Positioning axes DMES

FESTO

Positioning axes DMES

Key features

At a glance

General

DMES positioning axes are mechanical linear drives that are specially designed for movements involving high forces.
The mechanical interfaces are compatible with the spindle axis DGE-SP.

Properties

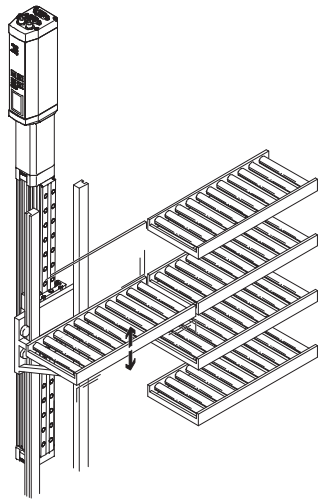
- High mechanical torques
- High feed forces up to 3,000 N
- Self-retarding lead-screw spindle
- Compact dimensions
- Cost optimised
- Alternatively:
  - without guide
  - with plain-bearing guide GF
  - with recirculating ball bearing guide KF

Range of applications

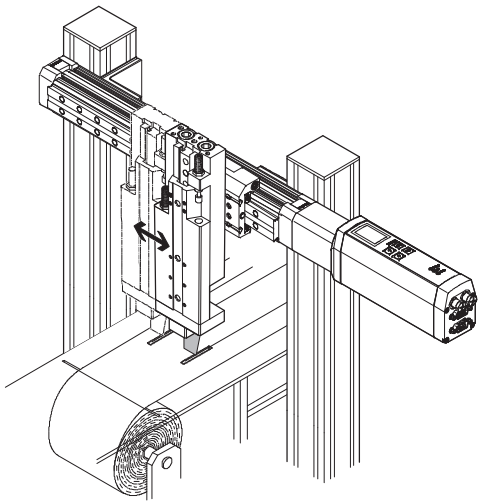
- For format adjustment:
  - in printing, paper and foil wrapping machines
  - in packaging machines
  - in feed technology

Application examples

Adjusting sorting conveyors

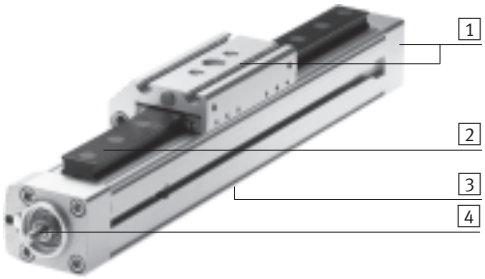


Programming formats for paper or foil cutting machines



The technology in detail

Positioning axis ➔ 4



1 Mechanical interfaces are identical to spindle axes DGE-...-SP
2 Choice of two guide variants:
- GF: Plain-bearing guide
- KF: Recirculating ball bearing guide

3 Slot for proximity sensor
4 Lead-screw spindle, for use with high forces

The lead-screw spindle is self-retarding, which means that slow movements cannot be excluded in the event of vibration.
The entire system with intelligent motor unit MTR-DCI is self-locking.

Motor ➔ 42

Motor unit
MTR-DCI

Intelligent servo motor
EMMS-ST

Servo motor
EMMS-AS

A range of specially adapted complete solutions is available for the positioning axes DMES and the motors.
Two motor interfaces are available:
- Axial motor interface
- Parallel motor interface

Positioning axes DMES

Key features

Wide choice of variants

Basic design DMES, without guide

- For connection to an existing guide
- For small loads

Plain-bearing guide DMES-GF

- With standard slide (GK) or extended slide (GV)
- For medium loads
- For medium guide precision

Recirculating ball bearing guide DMES-KF

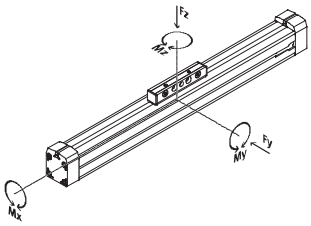
- With standard slide (GK) or extended slide (GV)
- For higher loads
- For high guide precision

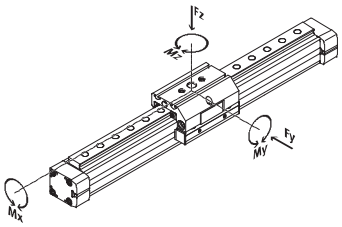
Protected version DMES-GA

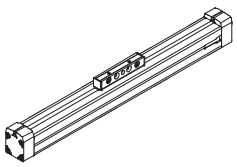
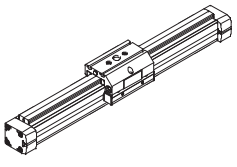
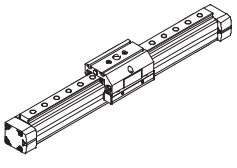
- With standard slide (GK)
- With plain or recirculating ball bearing guide as an option
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side

Guide characteristics

The specifications shown in the table are maximum values.
The precise values for each of the variants can be found in the relevant technical data in the catalogue.

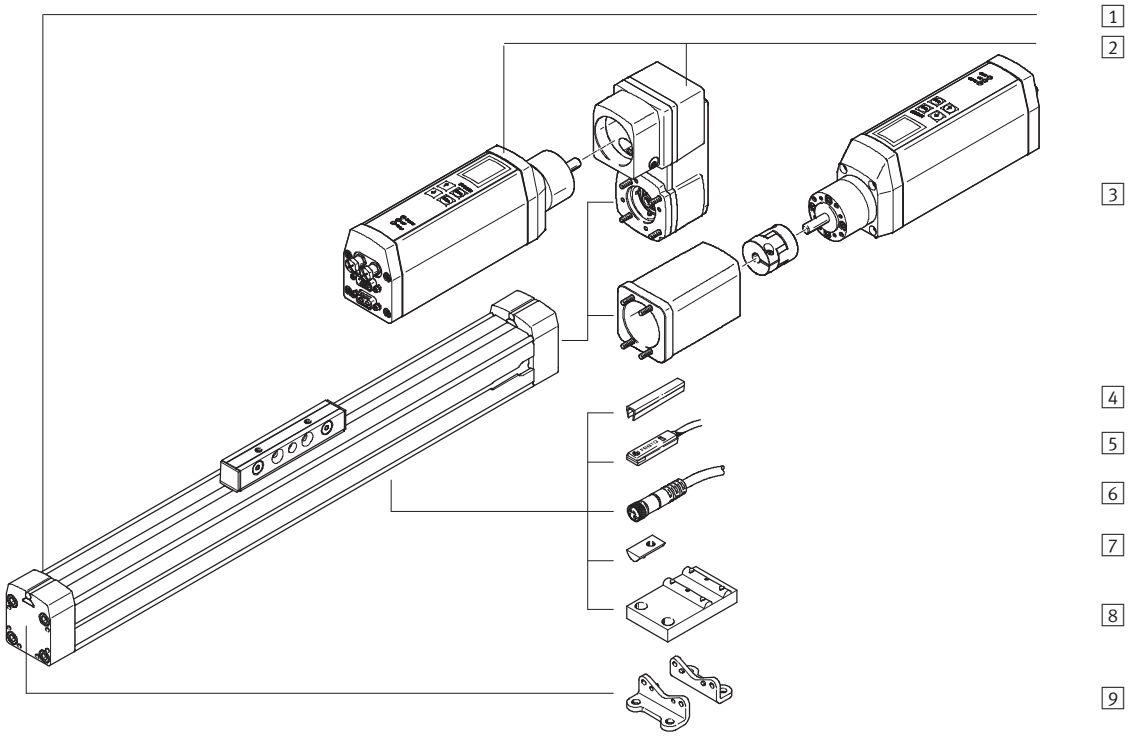




	Size	Working stroke [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Forces and torques Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	➔ Page/ Internet
Basic design DMES											
	18	50 … 400	0.05	±0.05	240	36	80	0.4	2	0.7	6
	25	50 … 700	0.05	±0.05	500	80	100	1.3	4	1.6	
	40	50 … 1,200	0.05	±0.05	1,000	92	390	2.2	20	4.6	
	63	50 … 1,800	0.05	±0.07	3,000	300	900	12	80	22	
Plain-bearing guide DMES-GF											
	18	50 … 400	0.05	±0.05	240	930	930	7	45	45	20
	25	50 … 700	0.05	±0.05	500	1,650	1,650	23	95	95	
	40	50 … 1,200	0.05	±0.05	1,000	3,990	3,990	89	360	360	
	63	50 … 1,800	0.05	±0.07	3,000	7,250	7,250	290	980	980	
Recirculating ball bearing guide DMES-KF											
	18	50 … 400	0.05	±0.05	240	930	930	7	45	45	20
	25	50 … 700	0.05	±0.05	500	3,080	3,080	45	170	170	
	40	50 … 1,200	0.05	±0.05	1,000	7,300	7,300	170	660	660	
	63	50 … 1,800	0.05	±0.07	3,000	13,900	14,050	580	1,820	1,820	

Positioning axes DMES, without guide

Peripherals overview



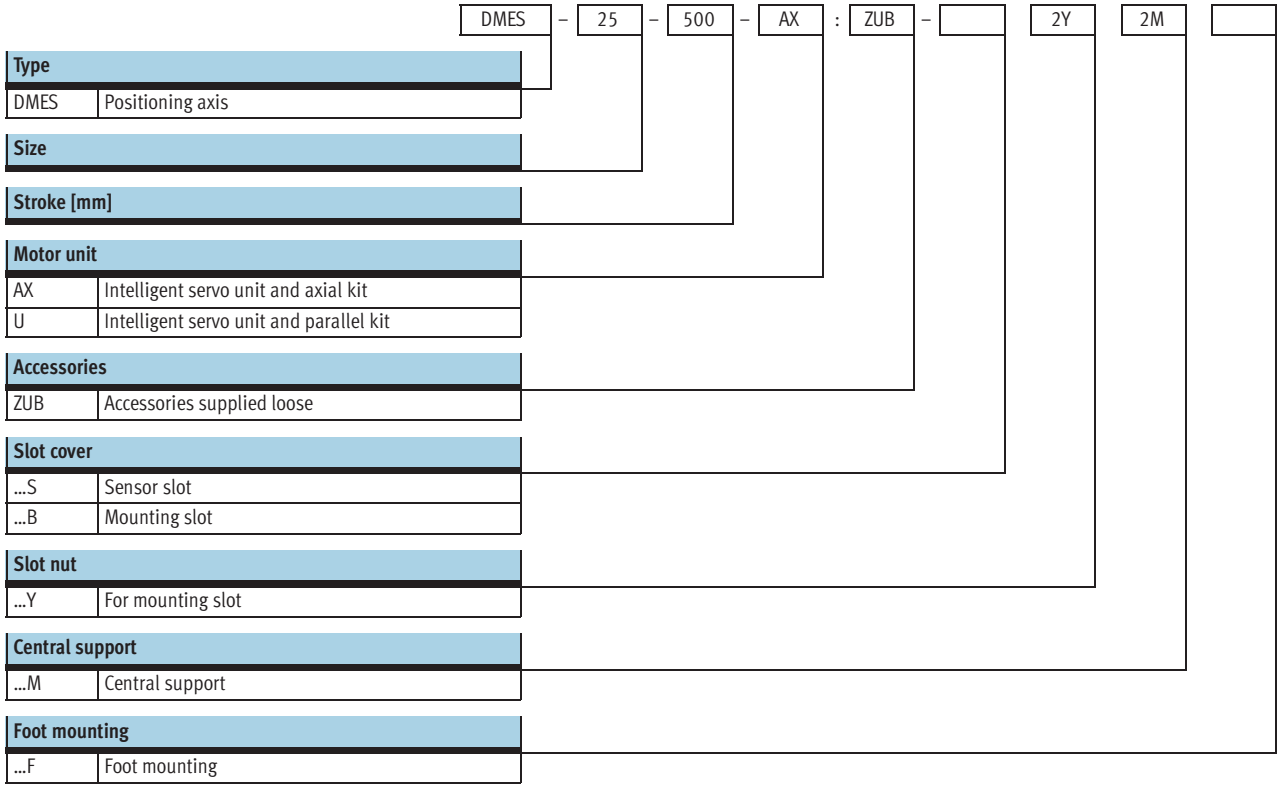
Variants and accessories			
Type/Order code		**Brief description**	**➔ Page/Internet**
1	Positioning axis DMES	Electromechanical axis without guide	6
2	Intelligent servo unit and parallel kit U	Complete package for parallel motor attachment, comprising parallel kit and intelligent motor unit MTR-DCI	14
3	Intelligent servo unit and axial kit AX	Complete package for axial motor attachment, comprising axial kit and intelligent motor unit MTR-DCI	14
4	Slot cover B/S	For protecting against ingress of dirt	52
5	Proximity sensor SMT-8	For providing a proximity signal or safety sensing	51
6	Connecting cable KM8	For proximity sensor	51
7	Slot nut for mounting slot Y	For mounting attachments	52
8	Central support M	For mounting the axis	49
9	Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	49

Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately ➔ 42

Positioning axes DMES, without guide

Type code

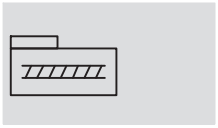


Positioning axes DMES, without guide

Technical data

FESTO

Function



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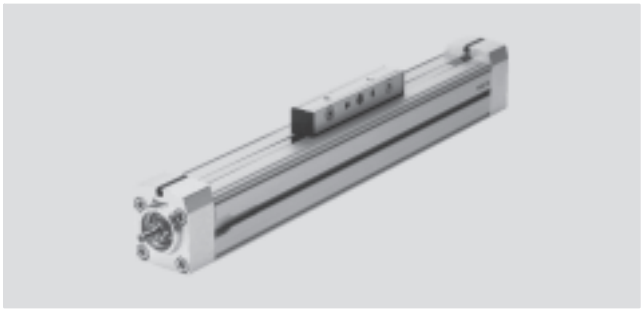


- Size
  18 ... 63
- Stroke length
  50 ... 1,800 mm

General technical data					
Size		18	25	40	63
Design		Electromechanical linear axis with lead-screw spindle			
Guide		None			
Assembly position		Any			
Working stroke	[mm]	50 ... 400	50 ... 700	50 ... 1,200	50 ... 1,800
Max. feed force F_x	[N]	240	500	1,000	3,000
Max. driving torque	[Nm]	0.3	0.9	3	14
Max. no-load driving torque[1]	[Nm]	0.07	0.2	0.45	1.1
Max. radial force[2]	[N]	40	75	250	800
Max. speed	[m/s]	0.05			
Max. acceleration	[m/s^2]	2.5			
Repetition accuracy	[mm]	±0.05			±0.07
Positioning rigidity	[N/mm]	1,700	2,300	4,200	5,600
Duty cycle	[%]	100			
Reversing backlash[3]	[mm]	< 0.1			

1) Measured at a speed of 200 rpm.
2) On drive shaft
3) In new condition

Operating and environmental conditions		
Ambient temperature[1]	[°C]	0 ... +50
Protection class		IP40

1) Note operating range of proximity sensors

Weights [kg]				
Size	18	25	40	63
Basic weight with 0 mm stroke[1]	0.49	0.98	2.9	10.05
Additional weight per 100 mm stroke	0.2	0.36	0.74	1.97
Moving load	0.06	0.15	0.47	1.51

1) Without coupling housing

Positioning axes DMES, without guide

Technical data

Mass moment of inertia					
Size		18	25	40	63
J_0	[kg cm^2]	0.0028	0.0147	0.1824	1.7747
j_H per metre stroke	[kg cm^2/m]	0.0210	0.0980	0.8400	5.5600
j_L per kg working load	[kg cm^2/Kg]	0.0006	0.0023	0.0041	0.0091

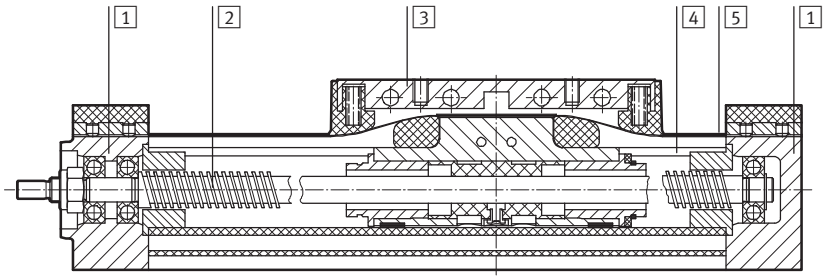
The mass moment of inertia J_A of the entire axis is calculated as follows:

$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{\text{working load}}$ [kg]

Spindle					
Size		18	25	40	63
Diameter	[mm]	8	12	20	32
Pitch	[mm/rev.]	1.5	2.5	4	6

Materials

Sectional view



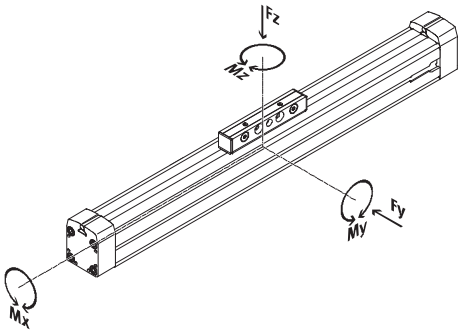
Positioning axis	
1 Cover	Wrought aluminium alloy, anodised
2 Spindle	Steel
3 Piston, driver	Wrought aluminium alloy, anodised
4 Profile	Wrought aluminium alloy, anodised
5 Cover strip	High-alloy stainless steel

Positioning axes DMES, without guide

Technical data

Characteristic load values

The indicated forces refer to the centre line of the internal diameter of the profile.
They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



If the axis is subjected to more than two of the indicated forces simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

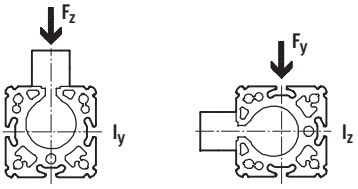
$$\frac{|Fy|}{Fy_{max.}} + \frac{|Fz|}{Fz_{max.}} + \frac{|Mx|}{Mx_{max.}} + \frac{|My|}{My_{max.}} + \frac{|Mz|}{Mz_{max.}} \leq 1$$

- Note

Positioning axes DMES without guide are not designed to absorb lateral forces or torques on the slide.

Permissible forces and torques					
Size		18	25	40	63
$Fy_{max.}$	[N]	36	80	92	300
$Fz_{max.}$	[N]	80	100	390	900
$Mx_{max.}$	[Nm]	0.4	1.3	2.2	12
Mymax.	[Nm]	2	4	20	80
$Mz_{max.}$	[Nm]	0.7	1.6	4.6	22

2nd moment of area



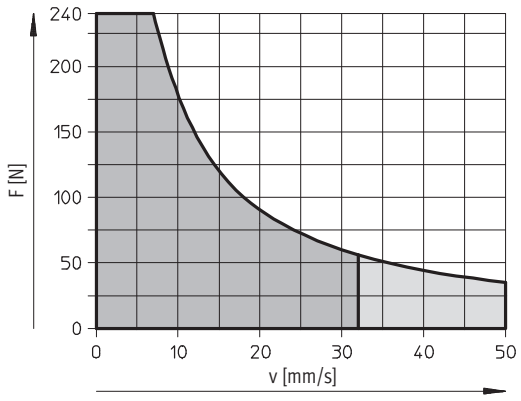
Size		18	25	40	63
Iy	[cm^4]	6.90	20.92	76.24	587.74
Iz	[cm^4]	6.83	21.20	71.01	464.30

- Note

Sizing software
PositioningDrives
➔www.festo.com

Maximum permissible feed force F as a function of the feed speed v

Size 18



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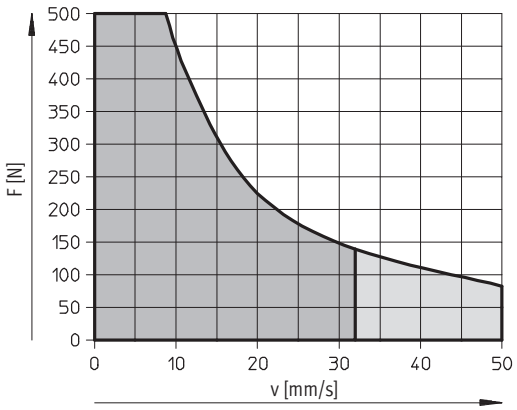

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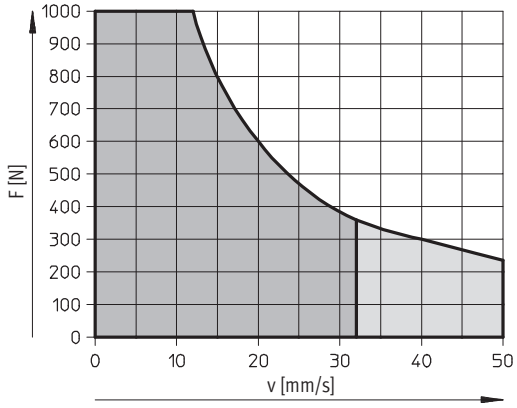
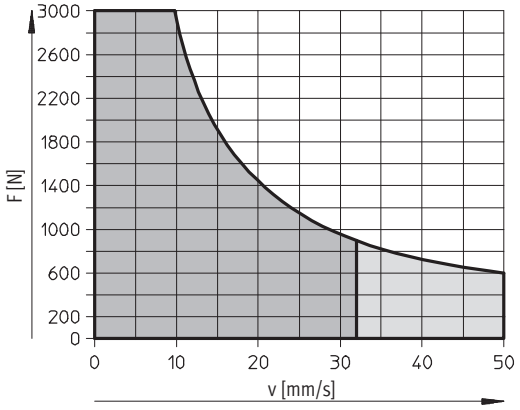


Size 63

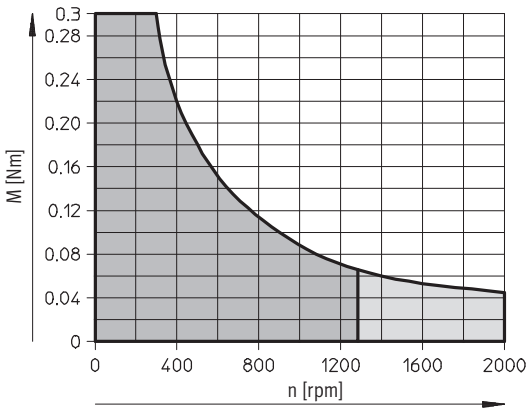


Recommended operating range

Permissible operating range (duty cycle < 50% recommended)

Maximum permissible driving torque M as a function of n (rpm)

Size 18



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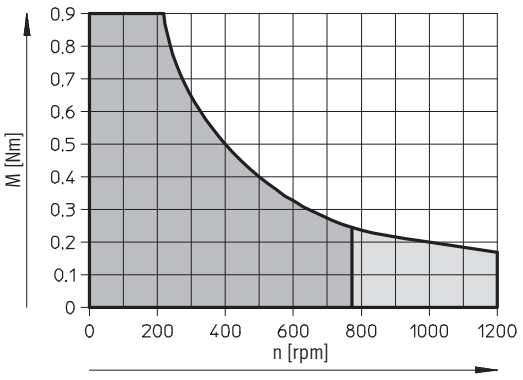

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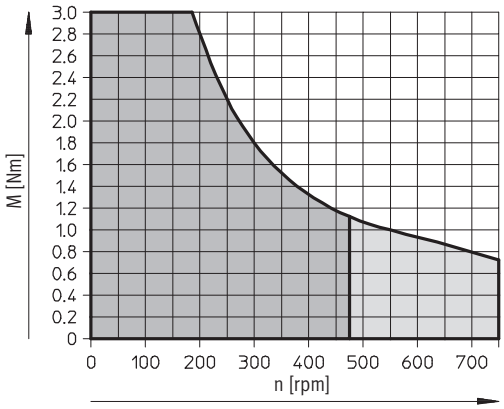

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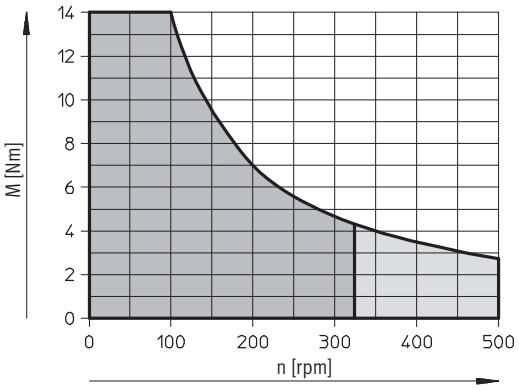
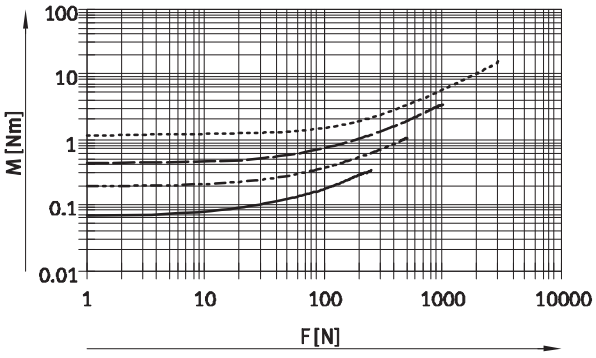


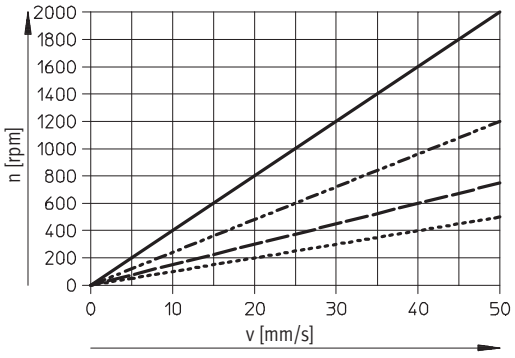
Recommended operating range

Permissible operating range (duty cycle < 50% recommended)

Driving torque M as a function of the feed force F



Speed as a function of the feed speed v



DMES-18

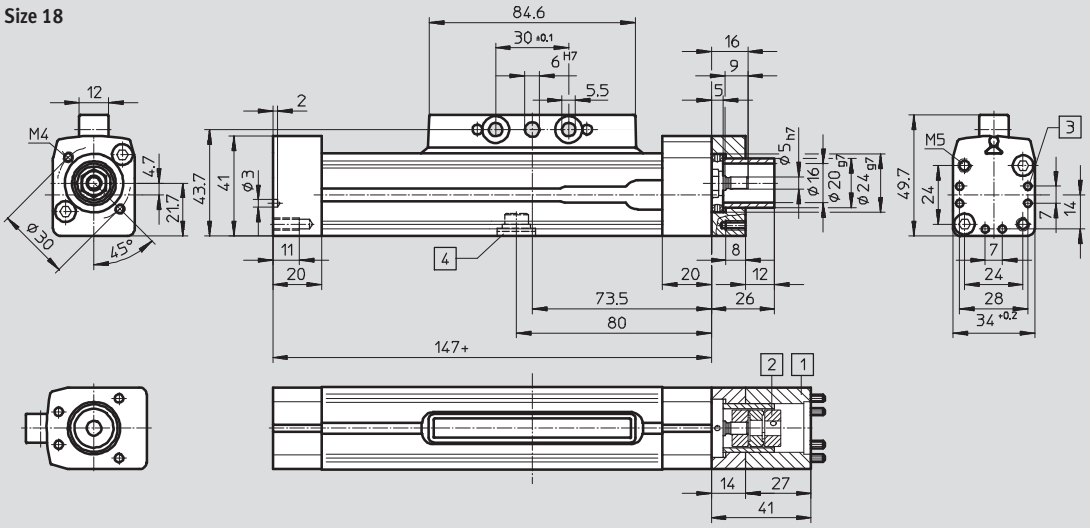
DMES-25

DMES-40

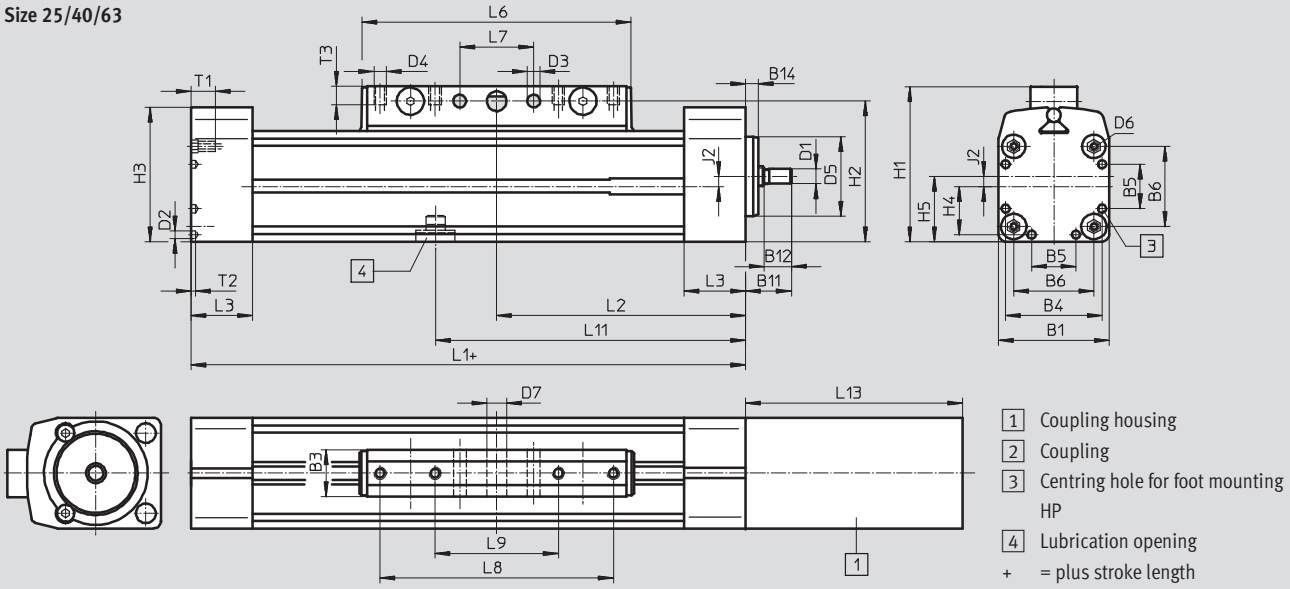
DMES-63

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

Size 18



Size 25/40/63



1 Coupling housing
2 Coupling
3 Centring hole for foot mounting HP
4 Lubrication opening
\+ = plus stroke length

Size	B1 +0.4	B3	B4	B5	B6	B11	B12	B14	D1 ∅ h7	D2 ∅	D3 ∅	D4	D5 ∅ g7	D6	D7 ∅ H10	H1	H2	H3
25	45	19	39.1	18	32.5	18.5	11	4	6	3.3	5.2	M5	32	M4	8	63	57	54.5
40	64	21	53	28	49	33.5	23	5	12	4.4	6.5	M6	48	M5	10	86	78	76.5
63	106	24	89	44	83	47.5	25	7	20	6.4	8.5	M8	72	M8	12	131	122	127.5

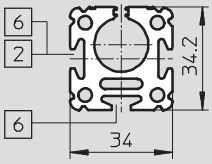
Size	H4	H5	J2	L1	L2	L3	L6	L7 ±0.1	L8 ±0.1	L9 ±0.1	L11	L13 1)	L13 2)	L13 3)	T1	T2	T3
25	19.6	26.5	4	175	87.5	25	108.8	30	–	50	105	88	101	–	13	2	7.5
40	26.5	37	5	250	126	31	170.8	70	130	40	151	121	135	–	13	6	10
63	44.5	61	8	328	164	36	233.8	110	190	70	196	150	150	150	21	6	12.5

1) When combined with motor unit MTR-DCI with gear reduction 7:1.
2) When combined with motor unit MTR-DCI with gear reduction 14:1.
3) When combined with motor unit MTR-DCI with gear reduction 22:1.

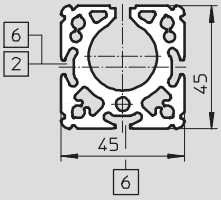
Dimensions Download CAD data ➔ **www.festo.com**

Profile

Size 18



Size 25



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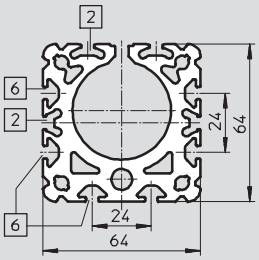
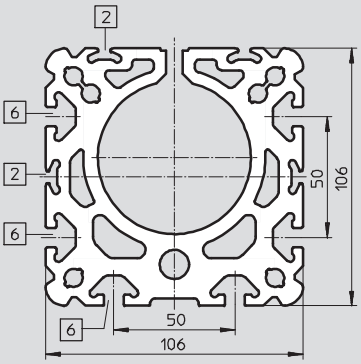


Size 63



2 Sensor slot for proximity sensor

6 Mounting slot for slot nut NST

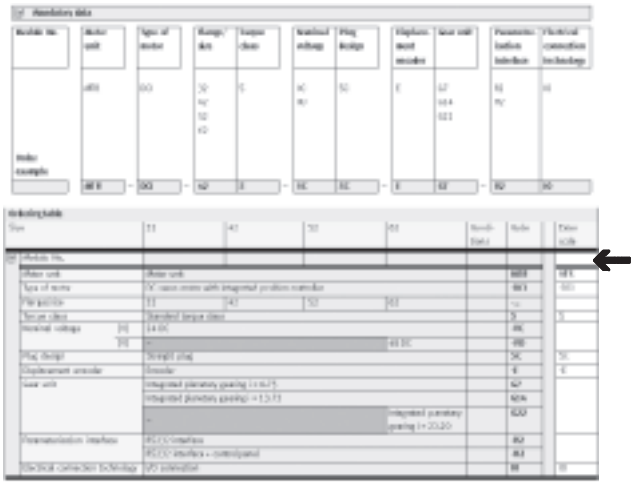
Order processing for positioning axis DMES in combination with intelligent motor unit MTR-DCI

1 Ordering positioning axis DMES — Ordering table ➔ 15

The drive unit and corresponding accessories are configured in the ordering table for the positioning axis DMES.
The code “AX” or “U” is used to specify whether an intelligent motor unit MTR-DCI and an axial or a parallel kit are required for the positioning axis.
The motor unit design must be defined separately.

3 Ordering intelligent motor unit MTR-DCI — Ordering table ➔ 9

The motor unit order code determined from table 2 must now be completed with the “gear unit” and “parameterisation interface” codes.
The module number of the intelligent motor unit must not be specified when ordering with order code “AX” or “U”. It is determined automatically.



2 Permissible combinations with intelligent motor unit MTR-DCI

Positioning axis	Motor unit
DMES-18-...	MTR-DCI-32S-VCSC-E...
DMES-25-...	MTR-DCI-42S-VCSC-E...
DMES-40-...	MTR-DCI-52S-VCSC-E...
DMES-63-...	MTR-DCI-62S-VDSC-E...

4 Order example

Part No.	Type
	Positioning axis DMES
533 700	DMES-25-700-AX:ZUB-2S2Y1M1F
	Intelligent motor unit MTR-DCI
–	MTR-DCI-42S-VCSC-EG7-R2IO

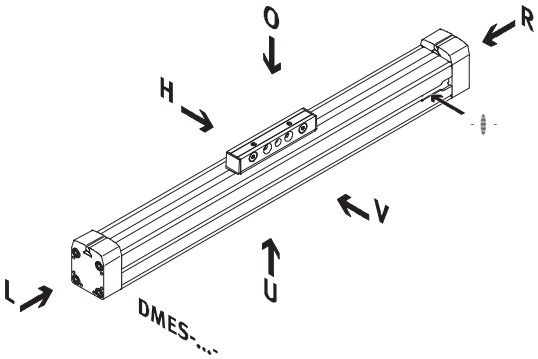
Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately ➔ 42

Positioning axes DMES, without guide

Ordering data – Modular products

Order code
Mandatory data

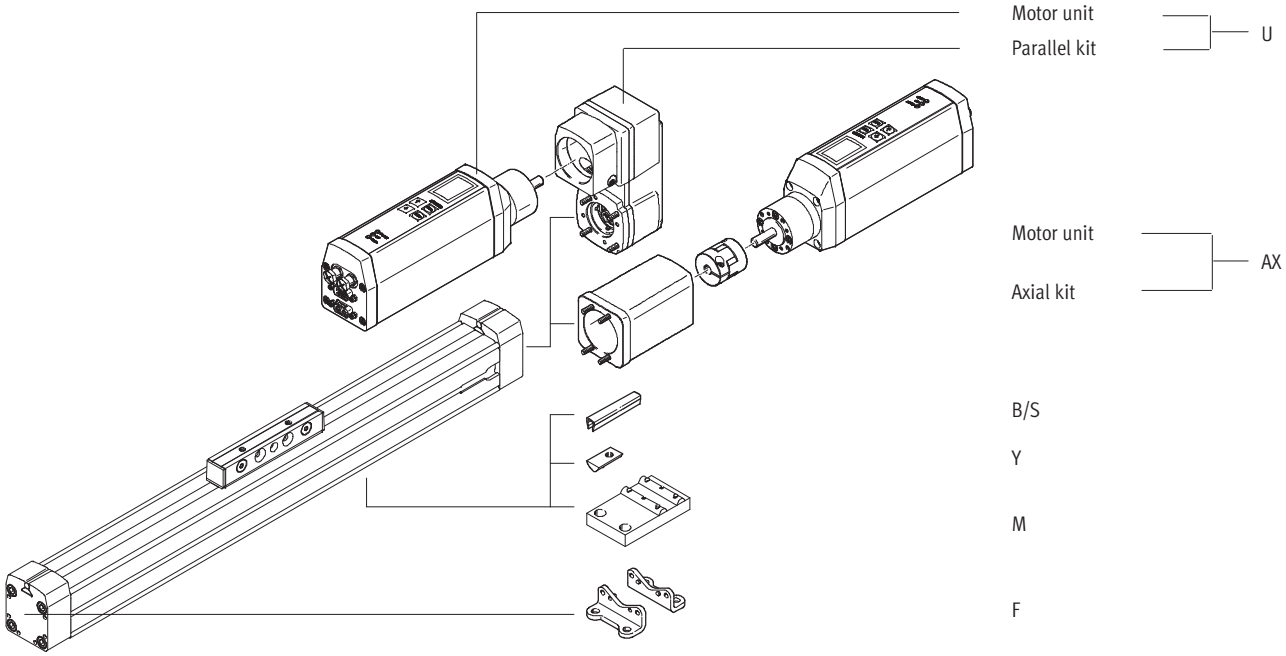


- Note

The insertion point for the proximity sensor is located on the right-hand side of the positioning axis.

O	top
U	underneath
V	front
H	rear
R	right
L	left

Order code
Options



Positioning axes DMES, without guide

Ordering data – Modular products

FESTO

M Mandatory data						O Options				
Module No.		**Function**		**Size**	**Stroke**	**Motor unit**		**Acces-sories**		**Accessories supplied loose**
533 699 533 700 533 701 533 702		DMES		18 25 40 63	50 ... 1,800	AX U				...S, ...B, ...Y, ...M, ...F
Order example										
533 700	–	**DMES**	–	**25**	**700**	–	:	**ZUB**	–	**2S2Y2M**
						MTR-DCI-...S-...SC-E...-...IO				

Ordering table

Size			18	25	40	63	Condi-tions	Code		Enter code
M	Module No.		**533 699**	**533 700**	**533 701**	**533 702**				
	Function		Positioning axis without guided slide					**DMES**		DMES
	Size		18	25	40	63		**-...**		
	Stroke	[mm]	50 ... 400	50 ... 700	50 ... 1,200	50 ... 1,800		**-...**		
O	Motor unit		Axial kit and motor unit (enclosed separately)				1	**-AX**		
			Parallel kit and motor unit (enclosed separately)			–	1	**U**		
	Accessories		Supplied separately					**:ZUB-**		:ZUB-
	Slot cover	Sensor slot	1 ... 10					**...S**		
		Mounting slot	–	–	1 ... 10			**...B**		
	Slot nut	Mounting slot	1 ... 10					**...Y**		
	Central support		1 ... 10					**...M**		
	Foot mounting		1 ... 10					**...F**		

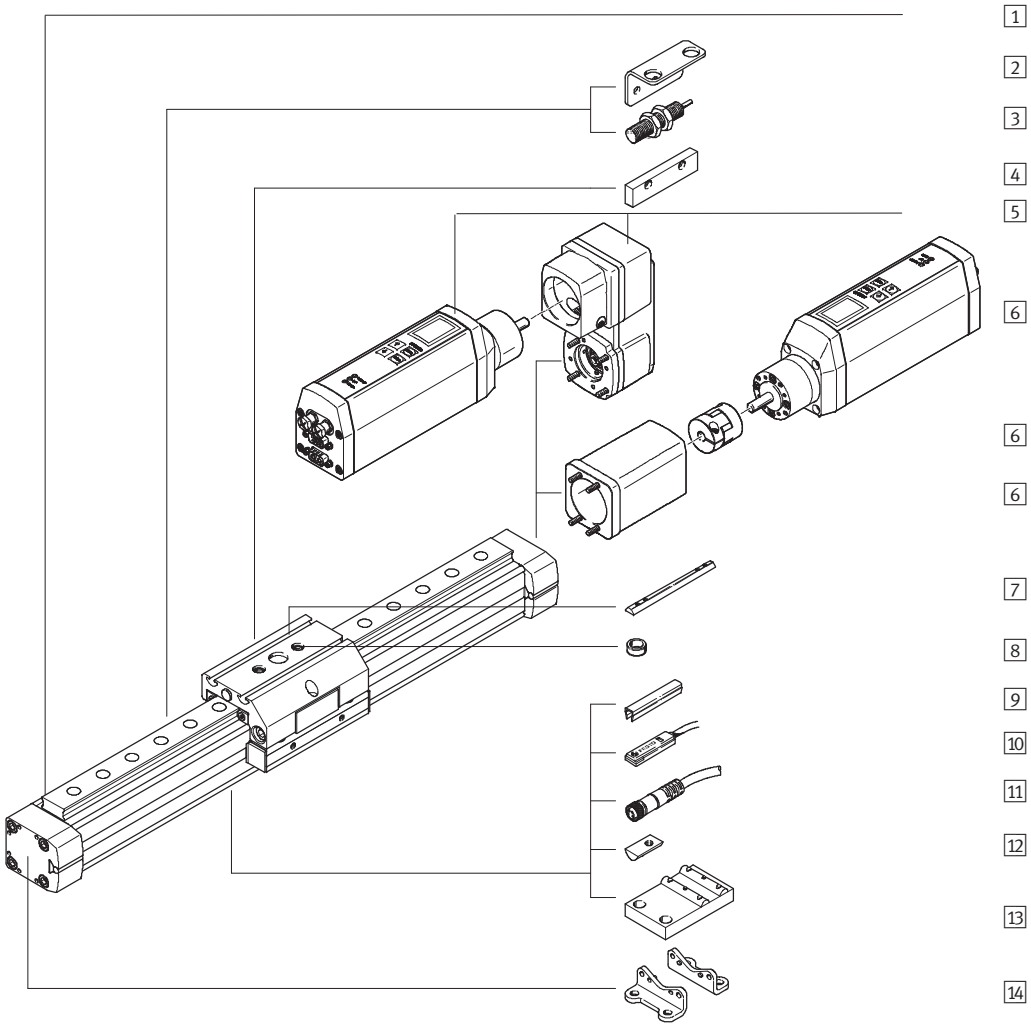
1 **AX, U** Order processing for intelligent motor unit MTR-DCI ➔ 9.

Transfer order code

	DMES	–		–		–	:	**ZUB**	–	
						MTR-DCI-...S-...SC-E...-...IO				

Positioning axes DMES-GF/-KF, with guide

Peripherals overview



Positioning axes DMES-GF/-KF, with guide

Peripherals overview

Variants and accessories					
Type/Order code		**Brief description**	GK/GV	GA	**➔ Page/Internet**
1	Positioning axis DMES	Electromechanical axis with spindle and plain-bearing guide or recirculating ball bearing guide	■	■	20
2	Sensor retainer T	Adapter for mounting the inductive proximity sensors on the axis	■	–	50
3	Inductive proximity sensor SIEN	For providing a proximity signal or safety sensing	■	–	51
4	Switching lug L	For sensing the slide position with inductive proximity sensors	■	–	50
5	Motor unit and parallel kit U	Complete package for parallel motor attachment, comprising parallel kit and intelligent motor unit MTR-DCI	■	■	39
6	Motor unit and axial kit AX	Complete package for axial motor attachment, comprising axial kit and intelligent motor unit MTR-DCI	■	■	39
7	Slot nut for slide X	For mounting loads and attachments on the slide	■	■	52
8	Centring sleeves Z	For centring loads and attachments on the slide	■	■	52
9	Slot cover B/S	For protecting against ingress of dirt	■	■	52
10	Proximity sensor SMT-8	For providing a proximity signal or safety sensing	■	■	51
11	Connecting cable KM8	For proximity sensor	■	■	51
12	Slot nut for mounting slot Y	For mounting attachments	■	■	52
13	Central support M	For mounting the axis	■	■	49
14	Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	■	■	49

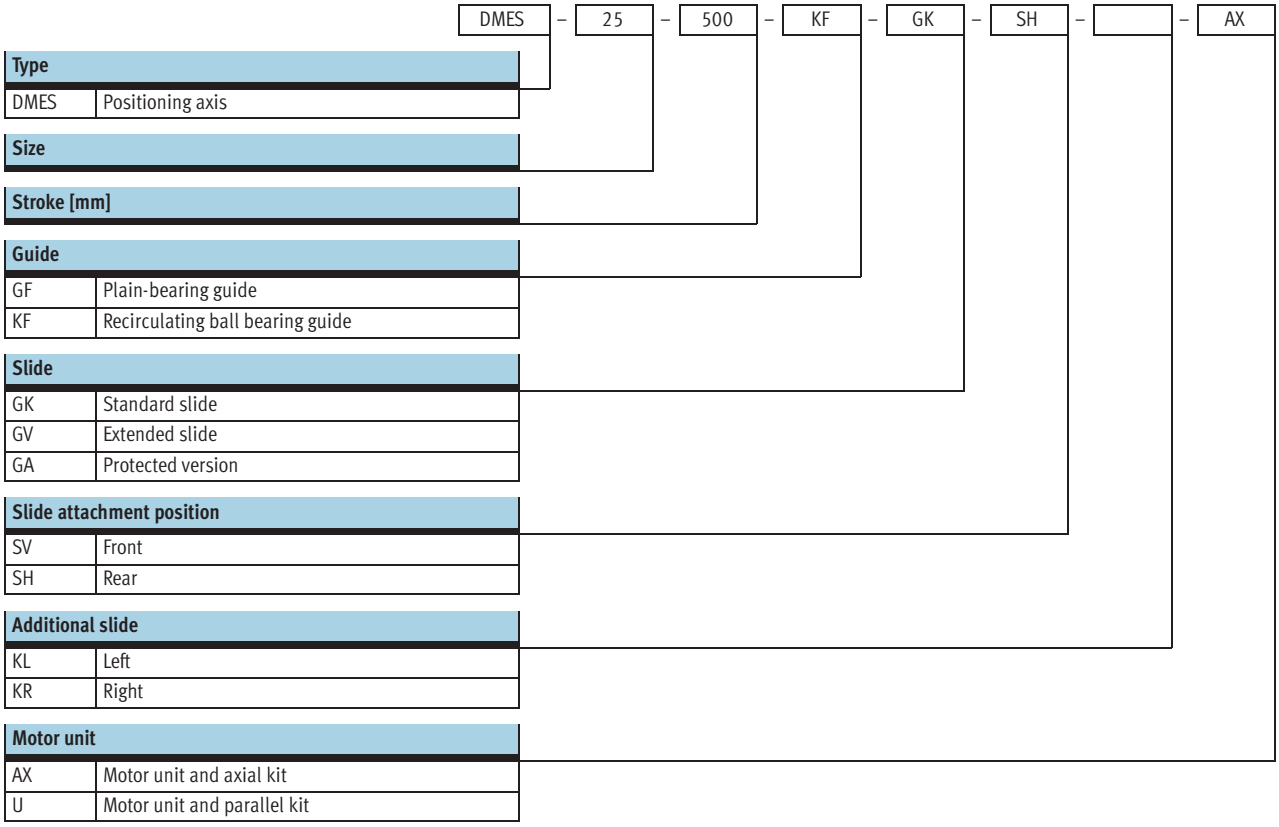
GK: Standard slide
GV: Extended slide
GA: Protected version

Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately ➔ 42

Positioning axes DMES-GF/-KF, with guide

Type code



Type	
DMES	Positioning axis

Size	

Stroke [mm]	

Guide	
GF	Plain-bearing guide
KF	Recirculating ball bearing guide

Slide	
GK	Standard slide
GV	Extended slide
GA	Protected version

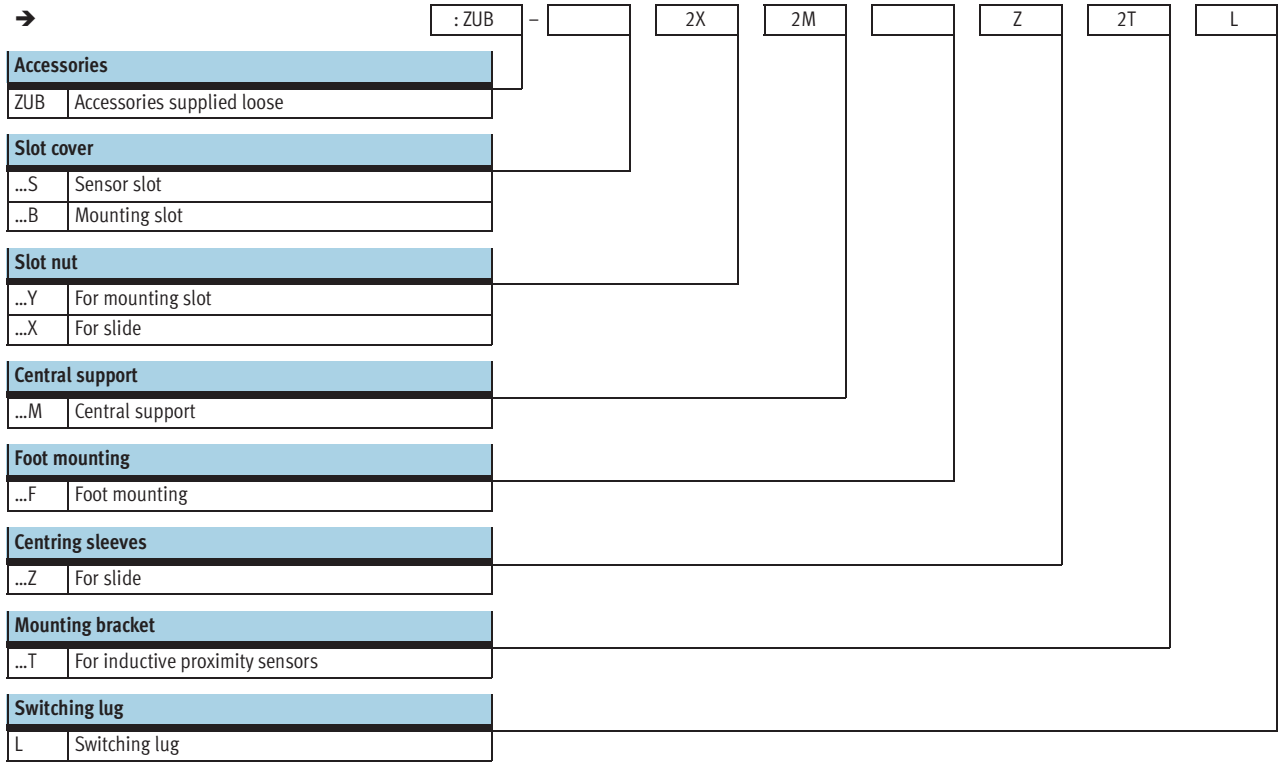
Slide attachment position	
SV	Front
SH	Rear

Additional slide	
KL	Left
KR	Right

Motor unit	
AX	Motor unit and axial kit
U	Motor unit and parallel kit

Positioning axes DMES-GF/-KF, with guide

Type code

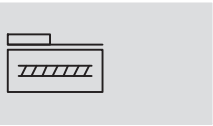


Positioning axes DMES-GF/-KF, with guide

Technical data

FESTO

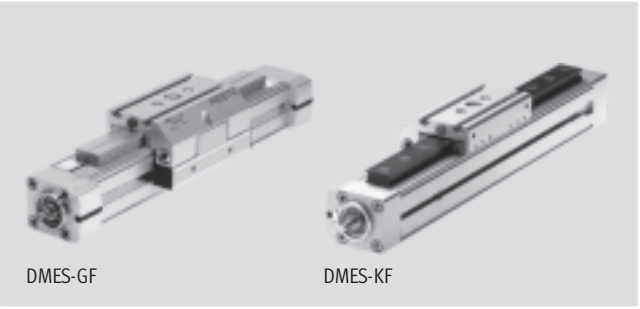
Function



www.festo.com

Size
18 ... 63

Stroke length
50 ... 1,800 mm



DMES-GF DMES-KF

General technical data					
Size		18	25	40	63
Design		Electromechanical linear axis with lead-screw spindle			
Guide		With plain-bearing guide or recirculating ball bearing guide			
Assembly position		Any			
Working stroke	[mm]	50 ... 400	50 ... 700	50 ... 1,200	50 ... 1,800
Max. feed force F_x	[N]	240	500	1,000	3,000
Max. driving torque	[Nm]	0.3	0.9	3	14
Max. no-load driving torque[1]	[Nm]	0.07	0.2	0.45	1.1
Max. radial force[2]	[N]	40	75	250	800
Max. speed	[m/s]	0.05			
Max. acceleration	[m/s^2]	2.5			
Repetition accuracy	[mm]	±0.05			±0.07
Positioning rigidity	[N/mm]	1,700	2,300	4,200	5,600
Duty cycle	[%]	100			
Reversing backlash[3]	[mm]	< 0.1			

1) Measured at a speed of 200 rpm.
2) On drive shaft
3) In new condition

Operating and environmental conditions		
Ambient temperature[1]	[°C]	0 ... +50
Protection class		IP40

1) Note operating range of proximity sensors

Weights [kg]									
Size		18		25		40		63	
Guide type		GF	KF	GF	KF	GF	KF	GF	KF
Basic weight with 0 mm stroke[1]	GK	0.77	0.93	1.52	1.70	4.11	5.06	13.31	16.48
	GV	1.16	1.37	2.34	2.61	6.53	8.06	21.75	27.14
	GA	1.49	1.65	2.73	2.90	7.15	8.14	–	–
Additional weight per 100 mm stroke	GK	0.238	0.294	0.466	0.547	0.841	1.170	2.079	2.958
	GV	0.238	0.294	0.466	0.547	0.841	1.170	2.079	2.958
	GA	0.313	0.369	0.556	0.638	0.965	1.294	–	–
Moving load	GK	0.29	0.38	0.55	0.66	1.49	1.83	4.48	5.29
	GV	0.48	0.56	0.88	0.99	2.38	2.72	7.06	7.88
	GA	0.71	0.81	1.19	1.30	2.90	3.24	–	–
Additional slide	KL/KR	–	0.29	–	0.440	–	1.21	–	3.55

1) Without coupling housing

Positioning axes DMES-GF/-KF, with guide

Technical data

Mass moment of inertia									
Size			18		25		40		63	
Guide type			GF	KF	GF	KF	GF	KF	GF	KF
J_0	GK	[kg cm^2]	0.0030	0.0030	0.0156	0.0158	0.1865	0.1879	1.8018	1.8093
	GV	[kg cm^2]	0.0048	0.0049	0.0263	0.0265	0.3327	0.3340	3.2184	3.2258
	GA	[kg cm^2]	0.0038	0.0039	0.0209	0.0212	0.2463	0.2476	–	–
j_H per metre stroke		[kg cm^2/m]	0.0210	0.0210	0.0980	0.0980	0.8400	0.8400	5.5600	5.5600
j_L per kg working load		[kg cm^2/Kg]	0.0006	0.0006	0.0023	0.0023	0.0041	0.0041	0.0091	0.0091
j_W for additional slide		[kg cm^2]	–	0.0002	–	0.0010	–	0.0049	–	0.0324

The mass moment of inertia J_A of the entire axis is calculated as follows:

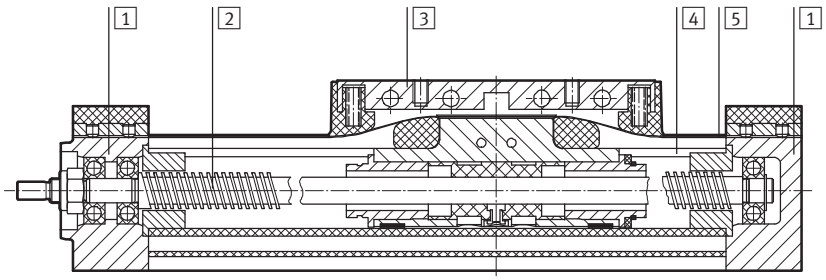
$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{\text{working load}}\ [\text{kg}] + i \times j_W$

i = Number of additional slides

Spindle					
Size		18	25	40	63
Diameter	[mm]	8	12	20	32
Pitch	[mm/rev.]	1.5	2.5	4	6

Materials

Sectional view



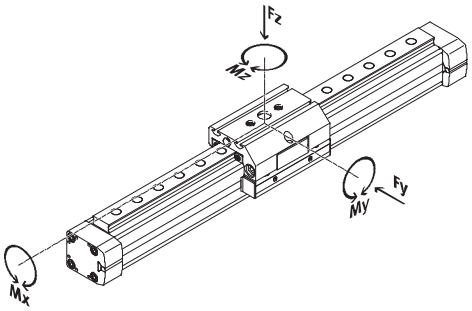
Positioning axis		
1	Cover	Wrought aluminium alloy, anodised
2	Spindle	Steel
3	Piston, driver	Wrought aluminium alloy, anodised
4	Profile	Wrought aluminium alloy, anodised
5	Cover strip	High-alloy stainless steel
–	Guide rail for GF	Anodised aluminium
	Guide rail for KF	Hardened steel

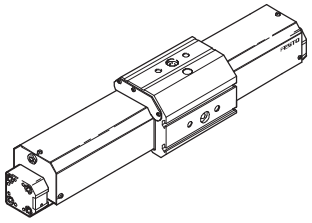
Positioning axes DMES-GF/-KF, with guide

Technical data

Characteristic load values for axis with standard slide GK or protected version GA

The indicated forces and torques refer to the centre of the guide rail. They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.





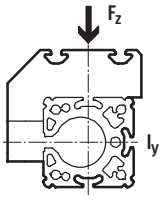
If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

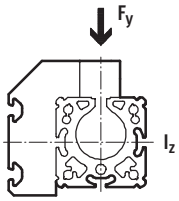
$$\frac{|Fy|}{Fy_{max.}} + \frac{|Fz|}{Fz_{max.}} + \frac{|Mx|}{Mx_{max.}} + \frac{|My|}{My_{max.}} + \frac{|Mz|}{Mz_{max.}} \leq 1$$

Permissible forces and torques

Size		18		25		40		63	
Guide type		GF	KF	GF	KF	GF	KF	GF	KF
$Fy_{max.}$	[N]	930	930	1,760	2,600	3,070	4,300	3,880	6,600
$Fz_{max.}$	[N]	930	930	1,760	2,600	4,300	4,300	6,600	6,600
$Mx_{max.}$	[Nm]	7	7	24	45	98	160	220	400
Mymax.	[Nm]	23	23	52	85	210	330	580	910
$Mz_{max.}$	[Nm]	23	23	52	85	210	330	580	910

2nd moment of area





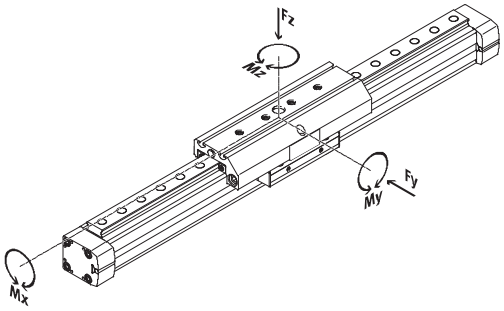
Size		18		25		40		63	
Guide type		GF	KF	GF	KF	GF	KF	GF	KF
Iy	[cm^4]	11.19	14.37	39.10	47.60	125.38	176.24	709.04	992.06
Iz	[cm^4]	7.11	7.16	25.85	23.34	84.76	95.43	614.44	693.35

Note

Sizing software
PositioningDrives
➔www.festo.com

Characteristic load values for axis with extended slide GV

The indicated forces and torques refer to the centre of the guide rail. They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



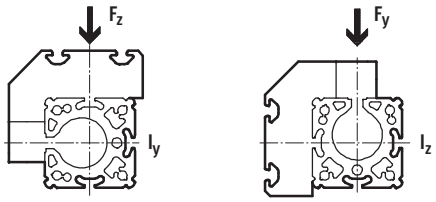
If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{|Fy|}{Fy_{max.}} + \frac{|Fz|}{Fz_{max.}} + \frac{|Mx|}{Mx_{max.}} + \frac{|My|}{My_{max.}} + \frac{|Mz|}{Mz_{max.}} \leq 1$$

Permissible forces and torques

Size		18		25		40		63	
Guide type		GF	KF	GF	KF	GF	KF	GF	KF
$Fy_{max.}$	[N]	930	930	1,650	3,080	3,990	7,300	7,250	13,900
$Fz_{max.}$	[N]	930	930	1,650	3,080	3,990	7,300	7,250	14,050
$Mx_{max.}$	[Nm]	7	7	23	45	89	170	290	580
$My_{max.}$	[Nm]	45	45	95	170	360	660	980	1,820
$Mz_{max.}$	[Nm]	45	45	95	170	360	660	980	1,820

2nd moment of area

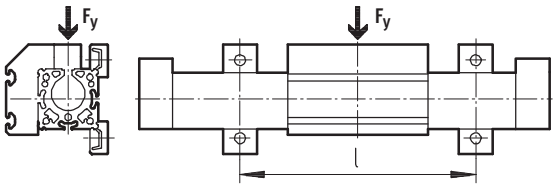


Size		18		25		40		63	
Guide type		GF	KF	GF	KF	GF	KF	GF	KF
Iy	[cm^4]	11.19	14.37	39.10	47.60	125.38	176.24	709.04	992.06
Iz	[cm^4]	7.11	7.16	25.85	23.34	84.76	95.43	614.44	693.35

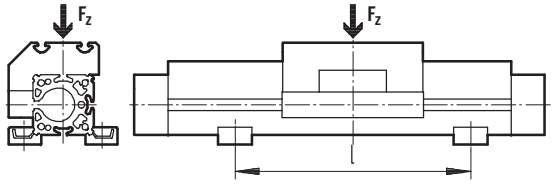
Deflection of the positioning axis as a function of the working load F and the support span l

The following diagrams can be used to determine the deflection of a positioning axis supported externally at both ends (see drawing below). A differentiation is made between two load directions. The axis may also need to be supported with central supports MUP in order to limit deflection in the case of large strokes.

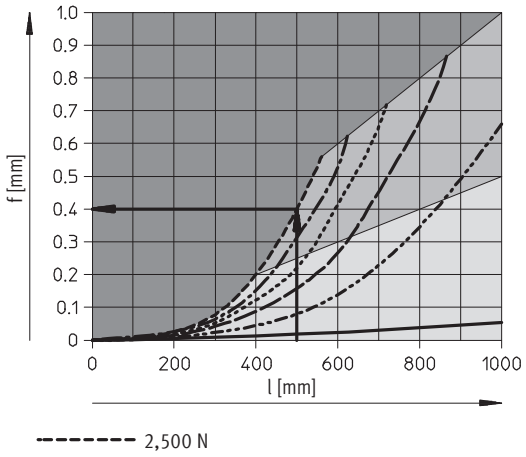
Deflection along the y-axis



Deflection along the z-axis



Example showing how to determine deflection



Given:
Positioning axis
DMES-25-700-KF-...

Working stroke = 700 mm
Total length of the positioning axis, dimensional drawing ➔31
700 mm+175 mm = 875 mm
Working load F = 2,500 N
Support span l = 500 mm

To be found:
Deflection f

Procedure:
A support span of 500 mm (see X-axis) and a working load of 2,500 N (see characteristic curve) produces a deflection of 0.4 mm.

Note:
The slide may not be moved under this load as the operating point is in the static area of the diagram.
In order to be able to operate the slide dynamically, the support span must be reduced to 400 mm.

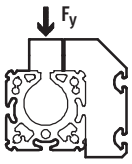
Impermissible range:	The positioning axis may not be used.
Static range:	The slide must not be moved under load.
Static and dynamic range:	The slide must be moved under load.

Positioning axes DMES-GF/-KF, with guide

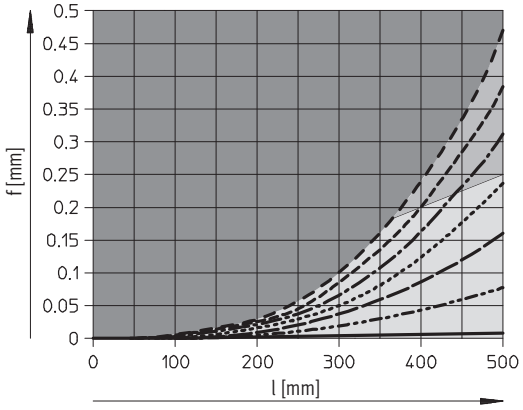
Technical data

Deflection of the positioning axis as a function of the working load F and the working stroke l

Along the y-axis

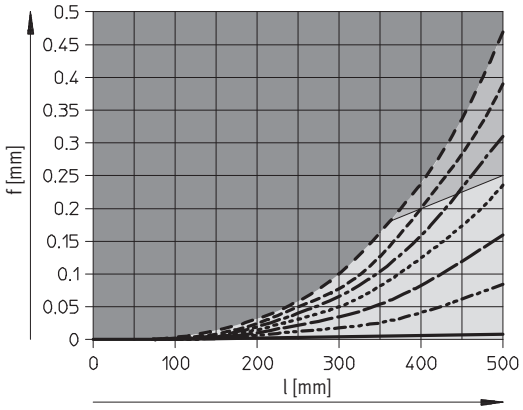


DMES-18-GF, with plain-bearing guide



0 N
150 N
300 N
450 N
600 N
750 N
900 N

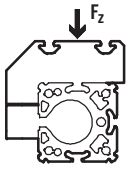
DMES-18-KF, with recirculating ball bearing guide



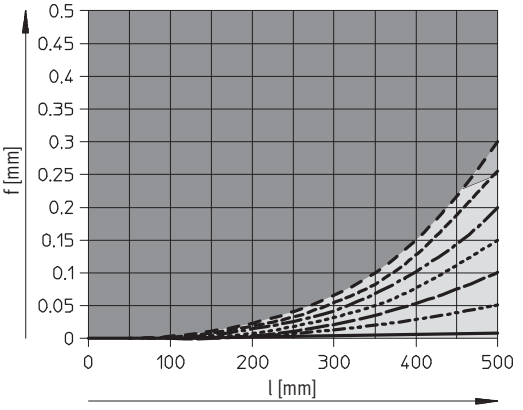
0 N
150 N
300 N
450 N
600 N
750 N
900 N

Impermissible range
Static range
Static and dynamic range

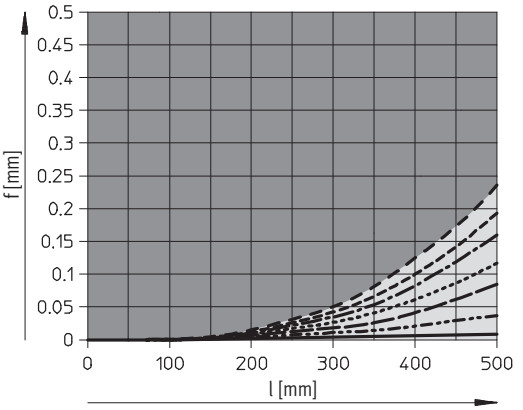
Along the z-axis



DMES-18-GF, with plain-bearing guide

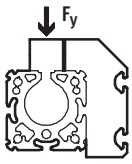


DMES-18-KF, with recirculating ball bearing guide

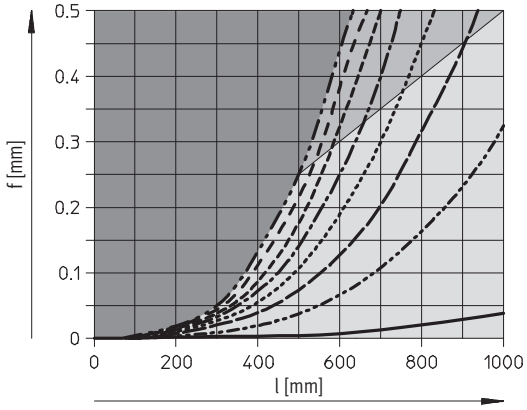


Deflection of the positioning axis as a function of the working load F and the working stroke l

Along the y-axis

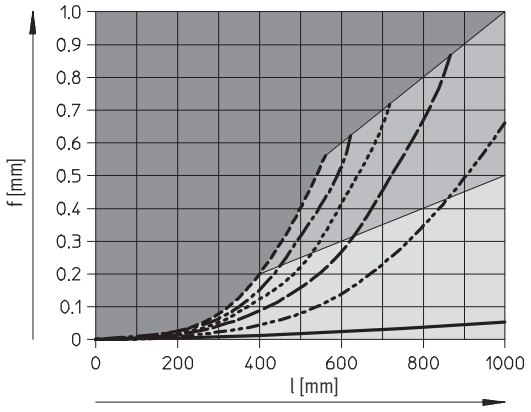


DMES-25-GF, with plain-bearing guide



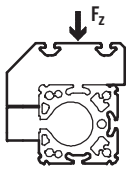
0 N
250 N
500 N
750 N
1,000 N
1,250 N
1,500 N
1,750 N

DMES-25-KF, with recirculating ball bearing guide

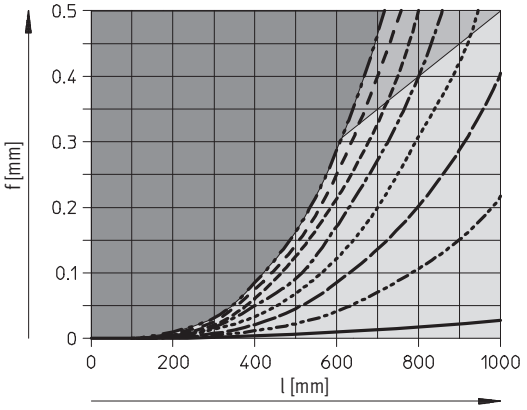


0 N
500 N
1,000 N
1,500 N
2,000 N
2,500 N

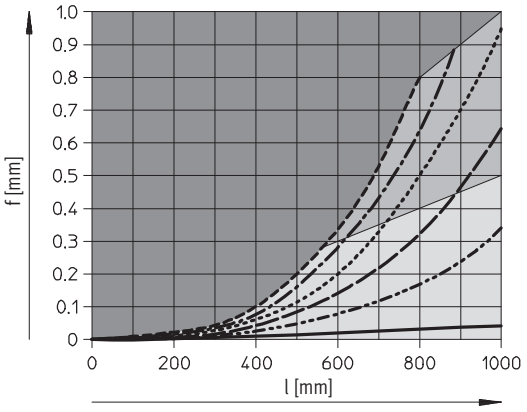
Along the z-axis



DMES-25-GF, with plain-bearing guide



DMES-25-KF, with recirculating ball bearing guide



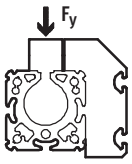
Impermissible range
Static range
Static and dynamic range

Positioning axes DMES-GF/-KF, with guide

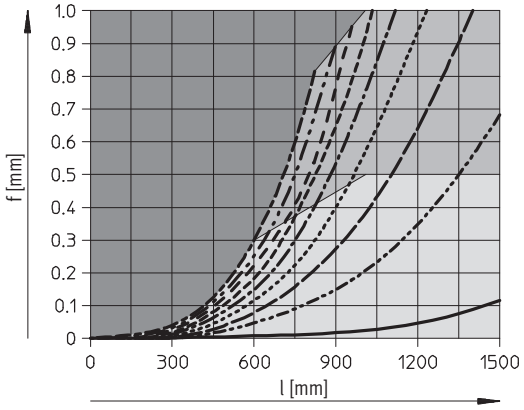
Technical data

Deflection of the positioning axis as a function of the working load F and the working stroke l

Along the y-axis

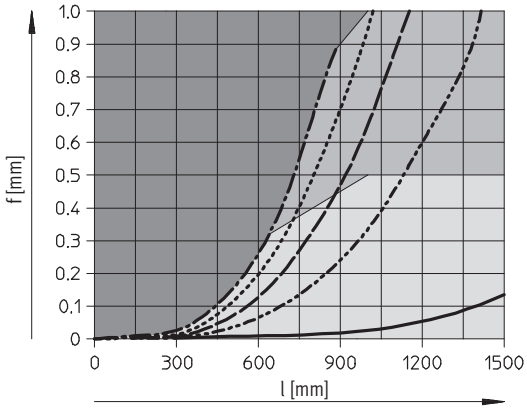


DMES-40-GF, with plain-bearing guide



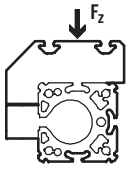
0 N
500 N
1,000 N
1,500 N
2,000 N
2,500 N
3,000 N
3,500 N
4,000 N

DMES-40-KF, with recirculating ball bearing guide

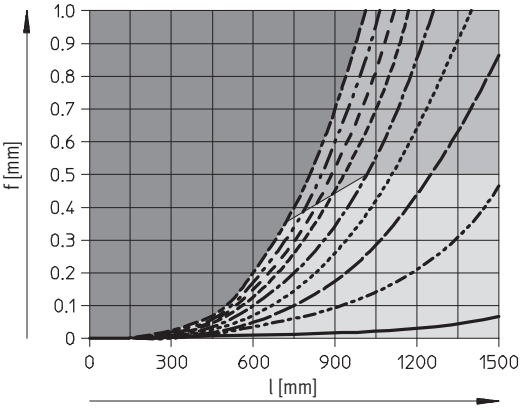


0 N
1,000 N
2,000 N
3,000 N
4,000 N

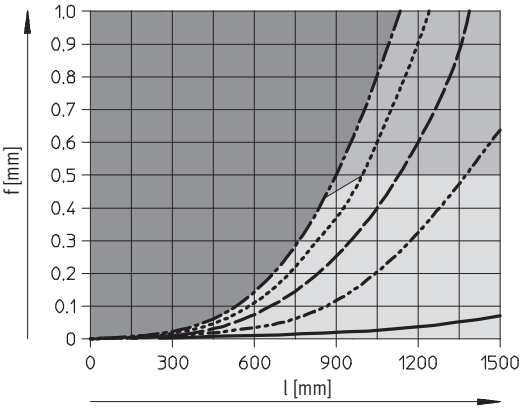
Along the z-axis



DMES-40-GF, with plain-bearing guide



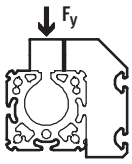
DMES-40-KF, with recirculating ball bearing guide



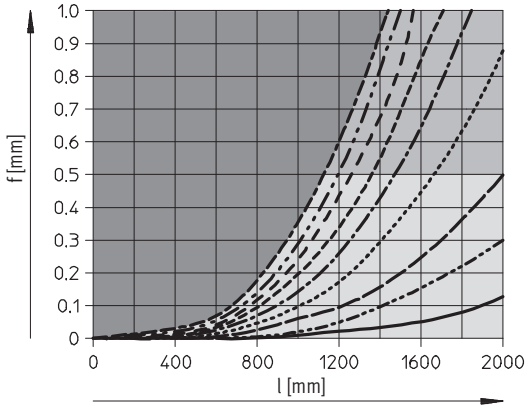
Impermissible range
Static range
Static and dynamic range

Deflection of the positioning axis as a function of the working load F and the working stroke l

Along the y-axis

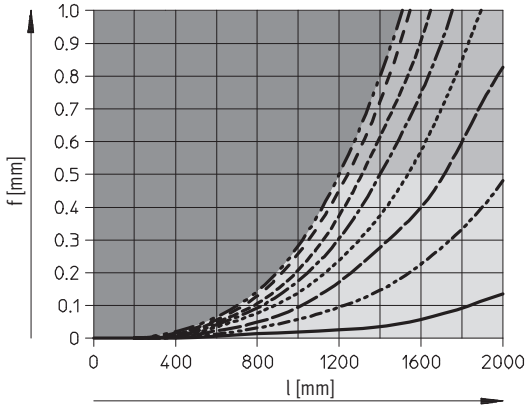


DMES-63-GF, with plain-bearing guide



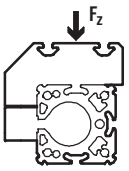
0 N
500 N
1,000 N
2,000 N
3,000 N
4,000 N
5,000 N
6,000 N
7,000 N

DMES-63-KF, with recirculating ball bearing guide

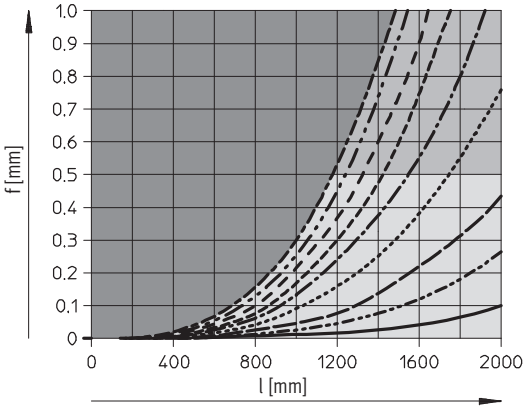


0 N
1,000 N
2,000 N
3,000 N
4,000 N
5,000 N
6,000 N
6,500 N

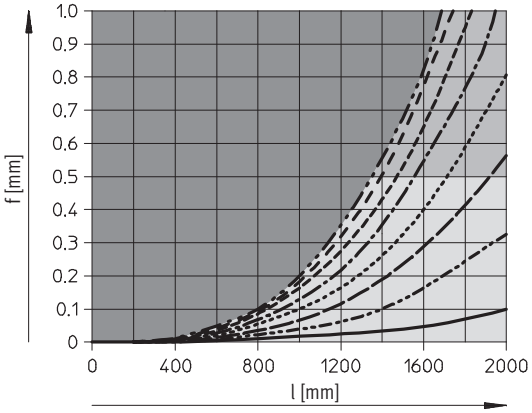
Along the z-axis



DMES-63-GF, with plain-bearing guide



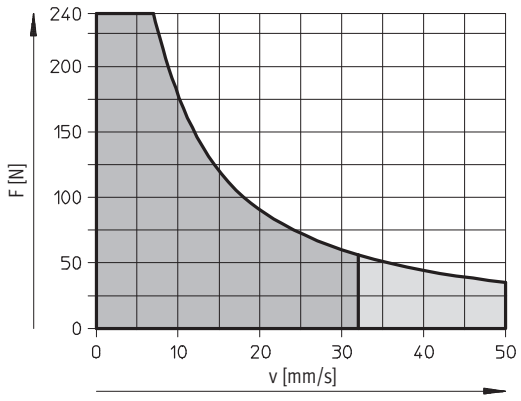
DMES-63-KF, with recirculating ball bearing guide



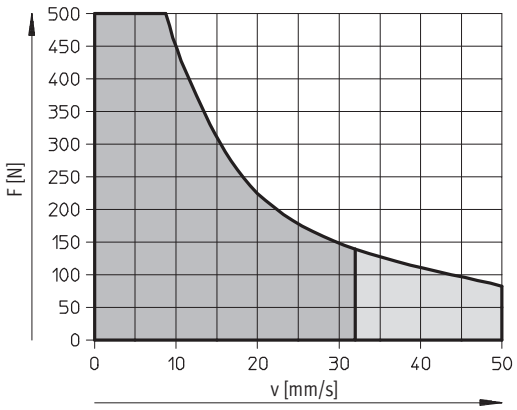
Impermissible range
Static range
Static and dynamic range

Maximum permissible feed force F as a function of the feed speed v

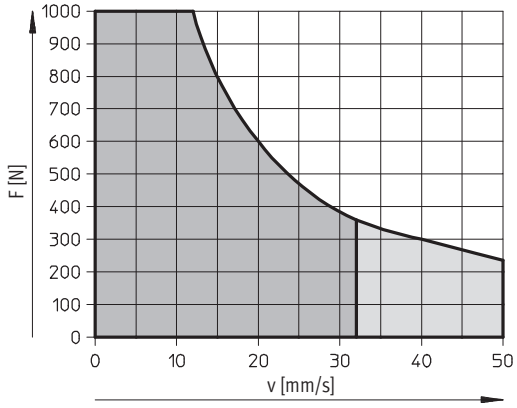
Size 18



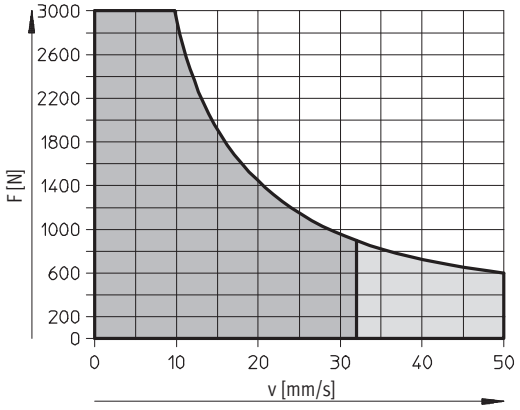
Size 25



Size 40



Size 63

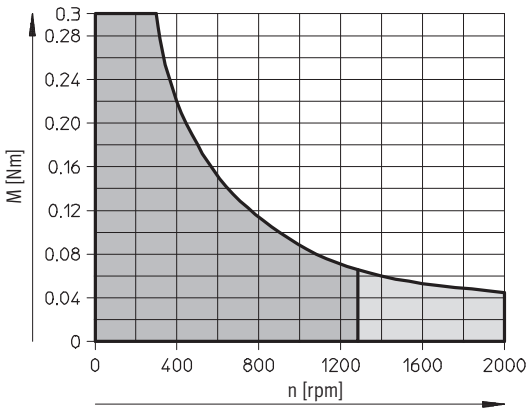


Recommended operating range

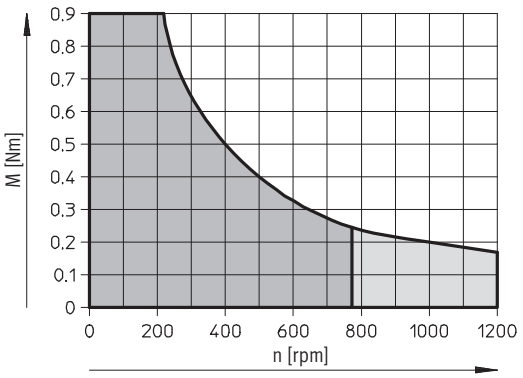
Permissible operating range (duty cycle < 50% recommended)

Maximum permissible driving torque M as a function of n (rpm)

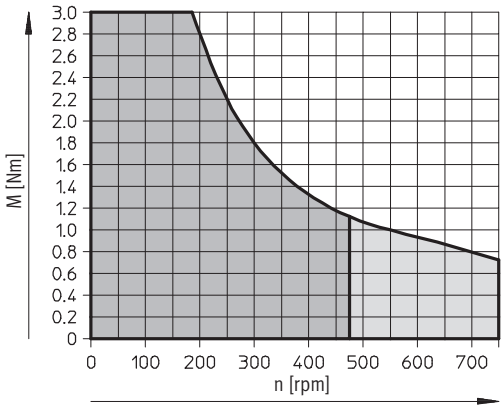
Size 18



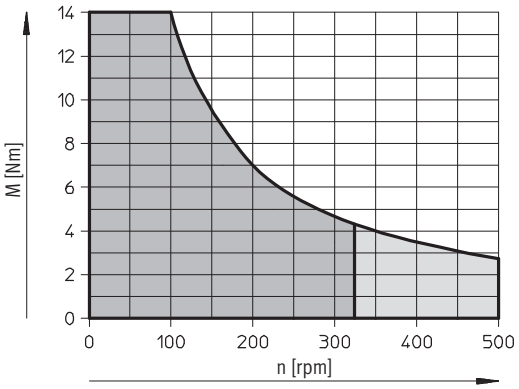
Size 25



Size 40



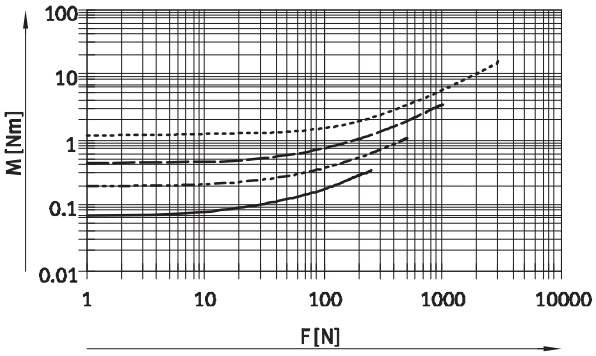
Size 63



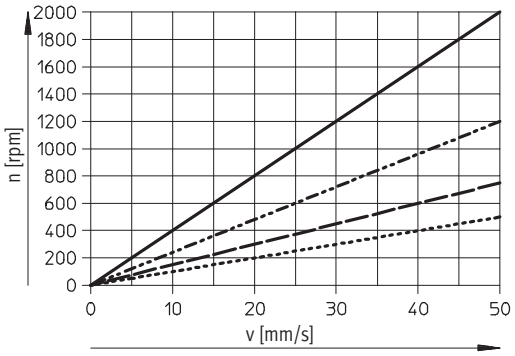
Recommended operating range

Permissible operating range (duty cycle < 50% recommended)

Driving torque M as a function of the feed force F



Speed as a function of the feed speed v



DMES-18

DMES-25

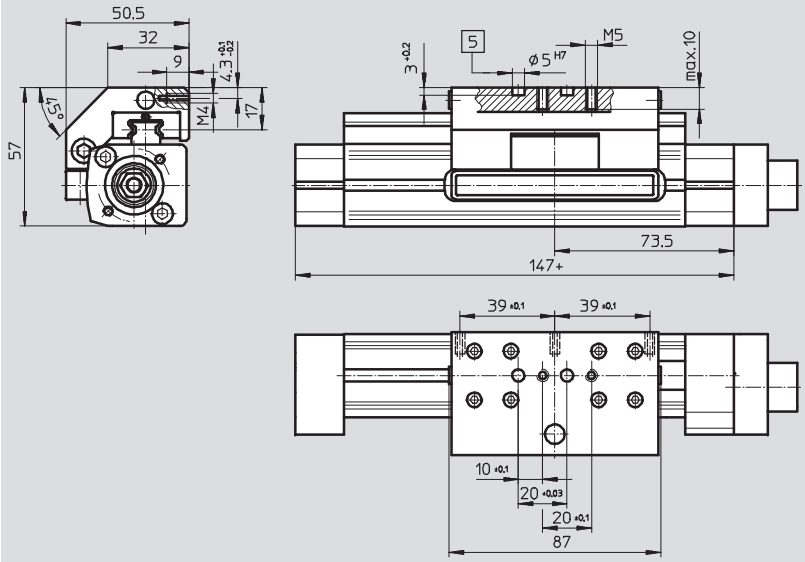
DMES-40

DMES-63

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

Standard slide GK

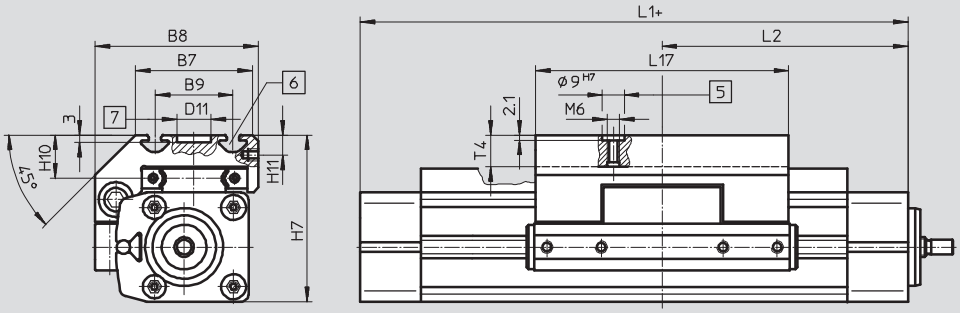
Size 18



5 Hole for centring pin ZBS-5

Basic dimensions
➔ 11

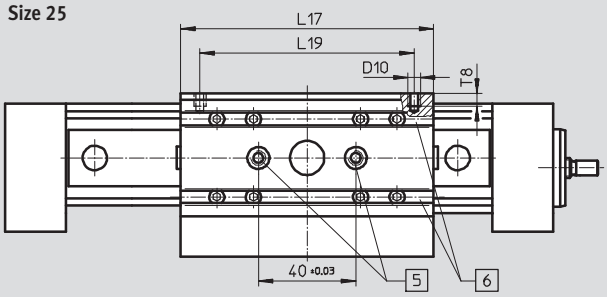
Size 25/40/63



5 Hole for centring pin ZBH-9
6 Mounting slot for slot nut NSTL
7 Hole for central mounting SLZZ
\+ = plus stroke length

Basic dimensions
➔ 11

Size 25

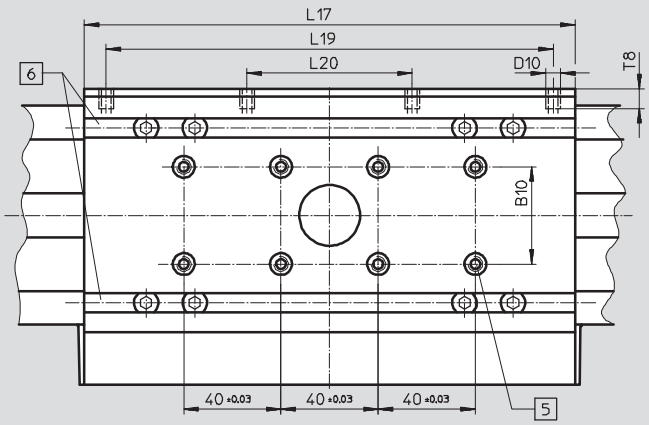


Size	B7	B8	B9 ±0.2	D10	D11 ∅ G7	H7	H10	H11 +0.3	L1	L2	L17	L19 ±0.1	T4 max.	T8
25	48	67	32	M5	14	68.5	18.5	8.2	175	87.5	105	88	12.5	8.5
40	78.5	96.5	55	M5	25	90.5	20	7	250	126	167	150	12.5	8.5
63	121	142	90	M8	25	144.5	30	12.5	328	164	230	200	20.5	10.5

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

Standard slide GK

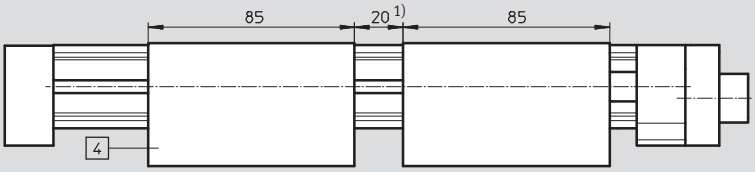
Size 40/63



5 Hole for centring pin ZBH-9
6 Mounting slot for slot nut NSTL
\+ = plus stroke length

Additional slide KL/KR

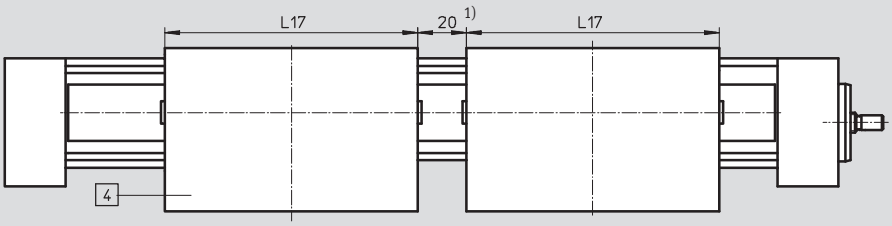
Size 18



4 Additional slide DMES-...-KL/KR

1) Recommended minimum distance for access to lubrication nipple

Size 25/40/63



4 Additional slide DMES-...-KL/KR

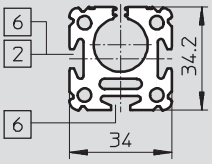
1) Recommended minimum distance for access to lubrication nipple

Size	D10	L17	L19 ±0.1	L20 ±0.1	T8
25	M5	105	88	–	8.5
40	M5	167	150	58	8.5
63	M8	230	200	72	10.5

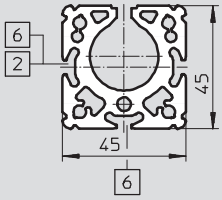
Dimensions Download CAD data ➔ **www.festo.com**

Profile

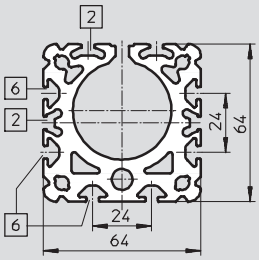
Size 18



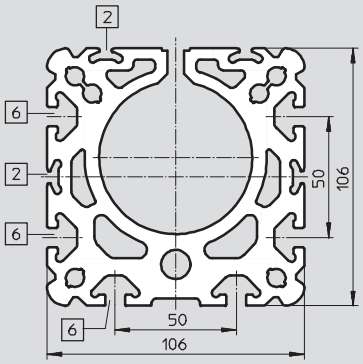
Size 25



Size 40



Size 63



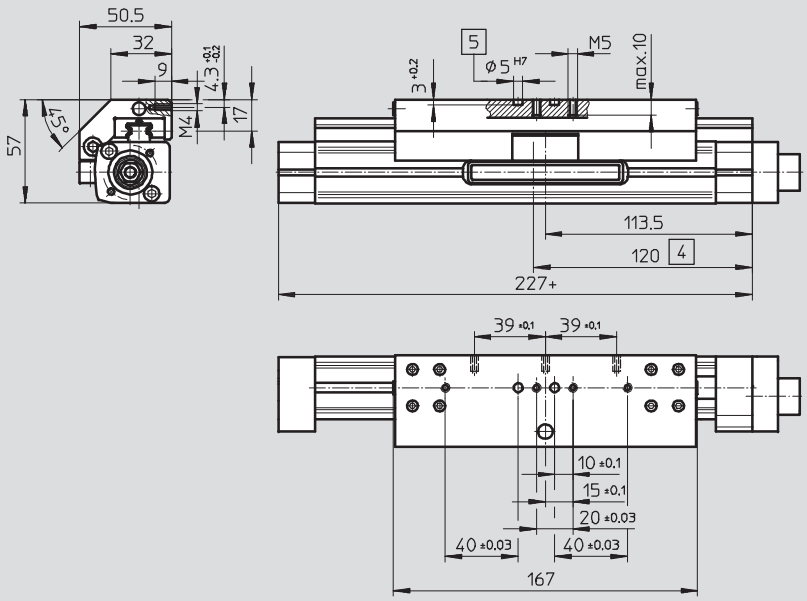
2 Sensor slot for proximity sensor

6 Mounting slot for slot nut NST

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

Extended slide GV

Size 18



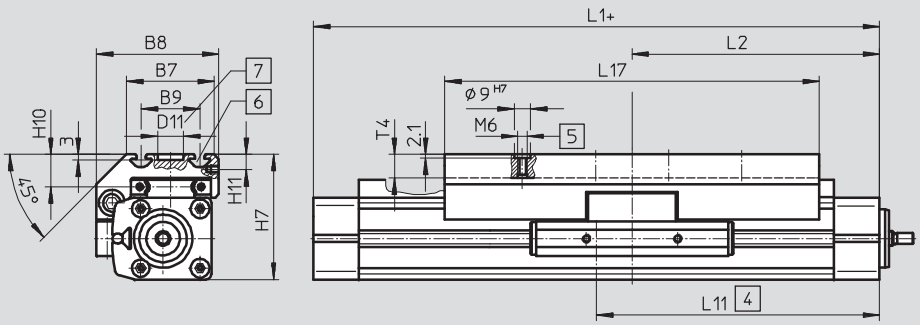
4 Lubrication opening
5 Hole for centring pin ZBS-5
\+ = plus stroke length

Basic dimensions
➔ 11

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

Extended slide GV

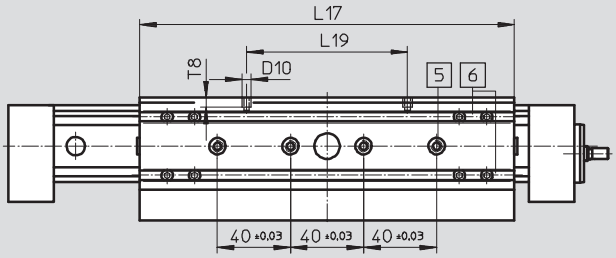
Size 25/40/63



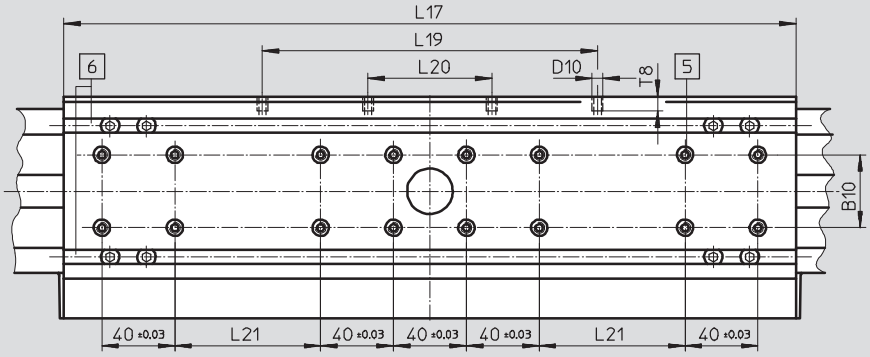
4 Lubrication opening
5 Hole for centring pin ZBS-9
6 Slot for slot nut NSTL
7 Hole for central mounting SLZZ
\+ = plus stroke length

Basic dimensions
➔ 11

Size 25



Size 40



5 Hole for centring pin ZBH-9
6 Mounting slot for slot nut NSTL

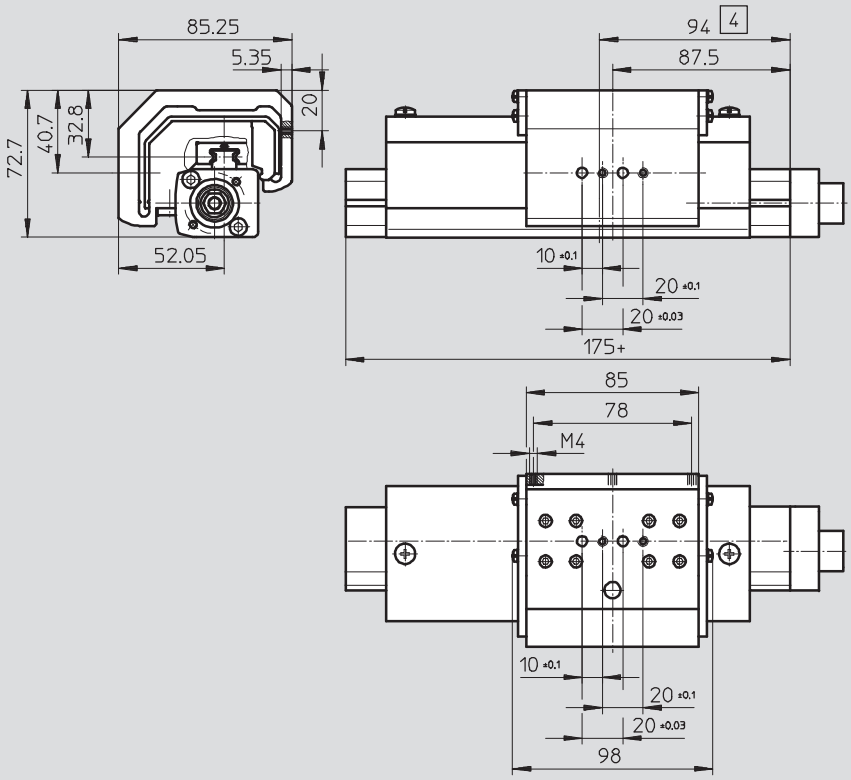
Size	B7	B8	B9 ±0.2	B10	D10	D11 ∅ G7	H7	H10	H11 +0.3
25	48	67	32	–	M5	14	68.5	18.5	8.2
40	78.5	96.5	55	20	M5	25	90.5	20	7
63	121	142	90	40	M8	25	144.5	30	12.5

Size	L1	L2	L11	L17 ±0.1	L19 ±0.1	L20 ±0.1	L21 ±0.1	T4 max.	T8
25	275	137.5	155	205	88	–	–	12.5	8.5
40	420	211	236	337	150	58	40	12.5	8.5
63	578	289	321	480	200	72	120	20.5	10.5

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

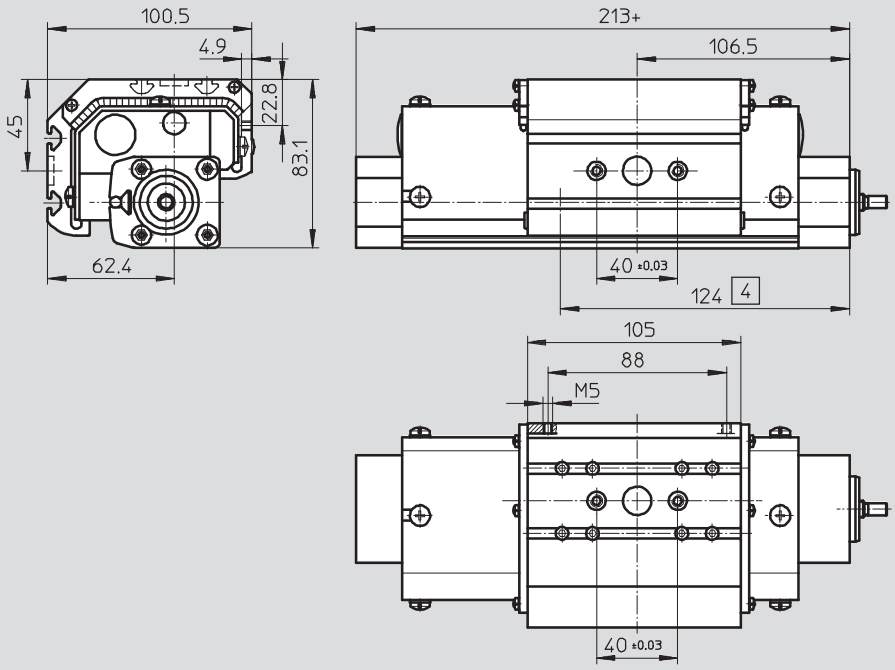
Protected version GA

Size 18



4 Lubrication opening
\+ = plus stroke length

Size 25

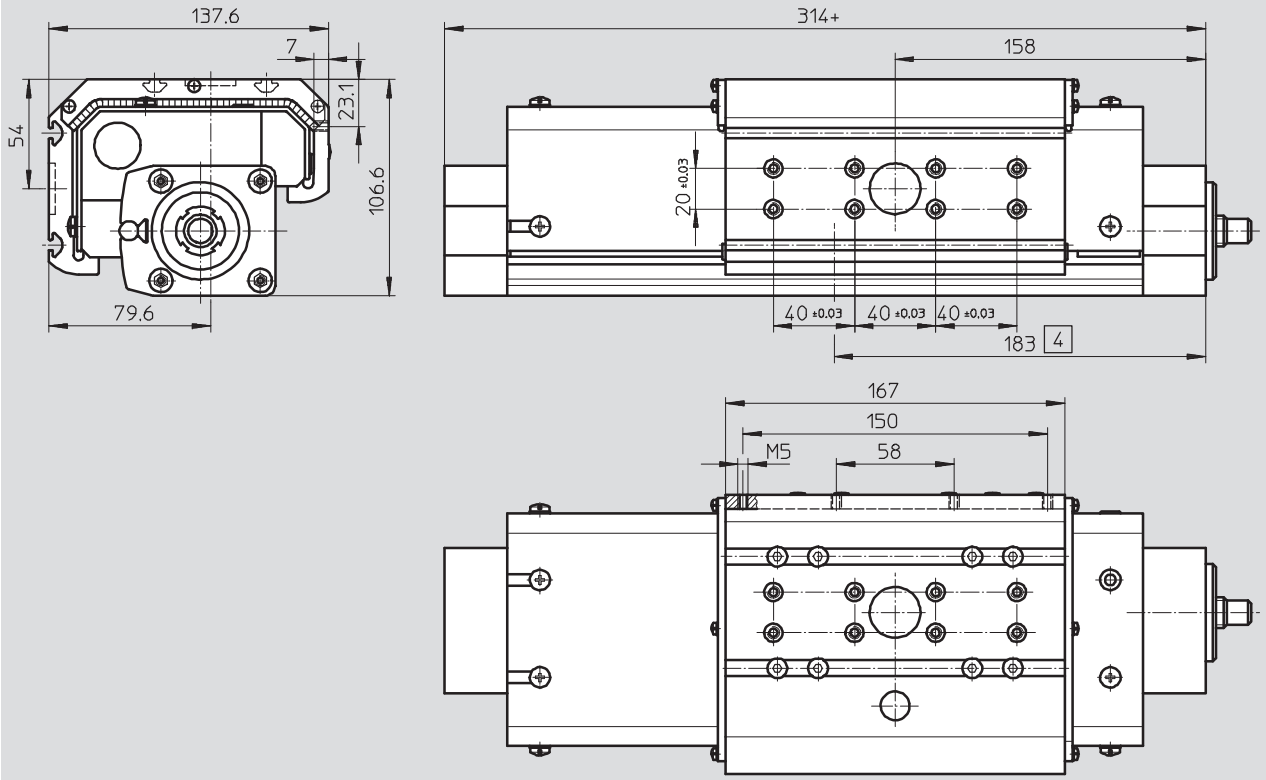


4 Lubrication opening
\+ = plus stroke length

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

Protected version GA

Size 40



4 Lubrication opening

\+ = plus stroke length

Order processing for positioning axis DMES in combination with intelligent motor unit MTR-DCI

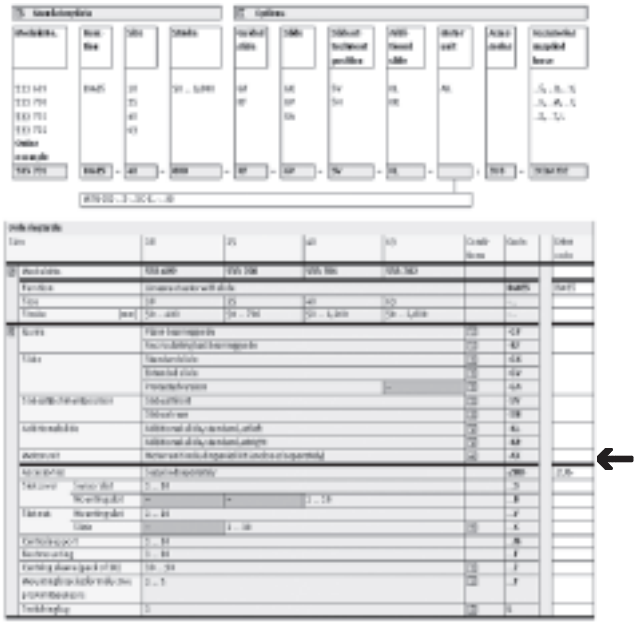
1 Ordering positioning axis DMES

Ordering table ➔ 40

The drive unit and corresponding accessories are configured in the ordering table for the positioning axis DMES.

The code “AX” or “U” is used to specify whether an intelligent motor unit MTR-DCI and an axial or a parallel kit are required for the positioning axis.

The motor unit design must be defined separately.

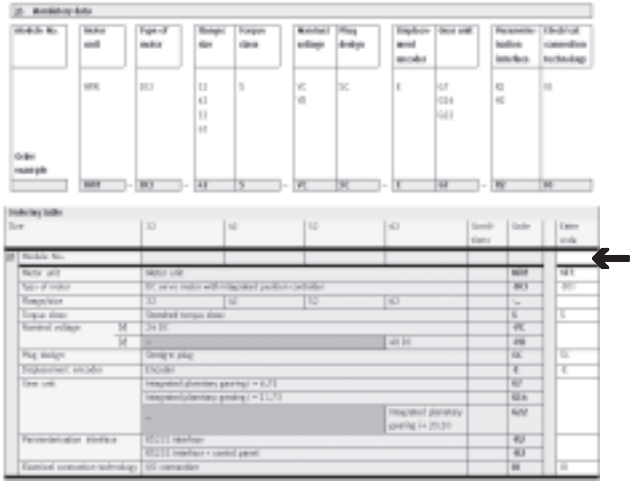


3 Ordering intelligent motor unit MTR-DCI

Ordering table ➔ 9

The motor unit order code determined from table 2 must now be completed with the “gear unit” and “parameterisation interface” codes.

The module number of the intelligent motor unit must not be specified when ordering with order code “AX” or “U”. It is determined automatically.



2 Permissible combinations with intelligent motor unit MTR-DCI

Positioning axis	Motor unit
DMES-18-...	MTR-DCI-32S-VCSC-E...
DMES-25-...	MTR-DCI-42S-VCSC-E...
DMES-40-...	MTR-DCI-52S-VCSC-E...
DMES-63-...	MTR-DCI-62S-VDSC-E...

4 Order example

Part No.	Type
	Positioning axis DMES
533 700	DMES-25-700-KF-GK-SH-AX:ZUB-2S2Y1M1F
	Intelligent motor unit MTR-DCI
–	MTR-DCI-42S-VCSC-EG7-R2IO

Note

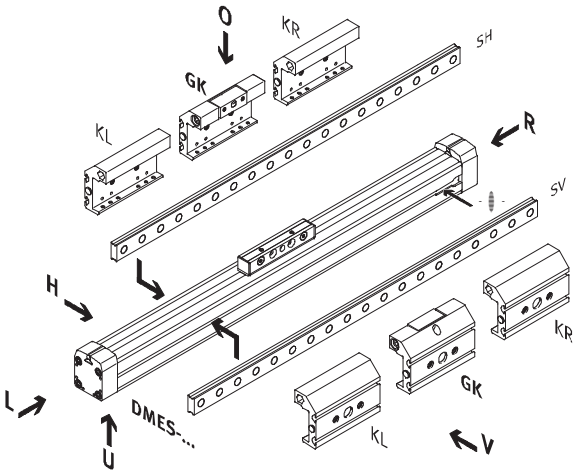
Servo, stepper motors and the corresponding mounting kits must be ordered separately ➔ 42

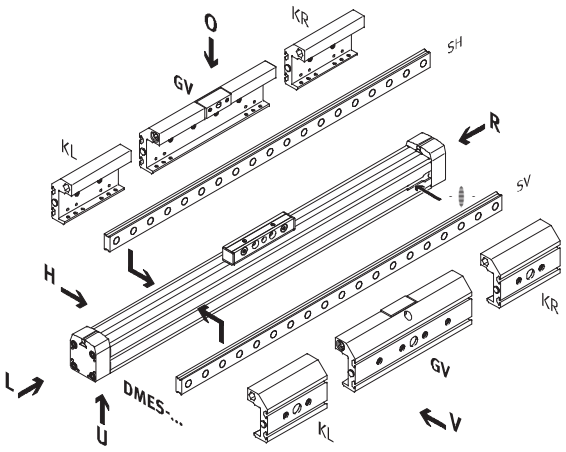
Positioning axes DMES-GF/-KF, with guide

Ordering data – Modular products

FESTO

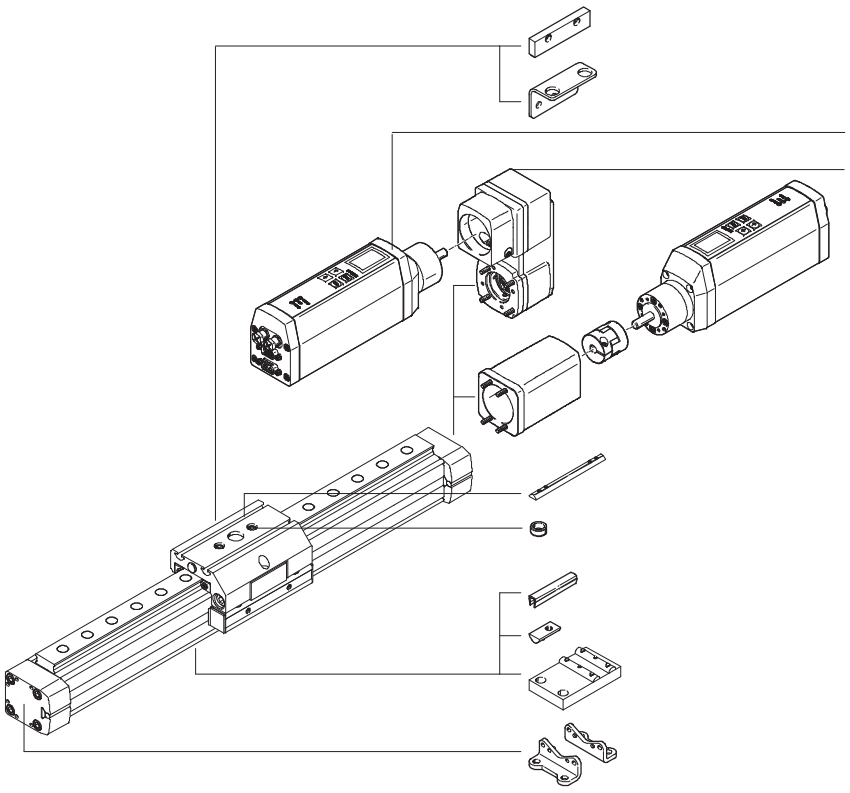
Order code	
Mandatory data	
DMES-...-GK	DMES-...-GV





- - Note	O	top
	U	underneath
The insertion point for the proximity sensor is located on the right-hand side of the positioning axis.	V	front
	H	rear
	R	right
	L	left

Order code
Options



L		
T		
Motor unit	U	
Parallel kit	U	
Motor unit	AX	
Axial kit	AX	
X		
Z		
B/S		
Y		
M		
F		

Positioning axes DMES-GF/-KF, with guide

Ordering data – Modular products

M Mandatory data				O Options						
Module No.	Function	Size	Stroke	Guide	Slide	Slide attachment position	Additional slide	Motor unit	Accessories	Accessories supplied loose
533 699 533 700 533 701 533 702	DMES	18 25 40 63	50 ... 1,800	GF KF	GK GV GA	SV SH	KL KR	AX U		...S, ...B, ...Y, ...X, ...M, ...F, ...Z, ...T, L
Order example 533 701	DMES –	40 –	800 –	KF –	GV –	SV –	KL –	(MTR-DCI-...S-VCSC-E...-...IO) :	ZUB –	2X2M20Z

MTR-DCI-...S-VCSC-E...-...IO

Ordering table								
	Size	18	25	40	63	Conditions	Code	Enter code
M	Module No.	**533 699**	**533 700**	**533 701**	**533 702**			
	Function	Positioning axis with slide					**DMES**	DMES
	Size	18	25	40	63		**-...**	
	Stroke [mm]	50 ... 400	50 ... 700	50 ... 1,200	50 ... 1,800		**-...**	
O	Guide	Plain-bearing guide				1	**-GF**	
		Recirculating ball bearing guide				1	**-KF**	
	Slide	Standard slide				2	**-GK**	
		Extended slide				2	**-GV**	
		Protected version			–	2	**-GA**	
	Slide attachment position	Slide at front				2	**-SV**	
		Slide at rear				2	**-SH**	
	Additional slide	Additional slide, standard, at left				3	**-KL**	
		Additional slide, standard, at right				3	**-KR**	
	Motor unit	Axial kit and motor unit (enclosed separately)				4	**-AX**	
		Parallel kit and motor unit (enclosed separately)			–	4	**-U**	
	Accessories	Supplied separately					**:ZUB-**	:ZUB-
	Slot cover – Sensor slot	1 ... 10					**...S**	
	Slot cover – Mounting slot	–	–	1 ... 10			**...B**	
	Slot nut – Mounting slot	1 ... 10					**...Y**	
	Slot nut – Slide	–	1 ... 10			2	**...X**	
	Central support	1 ... 10					**...M**	
	Foot mounting	1 ... 10					**...F**	
	Centring sleeve (pack of 10)	10 ... 90				2	**...Z**	
	Mounting bracket for inductive proximity sensors	1 ... 5				5	**...T**	
	Switching lug	1				5	**L**	

1 **GF, KF** Only with slide GK, GV or GA and with slide attachment position SV or SH.

2 **GK, GV, GA, SV, SH, X, Z** Only with guide GF or KF

3 **KL, KR** Only with guide KF (recirculating ball bearing guide) and with slide GK or GV

4 **AX, U** Order processing for intelligent motor unit MTR-DCI ➔ 9

5 **T, L** Only with slide GK or GV

Transfer order code

	DMES –	–	–	–	–	–	–	– :	ZUB –	

MTR-DCI-...S-VCSC-E...-...IO

M Mandatory data

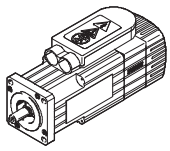
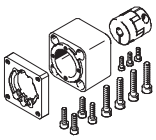
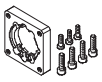
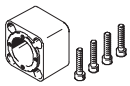
Module No.	Motor unit		Flange/size		Nominal voltage		Measuring system		Parameterisation interface	
	Motor type		Torque class		Plug design		Gearing unit		Electrical connection technology	
	MTR	DCI	32 42 52 62	S	VC VD	SC	E	G7 G14 G22	R2 H2	IO CO PB DN
Order example										
533 742	MTR	– DCI	42	S	VC	SC	E	G7	R2	IO

Ordering table

Size		32	42	52	62	Conditions	Code		Enter code
M Module No.		533 736			533 754				
Motor unit		Motor unit					MTR		MTR
Motor type		DC servo motor with integrated position controller					-DCI		-DCI
Flange/size		32	42	52	62		-...		
Torque class		Standard torque class					S		S
Nominal voltage	[V]	24 DC			–		-VC		
	[V]	–			48 DC		-VD		
Plug design		Straight plug					SC		SC
Measuring system		Encoder					-E		-E
Gearing unit		Integrated planetary gearing i = 6.75					G7		
		Integrated planetary gearing i = 13.73					G14		
		–			Integrated planetary gearing i = 22.21		G22		
Parameterisation interface		RS232 interface					-R2		
		RS232 interface + control panel					-H2		
Electrical connection technology		I/O interface					IO		
		CANopen					CO		
		Profibus DP					PB		
		DeviceNet					DN		

Transfer order code

	MTR	– DCI		S		SC	– E		–	–	

Permissible axis/motor combinations with axial kit – Without gear unit				
Motor unit	Axial kit	Axial kit comprises:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DMES-18				
With servo motor				
EMMS-AS-40-...	**550 961** **EAMM-A-E20-40A**	**552 163** **EAMF-A-28B-40A**	**540 751** **EAMC-15-22-5-6**	**170 374** **EAMK-A-E20-28B**
EMMS-AS-55-...	**550 963** **EAMM-A-E20-55A**	**529 946** **EAMF-A-28A/B-55A**	**529 953** **EAMC-15-22-5-9**	**170 374** **EAMK-A-E20-28B**
With stepper motor				
EMMS-ST-42-...	**550 962** **EAMM-A-E20-42A**	**552 164** **EAMF-A-28B-42A**	**530 085** **EAMC-15-22-5-5**	**170 374** **EAMK-A-E20-28B**
With intelligent motor unit				
MTR-DCI-32S-...	**556 991** **EAMM-A-E20-32B**	**–**	**533 707** **EAMC-15-20-5-6**	**533 703** **EAMK-A-E20-32B**
DMES-25				
With servo motor				
EMMS-AS-40-...	**550 964** **EAMM-A-E32-40A**	**550 985** **EAMF-A-44A/B-40A**	**123 040** **EAMC-30-35-6-6**	**124 631** **EAMK-A-E32-44A**
EMMS-AS-55-...	**550 965** **EAMM-A-E32-55A**	**529 942** **EAMF-A-44A/B-55A**	**530 941** **EAMC-30-35-6-9**	**124 631** **EAMK-A-E32-44A**
With stepper motor				
EMMS-ST-57-...	**550 966** **EAMM-A-E32-57A**	**530 081** **EAMF-A-44A/B-57A**	**530 087** **EAMC-30-35-6-6.35**	**124 631** **EAMK-A-E32-44A**
With intelligent motor unit				
MTR-DCI-42S-...G7	**556 992** **EAMM-A-E32-42B**	**–**	**533 708** **EAMC-30-32-6-8**	**533 704** **EAMK-A-E32-42B**
MTR-DCI-42S-...G14	**556 993** **EAMM-A-E32-42C**	**–**	**533 708** **EAMC-30-32-6-8**	**538 578** **EAMK-A-E32-42C**

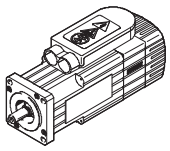
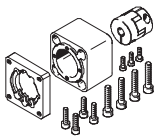
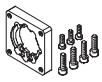
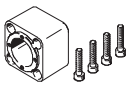
- Note

At ambient temperatures below room temperature the moment of friction of the DMES-...-GF (plain-bearing) will increase.
Depending on the combination of motor/motor unit and positioning axis the maximum feed force of the axis cannot be reached.

The following tool is available for selecting and sizing the unit:

- Note

Sizing software
PositioningDrives
➔www.festo.com

Permissible axis/motor combinations with axial kit – Without gear unit				
Motor/motor unit	Axial kit	Axial kit comprises:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DMES-40				
With servo motor				
EMMS-AS-70-...	**557 448** **EAMM-A-E48-64A-70A**	**529 945** **EAMF-A-64A/B-70A**	**525 864** **EAMC-40-66-11-12**	**529 940** **EAMK-A-E48-64A**
EMMS-AS-100-...	**550 973** **EAMM-A-E48-100A**	**529 947** **EAMF-A-64A/C-100A**	**529 952** **EAMC-40-66-12-19**	**529 940** **EAMK-A-E48-64A**
With stepper motor				
EMMS-ST-87-...	**550 972** **EAMM-A-E48-87A**	**533 140** **EAMF-A-64A/B-87A**	**525 864** **EAMC-40-66-11-12**	**529 940** **EAMK-A-E48-64A**
With intelligent motor unit				
MTR-DCI-52S-...-G7	**556 994** **EAMM-A-E48-52B**	**–**	**533 709** **EAMC-42-50-12-12**	**533 705** **EAMK-A-E48-52B**
MTR-DCI-52S-...-G14	**556 995** **EAMM-A-E48-52C**	**–**	**533 709** **EAMC-42-50-12-12**	**538 579** **EAMK-A-E48-52C**
DMES-63				
With servo motor				
EMMS-AS-70-...	**550 975** **EAMM-A-E72-70A**	**529 945** **EAMF-A-64A/B-70A**	**550 999** **EAMC-40-66-11-20**	**529 941** **EAMK-A-E72-64A**
EMMS-AS-100-...	**550 978** **EAMM-A-E72-100A**	**529 947** **EAMF-A-64A/C-100A**	**132 847** **EAMC-40-66-19-20**	**529 941** **EAMK-A-E72-64A**
With stepper motor				
EMMS-ST-87-...	**550 977** **EAMM-A-E72-87A**	**533 140** **EAMF-A-64A/B-87A**	**550 999** **EAMC-40-66-11-20**	**529 941** **EAMK-A-E72-64A**
With intelligent motor unit				
MTR-DCI-62S-...	**556 996** **EAMM-A-E72-62B**	**–**	**533 710** **EAMC-42-50-14-20**	**533 706** **EAMK-A-E72-62B**

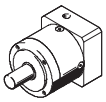
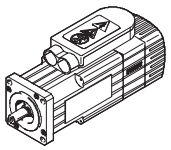
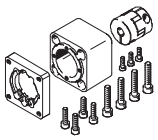
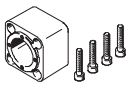
- Note

At ambient temperatures below room temperature the moment of friction of the DMES-...-GF (plain-bearing) will increase.
Depending on the combination of motor/motor unit and positioning axis the maximum feed force of the axis cannot be reached.

The following tool is available for selecting and sizing the unit:

- Note

Sizing software
PositioningDrives
➔www.festo.com

Permissible axis/motor combinations with axial kit – With gear unit					
Gear unit	Motor	Axial kit	Axial kit comprises:		
			Motor flange	Coupling	Coupling housing
					
Type	Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DMES-63					
With servo motor					
EMGA-60-P-G...-SAS-70	**EMMS-AS-70-S-...**	**550 974** **EAMM-A-E72-60G**	**550 987** **EAMF-A-64A/B-60G**	**550 999** **EAMC-40-66-11-20**	**529 941** **EAMK-A-E72-64A**
EMGA-80-P-G...-SAS-70	**EMMS-AS-70-M-...**	**550 976** **EAMM-A-E72-80G**	**533 139** **EAMF-A-64A/C-80G**	**123 849** **EAMC-40-66-20-20**	**529 941** **EAMK-A-E72-64A**
With stepper motor					
EMGA-80-P-G...-SST-87	**EMMS-ST-87-L-...**	**550 976** **EAMM-A-E72-80G**	**533 139** **EAMF-A-64A/C-80G**	**123 849** **EAMC-40-66-20-20**	**529 941** **EAMK-A-E72-64A**

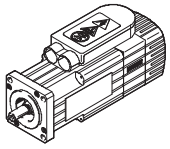
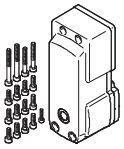
- Note

At ambient temperatures below room temperature the moment of friction of the DMES-...-GF (plain-bearing) will increase.
Depending on the combination of motor/motor unit and positioning axis the maximum feed force of the axis cannot be reached.

The following tool is available for selecting and sizing the unit:

- Note

Sizing software
PositioningDrives
➔www.festo.com

Permissible axis/motor combinations with parallel kit – Without gear unit		
Motor/motor unit	Parallel kit	
		
Type	Part No.	Type
DMES-18		
With servo motor		
EMMS-AS-40-...	**543 226**	**EAMM-U-E24-40A**
With intelligent motor unit		
MTR-DCI-32S-...	**543 225**	**EAMM-U-E24-32B**
DMES-25		
With servo motor		
EMMS-AS-55-...	**543 230**	**EAMM-U-E32-55A**
With intelligent motor unit		
MTR-DCI-42S-...-G7	**543 228**	**EAMM-U-E32-42B**
MTR-DCI-42S-...-G14	**543 229**	**EAMM-U-E32-42C**
DMES-40		
With servo motor		
EMMS-AS-70-...	**543 234**	**EAMM-U-E48-70A**
With intelligent motor unit		
MTR-DCI-52S-...-G7	**543 232**	**EAMM-U-E48-52B**
MTR-DCI-52S-...-G14	**543 233**	**EAMM-U-E48-52C**

- Note

At ambient temperatures below room temperature the moment of friction of the DMES-...-GF (plain-bearing) will increase.
Depending on the combination of motor/motor unit and positioning axis the maximum feed force of the axis cannot be reached.
If parallel kits are used, the relevant no-load driving torque of the kit must be taken into account.

The following tool is available for selecting and sizing the unit:

- Note

Sizing software
PositioningDrives
➔www.festo.com

Axial kit EAMM-A-...

Material:
Coupling housing, coupling hubs, motor flange: Aluminium
Screws: Galvanised steel
Clamping component: Steel, corrosion resistant

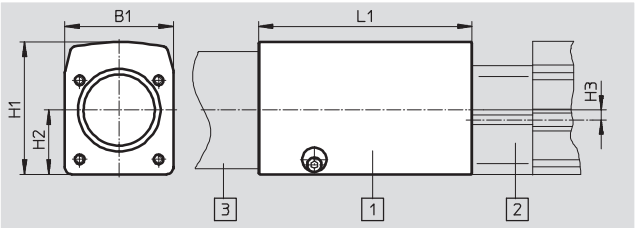


Diagram:
1 Axial kit
2 Positioning axis
3 Motor

General technical data										
EAMM-A-...		E20-				E32-				
		32B	40A	42A	55A	40A	42B	42C	55A	57A
Transferable torque	[Nm]	1.5	1	1	1	7.5	7	7	7.5	7.5
Mass moment of inertia	[kg mm^2]	0.23	0.13			6.1	5.87		6.1	
Max. speed	[rpm]	10,000	12,000			8,000				
Assembly position		Any								

EAMM-A-...		E48-					E72-					
		52B	52C	64A-70A	87A	100A	62B	70A	60G	80G	87A	100A
Transferable torque	[Nm]	17	17	17	17	17	17	17	17	17	17	17
Mass moment of inertia		35.5		42.3			35.5	42.3				
Max. speed	[rpm]	6,000		6,500			6,000	6,500				
Assembly position		Any										

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... 50
Storage temperature	[°C]	–25 ... +60
Protection class[1)]		IP40
Relative air humidity	[%]	0 ... 95

1) Only with combined attachment of motor and axis

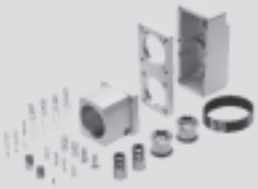
Dimensions and ordering data								
Type	B1	H1	H2	H3	L1	Weight [g]	Part No.	Type
EAMM-A-E20-32B	33.6	41	21.6	0	27	100	**556 991**	**EAMM-A-E20-32B**
EAMM-A-E20-40A	33.5	31.5	15.75	0	27.4	80	**550 961**	**EAMM-A-E20-40A**
EAMM-A-E20-42A					35.7	100	**550 962**	**EAMM-A-E20-42A**
EAMM-A-E20-55A					29.5	140	**550 963**	**EAMM-A-E20-55A**
EAMM-A-E32-40A	45	45	26.5	4	52.5	250	**550 964**	**EAMM-A-E32-40A**
EAMM-A-E32-42B	44.8	54.4	26.4		88	340	**556 992**	**EAMM-A-E32-42B**
EAMM-A-E32-42C					101	380	**556 993**	**EAMM-A-E32-42C**
EAMM-A-E32-55A	45	45	26.5		53.7	280	**550 965**	**EAMM-A-E32-55A**
EAMM-A-E32-57A					55	290	**550 966**	**EAMM-A-E32-57A**
EAMM-A-E48-52B	63.8	76.4	36.9	5	121	1 120	**556 994**	**EAMM-A-E48-52B**
EAMM-A-E48-52C					135	1,210	**556 995**	**EAMM-A-E48-52C**
EAMM-A-E48-64A-70A	65	64	32		86.2	785	**557 448**	**EAMM-A-E48-64A-70A**
EAMM-A-E48-87A					87.7	1,500	**550 972**	**EAMM-A-E48-87A**
EAMM-A-E48-100A					91.2	1,280	**550 973**	**EAMM-A-E48-100A**
EAMM-A-E72-60G	105.6	114.8	60.8	8	106.9	3,190	**550 974**	**EAMM-A-E72-60G**
EAMM-A-E72-62B	105.1	127.3	60.8		150	2,800	**556 996**	**EAMM-A-E72-62B**
EAMM-A-E72-70A	105.6	114.8	60.8		98.7	2,370	**550 975**	**EAMM-A-E72-70A**
EAMM-A-E72-80G					106.9	3,190	**550 976**	**EAMM-A-E72-80G**
EAMM-A-E72-87A					100.2	3,040	**550 977**	**EAMM-A-E72-87A**
EAMM-A-E72-100A					103.7	3,240	**550 978**	**EAMM-A-E72-100A**

Note

Permissible axis/motor combinations
➔ 42

Parallel kit EAMM-U-...

Material:
Housing: Gravity die aluminium
Clamping component, clamping sleeve, toothed belt gearwheel: Steel, corrosion resistant
Toothed belt: Polychloroprene
Screws: Galvanised steel



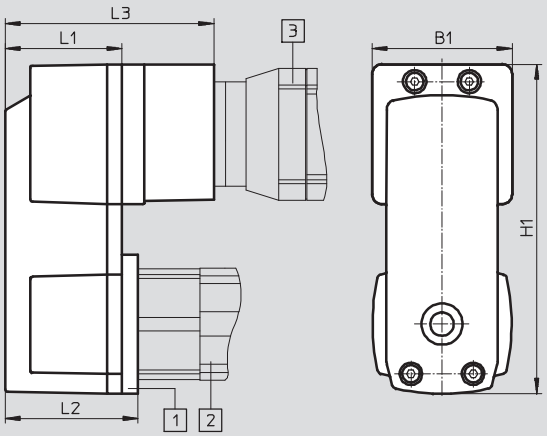


Diagram
1 Parallel kit
2 Positioning axis
3 Motor

General technical data									
EAMM-U-...		E24-		E32-			E48-		
		32B	40A	42B	42C	55A	52B	52C	70A
Transferable torque	[Nm]	1	1	3	3	3	5.5	5.5	5.5
No-load drive torque	[Nm]	0.05	0.05	0.1	0.1	0.1	0.3	0.3	0.3
Mass moment of inertia	[kgmm^2]	3.016	3.016	10.22	10.22	10.22	71.138	71.138	71.138
Max. speed	[rpm]	3,000							
Assembly position		Any							

Operating and environmental conditions		
Ambient temperature	[°C]	0 ... 50
Storage temperature	[°C]	–25 ... +60
Protection class[1)]		IP40
Relative air humidity	[%]	0 ... 95

1) Only with combined attachment of motor and axis

Dimensions and ordering data

Type	B1	H1	L1	L2	L3	Weight [g]	Part No.	Type
EAMM-U-E24-32B	43.3	110.05	39	–	–	240	**543 225**	**EAMM-U-E24-32B**
EAMM-U-E24-40A						240	**543 226**	**EAMM-U-E24-40A**
EAMM-U-E32-42B	56.4	132.7	47	53.5	84	660	**543 228**	**EAMM-U-E32-42B**
EAMM-U-E32-42C					97	690	**543 229**	**EAMM-U-E32-42C**
EAMM-U-E32-55A					–	540	**543 230**	**EAMM-U-E32-55A**
EAMM-U-E48-52B	85.8	189.9	58	66.5	106	1 700	**543 232**	**EAMM-U-E48-52B**
EAMM-U-E48-52C					120	1,800	**543 233**	**EAMM-U-E48-52C**
EAMM-U-E48-70A					–	1,300	**543 234**	**EAMM-U-E48-70A**

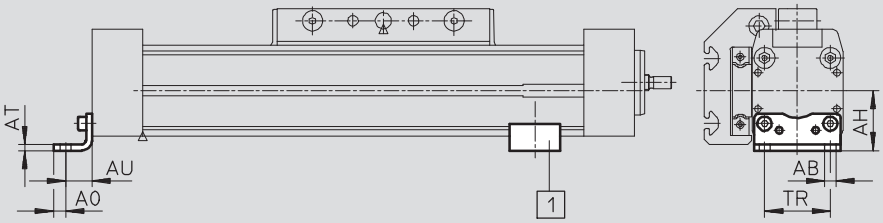
Note

Permissible axis/motor combinations
➔ 45

Foot mounting HP
(order code F)

Material:
Galvanised steel
Free of copper, PTFE and silicone

HP-25



1 Position of the central support along the profile is freely selectable

Dimensions and ordering data

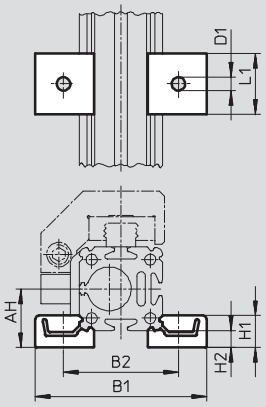
For size	AB ∅	AH	AO	AT	AU	TR	Weight [g]	Part No.	Type
18	5.5	24	4.8	3	13.2	24	59	**158 472**	**HP-18**
25	5.5	29.5	6	3	13	32.5	61	**150 731**	**HP-25**
40	6.6	46	8.5	5	17.5	45	188	**150 733**	**HP-40**
63	11	69	13.5	6	28	75	305	**150 735**	**HP-63**

Central support MUP
(order code M)

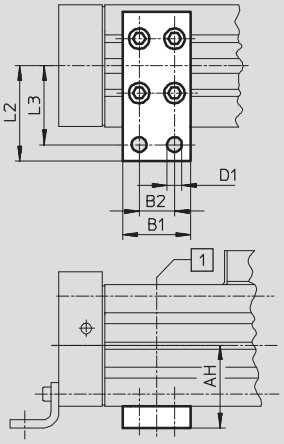
Material:
Galvanised steel
Free of copper, PTFE and silicone

MUP-40

Size 18/25



Size 40/63



1 Position of the central support along the profile is freely selectable

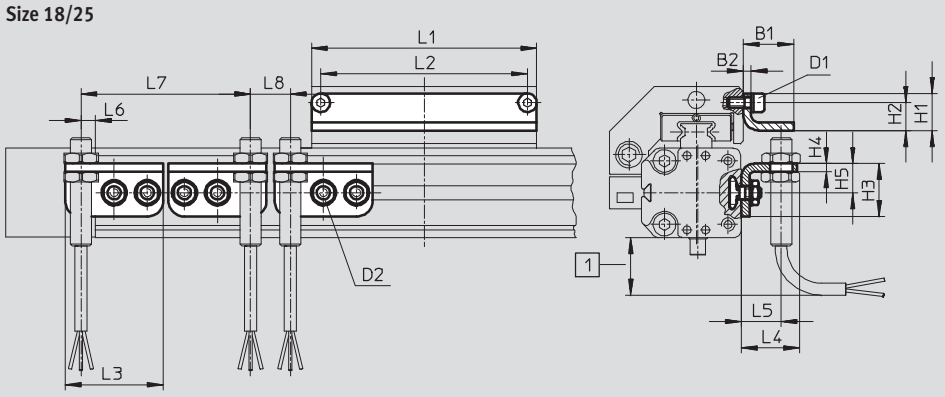
Dimensions and ordering data

For size	AH	B1	B2	D1 ∅	H1	H2	L1	L2	L3	Weight [g]	Part No.	Type
18	24	70.5	47	5.5	13	7	25	–	–	33	**150 736**	**MUP-18/25**
25	29.5	81	58	5.5	13	7	25	–	–	33	**150 736**	**MUP-18/25**
40	46	35	22	6.6	–	–	–	47	40	126	**150 738**	**MUP-40**
63	69	50	26	11	–	–	–	77	65	340	**150 800**	**MUP-63**

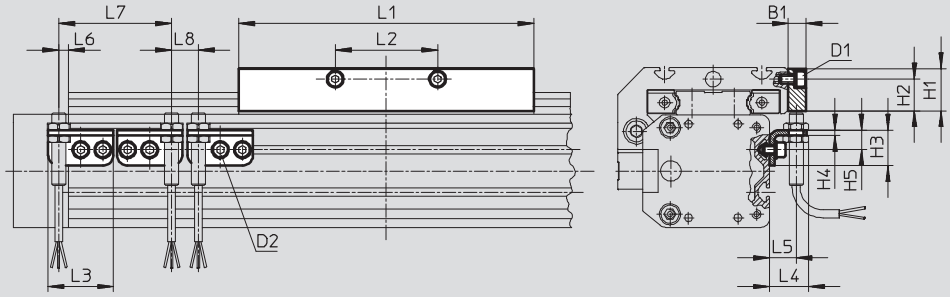
Sensor retainer HWS
For inductive proximity sensors
(order code: T)
Material:
Galvanised steel

Switching lug SF
(order code: L)
Material:
Galvanised steel

Size 18/25



Size 40/63



1 Protruding sensor cable, ensure sufficient installation space

Dimensions and ordering data

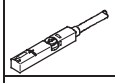
For size	D1	D2	B1	B2	H1	H2	H3	H4	H5	L1	L2	L3	L4	L5
18	M4	M5	19	3	14	10.5	20	3	11	85	78	37	22.5	15
25	M5	M5	27	3	20.5	15.3	20	3	11	105	88	37	34.5	27
40	M5	M5	10	–	24	18	20	3	11	167	58	37	22.5	15
63	M8	M5	10	–	35	25	20	3	11	230	72	37	22.5	15

For size	L6 max.	L7 min.	L8 min.	Weight [g]	Part No.	Type
18	5.5	64	15	34	**188 968**	**HWS-18/25-M8**
				59	**188 964**	**SF-18**
25	5.5	64	15	34	**188 968**	**HWS-18/25-M8**
				75	**188 965**	**SF-25**
40	5.5	64	15	37	**188 969**	**HWS-40-M8**
				328	**188 966**	**SF-40**
63	5.5	64	15	45	**188 970**	**HWS-63-M8**
				630	**188 967**	**SF-63**

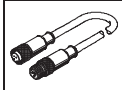
Ordering data – Inductive proximity sensors M8 — Technical data ➔ Internet: sien

	Electrical connection		Switch output	LED	Cable length [m]	Part No.	Type
	Cable	M8 plug					
N/O contact							
	3-wire	–	PNP	■	2.5	**150 386**	**SIEN-M8B-PS-K-L**
	–	3-pin	PNP	■	–	**150 387**	**SIEN-M8B-PS-S-L**
N/C contact							
	3-wire	–	PNP	■	2.5	**150 390**	**SIEN-M8B-PO-K-L**
	–	3-pin	PNP	■	–	**150 391**	**SIEN-M8B-PO-S-L**

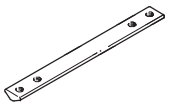
Ordering data – Proximity sensor for T-slot, magneto-resistive — Technical data ➔ Internet: smt

	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with cylinder profile	PNP	Plug M8x1, 3-pin	0.3	**543 866**	**SMT-8M-PS-24V-K-0,3-M8D**
		NPN	Plug M8x1, 3-pin	0.3	**543 871**	**SMT-8M-NS-24V-K-0,3-M8D**
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	**175 436**	**SMT-8-PS-K-LED-24-B**
			Plug M8x1, 3-pin	0.3	**175 484**	**SMT-8-PS-S-LED-24-B**

Ordering data – Connecting cable — Technical data ➔ Internet: km8

	Assembly	Connection	Cable length [m]	Part No.	Type
Straight plug socket					
	Union nut M8, both ends	3-pin	0.5	**175 488**	**KM8-M8-GSGD-0.5**
			1	**175 489**	**KM8-M8-GSGD-1**
			2.5	**165 610**	**KM8-M8-GSGD-2,5**
			5	**165 611**	**KM8-M8-GSGD-5**

Ordering data — Technical data ➔ Internet: mounting attachment

	For size	Remarks	Order code	Part No.	Type	PU[1]
Slot nut NST						
	18/25	For mounting slot	Y	**526 091**	**NST-HMV-M4**	10
	40			**150 914**	**NST-5-M5**	1
	63			**150 915**	**NST-8-M6**	1
Slot nut NSTL						
	25	For slide	X	**158 410**	**NSTL-25**	1
	40			**158 412**	**NSTL-40**	1
	63			**158 414**	**NSTL-63**	1
Centring pin ZBS/centring sleeve ZBH						
	18	For slide	Z	**150 928**	**ZBS-5**	10
	25/40/63			**150 927**	**ZBH-9**	10
Slot cover ABP						
	40	For mounting slot each 0.5 m	B	**151 681**	**ABP-5**	2
	63			**151 682**	**ABP-8**	2
Slot cover ABP-S						
	18/25/40/63	For sensor slot each 0.5 m	S	**151 680**	**ABP-5-S**	2

1) Packaging unit quantity