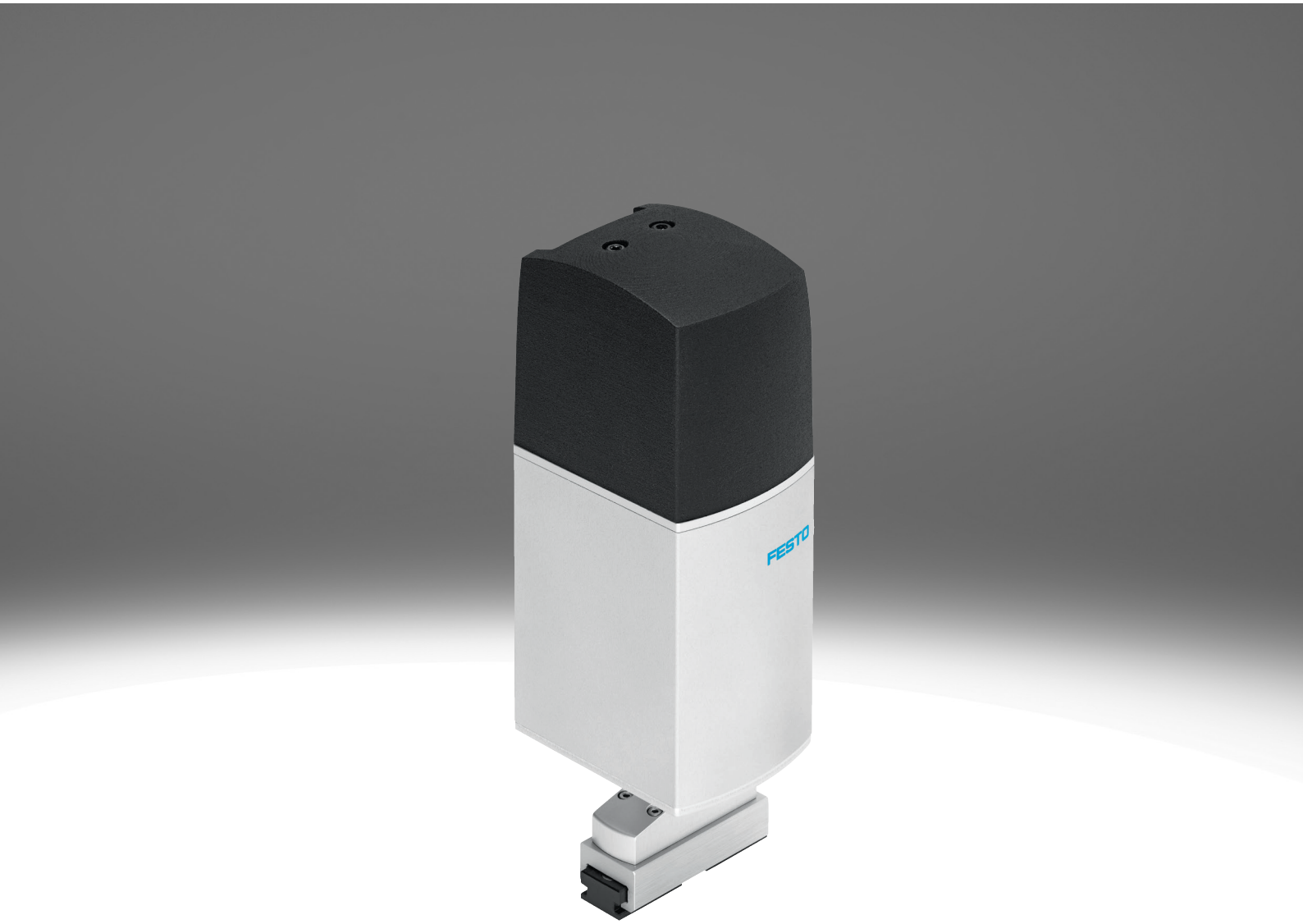
Rotary gripper module EHMD



Characteristics

At a glance Link ehmd

- The most compact rotary gripper module in its class is ideal for handling small objects in a wide variety of applications.
- It is particularly suitable for laboratory automation, e.g. for easily opening a large range of sample vials
- The rotary movement is generated by a stepper motor
- The gripping motion is generated either electrically via a stepper motor or pneumatically via a cylinder
- The Z module automatically adjusts to the thread pitches of the covers
- The gripper can grip in force mode when combined with the servo drive CMMT-ST, enabling flexible gripping
- The servo drive CMMT-ST allows simple control: via I/O interface, Modbus® TCP, EtherCAT®, PROFINET, EtherNet/IP

Rotation
Closed-loop control
- Enables the motor torque to be controlled via the motor current. This allows the torque to be limited when closing a cover
- 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 activated in microstep operation with a constant, defined phase current
- Holding current reduction 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 rotation
- 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 drive screw

Open-loop control
- The motor is activated in microstep operation with a constant, defined phase current
- Holding current reduction 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
- The gripper motor has an incremental encoder. There is no end position sensor
- In the opening direction, homing must be to a stop

Note:
- Specially developed gripper jaws enable microwell plates to be picked or transported (for SBS/ANSI formats).
- (See accessories)

Characteristics

Engineering tools Link engineering tools

Save time with engineering tools: Smart engineering for the optimal solution. Our goal is to increase your productivity. Our engineering tools play an integral part in achieving this goal. They help you size your system correctly, tap into unimagined productivity reserves and generate additional productivity along the entire value chain. In every phase of your project, from the initial contact to the modernisation of your machine, you will come across a number of different tools that will be of use to you.

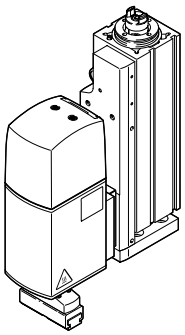
Electric Motion Sizing
- Create the optimum drive package quickly and reliably. Electric Motion Sizing calculates suitable combinations of electric axis, electric motor and servo drive using just a few application details. It provides all the relevant data including the bill of materials and documentation for your selected combination. This avoids design errors and results in significantly improved energy efficiency for the system. A smooth connection to the Festo Automation Suite also makes commissioning easier for you.

Festo Automation Suite
- Parameterisation, programming and commissioning in a clear and user-friendly interface
- Optimal support for complex processes thanks to guided wizards (e.g. for initial commissioning, drive configuration, etc.)
- Quick access to the required documents and further information
- Easy integration of electric drives in the controller programming

Diagrams Link ehmd

The diagrams shown in this document are also available online. These can be used to display precise values.

Overview



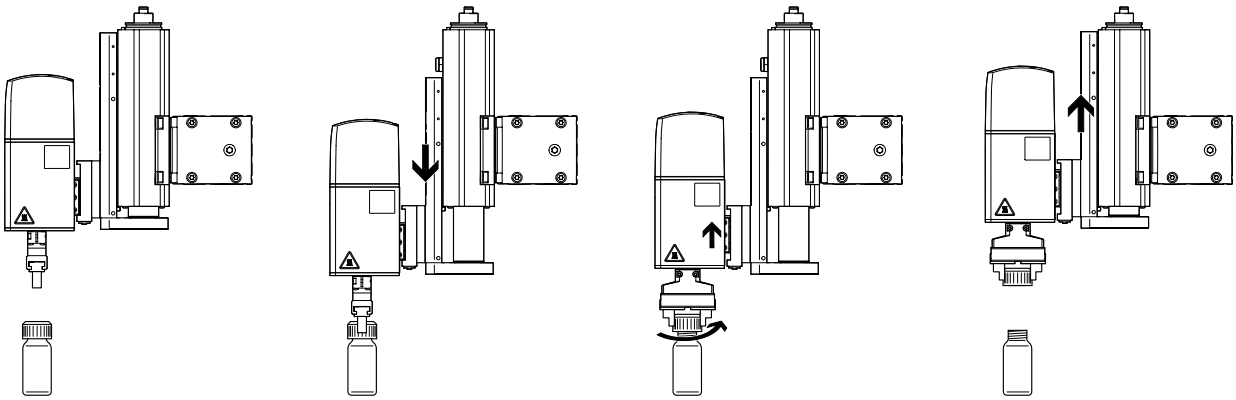
Combination options with mini slides EGSC-BS, EGSL, electric slide EGSK and three-dimensional gantry EXCL

EHMD-40
- With EGSC-BS-25/32
- With EGSL-35/45
- With EXCL-15
- With EGSK-20/26

EHMD-50
- With EGSC-32/35/45
- With EGSK-20/26
- With EXCL-15

Characteristics

Application example



Screwing covers onto vials and removing them
(explanation of links)

Figure 1
- Mini slide EGSC-BS retracted
- Mounting EHAM-E20

Figure 2
- Mini slide EGSC-BS extends
- Rotary gripper module EHMD grips the cover

Figure 3:
- Rotary gripper module EHMD turns and removes the cover from the vial
- The mounting EHAM-E20 takes on the Z-compensation without the need to move the mini slide (Z-axis)

Figure 4
- Once the cover has been removed, the mini slide EGSC-BS retracts
- The Z compensation moves back into the lower end position due to the weight

Type code

001	Series	
EHMD	Rotary gripper module	

002	Size [mm]	
40	40	
50	50	

003	Rotary module drive system	
RE	Electric	

004	Gripper drive system	
GP	Pneumatic	
GE	Electric	

005	Stroke per gripper jaw	
	5 mm	
15	15 mm	
16	16 mm	

Datasheet

General technical data				
Size	40			50
Gripper drive system	Pneumatic	Electric		
Stroke per gripper jaws	5 mm		15 mm	
Design	Electric rotary drive Pneumatic gripper	Electric rotary drive Electric gripper		Electric rotary drive Electric gripper drive
Type of motor	Stepper motor			
Position detection	Turning: Motor encoder Gripping: slot for proximity switch	Turning: Motor encoder Gripping: Motor encoder		
Referencing	Turning: Encoder index	Turning: Encoder index Gripping: Fixed-stop block		
Gripper function	Parallel			
Number of gripper jaws	2			
Rotation angle	Infinite			
Type of mounting	Via dovetail slot			
Mounting position	Any			
Product weight	577 g	681 g	724 g	1,255 g

Technical data – Rotation			
Size	40		50
Stroke per gripper jaws	5 mm	15 mm	
Operating mode, rotation	Hybrid stepper motor		
Max. output torque	0.3 Nm		1 Nm
Max. drive output speed	240 rpm		
Nominal voltage DC	24 V		
Nominal current per phase, rotation	0.9 A		2.8 A
Holding torque motor, rotation	0.3 Nm		1 Nm
Winding resistance phase, rotation	5.8 Ohm		0.83 Ohm
Winding inductance phase, rotation	11 mH		2.3 mH
Step angle full step, rotation	1.8 deg		
Step angle tolerance, rotation	±5%		
Mass moment of inertia, rotation	0.125 kgcm²	0.234 kgcm²	0.51 kgcm²
Electrical connection 1, connector system	Connection pattern F1		PTSM
Electrical connection 1, connection type	Plug		

Encoder technical data – Rotation	
Nominal operating voltage DC, rotation	5 V
Max. current consumption, rotation	60 mA
Pulses per revolution, rotation	500
Rotor position sensor	Incremental encoder
Rotor position encoder interface	RS422 TTL AB channels + zero index
Rotor position sensor, encoder measuring principle	Optical

Datasheet

Technical data – Gripping				
Size	40			50
Gripper drive system	Pneumatic	Electric		
Stroke per gripper jaws	5 mm		15 mm	
Design	Electric rotary drive, Pneumatic gripper	Electric rotary drive, Electric gripper		Electric rotary drive, Electric gripper drive
Gripping force per gripper jaw	5 ... 35 N	7 ... 35 N	3 ... 14 N	18 ... 67 N
Residual gripping force in the event of a power failure	–	10 N	4 N	–
Nominal voltage DC	24 V			
Nominal current per phase	–	0.5 A		
Motor holding torque	–	0.043 Nm		0.115 Nm
Phase winding resistance	–	5.6 Ohm		2 Ohm
Phase winding inductance	–	4 mH		2.8 mH
Stepper angle for complete step	–	1.8 deg		
Stepping angle tolerance	–	±5%		
Mass moment of inertia	–	0.009 kgcm²		0.038 kgcm²
Max. drive output speed	240 rpm			
Feed constant	1.48 mm/U		4.4 mm/U	2.3 mm/U
Max. gripping speed per gripper jaw	–	25 mm/s	70 mm/s	10 mm/s
Electrical connection 1, connection type	Plug			
Electrical connection 1, connector system	Connection pattern F1			PTSM

Encoder technical data – Gripping	
Nominal operating voltage DC	24 V
Max. current consumption	60 mA
Pulses per revolution	500
Rotor position sensor	Incremental encoder
Rotor position encoder interface	RS422 TTL AB channels + zero index
Rotor position sensor, encoder measuring principle	Optical

Operating and environmental conditions			
Size	40		50
Gripper drive system	Pneumatic	Electric	
Operating pressure	1.5 ... 8 bar	–	
Ambient temperature	0 ... 40°C		18 ... 28°C
Storage temperature	-20 ... 70°C		
Relative air humidity	0 - 85%, Non-condensing		
Degree of protection	IP20		
Insulation protection class	B		
Duty cycle	100%		
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6		
Corrosion resistance class CRC [1]	1 - Low corrosion stress		
CE mark (see declaration of conformity) [2]	To EU EMC Directive In accordance with EU RoHS Directive		
UKCA marking (see declaration of conformity)[3]	To UK instructions for EMC		
KC mark	KC-EMV		–
Approval	RCM		

1) More information: www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/ehmd → Support/Downloads

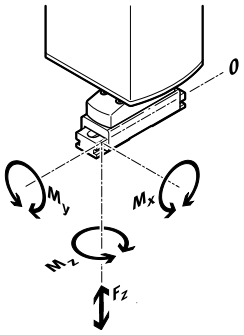
3) More information www.festo.com/catalogue/ehmd → Support/Downloads

Datasheet

Materials

Size	40		50
Gripper drive system	Pneumatic	Electric	
Material housing	Anodised wrought aluminium alloy		
Note on materials	RoHS compliant		
Material cover	PA	Reinforced PA	
LABS (PWIS) conformity	VDMA24364 zone III		

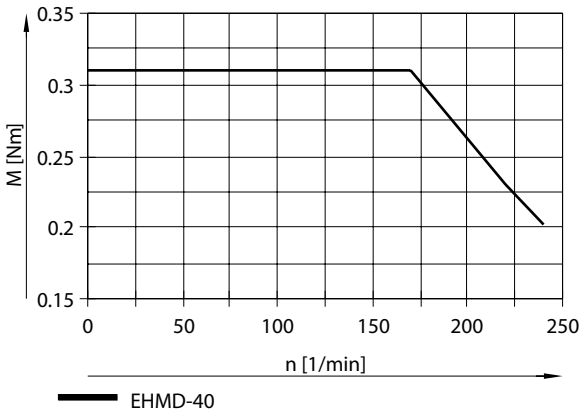
Characteristic static load values on the gripper jaws



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

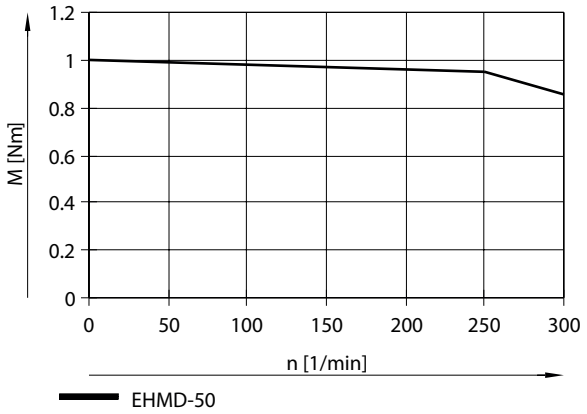
Size	40			50
Gripper drive system	Pneumatic	Electric		
Stroke per gripper jaws	5 mm		15 mm	
Max. force on gripper jaw Fz static	30 N			15 N
Max. torque at gripper Mx static	0.7 Nm		1.5 Nm	3.5 Nm
Max. torque at gripper My static	1.5 Nm			5 Nm
Max. torque at gripper Mz static	0.7 Nm		1.5 Nm	5 Nm

For rotation: torque M as a function of rotational speed n for EHMD-40

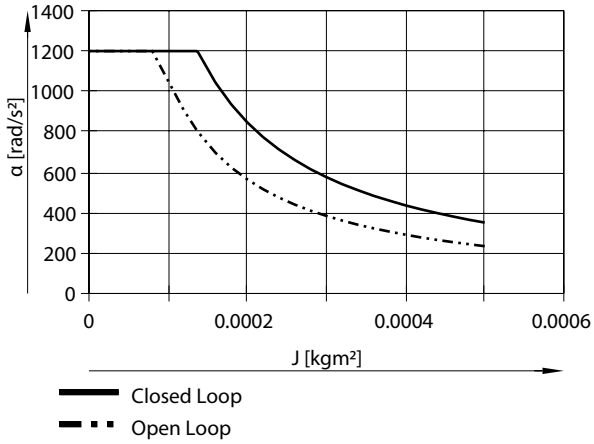


Datasheet

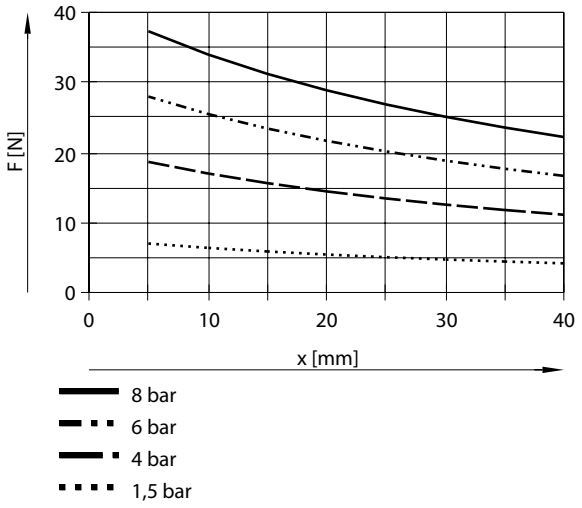
For rotation: torque M as a function of rotational speed n for EHMD-50



For rotation: angular acceleration as a function of moment of inertia J for EHMD-40

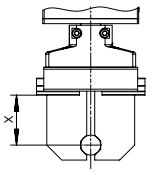


For gripping, pneumatic: gripping force F as a function of lever arm x and operating pressure d for EHMD-40



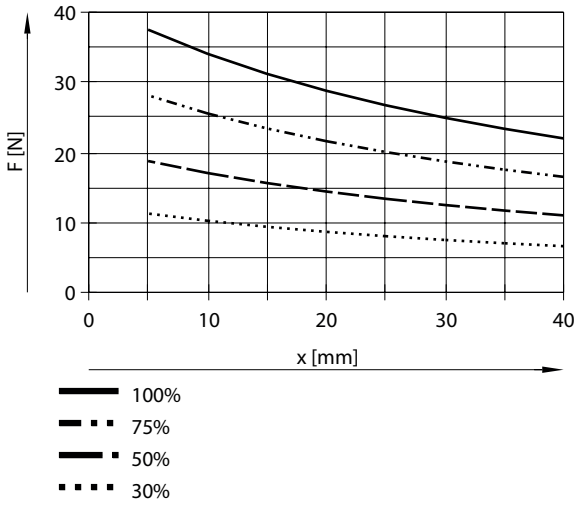
Datasheet

For gripping, electrical, with CMMT-ST: gripping force as a function of lever arm x and force specification for EHMD-...



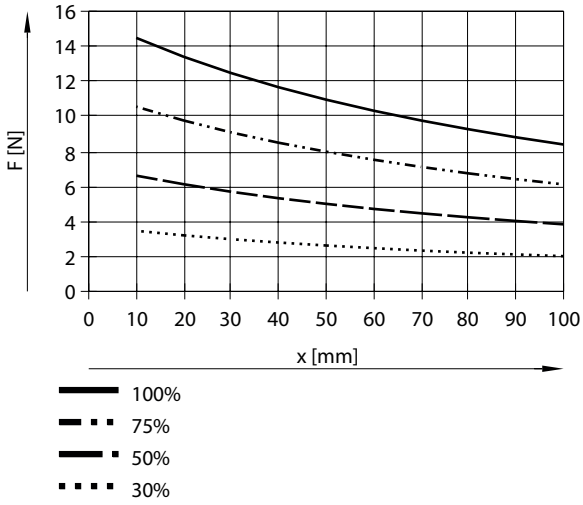
Even if the size of the workpiece is not known, it is possible to close the gripper with a specific gripping force by limiting the torque. With the CMMT-ST, the force mode can be used to close the gripper. The force setpoint is specified as a percentage value and corresponds to the motor current in relation to the nominal current.

For gripping, electrical, with CMMT-ST: gripping force as a function of lever arm x and force specification for EHMD-40-GE



.

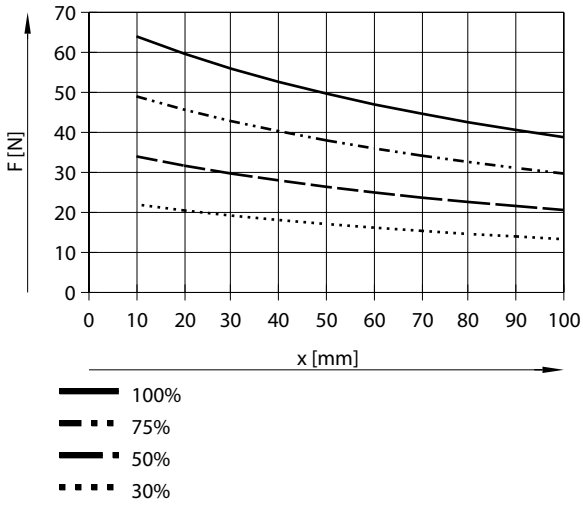
For gripping, electrical, with CMMT-ST: gripping force as a function of lever arm x and force specification for EHMD-40-GE-16



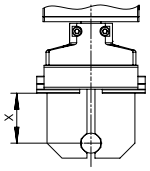
The characteristic curves show typical gripping forces when new. Depending on the function, these may fluctuate as a result of internal friction.

Datasheet

For gripping, electrical, with CMMT-ST: gripping force as a function of lever arm x and force specification for EHMD-50

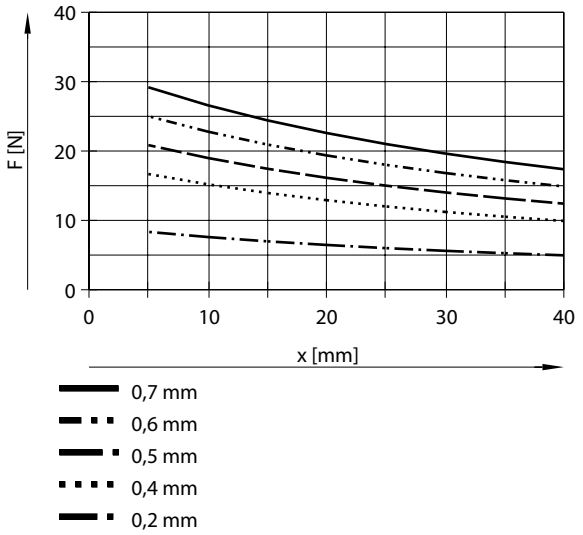


For gripping, electric, with servo drive: gripping force as a function of lever arm x and travel allowance for EHMD-...



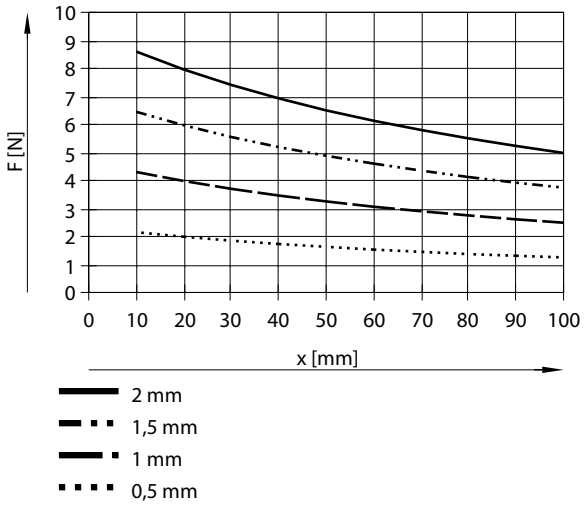
If the workpiece size is known, a specific gripping force can be achieved via the spring deflection of the gripper drive. The gripper is moved further in by a certain distance after it has come into contact with the workpiece. The gripper fingers then remain stationary while the drive continues to move and the spring is tensioned.

For gripping, electric, with servo drive: gripping force as a function of lever arm x and travel time for EHMD-40-GE

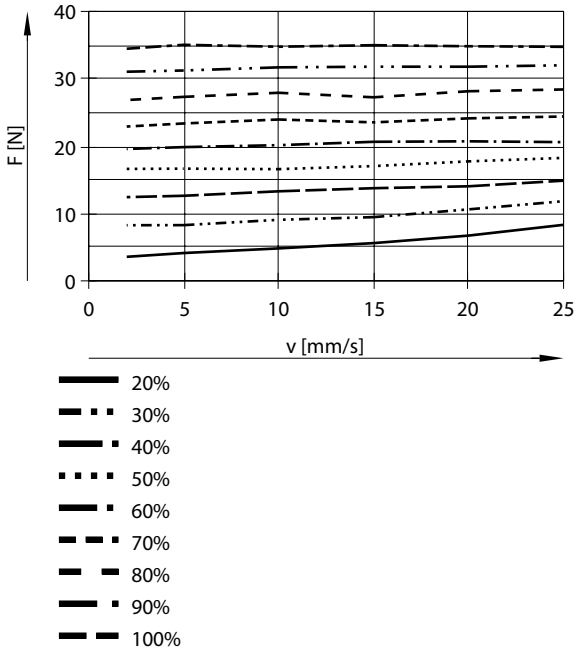


Datasheet

For gripping, electric, with servo drive: gripping force as a function of lever arm x and travel allowance for EHMD-40-GE-16



Gripping force F as a function of speed v for EHMD-40

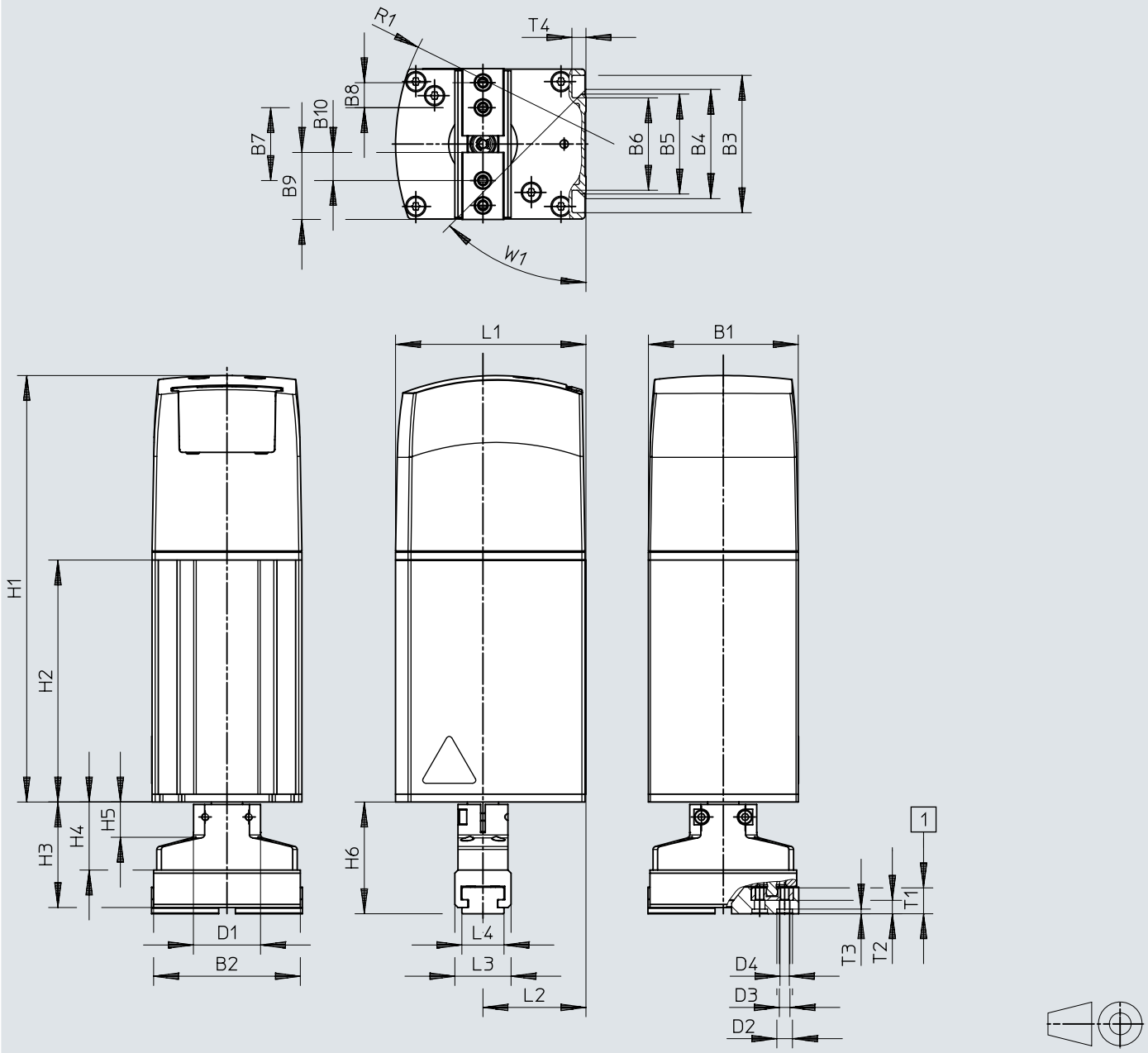


Requirement:

- Servo drive CMMT-ST in force mode
- Ambient temperature of 25 °C

Dimensions

Dimensions – EHMD-40-RE-GE Download CAD data www.festo.com



[1] Max. screw-in depth

[2] Included in the scope of delivery: 4x screws M3x12, 4x centring sleeves ZBH-5 (for gripper finger)

Dimensions

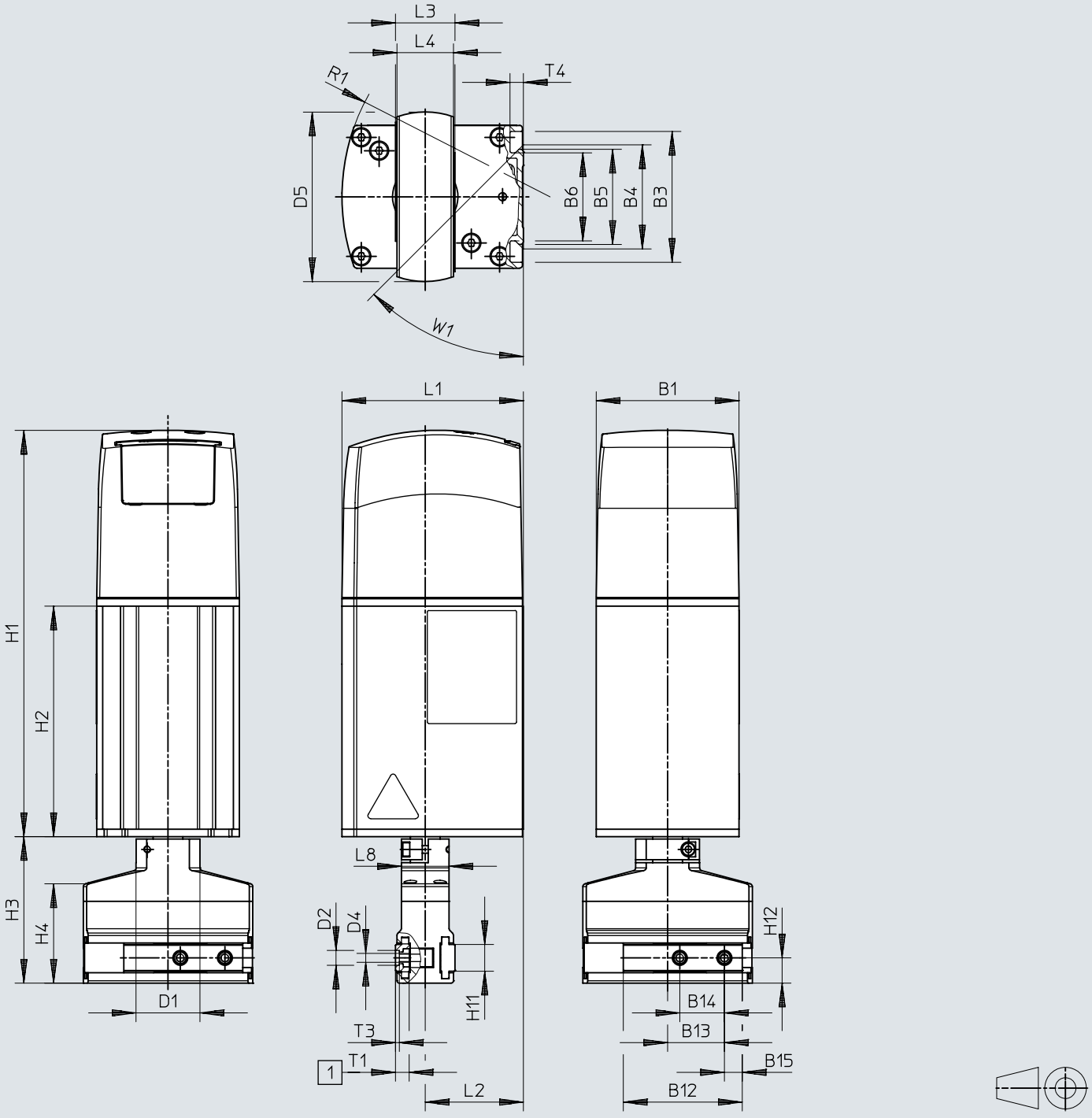
	B1	B2	B3	B4	B5	B6	B7		B8	B9	B10
				±0,15			min.	max.	±0,08		
EHMD-40-RE-GE	48	47	44	35	32	29,6	18	28	8	21,5	9

	D1 ø	D2 ø H9	D3 ø	D4	H1	H2	H3	H4	H5	H6
EHMD-40-RE-GE	21,5	5	3,4	M3	136,6	77,5	33,8	21,8	11,3	35,8

	L1	L2	L3	L4	R1	T1	T2	T3	T4	W1
EHMD-40-RE-GE	61	33	18	13,5	70	8,3	4,3	1,5	4,5	45°

Dimensions

Dimensions – EHMD-40-RE-GE-16 Download CAD data www.festo.com



[1] Max. screw-in depth

Dimensions

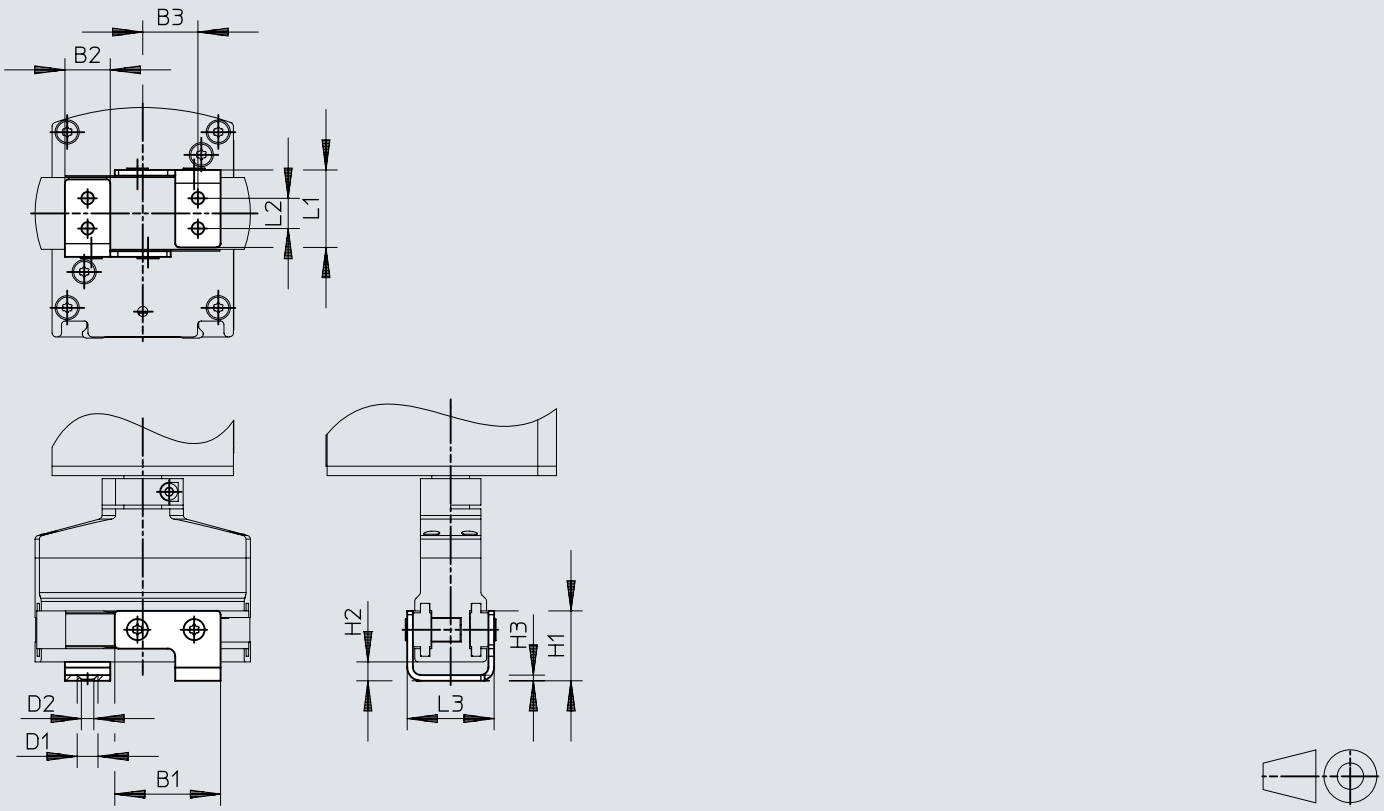
	B1	B3	B4	B5	B6	B12	B13		B14	B15
			±0,15				min.	max.		
EHMD-40-RE-GE-16	48	44	35	32	29,6	40	6	22	15	6

	D1 ø	D2 ø H8	D4	D5 ø	H1	H2	H3	H4	H11	H12
EHMD-40-RE-GE-16	21,5	5	M3	57	136,6	77,5	49,3	33,2	9	8,5

	L1	L2	L3	L4	L8	R1	T1	T3	T4	W1
EHMD-40-RE-GE-16	61	33	20	19	16	70	4,6	1,3	4,5	45°

Dimensions

Dimensions – EHMD-40-RE-GE-16 with bracket for gripper jaw mounting Download CAD data www.festo.com

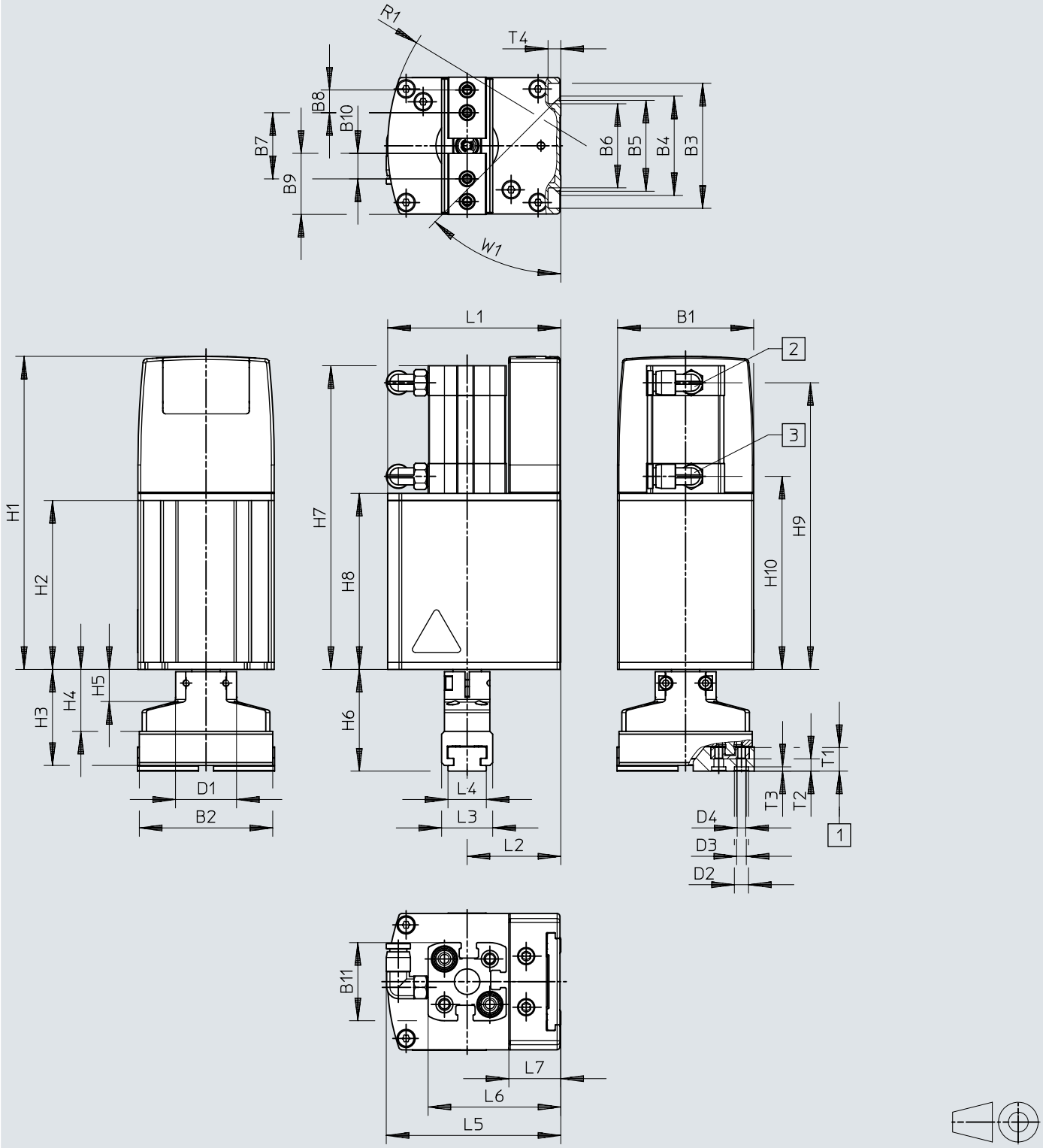


[1] Included in the scope of delivery of the gripper: 2x angle bracket, 8x countersunk screws M3x6, 4x centring sleeves ZBH-5

	B1	B2	B3		D1 ø	D2 ø	H1	H2	H3	L1	L2	L3	L4
			min.	max.									
EHMD-...-GE-16	28	12	7	23	5,5	3,3	18,5	5	1,5	20,5	8	23	19

Dimensions

Dimensions – EHMD-40-RE-GP Download CAD data www.festo.com



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

Dimensions

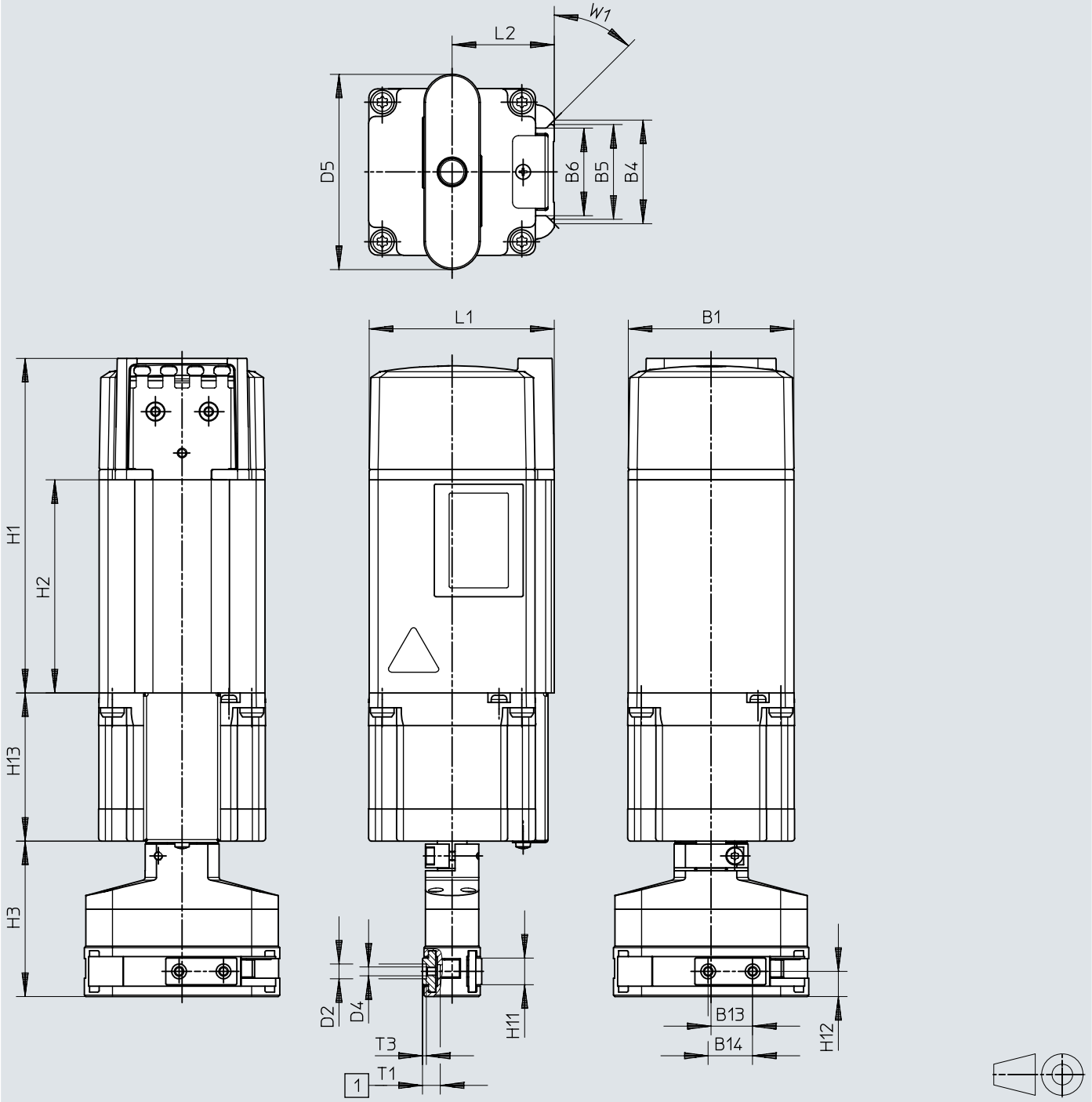
	B1	B2	B3	B4	B5	B6	B7		B8	B9	B10	B11	D1
				±0,15			min.	max.	±0,08				ø
EHMD-40-RE-GP	48	47	44	35	32	29,6	18	28	8	21,5	9	27,5	21,5

	D2 ø H9	D3 ø	D4	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
EHMD-40-RE-GP	5	3,4	M3	110,3	59,5	33,8	21,8	11,3	35,8	107	62	101	68

	L1	L2	L3	L4	L5	L6	L7	R1	T1	T2	T3	T4	W1
EHMD-40-RE-GP	61	33	18	13,5	61,5	46,8	18,3	70	8,3	4,3	1,5	4,5	45°

Dimensions

Dimensions – EHMD-50-RE-GE-15 Download CAD data www.festo.com



[1] Max. screw-in depth

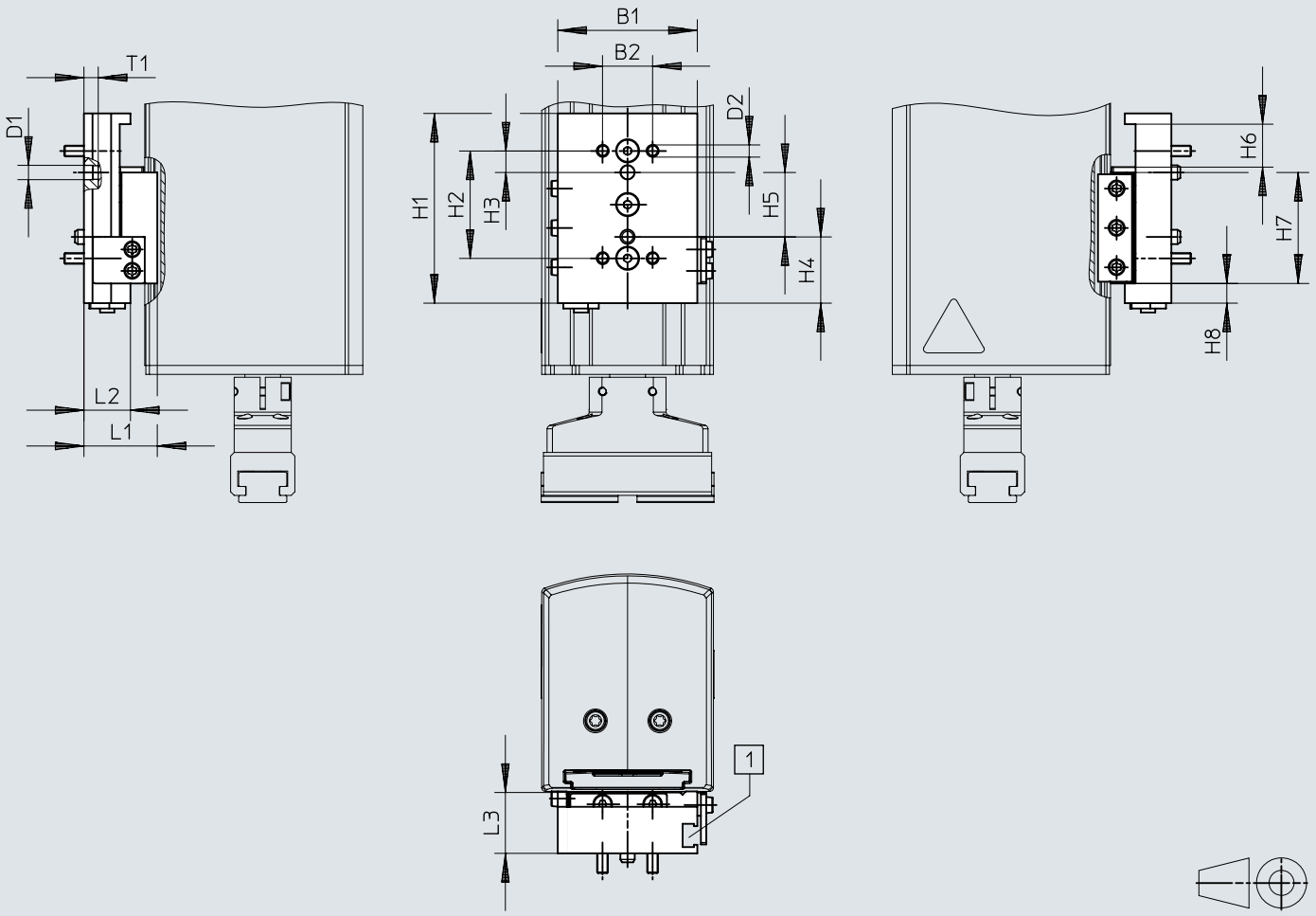
Dimensions

	B1	B4	B5	B6	B13		B14	D2	D4	D5
		±0,15			min.	max.	±0,03	Ø H8		Ø
EHMD-50-RE-GE-15	56	35	32	29,6	6,5	21,5	15	5	M3	66

	H1	H2	H3	H11	H12	H13	L1	L2	T1	T3	W1
EHMD-50-RE-GE-15	113	72	52,5	9	8,5	50,1	62,5	34,5	6	1,3	45°

Dimensions

Dimensions – Mounting EHAM-E20-40-Z Download CAD data www.festo.com

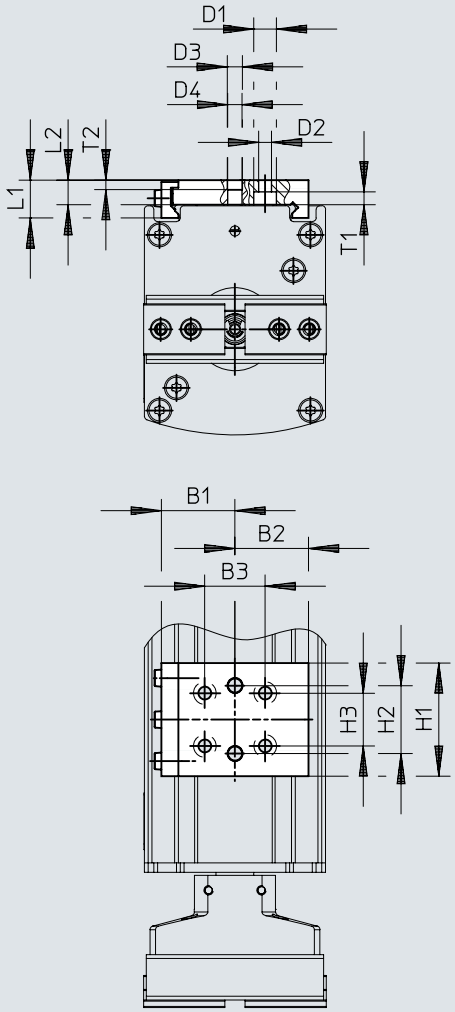


[1] T-slot for proximity switch
[2] Included in the scope of delivery: 4x screws M3x8, 2x centring pins ZBS-4 (for mounting on Z-axis)
[3] Mounting option via dovetail mounting. The mounting component compensates for the thread pitch when turning (fitting/removing) covers on vials without needing additional movement of the Z-axis. (Z compensation = 12 mm)

	B1	B2	D1 ø H8	D3 ø	H1	H2	H3	H4	H5 ±0,05	H6	H7	H8	L1	L2	L3	T1
EHAM-E20-40-Z	39	14	4	3,4	53	30	6	18,5	18	12	31	5,5	20,5	13	17	2,5

Dimensions

Dimensions – Mounting EHAM-E20-40 Download CAD data www.festo.com

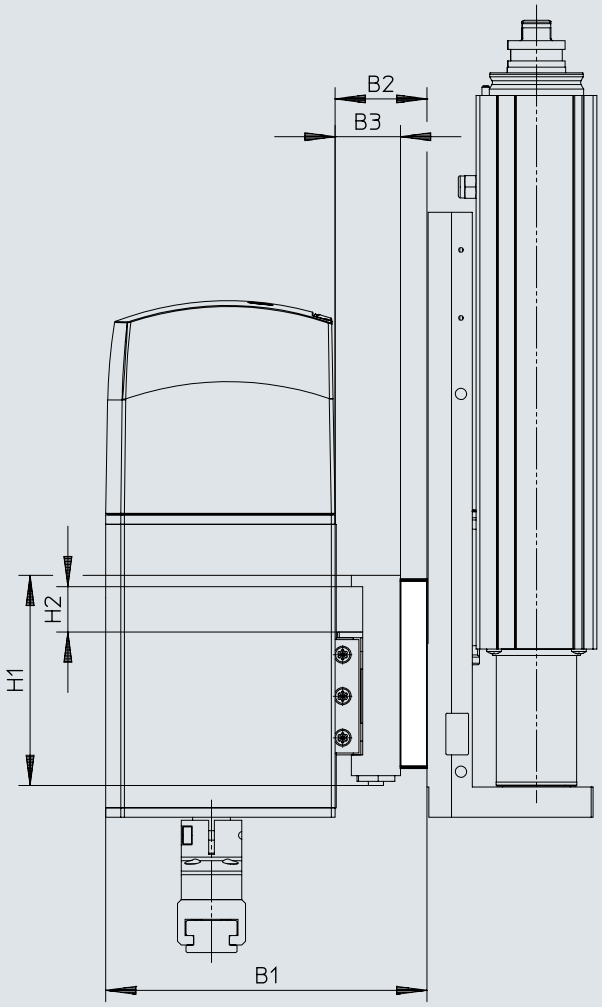


[1] Included in the scope of delivery: 4x screws M3x8, 2x centring pins ZBS-4 (for mounting on Z-axis)

	B1	B2	B3	D1 ø	D2 ø	D3 ø H8	D4 ø	H1	H2 ±0,05	H3	L1	L2	T1	T2
EHAM-E20-40	19,5	19,5	16	6	3,4	4	3,8	30	18	14	10	6,5	3,4	2,5

Dimensions

Dimensions – With flexible mounting EHAM-E20-40-Z Download CAD data www.festo.com



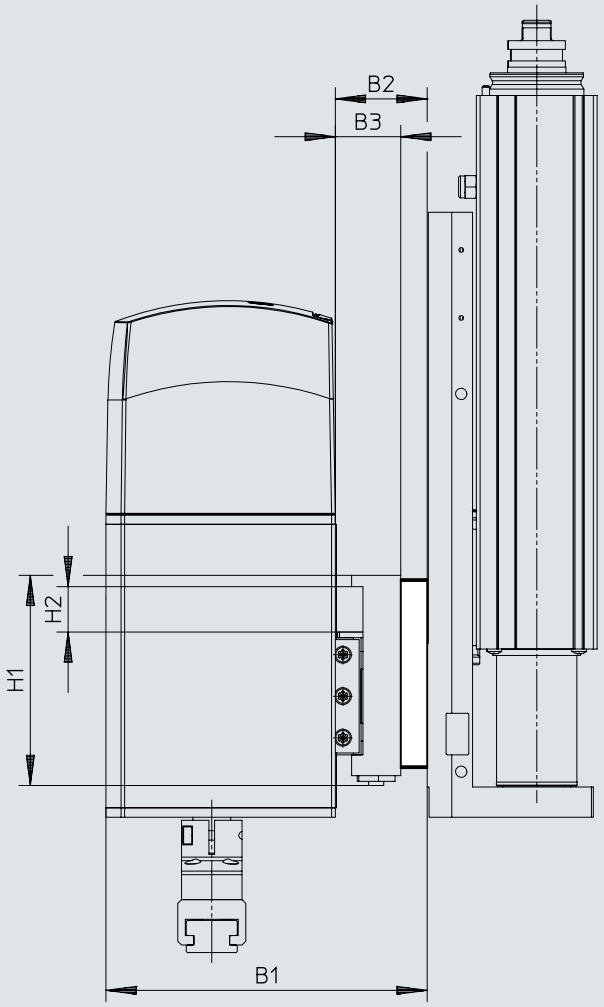
[1] Suitable screws and centring pins/sleeves are included in the scope of delivery.

	1)	B1	B2	B3	H1	H2[2)]
EHAM-E20-40-E19-25	EGSC-BS-25/32	85	24,3	17,3	55,6	12
EHAM-E20-40-E8-35	EGSL-BS-35/45					
EHAM-E20-40-E9-20	EGSK-20/26					

1) Stroke
2) Automatic Z-stroke compensation.

Dimensions

Dimensions – With rigid mountings EHAM-E20-40 Download CAD data www.festo.com



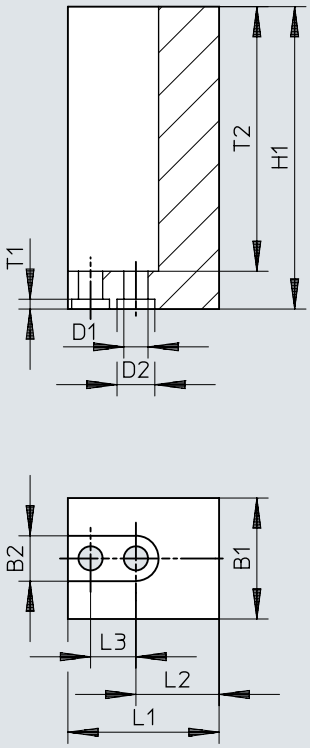
[1] Suitable screws and centring pins/sleeves are included in the scope of delivery.

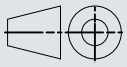
	1)	B1	B2	B3	H1
EHAM-E20-40-E19-25	EGSC-BS-25/32	74,5	13,8	6,8	30
EHAM-E20-40-E8-35	EGSL-BS-35/45				
EHAM-E20-40-E9-20	EGSK-20/26				

1) Stroke

Dimensions

Dimensions – Gripper jaw blank BUB-HGPT Download CAD data www.festo.com





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

	B1 ±0,05	B2 H13	D1 ø H13	D2 ø H8	H1 ±0,05	L1 ±0,05	L2[1)]	L3[1)]	T1 +0,1	T2
BUB-HGPT-16-B	16	6	3,2	5	40	21	10	8	1,3	35

1) Tolerance for centring hole ±0.02 mm Tolerance for thread ±0.1 mm

Ordering data

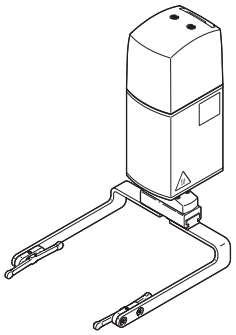
Ordering data for size 40

	Rotary module drive system	Gripper drive system	Stroke per gripper jaws	Part no.	Type
	Electric	Pneumatic	5 mm	**4790698**	**EHMD-40-RE-GP**
		Electric		**4788875**	**EHMD-40-RE-GE**
			15 mm	**8099502**	**EHMD-40-RE-GE-16**

Ordering data for size 50

	Rotary module drive system	Gripper drive system	Stroke per gripper jaws	Part no.	Type
	Electric	Electric	15 mm	**8176191**	**EHMD-50-RE-GE-15**

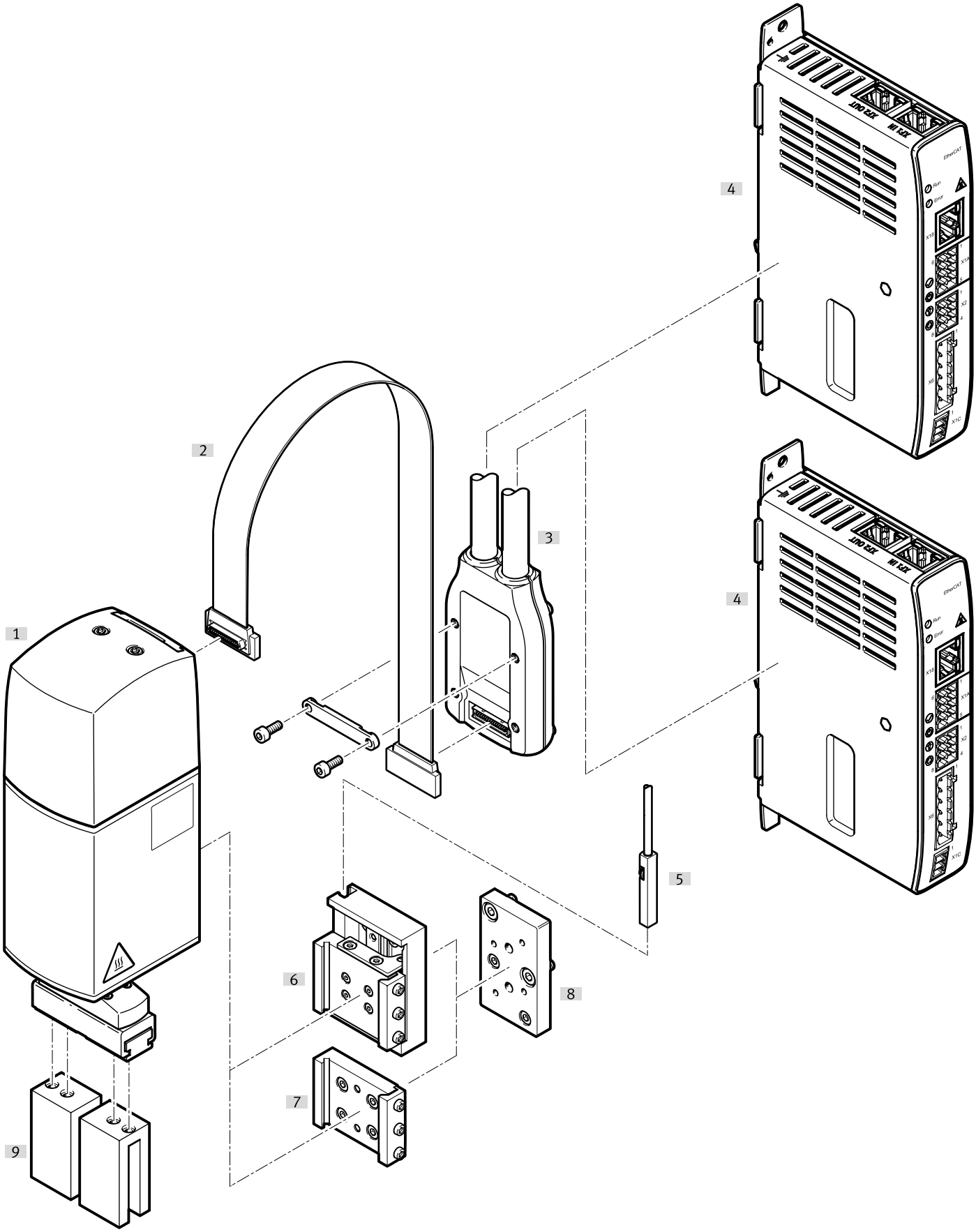
Transport of microwell plates



- Suitable for: EHMD-40-RE-GP and EHMD-40-RE-GE
- Specially developed gripper jaws enable microwell plates to be picked or transported (for SBS/ANSI formats).
- (see accessories for ordering details)

Peripherals

Peripherals overview electric gripping

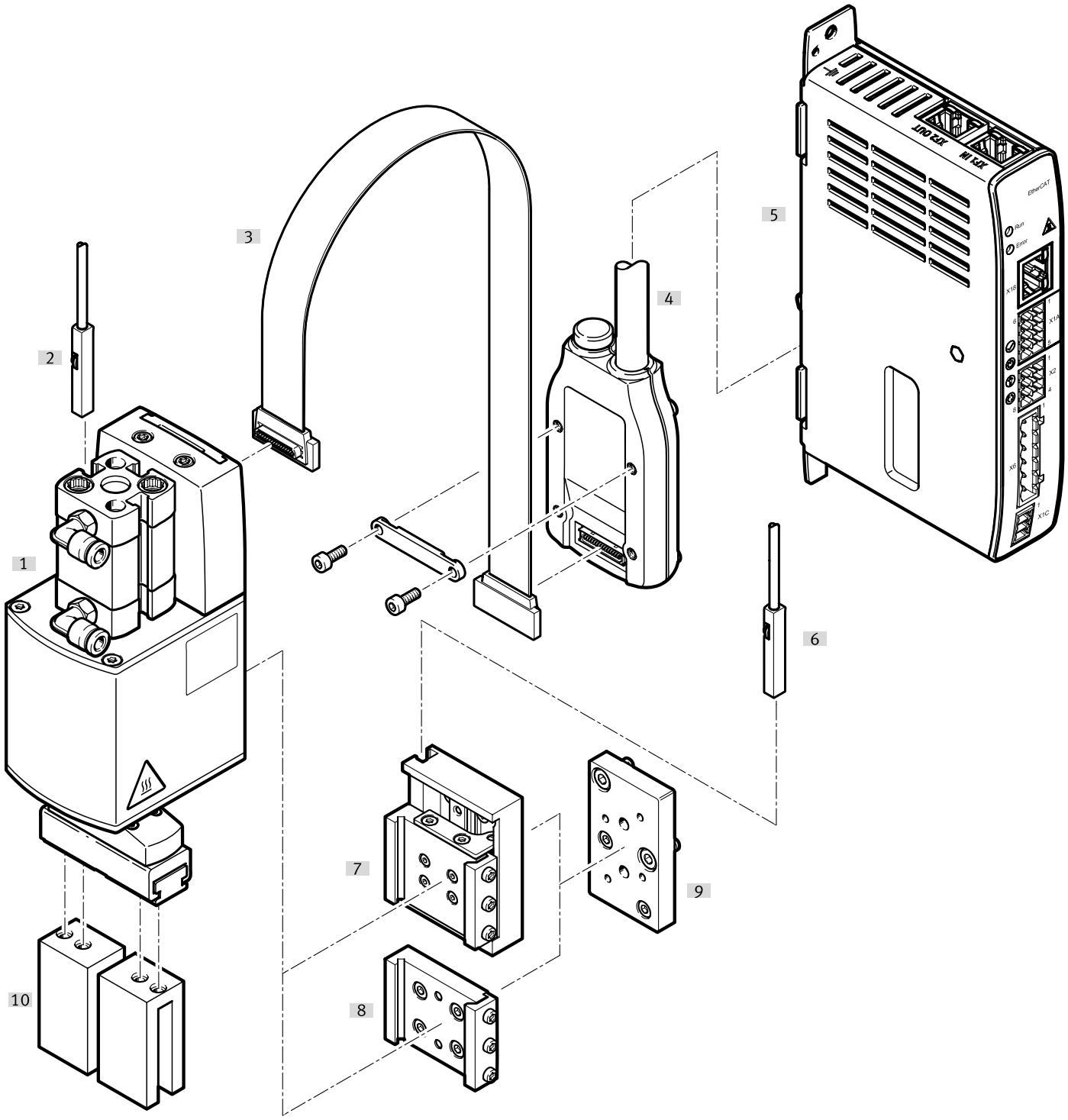


Peripherals

Accessories			→ Link
	Type/order code	Description	
[1]	Rotary gripper module EHMD	Electric drive	ehmd
[2]	Motor cable NEBM-F1W31	• Connecting cable between EHMD and motor cable NEBM-SF1 • The cable is mandatory for compliance with the EMC Directive	35
[3]	Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and servo drive CMMT-ST	35
[4]	Servo drive CMMT-ST	For positioning the rotary or gripping motion	35
[5]	Proximity switch, T-slot SIES-M8	Inductive proximity sensor for sensing the Z-compensation position	36
[6]	Mounting (with Z-compensation) EHAM-E20-40-Z	• Mounting option via dovetail mounting • The mounting makes it possible to fit or remove covers from vials, for example, without additional Z-axis (Z-compensation = 12 mm)	34
[7]	Mounting (rigid) EHAM-E20-40	Mounting option via dovetail mounting	34
[8]	Adapter kit EHAM-E20-40-E...	To fit the mountings on the Z-axes: • Mini slide EGSC-BS-25/32 • Mini slide EGSL-BS-35/45 • Electric slide EGSK-20/26	34
[9]	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	34

Peripherals

Peripherals overview pneumatic gripping



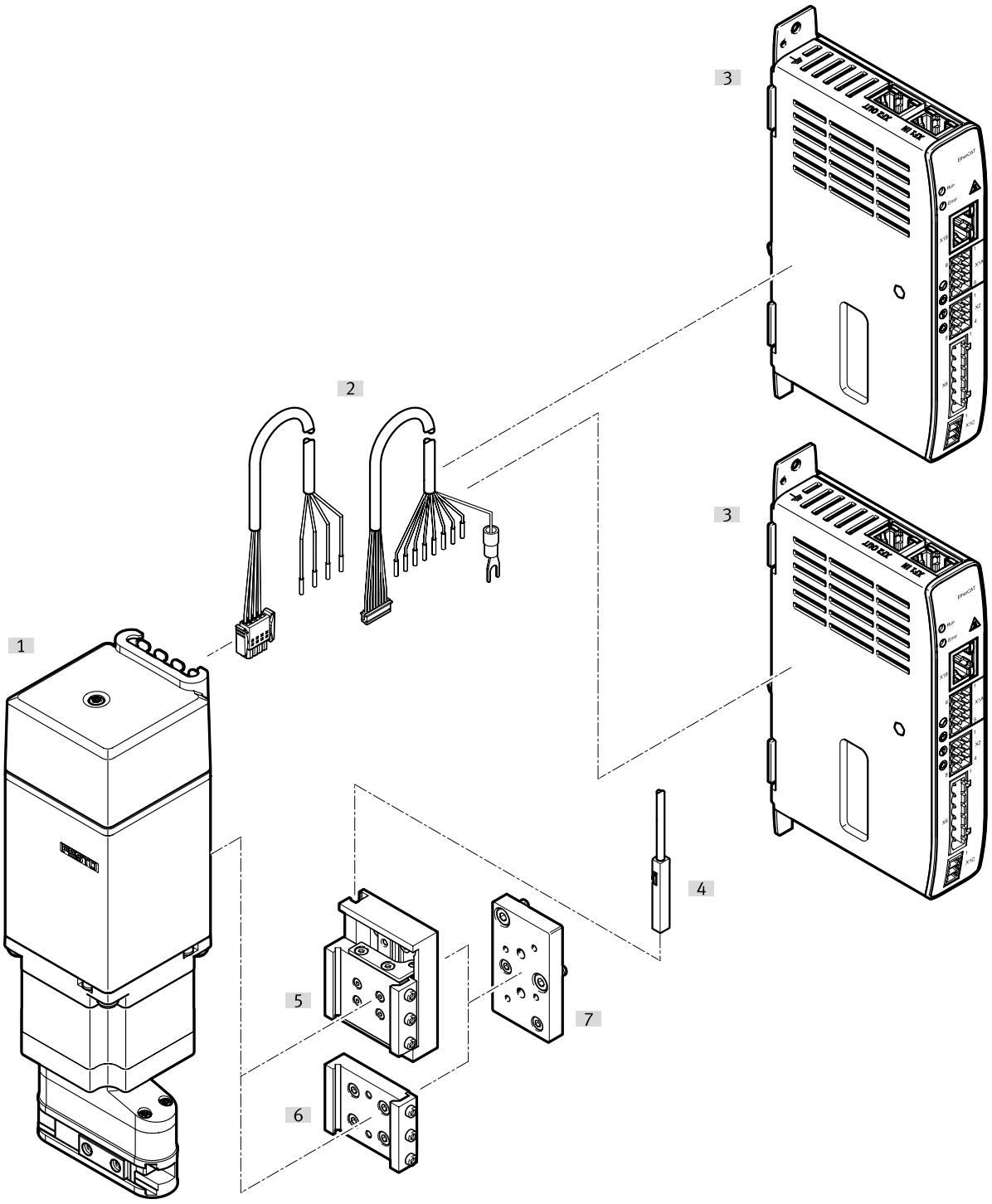
Accessories			→ Link
	Type/order code	Description	
[1]	Rotary gripper module EHMD	Electric drive	ehmd
[2]	Proximity switch, T-slot SMT-M8	Proximity sensor for sensing the position of the gripper fingers (open/closed)	36
[2]	Proximity switch, T-slot SME-M8	Proximity sensor for sensing the position of the gripper fingers (open/closed)	36
[3]	Motor cable NEBM-F1W31	• Connecting cable between EHMD and motor cable NEBM-SF1 • The cable is mandatory for compliance with the EMC Directive	35
[4]	Motor cable NEBM-SF1	Cable with adapter between motor cable NEBM-F1 and servo drive CMMT-ST	35
[5]	Servo drive CMMT-ST	For positioning the rotary movement	35
[6]	Proximity switch, T-slot SIES-M8	Inductive proximity sensor for sensing the Z-compensation position	36

Peripherals

Accessories			→ Link
	Type/order code	Description	
[7]	Mounting (with Z-compensation) EHAM-E20-40-Z	• Mounting option via dovetail mounting • The mounting makes it possible to fit or remove covers from vials, for example, without additional Z-axis (Z-compensation = 12 mm)	34
[8]	Mounting (rigid) EHAM-E20-40	Mounting option via dovetail mounting	34
[9]	Adapter kit EHAM-E20-40-E...	To fit the mountings on the Z-axes: • Mini slide EGSC-BS-25/32 • Mini slide EGSL-BS-35/45 • Electric slide EGSK-20/26	34
[10]	Gripper jaw blank BUB-HGPT-16-B	Blanks specially matched to the gripper jaws for manufacturing gripper fingers	34

Peripherals

Peripherals overview electric gripping



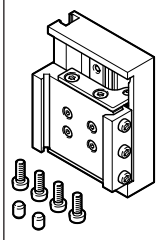
Accessories			→ Link
	Type/order code	Description	
[1]	Rotary gripper module EHMD	Electric drive	ehmd
[2]	Motor cable NEBM-L15G24	• Connecting cable between EHMD and motor cable NEBM-SF1 • The cable is mandatory for compliance with the EMC Directive	35
[3]	Servo drive CMMT-ST	For positioning the rotary or gripping motion	35
[4]	Proximity switch, T-slot SIES-M8	Inductive proximity sensor for sensing the Z-compensation position	36
[5]	Mounting (with Z-compensation) EHAM-E20-40-Z	• Mounting option via dovetail mounting • With the mounting, covers can be fitted on or removed from vials, for example, without additional Z-axis (Z-compensation = 12 mm)	34
[6]	Mounting (rigid) EHAM-E20-40	Mounting option via dovetail mounting	34

Peripherals

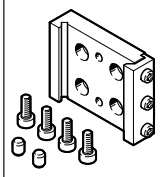
Accessories			→ Link
	Type/order code	Description	
[7]	Adapter kit EHAM-E20-40-E...	To fit the mountings on the Z-axes: • Mini slide EGSC-BS-25/32 • Mini slide EGSL-BS-35/45 • Electric slide EGSK-20/26	34

Accessories

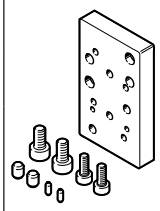
Mounting EHAM-E20-40-Z

	Mounting position	Material adapter plate	Product weight	Part no.	Type
	Vertical	Wrought aluminium alloy	82 g	**5293408**	**EHAM-E20-40-Z**

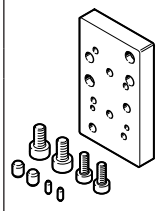
Mounting EHAM-E20-40

	Mounting position	Material adapter plate	Product weight	Part no.	Type
	Any	Wrought aluminium alloy	26 g	**4991965**	**EHAM-E20-40**

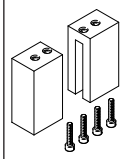
Adapter kit EHAM-E20-40-E for EHMD-40

	Description	Mounting position	Material adapter plate	Product weight	Part no.	Type
	For EGSL-BS-35/45	Any	Wrought aluminium alloy	24 g	**8081015**	**EHAM-E20-40-E8-35**
	For EGSC-BS-25/32			30 g	**8080760**	**EHAM-E20-40-E19-25**
	for EGSK-20/26			36 g	**8081016**	**EHAM-E20-40-E9-20**

Adapter kit EHAM-E20-40-E for EHMD-50

	Description	Mounting position	Material adapter plate	Product weight	Part no.	Type
	For EGSC-BS-35/45	Any	Wrought aluminium alloy	24 g	**8081015**	**EHAM-E20-40-E8-35**
	For EGSC-BS-32			30 g	**8080760**	**EHAM-E20-40-E19-25**
	For EGSK-20/26			36 g	**8081016**	**EHAM-E20-40-E9-20**

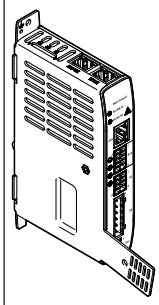
Gripper jaw blank BUB-HGPT

	Type of mounting [1]	Material unmachined part	Product weight per gripper jaw	Part no.	Type
	Via through-hole and centring sleeve	Wrought aluminium alloy	29 g	**560244**	**BUB-HGPT-16-B**

1) Not permitted for EHMD-40-RE-GE-16.

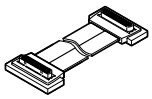
Accessories

Servo drive — Link cmmt-st

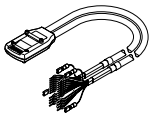
	Type of mounting [1]	Field bus, protocol	Part no.	Type
	Mounting plate, attached with screws, via DIN rail	EtherCAT®, EtherNet/IP, PROFINET IRT	**8163946**	**CMMT-ST-C8-1C-MP-S0**

1) The assortment of plugs NEKM is included in the scope of delivery of the servo drive.

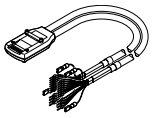
Motor cable NEBM-F1W31 for EHMD-40 — Link nebm

	Description	Cable length	Part no.	Type
	For EHMD-40-...-GE und EHMD-40-...-GP, Connecting cable between EHMD and motor cable NEBM-SF1	0.2 m	**8113317**	**NEBM-F1W31-XC-0.2-F1N-DF1W31**
		0.5 m	**8079819**	**NEBM-F1W31-XC-0.5-F1N-DF1W31**

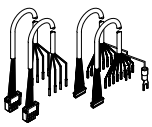
Motor cable NEBM-SF1W31 for EHMD-40 — Link nebm

	Description	Cable length	Part no.	Type
	For EHMD-40-...-GE, Line with adapter between motor cable NEBM-F1 and CMMT-ST	2.6 m	**5213342**	**NEBM-SF1W31-EH-2.6-Q15N-LE28**
		5 m	**8113307**	**NEBM-SF1W31-EH-5-Q15N-LE28**
		10 m	**8113309**	**NEBM-SF1W31-EH-10-Q15N-LE28**
	For EHMD-40-...-GP, Line with adapter between motor cable NEBM-F1 and CMMT-ST	2.6 m	**5213343**	**NEBM-SF1W31-EH-2.6-Q15N-LE14**
		5 m	**8113308**	**NEBM-SF1W31-EH-5-Q15N-LE14**
		10 m	**8113310**	**NEBM-SF1W31-EH-10-Q15N-LE14**

Motor cable NEBM-SF1W31, flexible cables for EHMD-40 — Link nebm

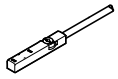
	Description	Cable length	Part no.	Type
	For EHMD-40-...-GE, Line with adapter between motor cable NEBM-F1 and CMMT-ST	1 m	**8219830**	**NEBM-SF1W31-E-1-N-LE24**
		3 m	**8219831**	**NEBM-SF1W31-E-3-N-LE24**
		5 m	**8219832**	**NEBM-SF1W31-E-5-N-LE24**

Connecting cable NEBM-L15G24 for EHMD-50 — Link nebm

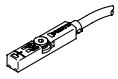
	Description	Cable length	Part no.	Type
	For EHMD-50-..., Connecting cable between EHMD and CMMT-ST	1 m	**8178801**	**NEBM-L15G24-ES-1-LE24**
		3 m	**8178802**	**NEBM-L15G24-ES-3-LE24**
		5 m	**8178803**	**NEBM-L15G24-ES-5-LE24**
		10 m	**8178804**	**NEBM-L15G24-ES-10-LE24**

Accessories

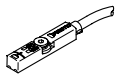
Proximity switch for T-slot, inductive — Link sies-8m

	Switching element function	Type of mounting	Switching output	Electrical connection 1, connection type	Cable length	Part no.	Type
	N/C contact	Flush with T groove, Screw-clamped, Insertable in the slot from above	NPN	Cable	7.5 m	**551401**	**SIES-8M-NO-24V-K-7,5-OE**
				Cable with plug	0.3 m	**551402**	**SIES-8M-NO-24V-K-0,3-M8D**
			PNP	Cable	7.5 m	**551391**	**SIES-8M-PO-24V-K-7,5-OE**
				Cable with plug	0.3 m	**551392**	**SIES-8M-PO-24V-K-0,3-M8D**
	N/O contact		NPN	Cable	7.5 m	**551396**	**SIES-8M-NS-24V-K-7,5-OE**
				Cable with plug	0.3 m	**551397**	**SIES-8M-NS-24V-K-0,3-M8D**
			PNP	Cable	7.5 m	**551386**	**SIES-8M-PS-24V-K-7,5-OE**
				Cable with plug	0.3 m	**551387**	**SIES-8M-PS-24V-K-0,3-M8D**

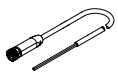
Proximity switch for T-slot, magneto-resistive — Link smt-8m

	Switching element function	Type of mounting	Switching output	Electrical connection 1, connection type	Cable length	Part no.	Type
	N/O contact	Screw-clamped, Insertable in the slot from above	NPN	Cable	2.5 m	**574338**	**SMT-8M-A-NS-24V-E-2,5-OE**
				Cable with plug	0.3 m	**574339**	**SMT-8M-A-NS-24V-E-0,3-M8D**
			PNP	Cable	2.5 m	**574335**	**SMT-8M-A-PS-24V-E-2,5-OE**
				Cable with plug	0.3 m	**574334**	**SMT-8M-A-PS-24V-E-0,3-M8D**
						574337	**SMT-8M-A-PS-24V-E-0,3-M12**

Proximity switch for T-slot, magnetic, reed — Link sme-8m

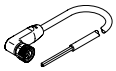
	Switching element function	Type of mounting	Switching output	Electrical connection 1, connection type	Cable length	Part no.	Type
	N/O contact	Screw-clamped, Insertable in the slot from above	Contacting, bipolar	Cable	2.5 m	**543872**	**SME-8M-ZS-24V-K-2,5-OE**
						543862	**SME-8M-DS-24V-K-2,5-OE**
					5 m	**543863**	**SME-8M-DS-24V-K-5,0-OE**
				Cable with plug	0.3 m	**543861**	**SME-8M-DS-24V-K-0,3-M8D**

Connecting cable NEBA, straight

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	**8078223**	**NEBA-M8G3-U-2.5-N-LE3**
				5 m	**8078224**	**NEBA-M8G3-U-5-N-LE3**

Accessories

Connecting cable NEBA, angled

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/ cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	**8078230**	**NEBA-M8W3-U-2.5-N-LE3**
				5 m	**8078231**	**NEBA-M8W3-U-5-N-LE3**

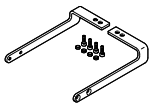
Centring pin ZBS-4

	Material sleeve	Size of pack	Product weight	Part no.	Type
	High-alloy stainless steel	10	0.5 g	**562959**	**ZBS-4**

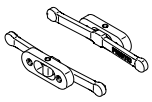
Centring sleeve ZBH-5

	Material sleeve	Size of pack	Product weight	Part no.	Type
	Steel	10	1 g	**8146543**	**ZBH-5-B**

Gripper jaw mounting for microwell plates (only for EHMD-40-RE-GP and EHMD-40-RE-GE)

	Material bracket	Product weight	Part no.	Type
	High-alloy stainless steel	95 g	**8191126**	**EHAA-G1-E20-40-GGA1-AP**

Gripping jaws for microwell plates (only for EHMD-40-RE-GP and EHMD-40-RE-GE)

	Material gripper jaws	Product weight	Part no.	Type
	High-alloy stainless steel	24.4 g	**8119108**	**DHAS-GG-B18-16-A1**