Electric Grippers Modules

2-Finger Parallel Grippers

2-FINGER PARALLEL GRIPPERS

MEG

Sizes
40 .. 64

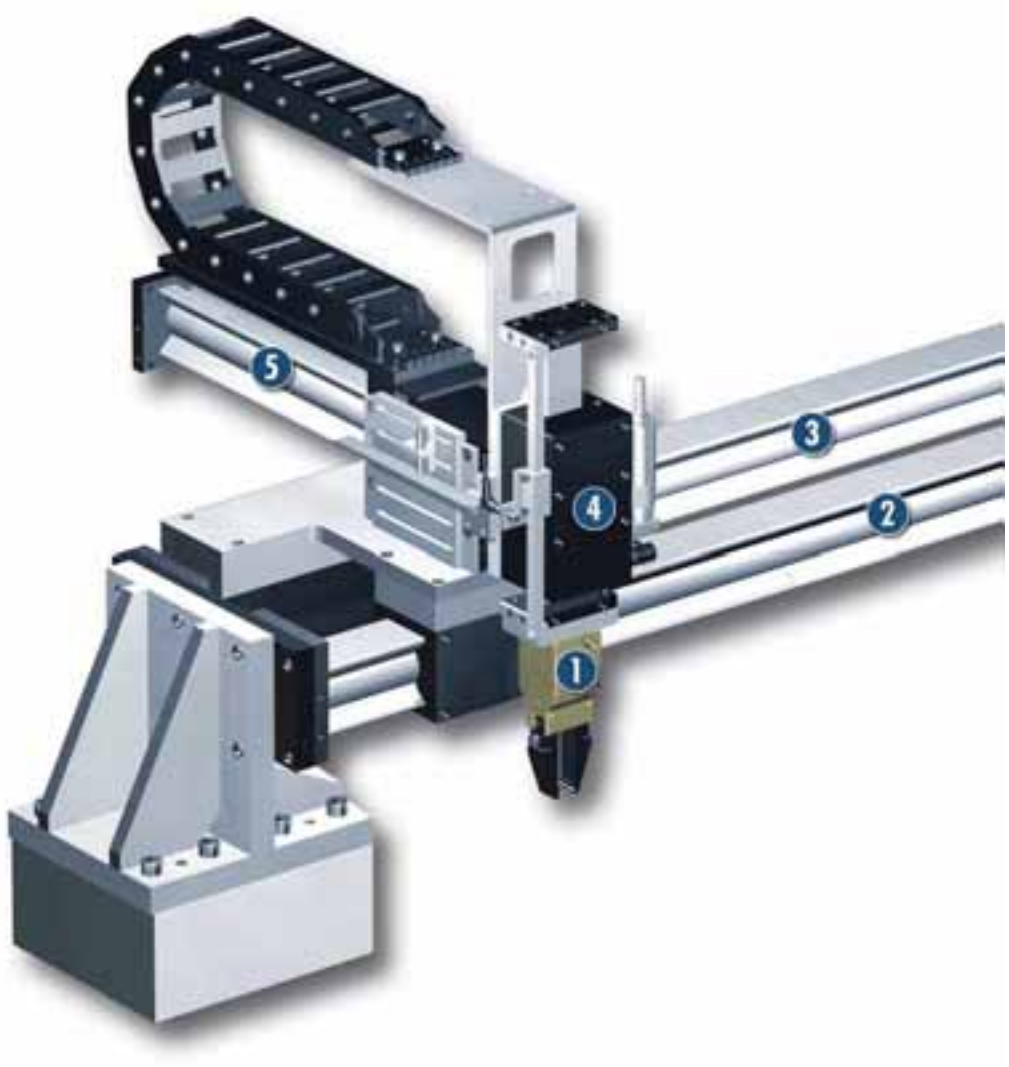
Weight
0.47 kg .. 1.42 kg

Gripping force
60 N .. 175 N

Stroke per finger
6 mm .. 10 mm

Workpiece weight
0.3 kg .. 0.85 kg

Application example



Fully electrically driven, triple-axis automatic insertion unit for small components

1. MEG 50 EC servo-electric 2-Finger Parallel Gripper
2. Linear Axis with direct drive MLD 100
3. Support Axis
4. Short-stroke Axis with direct drive MLD 100 K
   Stroke 50 with reference switch
5. Linear Axis with direct drive MLD 100
   Stroke 300 with measuring system

Gripper for Small Components

Electric 2-finger parallel gripper with smooth-running base jaws guided on roller bearings

Area of application

Gripping and movement of small to medium-sized workpieces with flexible force, stroke or speed

Your advantages and benefits

Drive design of step motor
for independent actuation without pneumatics or hydraulics

MEG EC – with external electronics
for control-intensive handling tasks with pre-positioning capability

MEG IC – with integrated electronics
for simple operation and precise handling

Roller guide
for precise gripping through base jaw guide with minimum play

Base jaws guided on double roller bearings
for low friction and smooth running

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

General information on the series

Working principle
Wedge-hook kinematics

Housing material
Aluminum alloy, hard-anodized

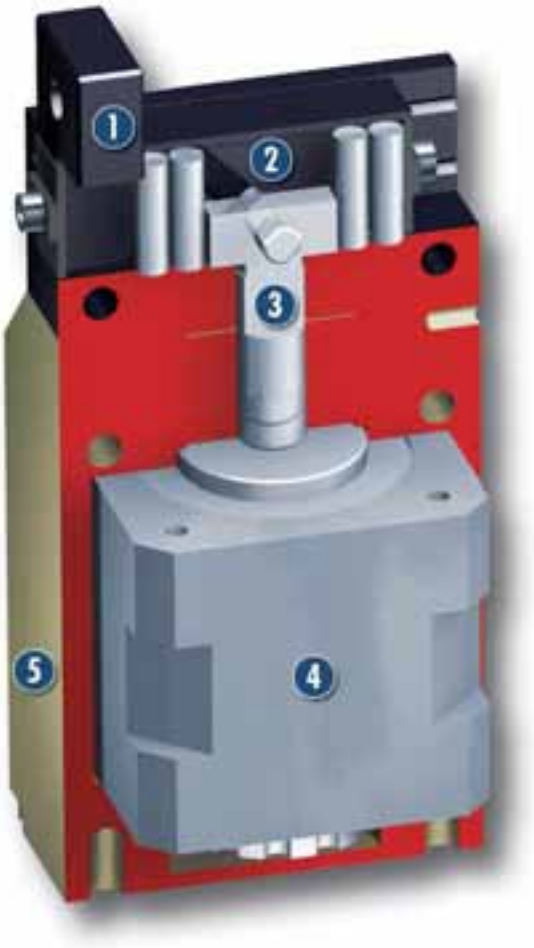
Base jaw material
Steel

Actuation
Electrical, via step motor and ball screw drive; with internal or external control depending on the version.

Warranty
24 months

Scope of delivery
Centering sleeves, assembly and operating manual with manufacturer's declaration

Sectional diagram



1 **Base jaws**
for the connection of workpiece-specific gripper fingers

2 **Roller guide**
precise gripping through base jaw guide with minimum play

3 **Kinematics**
wedge hook design for high power transmission and centric gripping

4 **Drive**
step motor with spindle

5 **Housing**
weight-reduced through the use of a hard-anodized, high-strength aluminum alloy

Function description

The spindle is moved up or down by the step motor drive. The side hooks at the upper end of the spindle engage in the angled slots of the two base jaws, hence transforming this movement into the synchronized opening or closing of the base fingers.

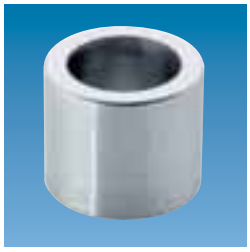
Electrical actuation

The MEG EC gripper is actuated electrically by the appropriate MEG-C control electronics.
The gripping parameters force, position and speed and different operating modes are defined by digital and analog inputs. The gripper status can be monitored by means of digital and analog outputs.
In size 50, an IC version with integrated electronics is also available. This ensures simple operation with the option of setting the gripping force to suit your requirements using a potentiometer.

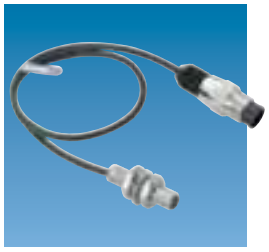
Accessories

Accessories from SCHUNK – the suitable complement for the highest level of functionality, reliability and controlled production of all automation components.

Centering sleeves



IN inductive proximity switches

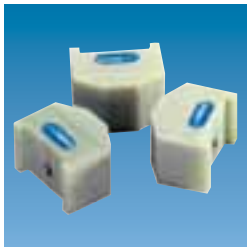


Sensor cables

HM carbide clamping inserts

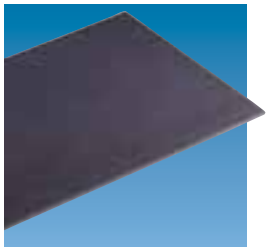
Connection cables

Quentes plastic inserts



Controllers

HKI gripper pads



Fingers and jaws

ⓘ For the exact size of the required accessories, availability of this size and the designation and ID, please refer to the additional views at the end of the specific size. You can find more detailed information on our accessory range in the “Accessories” catalog section.

General information on the series

Gripping force

is the arithmetic total of the gripping force applied to each jaw at distance P (see illustration), measured from the upper edge of the gripper.

Finger length

is measured from the upper edge of the gripper housing in the direction of the main axis.

Repeat accuracy

is defined as the spread of the limit position after 100 consecutive strokes.

Workpiece weight

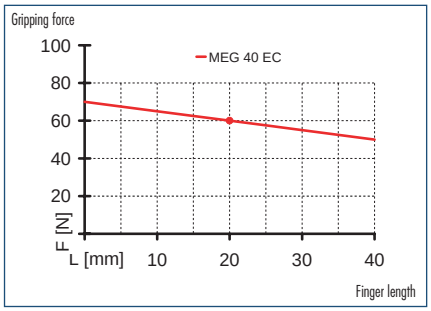
The recommended workpiece weight is calculated for a force-type connection with a coefficient of friction of 0.1 and a safety factor of 2 against slippage of the workpiece on acceleration due to gravity g. Considerably heavier workpiece weights are permitted with form-fit clamping.

Closing and opening times

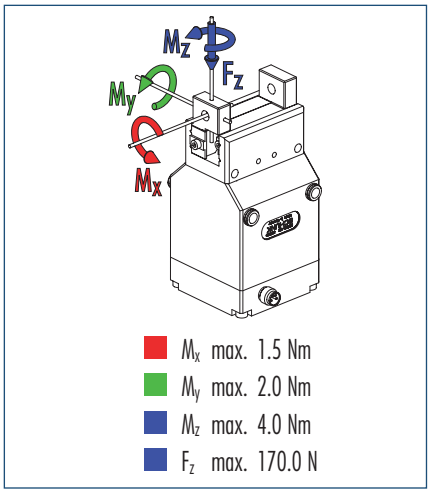
Closing and opening times are purely the times that the base jaws or fingers are in motion. Valve switching times, hose filling times or PLC reaction times are not included in the above times and must be taken into consideration when determining cycle times.

MEG 40

Gripping force



Finger load

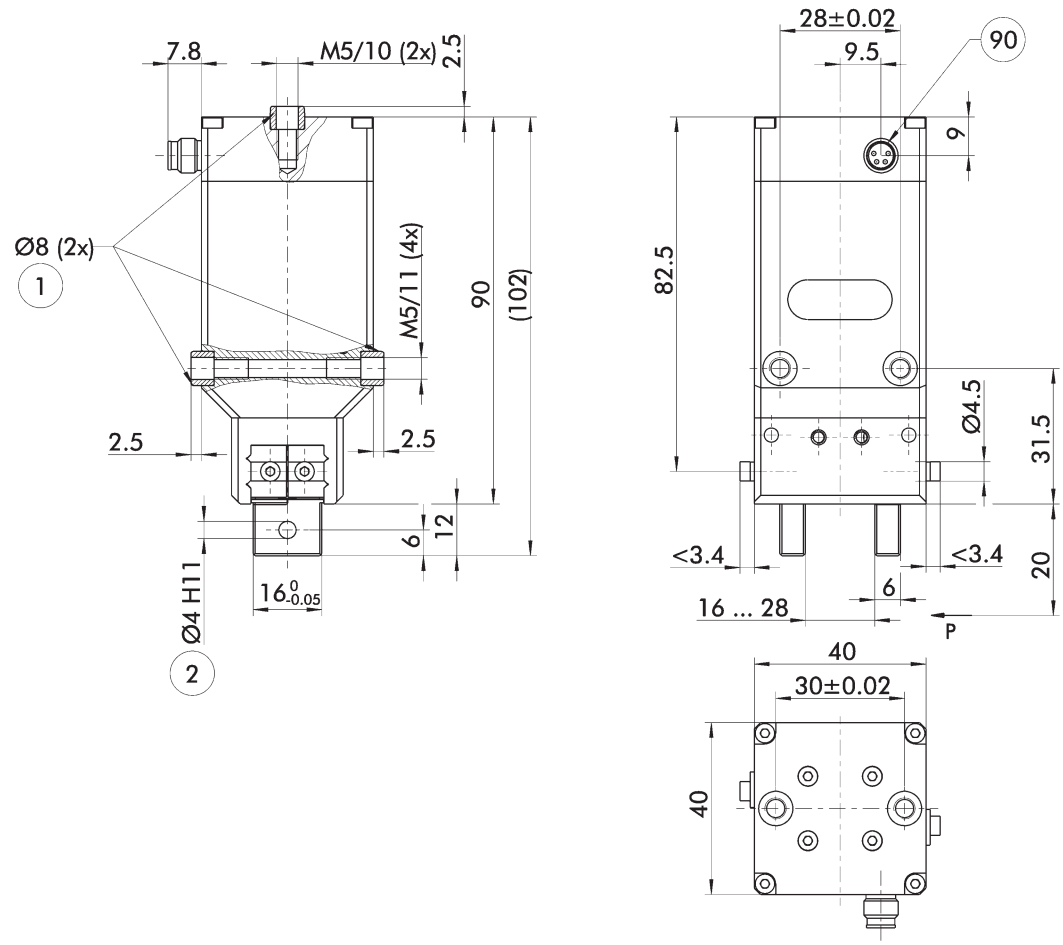


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing. Tool life may be reduced.

Technical data

Designation		MEG 40 EC
Mechanical gripper operating data	**ID**	**0306008**
Stroke per finger	[mm]	6.0
Constant gripping force (100 % continuous duty)	[N]	60.0
Max. gripping force	[N]	60.0
Min. gripping force	[N]	on request
Weight	[kg]	0.47
Recommended workpiece weight	[kg]	0.3
Closing time	[s]	0.65
Opening time	[s]	0.65
Max. permitted finger length	[mm]	40.0
Max. permitted weight per finger	[kg]	0.08
IP rating		30
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	65.0
Repeat accuracy	[mm]	0.02
Positioning accuracy	[mm]	on request
Max. speed	[mm/s]	9.0
Electrical operating data for gripper		
Nominal voltage	[V]	24.0
Nominal current	[A]	0.6
Maximum current	[A]	0.6
Controller operating data	**ID**	**0307004**
Integrated electronics		No
Voltage supply	[VDC]	24.0
Nominal current	[A]	1.0
Maximum current	[A]	1.5
Sensor system		not available
Interface		input/output
Weight	[kg]	0.3
IP rating		30

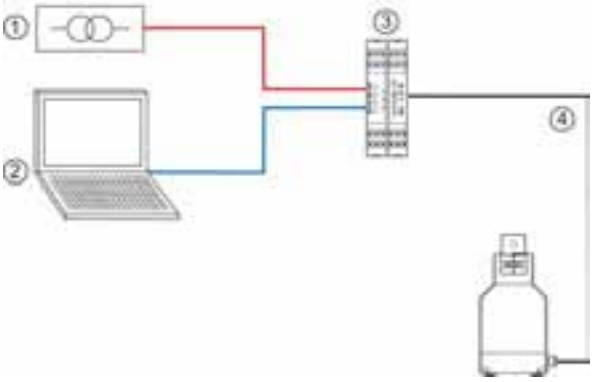
Main views of the MEG 40 EC



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



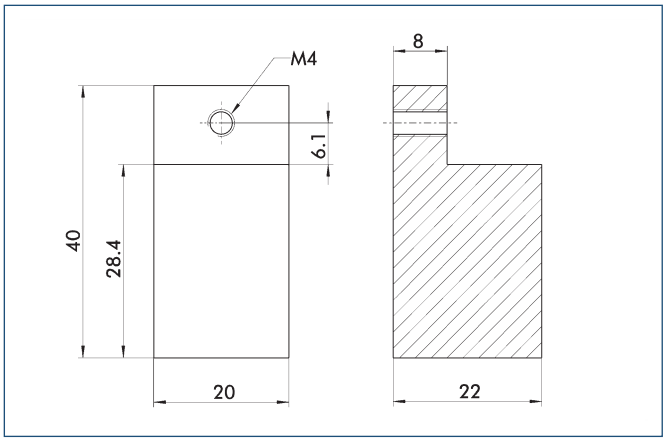
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

Finger blanks



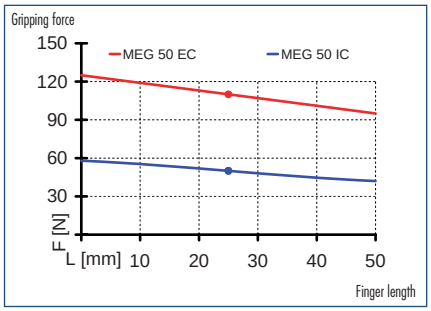
Finger blanks for customized subsequent machining, incl. screw connection diagram

Designation	Material	Scope of delivery	ID
ABR 40	Aluminum	2	0340213

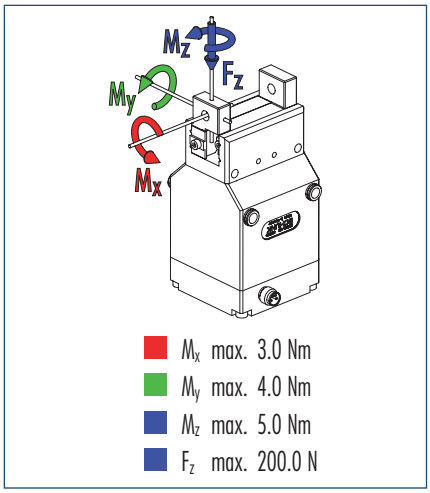
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

MEG 50

Gripping force



Finger load

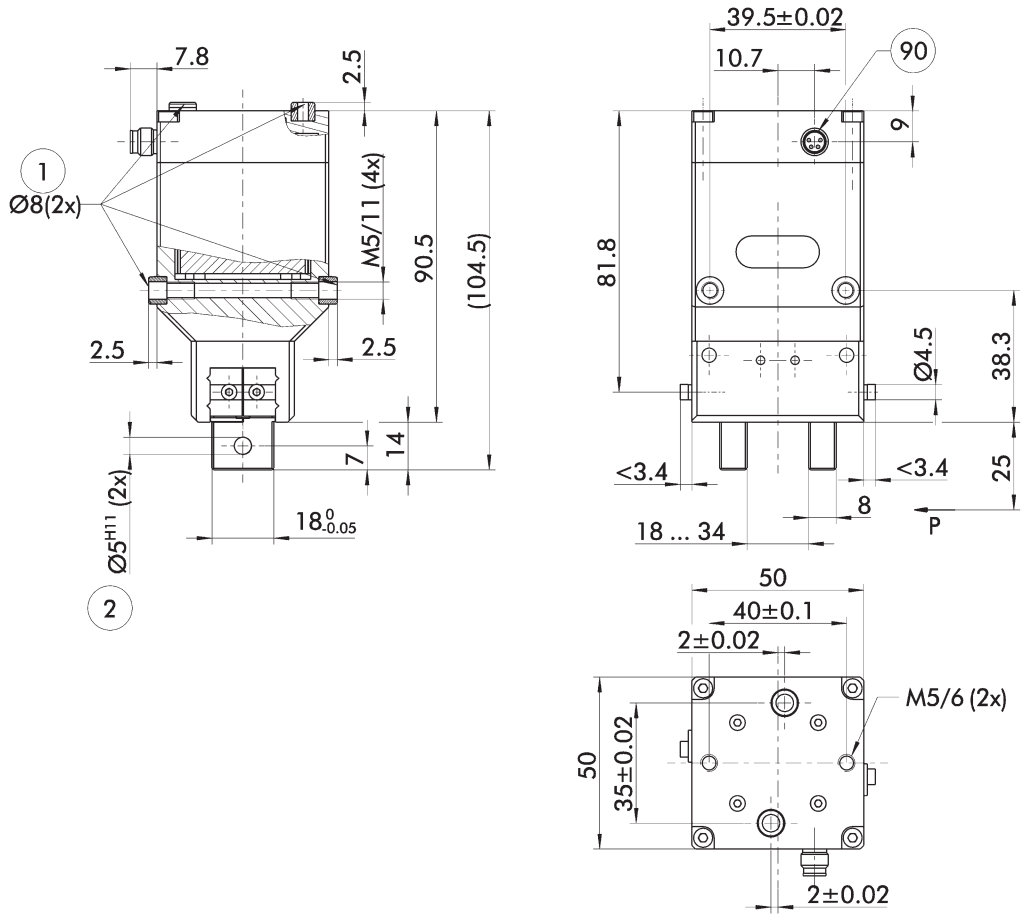


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing. Tool life may be reduced.

Technical data

Designation		MEG 50 EC	MEG 50 IC
Mechanical gripper operating data	ID	0306010	0306011
Stroke per finger	[mm]	8.0	8.0
Constant gripping force (100 % continuous duty)	[N]	110.0	95.0
Max. gripping force	[N]	110.0	95.0
Min. gripping force	[N]	60.0	60.0
Weight	[kg]	0.71	0.85
Recommended workpiece weight	[kg]	0.55	0.45
Closing time	[s]	0.3	0.8
Opening time	[s]	0.3	0.8
Max. permitted finger length	[mm]	50.0	50.0
Max. permitted weight per finger	[kg]	0.14	0.14
IP rating		30	30
Min. ambient temperature	[°C]	5.0	5.0
Max. ambient temperature	[°C]	65.0	65.0
Repeat accuracy	[mm]	0.02	0.02
Positioning accuracy	[mm]	on request	on request
Max. speed	[mm/s]	35.0	10.0
Electrical operating data for gripper			
Nominal voltage	[V]	24.0	24.0
Nominal current	[A]	0.9	0.9
Maximum current	[A]	0.9	0.9
Controller operating data	ID	0307005	
Integrated electronics		No	Yes
Voltage supply	[VDC]	24.0	24.0
Nominal current	[A]	1.0	1.0
Maximum current	[A]	1.5	1.5
Sensor system		not available	Inductive proximity switches
Interface		input/output	input/output
Weight	[kg]	0.3	0.3
IP rating		30	30

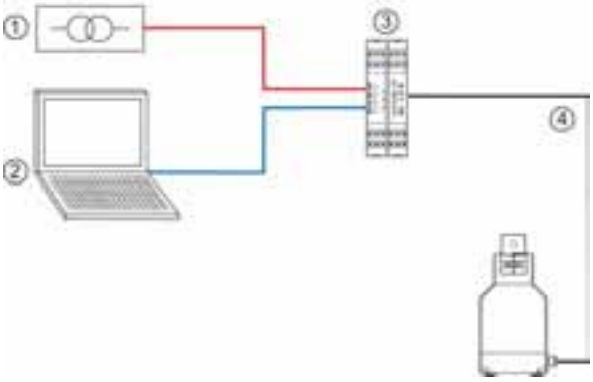
Main views of the MEG 50 EC



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



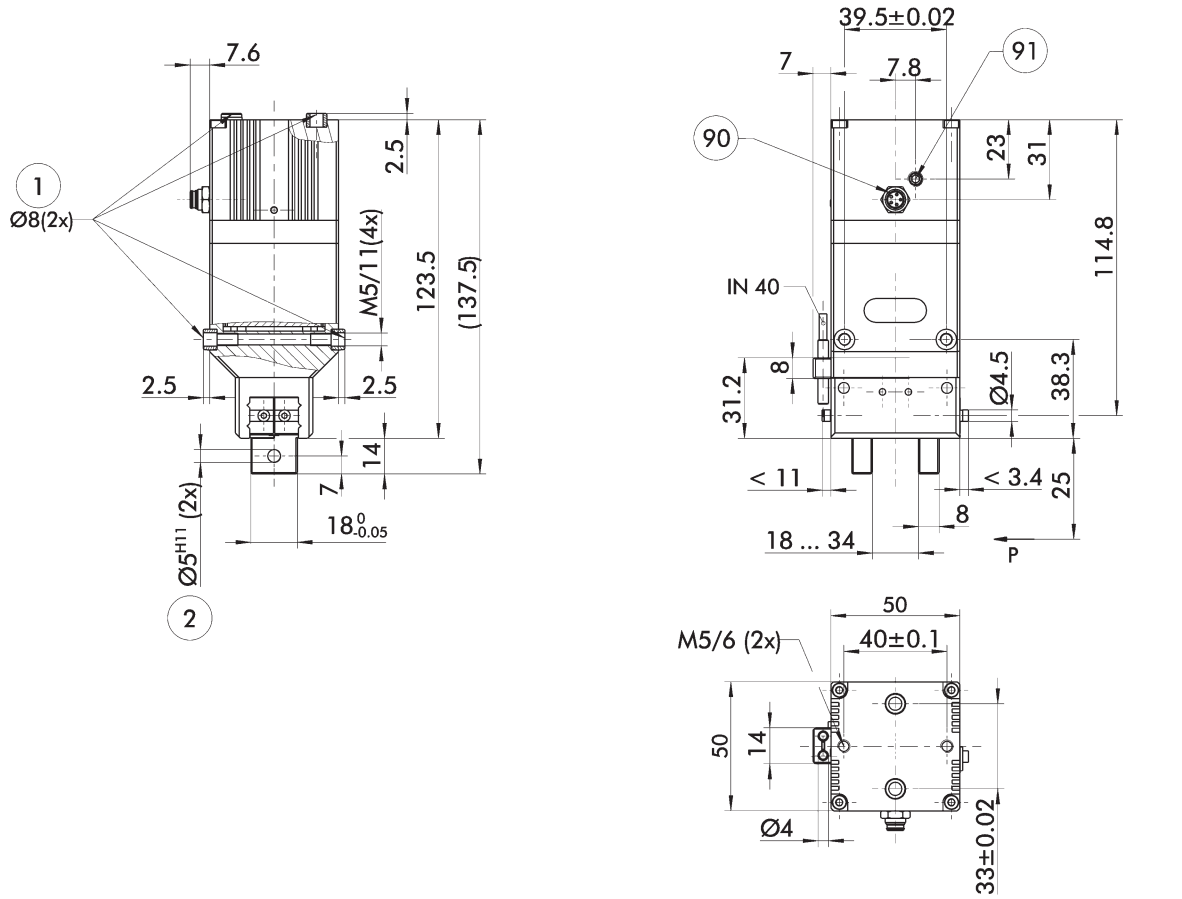
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

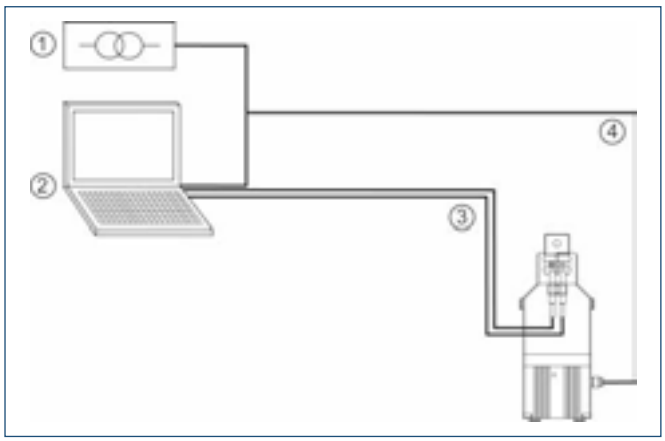
Main views of the MEG 50 IC



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
⑨⓪ 5-pin connector M8x1 Woodhead Type 0908 056GM 09000
⑨① Force potentiometer

MEG IC control



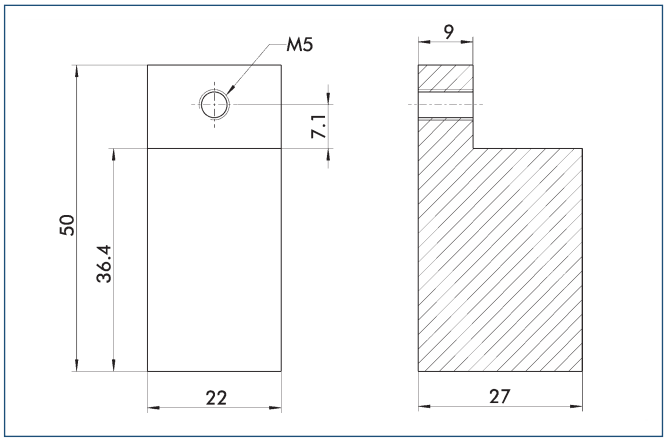
① 24 VDC power supply provided by the customer
② Control (PLC or similar) provided by the customer
③ Proximity switch
④ Connecting cable for control/gripper

Connecting cable for MEG IC

Designation	ID	Length
MEG-IC-K5-W	0307760	5 m
MEG-IC-K10-W	0307761	10 m

The designation -W indicates the shape of the connector (= right-angle version)

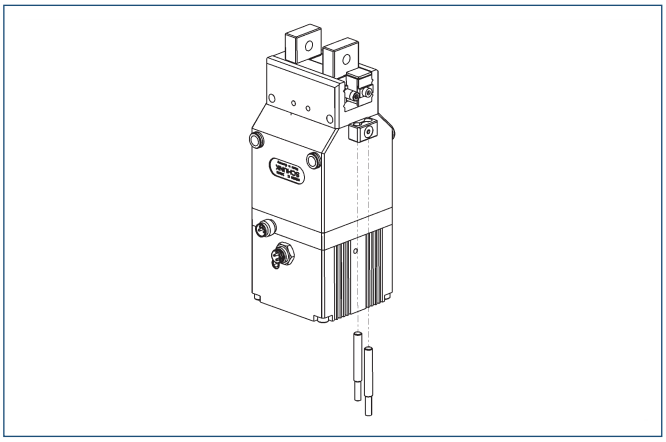
Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Designation	Housing material	Scope of delivery	ID
ABR 50	Aluminum	2	0340214

Inductive proximity switches for MEG IC

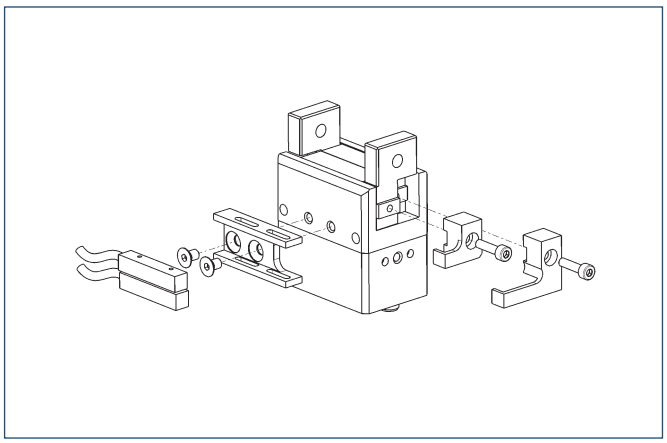


End position monitoring:
Inductive proximity switches, for direct mounting

Designation	ID	Recommended product
IN 40/S-M12	0301574	
IN 40/S-M8	0301474	•
INK 40/S	0301555	

ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Inductive proximity switches for MEG IC



End position monitoring:
Inductive proximity switches, mounted with mounting kit

Designation	ID	Recommended product
AS-MPG 50	0340153	
IN 5/S-M12	0301569	
IN 5/S-M8	0301469	•

ⓘ Two sensors (NO contacts) are required for each gripper, plus extension cables as an option.

Extension cables for proximity switches/ magnetic switches for MEG IC

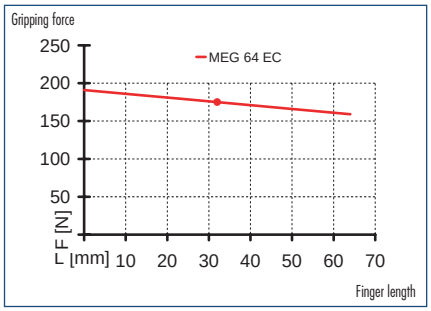
Designation	ID
GK 3-M8	0301622
KV 10-M12	0301596
KV 10-M8	0301496
KV 20-M12	0301597
KV 20-M8	0301497
KV 3-M12	0301595
KV 3-M8	0301495
W 3-M12	0301503
W 5-M12	0301507
WK 3-M8	0301594
WK 5-M8	0301502

ⓘ Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

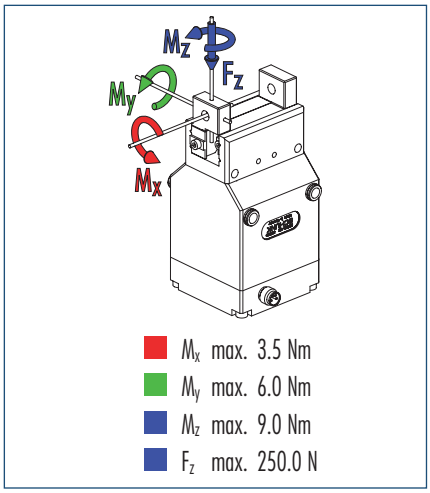
You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.

MEG 64

Gripping force



Finger load

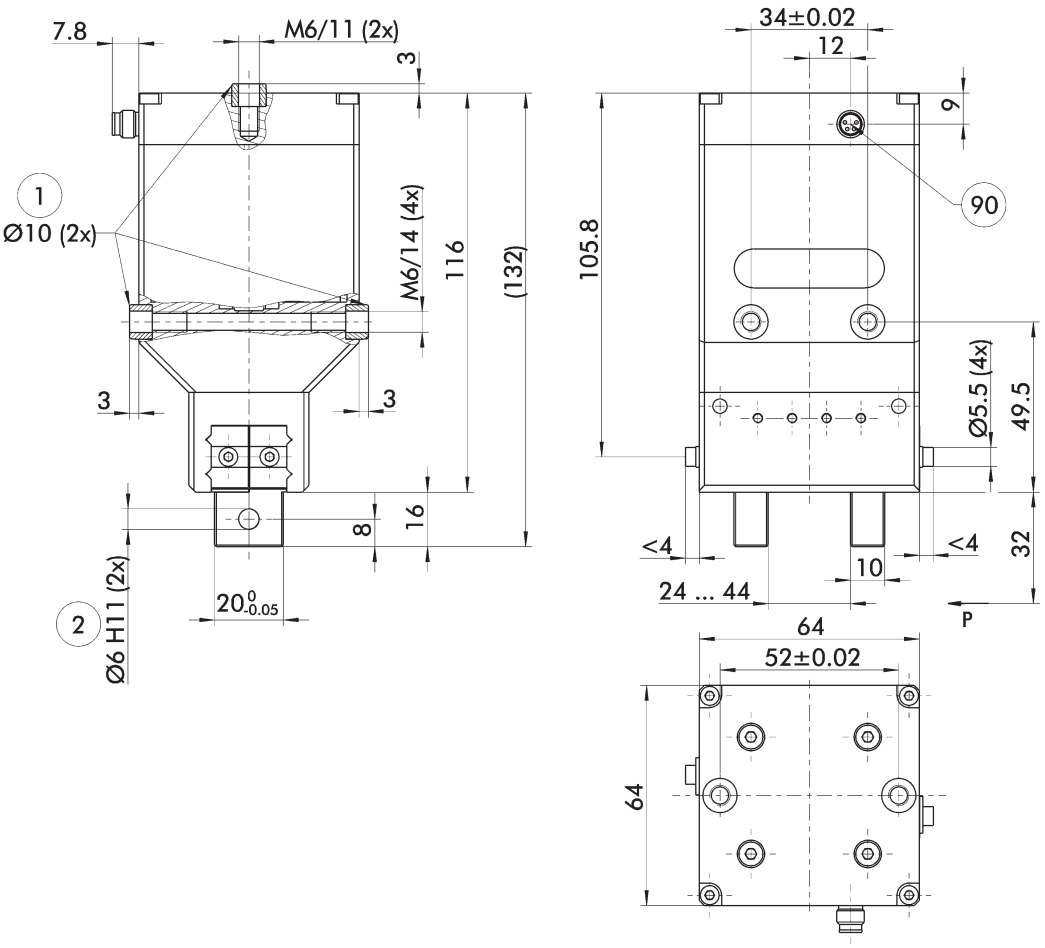


ⓘ Moments and forces apply per base jaw and may occur simultaneously. M_y may arise in addition to the moment generated by the gripping force itself. If the max. permitted finger weight is exceeded, it is imperative to reduce the speed so that the jaw movement occurs without any hitting or bouncing. Tool life may be reduced.

Technical data

Designation		MEG 64 EC
Mechanical gripper operating data	**ID**	**0306012**
Stroke per finger	[mm]	10.0
Constant gripping force (100 % continuous duty)	[N]	175.0
Max. gripping force	[N]	175.0
Min. gripping force	[N]	on request
Weight	[kg]	1.42
Recommended workpiece weight	[kg]	0.85
Closing time	[s]	0.6
Opening time	[s]	0.6
Max. permitted finger length	[mm]	64.0
Max. permitted weight per finger	[kg]	0.24
IP rating		30
Min. ambient temperature	[°C]	5.0
Max. ambient temperature	[°C]	65.0
Repeat accuracy	[mm]	0.02
Positioning accuracy	[mm]	on request
Max. speed	[mm/s]	17.0
Electrical operating data for gripper		
Nominal voltage	[V]	24.0
Nominal current	[A]	1.3
Maximum current	[A]	1.3
Controller operating data	**ID**	**0307006**
Integrated electronics		No
Voltage supply	[VDC]	24.0
Nominal current	[A]	2.0
Maximum current	[A]	5.0
Sensor system		not available
Interface		input/output
Weight	[kg]	0.3
IP rating		30

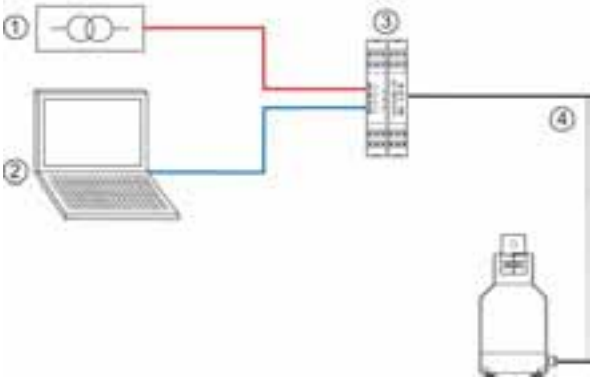
Main views of the MEG 64 EC



The drawing shows the gripper in the basic version with closed jaws, the dimensions do not include the options described below.

① Gripper connection
② Finger connection
90 4-pin connector M8x1 Woodhead Type 0908 047EM 04005

MEG EC control



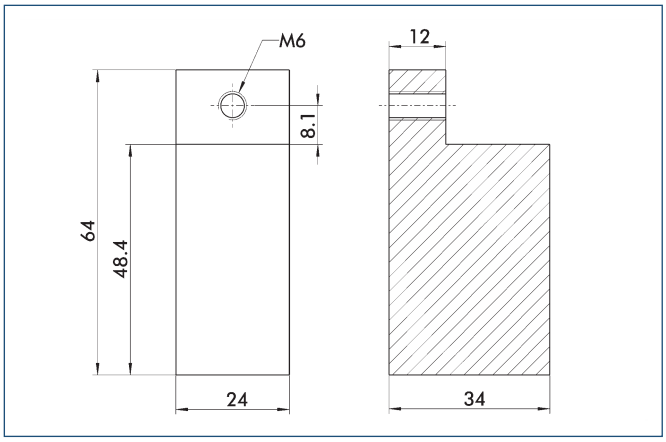
① 24 VDC voltage supply provided by the customer
② Control (PLC or similar) provided by the customer
③ MEG-C external control electronics
④ Connecting cable for control electronics/gripper

Connecting cable for MEG EC

Designation	ID	Length
MEG-EC-K5-W	0307765	5 m
MEG-EC-K10-W	0307766	10 m
MEG-EC-K5-G	0307767	5 m
MEG-EC-K10-G	0307768	10 m

The designations -W and -G indicate the shape of the connectors (W = right-angle version, G = straight version)

Finger blanks



Finger blanks for customized subsequent machining, incl. screw connection diagram

Designation	Housing material	Scope of delivery	ID
ABR 64	Aluminum	2	0340215

You can find more detailed information and individual parts of the above-mentioned accessories in the "Accessories" catalog section.