Superior Clamping and Gripping

Product Information

Magnetic gripper EMH 036

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

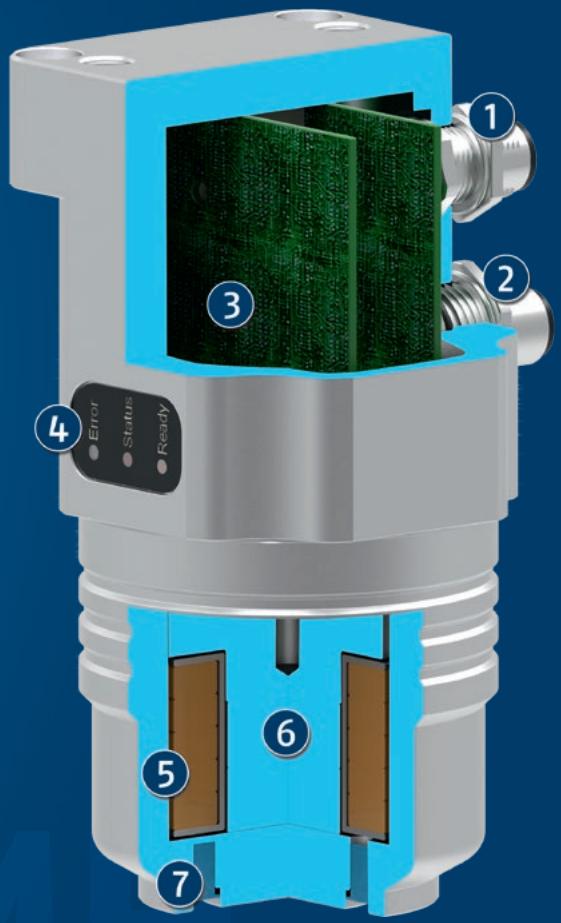
Integrated electronics Compact design, as no additional controller is required

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

Sizes	Weight	Max. workpiece weight	Max. magnetic surface
Quantity: 4	1 .. 8 kg	70 gkg	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

EMH

Magnetic gripper

General notes about the series

Operating principle: Magnetization of permanent magnets

Housing material: Aluminum/steel

Base jaw material: Steel

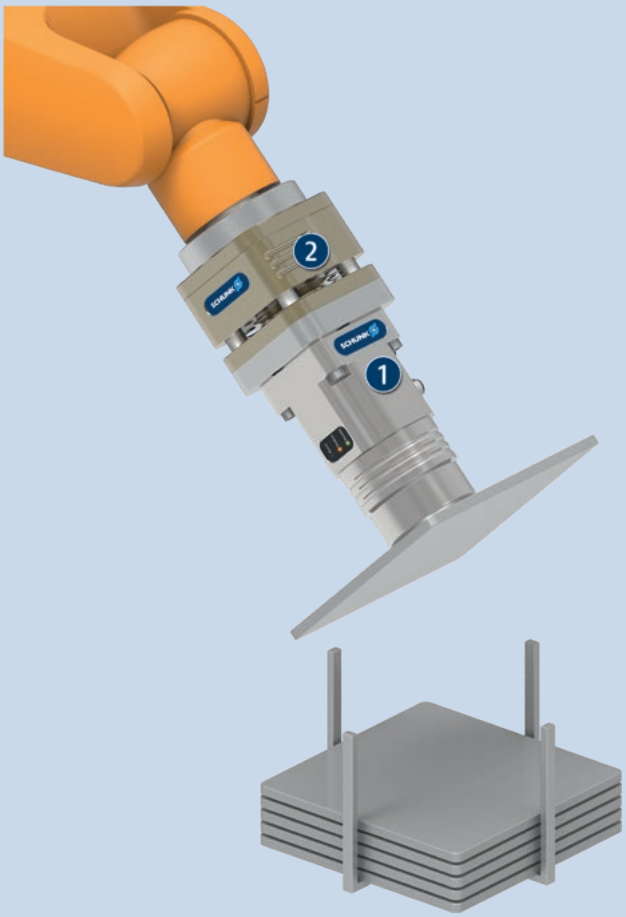
Actuation: Electrical current pulse for activation and deactivation of the system

Warranty: 24 months

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

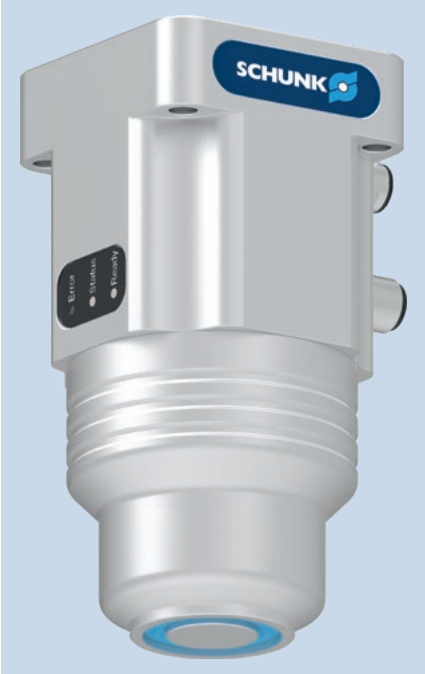
Tolerance compensation unit

Quick change system

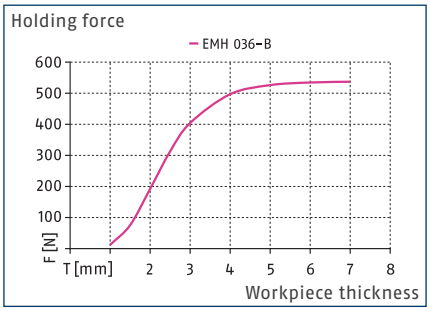
ⓘ For more information on these products can be found on the following product pages or at schunk.com.

EMH 036

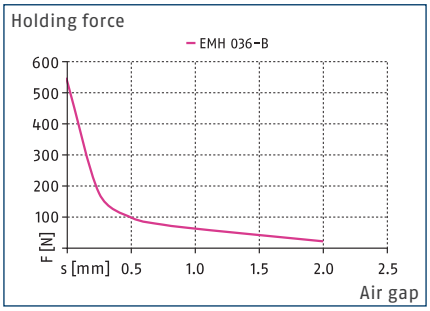
Magnetic gripper



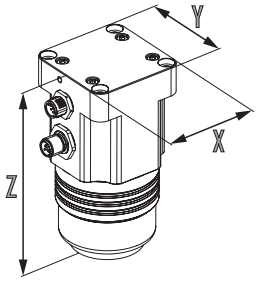
Workpiece thickness



Air gap



Dimensions and maximum loads

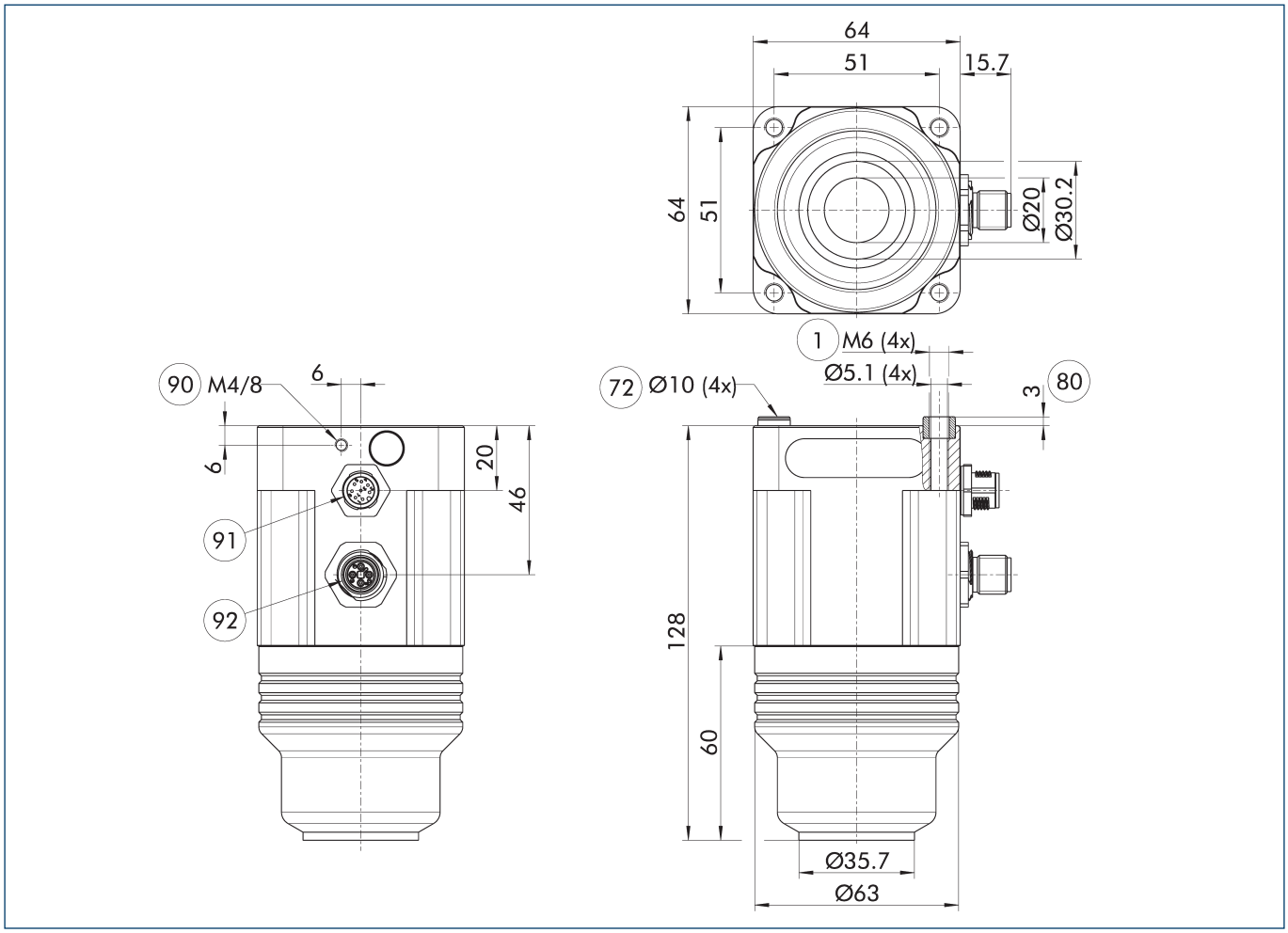


For values see technical data table

Technical data

Description		EMH 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]	700
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

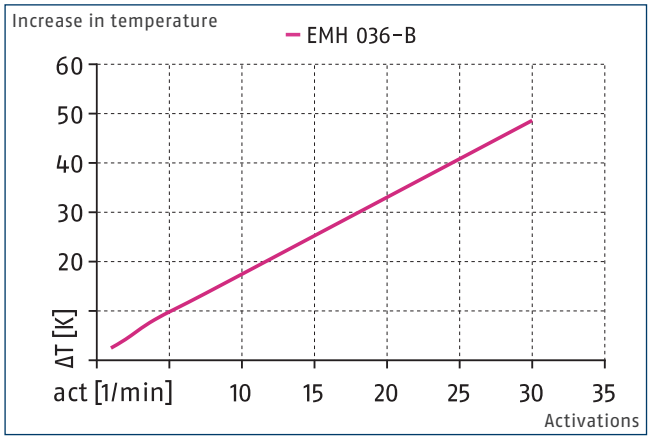
Main view



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

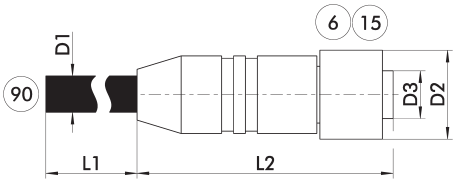


EMH 036

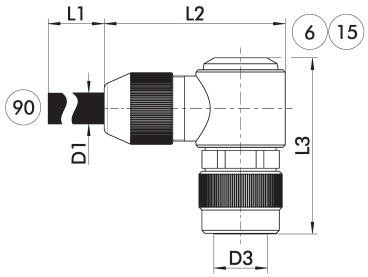
Magnetic gripper

Voltage supply connection cable

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

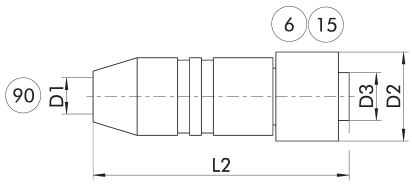
The connection cables are used to connect the SCHUNK product to the voltage supply.

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

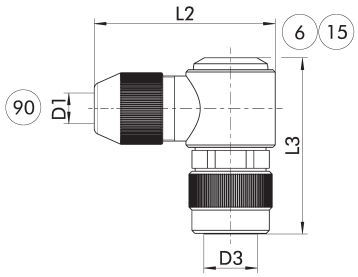
ⓘ Please observe the min. bending radius for cable track-compatible cables or the max. torsion angle for torsion-compatible cables. These are generally 10 times the cable diameter or +/- 180°/m. Please refer to the product documentation for information about max. cable length and min. wire cross section.

Power supply plug-in connector

KBU - ... - G



KBU - ... - W



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

(6) Connection module side
(15) Socket

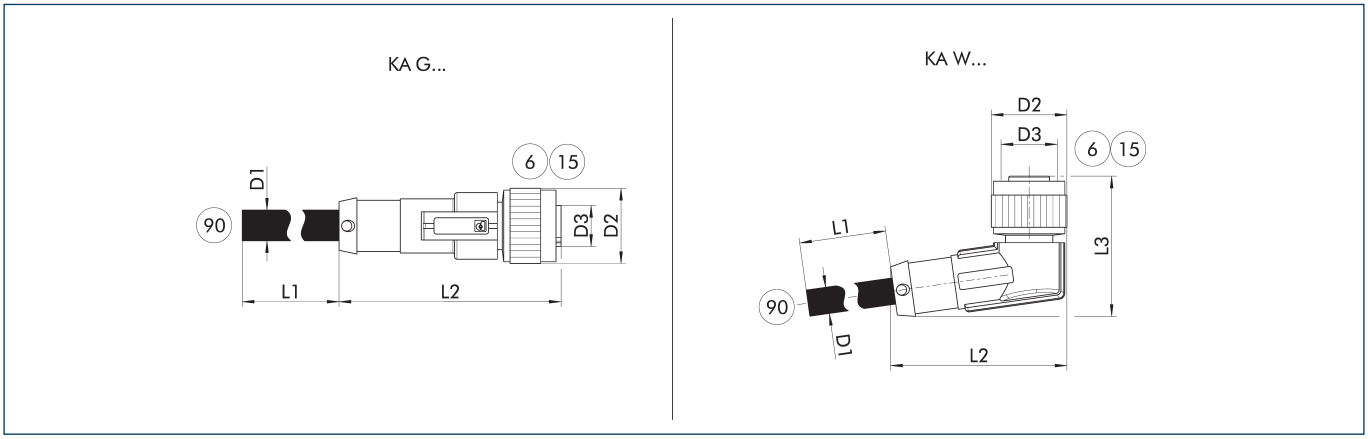
(90) D1 – max. diameter connection cable

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.

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*

2021-09-20 © 2021 SCHUNK GmbH & Co. KG