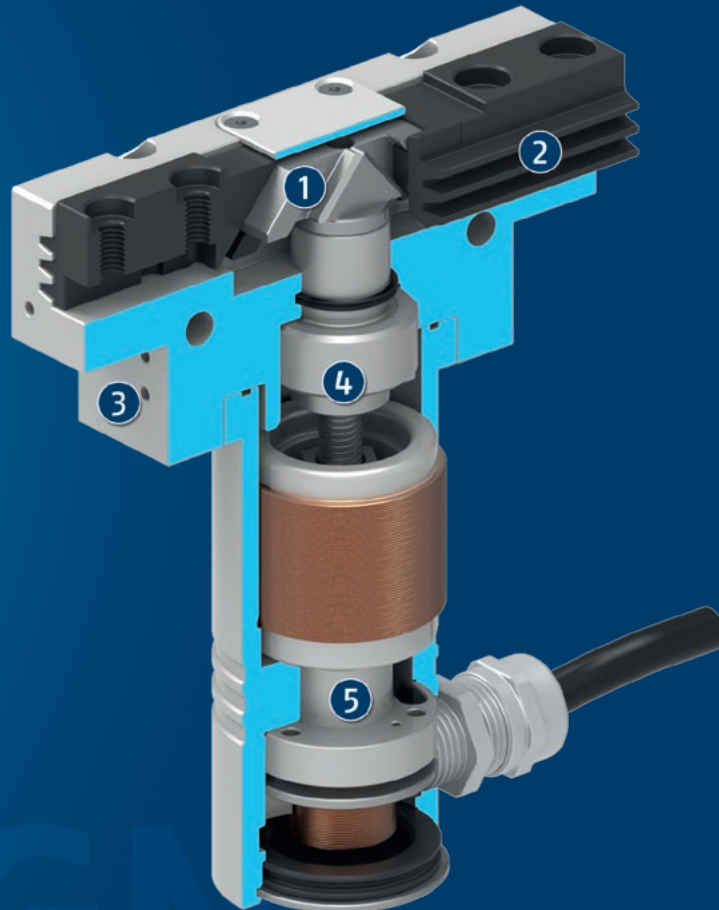
Stroke per jaw  
8 .. 16 mm



Workpiece weight  
2 .. 5 kg

## Functional description

The spindle nut which is mounted on bearings, transfers the rotary motion of the servomotor into an axial motion. The angled active surfaces of the wedge-hook produce a synchronized, parallel jaw motion.



- ① **Wedge-hook design**  
for high force transmission and centric gripping
- ② **Multi-tooth guidance**  
precise gripping even with longer gripper fingers due to a heavy-duty base jaw with minimal play
- ③ **Housing**  
is weight-optimized due to the use of high-strength aluminum alloy
- ④ **Spindle nut**  
transforms the rotational movement into the axial movement of the wedge-hook
- ⑤ **Drive**  
DC servomotor with resolver

## General notes about the series

**Operating principle:** Wedge-hook kinematics

**Housing material:** Aluminum alloy, coated

**Base jaw material:** Steel

**Actuation:** servo-electric, via brushless DC servomotor and spindle drive

**Warranty:** 24 months

**Service life characteristics:** on request

**Scope of delivery:** Enclosed accessory pack with centering sleeves, assembly and operating manual with installation instructions. An external ECM controller is required for operating the gripper EGN Connection cables are also required for the plug version EGN-S. The controller and the connection cables are not included in the scope of delivery and have to be ordered separately.

**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.

**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.

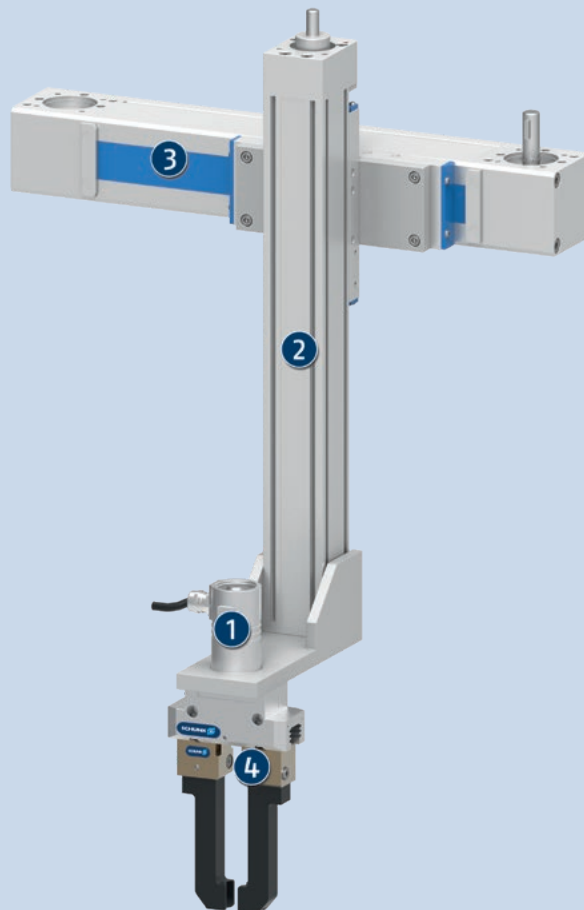
**Closing and opening times:** Minimum closing and opening times are merely the movement times of the base jaws or fingers at max. speed, max. acceleration, without current limitation (maximum current), and observance of the maximum permissible mass per finger.

**Nominal currents:** can be permanently actuated. With regard to all the currents which are ranging above the nominal current up to the maximum current, the notes of the individual product documentation has to be respected.

## Application example

Completely electrically actuated axis gantry for loading and unloading pallets with various greatly differing components.

- ① Servo-electric 2-finger parallel gripper EGN
- ② Vertical axis with spindle drive Beta
- ③ Beta belt-driven axes
- ④ Jaw quick-change system BSWS



## SCHUNK offers more ...

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



Controller



Jaw quick-change system



Finger blank



Protection cover

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

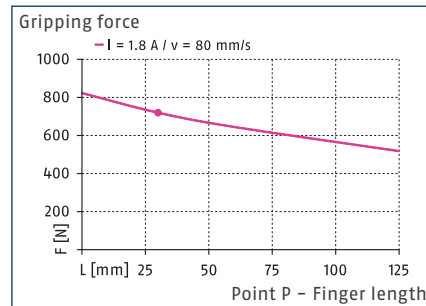
**Control via external controller ECM:** The electrical control of the gripper takes place via the separately available controller ECM. The controller can be incorporated into the higher level control concept via PROFINET. The communication interfaces ensure simple integration into the higher level control system and enable the design of industrial bus topologies.

**Plug version EGN-S:** Plug version EGN-S is available for the ECM controller in addition to the standard variant with 5 m attached connection cable. The gripper has a 30 cm cable and stepped Y-plug in this version. Cable track-compatible or robot-compatible power and sensor cables have to be ordered separately.

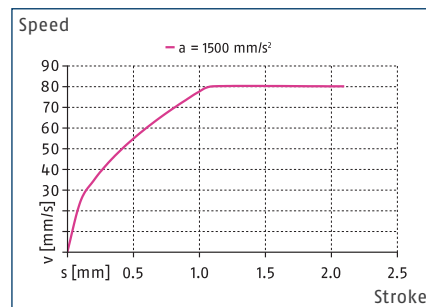
**Dustproof version SD:** absolutely dustproof, increased degree of protection against ingress of materials.



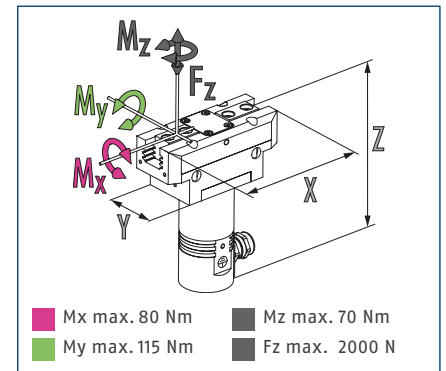
### Gripping force



### Speed



### Dimensions and maximum loads



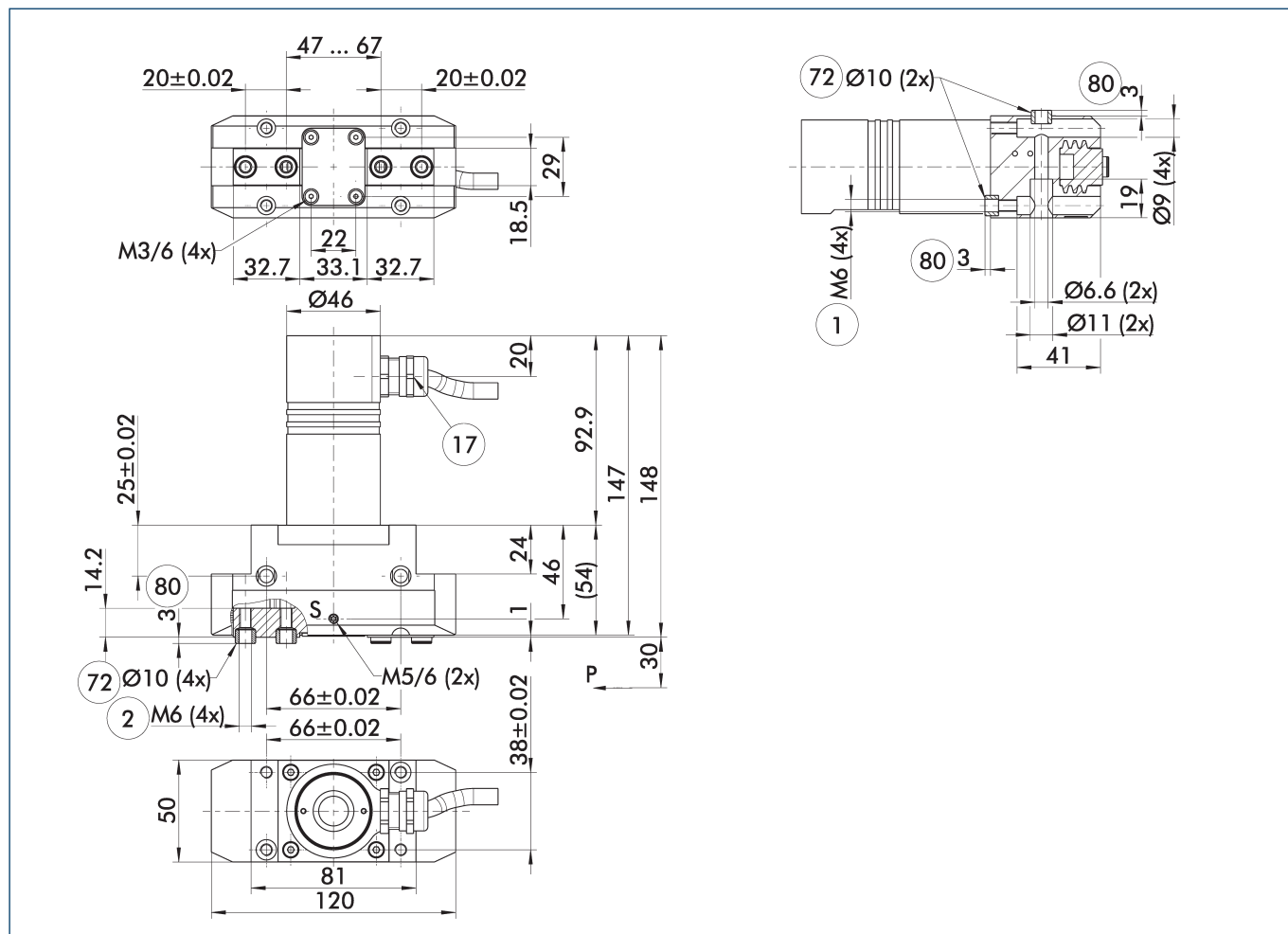
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

### Technical data

Description		EGN 100	EGN 100-S
ID		0306101	0306105
<b>General operating data</b>			
Stroke per jaw	[mm]	10	10
Min./max. gripping force	[N]	170/720	170/720
Recommended workpiece weight	[kg]	3.6	3.6
Max. permissible finger length	[mm]	125	125
Max. permissible mass per finger	[kg]	1.1	1.1
Repeat accuracy	[mm]	±0.01	±0.01
Min./max. air purge pressure	[bar]	0.5/1	0.5/1
Closing/opening time	[s]	0.35/0.35	0.35/0.35
Max. speed	[mm/s]	80	80
Max. acceleration	[mm/s <sup>2</sup> ]	1500	1500
Weight	[kg]	1.35	1.35
Min./max. ambient temperature	[°C]	5/55	5/55
IP protection class		41	41
Dimensions X x Y x Z	[mm]	120 x 50 x 148	120 x 50 x 148
<b>Electrical operating data</b>			
Nominal voltage	[V DC]	24	24
Nominal current	[A]	1.8	1.8
Max. current	[A]	4	4
Controller electronics		external	external
Controller type		ECM-EGN100	ECM-EGN100
Communication interface		See controller ECM	See controller ECM
<b>Options and their characteristics</b>			
Dustproof version		37306101	37306105
IP protection class		64	64
Weight	[kg]	1.53	1.53

① Plug version EGN-S is available for the ECM controller in addition to the standard variant with 5 m attached connection cable. The gripper has a 30 cm cable and stepped Y-plug in this version. Cable track-compatible or robot-compatible power and sensor cables have to be ordered separately.

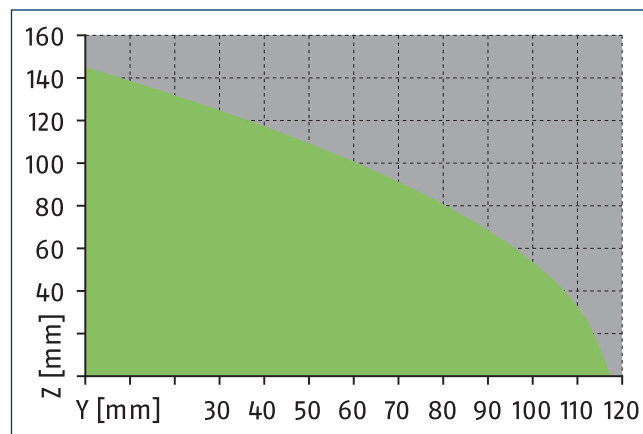
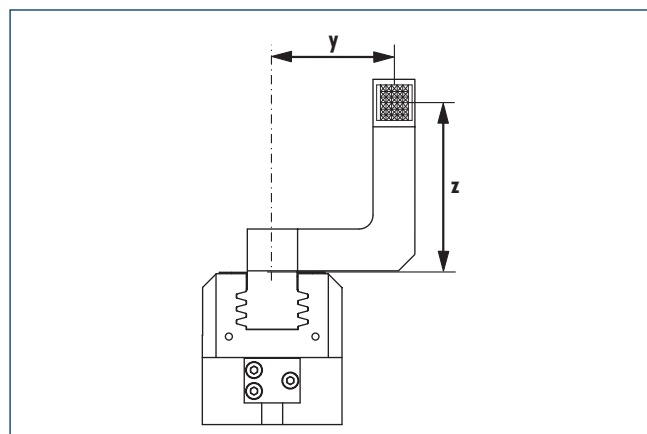
## Main view



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

- ① Gripper connection
- ② Finger connection
- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧② Depth of the centering sleeve hole in the counter part
- S Air purge connection

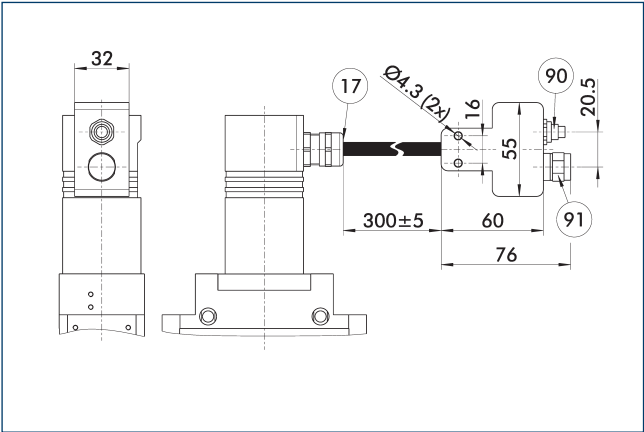
## Maximum permitted finger projection



■ 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.

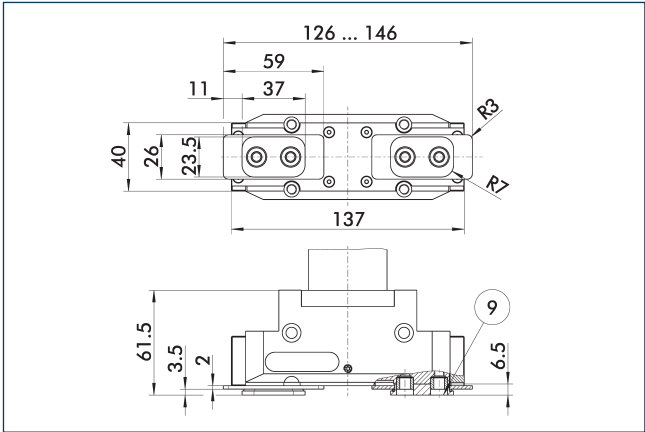
Plug version



- 17 Cable outlet  
90 Sensor plug (M12) for sensor cable  
91 Motor plug (M17) for power cable

The drawing shows the plug version. It comprises a Y-plug and approximately 30 cm of cable between the module and plug.

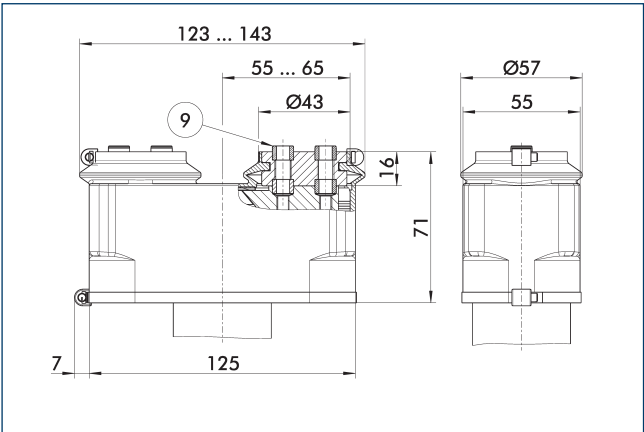
Dustproof version



- 9 For mounting screw connection diagram, see basic version

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

Protective cover HUE EGN 100

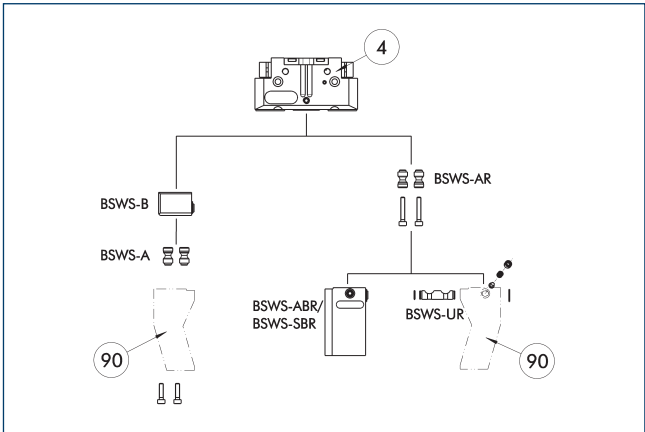


- 9 For mounting screw connection diagram, see basic version

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

Description	ID	IP protection class
Protection cover		
HUE EGN 100	0307041	65

BSWS jaw quick-change jaw systems



- 4 Grippers  
90 Customized gripper fingers

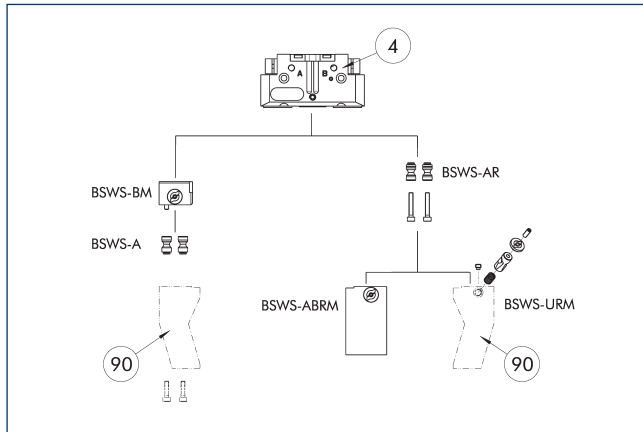
There are various jaw quick-change systems available for the gripper. For detailed information, please refer to the corresponding product.

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
Quick-change jaw system base		
BSWS-B 100	0303027	1
Jaw quick-change system finger blank		
BSWS-ABR-PGZN-plus 100	0300074	1
BSWS-SBR-PGZN-plus 100	0300084	1
Jaw quick-change system locking mechanism		
BSWS-UR 100	0302993	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

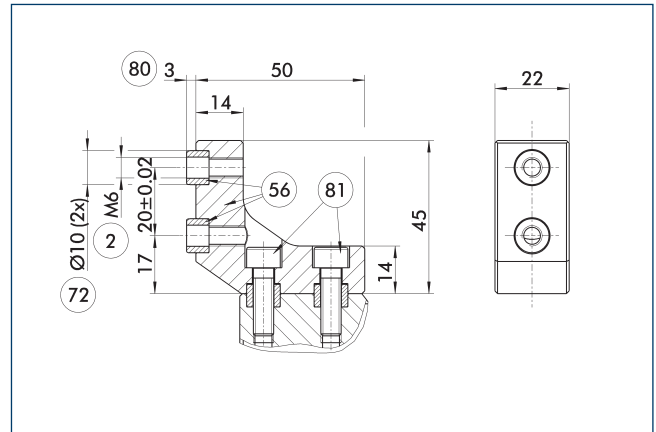
⑨ Customized gripper fingers

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

Description	ID	Scope of delivery
Jaw quick-change system adapter pin		
BSWS-A 100	0303026	2
BSWS-AR 100	0300094	2
Quick-change jaw system base		
BSWS-BM 100	1313902	1
Jaw quick-change system finger blank		
BSWS-ABRM-PGZN-plus 100	1420853	1
Jaw quick-change system locking mechanism		
BSWS-URM 100	1398403	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.

## ZBA-L-plus 100 intermediate jaws



② Finger connection

⑤ Included in the scope of delivery

⑦ Fit for centering sleeves

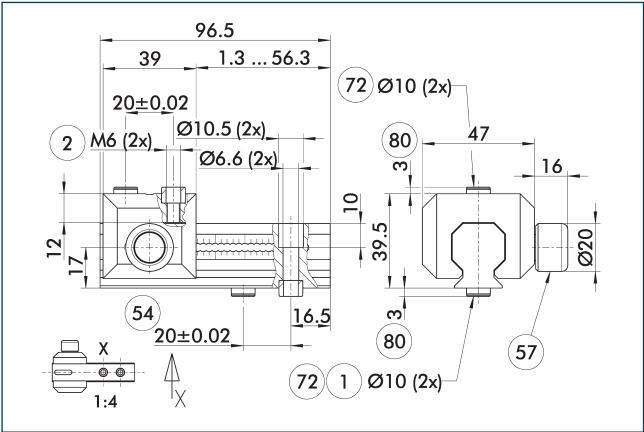
⑧ Depth of the centering sleeve hole in the counter part

⑧ Not included in the scope of delivery

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

Description	ID	Material	Finger interface	Scope of delivery
Intermediate jaw				
ZBA-L-plus 100	0311742	Aluminum	PGN-plus 100	1

UZZ 100 universal intermediate jaw



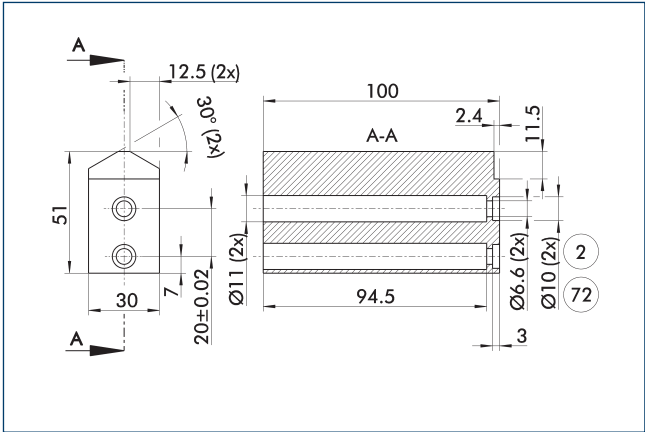
- ① Gripper connection
- ② Finger connection
- ⑤4 Optional right or left connection
- ⑤7 Locking
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part

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

Description	ID	Grid dimension
		[mm]
Universal intermediate jaw		
UZZ 100	0300044	2.5
Finger blank		
ABR-PGZN-plus 100	0300012	
SBR-PGZN-plus 100	0300022	
Slide for universal intermediate jaw		
UZZ-S 100	5518272	2.5

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

Finger blanks ABR- / SBR-PGZN-plus 100



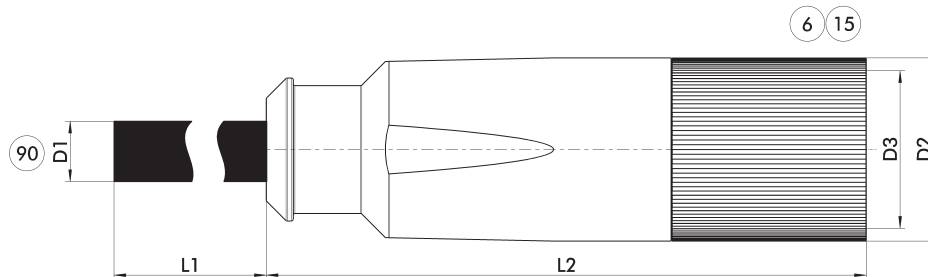
- ② Finger connection
- ⑦2 Fit for centering sleeves

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-PGZN-plus 100	0300012	Aluminum (3.4365)	1
SBR-PGZN-plus 100	0300022	Steel (1.7131)	1

- 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.

### Power cable



Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

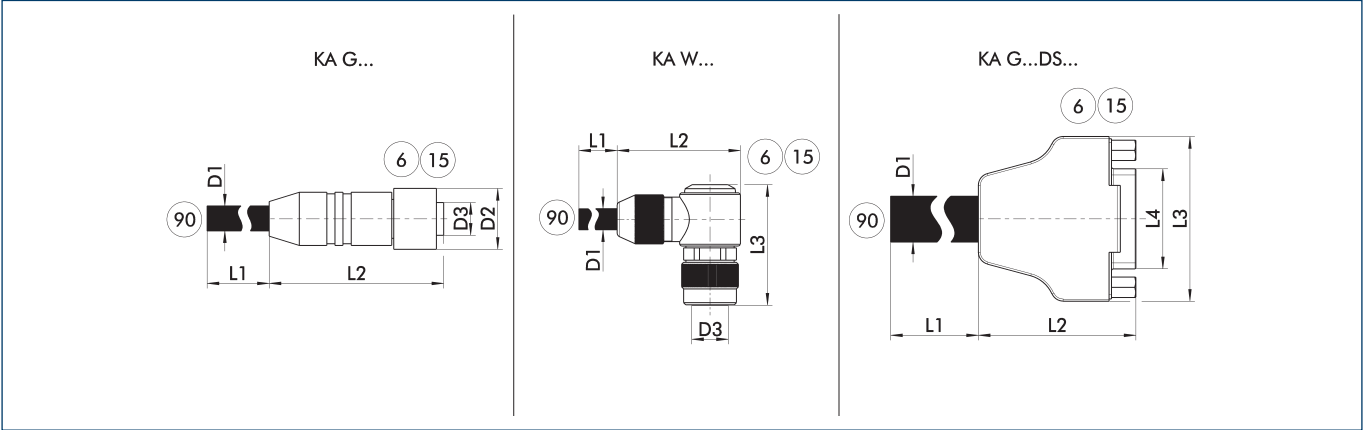
⑥ Connection module side  
⑮ Socket

⑨⑩ Prefabricated to connect to the higher-level components

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Power cable for SCHUNK ECM - cable track compatible						
KA GLN1707-LK-00500-7	0306480	5	8.4	54	21	M17
KA GLN1707-LK-01000-7	0306481	10	8.4	54	21	M17
KA GLN1707-LK-01500-7	0306482	15	8.4	54	21	M17
KA GLN1707-LK-02000-7	0306483	20	8.4	54	21	M17
Power cable für SCHUNK ECM - torsion compatible						
KAR GLN1707-LK-00500-7	0306485	5	8.2	54	21	M17
KAR GLN1707-LK-01000-7	0306486	10	8.2	54	21	M17
KAR GLN1707-LK-01500-7	0306487	15	8.2	54	21	M17
KAR GLN1707-LK-02000-7	0306488	20	8.2	54	21	M17

① Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

Encoder cable



- KA G... encoder cable with straight plug
- KA W... encoder cable with angled plug
- KA G...DS... Sub D encoder cable
- 6 Connection module side
- 15 Socket
- 90 Prefabricated for connection to the drive controller

Connection cables such as power cables and encoder cables are specifically designed for connecting SCHUNK products with drive control units. We will gladly help you to select the right connection cables.

Description	ID	L1	D1	L2	D2	D3
		[m]	[mm]	[mm]	[mm]	
Sensor cable for SCHUNK ECM – cable track compatible						
KA GLN1208-GK-00500-7	0306470	5	9.7	57	20	M12
KA GLN1208-GK-01000-7	0306471	10	9.7	57	20	M12
KA GLN1208-GK-01500-7	0306472	15	9.7	57	20	M12
KA GLN1208-GK-02000-7	0306473	20	9.7	57	20	M12
Sensor cable for SCHUNK ECM – torsion compatible						
KAR GLN1208-GK-00500-7	0306475	5	8.6	57	20	M12
KAR GLN1208-GK-01000-7	0306476	10	8.6	57	20	M12
KAR GLN1208-GK-01500-7	0306477	15	8.6	57	20	M12
KAR GLN1208-GK-02000-7	0306478	20	8.6	57	20	M12

Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.





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