

## Rotary gripper modules EHMD

**FESTO**



## Key features

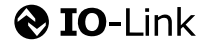
### At a glance

- The rotary gripper module is a compact module for handling small parts.
- The rotary motion is generated by a stepper motor.
- The gripping motion is generated either electrically via a stepper motor or pneumatically via a cylinder.
- The gripper can grip in force mode when combined with the motor controller CMMO-ST or CMMT-ST. This enables flexible gripping.

### Applications:

- Pick & place small parts from trays and tablets
- Fitting and removing cover caps on vials

- The motor controller CMMO-ST or CMMT-ST is a closed-loop and open-loop position controller
- Monitoring of freely defined positions and torque ranges
- Easy activation via:
  - I/O interface
  - IO-Link or I-Port (CMMO-ST)
  - Modbus TCP (CMMO-ST, CMMT-ST)
  - EtherCAT (CMMT-ST)
  - PROFINET (CMMT-ST)
  - EtherNet/IP (CMMT-ST)



### Everything from a single source



Rotary module  
EHMD  
→ page 5



Motor controller  
CMMO-ST  
→ page 24



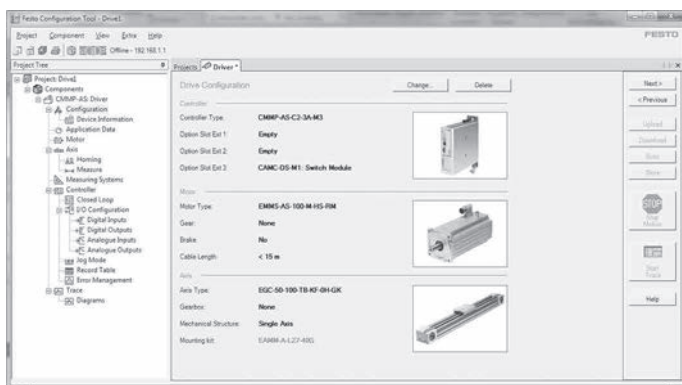
Servo drive  
CMMT-ST  
→ page 24



Gripper jaw blanks  
BUB-HGPT  
→ page 23

### FCT software – Festo Configuration Tool

Software platform for electric drives from Festo (→ [www.festo.com/sp/fct](http://www.festo.com/sp/fct))



- All drives in a system can be managed and saved in a common project
- Project and data management for all supported types of equipment
- Easy to use thanks to graphically supported parameter entry
- Universal mode of operation for all drives
- Work offline at your desk or online at the machine

## Key features

## The technology in detail

## Rotation

## Closed-loop control

- Makes it possible to control the motor torque via the motor current, so the torque can be limited when screwing on a cover cap
- No step loss is possible in the event of overload
- It is possible to use the entire output torque of the motor

## Open-loop control

- The motor is actuated in microstep operation with a constant, defined phase current
- Reduction of the holding current is required to prevent overheating
- A torque reserve is required to prevent step losses

## Homing

- The encoder zero pulse can be used to home the axis of rotation
- One zero pulse per revolution
- Defined angular orientation based on this zero pulse

## Gripping

## Closed-loop control

- Makes it possible to control the motor torque via the motor current
- The gripping force of the gripper can be set by a limited driving torque of the lead screw

## Open-loop control

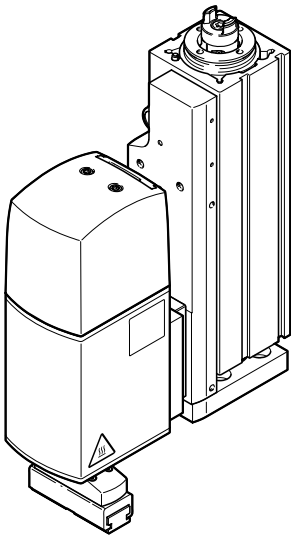
- The motor is actuated in microstep operation with a constant, defined phase current
- Reduction of the holding current is required to prevent overheating
- The gripper drive is spring-mounted for force setting, so that defined gripping forces can be set in positioning mode

## Homing

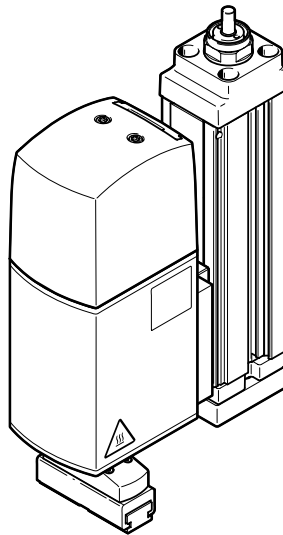
- Gripper motor has an incremental encoder. No limit switch is present
- In the opening direction, homing must be to a stop

## Combinations comprising mini slides EGSC-BS, EGSL and electric slide EGSK

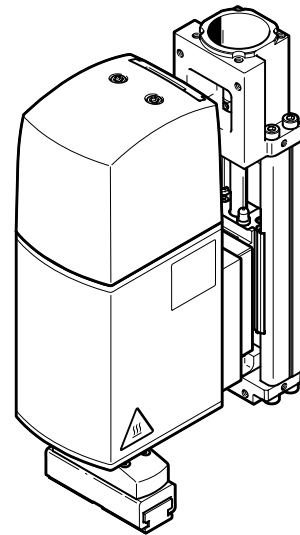
## With mini slide EGSC-BS-25/32



## With mini slide EGSL-BS-35/45



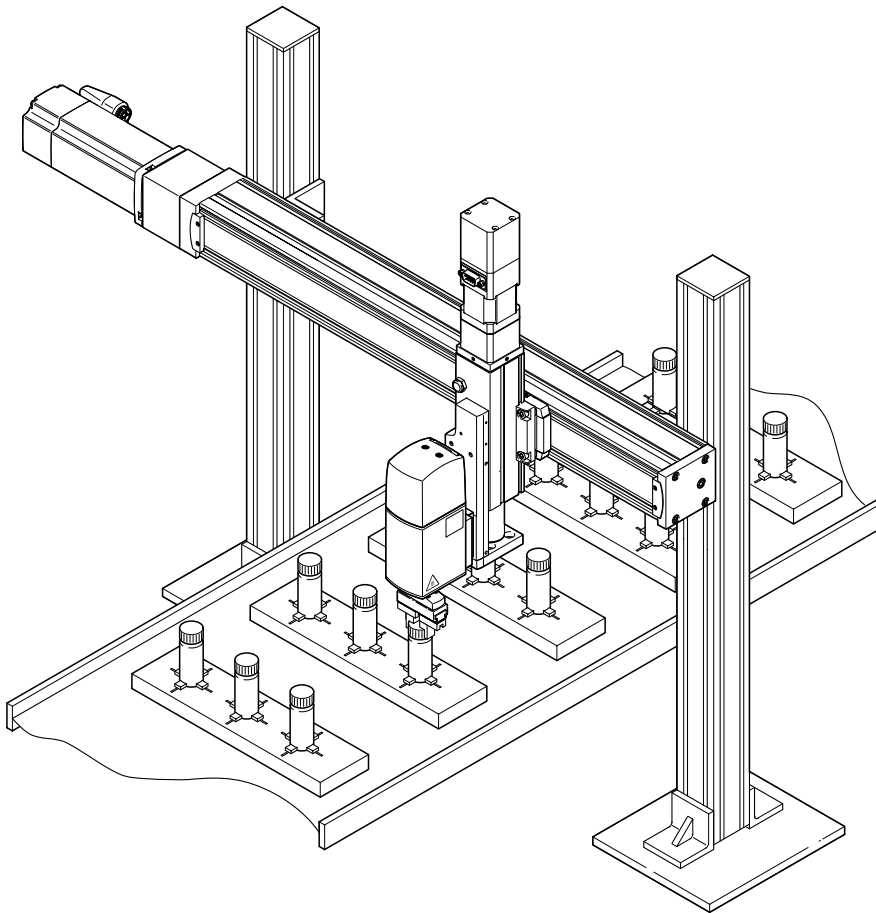
## With electric slide EGSK-20/26



## Key features

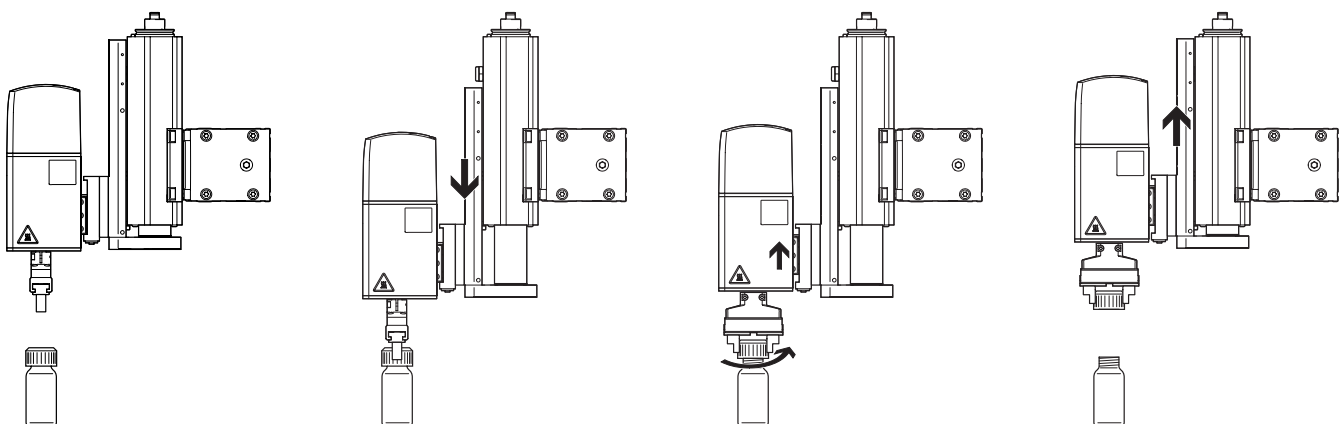
### Application example

Fitting and removing cover caps on vials



### Screwing cover caps onto vials and removing them

- Mini slide EGSC-BS retracted
- Mounting EHAM-E20
- Mini slide EGSC-BS extends
- Rotary gripper module EHMD grips the cap
- Rotary gripper module EHMD turns and removes the cap from the vial
- The mounting EHAM-E20 takes on the Z-compensation without the need to move the mini slide (Z-axis)
- Once the cap has been removed, the mini slide EGSC-BS retracts
- The Z-compensation moves back into the lower end position due to the weight



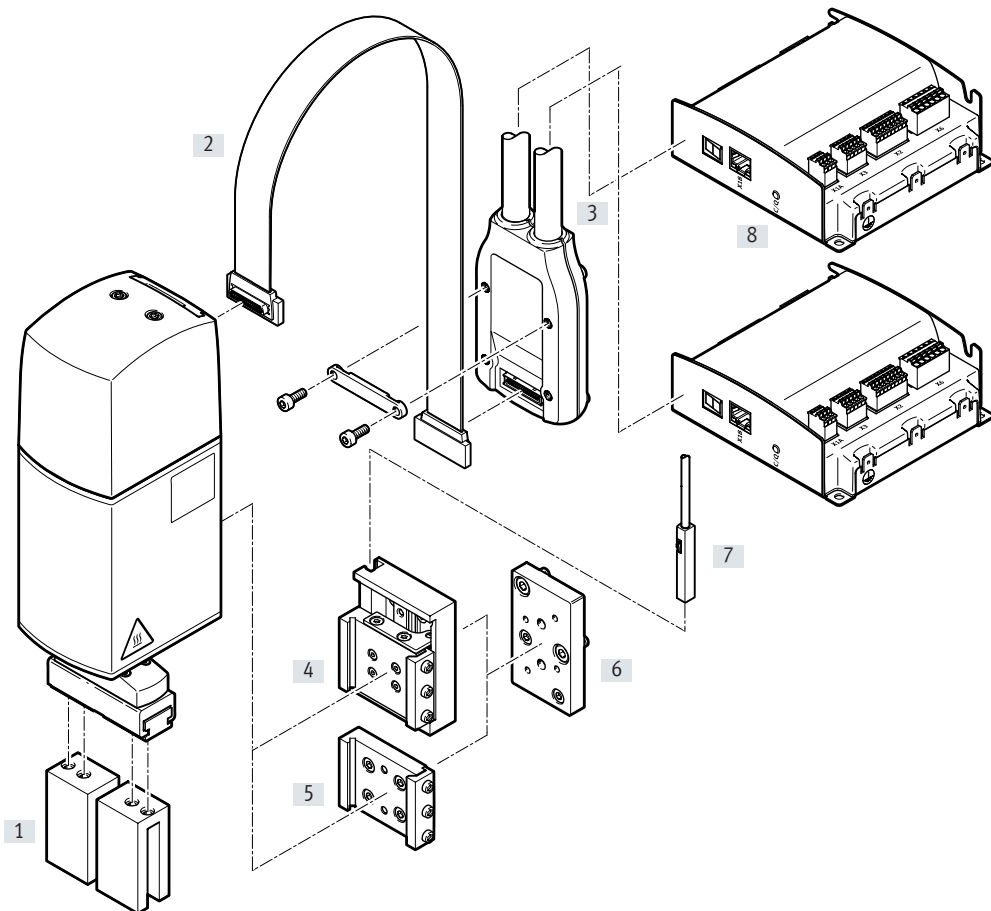
## Type codes

001	Series	
<b>EHMD</b>	Rotary gripper module	
002	Size	
<b>40</b>	40	
003	Rotary module drive system	
<b>RE</b>	Electric	

004	Gripper drive system	
<b>GP</b>	Pneumatic	
<b>GE</b>	Electric	
005	Stroke per gripper jaw [mm]	
<b>16</b>	16	

Peripherals overview

**EHMD-40-RE-GE – Electric gripping**

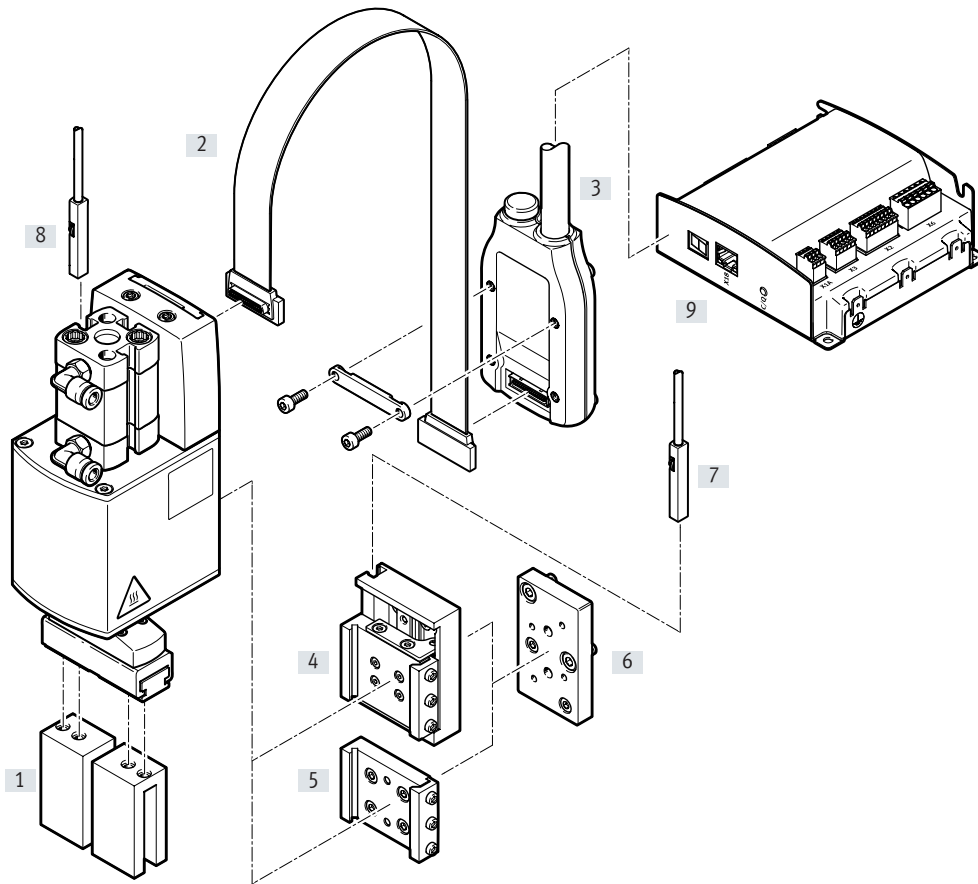


**Note**  
The gripper is only intended as an external gripper (in the closing direction).

Accessories		
Type/order code	Description	→ Page/Internet
[1] Gripper jaw blank BUB-HGPT-16-B	<ul style="list-style-type: none"> <li>Blanks specially matched to the gripper jaws for manufacturing gripper fingers</li> <li>Not permitted for EHMD-40-RE-GE-16</li> </ul>	23
[2] Motor cable NEBM-F1W31	<ul style="list-style-type: none"> <li>Connecting cable between EHMD and motor cable NEBM-SF1</li> <li>The cable is mandatory for compliance with the EMC Directive</li> </ul>	24
[3] Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST or CMMT-ST	24
[4] Mounting (with Z-compensation) EHAM-E20-40-Z	<ul style="list-style-type: none"> <li>Mounting option via dovetail mounting.</li> <li>The mounting makes it possible to fit or remove cover caps on vials, for example, without additional Z-axis (Z-compensation = 12 mm).</li> </ul>	20
[5] Mounting (rigid) EHAM-E20-40	Mounting option via dovetail mounting	21
[6] Adapter kit EHAM-E20-40-E...	For attaching the mountings to the Z-axes: <ul style="list-style-type: none"> <li>Mini slide EGSC-BS-25/32</li> <li>Mini slide EGSL-BS-35/45</li> <li>Electric slide EGSK-20/26</li> </ul>	22
[7] Proximity sensor, T-slot SIES-M8	Inductive proximity sensor for sensing the Z-compensation position	25
[8] Motor controller CMMO-ST	For positioning the rotary or gripping motion	24

Peripherals overview

EHMD-40-RE-GP – Pneumatic gripping



**Note**  
The gripper is only intended as an external gripper (in the closing direction).

Accessories		
Type/order code	Description	→ Page/Internet
[1] Gripper jaw blank BUB-HGPT-16-B	Blanks specially matched to the gripper jaws for manufacturing gripper fingers	23
[2] Motor cable NEBM-F1W31	<ul style="list-style-type: none"> <li>Connecting cable between EHMD and motor cable NEBM-SF1</li> <li>The cable is mandatory for compliance with the EMC Directive</li> </ul>	24
[3] Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST or CMMT-ST	24
[4] Mounting (with Z-compensation) EHAM-E20-40-Z	<ul style="list-style-type: none"> <li>Mounting option via dovetail mounting.</li> <li>The mounting makes it possible to fit or remove cover caps on vials, for example, without additional Z-axis (Z-compensation = 12 mm).</li> </ul>	20
[5] Mounting (rigid) EHAM-E20-40	Mounting option via dovetail mounting	21
[6] Adapter kit EHAM-E20-40-E...	For attaching the mountings to the Z-axes: <ul style="list-style-type: none"> <li>Mini slide EGSC-BS-25/32</li> <li>Mini slide EGSL-BS-35/45</li> <li>Electric slide EGSK-20/26</li> </ul>	22
[7] Proximity sensor, T-slot SIES-M8	Inductive proximity sensor for sensing the Z-compensation position	25
[8] Proximity sensor, T-slot SME/SMT-M8	Proximity sensor for sensing the position of the gripper fingers (open/closed)	25
[9] Motor controller CMMO-ST	For positioning the rotary or gripping motion	24

## Data sheet

≡ Output torque  
 0.3 Nm

↶ Rotation angle  
 Infinite

| Total stroke  
 32 mm

Actuation via:

- Motor controller CMMO-ST or servo drive CMMT-ST
- Controller for stepper motors with encoder input



General technical data			
Type	EHMD-...		
	-GE	-GE-16	-GP
Design	Electric rotary drive		Electric rotary drive
	Electric gripper		Pneumatic gripper
Motor type	Stepper motor		
Position sensing			
Rotation	Motor encoder		
Gripping	Motor encoder		Slot for proximity sensor
Homing			
Rotation	Encoder index		
Gripping	Fixed-stop block		-
Gripper function	Parallel		
Rotation angle	Infinite		
Number of gripper jaws	2		
Stroke per gripper jaw	[mm]	0 ... 5	0 ... 15
Rated load <sup>1)</sup>	[g]	250	
Type of mounting	Via dovetail slot		
Mounting position	Any		
Product weight	[g]	681	724
			577


1) Rated load = gripper fingers + payload

Technical data – Rotation			
Type	EHMD-...		
	-GE	-GE-16	-GP
Design	Electric rotary drive		Electric rotary drive
Max. output torque	[Nm]	0.3	
Max. output speed	[rpm]	240	
Functional principle	Stepper motor, direct drive		
Nominal voltage	[V DC]	24	
Nominal current	[A]	0.9	
Holding torque at nominal current	[Nm]	0.3	
Resistance per phase	[Ω]	5.8 ±15%	
Inductance per phase	[mH]	11 ±20%	
Step angle	[°]	1.8 ±5%	
Moment of inertia	[kgm <sup>2</sup> ]	1.25x 10 <sup>-5</sup>	2.34x 10 <sup>-5</sup>
Electrical connection	Plug		
	Plug pattern F1		
<b>Encoder</b>			
Operating voltage	[V DC]	5 ±10%	
Current consumption (without load)	[mA]	60	
Pulses/revolution	[1/rev]	500	
Rotor position encoder	RS422 TTL AB-channel + zero index		
	Incremental		
Rotor position encoder measuring principle	Optical		



## Data sheet

Technical data – Gripping			
Type	EHMD-...		
	-GE	-GE-16	-GP
Design	Electric gripper		Pneumatic gripper
Gripping force per gripper jaw	[N]	7 ... 35	5 ... 35
Max. gripping force			
Closed-loop control mode	[N]	35	14
Open-loop control mode	[N]	20 ... 25	6 ... 8
Residual gripping force <sup>1)</sup>	[N]	> 10	> 4
Gripping force per gripper jaw at 6 bar, closing	[N]	–	25
Minimum gripping force	[N]	7	5
Pneumatic connection		–	QS-4
Functional principle	Stepper motor with lead screw		–
Nominal voltage	[V DC]	24	–
Nominal current	[A]	0.5	–
Holding torque at nominal current	[Nm]	0.043	–
Resistance per phase	[Ω]	5.6 ±15%	–
Inductance per phase	[mH]	4.0 ±20%	–
Step angle	[°]	1.8 ±5%	–
Moment of inertia	[kgm <sup>2</sup> ]	9x 10 <sup>-7</sup>	–
Max. motor speed	[rpm]	1000	–
Feed constant	[mm/rev]	1.478	4.4
Max. speed per gripper jaw	[mm/s]	25	70
Permissible speed for homing to stop	[mm/s]	2	5
Reversing backlash	[mm]	0.3	0.8
Electrical connection	Plug		–
	Plug pattern F1		–
<b>Encoder</b>			
Operating voltage	[V DC]	5 ±10%	–
Current consumption (without load)	[mA]	30	–
Pulses/revolution	[1/rev]	500	–
Rotor position encoder	RS422 TTL AB-channel + zero index		–
	Incremental		–
Rotor position encoder measuring principle	Optical		–

 **Note**

- 1) In the event of a power failure, a residual gripping force (gripping force back-up) is ensured by the mechanical design. However, the maximum gripping force cannot be maintained.

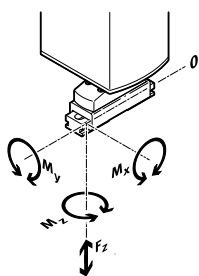
## Data sheet

Operating and environmental conditions		EHMD-...		
		-GE	-GE-16	-GP
Type				
Operating pressure	[bar]	-		1.5 ... 8
Operating medium		-		Compressed air to ISO 8573-1:2010 [7:4:4]
Note on the operating/pilot medium		-		Operation with lubricated medium possible (in which case lubricated operation will always be required)
Ambient temperature	[°C]	0 ... +40		
Storage temperature	[°C]	-20 ... +70		
Relative humidity	[%]	0 ... 85 (non-condensing)		
Degree of protection		IP20		
Insulation class		B		
Duty cycle	[%]	100		
Corrosion resistance class CRC <sup>1)</sup>		1		
CE marking (see declaration of conformity) <sup>3)</sup>		To EU EMC Directive <sup>2)</sup> (with shielded cables and a cable length of max. 30 m)		
UKCA marking (see declaration of conformity)		To UK instructions for EMC		
KC mark		KC EMC		
Certification		RCM compliance mark		
Food-safe <sup>3)</sup>		See supplementary material information		

- Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- For information about the area of use, see the EC declaration of conformity at: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.  
If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.
- Additional information: [www.festo.com/sp](http://www.festo.com/sp) → Certificates.

Materials		EHMD-...		
		-GE	-GE-16	-GP
Type				
Cover		Reinforced PA		PA
Housing		Anodised wrought aluminium alloy		
Tie rod		Stainless steel		
Gripper kinematics		Tempered steel	Stainless steel	Tempered steel
Note on materials		Contains paint-wetting impairment substances		
		RoHS-compliant		

## Static characteristic load values at the gripper jaws



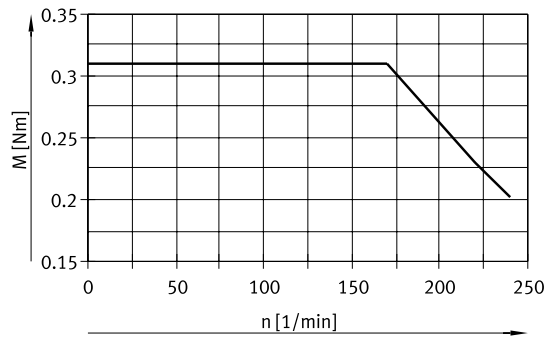
The indicated permissible forces and torques apply to a single gripper jaw. They include the lever arm, additional weight forces created by the workpiece or external gripper fingers and acceleration forces during movement. The zero coordinate line (gripper jaw guide) must be taken into consideration for the calculation of torques.

Type		EHMD-...		
		-GE	-GE-16	-GP
Max. permissible force $F_x$	[N]	30		
Max. permissible force $F_z$	[N]	30		
Max. permissible torque $M_x$	[Nm]	0.7	1.5	0.7
Max. permissible torque $M_y$	[Nm]	1.5	1.5	1.5
Max. permissible torque $M_z$	[Nm]	0.7	1.5	0.7

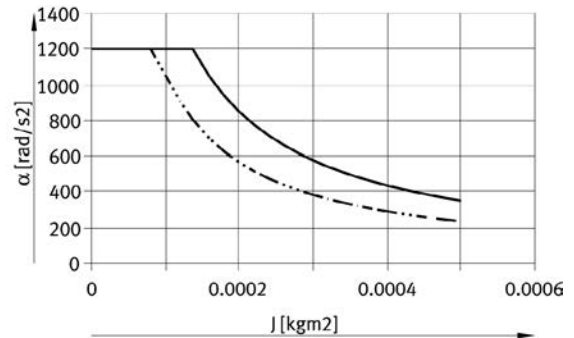
Data sheet

Graphs for rotation

Torque M as a function of rotational speed n



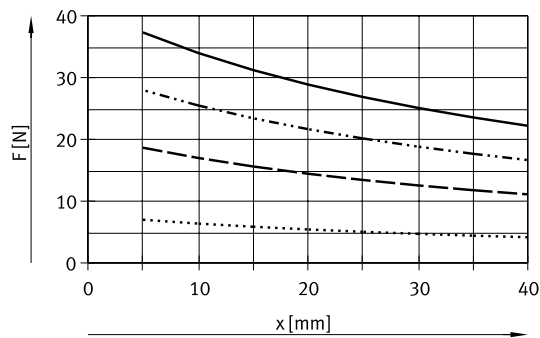
Angular acceleration as a function of moment of inertia J



- Closed-loop control
- - - Open-loop control

Graphs for gripping, pneumatic

Gripping force F as a function of lever arm x and operating pressure d

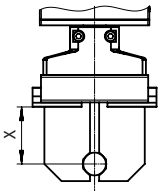


- d = 8 bar
- - - d = 6 bar
- · - d = 4 bar
- d = 1.5 bar

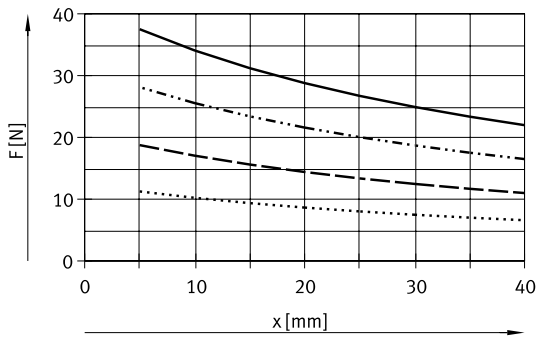
Data sheet

Graphs for electric gripping with CMMO-ST or CMMT-ST

Gripping force F as a function of lever arm x and force specification

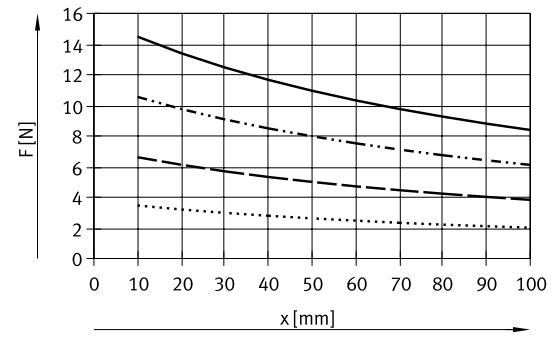


EHMD-...-GE



- 100%
- · - · 75%
- - - 50%
- · · · · 30%

EHMD-...-GE-16

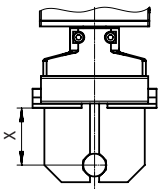


For EHMD-...-GE-16:

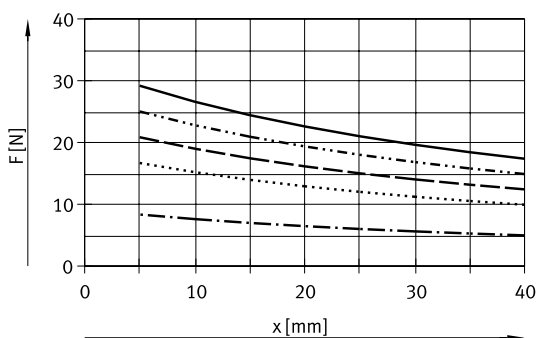
The characteristic curves show typical gripping forces in the new state. Depending on the function, these may fluctuate as a result of internal friction.

Graphs for electric gripping with motor controller (without torque control)

Gripping force F as a function of lever arm x and additional path

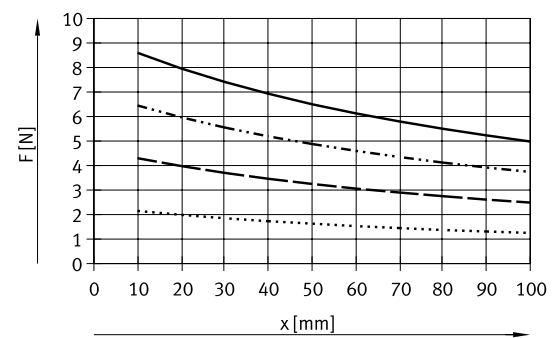


EHMD-...-GE



- 0.7 mm
- · - · 0.6 mm
- - - 0.5 mm
- · · · · 0.4 mm
- · - · 0.2 mm

EHMD-...-GE-16



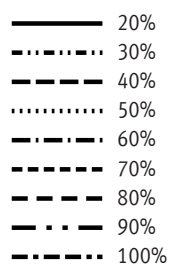
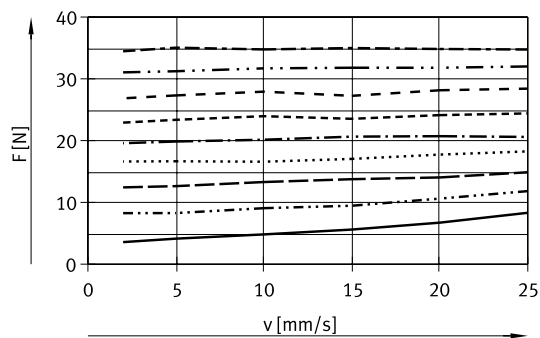
- 2 mm
- · - · 1.5 mm
- - - 1 mm
- · · · · 0.5 mm

## Data sheet

Gripping force  $F$  as a function of velocity  $v$ 

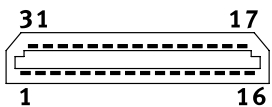
Requirement:

- Motor controller CMMO-ST or CMMT-ST in force mode
- Ambient temperature = 25°C



Data sheet

**Pin allocation**



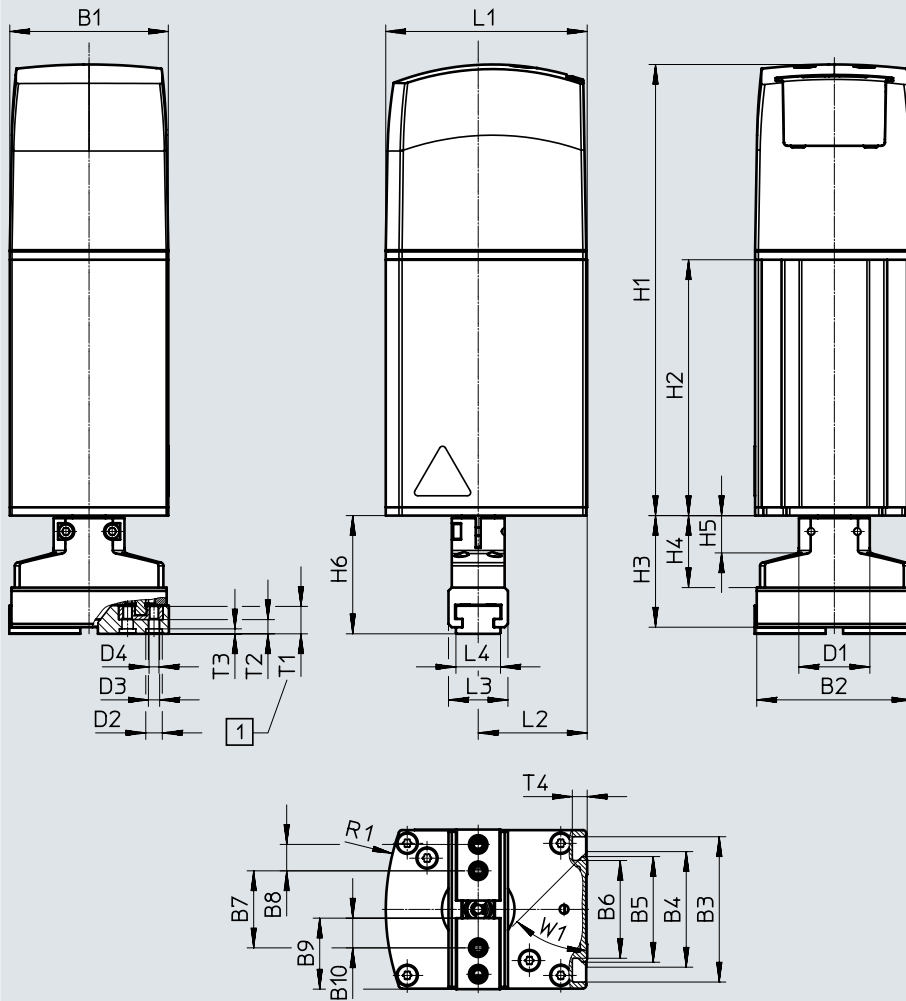
PIN	Function EHMD-...-GE	EHMD-...-GP
1	Encoder for rotation I	Encoder for rotation I
2	Encoder for rotation B	Encoder for rotation B
3	Encoder for rotation A	Encoder for rotation A
4	Encoder for gripper I	-
5	Encoder for gripper B	-
6	Encoder for gripper A	-
7	Shield	Shield
8	+5 V DC encoder for gripper	-
9	+5 V DC encoder for rotation	+5 V DC encoder for rotation
10	Shield	Shield
11	Motor for rotation phase B	Motor for rotation phase B
12	Motor for rotation phase B	Motor for rotation phase B
13	Motor for rotation phase A	Motor for rotation phase A
14	Motor for rotation phase A	Motor for rotation phase A
15	Motor for gripper phase B	-
16	Motor for gripper phase A	-
17	Motor for gripper phase A/	-
18	Motor for gripper phase B/	-
19	Motor for rotation phase A/	Motor for rotation phase A/
20	Motor for rotation phase A/	Motor for rotation phase A/
21	Motor for rotation phase B/	Motor for rotation phase B/
22	Motor for rotation phase B/	Motor for rotation phase B/
23	Shield	Shield
24	GND encoder	GND encoder
25	Shield	Shield
26	Encoder for gripper A/	-
27	Encoder for gripper B/	-
28	Encoder for gripper I/	-
29	Encoder for rotation A/	Encoder for rotation A/
30	Encoder for rotation B/	Encoder for rotation B/
31	Encoder for rotation I/	Encoder for rotation I/

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EHMD-...-GE



[1] Max. screw-in depth  
Included in the scope of delivery:  
4x screws M3x12  
4x centring sleeves ZBH-5  
(for gripper fingers)

Type	B1	B2	B3	B4	B5	B6	B7		B8	B9
							min.	max.		
EHMD-...-GE	48	47	44	±0.15 35	32	29.6	18	28	±0.08 8	21.5

Type	B10	D1	D2	D3	D4	H1	H2	H3	H4	H5	H6
EHMD-...-GE	9	21.5	5 ∅ H9	3.4 ∅	M3	136.6	77.5	33.8	21.8	11.3	35.8

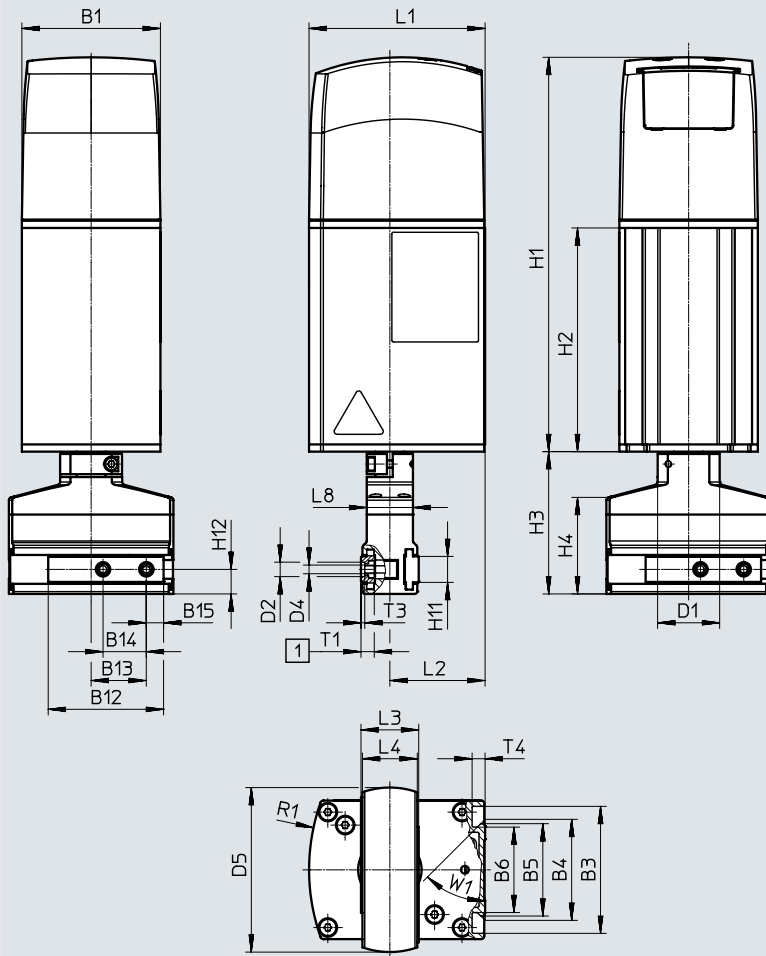
Type	L1	L2	L3	L4	R1	T1	T2	T3	T4	W1
EHMD-...-GE	61	33	18	13.5	70	8.3	4.3	1.5	4.5	45°

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EHMD-...-GE-16



[1] Max. screw-in depth

Type	B1	B3	B4 ±0.15	B5	B6	B12	B13		B14	B15
							min.	max.		
EHMD-...-GE-16	48	44	35	32	29.6	40	6	22	15	6

Type	D1 ∅	D2 ∅ H8	D4	D5 ∅	H1	H2	H3	H4	H11	H12
EHMD-...-GE-16	21.5	5	M3	57	136.6	77.5	49.3	33.2	9	8.5

Type	L1	L2	L3	L4	L8	R1	T1	T3	T4	W1
EHMD-...-GE-16	61	33	20	19	16	70	4.6	1.3	4.5	45°

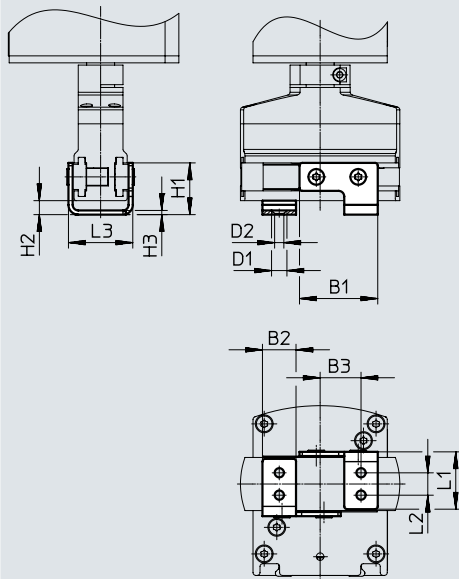


Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EHMD-...-GE-16 with bracket for gripper jaw mounting



 **Note**

Included in the scope of delivery of the gripper:

- 2x brackets
- 8x countersunk screws M3x6
- 4x centring sleeves ZBH-5

Type	B1	B2	B3		D1 ∅	D2 ∅	H1
			min.	max.			
EHMD-...-GE-16	28	12	7	23	5.5	3.3	18.5

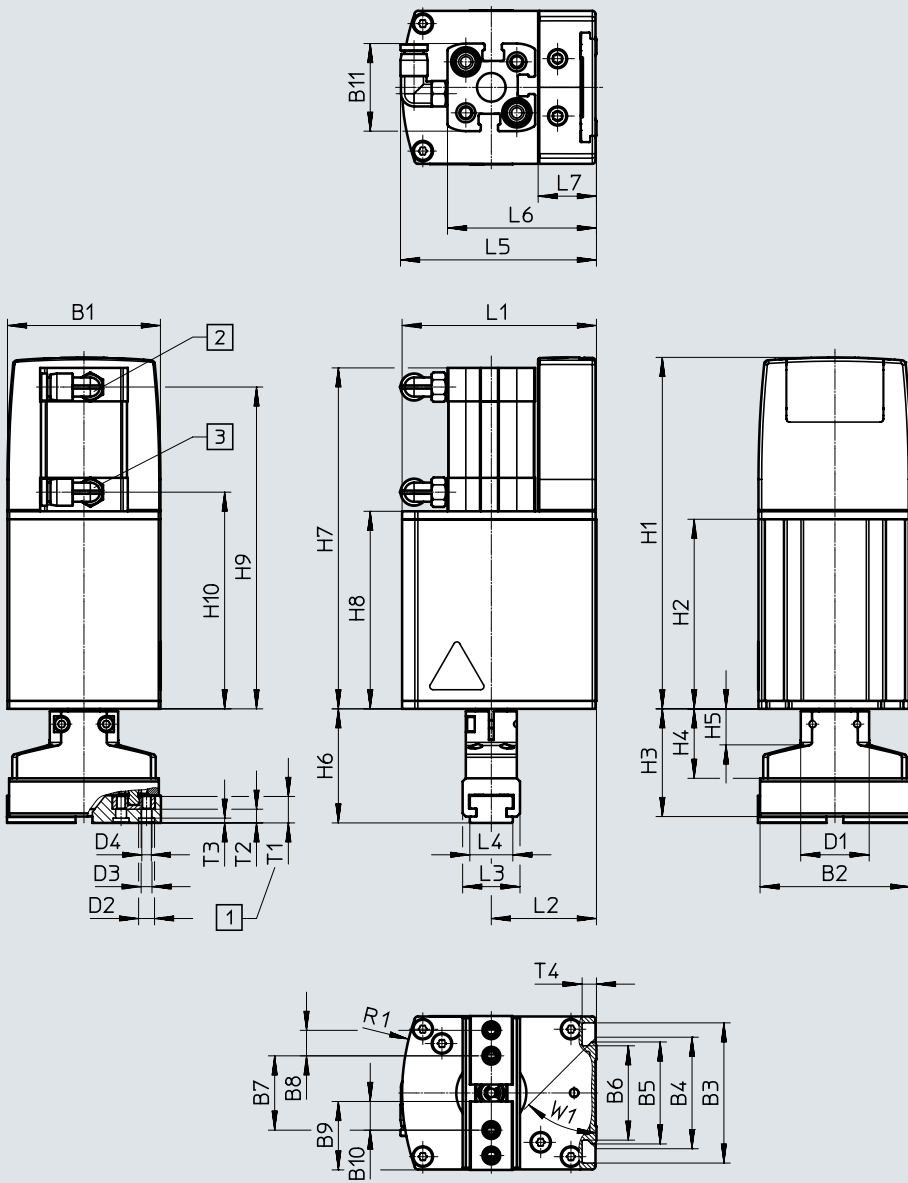
Type	H2	H3	L1	L2	L3	L4
EHMD-...-GE-16	5	1.5	20.5	8	23	19

Data sheet

Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

EHMD-...-GP



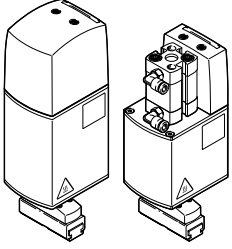
- [1] Max. screw-in depth  
Included in the scope of delivery:  
4x screws M3x12  
4x centring sleeves ZBH-5  
(for gripper fingers)  
Push-in fitting for
- [2] Opening the gripper
- [3] Closing the gripper

Type	B1	B2	B3	B4	B5	B6	B7		B8	B9	B10	B11	D1
							min.	max.					
EHMD-...-GP	48	47	44	35 ±0.15	32	29.6	18	28	8 ±0.08	21.5	9	27.5	21.5 ∅

Type	D2 ∅ H9	D3 ∅	D4	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
EHMD-...-GP	5	3.4	M3	110.3	59.5	33.8	21.8	11.3	35.8	107	62	101	68

Type	L1	L2	L3	L4	L5	L6	L7	R1	T1	T2	T3	T4	W1
EHMD-...-GP	61	33	18	13.5	61.5	46.8	18.3	70	8.3	4.3	1.5	4.5	45°

## Data sheet

Ordering data	Drive type		Max. stroke per gripper jaw	Part no.	Type
	Rotation	Gripping			
	Electric	Electric	5	4788875	EHMD-40-RE-GE
			15	8099502	EHMD-40-RE-GE-16
	Electric	Pneumatic	5	4790698	EHMD-40-RE-GP

## Accessories

### Mounting EHAM-E20-40-Z

Mounting position: vertical

Material:

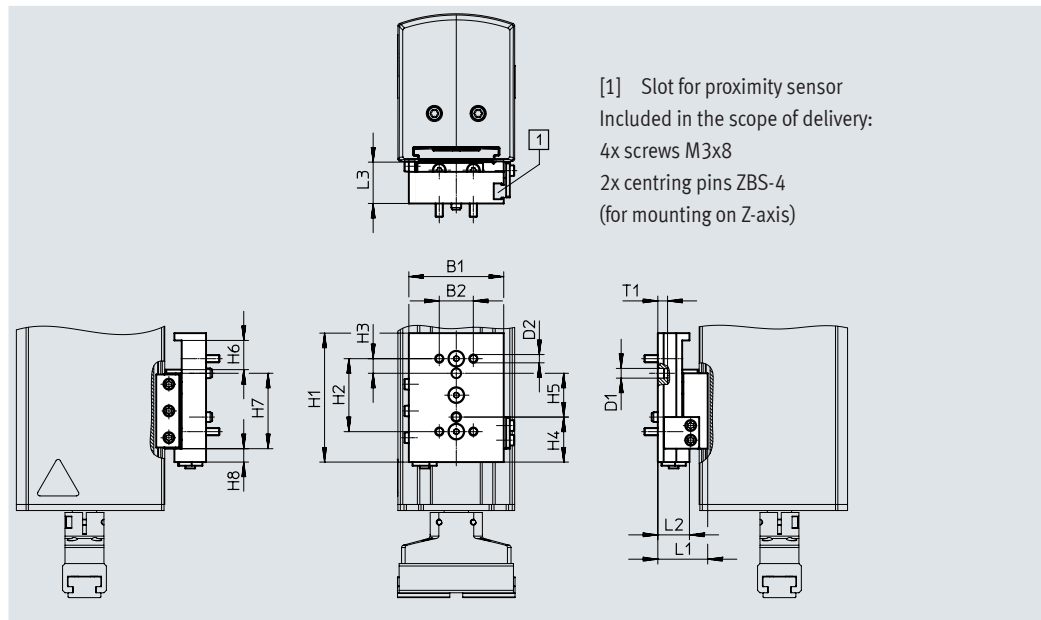
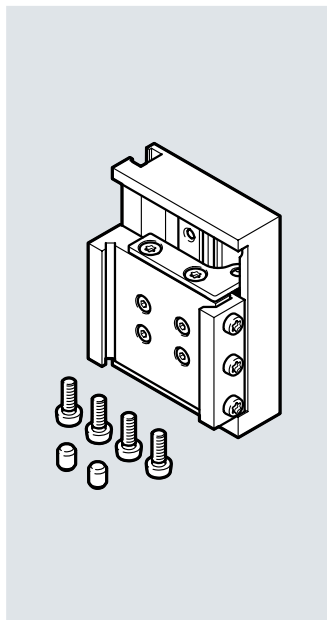
Wrought aluminium alloy

RoHS-compliant

Contains paint-wetting impairment substances

Mounting option via dovetail mounting.

The mounting compensates for the thread pitch when turning (fitting/removing) cover caps on vials without needing additional movement of the Z-axis. (Z-compensation = 12 mm)



#### Dimensions and ordering data

For size	B1	B2	D1 ∅ H8	D3 ∅	H1	H2	H3	H4	H5 ±0.05	H6
40	39	14	4	3.4	53	30	6	18.5	18	12

For size	H7	H8	L1	L2	L3	T1	Weight [g]	Part no.	Type
40	31	5.5	20.5	13	17	2.5	82	<b>5293408</b>	<b>EHAM-E20-40-Z</b>

Accessories

**Mounting EHAM-E20-40**

Mounting position: Any

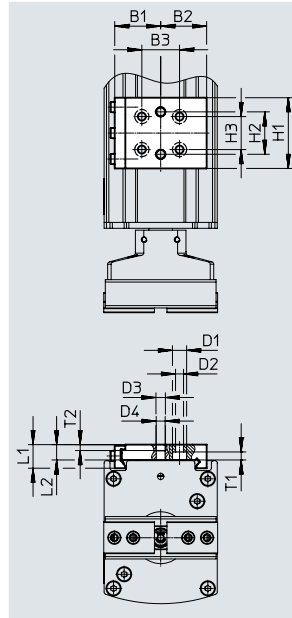
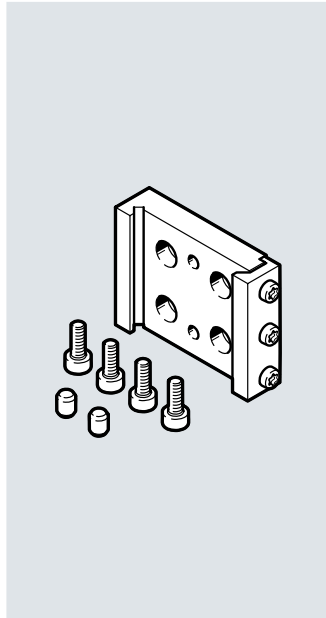
Material:

Wrought aluminium alloy

RoHS-compliant

Contains paint-wetting impairment substances

Rigid mounting option via dovetail mounting.



Included in the scope of delivery:  
 4x screws M3x8  
 2x centring pins ZBS-4  
 (for mounting on Z-axis)

**Dimensions and ordering data**

For size	B1	B2	B3	D1	D2	D3	D4	H1
40	19.5	19.5	16	6	3.4	4	3.8	30

For size	H2	H3	L1	L2	T1	T2	Weight	Part no.	Type
40	±0.05	14	10	6.5	3.4	2.5	26	4991965	EHAM-E20-40

Accessories

**Mounting EHAM-E20-40-E...**

Mounting position: Any

Material:

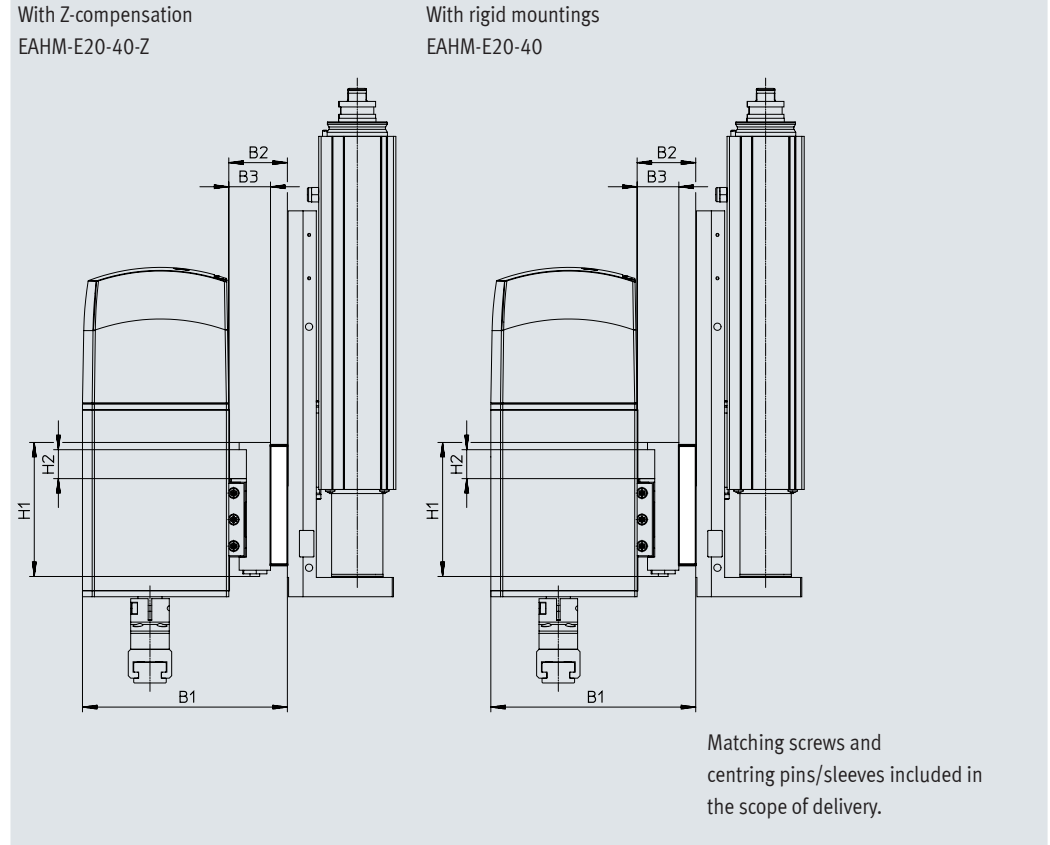
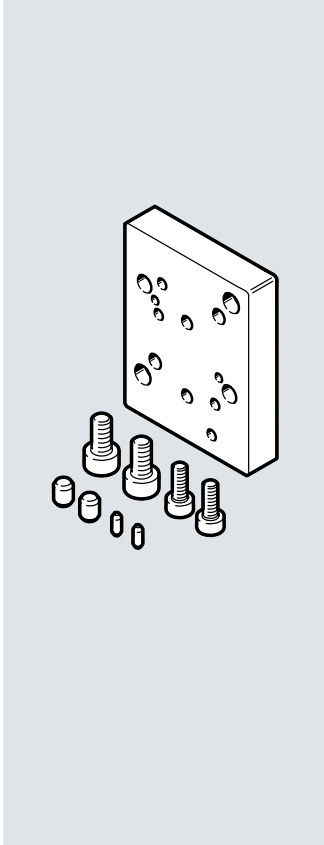
Wrought aluminium alloy

RoHS-compliant

Contains paint-wetting impairment substances

For attaching the mountings to the Z-axes:

- Mini slide EGSC-BS-25/32
- Mini slide EGSL-BS-35/45
- Electric slide EGSK-20/26



**Dimensions and ordering data**

For Z-axis	B1	B2	B3	H1	H2 <sup>1)</sup>	Weight [g]	Part no.	Type
<b>And flexible mounting EHAM-E20-40-Z</b>								
EGSC-BS-25/32	85	24.3	17.3	55.6	12	30	8080760	EHAM-E20-40-E19-25
EGSL-BS-35/45						24	8081015	EHAM-E20-40-E8-35
EGSK-20/26						36	8081016	EHAM-E20-40-E9-20
<b>And rigid mounting EHAM-E20-40</b>								
EGSC-BS-25/32	74.5	13.8	6.8	30	-	30	8080760	EHAM-E20-40-E19-25
EGSL-BS-35/45						24	8081015	EHAM-E20-40-E8-35
EGSK-20/26						36	8081016	EHAM-E20-40-E9-20

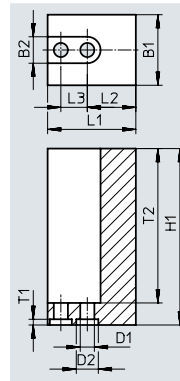
1) Automatic Z-stroke compensation.

Accessories

**Gripper jaw blank BUB-HGPT**  
 (2 included in the scope of delivery)  
 Not included in the scope of delivery of  
 the rotary gripper module.

Material:  
 Aluminium

Not permitted for  
 EHMD-40-RE-GE-16



**Note**

Use the matching screws and centring sleeves included with the rotary gripper module EHMD to mount it.

**Dimensions and ordering data**

For size	B1	B2	D1	D2	D3	H1	L1
	±0.05	H13	∅ H13	∅ H8	∅ H13	±0.05	±0.05
40	16	6	3.2	5	–	40	21

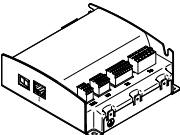
For size	L2 <sup>1)</sup>	L3 <sup>1)</sup>	T1	T2	Weight per blank [g]	Part no.	Type
			+0.1				
40	10	8	1.3	35	29	560244	BUB-HGPT-16-B

1) Tolerance for centring hole ±0.02 mm  
 Tolerance for through-hole ±0.1 mm


Accessories

Ordering data – Motor controller

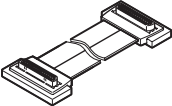
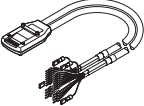
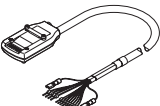
Data sheets → Internet: cmmo

	Description	Part no.	Type
	<b>With I/O interface</b>		
	Switching input/output PNP	1512316	CMMO-ST-C5-1-DIOP
	Switching input/output NPN	1512317	CMMO-ST-C5-1-DION
	<b>With IO-Link</b>		
	Switching input/output PNP	1512320	CMMO-ST-C5-1-LKP

Ordering data – Servo drive

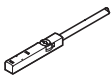
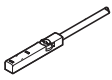
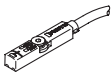
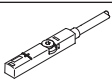



	Description	Number of phases	Nominal current	Part no.	Type
	The assortment of plugs NEKM is included in the delivery of the servo drive	<b>Bus protocol: EtherCAT</b>			
		Single-phase	8	8084005	CMMT-ST-C8-1C-EC-S0
		<b>Bus protocol: PROFINET RT/IRT</b>			
		Single-phase	8	8084004	CMMT-ST-C8-1C-PN-S0
		<b>Bus protocol: EtherNet/IP</b>			
		Single-phase	8	8084006	CMMT-ST-C8-1C-EP-S0

Ordering data – Cables

	Description	Cable length [m]	Part no.	Type
<b>Motor cable</b>				
	<ul style="list-style-type: none"> <li>Connecting cable between EHMD and motor cable NEBM-SF1</li> <li>For EHMD-...-GE and EHMD-...-GP</li> </ul>	0.2	8113317	NEBM-F1W31-XC-0.2-F1N-DF1W31
		0.5	8079819	NEBM-F1W31-XC-0.5-F1N-DF1W31
<b>Motor cable</b>				
	<ul style="list-style-type: none"> <li>Cable with adapter between motor cable NEBM-F1 and CMMO-ST or CMMT-ST</li> <li>For EHMD-...-GE</li> </ul>	2.6	5213342	NEBM-SF1W31-EH-2.6-Q15N-LE28
		5	8113307	NEBM-SF1W31-EH-5-Q15N-LE28
		10	8113309	NEBM-SF1W31-EH-10-Q15N-LE28
	<ul style="list-style-type: none"> <li>Cable with adapter between motor cable NEBM-F1 and CMMO-ST or CMMT-ST</li> <li>For EHMD-...-GP</li> </ul>	2.6	5213343	NEBM-SF1W31-EH-2.6-Q15N-LE14
		5	8113308	NEBM-SF1W31-EH-5-Q15N-LE14
		10	8113310	NEBM-SF1W31-EH-10-Q15N-LE14



## Accessories

Ordering data – Proximity sensor for T-slot, inductive						Data sheets → Internet: sies
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
<b>N/O contact</b>						
	Inserted in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551386	SIES-8M-PS-24V-K-7.5-OE
			Plug M8x1, 3-pin	0.3	551387	SIES-8M-PS-24V-K-0.3-M8D
		NPN	Cable, 3-wire	7.5	551396	SIES-8M-NS-24V-K-7.5-OE
			Plug M8x1, 3-pin	0.3	551397	SIES-8M-NS-24V-K-0.3-M8D
<b>N/C contact</b>						
	Inserted in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551391	SIES-8M-PO-24V-K-7.5-OE
			Plug M8x1, 3-pin	0.3	551392	SIES-8M-PO-24V-K-0.3-M8D
		NPN	Cable, 3-wire	7.5	551401	SIES-8M-NO-24V-K-7.5-OE
			Plug M8x1, 3-pin	0.3	551402	SIES-8M-NO-24V-K-0.3-M8D
Ordering data – Proximity sensor for T-slot, magneto-resistive						Data sheets → Internet: smt
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
<b>N/O contact</b>						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2.5-OE
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0.3-M8D
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0.3-M12
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2.5-OE
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0.3-M8
Ordering data – Proximity sensor for T-slot, magnetic reed						Data sheets → Internet: sme
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
<b>N/O contact</b>						
	Inserted in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	543862	SME-8M-DS-24V-K-2.5-OE
			5.0	543863	SME-8M-DS-24V-K-5.0-OE	
			Cable, 2-wire	2.5	543872	SME-8M-ZS-24V-K-2.5-OE
			Plug M8x1, 3-pin	0.3	543861	SME-8M-DS-24V-K-0.3-M8D
Ordering data – Connecting cables						Data sheets → Internet: nebu
Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type		
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3	
			5	541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3	
			5	541341	NEBU-M8W3-K-5-LE3	
Ordering data – Centring sleeve						
Description	Part no.	Type	PU <sup>1)</sup>			
	For mountings EHAM and gripper jaw blank BUB		562959	ZBS-4	10	
			8146543	ZBH-5-B		

1) Packaging unit

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