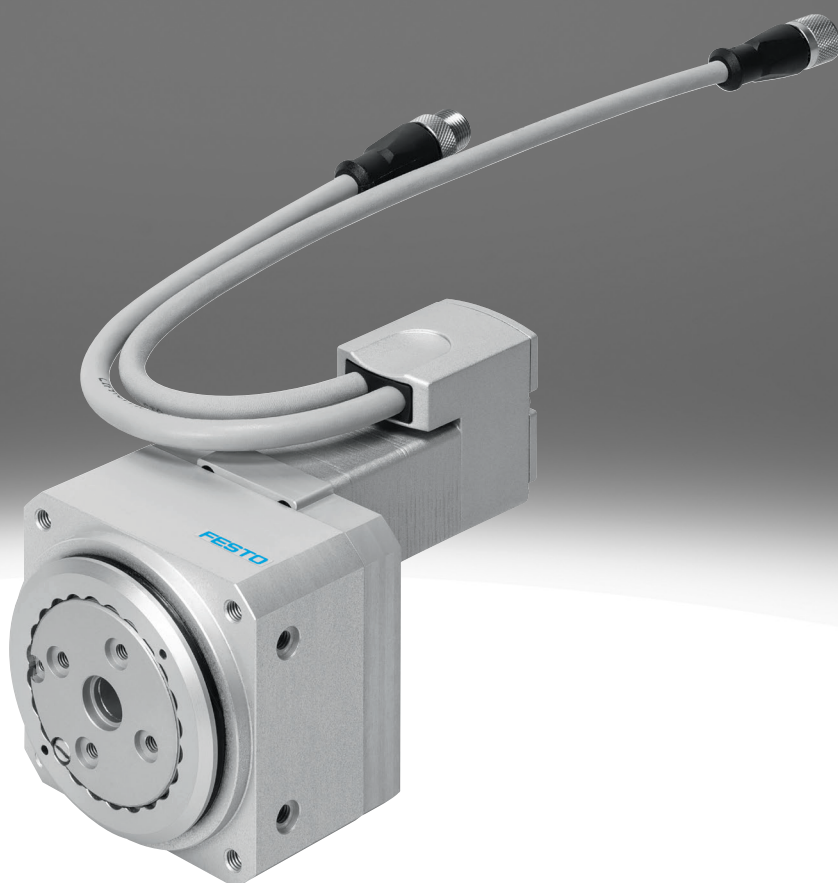


## Rotary drive ERM0

**FESTO**



Characteristics

At a glance Link [ermo](#)

- Electric rotary drive with stepper motor and integrated gear unit
- ServoLite – closed-loop operation with encoder
- Heavy-duty bearing for high forces and torques
- Backlash-free pre-stressed rotating plate with very good axial eccentricity and concentricity
- Optional holding brake

Range of applications:

- Rotating and positioning parts
- Simple rotary indexing table applications
- As a rotary axis in multi-axis applications

Engineering tools Link [engineering tools](#)



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

Electric Motion Sizing

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

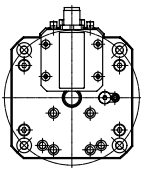
Diagrams Link [ermo](#)



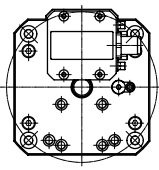
The diagrams shown in this document are also available online. These can be used to display precise values.

Cable outlet direction

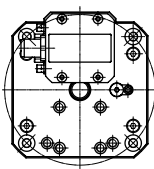
[ ] Standard



[L] Left



[R] Right

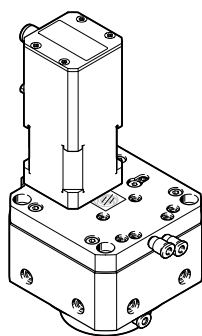


## Characteristics

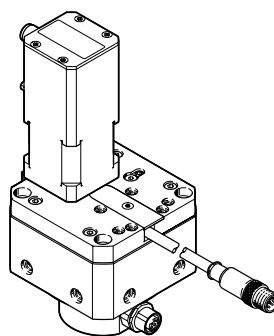
### Energy through-feed

- The energy through-feed can be used to transfer electrical signals or compressed air through the hollow shaft
- This enables the quick and easy supply of the parts mounted on the rotating plate, even for infinitely rotating applications
- Tubing and electrical cables will not be damaged by the rotary movement
- Suitable for IO-Link® signal transmission
- Approved for vacuum operation
- The energy through-feed cannot be used in combination with the stop kit EADP-ES-R3

|      |                    |      |                     |
|------|--------------------|------|---------------------|
| [P2] | Pneumatic, 2 ducts | [E8] | Electric, 8 signals |
|------|--------------------|------|---------------------|



- Number of pneumatic ducts: 2
- Tubing outside diameter: 4 mm
- Operating pressure per duct: -0.85 ... 8 bar
- Flow rate per duct: 86 l/min



- No. of signal cables: 8
- Rated voltage: 30 V DC
- Max. current: 1.5 A
- Cable cross section: 0.1 mm<sup>2</sup>

Type code

|      |                        |  |
|------|------------------------|--|
| 001  | Series                 |  |
| ERMO | Rotary drive, electric |  |
| 002  | Size                   |  |
| 12   | 12                     |  |
| 16   | 16                     |  |
| 25   | 25                     |  |
| 32   | 32                     |  |
| 003  | Motor type             |  |
| ST   | Stepper motor ST       |  |
| 004  | Measuring unit         |  |
| E    | Encoder                |  |

|     |                        |  |
|-----|------------------------|--|
| 005 | Brake                  |  |
|     | None                   |  |
| B   | With brake             |  |
| 006 | Cable outlet direction |  |
|     | Standard               |  |
| L   | Left                   |  |
| R   | Right                  |  |
| 007 | Energy through-feed    |  |
|     | None                   |  |
| E8  | Electric, 8 signals    |  |
| P2  | Pneumatic, 2 ducts     |  |

## Datasheet

## General technical data

| Size                              | 12                                                        | 16    | 25      | 32      |
|-----------------------------------|-----------------------------------------------------------|-------|---------|---------|
| Design                            | Electromechanical rotary drive, With integrated gear unit |       |         |         |
| Rotation angle                    | Infinite                                                  |       |         |         |
| Repetition accuracy <sup>1)</sup> | ±0.05°                                                    |       |         | ±0.1°   |
| Torsional backlash <sup>2)</sup>  | 0.2 deg                                                   |       |         |         |
| Gear unit ratio                   | 9:1                                                       |       |         | 7:1     |
| Type of mounting                  | Via female thread                                         |       |         |         |
| Mounting position                 | optional                                                  |       |         |         |
| Product weight                    | 475 g                                                     | 900 g | 1,350 g | 2,200 g |

1) Without payload in new condition

2) Without payload in new condition

## Mechanical data

| Size                               | 12                       | 16                       | 25                      | 32                     |
|------------------------------------|--------------------------|--------------------------|-------------------------|------------------------|
| Nominal torque <sup>1)</sup>       | 0.15 Nm                  | 0.8 Nm                   | 2.5 Nm                  | 5 Nm                   |
| Nominal rotary speed               | 100 rpm                  |                          | 66 rpm                  | 50 rpm                 |
| Max. speed at 90°                  | 200 rpm                  |                          | 150 rpm                 | 100 rpm                |
| Permissible mass moment of inertia | 3 kgcm <sup>2</sup>      | 13 kgcm <sup>2</sup>     | 65 kgcm <sup>2</sup>    | 164 kgcm <sup>2</sup>  |
| Mass moment of inertia JO          | 0.0079 kgcm <sup>2</sup> | 0.0383 kgcm <sup>2</sup> | 0.114 kgcm <sup>2</sup> | 0.39 kgcm <sup>2</sup> |

1) Theoretical torque at nominal rotational speed (see graph)

## Electrical data

| Electrical data                                    |                                    |                          |                         |     |
|----------------------------------------------------|------------------------------------|--------------------------|-------------------------|-----|
| Size                                               | 12                                 | 16                       | 25                      | 32  |
| Nominal operating voltage DC                       | 24 V                               |                          |                         |     |
| Nominal motor current                              | 0.8                                | 1.4                      | 3                       | 4.2 |
| Stepper angle for complete step                    | 1.8 deg                            |                          |                         |     |
| Duty cycle                                         | 100%                               |                          |                         |     |
| Operating voltage DC for brake                     | –                                  | 24 V                     |                         |     |
| Power consumption, brake                           | –                                  | 8 W                      |                         |     |
| Brake holding torque                               | –                                  | 1 Nm                     | 2.5 Nm                  |     |
| Mass moment of inertia of brake                    | –                                  | 0.0069 kgcm <sup>2</sup> | 0.013 kgcm <sup>2</sup> |     |
| Rotor position sensor                              | Incremental encoder                |                          |                         |     |
| Rotor position sensor, encoder measuring principle | Optical                            |                          |                         |     |
| Rotor position encoder interface                   | RS422 TTL AB channels + zero index |                          |                         |     |
| Insulation protection class                        | B                                  |                          |                         |     |

## Operating and environmental conditions

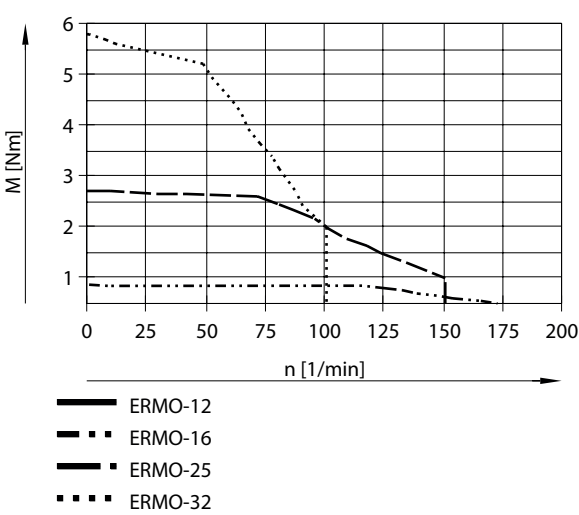
|                                                          |                                                             |
|----------------------------------------------------------|-------------------------------------------------------------|
| Ambient temperature                                      | 0 ... 50°C                                                  |
| Storage temperature                                      | -20 ... 60°C                                                |
| Degree of protection                                     | IP40                                                        |
| Relative air humidity                                    | 0 - 85%, Non-condensing                                     |
| Corrosion resistance class CRC <sup>1)</sup>             | 1 - Low corrosion stress                                    |
| CE mark (see declaration of conformity) <sup>2)</sup>    | To EU EMC Directive<br>In accordance with EU RoHS Directive |
| CE marking (see declaration of conformity) <sup>3)</sup> | To UK instructions for EMC<br>To UK RoHS instructions       |
| Approval                                                 | RCM trademark                                               |

1) More information: [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)2) Further information [www.festo.com/catalogue/ermo](http://www.festo.com/catalogue/ermo) → Support/Downloads3) Further information [www.festo.com/catalogue/ermo](http://www.festo.com/catalogue/ermo) → Support/Downloads

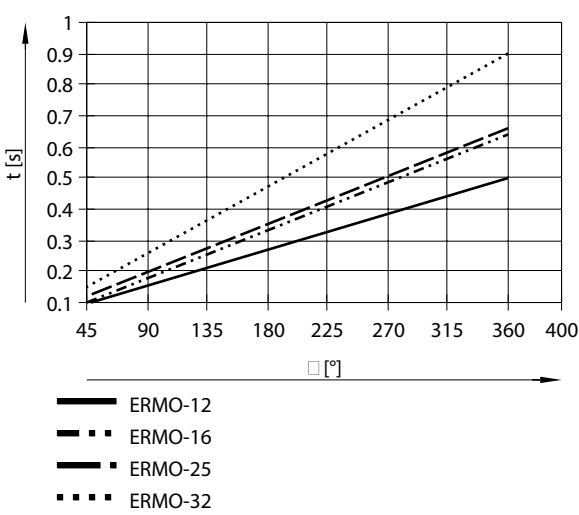
Datasheet

| Materials              |                                   |
|------------------------|-----------------------------------|
| Material housing       | Wrought aluminium alloy, Anodised |
| Material flange        | Wrought aluminium alloy, Anodised |
| Note on materials      | RoHS-compliant                    |
| LABS (PWIS) conformity | VDMA24364 zone III                |

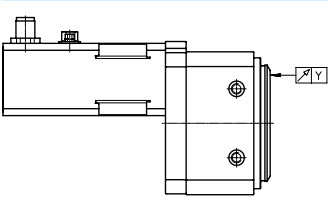
Torque M as a function of speed n



Positioning time t as a function of rotation angle a



Axial run-out

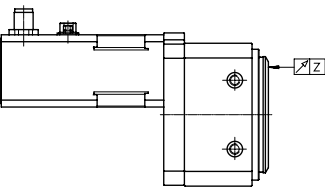


Measured on the surface of the rotating plate, at the edge of the plate, when new.

For sizes 12; 16; 25: less than 0.02 mm  
For size 32: less than 0.04 mm

Datasheet

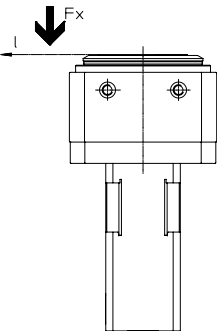
Concentricity



Measured at the centring hole of the rotating plate, when new.

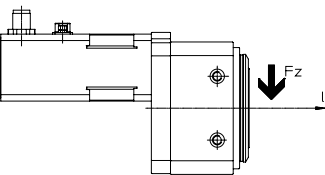
For sizes 12; 16; 25: less than 0.02 mm  
For size 32: less than 0.04 mm

Max. dynamic axial force  $F_x$



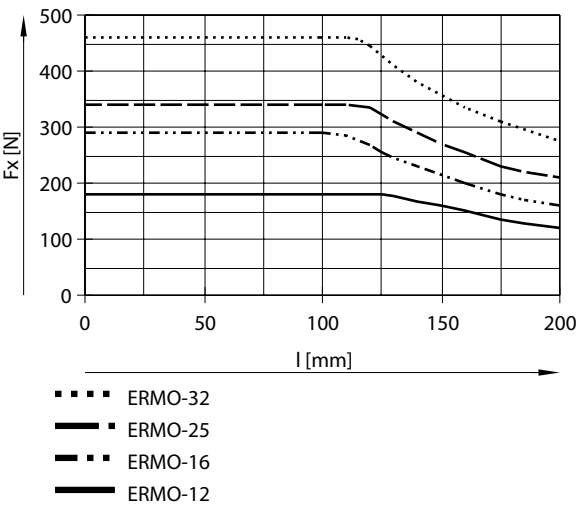
| Size             | 12  | 16  | 25  | 32  |
|------------------|-----|-----|-----|-----|
| Max. axial force | 180 | 290 | 350 | 450 |

Max. dynamic radial force  $F_z$



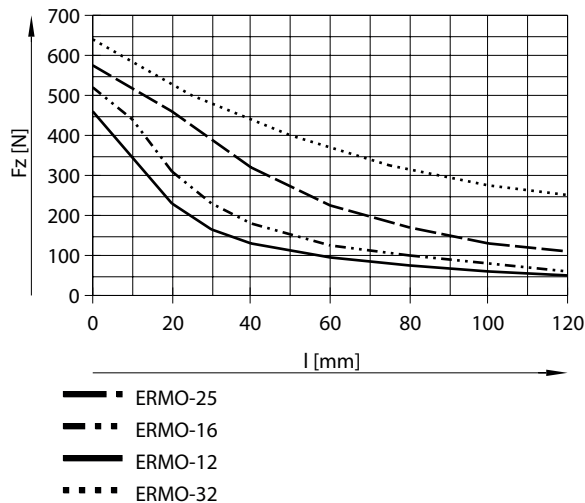
| Size              | 12  | 16  | 25  | 32  |
|-------------------|-----|-----|-----|-----|
| Max. radial force | 200 | 300 | 450 | 550 |

Dynamic axial force  $F_x$  as a function of lever arm  $l$

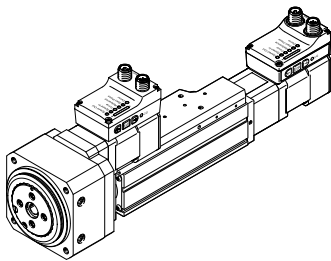


## Datasheet

### Dynamic radial force $F_z$ as a function of lever arm $l$



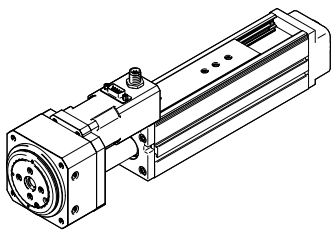
### Combination of ERMO with mini slide EGSC



#### Required accessories:

- ERMO-12 / EGSC-32: 2x centring sleeve ZBH-7; 2x screw M4x12
- ERMO-16 / EGSC-45: 2x centring sleeve ZBH-7; 2x screw M5x12
- ERMO-25 / EGSC-45, 60: 2x centring sleeve ZBH-7; 2x screw M5x12
- ERMO-32 / EGSC-60: 2x centring sleeve ZBH-7; 2x screw M5x15

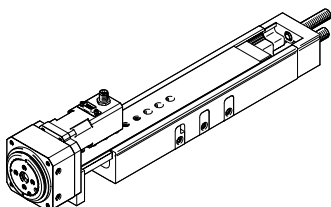
### Combination of ERMO with mini slide EGSL



#### Required accessories:

- ERMO-12 / EGSL-35: 2x centring sleeve ZBH-7; 2x screw M4x12
- ERMO-16 / EGSL-45: 2x centring sleeve ZBH-7; 2x screw M5x12
- ERMO-25 / EGSL-55: 2x centring sleeve ZBH-7; 2x screw M5x14
- ERMO-32 / EGSL-55: 2x centring sleeve ZBH-7; 2x screw M5x14

### Combination of ERMO with mini slide DGSL



#### Required accessories:

- ERMO-12 / DGSL-12: 2x centring sleeve ZBH-7; 2x screw M4x18
- ERMO-25 / DGSL-20: 2x connector sleeve ZBV-9-7; 2x screw M5x22
- ERMO-32 / DGSL-25: 2x connector sleeve ZBV-9-7; 2x screw M5x22

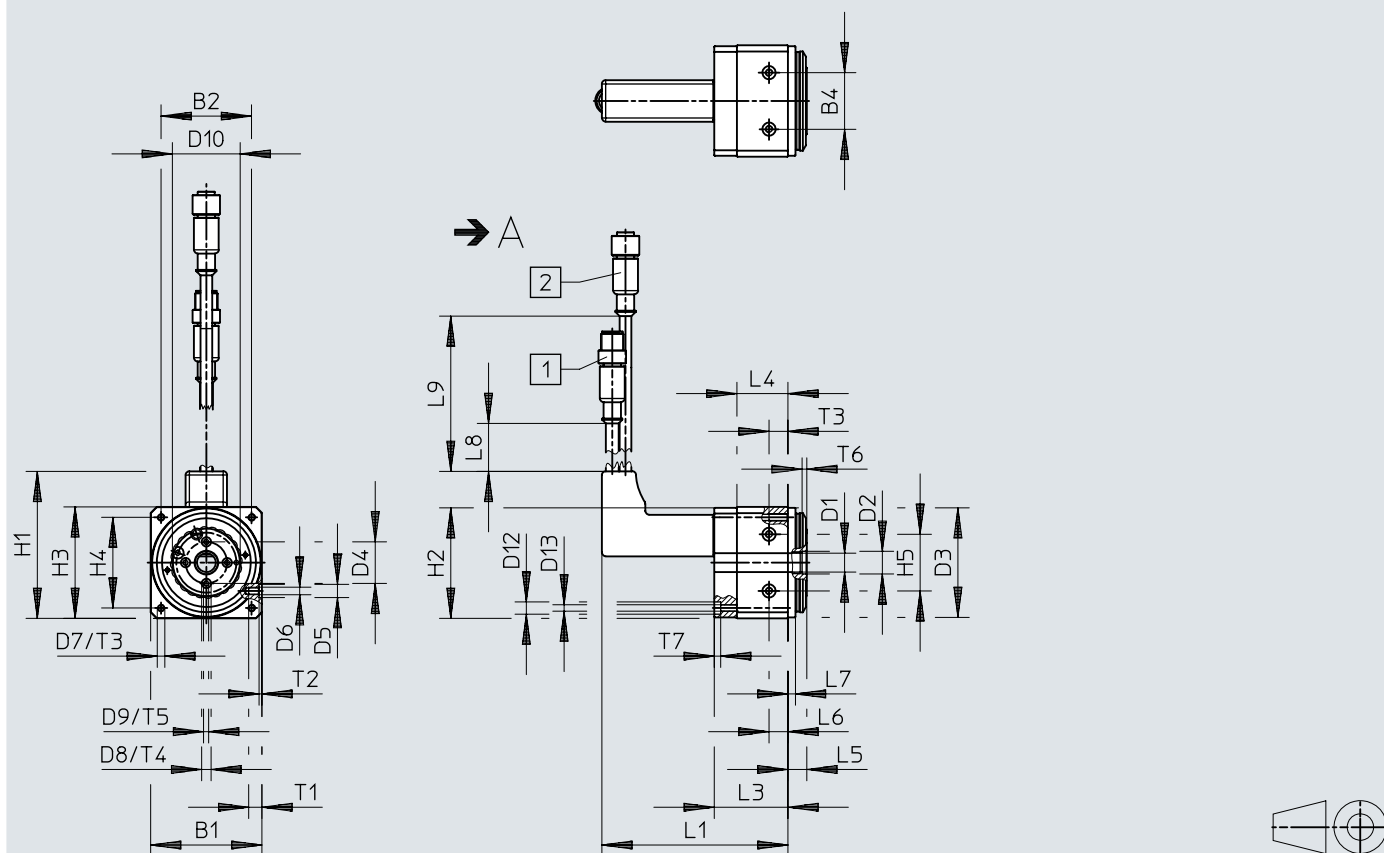
When combining ERMO-12 with DGSL-12, the proximity switch SIEN cannot be used as a reference switch for ERMO.

In this combination, the stroke is reduced by the head height of the screws for the DGSL. This shortened stroke must be compensated by external cushioning.



## Dimensions

Dimensions – ERMO, size 12

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

- [1] Encoder cable  
 [2] Motor cable  
 [3] Min. bending radius of the cables is 60 mm

|         | B1   | B2 | B4    | D1                 | D2      | D3      | D4         | D5      | D6 |
|---------|------|----|-------|--------------------|---------|---------|------------|---------|----|
|         | ±0,3 |    | ±0,03 | ∅                  | ∅<br>H8 | ∅<br>f8 | ∅<br>±0,02 | ∅<br>H7 |    |
| ERMO-12 | 59   | 48 | 30    | 10/7 <sup>1)</sup> | 12      | 58      | 22         | 7       | M4 |

|         | D7 | D8      | D9 | D10 | D12 | D13 | H1 | H2   | H4 |
|---------|----|---------|----|-----|-----|-----|----|------|----|
|         |    | ∅<br>H7 |    | ∅   | ∅   | ∅   |    |      |    |
| ERMO-12 | M4 | 5       | M3 | 36  | 6,5 | 3,4 | 80 | 58,5 | 48 |

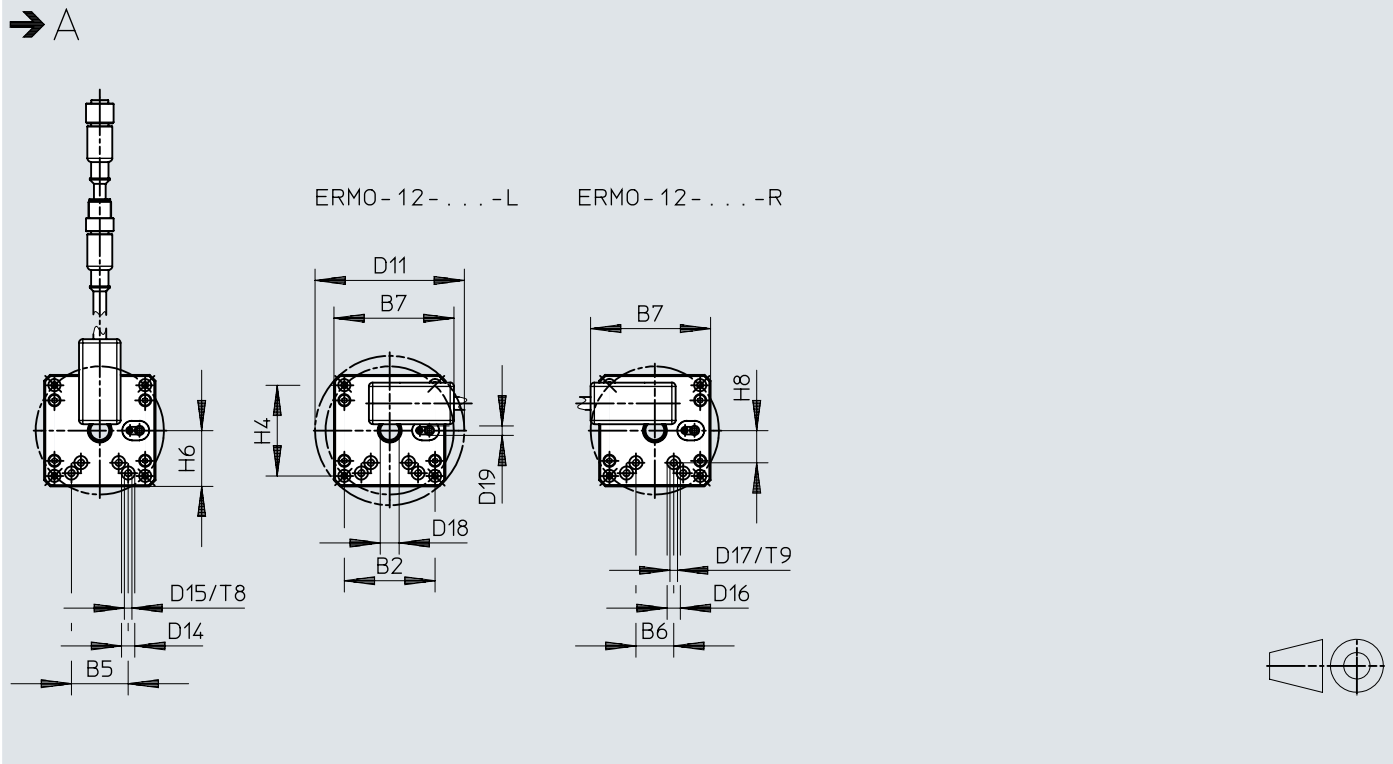
|         | H3   | H5    | L1   | L3   | L4 | L5   | L6   | L7   | L8  |
|---------|------|-------|------|------|----|------|------|------|-----|
|         | ±0,3 | ±0,03 | ±1,5 | ±0,6 |    | ±0,2 | ±0,1 | ±0,1 |     |
| ERMO-12 | 59   | 30    | 100  | 39   | 27 | 10   | 10   | 4    | 300 |

|         | L9  | T1 | T2   | T3 | T4   | T5 | T6   | T7  |
|---------|-----|----|------|----|------|----|------|-----|
|         |     |    | +0,1 |    | +0,1 |    | +0,1 |     |
| ERMO-12 | 300 | 7  | 1,5  | 10 | 1,2  | 7  | 2,5  | 3,4 |

Dimensions

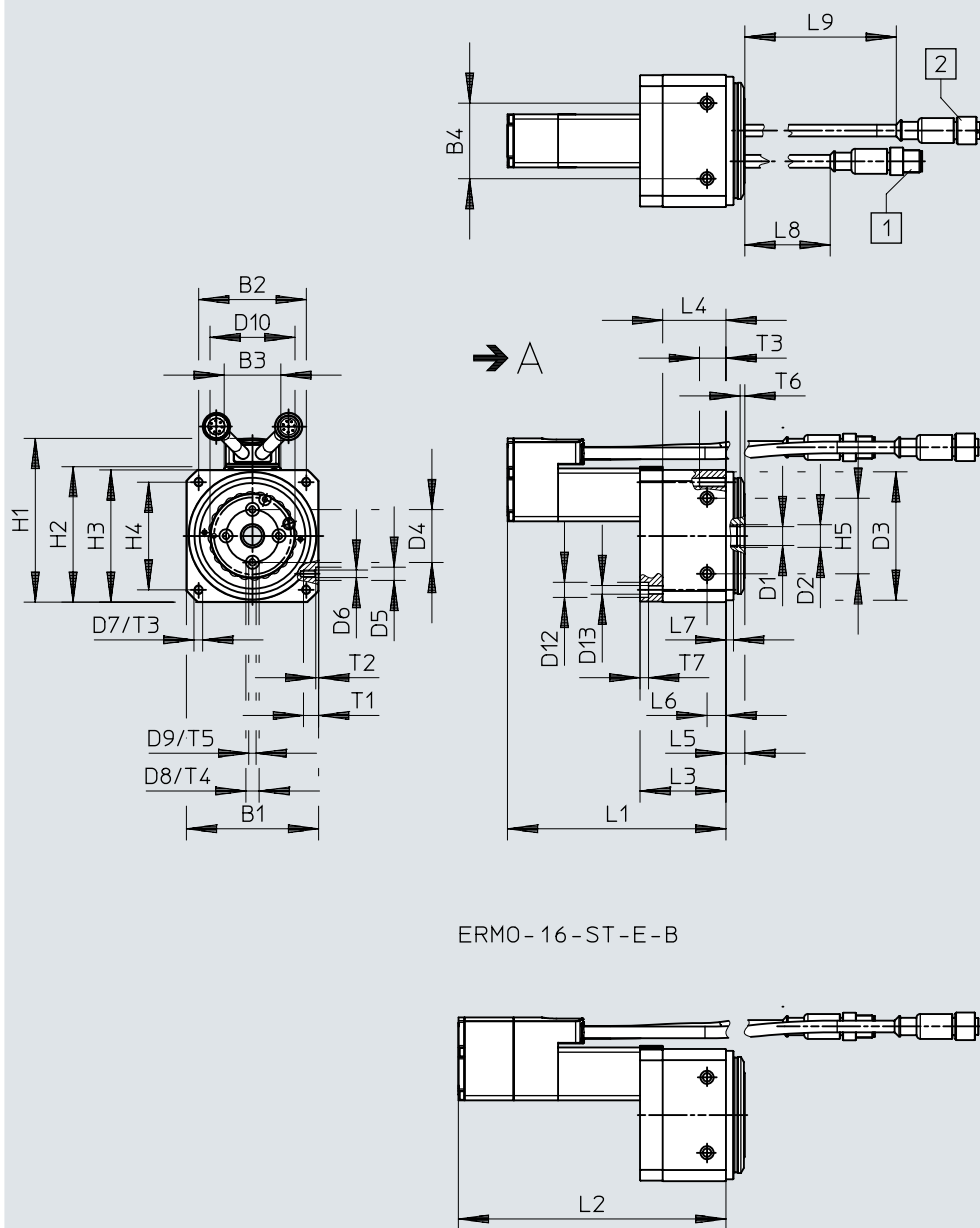
Dimensions – ERMO, size 12 (view A) Download CAD data [www.festo.com](http://www.festo.com)



|         | B2  | B5          | B6          | B7 | D11<br>Ø<br>±0,5 | D14<br>Ø<br>H7 | D15 | D16<br>Ø<br>H7 |
|---------|-----|-------------|-------------|----|------------------|----------------|-----|----------------|
| ERMO-12 | 48  | ±0,02<br>30 | ±0,02<br>20 | 46 | 79               | 7              | M4  | 7              |
|         | D17 | D18         | D19         | H4 | H6               | H8             | T8  | T9             |
| ERMO-12 | M4  | max.<br>7   | M5x0,5      | 48 | 22,5             | 17             | 1,5 | 1,5            |

## Dimensions

Dimensions – ERM0, size 16

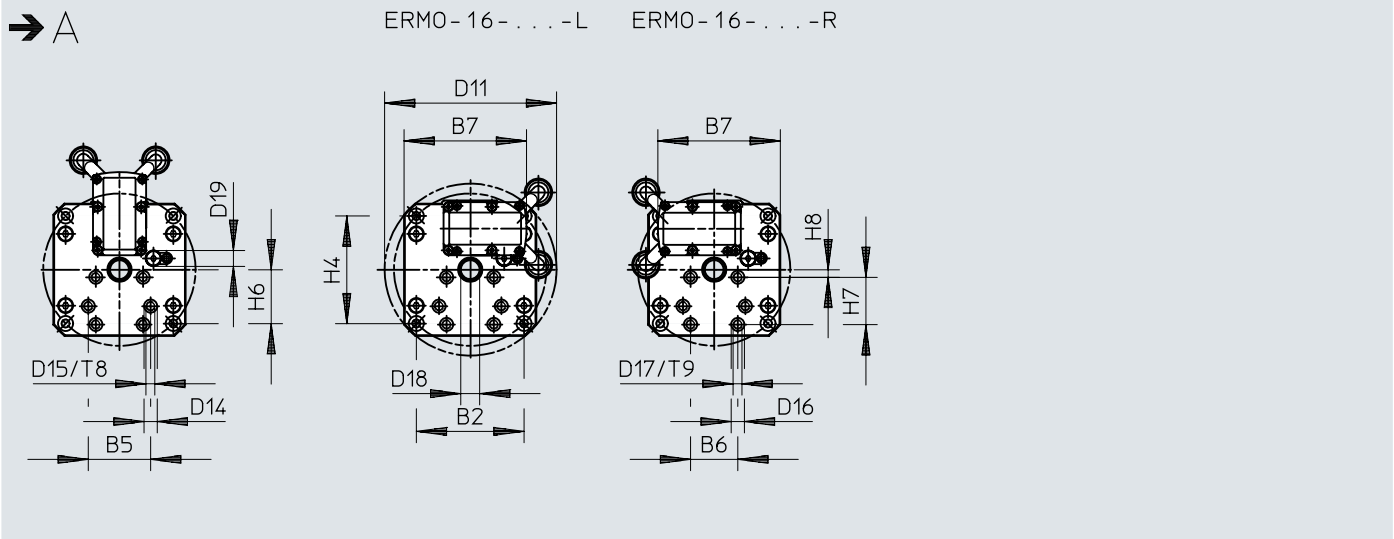
Download CAD data [www.festo.com](http://www.festo.com)

Dimensions

|         |            |             |               |             |            |               |               |                  |               |            |
|---------|------------|-------------|---------------|-------------|------------|---------------|---------------|------------------|---------------|------------|
|         | B1<br>±0,3 | B2          | B3            | B4<br>±0,03 | D1<br>∅    | D2<br>∅<br>H8 | D3<br>∅<br>f8 | D4<br>∅<br>±0,02 | D5<br>∅<br>H7 |            |
| ERMO-16 | 70         | 57          | 30            | 40          | 10         | 12            | 68            | 28               | 7             |            |
|         | D6         | D7          | D8<br>∅<br>H7 | D9          | D10<br>∅   | D12<br>∅      | D13<br>∅      | H1               | H2            | H3<br>±0,3 |
| ERMO-16 | M5         | M5          | 7             | M4          | 45         | 8             | 4,6           | 87               | 71,8          | 70         |
|         | H4         | H5<br>±0,03 | H4            | H5<br>±0,03 | L1<br>±1,5 | L2<br>±1,5    | L3<br>±0,6    | L4               | L5<br>±0,2    | L6<br>±0,1 |
| ERMO-16 | 57         | 40          | 57            | 40          | 116        | 142           | 45,5          | 33,5             | 10            | 10         |
|         | L7<br>±0,1 | L8          | L9            | T1          | T2<br>+0,1 | T3            | T4<br>+0,1    | T5               | T6<br>+0,1    | T7         |
| ERMO-16 | 4          | 250         | 350           | 8           | 1,5        | 14            | 1,5           | 8                | 2,5           | 4,5        |

Dimensions

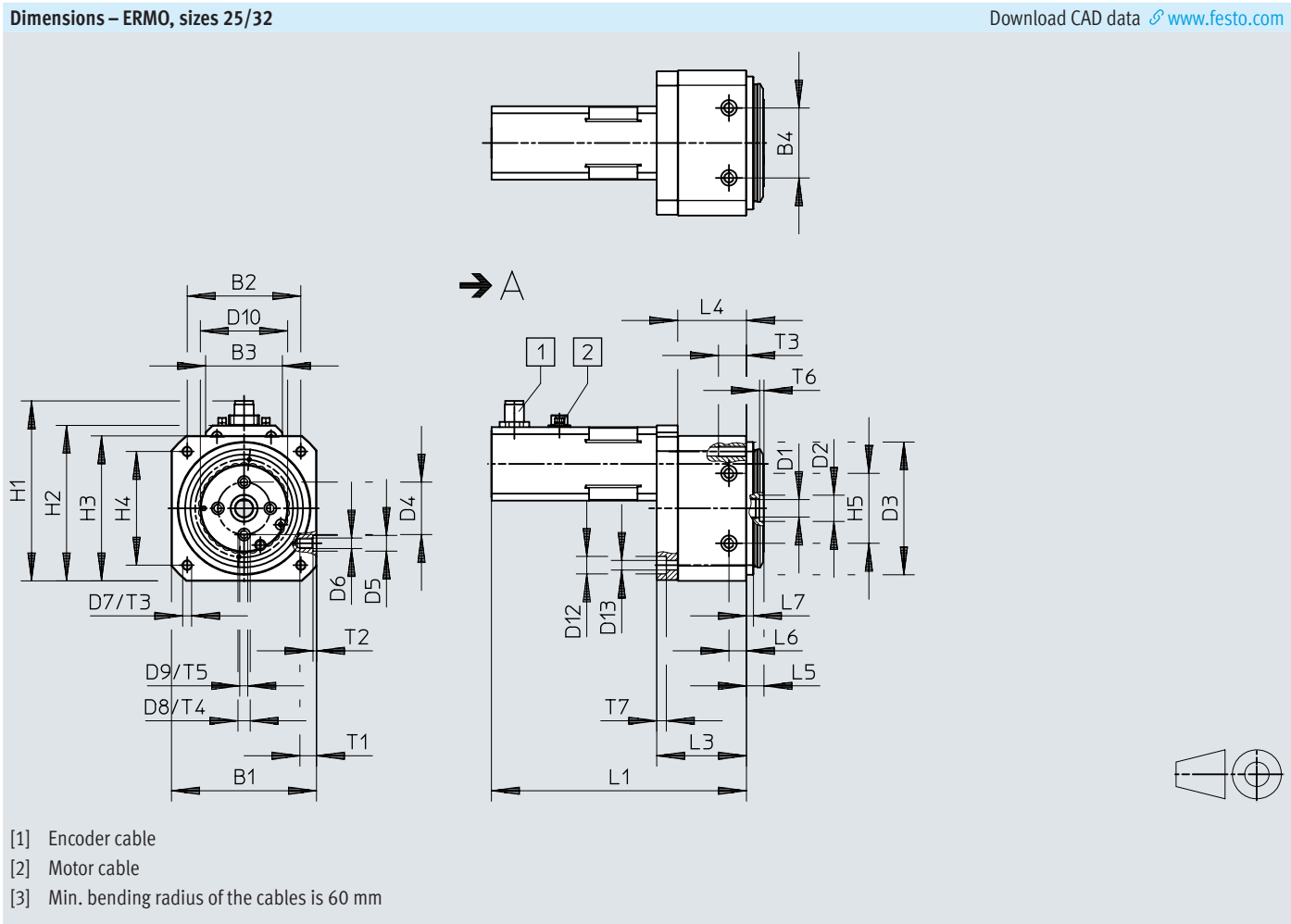
Dimensions – ERMO, size 16 (view A) Download CAD data [www.festo.com](http://www.festo.com)



|         | B5    | B6    | B7 | D11<br>ø | D14<br>ø<br>H7 | D15 | D16<br>ø<br>H7 | D17 |
|---------|-------|-------|----|----------|----------------|-----|----------------|-----|
|         | ±0,02 | ±0,02 |    | ±0,5     |                |     |                |     |
| ERMO-16 | 33    | 25    | 65 | 91       | 7              | M5  | 7              | M5  |

|         | D18  | D19  | H4 | H6   | H7    | H8 | T8  | T9  |
|---------|------|------|----|------|-------|----|-----|-----|
|         | max. |      |    |      | ±0,02 |    |     |     |
| ERMO-16 | –    | M8x1 | 57 | 19,3 | 25    | 4  | 1,5 | 1,5 |

Dimensions



|         |      |    |    |       |       |                    |               |               |  |  |
|---------|------|----|----|-------|-------|--------------------|---------------|---------------|--|--|
|         | B1   | B2 | B3 | B4    | B6    | D1<br>Ø            | D2<br>Ø<br>H8 | D3<br>Ø<br>f8 |  |  |
|         | ±0,3 |    |    | ±0,03 | ±0,02 |                    |               |               |  |  |
| ERMO-25 | 83   | 65 | 44 | 40    | 25    | 10                 | 15            | 76            |  |  |
| ERMO-32 | 105  | 85 | 58 | 60    | 25    | 16/9 <sup>1)</sup> | 20            | 96            |  |  |

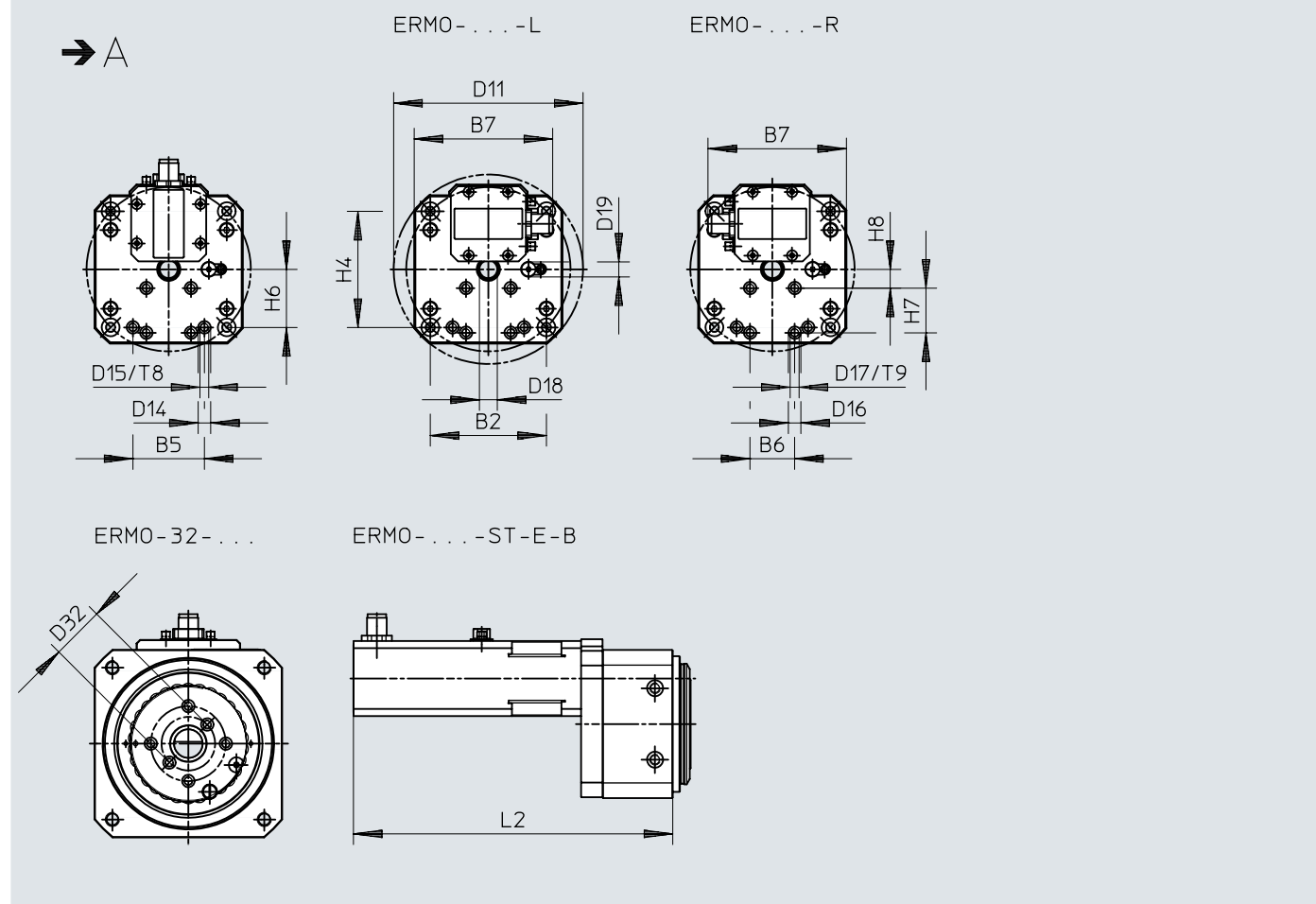
|         |                  |               |    |    |               |    |          |          |          |              |
|---------|------------------|---------------|----|----|---------------|----|----------|----------|----------|--------------|
|         | D4<br>Ø<br>±0,02 | D5<br>Ø<br>H7 | D6 | D7 | D8<br>Ø<br>H7 | D9 | D10<br>Ø | D12<br>Ø | D13<br>Ø | D32<br>±0,02 |
| ERMO-25 | 30               | 9             | M6 | M6 | 7             | M5 | 50       | 10       | 5,5      | –            |
| ERMO-32 | 42               | 12            | M8 | M8 | 7             | M5 | 65       | 11       | 6,6      | 30           |

|         |     |       |      |    |       |      |      |      |      |      |
|---------|-----|-------|------|----|-------|------|------|------|------|------|
|         | H1  | H2    | H3   | H4 | H5    | L1   | L2   | L3   | L4   | L5   |
|         |     |       | ±0,3 |    | ±0,03 | ±1,5 | ±1,5 | ±0,6 |      | ±0,2 |
| ERMO-25 | 103 | 89    | 40   | 65 | 40    | 146  | 179  | 51,3 | 39,3 | 10   |
| ERMO-32 | 125 | 110,5 | 60   | 85 | 60    | 148  | 189  | 46,5 | 34,5 | 12   |

|         |      |      |     |      |    |      |     |      |     |  |
|---------|------|------|-----|------|----|------|-----|------|-----|--|
|         | L6   | L7   | T1  | T2   | T3 | T4   | T5  | T6   | T7  |  |
|         | ±0,1 | ±0,1 |     | +0,1 |    | +0,1 |     | +0,1 |     |  |
| ERMO-25 | 10   | 4    | 9,5 | 2    | 16 | 1,5  | 8,5 | 2,5  | 5,5 |  |
| ERMO-32 | 10   | 6    | 15  | 2,5  | 20 | 1,5  | 10  | 2,8  | 6,8 |  |

## Dimensions

Dimensions – ERMO, sizes 25/32 (view A)

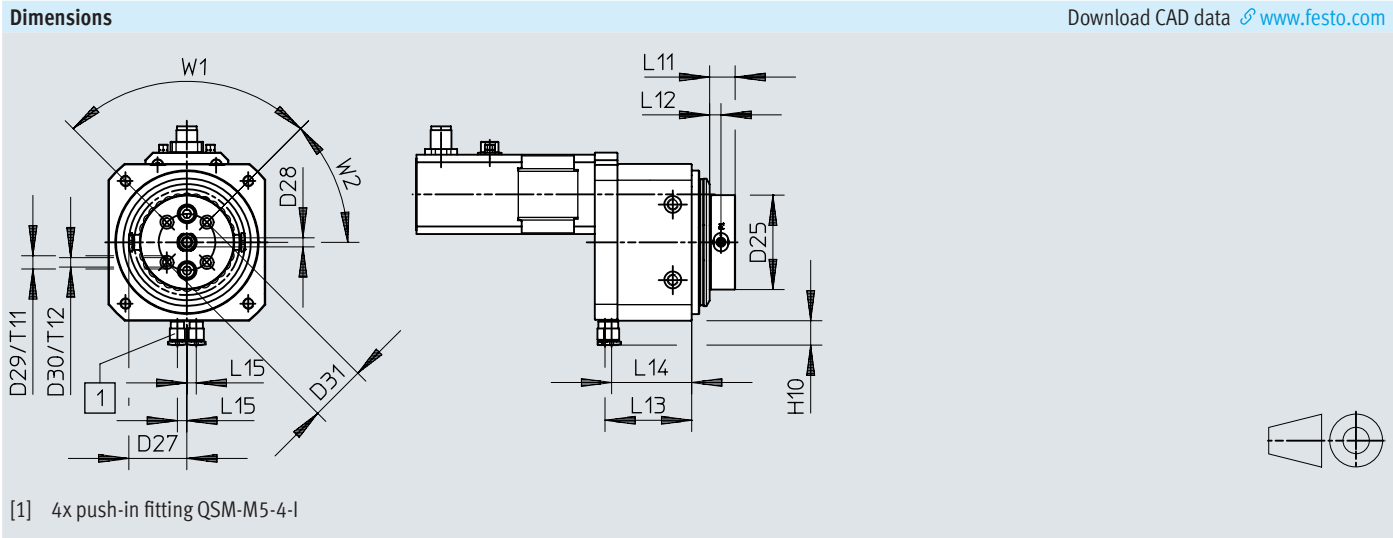
Download CAD data [www.festo.com](http://www.festo.com)

|         | B2 | B5<br>±0,02 | B7 | D11<br>∅<br>±0,5 | D14<br>∅<br>H7 | D15 | D16<br>∅<br>H7 | D17 |
|---------|----|-------------|----|------------------|----------------|-----|----------------|-----|
| ERM0-25 | 65 | 40          | 78 | 106              | 7              | M5  | 7              | M5  |
| ERM0-32 | 85 | –           | 96 | 135              | –              | –   | 7              | M5  |

|         | D18<br>max. | D19  | H4 | H6   | H7<br>±0,02 | H8   | T8  | T9  |
|---------|-------------|------|----|------|-------------|------|-----|-----|
| ERM0-25 | 10          | M8x1 | 65 | 32,5 | 25          | 10,5 | 1,5 | 1,5 |
| ERM0-32 | 9           | M8x1 | 85 | –    | 25          | 15   | –   | 1,5 |

Dimensions

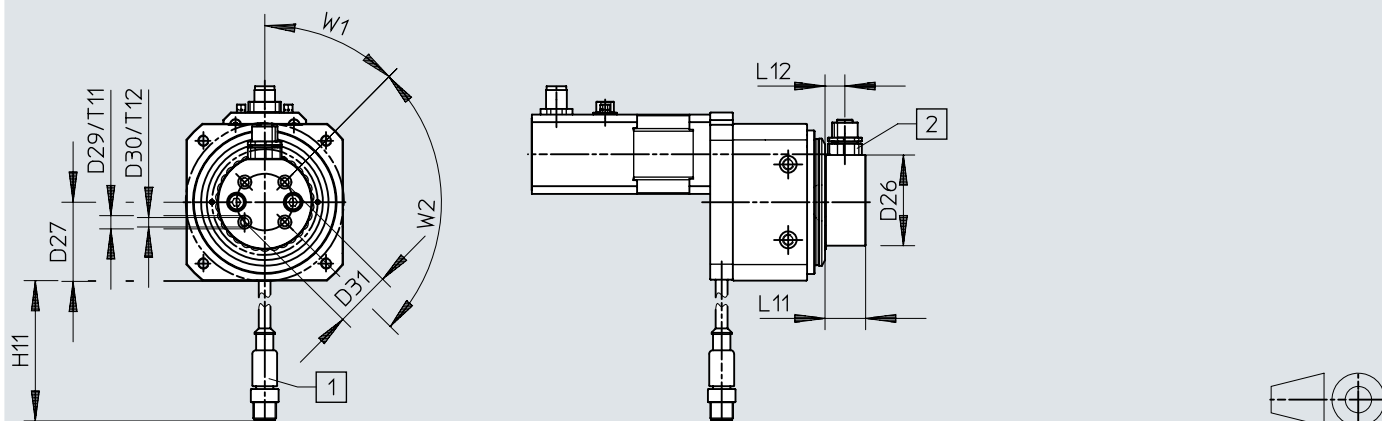


|         | D26<br>Ø | D27<br>Ø | D28<br>Ø | D29<br>Ø<br>H7 | D30 | D31<br>Ø<br>±0,02 | H10<br>±1 | L11  | L12 | L13  | L14  | L15 | T11<br>+0,1 | T12 | W1  | W2    |
|---------|----------|----------|----------|----------------|-----|-------------------|-----------|------|-----|------|------|-----|-------------|-----|-----|-------|
| ERMO-12 | 44       | R29,5    | 3        | 5              | M3  | 22                | 13        | 13,5 | 6   | 33,8 | 30,3 | 4   | 1,2         | 8   | 90° | 45°   |
| ERMO-16 | 44       | R31      | 4,8      | 7              | M4  | 28                | 13        | 13   | 6   | 40,6 | 37   | 5   | 1,5         | 8   | 90° | 45°   |
| ERMO-25 | 50       | R31      | 4,8      | 7              | M5  | 30                | 13        | 13,5 | 6   | 45,9 | 42,4 | 5   | 1,5         | 8,5 | 90° | 45°   |
| ERMO-32 | 64       | R36      | 4,8      | 7              | M5  | 42                | 13        | 16   | 8,6 | 41,5 | 38   | 5   | 1,5         | 10  | 90° | 22,5° |



## Dimensions

### Dimensions – E8 – Energy through-feed, electrical

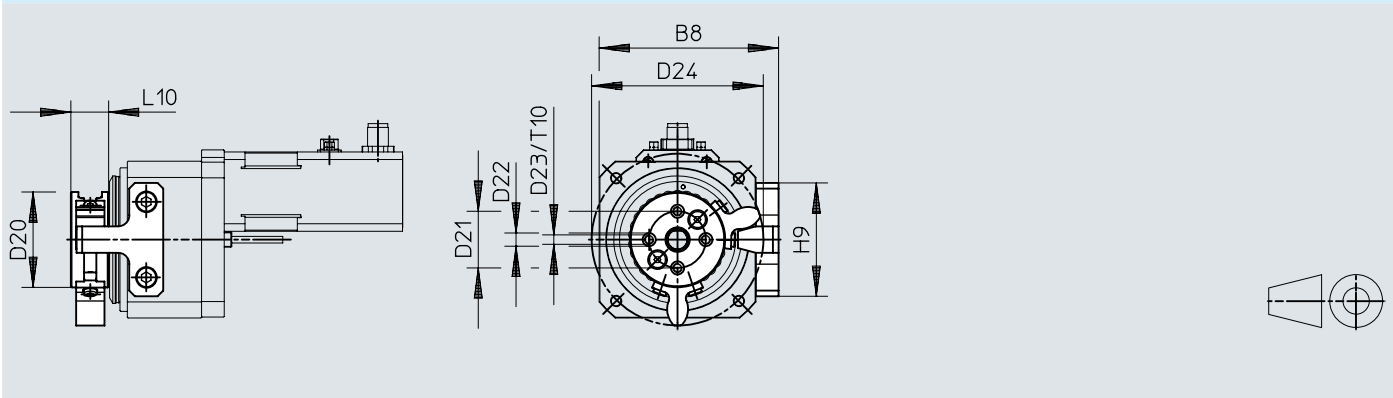
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- [1] M12 plug, 8-pin  
[2] M12 socket, 8-pin

|         | D26<br>Ø | D27<br>Ø | D29<br>Ø<br>H7 | D30 | D31<br>Ø<br>±0,02 | H11<br>±10 | L11  | L12  | T11<br>+0,1 | T12 | W1  | W2  |
|---------|----------|----------|----------------|-----|-------------------|------------|------|------|-------------|-----|-----|-----|
| ERMO-12 | 44       | R38,5    | 5              | M3  | 22                | 205        | 21,5 | 10   | 1,2         | 8   | 54° | 72° |
| ERMO-16 | 44       | R37,5    | 7              | M4  | 28                | 195        | 21   | 10,5 | 1,5         | 8   | 55° | 70° |
| ERMO-25 | 48       | R42      | 7              | M5  | 30                | 185        | 21,5 | 10,5 | 1,5         | 8,5 | 45° | 90° |
| ERMO-32 | 64       | R47      | 7              | M5  | 42                | 175        | 21   | 11   | 1,5         | 10  | 45° | 90° |

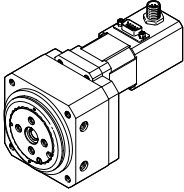
Dimensions

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



|               | B8  | D20<br>ø<br>±0,1 | D21<br>ø<br>±0,1 | D22<br>ø<br>H7 | D23 | D24<br>ø | H9 | L10<br>±0,1 | T10 |
|---------------|-----|------------------|------------------|----------------|-----|----------|----|-------------|-----|
| EADP-ES-R3-12 | 69  | 44               | 28               | 7              | M4  | 74,8     | 40 | 16          | 16  |
| EADP-ES-R3-16 | 80  | 44               | 28               | 7              | M4  | 74,2     | 52 | 16          | 16  |
| EADP-ES-R3-25 | 95  | 50,5             | 30               | 7              | M5  | 91       | 60 | 20          | 20  |
| EADP-ES-R3-32 | 120 | 64               | 42               | 7              | M5  | 90       | 80 | 27          | 27  |

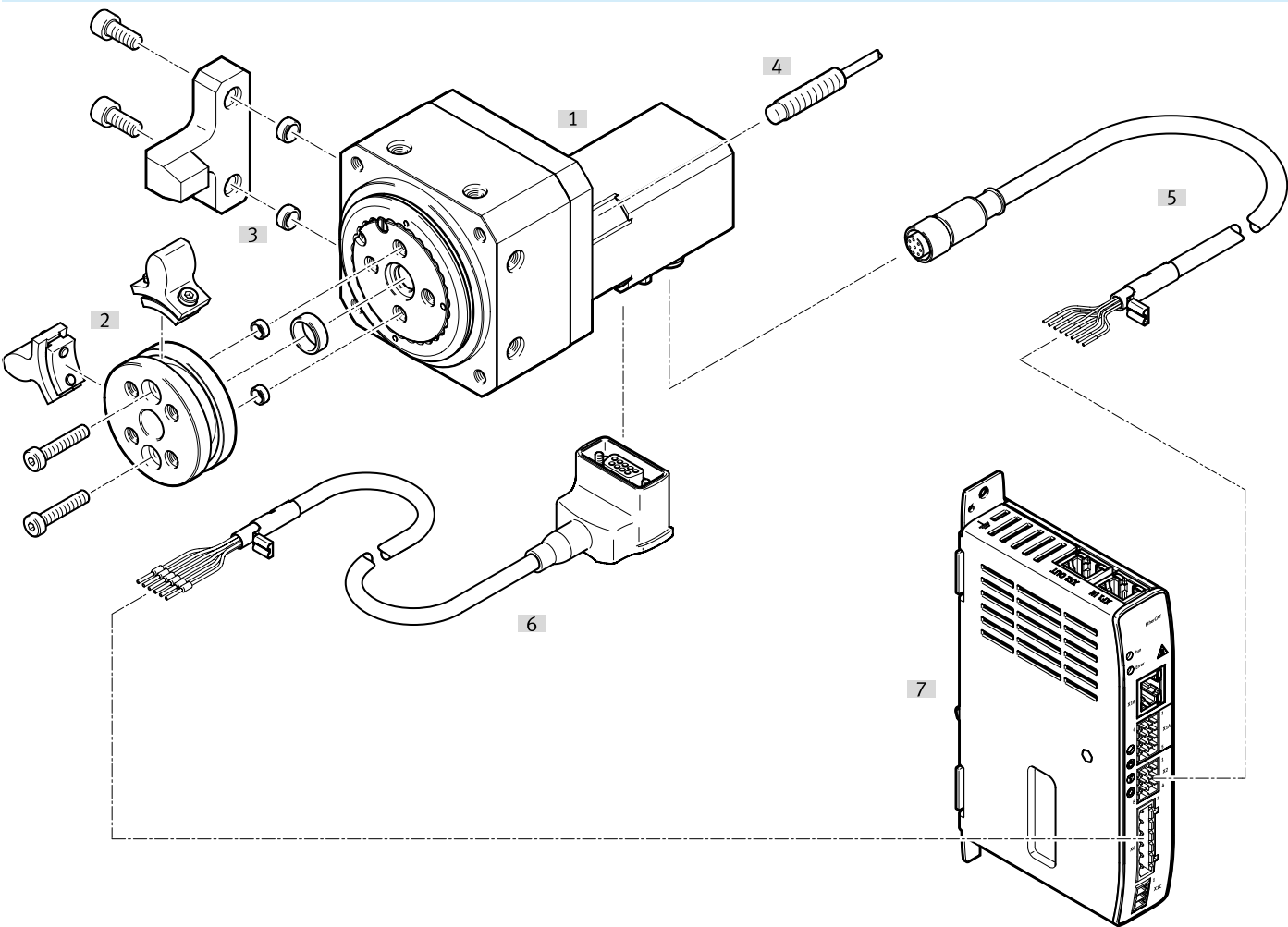
## Ordering data

| Ordering data                                                                     |      |          |              |
|-----------------------------------------------------------------------------------|------|----------|--------------|
|                                                                                   | Size | Part no. | Type         |
|  | 12   | 3008525  | ERMO-12-ST-E |
|                                                                                   | 16   | 3008526  | ERMO-16-ST-E |
|                                                                                   | 25   | 3008527  | ERMO-25-ST-E |
|                                                                                   | 32   | 3008528  | ERMO-32-ST-E |

| Ordering data – Modular product system                                            |      |          | Link  <a href="#">ermo</a> |
|-----------------------------------------------------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------------|
|                                                                                   | Size | Part no. | Type                                                                                                          |
|  | 12   | 2954695  | ERMO-12                                                                                                       |
|                                                                                   | 16   | 2954696  | ERMO-16                                                                                                       |
|                                                                                   | 25   | 2954697  | ERMO-25                                                                                                       |
|                                                                                   | 32   | 2954698  | ERMO-32                                                                                                       |

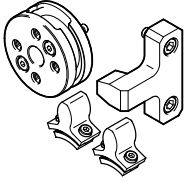
Peripherals

Peripherals overview



| Accessories |                       |                                                                                                                                                                       | → Link                          |
|-------------|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| [1]         | Rotary drives ERMO    | Electric rotary drive                                                                                                                                                 | <a href="#">ermo</a>            |
| [2]         | Stop kit EADP-ES-R3   | <ul style="list-style-type: none"><li>• For homing to the end position</li><li>• As end stop for rotary drives without brake</li><li>• For safety functions</li></ul> | <a href="#">21</a>              |
| [3]         | Centring sleeve ZBH   | <ul style="list-style-type: none"><li>• For centring attachments</li><li>• For centring the rotary drive</li></ul>                                                    | <a href="#">21</a>              |
| [4]         | Proximity switch SIEN | For homing or position sensing                                                                                                                                        | <a href="#">21</a>              |
| [5]         | Encoder cable NEBM    | For connecting the encoder and controller                                                                                                                             | <a href="#">23</a>              |
| [6]         | Motor cable NEBM      | For connecting the motor and controller                                                                                                                               | <a href="#">22</a>              |
| [7]         | Servo drive CMMT-ST   | For positioning the rotary drive                                                                                                                                      | <a href="#">23</a>              |
| [8]         | Adapter kit DHAA      | For drive/gripper connections                                                                                                                                         | <a href="#">adapter-bausatz</a> |

## Accessories

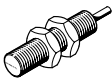
| Stop kit EADP                                                                     |      |                |          |               |  |
|-----------------------------------------------------------------------------------|------|----------------|----------|---------------|--|
|                                                                                   | Size | Product weight | Part no. | Type          |  |
|  | 12   | 96 g           | 3044562  | EADP-ES-R3-12 |  |
|                                                                                   | 16   | 100 g          | 2715501  | EADP-ES-R3-16 |  |
|                                                                                   | 25   | 210 g          | 2721599  | EADP-ES-R3-25 |  |
|                                                                                   | 32   | 290 g          | 2735411  | EADP-ES-R3-32 |  |

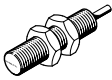
| Centring sleeve ZBH                                                               |                     |                 |              |                |          |         |
|-----------------------------------------------------------------------------------|---------------------|-----------------|--------------|----------------|----------|---------|
|                                                                                   | Description         | Material sleeve | Size of pack | Product weight | Part no. | Type    |
|  | For sizes 12 ... 32 | Steel           | 10           | 1 g            | 8146544  | ZBH-7-B |

| Centring sleeve ZBH                                                               |             |                 |              |                |          |         |
|-----------------------------------------------------------------------------------|-------------|-----------------|--------------|----------------|----------|---------|
|                                                                                   | Description | Material sleeve | Size of pack | Product weight | Part no. | Type    |
|  | For size 25 | Steel           | 10           | 2 g            | 8137184  | ZBH-9-B |

| Centring sleeve ZBH                                                                 |                      |                 |              |                |          |          |
|-------------------------------------------------------------------------------------|----------------------|-----------------|--------------|----------------|----------|----------|
|                                                                                     | Description          | Material sleeve | Size of pack | Product weight | Part no. | Type     |
|  | For sizes 12, 16, 32 | Steel           | 10           | 1 g            | 8137185  | ZBH-12-B |

| Centring sleeve ZBH                                                                 |             |                            |              |                |          |        |
|-------------------------------------------------------------------------------------|-------------|----------------------------|--------------|----------------|----------|--------|
|                                                                                     | Description | Material sleeve            | Size of pack | Product weight | Part no. | Type   |
|  | For size 25 | High-alloy stainless steel | 10           | 3 g            | 191409   | ZBH-15 |

| Proximity switch SIEN (round design), inductive – for sizes 12                      |                            |                       |                  |              |          | Link <a href="#">sien-m5</a> |
|-------------------------------------------------------------------------------------|----------------------------|-----------------------|------------------|--------------|----------|------------------------------|
|                                                                                     | Switching element function | Electrical connection | Switching output | Cable length | Part no. | Type                         |
|  | N/C contact                | 3-wire, Cable         | PNP              | 2.5 m        | 150374   | SIEN-M5B-PO-K-L              |
|                                                                                     |                            | 3-pin, M8x1, Plugs    |                  |              | 150375   | SIEN-M5B-PO-S-L              |
|                                                                                     | N/O contact                | 3-wire, Cable         |                  | 2.5 m        | 150370   | SIEN-M5B-PS-K-L              |
|                                                                                     |                            | 3-pin, M8x1, Plugs    |                  |              | 150371   | SIEN-M5B-PS-S-L              |

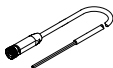
| Proximity switch SIEN (round design), inductive – for sizes 16 ... 32               |                                          |                       |                  |              |          | Link <a href="#">sien-m8</a> |
|-------------------------------------------------------------------------------------|------------------------------------------|-----------------------|------------------|--------------|----------|------------------------------|
|                                                                                     | Switching element function <sup>1)</sup> | Electrical connection | Switching output | Cable length | Part no. | Type                         |
|  | N/C contact                              | 3-pin, M8x1, Plugs    | PNP              |              | 150391   | SIEN-M8B-PO-S-L              |
|                                                                                     |                                          | Cable                 |                  | 2.5 m        | 150390   | SIEN-M8B-PO-K-L              |
|                                                                                     | N/O contact                              | 3-pin, M8x1, Plugs    |                  |              | 150387   | SIEN-M8B-PS-S-L              |
|                                                                                     |                                          | Cable                 |                  | 2.5 m        | 150386   | SIEN-M8B-PS-K-L              |

1) Cannot be fitted on size 16 in combination with motor attachment variant "left" (ERMO-16-...-L).

## Accessories

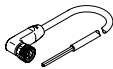
## Connecting cable NEBA, straight

Link [neba](#)

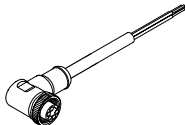
|                                                                                  | Electrical connection 1, connector system | Electrical connection 2, connector system | Electrical connection 2, number of connections/cores | Cable length | Part no.  | Type                  |
|----------------------------------------------------------------------------------|-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

## Connecting cable NEBA, angled

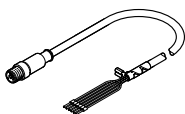
Link [neba](#)

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

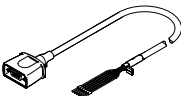
## Connecting cables for energy through-feed

|                                                                                   | Electrical connection 1, connector system | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Cable length | Part no. | Type                  |
|-----------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------|-------------------------------------------|--------------|----------|-----------------------|
|  | M12x1, A-coded to EN 61076-2-101          | Straight                              | M12x1, A-coded to EN 61076-2-101          | 2 m          | 525617   | KM12-8GD8GS-2-PU      |
|                                                                                   |                                           |                                       |                                           |              | 525616   | SIM-M12-8GD-2-PU      |
|                                                                                   |                                           |                                       | Open end                                  | 5 m          | 525618   | SIM-M12-8GD-5-PU      |
|                                                                                   |                                           |                                       |                                           | 10 m         | 570008   | SIM-M12-8GD-10-PU     |
|                                                                                   |                                           | Angled                                |                                           | 2 m          | 542256   | NEBU-M12W8-K-2-N-LE8  |
|                                                                                   |                                           |                                       |                                           | 5 m          | 542257   | NEBU-M12W8-K-5-N-LE8  |
|                                                                                   |                                           |                                       |                                           | 10 m         | 570007   | NEBU-M12W8-K-10-N-LE8 |

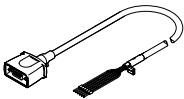
## Motor cable

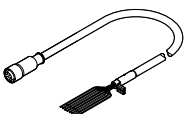
|                                                                                    | Electrical connection 1, connection type | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Cable characteristic       | Cable length | Part no.  | Type                     |
|------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------------------|----------------------------|--------------|-----------|--------------------------|
|  | Plugs                                    | Straight                              | Open end                                  | Suitable for energy chains | 1.5 m        | ★ 1449600 | NEBM-SM12G8-E-1.5-Q5-LE6 |
|                                                                                    |                                          |                                       |                                           |                            | 2.5 m        | ★ 1449601 | NEBM-SM12G8-E-2.5-Q5-LE6 |
|                                                                                    |                                          |                                       |                                           |                            | 5 m          | ★ 1449602 | NEBM-SM12G8-E-5-Q5-LE6   |
|                                                                                    |                                          |                                       |                                           |                            | 7 m          | ★ 1449603 | NEBM-SM12G8-E-7-Q5-LE6   |
|                                                                                    |                                          |                                       |                                           |                            | 10 m         | ★ 1449604 | NEBM-SM12G8-E-10-Q5-LE6  |

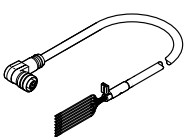
## Motor cable

|                                                                                    | Electrical connection<br>1, connection type | Electrical connection<br>1, cable outlet | Electrical connection<br>2, connector system | Cable characteristic       | Cable length | Part no.  | Type                   |
|------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------|----------------------------------------------|----------------------------|--------------|-----------|------------------------|
|  | Socket                                      | Straight                                 | Open end                                     | Suitable for energy chains | 1.5 m        | ★ 1450368 | NEBM-S1G9-E-1.5-Q5-LE6 |
|                                                                                    |                                             |                                          |                                              |                            | 2.5 m        | ★ 1450369 | NEBM-S1G9-E-2.5-Q5-LE6 |
|                                                                                    |                                             |                                          |                                              |                            | 5 m          | ★ 1450370 | NEBM-S1G9-E-5-Q5-LE6   |
|                                                                                    |                                             |                                          |                                              |                            | 7 m          | ★ 1450371 | NEBM-S1G9-E-7-Q5-LE6   |
|                                                                                    |                                             |                                          |                                              |                            | 10 m         | ★ 1450372 | NEBM-S1G9-E-10-Q5-LE6  |
|                                                                                    |                                             | Angled                                   |                                              |                            | 1.5 m        | ★ 1450736 | NEBM-S1W9-E-1.5-Q5-LE6 |
|                                                                                    |                                             |                                          |                                              |                            | 2.5 m        | ★ 1450737 | NEBM-S1W9-E-2.5-Q5-LE6 |
|                                                                                    |                                             |                                          |                                              |                            | 5 m          | ★ 1450738 | NEBM-S1W9-E-5-Q5-LE6   |
|                                                                                    |                                             |                                          |                                              |                            | 7 m          | ★ 1450739 | NEBM-S1W9-E-7-Q5-LE6   |

## Accessories

| Motor cable                                                                       |                                          |                                       |                                           |                            |              |           |                       |
|-----------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------------------|----------------------------|--------------|-----------|-----------------------|
|                                                                                   | Electrical connection 1, connection type | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Cable characteristic       | Cable length | Part no.  | Type                  |
|  | Socket                                   | Angled                                | Open end                                  | Suitable for energy chains | 10 m         | ★ 1450740 | NEBM-S1W9-E-10-Q5-LE6 |

| Motor cable                                                                       |                                          |                                       |                                           |                            |              |           |                      |
|-----------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------------------|----------------------------|--------------|-----------|----------------------|
|                                                                                   | Electrical connection 1, connection type | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Cable characteristic       | Cable length | Part no.  | Type                 |
|  | Socket                                   | Straight                              | Open end                                  | Suitable for energy chains | 1.5 m        | ★ 1451586 | NEBM-M12G8-E-1.5-LE8 |
|                                                                                   |                                          |                                       |                                           |                            | 2.5 m        | ★ 1451587 | NEBM-M12G8-E-2.5-LE8 |
|                                                                                   |                                          |                                       |                                           |                            | 5 m          | ★ 1451588 | NEBM-M12G8-E-5-LE8   |
|                                                                                   |                                          |                                       |                                           |                            | 7 m          | ★ 1451589 | NEBM-M12G8-E-7-LE8   |
|                                                                                   |                                          |                                       |                                           |                            | 10 m         | ★ 1451590 | NEBM-M12G8-E-10-LE8  |

| Motor cable                                                                         |                                          |                                       |                                           |                            |              |           |                      |
|-------------------------------------------------------------------------------------|------------------------------------------|---------------------------------------|-------------------------------------------|----------------------------|--------------|-----------|----------------------|
|                                                                                     | Electrical connection 1, connection type | Electrical connection 1, cable outlet | Electrical connection 2, connector system | Cable characteristic       | Cable length | Part no.  | Type                 |
|  | Socket                                   | Angled                                | Open end                                  | Suitable for energy chains | 1.5 m        | ★ 1451674 | NEBM-M12W8-E-1.5-LE8 |
|                                                                                     |                                          |                                       |                                           |                            | 2.5 m        | ★ 1451675 | NEBM-M12W8-E-2.5-LE8 |
|                                                                                     |                                          |                                       |                                           |                            | 5 m          | ★ 1451676 | NEBM-M12W8-E-5-LE8   |
|                                                                                     |                                          |                                       |                                           |                            | 7 m          | ★ 1451677 | NEBM-M12W8-E-7-LE8   |
|                                                                                     |                                          |                                       |                                           |                            | 10 m         | ★ 1451678 | NEBM-M12W8-E-10-LE8  |

| Motor controller                                                                    |                                                   |  |                                             |  | Link <a href="#">cmmt-st</a> |                     |  |
|-------------------------------------------------------------------------------------|---------------------------------------------------|--|---------------------------------------------|--|------------------------------|---------------------|--|
|                                                                                     | Type of mounting                                  |  | Fieldbus link                               |  | Part no.                     | Type                |  |
|  | Mounting plate, attached with screws, With H-rail |  | EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET |  | ★ 8163946                    | CMMT-ST-C8-1C-MP-S0 |  |