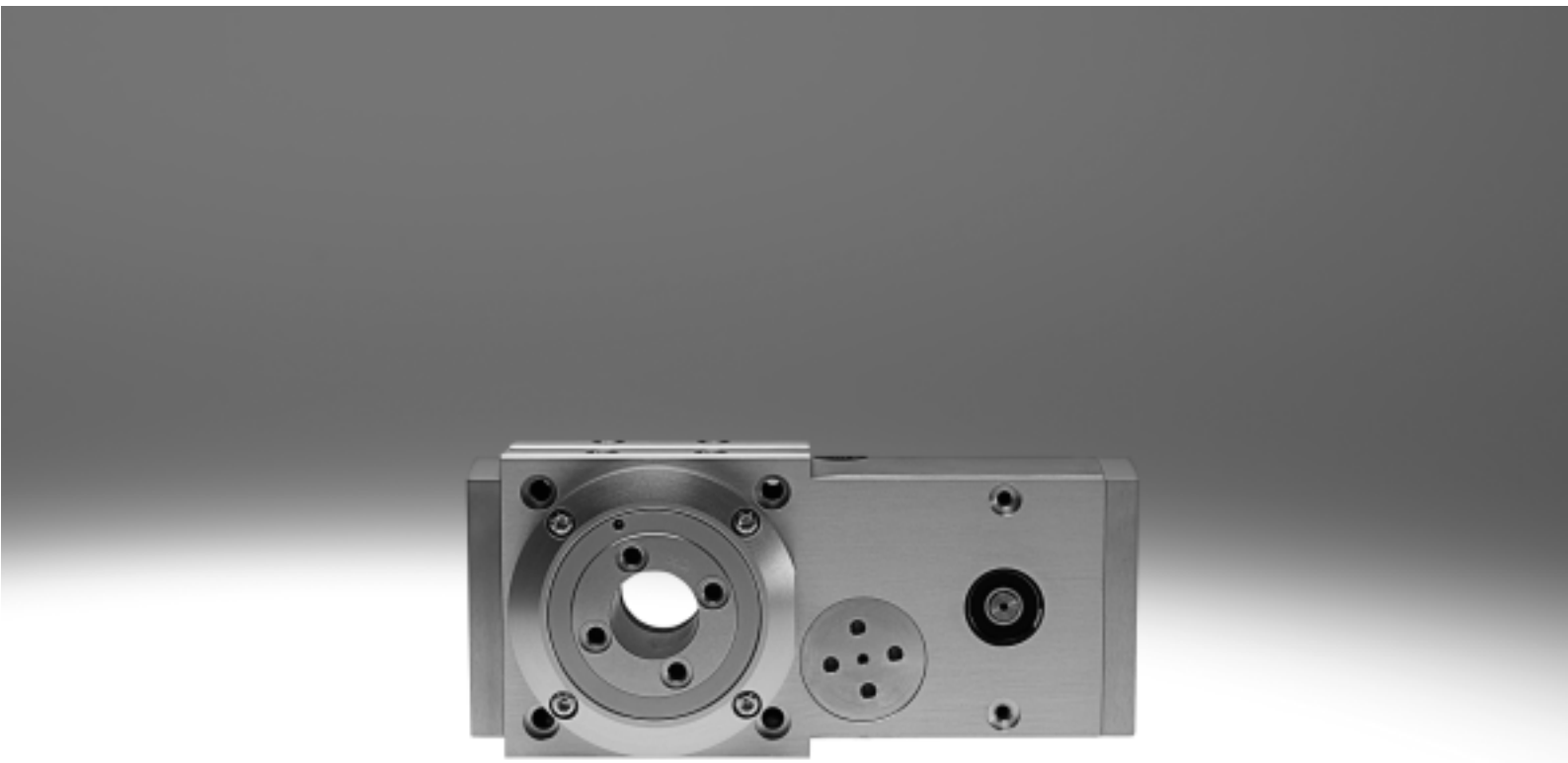
Rotary modules ERMB, electric

FESTO



Rotary modules ERMB, electric

Key features

At a glance

The rotary module ERMB facilitates unlimited and flexible rotation angles. The output interface is the same as on the pneumatic semi-rotary drive DRQD.

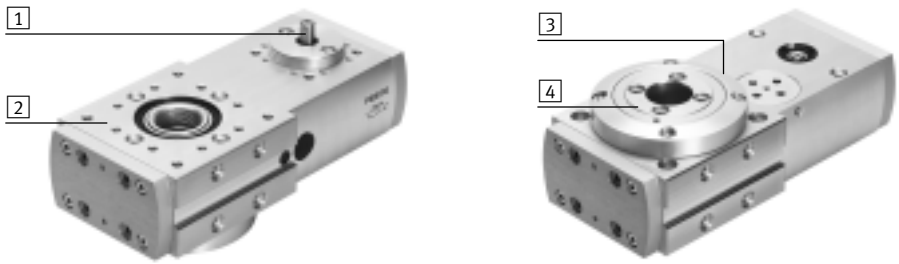
The motor's power is transmitted to the output pinion via a recirculating toothed belt with a specific transmission ratio. The drive and output pinions run on separate bearings. The toothed belt is pretensioned at the factory using an eccentric tensioning roller.

Advantages :

- Stable output shaft bearings
- Pretensioned toothed belt means low backlash
- Compact design

The technology in detail

1 Interface for motor, through axial kit
2 Interface for mounting
3 Mounting for proximity sensor SIEN in the retaining ring
4 Output interface:
Interface the same as on the semi-rotary drive DRQD (with large through-hole)



Sensing kit EAPS as an accessory

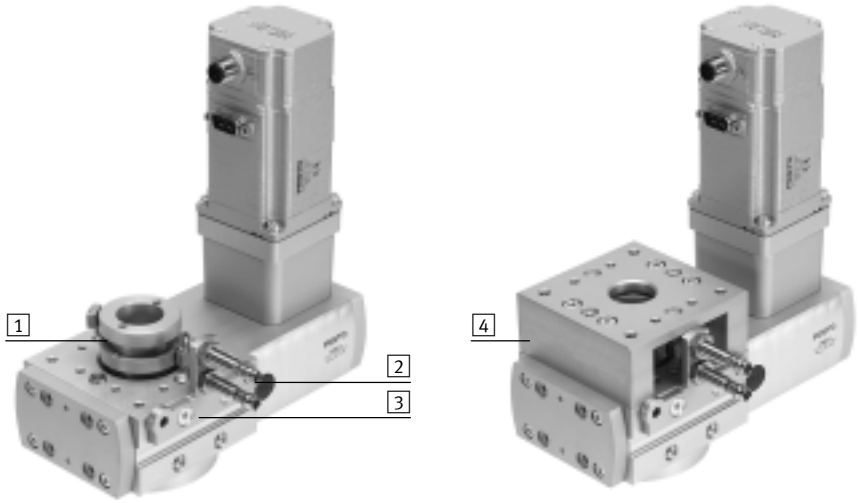
➔ page 16

With the sensing kit, the angle of rotation can be monitored using adjustable cams. The kit can also be used for reference checking.

1 Trip cam support
2 Proximity sensor SIEN
3 Sensor bracket
4 Housing

Without housing

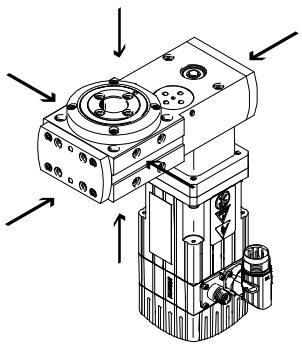
With housing



Mounting and installation possibilities

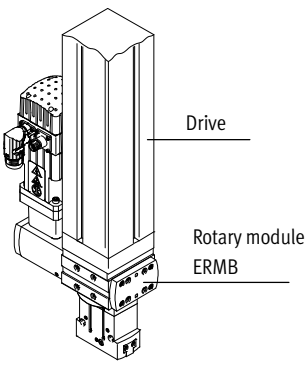
Mounting option

The rotary module can be attached on 6 sides.

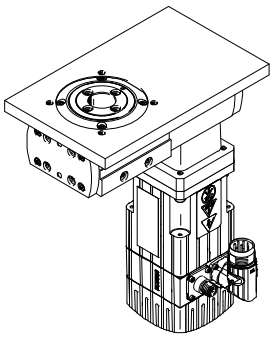


Installation option

As a front unit



As a rotary table in a plate



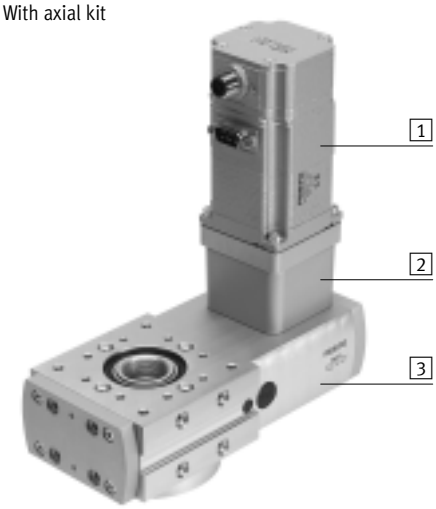
Rotary modules ERMB, electric

Key features

Total system comprising rotary module, motor and axial kit

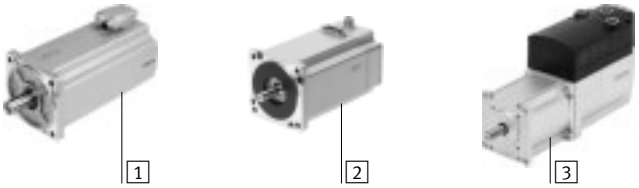
Rotary module ➔ page 6

With axial kit



1 Motor
2 Axial kit
3 Rotary module

Motors ➔page 18

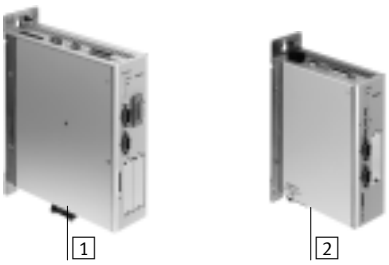


1 Servo motor EMME-AS, EMMS-AS
2 Stepper motor EMMS-ST
3 Integrated drive EMCA

Note

A range of specially adapted complete solutions is available for the rotary module ERMB and the motors.

Motor controller Technical data ➔ Internet: motor controller



1 Servo motor controller CMMP-AS
2 Stepper motor controller CMMS-ST

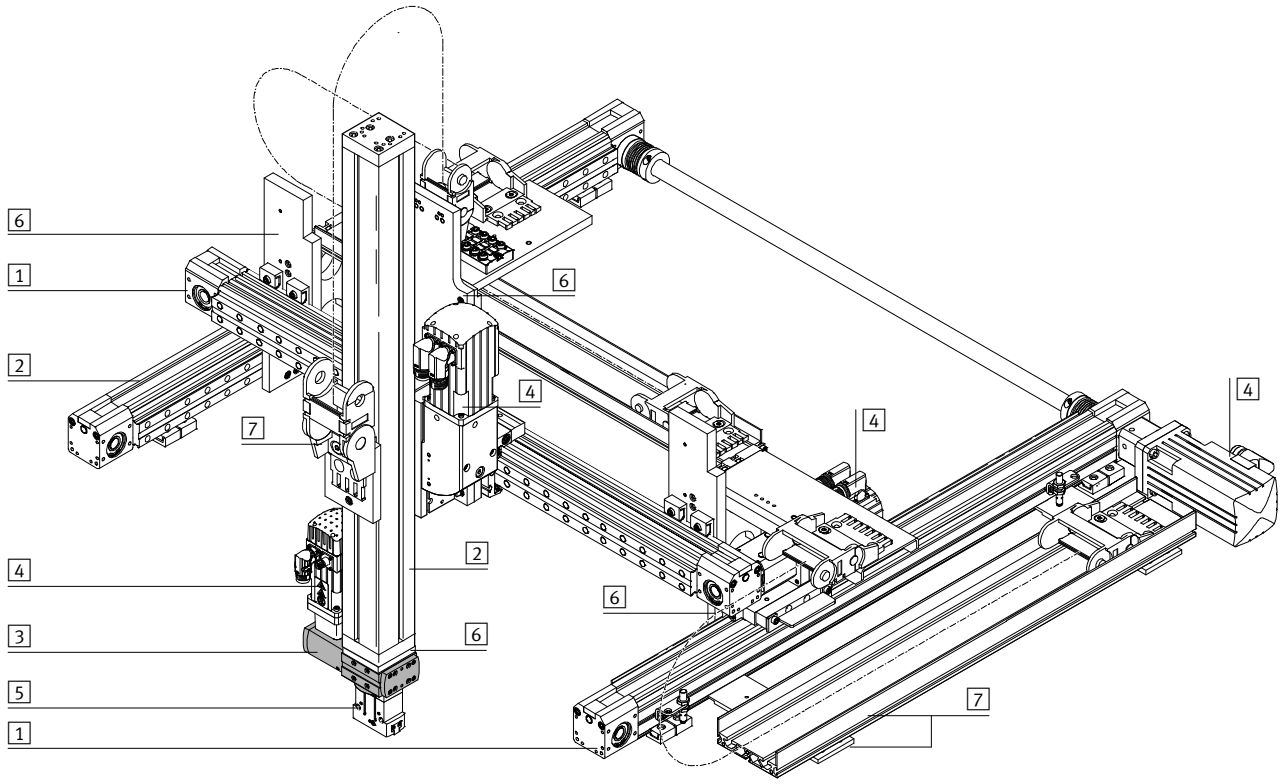
Axial kit ➔page 18

Kit comprising:
- Motor flange
- Coupling housing
- Coupling
- Screws

Rotary modules ERMB, electric

Key features

System product for handling and assembly technology



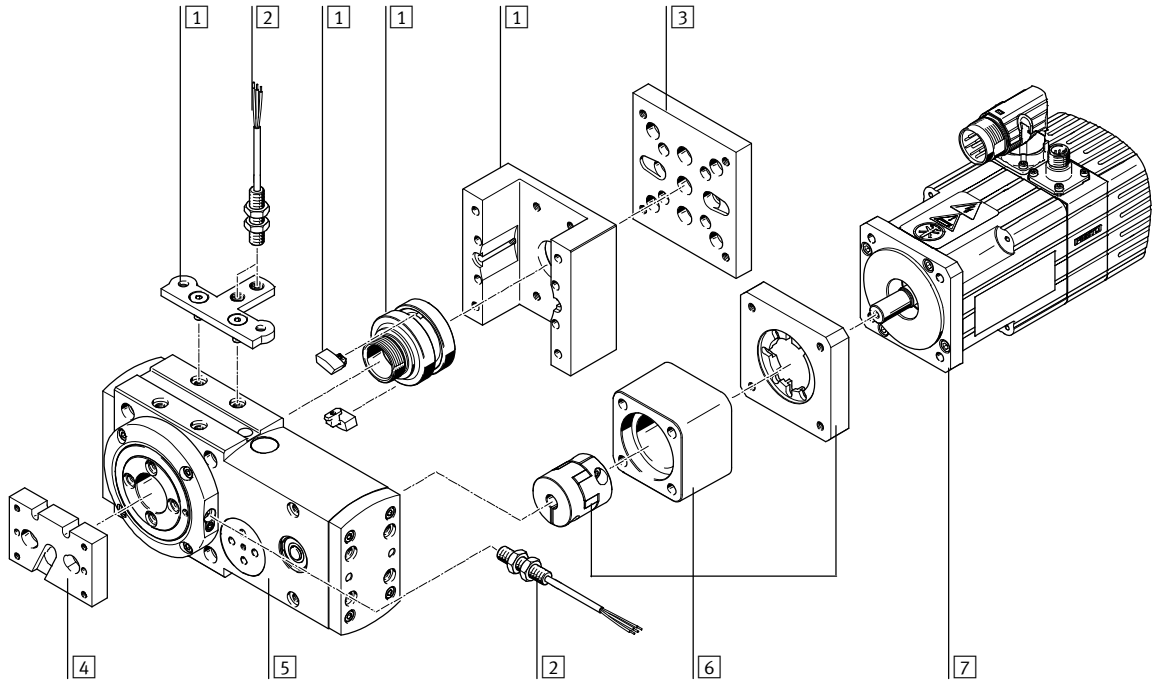
System components and accessories

		Description	➔ Page/Internet
1	Axes	Wide range of combinations possible as part of handling and assembly systems	axis
2	Guide axes	For supporting force and torque capacity in multi-axis applications	guide axis
3	Rotary module	Wide range of combinations possible as part of handling and assembly systems	rotary module
4	Motors	Servo and stepper motors, with or without gearbox	motor
5	Grippers	Wide range of variations possible within handling and assembly technology	grippers
6	Adapters	For drive/drive connections	22
		For drive/gripper connections	grippers
7	Installation components	For a clear, safe layout of electrical cables and tubes	installation element

Rotary modules ERMB, electric

Type codes and peripherals overview

Peripherals overview



Accessories

	Type	Description	➔ Page/Internet
1	Sensing kit EAPS	For indicating impermissible angles of rotation, i.e. obstacles or areas that cannot be approached can be sensed using proximity sensors (Comprising: housing, trip cam support, 2 cams and sensor bracket)	21
2	Proximity sensor SIEN	For use as a signal or safety check	21
3	Adapter kit	Interface between the rotary module and drive (the rotary module can be attached to a drive with or without a sensing kit)	adapter kit
4	Adapter kit	Interface between the rotary module and gripper	adapter kit
5	Rotary module ERMB	Facilitates unlimited and flexible rotation angles	6
6	Axial kit EAMM-A	For axial motor mounting (consisting of: coupling, coupling housing and motor flange)	18
7	Motor EMMS, EMME, EMCA	• Motors specially matched to the axis, with or without brake • The motor can be mounted turned by 90° depending on the requirement. This means the connection side can be freely selected	18

Type codes

ERMB	–	25

Type	
ERMB	Rotary module

Size	
20	Size 20
25	Size 25
32	Size 32

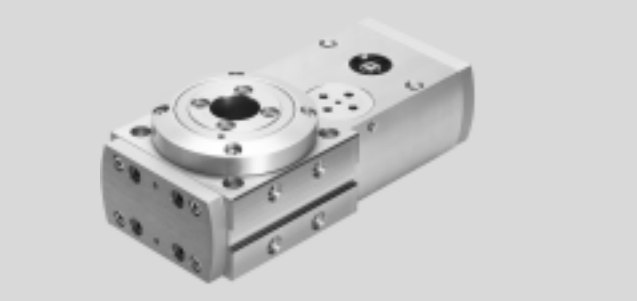
Rotary modules ERMB, electric

Technical data

FESTO

Size
20, 25, 32

www.festo.com



General technical data				
Size		20	25	32
Design		Electromechanical rotary module with toothed belt		
Drive pinion ∅	[mm]	6	8	12
Rotation angle		Infinite		
Repetition accuracy[1]				
With servo motor EMMS-AS	[°]	±0.03		
With stepper motor EMMS-ST[2]	[°]	±0.08		
With integrated drive EMCA	[°]	±0.05		
Positioning times		→ page 9		
Transmission ratio		4.5:1	4:1	3:1
Position sensing		Via proximity sensor		
Assembly position		Any		
Product weight	[g]	850	1460	3250

1) As per FN 942 027. The specifications apply only when the motor is directly mounted. If a gear unit is also installed, the repetition accuracy wil be different
2) Dependent on the encoder resolution.

Mechanical data				
Size		20	25	32
Max. driving torque	[Nm]	0.7	2.2	8.5
Max. output torque[1]	[Nm]	3.15	8.8	25.5
Average no-load driving torque[2]	[Nm]	< 0.07	< 0.18	≤ 0.5
Max. input speed	[rpm]	1350	1200	900
Max. output speed	[rpm]	300	300	300
Toothed belt pitch		2	3	5
Hollow shaft∅	[mm]	20	24	28

1) Output torque minus friction dependent on speed.
2) At maximum rotational speed.

Operating and environmental conditions				
Size		20	25	32
Ambient temperature	[°C]	–10 … +60		
Degree of protection		IP20		
Corrosion resistance class CRC[1]		2		
Noise level $\overline{L}_{pAeq}$[2]	[dB (A)]	32	49	53

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.
2) In combination with servo motor EMMS-AS

Mechanical data			
Size	20	25	32
Max. mass moment of inertia[1] [kgcm^2]	1000	5000	10000
Max. inertia factor[2]			
for servo motor EMMS-AS/EMME-AS	45		
for stepper motor EMMS-ST	30		
for integrated drive EMCA	16		

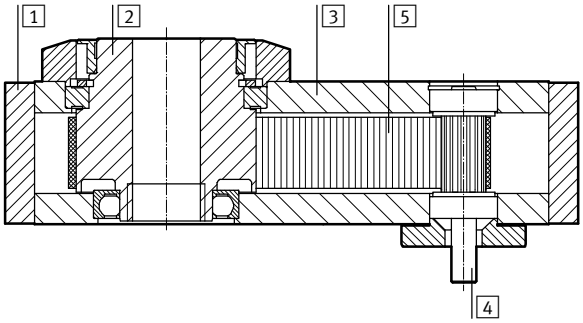
1) These values specify the upper limit independently of what is determined using the inertia factor.
2) The inertia factor represents the maximum controllable ratio between the inertia of the load and the intrinsic inertia of the motor with brake.

Example:
Rotary/lifting module ERMB-20 ➔ transmission ratio i = 4.5
Motor EMME-AS-40-S with brake ➔ intrinsic inertia 0.055 kgcm^2
Gearbox EMGA-40-P-G3-40 ➔ transmission ratio i = 3

Limit for the inertia of the load (+ intrinsic inertia) on the output side:
0.055 kgcm^2 x 45 x 3^2 x 4.5^2 = 451 kgcm^2

Materials

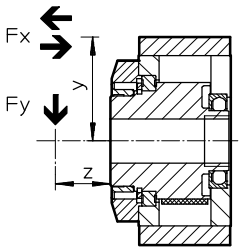
Sectional view



Rotary module		
1	End cap	Anodised aluminum
2	Drive shaft	Anodised wrought aluminium alloy
3	Housing	Anodised wrought aluminium alloy
4	Drive shaft	High-alloy stainless steel
5	Toothed belt	Polychloroprene with glass fibre
	Note on materials	Contains paint-wetting impairment substances

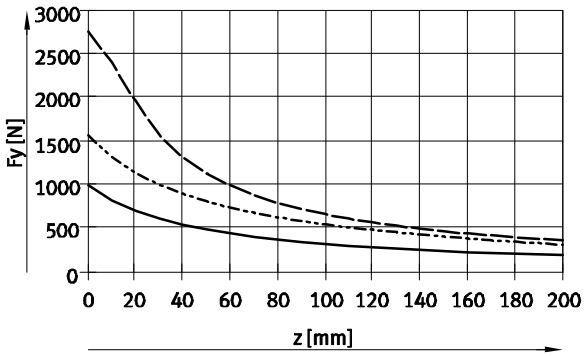
Maximum radial and axial force Fx/Fy on the output shaft as a function of the distance y/z

If the rotary module is subjected to two or more forces at once, the following equation must be satisfied in addition to the maximum loads indicated below.

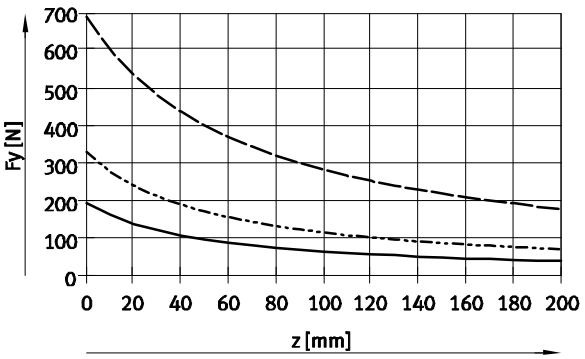


$$\frac{F_{y\,(z)}}{F_{y,\,max.\,(z)}} + \frac{F_{x,\,pushing\,(v)}}{F_{x,\,pushing,max.\,(v)}} + \frac{F_{x,\,pulling\,(v)}}{F_{x,\,pulling,max.\,(v)}} \leq 1$$

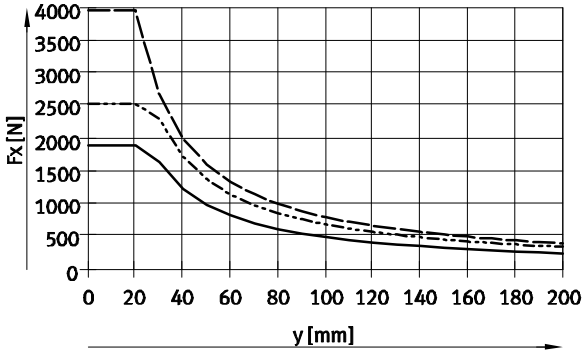
Max. radial force Fy, static



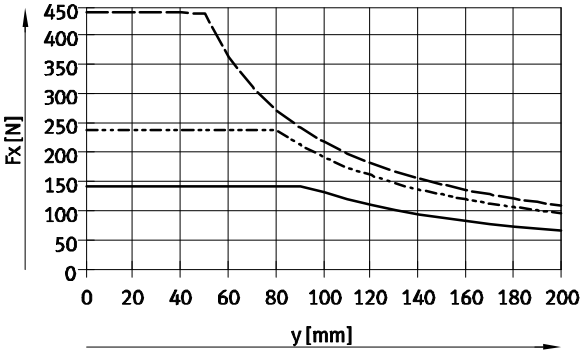
Max. radial force Fy, dynamic



Max. axial force Fx, static, pushing and pulling



Max. axial force Fx, dynamic, pushing and pulling

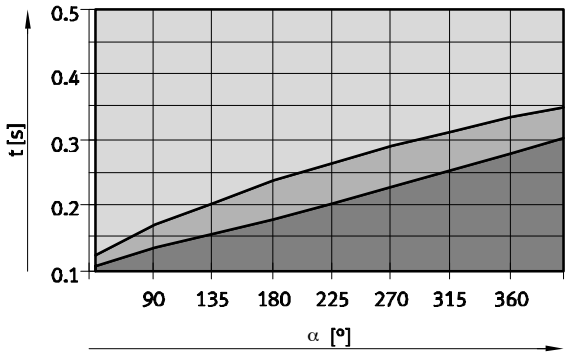


ERMB-20
ERMB-25
ERMB-32

Positioning time t as a function of the rotation angle α

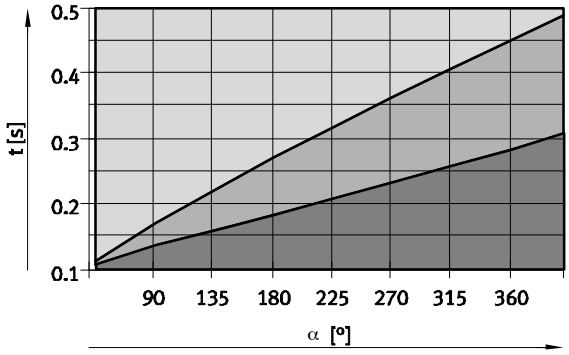
Size: 20

With servo motor EMMS-AS



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

With stepper motor EMMS-ST



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

- - Note

The positioning time t ends with the controller signal MC (motion complete), i.e. on the drive side.
Increased positioning times are to be expected at the output shaft depending on the motor type and eccentricity of the moving load.

With servo motor: 50 ... 100 ms
With stepper motor: 100 ... 200 ms

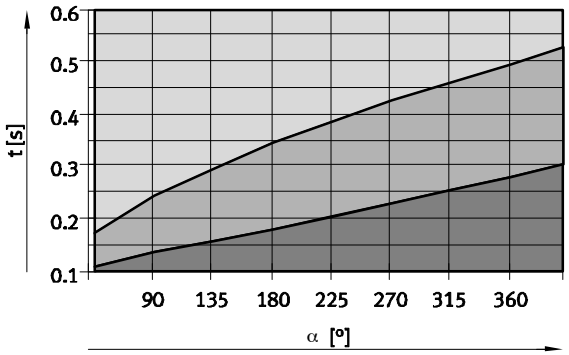
- - Note

The “PositioningDrives” engineering software compiles the optimum combination of rotary module and motor according application with regard to mass moment of inertia, positioning time, and positioning accuracy.
➔ www.festo.com

Positioning time t as a function of the rotation angle α

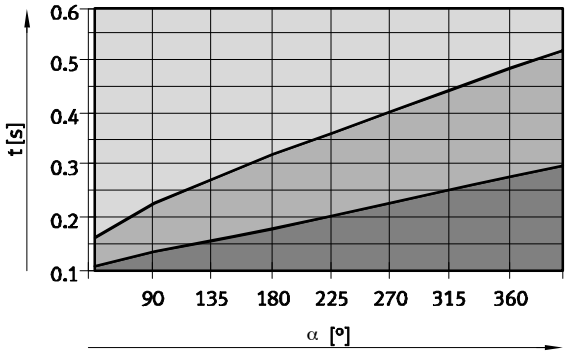
Size: 25

With servo motor EMMS-AS



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

With stepper motor EMMS-ST



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

- Note

The positioning time t ends with the controller signal MC (motion complete), i.e. on the drive side.
Increased positioning times are to be expected at the output shaft depending on the motor type and eccentricity of the moving load.

With servo motor: 50 ... 100 ms
With stepper motor: 100 ... 200 ms

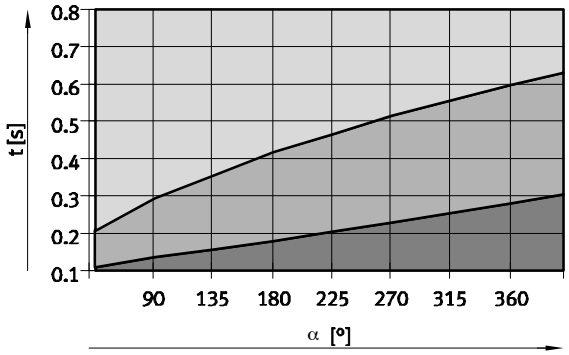
- Note

The “PositioningDrives” engineering software compiles the optimum combination of rotary module and motor according application with regard to mass moment of inertia, positioning time, and positioning accuracy.
➔ www.festo.com

Positioning time t as a function of the rotation angle α

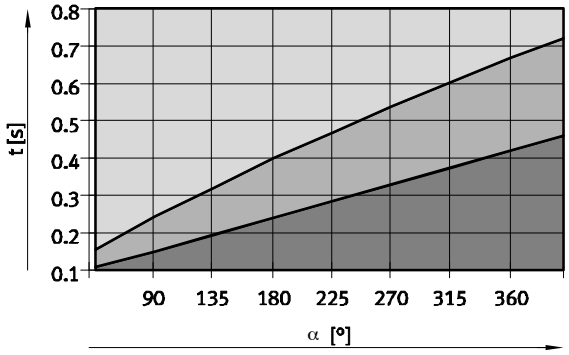
Size: 32

With servo motor EMMS-AS



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

With stepper motor EMMS-ST



Extended operating range
Typical operating range, depending on motor size and load inertia
Non-implementable range

Note

The positioning time t ends with the controller signal MC (motion complete), i.e. on the drive side.
Increased positioning times are to be expected at the output shaft depending on the motor type and eccentricity of the moving load.

With servo motor: 50 ... 100 ms
With stepper motor: 100 ... 200 ms

Note

The “PositioningDrives” engineering software compiles the optimum combination of rotary module and motor according application with regard to mass moment of inertia, positioning time, and positioning accuracy.
➔ www.festo.com

Information on service life values

Within the scope of the product qualification, the specified static stress cycle/ switching cycle is reached using 3 test objects.

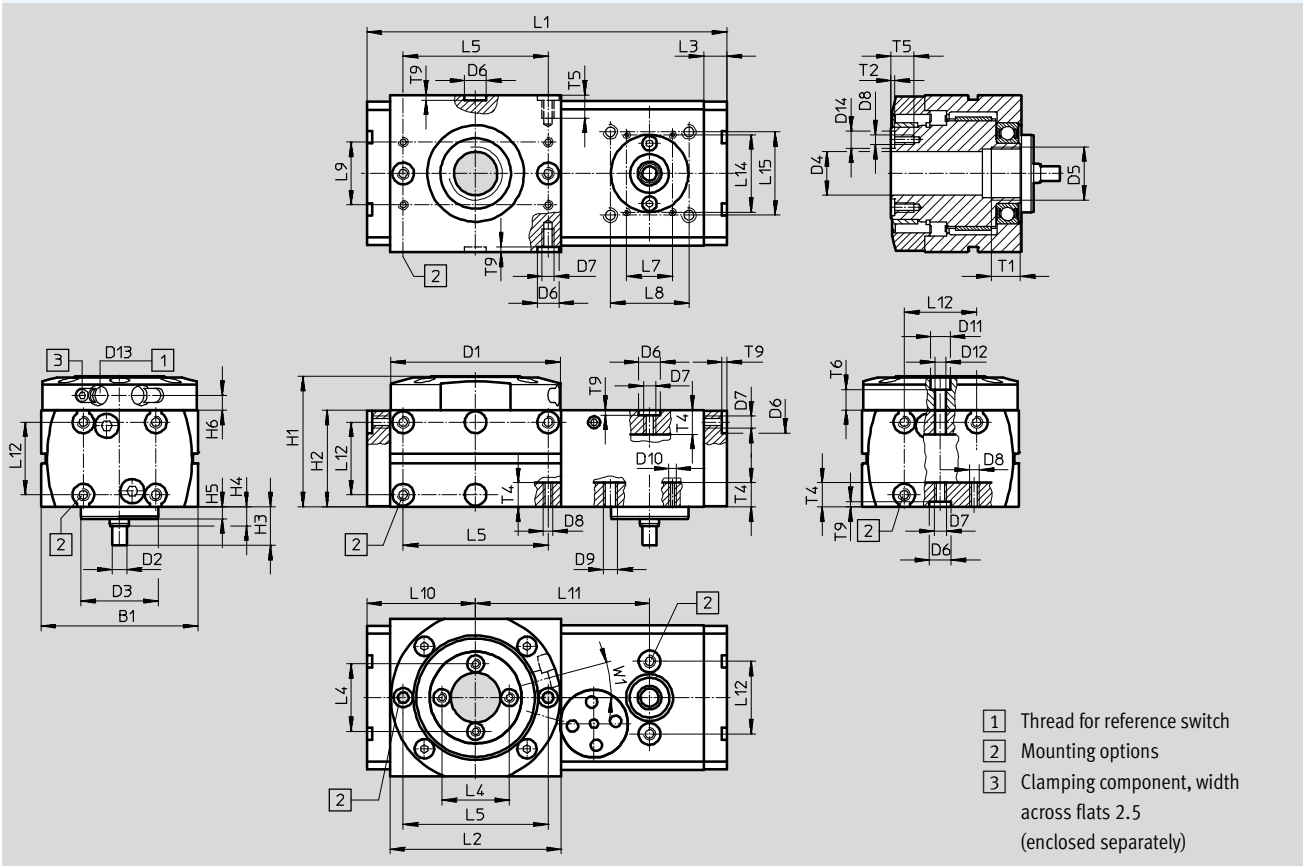
Definition of stress cycle/switching cycle:
One switching cycle corresponds to two stress cycles: Position A to Position B and back.

Size		20	25	32
Stress cycle reference value	[million]	30	40	40
Switching cycle reference value	[million]	15	20	20
Mass moment of inertia on output	[kgcm^2]	24	80	400
Average angular acceleration on output	[°/sec^2]	28000	20000	12000
Maximum angular velocity on output	[°/sec]	1800	1800	1800

The static stress cycles/switching cycles specified above were achieved under the following, defined operating conditions: horizontal, hanging installation, 180° swivel angle, frequency 2 Hz, mass moment of inertia, acceleration (vibration-free) and max. angular velocity according to the table, room temperature (23 ±5 °C).
Under deviating operating conditions, a shorter or longer service life may be achieved.
In addition, the working conditions and safety regulations specified in the product documentation must be observed.

Dimensions Download CAD data ➔ **www.festo.com**

Size 20



1 Thread for reference switch
2 Mounting options
3 Clamping component, width across flats 2.5 (enclosed separately)

Size	B1	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	D12	D13
		∅	∅	∅	∅		∅					∅	∅	
	±0.2	f9	H6	g7	H7		H7							
20	65	70	6	32	20	M22x1	9	M5	M4	M6	M3	8	4.5	M8x1

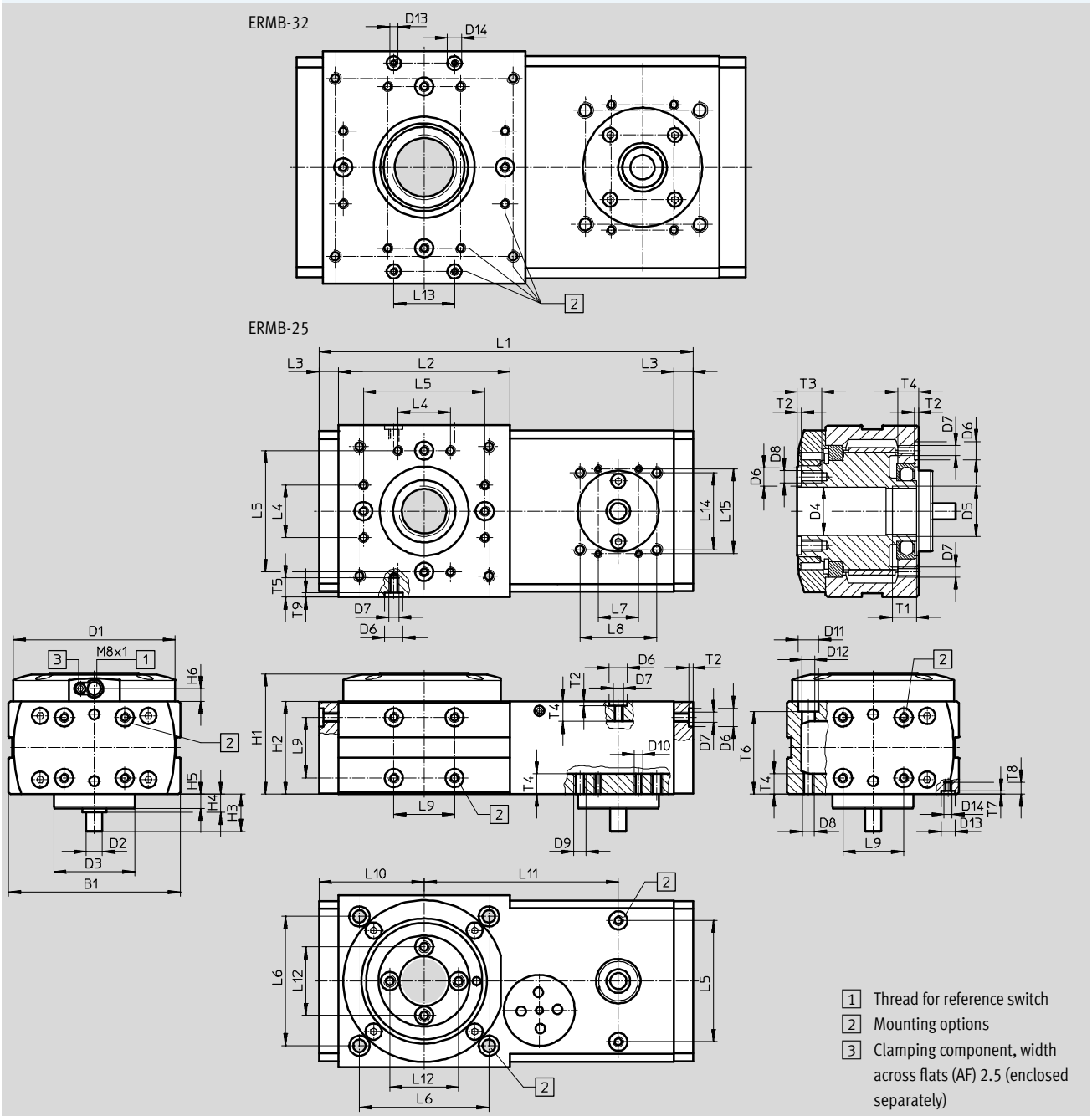
Size	D14	H1	H2	H3	H4	H5	H6	L1	L2	L3	L4[1)]	L5[1)]	L7	L8
	∅													
	H7	±0.5	±0.1					±0.5	±0.2	±0.1			±0.15	±0.15
20	7	54	40	15.9	7.9	5	6.15	149	71	9.5	28	60	19	32.5

Size	L9[1)]	L10	L11	L12[1)]	L14	L15	T1	T2	T4	T5	T6	T9	W1
			±0.05		±0.15	±0.15		+0.1		Min.		+0.2	
20	26	45	72	30	32	32.5	12	1.6	10	9.6	8.4	2.1	15°

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

Dimensions Download CAD data ➔ **www.festo.com**

Size 25/32



Rotary modules ERMB, electric

Technical data

Size	B1	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
		∅	∅	∅	∅		∅				
	±0.2	f9	H6	g7	H7		H7				
25	85	80	8	40	24	M25x1	9	M5	M6	M6	M4
32	115	112	12	60	28	M32x1.5	9	M5	M6	M8	M5

Size	D11	D12	D13	D14	H1	H2	H3	H4	H5	H6	L1
	∅	∅	∅								
			H7		±0.5	±0.1					±0.5
25	10	6.2	–	–	60	46	18.45	–	7	6.45	185
32	10	6.2	7	M4	76.05	60	23.5	6.5	6	9.4	222

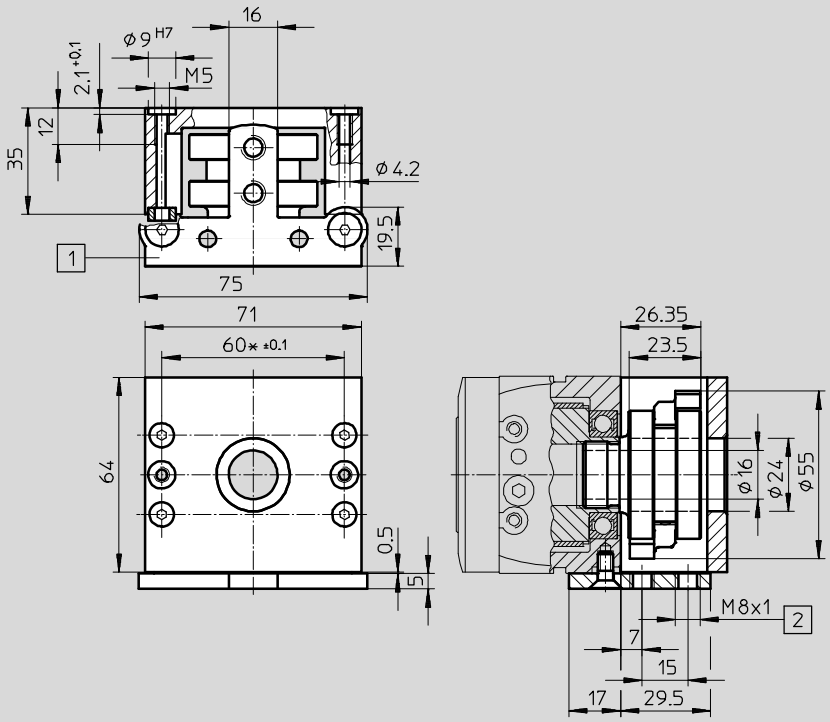
Size	L2	L3	L4	L5[1)]	L6	L7	L8	L9[1)]	L10	L11	L12[1)]	L13[1)]
	±0.2	±0.1	±0.1	±0.1		±0.15	±0.15	±0.1		±0.05	±0.1	±0.1
25	85	9.5	26	60	64 ±0.15	20	38	30	52	96	34	–
32	100	13	36	80	88 ±0.1	31	56.5	40	63	108	45	30

Size	L14	L15	L16	T1	T2	T3	T4	T5	T6	T7	T8	T9
	±0.15	±0.15	+0.2		+0.1	Min.		Min.		+0.1	Min.	+0.2
25	38	42	–	12	2.1	12	10	9.6	40.8±0,2	–	–	2.1
32	56.5	62	103	12	2.1	12	10	10	54.3	1.6	7.6	2.1

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

Dimensions Download CAD data ➔ **www.festo.com**

Sensing kit EAPS-R1-20-S for size 20

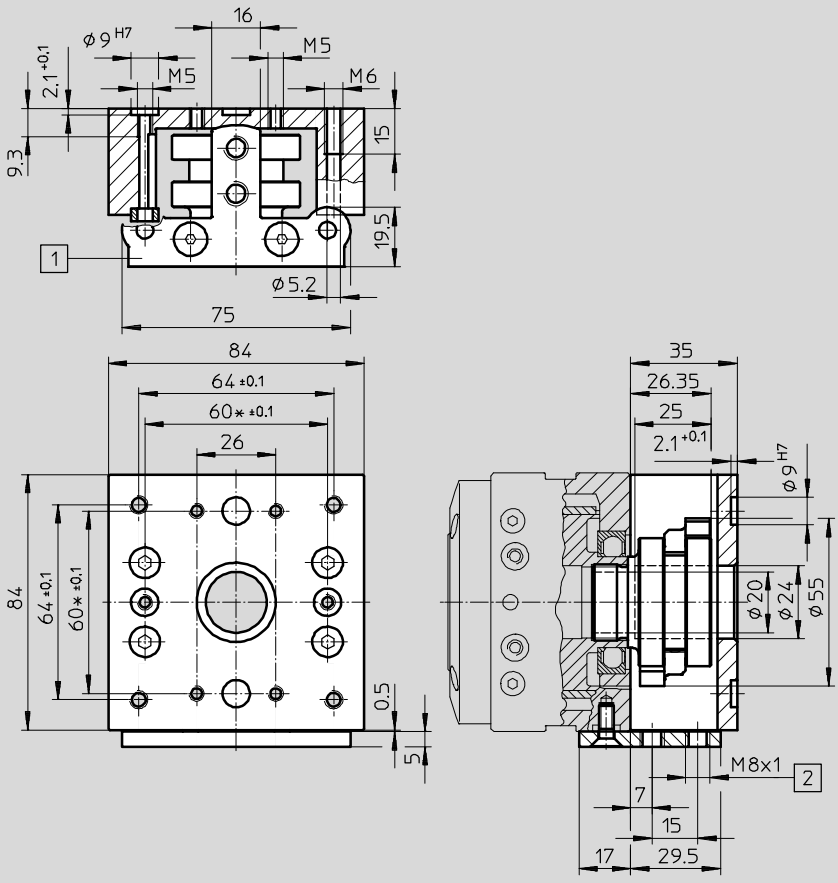


- Note

Ordering data ➔ page 21

* Tolerance between the centring holes ±0.02 mm
1 Sensor bracket for proximity sensor SIEN-M8B
2 Thread for proximity sensors SIEN-M8B

Sensing kit EAPS-R1-25-S for size 25



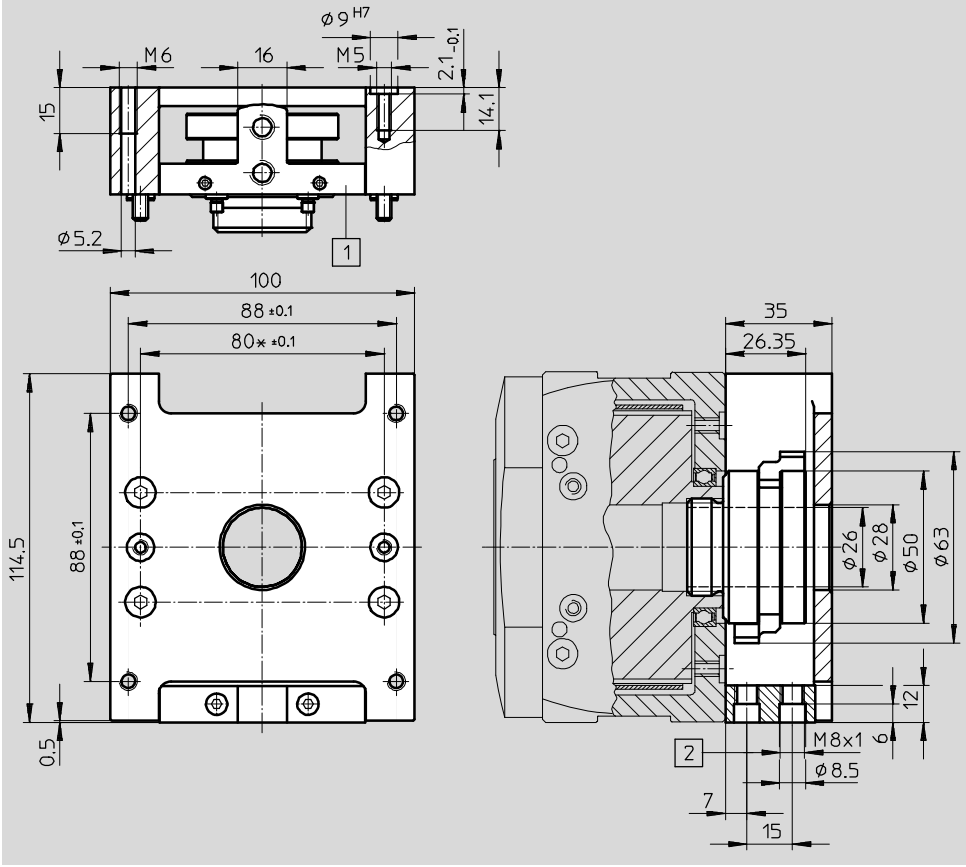
- Note

Ordering data ➔ page 21

* Tolerance between the centring holes ±0.02 mm
1 Sensor bracket for proximity sensor SIEN-M8B
2 Thread for proximity sensors SIEN-M8B

Dimensions Download CAD data ➔ **www.festo.com**

Sensing kit EAPS-R1-32-S for size 32



- - Note

Ordering data ➔ page 21

* Tolerance between the centring holes ±0.02 mm

1 Sensor bracket for proximity sensor SIEN-M8B

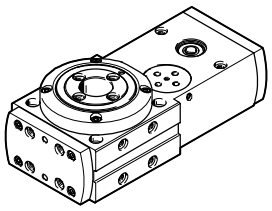
2 Thread for proximity sensors SIEN-M8B

Rotary modules ERMB, electric

Technical data and accessories

FESTO

Ordering data

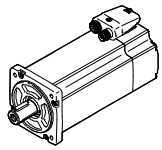
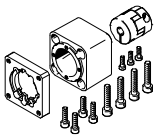
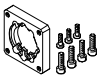
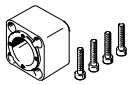
	Size	Part No.	Type
	20	**552706**	**ERMB-20**
	25	**552707**	**ERMB-25**
	32	**552708**	**ERMB-32**

Accessories

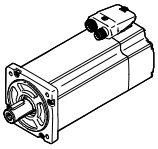
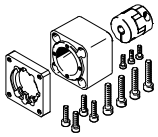
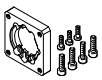
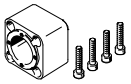
- Note

Depending on the combination of motor and drive, it may not be possible to reach the maximum feed force of the drive.

Permissible axis/motor combinations with axial kit – Without gear unit Technical data ➔ Internet: eamm-a

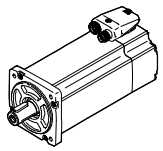
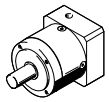
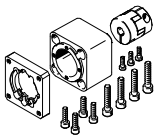
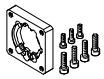
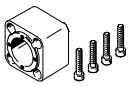
Motor[1]	Axial kit	Axial kit comprises:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ERMB-20				
With servo motor				
EMME-AS-40-...	**2207441** **EAMM-A-D32-35A-40P**	**–**	**533708** **EAMC-30-32-6-8**	**2207509** **EAMK-A-D32-35-40P**
EMMS-AS-40-...	**560281** **EAMM-A-D32-35A-40A**	**–**	**558312** **EAMC-30-32-6-6**	**560280** **EAMK-A-D32-35-40A**
With stepper motor				
EMMS-ST-42-...	**543148** **EAMM-A-D32-42A**	**552164** **EAMF-A-28B-42A**	**543419** **EAMC-16-20-5-6**	**552155** **EAMK-A-D32-28B**
EMMS-ST-57-...	**550980** **EAMM-A-D32-57A**	**530081** **EAMF-A-44A/B-57A**	**551002** **EAMC-30-32-6-6.35**	**551006** **EAMK-A-D32-44A/C**
With integrated drive				
EMCA-EC-67-...	**1454239** **EAMM-A-D32-67A**	**1476305** **EAMF-A-44A/B/C-67A-S1**	**551003** **EAMC-30-32-6-9**	**551006** **EAMK-A-D32-44A/C**

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.

Permissible axis/motor combinations with axial kit – Without gearbox				Technical data ➔ Internet: eamm-a
Motor[1]	Axial kit	Axial kit comprises:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ERMB-25				
With servo motor				
EMMS-AS-55-...	**543153** **EAMM-A-D40-55A**	**529942** **EAMF-A-44A/B-55A**	**543423** **EAMC-30-32-8-9**	**552157** **EAMK-A-D40-44A/C**
EMME-AS-60-...	**1977000** **EAMM-A-D40-60P**	**1956846** **EAMF-A-44C-60P**	**562682** **EAMC-30-32-8-14**	**552157** **EAMK-A-D40-44A/C**
EMMS-AS-70-...	**550981** **EAMM-A-D40-70A**	**529943** **EAMF-A-44A/B-70A**	**551004** **EAMC-30-32-8-11**	**552157** **EAMK-A-D40-44A/C**
With stepper motor				
EMMS-ST-57-...	**543154** **EAMM-A-D40-57A**	**530081** **EAMF-A-44A/B-57A**	**543421** **EAMC-30-32-6.35-8**	**552157** **EAMK-A-D40-44A/C**
With integrated drive				
EMCA-EC-67-...	**1454243** **EAMM-A-D40-67A**	**1476305** **EAMF-A-44A/B/C-67A-S1**	**543423** **EAMC-30-32-8-9**	**552157** **EAMK-A-D40-44A/C**
ERMB-32				
With servo motor				
EMMS-AS-70-...	**543161** **EAMM-A-D60-70A**	**529945** **EAMF-A-64A/B-70A**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**
EMME-AS-80-...	**1977073** **EAMM-A-D60-80P**	**1977113** **EAMF-A-64A/C-80P**	**551005** **EAMC-42-50-12-19**	**551007** **EAMK-A-D60-64C**
EMME-AS-100-...	**550983** **EAMM-A-D60-100A**	**529947** **EAMF-A-64A/C/D-100A**	**551005** **EAMC-42-50-12-19**	**551007** **EAMK-A-D60-64C**
EMMS-AS-100-...	**550983** **EAMM-A-D60-100A**	**529947** **EAMF-A-64A/C/D-100A**	**551005** **EAMC-42-50-12-19**	**551007** **EAMK-A-D60-64C**
With stepper motor				
EMMS-ST-87-...	**543162** **EAMM-A-D60-87A**	**533140** **EAMF-A-64A/B-87A**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.

Permissible axis/motor combinations with axial kit – With gearbox — Technical data ➔ Internet: eamm-a

Motor[1]	Gear unit	Axial kit	Axial kit comprises:		
			Motor flange	Coupling	Coupling housing
					
Type	Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
ERMB-20					
With motor unit					
EMCA-EC-67-...	**EMGC-40-...**	**1454238** **EAMM-A-D32-40G**	**1460095** **EAMF-A-44C-40G-S**	**562681** **EAMC-30-32-6-10**	**551006** **EAMK-A-D32-44A/C**
	EMGC-60-...	**2946760** **EAMM-A-D32-60H**	**1460105** **EAMF-A-44C-60G/H-S1**	**1233256** **EAMC-30-32-6-14**	**551006** **EAMK-A-D32-44A/C**
ERMB-25					
With servo motor					
EMME-AS-40-...	**EMGA-40-P-G...-EAS-40**	**560282** **EAMM-A-D40-40G**	**550986** **EAMF-A-44A/B-40G**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**
EMMS-AS-40-...	**EMGA-40-P-G...-SAS-40**	**560282** **EAMM-A-D40-40G**	**550986** **EAMF-A-44A/B-40G**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**
With stepper motor					
EMME-ST-42-...	**EMGA-40-P-G...-SST-42**	**560282** **EAMM-A-D40-40G**	**550986** **EAMF-A-44A/B-40G**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**
With integrated drive					
EMCA-EC-67-...	**EMGC-40-...**	**560282**[2] **EAMM-A-D40-40G**	**550986** **EAMF-A-44A/B-40G**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**
		2256398 **EAMM-A-D40-40G-G2**	**1460095** **EAMF-A-44C-40G-S**	**558029** **EAMC-30-32-8-10**	**552157** **EAMK-A-D40-44A/C**
	EMGC-60-...	**1454242** **EAMM-A-D40-60H**	**1460105** **EAMF-A-44C-60G/H-S1**	**562682** **EAMC-30-32-8-14**	**552157** **EAMK-A-D40-44A/C**
ERMB-32					
With servo motor					
EMMS-AS-55-...	**EMGA-60-P-G...-SAS-55**	**560283** **EAMM-A-D60-60G**	**550987** **EAMF-A-64A/B-60G**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**
EMMS-AS-70-...	**EMGA-60-P-G...-SAS-70**	**560283** **EAMM-A-D60-60G**	**550987** **EAMF-A-64A/B-60G**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**
With stepper motor					
EMMS-ST-57-...	**EMGA-60-P-G...-SST-57**	**560283** **EAMM-A-D60-60G**	**550987** **EAMF-A-64A/B-60G**	**543424** **EAMC-42-50-11-12**	**552160** **EAMK-A-D60-64B**
With integrated drive					
EMCA-EC-67-...	**EMGC-60-...**	**1454245** **EAMM-A-D60-60H**	**2256289** **EAMF-A-64B-60G/H-S1**	**1455671** **EAMC-42-50-12-14**	**552160** **EAMK-A-D60-64B**

1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.
2) Type to be discontinued

Note

Note the maximum permissible driving torque of the ERMB.

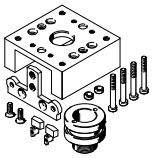
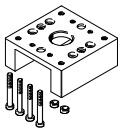
The motor current may need to be limited.

Ordering data – Centring sleeves

	For size	Brief description	Number	Part No.	Type	PU[1]
	20	For centring loads and attachments (centring sleeves are included in the scope of delivery of the rotary module)	2	**186717**	**ZBH-7**	10
			2	**150927**	**ZBH-9**	
	25, 32		4			

1) Packaging unit

Ordering data

	For size	Brief description	Weight [g]	Part No.	Type	PU[1]
Sensing kit EAPS-...-S						
	20	Kit with housing (trip cam support, 2 cams, sensor bracket)	258	**558392**	**EAPS-R1-20-S**	1
	25		406	**558393**	**EAPS-R1-25-S**	
	32		560	**558394**	**EAPS-R1-32-S**	
Sensing kit without housing EAPS-...-S-WH						
	20	Kit without housing (trip cam support, 2 cams, sensor bracket)	86	**558395**	**EAPS-R1-20-S-WH**	1
	25		90	**558396**	**EAPS-R1-25-S-WH**	
	32		136	**558397**	**EAPS-R1-32-S-WH**	
Cam EAPS-...-CK						
	20, 25, 32	For sensing positions (2 cams included in the scope of delivery)	5 each	**558398**	**EAPS-R1-CK**	2
Sensor bracket EAPS-...-SH						
	20, 25	For attaching proximity sensors to the rotary module	24	**558399**	**EAPS-R1-20-SH**	1
	32		30	**558400**	**EAPS-R1-32-SH**	
Housing EAPS-...-H						
	20	For protecting the sensing kit and as mounting interface for the drive	172	**560673**	**EAPS-R1-20-H**	1
	25		316	**560674**	**EAPS-R1-25-H**	
	32		424	**560675**	**EAPS-R1-32-H**	

Ordering data – Proximity sensor, inductive Technical data ➔ Internet: sien

	Contact	Connection	Part No.	Type
	N/O contact	Cable, 2.5 m	**150386**	**SIEN-M8B-PS-K-L**
		Plug connector	**150387**	**SIEN-M8B-PS-S-L**
	N/C contact	Cable, 2.5 m	**150390**	**SIEN-M8B-PO-K-L**
		Plug connector	**150391**	**SIEN-M8B-PO-S-L**

Ordering data – Connecting cables Technical data ➔ 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**

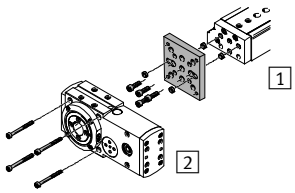
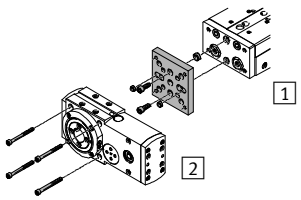
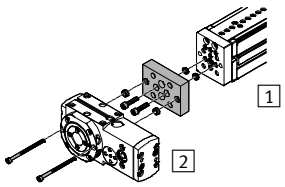
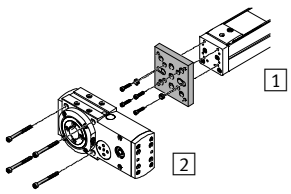
Adapter kit
HAPB, HMSV

Materials:
Wrought aluminium alloy
Free of copper and PTFE
RoHS compliant

Note
The kit includes the individual mounting interface as well as the necessary mounting material.

Permissible drive/drive combinations with adapter kit

Download CAD data ➔ **www.festo.com**

Combination	1 Drive	2 Drive	Adapter kit		
	Size	Size	CRC[1]	Part No.	Type
DGSL/ERMB	DGSL	ERMB	HAPB		
	16, 20, 25	20	2	**558306**	**HAPB-38**
	20, 25	25		**558307**	**HAPB-39**
	25	32		**558308**	**HAPB-40**
SLT/ERMB	SLT	ERMB	HAPB		
	20	20	2	**558306**	**HAPB-38**
	25	25		**558307**	**HAPB-39**
EGSL/ERMB	EGSL	ERMB	HAPB		
	45, 55, 75	20	2	**558306**	**HAPB-38**
	75	25		**558307**	**HAPB-39**
	75	32		**558308**	**HAPB-40**
DGEA/ERMB	DGEA	ERMB	HAPB		
	18, 25	20	2	**558306**	**HAPB-38**
	25, 40	25		**558307**	**HAPB-39**
	40	32		**558308**	**HAPB-40**

1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.