Superior Clamping and Gripping

SCHUNK®

Product Information

Adhesive grippers ADHESO

Energy free. Residue-free. Compact.

Adhesive grippers ADHESO

Bionically inspired gripping units with ADHESO technology

Field of application

Primarily smooth and clean surfaces in the field of assembly, electronics production, but also medical technology. Residue-free handling applications where there is only one-sided access to the handling object.

Advantages – Your benefits

Energy-efficient gripping without additional hoses and wiring

Residue-free gripping without residue on the gripping object

Customized gripping unit can be customized for any customer application on request

Compact design enables installation in the smallest systems

Low noise emission by doing without compressed air and moving parts

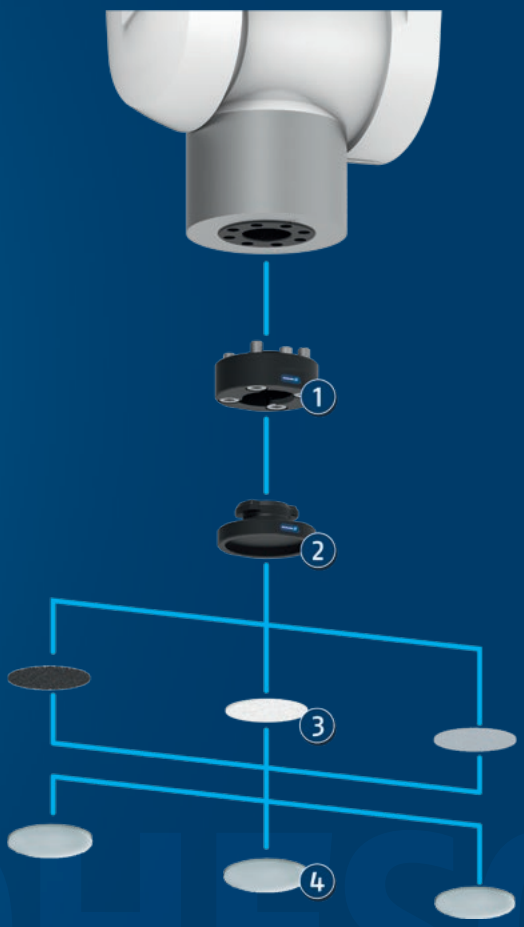
Workpiece monitoring via optical sensor attachment kit

Automated changing by turning the bayonet

Sizes	Weight	Workpiece weight	Diameter
Quantity: 4	20.5 .. 54.6 g	3 .. 16 kg	24 .. 56 mm

Functional description

The bionically inspired ADHESO gripper technology is based on the principle of adhesion and uses intermolecularly acting Van der Waals forces to handle various workpieces. Due to the high variability of the adhesive structures, grippers with ADHESO technology can be tailored individually to different applications.



① **Robot adapter**
individually adaptable to different robots flanges

② **Pad bracket**
available in four standard sizes

③ **Foam**
in various degrees of hardness to compensate for unevenness, thereby increasing the contact surface

④ **Adhesive structure**
in different structure sizes for workpieces with different surface roughness levels

Detailed functional description

Gripping principle

The ADHESO gripper is based on the principle of dry adhesion, which is based on intermolecular forces ("Van der Waals forces"). The pillar structure shown here maximizes contact with the surface. As a result, the gripper does not require an external power supply and can reliably grip a wide range of different materials.

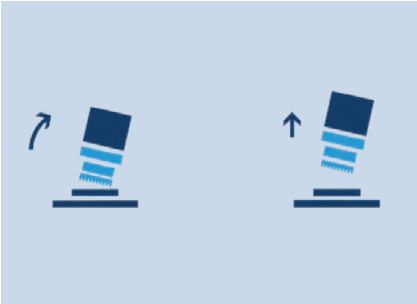
Gripping

Gripping with the ADHESO is done by making contact with the workpiece simultaneously. The maximum adhesive force is achieved by a defined contact force.

Detachment through turning

A slight rotary movement releases the pillars from the surface and the workpiece is gently detached.

Detachment through tilting



The workpiece is detached by a tilting movement. Ideal detachment mechanism when using a 6-axis robot.

Detachment through sliding

A slight pushing movement releases the pillars from the surface and the workpiece is gently detached.

Loosening due to overpressure

Due to excess pressure, the pillars buckle in on themselves and release the contact to the workpiece surface (only possible with the 700 µm structure).

General notes about the series

Operating principle: (Dry) adhesion

Housing material: Aluminum, anodized

Material foam: closed cell polyethylene foam (H) / foamed acrylic adhesive (S)

Adhesive structure material: Thermoplastic polyurethane (TPU) 700 µm / Polyurethane acrylate (PUA) 50 µm

Adhesive material: Acrylic adhesive

Workpiece weight: 1 kg/cm², depending on the workpiece surface

Scope of delivery: ADHESO gripper with cover plug

Gripper, consisting of: Pad bracket, foam, adhesive structure

Application example

Gripping and depositing packaged cookie wafers. The gripper uses a combination of medium foam and the 700 µm structure. This combination enables short cycle times and smooth gripping.

Ordering example

ADHESO G - 5 - 50 - S

Description
ADHESO

G = Grippers

Gripper pad size
3 = Ø 24 mm
5 = Ø 32 mm
10 = Ø 44 mm
16 = Ø 56 mm

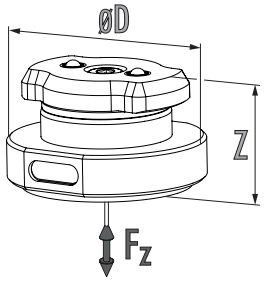
ADHESO adhesive structure, diameter of pillars
50 = 50 µm
700 = 700 µm

Foam
S = Soft
M = Medium
H = Hard

ADHESO G-3

Adhesive grippers

Dimensions



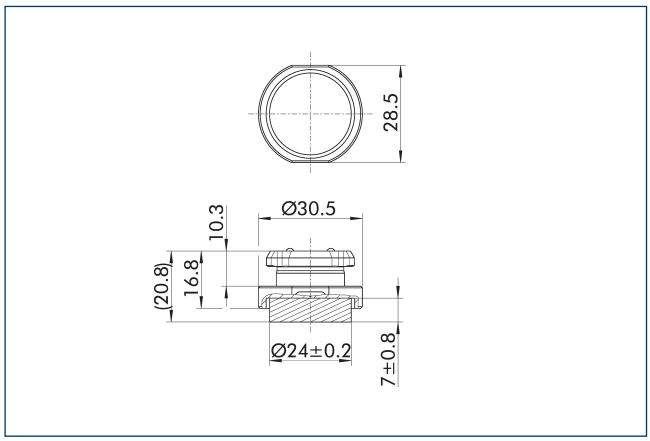
For values see technical data table

Technical data

Description		ADHESO G-3-700-S	ADHESO G-3-700-H	ADHESO G-3-50-S	ADHESO G-3-50-H
ID		1518727	1518751	1518731	1518756
Adhesive structure	[µm]	700	700	50	50
Weight	[g]	20.5	20.5	20.5	20.5
Pad diameter	[mm]	24	24	24	24
Typical adhesive force with horizontal gripping surface (Fz)	[N]	20	20	42	60
Recommended contact force	[N]	15	15	25	25
Max. detachment force	[N]	42	42	70	70
Roughness value Ra (glass/surface)	[mm]	<0.025	<0.025	<0.025	<0.025
Min./max. workpiece temperature	[°C]	0/60	0/60	0/60	0/60
Min./max. ambient temperature	[°C]	0/40	0/40	0/40	0/40
Ambient conditions		dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry
Adhesive material		UV acrylic adhesive	Acrylic	UV acrylic adhesive	Acrylic
Material foam		closed-cell polyethylene foam	foamed acrylic adhesive	closed-cell polyethylene foam	foamed acrylic adhesive
Adhesive structure material		TPU	TPU	PUA	PUA
Dimensions Ø D x Z	[mm]	30.5 x 20.8	30.5 x 18.9	30.5 x 19.7	30.5 x 17.8

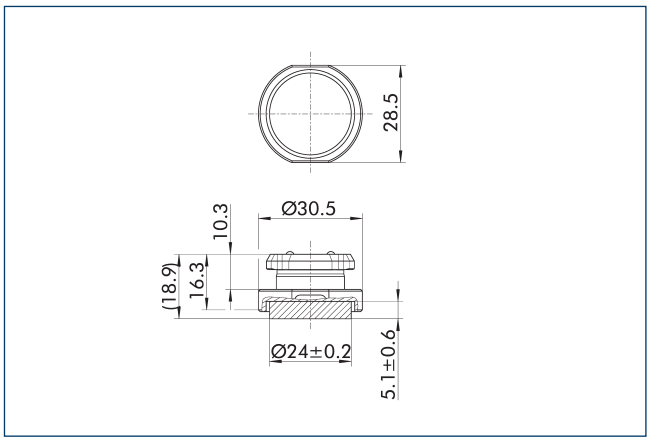
ⓘ The specified values only apply under the following ambient conditions: glass substrate, room temperature, normal relative humidity and clean workpiece surface.

Main view G-3-700-S



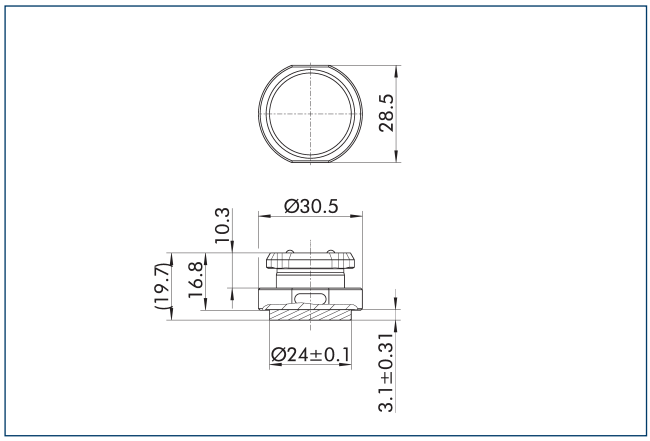
Easy to change with the help of the bayonet lock.

Main view G-3-700-H



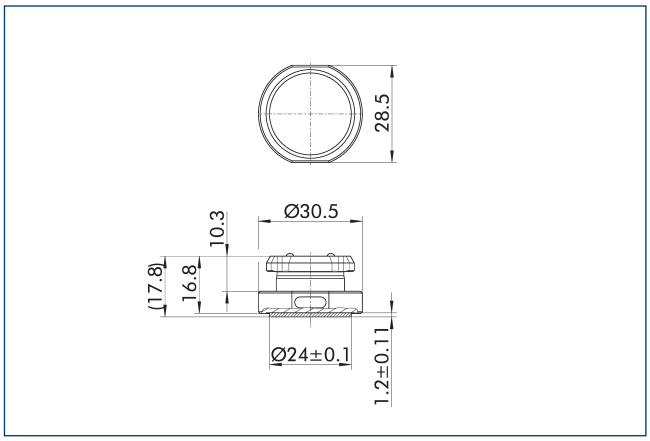
Easy to change with the help of the bayonet lock.

Main view G-3-50-S



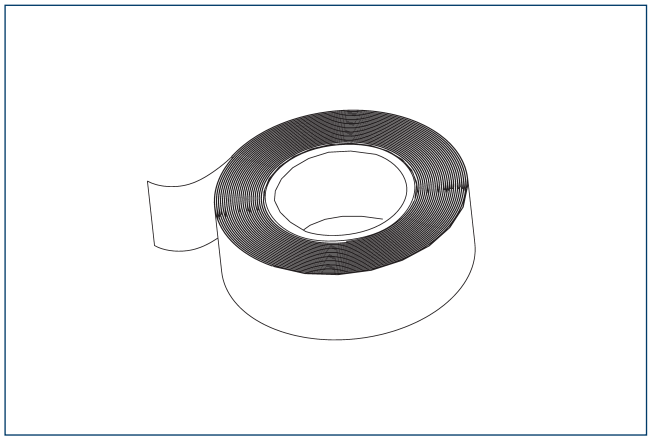
Easy to change with the help of the bayonet lock.

Main view G-3-50-H



Easy to change with the help of the bayonet lock.

Cleaning tape



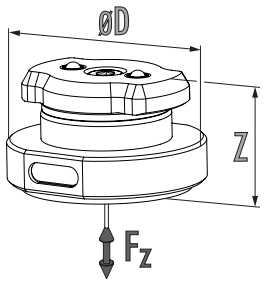
Description	ID	Width	Length
		[mm]	[m]
Cleaning tape			
ADHESO Reinigungstape	1472156	19	33

ⓘ The cleaning tape is used for manual cleaning and must be ordered as an optional accessory.

ADHESO G-5

Adhesive grippers

Dimensions



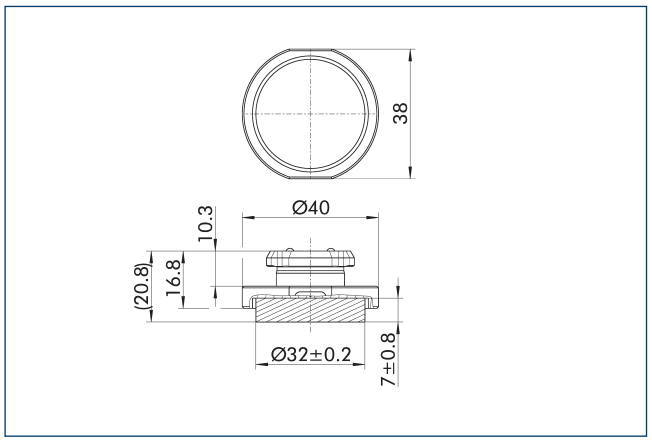
For values see technical data table

Technical data

Description		ADHESO G-5-700-S	ADHESO G-5-700-H	ADHESO G-5-50-S	ADHESO G-5-50-H
ID		1518761	1518822	1518769	1518831
Adhesive structure	[µm]	700	700	50	50
Weight	[g]	28.5	28.5	28.5	28.5
Pad diameter	[mm]	32	32	32	32
Typical adhesive force with horizontal gripping surface (Fz)	[N]	50	50	70	100
Recommended contact force	[N]	27	27	44	44
Max. detachment force	[N]	70	70	98	98
Roughness value Ra (glass/surface)	[mm]	<0.025	<0.025	<0.025	<0.025
Min./max. workpiece temperature	[°C]	0/60	0/60	0/60	0/60
Min./max. ambient temperature	[°C]	0/40	0/40	0/40	0/40
Ambient conditions		dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry
Adhesive material		UV acrylic adhesive	Acrylic	UV acrylic adhesive	Acrylic
Material foam		closed-cell polyethylene foam	foamed acrylic adhesive	closed-cell polyethylene foam	foamed acrylic adhesive
Adhesive structure material		TPU	TPU	PUA	PUA
Dimensions Ø D x Z	[mm]	40 x 20.8	40 x 18.9	40 x 19.7	40 x 17.8

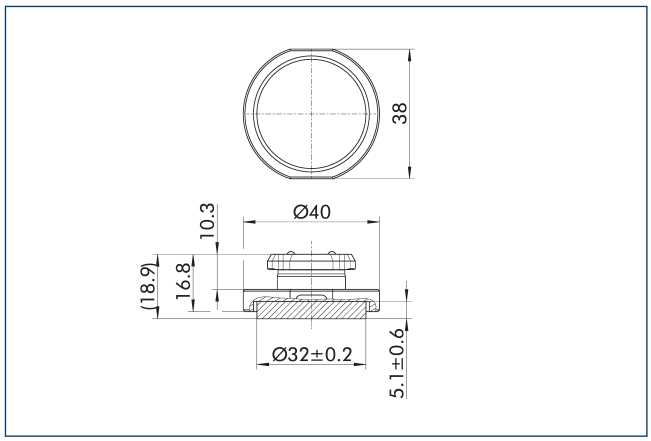
ⓘ The specified values only apply under the following ambient conditions: glass substrate, room temperature, normal relative humidity and clean workpiece surface.

Main view G-5-700-S



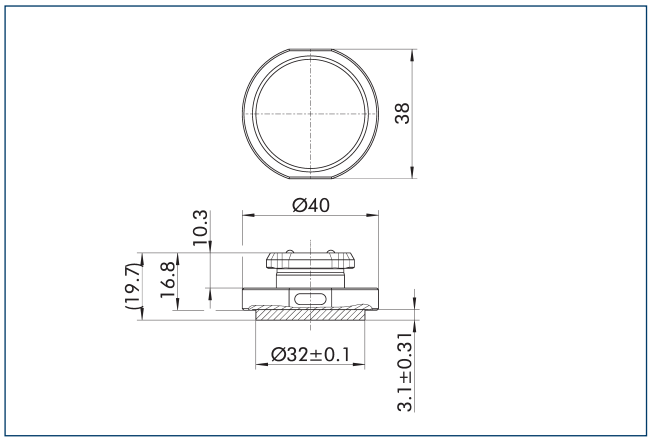
Easy to change with the help of the bayonet lock.

Main view G-5-700-H



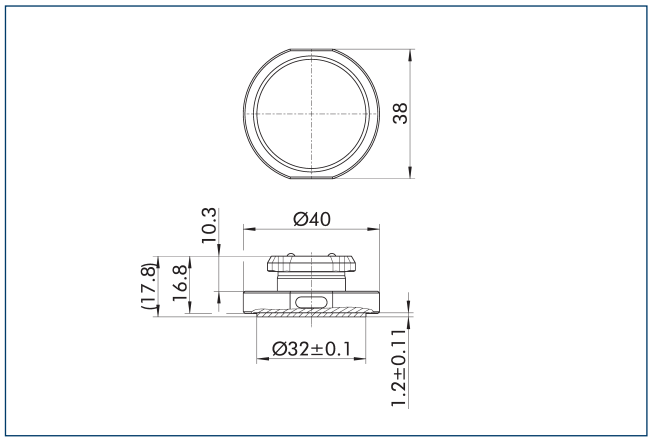
Easy to change with the help of the bayonet lock.

Main view G-5-50-S



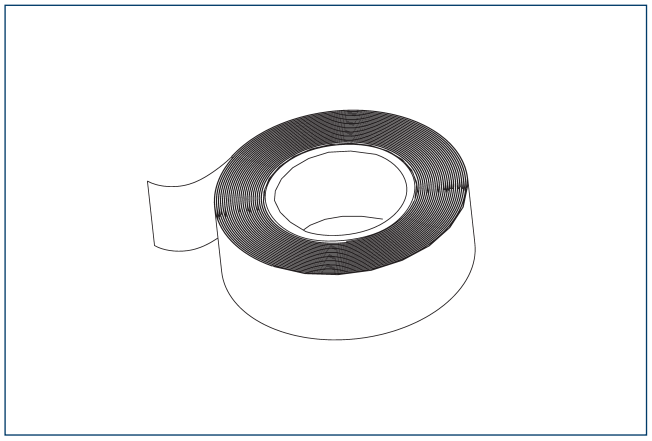
Easy to change with the help of the bayonet lock.

Main view G-5-50-H



Easy to change with the help of the bayonet lock.

Cleaning tape



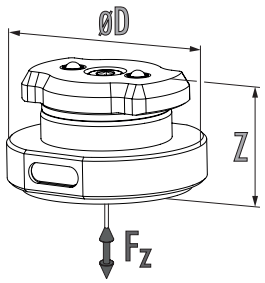
Description	ID	Width	Length
		[mm]	[m]
Cleaning tape			
ADHESO Reinigungstape	1472156	19	33

ⓘ The cleaning tape is used for manual cleaning and must be ordered as an optional accessory.

ADHESO G-10

Adhesive grippers

Dimensions



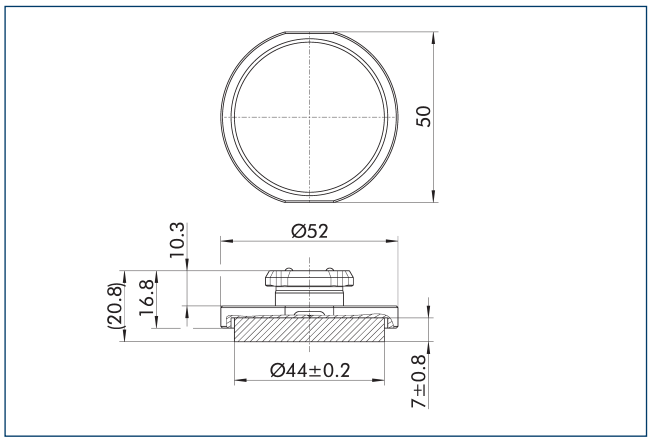
For values see technical data table

Technical data

Description		ADHESO G-10-700-S	ADHESO G-10-700-H	ADHESO G-10-50-S	ADHESO G-10-50-H
ID		1518833	1518866	1518847	1518885
Adhesive structure	[µm]	700	700	50	50
Weight	[g]	39.5	39.5	39.5	39.5
Pad diameter	[mm]	44	44	44	44
Typical adhesive force with horizontal gripping surface (Fz)	[N]	90	90	140	200
Recommended contact force	[N]	50	50	82	82
Max. detachment force	[N]	140	140	182	182
Roughness value Ra (glass/surface)	[mm]	<0.025	<0.025	<0.025	<0.025
Min./max. workpiece temperature	[°C]	0/60	0/60	0/60	0/60
Min./max. ambient temperature	[°C]	0/40	0/40	0/40	0/40
Ambient conditions		dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry
Adhesive material		UV acrylic adhesive	Acrylic	UV acrylic adhesive	Acrylic
Material foam		closed-cell polyethylene foam	foamed acrylic adhesive	closed-cell polyethylene foam	foamed acrylic adhesive
Adhesive structure material		TPU	TPU	PUA	PUA
Dimensions Ø D x Z	[mm]	52 x 20.8	52 x 18.9	52 x 19.7	52 x 17.8

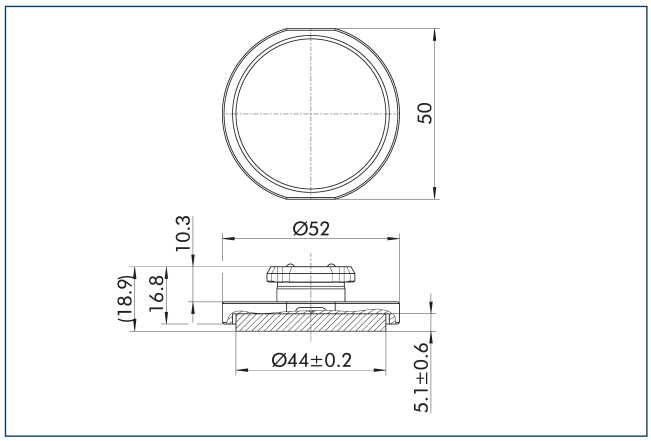
ⓘ The specified values only apply under the following ambient conditions: glass substrate, room temperature, normal relative humidity and clean workpiece surface.

Main view G-10-700-S



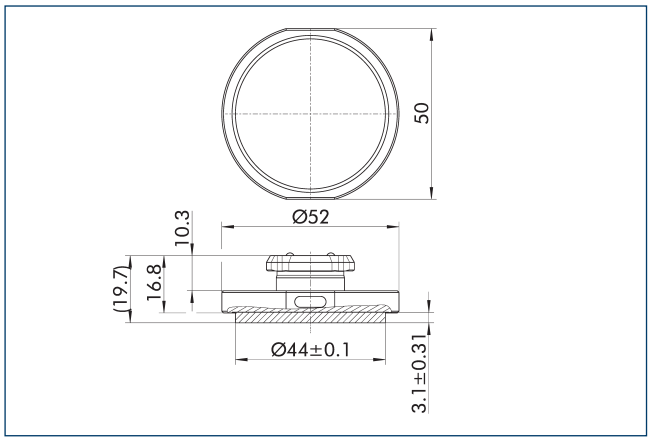
Easy to change with the help of the bayonet lock.

Main view G-10-700-H



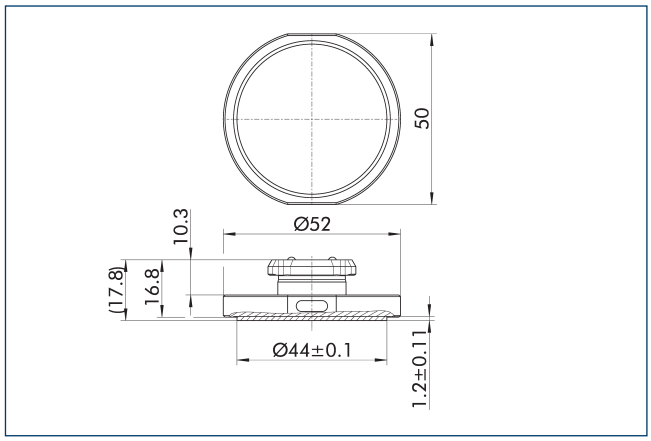
Easy to change with the help of the bayonet lock.

Main view G-10-50-S



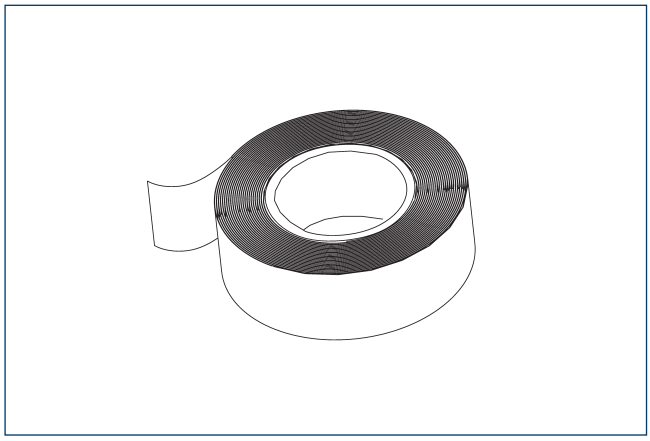
Easy to change with the help of the bayonet lock.

Main view G-10-50-H



Easy to change with the help of the bayonet lock.

Cleaning tape



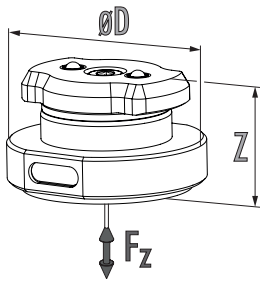
Description	ID	Width	Length
		[mm]	[m]
Cleaning tape			
ADHESO Reinigungstape	1472156	19	33

ⓘ The cleaning tape is used for manual cleaning and must be ordered as an optional accessory.

ADHESO G-16

Adhesive grippers

Dimensions



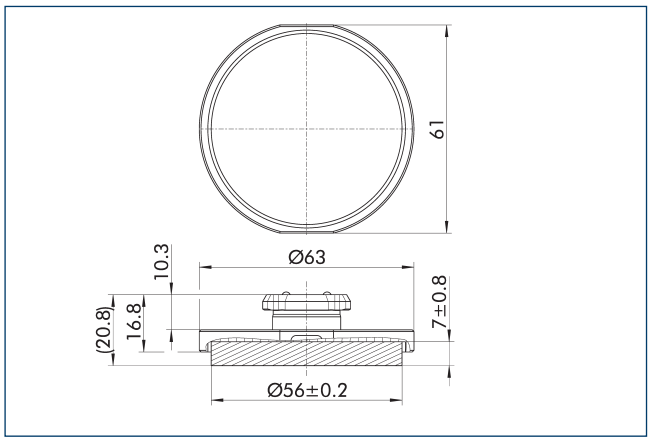
For values see technical data table

Technical data

Description		ADHESO G-16-700-S	ADHESO G-16-700-H	ADHESO G-16-50-S	ADHESO G-16-50-H
ID		1518888	1518903	1518894	1518906
Adhesive structure	[µm]	700	700	50	50
Weight	[g]	54.6	54.6	54.6	54.6
Pad diameter	[mm]	56	56	56	56
Typical adhesive force with horizontal gripping surface (Fz)	[N]	140	140	220	320
Recommended contact force	[N]	81	81	132	132
Max. detachment force	[N]	224	224	266	266
Roughness value Ra (glass/surface)	[mm]	<0.025	<0.025	<0.025	<0.025
Min./max. workpiece temperature	[°C]	0/60	0/60	0/60	0/60
Min./max. ambient temperature	[°C]	0/40	0/40	0/40	0/40
Ambient conditions		dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry	dust-free, grease-free, dry
Adhesive material		UV acrylic adhesive	Acrylic	UV acrylic adhesive	Acrylic
Material foam		closed-cell polyethylene foam	foamed acrylic adhesive	closed-cell polyethylene foam	foamed acrylic adhesive
Adhesive structure material		TPU	TPU	PUA	PUA
Dimensions Ø D x Z	[mm]	63 x 20.8	63 x 18.9	63 x 19.7	63 x 17.8

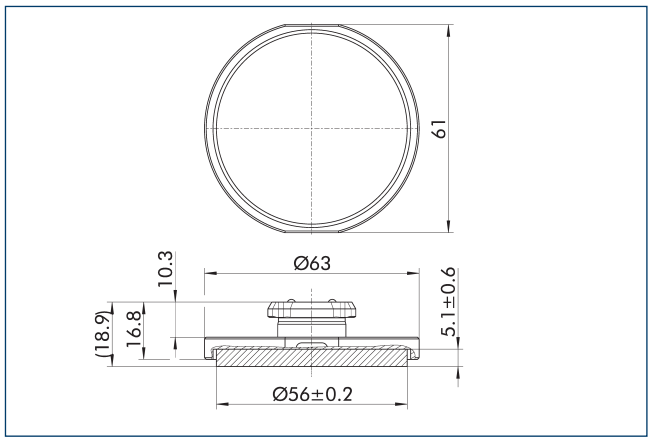
ⓘ The specified values only apply under the following ambient conditions: glass substrate, room temperature, normal relative humidity and clean workpiece surface.

Main view G-16-700-S



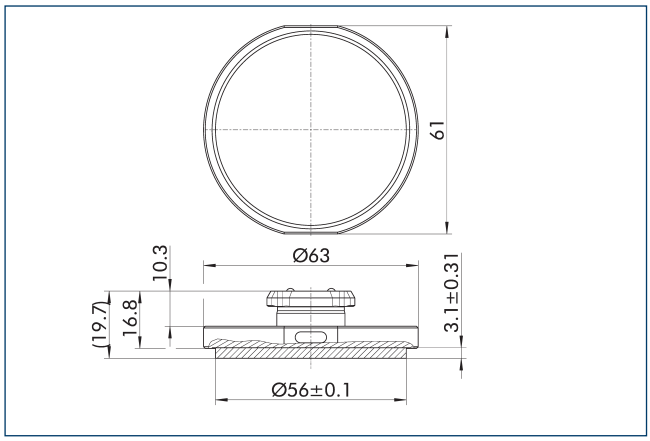
Easy to change with the help of the bayonet lock.

Main view G-16-700-H



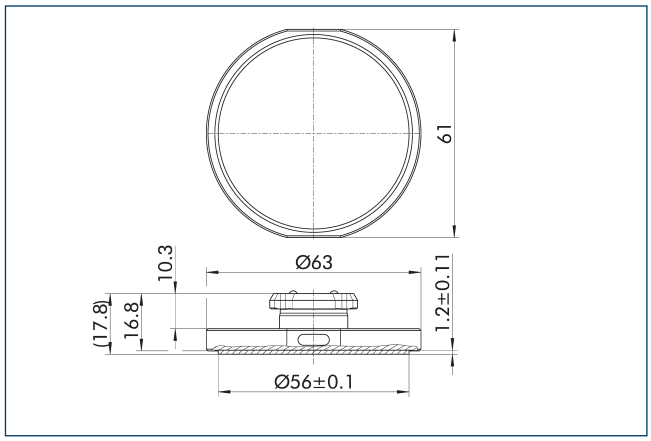
Easy to change with the help of the bayonet lock.

Main view G-16-50-S



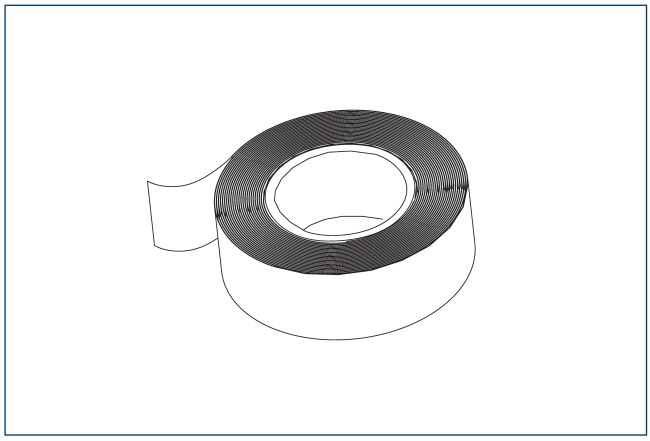
Easy to change with the help of the bayonet lock.

Main view G-16-50-H



Easy to change with the help of the bayonet lock.

Cleaning tape



Description	ID	Width	Length
		[mm]	[m]
Cleaning tape			
ADHESO Reinigungstape	1472156	19	33

ⓘ The cleaning tape is used for manual cleaning and must be ordered as an optional accessory.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Magnetic gripper EGM

Strong. Simple Control. Compact.

Magnet gripper EGM

Electro-permanent magnetic gripper for energy-efficient handling of ferromagnetic workpieces

Field of application

Universal compact gripper for large diversity of parts in clean to slightly contaminated work environment

Advantages – Your benefits

High holding forces at lowest space for reliable part handling in compact machines

Low weight for high dynamics in challenging applications

Reliable holding force maintenance to ensure process reliable operation even in scenarios with emergency stop

Energy efficiency: electricity is only required for magnetization and demagnetization for an economic and careful managment of resources

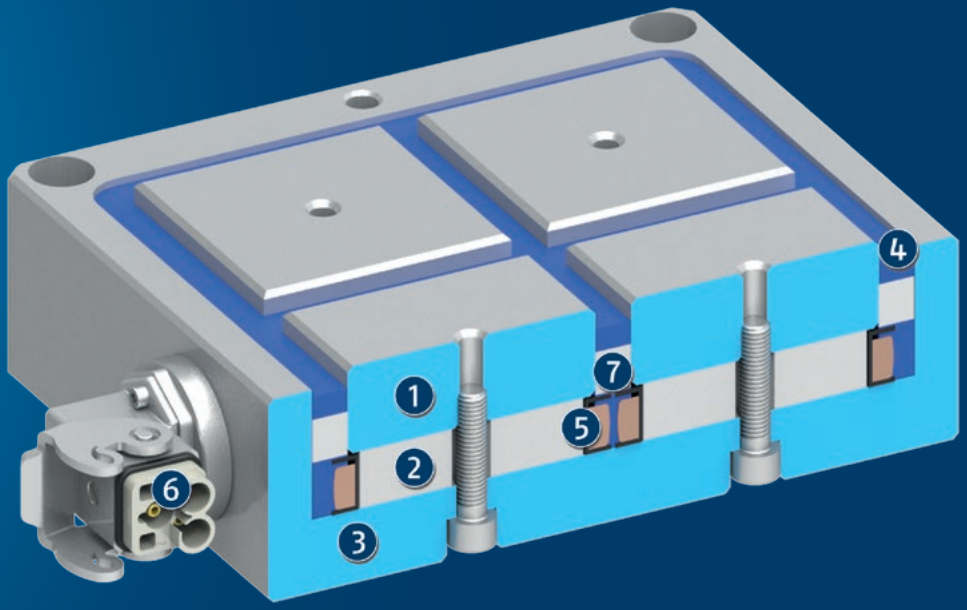
Variable number of magnetic poles and adaptation possibilities to any common robot to ensure the optimum adaption to each application

Workpiece accessibility from five sides free from interfering contours by unnecessary gripper fingers

Sizes	Weight	Max. workpiece weight	Max. magnetic surface
Quantity: 4	1 .. 25 kg	118 kg	196 cm²

Functional description

The function of the magnetic gripper bases on the combination of AlNiCo and neodymium magnets. The magnetic flux of the AlNiCo magnets passes the neodymium magnet in the deactivated state, and closes the magnetic circuit over the gripper base body made of steel. To activate the system, an electric current pulse is conducted through the coil, which reverses the polarity of the AlNiCo magnets accordingly.
The magnetic flux can not pass the Neodym magnets anymore and has to pass via the workpiece into the opposite pole, creating a holding force.



① **Steel poles with bore**
for comfortable adaption of individualized pole extensions

② **Polarity reversible AlNiCo-magnet**
surrounded by an electromagnetic coil

③ **One-piece base body made of steel**
for optimal guidance of the magnetic flux

④ **Potting compound of synthetic resin**
Prevents the penetration of coolant and chips

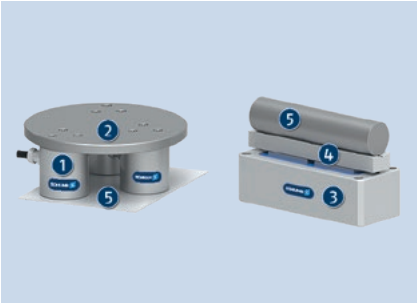
⑤ **Copper coil**
for pole reversal of the AlNiCo-magnets

⑥ **Cable connector of Harting**
ensures safe connection

⑦ **Non-pole reversing neodymium permanent magnets**
lead the magnetic flux via the workpiece

Detailed functional description

Gripping metal sheets or round components



The magnetic gripper EGM can be arranged or equipped as appropriate for the workpiece. The monopole grippers EGM-M are ideal for metal sheets, and are also suitable for handling larger sheets in multiple arrangements. Using pole extensions, the bi-poles EGM-B can also handle round workpieces. The pole extensions are supplied with mounting materials.

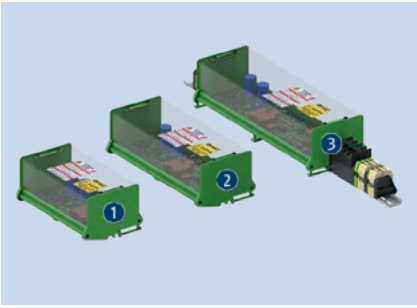
1. Magnetic gripper EGM-M
2. Adapter plate (customized) for EGM
3. Magnetic gripper EGM-B
4. Pole extensions PVL
5. Workpiece

Plug-in connector for EGM

Magnetic grippers EGM are directly equipped with plug-in connectors. For the magnetic monopole grippers (EGM-M), these are attached to the gripper via a connection cable. This allows for flexible routing. For the bi-pole grippers EGM-B, the plug connectors are connected to the housing. The cable outlet can be turned in 90° increments.

1. Magnetic gripper EGM-M
2. Magnetic gripper EGM-B
3. Plug connector

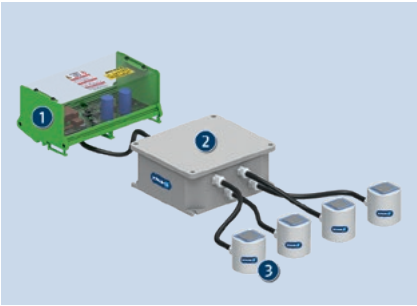
Selecting the magnet controller



To control the magnetic gripper, three controllers are available each in two performance categories. The standard controller ECG-C is used to magnetize/demagnetize and can be actuated via digital I/O. For the controller ECG-R, the output of the magnetic gripper can be controlled with up to eight levels via digital signals. The controller ECG-W is particularly designed for applications in the direct welding area.

1. Magnetic controller ECG-C
2. Magnetic controller ECG-R
3. Magnetic controller ECG-W

Simultaneous actuation of several EGMs



The magnetic gripper EGM is controlled by an control unit ECG. A control unit can be used to control up to 32 magnetic grippers, depending on the size. A simple connection of up to eight magnets is possible using a junction box. This can be positioned freely in the field.

1. Control unit ECG
2. Distributor box JBOX
3. Magnet gripper EGM

Ordering example

EGM - M - Q - 8 - 1 - FX

Description
EGM

Magnet type
M= monopole
B= Bipole (with threads for pole extension)

Pole form
Q = square
L= oblong

Pole width
8 mm
15 mm
30 mm
32 mm
50 mm
70 mm

Number of poles, pole arrangement
1= one pole
1 x 2= one row, two poles
1 x 4= one row, four poles
2 x 2= two rows, two poles

Electrical interface
FX= fixed cable outlet (30 cm cable)
-= Connection plug on EGM

EGM

Magnetic gripper

General notes about the series

Operating principle: Magnetization of permanent magnets

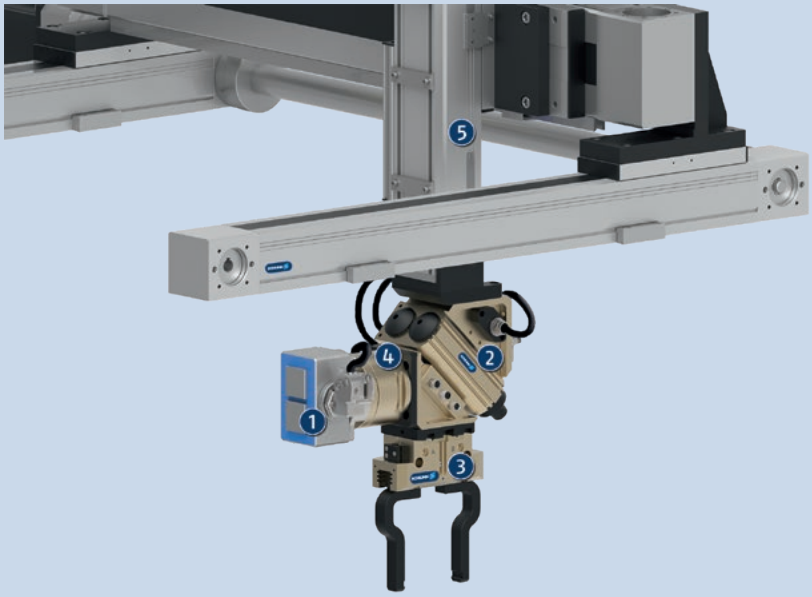
Housing material: Steel

Base jaw material: Steel

Actuation: Electrical current pulse for activation and deactivation of the system

Warranty: 24 months

Scope of delivery: Accessory kit with centering sleeves



Application example

Electrically drive three-axis gantry with double gripper unit comprising electric magnetic gripper and pneumatic gripper, for the handling of a wide variety of workpieces.

1. Magnet gripper EGM
2. Swivel head SRH-plus
3. 2-finger parallel gripper PGN-plus
4. Compensation unit AGE-XY
5. Room gantry, electric RPE

SCHUNK offers more ...

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

magnetic controller

Distributor box

Handpanel

Gaussmeter

Power cable

Pole extension

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

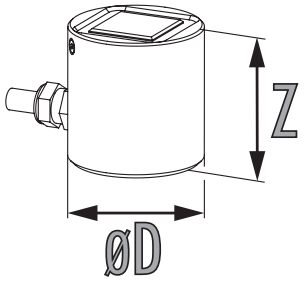
Options and special information

Control via external controller: Electrical control of the gripper takes place via the controller, which is separately available on request. The interface to the control unit is provided by digital I/O.

EGM M-Q

Magnetic gripper

Dimensions

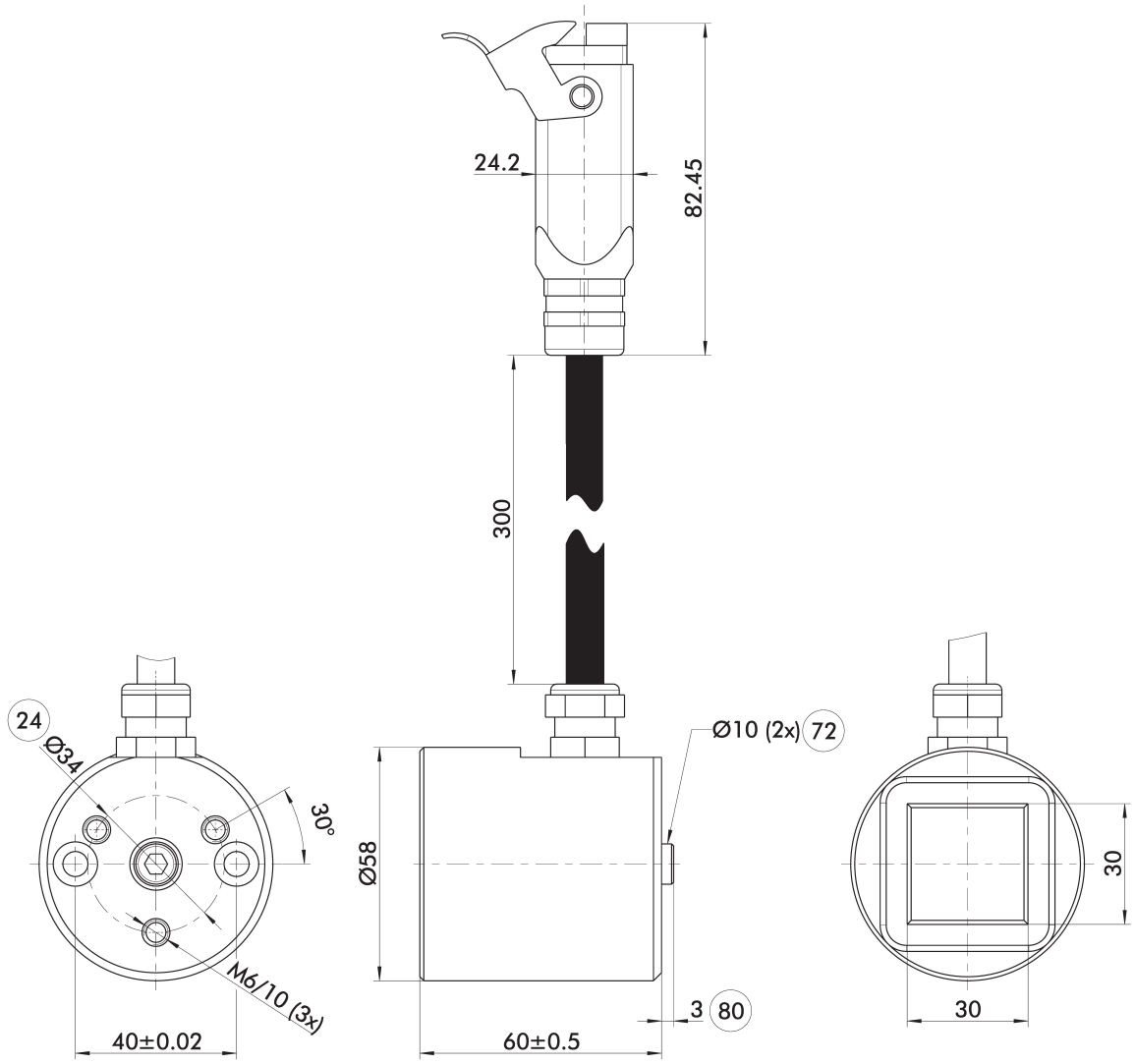


For values see technical data table

Technical data

Description		EGM-M-Q-30-1-FX	EGM-M-Q-50-1-FX	EGM-M-Q-70-1-FX
ID		0306350	0306351	0306352
Weight	[kg]	1.3	3.45	7.1
Number of poles		2	2	2
Magnet area	[cm²]	18.4	50.4	98.1
Minimum workpiece thickness	[mm]	6	12	16
Payload for horizontal magnet surface	[kg]	18	80	165
Payload for vertical magnet surface	[kg]	7	32	65
Max. activations/minute	[1/min]	20	6	10
Module temperature increasement in case of 5/15 activations/minute	[°C]	13/33	37/80	24/53
IP protection class		54	54	54
Current consumption upon activation/deactivation	[A]	3	2.3	3.1
Cable length	[cm]	30	30	30
Dimensions Ø D x Z	[mm]	58 x 60	98 x 65	129.5 x 75
Magnet controller data				
Magnet controller type		ECG 01	ECG 02	ECG 02
Nominal voltage	[V AC]	400	400	400
Max. current	[A]	32	32	32
Max. number of modules per controller		28	26	19

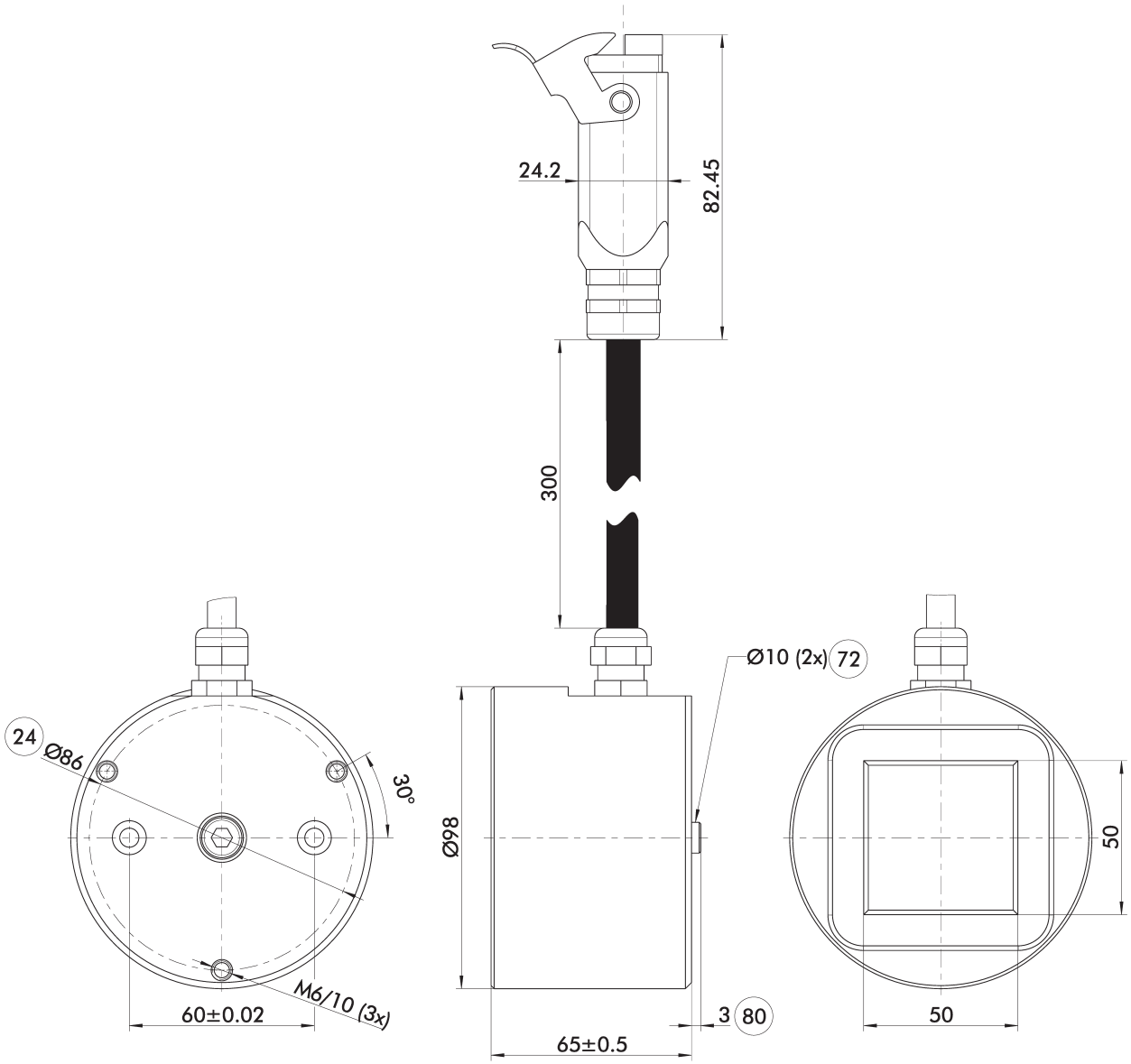
EGM-M 30Q-1FX main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(24) Bolt circle
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part

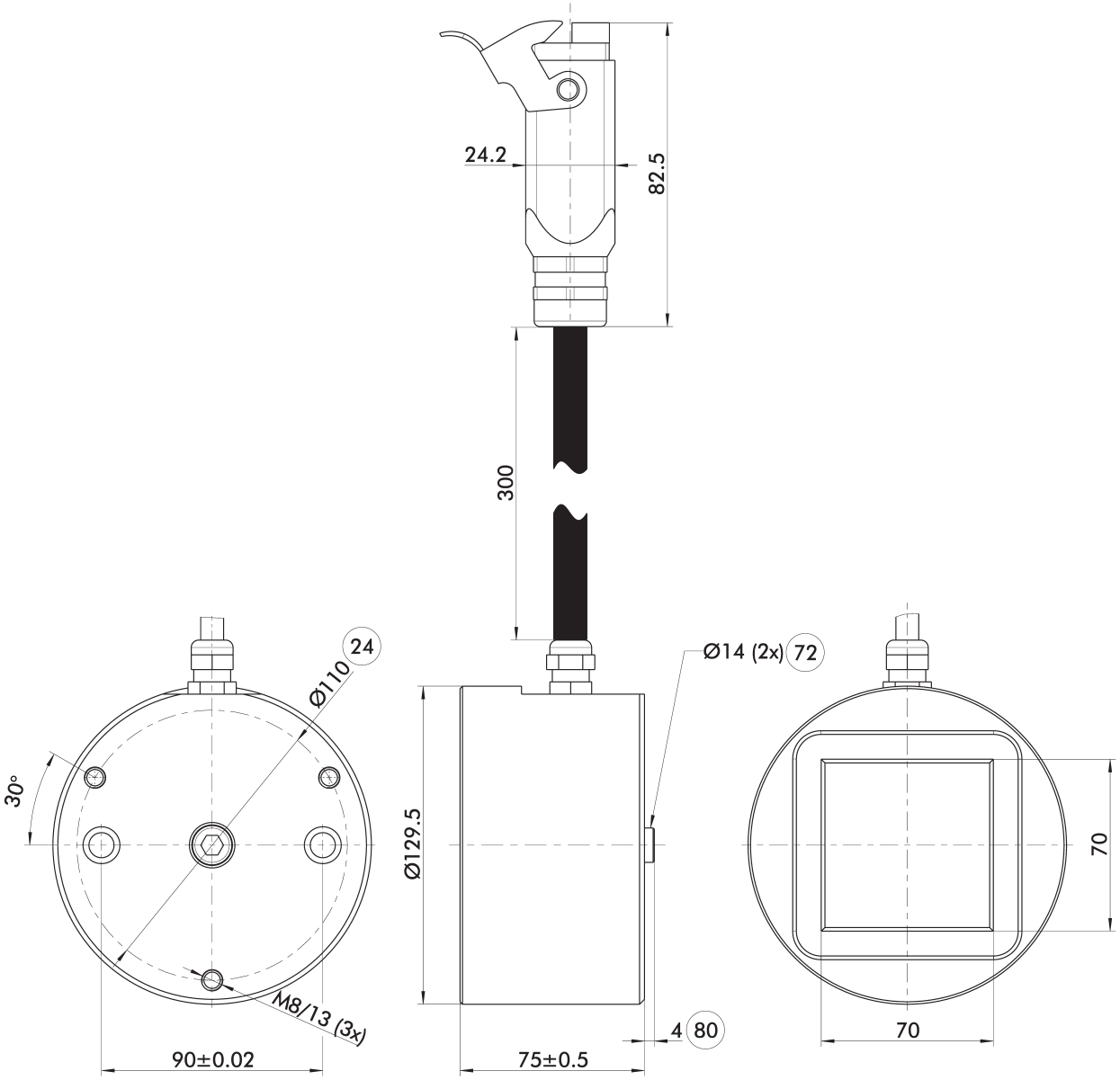
EGM-M 50Q-1FX main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(24) Bolt circle
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part

EGM-M 70Q-1FX main view



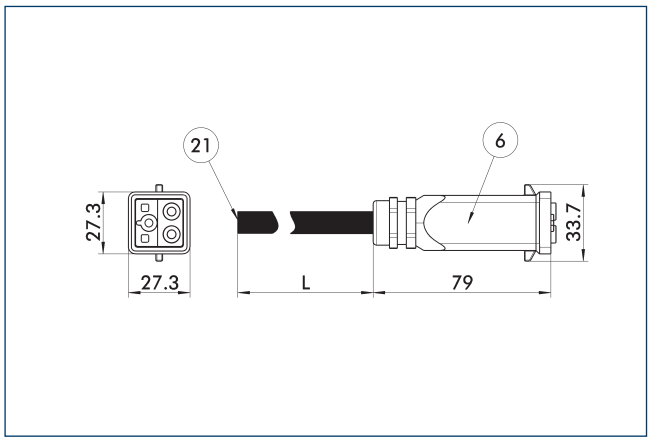
The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(24) Bolt circle
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part

EGM M-Q

Magnetic gripper

Connection cables

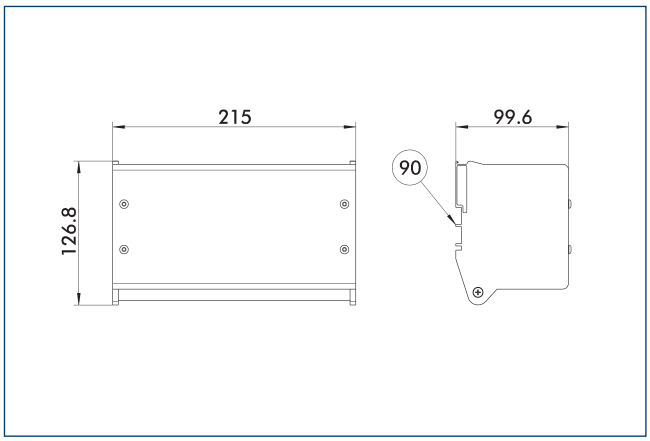


(6) Connection module side (21) Connection controller side

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.

Description	ID	L1
		[m]
Connection cable EGM		
KA GLNQS03-LK-00500-J	0306302	5
KA GLNQS03-LK-01000-J	0306303	10
KA GLNQS03-LK-01500-J	0306304	15
KA GLNQS03-LK-02000-J	0306305	20

Magnetic controller ECG-C



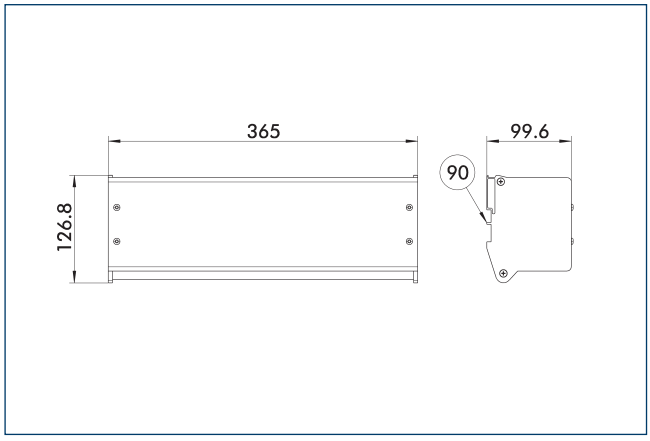
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. The "C" version allows digital switching of the EGM.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch		
ECG-C 01	0306300	400
ECG-C 02	0306301	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-W



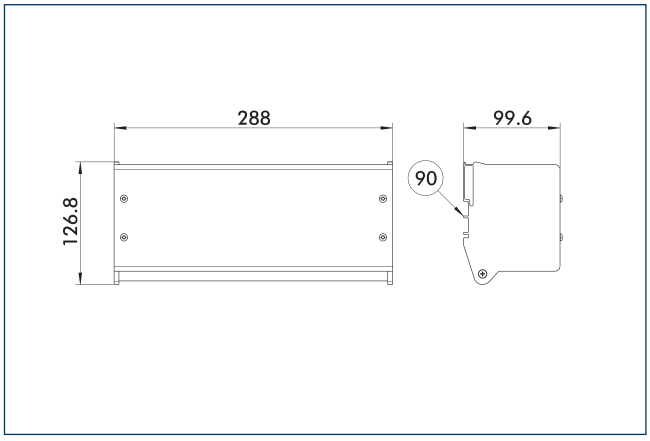
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "W" enables digital switching of the EGM while holding a workpiece during the welding process.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch during the welding process		
ECG-W 01	0306395	400
ECG-W 02	0306396	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-R



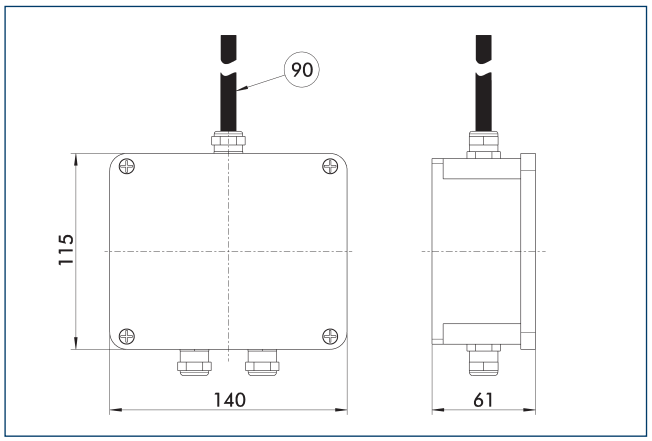
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "R" enables force control in eight force levels.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with force control		
ECG-R 02	0306391	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

2-way distributor box

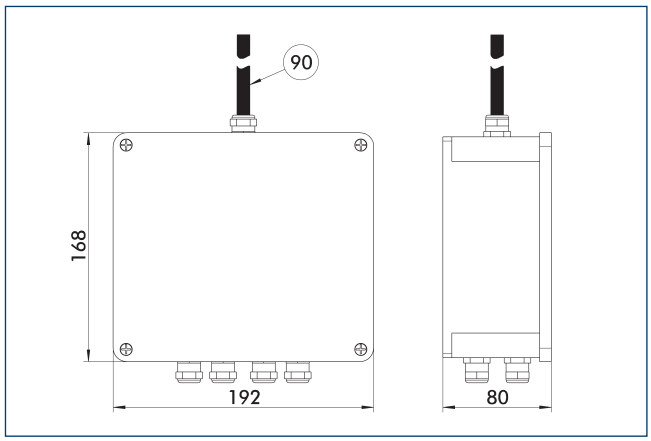


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
2-way distributor box		
EGM-JB 2	0306432	

4-way distributor box

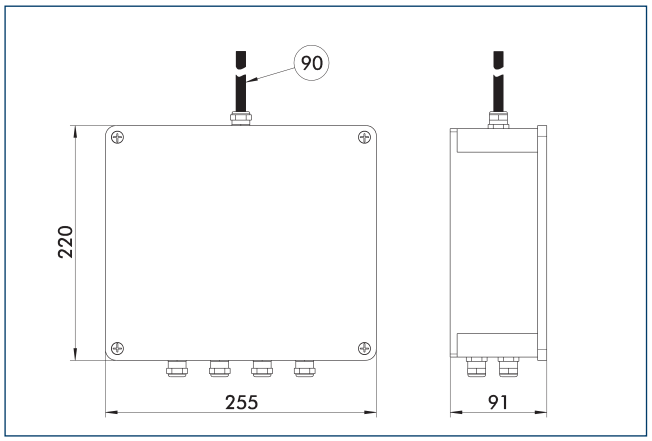


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
4-way distributor box		
EGM-JB 4	0306434	

8-way distributor box



(90) Cable length 10 m, open wires

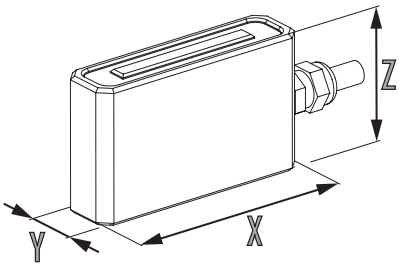
Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
8-way distributor box		
EGM-JB 8	0306438	

EGM M-L

Magnetic gripper

Dimensions

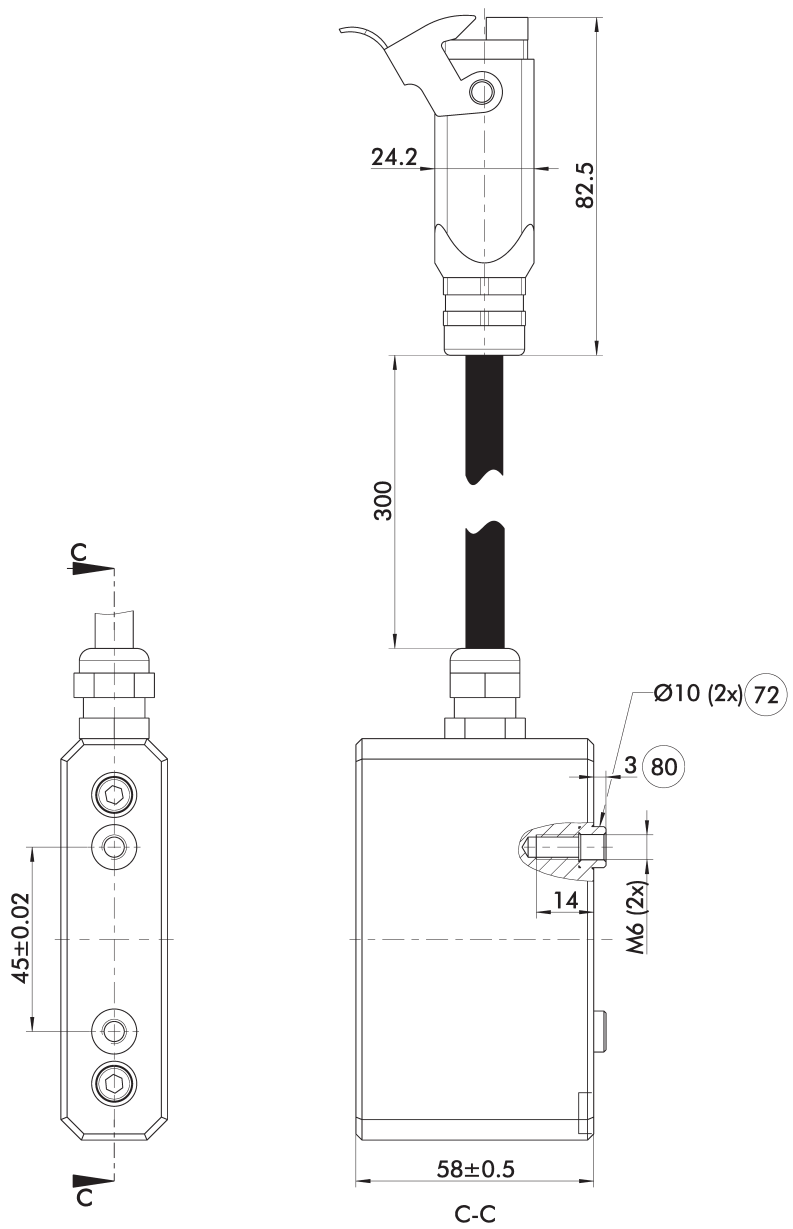


For values see technical data table

Technical data

Description		EGM-M-L-08-1-FX	EGM-M-L-15-1-FX	EGM-M-L-30-1-FX
ID		0306360	0306361	0306362
Weight	[kg]	1	2.1	3.1
Number of poles		2	2	2
Magnet area	[cm²]	12	22.5	36.9
Minimum workpiece thickness	[mm]	3	5	10
Payload for horizontal magnet surface	[kg]	10	22	60
Payload for vertical magnet surface	[kg]	4	9	24
Max. activations/minute	[1/min]	16	16	12
Module temperature increasement in case of 5/15 activations/minute	[°C]	18/39	15/40	22/49
IP protection class		54	54	54
Current consumption upon activation/deactivation	[A]	3.7	2.6	2.2
Cable length	[cm]	30	30	30
Dimensions X x Y x Z	[mm]	98 x 26 x 58	105 x 47 x 79	96 x 66 x 71
Magnet controller data				
Magnet controller type		ECG 01	ECG 02	ECG 02
Nominal voltage	[V AC]	400	400	400
Max. current	[A]	32	32	32
Max. number of modules per controller		23	17	32

EGM-M 08L-1FX main view

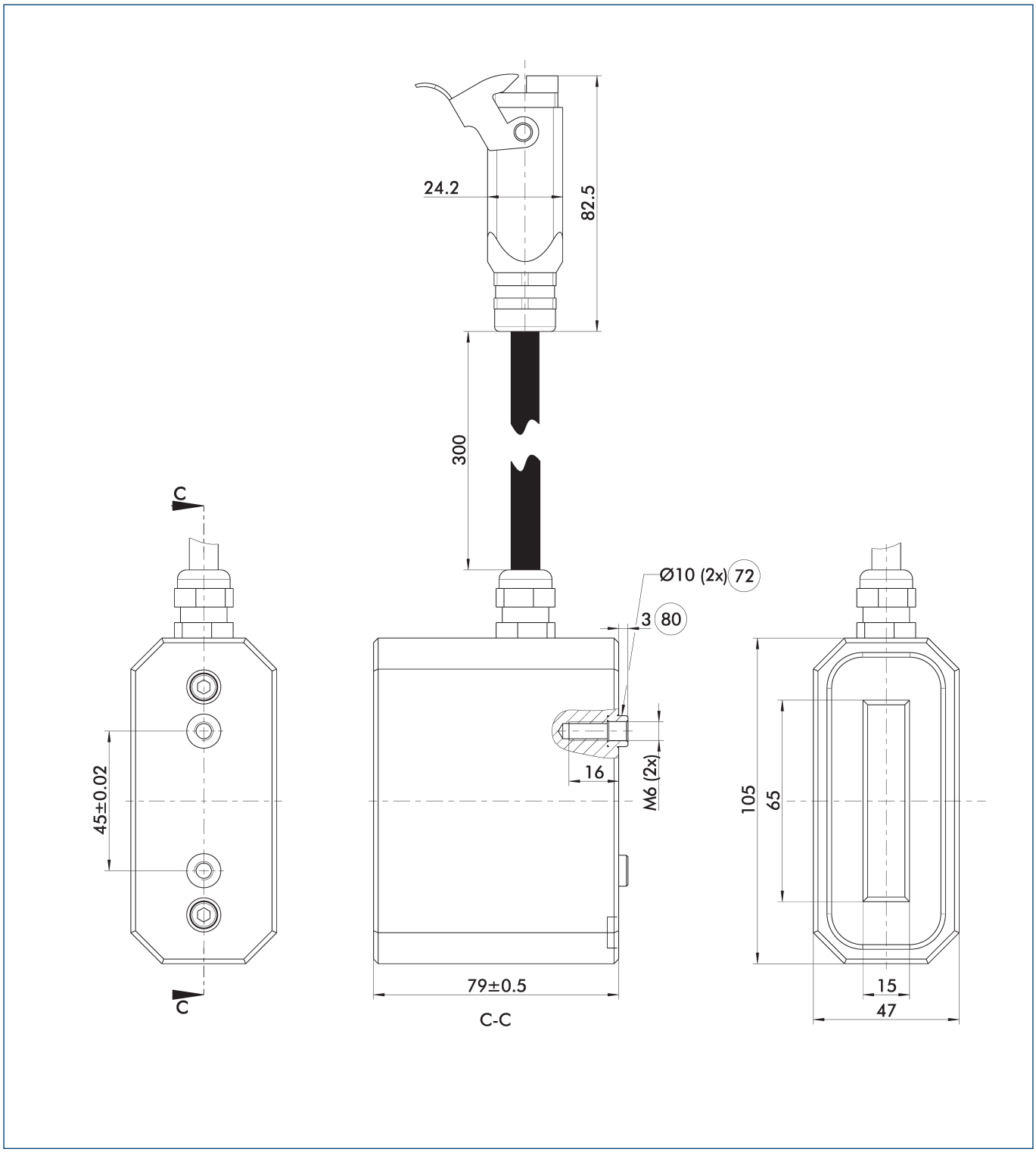


The drawing shows the magnet gripper in basis configuration, without any additional accessories.

72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

EGM-M 15L-1FX main view

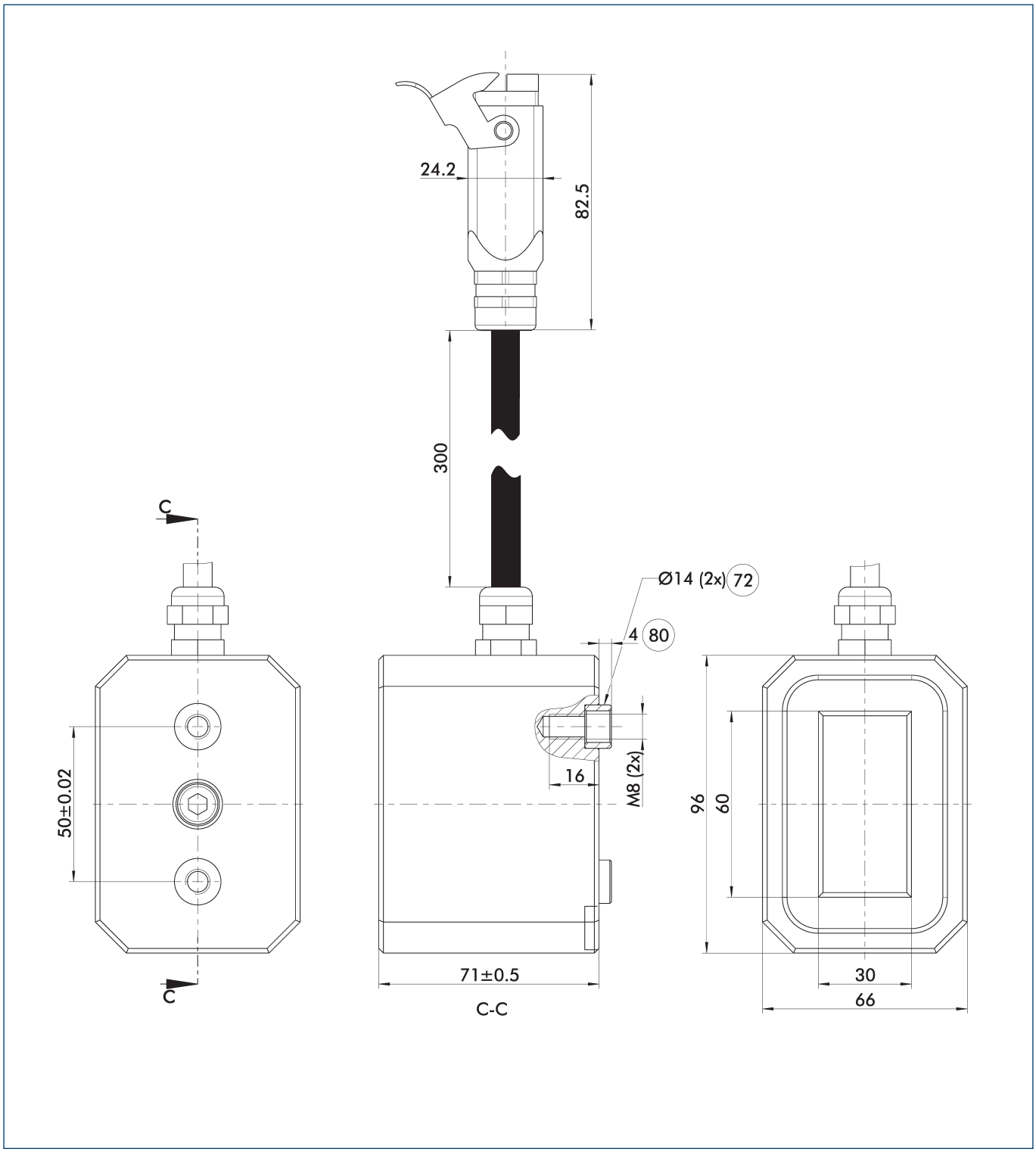


The drawing shows the magnet gripper in basis configuration, without any additional accessories.

72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

EGM-M 30L-1FX main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

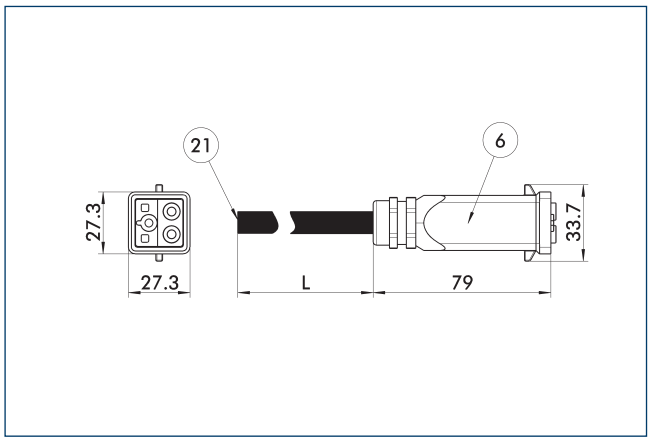
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

EGM M-L

Magnetic gripper

Connection cables

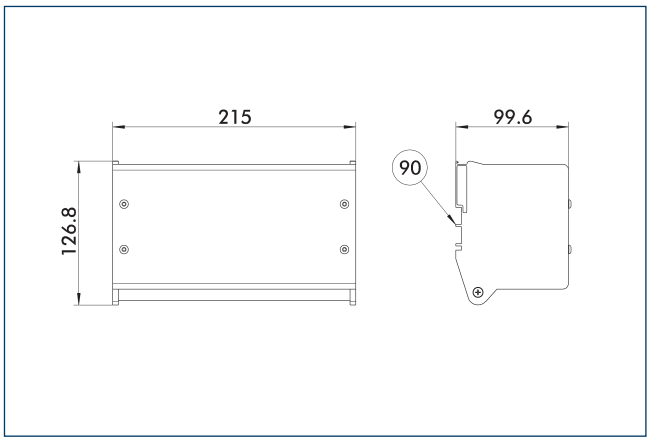


(6) Connection module side (21) Connection controller side

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.

Description	ID	L1
		[m]
Connection cable EGM		
KA GLNQS03-LK-00500-J	0306302	5
KA GLNQS03-LK-01000-J	0306303	10
KA GLNQS03-LK-01500-J	0306304	15
KA GLNQS03-LK-02000-J	0306305	20

Magnetic controller ECG-C



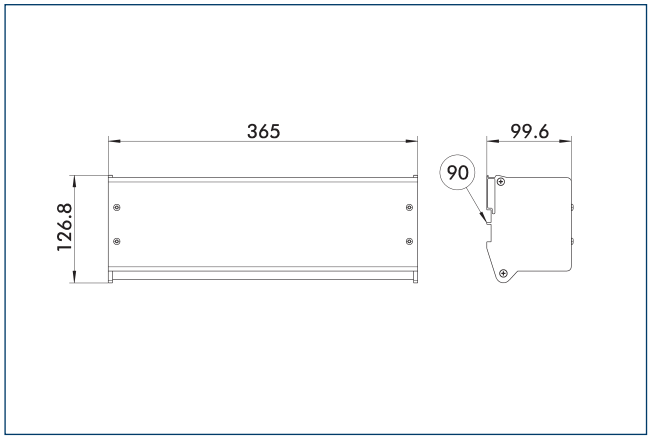
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. The "C" version allows digital switching of the EGM.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch		
ECG-C 01	0306300	400
ECG-C 02	0306301	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-W



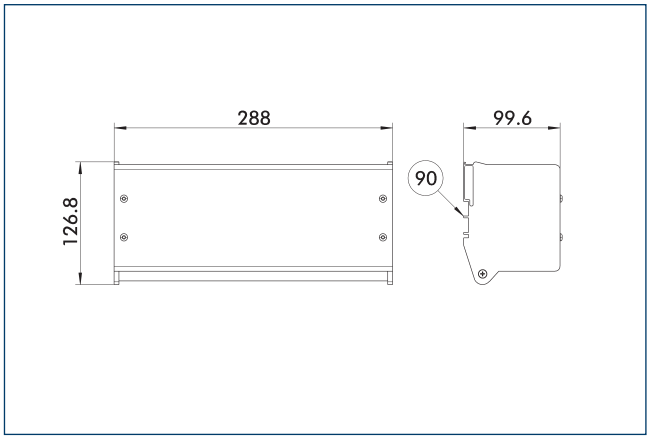
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "W" enables digital switching of the EGM while holding a workpiece during the welding process.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch during the welding process		
ECG-W 01	0306395	400
ECG-W 02	0306396	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-R



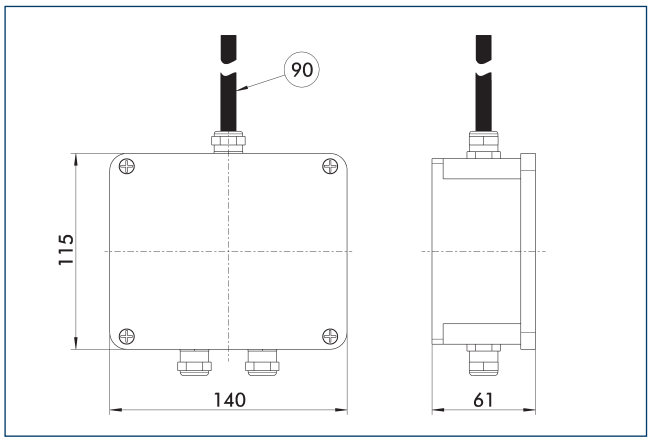
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "R" enables force control in eight force levels.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with force control		
ECG-R 02	0306391	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

2-way distributor box

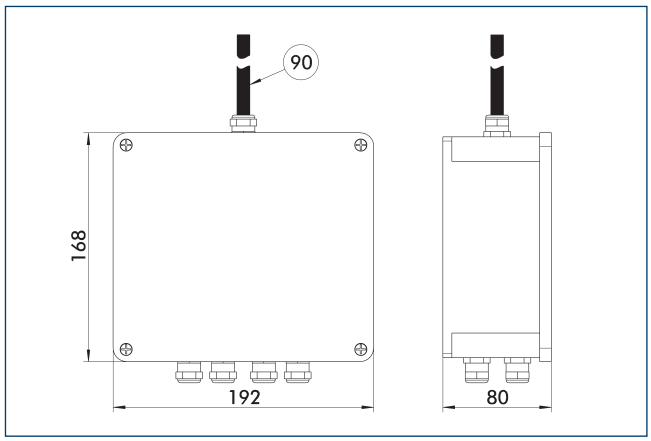


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
2-way distributor box		
EGM-JB 2	0306432	

4-way distributor box

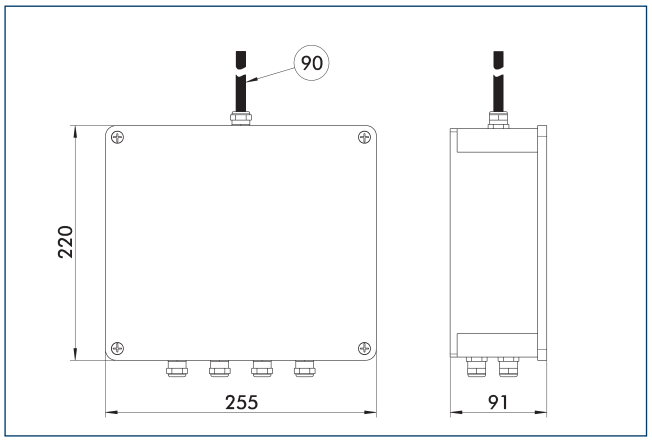


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
4-way distributor box		
EGM-JB 4	0306434	

8-way distributor box



(90) Cable length 10 m, open wires

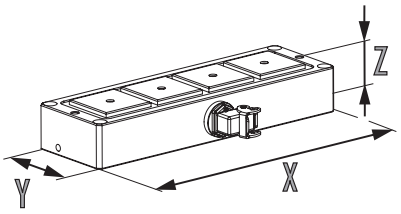
Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
8-way distributor box		
EGM-JB 8	0306438	

EGM B-Q

Magnetic gripper

Dimensions

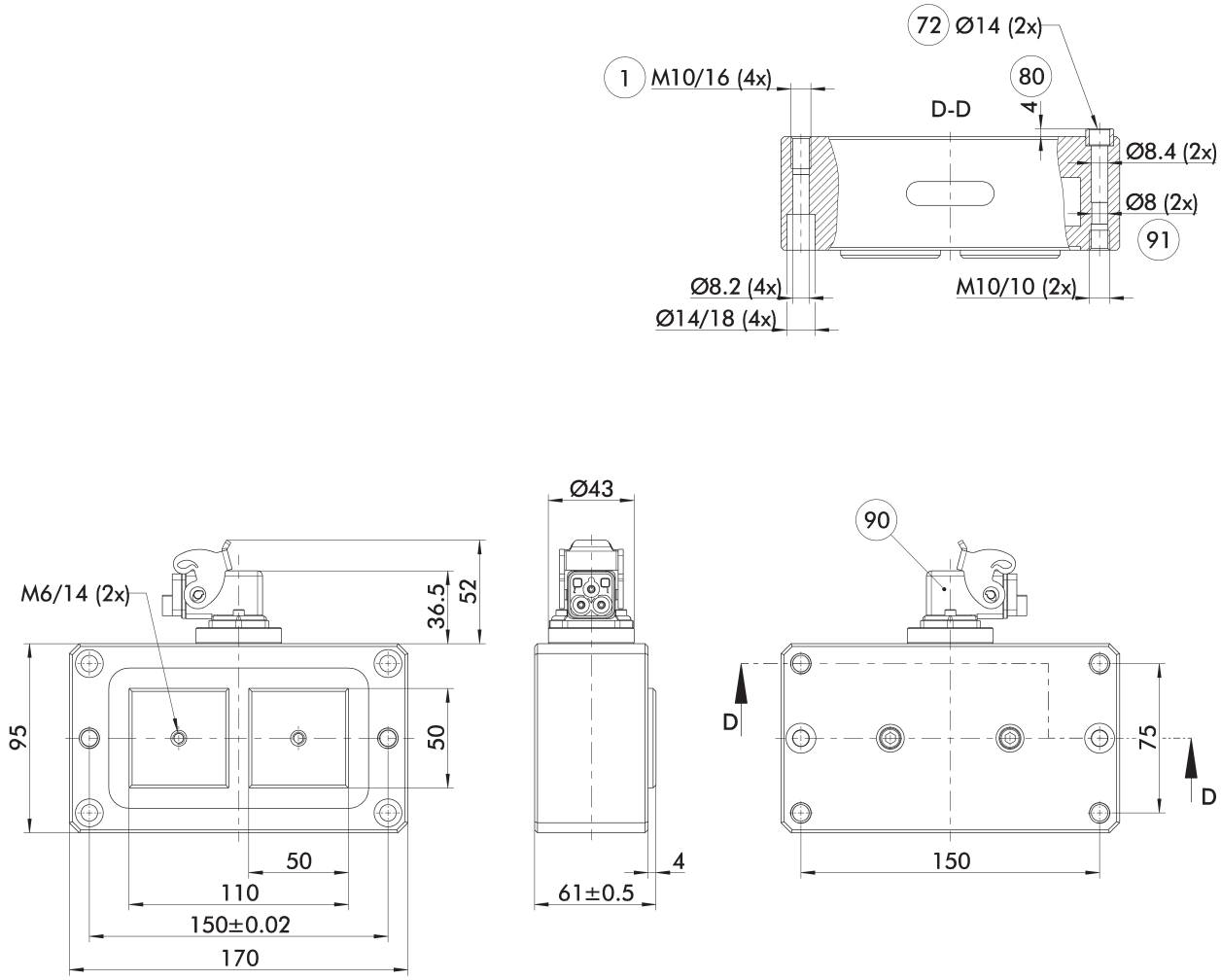


For values see technical data table

Technical data

Description		EGM-B-Q-50-1x2	EGM-B-Q-50-1x4	EGM-B-Q-50-2x2	EGM-B-Q-70-1x2	EGM-B-Q-70-1x4	EGM-B-Q-70-2x2
ID		0306370	0306372	0306371	0306380	0306382	0306381
Weight	[kg]	5.5	13	8.5	9	25	18
Number of poles		2	4	4	2	4	4
Magnet area	[cm²]	50	100	100	98	196	196
Minimum workpiece thickness	[mm]	12	14	14	14	18	18
Payload for horizontal magnet surface	[kg]	75	175	175	120	296	290
Payload for vertical magnet surface	[kg]	30	70	70	48	118	115
Max. activations/minute	[1/min]	20	8	8	15	10	10
Module temperature increasement in case of 5/15 activations/minute	[°C]	12/30	30/68	30/68	15/40	24/60	24/60
IP protection class		54	54	54	54	54	54
Current consumption upon activation/deactivation	[A]	2.9	9.5	9.5	6.4	12.3	12.3
Dimensions X x Y x Z	[mm]	170 x 95 x 61	290 x 95 x 61	170 x 150 x 61	210 x 115 x 61	370 x 115 x 61	210 x 195 x 61
Magnet controller data							
Magnet controller type		ECG 02	ECG 02	ECG 02	ECG 02	ECG 02	ECG 02
Nominal voltage	[V AC]	400	400	400	400	400	400
Max. current	[A]	32	32	32	32	32	32
Max. number of modules per controller		25	7	7	9	4	5

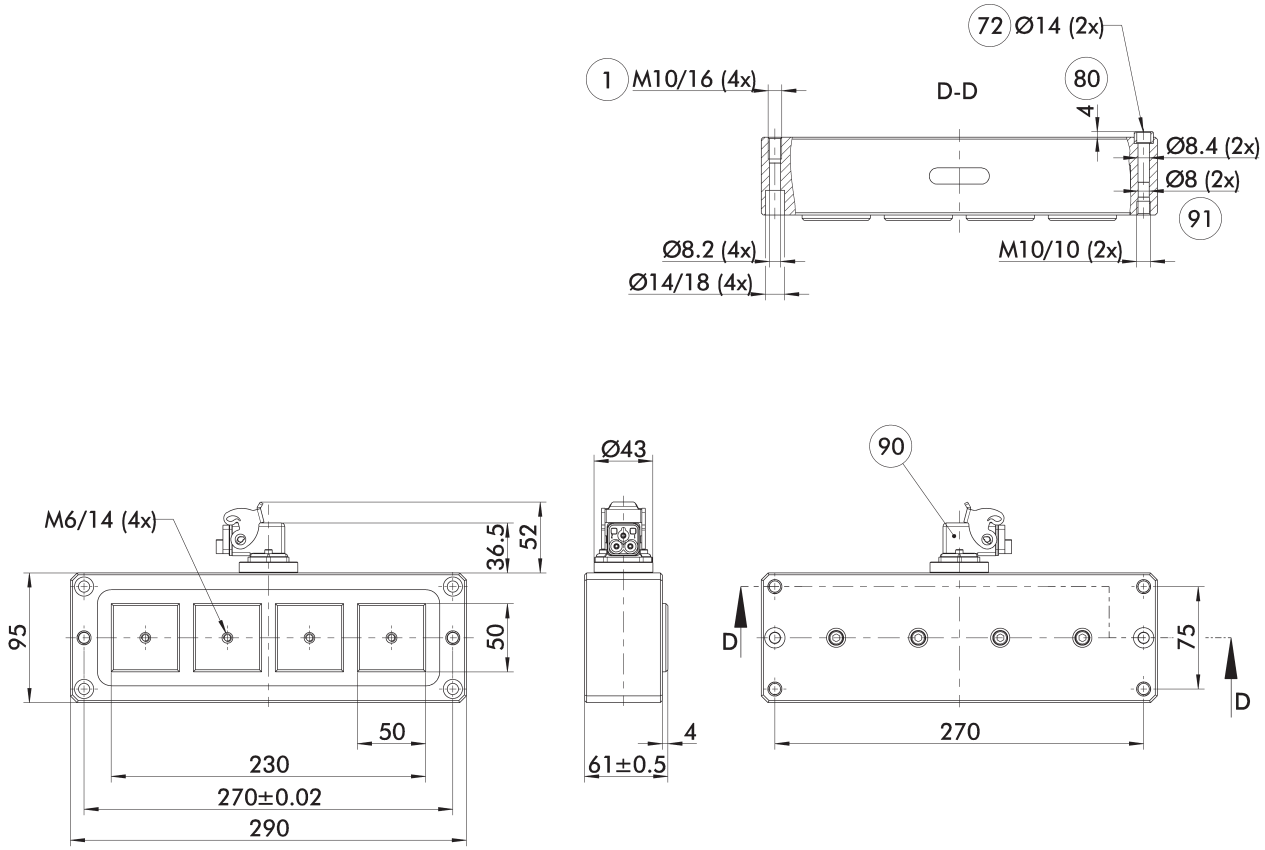
EGM-B 50Q-1x2 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Plug connector
(91) fitting for pole extension

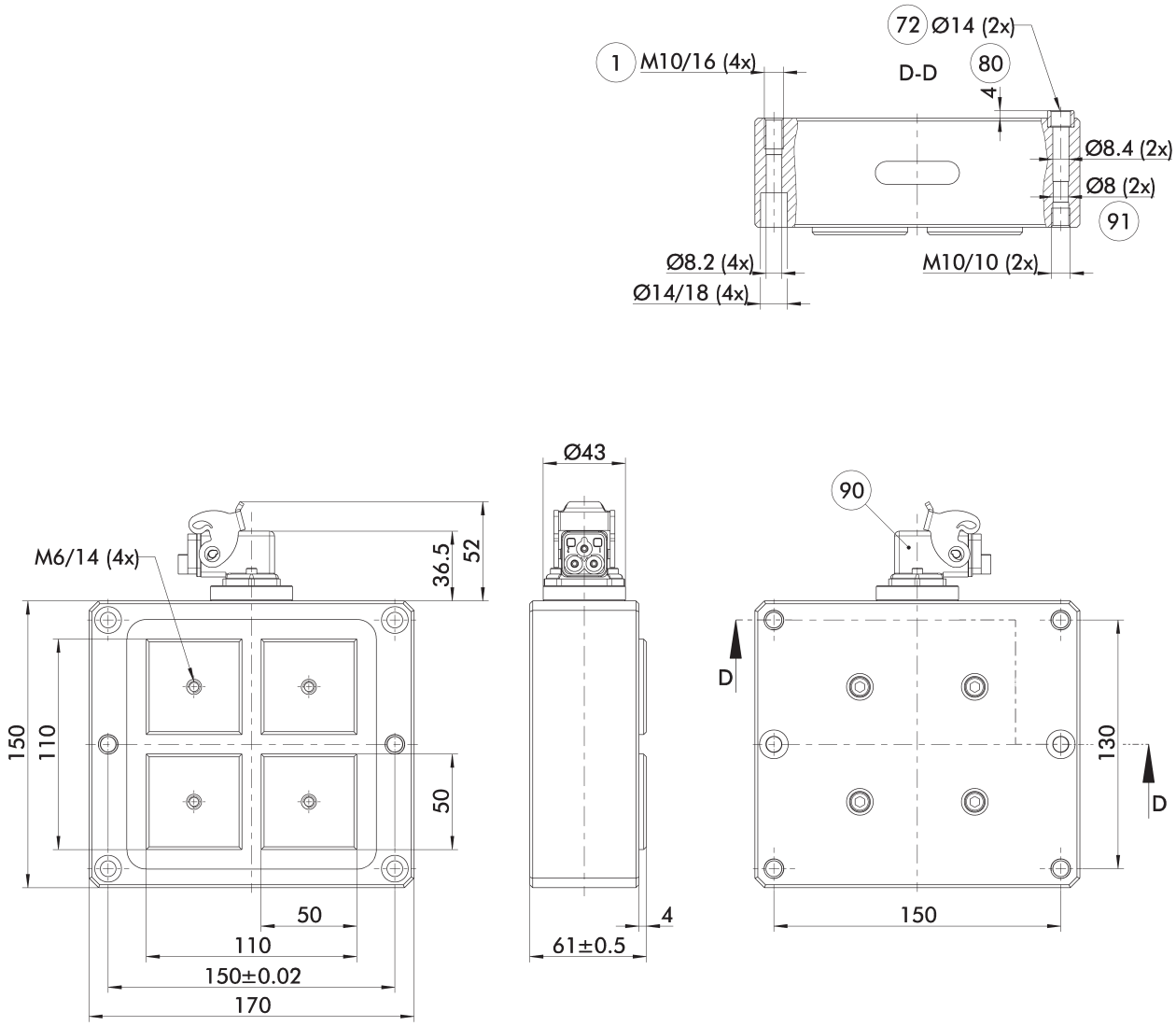
EGM-B 50Q-1x4 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Plug connector
(91) fitting for pole extension

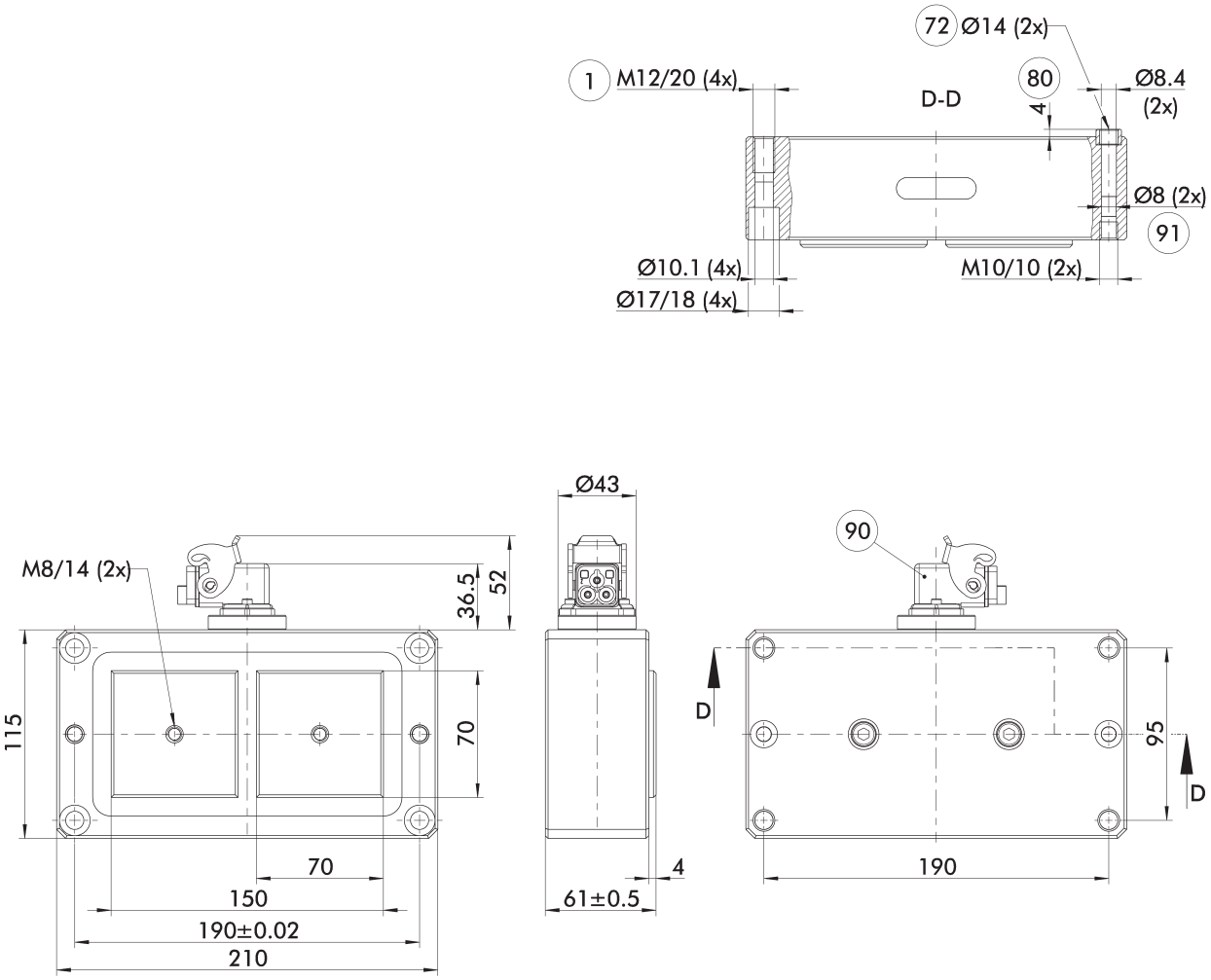
EGM-B 50Q-2x2 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Gripper connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Plug connector
91 fitting for pole extension

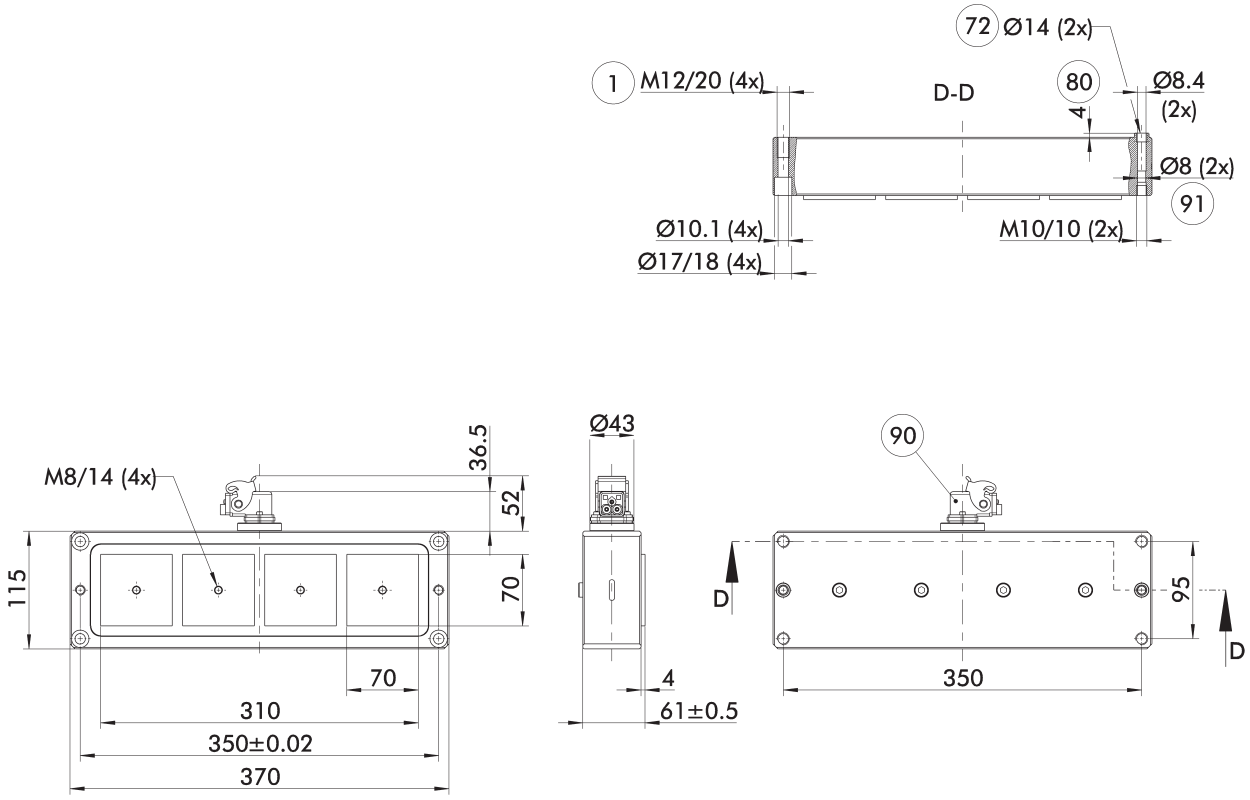
EGM-B 70Q-1x2 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Gripper connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Plug connector
91 fitting for pole extension

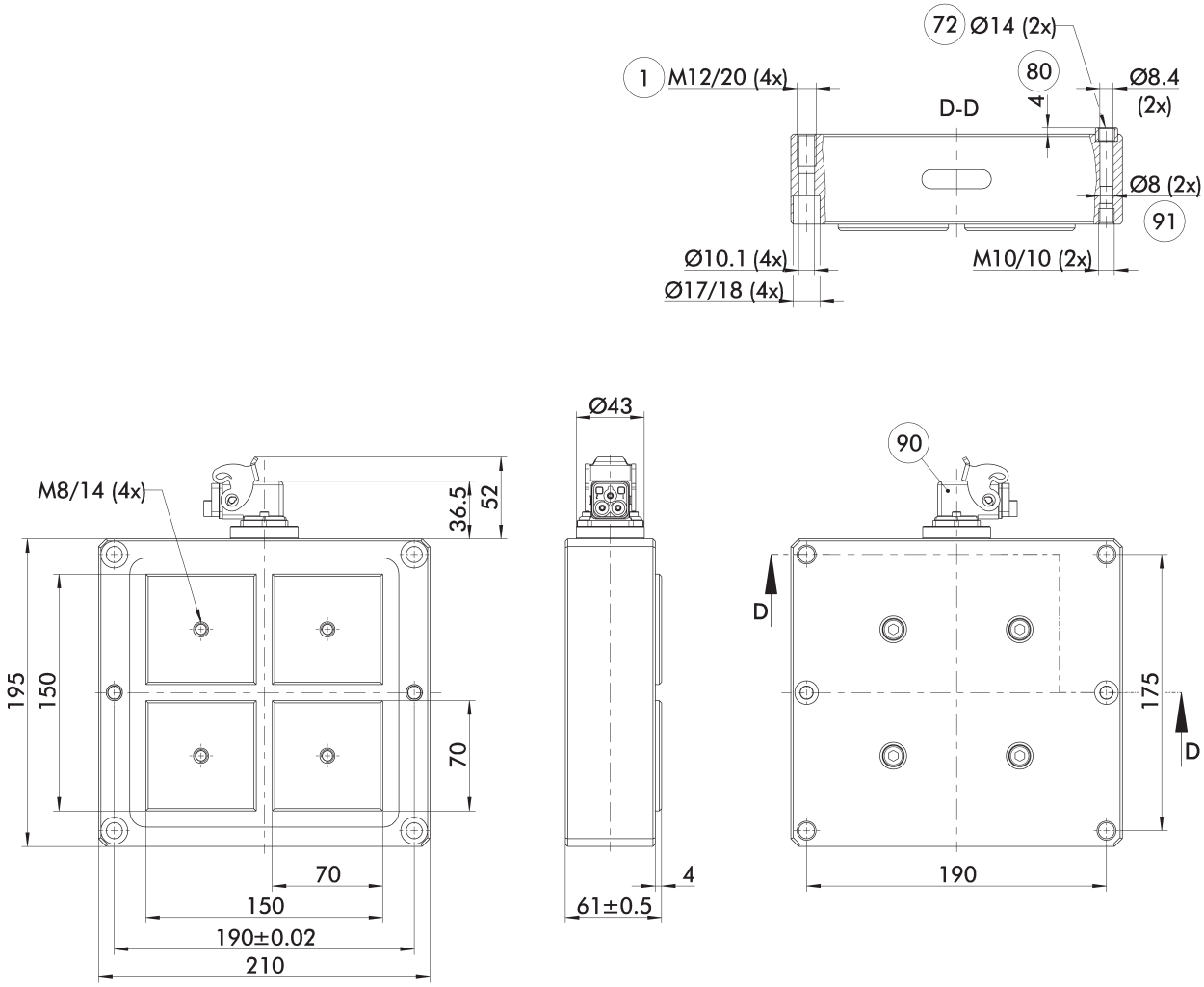
EGM-B 70Q-1x4 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Gripper connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Plug connector
91 fitting for pole extension

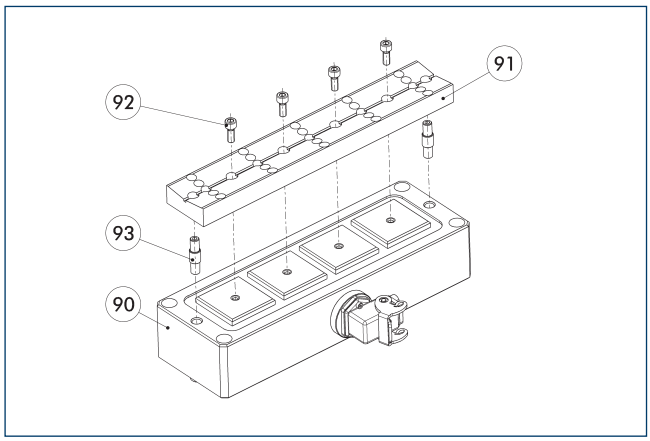
EGM-B 70Q-2x2 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Plug connector
(91) fitting for pole extension

Pole extension



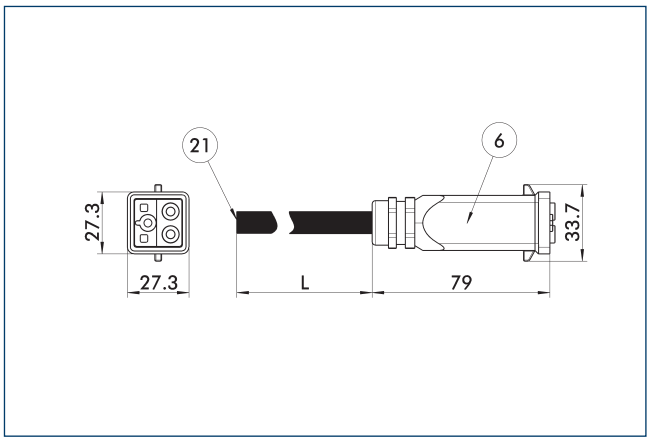
(90) Magnet gripper EGM
(91) Pole extension
(92) Screws
(93) Centring screw

Prismatic pole extensions enable the gripping of round workpieces. The mounting material and centering elements are included in the scope of delivery.

Description	ID	
Pole extension		
PVL B-Q-50-1x2	0306383	
PVL B-Q-50-1x4	0306384	
PVL B-Q-70-1x2	0306387	
PVL B-Q-70-1x4	0306388	

ⓘ When using pole extensions, the max. payload is reduced by 50%.

Connection cables

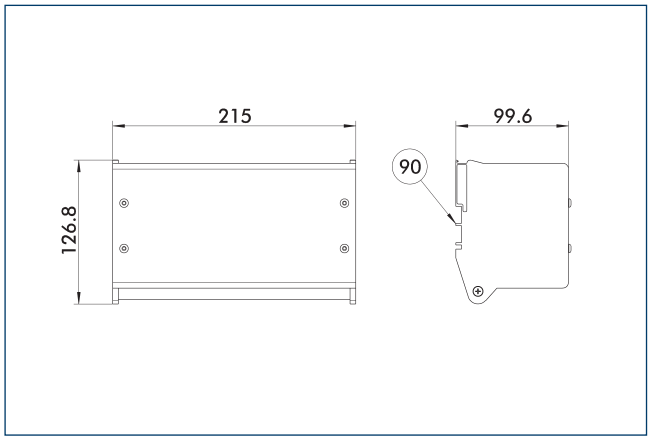


(6) Connection module side
(21) Connection controller side

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.

Description	ID	L1
		[m]
Connection cable EGM		
KA GLNQS03-LK-00500-J	0306302	5
KA GLNQS03-LK-01000-J	0306303	10
KA GLNQS03-LK-01500-J	0306304	15
KA GLNQS03-LK-02000-J	0306305	20

Magnetic controller ECG-C



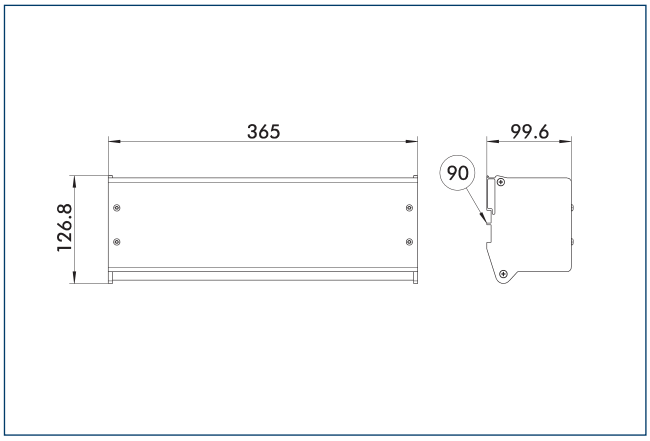
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. The "C" version allows digital switching of the EGM.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch		
ECG-C 02	0306301	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-W



(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "W" enables digital switching of the EGM while holding a workpiece during the welding process.

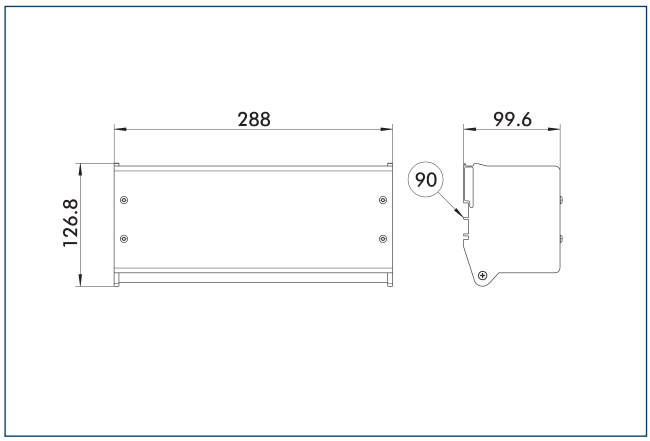
Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch during the welding process		
ECG-W 02	0306396	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

EGM B-Q

Magnetic gripper

Magnetic controller ECG-R



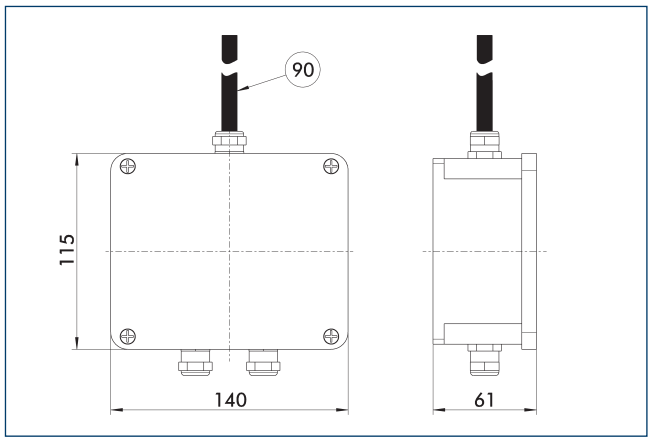
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "R" enables force control in eight force levels.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with force control		
ECG-R 02	0306391	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

2-way distributor box

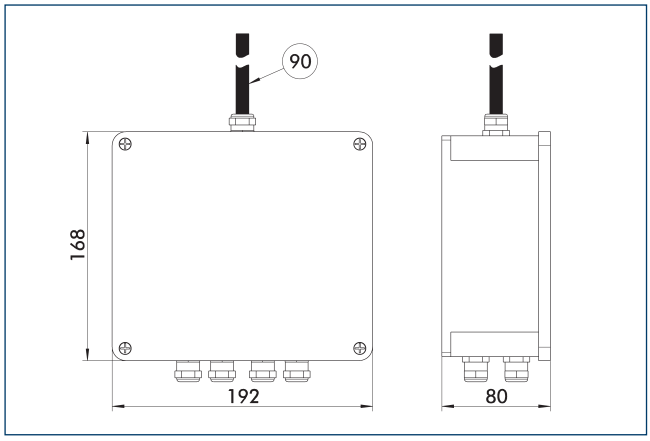


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
2-way distributor box		
EGM-JB 2	0306432	

4-way distributor box

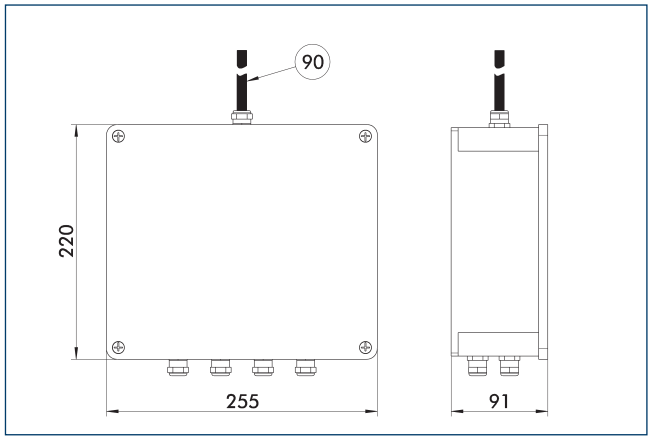


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
4-way distributor box		
EGM-JB 4	0306434	

8-way distributor box



(90) Cable length 10 m, open wires

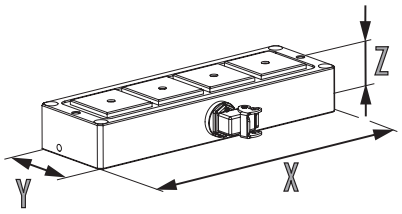
Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
8-way distributor box		
EGM-JB 8	0306438	

EGM B-L

Magnetic gripper

Dimensions

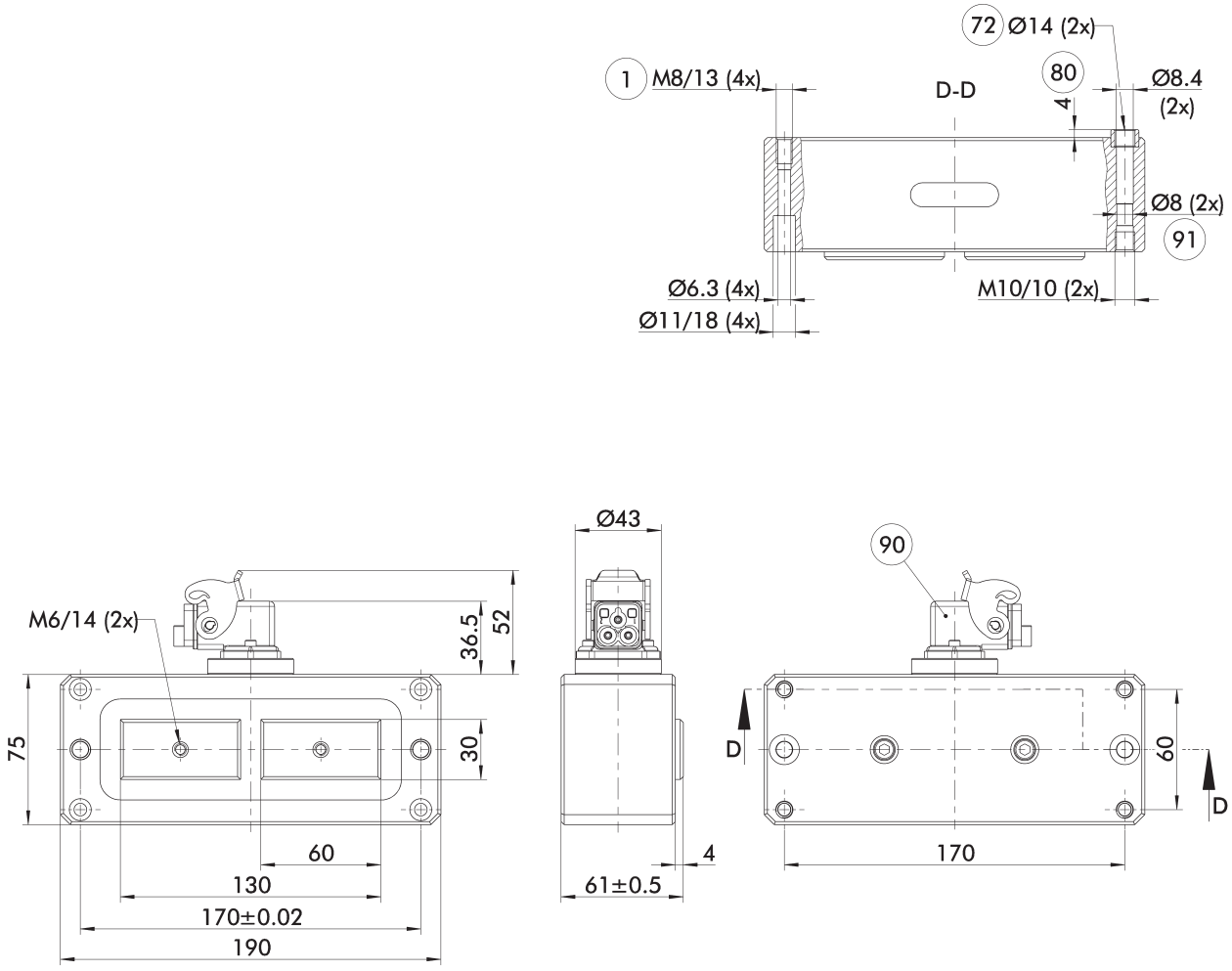


For values see technical data table

Technical data

Description		EGM-B-L-30-1x2	EGM-B-L-30-1x4
ID		0306373	0306374
Weight	[kg]	6.5	11.5
Number of poles		2	4
Magnet area	[cm²]	36	72
Minimum workpiece thickness	[mm]	8	8
Payload for horizontal magnet surface	[kg]	60	110
Payload for vertical magnet surface	[kg]	20	40
Max. activations/minute	[1/min]	15	20
Module temperature increasement in case of 5/15 activations/minute	[°C]	15/35	12/32
IP protection class		54	54
Current consumption upon activation/deactivation	[A]	3.1	6.5
Dimensions X x Y x Z	[mm]	190 x 75 x 61	330 x 75 x 61
Magnet controller data			
Magnet controller type		ECG 02	ECG 02
Nominal voltage	[V AC]	400	400
Max. current	[A]	32	32
Max. number of modules per controller		24	13

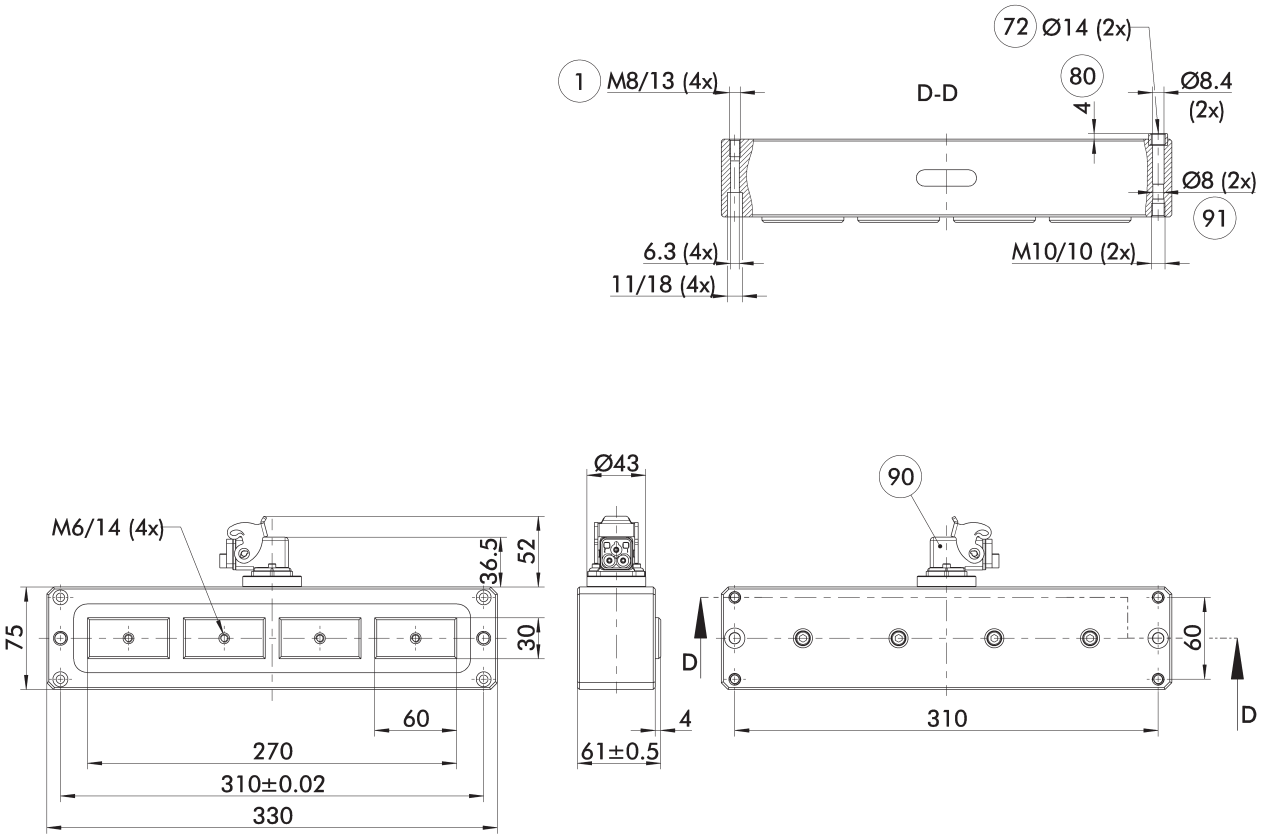
EGM-B 30L-1x2 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Gripper connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Plug connector
91 fitting for pole extension

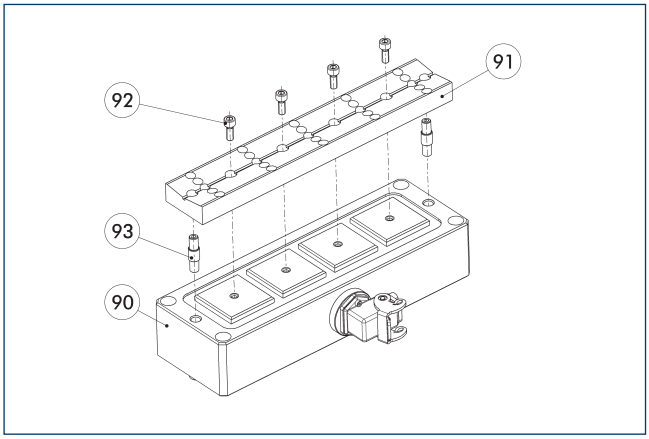
EGM-B 30L-1x4 main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Gripper connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Plug connector
91 fitting for pole extension

Pole extension



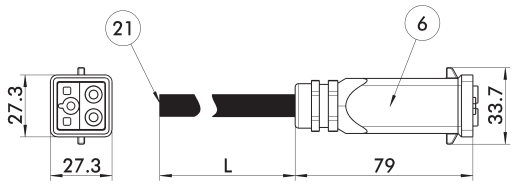
(90) Magnet gripper EGM
(91) Pole extension
(92) Screws
(93) Centring screw

Prismatic pole extensions enable the gripping of round workpieces. The mounting material and centering elements are included in the scope of delivery.

Description	ID	
Pole extension		
PVL B-L-30-1x2	0306385	
PVL B-L-30-1x4	0306386	

ⓘ When using pole extensions, the max. payload is reduced by 50%.

Connection cables

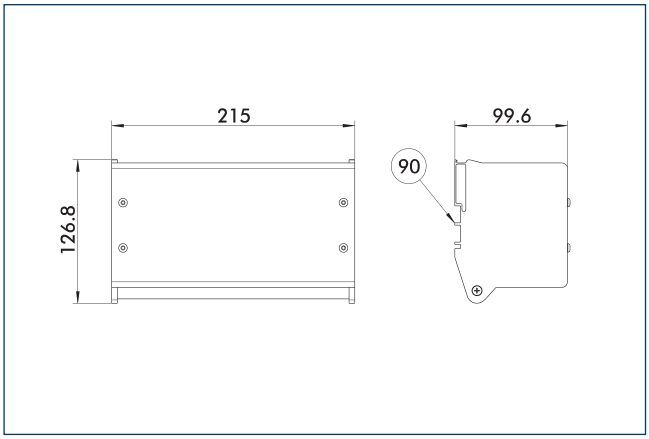


(6) Connection module side
(21) Connection controller side

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.

Description	ID	L1
		[m]
Connection cable EGM		
KA GLNQS03-LK-00500-J	0306302	5
KA GLNQS03-LK-01000-J	0306303	10
KA GLNQS03-LK-01500-J	0306304	15
KA GLNQS03-LK-02000-J	0306305	20

Magnetic controller ECG-C



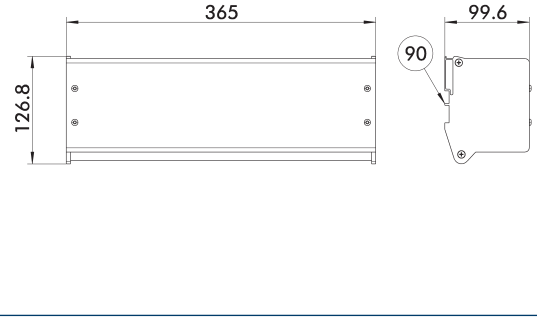
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. The "C" version allows digital switching of the EGM.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch		
ECG-C 02	0306301	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-W



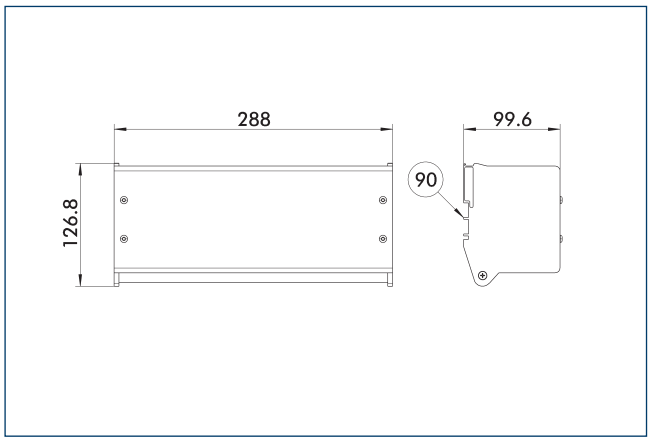
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "W" enables digital switching of the EGM while holding a workpiece during the welding process.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with digital switch during the welding process		
ECG-W 02	0306396	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

Magnetic controller ECG-R



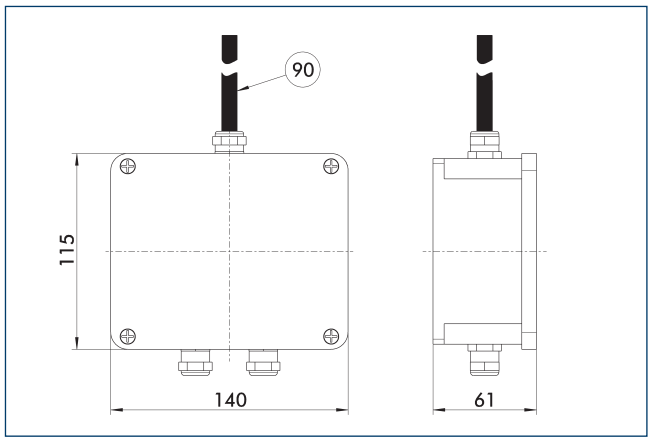
(90) Mounting on top-hat rail

An ECG control unit is required for actuating the EGM. Version "R" enables force control in eight force levels.

Description	ID	Power supply (load)
		[V AC]
Magnetic controller for EGM with force control		
ECG-R 02	0306391	400

ⓘ One ECG can control several magnets at the same time. For independent actuation of several magnets, several control units are needed.

2-way distributor box

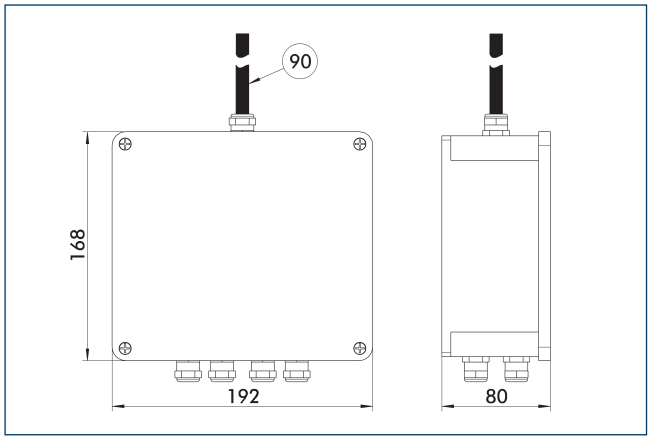


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
2-way distributor box		
EGM-JB 2	0306432	

4-way distributor box

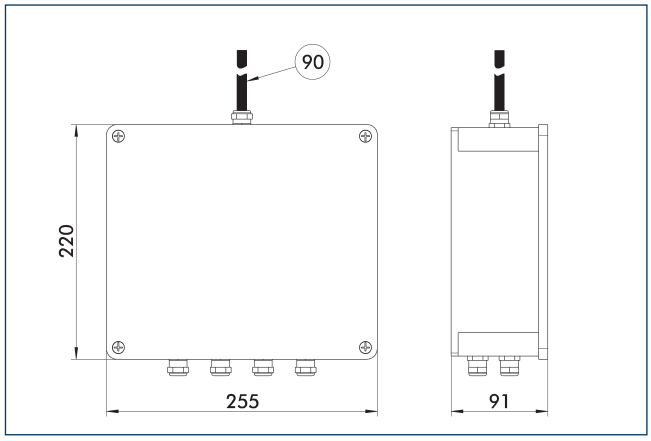


(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
4-way distributor box		
EGM-JB 4	0306434	

8-way distributor box



(90) Cable length 10 m, open wires

Several EGMs can be connected to the distributor box. This simplifies the wiring of the EGMS with the ECG controller.

Description	ID	
8-way distributor box		
EGM-JB 8	0306438	

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

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	Weight	Gripping force	Stroke per jaw	Torque
Quantity: 2	0.45 .. 1.2 kg	30 .. 140 N	3 .. 6 mm	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

⑥ **Patented gear coupling**
Endless rotation without an electric feed-through

EGS

Rotary gripping module with parallel gripper

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

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

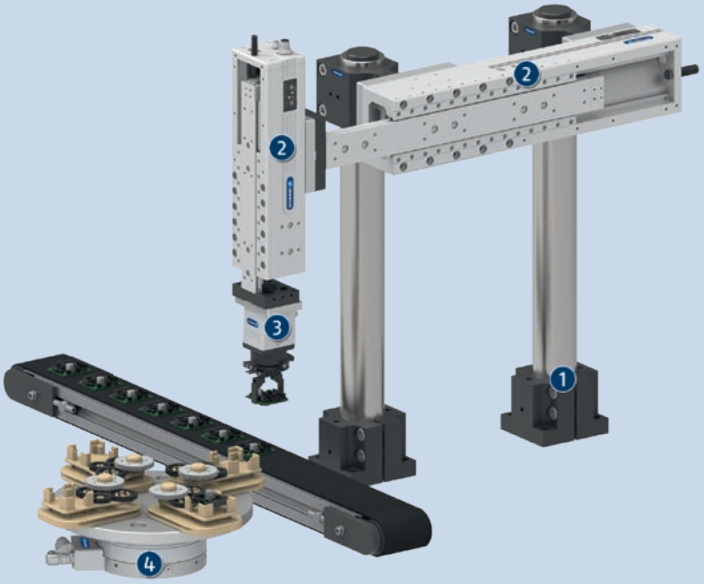
Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

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

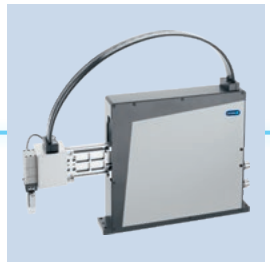
Electrically driven pick & place unit with gripper swivel module for simultaneous turning and shifting of electronic components.

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

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

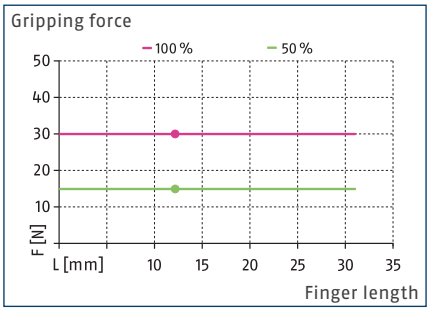
Options and special information

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 senors.
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.

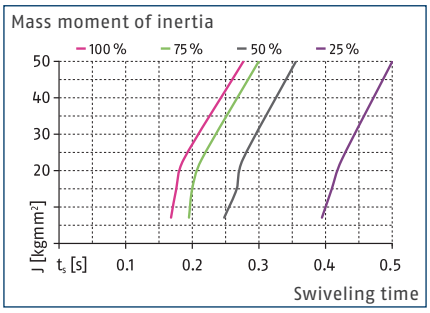
EGS 25

Rotary gripping module with parallel gripper

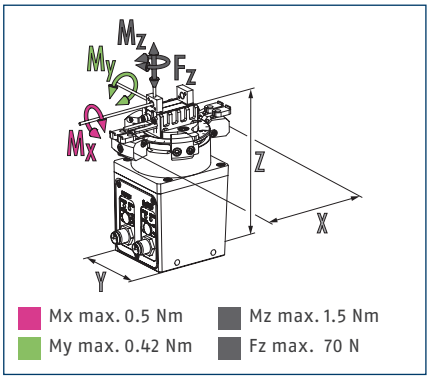
Gripping force



Swiveling time* 180°



Dimensions and maximum loads



Mx max. 0.5 Nm	Mz max. 1.5 Nm
My max. 0.42 Nm	Fz max. 70 N

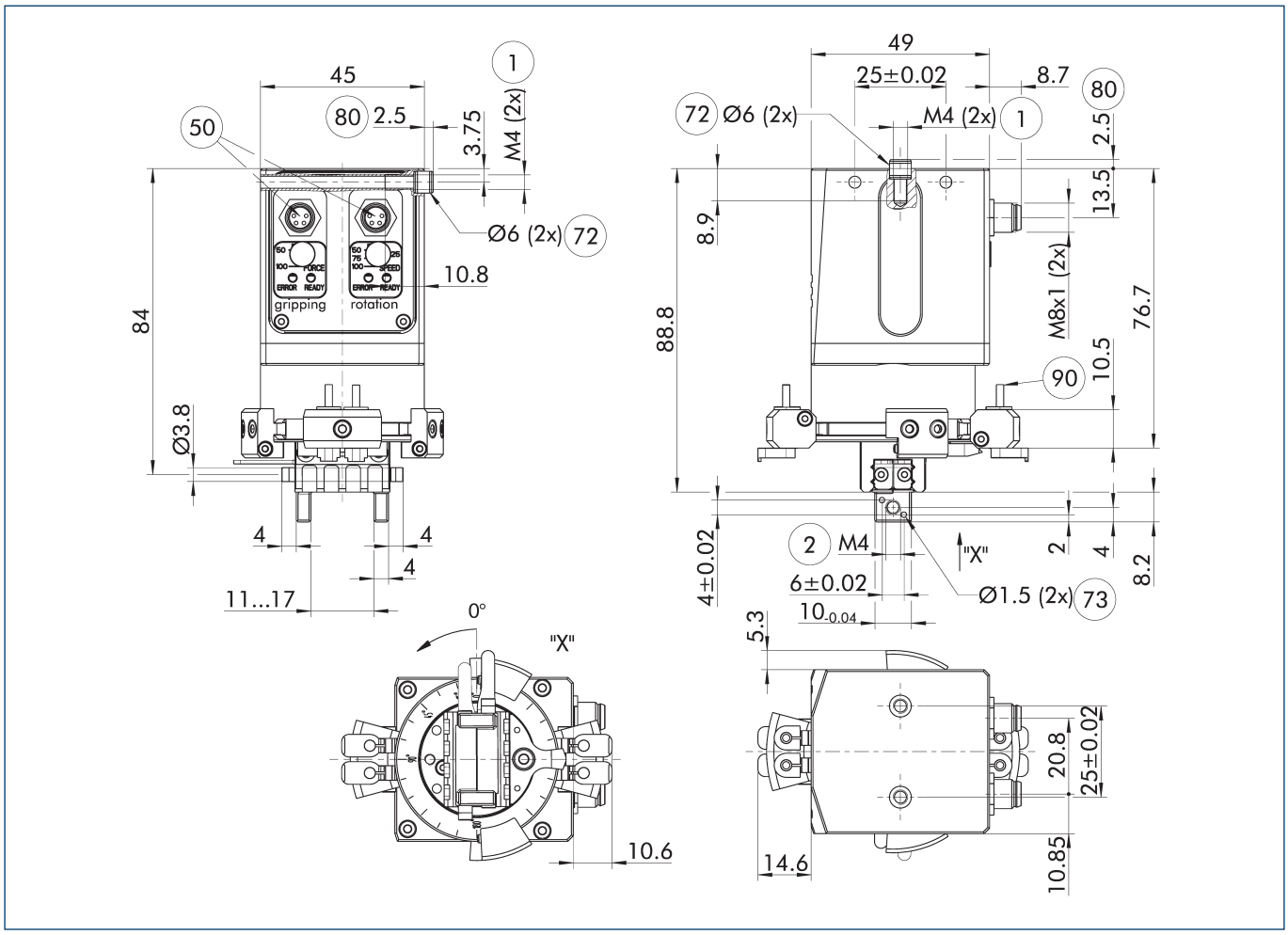
ⓘ The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

Description		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 mass per finger	[kg]	0.02
Max. 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.

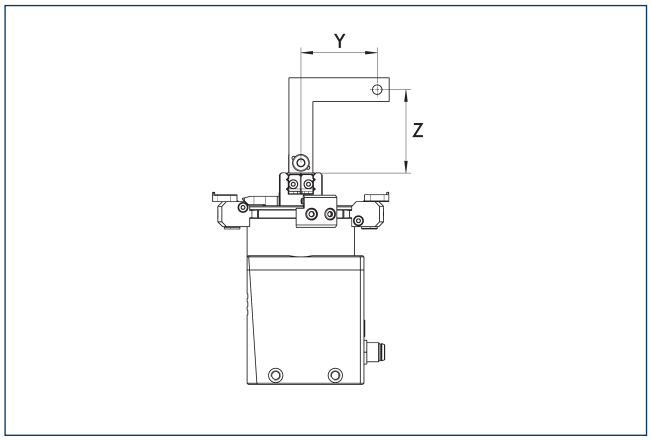
Main view

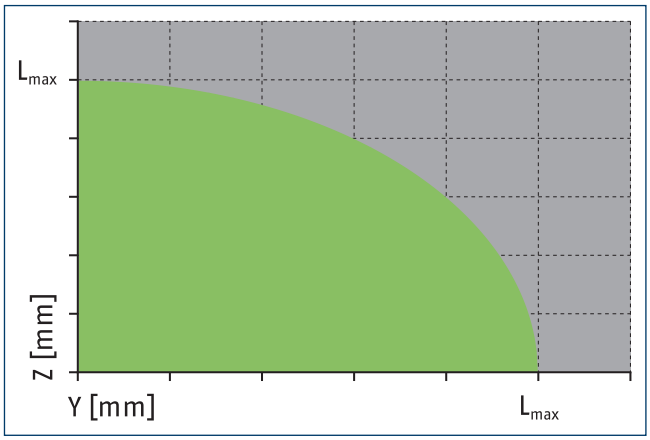


The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

1. Connection gripper swivel module
2. Finger connection
50. Electrical connection
72. Fit for centering sleeves
73. Fit for centering pins
80. Depth of the centering sleeve hole in the counter part
90. Sensor IN ...

Maximum permitted finger projection





Permitted range

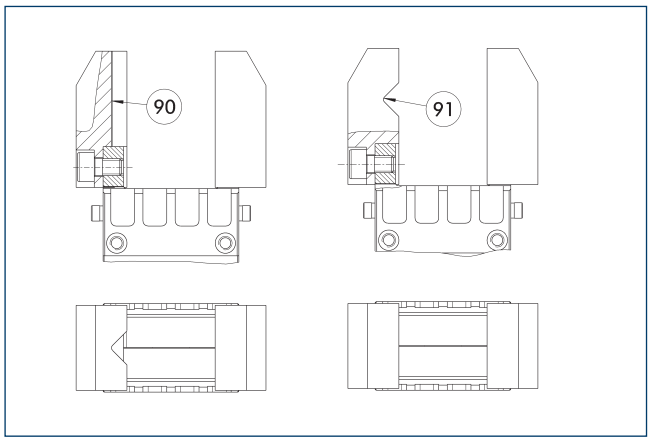
Inadmissible range

Lmax is equivalent to the maximum permitted finger length, see the technical data table.

EGS 25

Rotary gripping module with parallel gripper

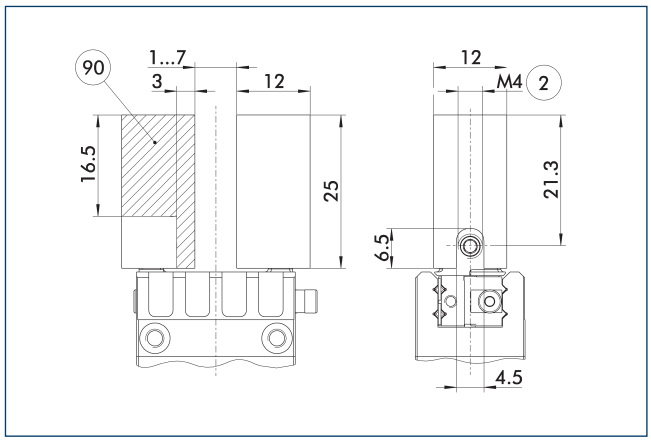
Jaw design



(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

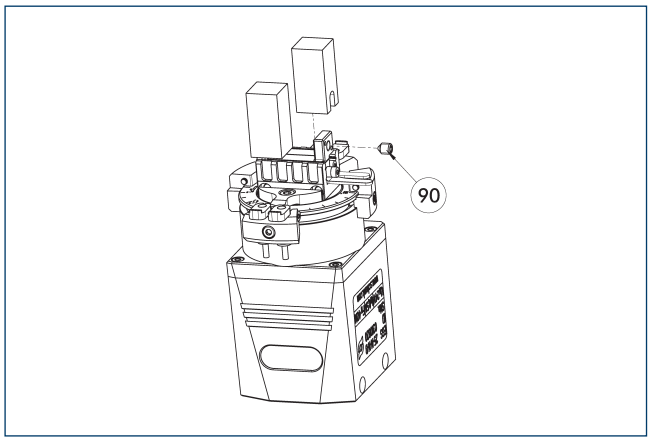


(2) Finger connection (90) Machining volume

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

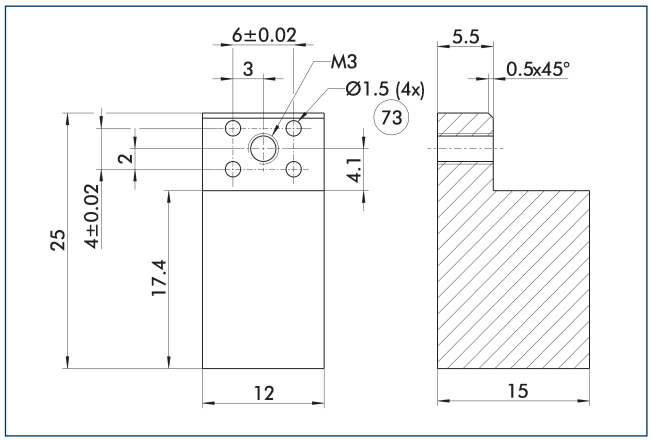


(90) Included in the scope of delivery

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

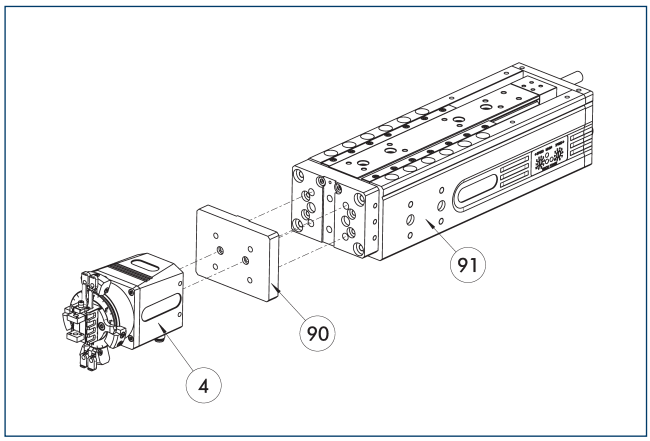


(73) Fit for centering pins

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

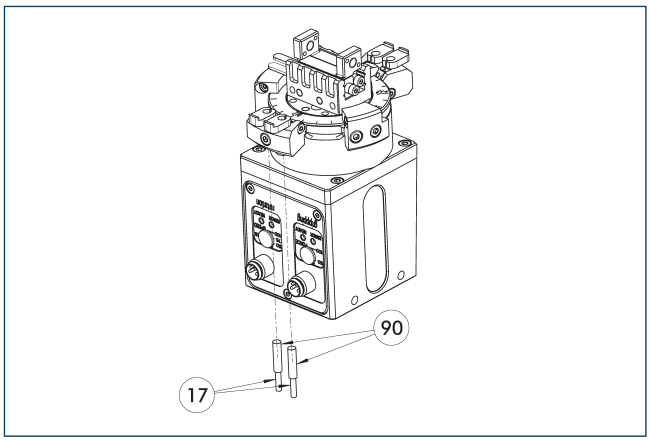
Modular Assembly Automation



(4) Rotary gripper module
(90) ASG adapter plate
(91) CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

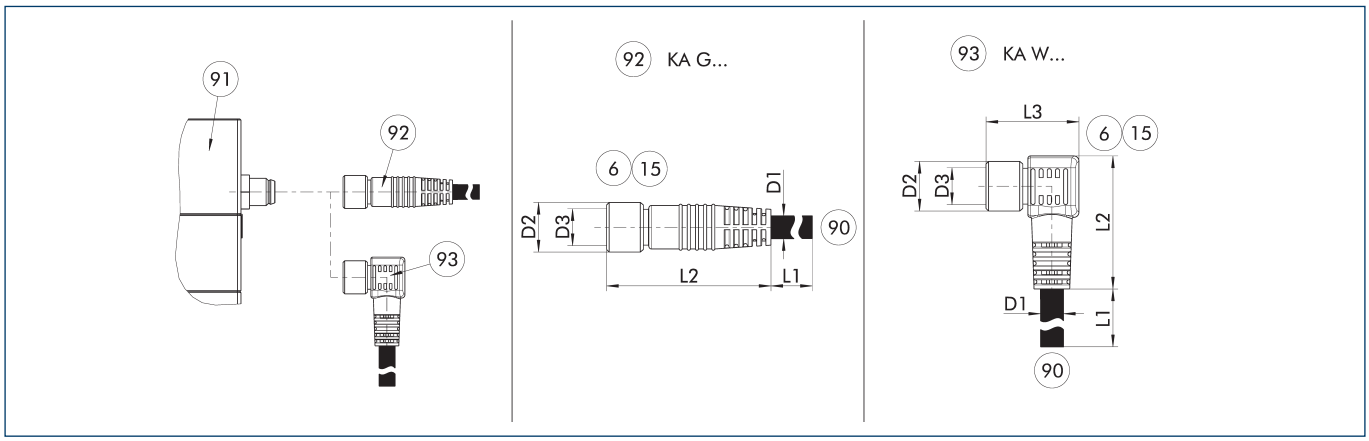


(17) Cable outlet
(90) Sensor IN ...

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 plug/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	

ⓘ 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.

Connection cables



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. Please note that two connection cables are required per 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.

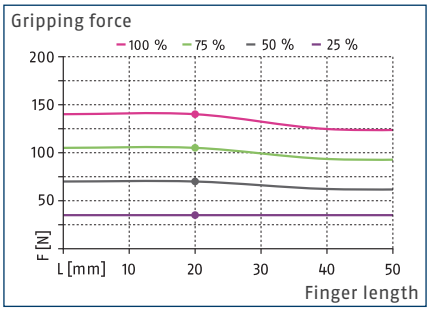
Description	ID	Length	Often combined
		[m]	
Connection cable – suitable for drag chains and a high torsion resistance			
KA GLN0804-I0-00200-A	1310371	2	
KA GLN0804-I0-00500-A	1310375	5	●
KA GLN0804-I0-01000-A	1310379	10	
KA WLN0804-I0-00200-A	1310372	2	
KA WLN0804-I0-00500-A	1310376	5	
KA WLN0804-I0-01000-A	1310381	10	

ⓘ 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.

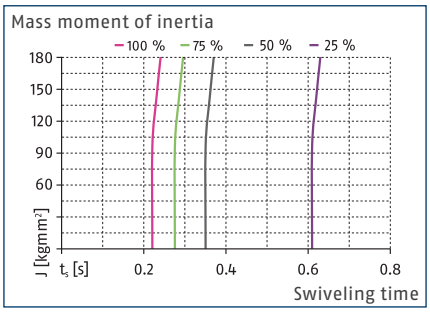
EGS 40

Rotary gripping module with parallel gripper

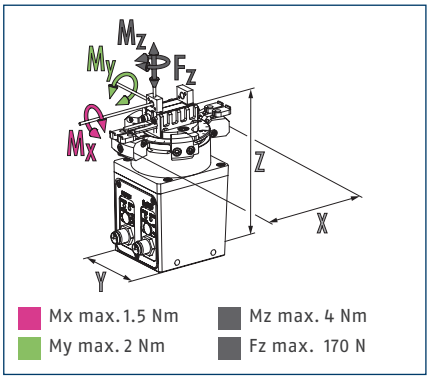
Gripping force



Swiveling time* 180°



Dimensions and maximum loads



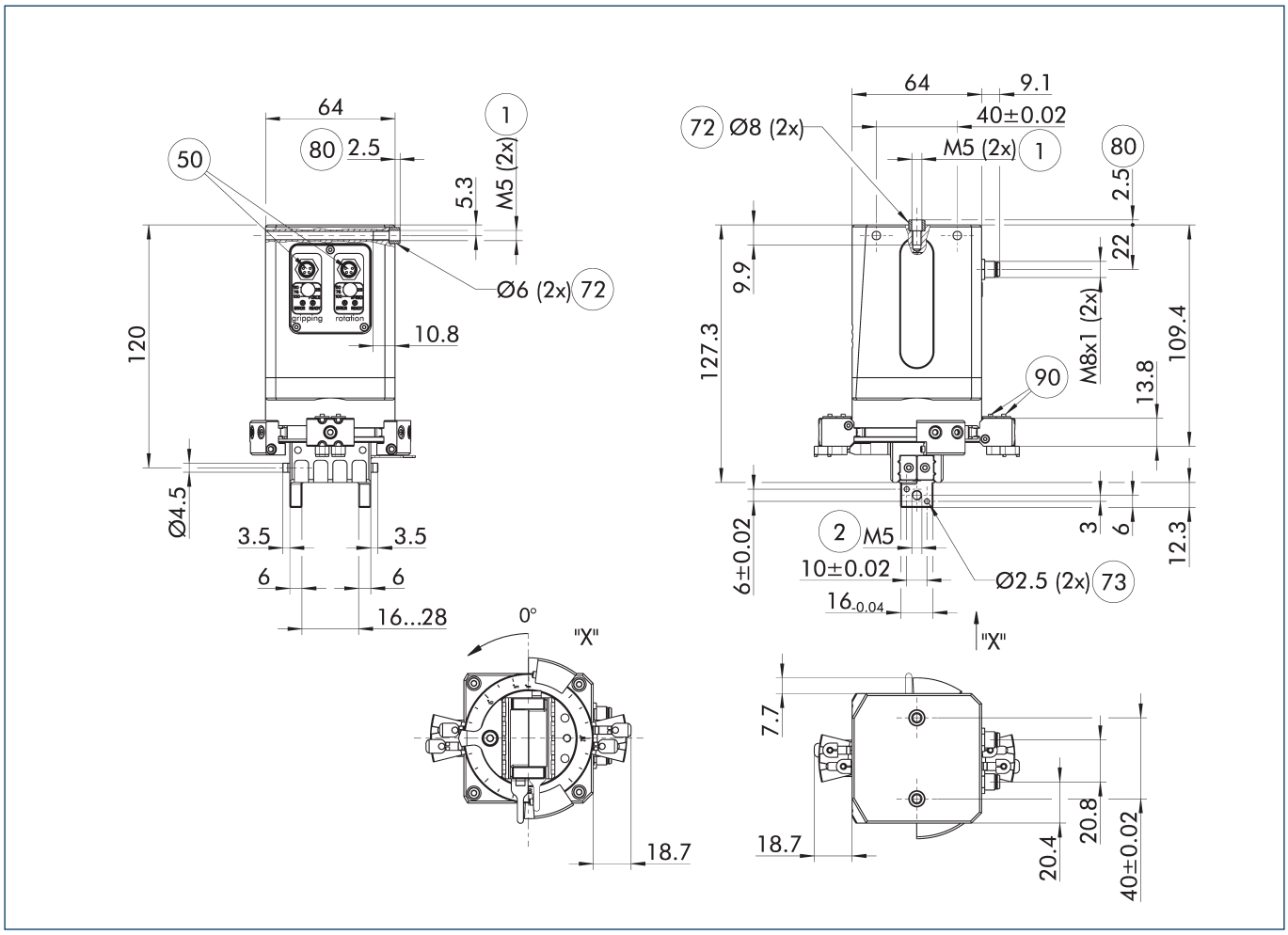
ⓘ The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

Description		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 mass per finger	[kg]	0.08
Max. 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.

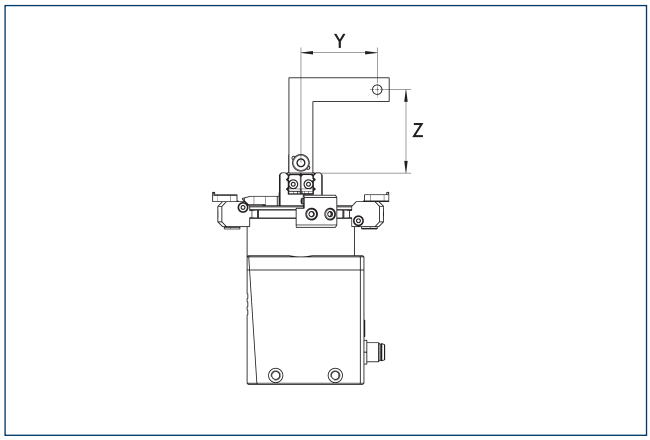
Main view

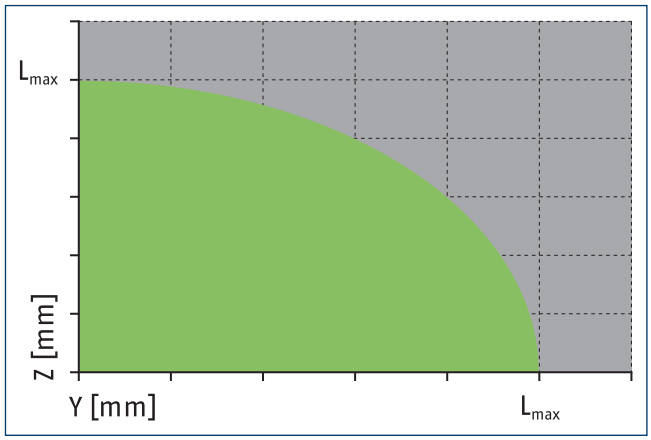


The drawing shows the basic version of the gripper with open jaws, without dimensional consideration of the options described below.

(1) Connection gripper swivel module
(2) Finger connection
(50) Electrical connection
(72) Fit for centering sleeves
(73) Fit for centering pins
(80) Depth of the centering sleeve hole in the counter part
(90) Sensor IN ...

Maximum permitted finger projection





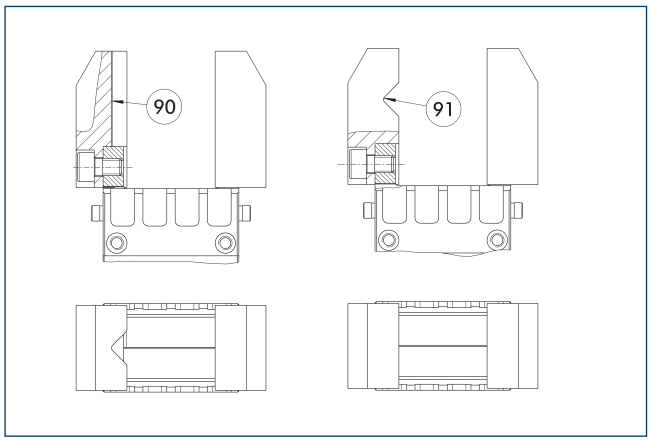
Permitted range
Inadmissible range

Lmax is equivalent to the maximum permitted finger length, see the technical data table.

EGS 40

Rotary gripping module with parallel gripper

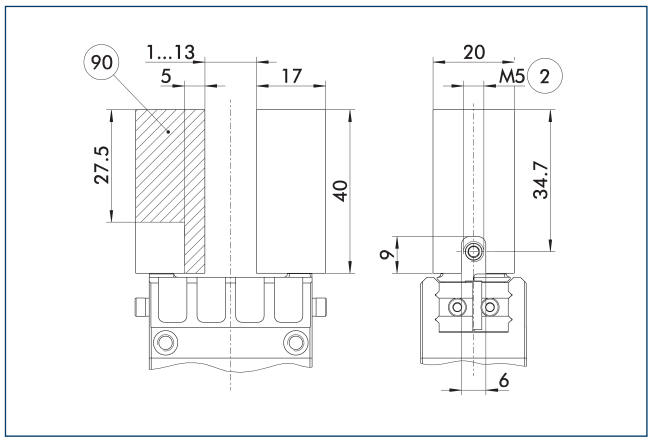
Jaw design



(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

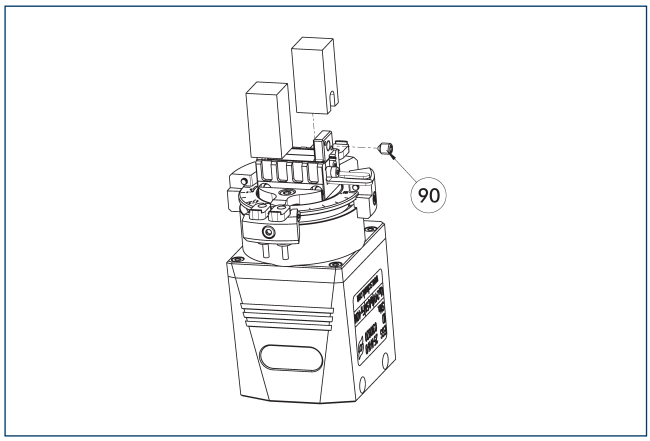


(2) Finger connection (90) Machining volume

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

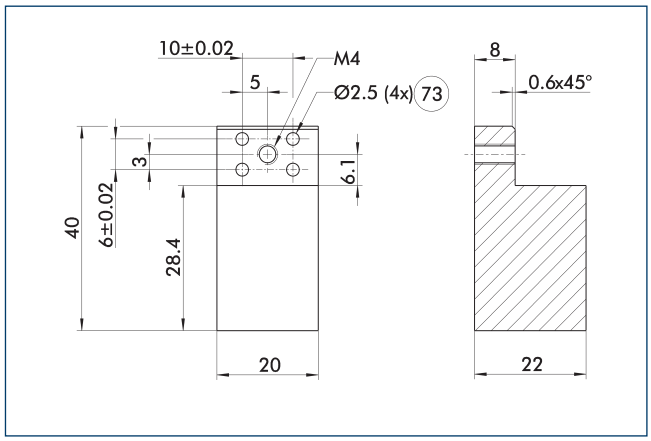


(90) Included in the scope of delivery

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

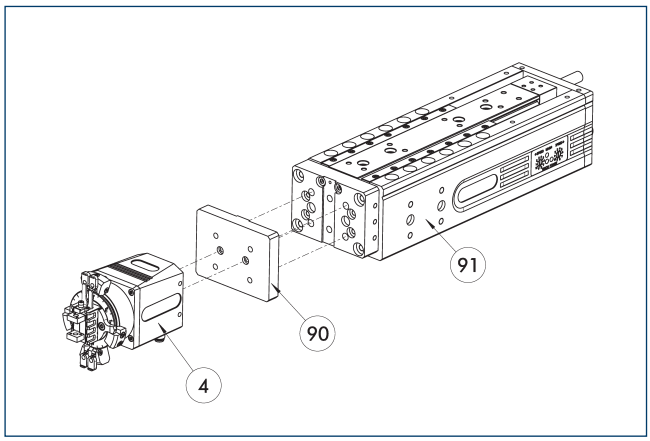


(73) Fit for centering pins

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

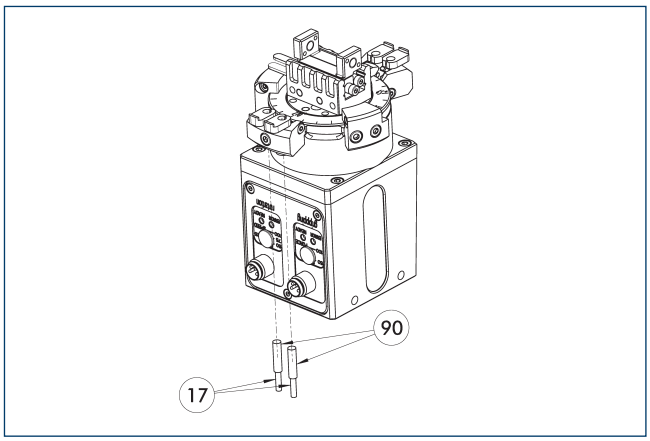
Modular Assembly Automation



(4) Rotary gripper module
(90) ASG adapter plate
(91) CLM/KLM/LM/ELP/ELM/ELS/HLM linear modules

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

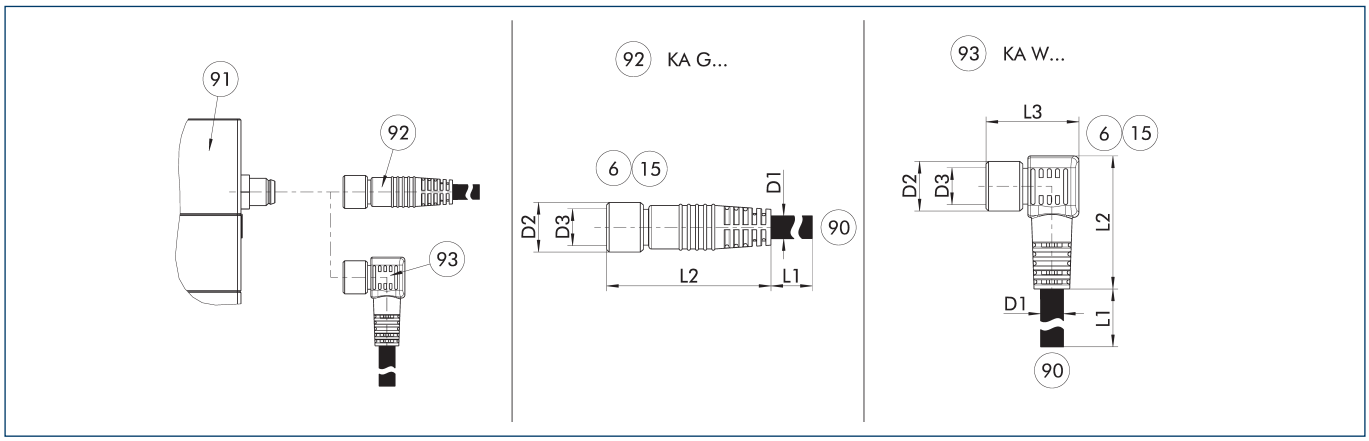


(17) Cable outlet
(90) Sensor IN ...

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 plug/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	

ⓘ 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.

Connection cables



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. Please note that two connection cables are required per 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	Length	Often combined
		[m]	
Connection cable – suitable for drag chains and a high torsion resistance			
KA GLN0804-I0-00200-A	1310371	2	
KA GLN0804-I0-00500-A	1310375	5	●
KA GLN0804-I0-01000-A	1310379	10	
KA WLN0804-I0-00200-A	1310372	2	
KA WLN0804-I0-00500-A	1310376	5	
KA WLN0804-I0-01000-A	1310381	10	

ⓘ 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.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Magnetic gripper EMH

Compact. Strong. Fast.

Magnetic gripper EMH

Electro-permanent magnetic gripper for energy-efficient handling of ferromagnetic workpieces with integrated electronics and feedback function

Field of application

Universal compact gripper for large diversity of parts in clean to slightly contaminated work environment

Advantages – Your benefits

High holding forces at lowest space for reliable part handling in compact machines

Low weight for high dynamics in challenging applications

Reliable holding force maintenance to ensure process reliable operation even in scenarios with emergency stop

The gripping force can be adjusted in four stages ensures gripping of various workpieces

Control via 24 V power supply saves energy and simplifies the connection and the wiring

Workpiece accessibility from five sides free from interfering contours by unnecessary gripper fingers

Integrated electronics Compact design, as no additional controller is required

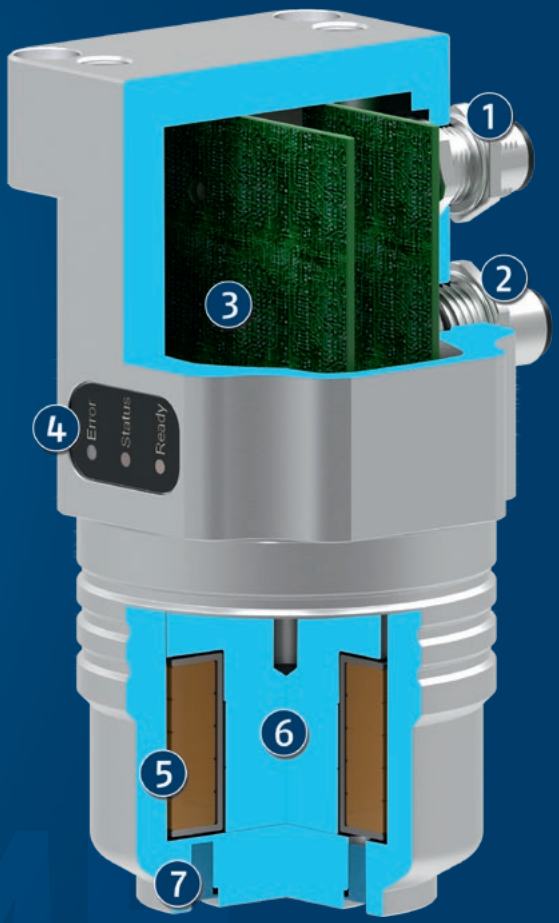
Response on magnetization condition and workpiece presence saves time and simplifies the programming

NEW: Sizes EMH-MP and EMH-DP as a solution for special requirements

Sizes	Weight	Max. workpiece weight	Max. magnetic surface
Quantity: 6	1 .. 8 kg	70 kg	81.97 cm²

Functional description

The function of the magnetic gripper bases on the combination of AlNiCo and neodymium magnets. The magnetic flux of the AlNiCo magnets passes the neodymium magnet in the deactivated state, and closes the magnetic circuit over the gripper base body made of steel. To activate the system, an electric current pulse is conducted through the coil, which reverses the polarity of the AlNiCo magnets accordingly.



① **Connecting plug for PLC**
communication via digital I/O

② **Connection plug**
for power supply

③ **Control electronics**
integrated control and power electronics

④ **LED display**

⑤ **Copper coil**
for pole reversal of the AlNiCo-magnets

⑥ **Polarity reversible AlNiCo-magnet**
surrounded by an electromagnetic coil

⑦ **Non-pole reversing neodymium permanent magnets**
lead the magnetic flux via the workpiece

Detailed functional description

Component presence

The presence sensor detects the presence of a component. After magnetization, an internal sensor measures the change in the magnetic field. After exceeding a corresponding threshold value, the presence of the workpiece is output.

1. Magnetic gripper EMH RP
2. Workpiece
3. Magnetic field lines

Process reliability

The EMH magnetic gripper ensures safe and reliable operation. By changing the polarity of the permanent magnets through short current pulse, the magnetic gripper remains in the selected status, even in case of a power failure or emergency stop.

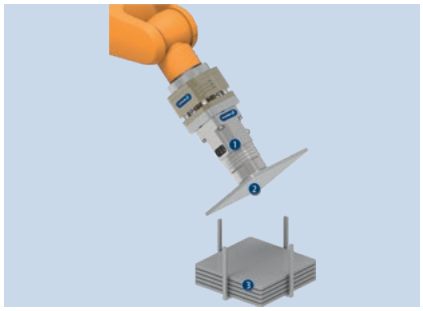
1. Magnetic gripper EMH RP
2. Workpiece
3. Sheet metal stack
4. Emergency stop

Gripping of round components

The EMH magnetic grippers can also be equipped with pole extensions to suit the workpiece. Special pole extensions are available for round components, for example, with prismatic or even with concave contours. The pole extensions are supplied with mounting material.

1. Magnetic gripper EMH MP
2. PVL pole extension
3. Workpiece

Variable holding force control



The gripping force can be adjusted in four stages via digital inputs. These enable the gripping and separation of a wide variety of workpieces.
Stage 1: 15% holding force
Stage 2: 25% holding force
Stage 3: 35% holding force
Stage 4: 100% holding force

1. Magnetic gripper EMH RP
2. Workpiece
3. Sheet metal stack

General notes about the series

Operating principle: Magnetization of permanent magnets

Housing material: Aluminum/steel

Base jaw material: Steel

Actuation: Electrical current pulse for activation and deactivation of the system

Warranty: 24 months

Scope of delivery: Assembly and Operating Manual with Declaration of Incorporation, centering sleeves

Layout or control calculation: Verifying the sizing of the selected unit is necessary, since otherwise overloading can result. Please contact us for assistance.

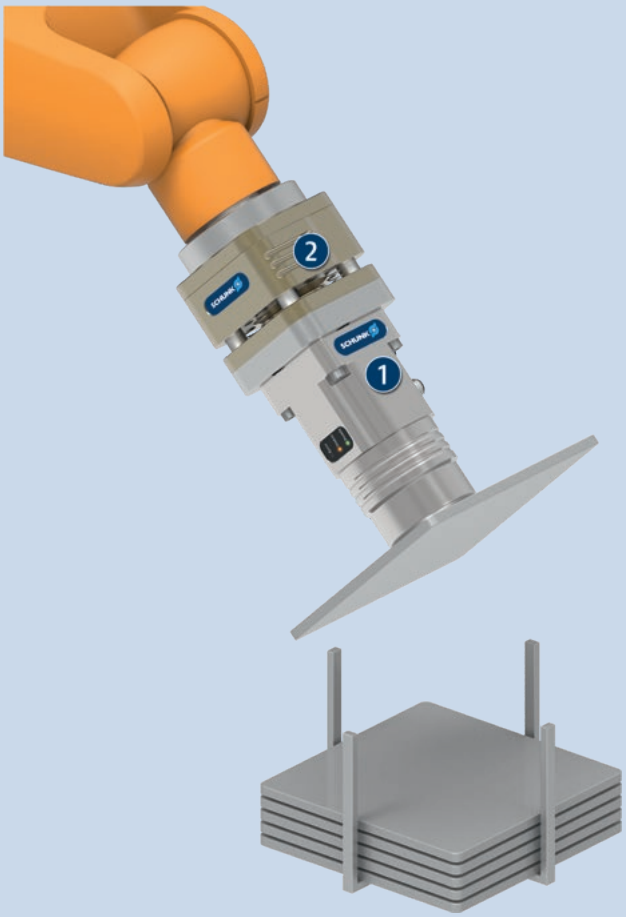
Activation time: The activation time is the time required to reverse the polarity of the permanent magnets.

Ambient conditions: The modules are primarily designed for the use in clean to slightly contaminated environments. Please note that the life time of the modules can shorten if they are used in harsh ambient conditions, and that SCHUNK cannot assume liability in such cases.

Application example

Magnetic gripping unit for separating and handling of sheets.

1. Magnetic gripper EMH
2. Compensation Unit AGE-Z



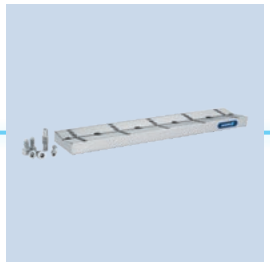
SCHUNK offers more ...

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

Compensation unit

Tolerance compensation unit

Quick change system



Pole Extensions

Connection cables

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

Options and special information

Pole extension: The use of pole extensions alters the magnetic flux and can affect the holding force if incorrectly designed. Pole extensions also affect component detection. Workpieces may no longer be detected.
Heating: Each activation increases the internal temperature of the product. Overheating reduces the magnetic characteristics and can destroy the product. The number of activations per minute must be adjusted so that the maximum permissible product temperature is not reached.
Material dependence: The product is designed to hold almost all ferromagnetic materials. The achievable holding force depends, among other things, on the respective workpiece material. Accordingly, with some ferromagnetic materials a reduction in the nominal holding force can be expected.
Material efficiency: Conventional steel (Fe 360) 100%, ferromagnetic crude steel (10-C15) 90%, tool, case-hardened and sectional steels 70 - 80%, magnetic stainless steel 65%, cast iron 50%
Magnetic field evaluation: Due to occupational safety and the danger from electromagnetic fields, the EMH was subjected to a magnetic field evaluation. For more information, please contact us.

Ordering example

EMH – RP – 036 – B

Description

EMH

Magnet type

RP = Round pole
MP = Multipole
DP = dual pole

Size

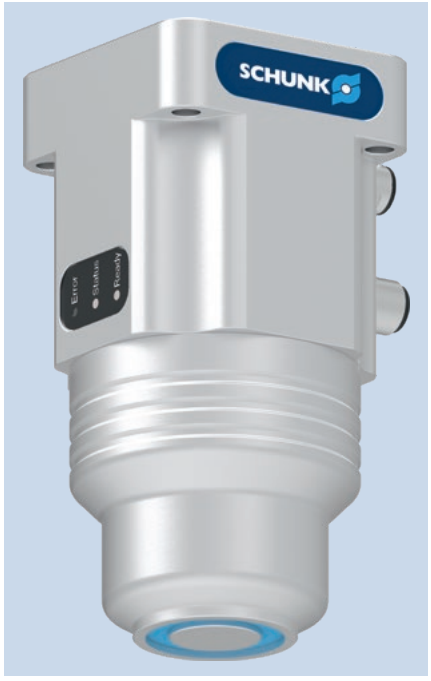
036
045
060
080
084
114

General

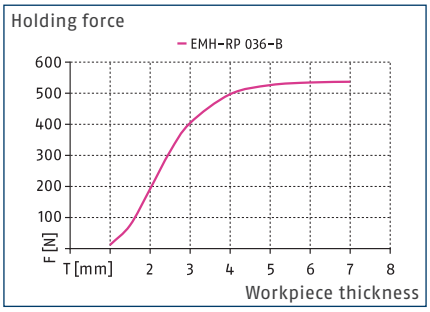
B = Basic

EMH RP 036

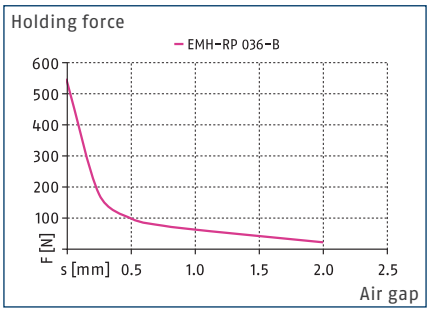
Magnetic gripper



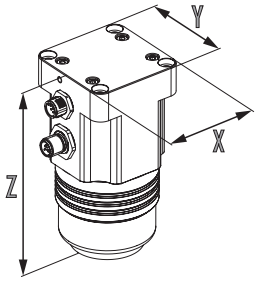
Workpiece thickness



Air gap



Dimensions and maximum loads

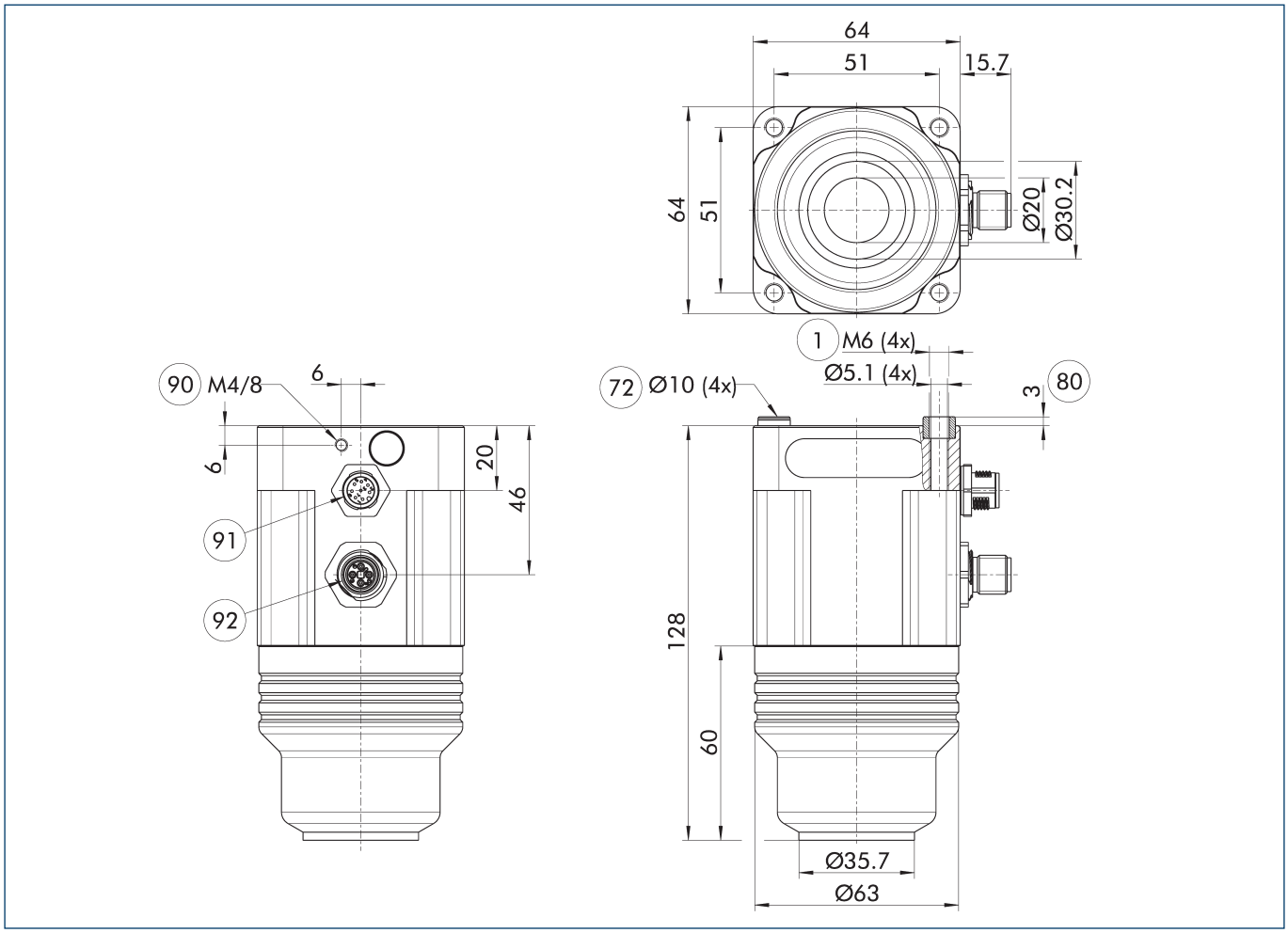


For values see technical data table

Technical data

Description		EMH-RP 036-B
ID		1351485
General operating data		
Holding force	[N]	530
Magnet area	[cm²]	6.08
Payload for horizontal magnet surface	[kg]	8.5
Payload for vertical magnet surface	[kg]	3.5
Module temperature increasement in case of 5/15 activations/minute	[°C]	10/25
Activation time	[ms]	300
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	1
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	3.1
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	64 x 64 x 128

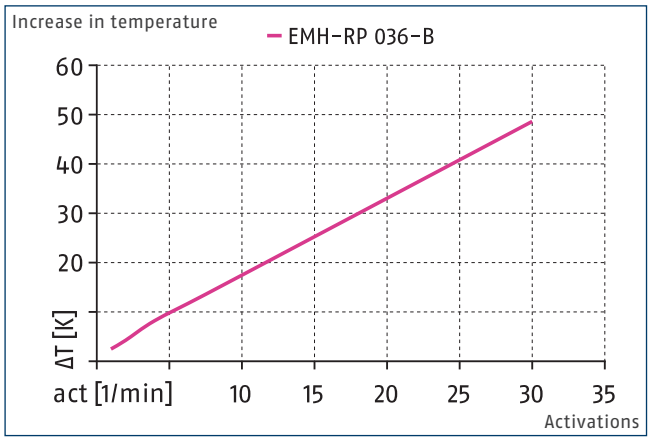
Main view EMH-RP 036



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Functional ground
(91) M12-socket, 8-pin (activation)
(92) M12 connector, T-coded (voltage supply)

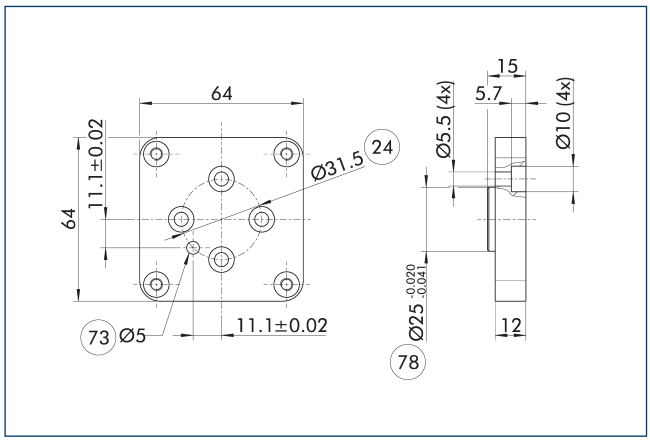
Increase in temperature



EMH RP 036

Magnetic gripper

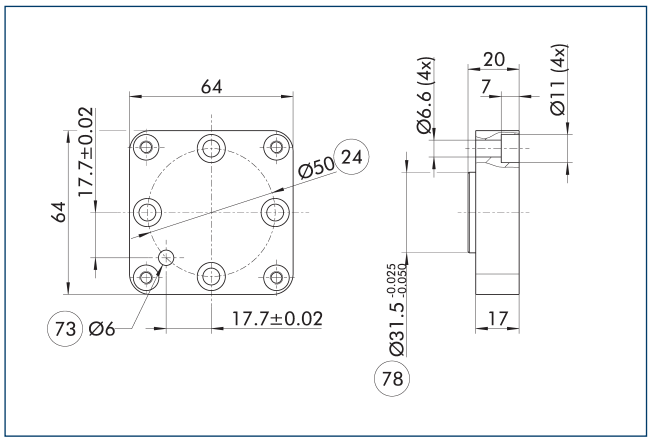
Adapter flange according to DIN ISO-9409-1-031.5



24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-031.5/EMH	1504083	

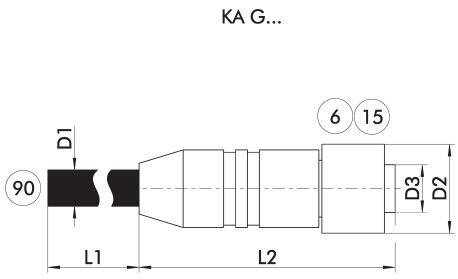
Adapter flange according to ISO-9409-1-050

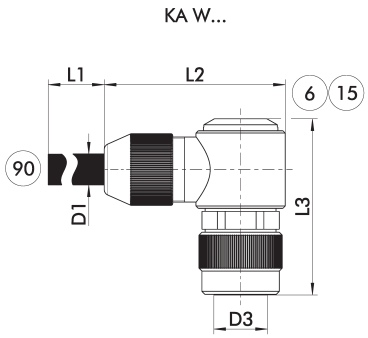


24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-050/EMH	1504080	

Voltage supply connection cable





KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

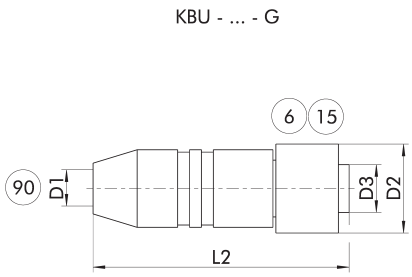
(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

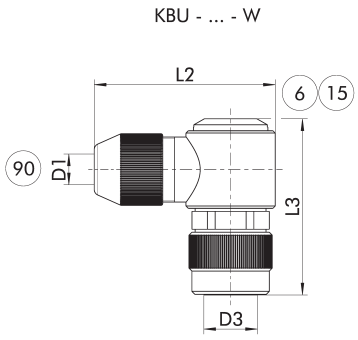
The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector





KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

(6) Connection module side
(15) Socket
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

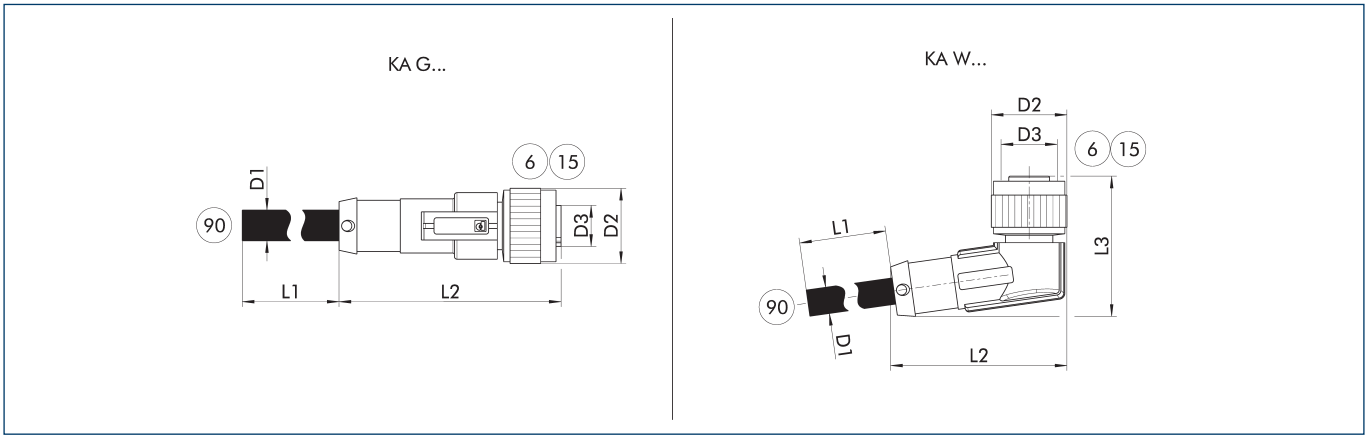
Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH RP 036

Magnetic gripper

Connection cable for control



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

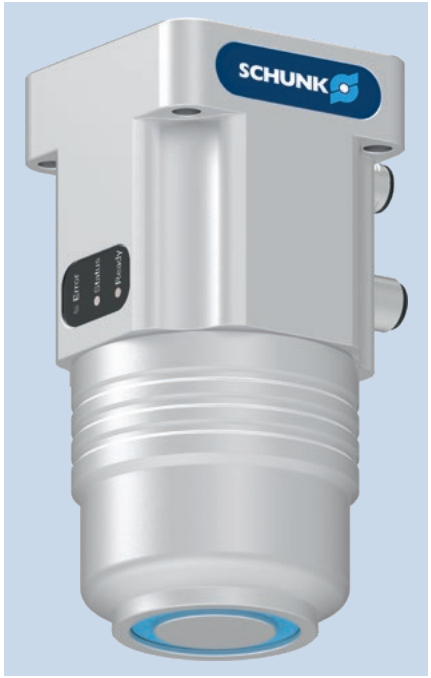
The connection cables are used to control the SCHUNK product.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	M12

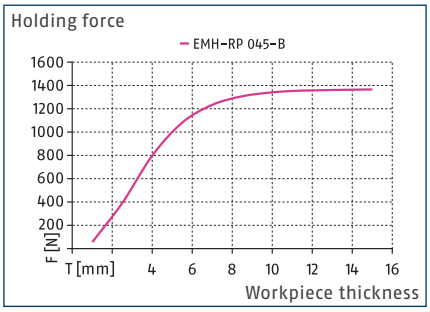
ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH RP 045

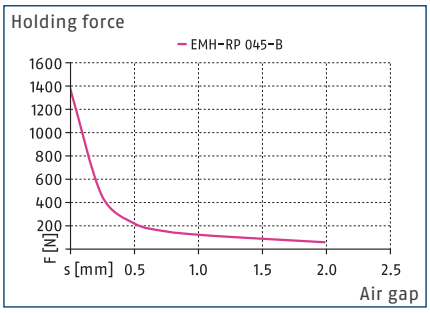
Magnetic gripper



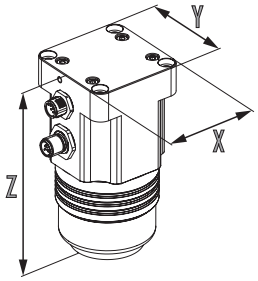
Workpiece thickness



Air gap



Dimensions and maximum loads

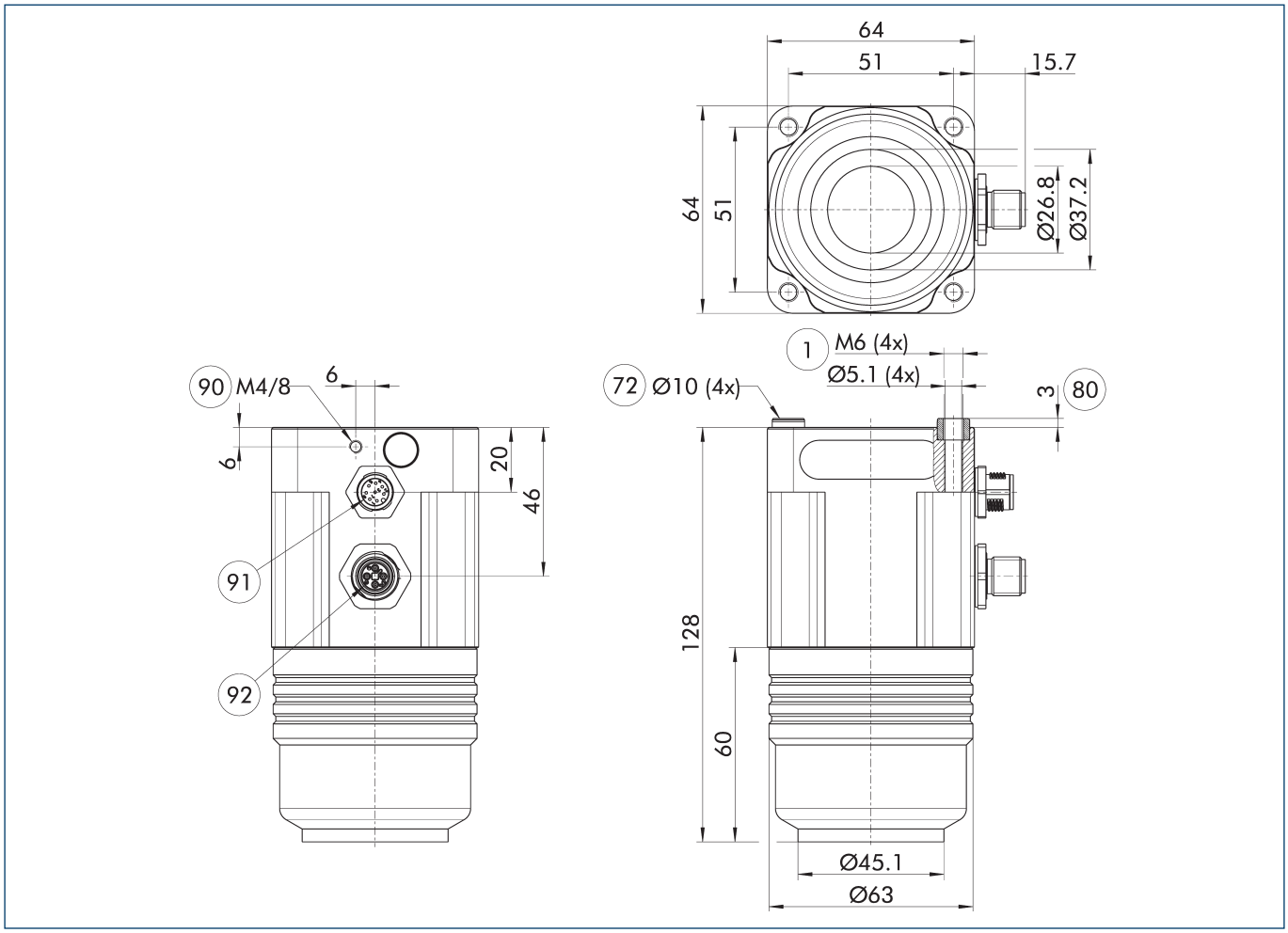


For values see technical data table

Technical data

Description		EMH-RP 045-B
ID		1351490
General operating data		
Holding force	[N]	1360
Magnet area	[cm²]	10.75
Payload for horizontal magnet surface	[kg]	22.5
Payload for vertical magnet surface	[kg]	9
Module temperature increasement in case of 5/15 activations/minute	[°C]	11/28
Activation time	[ms]	300
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	1.5
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	3.8
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	64 x 64 x 128

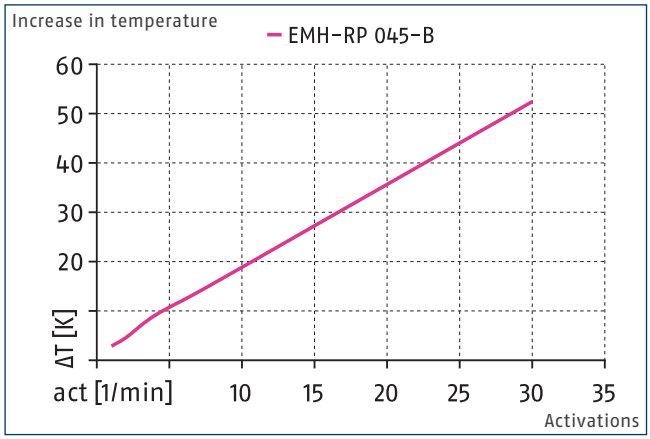
Main view EMH-RP 045



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Functional ground
(91) M12-socket, 8-pin (activation)
(92) M12 connector, T-coded (voltage supply)

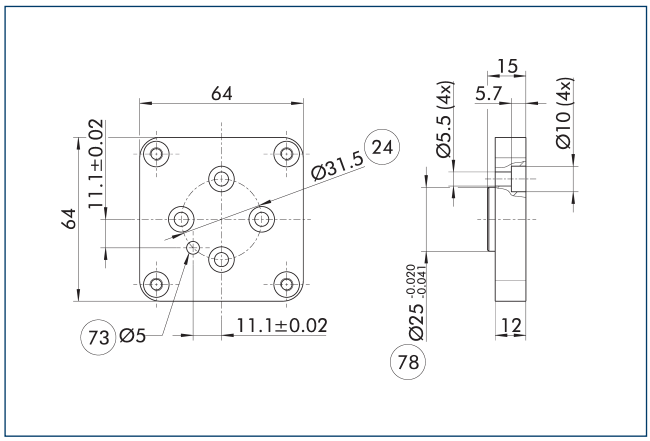
Increase in temperature



EMH RP 045

Magnetic gripper

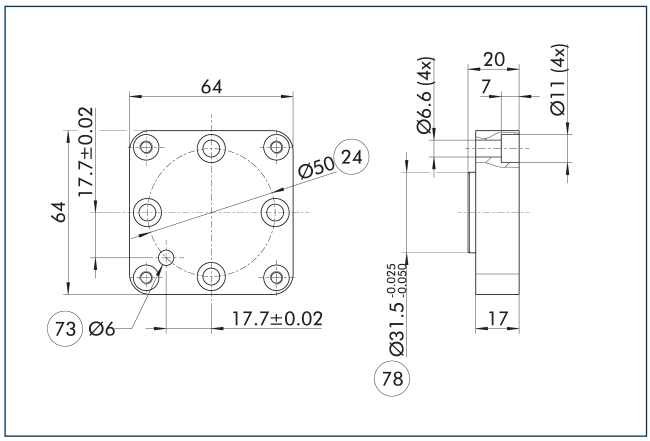
Adapter flange according to DIN ISO-9409-1-031.5



24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-031.5/EMH	1504083	

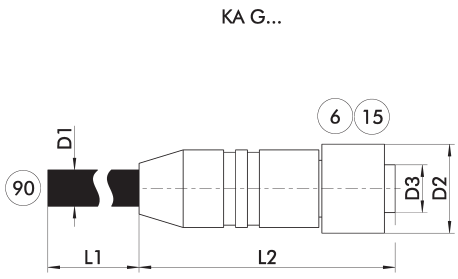
Adapter flange according to ISO-9409-1-050

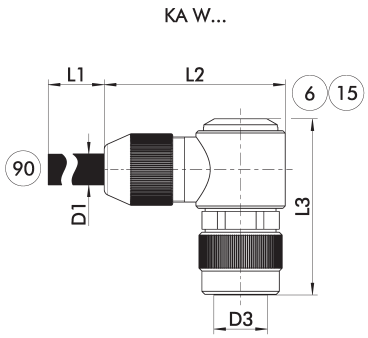


24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-050/EMH	1504080	

Voltage supply connection cable





KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket

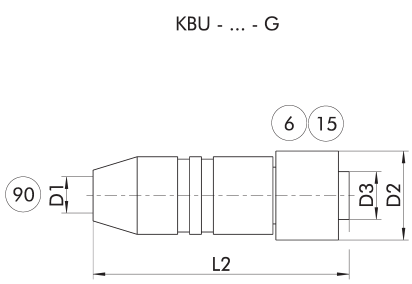
(90) Cable end with open wire strands

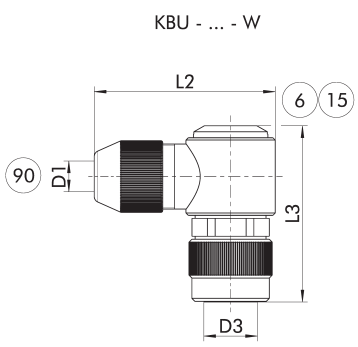
The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector





KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

(6) Connection module side
(15) Socket

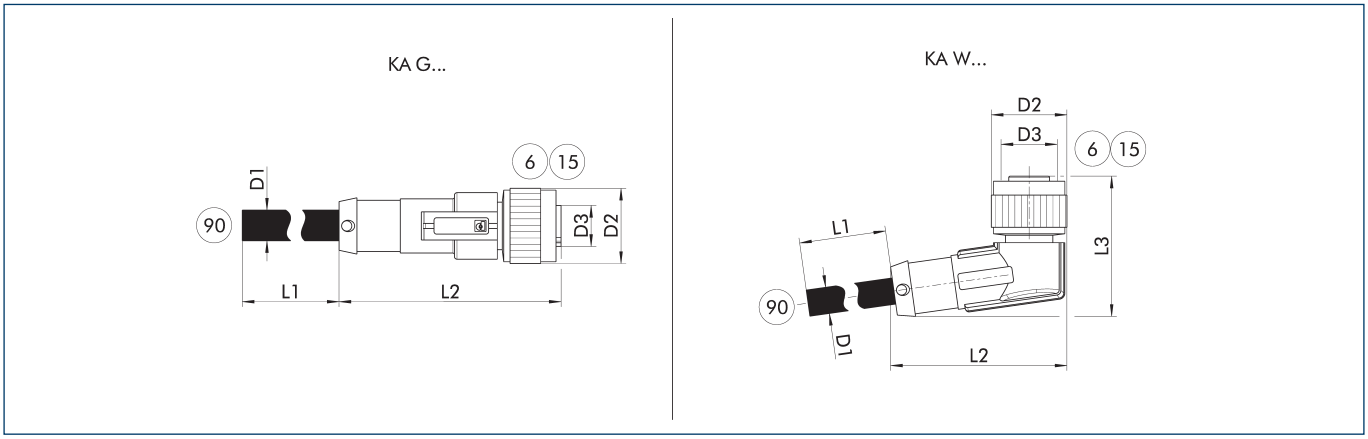
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Connection cable for control



KA G... Connection cable with straight plug connector

KA W... Connection cable with angled plug connector

(6) Connection module side

(15) Socket

(90) Cable end with open wire strands

The connection cables are used to control the SCHUNK product.

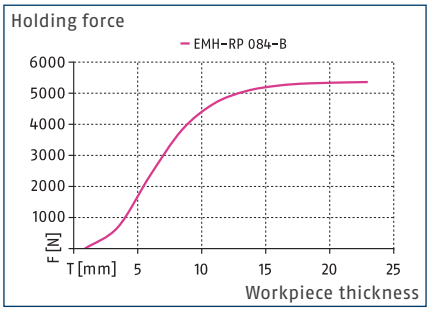
Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

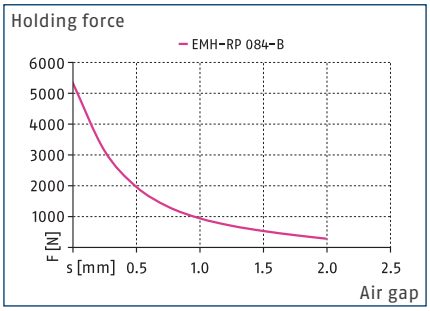
EMH RP 084

Magnetic gripper

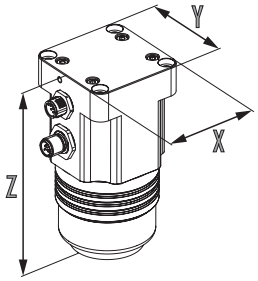
Workpiece thickness



Air gap



Dimensions and maximum loads

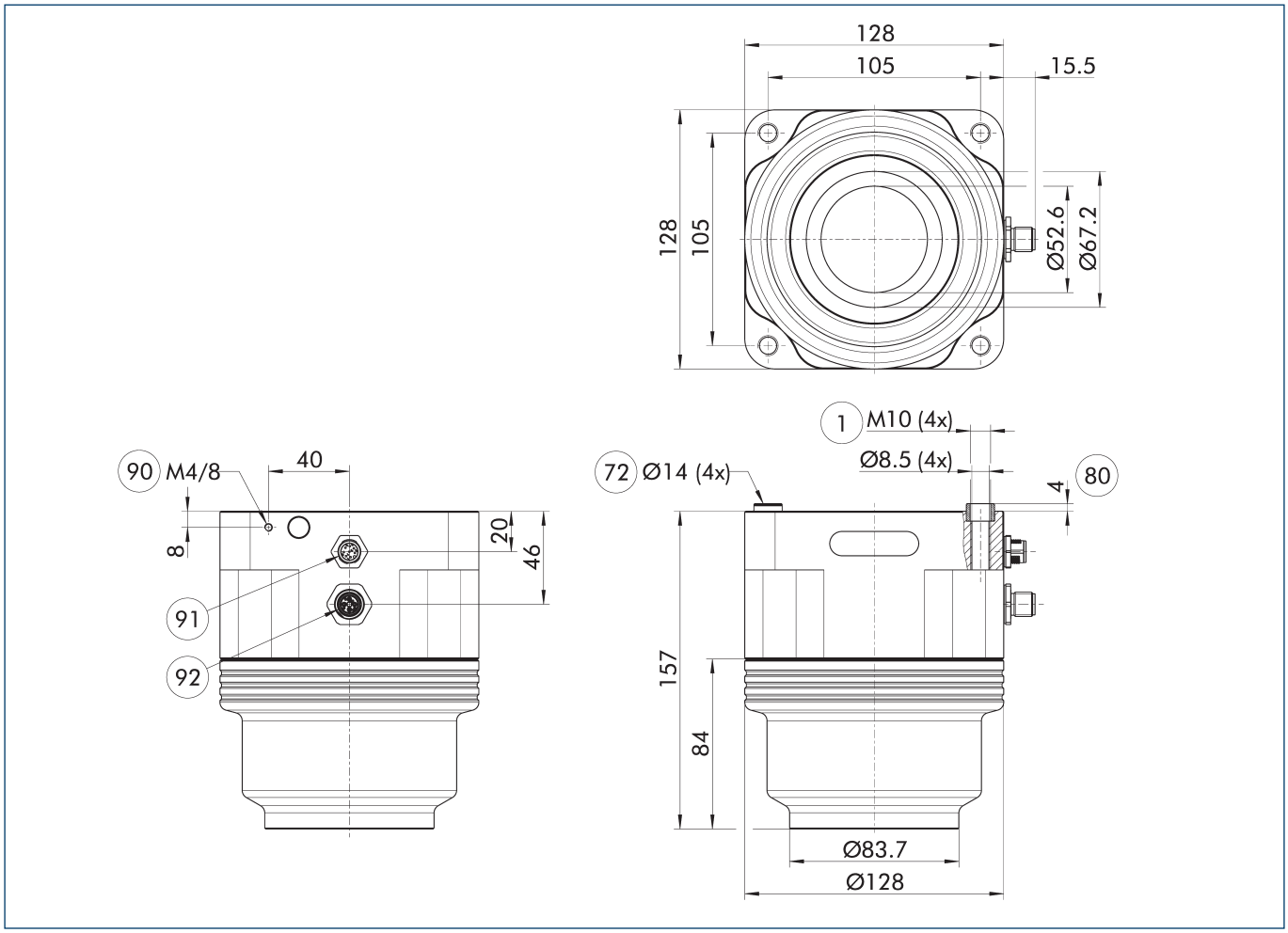


For values see technical data table

Technical data

Description		EMH-RP 084-B
ID		1351496
General operating data		
Holding force	[N]	5370
Magnet area	[cm²]	41.25
Payload for horizontal magnet surface	[kg]	89
Payload for vertical magnet surface	[kg]	35
Module temperature increasement in case of 5/15 activations/minute	[°C]	14/37
Activation time	[ms]	500
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	6.5
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	6.1
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	128 x 128 x 157

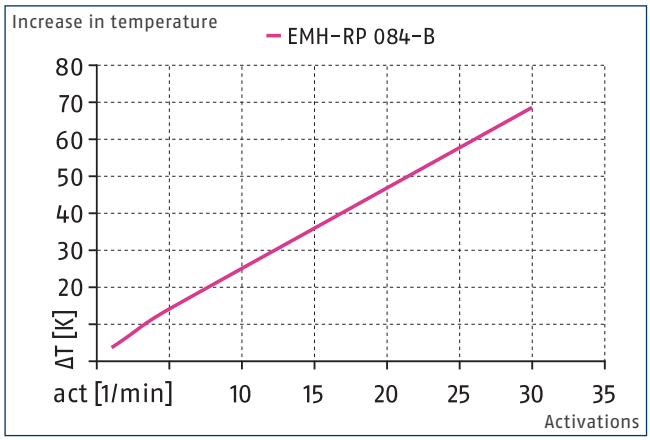
Main view EMH-RP 084



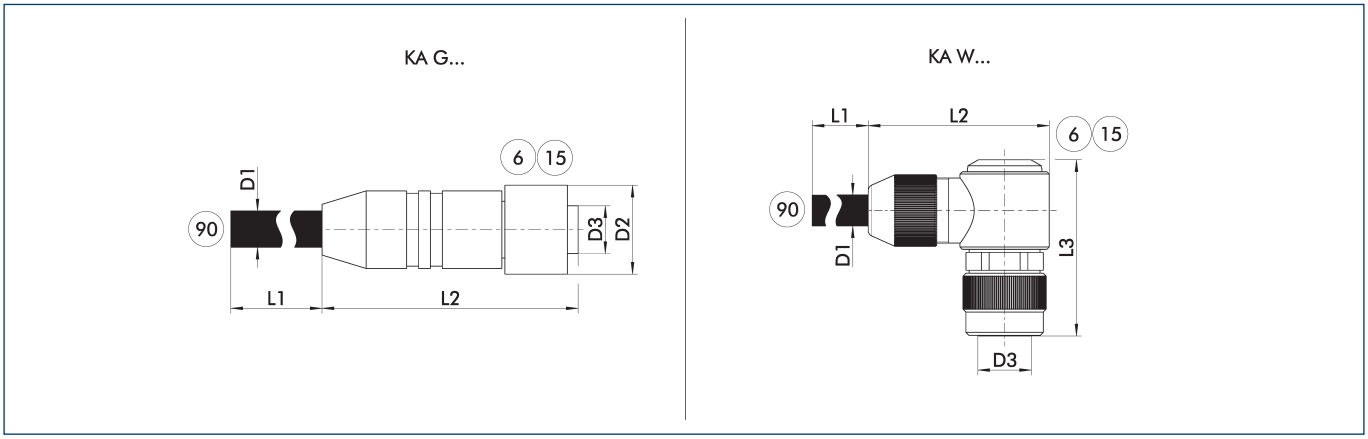
The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Functional ground
(91) M12-socket, 8-pin (activation)
(92) M12 connector, T-coded (voltage supply)

Increase in temperature



Voltage supply connection cable



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket

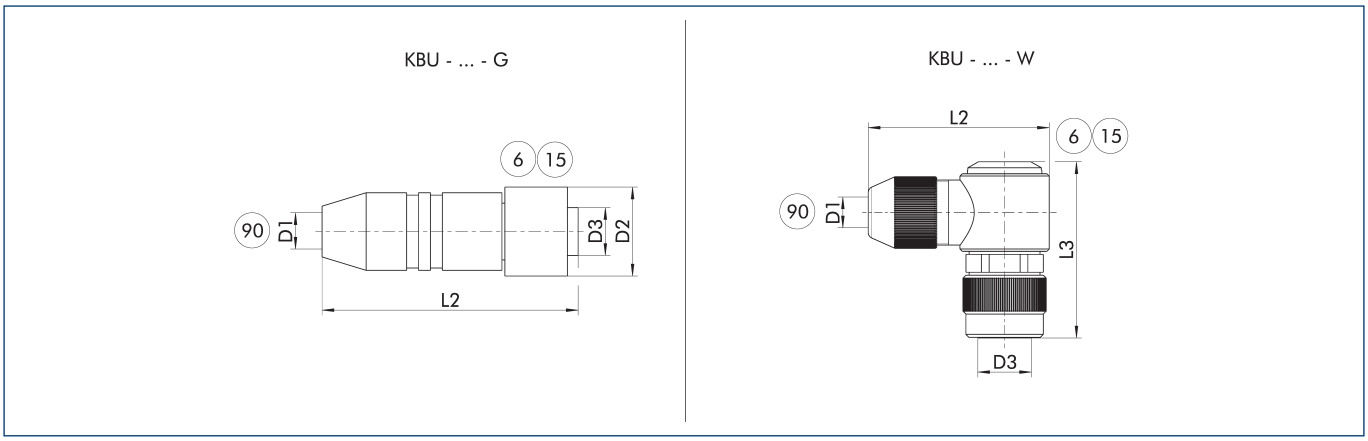
(90) Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector



KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

(6) Connection module side
(15) Socket

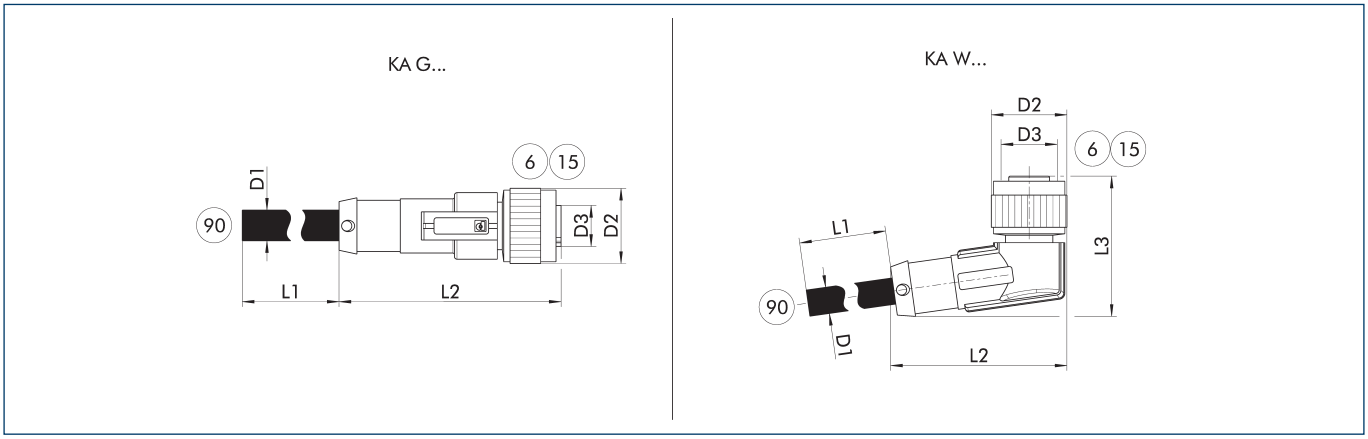
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Connection cable for control



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

The connection cables are used to control the SCHUNK product.

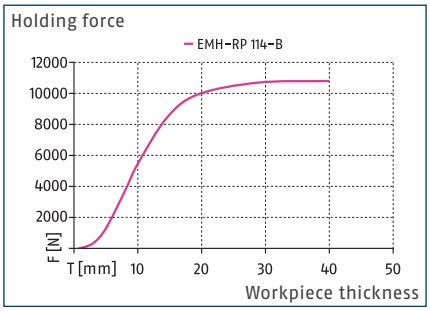
Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

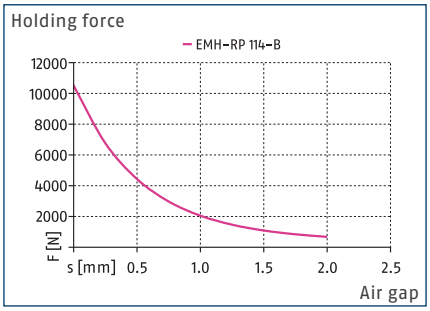
EMH RP 114

Magnetic gripper

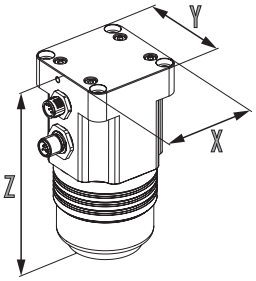
Workpiece thickness



Air gap



Dimensions and maximum loads

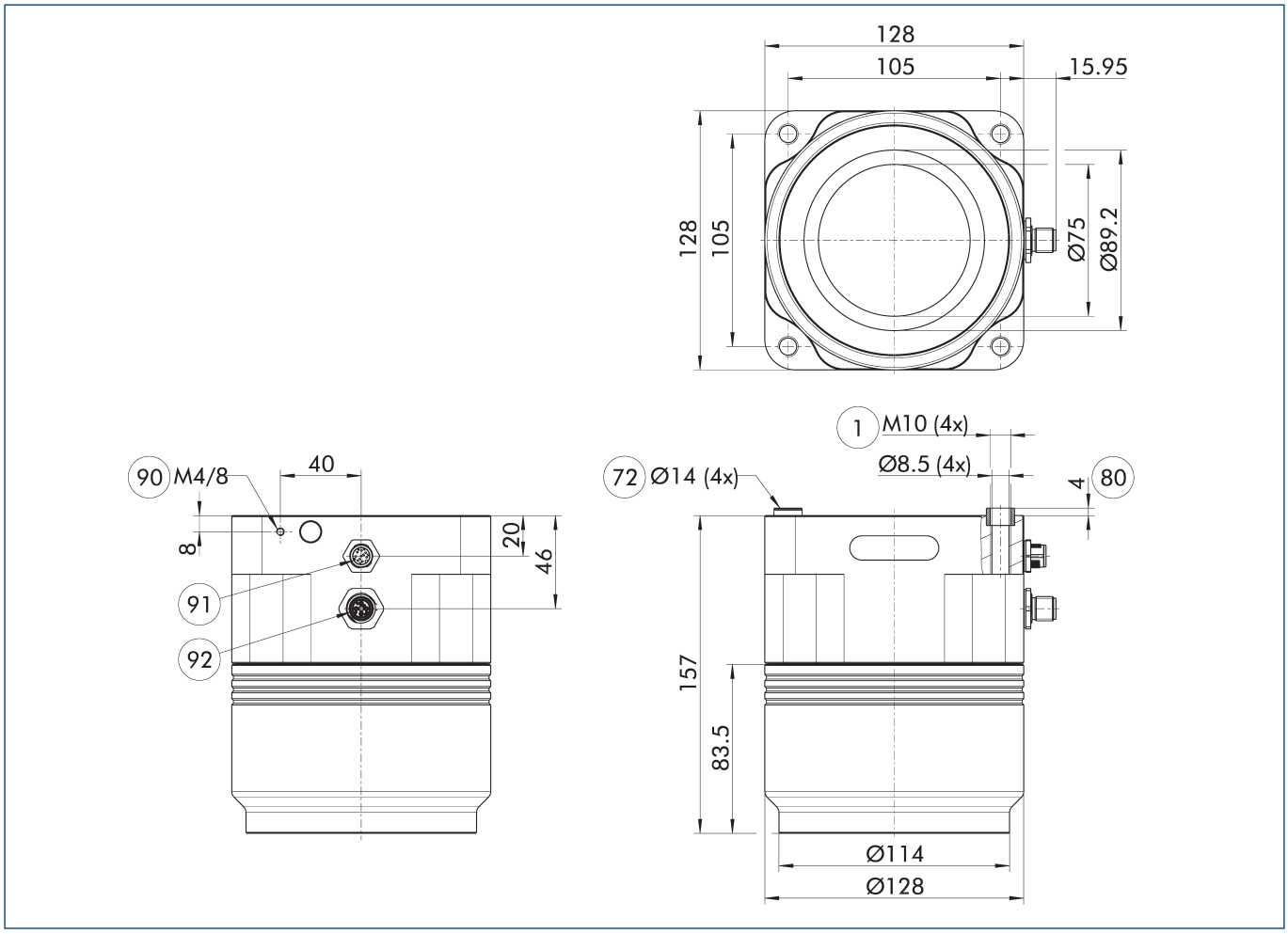


For values see technical data table

Technical data

Description		EMH-RP 114-B
ID		1351499
General operating data		
Holding force	[N]	10550
Magnet area	[cm²]	81.97
Payload for horizontal magnet surface	[kg]	175
Payload for vertical magnet surface	[kg]	70
Module temperature increasement in case of 5/15 activations/minute	[°C]	20/45
Activation time	[ms]	700
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	8
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	7.1
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	128 x 128 x 157

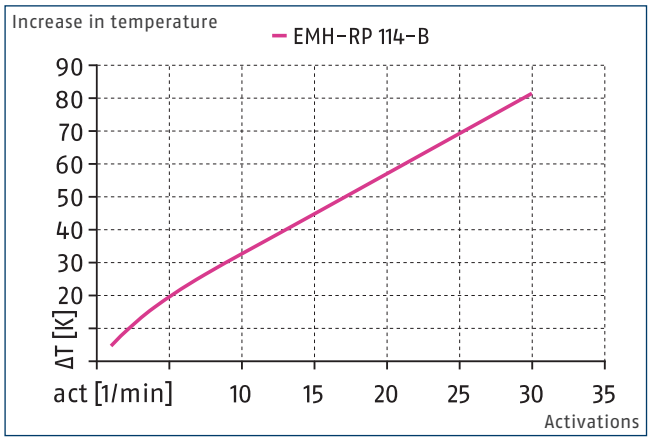
Main view EMH-RP 114



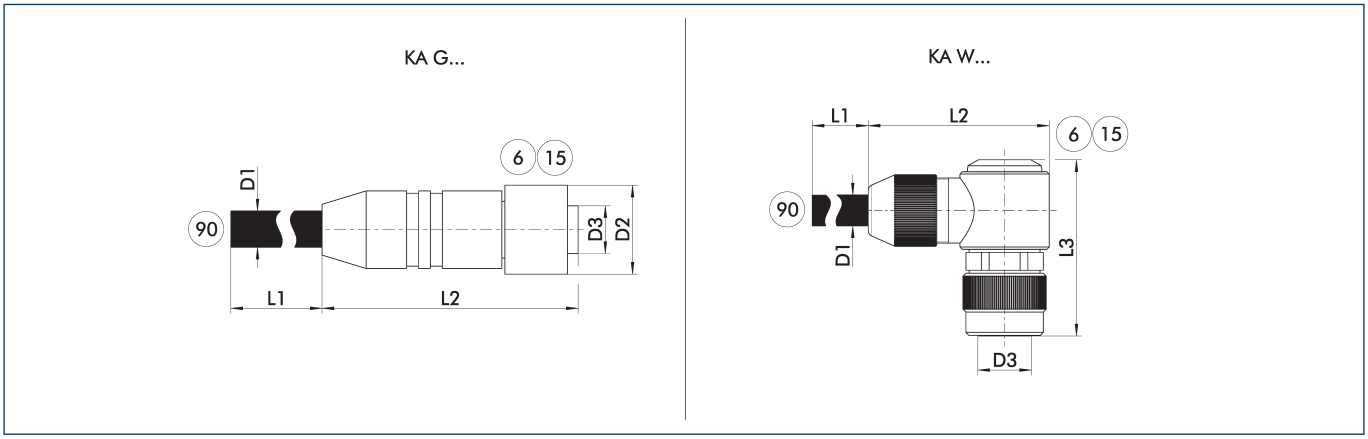
The drawing shows the magnet gripper in basis configuration, without any additional accessories.

(1) Gripper connection
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) Functional ground
(91) M12-socket, 8-pin (activation)
(92) M12 connector, T-coded (voltage supply)

Increase in temperature



Voltage supply connection cable



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

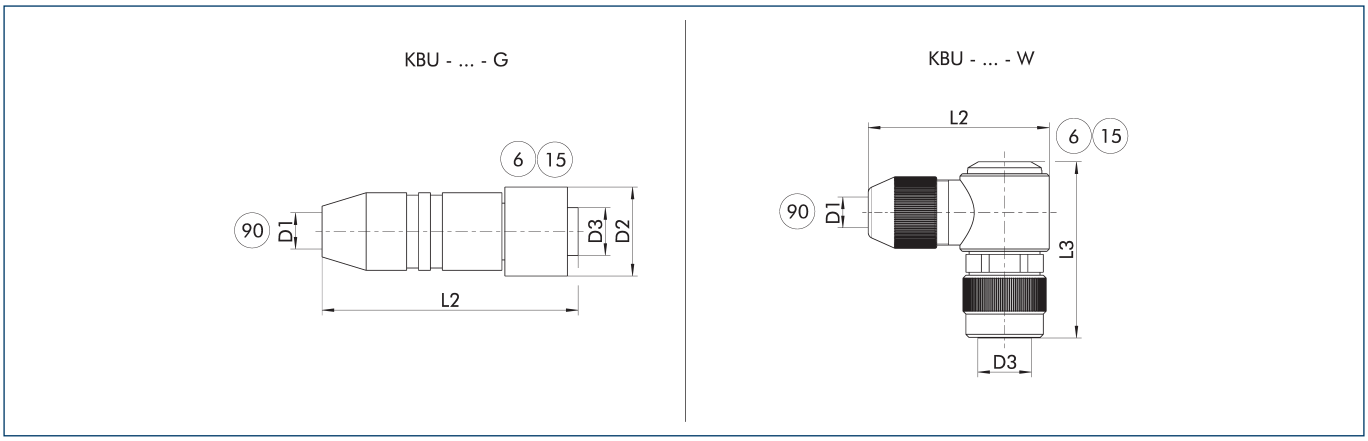
(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector



KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

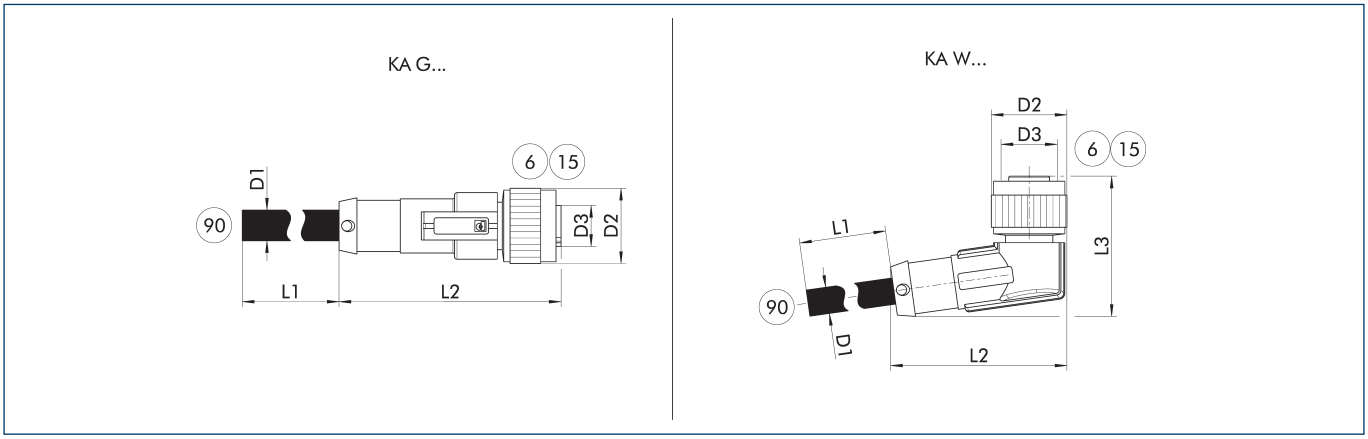
(6) Connection module side
(15) Socket
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Connection cable for control



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

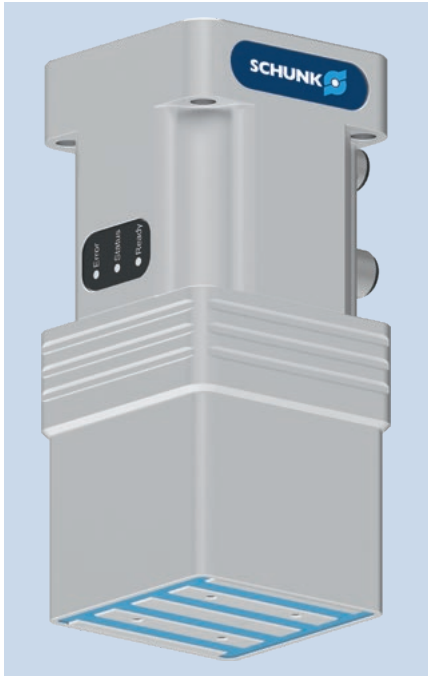
The connection cables are used to control the SCHUNK product.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	M12

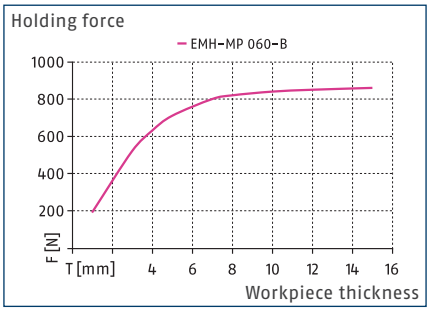
ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH MP 060

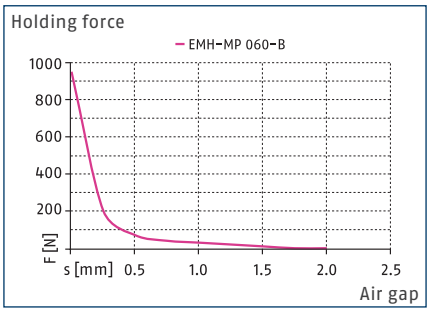
Magnetic gripper



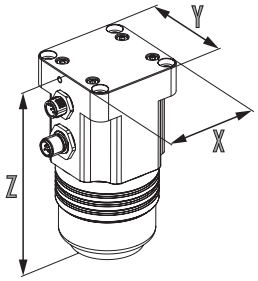
Workpiece thickness



Air gap



Dimensions and maximum loads

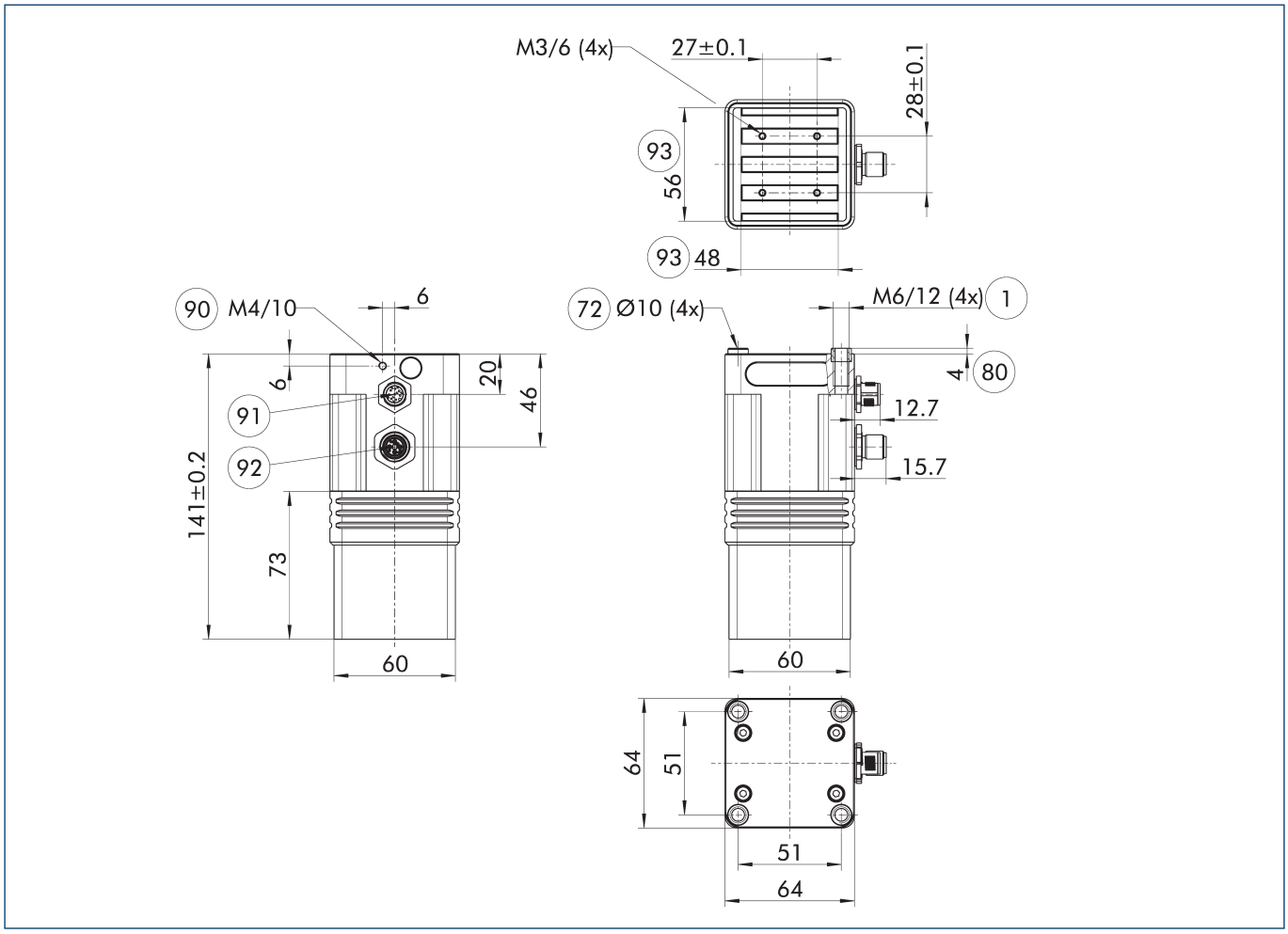


For values see technical data table

Technical data

Description		EMH-MP 060-B
ID		1426785
General operating data		
Holding force	[N]	850
Magnet area	[cm²]	15.36
Payload for horizontal magnet surface	[kg]	14
Payload for vertical magnet surface	[kg]	5.5
Module temperature increasement in case of 5/15 activations/minute	[°C]	6/16
Activation time	[ms]	200
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	2
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	9.8
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	64 x 64 x 141

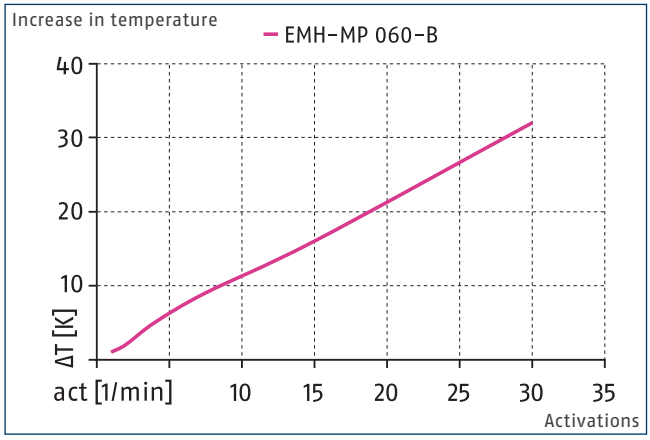
Main view



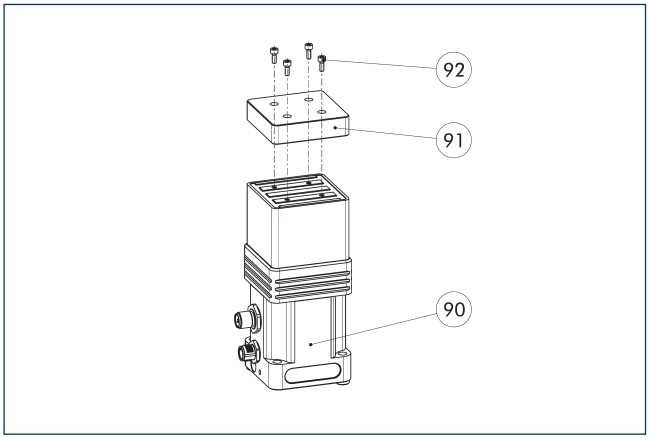
The drawing shows the magnet gripper in basis configuration, without any additional accessories.

1 Robot-side connection
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 Functional ground
91 M12-socket, 8-pin (activation)
92 M12 connector, T-coded (voltage supply)
93 Magnet

Increase in temperature



Pole extension



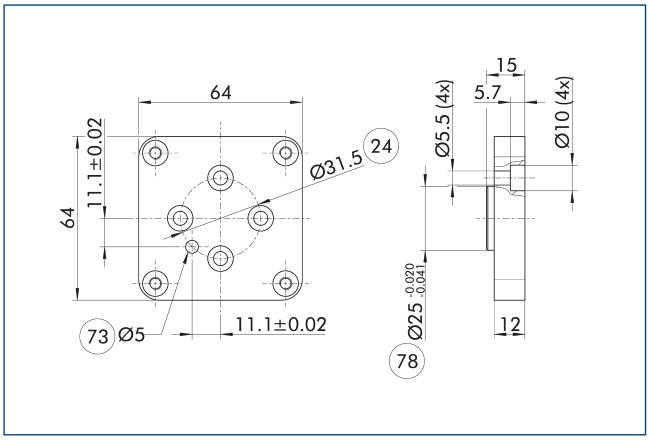
(90) Magnetic gripper EMH
(91) Pole extension
(92) Screws

Pole extensions enable the secure holding of customer-specific workpiece shapes. The pole extensions can be customized to the workpiece to be gripped. The mounting material and centering elements are included in the scope of delivery.

Description	ID	
Pole extension		
PVL EMH-MP-F-B	1475428	

ⓘ When using pole extensions, the max. payload is reduced by 50%.

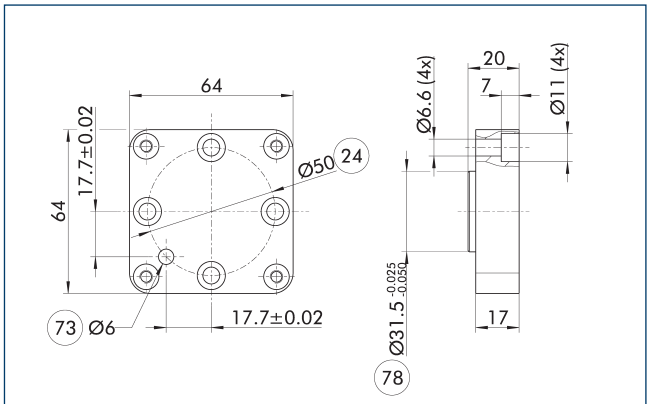
Adapter flange according to DIN ISO-9409-1-031.5



(24) Bolt circle
(73) Fit for centering pins
(78) Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-031.5/EMH	1504083	

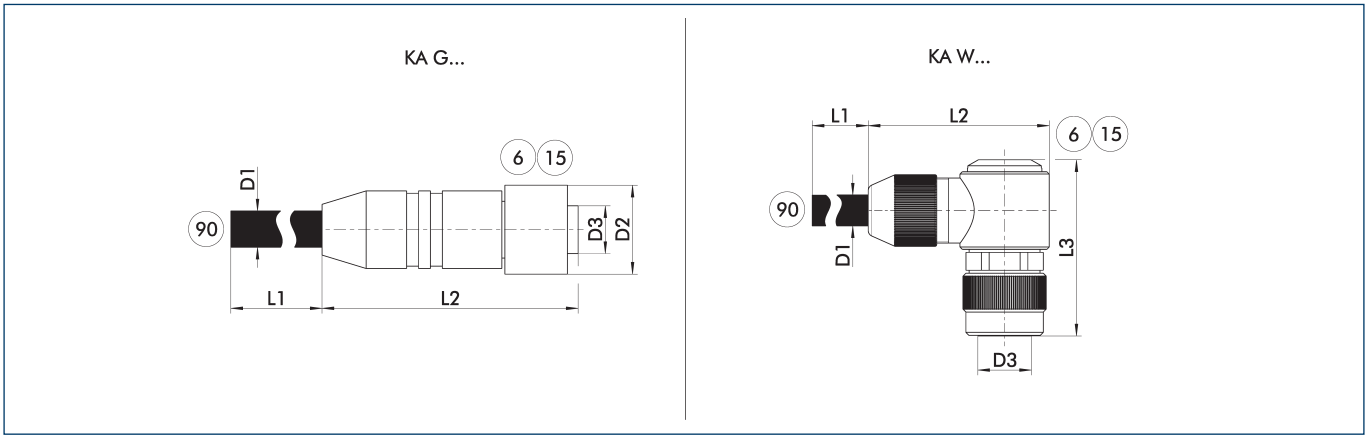
Adapter flange according to ISO-9409-1-050



(24) Bolt circle
(73) Fit for centering pins
(78) Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-050/EMH	1504080	

Voltage supply connection cable



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

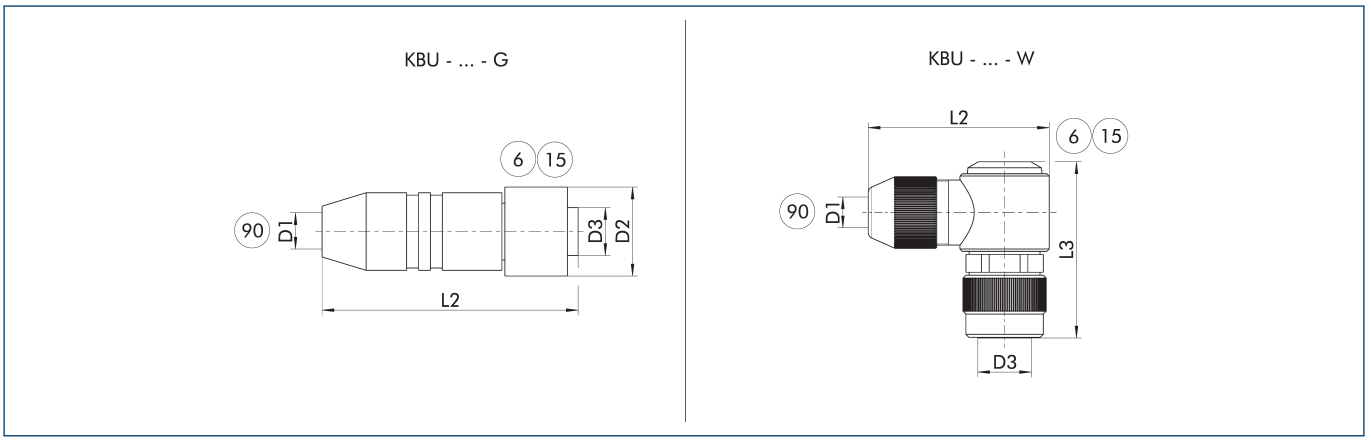
(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector



KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

(6) Connection module side
(15) Socket
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

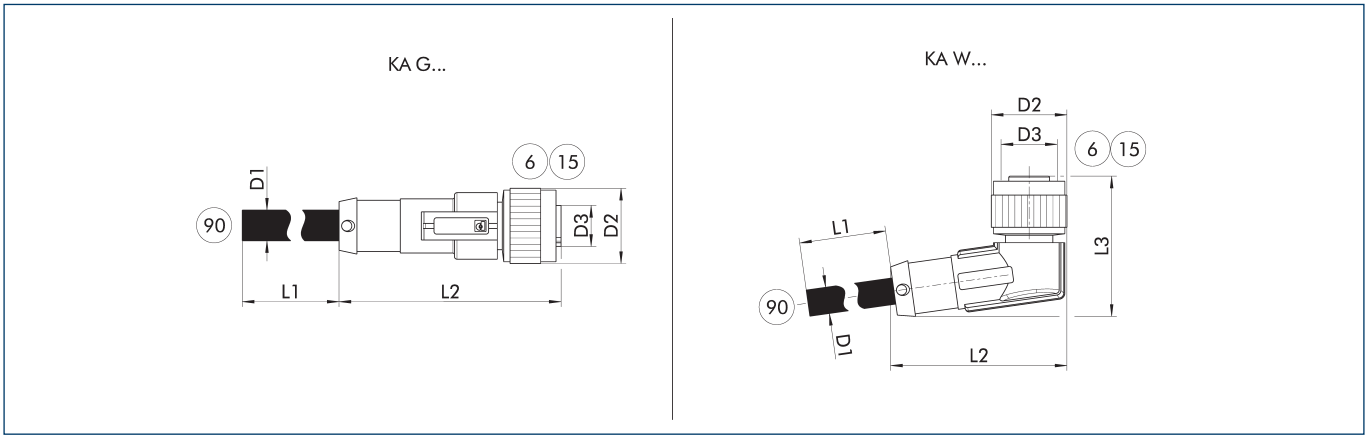
Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH MP 060

Magnetic gripper

Connection cable for control



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

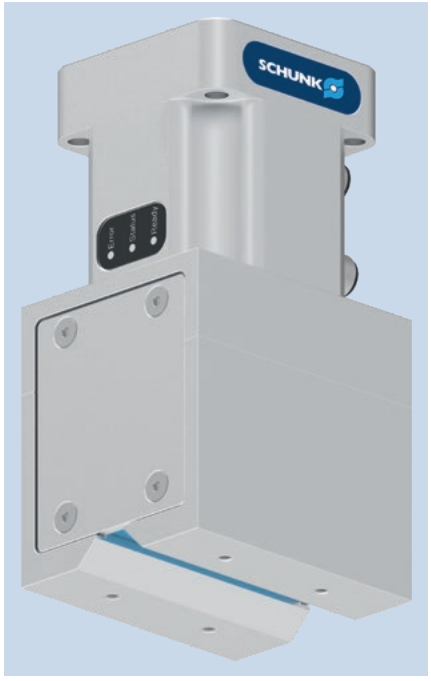
The connection cables are used to control the SCHUNK product.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	M12

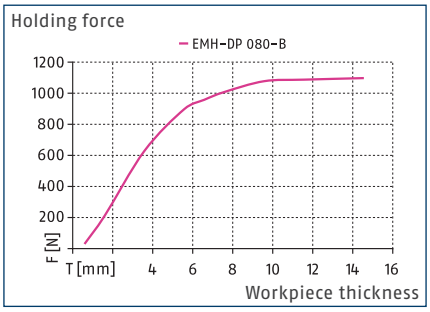
ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH DP 080

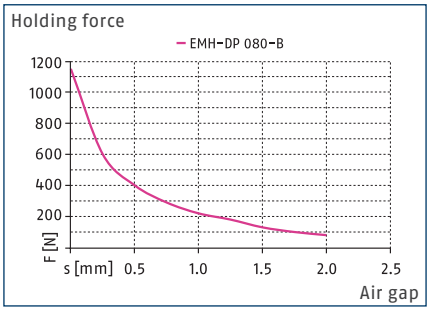
Magnetic gripper



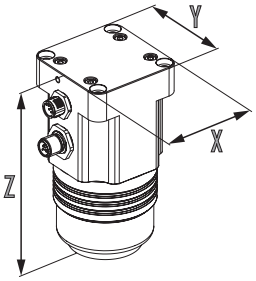
Workpiece thickness



Air gap



Dimensions and maximum loads

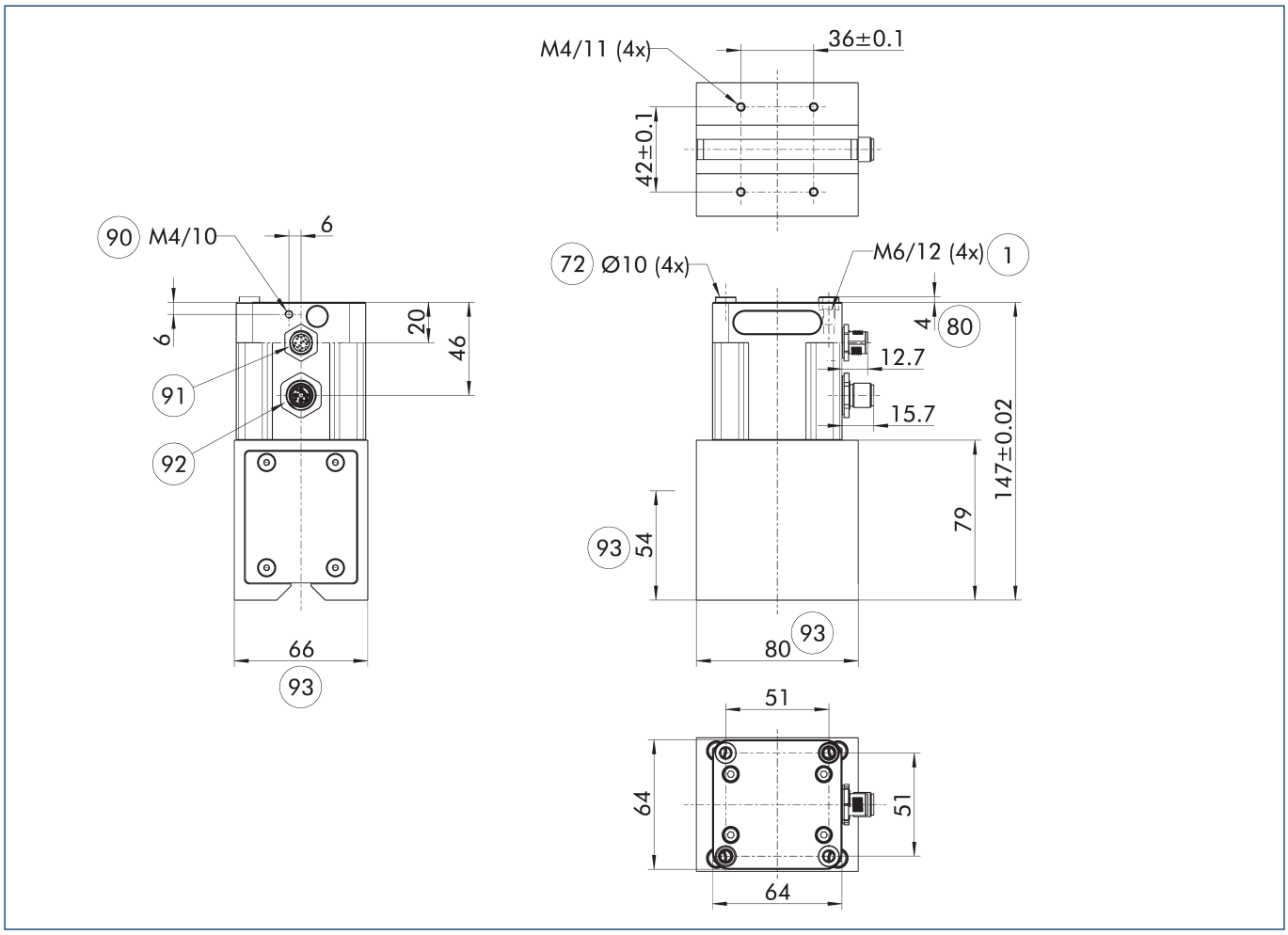


For values see technical data table

Technical data

Description		EMH-DP 080-B
ID		1475116
General operating data		
Holding force	[N]	1140
Magnet area	[cm²]	33.6
Payload for horizontal magnet surface	[kg]	19
Payload for vertical magnet surface	[kg]	7.5
Module temperature increasement in case of 5/15 activations/minute	[°C]	20/50
Activation time	[ms]	500
Min./max. ambient temperature	[°C]	5/50
Mechanical operating data		
Weight	[kg]	3
IP protection class		52
Electrical operating data		
Nominal voltage	[V]	24
Type of voltage		DC
Max. current power	[A]	9
Rated current logic	[A]	0.15
Controller electronics		integrated
Dimensions X x Y x Z	[mm]	80 x 66 x 147

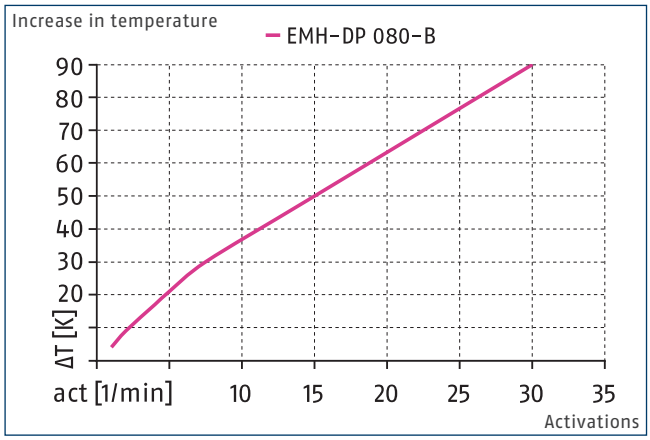
Main view



The drawing shows the magnet gripper in basis configuration, without any additional accessories.

- (1) Robot-side connection
- (72) Fit for centering sleeves
- (80) Depth of the centering sleeve hole in the counter part
- (90) Functional ground
- (91) M12-socket, 8-pin (activation)
- (92) M12 connector, T-coded (voltage supply)
- (93) Magnet

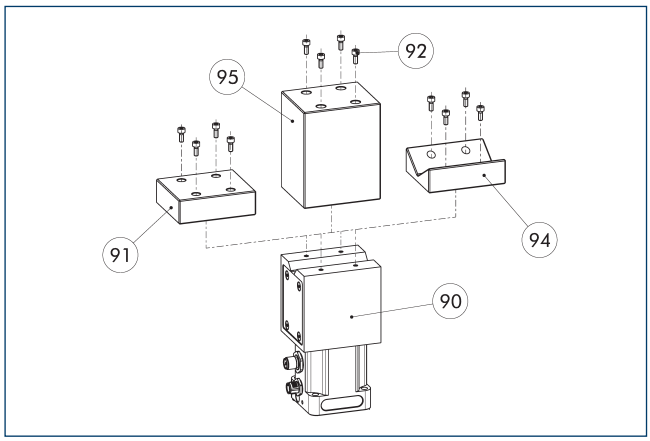
Increase in temperature



EMH DP 080

Magnetic gripper

Pole extension



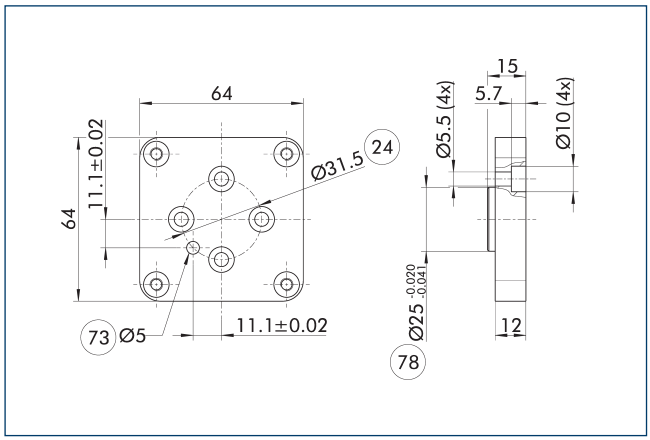
90 Magnetic gripper EMH
91 Pole extension PVL EMH-DP-F-B
92 Screws
94 Pole extension PVL EMH-DP-P-B
95 Pole extension PVL EMH-DP-B-B

Pole extensions enable the secure holding of customer-specific workpiece shapes. The pole extensions can be customized to the workpiece to be gripped. The mounting material and centering elements are included in the scope of delivery.

Description	ID	
Pole extension		
PVL EMH-DP-B-B	1500647	
PVL EMH-DP-F-B	1500644	
PVL EMH-DP-P-B	1500645	

ⓘ When using pole extensions, the max. payload is reduced by 50%.

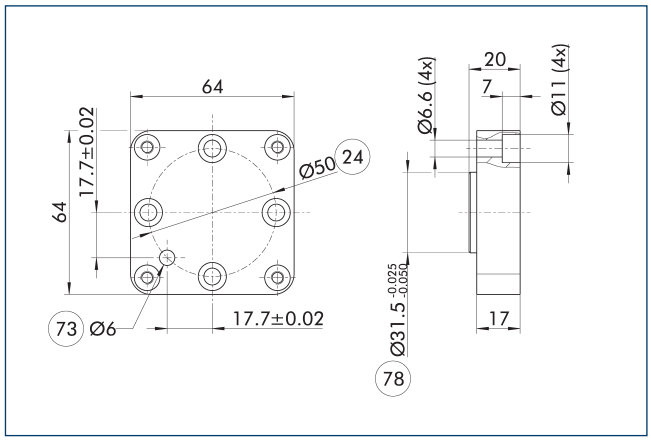
Adapter flange according to DIN ISO-9409-1-031.5



24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-031.5/EMH	1504083	

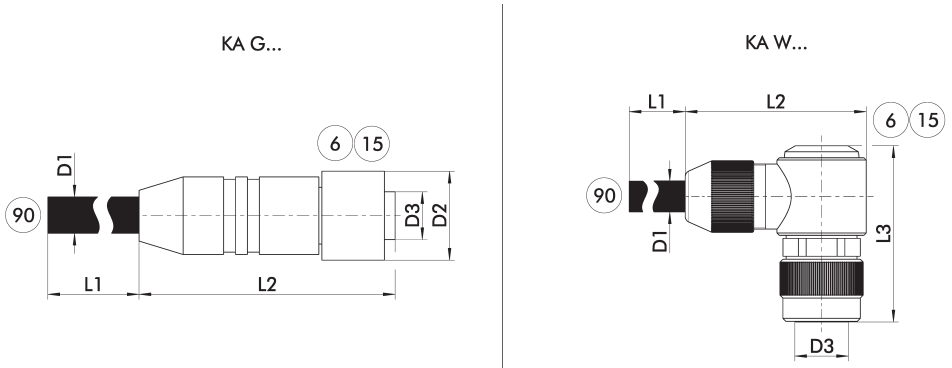
Adapter flange according to ISO-9409-1-050



24 Bolt circle
73 Fit for centering pins
78 Fit for centering

Description	ID	
ISO flanges		
ADF-ISO-050/EMH	1504080	

Voltage supply connection cable



KA G... Connection cable with straight plug connector
KA W... Connection cable with angled plug connector

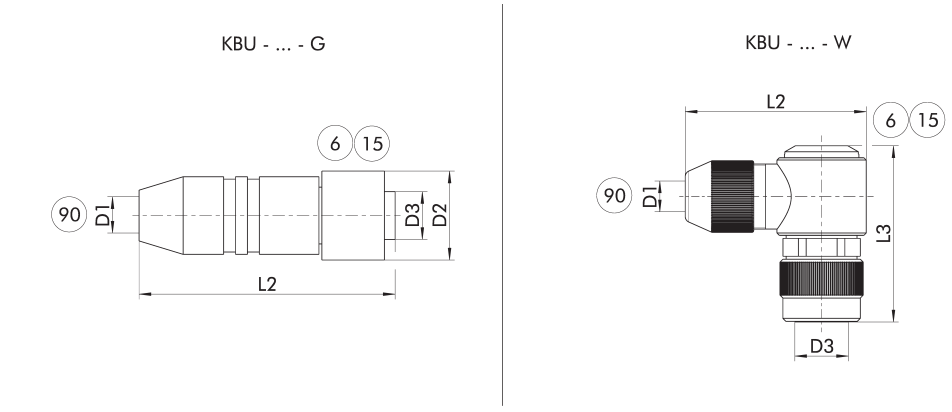
(6) Connection module side
(15) Socket
(90) Cable end with open wire strands

The connection cables are used to connect the SCHUNK product to the voltage supply.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Voltage supply connection cable – cable track compatible							
KA GLN12T0150-LK-00500-A	0310262	5	9.6	51	15		M12 T-coded
KA GLN12T0150-LK-01000-A	0310264	10	9.6	51	15		M12 T-coded
KA WLN12T0150-LK-00500-A	0310263	5	9.6	47.5		35	M12 T-coded
KA WLN12T0150-LK-01000-A	0310265	10	9.6	47.5		35	M12 T-coded

ⓘ 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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector



KBU – ... – G Socket with straight outlet
KBU – ... – W Socket with angular outlet

(6) Connection module side
(15) Socket
(90) D1 – max. diameter connection cable

The plug connectors are used to connect the SCHUNK product to the voltage supply. A customer cable can be used for this. The individual wire strands are clamped using screw connections in the plug connector.

Description	ID	D1 (max.)	L2	D2	L3	D3
		[mm]	[mm]	[mm]	[mm]	
Power supply plug-in connector						
KBU-M12T-G 4P	0310260	10	58	20.2		M12 T-coded
KBU-M12T-W 4P	1001514	10	43	20.2	39	M12 T-coded

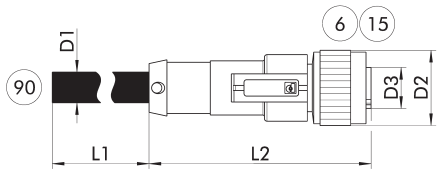
ⓘ For the connection cable, a cross-section for each individual wire strand of 1.5 mm2 is recommended. Please refer to the product documentation for information about max. cable length and min. wire cross section.

EMH DP 080

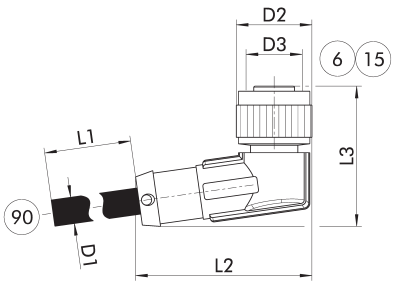
Magnetic gripper

Connection cable for control

KA G...



KA W...



KA G... Connection cable with straight plug connector

KA W... Connection cable with angled plug connector

(6) Connection module side

(15) Socket

(90) Cable end with open wire strands

The connection cables are used to control the SCHUNK product.

Description	ID	L1	D1	L2	D2	L3	D3
		[m]	[mm]	[mm]	[mm]	[mm]	
Connection cable actuation – drag chain and torsion compatible							
KA GLN1208-I0-00200-A	1395458	2	6	44	14.8		M12
KA GLN1208-I0-00500-A	1395471	5	6	44	14.8		M12
KA GLN1208-I0-01000-A	1395479	10	6	44	14.8		M12
KA WLN1208-I0-00200-A	1395482	2	6	34.5	14.8	27.4	M12
KA WLN1208-I0-00500-A	1395483	5	6	34.5	14.8	27.4	M12
KA WLN1208-I0-01000-A	1395485	10	6	34.5	14.8	27.4	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. Please refer to the product documentation for information about max. cable length and min. wire cross section.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Rotary gripping module with parallel gripper GSM-P

Flexible. Energy-efficient. Compact.

Gripper swivel module GSM-P

Compact gripper swivel combination, consisting of a powerful rotor drive, an end position and damping device as well as a 2-finger parallel gripper.

Field of application

Gripping and swiveling combined in a single compact module, for automated assembly in places with a restricted amount of available space.

Advantages – Your benefits

Space-saving as the rotary drive, end-position damping unit and gripper are merged in one compact module

Cost-saving due to the omission of adapter plates and the costs associated with project planning, and engineering design

Powerful for even greater masses and inertias due to the variant with hydraulic shock absorbers

Flexible through several mounting options, infinitely adjustable swiveling angle and numerous product versions

Cross roller guidance for precise gripping through due to a scope-free base jaw guidance

Process reliable as moving cables and hoses are replaced by integrated feed-throughs

Mounting on three gripper sides in five screwing directions for universal and flexible assembly of the gripper swivel module

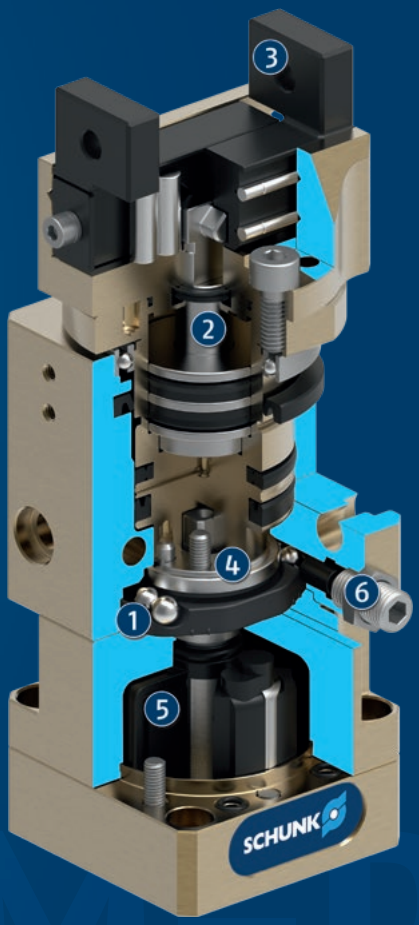
Air supply via hose-free direct connection or screw connections for the specific adaption of the gripper swivel module in all automation solutions

Comprehensive accessories due to the use of existing gripper components

Sizes	Weight	Gripping force	Stroke per jaw	Torque
Quantity: 4	0.37 .. 1.51 kg	39 .. 162 N	4 .. 10 mm	0.3 .. 2.9 Nm

Functional description

The swivel drive rotates the integrated gripper by applying pressure from a rotor. It is driven by its own piston. The piston motion is subsequently transformed into a synchronized gripping motion.



① **Pre-adjustment of rotating angle**
using steel balls for any desired angle of rotation

② **Gripper drive**
double-acting piston drive system with diagonal pull

③ **Base Jaw**
for the connection of workpiece-specific gripper fingers

④ **Stop damping assembly**
for end-position adjustment and damping

⑤ **Vane swivel unit**
as a compact, powerful drive

⑥ **Hydraulic shock absorber**
to increase the damping performance

General notes about the series

Operating principle: Combined rotor and piston drive

Housing material: Aluminum alloy, anodized

Base jaw material: Steel

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Centering sleeves, O-rings for direct connection, screws for lateral fastening, steel balls for adjustment of the swiveling angle, assembly and operation manual with declaration of incorporation

Gripping force maintenance device: 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).

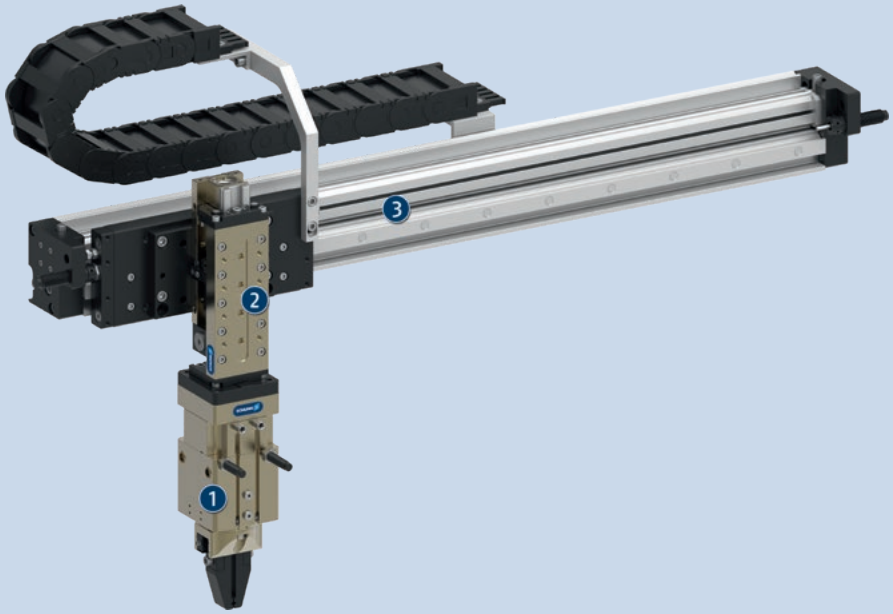
Finger length: is measured from the reference surface as the distance P in direction to the main axis.

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.

Repeat accuracy: is defined as a distribution of the end Position for 100 consecutive strokes.

Closing, opening and swiveling times: Closing and opening times are movement times of the base jaws or fingers only. Swivel times are the pure movement timesof the rotating part. Valve switching times, hose fill times, or PLC reaction times are not included, and are to be considered when cycle times are calculated.

Middle attached load: intended to represent a typical load. It is defined as the half of the max. possible mass moment of inertia that can be swiveled without restriction, bouncing or hitting, with a centric load and a vertical rotating axis.



Application example

The three-axis boom (X-Y-Z) with rotary gripping combination is employed to insert various products individually in outer packaging whilst rotating them if necessary.

1. Gripper swivel module GSM-P
2. Linear module CLM
3. Gantry module PMP

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

Gripper for small components

Miniature swivel unit

Pick & Place Unit

Inductive proximity switches

Programmable magnetic switch

Pressure maintenance valve

Finger blank

ⓘ For more information on these products can be found on the following product pages or at 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.
Modular system: As standard, this module can be combined with numerous components from the modular system. We would be happy to assist you.

Ordering example

GSM-P 32 - AS - E - 090

Description
GSM-P

Size
32/40/50/64

Gripping force maintenance device
- = without maintenance of gripping force
AS = Effect as closing force
IS = Effect as opening force

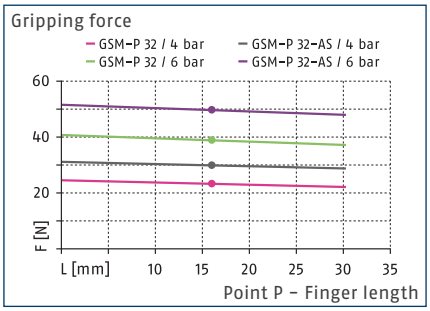
Type of damping method
E = Elastomer
S = shock absorber

Swivel angle
90°/180°

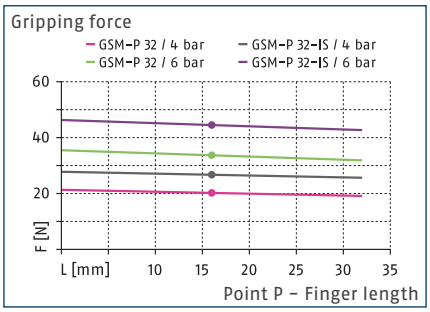
GSM-P 32

Rotary gripping module with parallel gripper

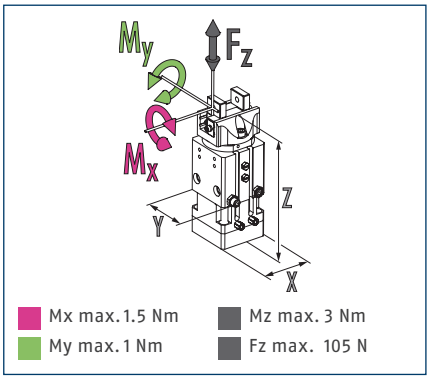
Gripping force O.D. gripping



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		GSM-P 32-E-090	GSM-P 32-E-180	GSM-P 32-AS-E-090	GSM-P 32-AS-E-180	GSM-P 32-IS-E-090	GSM-P 32-IS-E-180
ID		0304630	0303830	0304631	0303831	0304632	0303832
Stroke per jaw	[mm]	4	4	4	4	4	4
Closing/opening force	[N]	39/33	39/33	51/-	51/-	-/48	-/48
Min. spring force	[N]			12	12	15	15
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		Elastomer	Elastomer	Elastomer	Elastomer	Elastomer	Elastomer
Recommended workpiece weight	[kg]	0.2	0.2	0.2	0.2	0.2	0.2
Air consumption for gripping	[cm³]	4	4	4	4	4	4
Air consumption for swiveling	[cm³]	9	15	9	15	9	15
Weight	[kg]	0.37	0.37	0.42	0.42	0.42	0.42
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.04	0.03/0.04	0.04/0.03	0.04/0.03
Swiveling time with medium-sized attached load**	[s]	0.12	0.18	0.12	0.18	0.12	0.18
Max. permissible finger length	[mm]	32	32	32	32	32	32
Max. permissible mass per finger	[kg]	0.04	0.04	0.04	0.04	0.04	0.04
Max. permissible mass moment of inertia of the set-up	[kgmm²]	66	66	65	65	65	65
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	40 x 47 x 101	40 x 47 x 101	40 x 47 x 112.5	40 x 47 x 112.5	40 x 47 x 112.5	40 x 47 x 112.5

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

Technical data

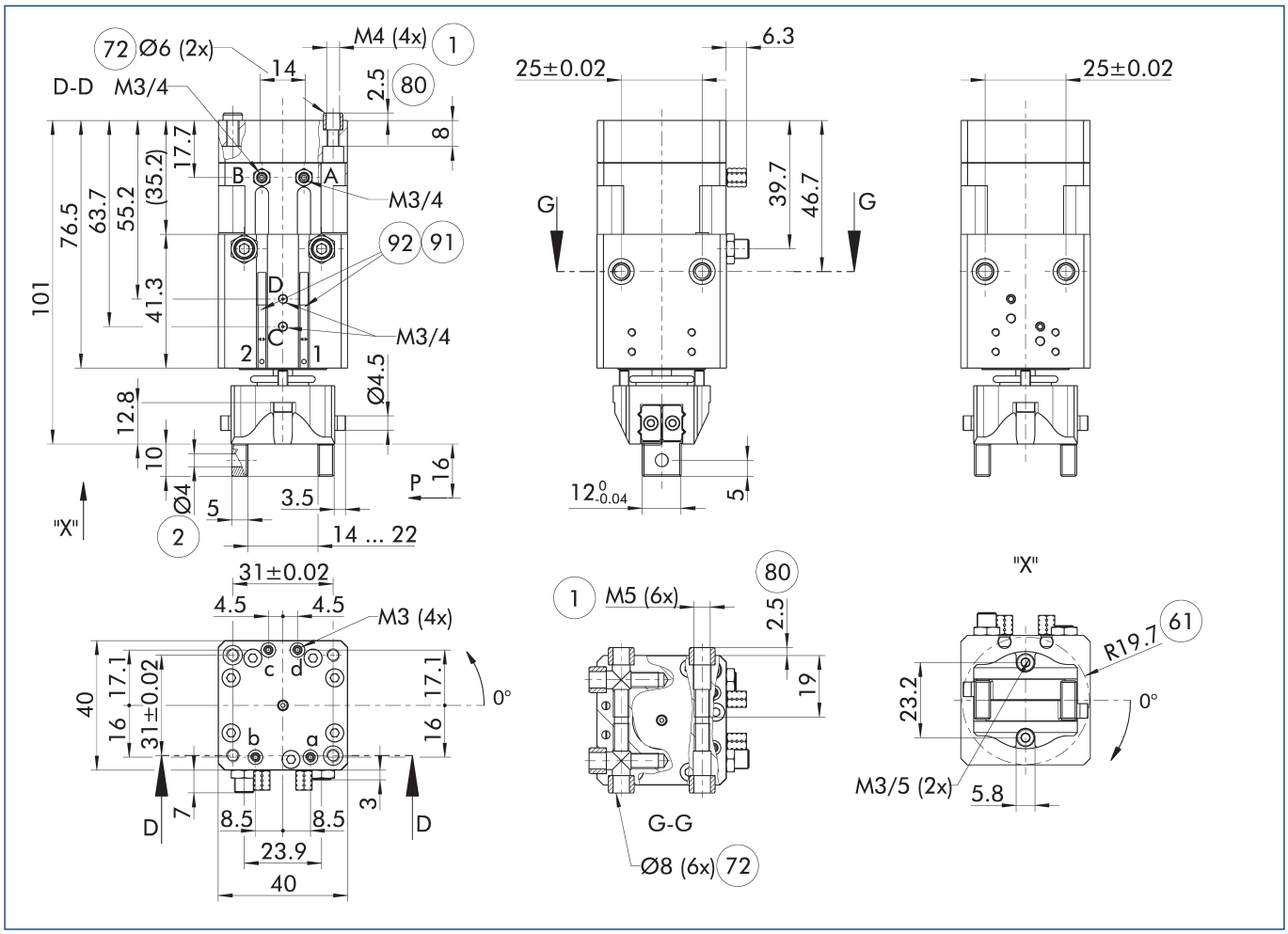
Description		GSM-P 32-S-090	GSM-P 32-S-180	GSM-P 32-AS-S-090	GSM-P 32-AS-S-180	GSM-P 32-IS-S-090	GSM-P 32-IS-S-180
ID		0304730	0303930	0304731	0303931	0304732	0303932
Stroke per jaw	[mm]	4	4	4	4	4	4
Closing/opening force	[N]	39/33	39/33	51/-	51/-	-/48	-/48
Min. spring force	[N]			12	12	15	15
Torque	[Nm]	0.35	0.35	0.35	0.35	0.35	0.35
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper
Recommended workpiece weight	[kg]	0.2	0.2	0.2	0.2	0.2	0.2
Air consumption for gripping	[cm³]	4	4	4	4	4	4
Air consumption for swiveling	[cm³]	9	15	9	15	9	15
Weight	[kg]	0.37	0.37	0.42	0.42	0.42	0.42
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3.5	3.5	3.5	3.5	3.5	3.5
Closing/opening time	[s]	0.04/0.04	0.04/0.04	0.03/0.04	0.03/0.04	0.04/0.03	0.04/0.03
Swiveling time with medium-sized attached load**	[s]	0.12	0.18	0.12	0.18	0.12	0.18
Max. permissible finger length	[mm]	32	32	32	32	32	32
Max. permissible mass per finger	[kg]	0.04	0.04	0.04	0.04	0.04	0.04
Max. permissible mass moment of inertia of the set-up	[kgmm²]	141	141	140	140	140	140
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	40 x 63.5 x 101	40 x 63.5 x 101	40 x 63.5 x 112.5	40 x 63.5 x 112.5	40 x 63.5 x 112.5	40 x 63.5 x 112.5

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

GSM-P 32

Rotary gripping module with parallel gripper

Main view



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

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, gripper opening

D, d Main / direct connection, gripper closing

(1) Connection gripper swivel module

(2) Finger connection

(61) Interfering contour during swiveling

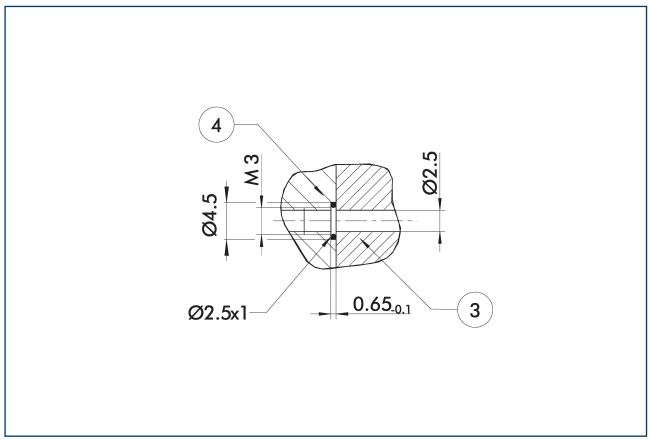
(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

(91) Monitoring of gripping and swiveling

(92) MMS-P22

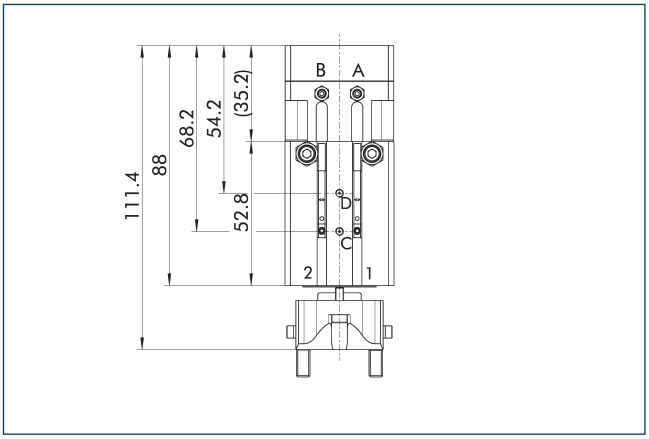
Hose-free direct connection M3



(3) Adapter (4) Rotary unit

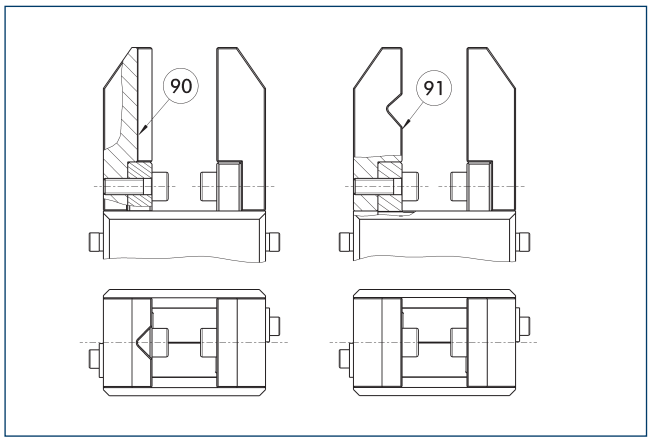
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance device 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. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

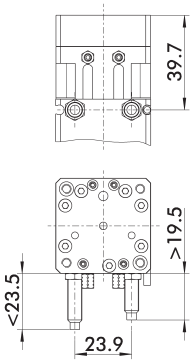
Jaw design



(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.

Version with shock absorbers

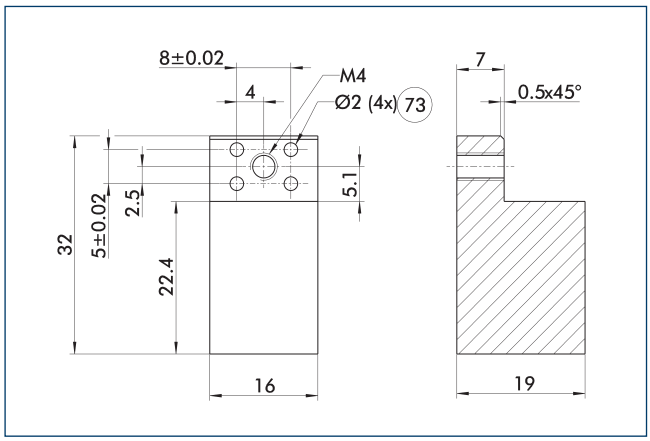


The drawing shows the dimensional changes of the shock absorber versions in comparison to the drawing in the main view which shows the elastomer version.

GSM-P 32

Rotary gripping module with parallel gripper

Finger blanks ABR-MPG-plus 32

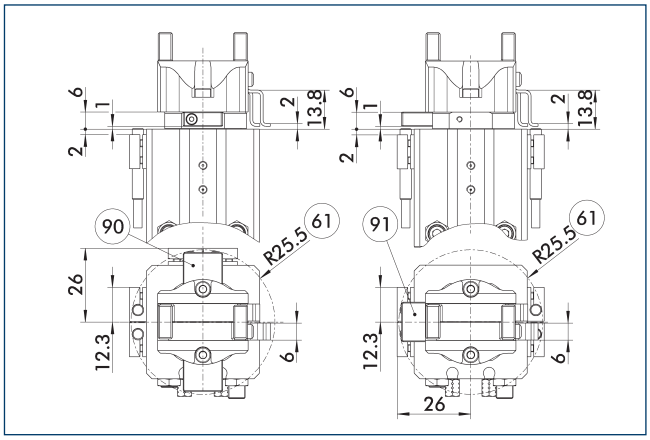


73 Fit for centering pins

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 32	0340212	Aluminum (3.4365)	2

Attachment kit for proximity switch – 90° / 180° angle of rotation



61 Interfering contour during swiveling

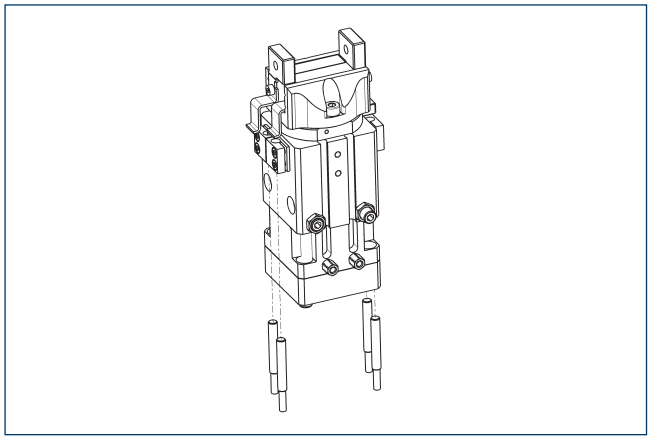
90 Variant for 90° version

91 Variant for 180° version

The attachment kits for the 90° and 180° GSM versions are identical, only assembly is different. The attachment kit consists of two switch cams, two operating cams, four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID	
Attachment kit for proximity switch		
AS-GSM-P 32	0304934	

Inductive proximity switches

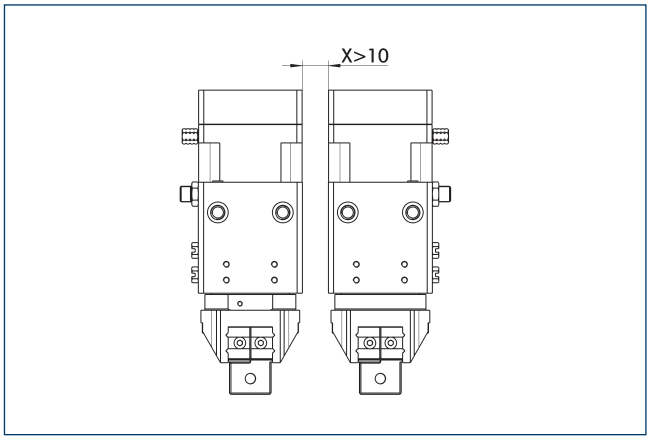


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-GSM-P 32	0304934	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

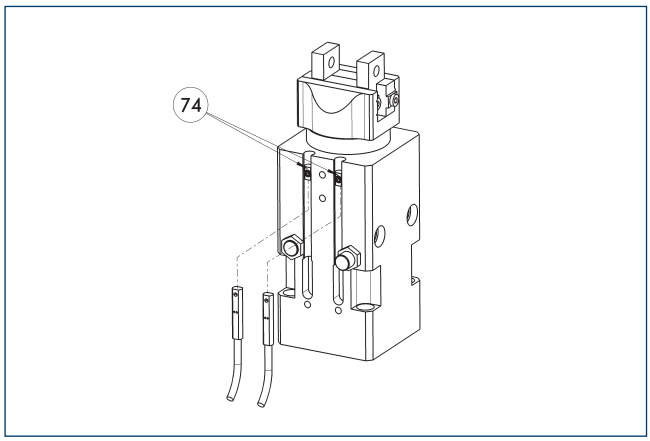
ⓘ Per unit four sensors (closer/S) are required for each unit, plus extension cables as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Monitoring for stacked arrangements



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

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.

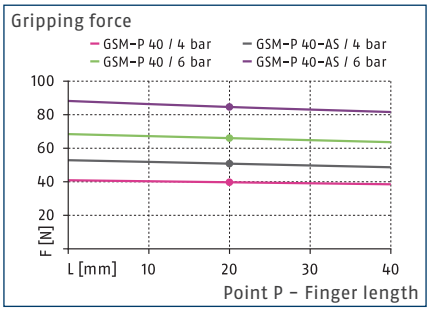
Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Connection cables		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
clip for plug/socket		
CLI-M8	0301463	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

ⓘ Per each GSM two MMS-P sensors are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

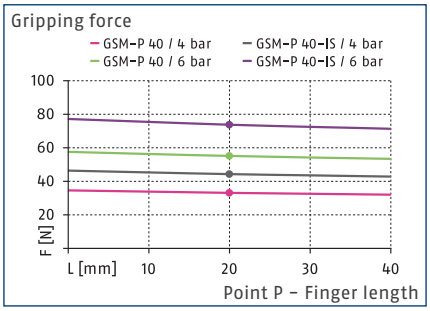
GSM-P 40

Rotary gripping module with parallel gripper

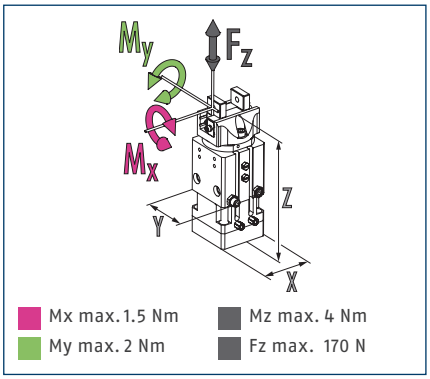
Gripping force O.D. gripping



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		GSM-P 40-E-090	GSM-P 40-E-180	GSM-P 40-AS-E-090	GSM-P 40-AS-E-180	GSM-P 40-IS-E-090	GSM-P 40-IS-E-180
ID		0304640	0303840	0304641	0303841	0304642	0303842
Stroke per jaw	[mm]	6	6	6	6	6	6
Closing/opening force	[N]	66/54	66/54	87/-	87/-	-/69	-/69
Min. spring force	[N]			21	21	15	15
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		Elastomer	Elastomer	Elastomer	Elastomer	Elastomer	Elastomer
Recommended workpiece weight	[kg]	0.33	0.33	0.33	0.33	0.33	0.33
Air consumption for gripping	[cm³]	5.97	5.97	5.97	5.97	5.97	5.97
Air consumption for swiveling	[cm³]	9	15	9	15	9	15
Weight	[kg]	0.43	0.43	0.5	0.5	0.5	0.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Swiveling time with medium-sized attached load**	[s]	0.14	0.22	0.14	0.22	0.14	0.22
Max. permissible finger length	[mm]	40	40	40	40	40	40
Max. permissible mass per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
Max. permissible mass moment of inertia of the set-up	[kgmm²]	52	52	50	50	50	50
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	40 x 47 x 104	40 x 47 x 104	40 x 47 x 123.4	40 x 47 x 123.4	40 x 47 x 123.4	40 x 47 x 123.4

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

Technical data

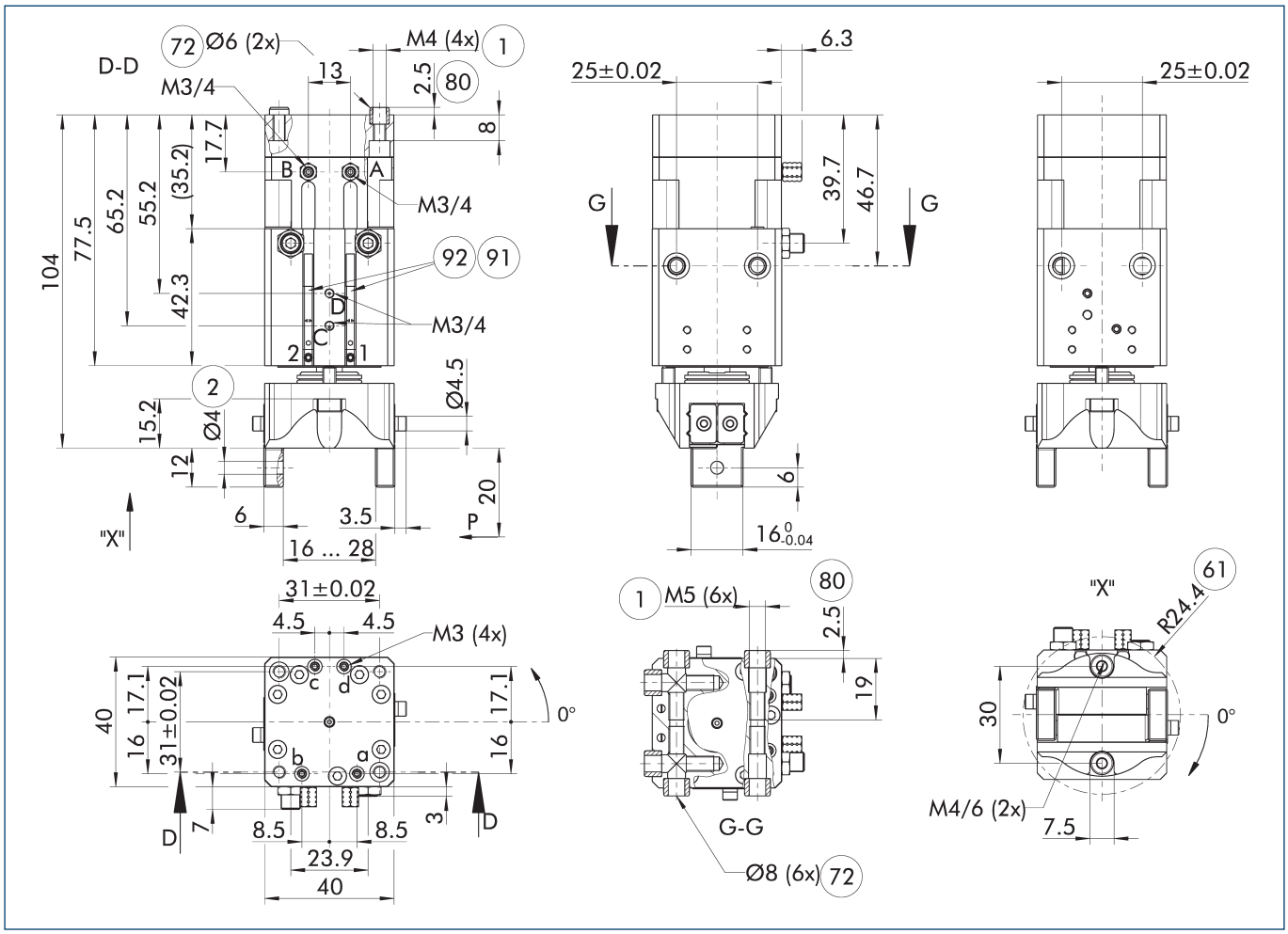
Description		GSM-P 40-S-090	GSM-P 40-S-180	GSM-P 40-AS-S-090	GSM-P 40-AS-S-180	GSM-P 40-IS-S-090	GSM-P 40-IS-S-180
ID		0304740	0303940	0304741	0303941	0304742	0303942
Stroke per jaw	[mm]	6	6	6	6	6	6
Closing/opening force	[N]	66/54	66/54	87/-	87/-	-/69	-/69
Min. spring force	[N]			21	21	15	15
Torque	[Nm]	0.3	0.3	0.3	0.3	0.3	0.3
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper
Recommended workpiece weight	[kg]	0.33	0.33	0.33	0.33	0.33	0.33
Air consumption for gripping	[cm³]	5.97	5.97	5.97	5.97	5.97	5.97
Air consumption for swiveling	[cm³]	9	15	9	15	9	15
Weight	[kg]	0.43	0.43	0.5	0.5	0.5	0.5
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	4	4	4	4	4	4
Closing/opening time	[s]	0.05/0.05	0.05/0.05	0.03/0.05	0.03/0.05	0.05/0.03	0.05/0.03
Swiveling time with medium-sized attached load**	[s]	0.14	0.22	0.14	0.22	0.14	0.22
Max. permissible finger length	[mm]	40	40	40	40	40	40
Max. permissible mass per finger	[kg]	0.08	0.08	0.08	0.08	0.08	0.08
Max. permissible mass moment of inertia of the set-up	[kgmm²]	127	127	125	125	125	125
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	40 x 63.5 x 104	40 x 63.5 x 104	40 x 63.5 x 123.4	40 x 63.5 x 123.4	40 x 63.5 x 123.4	40 x 63.5 x 123.4

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

GSM-P 40

Rotary gripping module with parallel gripper

Main view



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

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, gripper opening

D, d Main / direct connection, gripper closing

(1) Connection gripper swivel module

(2) Finger connection

(61) Interfering contour during swiveling

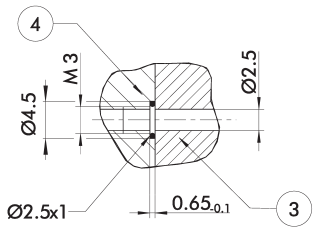
(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

(91) Monitoring of gripping and swiveling

(92) MMS-P22

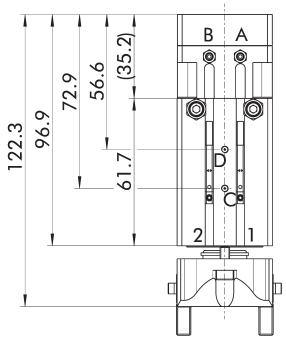
Hose-free direct connection M3



(3) Adapter (4) Rotary unit

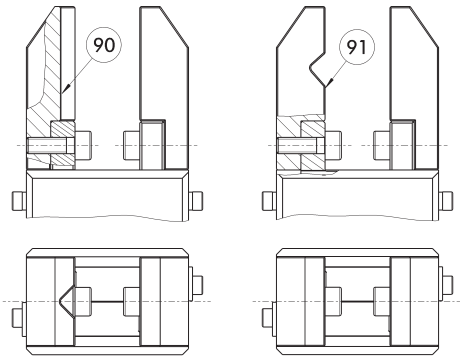
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance device 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. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

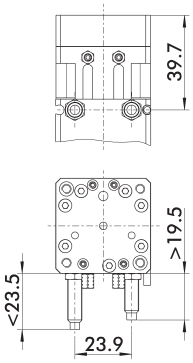
Jaw design



(90) Vertically positioned prism (91) Horizontally positioned prism

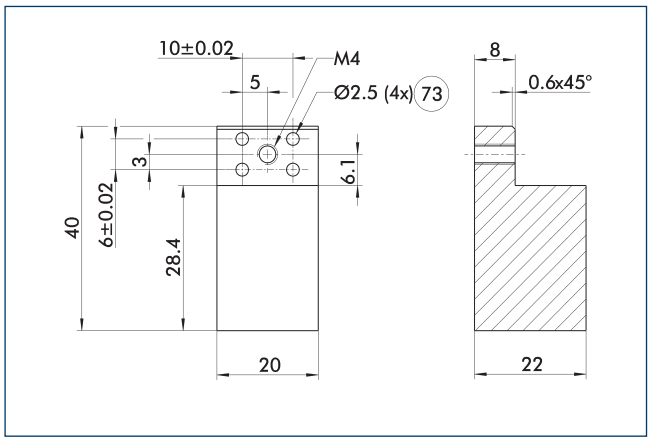
A workpiece, which is gripped using three points of contact, can be reliably gripped with high repeatability. A system with more than three points of contact is overdetermined. The drawing shows two alternative gripper finger designs for coaxial and radial gripping of a cylindrical part.

Version with shock absorbers



The drawing shows the dimensional changes of the shock absorber versions in comparison to the drawing in the main view which shows the elastomer version.

Finger blanks ABR-MPG-plus 40

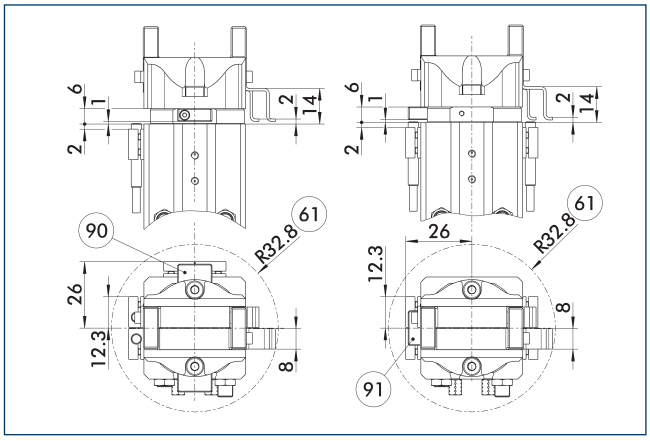


73 Fit for centering pins

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

Attachment kit for proximity switch – 90° / 180° angle of rotation



61 Interfering contour during swiveling

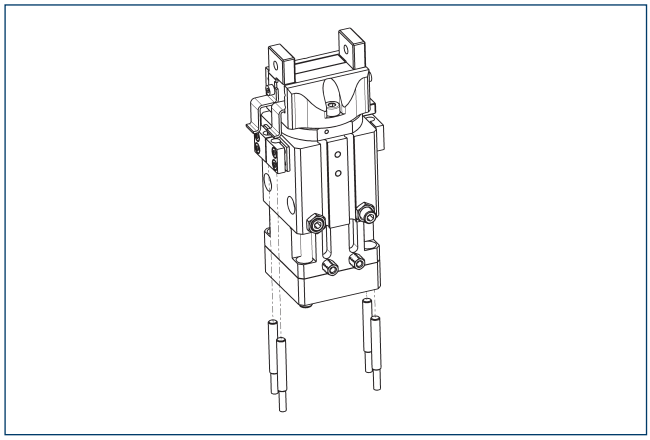
90 Variant for 90° version

91 Variant for 180° version

The attachment kits for the 90° and 180° GSM versions are identical, only assembly is different. The attachment kit consists of two switch cams, two operating cams, four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID	
Attachment kit for proximity switch		
AS-GSM-P 40	0304935	

Inductive proximity switches

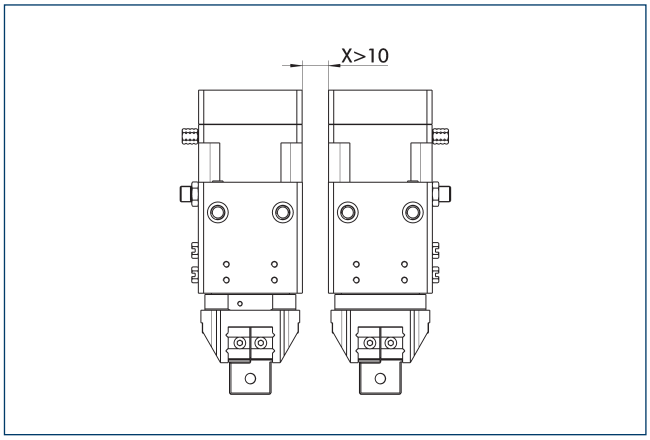


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-GSM-P 40	0304935	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

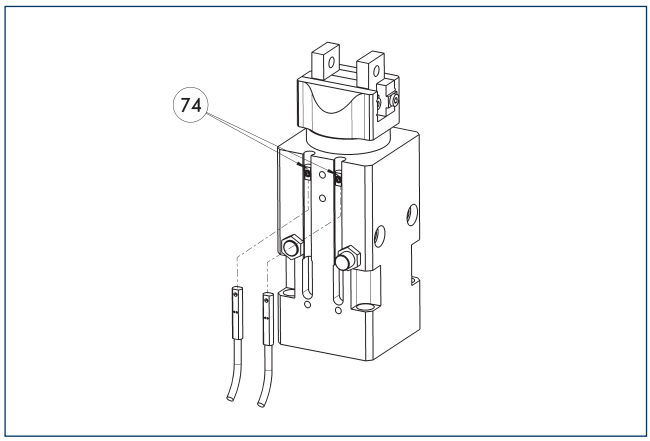
ⓘ Per unit four sensors (closer/S) are required for each unit, plus extension cables as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Monitoring for stacked arrangements



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

MMS-P programmable magnetic switch



74 Limit stop for sensor

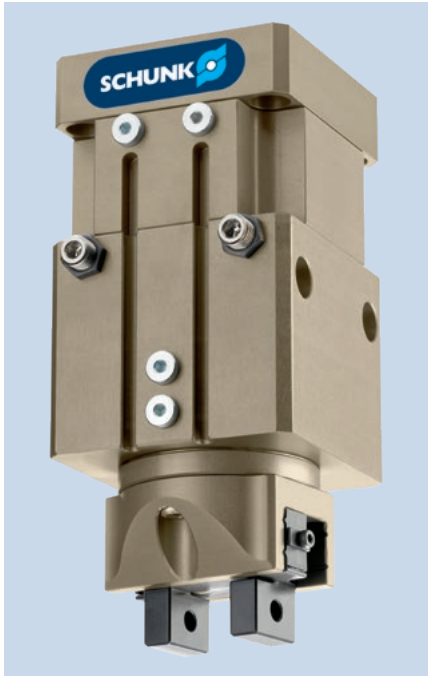
Position monitoring with two programmable positions per sensor. End position monitoring for mounting in the C-slot.

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

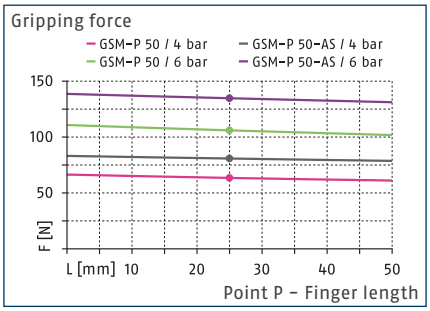
ⓘ Per each GSM two MMS-P sensors are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

GSM-P 50

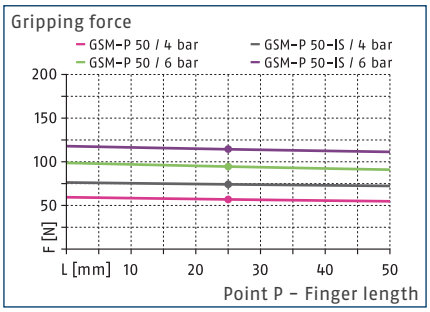
Rotary gripping module with parallel gripper



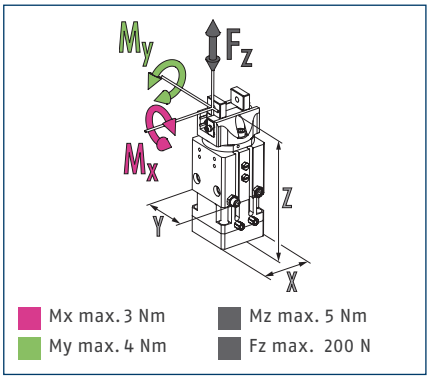
Gripping force O.D. gripping



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		GSM-P 50-E-090	GSM-P 50-E-180	GSM-P 50-AS-E-090	GSM-P 50-AS-E-180	GSM-P 50-IS-E-090	GSM-P 50-IS-E-180
ID		0304650	0303850	0304651	0303851	0304652	0303852
Stroke per jaw	[mm]	8	8	8	8	8	8
Closing/opening force	[N]	105/93	105/93	135/-	135/-	-/114	-/114
Min. spring force	[N]			30	30	21	21
Torque	[Nm]	2.9	2.9	2.9	2.9	2.9	2.9
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		Elastomer	Elastomer	Elastomer	Elastomer	Elastomer	Elastomer
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	10.84	10.84	10.84	10.84	10.84	10.84
Air consumption for swiveling	[cm³]	51	85	51	85	51	85
Weight	[kg]	1.19	1.19	1.19	1.19	1.2	1.2
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with medium-sized attached load**	[s]	0.14	0.24	0.14	0.24	0.14	0.24
Max. permissible finger length	[mm]	50	50	50	50	50	50
Max. permissible mass per finger	[kg]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permissible mass moment of inertia of the set-up	[kgmm²]	180	180	176	176	176	176
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	64 x 73.5 x 142.5	64 x 73.5 x 142.5	64 x 73.5 x 161	64 x 73.5 x 161	64 x 73.5 x 161	64 x 73.5 x 161

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

Technical data

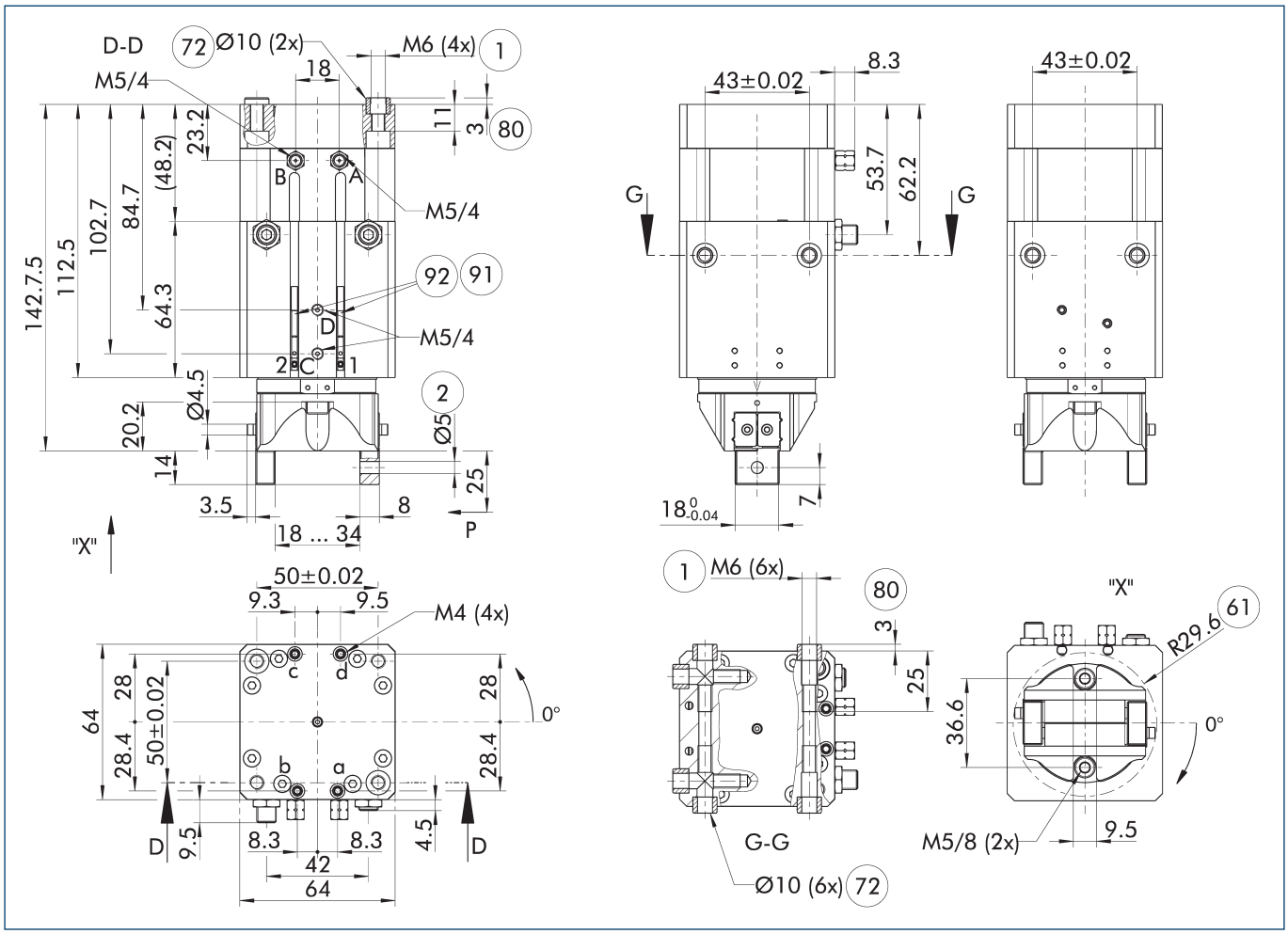
Description		GSM-P 50-S-090	GSM-P 50-S-180	GSM-P 50-AS-S-090	GSM-P 50-AS-S-180	GSM-P 50-IS-S-090	GSM-P 50-IS-S-180
ID		0304750	0303950	0304751	0303951	0304752	0303952
Stroke per jaw	[mm]	8	8	8	8	8	8
Closing/opening force	[N]	105/93	105/93	135/-	135/-	-/114	-/114
Min. spring force	[N]			30	30	21	21
Torque	[Nm]	2.9	2.9	2.9	2.9	2.9	2.9
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper
Recommended workpiece weight	[kg]	0.52	0.52	0.52	0.52	0.52	0.52
Air consumption for gripping	[cm³]	10.84	10.84	10.84	10.84	10.84	10.84
Air consumption for swiveling	[cm³]	51	85	51	85	51	85
Weight	[kg]	1.19	1.19	1.19	1.19	1.2	1.2
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with medium-sized attached load**	[s]	0.14	0.24	0.14	0.24	0.14	0.24
Max. permissible finger length	[mm]	50	50	50	50	50	50
Max. permissible mass per finger	[kg]	0.14	0.14	0.14	0.14	0.14	0.14
Max. permissible mass moment of inertia of the set-up	[kgmm²]	430	430	426	426	426	426
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	64 x 97 x 142.5	64 x 97 x 142.5	64 x 97 x 161	64 x 97 x 161	64 x 97 x 161	64 x 97 x 161

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

GSM-P 50

Rotary gripping module with parallel gripper

Main view



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

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, gripper opening

D, d Main / direct connection, gripper closing

(1) Connection gripper swivel module

(2) Finger connection

(61) Interfering contour during swiveling

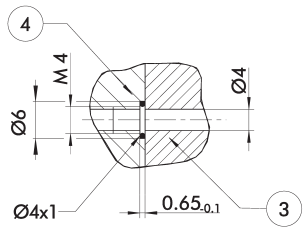
(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

(91) Monitoring of gripping and swiveling

(92) MMS-P22

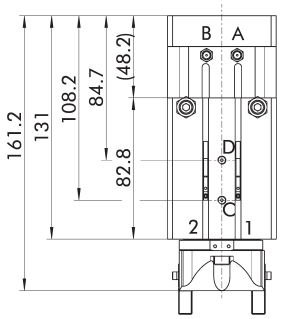
Hose-free direct connection M4



(3) Adapter (4) Rotary unit

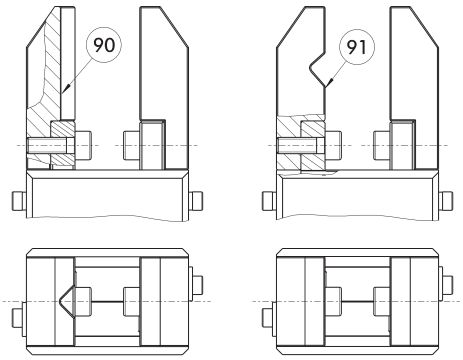
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance device 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. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

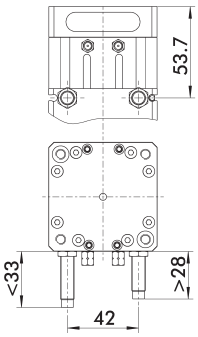
Jaw design



(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.

Version with shock absorbers

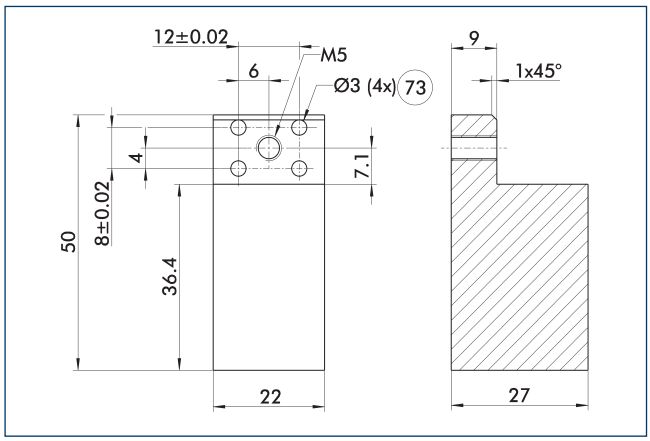


The drawing shows the dimensional changes of the shock absorber versions in comparison to the drawing in the main view which shows the elastomer version.

GSM-P 50

Rotary gripping module with parallel gripper

Finger blanks ABR-MPG-plus 50

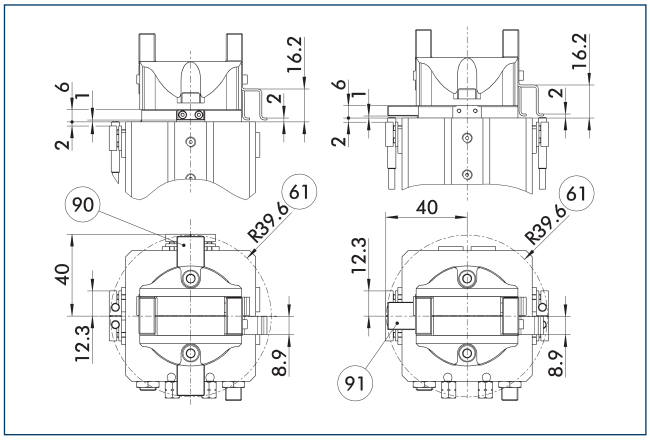


73 Fit for centering pins

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 50	0340214	Aluminum (3.4365)	2

Attachment kit for proximity switch – 90° / 180° angle of rotation



61 Interfering contour during swiveling

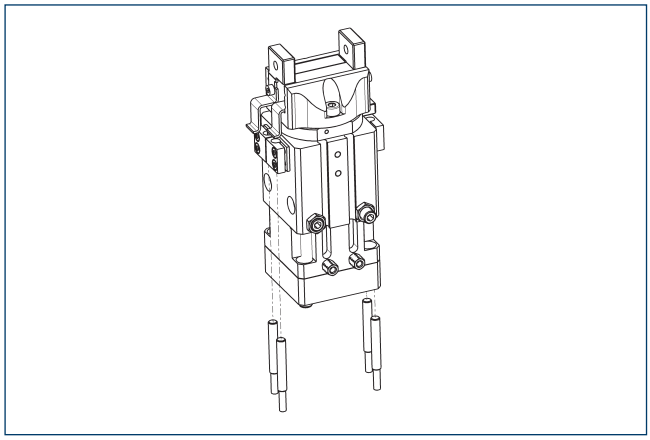
90 Variant for 90° version

91 Variant for 180° version

The attachment kits for the 90° and 180° GSM versions are identical, only assembly is different. The attachment kit consists of two switch cams, two operating cams, four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID	
Attachment kit for proximity switch		
AS-GSM-P 50	0304936	

Inductive proximity switches

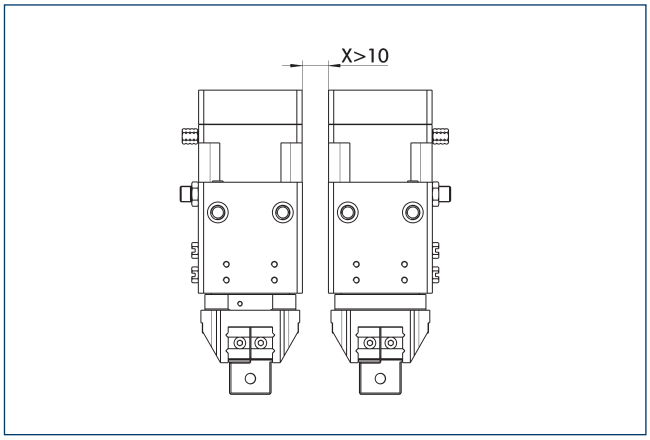


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-GSM-P 50	0304936	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

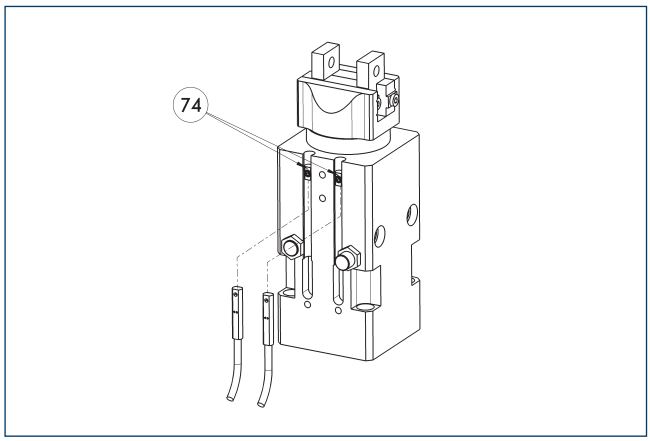
ⓘ Per unit four sensors (closer/S) are required for each unit, plus extension cables as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Monitoring for stacked arrangements



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

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.

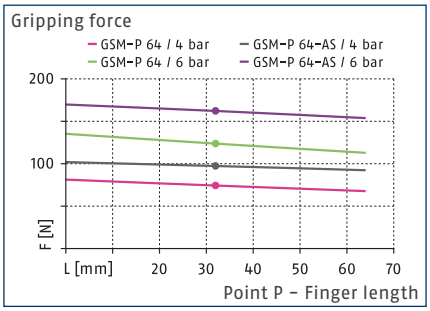
Description	ID	Often combined
Programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Connection cables		
KA GLN0804-LK-00500-A	0307767	●
KA GLN0804-LK-01000-A	0307768	
KA WLN0804-LK-00500-A	0307765	
KA WLN0804-LK-01000-A	0307766	
clip for plug/socket		
CLI-M8	0301463	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

ⓘ Per each GSM two MMS-P sensors are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

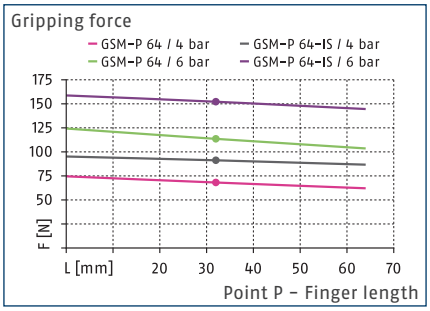
GSM-P 64

Rotary gripping module with parallel gripper

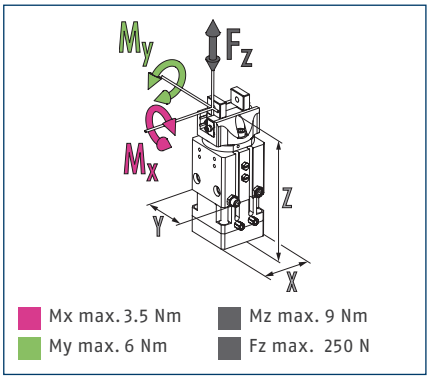
Gripping force O.D. gripping



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		GSM-P 64-E-090	GSM-P 64-E-180	GSM-P 64-AS-E-090	GSM-P 64-AS-E-180	GSM-P 64-IS-E-090	GSM-P 64-IS-E-180
ID		0304660	0303860	0304661	0303861	0304662	0303862
Stroke per jaw	[mm]	10	10	10	10	10	10
Closing/opening force	[N]	120/114	120/114	162/-	162/-	-/147	-/147
Min. spring force	[N]			42	42	33	33
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		Elastomer	Elastomer	Elastomer	Elastomer	Elastomer	Elastomer
Recommended workpiece weight	[kg]	0.61	0.61	0.61	0.61	0.61	0.61
Air consumption for gripping	[cm³]	15.81	15.81	15.81	15.81	15.81	15.81
Air consumption for swiveling	[cm³]	51	85	51	85	51	85
Weight	[kg]	1.39	1.39	1.51	1.51	1.51	1.51
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with medium-sized attached load**	[s]	0.14	0.24	0.14	0.24	0.14	0.24
Max. permissible finger length	[mm]	64	64	64	64	64	64
Max. permissible mass per finger	[kg]	0.24	0.24	0.24	0.24	0.24	0.24
Max. permissible mass moment of inertia of the set-up	[kgmm²]	90	90	91	91	91	91
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90	5/90
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	64 x 73.5 x 142.5	64 x 73.5 x 142.5	64 x 73.5 x 152	64 x 73.5 x 152	64 x 73.5 x 152	64 x 73.5 x 152

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

Technical data

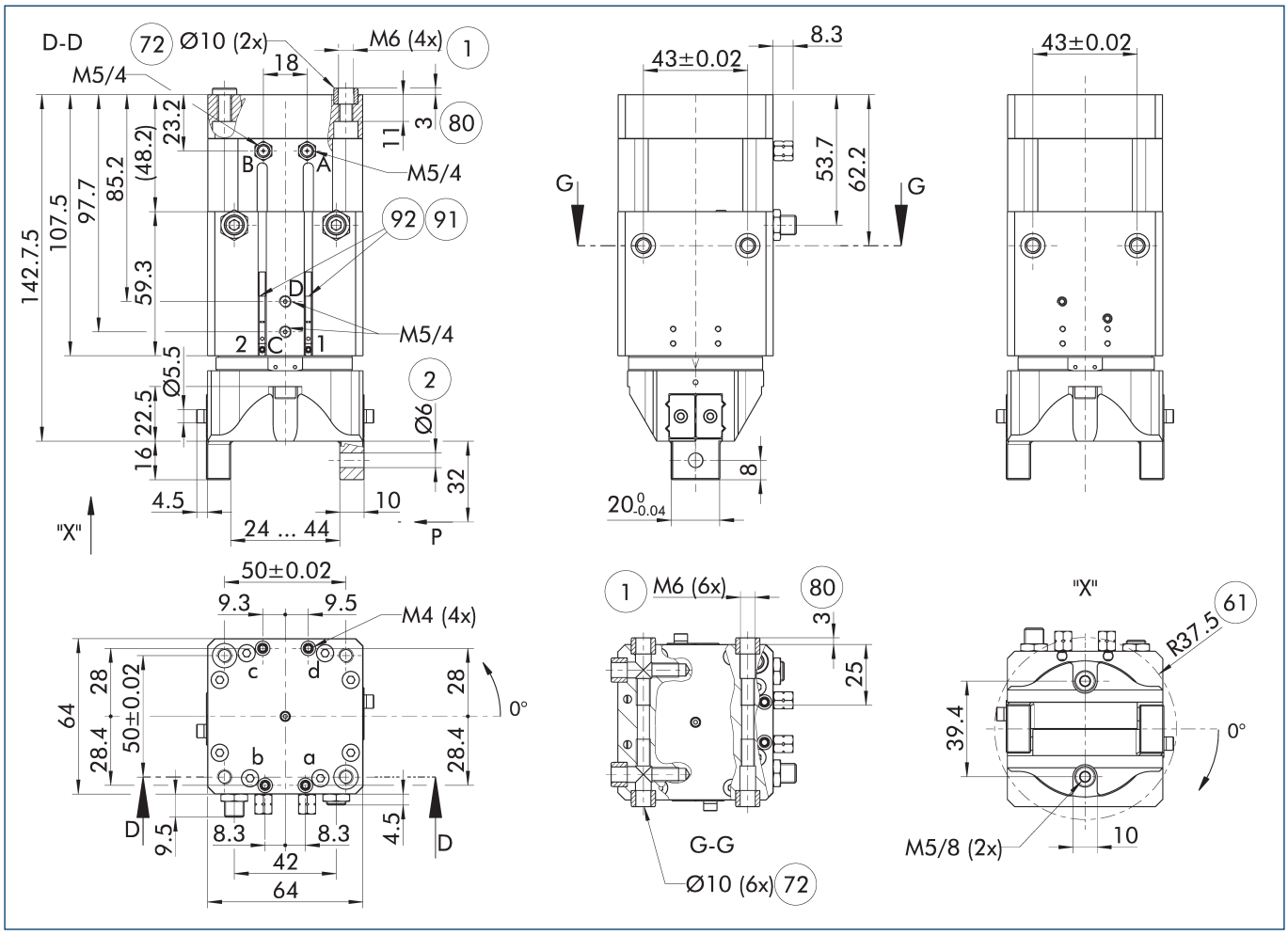
Description		GSM-P 64-S-090	GSM-P 64-S-180	GSM-P 64-AS-S-090	GSM-P 64-AS-S-180	GSM-P 64-IS-S-090	GSM-P 64-IS-S-180
ID		0304760	0303960	0304761	0303961	0304762	0303962
Stroke per jaw	[mm]	10	10	10	10	10	10
Closing/opening force	[N]	120/114	120/114	162/-	162/-	-/147	-/147
Min. spring force	[N]			42	42	33	33
Torque	[Nm]	2.7	2.7	2.7	2.7	2.7	2.7
Angle of rotation	[°]	90	180	90	180	90	180
End position adjustability	[°]	90	180	90	180	90	180
Damping for swiveling		hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper	hydr. damper
Recommended workpiece weight	[kg]	0.61	0.61	0.61	0.61	0.61	0.61
Air consumption for gripping	[cm³]	15.81	15.81	15.81	15.81	15.81	15.81
Air consumption for swiveling	[cm³]	51	85	51	85	51	85
Weight	[kg]	1.39	1.39	1.51	1.51	1.51	1.51
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	6.5	6.5	6.5	6.5	6.5	6.5
Min. operating pressure for gripping	[bar]	2	2	4	4	4	4
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.01/0.01	0.01/0.01	0.01/0.02	0.01/0.02	0.02/0.01	0.02/0.01
Swiveling time with medium-sized attached load**	[s]	0.14	0.24	0.14	0.24	0.14	0.24
Max. permissible finger length	[mm]	64	64	64	64	64	64
Max. permissible mass per finger	[kg]	0.24	0.24	0.24	0.24	0.24	0.24
Max. permissible mass moment of inertia of the set-up	[kgmm²]	340	340	341	341	341	341
IP protection class		30	30	30	30	30	30
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.1	0.1	0.1	0.1	0.1	0.1
Dimensions X x Y x Z	[mm]	64 x 97 x 142.5	64 x 97 x 142.5	64 x 97 x 152	64 x 97 x 152	64 x 97 x 152	64 x 97 x 152

* Swiveling time at an average attachment load, which is equivalent to half of the max. perm. mass moment of inertia of the design. It can be run without throttling for the rotary movement.

GSM-P 64

Rotary gripping module with parallel gripper

Main view



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

ⓘ The SDV-P pressure maintenance valve can also be used for I.D. or O.D. gripping alternatively or in addition to the spring-loaded, mechanical gripping force maintenance device (see catalog section on accessories).

A, a Main / direct connection, rotary actuator rotates clockwise

B, b Main / direct connection, rotary actuator rotates counterclockwise

C, c Main / direct connection, gripper opening

D, d Main / direct connection, gripper closing

(1) Connection gripper swivel module

(2) Finger connection

(61) Interfering contour during swiveling

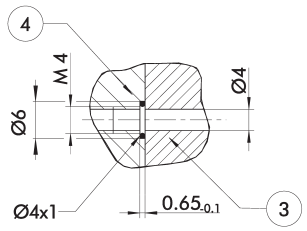
(72) Fit for centering sleeves

(80) Depth of the centering sleeve hole in the counter part

(91) Monitoring of gripping and swiveling

(92) MMS-P22

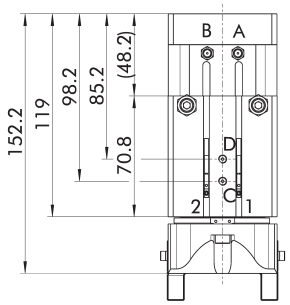
Hose-free direct connection M4



(3) Adapter (4) Rotary unit

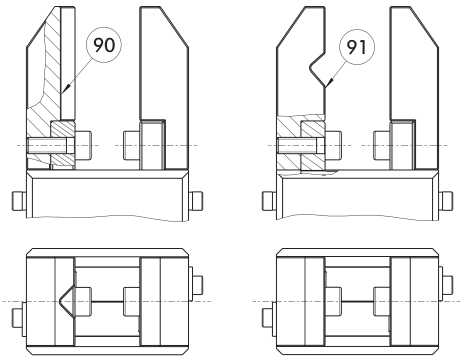
The direct connection is used for supplying compressed air without hoses. Instead, the pressure medium is fed through bore-holes in the mounting plate.

Gripping force maintenance device 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. This acts as closing force in the AS / S version, and as opening force in the IS version. Besides this, the gripping force maintenance device can be used to increase the gripping force or for single actuated gripping.

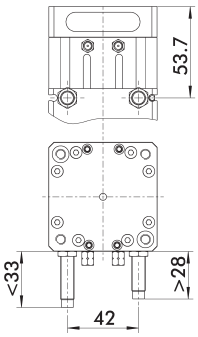
Jaw design



(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.

Version with shock absorbers

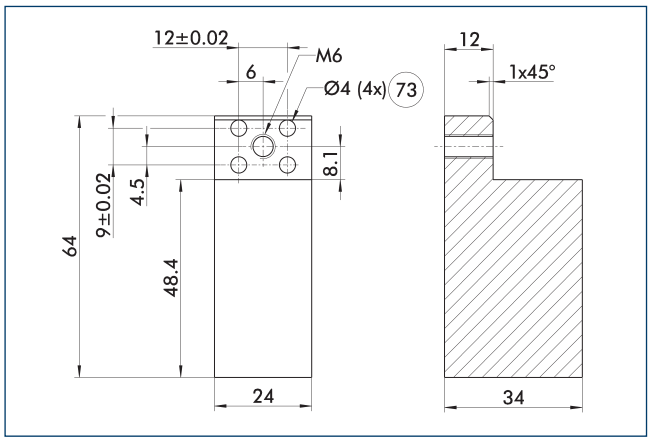


The drawing shows the dimensional changes of the shock absorber versions in comparison to the drawing in the main view which shows the elastomer version.

GSM-P 64

Rotary gripping module with parallel gripper

Finger blanks ABR-MPG-plus 64

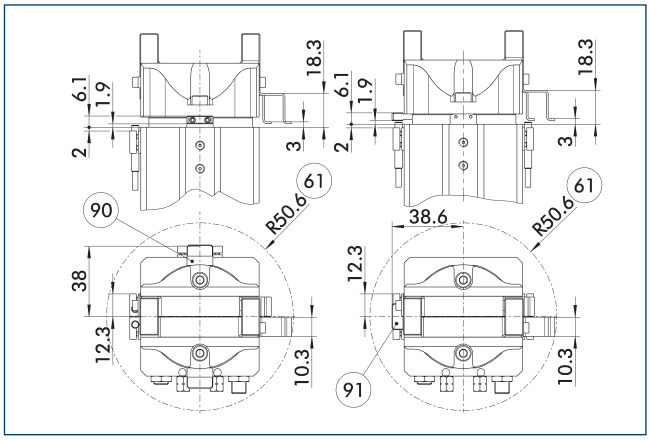


73 Fit for centering pins

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

Description	ID	Material	Scope of delivery
Finger blank			
ABR-MPG-plus 64	0340215	Aluminum (3.4365)	2

Attachment kit for proximity switch – 90° / 180° angle of rotation



61 Interfering contour during swiveling

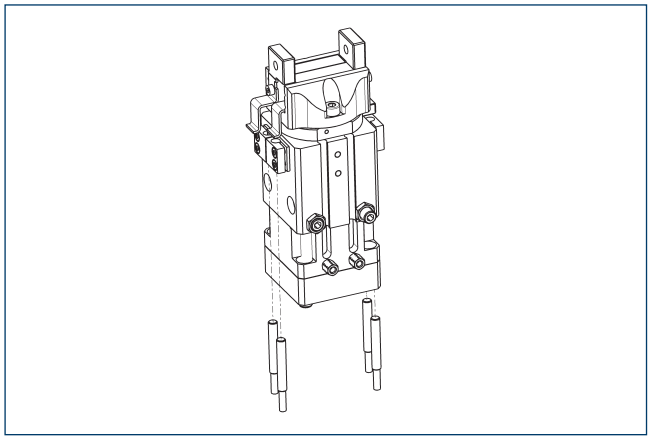
90 Variant for 90° version

91 Variant for 180° version

The attachment kits for the 90° and 180° GSM versions are identical, only assembly is different. The attachment kit consists of two switch cams, two operating cams, four sensor brackets and small components. The proximity switches must be ordered separately.

Description	ID	
Attachment kit for proximity switch		
AS-GSM-P 64	0304937	

Inductive proximity switches

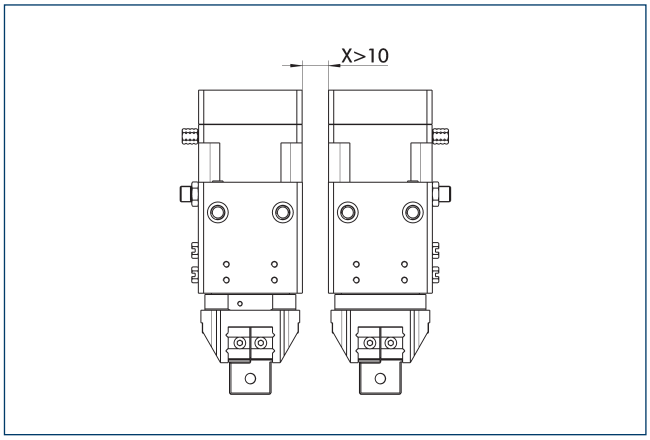


End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-GSM-P 64	0304937	
Inductive proximity switches		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	

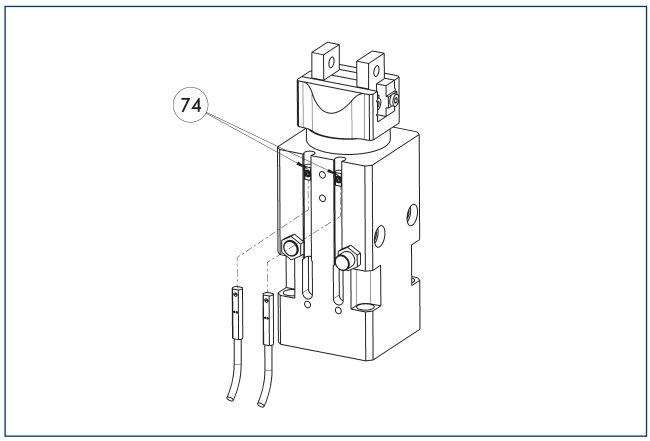
ⓘ Per unit four sensors (closer/S) are required for each unit, plus extension cables as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

Monitoring for stacked arrangements



CAUTION: Monitoring is carried out by magnetic switches, and in case of side-by-side assembly of several units, a minimum distance of X mm between the units must be maintained.

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

ⓘ Per each GSM two MMS-P sensors are required. If standard extension cables (M8-3P) are used, the sensor distributor can be applied.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Gripper with shaft interface GSW-B

High flow rate. Cost-effective. Powerful.

Gripper with shank interface GSW-B

Universal gripper PGN-plus/PZN-plus with GSW-B shank interface

Field of application

Unit for fully automated loading and unloading of machining centres

Advantages – Your benefits

Low-cost module from a universal gripper PGN-plus/PZN-plus and a shank interface

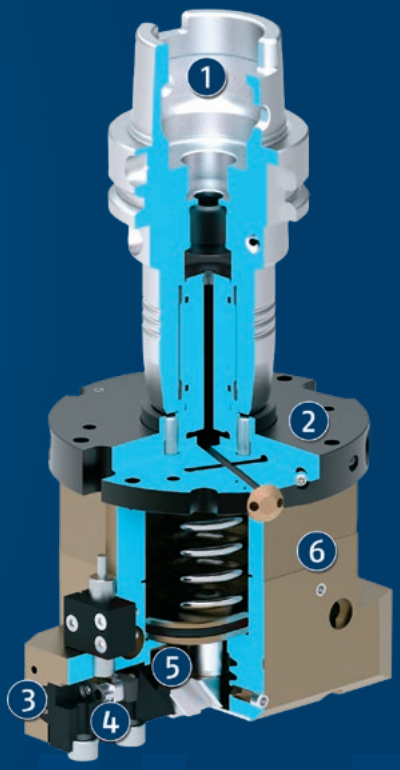
Fast, automated gripper changeover from the gripper to the storage rack

Fully automated workpiece changeover without robot or gantry system

Sizes	Suitable for	Shank diameter
Quantity: 4	PGN-plus/PZN-plus	20 mm

Functional description

The pressure generated by the central machine coolant supply is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be actuated and can actuate the base jaws correspondingly via the piston and wedge hook.
During the gripping operation the gripper continuously supplies coolant or compressed air via the lateral pressure control valve.



① **Mounting**
for automatically switching in and out of the spindle (not included in the scope of delivery)

② **Adapter plate with integrated pressure distributor**
for a large pressure range

③ **Multi-tooth guidance**
highly loadable, nearly backlash-free base jaw guidance for long finger lenghts

④ **Base Jaw**
for the connection of workpiece-specific gripper fingers

⑤ **Wedge-hook design**
for high force transmission and centric gripping

⑥ **Housing**
is weight-optimized due to the use of high-strength aluminum alloy

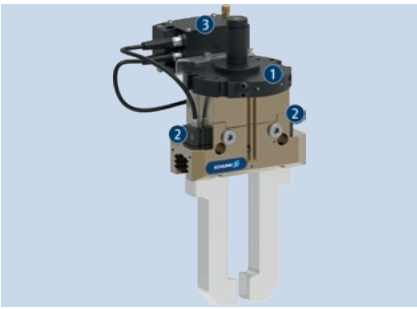
Detailed functional description

Gripper versions

The gripper with shank interface GSW-B is available as a parallel and centric gripper in the versions AS and IS. Due to the integrated spring, the gripper moves back to its starting position in depressurized state. In the version AS, the spring acts as closing force in the depressurized state; and in the version IS as an opening force.

1. Adapter plate with mount for toolholder
2. Pressure relief valve
3. Piston chamber with spring support
4. Wedge-hook design

Gripper monitoring



On option, the gripper can be equipped with a wireless sensor system. Therefore monitoring of the gripper and the wireless transmission of the signals from the machine room are possible.

1. Adapter plate with spindle Interface GSW-B
2. End-position monitoring with cylindrical reed switches RMS 80
3. Transmitter module RSS-T2 for radio sensor system

General notes about the series

Operating principle: Pressure distributor and wedge-hook kinematics

Housing material: Aluminum alloy, anodized

Base jaw material: Blackened steel

Spindle interface material: Aluminum alloy

Actuation: hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

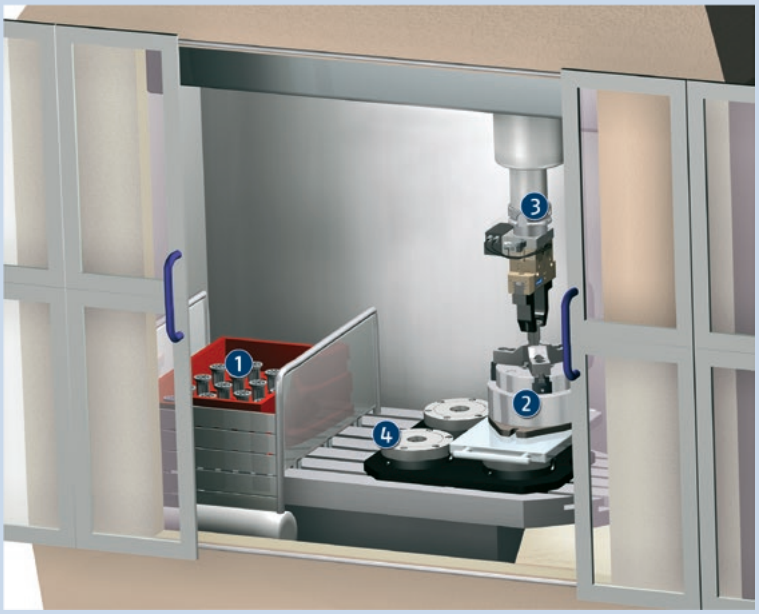
Scope of delivery: Fastening screws, centering elements, assembly instructions (operating manual with declaration of incorporation is available online). The gripper is not included and must be ordered separately in the desired version.

Gripping force: refers to the combination of a GSW-B with a correspondingly named gripper, and represents the minimum sufficient gripping force.

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.

Closing and opening times: the indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.



Application example

Use of a gripper with spindle interface in a machine tool for automated loading of raw parts and unloading of finished parts.

1. Workpiece rack
2. Quick-change pallet System VERO-S with lathe chuck ROTA TPS
3. Gripper with spindle interface PGN-plus at GSW-B, and with wireless sensor System RSS
4. Machine table

SCHUNK offers more ...

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

Magnetic gripper

Vacuum Gripper

Cleaning Unit

Toolholder

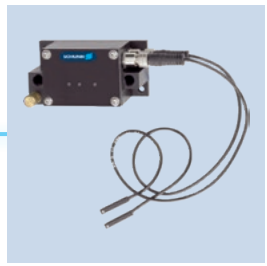
Finger blank

Universal intermediate jaw

Jaw quick-change system

Protection cover

Reed switch



Wireless sensor system

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

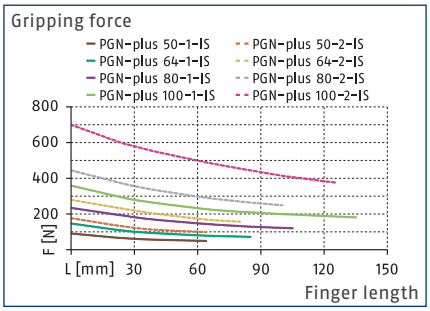
Options and special information

Air connections: Please note that the connection A of IS version grippers or grippers of AS version should not be sealed air-tight.
Diversity of variants: When using the GSW-B with the PGN-plus/-P and PZN-plus grippers, nearly all variants and accessories of these grippers can be used. For more information see the chapter gripper series.
Further shaft diameters on request.
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

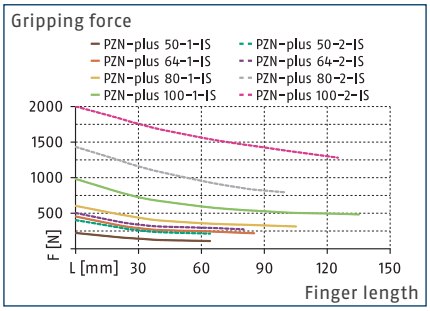
GSW-B 50-100

Gripper with shaft interface

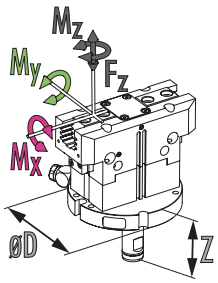
Gripping force O.D. gripping



Gripping force O.D. gripping



Dimensions and maximum loads



For values see technical data table

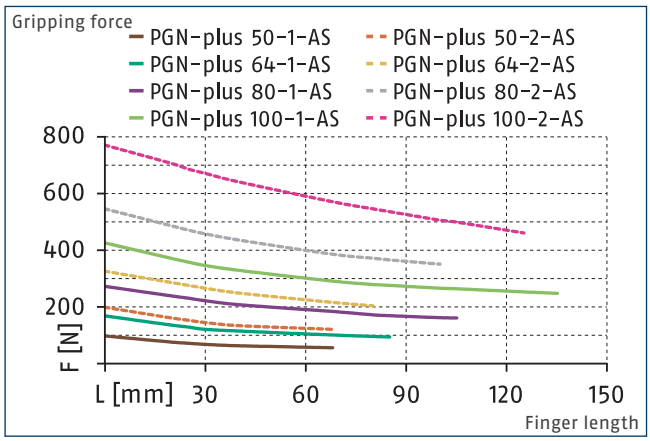
ⓘ Refer to the respective size of the gripper for the forces and torques.

Technical data

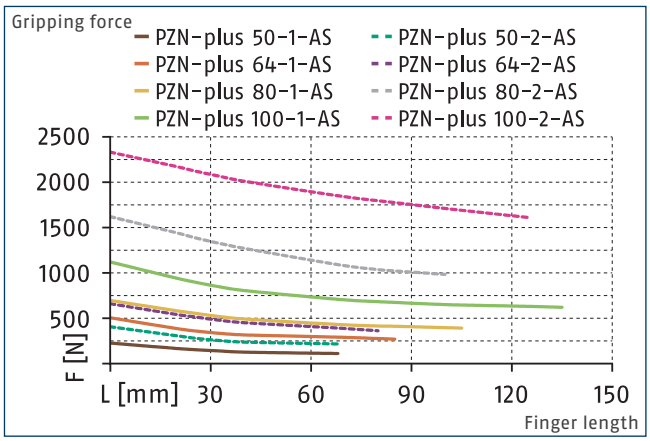
Description		GSW-B 50-P	GSW-B 50-Z	GSW-B 64-PZ	GSW-B 80-PZ	GSW-B 100-PZ
ID		0308420	0308421	0308422	0308423	0308424
General technical data						
Weight	[kg]	0.2	0.2	0.23	0.31	0.42
Max. permissible speed	[1/min]	20	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6	6
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40	40
Min./max. operating pressure, coolant	[bar]	20/50	20/50	20/50	20/50	20/50
IP protection class		40	40	40	40	40
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90	5/90
Dimensions Ø D x Z	[mm]	52 x 66	52 x 66	64 x 63	80 x 63	100 x 63
Prepared for parallel grippers		yes	no	yes	yes	yes
Prepared for centric grippers		no	yes	yes	yes	yes

ⓘ The values only relate to the adapter GSW-B.
The appropriate gripper has to be ordered separately.
Refer to the following pages for gripper-specific values.

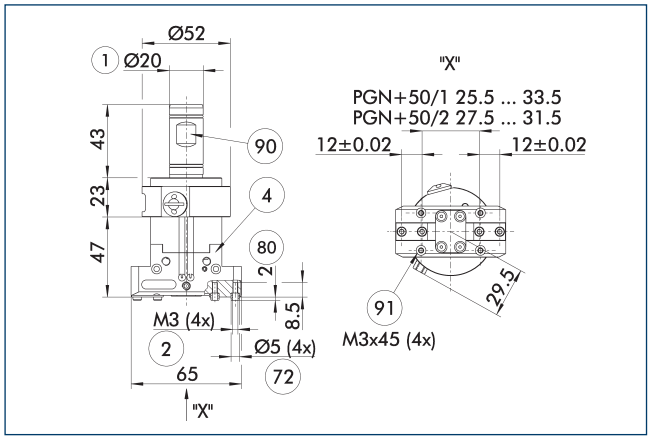
Gripping force I.D. gripping



Gripping force I.D. gripping



GSW-B with PGN-plus 50

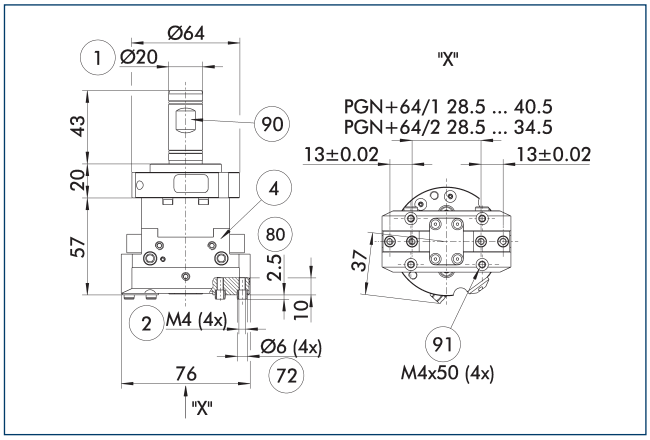


1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
2-finger parallel gripper PGN-plus					
PGN-plus 50-1-AS	0371399	4	45	75	68
PGN-plus 50-1-IS	0371459	4	70	45	68
PGN-plus 50-2-AS	0371449	2	95	160	64
PGN-plus 50-2-IS	0371469	2	140	95	64

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B with PGN-plus 64



1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

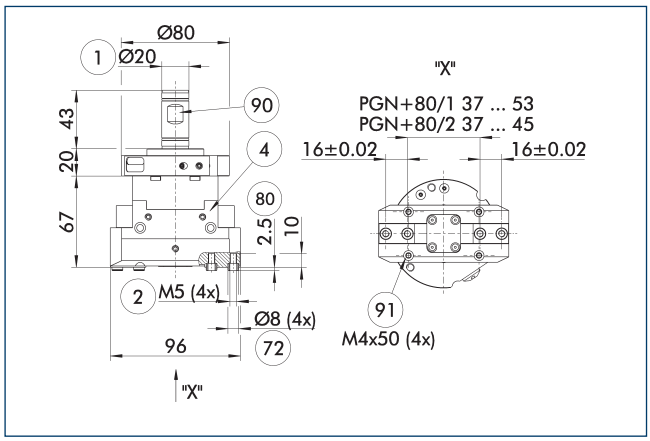
Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
2-finger parallel gripper PGN-plus					
PGN-plus 64-1-AS	0371092	6	90	135	85
PGN-plus 64-1-IS	0371094	6	115	90	85
PGN-plus 64-2-AS	0371093	3	190	285	80
PGN-plus 64-2-IS	0371095	3	240	190	80

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B 50-100

Gripper with shaft interface

GSW-B with PGN-plus 80

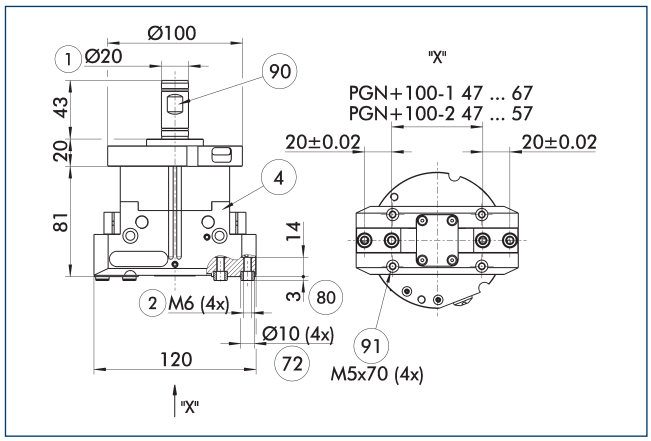


1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
2-finger parallel gripper PGN-plus					
PGN-plus 80-1-AS	0371401	8	155	230	105
PGN-plus 80-1-IS	0371461	8	180	155	105
PGN-plus 80-2-AS	0371451	4	320	470	100
PGN-plus 80-2-IS	0371471	4	370	320	100

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B with PGN-plus 100

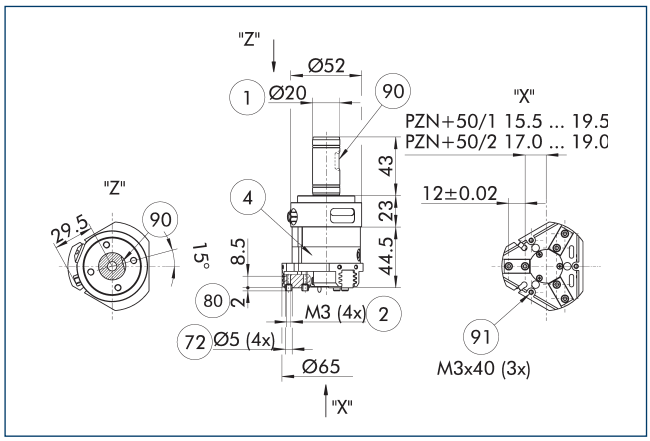


1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
2-finger parallel gripper PGN-plus					
PGN-plus 100-1-AS	0371402	10	240	345	135
PGN-plus 100-1-IS	0371462	10	280	240	135
PGN-plus 100-2-AS	0371452	5	500	710	125
PGN-plus 100-2-IS	0371472	5	580	500	125

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B with PZN-plus 50

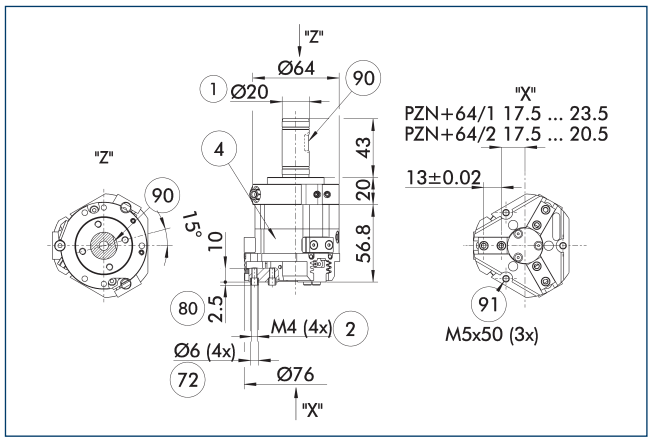


(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
3-finger centric gripper PZN-plus					
PZN-plus 50-1-AS	0303509	4	120	165	68
PZN-plus 50-1-IS	0303539	4	160	150	68
PZN-plus 50-2-AS	0303609	2	245	340	64
PZN-plus 50-2-IS	0303639	2	335	310	64

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B with PZN-plus 64



(1) Gripper connection
(2) Finger connection
(80) Depth of the centering sleeve hole in the counter part
(4) Grippers
(72) Fit for centering sleeves
(90) WELDON clamping surface
(91) Fastening of the gripper on GSW-B (are included in the scope of delivery)

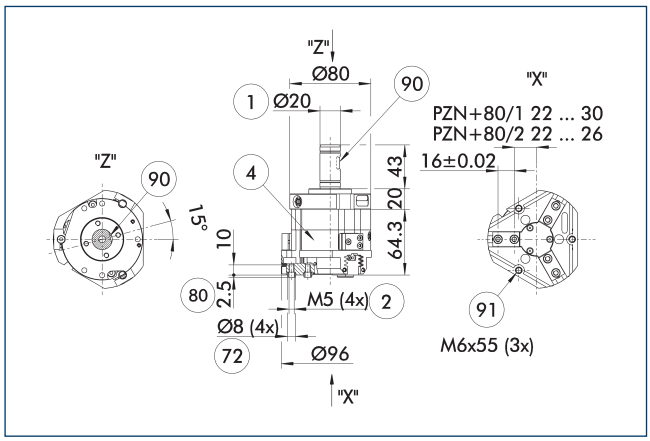
Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
3-finger centric gripper PZN-plus					
PZN-plus 64-1-AS	0303510	6	185	360	85
PZN-plus 64-1-IS	0303540	6	305	220	85
PZN-plus 64-2-AS	0303610	3	315	495	80
PZN-plus 64-2-IS	0303640	3	335	460	80

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B 50-100

Gripper with shaft interface

GSW-B with PZN-plus 80

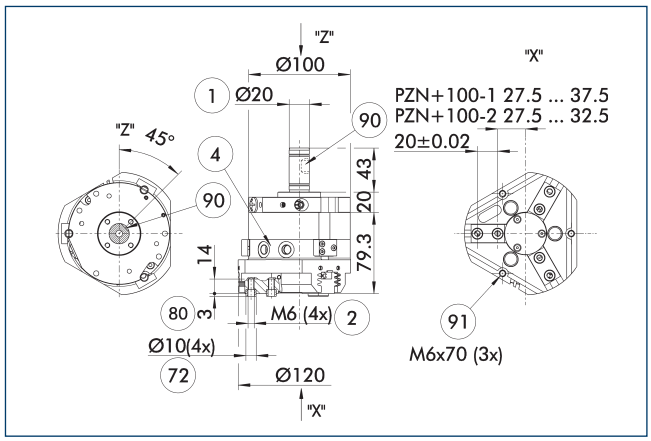


1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
3-finger centric gripper PZN-plus					
PZN-plus 80-1-AS	0303511	8	350	555	105
PZN-plus 80-1-IS	0303541	8	460	370	105
PZN-plus 80-2-AS	0303611	4	730	1390	100
PZN-plus 80-2-IS	0303641	4	1200	760	100

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B with PZN-plus 100

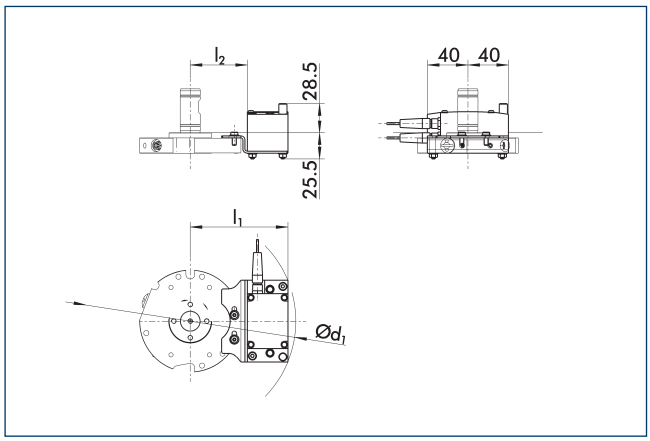


1 Gripper connection
2 Finger connection
80 Depth of the centering sleeve hole in the counter part
4 Grippers
72 Fit for centering sleeves
90 WELDON clamping surface
91 Fastening of the gripper on GSW-B (are included in the scope of delivery)

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
3-finger centric gripper PZN-plus					
PZN-plus 100-1-AS	0303512	10	720	850	135
PZN-plus 100-1-IS	0303542	10	710	780	135
PZN-plus 100-2-AS	0303612	5	1500	2070	125
PZN-plus 100-2-IS	0303642	5	1740	1620	125

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

Attachment kit for RSS wireless sensors

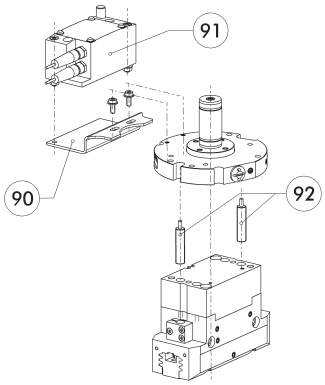


- GSW-B 64-PZ: l1=79 mm; l2=38 mm; d1=177 mm
- GSW-B 80-PZ: l1=87 mm; l2=46 mm; d1=191 mm
- GSW-B 100-PZ: l1=97 mm; l2=56 mm; d1=210 mm

Description	ID	
Attachment kit for RSS wireless sensors		
AS-RSS-GSW-H	0308440	

ⓘ The transmitter module RSS-T2 can be mounted using the mentioned mounting kit.

RSS wireless sensors – RMS Reed switch



(90) Mounting kit for RSS
(91) Wireless sensor System RSS
(92) RMS sensors

End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for RSS wireless sensors		
AS-RSS-GSW-H	0308440	
Wireless sensor system		
RSS-T2	0377715	
RSS-T2-US/CA	0377717	

ⓘ The radio sensor system consists of the specified RSS-T2 (-US/CA) transmitter module, the RSS-R1 (ID 0377700) receiver and the RSS-R-A antenna (ID 0377730). For further information, see Product RSS. You can find the suitable Reed switches and any related mounting kits directly in the product information for the corresponding gripper. Two sensors (closer/S) are required for each unit and extension cables are available as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

Product Information

Gripper with shaft interface GSW-B-AGE

High flow rate. Cost-effective. Compliant.

Gripper with shank interface GSW-B and compensation unit

Universal gripper PGN-plus/PZN-plus with GSW-B shank interface and compensation unit AGE

Field of application

Unit for fully automated loading and unloading of machining centres

Advantages – Your benefits

Low-cost module from a universal gripper PGN-plus/ PZN-plus and a shank interface

Fast, automated gripper changeover from the gripper to the storage rack

Fully automated workpiece changeover without robot or gantry system

Three compensation directions in one unit compact design for minimum installation height

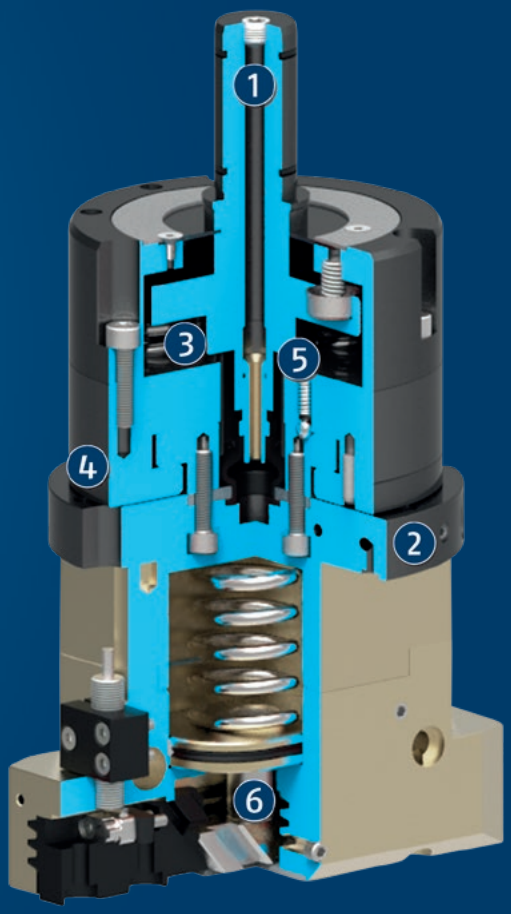
Robust sliding guide for high moment load at minimum space

Compensation of workpiece-related tolerances and position inaccuracies reduced risk of jamming, necessary assembly forces are reduced and wear of the workpiece and handling device is minimized

Sizes	Suitable for	Shank diameter	Compensation XY	Compensation Z
Quantity: 4	PGN-plus/PZN-plus	20 mm	1.5 mm	2.7 mm

Functional description

The pressure generated by the central machine coolant supply is reduced by the pressure distributor, which is integrated in the adapter plates. The gripper can then be actuated and can actuate the base jaws correspondingly via the piston and wedge hook.
During the gripping operation the gripper continuously supplies coolant or compressed air via the lateral pressure control valve.



① **Taper shank**
for universal assembly of the gripper

② **Adapter plate with integrated pressure distributor**
for a large pressure range

③ **Axial compensation**
spring-loaded, for pressing workpieces into place

④ **Planar compensation**
for preventing the spindle or axes from wear

⑤ **Angular compensation**
for higher flexibility and compliance

⑥ **Gripper kinematics**
for high force transmission and centric gripping

General notes about the series

Operating principle: Pressure distributor and wedge-hook kinematics

Housing material: Aluminum alloy, anodized

Base jaw material: Blackened steel

Spindle interface material: Aluminum alloy

Actuation: hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Fastening screws, centering elements, assembly instructions (operating manual with declaration of incorporation is available online). The gripper is not included and must be ordered separately in the desired version.

Gripping force: refers to the combination of a GSW-B with a correspondingly named gripper, and represents the minimum sufficient gripping force.

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.

Closing and opening times: the indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Application example

Handling of pinions in a milling center

1. Vacuum gripper GSW-V
2. Magnetic gripper GSW-M
3. Gripper with shaft interface GSW-B and PGN-plus
4. Gripper with shaft interface GSW-B and PZN-plus
5. Cleaning unit RGG

SCHUNK offers more ...

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

Magnetic gripper

Vacuum Gripper

Cleaning Unit

Toolholders

Finger blank

Universal intermediate jaw

Jaw quick-change system

Protection cover

Reed switch

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

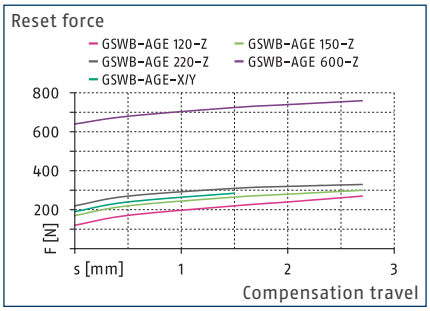
Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service life of this product considerably.
Further shaft diameters on request.
Please note that the connection A of IS version grippers or grippers of AS version should not be sealed air-tight.
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

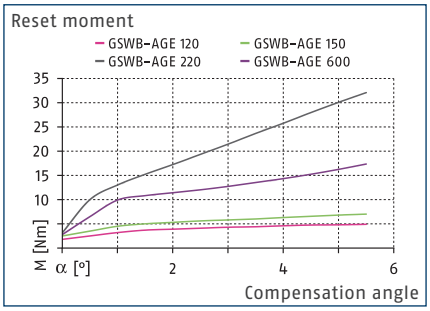
GSW-B-AGE 50-100

Gripper with shaft interface

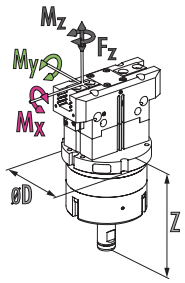
Compensation travel



Compensation angle



Dimensions and maximum loads



For values see technical data table

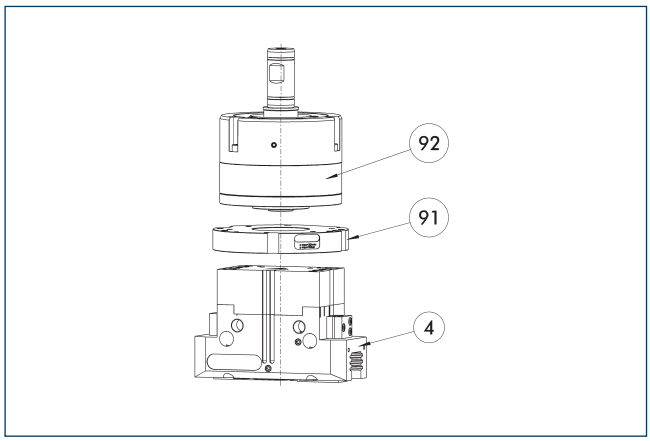
ⓘ Refer to the respective size of the gripper for the forces and torques.

Technical data

Description		GSW-B-AGE-XYZ 120	GSW-B-AGE-XYZ 150	GSW-B-AGE-XYZ 220	GSW-B-AGE-XYZ 600
ID		0308435	0308436	0308437	0308438
General technical data					
Weight	[kg]	1.1	1.1	1.1	1.1
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Nominal operating pressure coolant	[bar]	40	40	40	40
Min./max. operating pressure, coolant	[bar]	20/50	20/50	20/50	20/50
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Compensation XY	[mm]	1.5	1.5	1.5	1.5
Compensation Z	[mm]	2.7	2.7	2.7	2.7
Angular deflection	[°]	5.5	5.5	5.5	5.5
Deflection rotatory	[°]	3.5	3.5	3.5	3.5
Rotary compensation torque	[Nm]	0.2	0.2	0.2	0.2
Dimensions Ø D x Z	[mm]	90 x 132.1	90 x 129.1	90 x 129.1	90 x 129.1
Moments Mx max./My max./Mz max.	[Nm]	20/25/10	40/60/40	60/95/55	80/115/70
ForcesFz max.	[N]	500	1100	1500	2000

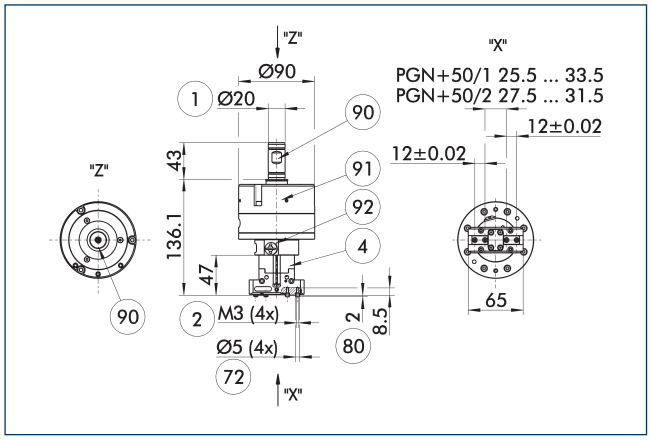
ⓘ The values only refer to the adapter GSW-B-AGE with compensation unit.
The appropriate gripper has to be ordered separately.
Refer to the following pages for gripper-specific values.

Adapter plate



(4) Grippers
(91) Adapter plate
(92) GSW-B-AGE

GSW-B-AGE-XYZ with PGN-plus 50



(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Compensation unit
(92) Adapter plate

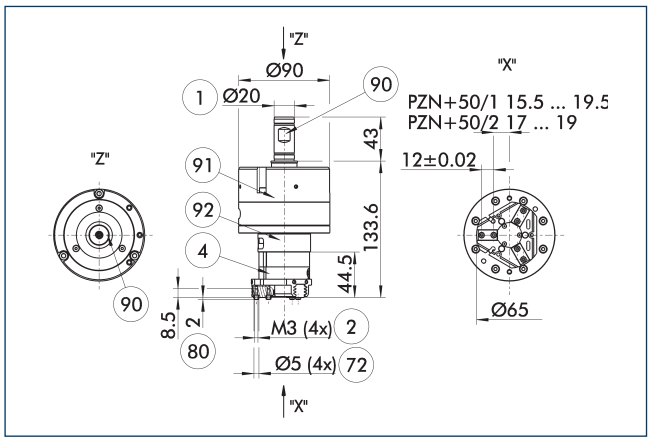
Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
Adapter plate					
A-GSW-B-AGE 50-P	0308425				
2-finger parallel gripper PGN-plus					
PGN-plus 50-1-AS	0371399	4	45	75	68
PGN-plus 50-1-IS	0371459	4	70	45	68
PGN-plus 50-2-AS	0371449	2	95	160	64
PGN-plus 50-2-IS	0371469	2	140	95	64

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B-AGE 50-100

Gripper with shaft interface

GSW-B-AGE-XYZ with PZN-plus 50

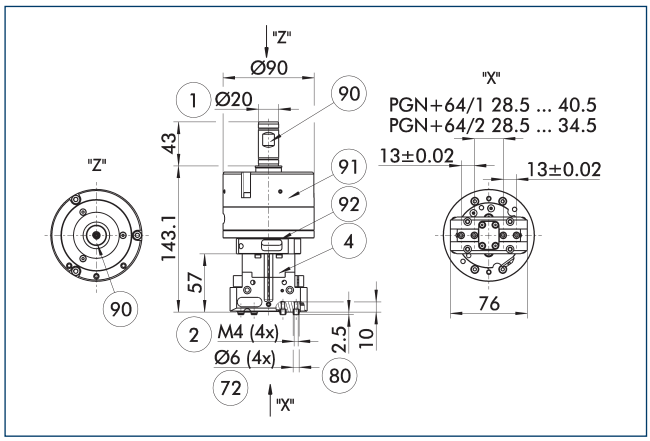


1 Gripper connection
2 Finger connection
4 Grippers
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 WELDON clamping surface
91 Compensation unit
92 Adapter plate

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
Adapter plate					
A-GSW-B-AGE 50-Z	0308426				
3-finger centric gripper PZN-plus					
PZN-plus 50-1-AS	0303509	4	120	165	68
PZN-plus 50-1-IS	0303539	4	160	150	68
PZN-plus 50-2-AS	0303609	2	245	340	64
PZN-plus 50-2-IS	0303639	2	335	310	64

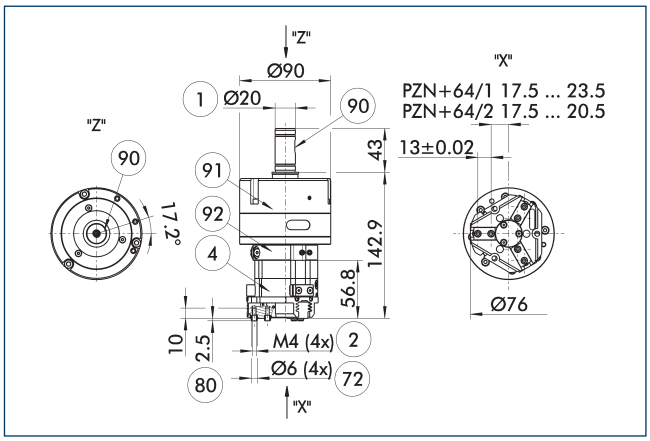
ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B-AGE-XYZ with PGN-plus 64



1 Gripper connection
2 Finger connection
4 Grippers
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 WELDON clamping surface
91 Compensation unit
92 Adapter plate

GSW-B-AGE-XYZ with PZN-plus 64



1 Gripper connection
2 Finger connection
4 Grippers
72 Fit for centering sleeves
80 Depth of the centering sleeve hole in the counter part
90 WELDON clamping surface
91 Compensation unit
92 Adapter plate

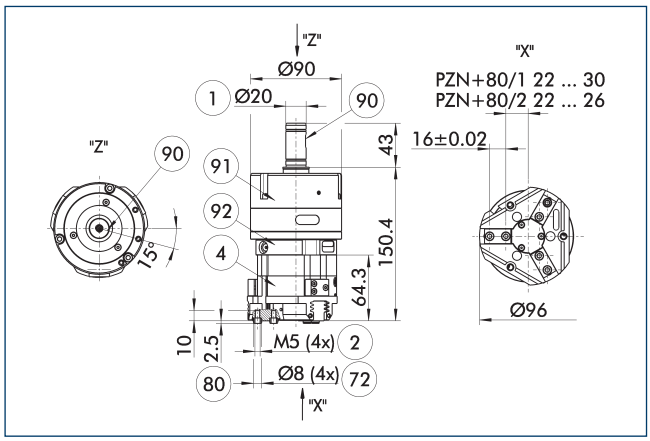
Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
Adapter plate					
A-GSW-B-AGE 64-PZ	0308427				
2-finger parallel gripper PGN-plus					
PGN-plus 64-1-AS	0371092	6	90	135	85
PGN-plus 64-1-IS	0371094	6	115	90	85
PGN-plus 64-2-AS	0371093	3	190	285	80
PGN-plus 64-2-IS	0371095	3	240	190	80
3-finger centric gripper PZN-plus					
PZN-plus 64-1-AS	0303510	6	185	360	85
PZN-plus 64-1-IS	0303540	6	305	220	85
PZN-plus 64-2-AS	0303610	3	315	495	80
PZN-plus 64-2-IS	0303640	3	335	460	80

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B-AGE 50-100

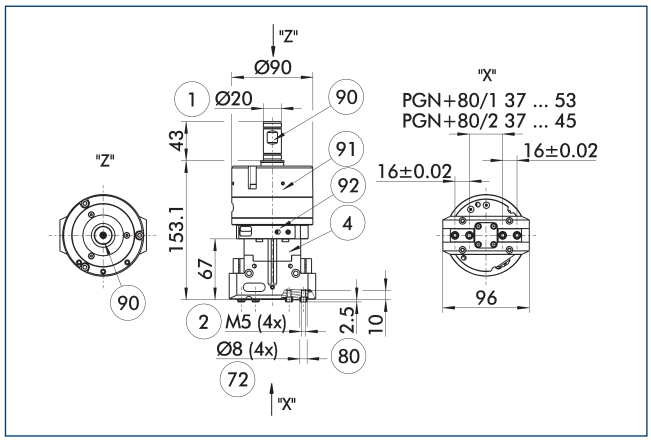
Gripper with shaft interface

GSW-B-AGE-XYZ with PZN-plus 80



(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Compensation unit
(92) Adapter plate

GSW-B-AGE-XYZ with PGN-plus 80

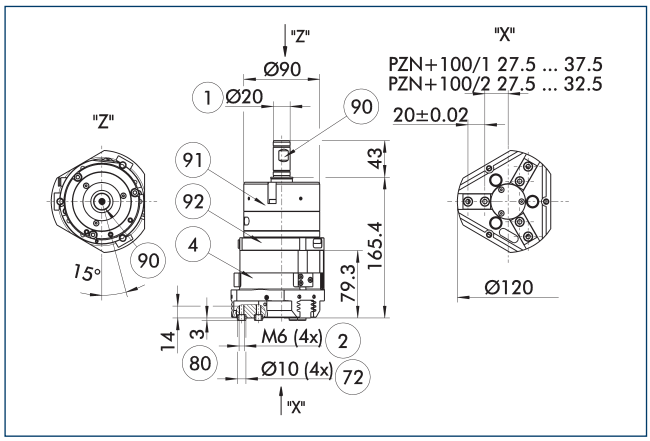


(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Compensation unit
(92) Adapter plate

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
Adapter plate					
A-GSW-B-AGE 80-PZ	0308428				
2-finger parallel gripper PGN-plus					
PGN-plus 80-1-AS	0371401	8	155	230	105
PGN-plus 80-1-IS	0371461	8	180	155	105
PGN-plus 80-2-AS	0371451	4	320	470	100
PGN-plus 80-2-IS	0371471	4	370	320	100
3-finger centric gripper PZN-plus					
PZN-plus 80-1-AS	0303511	8	350	555	105
PZN-plus 80-1-IS	0303541	8	460	370	105
PZN-plus 80-2-AS	0303611	4	730	1390	100
PZN-plus 80-2-IS	0303641	4	1200	760	100

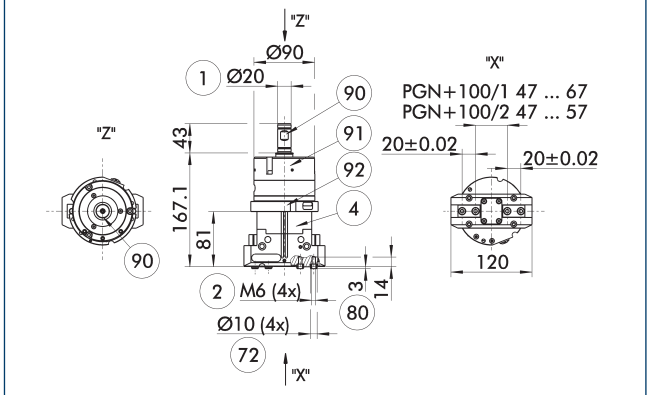
ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

GSW-B-AGE-XYZ with PZN-plus 100



(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Compensation unit
(92) Adapter plate

GSW-B-AGE-XYZ with PGN-plus 100



(1) Gripper connection
(2) Finger connection
(4) Grippers
(72) Fit for centering sleeves
(80) Depth of the centering sleeve hole in the counter part
(90) WELDON clamping surface
(91) Compensation unit
(92) Adapter plate

Description	ID	Stroke per jaw	Minimum closing force	Minimum opening force	Max. permissible finger length
		[mm]	[N]	[N]	[mm]
Adapter plate					
A-GSW-B-AGE 100-PZ	0308429				
2-finger parallel gripper PGN-plus					
PGN-plus 100-1-AS	0371402	10	240	345	135
PGN-plus 100-1-IS	0371462	10	280	240	135
PGN-plus 100-2-AS	0371452	5	500	710	125
PGN-plus 100-2-IS	0371472	5	580	500	125
3-finger centric gripper PZN-plus					
PZN-plus 100-1-AS	0303512	10	720	850	135
PZN-plus 100-1-IS	0303542	10	710	780	135
PZN-plus 100-2-AS	0303612	5	1500	2070	125
PZN-plus 100-2-IS	0303642	5	1740	1620	125

ⓘ For detailed information, see the corresponding gripper. See the views at the end of the respective gripper size for suitable gripper accessories.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

Product Information

Magnetic gripper with shank interface GSW-M

Cost-effective. Productive. Compliant.

Magnetic gripper GSW-M

Magnetic gripper for spindle interfaces for handling flat components

Field of application

Unit for automatic loading and unloading of machining centers by their own axis, which provides compressed air and coolant supply via the tool mounting.

Advantages – Your benefits

Low-cost module for flexible automation in your machine

Fast, automated gripper changeover from the gripper to the storage rack

Fully automated workpiece changeover without robot or gantry system

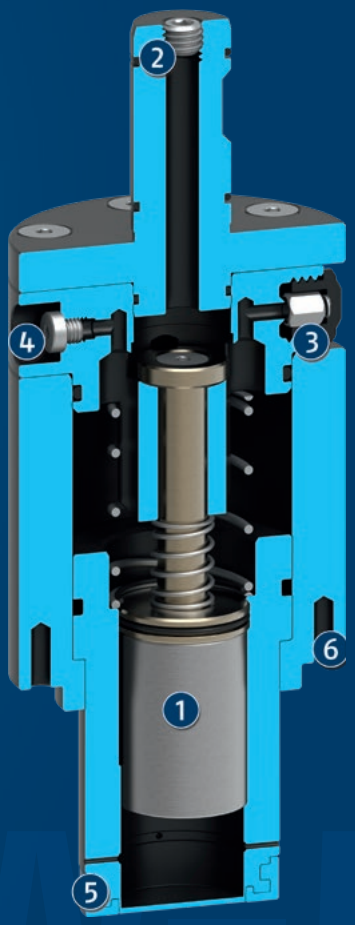
Universally suitable for many different workpieces

Sizes	Weight	Holding force	Workpiece weight
Quantity: 1	1 kg	70 N	3.5 kg

Functional description

The gripper can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder mounting.
The magnetic gripper GSW-M is placed on the workpiece and pressed 20 mm deep. The spring force (Fc) of the ejector must be overcome. (In addition, there is a reserve or compensation stroke of 9 mm.)

The stroke causes the permanent magnet to approach the workpiece and the workpiece is firmly held by the magnet. To place the workpiece, the gripper is actuated with compressed air or coolant. During the placement, the gripper continuously supplies coolant or compressed air via the outlet port.



① **Permanent magnet**
for holding of magnetic materials

② **Media supply**
via spindel interface

③ **Overpressure valve**
for a large pressure range

④ **Drain valve**
for coolant operation

⑤ **Rubber friction ring**
for absorbing shear forces and protecting the workpiece

⑥ **Thread**
For customer-specific attachments/supports

GSW-M

Magnetic gripper with shank interface

General notes about the series

Operating principle: Permanent magnet

Housing material: Aluminum

Spindle interface material: Aluminum alloy

Actuation: hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Assembly and operating manual

Application example

Handling of pinions in a milling center

1. Vacuum gripper GSW-V
2. Magnetic gripper GSW-M
3. Gripper with shaft interface GSW-B and PGN-plus
4. Gripper with shaft interface GSW-B and PZN-plus
5. Cleaning unit RGG

SCHUNK offers more ...

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

Gripper with shaft interface

Vacuum Gripper

Cleaning Unit

Toolholders

Stationary clamping technology

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

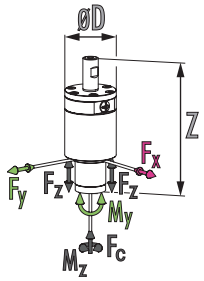
Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service life of this product considerably.
Further shaft diameters on request.
Please note that the product is not suitable for heat shrinking toolholders.
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-M 20

Magnetic gripper with shank interface

Dimensions and maximum loads



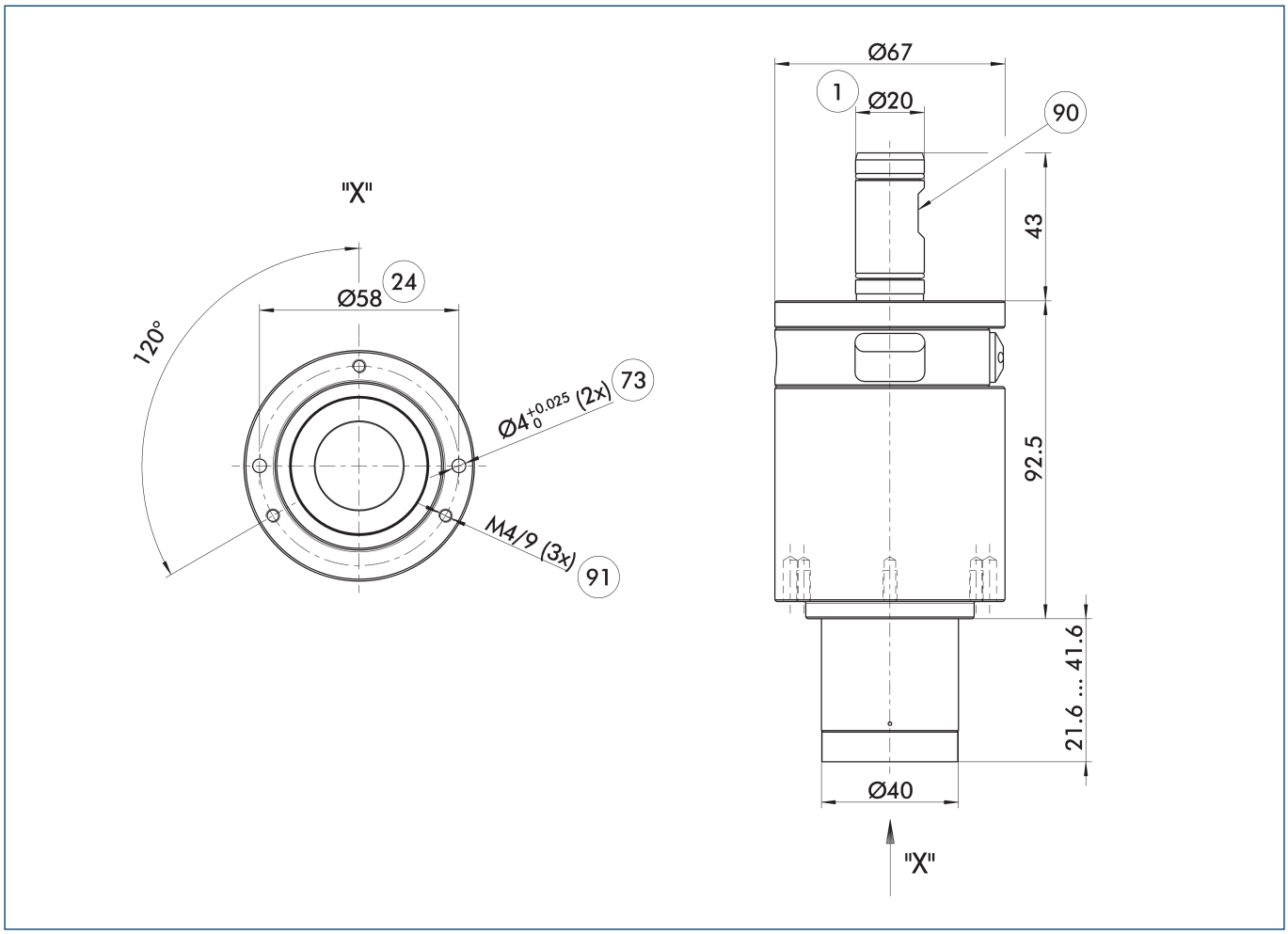
Mx max. 13.5 Nm	Fx max. 150 N
My max. 13.5 Nm	Fy max. 150 N
Mz max. 30 Nm	Fz max. 400 N

ⓘ The indicated moments and forces are statical values and may appear simultaneously.

Technical data

Description		GSW-M 20
ID		0308355
General technical data		
Weight	[kg]	1
Holding force	[N]	70
Recommended workpiece weight	[kg]	3.5
Max. permissible speed	[1/min]	0
Nominal operating pressure compressed air	[bar]	6
Min./max. operating pressure, compressed air	[bar]	2/8
Nominal operating pressure coolant	[bar]	40
Min./max. operating pressure, coolant	[bar]	10/50
IP protection class		44
Min./max. ambient temperature	[°C]	5/90
Dimensions Ø D x Z	[mm]	67 x 177.1
Broach spring force Fc	[N]	80.00

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

(1) Gripper connection
(24) Bolt circle
(73) Fit for centering pins
(90) WELDON clamping surface
(91) Thread for pressure piece

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Vacuum gripper with shank interface GSW-V

Compact. Cost-effective. Productive.

Vacuum gripper GSW-V

Vacuum gripper for spindle interfaces for handling flat components

Field of application

Unit for automatic loading and unloading of machining centers by their own axis, which provides compressed air and coolant supply via the tool mounting.

Advantages – Your benefits

Low-cost module for flexible automation in your machine

Fast, automated gripper changeover from the gripper to the storage rack

Fully automated workpiece changeover without robot or gantry system

Universally suitable for many different workpieces

Suction pad diameter	Clamping diameter	Weight	Gripping force	Workpiece weight
30 .. 125 mm	20 .. 32 mm	0.12 .. 0.39 kg	55 .. 980 N	0.28 .. 4.9 kg

Functional description

The gripper can be used in any machine which provides compressed air or lubricating coolants supply via the toolholder mounting.
The vacuum gripper is equipped with an integrated Venturi nozzle, and therefore does not require a vacuum connection to generate negative pressure.
During the gripping operation the gripper continuously supplies coolant or compressed air.

① **Vacuum suction cup**
for a flexible range of parts

② **Intake duct**
for producing suction power

③ **Media supply**
via spindel interface

④ **Venturi nozzle**
for producing negativ pressure

⑤ **Outlet opening**
for diverting the overpressure

GSW-V

Vacuum gripper with shank interface

General notes about the series

Operating principle: Venturi nozzle

Housing material: Aluminum

Spindle interface material: Aluminum alloy

Material of the suction cups: NBR-60

Actuation: hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Assembly and operating manual

Suction pad: Perfectly adaptable to smooth surfaces, with damping effect during attachment, and stroke effect during the suction phase. Special suction cups on request.

Times: the indicated times depend on the flow rate and pressure of the drive medium and the therefrom resulting electrical resistances.

Workpiece weight: is calculated for force-fit gripping, specified rated flow rate and pressure, as well as a confidence coefficient of 2 against the gravitational force of the earth's acceleration.

Application example

Handling of pinions in a milling center

1. Vacuum gripper GSW-V
2. Magnetic gripper GSW-M
3. Gripper with shaft interface GSW-B and PGN-plus
4. Gripper with shaft interface GSW-B and PZN-plus
5. Cleaning unit RGG

SCHUNK offers more ...

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

Gripper with shaft interface

Magnetic gripper

Cleaning Unit

Toolholders

Stationary clamping technology

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

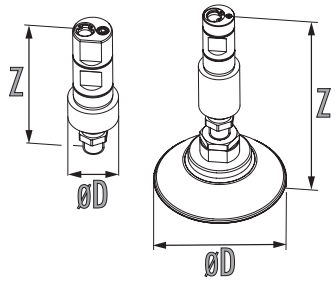
Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service life of this product considerably.
Further shaft diameters on request.
Please note that the product is not suitable for heat shrinking toolholders.
Precondition: If the spindles do not rotate, then the machines have to provide compressed air or coolant.

GSW-V 20

Vacuum gripper with shank interface

Dimensions

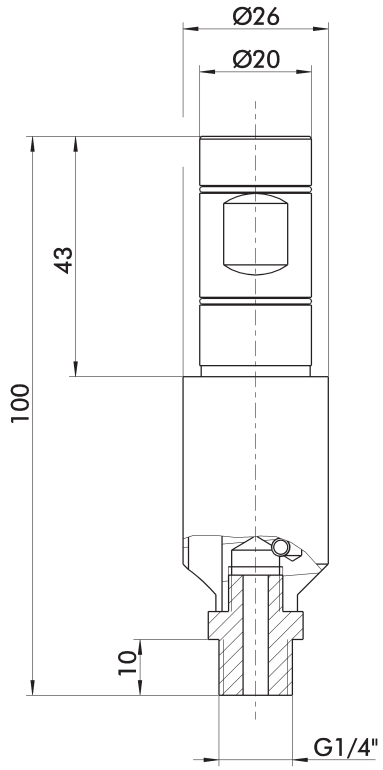


For values see technical data table

Technical data

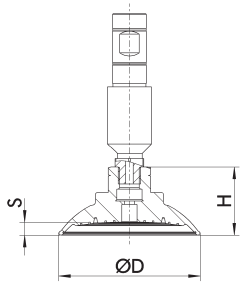
Description		GSW-V20	GSW-V20-SND030	GSW-V20-SND080	GSW-V20-SND125
ID		0309120	0309121	0309122	0309123
Weight	[kg]	0.12	0.14	0.19	0.28
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	220	220	220	220
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	90	90	90	90
Dimensions Ø D x Z	[mm]	26 x 100	34 x 110	89 x 130	135 x 138

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

Suction cup dimensions

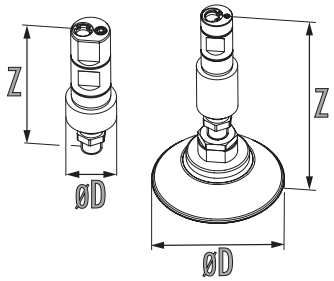


Description	ID	D	H	S
		[mm]	[mm]	[mm]
Suction pad				
SND 125-G1/4	0309137	135	48	12.5
SND 30-G1/4	0309135	34	20	3
SND 80-G1/4	0309136	89	40	7.6

GSW-V 25

Vacuum gripper with shank interface

Dimensions

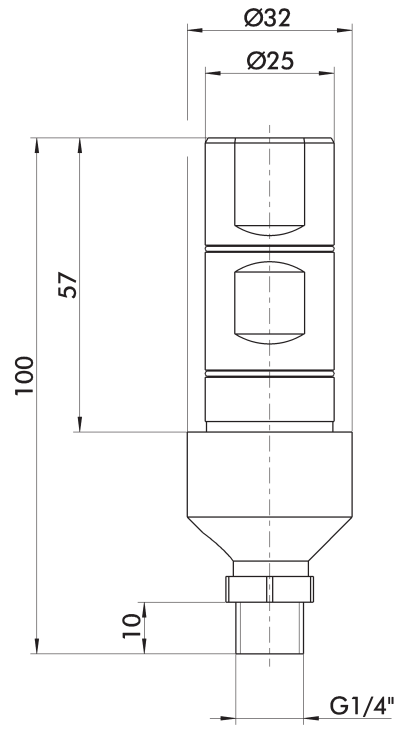


For values see technical data table

Technical data

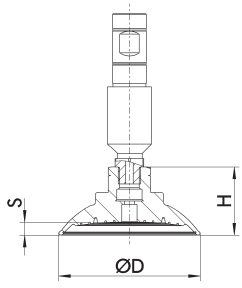
Description		GSW-V25	GSW-V25-SND030	GSW-V25-SND080	GSW-V25-SND125
ID		0309125	0309126	0309127	0309128
Weight	[kg]	0.15	0.17	0.22	0.31
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	300	300	300	300
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	200	200	200	200
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	94	94	94	94
Dimensions Ø D x Z	[mm]	32 x 100	34 x 110	89 x 130	135 x 138

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

Suction cup dimensions

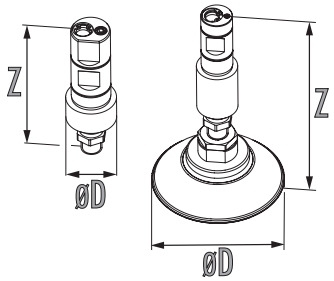


Description	ID	D	H	S
		[mm]	[mm]	[mm]
Suction pad				
SND 125-G1/4	0309137	135	48	12.5
SND 30-G1/4	0309135	34	20	3
SND 80-G1/4	0309136	89	40	7.6

GSW-V 32

Vacuum gripper with shank interface

Dimensions

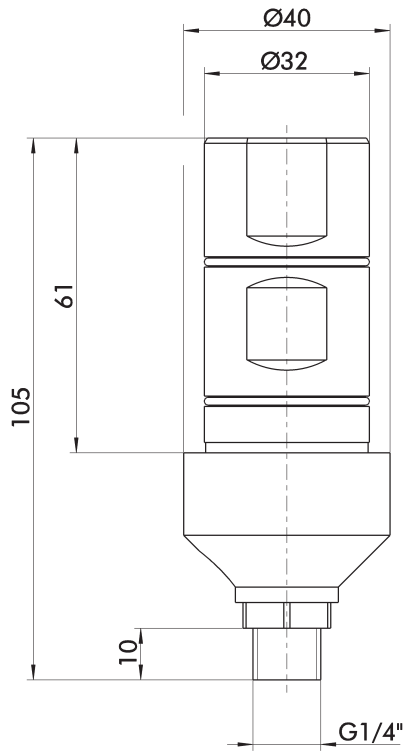


For values see technical data table

Technical data

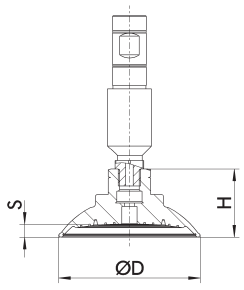
Description		GSW-V32	GSW-V32-SND030	GSW-V32-SND080	GSW-V32-SND125
ID		0309130	0309131	0309132	0309133
Weight	[kg]	0.23	0.24	0.3	0.39
Recommended workpiece weight	[kg]		0.28	2	4.9
Time evacuation	[s]		1	1.1	1.2
Time for putting down	[s]		0.7	0.7	0.7
Suction force	[N]		55	400	980
Min./max. ambient temperature	[°C]	5/90	5/90	5/90	5/90
Max. permissible speed	[1/min]	20	20	20	20
Nominal operating pressure compressed air	[bar]	6	6	6	6
Nominal flow rate compressed air	[l/min]	350	350	350	350
Min./max. operating pressure, compressed air	[bar]	4/8	4/8	4/8	4/8
Min. flow rate compressed air	[l/min]	250	250	250	250
Nominal operating pressure coolant	[bar]	40	40	40	40
Nominal flow rate coolant	[l/min]	25	25	25	25
Min./max. operating pressure, coolant	[bar]	20/60	20/60	20/60	20/60
Nominal vaccuum	[bar]	-0.8	-0.8	-0.8	-0.8
Min. vacuum	[bar]	-0.6	-0.6	-0.6	-0.6
Noise pressure level	[dB(A)]	98	98	98	98
Dimensions Ø D x Z	[mm]	40 x 105	34 x 115	89 x 135	135 x 143

Main view



The drawing shows the unit in standard design, without considering any dimensions of the options described below.

Suction cup dimensions



Description	ID	D	H	S
		[mm]	[mm]	[mm]
Suction pad				
SND 125-G1/4	0309137	135	48	12.5
SND 30-G1/4	0309135	34	20	3
SND 80-G1/4	0309136	89	40	7.6

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Internal hole gripper LOG

Cost-effective. Smooth. Reliable.

Internal hole gripper LOG

Light gripper made of very resistant polyamide with closed diaphragm system

Field of application

Particularly suitable for highly dynamic applications with a low workpiece weight, for handling of small components and plastic parts, as well as for sand core handling

Advantages – Your benefits

Low weight allows high dynamics in the application

Closed membrane system and internal stop protect the expansion membrane against damage

Short delivery time for customized measurements

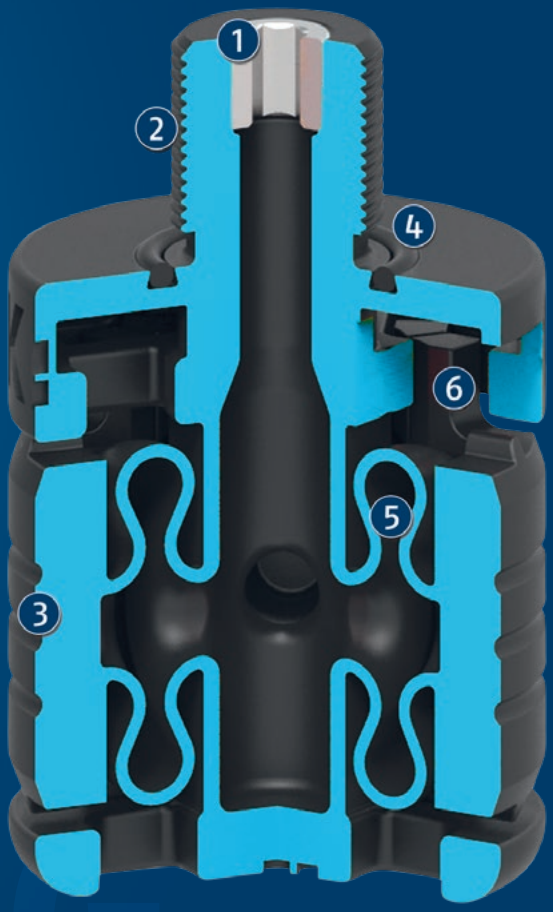
Long service life enables long-lasting economical use

Air supply via hose-free direct connection or screw connections for flexible pressure supply in all automated systems

Sizes	Weight	Clamping diameter	Workpiece weight
Quantity: 5	0.008 .. 0.44 kg	20 .. 99 mm	0.55 .. 12.83 kg

Functional description

The membrane expands when pressure is applied, creating a synchronized movement of the gripping surfaces.



① **Air connection thread**

② **Mounting threads**

③ **Gripping surface**

④ **O-ring seal**
for hose-free direct connection

⑤ **Membrane**

⑥ **Internal stop/overload protection**

LOG

Internal hole gripper

General notes about the series

Operating principle: Membrane

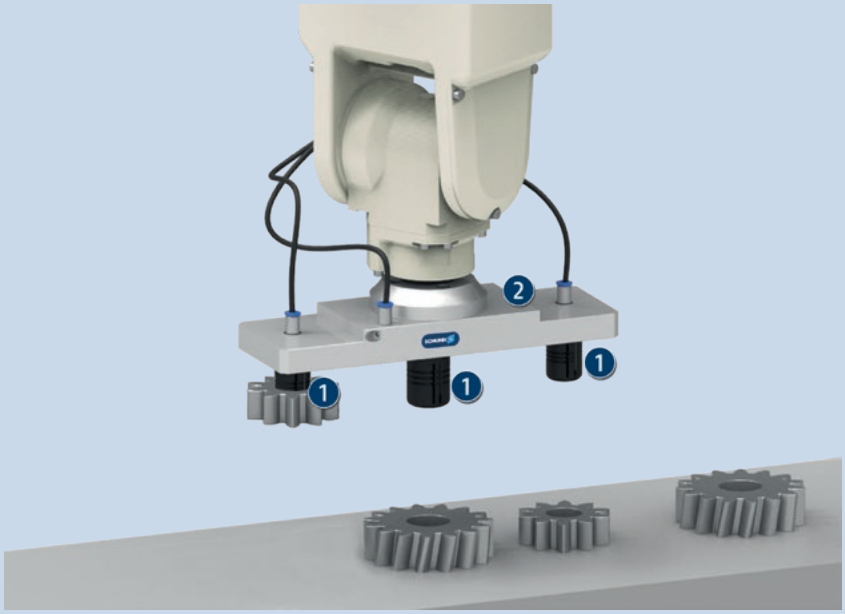
Housing material: PA 12

Base jaw material: PA 12

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Scope of delivery: Assembly instructions (operating manual with declaration of incorporation is available online)

Gripping force maintenance device: not possible



Application example

Handling of gears with different diameters

1 Internal hole gripper LOG

2 Customized adapter plate

SCHUNK offers more ...

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

Universal gripper

Miniature swivel unit

Linear module

Compensation unit

Pressure maintenance valve

Manual change system

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

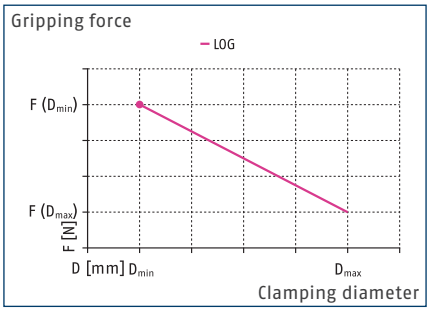
Options and special information

Additional sizes and customized designs are available upon request

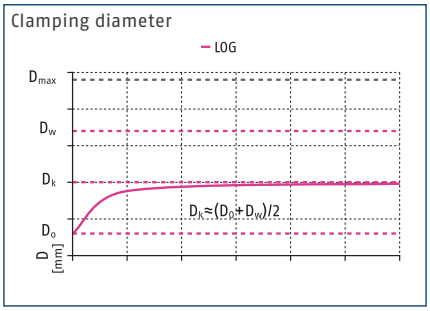
LOG 20 – 99

Internal hole gripper

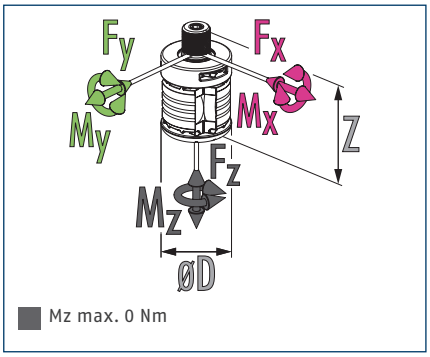
Gripping force I.D. gripping



Creep properties



Dimensions and maximum loads



ⓘ The indicated moments and forces are statical values and may appear simultaneously.

Technical data

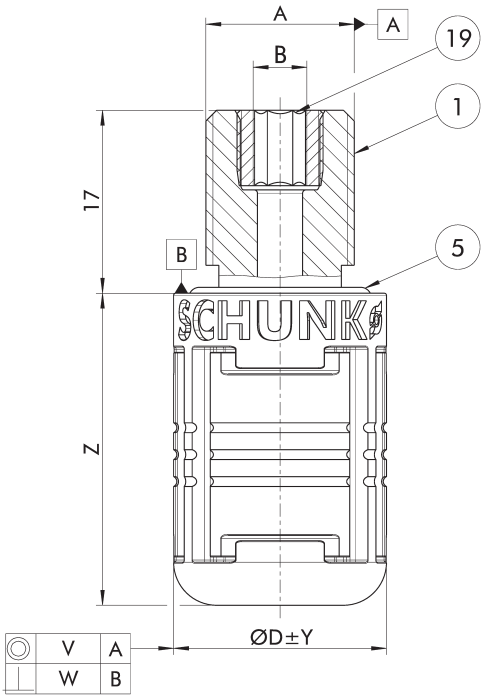
Description		LOG 20.0-M14x1.5-M5	LOG 40.0-M16x1-M5	LOG 60.0-M16x1-M5	LOG 80.0-M20x1.5-G1/8	LOG 99.0-M20x1.5-G1/8
ID		0398920	0398940	0398960	0398980	0398999
Mounting thread A		M14 x 1.5	M16x1	M16x1	M20x1.5	M20x1.5
Air connection thread B		M5	M5	M5	G1/8"	G1/8"
Min. workpiece diameter	[mm]	20	40	60	80	99
Max. workpiece diameter	[mm]	20.3	44.37	66.13	88.7	110.7
Opening force for Ø Dmin	[N]	107.2	241.4	596.7	972.7	2516.7
Opening force for Ø Dmax	[N]	27.3	66.7	190.5	433.3	1166.7
Weight	[kg]	0.008	0.034	0.108	0.238	0.44
Recommended workpiece weight	[kg]	0.55	1.23	3.04	4.96	12.83
Fluid consumption double stroke	[cm³]	2.35	8.21	28.82	65.34	122.8
Max. operating pressure	[bar]	6	6	6	6	6
Nominal operating pressure	[bar]	6	6	6	6	6
Closing/opening time	[s]	0.05/0.05	0.08/0.08	0.14/0.14	0.22/0.22	0.44/0.44
Min./max. ambient temperature	[°C]	-40/80	-40/80	-40/80	-40/80	-40/80
Housing material		PA 12	PA 12	PA 12	PA 12	PA 12
IP protection class		27	27	27	27	27
Dimensions Ø D ± Y x Z	[mm]	19,8 ± 0,2 x 29	39,6 ± 0,3 x 47	59,4 ± 0,4 x 70.5	79,2 ± 0,5 x 94	98,01 ± 0,5 x 116.33
Concentricity Ø V	[mm]	0.3	0.4	0.5	0.6	0.6
Perpendicularity W	[°]	±0.5	±0.75	±1	±1	±1
Moments Mx max./My max.	[Nm]	1.5/1.5	2/2	2/2	2.5/2.5	2.5/2.5
Forces Fx max./Fy max./Fz max.	[N]	150/150/150	200/200/200	200/200/200	250/250/250	250/250/250

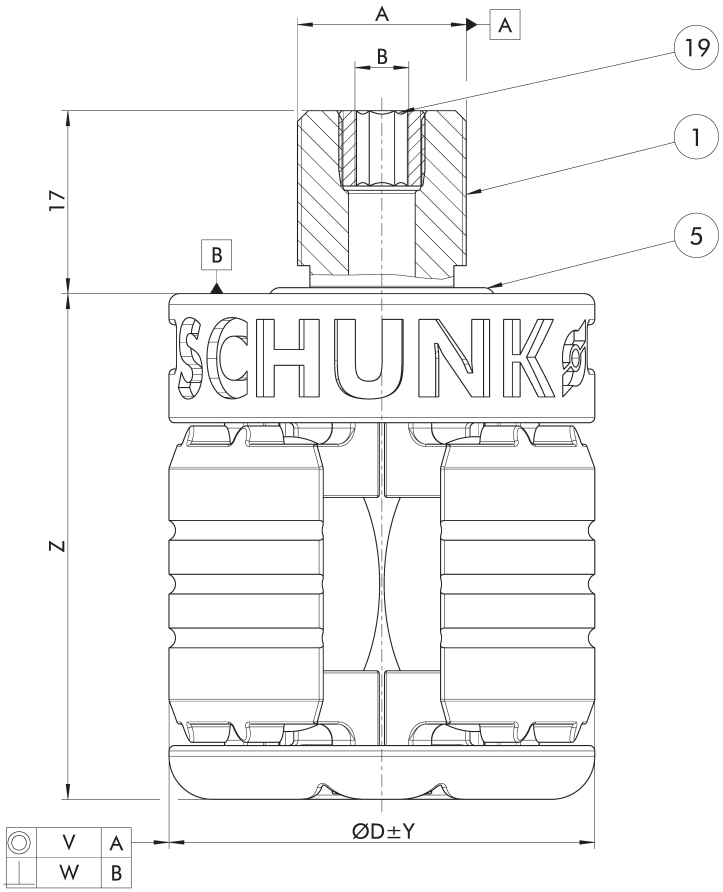
ⓘ The gripping force can be set directly by the operating pressure. At a lower pressure than the nominal operating pressure, the full stroke cannot be achieved.

The size graduation varies by 1 mm respectively. Please note that the fastening thread A is independent of the size. (LOG 20-25: M14x1.5; LOG 26-63: M16x1; LOG 64-99: M20x1.5)

Information about other sizes can be found online.

Main view





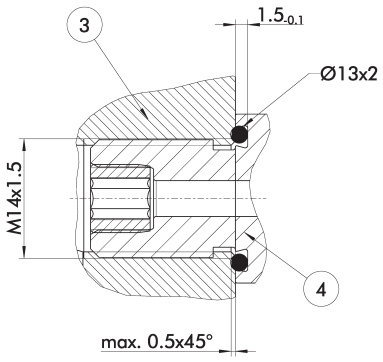
	M14x1.5	M16x1	M20x1.5
Fz [N]	150	200	250
Fx=Fy [N]	150	200	250
Mx=My [Nm]	1.5	2	2.5
Mz [Nm]	0	0	0

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

ⓘ You will find dimensions A, B, D, V, W, Y and Z in the technical data chart.

(1) Gripper connection
(5) O-ring
(19) Air connection

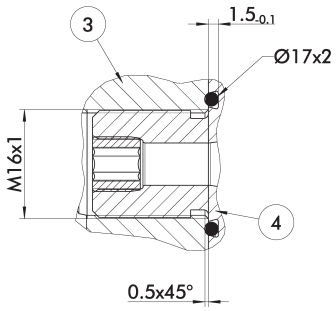
Hose-free direct connection M14x1.5



(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.

Hose-free direct connection M16x1



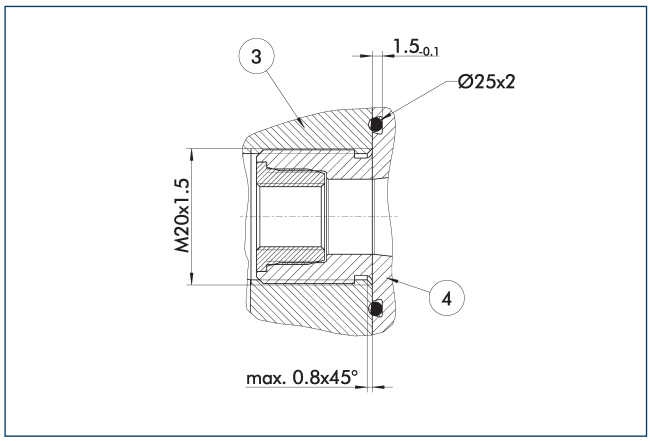
(3) Adapter
(4) Grippers

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

LOG 20 - 99

Internal hole gripper

Hose-free direct connection M20x1.5

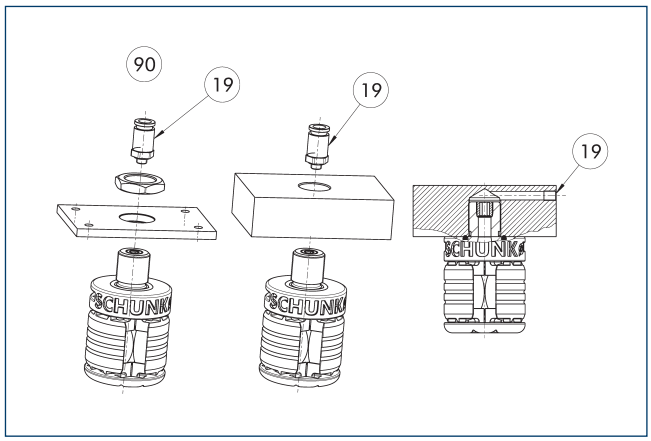


(3) Adapter

(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.

Connection options



(19) Air connection

(90) Preferred variant for gauge block mounting

The LOG can be easily screwed in by a through-bore with lock nut or directly into an adapter plate.

ⓘ SCHUNK recommends a 1 mm larger through-bore for the alignment of the gripper when mounting the gauge block.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

Product Information

0-Ring Gripper ORG

Reliable. Flexible. Productive.

O-ring assembling gripper ORG

Grippers, attached with appropriate top fingers allows assembly of O-rings, including square rings and others both on shafts (external assembly) and in bores (internal assembly)

Field of application

The gripper should be used in a clean environment, particularly in automated assembly

Advantages – Your benefits

O.D. and I.D. assembly with one gripper for flexibility and cost-saving

Reliable performance due to new mounting principle for high availability

Standard assembly finger for O.D. assembly for conventional ring sizes for fast commissioning

Sizes
Quantity: 1

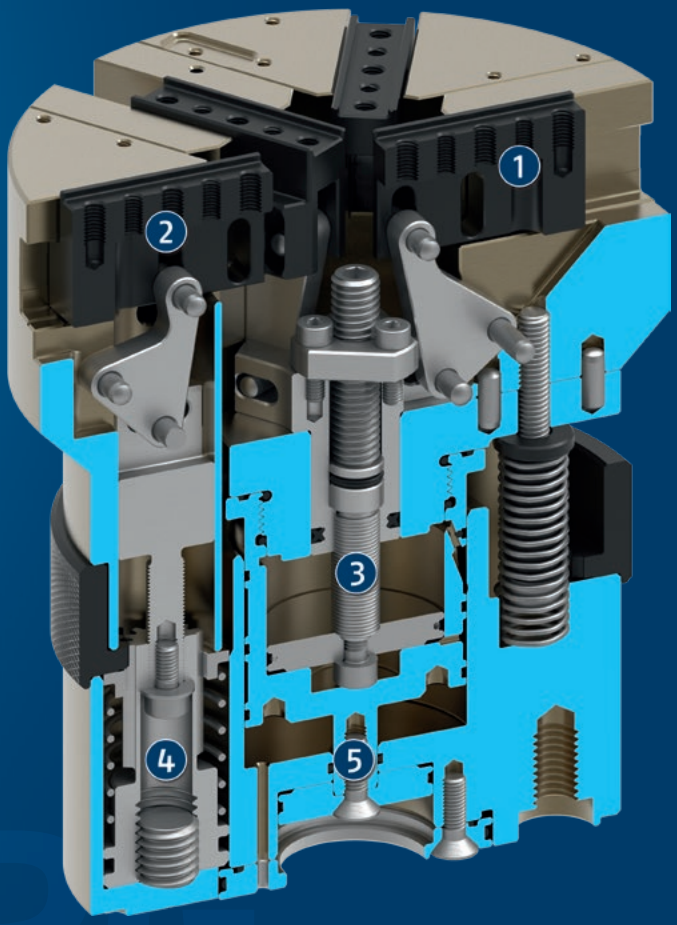
Weight
1.35 kg

Repeat accuracy
0.02 mm

Functional description

External assembly
The 0-ring is expanded by all six fingers, then the gripper is moved to the assembly groove on the shaft. First the three fingers of triple jaws A are retracted with the linear travel.
The 0-ring is fit through the triangle shape, which adjusts to the remaining hold of the three fingers of triple jaws B, already partially in the groove. The entire gripper is now retracted. The 0-ring is now forced completely into its assembly groove.

Internal assembly
The 0-ring is forced into a cloverleaf shape by the segment jaw of triple B and the finger of triple A. The gripper is moved with its fingers in the assembly bore. The segment jaws now press the 0-ring onto a majority of the groove's circumference.
The fingers are retracted and the 0-ring remains settles further in the groove. The fingers are now inside the 0-ring and the segment jaws press the 0-ring, forcing it into its groove.



① **Triple jaw A**
double-acting

② **Triple jaw B**
one-way acting

③ **Drive**
for triple jaws A

④ **Drive**
for triple jaws B

⑤ **Drive**
for linear travel

General notes about the series

Operating principle: Two independent triple-finger combinations deform the 0-ring in order to then install it.

Housing material: Aluminum

Base jaw material: Steel

Actuation: pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Scope of delivery: Centering sleeves, assembly instructions (operating manual with declaration of incorporation is available online)

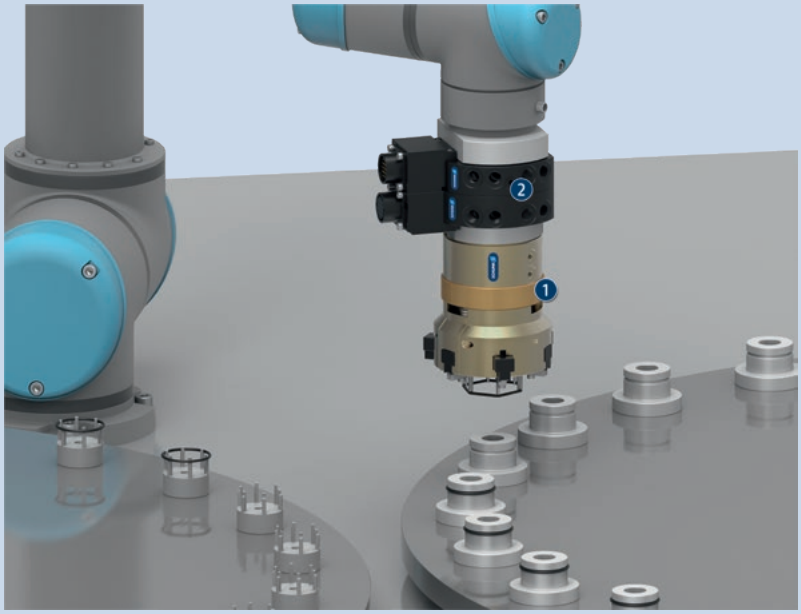
Gripping force: is the arithmetic sum of the individual force applied to each jaw at distance P (see illustration).

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 purely the times that the base jaws or fingers are in motion. 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

Gripping unit for mounting 0-rings

1. 0-ring assembling gripper ORG
2. Quick-change system SWS

SCHUNK offers more ...

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

Assembly fingers

Inductive proximity switches

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

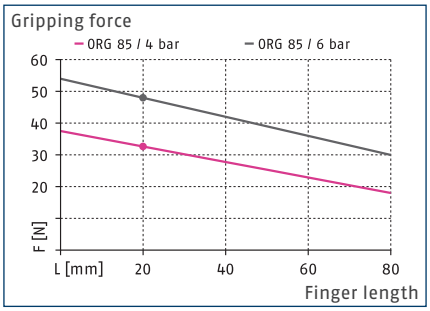
Options and special information

For standard 0-ring sizes SCHUNK offers standard assembly fingers for external assembly. Assembly fingers for internal assembly are always 0-ring specific. On request, they can be purchased as customized components from SCHUNK or manufactured by customers themselves. Drawings and design instructions can be found in the extensive operating manual that is available online as a PDF document.
Max. 0-ring cord thickness: The max. 0-ring cord thickness to be installed is a diameter of 4 mm.

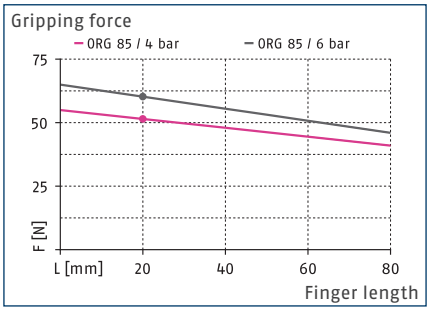
ORG 85

0-Ring Gripper

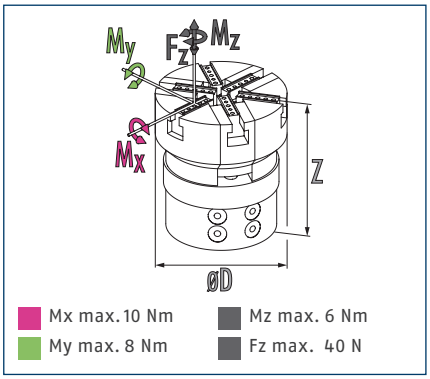
Triple jaws A outside gripping force



Triple jaws A inside gripping force



Dimensions and maximum loads



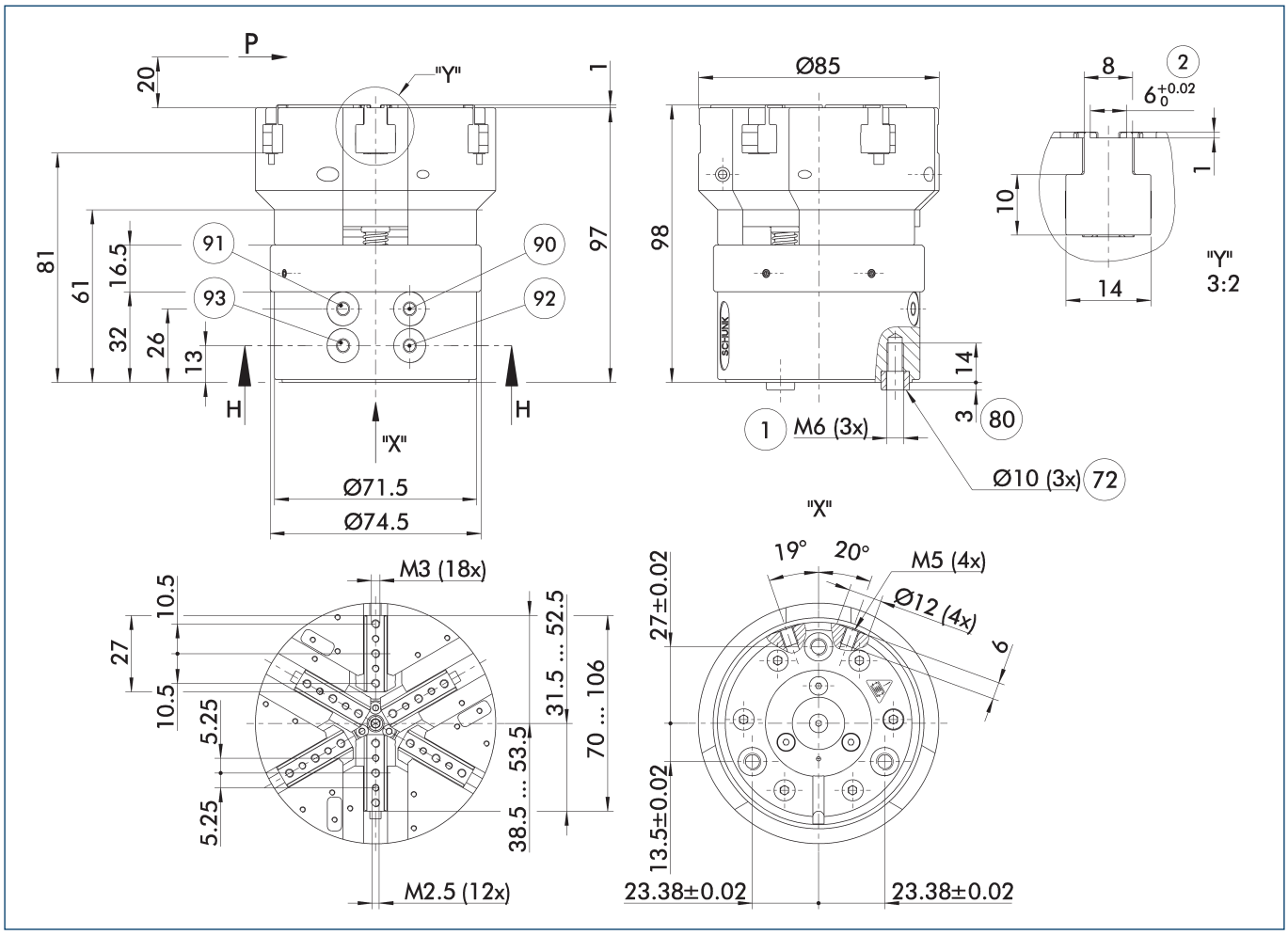
ⓘ The indicated moments and forces are statical values, apply for each base jaw and may appear simultaneously. Loads may additionally occur to the moment produced by the gripping force itself.

Technical data

Description		ORG 85
ID		0304120
Number of fingers		6
Triple jaws A: working principle		double-acting
Triple jaws A: stroke per finger	[mm]	21.0
Triple jaws A: closing force	[N]	45.0
Triple jaws A: opening force	[N]	55.0
Triple jaws A: retraction stroke	[mm]	5.0
Triple jaws A: retraction force	[N]	20.0
Triple jaws A: fluid consumption per double stroke	[cm³]	11
Triple jaws A: fluid consumption per retraction stroke	[cm³]	6
Triple jaws B: working principle		one-way acting
Triple jaws B: stroke per finger	[mm]	15.0
Triple jaws B: opening force	[N]	125.0
Triple jaws B: fluid consumption per opening stroke	[cm³]	9
Closing/opening time	[s]	0.1/0.12
Weight	[kg]	1.35
Min./nom./max. operating pressure	[bar]	4/6/8
Max. permissible finger length	[mm]	80.0
IP protection class		40
Min./max. ambient temperature	[°C]	5/90
Repeat accuracy	[mm]	0.02
Dimensions Ø D x Z	[mm]	85 x 98

ⓘ The principle mountability of O-rings depends on the shape (O-ring, square ring, etc.), shore hardness, inner diameter, and cord strength, as well as installation depth. In general, Ø 5 mm to Ø 160 mm O-rings can be mounted for outside assembly, and for internal assembly O-ring from Ø 10 mm to Ø 120 mm are used.
Triple jaws A and B can both be adjusted with regard to their opening travel – the closed position remains unaffected.
Please contact SCHUNK to ensure ultimate installation compatibility.

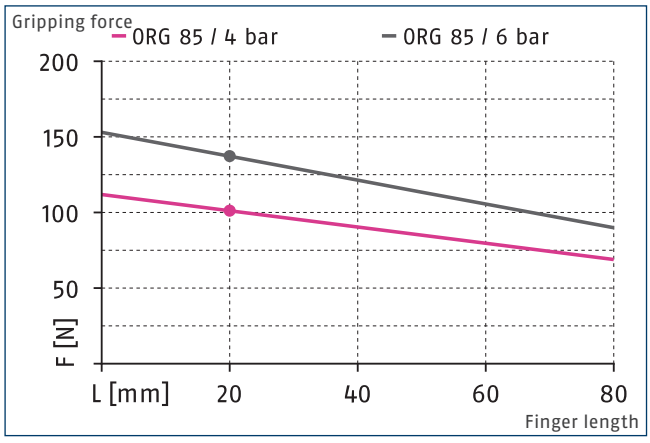
Main view



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
72. Fit for centering sleeves
80. Depth of the centering sleeve hole in the counter part
90. Main / direct connection, gripper jaw triple A opening
91. Main / direct connection, gripper jaw triple A closing
92. Main / direct connection, gripper jaw triple B opening
93. Main / direct connection, Z-Stroke Unit is retracted

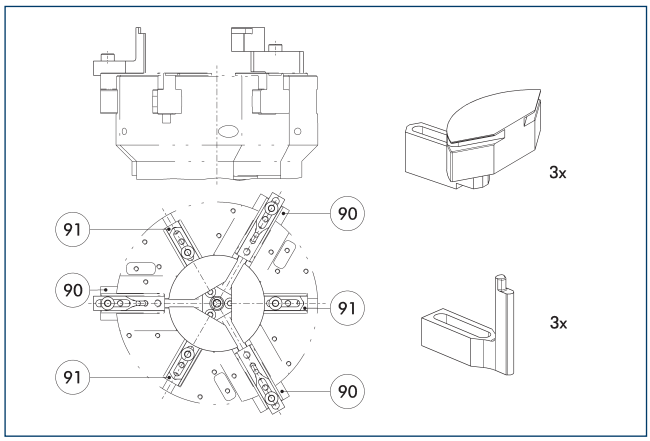
Triple jaws B inside gripping force



ORG 85

0-Ring Gripper

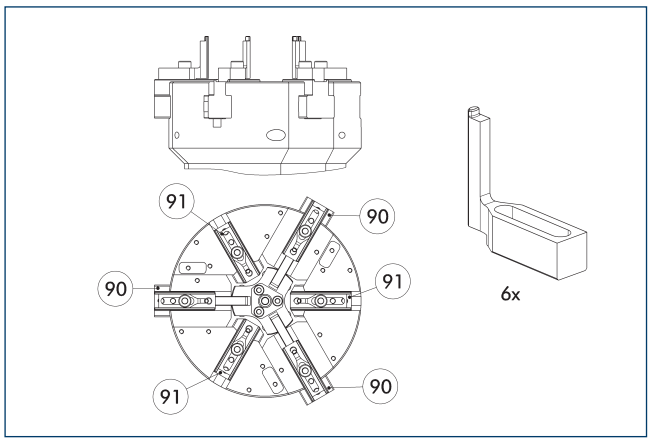
Internal assembly concept



(90) Triple jaw A (91) Triple jaw B

Three form fingers and three rod fingers are required for internal assembly. Their geometry is based on the dimensions of the ring to be mounted. See the downloadable operating manual of the ORG for design rules. SCHUNK offers engineering design and production services on request.

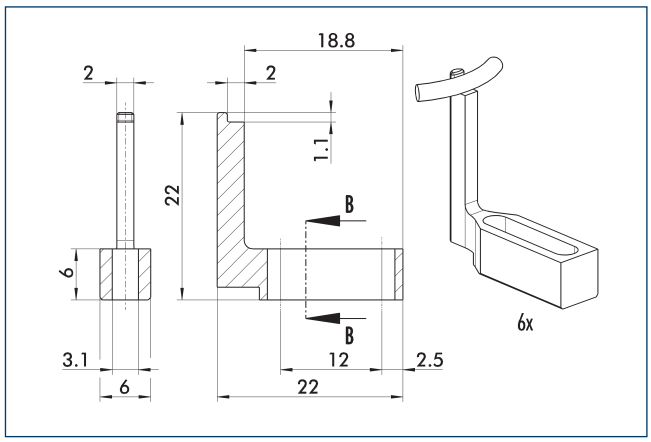
External assembly concept



(90) Triple jaw A (91) Triple jaw B

Six fingers are required for external assembly. See the downloadable operating manual of the ORG for design rules. SCHUNK offers engineering design and production services on request.

Finger blanks MFA-D2-0.5-1.0-ORG 85

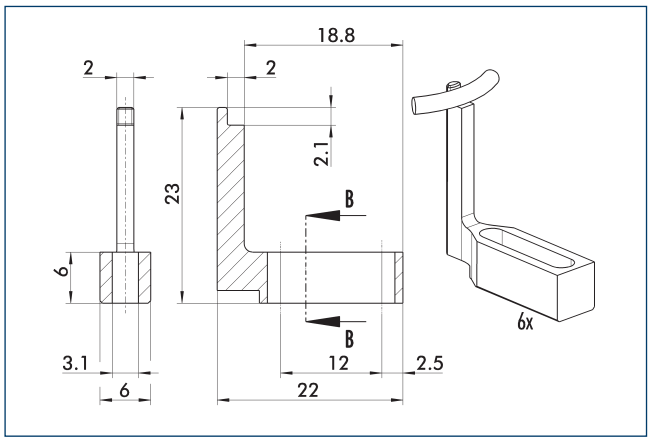


Standard fingers for external assembly of rings having cord strength 0.5 mm to 1.0 mm.

Description	ID	Material	Scope of delivery
Finger			
MFA-D2-0.5-1.0-ORG 85	0304113	Aluminum	1

ⓘ Six fingers are required.

Finger blanks MFA-D2-1.0-2.0-ORG 85

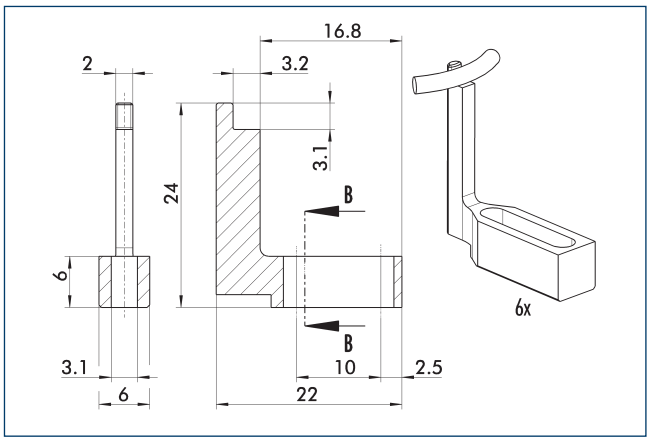


Standard fingers for external assembly of rings having cord strength 1.0 mm to 2.0 mm.

Description	ID	Material	Scope of delivery
Finger			
MFA-D2-1.0-2.0-ORG 85	0304114	Aluminum	1

ⓘ Six fingers are required.

Finger blanks MFA-D2-2.0-3.0-ORG 85

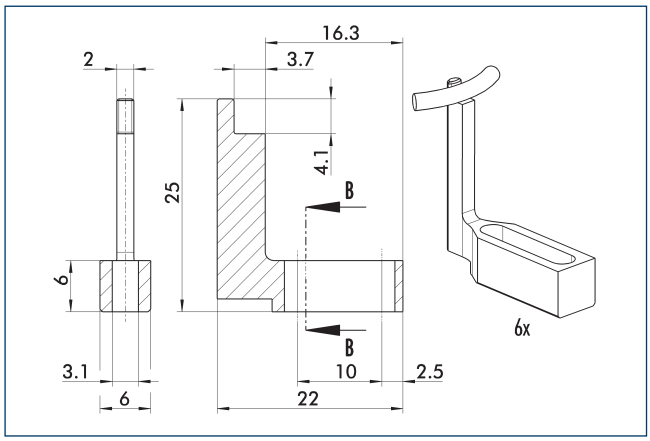


Standard fingers for external assembly of rings having cord strength 2.0 mm to 3.0 mm.

Description	ID	Material	Scope of delivery
Finger			
MFA-D2-2.0-3.0-ORG 85	0304115	Aluminum	1

ⓘ Six fingers are required.

Finger blanks MFA-D2-3.0-4.0-ORG 85

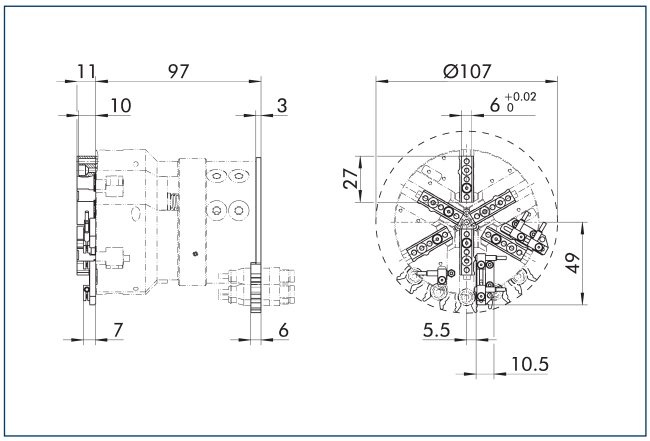


Standard fingers for external assembly of rings having cord strength 3.0 mm to 4.0 mm.

Description	ID	Material	Scope of delivery
Finger			
MFA-D2-3.0-4.0-ORG 85	0304116	Aluminum	1

ⓘ Six fingers are required.

Attachment kit for proximity switch

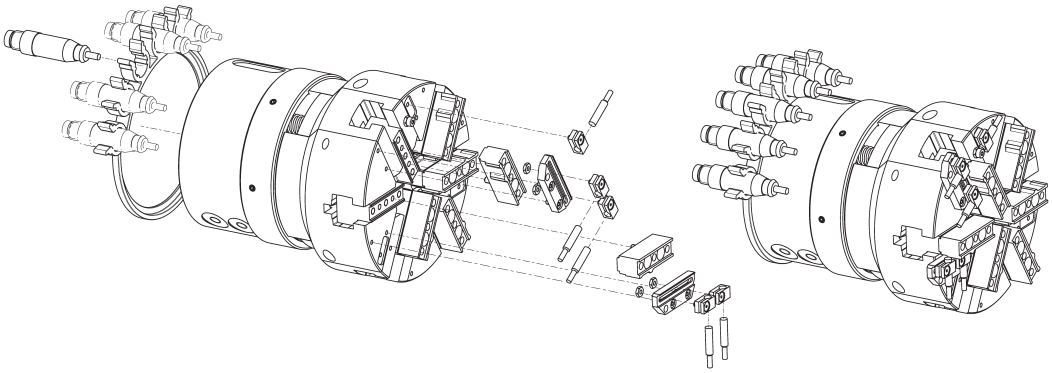


End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-ORG 85-IN30K	1401277	

ⓘ This attachment kit needs to be ordered optionally as an accessory.

Inductive Proximity Switches



End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-ORG 85-IN30K	1401277	
Inductive proximity switches		
IN 30K-S-M8-PNP	1001272	●

ⓘ Per unit five sensors (closer/S) are required for each unit, plus extension cables as an option. This attachment kit needs to be ordered optionally as an accessory. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*

Superior Clamping and Gripping

SCHUNK®

Product Information

Cleaning Unit with Shank Interface RGG

Reliable. Productive. Cost-effective.

General accessories RGG

For cleaning of clamping devices and automation of machine tools. The cleaning unit can be used in any machine, which provides compressed air or coolant supply via the tool mounting.

Field of application

Every machine with conventional tool mountings and compressed air or coolant supply by the spindle

Advantages – Your benefits

Low-cost module for flexible automation in your machine

Fast, automatic cleaning for a maximum machine utilization

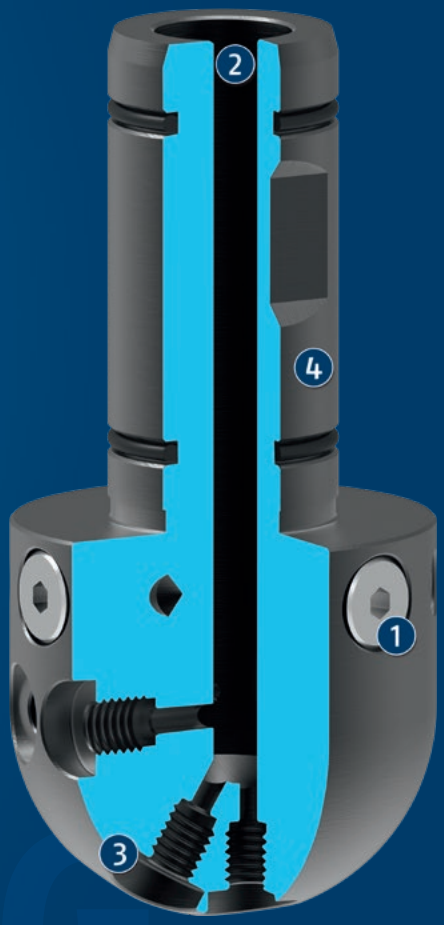
Increased safety for machine operator

Sizes
Quantity: 1

Weight
0.1 kg

Functional description

The cleaning unit is operated hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].
Cleanliness made simple – a total of six nozzles on the ballhead blow out a powerful jet of air or coolant, which is forced from the toolholder taper into the shaft of the cleaning unit via a bore.
The head can also rotate with the machine tool spindle when it moves, reaching all corners of the working area.



① **Locking screws and restrictor inserts**
for changing the cleaning jet

② **Center bore**
for introduction of cleaning medium

③ **Outlet openings**
for producing cleaning jets

④ **Clamping diameter**
for mounting in any toolholding systems

RGG

Cleaning Unit with Shank Interface

General notes about the series

Spindle interface material: Aluminum alloy

Actuation: hydraulically with machine coolant (filtered, max. particle size of 30 µm) or pneumatically with filtered compressed air in accordance with ISO 8573-1:2010 [7:4:4].

Warranty: 24 months

Application example

Handling of pinions in a milling center

1. Vacuum gripper GSW-V
2. Magnetic gripper GSW-M
3. Gripper with shaft interface GSW-B and PGN-plus
4. Gripper with shaft interface GSW-B and PZN-plus
5. Cleaning unit RGG

SCHUNK offers more ...

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

Gripper with shaft interface

Vacuum Gripper

Magnetic gripper

Toolholders

Stationary clamping technology

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

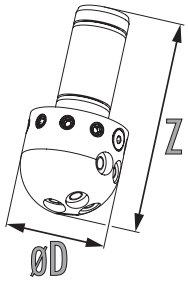
Options and special information

Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service life of this product considerably.
Please note that the product is not suitable for heat shrinking toolholders.

RGG 20

Cleaning Unit with Shank Interface

Dimensions



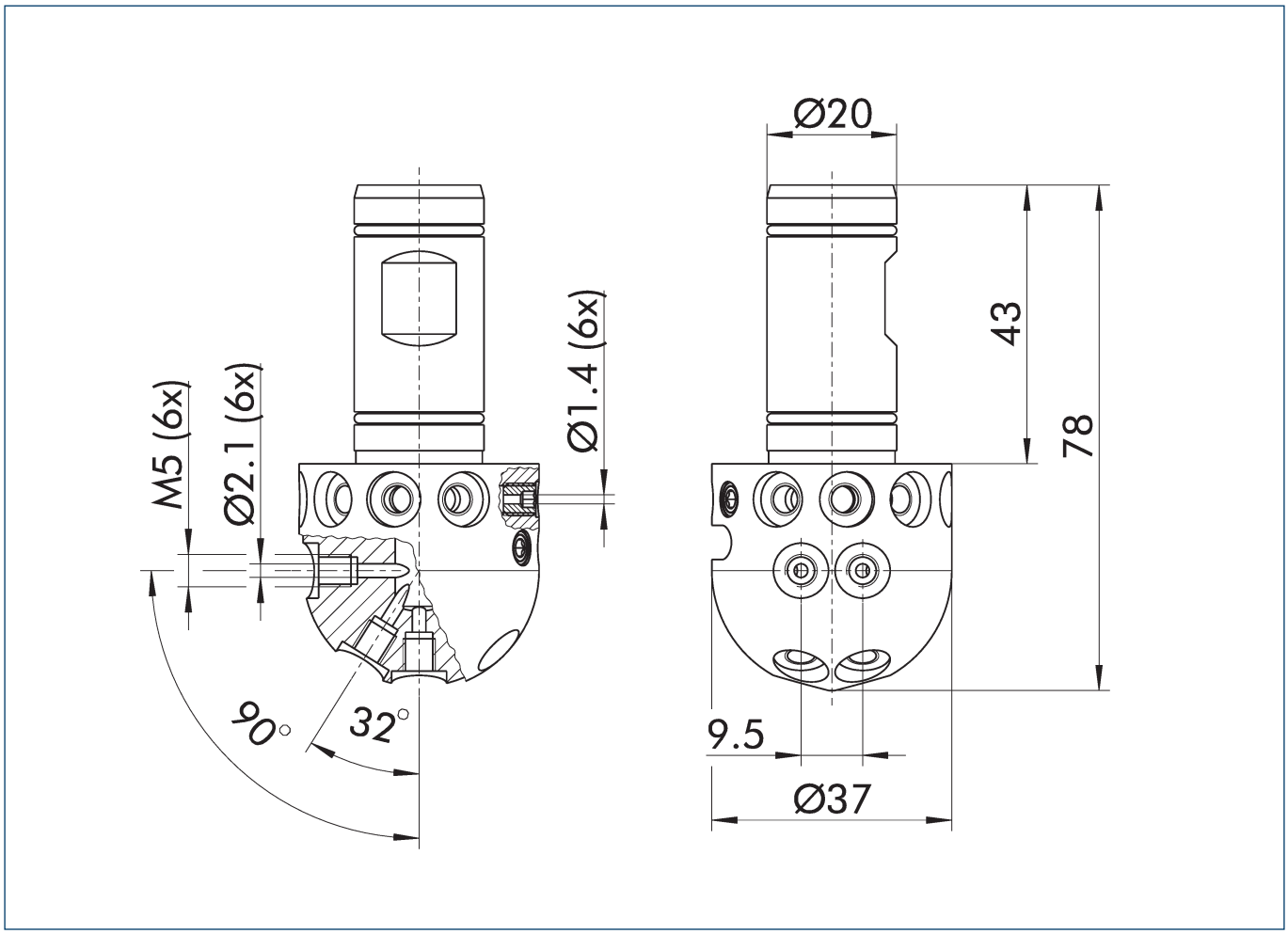
For values see technical data table

Technical data

Description		RGG 20
ID		0308590
Weight	[kg]	0.10
Min./max. ambient temperature	[°C]	-10/90
Max. permissible speed	[1/min]	100
Max. operating pressure	[bar]	80
Dimensions Ø D x Z	[mm]	37 x 78

ⓘ Please note that applications under extreme conditions (e.g. coolant, casting or abrasive dust) will reduce the service life of this product considerably. Please note that the product is not suitable for heat shrinking toolholders.

Main view



For reducing the jet of the nozzles, the set-screws with nozzle bores can be used. Unused nozzles can be closed with the locking screws.

(90) Set-screws with throttling port (91) Locking screws

SCHUNK GmbH & Co. KG
Spann- und Greiftechnik

Bahnhofstr. 106 - 134
D-74348 Lauffen/Neckar
Tel. +49-7133-103-0
Fax +49-7133-103-2399
info@de.schunk.com
schunk.com

Folgen Sie uns | *Follow us*