

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. This enables flexible gripping.

Applications:

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

Everything from a single source



Rotary module
EHMD
→ Page 5



Motor controller
CMMO-ST
→ Page 23

Gripper jaw blanks
BUB-HGPT
→ Page 23

- The motor controller CMMO-ST is a closed-loop and open-loop position controller
- Easy actuation via:
 - I/O interface
 - IO-Link or I-Port
 - Modbus TCP
- Monitoring of freely defined positions and torque ranges



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 twisting 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

Key features

FCT software – Festo Configuration Tool

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



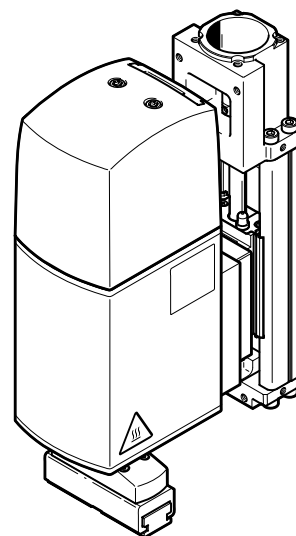
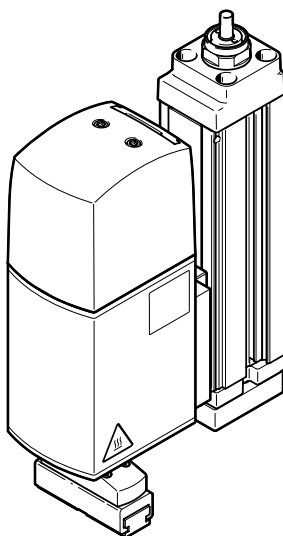
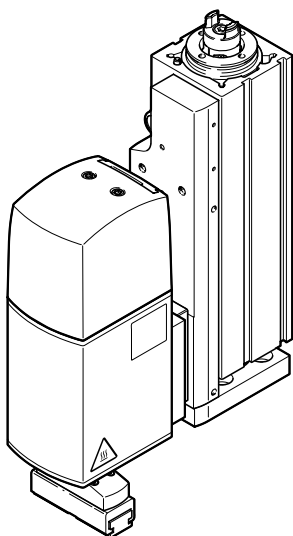
- All drives in a system can be managed and saved in a common project
- Project and data management for all supported types of equipment
- Simple to use thanks to graphically supported parameter entry
- Universal mode of operation for all drives
- Work offline at your desk or online at the machine

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

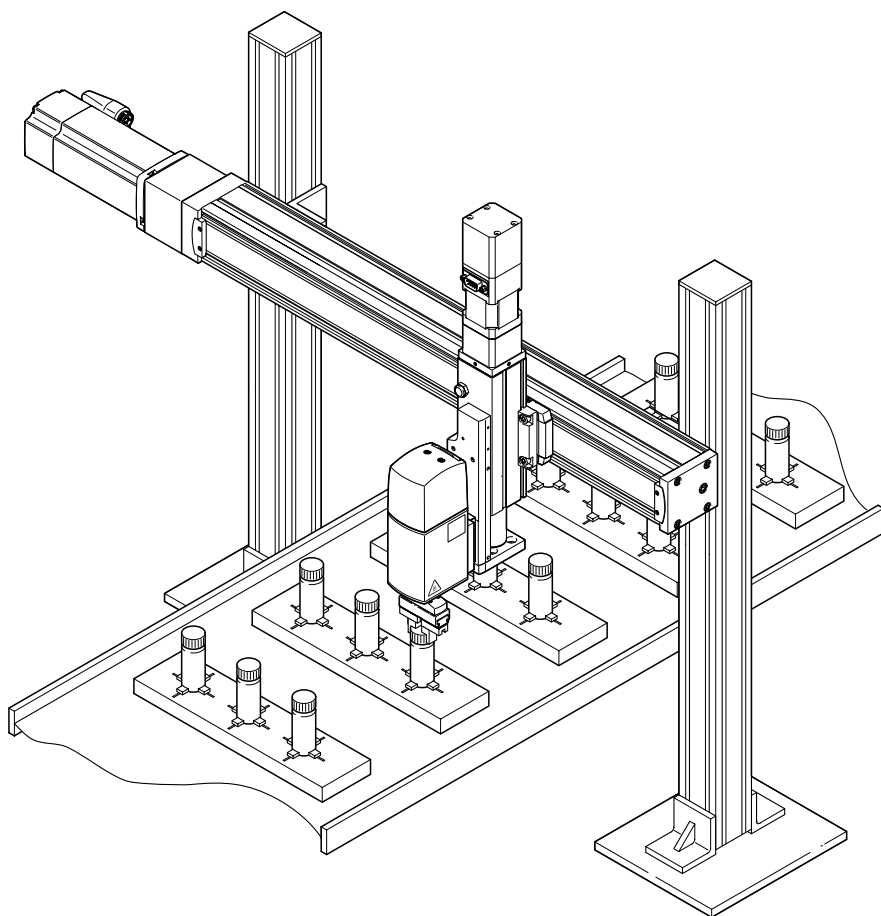
With electric slide EGSK-20/26



Key features

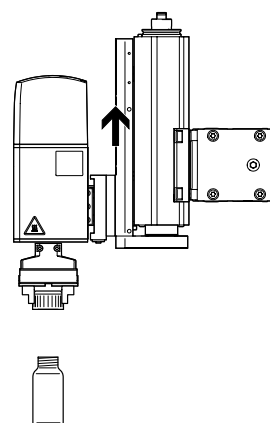
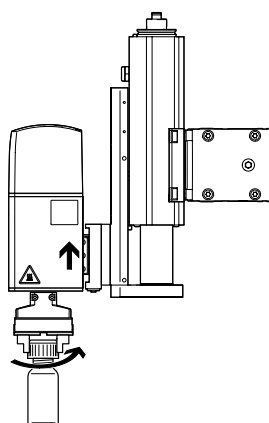
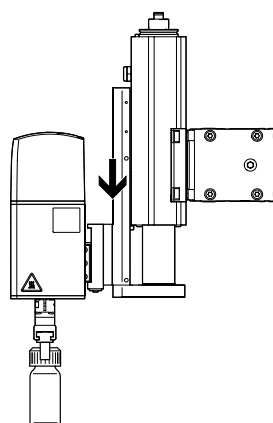
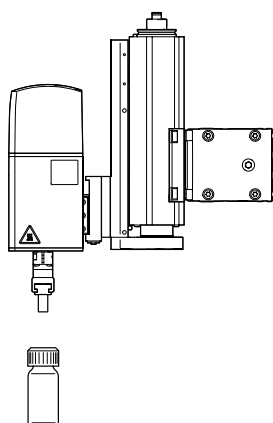
Application example

Fitting and removing cover caps on vials



Screwing cover caps onto vials and removing them

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



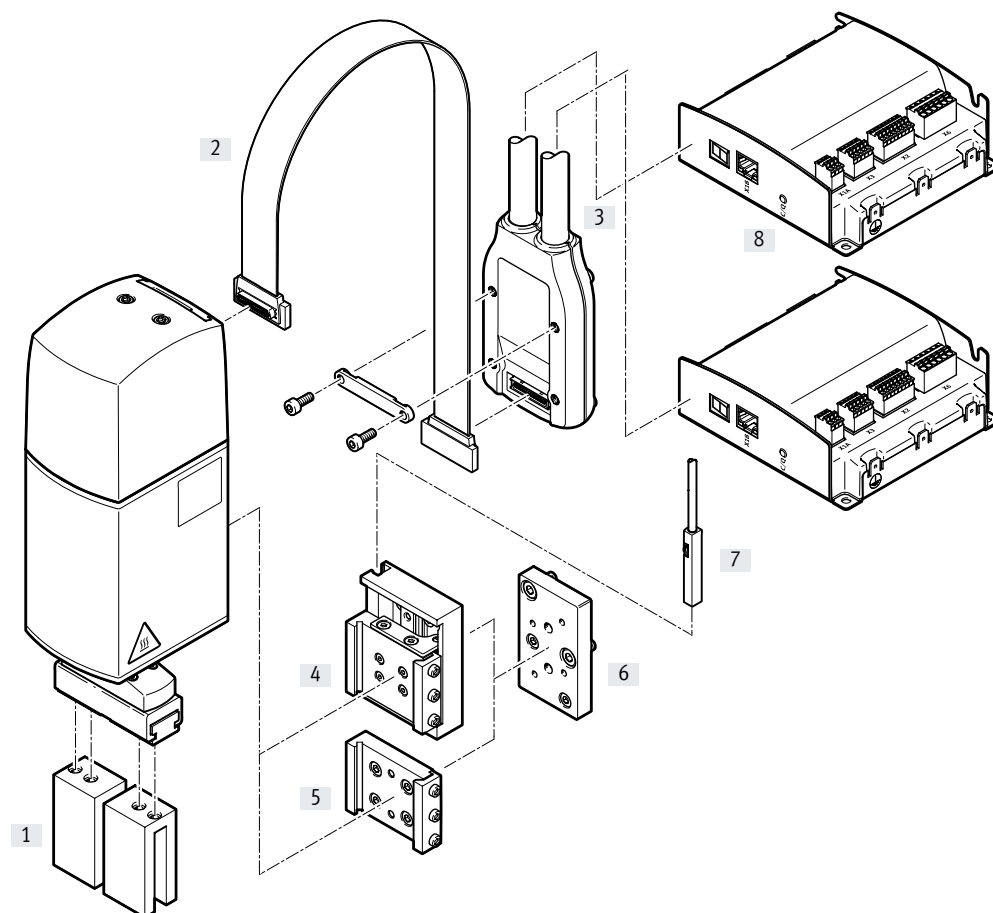
Type codes

001	Series	
EHMD	Rotary gripper module	
002	Size	
40	40	
003	Rotary module drive system	
RE	Electric	

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

Peripherals overview

EHMD-40-RE-GE – electric gripping

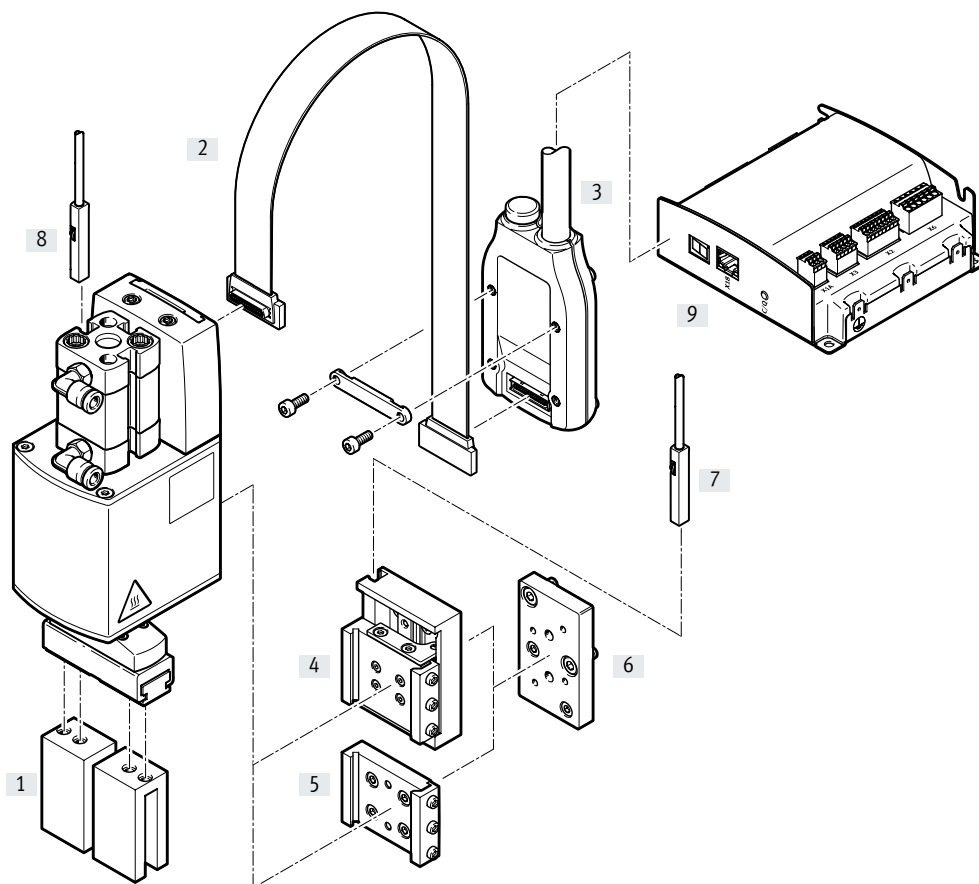

 Note

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	- Blanks specially matched to the gripper jaws for manufacturing gripper fingers - Not permitted for EHMD-40-RE-GE-16		23
[2] Motor cable NEBM-F1W31	- Connecting cable between EHMD and motor cable NEBM-SF1 - The cable is mandatory for compliance with the EMC Directive		23
[3] Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST		23
[4] Mounting adapter (with Z-compensation) EHAM-E20-40-Z	- Mounting option via dovetail mounting. - The mounting adapter makes it possible to fit or remove cover caps on vials, for example, without additional Z-axis (Z-compensation = 12 mm).		17
[5] Mounting adapter (rigid) EHAM-E20-40	Mounting option via dovetail mounting		21
[6] Adapter kit EHAM-E20-40-E...	For attaching the mounting adapters to the Z-axes: - Mini slide EGSC-BS-2 5/32 - Mini slide EGSL-BS-3 5/45 - Electric slide EGSK-2 0/26		22
[7] Proximity switch, T-slot SIES-M8	Inductive proximity switch for sensing the Z-compensation position		24
[8] Motor controller CMMO-ST	For positioning the rotary or gripping motion		23

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	- Connecting cable between EHMD and motor cable NEBM-SF1 - The cable is mandatory for compliance with the EMC Directive		23
[3] Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST		23
[4] Mounting adapter (with Z-compensation) EHAM-E20-40-Z	- Mounting option via dovetail mounting. - The mounting adapter makes it possible to fit or remove cover caps on vials, for example, without additional Z-axis (Z-compensation = 12 mm).		17
[5] Mounting adapter (rigid) EHAM-E20-40	Mounting option via dovetail mounting		21
[6] Adapter kit EHAM-E20-40-E...	For attaching the mounting adapters to the Z-axes: - Mini slide EGSC-BS-2 5/32 - Mini slide EGSL-BS-3 5/45 - Electric slide EGSK-2 0/26		22
[7] Proximity switch, T-slot SIES-M8	Inductive proximity switch for sensing the Z-compensation position		24
[8] Proximity switch, T-slot SME/SMT-M8	Proximity switch for sensing the position of the gripper fingers (open/closed)		24
[9] Motor controller CMMO-ST	For positioning the rotary or gripping motion		23

Data sheet

Output torque
0.3 Nm

Rotation angle
infinite

Total stroke
32 mm

Actuation via:

- Motor controller CMMO-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 switch
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	5
Rated load ¹⁾ [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 rotational 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	[kgm²]	1.25x 10 ⁻⁵	2.34x 10 ⁻⁵ 1.25x 10 ⁻⁵
Electrical connection	Plug		
	Plug pattern F1		
Encoder			
Operating voltage	[V DC]	5 ±10%	
Current consumption (without load)	[mA]	60	
Pulses/revolution	[1/rev]	500	
Rotor position sensor	RS422 TTL AB channel + zero index		
	Incremental		
Rotor position sensor measuring principle	Optical		

Data sheet

Technical data – Gripping			
Type		EHMD-...	
		-GE	-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 ¹⁾	[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 ²]	9x 10 ⁻⁷	–
Max. motor rotational speed	[rpm]	1000	–
Feed constant	[mm/rev]	1.478	4.4
Max. velocity per gripper jaw	[mm/s]	25	70
Permissible velocity for homing to stop	[mm/s]	2	5
Reversing backlash	[mm]	0.3	0.8
Electrical connection		Plug	–
		Plug pattern F1	–
Encoder			
Operating voltage	[V DC]	5 ±10%	–
Current consumption (without load)	[mA]	30	–
Pulses/revolution	[1/rev]	500	–
Rotor position sensor		RS422 TTL AB channel + zero index	–
		Incremental	–
Rotor position sensor 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.

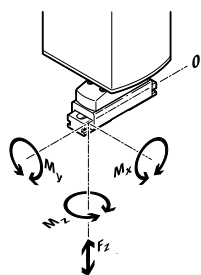
Data sheet

Operating and environmental conditions		EHMD-...		
Type		-GE	-GE-16	-GP
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 CRC ¹⁾		1		
CE marking (see declaration of conformity) ³⁾		To EU-EMC Directive ²⁾ (with screened cables and a cable length of max. 30 m)		
KC mark		KC EMC		
Certification		RCM		
Suitability for the food industry ³⁾		See supplementary material information		

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. Dry internal application or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- 2) For information about the area of use, see the EC declaration of conformity at: 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.
- 3) Additional information available at www.festo.com/sp → Certificates.

Materials		EHMD-...		
Type		-GE	-GE-16	-GP
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

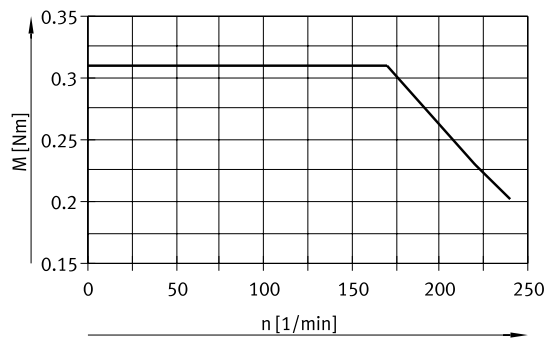
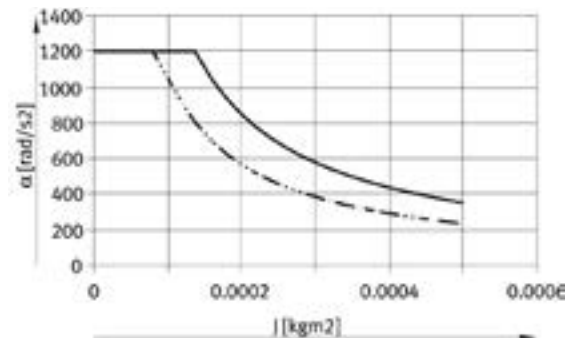


The indicated permissible forces and torques apply to a single gripper jaw. They include the lever arm, additional weight forces due to the workpiece or external gripper fingers and acceleration forces during movement. The zero coordinate line (gripper jaw guide) must be taken into consideration for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

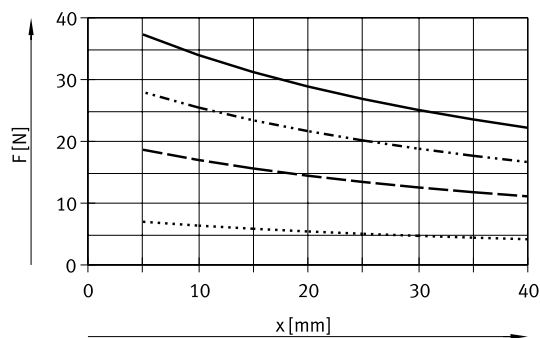
Data sheet

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

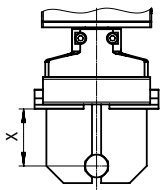
Graphs for gripping, pneumatic

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

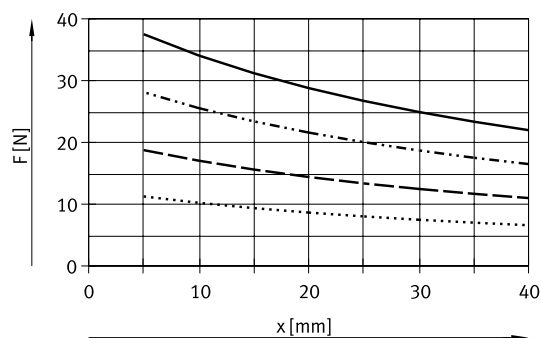
— $d = 8$ bar
 - - - - - $d = 6$ bar
 - - - - - $d = 4$ bar
 $d = 1.5$ bar

Data sheet

Graphs for gripping, electric with motor controller CMMO-ST

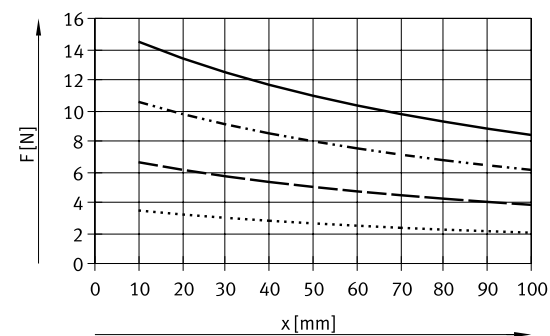
Gripping force x as a function of the lever arm x and force specification

EHMD-...-GE



- 100%
- - - 75%
- ... 50%
- . - 30%

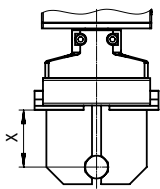
EHMD-...-GE-16



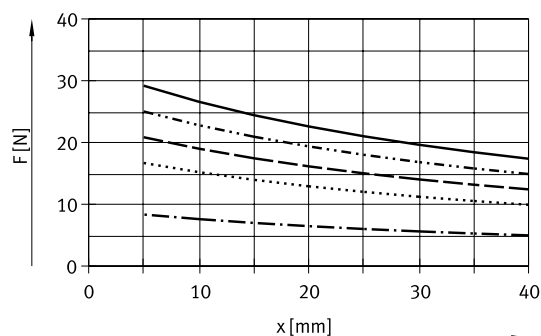
For EHMD-...-GE-16:

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 gripping, electric with motor controller (without torque control)

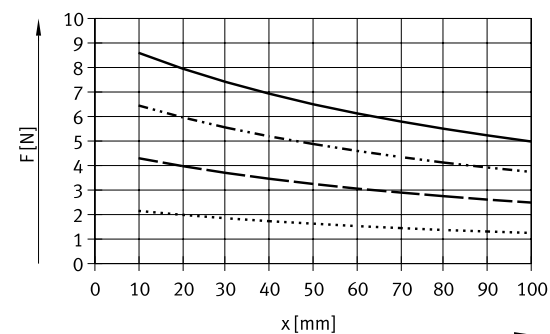
Gripping force F as a function of the lever arm x and additional path

EHMD-...-GE



- 0.7 mm
- - - 0.6 mm
- ... 0.5 mm
- . - 0.4 mm
- - - 0.2 mm

EHMD-...-GE-16



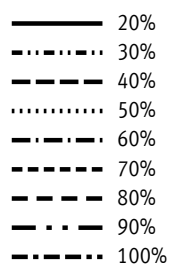
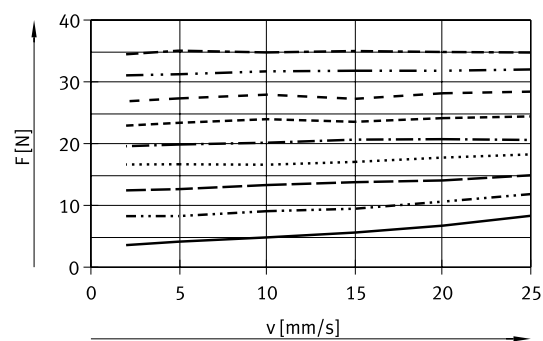
- 2 mm
- - - 1.5 mm
- ... 1 mm
- . - 0.5 mm
- - - 0.2 mm

Data sheet

Gripping force F as a function of velocity v

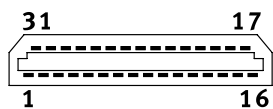
Requirement:

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



Data sheet

Pin allocation



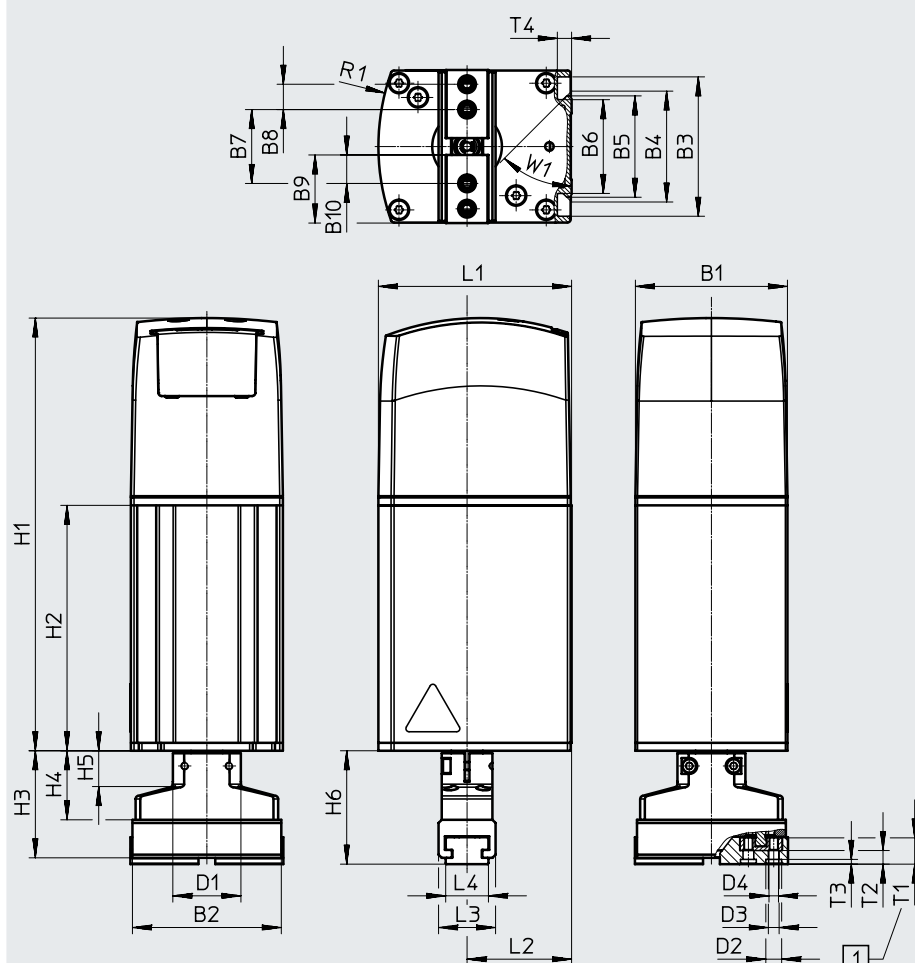
PIN	Function EHMD-....-GE	EHMD-....-GP
1	Encoder for rotation I	Encoder for rotation I
2	Encoder for rotation B	Encoder for rotation B
3	Encoder for rotation A	Encoder for rotation A
4	Encoder for gripper I	–
5	Encoder for gripper B	–
6	Encoder for gripper A	–
7	Screen	Screen
8	+5 V DC encoder for gripper	–
9	+5 V DC encoder for rotation	+5 V DC encoder for rotation
10	Screen	Screen
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	Screen	Screen
24	GND encoder	GND encoder
25	Screen	Screen
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

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

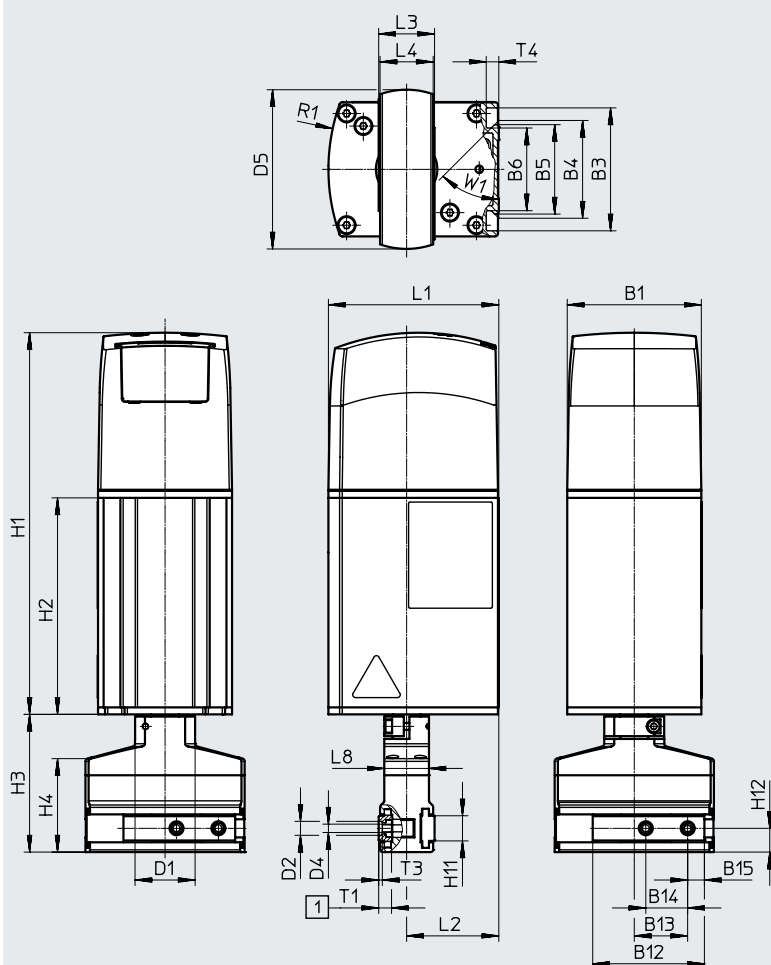
Type	L1	L2	L3	L4	R1	T1	T2	T3	T4	W1
EHMD-...-GE	61	33	18	13.5	70	8.3	4.3	1.5	4.5	45°

Data sheet

Dimensions

Download CAD data → www.festo.com

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 ø	D2 ø H8	D4	D5 ø	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

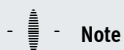
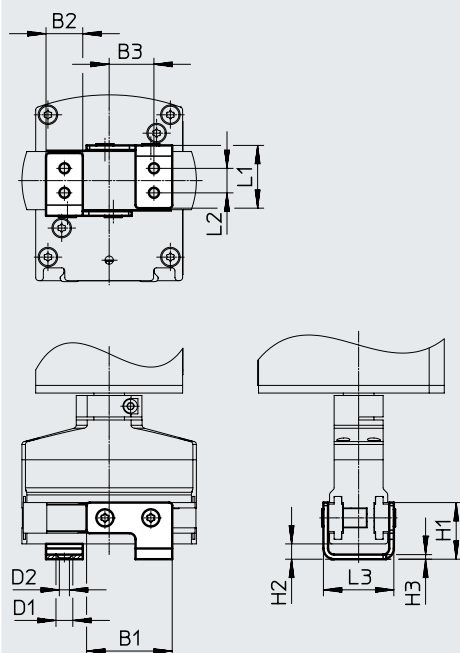
Type	L1	L2	L3	L4	L8	R1	T1	T3	T4	W1
EHMD-...-GE-16	61	33	20	19	16	70	4.6	1.3	4.5	45°

Data sheet

Dimensions

Download CAD data → www.festo.com

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

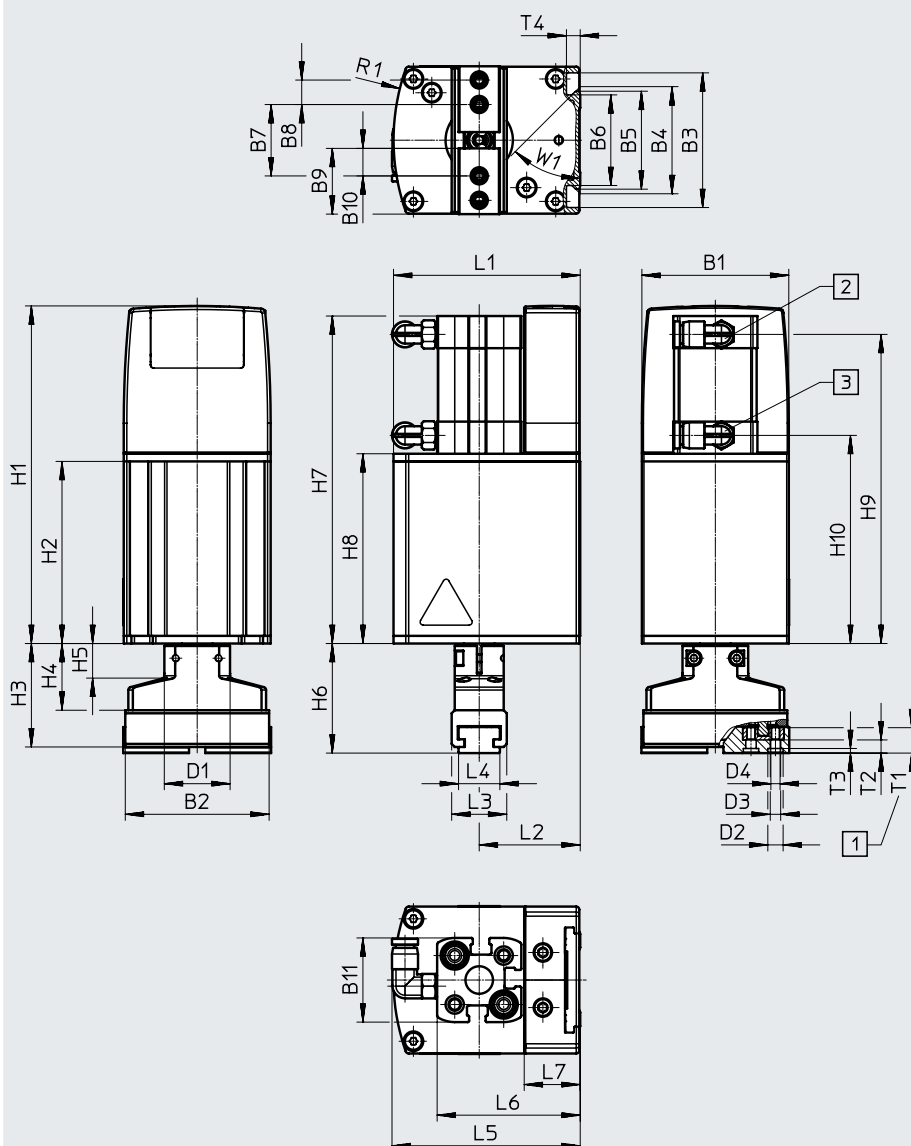
Type	B1	B2	B3		D1 Ø	D2 Ø	H1
			Min.	Max.			
EHMD-...-GE-16	28	12	7	23	5.5	3.3	18.5

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

Data sheet

Dimensions

EHMD-...-GP

Download CAD data → www.festo.com

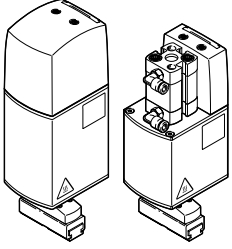
- [1] Max. screw-in depth
Included in the scope of delivery:
4x screws M3x12
4x centring sleeves ZBH-5
(for gripper fingers)
Push-in fitting for
[2] Opening the gripper
[3] Closing the gripper

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

Type	D2 ø H9	D3 ø	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			
	Electrical	Electrical	5	4788875	EHMD-40-RE-GE
			15	8099502	EHMD-40-RE-GE-16
	Electrical	Pneumatic	5	4790698	EHMD-40-RE-GP

Accessories

Mounting adapter EHAM-E20-40-Z

Mounting position: vertical

Material:

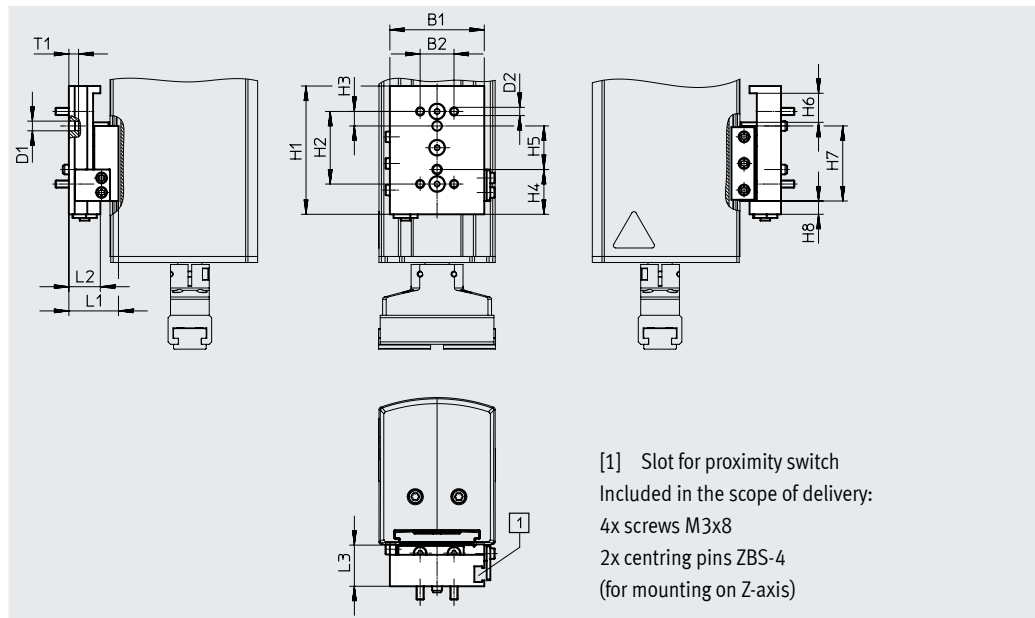
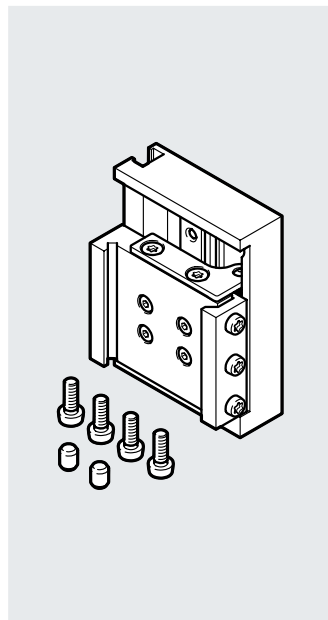
Wrought aluminium alloy

RoHS-compliant

Contains paint-wetting impairment substances

Mounting option via dovetail mounting.

The mounting adapter 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	5293408	EHAM-E20-40-Z

Accessories

Mounting adapter EHAM-E20-40

Mounting position: any

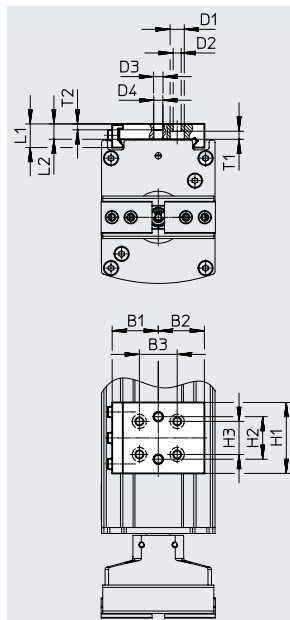
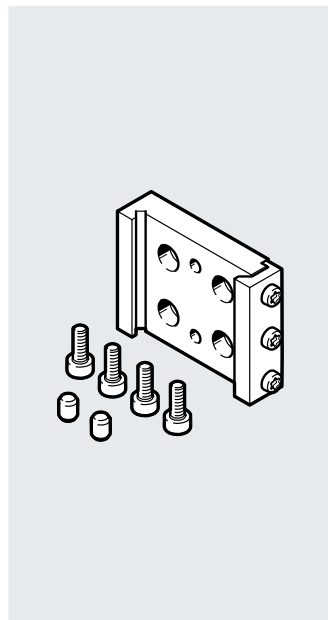
Material:

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 Ø	D2 Ø	D3 Ø H8	D4 Ø	H1
40	19.5	19.5	16	6	3.4	4	3.8	30

For size	H2 ±0.05	H3	L1	L2	T1	T2	Weight [g]	Part no.	Type
40	18	14	10	6.5	3.4	2.5	26	4991965	EHAM-E20-40

Accessories

Mounting adapter EHAM-E20-40-E...

Mounting position: any

Material:

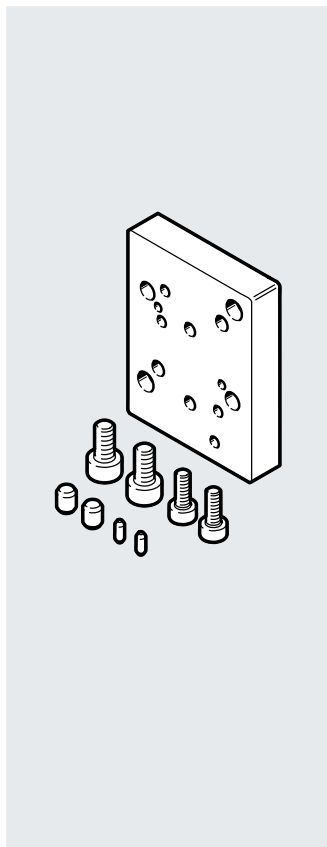
Wrought aluminium alloy

RoHS-compliant

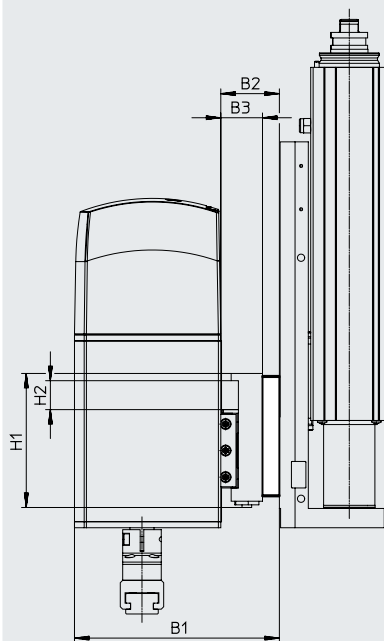
Contains paint-wetting impairment substances

For attaching the mounting adapters to the Z-axes:

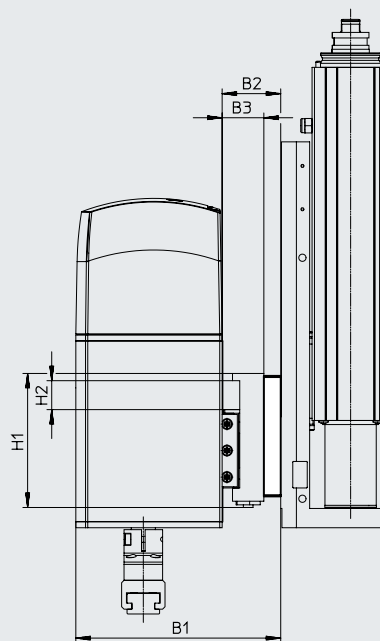
- Mini slide EGSC-BS-2 5/32
- Mini slide EGSL-BS-3 5/45
- Electric slide EGSK-2 0/26



With Z-compensation
EAHM-E20-40-Z



With rigid mounting adapters
EAHM-E20-40



Matching screws and
centring pins/sleeves included in
the scope of delivery.

Dimensions and ordering data

Dimensions and ordering data

For Z-axis	B1	B2	B3	H1	H2 ¹⁾	Weight [g]	Part no.	Type
And flexible mounting adapter EHAM-E20-40-Z								
EGSC-BS-2 5/32	85	24.3	17.3	55.6	12	30	8080760	EHAM-E20-40-E19-25
EGSL-BS-3 5/45						24	8081015	EHAM-E20-40-E8-35
EGSK-2 0/26						36	8081016	EHAM-E20-40-E9-20
And rigid mounting adapter EHAM-E20-40								
EGSC-BS-2 5/32	74.5	13.8	6.8	30	–	30	8080760	EHAM-E20-40-E19-25
EGSL-BS-3 5/45						24	8081015	EHAM-E20-40-E8-35
EGSK-2 0/26						36	8081016	EHAM-E20-40-E9-20

1) Automatic Z-stroke compensation.

Accessories

Gripper jaw blank BUB-HGPT

(2 included in scope of delivery)

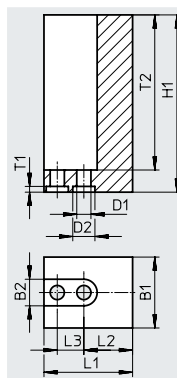
Not included in the scope of delivery of the rotary gripper module.

Material:

Aluminium

Not permitted for

EHMD-40-RE-GE-16


Note

For mounting on the rotary gripper module EHMD, use the matching screws and centring sleeves included in the scope of delivery of the EHMD.

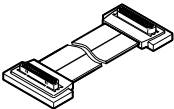
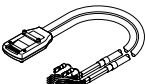
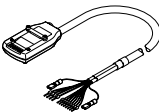
Dimensions and ordering data

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 ¹⁾	L3 ¹⁾	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

Ordering data – Cables

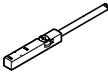
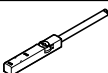
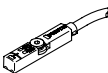
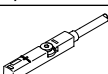
Cable length [m]	Part no.	Type		
Motor cable				
	- Connecting cable between EHMD and motor cable NEBM-SF1 - For EHMD-...-GE and EHMD-...-GP	0,2	8113317	NEBM-F1W31-XC-0.2-F1N-DF1W31
		0.5	8079819	NEBM-F1W31-XC-0.5-F1N-DF1W31
Motor cable				
	- Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST - For EHMD-...-GE	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
	- Cable with adapter between motor cable NEBM-F1 and motor controller CMMO-ST - For EHMD-...-GP	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

Ordering data – Motor controller

Data sheets → Internet: cmmo

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

Accessories

Ordering data – Proximity switches for T-slot, inductive						Data sheets → Internet: sies	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable 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	
N/C contact							
	Insertable 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 switch for T-slot, magneto-resistive						Data sheets → Internet: smt	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable 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-M8D	
Ordering data – Proximity switches for T-slot, magnetic reed						Data sheets → Internet: sme	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
N/O contact							
	Insertable 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	PE ¹⁾	
	For mounting adapters EHAM and gripper jaw blank BUB			562959	ZBS-4	10	
				189652	ZBH-5		

1) Packaging unit