

Rotary drives ERMO, electric

FESTO



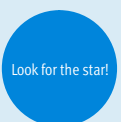
Festo core product range
Covers 80% of your automation tasks

Worldwide:
Superb:
Easy:

Always in stock
Festo quality at an attractive price
Reduces procurement and storing complexity

★ Generally ready for shipping ex works in 24 hours
Held in stock in 13 service centres worldwide
More than 2200 product

★ Generally ready for shipping ex works in 5 days
Assembled for you in 4 service centres worldwide
Up to 6×10^{12} variants per product series



Rotary drives ERMO, electric

Key features

At a glance

General

- 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 prestressed rotating plate with very good axial eccentricity and concentricity properties
- Optional holding brake
- Optionally with pneumatic or electric energy throughfeed
- Quick and accurate installation

Range of applications

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

Optimised Motion Series (OMS) – Package solution with motor and motor controller

A package that makes positioning easier than ever before.

The Optimised Motion Series is as easy to handle as a pneumatic cylinder, but with the functionality of an electric drive.



Easy selection

- Easy sizing and selection using cycle time charts
- No specialist knowledge of electric drive technology required

Ordering and logistics

- All the necessary individual components under a single part number
- Motors mounted on rotary drive

Quick to configure

- Parameterisation and commissioning via web server/browser
- Parameterise up to 7 freely definable positions directly on the PC



For simple positioning tasks

Rotary drive ERMO

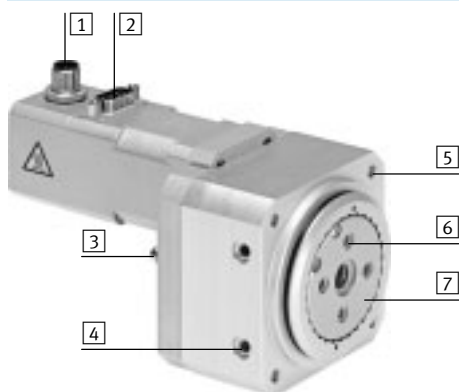


Motor controller CMMO

→ Internet: cmmo



The technology in detail



- 1 Encoder connection
- 2 Motor connection
- 3 Proximity sensor for homing or position sensing
- 4 Thread/centring holes for mounting
- 5 Thread for mounting
- 6 Thread/centring holes for attachments
- 7 Rotating plate

Rotary drives ERMO, electric

Key features

The technology in detail

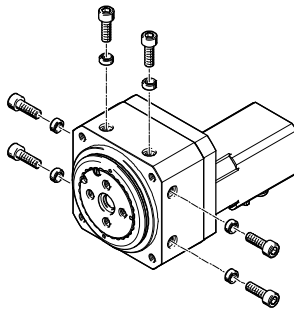
Energy throughfeed



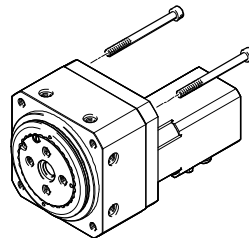
- Electrical signals or compressed air can be transferred through the hollow shaft using the energy throughfeed. This enables fast and easy supply of the parts connected to the rotating plate even with infinitely rotating applications.
- Also suitable for IO-Link signal data transfer.
- The energy throughfeed cannot be used in combination with the stop kit EADP-ES-R3.

Mounting options

At the side

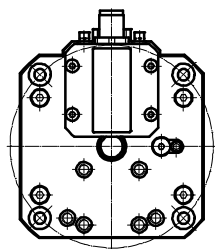


From the front/rear

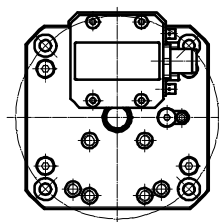


Motor attachment variants

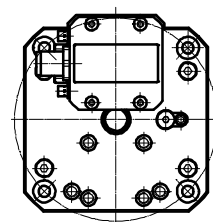
Top (standard)



Left (feature L)



Right (feature R)



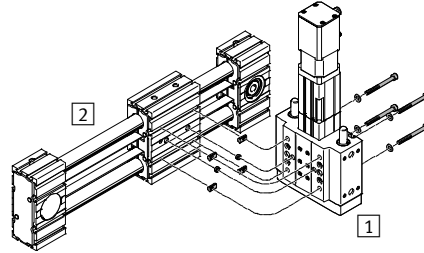
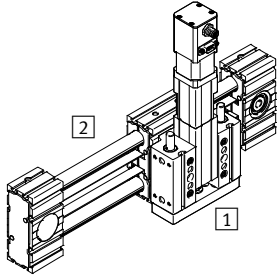
Rotary drives ERMO, electric

Key features



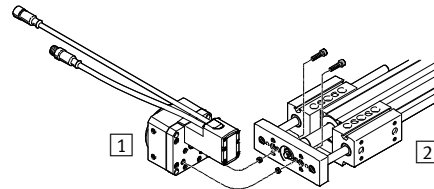
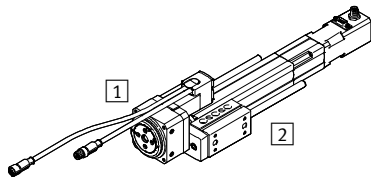
Possible combinations within the Optimised Motion Series (OMS)

Electric cylinder EPCO on toothed belt axis ELGR



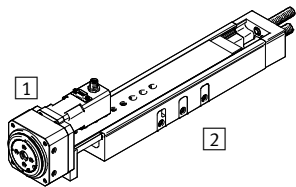
Size		Accessories			
1	2	Slot nut	Centring sleeve	Screw	Washer
EPCO	ELGR				
16	35	NST-3-M3 (x4)	ZBH-7 (x2)	M3x10 (x4)	–
25	45	NST-5-M5 (x4)	ZBH-7 (x2)	M5x50 (x4)	DIN125-A5.3 (x4)
40	55	NST-5-M5 (x4)	ZBH-7 (x2)	M5x65 (x4)	DIN125-A5.3 (x4)

Rotary drive ERMO on electric cylinder EPCO

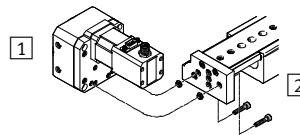


Size		Accessories	
1	2	Centring sleeve	Screw
ERMO	EPCO		
12	16	ZBH-7 (x2)	M4x16 (x2)
16	25	ZBH-7 (x2)	M5x18 (x2)
25	40	ZBH-7 (x2)	M5x20 (x2)

Rotary drive ERMO on mini slide DGSL

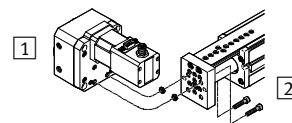
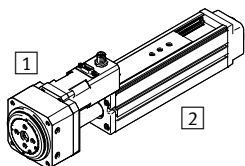


The proximity sensor SIEN cannot be used as a reference switch on the ERMO when ERMO-12 is combined with DGSL-12.



Size		Accessories	
1	2	Centring sleeve	Screw
ERMO	DGSL		
12	12	ZBH-7 (x2)	M4x18 (x2)
25	20	ZBH-9-7 (x2)	M5x22 (x2)
25	25	ZBH-9-7 (x2)	M5x22 (x2)

Rotary drive ERMO on mini slide EGSL



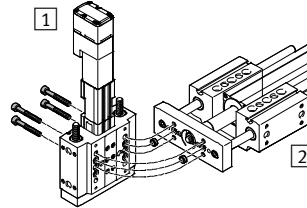
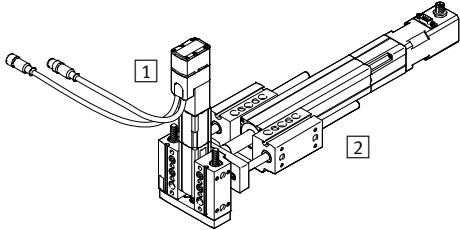
Size		Accessories	
1	2	Centring sleeve	Screw
ERMO	EGSL		
12	35	ZBH-7 (x2)	M4x12 (x2)
16	45	ZBH-7 (x2)	M5x12 (x2)
25	55	ZBH-7 (x2)	M5x14 (x2)
32	55	ZBH-7 (x2)	M5x14 (x2)

Rotary drives ERMO, electric

Key features

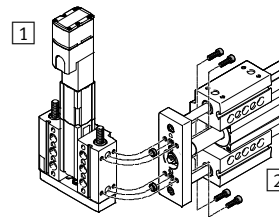
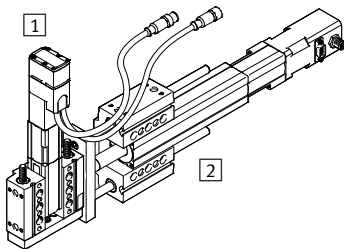
Possible combinations within the Optimised Motion Series (OMS)

Electric cylinder EPCO on electric cylinder EPCO, horizontal



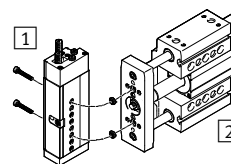
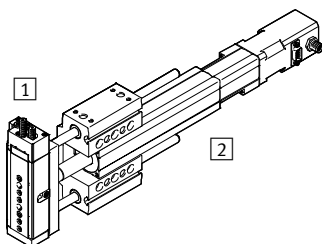
Size		Accessories	
1 EPCO	2 EPCO	Centring sleeve	Screw
16	25	ZBH-9 (x2)	M6x40 (x4)
25	40	ZBH-9 (x2)	M6x55 (x4)

Electric cylinder EPCO on electric cylinder EPCO, vertical



Size		Accessories	
1 EPCO	2 EPCO	Centring sleeve	Screw
16	25	ZBH-9 (x2)	M5x18 (x4)
25	40	ZBH-9 (x2)	M5x22 (x4)

Mini slide DGSL on electric cylinder EPCO

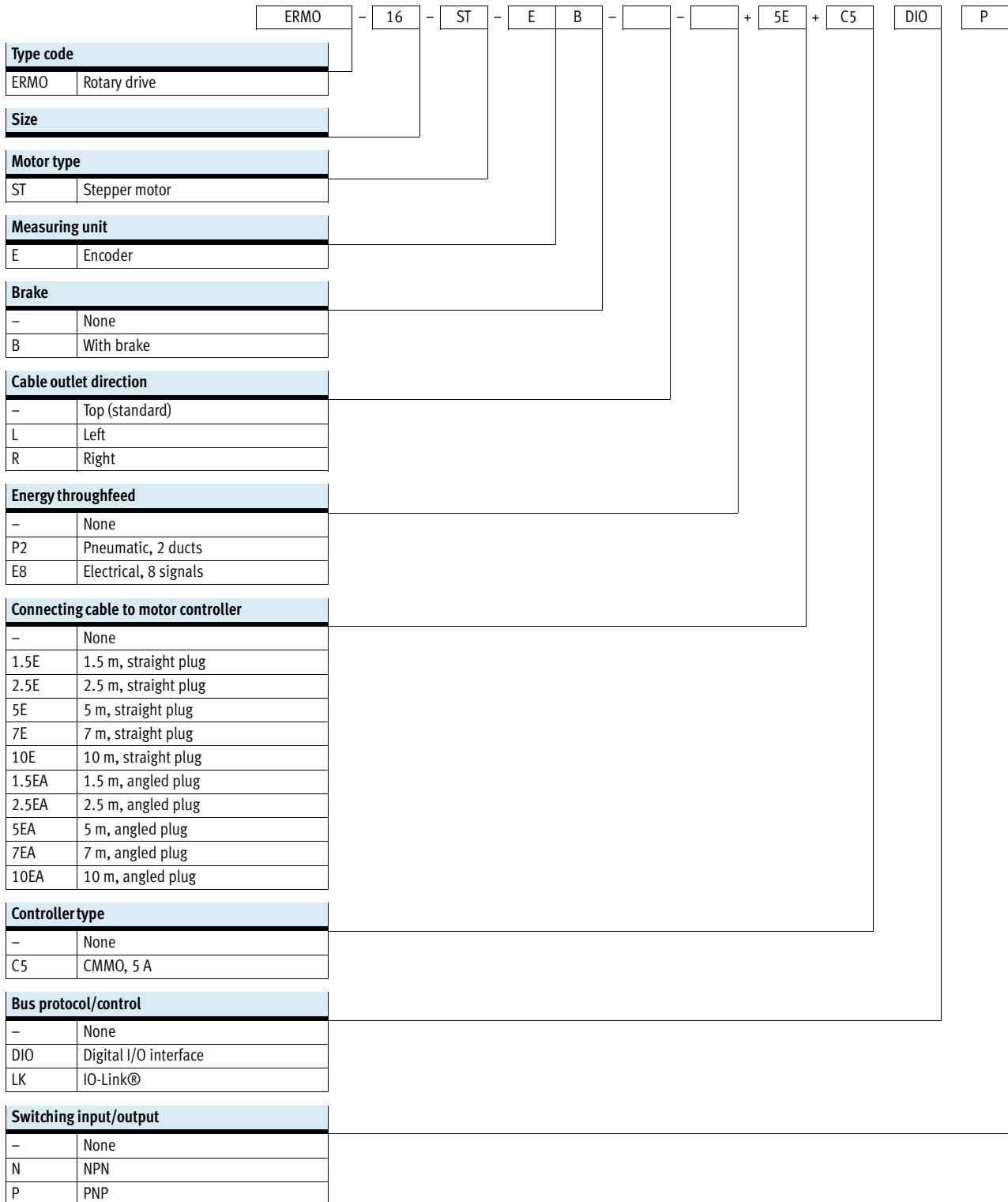


Size		Accessories	
1 DGSL	2 EPCO	Centring sleeve	Screw
8 (40mm) ¹⁾	16	ZBV-9-7 (x2)	M4x16 (x2)
10 (30mm) ¹⁾	25	ZBV-9-7 (x2)	M4x20 (x2)
12 (40mm) ¹⁾	40	ZBV-9-7 (x2)	M5x20 (x2)

1) Minimum stroke

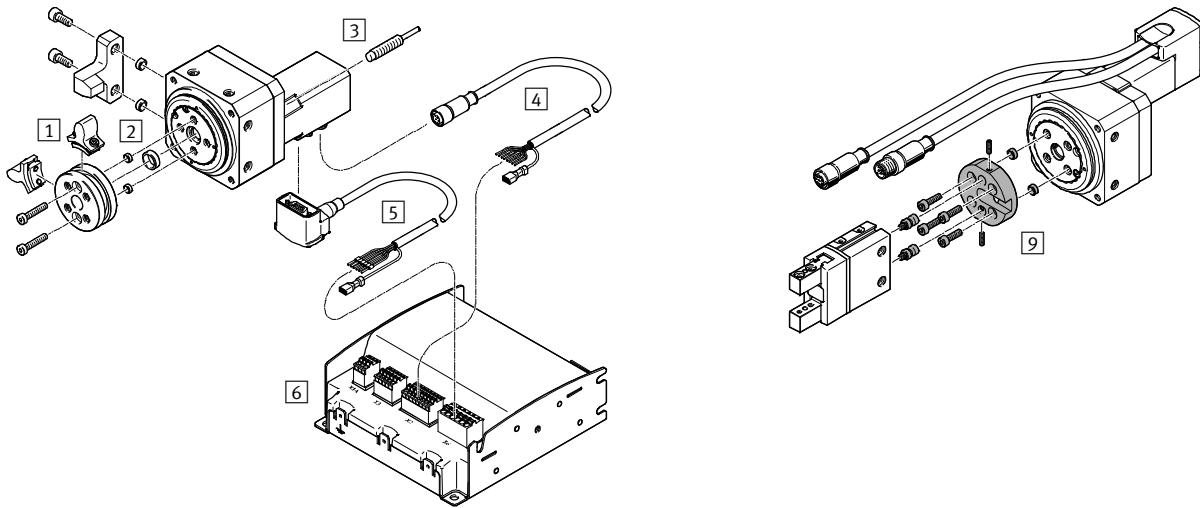
Rotary drives ERMO, electric

Type codes

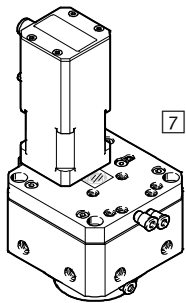


Rotary drives ERMO, electric

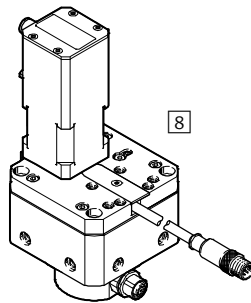
Peripherals overview



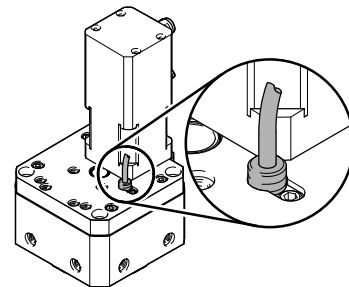
Pneumatic energy throughfeed



Electrical energy throughfeed



Proximity sensor SIEN



Accessories		
Type/order code	Description	→ Page/Internet
1 Stop kit EADP-ES-R3	<ul style="list-style-type: none"> For homing to the end position As end stop for rotary drives with no brake For safety functions 	24
2 Centring sleeve ZBH	<ul style="list-style-type: none"> For centring attachments For centring the rotary drive 	24
3 Proximity sensor SIEN	For homing or position sensing	25
4 Encoder cable NEBM	For connecting the encoder and controller	26
5 Motor cable NEBM	For connecting the motor and controller	26
6 Motor controller CMMO	For positioning the rotary drive	26
7 Energy throughfeed Pneumatic	<ul style="list-style-type: none"> For fast and easy pneumatic supply of parts mounted on the rotating plate, infinitely rotating Cannot be used in combination with the stop kit EADP-ES-R3 	12
8 Energy throughfeed Electrical	<ul style="list-style-type: none"> For fast and easy electrical supply of parts mounted on the rotating plate, infinitely rotating Cannot be used in combination with the stop kit EADP-ES-R3 	12
9 Adapter kit DHAA	For drive/gripper connections	adapter kit

Rotary drives ERMO, electric

Technical data

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Size

12, 16, 25, 32



General technical data					
Size	12	16	25	32	
Design	Electromechanical rotary drive with integrated gear unit				
Rotation angle	Infinite				
Repetition accuracy ¹⁾	[°]	±0.05	±0.05	±0.05	±0.1
Torsional backlash ¹⁾	[°]	0.2			
Positioning time	→ Page 10				
Gear ratio	9:1			7:1	
Type of mounting	Via female thread				
Mounting position	Any				
Product weight					
Without brake					
ERMO-...	[g]	475	900	1350	2200
ERMO-...-P2	[g]	535	960	1430	2340
ERMO-...-E8	[g]	535	960	1430	2340
With brake					
ERMO-...	[g]	–	960	1500	2380
ERMO-...-P2	[g]	–	1020	1580	2520
ERMO-...-E8	[g]	–	1020	1580	2520

1) Without payload in new condition

Mechanical data					
Size	12	16	25	32	
Nominal torque ¹⁾	[Nm]	0.15	0.8	2.5	5
Holding torque	[Nm]	0.33	0.81	4	7
Nominal rotary speed	[rpm]	100	100	66	50
Max. speed	[rpm]	200	200	150	100
Permissible mass moment of inertia	[kgm ² x10 ⁻⁴]	3	13	65	164
Mass moment of inertia J _o	[kgm ² x10 ⁻⁴]	0.0079	0.0383	0.114	0.390
Max. impact energy	[Jx10 ⁻⁴]	0.2	0.7	1.6	2.9

1) Theoretical torque at nominal rotary speed → page 10

Rotary drives ERMO, electric

Technical data

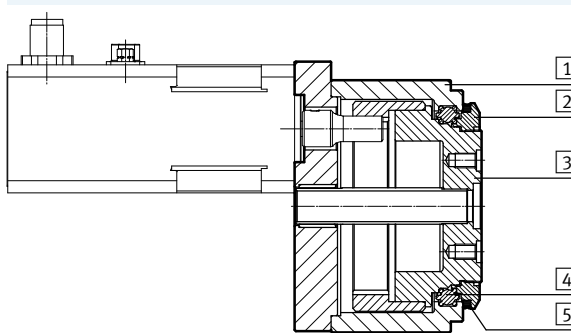
Electrical data					
Size		12	16	25	32
Motor					
Nominal operating voltage	[V DC]	24			
Nominal current	[A]	0.8	1.4	3	4.2
Step angle with full step	[°]	1.8 ±5%			
Duty cycle	[%]	100			
Brake					
Nominal voltage	[V DC]	–	24		
Nominal power	[W]	–	8		
Holding torque	[Nm]	–	1	2.5	2.5
Mass moment of inertia	[kgm ² x10 ⁻⁴]	–	0.69	1.3	1.3
Encoder					
Rotor position encoder		Incremental			
Rotor position sensor measuring principle		Optical			
Pulses/rotation	[1/rev]	500			
Interface		RS422, TTL, AB channel + zero index			
Operating voltage	[V DC]	5			
Insulation class		B (130 °C)			

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... +50
Storage temperature	[°C]	–20 ... +60
Degree of protection		IP40
Relative humidity	[%]	0 ... 85 (non-condensing)
Corrosion resistance class CRC ¹⁾		1
CE marking (see declaration of conformity)		To EU EMC Directive ²⁾
Certification		RCM compliance mark

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- 2) For information about the applicability of the component see the manufacturer's EC declaration of conformity at: www.festo.com/sp → Certificates.
If the component is subject to restrictions on usage in residential, office or commercial environments or small businesses, further measures to reduce the emitted interference may be necessary.

Materials

Sectional view

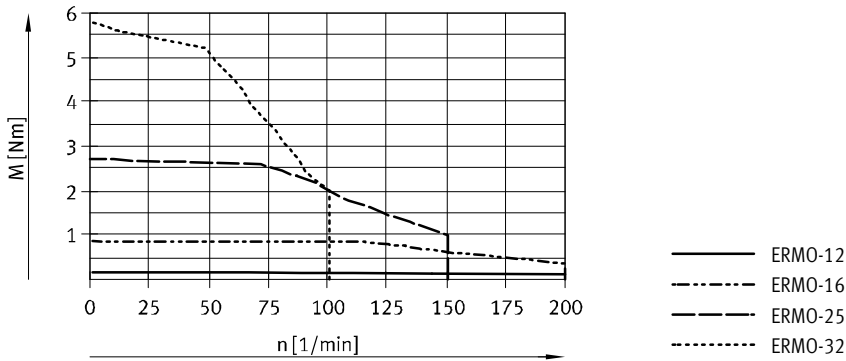


Rotary drive		
1	Housing	Anodised wrought aluminium alloy
2	Clamping ring	Anodised wrought aluminium alloy
3	Rotating plate	Anodised wrought aluminium alloy
4	Ball bearing	Rolled steel
5	Sealing ring	NBR
Note on materials		RoHS-compliant Contains paint-wetting impairment substances

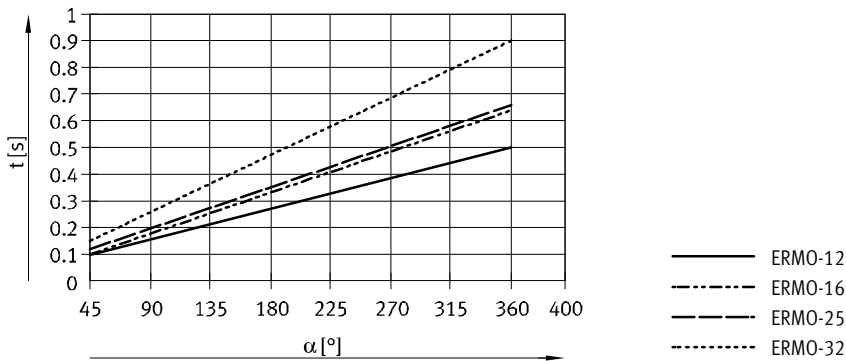
Rotary drives ERMO, electric

Technical data

Torque M as a function of speed n



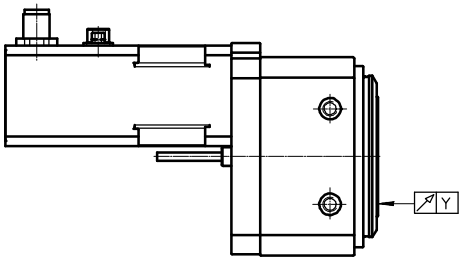
Positioning time t as a function of angle of rotation α



Axial eccentricity and concentricity

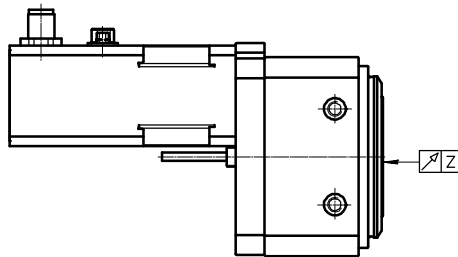
Axial eccentricity

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



Concentricity

Measured at the centring hole of the rotating plate, in new condition.



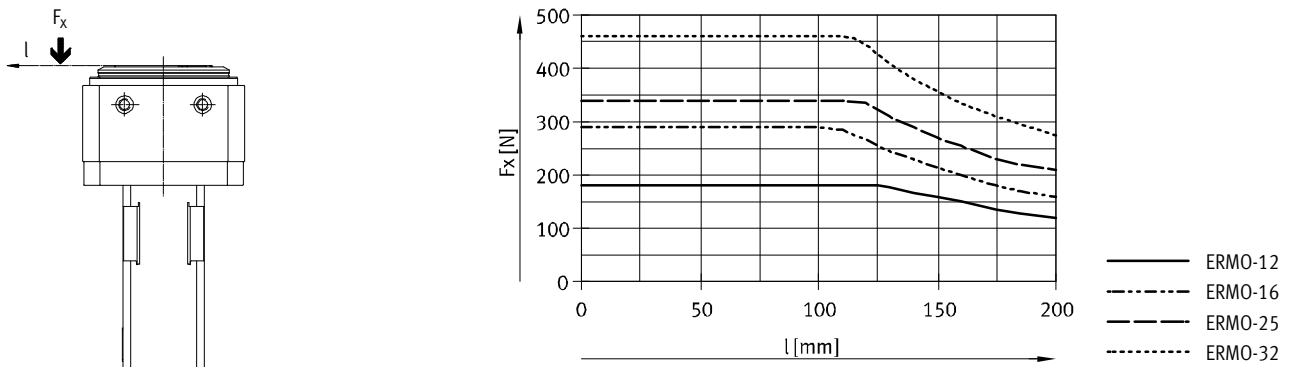
Size		12	16	25	32
Axial eccentricity Y	[mm]	<0.02	<0.02	<0.02	<0.04
Concentricity Z	[mm]	<0.02	<0.02	<0.02	<0.04

Rotary drives ERMO, electric

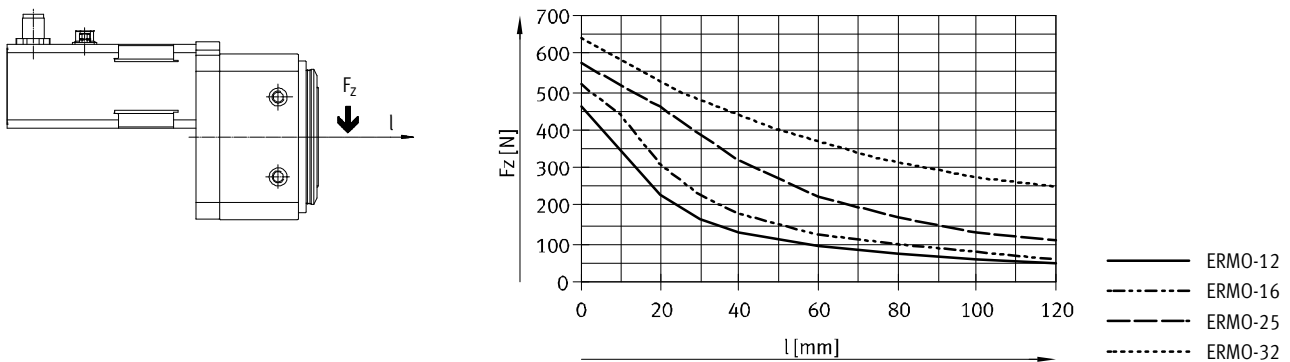
Technical data

Max. permissible axial and radial force F_x/F_z					
Size		12	16	25	32
Static					
Axial force F_x	[N]	500	600	700	800
Radial force F_z	[N]	500	750	1200	2000
Dynamic					
Axial force F_x	[N]	180	290	350	450
Radial force F_z	[N]	200	300	450	550

Max. dynamic axial force F_x as a function of lever arm l



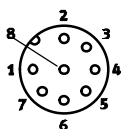
Max. dynamic radial force F_z as a function of lever arm l



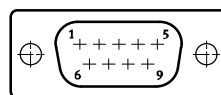
Pin allocation

Motor

ERMO-12/-16

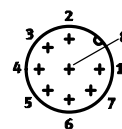


ERMO-25/-32



Encoder

ERMO-12/-16/-25/-32



PIN	Function
1	String A
2	String A/
3	String B
4	String B/
5	n.c.
6	n.c.
7	Brake +24 V DC ¹⁾
8	Brake GND ¹⁾
-	-

PIN	Function
1	String A
2	String A/
3	String B
4	String B/
5	n.c.
6	n.c.
7	Brake +24 V DC ¹⁾
8	Brake GND ¹⁾
9	n.c.

PIN	Function
1	Signal trace A
2	Signal trace A/
3	Signal trace B
4	Signal trace B/
5	GND encoder
6	Signal trace N
7	Signal trace N/
8	VCC auxiliary supply +5 V
GND	Shield on plug housing

1) Only on motors with brake.

Rotary drives ERMO, electric

Technical data



Energy throughfeed

ERMO-...-P2

ERMO-...-E8

The energy throughfeed cannot be used in combination with the stop kit EADP-ES-R3.



Function

Electrical signals or compressed air can be transferred through the hollow shaft using the energy throughfeed.

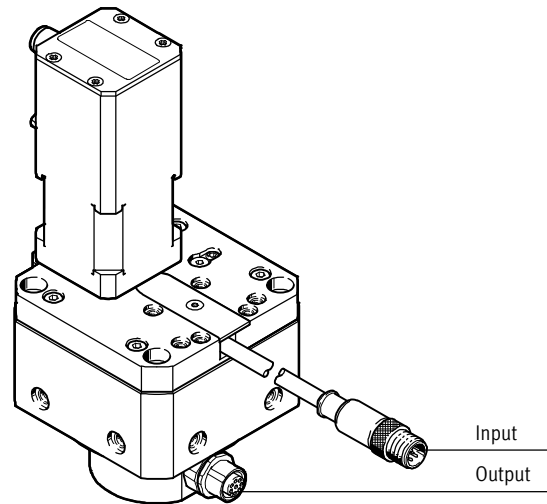
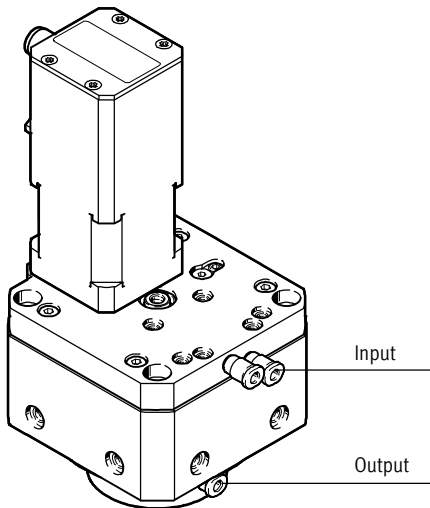
Benefits


- Fast and easy supply of the parts connected to the rotating plate
- Tubing and electrical cables are not damaged by the rotation
- Two variants available:
 - Pneumatic
 - Electrical

Variants

Pneumatic: ERMO-...-P2

Electrical: ERMO-...-E8



-  - Note
Connecting cable → 25

Rotary drives ERMO, electric

Technical data

Pin allocation – Energy throughfeed, electrical

Input	Output
M12 plug	M12 socket

Technical data		
Variant	Pneumatic	Electrical
Order code	P2	E8
Pneumatic		
Number of pneumatic ducts	2	–
Tubing Ø	4	–
Max. operating pressure [bar]	8	–
Connection	M5	–
Flow rate per duct [l/min]	86	–
Electrical		
Number of signal lines	–	8
Rated voltage [V DC]	–	30
Max. current ¹⁾ [A]	–	1.5
Cable cross section [mm ²]	–	0.1
Connection	–	M12

Rotary drives ERMO, electric

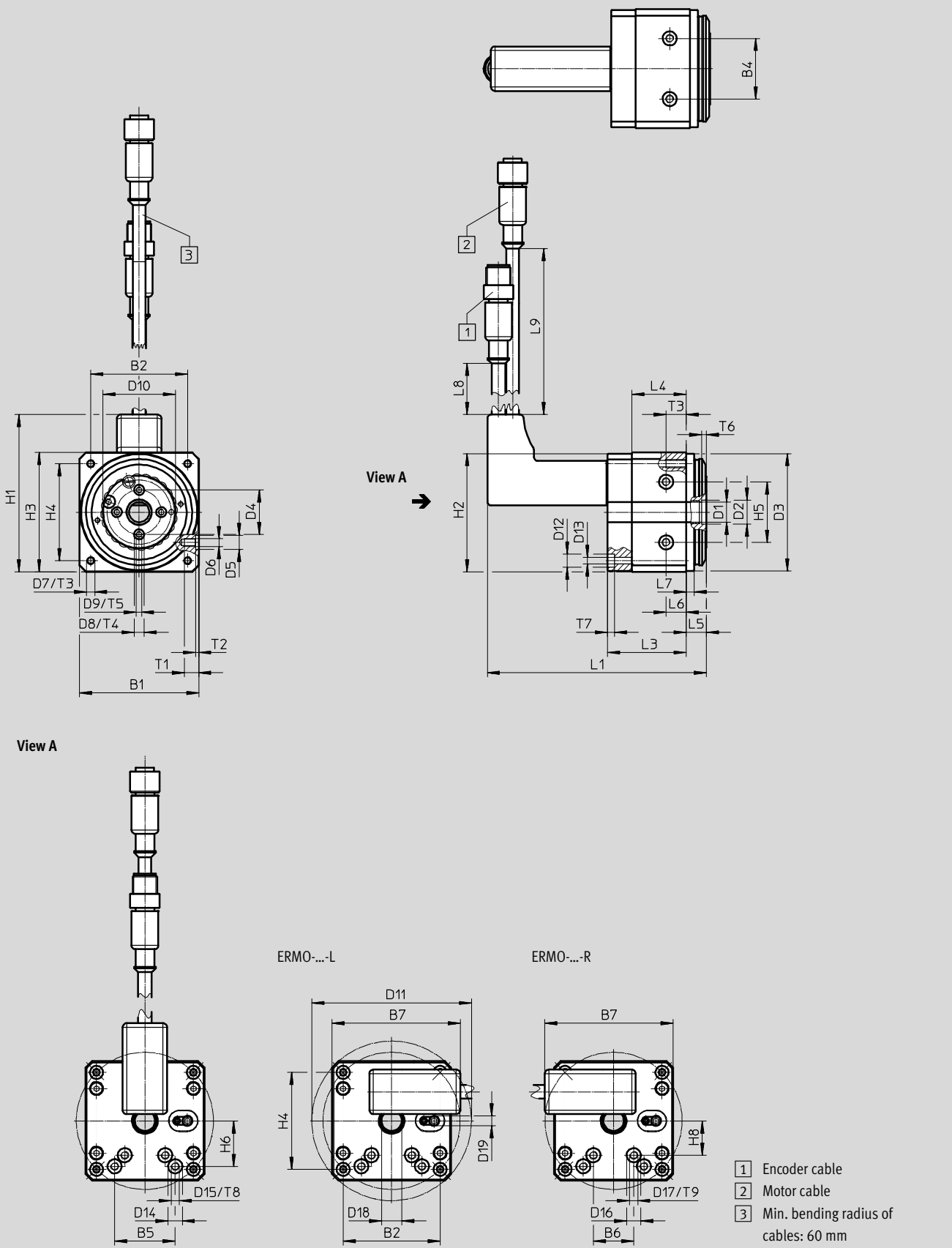
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Size 12



Rotary drives ERMO, electric

Technical data

Size	B1	B2	B4	B5	B6	B7	D1	D2	D3	D4
	±0.3		±0.03	±0.02	±0.02		∅	∅ H8	∅ F8	∅ ±0.02
12	59	48	30	30	20	46	10/7 ¹⁾	12	58	22

Size	D5	D6	D7	D8	D9	D10	D11	D12	D13	D14
	∅ H7			∅ H7		∅	∅ ±0.5	∅	∅	∅ H7
12	7	M4	M4	5	M3	36	79	6.5	3.4	7

Size	D15	D16	D17	D18	D19	H1	H2	H3	H4	H5
		∅ H7		max.				±0.3		±0.03
12	M4	7	M4	7	M5x0.5	80	58.5	59	48	30

Size	H6	H8	L1	L3	L4	L5	L6	L7	L8	L9
			±1.5	±0.6		±0.2	±0.1	±0.1		
12	22.5	17	100	39	27	10	10	4	300	300

Size	T1	T2	T3	T4	T5	T6	T7	T8	T9
		+0.1		+0.1		+0.1			
12	7	1.5	10	1.2	7	2.5	3.4	1.5	1.5

1) With attached motor

Rotary drives ERMO, electric

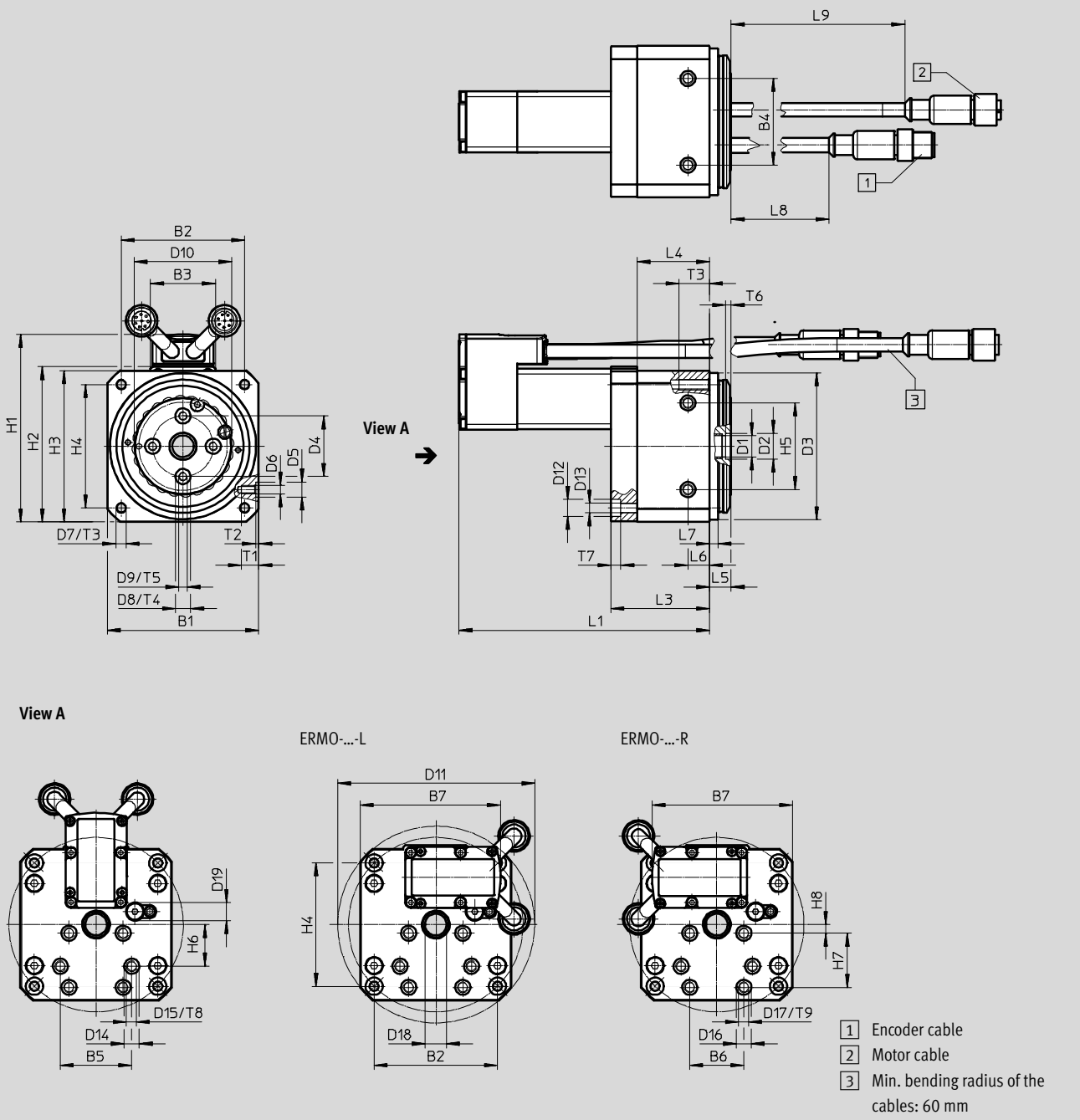
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Size: 16



Rotary drives ERMO, electric

Technical data

Size	B1 ±0.3	B2	B3	B4 ±0.03	B5 ±0.02	B6 ±0.02	B7	D1 ∅	D2 ∅ H8	D3 ∅ F8	D4 ∅ ±0.02
16	70	57	30	40	33	25	65	10	12	68	28

Size	D5 ∅ H7	D6	D7	D8 ∅ H7	D9	D10 ∅	D11 ∅ ±0.5	D12 ∅	D13 ∅	D14 ∅ H7
16	7	M5	M5	7	M4	45	91	8	4.6	7

Size	D15	D16 ∅ H7	D17	D18 max.	D19	H1	H2	H3 ±0.3	H4	H5 ±0.03
16	M5	7	M5	–	M8x1	87	71.8	70	57	40

Size	H6	H7 ±0.02	H8	L1 ±1.5	L3 ±0.6	L4	L5 ±0.2	L6 ±0.1	L7 ±0.1	L8
16	19.3	25	4	116/142 ¹⁾	45.5	33.5	10	10	4	250

Size	L9	T1	T2 +0.1	T3	T4 +0.1	T5	T6 +0.1	T7	T8	T9
16	350	8	1.5	14	1.5	8	2.5	4.5	1.5	1.5

1) Motor with brake

Rotary drives ERMO, electric

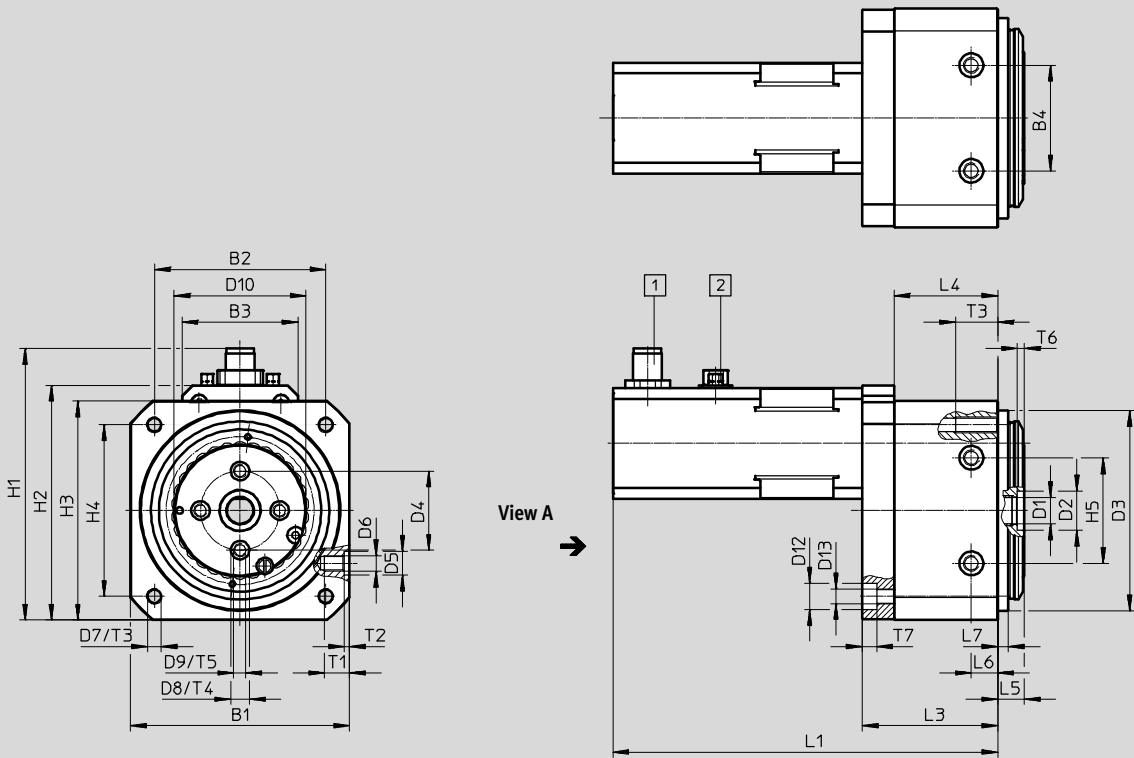
Technical data

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Dimensions

Download CAD data → www.festo.com

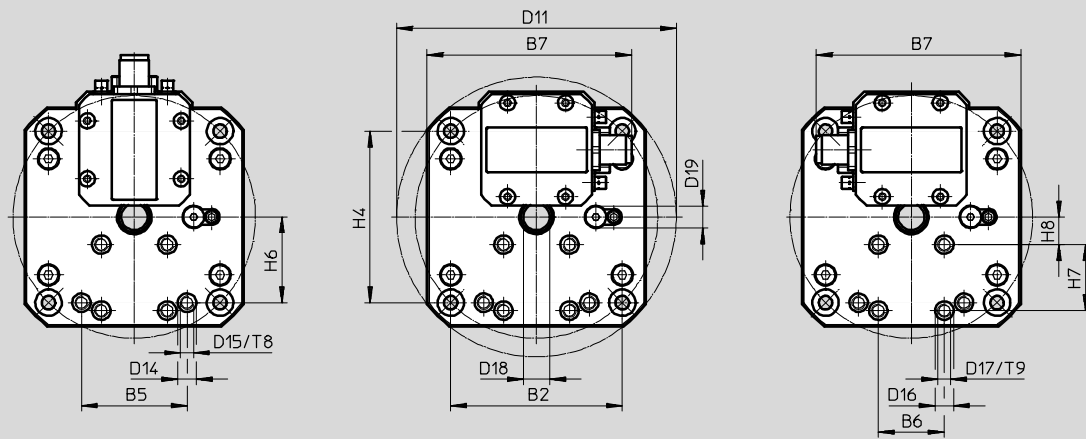
Size 25/32



View A

ERMO-...-L

ERMO-...-R



- 1 Encoder connection
- 2 Motor connection

Rotary drives ERMO, electric

Technical data

Size	B1 ±0.3	B2	B3	B4 ±0.03	B5 ±0.02	B6 ±0.02	B7	D1 ∅	D2 ∅ H8	D3 ∅ F8	D4 ∅ ±0.02
25	83	65	44	40	40	25	78	10	15	76	30
32	105	85	58	60	-	25	96	16/9 ¹⁾	20	96	42

Size	D5 ∅ H7	D6	D7	D8 ∅ H7	D9	D10 ∅	D11 ∅ ±0.5	D12 ∅	D13 ∅	D14 ∅ H7
25	9	M6	M6	7	M5	50	106	10	5.5	7
32	12	M8	M8	7	M5	65	135	11	6.6	-

Size	D15	D16 ∅ H7	D17	D18 max.	D19	H1	H2	H3 ±0.3	H4	H5 ±0.03
25	M5	7	M5	10	M8x1	103	89	83	65	40
32	-	7	M5	9	M8x1	125	110.5	105	85	60

Size	H6	H7 ±0.02	H8	L1 ±1.5	L3 ±0.6	L4	L5 ±0.2	L6 ±0.1	L7 ±0.1
25	32.5	25	10.5	146/179 ²⁾	51.3	39.3	10	10	4
32	-	25	15	148/189 ²⁾	46.5	34.5	12	10	6

Size	T1	T2 +0.1	T3	T4 +0.1	T5	T6 +0.1	T7	T8	T9
25	9.5	2	16	1.5	8.5	2.5	5.5	1.5	1.5
32	15	2.5	20	1.5	10	2.8	6.8	-	1.5

1) With attached motor
2) Motor with brake

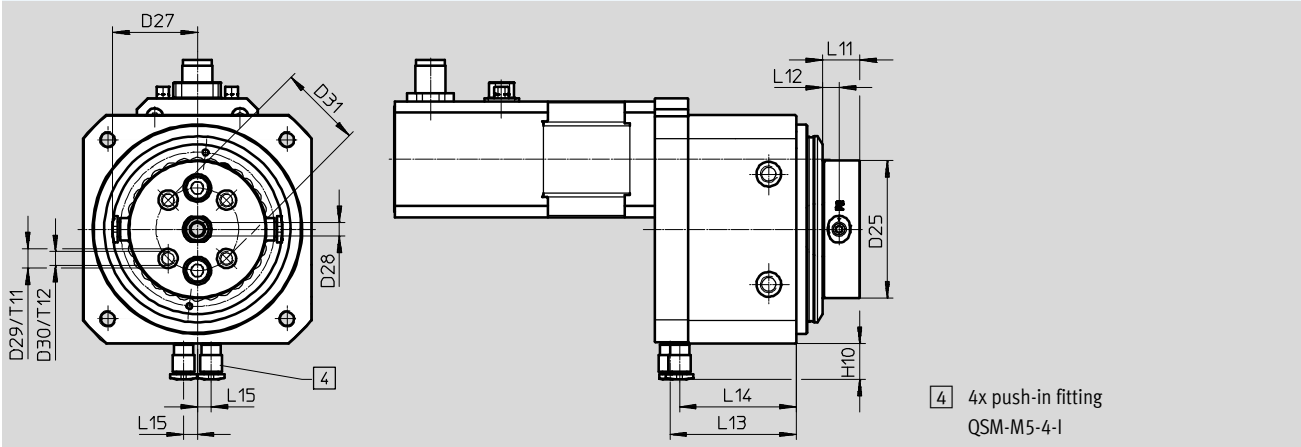
Rotary drives ERMO, electric

Technical data

Dimensions

Download CAD data → www.festo.com

P2 – Pneumatic energy throughfeed



Size	D26 ∅	D27 ∅	D28 ∅	D29 ∅ H7	D30	D31 ∅ ±0.02	H10 ±1
12	44	R29.5	3	5	M3	22	13
16	44	R31	4.8	7	M4	28	13
25	50	R31	4.8	7	M5	30	13
32	64	R36	4.8	7	M5	42	13

Size	L11	L12	L13	L14	L15	T11 +0.1	T12
12	13.5	6	33.8	30.3	4	1.2	8
16	13	6	40.6	37	5	1.5	8
25	13.5	6	45.9	42.4	5	1.5	8.5
32	16	8.6	41.5	38	5	1.5	10

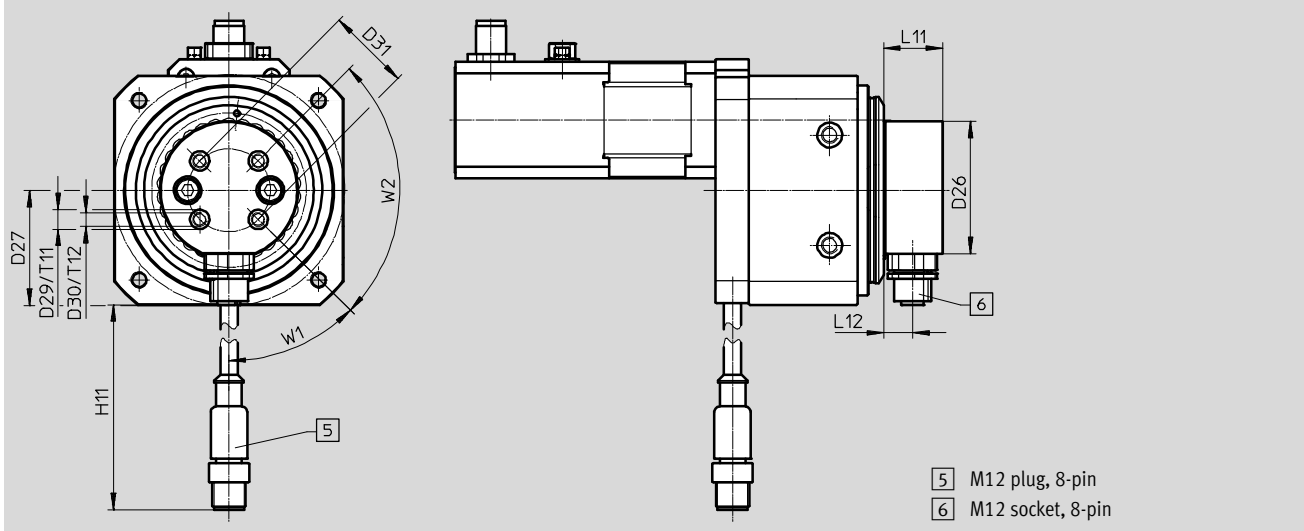
Rotary drives ERMO, electric

Technical data

Dimensions

Download CAD data → www.festo.com

E8 – Electrical energy throughfeed



Size	D26 Ø	D27 Ø	D29 Ø H7	D30	D31 Ø ±0.02	H11 ±10
12	44	R38.5	5	M3	22	205
16	44	R37.5	7	M4	28	195
25	48	R42	7	M5	30	185
32	64	R47	7	M5	42	175

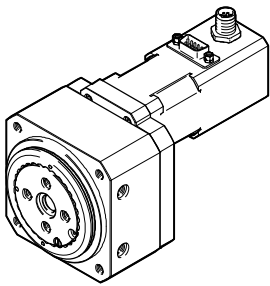
Size	L11	L12	T11 +0.1	T12	W1	W2
12	21.5	10	1.2	8	54°	72°
16	21	10.5	1.5	8	55°	70°
25	21.5	10.5	1.5	8.5	45°	90°
32	21	11	1.5	10	45°	90°

Rotary drives ERMO, electric

Technical data

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★ Core product range

Ordering data			
	Size	Part No.	Type code
	12	★ 3008525	ERMO-12-ST-E
	16	★ 3008526	ERMO-16-ST-E
	25	★ 3008527	ERMO-25-ST-E
	32	★ 3008528	ERMO-32-ST-E

Festo core product range

★ Generally ready for shipping ex works in 24 hours

★ Generally ready for shipping ex works in 5 days

Rotary drives ERMO, electric

Ordering data – Modular product system

Ordering table							
Size	12	16	25	32	Condi- tions	Code	Entry code
M Module no.	2954695	2954696	2954697	2954698			
Function	Electric cylinder					ERMO	ERMO
Size	12	16	25	32		★ -...	
Motor type	Stepper motor					★ -ST	-ST
Measuring unit	Encoder					★ -E	-E
O Brake	None					★	
	-	With brake				B	
Cable outlet direction	Top (standard)					★	
	Left					-L	
	Right					-R	
Energy throughfeed	None						
	Pneumatic, 2 ducts					-P2	
	Electrical, 8 signals					-E8	
Connecting cable to motor controller	None					★	
	1.5 m, straight plug					★ +1.5E	
	2.5 m, straight plug					★ +2.5E	
	5 m, straight plug					★ +5E	
	7 m, straight plug					★ +7E	
	10 m, straight plug					★ +10E	
	-	1.5 m, angled plug				★ +1.5EA	
	-	2.5 m, angled plug				★ +2.5EA	
	-	5 m, angled plug				★ +5EA	
	-	7 m, angled plug				★ +7EA	
-	10 m, angled plug				★ +10EA		
Controller type	None					★	
	CMMO, 5 A				[1]	★ +C5	
Bus protocol/control	None					★	
	Digital I/O interface					★ DIO	
	IO-Link®					★ LK	
Switching input/output	None					★	
	NPN				[2]	★ N	
	PNP					★ P	

[1] **DIO, LK, N, P** Must be selected if controller type +C5 is selected.

[2] **N** Not with IO-Link LK

M Mandatory data

O Options

Transfer order code

ERMO - - **ST** - **E** - - + +

Festo core product range

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☆ Generally ready for shipping ex works in 5 days

Rotary drives ERMO, electric

Accessories

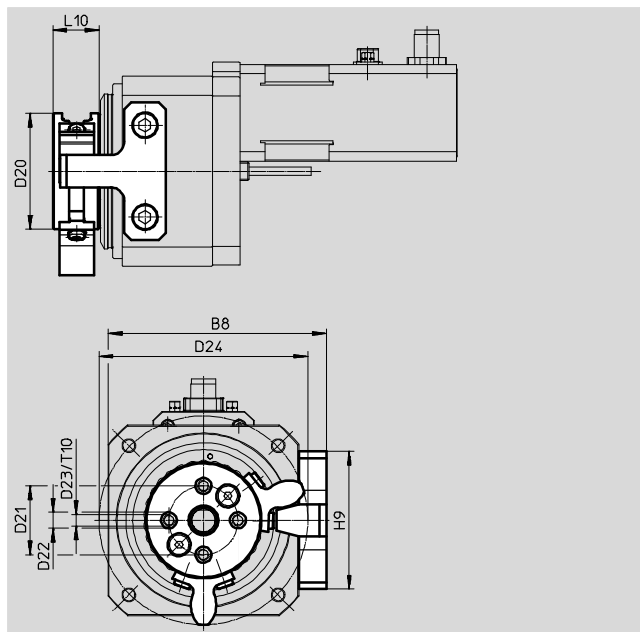
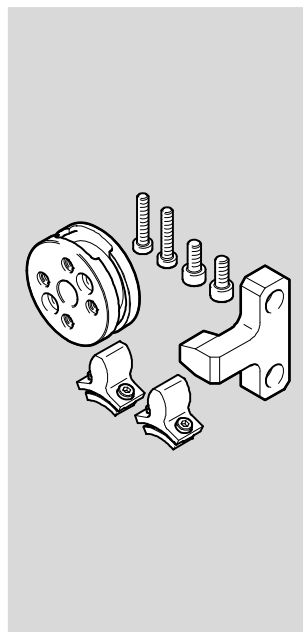


Stop kit EADP

Materials:

Housing: Anodised aluminium

Stops: Nickel-plated beryllium bronze



Dimensions and ordering data									
For size	B8	D20	D21	D22	D23	D24	H9	L10	T10
		∅	∅	∅		∅			
		±0.1	±0.1	H7				±0.1	
12	69	44	28	7	M4	74.8	40	16	16
16	80	44	28	7	M4	74.2	52	16	16
25	95	50.5	30	7	M5	91	60	20	20
32	120	64	42	7	M5	90	80	27	27


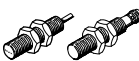
For size	Setting range for rotation angle		Weight [g]	Part No.	Type code
	1 stop	2 stops			
12	0 ... 325	0 ... 280	96	3044562	EADP-ES-R3-12
16	0 ... 325	0 ... 280	100	2715501	EADP-ES-R3-16
25	0 ... 325	0 ... 270	210	2721599	EADP-ES-R3-25
32	0 ... 325	0 ... 270	290	2735411	EADP-ES-R3-32



Ordering data – Centring sleeves			Technical data → Internet: zbh		
	For size	Description	Part No.	Type code	PU ¹⁾
	12, 16	For centring the drive for lateral mounting	186717	ZBH-7	10
	25		150927	ZBH-9	
	32		189653	ZBH-12	
	12 ... 32	For centring attachments on the rotating plate	186717	ZBH-7	1
	12, 16		189653	ZBH-12	
			25	191409	
	32	For centring attachments in the middle of the rotating plate	150901	SLZZ-25/16	1

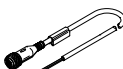


1) Packaging unit

Rotary drives ERMO, electric

Accessories

Ordering data – Proximity sensor M5/M8 (round design), inductive						Technical data → Internet: sien	
	Switching element function	Electrical connection	LED	Switching output	Cable length [m]	Part No.	Type code
For size 12							
	N/O contact	Cable, 3-wire	■	PNP	2.5	★ 150370	SIEN-M5B-PS-K-L
		Plug M8x1, 3-pin			–	★ 150371	SIEN-M5B-PS-S-L
	N/C contact	Cable, 3-wire	■	PNP	2.5	150374	SIEN-M5B-PO-K-L
		Plug M8x1, 3-pin			–	150375	SIEN-M5B-PO-S-L
For size 16 ... 32							
	N/O contact	Cable, 3-wire	■	PNP	2.5	★ 150386	SIEN-M8B-PS-K-L
		Plug M8x1, 3-pin			–	★ 150387	SIEN-M8B-PS-S-L
	N/C contact	Cable, 3-wire	■	PNP	2.5	150390	SIEN-M8B-PO-K-L
		Plug M8x1, 3-pin			–	150391	SIEN-M8B-PO-S-L

Ordering data – Connecting cables				Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type code
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	159420	SIM-M8-3GD-2,5-PU
			2.5	★ 541333	NEBU-M8G3-K-2.5-LE3
			5.0	★ 541334	NEBU-M8G3-K-5-LE3
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	★ 541338	NEBU-M8W3-K-2.5-LE3
			5.0	★ 541341	NEBU-M8W3-K-5-LE3

Ordering data – Connecting cables for energy throughfeed				Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type code
	Straight socket, M12x1, 8-pin	Cable, open end, 8-wire	2	542256	SIM-M12-8GD-2-PU
			5.0	525618	SIM-M12-8GD-5-PU
			10.0	570008	SIM-M12-8GD-10-PU
	Angled socket, M12x1, 8-pin	Cable, open end, 8-wire	2.5	542256	NEBU-M12W8-K-2-N-LE8
			5.0	542257	NEBU-M12W8-K-5-N-LE8
			10.0	570007	NEBU-M12W8-K-10-N-LE8
	Straight plug, M12x1, 8-pin	Straight socket, M12x1, 8-pin	2	525617	KM12-8GD8GS-2-PU

Festo core product range

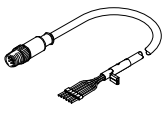
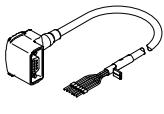
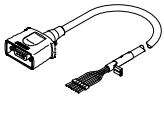
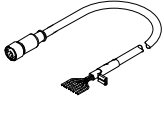
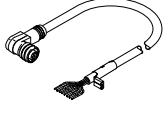
★ Generally ready for shipping ex works in 24 hours

☆ Generally ready for shipping ex works in 5 days

Rotary drives ERMO, electric

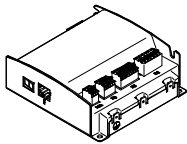
Accessories

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Ordering data – Cables ¹⁾					
	For size	Description	Cable length [m]	Part No.	Type code
Motor cable					
	12, 16	Straight plug ²⁾ – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	★ 1449600	NEBM-SM12G8-E-1.5-Q5-LE6
			2.5	★ 1449601	NEBM-SM12G8-E-2.5-Q5-LE6
			5.0	★ 1449602	NEBM-SM12G8-E-5-Q5-LE6
			7.0	★ 1449603	NEBM-SM12G8-E-7-Q5-LE6
			10.0	★ 1449604	NEBM-SM12G8-E-10-Q5-LE6
	25, 32	Angled plug – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	★ 1450736	NEBM-S1W9-E-1.5-Q5-LE6
			2.5	★ 1450737	NEBM-S1W9-E-2.5-Q5-LE6
			5.0	★ 1450738	NEBM-S1W9-E-5-Q5-LE6
			7.0	★ 1450739	NEBM-S1W9-E-7-Q5-LE6
			10.0	★ 1450740	NEBM-S1W9-E-10-Q5-LE6
		Straight plug – Min. bending radius: 62 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	★ 1450368	NEBM-S1G9-E-1.5-Q5-LE6
			2.5	★ 1450369	NEBM-S1G9-E-2.5-Q5-LE6
			5.0	★ 1450370	NEBM-S1G9-E-5-Q5-LE6
			7.0	★ 1450371	NEBM-S1G9-E-7-Q5-LE6
			10.0	★ 1450372	NEBM-S1G9-E-10-Q5-LE6
Encoder cable					
	12, 16, 25, 32	Straight plug – Min. bending radius: 68 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	★ 1451586	NEBM-M12G8-E-1.5-LE8
			2.5	★ 1451587	NEBM-M12G8-E-2.5-LE8
			5.0	★ 1451588	NEBM-M12G8-E-5-LE8
			7.0	★ 1451589	NEBM-M12G8-E-7-LE8
			10.0	★ 1451590	NEBM-M12G8-E-10-LE8
	25, 32	Angled plug – Min. bending radius: 68 mm – Suitable for use with energy chains – Ambient temp.: –40 ... +80 °C	1.5	★ 1451674	NEBM-M12W8-E-1.5-LE8
			2.5	★ 1451675	NEBM-M12W8-E-2.5-LE8
			5.0	★ 1451676	NEBM-M12W8-E-5-LE8
			7.0	★ 1451677	NEBM-M12W8-E-7-LE8
			10.0	★ 1451678	NEBM-M12W8-E-10-LE8

1) Other cable lengths on request.

2) Also suitable for connection to the energy throughfeed output.

Ordering data – Motor controller			Technical data → Internet: cmmo	
	Description	Part No.	Type code	
	With I/O interface			
	Switching input/output PNP	★ 1512316	CMMO-ST-C5-1-DIOP	
	Switching input/output NPN	★ 1512317	CMMO-ST-C5-1-DION	
	With IO-Link®			
	Switching input/output PNP	★ 1512320	CMMO-ST-C5-1-LKP	

Festo core product range

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