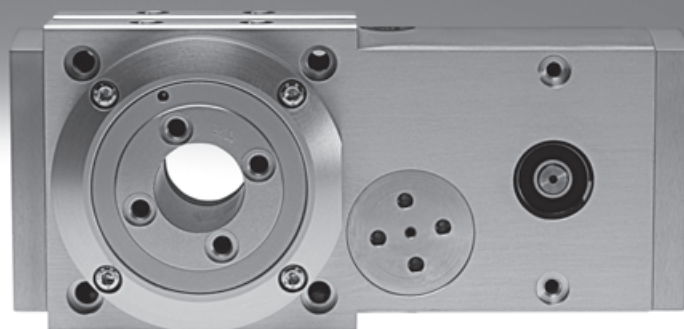


## Rotary modules ERMB, electric

**FESTO**



# Rotary modules ERMB, electric

Key features

FESTO

## 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

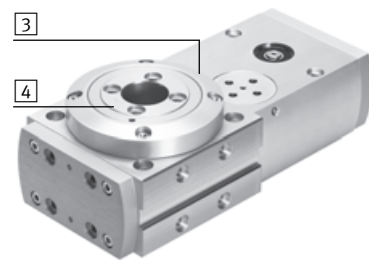
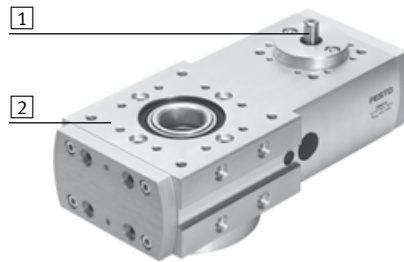
pinions run on separate bearings. The toothed belt is pretensioned at the factory using an eccentric tensioning roller.

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

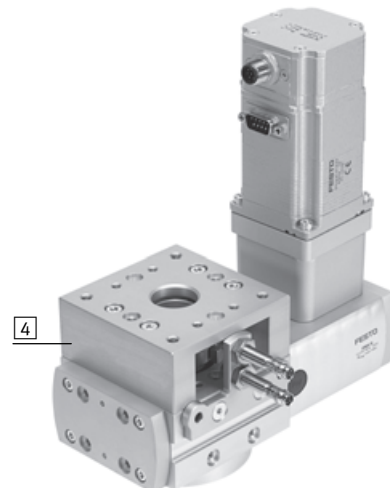
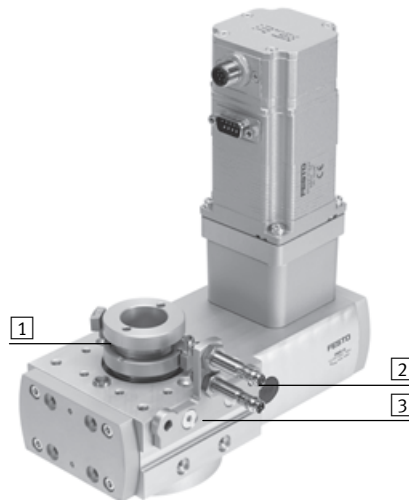
→ page 16

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

Without housing

With housing

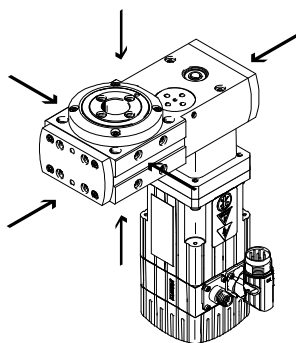
- 1 Trip cam support
- 2 Proximity sensor SIEN
- 3 Sensor bracket
- 4 Housing



## Mounting and installation possibilities

### Mounting option

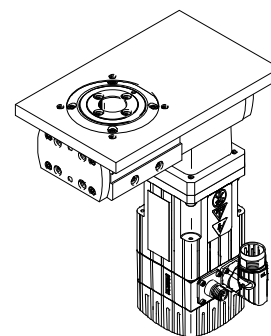
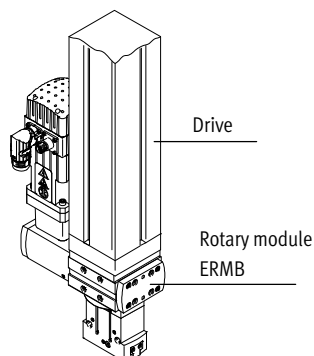
The rotary module can be attached on 6 sides.



### Installation option

As a front unit

As a rotary table in a plate



# Rotary modules ERMB, electric

Key features

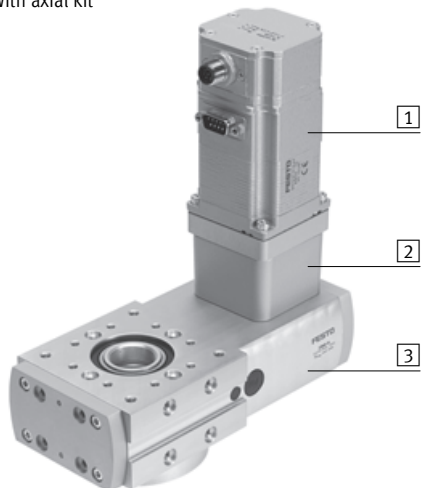
**FESTO**

## Total system comprising rotary module, motor and axial kit

Rotary module

→ page 6

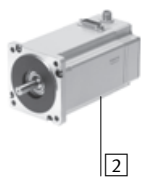
With axial kit



- 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:

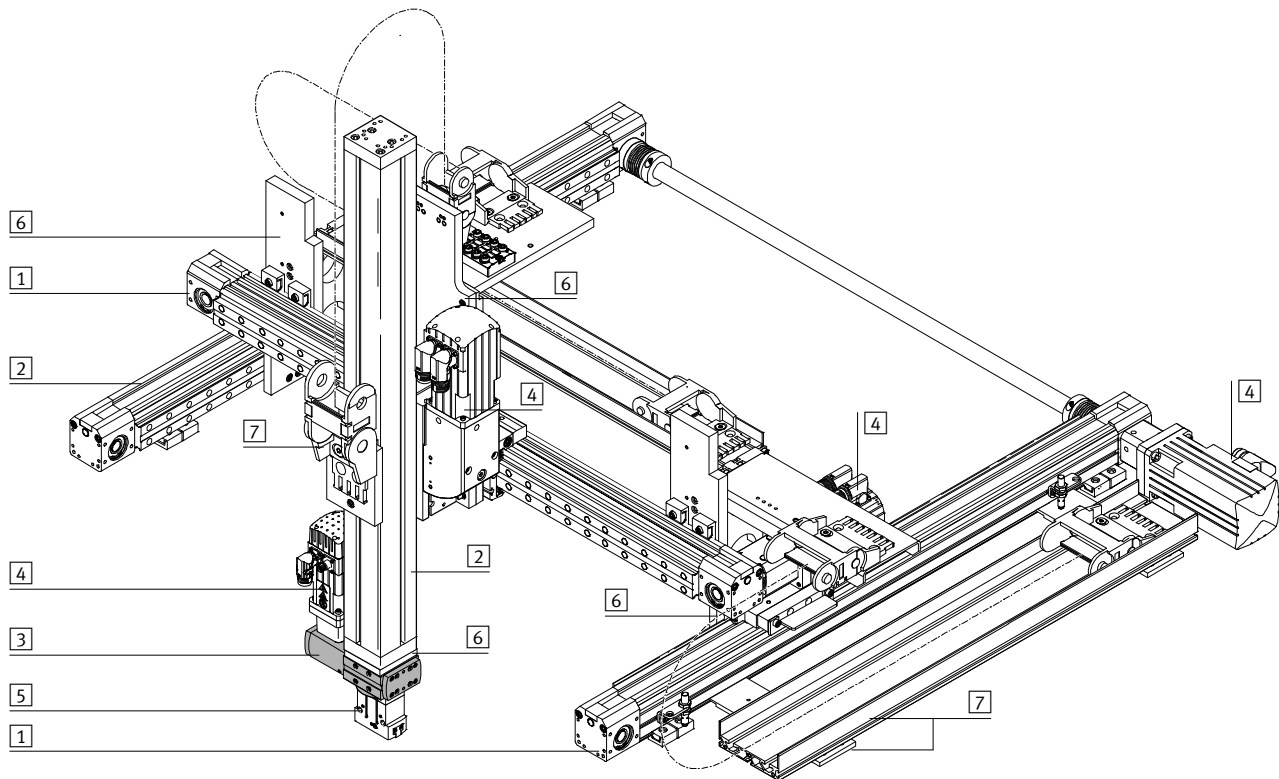
- Motor flange
- Coupling housing
- Coupling
- Screws

# Rotary modules ERMB, electric

Key features

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System product for handling and assembly technology



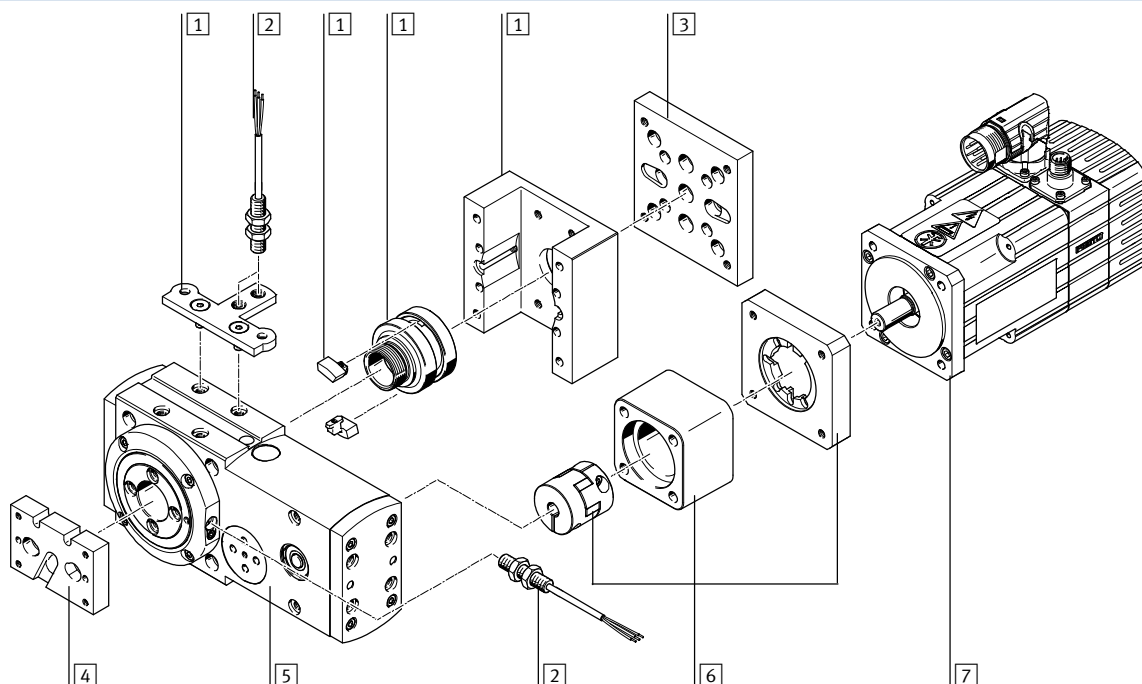
| System components and accessories |                         |                                                                                               |
|-----------------------------------|-------------------------|-----------------------------------------------------------------------------------------------|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

# Rotary modules ERMB, electric

Type codes and peripherals overview

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## Peripherals overview



| Accessories                 |                                                                                                                                                                                                                                                       |  |                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------------|
| Type                        | Description                                                                                                                                                                                                                                           |  | → Page/Internet |
| 1 Sensing kit<br>EAPS       | For indicating impermissible angles of rotation, i.e. obstacles or areas that cannot be approached can be sensed using proximity sensors<br>(Comprising: housing, trip cam support, 2 cams and sensor bracket)                                        |  | 21              |
| 2 Proximity sensor<br>SIEN  | For use as a signal or safety check                                                                                                                                                                                                                   |  | 21              |
| 3 Adapter kit               | Interface between the rotary module and drive<br>(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<br>ERMB     | Facilitates unlimited and flexible rotation angles                                                                                                                                                                                                    |  | 6               |
| 6 Axial kit<br>EAMM-A       | For axial motor mounting<br>(consisting of: coupling, coupling housing and motor flange)                                                                                                                                                              |  | 18              |
| 7 Motor<br>EMMS, EMME, EMCA | <ul style="list-style-type: none"> <li>• Motors specially matched to the axis, with or without brake</li> <li>• The motor can be mounted turned by 90° depending on the requirement. This means the connection side can be freely selected</li> </ul> |  | 18              |

## Type codes

|             |               |   |    |
|-------------|---------------|---|----|
| ERMB        |               | — | 25 |
|             |               |   |    |
| <b>Type</b> |               |   |    |
| ERMB        | Rotary module |   |    |
|             |               |   |    |
| <b>Size</b> |               |   |    |
| 20          | Size 20       |   |    |
| 25          | Size 25       |   |    |
| 32          | Size 32       |   |    |

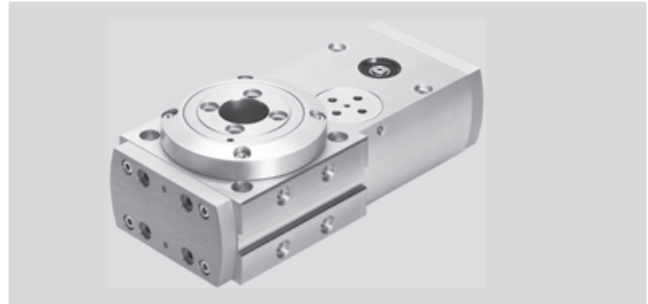
# Rotary modules ERMB, electric

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 $\varnothing$ [mm]              | 6                                                 | 8    | 12   |
| Rotation angle                               | Infinite                                          |      |      |
| Repetition accuracy <sup>1)</sup>            |                                                   |      |      |
| With servo motor EMMS-AS [°]                 | ±0.03                                             |      |      |
| With stepper motor EMMS-ST <sup>2)</sup> [°] | ±0.08                                             |      |      |
| With integrated drive EMCA [°]               | ±0.05                                             |      |      |
| Positioning times                            | ➔ 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 will 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 <sup>1)</sup> [Nm]             | 3.15   | 8.8    | 25.5  |
| Average no-load driving torque <sup>2)</sup> [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 $\varnothing$ [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 <sup>1)</sup>  | 2           |    |    |
| Noise level $T_{pAeq}$ <sup>2)</sup> [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

# Rotary modules ERMB, electric

## Technical data

| Mechanical data                           |                      |      |      |       |
|-------------------------------------------|----------------------|------|------|-------|
| Size                                      |                      | 20   | 25   | 32    |
| Max. mass moment of inertia <sup>1)</sup> | [kgcm <sup>2</sup> ] | 1000 | 5000 | 10000 |
| Max. inertia factor <sup>2)</sup>         |                      |      |      |       |
| 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  $0.055 \text{ kgcm}^2$

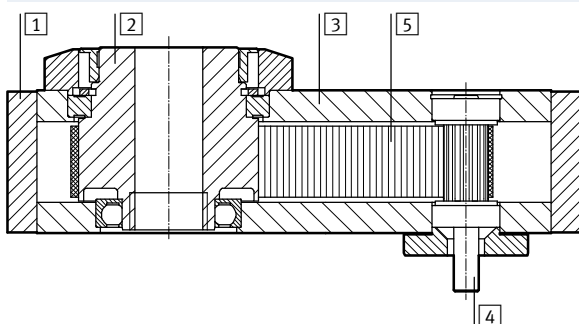
Gearbox EMGA-40-P-G3-40 → transmission ratio  $i = 3$

Limit for the inertia of the load (+ intrinsic inertia) on the output side:

$$0.055 \text{ kgcm}^2 \times 45 \times 3^2 \times 4.5^2 = 451 \text{ kgcm}^2$$

## 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 |

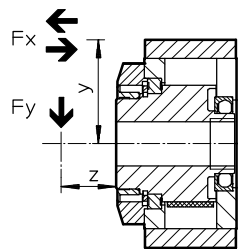
# Rotary modules ERMB, electric

Technical data

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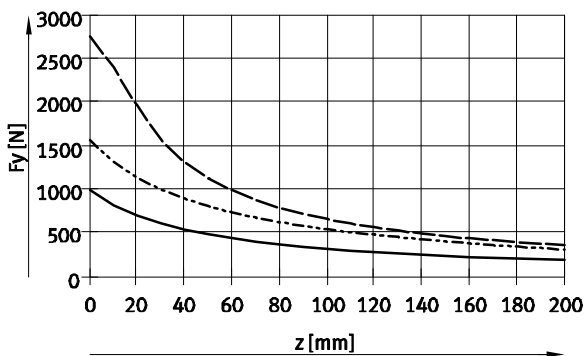
## Maximum radial and axial force $F_x/F_y$ on the output shaft as a function of the distance $y/z$

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.

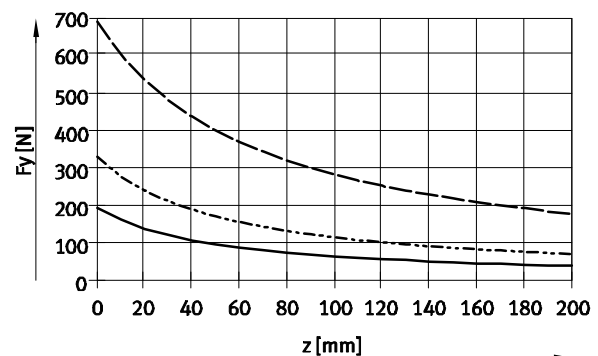


$$\frac{F_y(z)}{F_{y, \max.}(z)} + \frac{F_{x, \text{pushing}}(v)}{F_{x, \text{pushing, max.}}(v)} + \frac{F_{x, \text{pulling}}(v)}{F_{x, \text{pulling, max.}}(v)} \leq 1$$

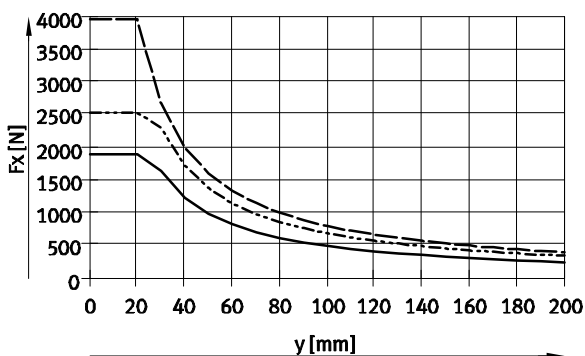
Max. radial force  $F_y$ , static



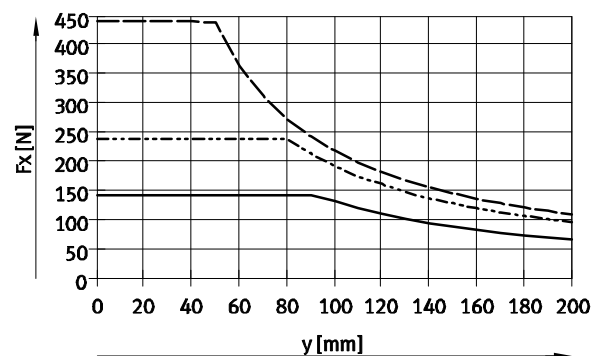
Max. radial force  $F_y$ , dynamic



Max. axial force  $F_x$ , static, pushing and pulling



Max. axial force  $F_x$ , dynamic, pushing and pulling



— ERMB-20  
 - - - ERMB-25  
 - · - ERMB-32

# Rotary modules ERMB, electric

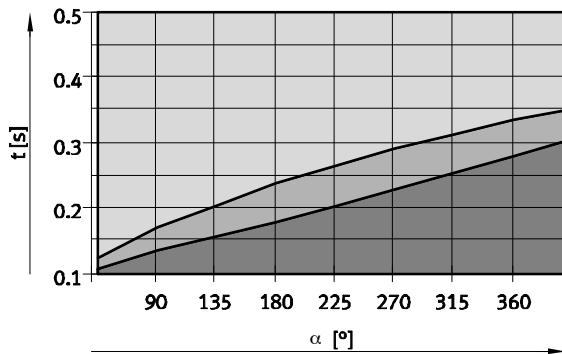
Technical data

FESTO

## Positioning time $t$ as a function of the rotation angle $\alpha$

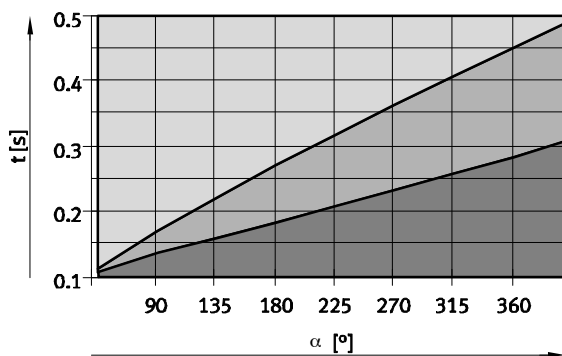
Size: 20

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](http://www.festo.com)

# Rotary modules ERMB, electric

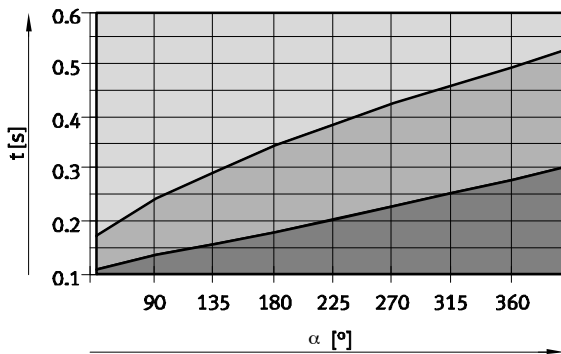
Technical data

FESTO

## Positioning time $t$ as a function of the rotation angle $\alpha$

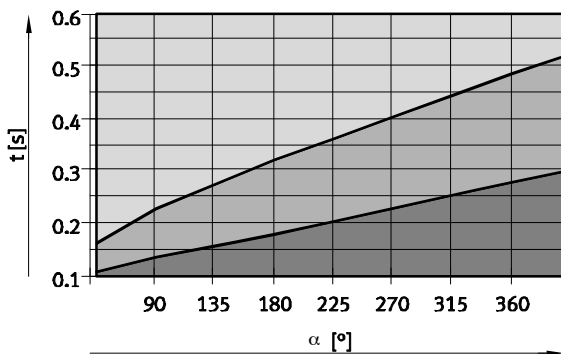
Size: 25

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](http://www.festo.com)

# Rotary modules ERMB, electric

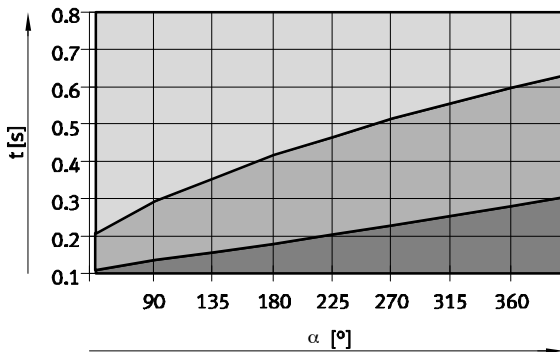
Technical data

FESTO

## Positioning time $t$ as a function of the rotation angle $\alpha$

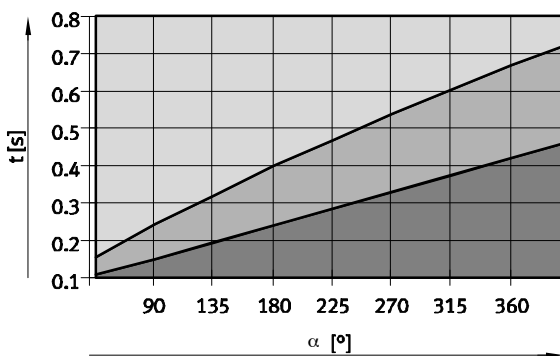
Size: 32

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](http://www.festo.com)

# Rotary modules ERMB, electric

Technical data

FESTO

## 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 <sup>2</sup> ]  | 24    | 80    | 400   |
| Average angular acceleration on output | [°/sec <sup>2</sup> ] | 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.

# Rotary modules ERMB, electric

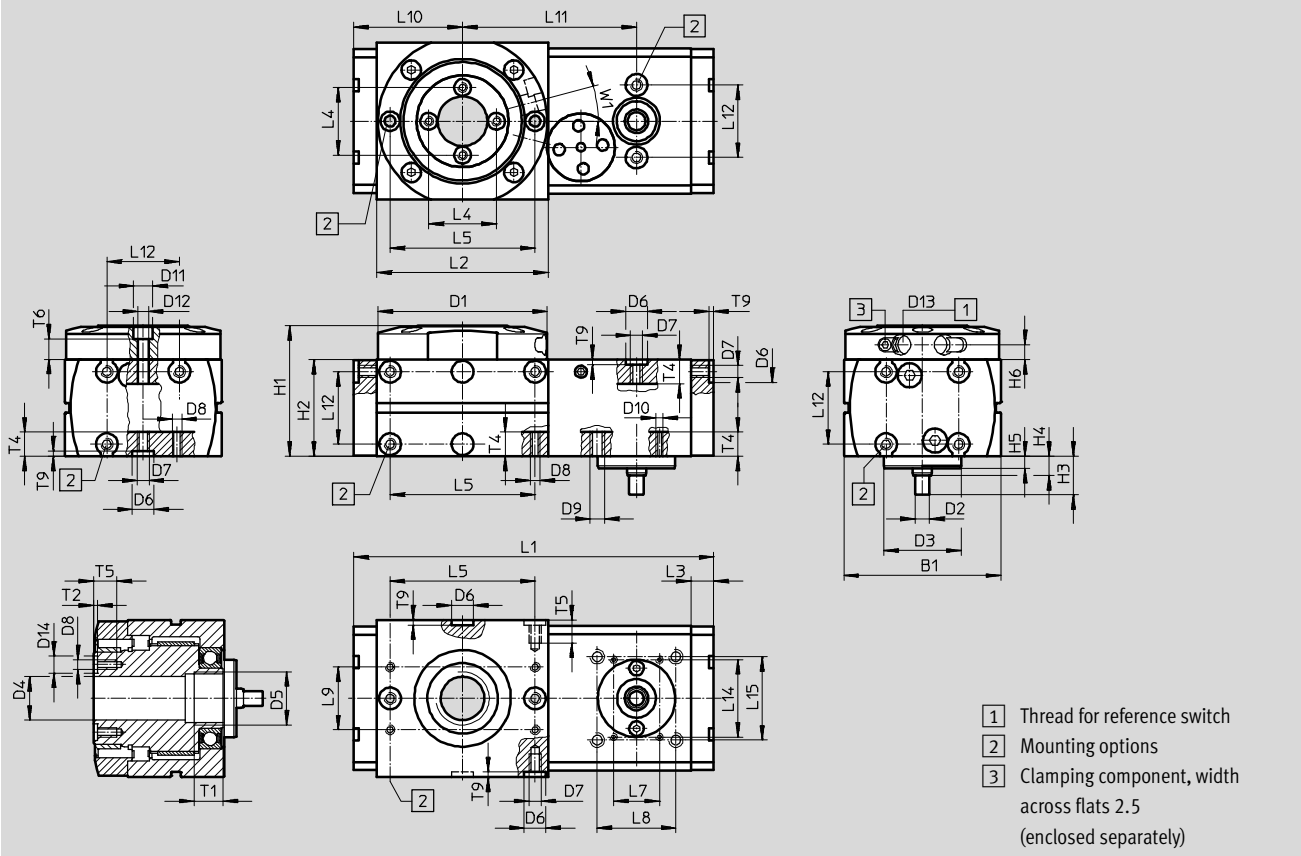
Technical data

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## Dimensions

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

Size 20



| 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 <sup>1)</sup> | L5 <sup>1)</sup> | 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  |

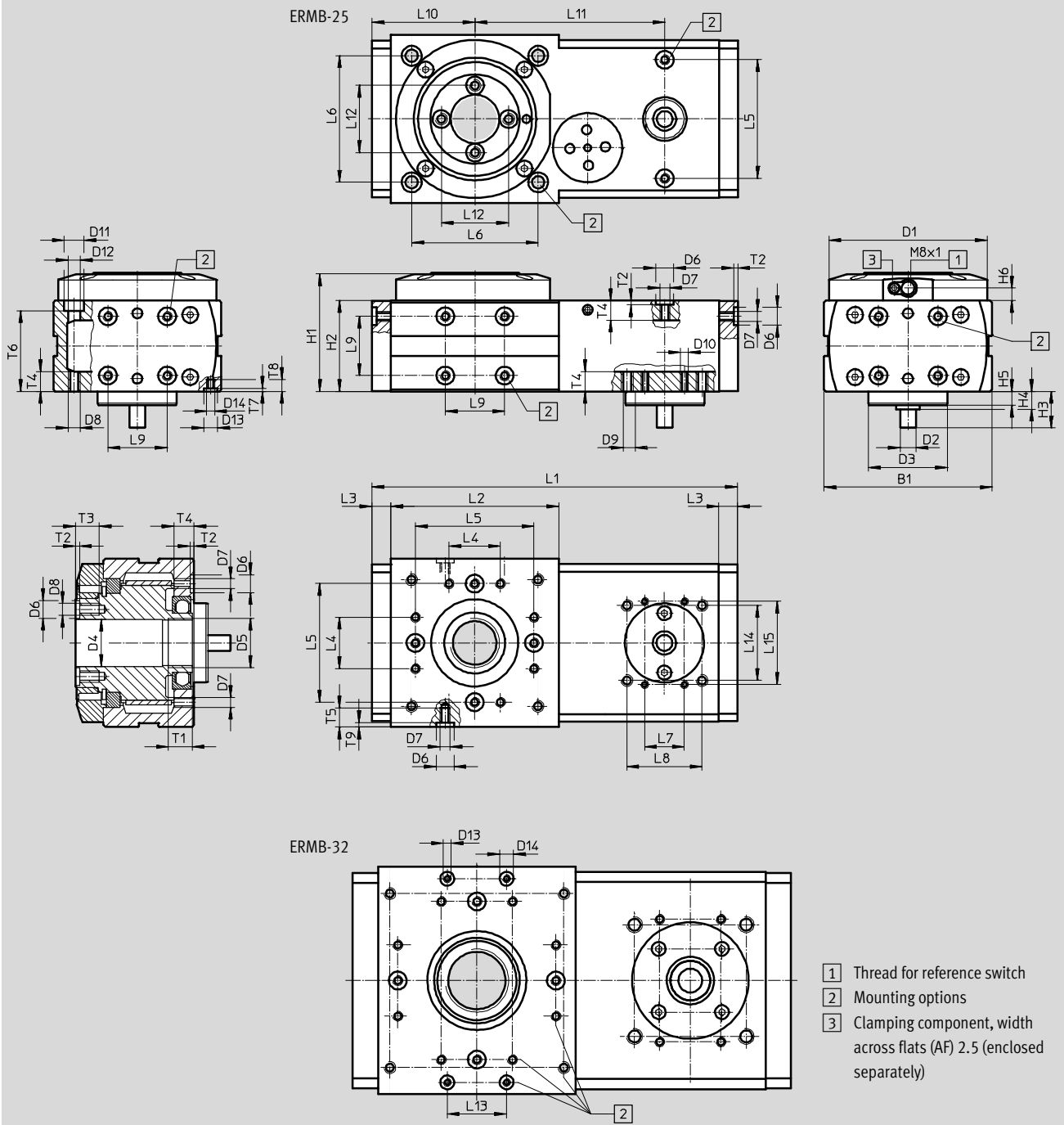
| Size | L9 <sup>1)</sup> | L10 | L11   | L12 <sup>1)</sup> | L14   | L15   | T1 | T2   | T4 | T5   | T6  | T9   | W1  |
|------|------------------|-----|-------|-------------------|-------|-------|----|------|----|------|-----|------|-----|
|      |                  |     | ±0.05 |                   | ±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.

### Technical data

## Dimensions

Size 25/32

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

## Rotary modules ERMB, electric

Technical data

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| Size | B1<br>±0.2 | D1<br>Ø<br>f9 | D2<br>Ø<br>H6 | D3<br>Ø<br>g7 | D4<br>Ø<br>H7 | D5      | D6<br>Ø<br>H7 | D7 | D8 | D9 | D10 |
|------|------------|---------------|---------------|---------------|---------------|---------|---------------|----|----|----|-----|
| 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<br>Ø | D12<br>Ø | D13<br>Ø<br>H7 | D14 | H1<br>±0.5 | H2<br>±0.1 | H3    | H4  | H5 | H6   | L1<br>±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<br>±0.2 | L3<br>±0.1 | L4<br>±0.1 | L5 <sup>1)</sup><br>±0.1 | L6       | L7<br>±0.15 | L8<br>±0.15 | L9 <sup>1)</sup><br>±0.1 | L10 | L11<br>±0.05 | L12 <sup>1)</sup><br>±0.1 | L13 <sup>1)</sup><br>±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<br>±0.15 | L15<br>±0.15 | L16<br>+0.2 | T1 | T2<br>+0.1 | T3<br>Min. | T4 | T5<br>Min. | T6       | T7<br>+0.1 | T8<br>Min. | T9<br>+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.

# Rotary modules ERMB, electric

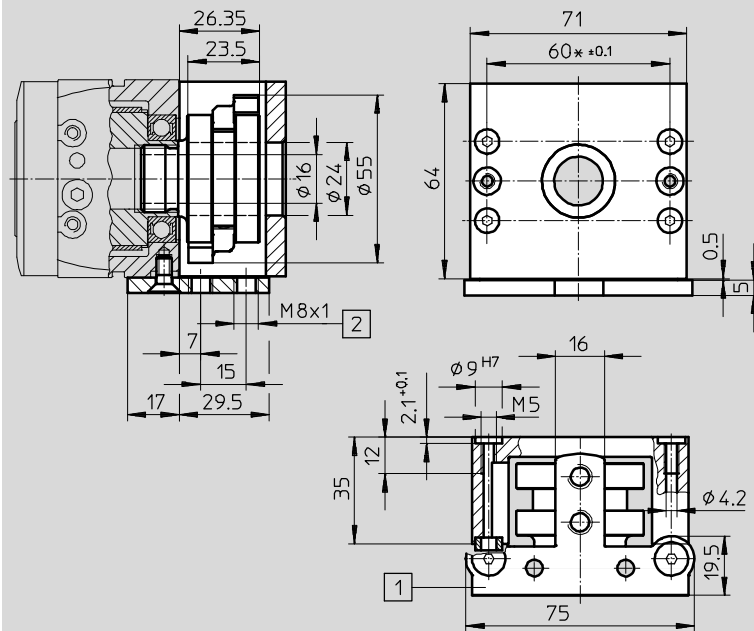
Technical data

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## Dimensions

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

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



Note

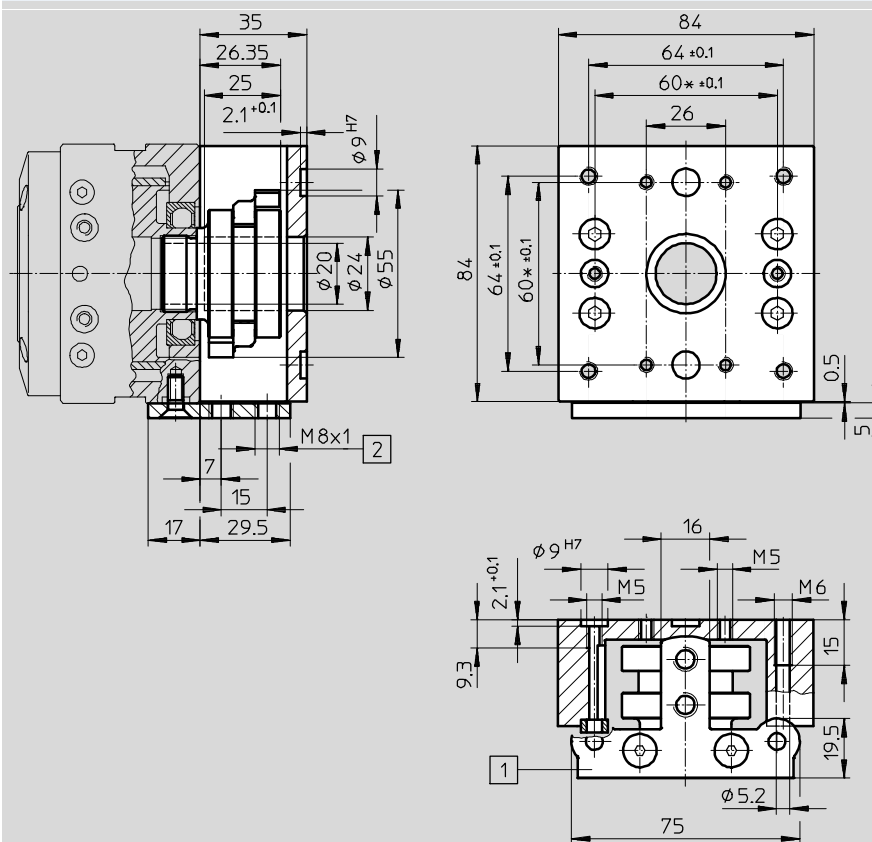
Ordering data → 21

\* Tolerance between the centring holes  $\pm 0.02$  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 → 21

\* Tolerance between the centring holes  $\pm 0.02$  mm

1 Sensor bracket for proximity sensor SIEN-M8B

2 Thread for proximity sensors SIEN-M8B

### Technical data

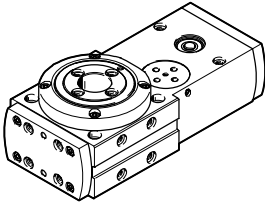
Sensing kit EAPS-R1-32-S for size 32



# Rotary modules ERMB, electric

Technical data and accessories

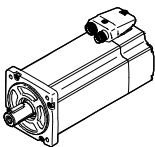
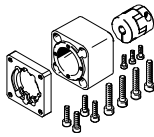
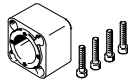
**FESTO**

| Ordering data                                                                     |      |               |                |
|-----------------------------------------------------------------------------------|------|---------------|----------------|
|                                                                                   | Size | Part No.      | Type           |
|  | 20   | <b>552706</b> | <b>ERMB-20</b> |
|                                                                                   | 25   | <b>552707</b> | <b>ERMB-25</b> |
|                                                                                   | 32   | <b>552708</b> | <b>ERMB-32</b> |

## Accessories

-  - Note

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

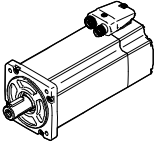
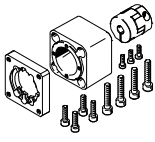
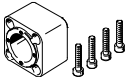
| Permissible axis/motor combinations with axial kit – Without gear unit              |                                                                                     |                                                                                     |                                                                                       |                                                                                       | Technical data → Internet: eamm-a |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| Motor <sup>1)</sup>                                                                 | Axial kit                                                                           | Axial kit comprises:                                                                |                                                                                       |                                                                                       |                                   |
|                                                                                     |                                                                                     | Motor flange                                                                        | Coupling                                                                              | Coupling housing                                                                      |                                   |
|  |  |  |  |  |                                   |
| Type                                                                                | Part No.<br>Type                                                                    | Part No.<br>Type                                                                    | Part No.<br>Type                                                                      | Part No.<br>Type                                                                      |                                   |
| <b>ERMB-20</b>                                                                      |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                   |
| With servo motor                                                                    |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                   |
| <b>EMME-AS-40-...</b>                                                               | <b>2207441</b><br><b>EAMM-A-D32-35A-40P</b>                                         | –                                                                                   | <b>533708</b><br><b>EAMC-30-32-6-8</b>                                                | <b>2207509</b><br><b>EAMK-A-D32-35-40P</b>                                            |                                   |
| <b>EMMS-AS-40-...</b>                                                               | <b>560281</b><br><b>EAMM-A-D32-35A-40A</b>                                          | –                                                                                   | <b>558312</b><br><b>EAMC-30-32-6-6</b>                                                | <b>560280</b><br><b>EAMK-A-D32-35-40A</b>                                             |                                   |
| With stepper motor                                                                  |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                   |
| <b>EMMS-ST-42-...</b>                                                               | <b>543148</b><br><b>EAMM-A-D32-42A</b>                                              | <b>552164</b><br><b>EAMF-A-28B-42A</b>                                              | <b>543419</b><br><b>EAMC-16-20-5-6</b>                                                | <b>552155</b><br><b>EAMK-A-D32-28B</b>                                                |                                   |
| <b>EMMS-ST-57-...</b>                                                               | <b>550980</b><br><b>EAMM-A-D32-57A</b>                                              | <b>530081</b><br><b>EAMF-A-44A/B-57A</b>                                            | <b>551002</b><br><b>EAMC-30-32-6-6.35</b>                                             | <b>551006</b><br><b>EAMK-A-D32-44A/C</b>                                              |                                   |
| With integrated drive                                                               |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                   |
| <b>EMCA-EC-67-...</b>                                                               | <b>1454239</b><br><b>EAMM-A-D32-67A</b>                                             | <b>1476305</b><br><b>EAMF-A-44A/B/C-67A-S1</b>                                      | <b>551003</b><br><b>EAMC-30-32-6-9</b>                                                | <b>551006</b><br><b>EAMK-A-D32-44A/C</b>                                              |                                   |

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

# Rotary modules ERMb, electric

Accessories

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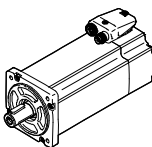
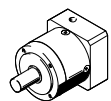
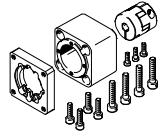
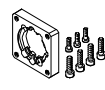
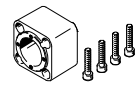
| Permissible axis/motor combinations with axial kit – Without gearbox              |                                                                                   |                                                                                   |                                               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

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

# Rotary modules ERMB, electric

Accessories

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

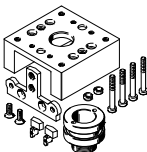
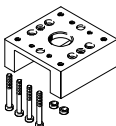
# Rotary modules ERM, electric

Accessories

**FESTO**

| Ordering data – Centring sleeves                                                  |          |                                                                                                                        |        |               |              |                  |
|-----------------------------------------------------------------------------------|----------|------------------------------------------------------------------------------------------------------------------------|--------|---------------|--------------|------------------|
|                                                                                   | For size | Brief description                                                                                                      | Number | Part No.      | Type         | PU <sup>1)</sup> |
|  | 20       | For centring loads and attachments<br>(centring sleeves are included in the scope<br>of delivery of the rotary module) | 2      | <b>186717</b> | <b>ZBH-7</b> | 10               |
|                                                                                   | 25, 32   |                                                                                                                        | 2      | <b>150927</b> | <b>ZBH-9</b> |                  |
|                                                                                   |          |                                                                                                                        |        | 4             |              |                  |

1) Packaging unit

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

| Ordering data – Proximity sensor, inductive                                         |             |                |               | Technical data → Internet: sien |  |
|-------------------------------------------------------------------------------------|-------------|----------------|---------------|---------------------------------|--|
|                                                                                     | Contact     | Connection     | Part No.      | Type                            |  |
|  | N/O contact | Cable, 2.5 m   | <b>150386</b> | <b>SIEN-M8B-PS-K-L</b>          |  |
|                                                                                     |             | Plug connector | <b>150387</b> | <b>SIEN-M8B-PS-S-L</b>          |  |
|                                                                                     | N/C contact | Cable, 2.5 m   | <b>150390</b> | <b>SIEN-M8B-PO-K-L</b>          |  |
|                                                                                     |             | Plug connector | <b>150391</b> | <b>SIEN-M8B-PO-S-L</b>          |  |

| 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              | <b>541333</b> | <b>NEBU-M8G3-K-2.5-LE3</b>      |  |
|                                                                                     |                              |                              | 5                | <b>541334</b> | <b>NEBU-M8G3-K-5-LE3</b>        |  |

# Rotary modules ERMB, electric

Accessories

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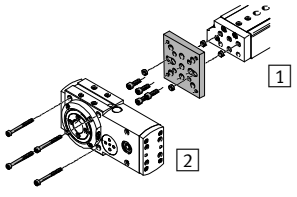
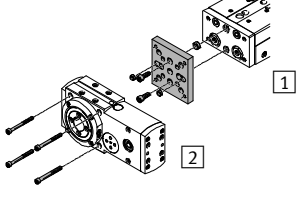
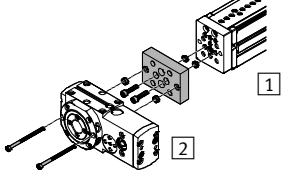
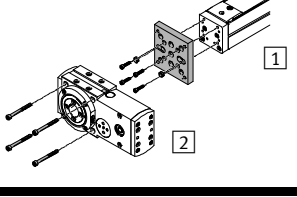
**Adapter kit**  
**HAPB, HMSV**

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 → <a href="http://www.festo.com">www.festo.com</a> |
|-------------------------------------------------------------------------------------|------------|-----------|-------------------|----------|---------|----------------------------------------------------------------------|
| Combination                                                                         | [1] Drive  | [2] Drive | Adapter kit       |          |         |                                                                      |
|                                                                                     | Size       | Size      | CRC <sup>1)</sup> | 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.

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