

Rotary drives ERMO, electric

FESTO



Festo core product range
Covers 80% of your automation tasks

Worldwide:

Always in stock

Superb:

Festo quality at an attractive price

Easy:

Simplified procurement and warehousing



Generally ready for dispatch from the factory within 24 hours
In stock at 13 Service Centres worldwide
More than 2200 products



Generally ready for dispatch from the factory within 5 days
Assembled for you at 4 Service Centres worldwide
Up to 6×10^{12} variants per product family

Just look
for the
star!

Key features

At a glance			Application areas
General			
• Electric rotary drive with stepper motor and integrated gear unit • ServoLite – regulated operation with encoder	• Sturdy bearing for high forces and torques • Backlash-free pre-stressed rotating plate with very good axial eccentricity and concentricity	• Optional holding brake • Optionally with pneumatic or electric energy through-feed • Simple and precise mounting	• Rotating and positioning of 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.



Simple selection	Ordering and logistics	Quick to configure
• Easy sizing and selection using cycle time diagrams • No special knowledge of electric drive technology required	• All the necessary individual parts under a single part number • Motors mounted on the rotary drive	• Parameterisation and commissioning via web server/browser • Parameterise up to 7 freely definable positions directly on the PC

For simple positioning tasks

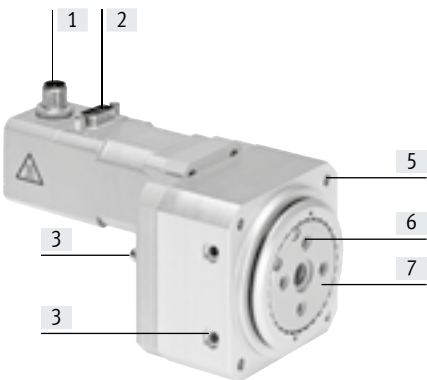
Rotary drive ERMO



Motor controller CMMO-ST



The technology in detail



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

Key features

The technology in detail

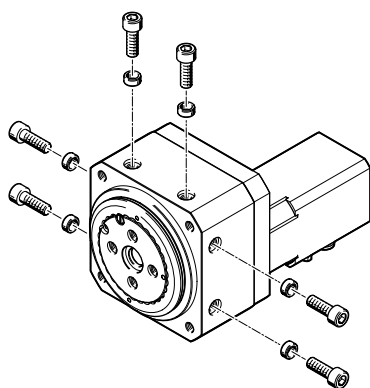
Energy through-feed



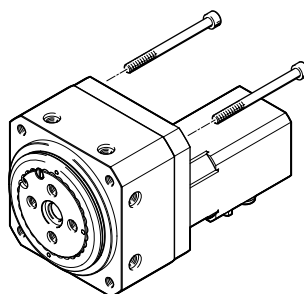
- The energy through-feed can be used to transfer electrical signals or compressed air through the hollow shaft. This enables fast and easy supply to the parts mounted on the rotating plate, even for infinitely rotating applications.
- Also suitable for IO-Link signal data transfer.
- The energy through-feed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

Mounting options

From the side

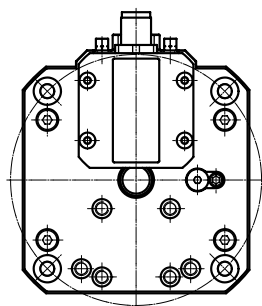


From the front/rear

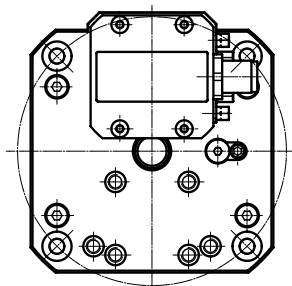


Motor mounting variants

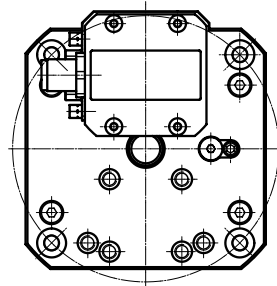
Top (standard)



Left (feature L)



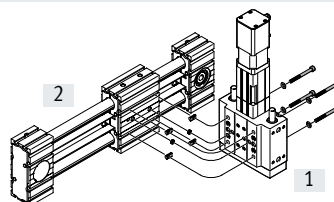
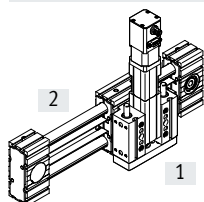
Right (feature R)



Key features

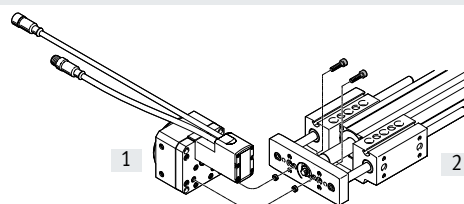
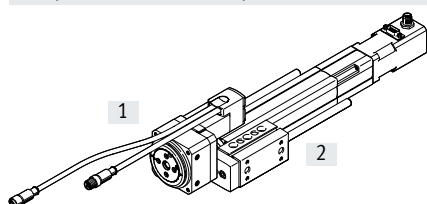
Possible combinations within the Optimised Motion Series (OMS)

Electric cylinder EPCO on toothed belt axis ELGR



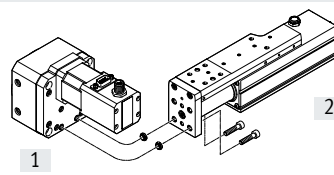
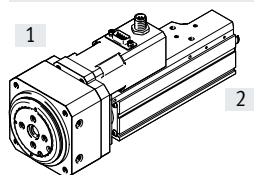
Size		Accessories			
[1] EPCO	[2] ELGR	Slot nut	Centring sleeve	Screw	Washer
16	35	NST-3-M3 (x4)	ZBH-7 (x2)	M3x10 (x4)	–
25	45	NST-5-M5 (x4)	ZBH-7 (x2)	M5x50 (x4)	DIN125-A5.3 (x4)
40	55	NST-5-M5 (x4)	ZBH-7 (x2)	M5x65 (x4)	DIN125-A5.3 (x4)

Rotary drive ERMO on electric cylinder EPCO



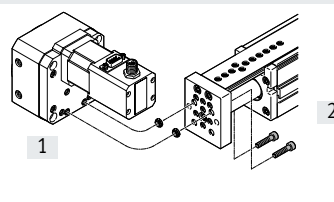
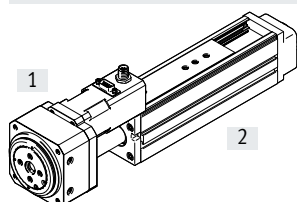
Size		Accessories	
[1] ERMO	[2] EPCO	Centring sleeve	Screw
12	16	ZBH-7 (x2)	M4x16 (x2)
16	25	ZBH-7 (x2)	M5x18 (x2)
25	40	ZBH-7 (x2)	M5x20 (x2)

Rotary drive ERMO on mini slide EGSC



Size		Accessories	
[1] ERMO	[2] EGSC	Centring sleeve	Screw
12	32	ZBH-7 (x2)	M4x12 (x2)
16	45	ZBH-7 (x2)	M5x12 (x2)
25	45, 60	ZBH-7 (x2)	M5x12 (x2)
32	60	ZBH-7 (x2)	M5x15 (x2)

Rotary drive ERMO on mini slide EGSL

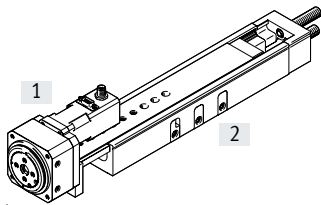


Size		Accessories	
[1] ERMO	[2] EGSL	Centring sleeve	Screw
12	35	ZBH-7 (x2)	M4x12 (x2)
16	45	ZBH-7 (x2)	M5x12 (x2)
25	55	ZBH-7 (x2)	M5x14 (x2)
32	55	ZBH-7 (x2)	M5x14 (x2)

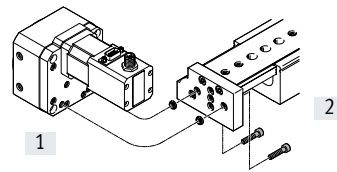
Key features

Possible combinations within the Optimised Motion Series (OMS)

Rotary drive ERM on mini slide DGSL

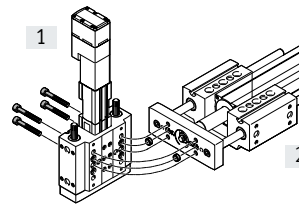
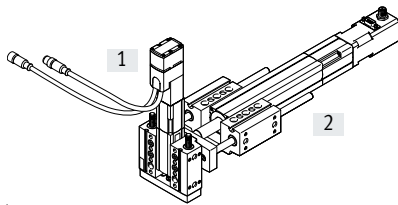


When combining ERM-12 with DGSL-12, the proximity sensor SIEN cannot be used as a reference sensor for the ERM.



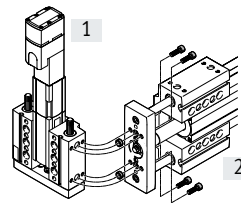
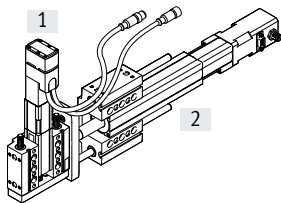
Size		Accessories	
[1] ERM	[2] DGSL	Centring sleeve	Screw
12	12	ZBH-7 (x2)	M4x18 (x2)
25	20	ZBH-9-7 (x2)	M5x22 (x2)
25	25	ZBH-9-7 (x2)	M5x22 (x2)

Electric cylinder EPCO on electric cylinder EPCO, horizontal



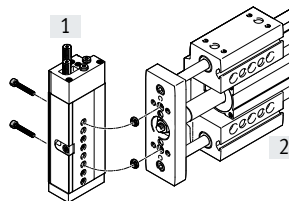
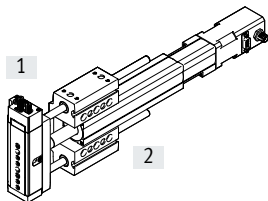
Size		Accessories	
[1] EPCO	[2] EPCO	Centring sleeve	Screw
16	25	ZBH-9 (x2)	M6x40 (x4)
25	40	ZBH-9 (x2)	M6x55 (x4)

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

Type codes

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	

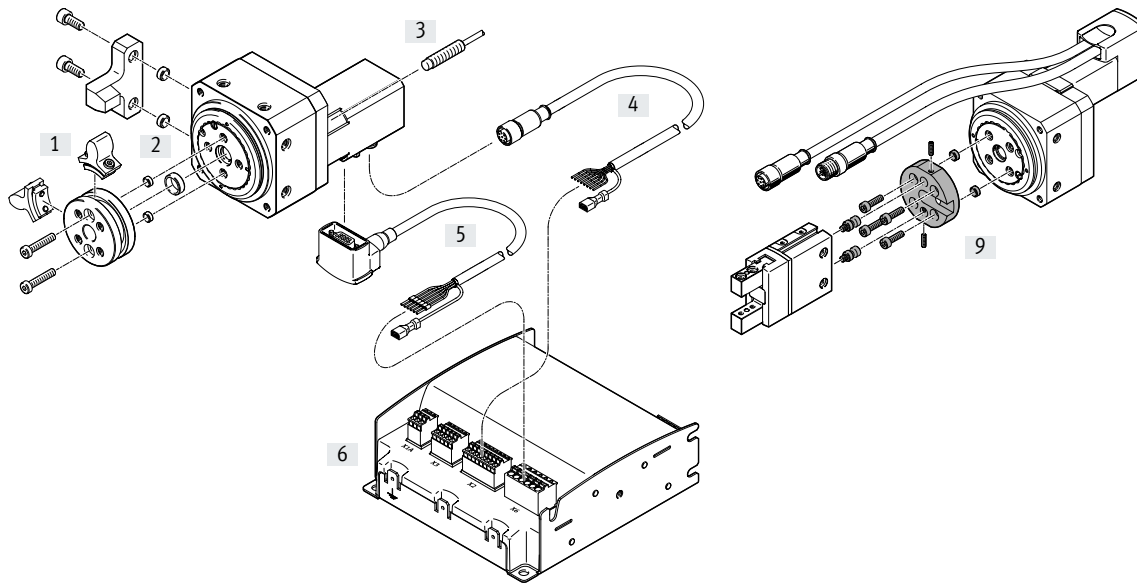
008	Connecting cable to motor controller	
	None	
1.5E	1.5 m, suitable for energy chains, straight plug	
2.5E	2.5 m, suitable for energy chains, straight plug	
5E	5 m, suitable for energy chains, straight plug	
7E	7 m, suitable for energy chains, straight plug	
10E	10 m, suitable for energy chains, straight plug	
1.5EA	1.5 m, suitable for energy chains, angled plug	
2.5EA	2.5 m, suitable for energy chains, angled plug	
5EA	5 m, suitable for energy chains, angled plug	
7EA	7 m, suitable for energy chains, angled plug	
10EA	10 m, suitable for energy chains, angled plug	

009	Controller type	
	None	
C5	CMMO, 5 A	

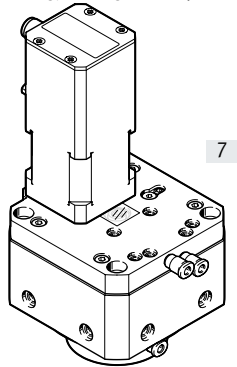
010	Bus protocol/activation	
	None	
DIO	Digital I/O interface	
LK	IO-Link®	

011	Switching input/output	
	None	
P	PNP	
N	NPN	

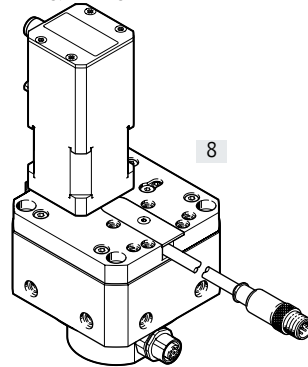
Peripherals overview



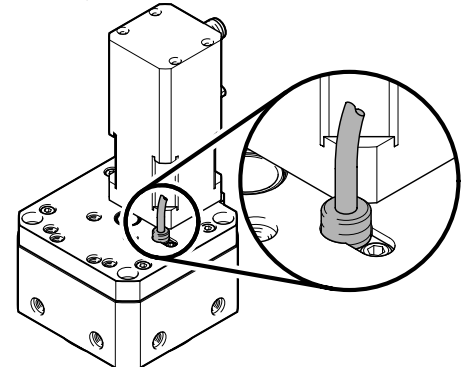
Energy through-feed, pneumatic



Energy through-feed, electrical



Proximity sensor SIEN

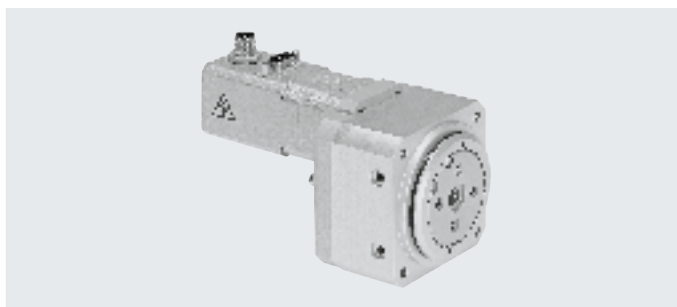


Accessories

Type/order code	Description	→ Page/Internet
[1] Stop kit EADP-ES-R3	- For homing to the end position - As end stop for rotary drives without brake - For safety functions	24
[2] Centring sleeve ZBH	- 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 through-feed Pneumatic	- For fast and easy pneumatic supply of the parts mounted on the rotating plate, infinite rotation - Cannot be used in combination with the stop kit EADP-ES-R3	12
[8] Energy through-feed Electric	- For fast and easy pneumatic supply of parts mounted on the rotating plate, infinite rotation - Cannot be used in combination with the stop kit EADP-ES-R3	12
[9] Adapter kit DHAA	For drive/gripper connections	adapter kit

Data sheet

 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
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
ERMO-...-P2	[g]	535	960	1430
ERMO-...-E8	[g]	535	960	1430
With brake				
ERMO-...	[g]	–	960	1500
ERMO-...-P2	[g]	–	1020	1580
ERMO-...-E8	[g]	–	1020	1580

1) Without payload when new

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 ₀ [kgm ² x10 ⁻⁴]	0.0079	0.0383	0.114	0.390
Max. stop energy [Jx10 ⁻⁴]	0.2	0.7	1.6	2.9

1) Theoretical torque at nominal rotary speed → page 10

Data sheet

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 encoder measuring principle		Optical			
Pulses/revolution	[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

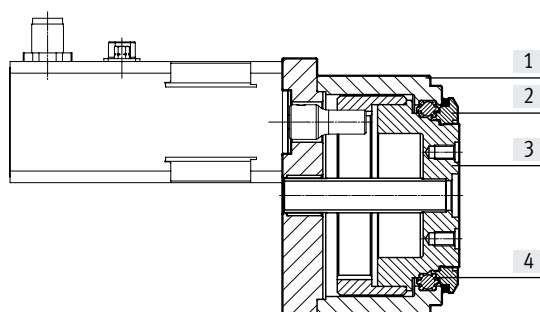
Low corrosion stress. Dry indoor application or transport and storage protection. Also applies to parts behind coverings, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

2) For information about the area of use, see the EC declaration of conformity: www.festo.com/sp → Certificates.

If the devices are subject to usage restrictions in residential, commercial or light-industrial environments, further measures for the reduction of the emitted interference may be necessary.

Materials

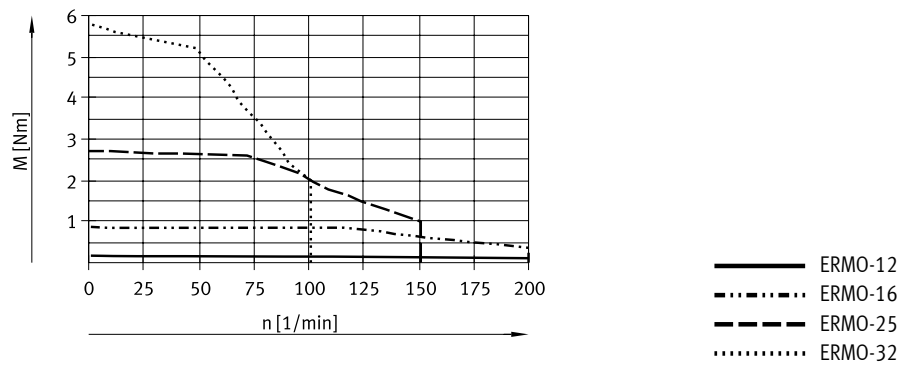
Sectional view



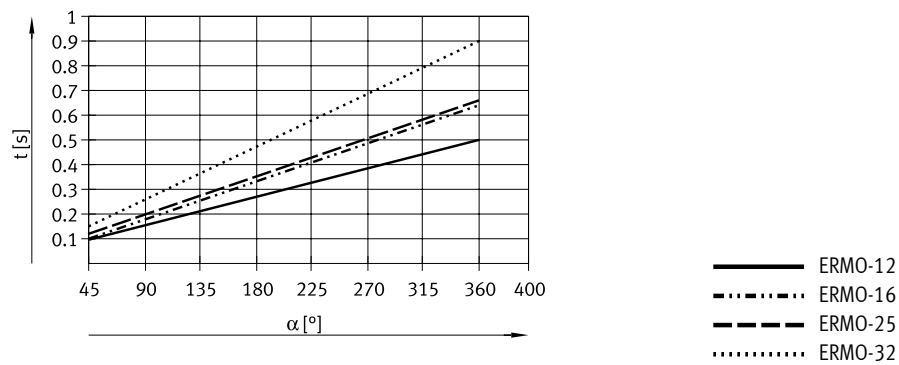
Rotary drive		
[1]	Housing	Anodised wrought aluminium alloy
[2]	Clamping ring	Anodised wrought aluminium alloy
[3]	Rotating plate	Anodised wrought aluminium alloy
[4]	Ball bearings	Rolled steel
	Sealing ring	NBR
	Note on materials	RoHS-compliant
		Contains paint-wetting impairment substances

Data sheet

Torque M as a function of rotational speed n



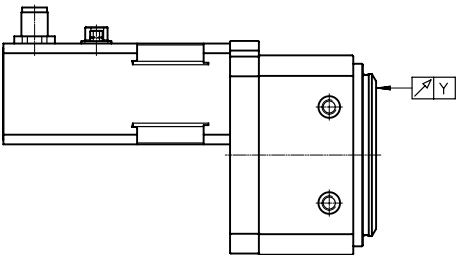
Positioning time t as a function of rotation angle α



Axial eccentricity and concentricity

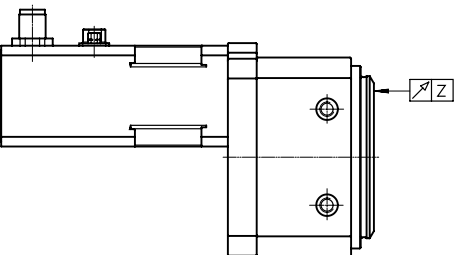
Axial eccentricity

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



Concentricity

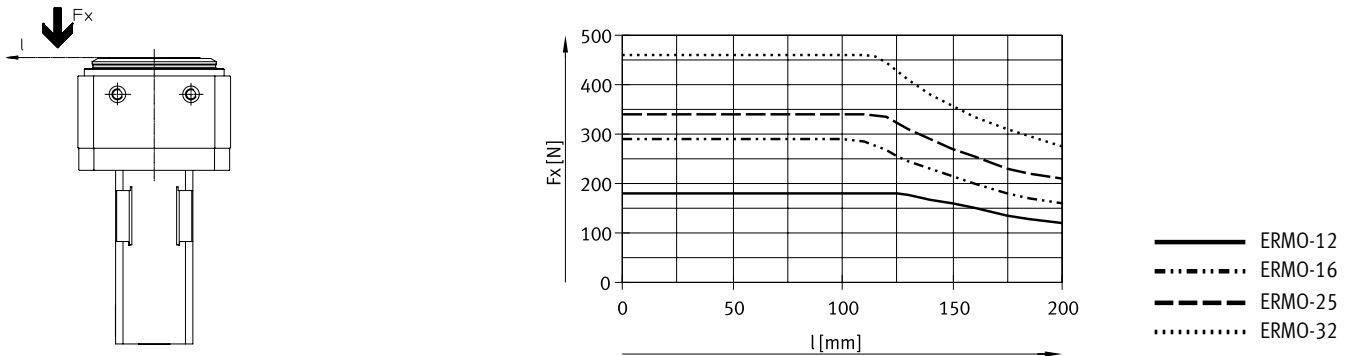
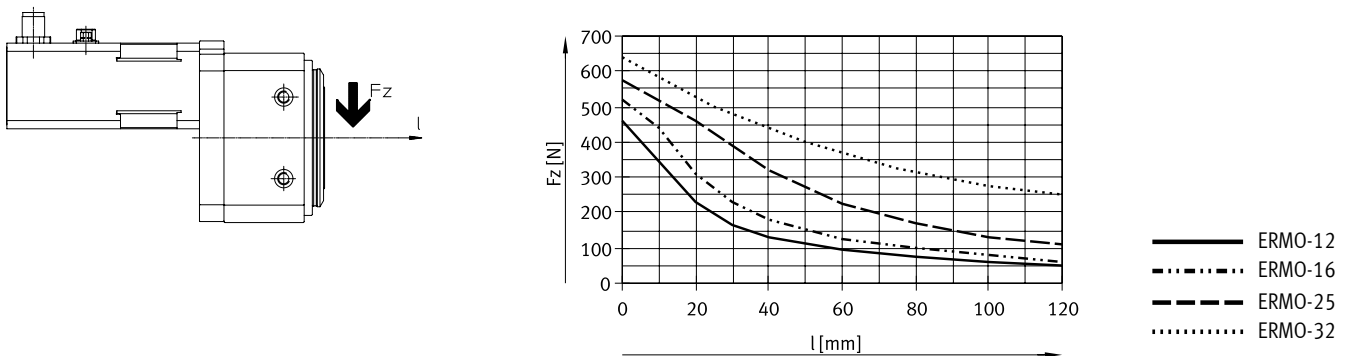
Measured at the centring hole of the rotating plate, when new.



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

Data sheet

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

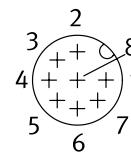
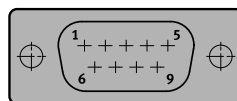
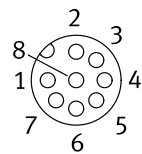
Motor

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	Encoder GND
6	Signal trace N
7	Signal trace N/
8	VCC auxiliary supply +5 V
GND	Shielding on plug housing

¹⁾ Only on motors with brake.

Data sheet

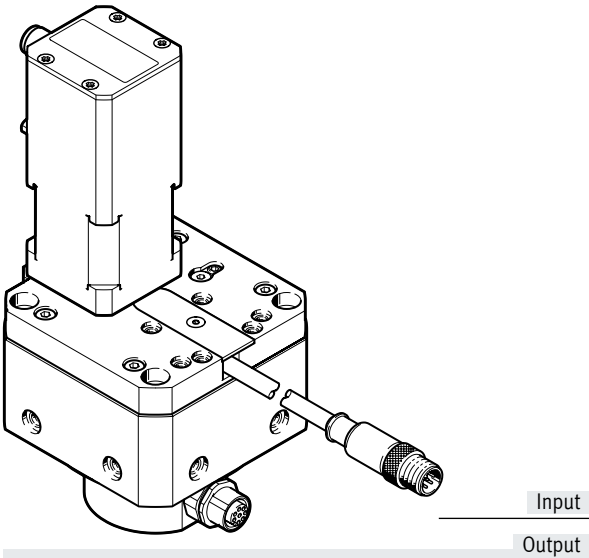
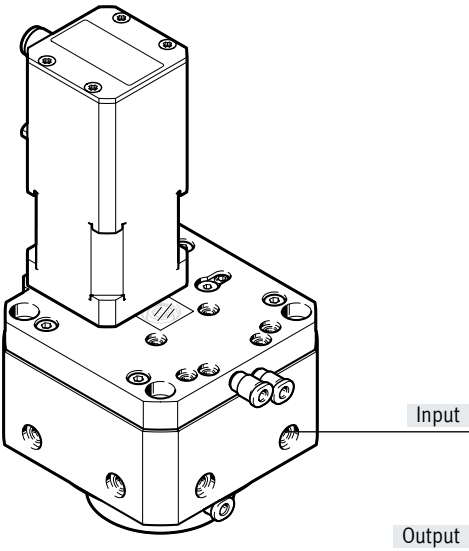
Energy through-feed
ERMO-...-P2
ERMO-...-E8

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



Function	Advantages
The energy through-feed can be used to transfer electrical signals or compressed air through the hollow shaft.	• Fast and easy supply of the parts mounted on the rotating plate • Tubing and electrical cables are not damaged by the rotation • Two variants available: – Pneumatic – Electric

Variants
Pneumatic: ERMO-...-P2
Electric: ERMO-...-E8



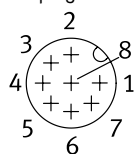
 **Note**
Connecting cable → page 25

Data sheet

Pin allocation – Energy through-feed, electrical

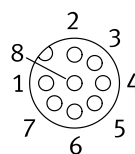
Input

M12 plug



Output

M12 socket



Technical data		
Variant	Pneumatic	Electric
Order code	P2	E8
Pneumatic		
Number of pneumatic ducts	2	–
Tubing O.D.	4	–
Operating pressure per duct [bar]	–0.85 ... 8	–
Connection	M5	–
Flow rate per duct [l/min]	86	–
Electric		
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

**Note**

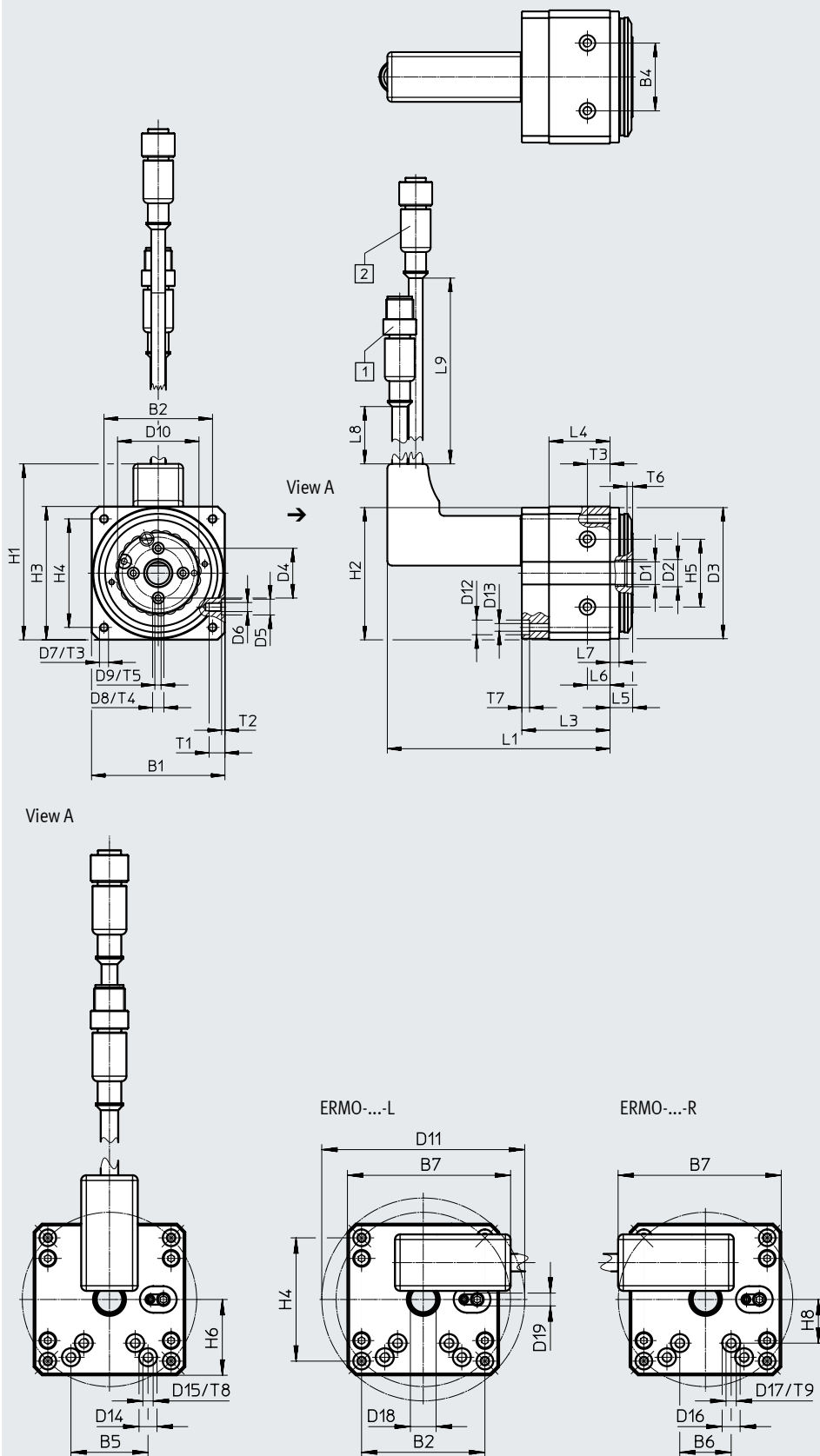
Also approved for vacuum operation.

Data sheet

Dimensions

Download CAD data → www.festo.com

Size: 12



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

Data sheet

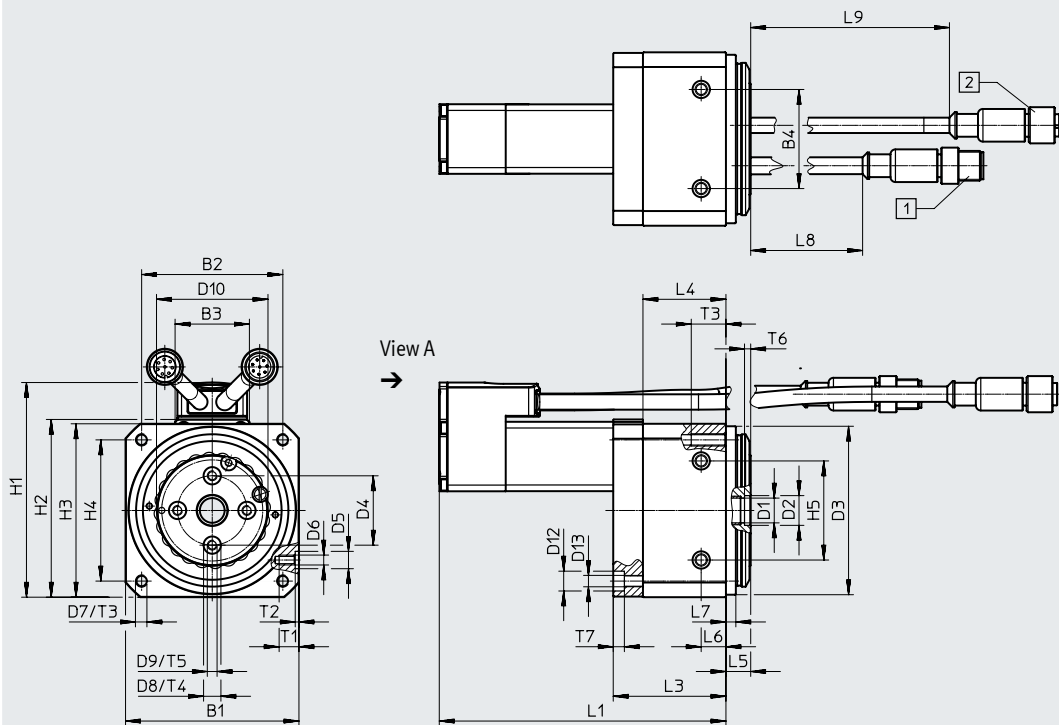
Size	B1 ±0.3	B2	B4 ±0.03	B5 ±0.02	B6 ±0.02	B7	D1 ∅	D2 ∅ H8	D3 ∅ f8	D4 ∅ ±0.02
12	59	48	30	30	20	46	10/7 ¹⁾	12	58	22
Size	D5 ∅ H7	D6	D7	D8 ∅ H7	D9	D10 ∅	D11 ∅ ±0.5	D12 ∅	D13 ∅	D14 ∅ H7
12	7	M4	M4	5	M3	36	79	6.5	3.4	7
Size	D15	D16 ∅ H7	D17	D18 max.	D19	H1	H2	H3 ±0.3	H4	H5 ±0.03
12	M4	7	M4	7	M5x0.5	80	58.5	59	48	30
Size	H6	H8	L1 ±1.5	L3 ±0.6	L4	L5 ±0.2	L6 ±0.1	L7 ±0.1	L8	L9
12	22.5	17	100	39	27	10	10	4	300	300
Size	T1	T2 +0.1	T3	T4 +0.1	T5	T6 +0.1	T7	T8	T9	
12	7	1.5	10	1.2	7	2.5	3.4	1.5	1.5	

1) With attached motor

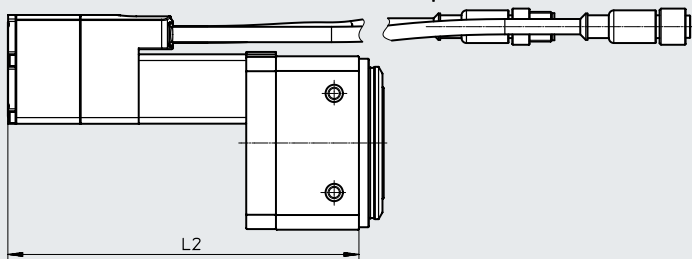
Data sheet

Dimensions Download CAD data → www.festo.com

Size: 16



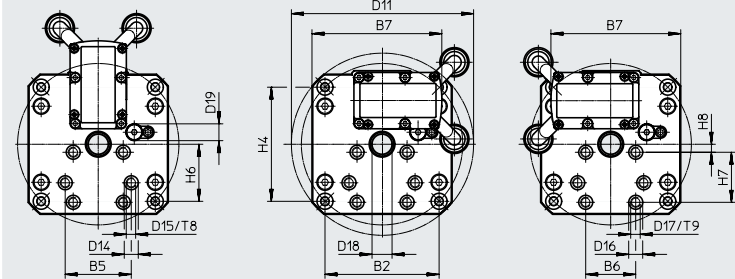
ERMO-...-E-B



View A

ERMO-...-L

ERMO-...-R



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

Data sheet

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	L2 ±1.5	L3 ±0.6	L4	L5 ±0.2	L6 ±0.1	L7 ±0.1	L8
16	19.3	25	4	116	142	45.5	33.5	10	10	4	250

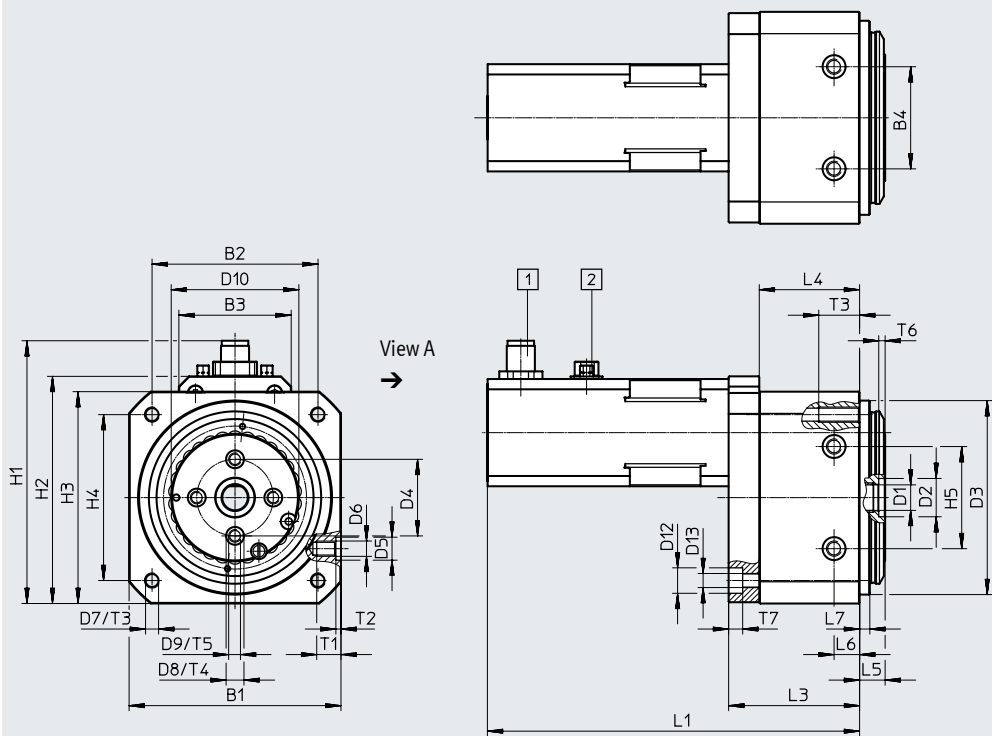
Size	L9	T1	T2 +0.1	T3	T4 +0.1	T5	T6 +0.1	T7	T8	T9
16	350	8	1.5	14	1.5	8	2.5	4.5	1.5	1.5

Data sheet

Dimensions

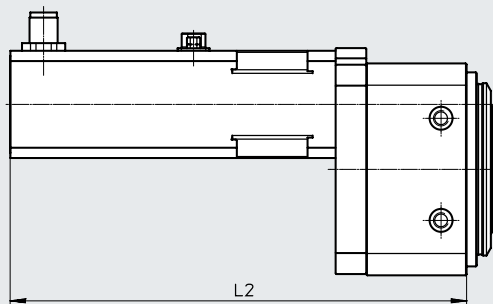
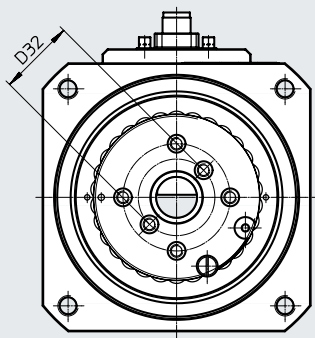
Size 25/32

Download CAD data → www.festo.com



Size: 32

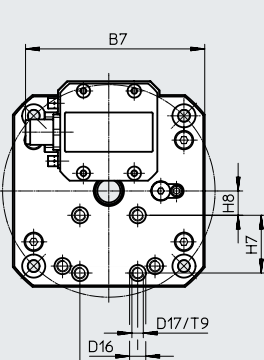
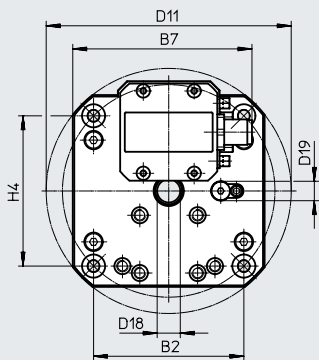
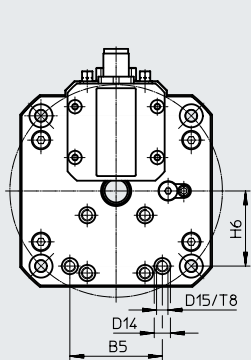
ERMO-...-E-B



View A

ERMO-...-L

ERMO-...-R



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

Data sheet

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	D15
25	9	M6	M6	7	M5	50	106	10	5.5	7	M5
32	12	M8	M8	7	M5	65	135	11	6.6	–	–

Size	D16 ∅ H7	D17	D18 max.	D19	D32 ±0.02	H1	H2	H3 ±0.3	H4	H5 ±0.03
25	7	M5	10	M8x1	–	103	89	83	65	40
32	7	M5	9	M8x1	30	125	110.5	105	85	60

Size	H6	H7 ±0.02	H8	L1 ±1.5	L2 ±1.5	L3 ±0.6	L4	L5 ±0.2	L6 ±0.1	L7 ±0.1
25	32.5	25	10.5	146	179	51.3	39.3	10	10	4
32	–	25	15	148	189	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

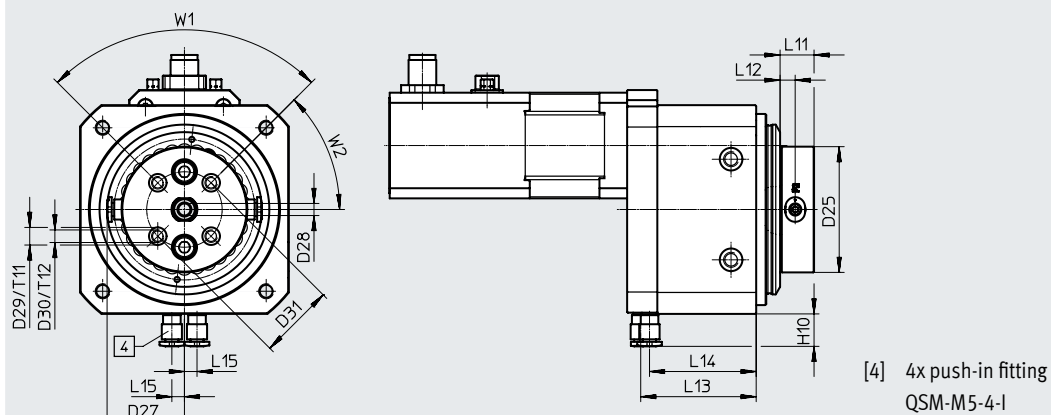
1) With attached motor

Data sheet

Dimensions

Download CAD data → www.festo.com

P2 – Energy through-feed, pneumatic



Size	D26 Ø	D27 Ø	D28 Ø	D29 Ø H7	D30	D31 Ø ±0.02	H10 ±1	L11
12	44	R29.5	3	5	M3	22	13	13.5
16	44	R31	4.8	7	M4	28	13	13
25	50	R31	4.8	7	M5	30	13	13.5
32	64	R36	4.8	7	M5	42	13	16

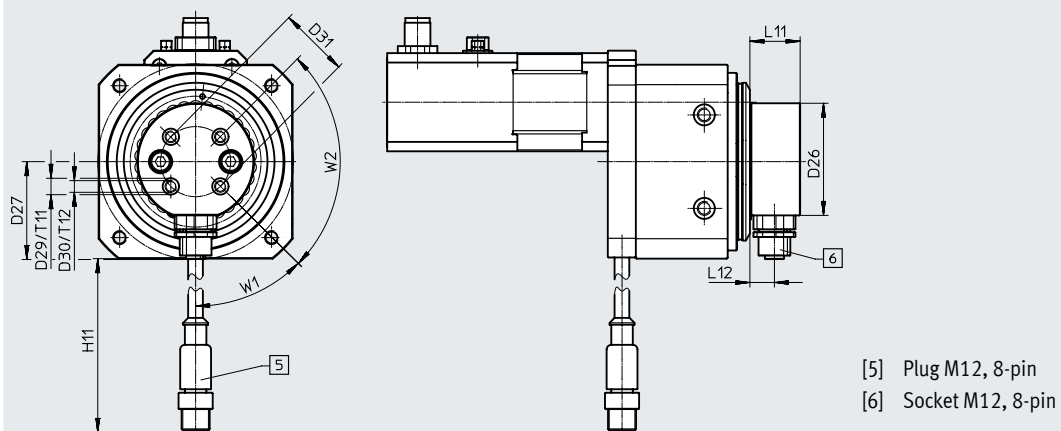
Size	L12	L13	L14	L15	T11 +0.1	T12	W1	W2
12	6	33.8	30.3	4	1.2	8	90°	45°
16	6	40.6	37	5	1.5	8	90°	45°
25	6	45.9	42.4	5	1.5	8.5	90°	45°
32	8.6	41.5	38	5	1.5	10	90°	22.5°

Data sheet

Dimensions

Download CAD data → www.festo.com

E8 – Energy through-feed, electrical

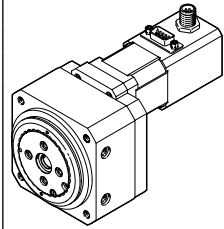


Size	D26 Ø	D27 Ø	D29 Ø H7	D30	D31 Ø ±0.02	H11 ±10
12	44	R38.5	5	M3	22	205
16	44	R37.5	7	M4	28	195
25	48	R42	7	M5	30	185
32	64	R47	7	M5	42	175

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°

Data sheet

★ Core product range

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

Festo core product range	★	Generally ready for dispatch from the factory within 24 hours
	★	Generally ready for dispatch from the factory within 5 days

Ordering data – Modular product system

Ordering table								
Modular system	12	16	25	32	Conditions	Code		Enter code
Module no.	2954695	2954696	2954697	2954698				
Function	Electric cylinder					ERMO		ERMO
Size	12	16	25	32		☆ -...		
Motor type	Stepper motor ST					☆ -ST		-ST
Measuring unit	Encoder					☆ -E		-E
Brake	None							
	—		With brake			B		
Cable outlet direction	Top (standard)							
	Left					-L		
	Right					-R		
Energy through-feed	None							
	Pneumatic, 2 ducts					-P2		
	Electrical, 8 signals					-E8		
Connecting cable to the 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/actuation	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



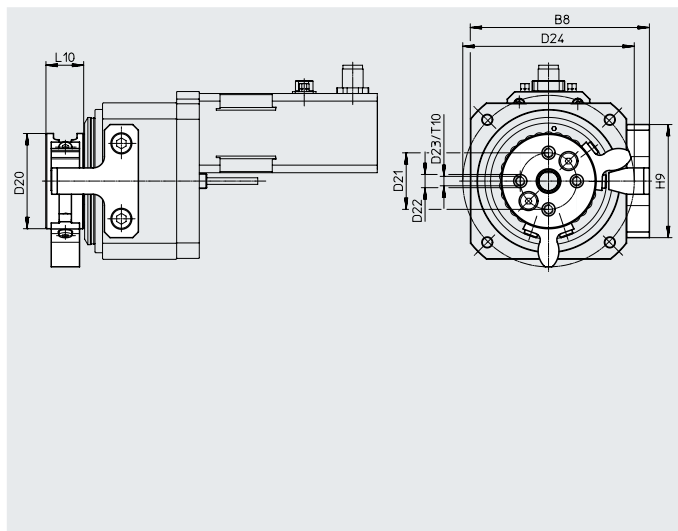
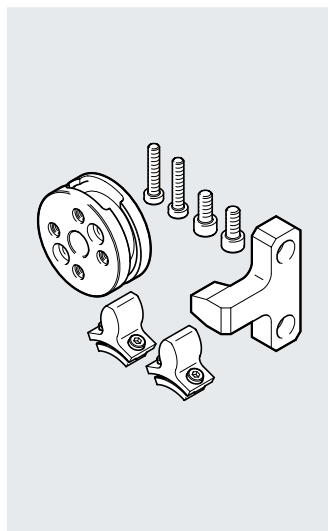
Accessories

Stop kit EADP

Material:

Housing: Anodised aluminium

Stops: Nickel-plated beryllium bronze



Dimensions and ordering data

For size	B8	D20 Ø ±0.1	D21 Ø ±0.1	D22 Ø H7	D23	D24 Ø	H9	L10 ±0.1	T10
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 of rotation angle		Weight [g]	Part no.	Type
	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

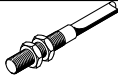
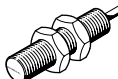
Ordering data – Centring sleeves

Data sheets → Internet: zbh

	For size	Description	Part no.	Type	PU ¹⁾
	12, 16	For centring the drive in the case of side 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	
	12, 16	For centring attachments in the middle of the rotating plate	189653	ZBH-12	1
	25		191409	ZBH-15	
	32		150901	SLZZ-25/16	

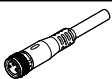
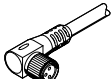
1) Packaging unit

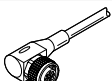
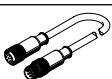
Accessories

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

**Note**

Cannot be fitted on size 16 in combination with motor attachment variant “left” (ERMO-16-...-L):

Ordering data – Connecting cables						Data sheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	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 through-feed						Data sheets → Internet: nebu
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part no.	Type	
	Straight socket, M12x1, 8-pin	Cable, open end, 8-wire	2	525616	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

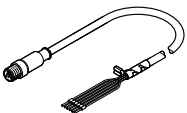
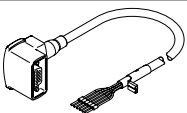
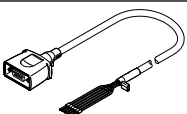
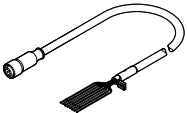
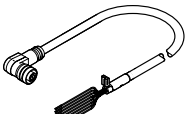


Generally ready for dispatch from the factory within 24 hours



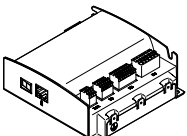
Generally ready for dispatch from the factory within 5 days

Accessories

Ordering data – Cables ¹⁾					
	For size	Description	Cable length [m]	Part no.	Type
Motor cable					
	12, 16	Straight plug²⁾ • Min. bending radius: 62 mm • Suitable for 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 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 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 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 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 through-feed outlet.

Ordering data – Motor controller				Data sheets → Internet: cmmo	
	Description	Part no.	Type		
	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		