



Superior Clamping and Gripping



Product Information

Universal gripper EVG

Smooth. Slim. Flexible.

Universal gripper EVG

Servo-electric 2-finger parallel gripper with sensitive gripping force control and long stroke

Field of application

Versatile, highly flexible gripper for great part variety and sensitive components in clean environments

Advantages – Your benefits

Gripping force control in the range of 24 N – 57 N for the delicate gripping of sensitive workpieces

Large stroke of 50 mm for flexible workpiece handling

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

With external electronics for simple integration into existing control concepts via PROFIBUS-DP, or CAN

Profiled rail guide for the precise handling of different workpieces



Sizes
Quantity: 2



Weight
0.79 .. 1.1 kg



Gripping force
24 .. 57 N



Stroke per jaw
20 .. 50 mm

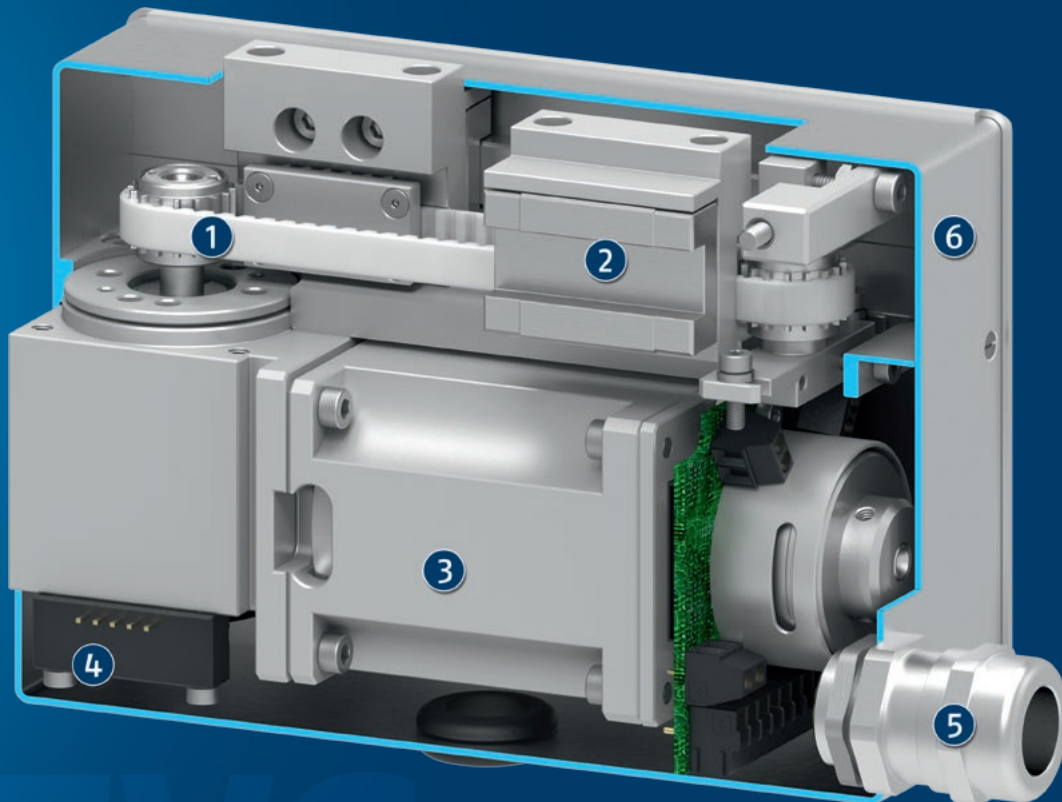


Workpiece weight
0.12 .. 0.28 kg

Functional description

The brushless servomotor drives the toothed belt drive via the bevel gear. The base jaws mounted on the profiled rail guides are connected to the toothed belt. The rotary movement is transferred into a linear movement of the

base jaws via the gear and the toothed belt.



- ① **Kinematics**
scope-free, robust toothed belt drive with steel reinforcement
- ② **Profiled rail guide**
for precise gripping with minimum play, smooth running gripping and low frictional loss
- ③ **Drive**
brushless DC servomotor with hall sensors and bevel gear, incl. holding brake (only stroke variant 100)
- ④ **Encoder**
for gripper positioning and position evaluation
- ⑤ **Cable outlet**
with connection cable to controller MCS-06
- ⑥ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy

General notes about the series

Operating principle: Belt drive

Housing material: Aluminum alloy, coated

Base jaw material: Aluminum alloy, anodized

Actuation: servo-electric, via brushless DC servomotor

Warranty: 24 months

Scope of delivery: Enclosed accessory pack with centering sleeve, assembly and operating manual with declaration of incorporation. An external controller MCS-06 is required for operating the gripper EVG. The connection cable with a length of 3 meters is attached to the gripper. The controller is optionally available and is not included in the scope of not included.

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.

Electrical brake: The built-in, electric holding break is used for fixing and holding the position of the gripper jaws in the event of a power failure. It cannot cover all of the security or gripping force maintenance functions.

Application example

Rotary gripper combination with two sensitive servo-electric parallel grippers for flexible handling of sensitive workpieces

- ① Servo-electric rotary module PRH
- ② Servo-electric 2-finger parallel gripper EVG



SCHUNK offers more ...

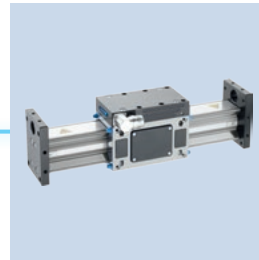
The following components make the product EVG even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Rotation unit



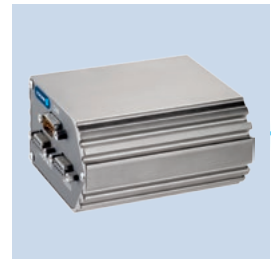
Pan-tilt actuator



Linear module



Quick change system



Controller

① For more information on these products can be found on the following product pages or at schunk.com. Please contact us: SCHUNK technical hotline +49-7133-103-2696

Options and special information

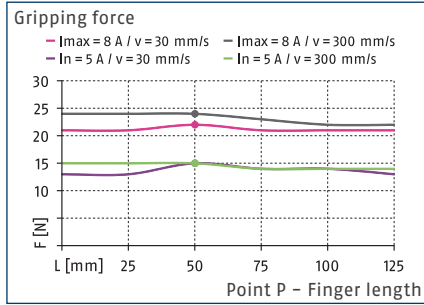
Control via external controller MCS-06: The electrical control of the gripper takes place via the separately available MCS controller. Integration of the controller into the higher level control concept is done via PROFIBUS-DP or CAN. Both communication interfaces ensure simple integration into the higher level control system and enable the design of industrial bus topologies.

EVG 55-40

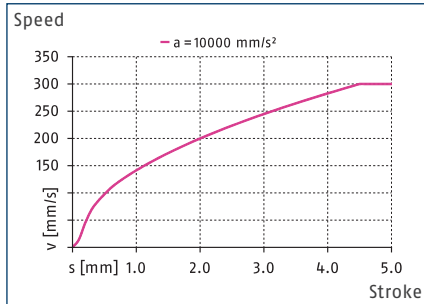
Universal gripper



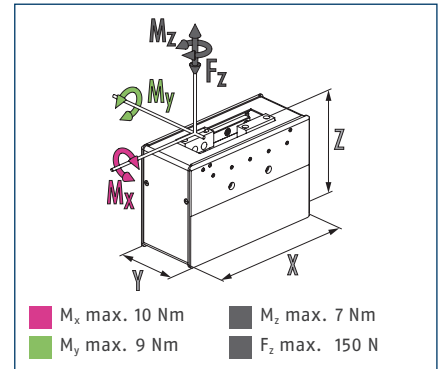
Gripping force



Speed



Dimensions and maximum loads

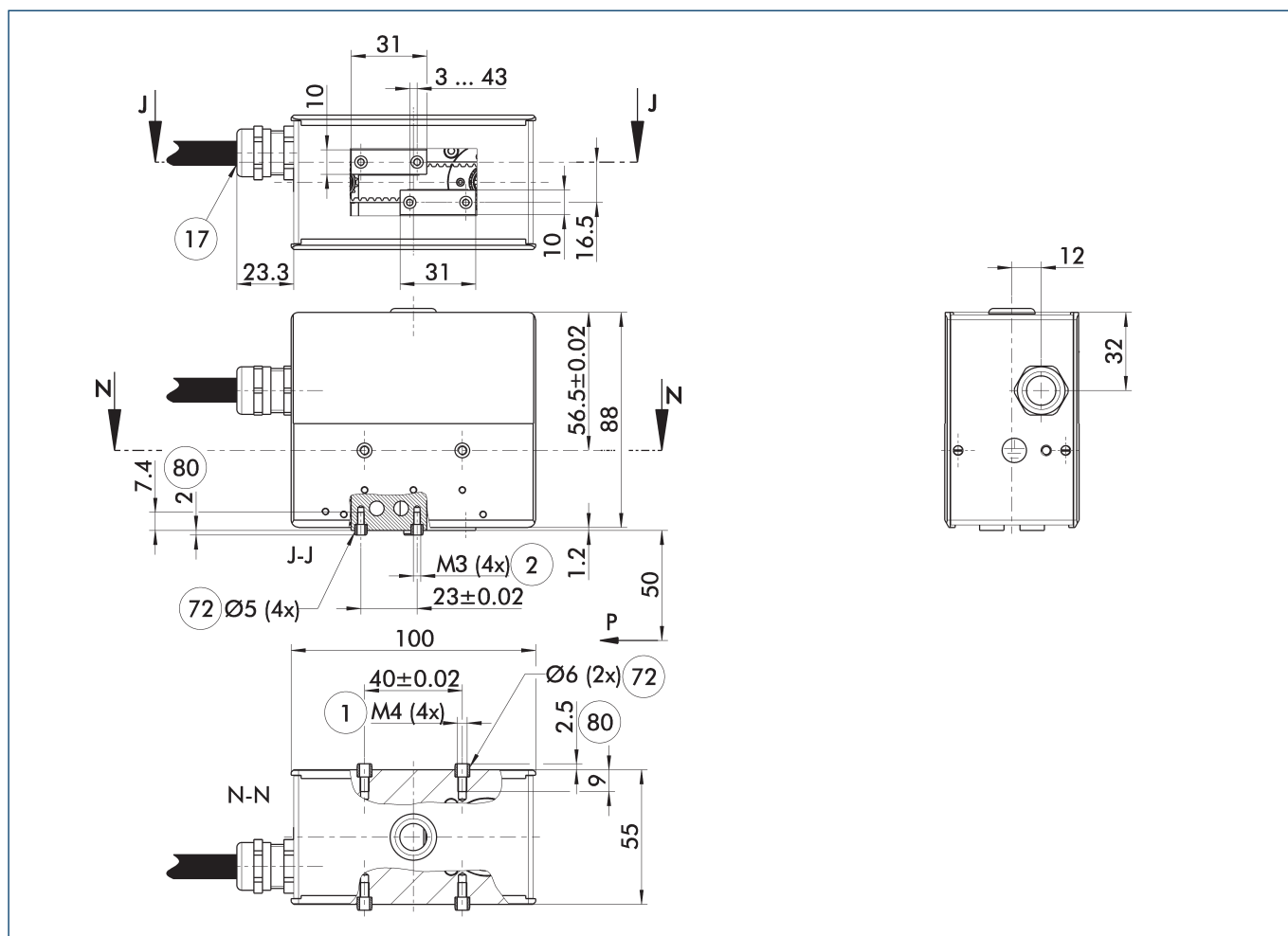


① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		EVG 55-40
ID		0306020
General operating data		
Stroke per jaw	[mm]	20
Min./max. gripping force	[N]	5/24
Recommended workpiece weight	[kg]	0.12
Max. permissible finger length	[mm]	125
Max. permissible mass per finger	[kg]	0.1
Repeat accuracy	[mm]	±0.05
Closing/opening time	[s]	0.6/0.6
Max. speed	[mm/s]	300
Max. acceleration	[mm/s²]	10000
Weight	[kg]	0.79
Min./max. ambient temperature	[°C]	5/55
Protection class IP		20
Dimensions X x Y x Z	[mm]	100 x 55 x 89.2
Electrical operating data		
Nominal voltage	[V DC]	24
Nominal current	[A]	4
Max. current	[A]	8
Controller electronics		external
Controller type		MCS-06
Communication interface		See controller MCS

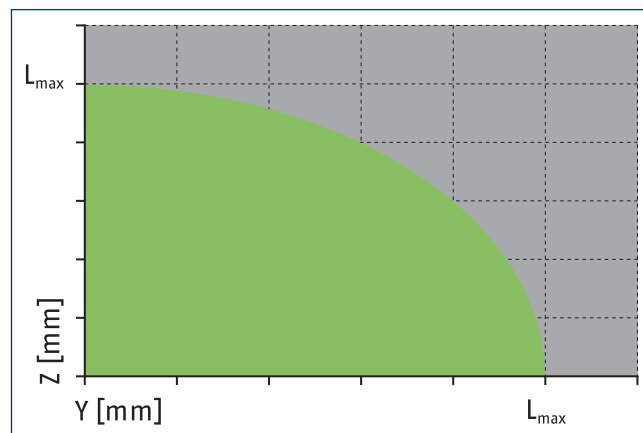
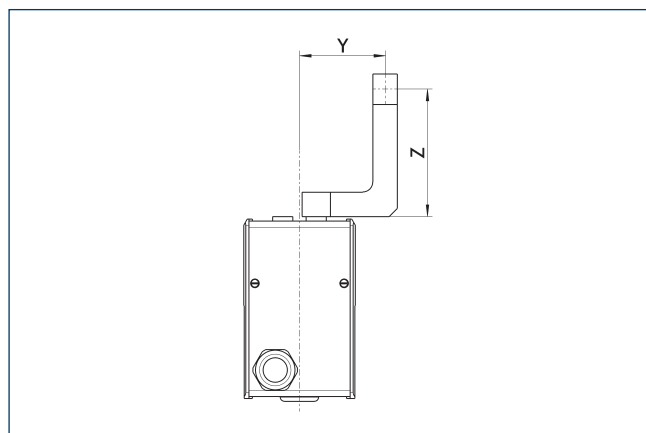
Main view



The drawing shows the basic version of the gripper with open 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

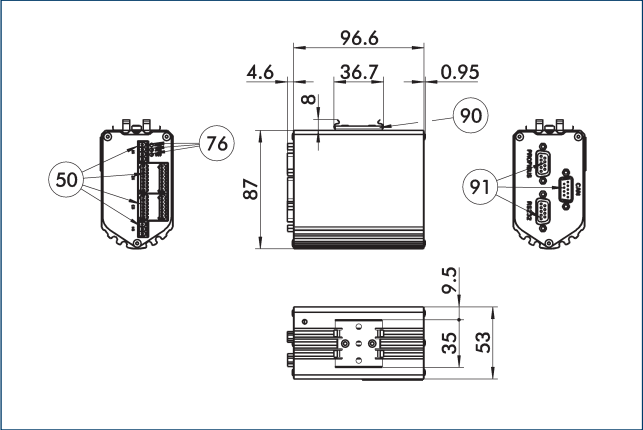
Maximum permitted finger projection



■ Permitted range ■ Inadmissible range

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

MCS motor controller



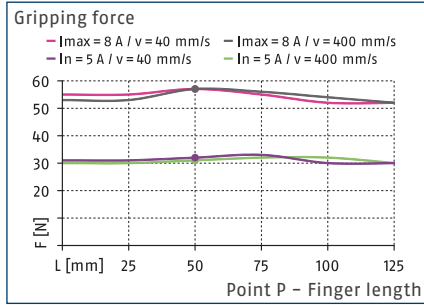
- 50 Electrical connection
- 76 LED
- 90 Spring clip for top-hat rail
- 91 Communication interface

The MCS-06 controller is coordinated for the EVG gripper and is preconfigured for it. The MCS-06 is available with PROFIBUS and CAN communication interfaces. Moreover, an RS232 interface is available for further parameterization processes.

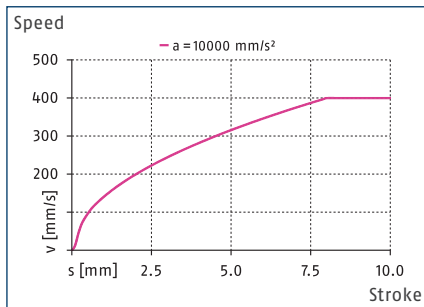
Description	ID	
Motor controller		
MCS-06 (EVG55-040)	0306030	



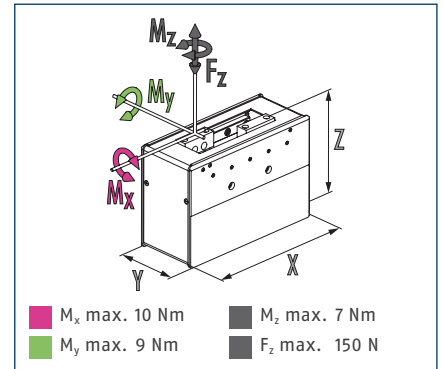
Gripping force



Speed



Dimensions and maximum loads

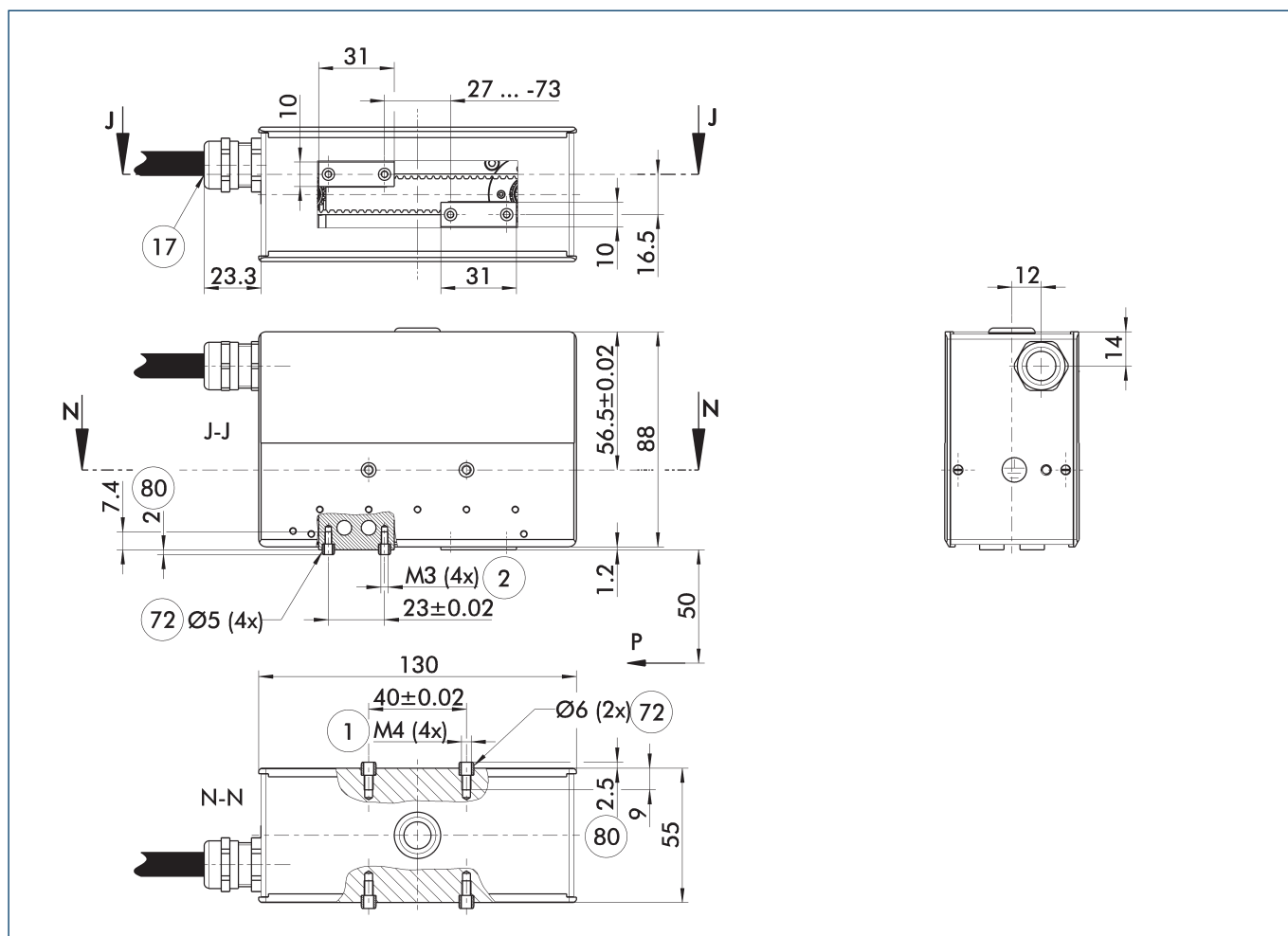


- ① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself.

Technical data

Description		EVG 55-100
ID		0306025
General operating data		
Stroke per jaw	[mm]	50
Min./max. gripping force	[N]	5/57
Recommended workpiece weight	[kg]	0.28
Max. permissible finger length	[mm]	125
Max. permissible mass per finger	[kg]	0.1
Repeat accuracy	[mm]	±0.05
Closing/opening time	[s]	1.5/1.5
Max. speed	[mm/s]	400
Max. acceleration	[mm/s ²]	10000
Weight	[kg]	1.1
Min./max. ambient temperature	[°C]	5/55
Protection class IP		20
Dimensions X x Y x Z	[mm]	130 x 55 x 89.2
Electrical operating data		
Nominal voltage	[V DC]	24
Nominal current	[A]	5
Max. current	[A]	8
Controller electronics		external
Controller type		MCS-06
Communication interface		See controller MCS

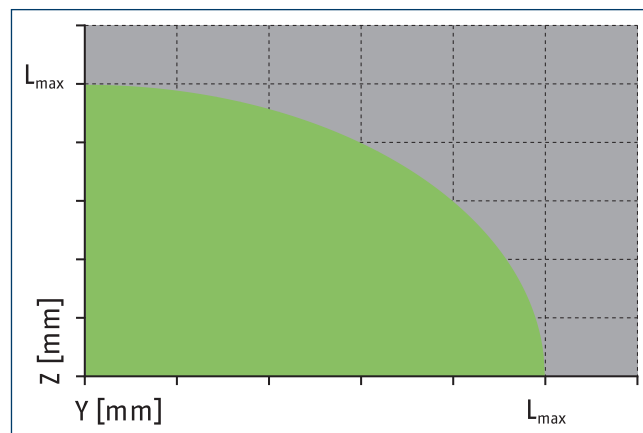
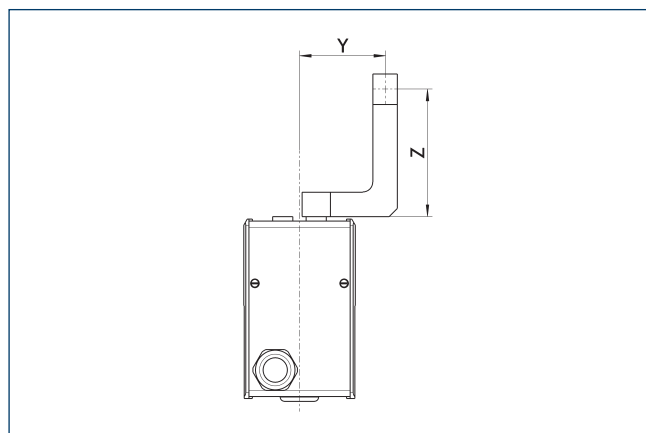
Main view



The drawing shows the basic version of the gripper with open 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

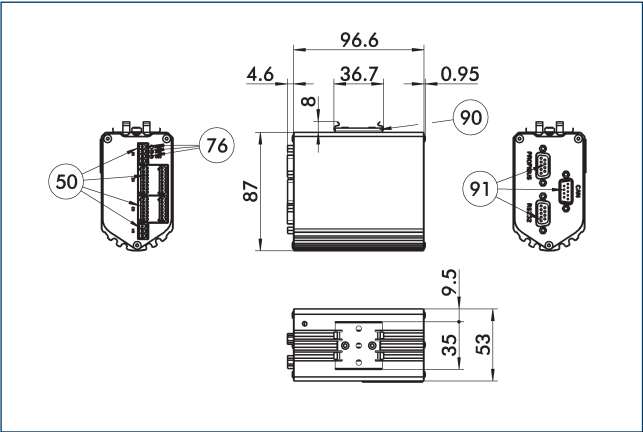
Maximum permitted finger projection



■ Permitted range ■ Inadmissible range

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

MCS motor controller



- 50 Electrical connection
- 76 LED
- 90 Spring clip for top-hat rail
- 91 Communication interface

The MCS-06 controller is coordinated for the EVG gripper and is preconfigured for it. The MCS-06 is available with PROFIBUS and CAN communication interfaces. Moreover, an RS232 interface is available for further parameterization processes.

Description	ID	
Motor controller		
MCS-06 (EVG55-100)	0306031	

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