



Superior Clamping and Gripping



Product Information

Rotary gripping module with parallel gripper EGS

Easy. Fast. Compact.

Gripper swivel Module EGS

Electric, 2-finger, parallel gripper swivel module with smoothly running base jaws guidance on roller bearings

Field of application

Gripping and moving of small to medium-sized workpieces with flexible force and high speed in clean environments, such as assembly, testing, laboratory and pharmaceutical industry

Advantages – Your benefits

Control via digital I/O for easy commissioning and rapid integration into existing systems.

Almost no wear parts for high machine uptime and low operating costs

Small required space as the rotary drive and gripper are merged in one compact module

Two to four stage adjustable gripping force for simple adaption to sensitive workpieces

Four stage adjustable rotational speed for high flexibility in cycle times

Very high maximum cycles per minute for highest productivity

Backlash-free, pre-loaded cross roller guide for precise gripping with nearly constant force for all permissible finger lengths

Standardized mounting bores for numerous combinations with other components from the modular system



Sizes
Quantity: 2



Weight
0.45 .. 1.2 kg



Gripping force
30 .. 140 N



Stroke per jaw
3 .. 6 mm



Torque
0.04 .. 0.115 Nm

Functional description

The gripper swivel module has two stationary brushless servomotor drives. The outer motor rotates the gripper. The inner motor drives the base jaw of the gripper. The jaw stroke is synchronized by a rack and pinion kinematic.



- ① **Base Jaw**
for the connection of workpiece-specific gripper fingers
- ② **Cross roller guidance**
precise gripping due to backlash-free base jaw guidance
- ③ **Sensor system**
Inductive monitoring of swiveling and gripping movement
- ④ **Drives**
Brushless DC servomotors
- ⑤ **Control electronics**
integrated control and power electronics for decentralized actuation of the servomotors

General notes about the series

Operating principle: Rack and pinion principle

Housing material: Aluminum alloy, coated

Base jaw material: Steel

Actuation: servo-electric, via brushless DC servomotors

Warranty: 24 months

Service life characteristics: on request

Scope of delivery: Enclosed pack with centering sleeves, mount for proximity switch, assembly and operating manual with Declaration of Incorporation.

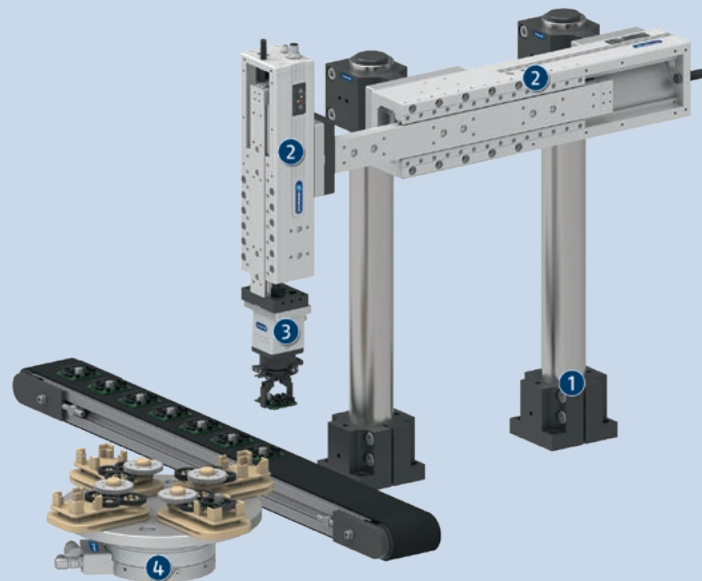
Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

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, opening and swiveling times: are pure movement times of the module. PLC reaction times are not included and have to be considered when the cycle times are determined.



Application example

Electrically driven pick & place unit with gripper swivel module for simultaneous turning and shifting of electronic components.

- ① Pillar assembly system
- ② Electric linear module ELP

- ③ Electric gripper swivel module EGS
- ④ Universal rotary module ERS

SCHUNK offers more ...

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



Linear module



Pick & Place Unit



Gripper for small components



Pillar assembly system



Connection cables



Inductive proximity switches



Finger blank

① For more information on these products can be found on the following product pages or at schunk.com.

Options and special information

Manually adjustable gripping force: With an integrated rotary switch, the gripping force can be adjusted in two stages for the EGS 25 – 100% and 50%, and in four stages for EGS 40 – 100%, 75%, 50%, and 25%.

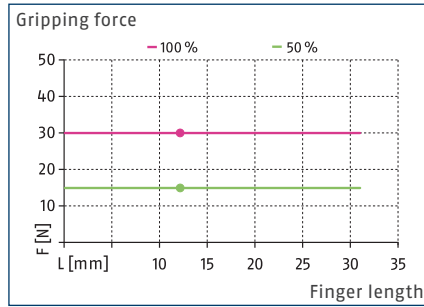
Manually adjustable rotational speed: With an integrated rotary switch, the rotational speed can be adjusted in four stages – 100%, 75%, 50%, and 25%.

Optional status monitoring via external sensor system: The status of the gripping and swiveling movements can be monitored by external sensors.

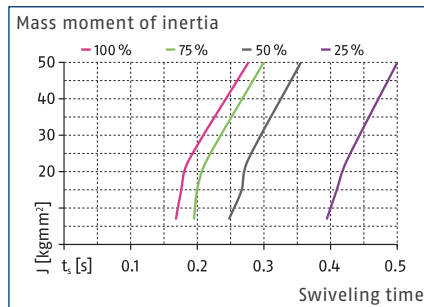
KA connection cable: Connection cables with an angled or a straight female connector can be ordered in various lengths to connect the module with the power supply and higher-level control system.



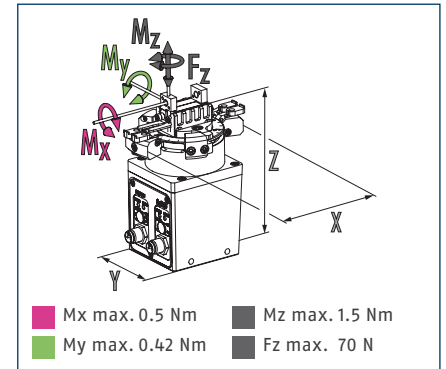
Gripping force



Swiveling time* 180°



Dimensions and maximum loads



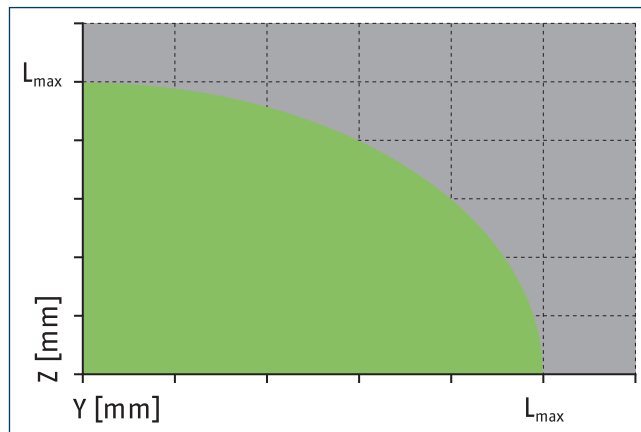
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

| Description | | EGS 25-N-N-B |
|---|---------|------------------|
| ID | | 0310820 |
| General operating data | | |
| Stroke per jaw | [mm] | 3 |
| Min./max. gripping force | [N] | 15/30 |
| Nominal torque | [Nm] | 0.04 |
| Min./max. angle of rotation | [°] | 30/270 |
| Recommended workpiece weight | [kg] | 0.15 |
| Max. permissible finger length | [mm] | 32 |
| Max. permissible weight per finger | [kg] | 0.02 |
| Max. permissible mass moment of inertia | [kgmm²] | 50 |
| Repeat accuracy for gripping | [mm] | 0.02 |
| Repeat accuracy for swiveling | [°] | ±0.5 |
| Closing/opening time | [s] | 0.05/0.05 |
| Weight | [kg] | 0.45 |
| Min./max. ambient temperature | [°C] | 5/55 |
| IP protection class | | 30 |
| Noise emission | [dB(A)] | <70 |
| Dimensions X x Y x Z | [mm] | 69.8 x 45 x 88.8 |
| Electrical operating data | | |
| Controller electronics | | integrated |
| Nominal voltage | [V] | 24 |
| Nominal current | [A] | 0.8 |
| Max. current | [A] | 1.2 |
| Communication interface | | Digital inputs |

* *The diagram is valid for applications with vertical rotary axis or for absolutely centric loads with horizontal rotary axis. We will gladly support you in designing further applications.

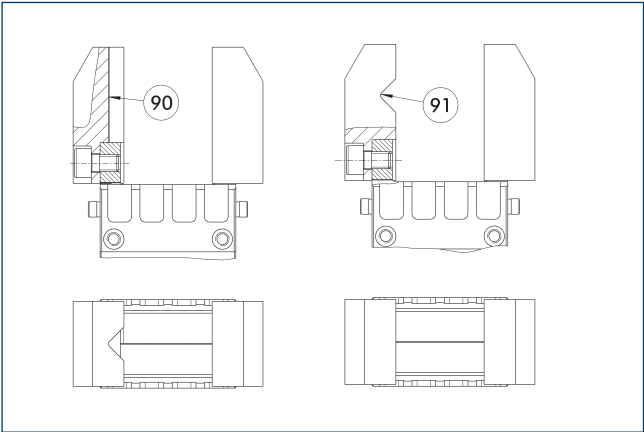
| | |
|------------------------------------|---|
| ① Connection gripper swivel module | ⑦③ Fit for centering pins |
| ② Finger connection | ⑧① Depth of the centering sleeve hole in the counter part |
| ⑤① Electrical connection | ⑨① Sensor IN ... |
| ⑦② Fit for centering sleeves | |



Permitted range
 Inadmissible range

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

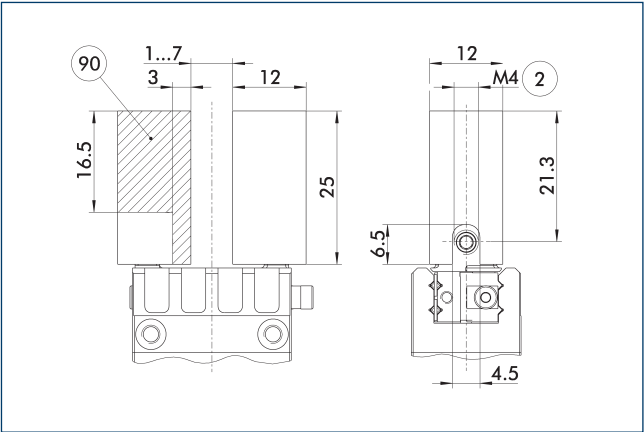
Jaw design



90 Vertically positioned prism 91 Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Finger blanks with BSWS ABR-BSWS-MPG-plus 25

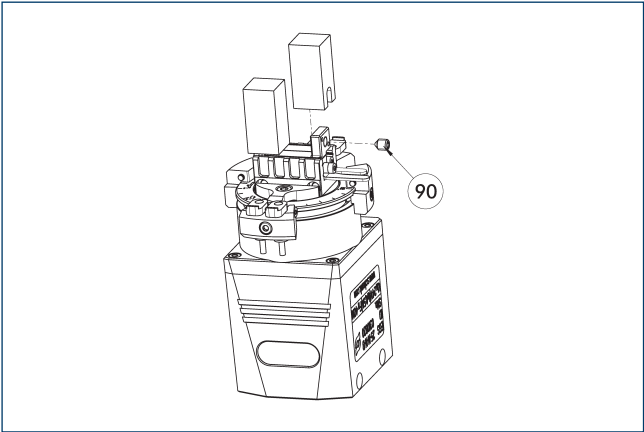


2 Finger connection 90 Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

| Description | ID | Scope of delivery |
|---|---------|-------------------|
| Finger blank with jaw quick-change system | | |
| ABR-BSWS-MPG-plus 25 | 0302894 | 2 |

Finger blanks with BSWS

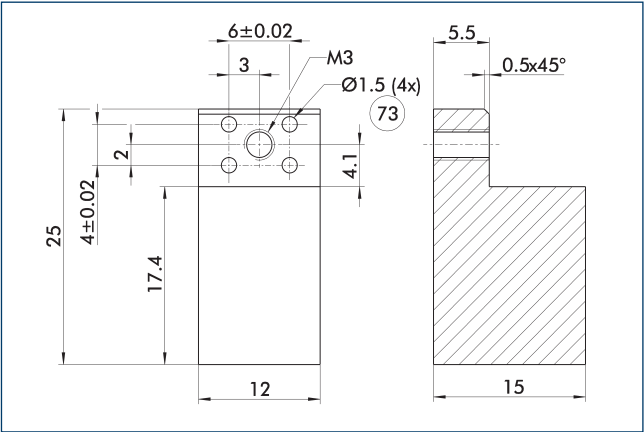


90 Included in the scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

| Description | ID | Scope of delivery |
|---|---------|-------------------|
| Finger blank with jaw quick-change system | | |
| ABR-BSWS-MPG-plus 25 | 0302894 | 2 |

Finger blanks ABR-MPG-plus 25

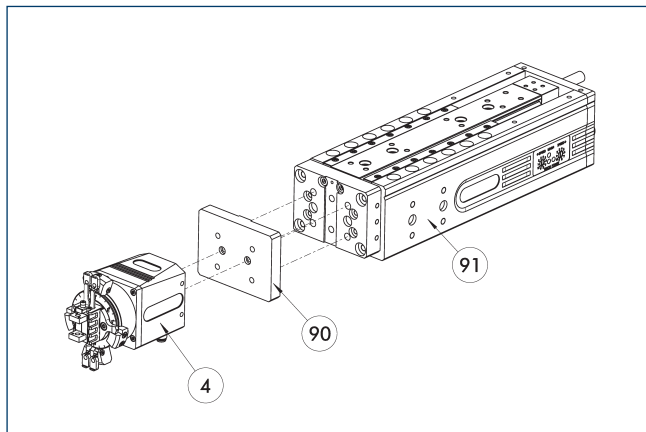


73 Fit for centering pins

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

| Description | ID | Material | Scope of delivery |
|-----------------|---------|-------------------|-------------------|
| Finger blank | | | |
| ABR-MPG-plus 25 | 0340211 | Aluminum (3.4365) | 2 |

Modular Assembly Automation



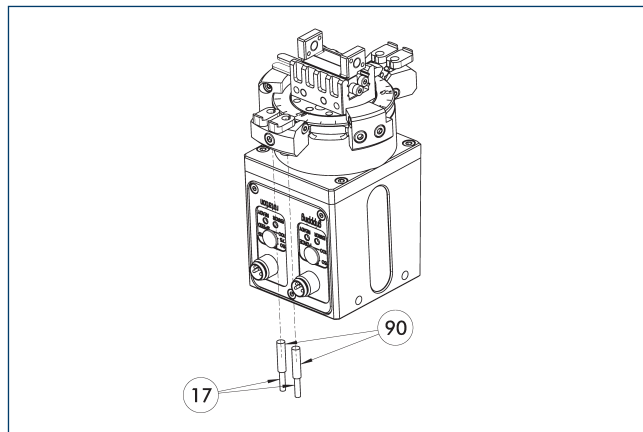
④ Rotary gripper module

⑨⑩ ASG adapter plate

⑨① 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



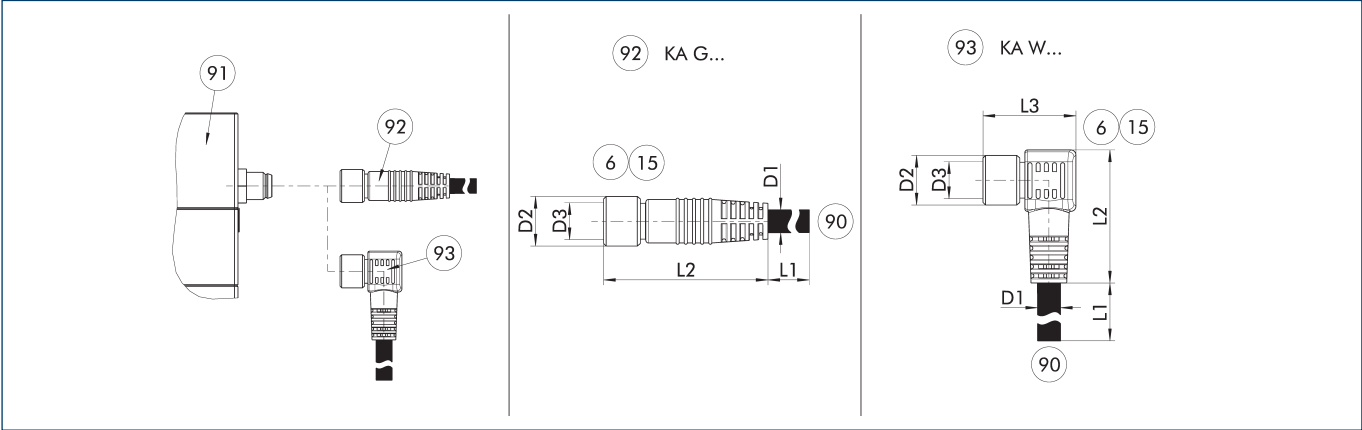
①⑦ Cable outlet

⑨⑩ Sensor IN ...

| Description | ID | Often combined |
|-------------------------------------|---------|----------------|
| Inductive proximity switches | | |
| IN 30K-S-M8-PNP | 1001272 | |
| 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 Four sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Voltage supply/signals connection cable



- KA G...

Connection cable with straight socket
- KA W...

Connection cable with angular socket
- 6

Connection module side
- 15

Socket
- 90

SAC connection cable with open wire strands
- 91

Connection plug component
- 92

Cable with straight female connector
- 93

Cable with angled female connector

The connection cable is ideal for connecting the corresponding components to the controller or the power supply unit. The connection cable has a 4-pin M8 socket on one side and an open wire strand on the other side for individual connections. The connection cables are suitable for use both in the cable track as well as in torsion applications.

| Description | ID | L1 [m] | D1 [mm] | L2 [mm] | D2 [mm] | L3 [mm] | D3 | Often combined |
|---|---------|-----------|------------|------------|------------|------------|----|----------------|
| Voltage supply/signals connection cable – drag chain and torsion resistant, M8 socket, straight | | | | | | | | |
| KA GLN0804-IO-00200-A | 1310371 | 2 | 4.8 | 33.7 | 10 | | M8 | |
| KA GLN0804-IO-00500-A | 1310375 | 5 | 4.8 | 33.7 | 10 | | M8 | ● |
| KA GLN0804-IO-01000-A | 1310379 | 10 | 4.8 | 33.7 | 10 | | M8 | |
| KA GLN0804-IO-02000-A | 1442994 | 20 | 4.5 | 32 | 10 | | M8 | |
| Voltage supply/signals connection cable – drag chain and torsion resistant, M8 socket, angled | | | | | | | | |
| KA WLN0804-IO-00200-A | 1310372 | 2 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-00500-A | 1310376 | 5 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-01000-A | 1310381 | 10 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-02000-A | 1442996 | 20 | 4.5 | 25 | 10 | 20 | M8 | |

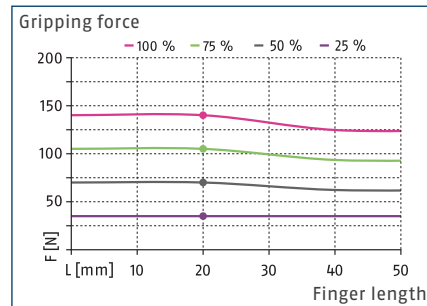
ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m.

EGS 40

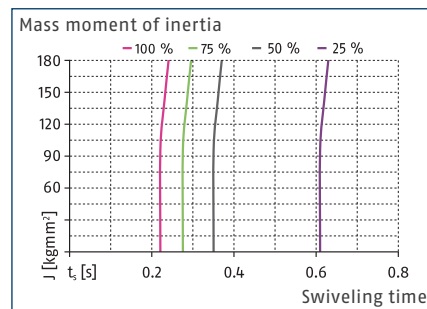
Rotary gripping module with parallel gripper



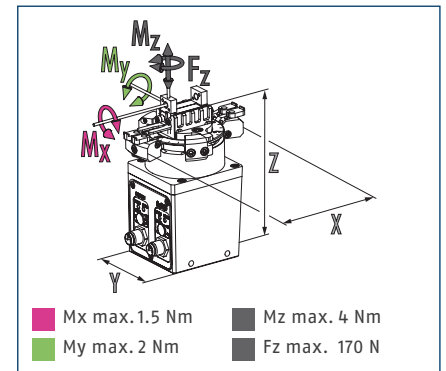
Gripping force



Swiveling time* 180°



Dimensions and maximum loads



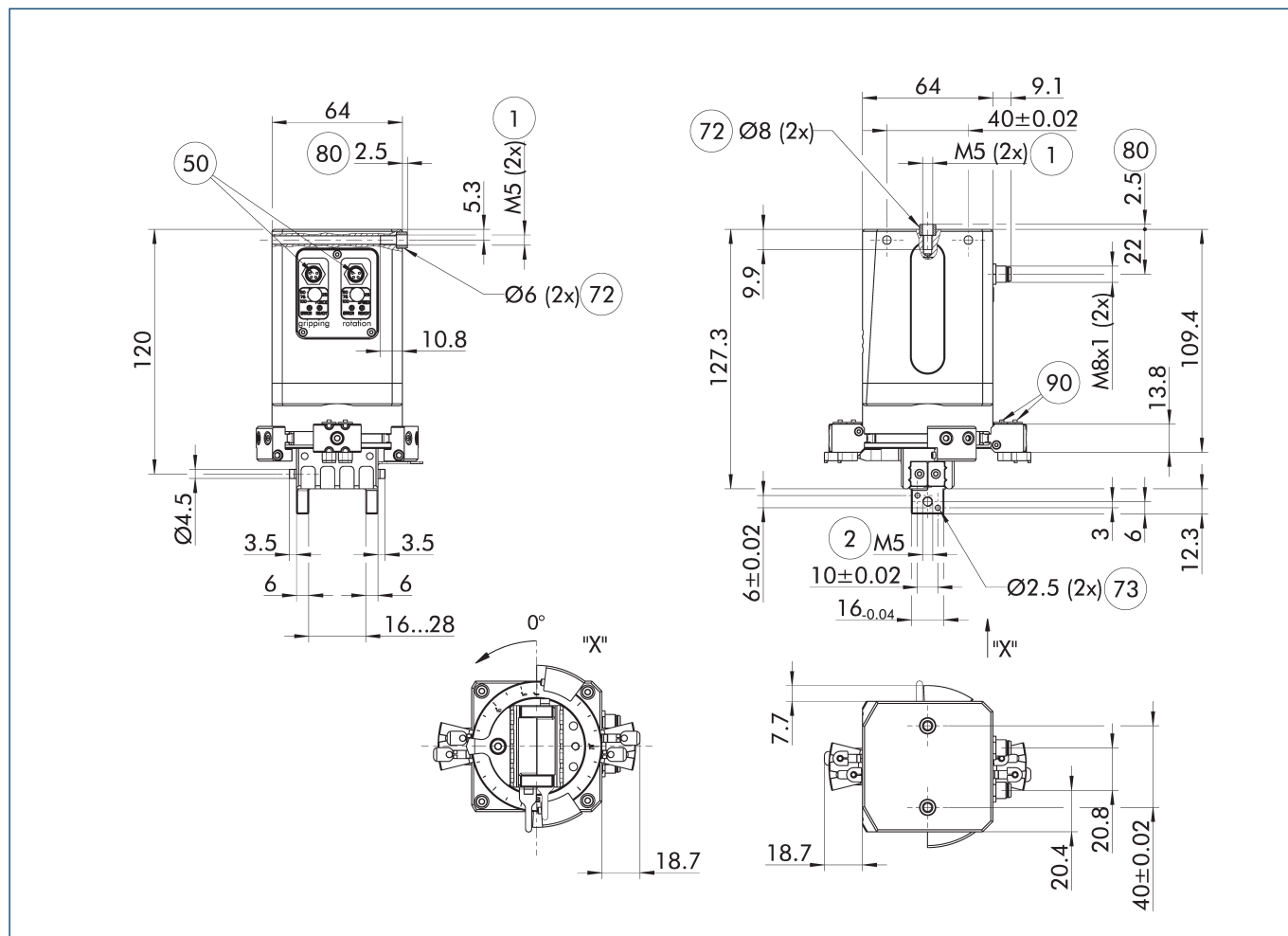
① The indicated moments and forces are static values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

| Description | | EGS 40-N-N-B |
|---|---------|--------------------|
| ID | | 1321043 |
| General operating data | | |
| Stroke per jaw | [mm] | 6 |
| Min./max. gripping force | [N] | 35/140 |
| Nominal torque | [Nm] | 0.115 |
| Min./max. angle of rotation | [°] | 30/270 |
| Recommended workpiece weight | [kg] | 0.55 |
| Max. permissible finger length | [mm] | 50 |
| Max. permissible weight per finger | [kg] | 0.08 |
| Max. permissible mass moment of inertia | [kgmm²] | 180 |
| Repeat accuracy for gripping | [mm] | 0.02 |
| Repeat accuracy for swiveling | [°] | ±0.5 |
| Closing/opening time | [s] | 0.16/0.16 |
| Weight | [kg] | 1.2 |
| Min./max. ambient temperature | [°C] | 5/55 |
| IP protection class | | 30 |
| Noise emission | [dB(A)] | <70 |
| Dimensions X x Y x Z | [mm] | 101.4 x 64 x 127.3 |
| Electrical operating data | | |
| Controller electronics | | integrated |
| Nominal voltage | [V] | 24 |
| Nominal current | [A] | 1 |
| Max. current | [A] | 2 |
| Communication interface | | Digital inputs |

* *The diagram is valid for applications with vertical rotary axis or for absolutely centric loads with horizontal rotary axis. We will gladly support you in designing further applications.

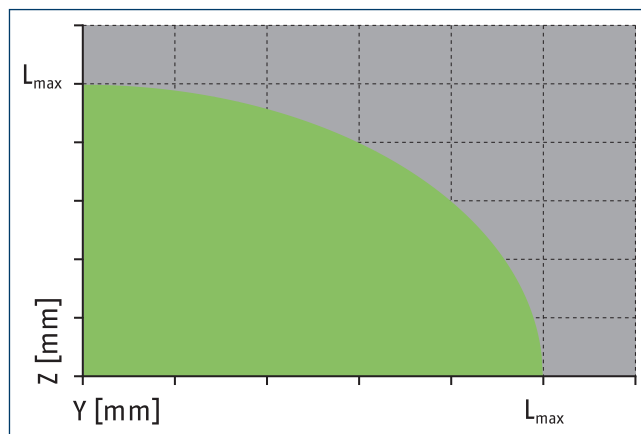
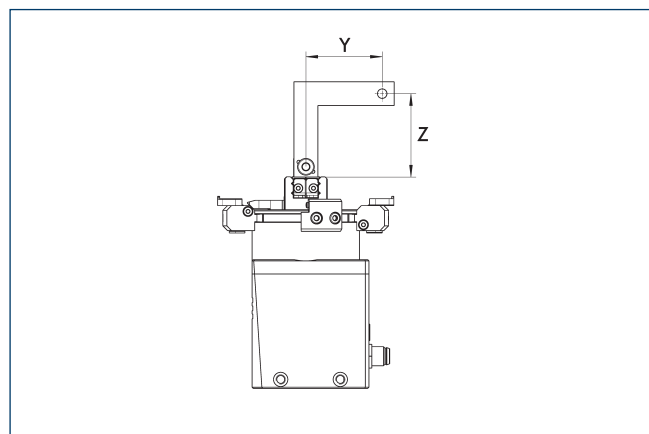
Main view



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

- | | |
|------------------------------------|---|
| ① Connection gripper swivel module | ⑦③ Fit for centering pins |
| ② Finger connection | ⑧① Depth of the centering sleeve hole in the counter part |
| ⑤① Electrical connection | ⑨① Sensor IN ... |
| ⑦② Fit for centering sleeves | |

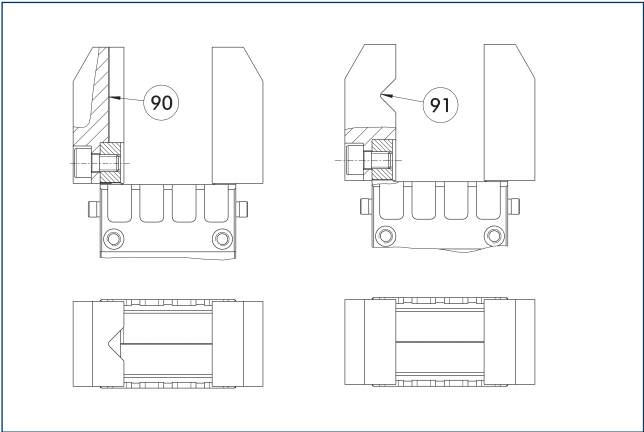
Maximum permitted finger projection



■ Permitted range ■ Inadmissible range

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

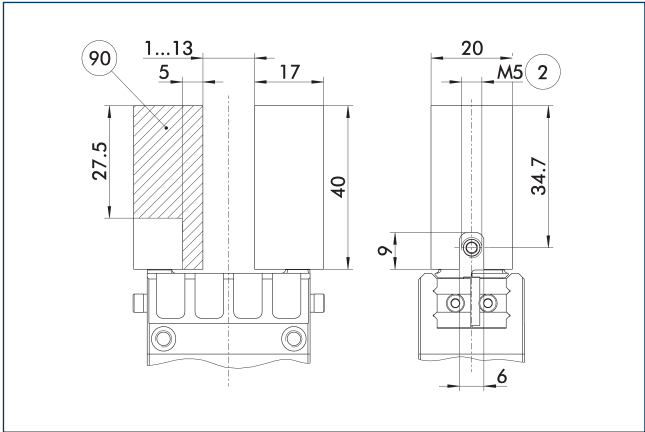
Jaw design



90 Vertically positioned prism 91 Horizontally positioned prism

A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Finger blanks with BSWS ABR-BSWS-MPG-plus 40

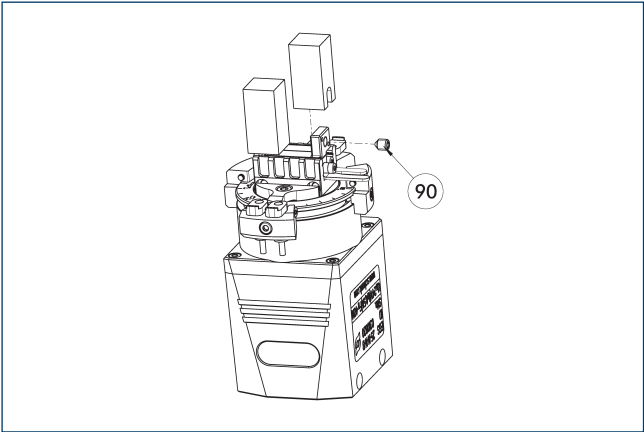


2 Finger connection 90 Machining volume

Finger blanks for customized subsequent machining with integrated jaw quick-change system for precise and fast finger changes.

| Description | ID | Scope of delivery |
|---|---------|-------------------|
| Finger blank with jaw quick-change system | | |
| ABR-BSWS-MPG-plus 40 | 0302896 | 2 |

Finger blanks with BSWS

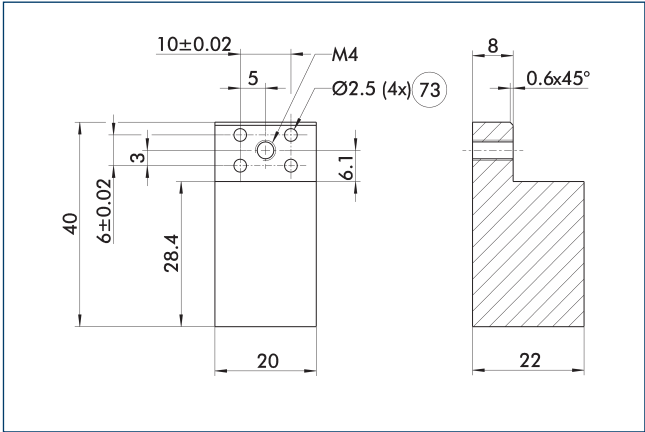


90 Included in the scope of delivery

The finger blanks with jaw quick-change system allow fast and manual gripper finger changes. The mechanical interface to the gripper is already integrated. Only the specific workpiece geometry needs to be machined into the finger blank.

| Description | ID | Scope of delivery |
|---|---------|-------------------|
| Finger blank with jaw quick-change system | | |
| ABR-BSWS-MPG-plus 40 | 0302896 | 2 |

Finger blanks ABR-MPG-plus 40

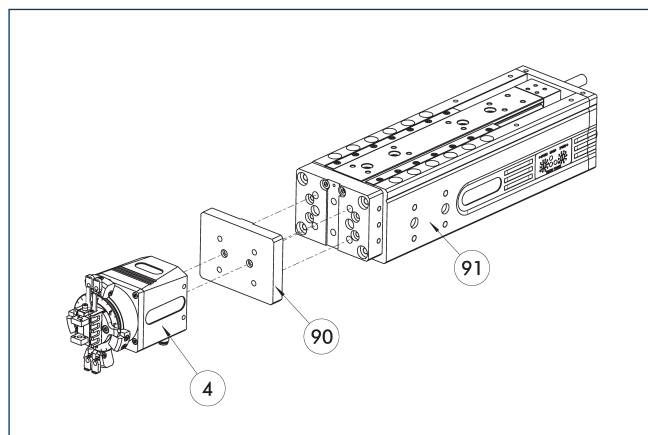


73 Fit for centering pins

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

| Description | ID | Material | Scope of delivery |
|-----------------|---------|-------------------|-------------------|
| Finger blank | | | |
| ABR-MPG-plus 40 | 0340213 | Aluminum (3.4365) | 2 |

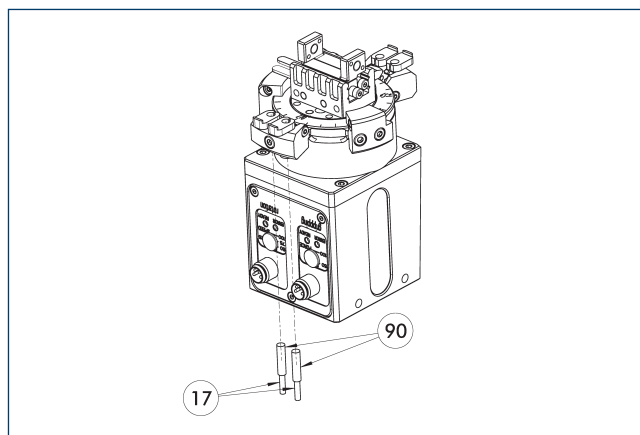
Modular Assembly Automation



- ④ Rotary gripper module ⑨① Linear module CLM/KLM/LM/ELP/ELM/ELS/HLM
 ⑨① ASG adapter plate

Grippers and linear modules can be combined with standard adapter plates from the modular assembly system. For more information see our main catalog "Modular Assembly Automation".

Inductive proximity switches

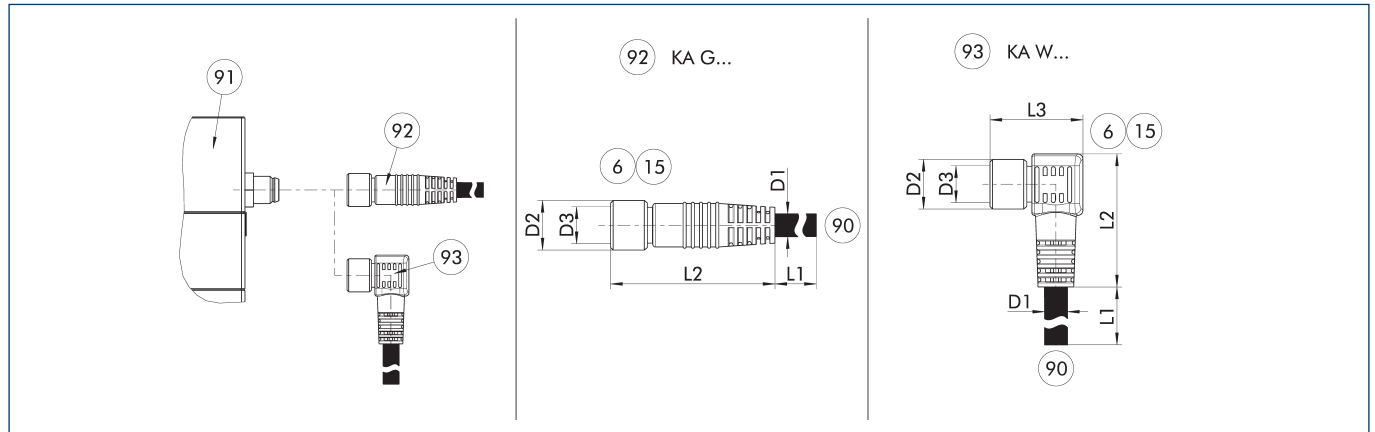


- ①⑦ Cable outlet ⑨① Sensor IN ...

| Description | ID | Often combined |
|-------------------------------------|---------|----------------|
| Inductive proximity switches | | |
| IN 30K-S-M8-PNP | 1001272 | |
| 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 Four sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Voltage supply/signals connection cable



KA G... Connection cable with straight socket
KA W... Connection cable with angular socket

⑥ Connection module side
⑮ Socket
⑨⑩ SAC connection cable with open wire strands

⑨① Connection plug component
⑨② Cable with straight female connector
⑨③ Cable with angled female connector

The connection cable is ideal for connecting the corresponding components to the controller or the power supply unit. The connection cable has a 4-pin M8 socket on one side and an open wire strand on the other side for individual connections. The connection cables are suitable for use both in the cable track as well as in torsion applications.

| Description | ID | L1 [m] | D1 [mm] | L2 [mm] | D2 [mm] | L3 [mm] | D3 | Often combined |
|---|---------|-----------|------------|------------|------------|------------|----|----------------|
| Voltage supply/signals connection cable – drag chain and torsion resistant, M8 socket, straight | | | | | | | | |
| KA GLN0804-IO-00200-A | 1310371 | 2 | 4.8 | 33.7 | 10 | | M8 | |
| KA GLN0804-IO-00500-A | 1310375 | 5 | 4.8 | 33.7 | 10 | | M8 | ● |
| KA GLN0804-IO-01000-A | 1310379 | 10 | 4.8 | 33.7 | 10 | | M8 | |
| KA GLN0804-IO-02000-A | 1442994 | 20 | 4.5 | 32 | 10 | | M8 | |
| Voltage supply/signals connection cable – drag chain and torsion resistant, M8 socket, angled | | | | | | | | |
| KA WLN0804-IO-00200-A | 1310372 | 2 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-00500-A | 1310376 | 5 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-01000-A | 1310381 | 10 | 4.8 | 27.9 | 10 | 18.9 | M8 | |
| KA WLN0804-IO-02000-A | 1442996 | 20 | 4.5 | 25 | 10 | 20 | M8 | |

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.



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Spann- und Greiftechnik

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