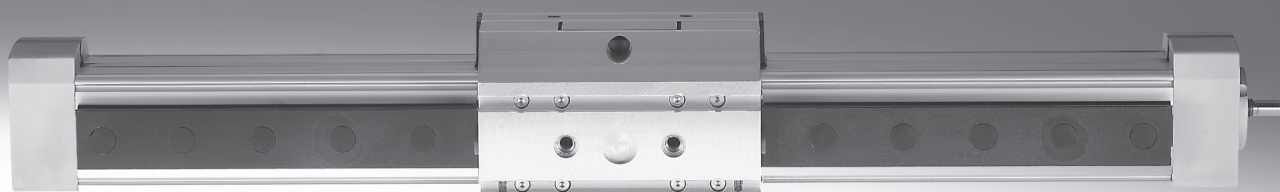


Positioning axes DMES

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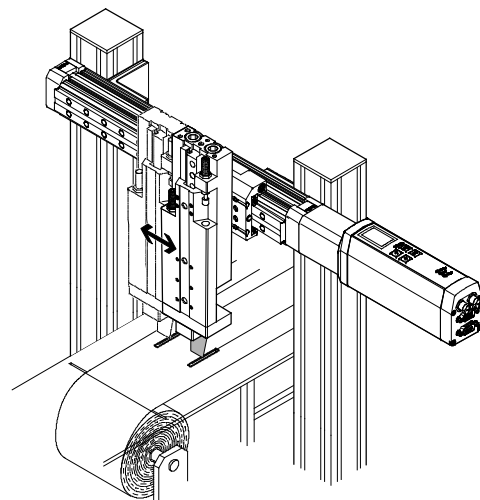
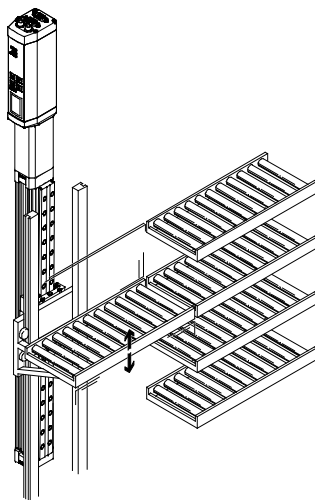
Positioning axes DMES

Key features

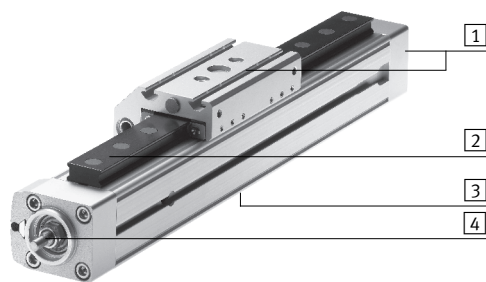
FESTO

At a glance		
General	Properties	Range of applications
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.	• 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 • 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	Motor → 42

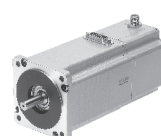


- 1 Mechanical interfaces are identical to spindle axes DGE-...-SP
- 2 Choice of two guide variants:
 - GF: Plain-bearing guide
 - KF: Recirculating ball bearing guide
- 3 Slot for proximity sensor
- 4 Lead-screw spindle, for use with high forces

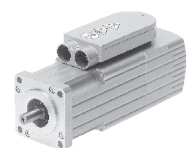
The lead-screw spindle is self-retarding, which means that slow movements cannot be excluded in the event of vibration. The entire system with intelligent motor unit MTR-DCI is self-locking.



Motor 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

FESTO

Key features

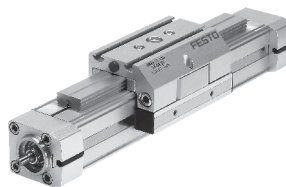
Wide choice of variants

Basic design DMES, without guide



- For connection to an existing guide
- For small loads

Plain-bearing guide DMES-GF



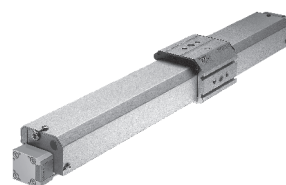
- With standard slide (GK) or extended slide (GV)
- For medium loads
- For medium guide precision

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

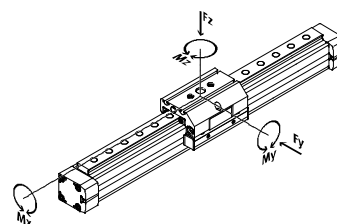
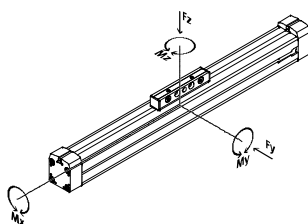


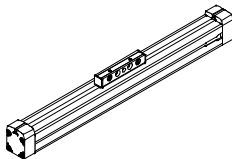
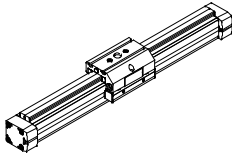
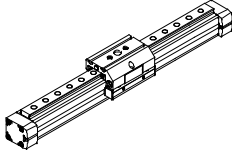
- With standard slide (GK)
- With plain or recirculating ball bearing guide as an option
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side

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.

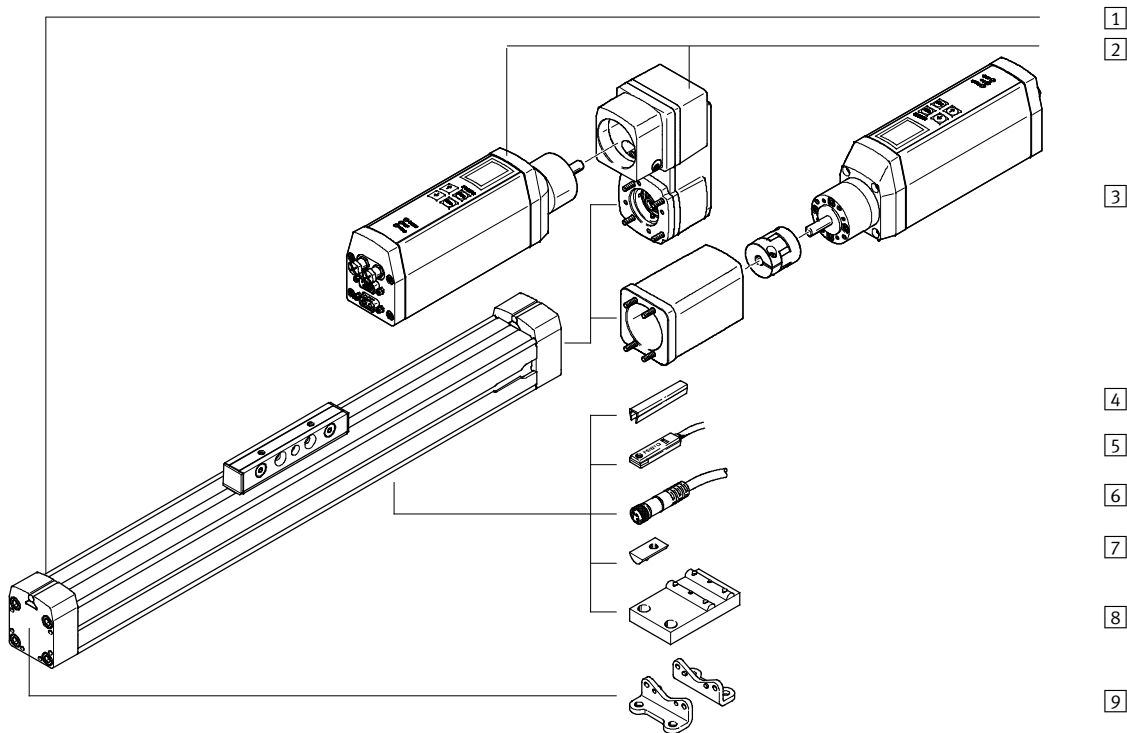


	Size	Working stroke [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Forces and torques					→ Page/ Internet
						Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	
Basic design DMES											
	18	50 ... 400	0.05	±0.05	240	36	80	0.4	2	0.7	6
	25	50 ... 700	0.05	±0.05	500	80	100	1.3	4	1.6	
	40	50 ... 1,200	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	

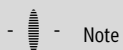
Positioning axes DMES, without guide

Peripherals overview

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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	49
5 Proximity sensor SMT-8	For providing a proximity signal or safety sensing	48
6 Connecting cable KM8	For proximity sensor	48
7 Slot nut for mounting slot Y	For mounting attachments	49
8 Central support M	For mounting the axis	46
9 Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	46



Note

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

Positioning axes DMES, without guide

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Type code

		DMES	-	25	-	500	-	AX	:	ZUB	-		2Y	2M	
Type															
DMES	Positioning axis														
Size															
Stroke [mm]															
Motor unit															
AX	Intelligent servo unit and axial kit														
U	Intelligent servo unit and parallel kit														
Accessories															
ZUB	Accessories supplied loose														
Slot cover															
...S	Sensor slot														
...B	Mounting slot														
Slot nut															
...Y	For mounting slot														
Central support															
...M	Central support														
Foot mounting															
...F	Foot mounting														

Positioning axes DMES, without guide

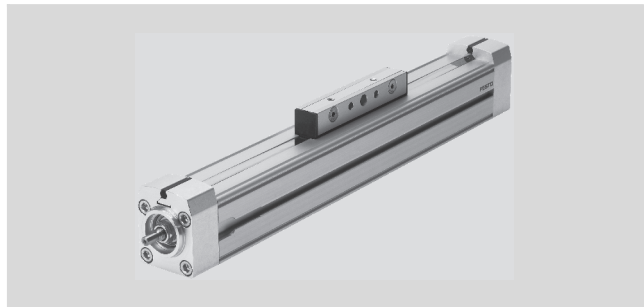
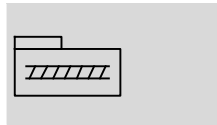
Technical data

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Function



www.festo.com



-  - 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

FESTO

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

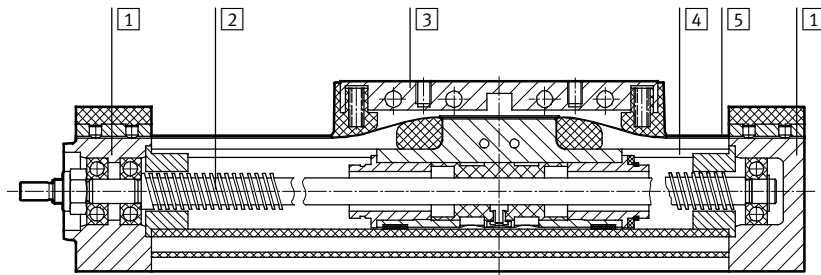
The mass moment of inertia J_A of the entire axis is calculated as follows:

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

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

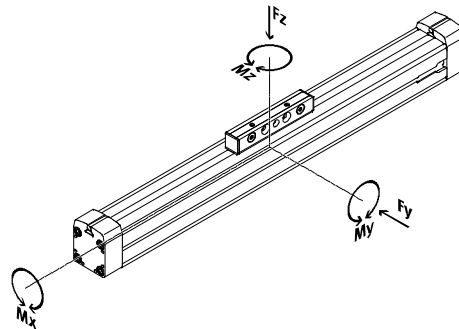
Technical data

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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:

$$\frac{|F_y|}{F_{y_{max}}} + \frac{|F_z|}{F_{z_{max}}} + \frac{|M_x|}{M_{x_{max}}} + \frac{|M_y|}{M_{y_{max}}} + \frac{|M_z|}{M_{z_{max}}} \leq 1$$



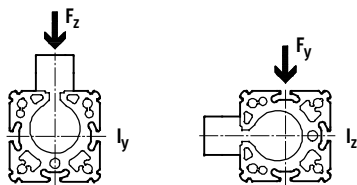
Note

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
F _y _{max.} [N]	36	80	92	300
F _z _{max.} [N]	80	100	390	900
M _x _{max.} [Nm]	0.4	1.3	2.2	12
M _y _{max.} [Nm]	2	4	20	80
M _z _{max.} [Nm]	0.7	1.6	4.6	22

2nd moment of area



Size	18	25	40	63
I _y [cm ⁴]	6.90	20.92	76.24	587.74
I _z [cm ⁴]	6.83	21.20	71.01	464.30



Note

Sizing software
PositioningDrives
→ www.festo.com

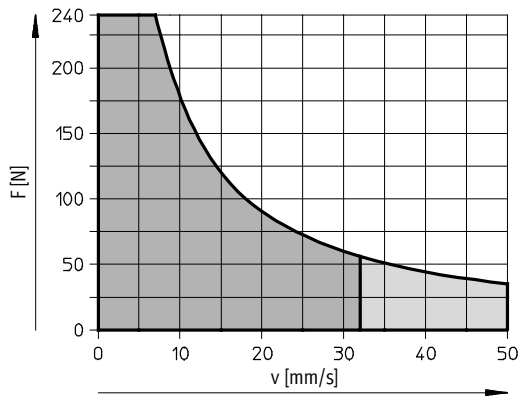
Positioning axes DMES, without guide

Technical data

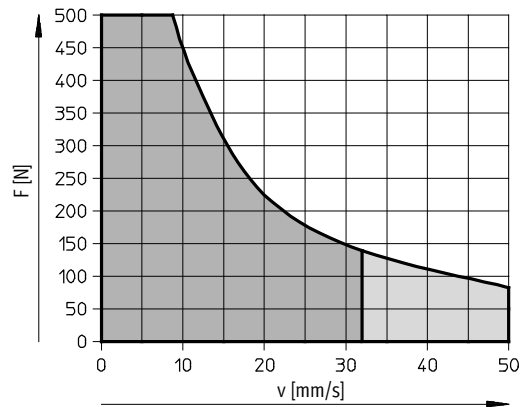
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Maximum permissible feed force F as a function of the feed speed v

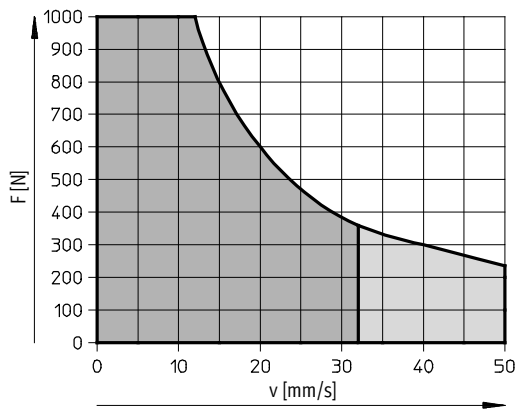
Size 18



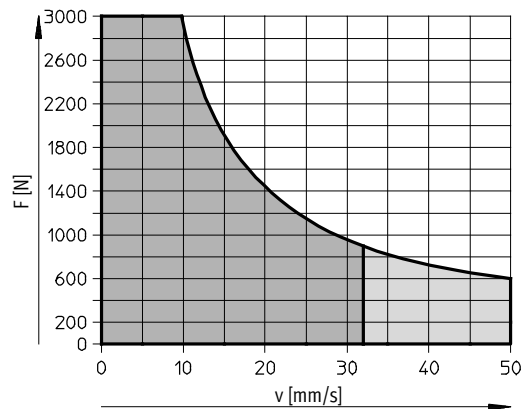
Size 25



Size 40



Size 63



- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

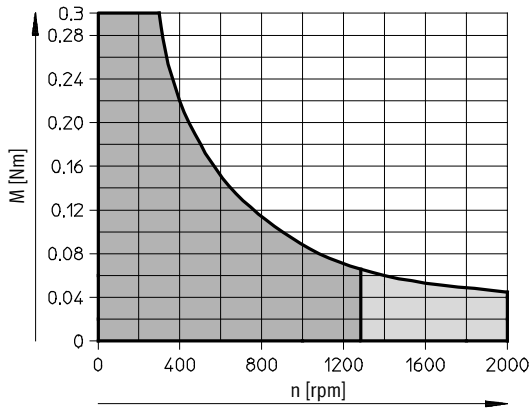
Positioning axes DMES, without guide

Technical data

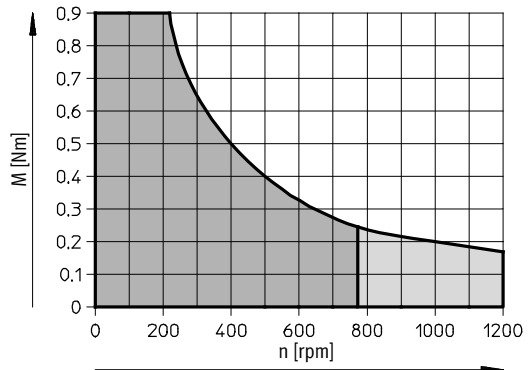
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Maximum permissible driving torque M as a function of n (rpm)

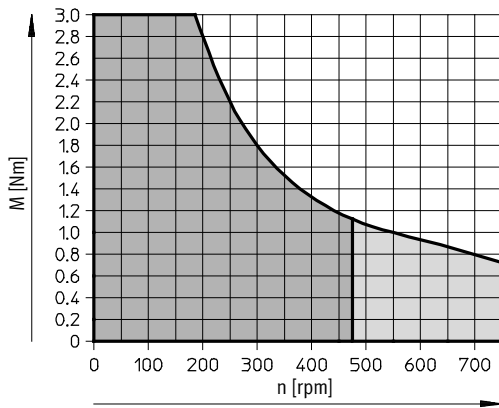
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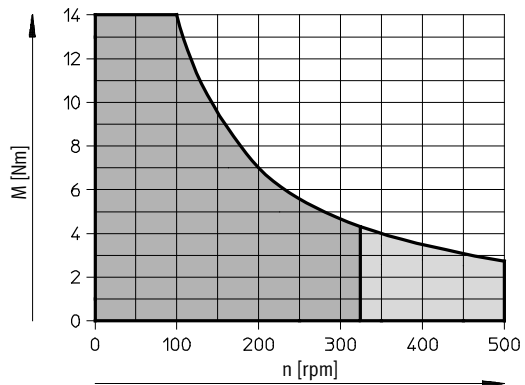
Size 25



Size 40

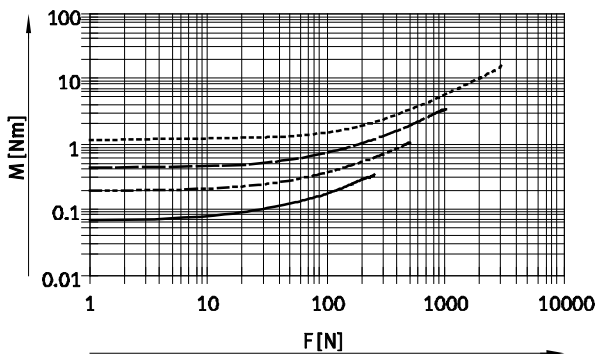


Size 63

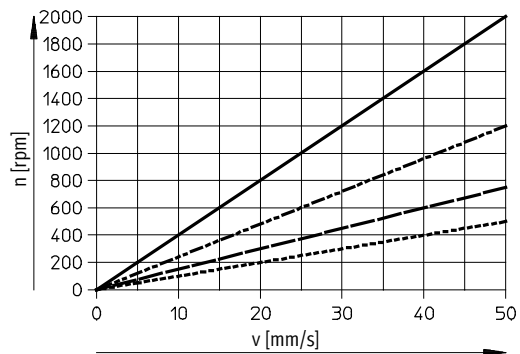


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

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

Technical data

Download CAD data → www.festo.com

Technical drawing of the Size 18 actuator, showing front, side, and end views with dimensions in mm.

Front View (Top Left): Shows a square body with a central circular feature. Dimensions include a width of 12 mm, a height of 4.7 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Side View (Bottom Left): Shows the profile of the actuator body with a width of 12 mm and a height of 4.7 mm.

End View (Bottom Right): Shows the internal components and mounting flange. Dimensions include a total width of 41 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Top View (Main): Shows the actuator from above. Dimensions include a total length of 147 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Bottom View (Main): Shows the actuator from below. Dimensions include a total length of 147 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Right View (Main): Shows the actuator from the side. Dimensions include a total length of 147 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Isometric View (Bottom Right): Shows the actuator in a 3D perspective. Dimensions include a total length of 147 mm, a central hole diameter of $\phi 30$, and a 45° chamfer. The mounting holes are labeled M4.

Size 25/40/63

The drawing illustrates the HP series coupling in three views: front, side, and end views. The front view shows the coupling housing (1) with dimensions H3, D2, T1, T2, L3, L1+, L2, L11, L3, B12, B11, L3, B14, H2, D1, D5, J2, and L7. The side view shows the coupling (2) with dimensions L6, L7, D4, D3, T3, L2, L11, L3, B12, B11, L3, B14, H2, D1, D5, J2, and L7. The end view shows the coupling housing (1) with dimensions H1, H5, H4, J2, D6, B5, B6, B4, B1, B3, D7, L9, L8, L13, and 1. The legend identifies the components: 1 Coupling housing, 2 Coupling, 3 Centring hole for foot mounting HP, 4 Lubrication opening, and + = plus stroke length.

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

Size	H4	H5	J2	L1	L2	L3	L6	L7	L8	L9	L11	L13			T1	T2	T3
												1)	2)	3)			
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

- 2012/09 – Subject to change

Positioning axes DMES, without guide

Technical data

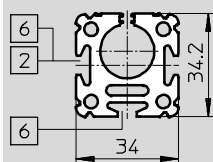
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Dimensions

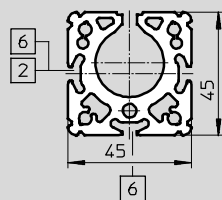
Download CAD data → www.festo.com

Profile

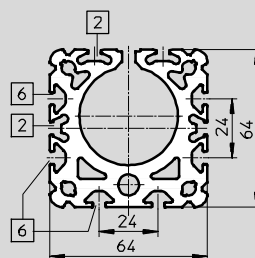
Size 18



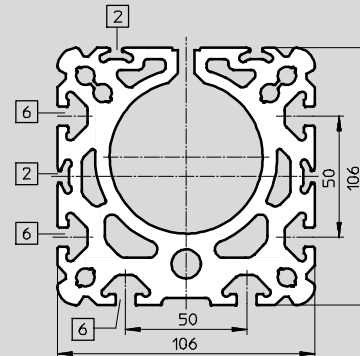
Size 25



Size 40



Size 63



2 Sensor slot for proximity sensor

6 Mounting slot for slot nut NST

Positioning axes DMES, without guide

Ordering data – Modular products

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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.

Mandatory data				Options		
Module No.	Function	Size	Stroke	Motor unit	Accessories	Accessories supplied loose
533 699	DMES	18	VC ... 1,200	AX		...S, ...B, ...Y, ...V, ...T
533 700		25				
533 701		40				
533 702		63				
Order example						
533 700	DMES	25	700		ZUB	2S2Y2M
MTR-DCI-...S...SC-E...U						

Ordering table	18	25	40	63	Conditions	Code	Enter code
Module No.	533 699	533 700	533 701	533 702			
Function	Linear actuator without guided slide				DMES		DMES
Size	18	25	40	63	...		
Stroke	[mm] 50 ... 400	50 ... 700	50 ... 1,200	50 ... 1,300	...		
Motor unit	Motor unit (including ax. kit (enclosed separately))				[...]	AX	
Accessories	Supplied separately					ZUB	ZUB
Slot cover	1 ... 30				...	S	
Mounting dict	...	...	1 ... 10		...	B	
Slot mu.	1 ... 30				...	Y	
General support	1 ... 30				...	A	
Flut mounting	1 ... 30				...	F	

3 Ordering intelligent motor unit MTR-DCI

Ordering table → 41

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.

Mandatory data										
Module No.	Motor unit	Type of motor	Flange/size	Torque class	Nominal voltage	Plug design	Displacement encoder	Gear unit	Parameterisation interface	Electrical connection technology
	MTR	DCI	32 42 52 62	S	VC VD	SC	E	G7 G14 G22	R2 R2	IO
Order example										
	MTR	DCI	42	S	VC	SC	E	G7	R2	IO

Ordering table	32	42	52	62	Conditions	Code	Enter code
Module No.							
Motor unit	Motor unit					MTR	MTR
Type of motor	DC servo motor with integrated position controller					DCI	DCI
Flange/size	32	42	52	62	...		
Torque class	Standard torque class					S	S
Nominal voltage	24 DC					VC	
Plug design	Straight plug				48 DC	VD	
Displacement encoder	Encoder					SC	SC
Gear unit	Integrated planetary gearing i = 6.75					G7	
	Integrated planetary gearing i = 13.73					G14	
	Integrated planetary gearing i = 23.20					G22	
Parameterisation interface	RS232 interface					R2	
	RS232 interface + control panel					R2	
Electrical connection technology	I/O connection					IO	IO

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

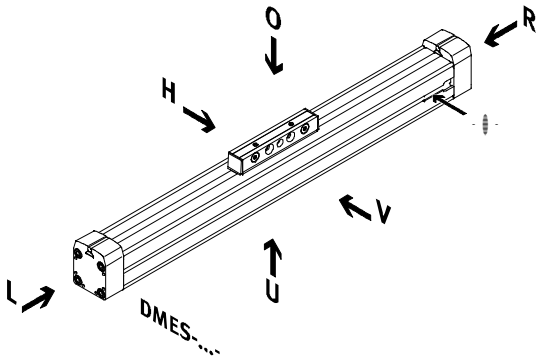
Positioning axes DMES, without guide

Ordering data – Modular products

FESTO

Order code

Mandatory data



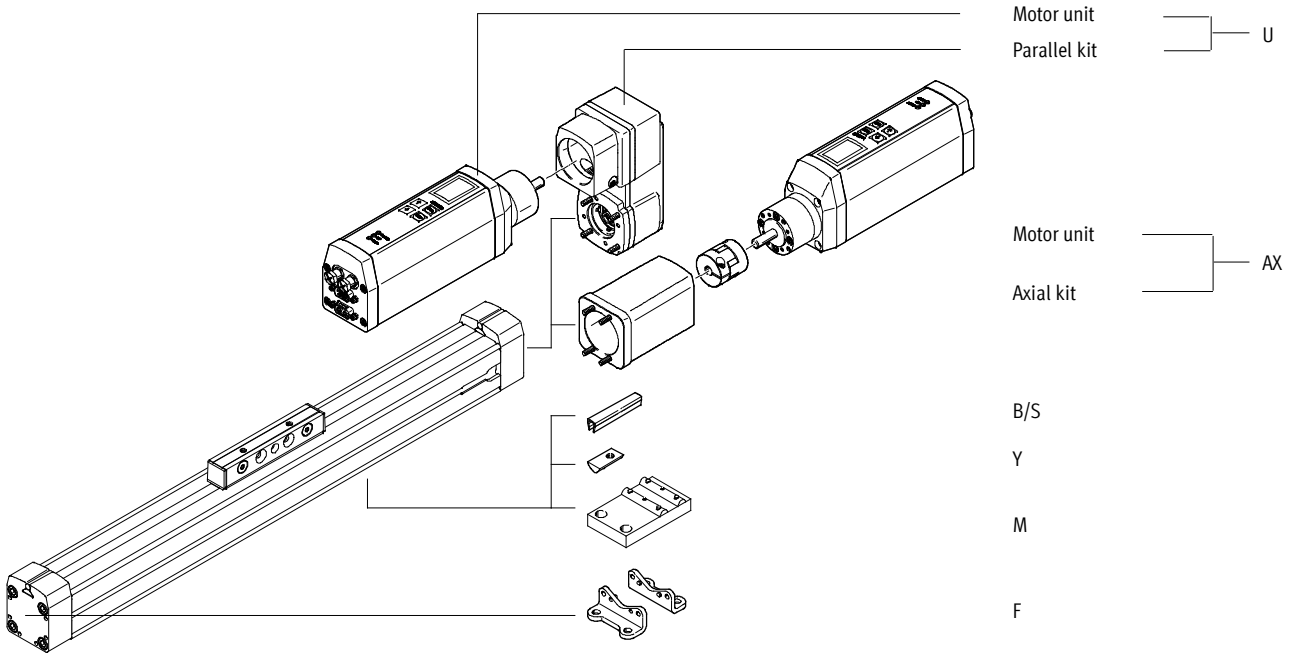
- Note

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

FESTO

Ordering data – Modular products

M Mandatory data				O Options		
Module No.	Function	Size	Stroke	Motor unit	Accessories	Accessories supplied loose
533 699	DMES	18	50 ... 1,800	AX U		...S, ...B, ...Y, ...M, ...F
533 700		25				
533 701		40				
533 702		63				
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 → 41.

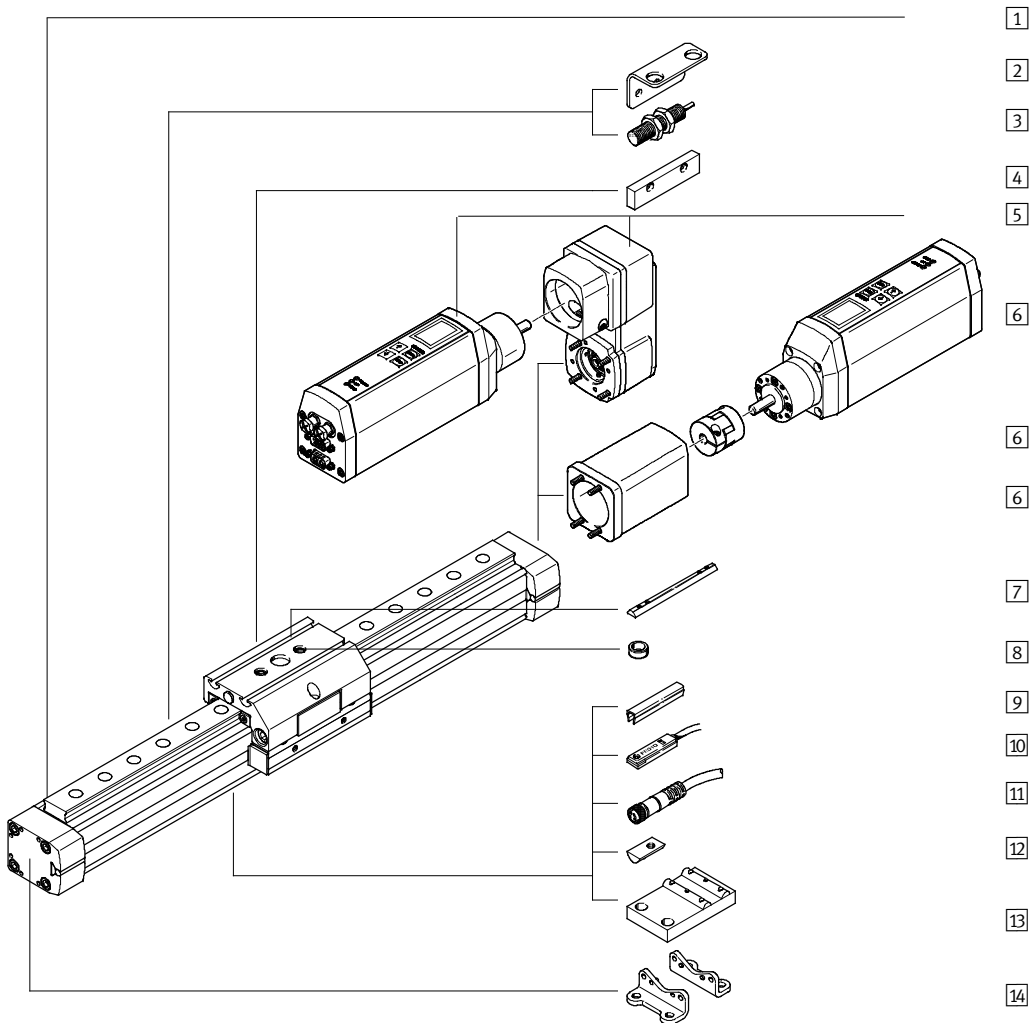
Transfer order code

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

Positioning axes DMES-GF/-KF, with guide

Peripherals overview

FESTO



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	■	–	47	
3 Inductive proximity sensor SIEN	For providing a proximity signal or safety sensing	■	–	48	
4 Switching lug L	For sensing the slide position with inductive proximity sensors	■	–	47	
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	■	■	49	
8 Centring sleeves Z	For centring loads and attachments on the slide	■	■	49	
9 Slot cover B/S	For protecting against ingress of dirt	■	■	49	
10 Proximity sensor SMT-8	For providing a proximity signal or safety sensing	■	■	48	
11 Connecting cable KM8	For proximity sensor	■	■	48	
12 Slot nut for mounting slot Y	For mounting attachments	■	■	49	
13 Central support M	For mounting the axis	■	■	46	
14 Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	■	■	46	

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

FESTO

Type code

		DMES	-	25	-	500	-	KF	-	GK	-	SH	-		-	AX
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

FESTO

Type code

		: ZUB	-		2X	2M		Z	2T	L
Accessories										
ZUB	Accessories supplied loose									
Slot cover										
...S	Sensor slot									
...B	Mounting slot									
Slot nut										
...Y	For mounting slot									
...X	For slide									
Central support										
...M	Central support									
Foot mounting										
...F	Foot mounting									
Centring sleeves										
...Z	For slide									
Mounting bracket										
...T	For inductive proximity sensors									
Switching lug										
L	Switching lug									

Positioning axes DMES-GF/-KF, with guide

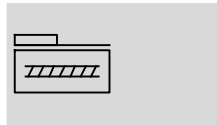
FESTO

Technical data

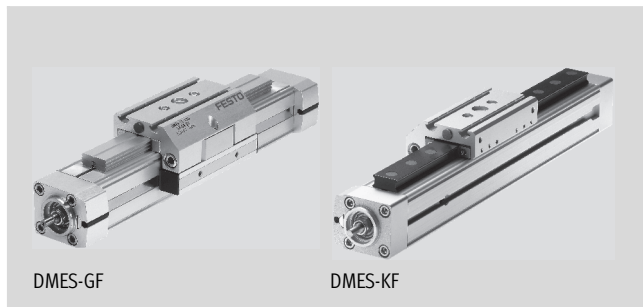
Function



www.festo.com



- 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		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

FESTO

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		0.0980		0.8400	
j_L per kg working load		[kg cm ² /Kg]		0.0006		0.0023		0.0041	
j_W for additional slide		[kg cm ²]		–		0.0010		–	

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

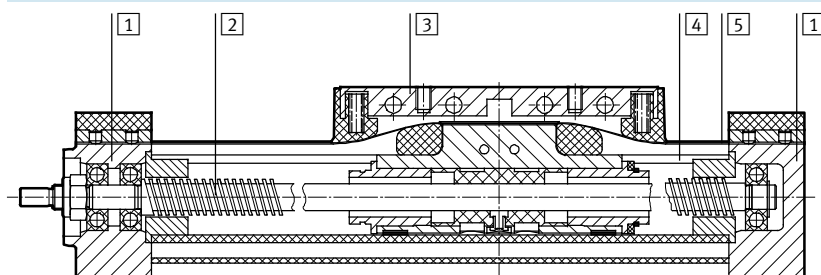
$$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{\text{working load [kg]}} + i \times j_W$$

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

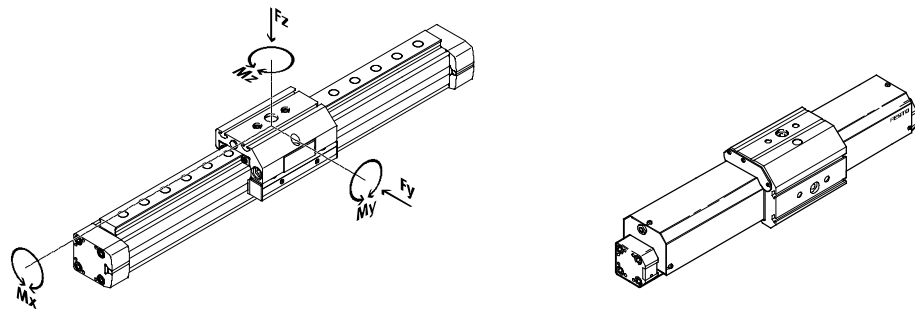
Positioning axes DMES-GF/-KF, with guide

Technical data

FESTO

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.

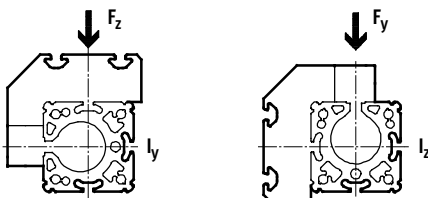


If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{|F_y|}{F_{y_{max}}} + \frac{|F_z|}{F_{z_{max}}} + \frac{|M_x|}{M_{x_{max}}} + \frac{|M_y|}{M_{y_{max}}} + \frac{|M_z|}{M_{z_{max}}} \leq 1$$

Permissible forces and torques									
Size	18		25		40		63		
Guide type	GF	KF	GF	KF	GF	KF	GF	KF	
F _y _{max.} [N]	930	930	1,760	2,600	3,070	4,300	3,880	6,600	
F _z _{max.} [N]	930	930	1,760	2,600	4,300	4,300	6,600	6,600	
M _x _{max.} [Nm]	7	7	24	45	98	160	220	400	
M _y _{max.} [Nm]	23	23	52	85	210	330	580	910	
M _z _{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	
I _y [cm ⁴]	11.19	14.37	39.10	47.60	125.38	176.24	709.04	992.06	
I _z [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

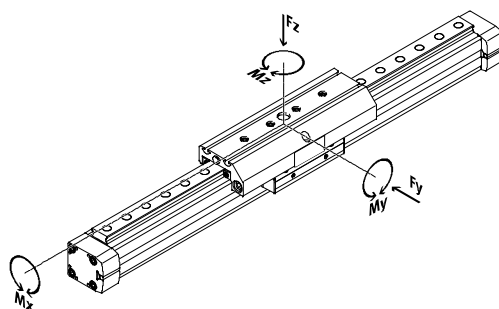
Positioning axes DMES-GF/-KF, with guide

FESTO

Technical data

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.

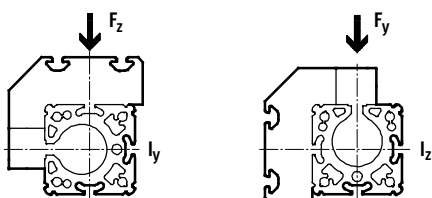


If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{|F_y|}{F_{y_{\max.}}} + \frac{|F_z|}{F_{z_{\max.}}} + \frac{|M_x|}{M_{x_{\max.}}} + \frac{|M_y|}{M_{y_{\max.}}} + \frac{|M_z|}{M_{z_{\max.}}} \leq 1$$

Permissible forces and torques									
Size	18		25		40		63		
Guide type	GF	KF	GF	KF	GF	KF	GF	KF	
F _y _{max.} [N]	930	930	1,650	3,080	3,990	7,300	7,250	13,900	
F _z _{max.} [N]	930	930	1,650	3,080	3,990	7,300	7,250	14,050	
M _x _{max.} [Nm]	7	7	23	45	89	170	290	580	
M _y _{max.} [Nm]	45	45	95	170	360	660	980	1,820	
M _z _{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	
I _y [cm ⁴]	11.19	14.37	39.10	47.60	125.38	176.24	709.04	992.06	
I _z [cm ⁴]	7.11	7.16	25.85	23.34	84.76	95.43	614.44	693.35	

Positioning axes DMES-GF/-KF, with guide

Technical data

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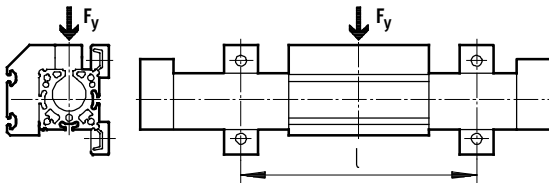
Deflection of the positioning axis as a function of the working load F and the support span l

The following diagrams can be used to determine the deflection of a positioning axis supported externally at

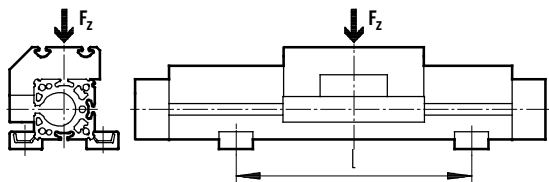
both ends (see drawing below). A differentiation is made between two load directions. The axis may also

need to be supported with central supports MUP in order to limit deflection in the case of large strokes.

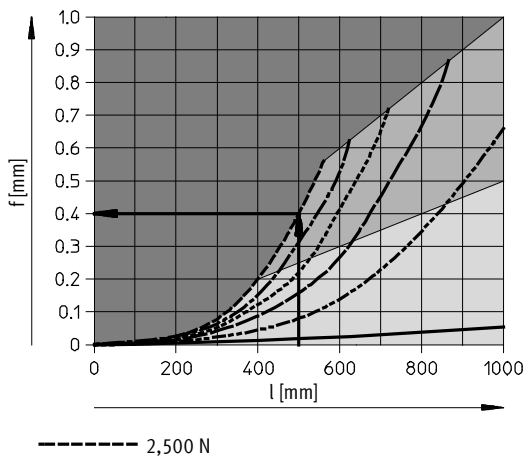
Deflection along the y-axis



Deflection along the z-axis



Example showing how to determine deflection



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.

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.

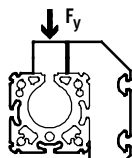
Positioning axes DMES-GF/-KF, with guide

FESTO

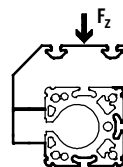
Technical data

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

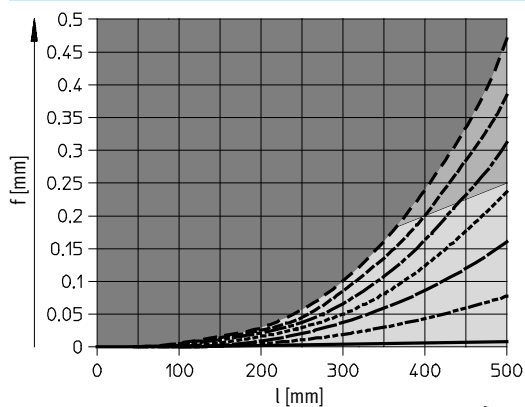
Along the y-axis



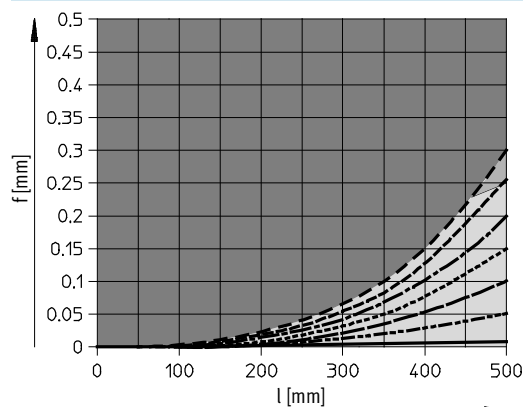
Along the z-axis



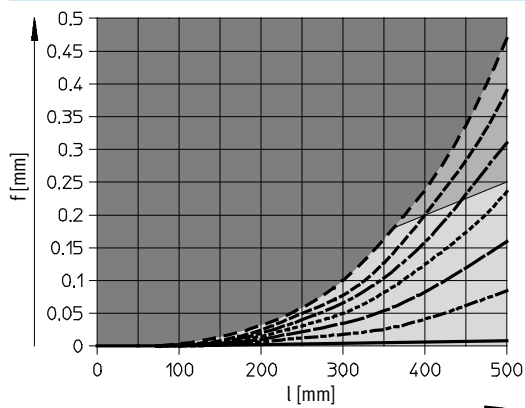
DMES-18-GF, with plain-bearing guide



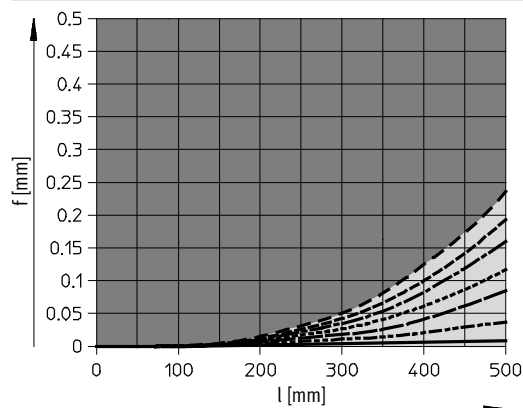
DMES-18-GF, with plain-bearing guide



DMES-18-KF, with recirculating ball bearing guide



DMES-18-KF, with recirculating ball bearing guide



Impermissible range
 Static range
 Static and dynamic range

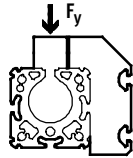
Positioning axes DMES-GF/-KF, with guide

FESTO

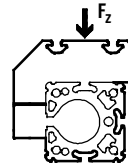
Technical data

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

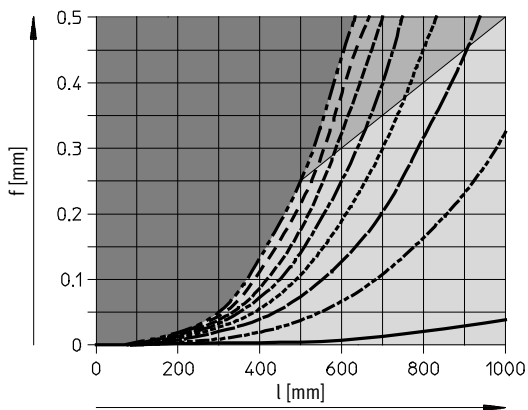
Along the y-axis



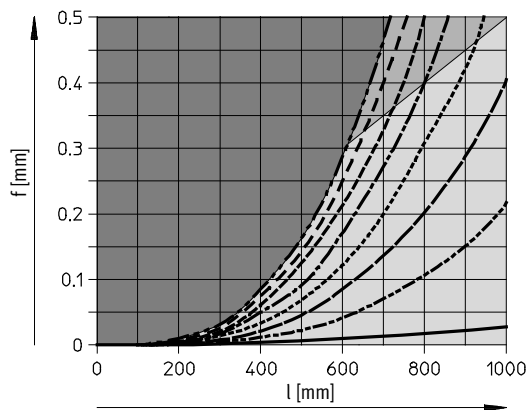
Along the z-axis



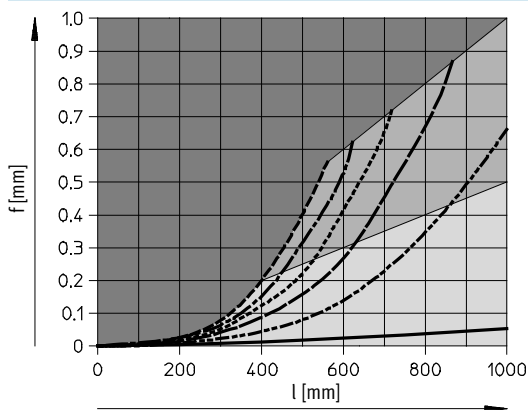
DMES-25-GF, with plain-bearing guide



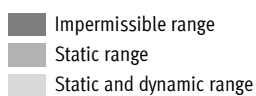
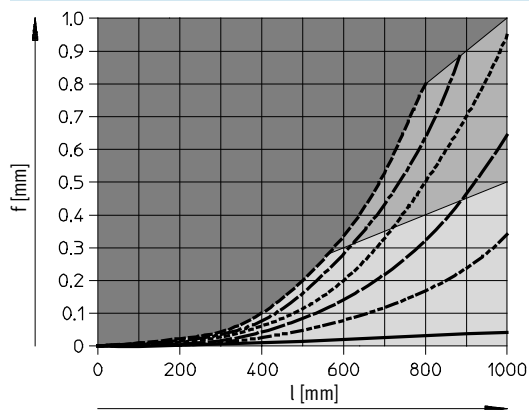
DMES-25-GF, with plain-bearing guide



DMES-25-KF, with recirculating ball bearing guide



DMES-25-KF, with recirculating ball bearing guide



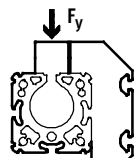
Positioning axes DMES-GF/-KF, with guide

FESTO

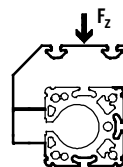
Technical data

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

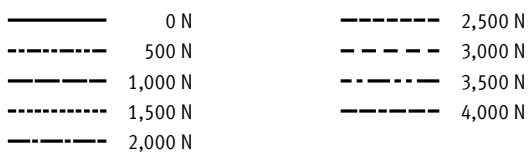
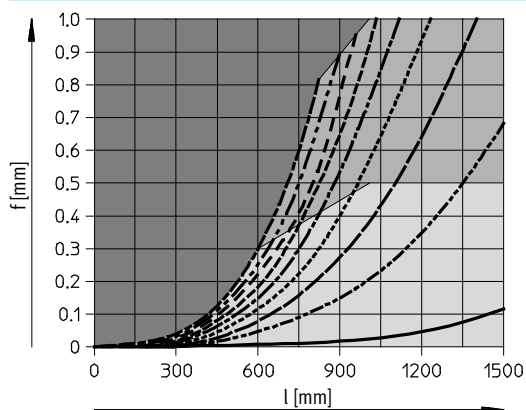
Along the y-axis



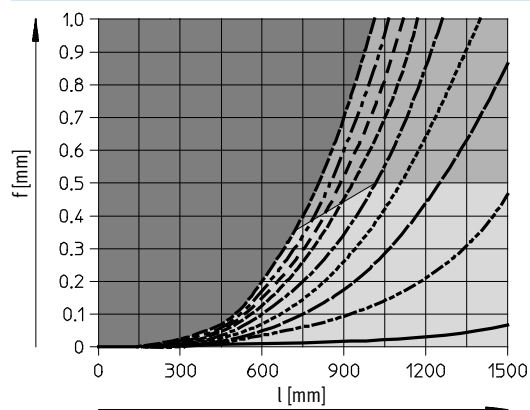
Along the z-axis



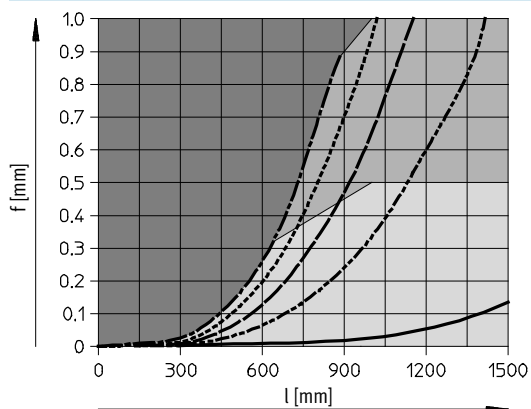
DMES-40-GF, with plain-bearing guide



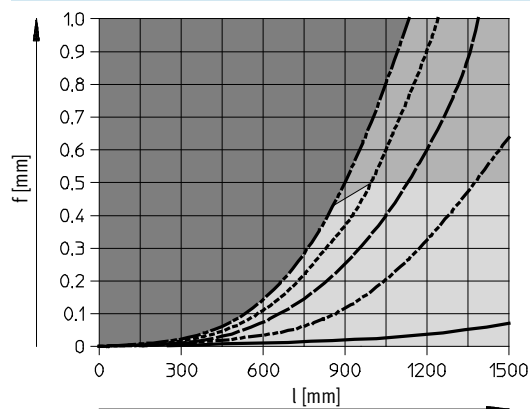
DMES-40-GF, with plain-bearing guide



DMES-40-KF, with recirculating ball bearing guide



DMES-40-KF, with recirculating ball bearing guide



Impermissible range
 Static range
 Static and dynamic range

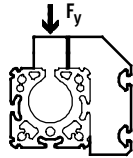
Positioning axes DMES-GF/-KF, with guide

FESTO

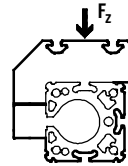
Technical data

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

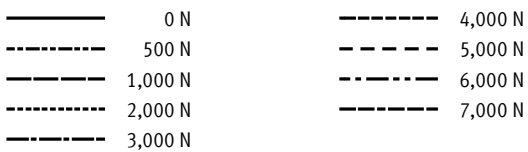
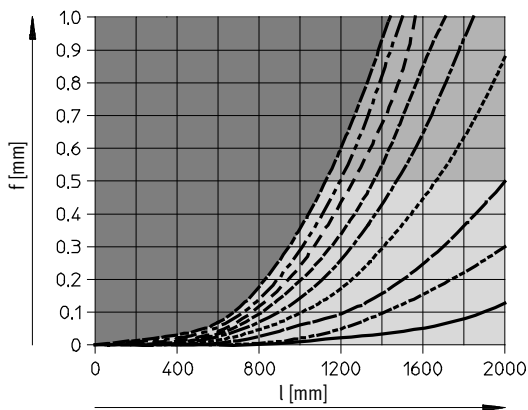
Along the y-axis



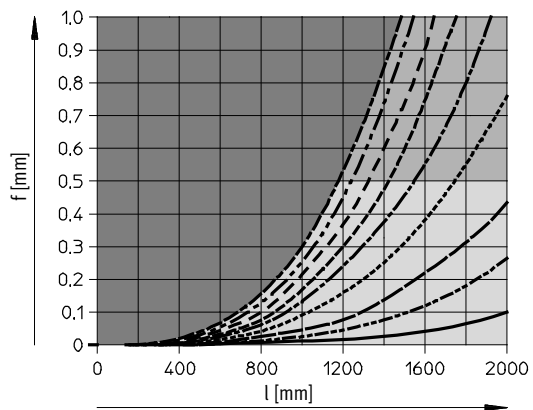
Along the z-axis



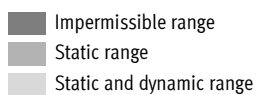
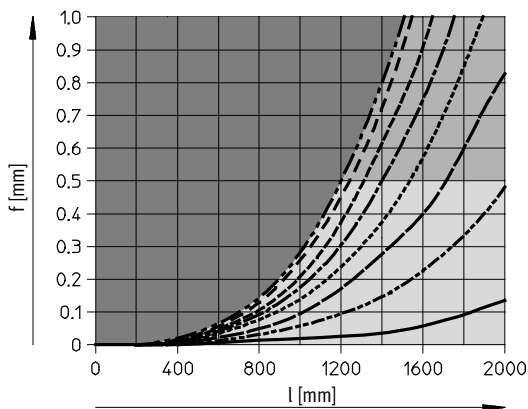
DMES-63-GF, with plain-bearing guide



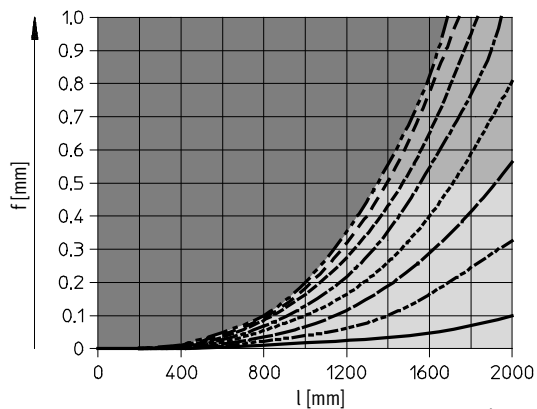
DMES-63-GF, with plain-bearing guide



DMES-63-KF, with recirculating ball bearing guide



DMES-63-KF, with recirculating ball bearing guide



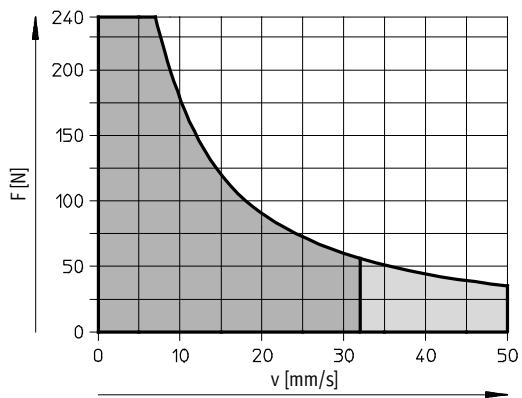
Positioning axes DMES-GF/-KF, with guide

Technical data

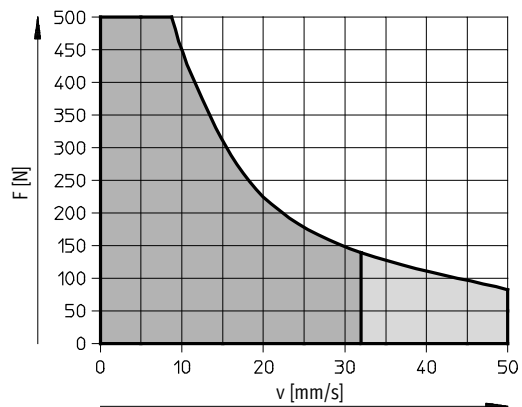
FESTO

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

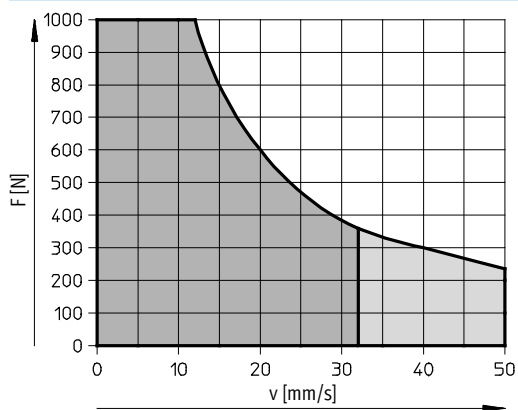
Size 18



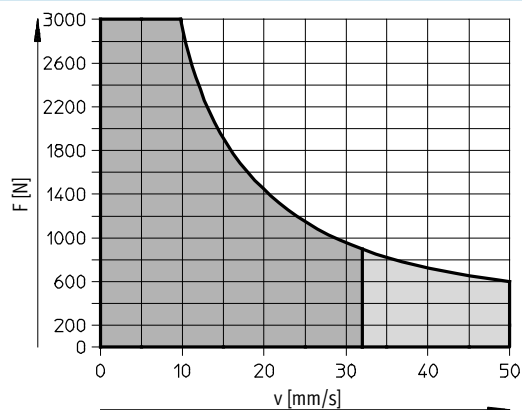
Size 25



Size 40



Size 63



- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

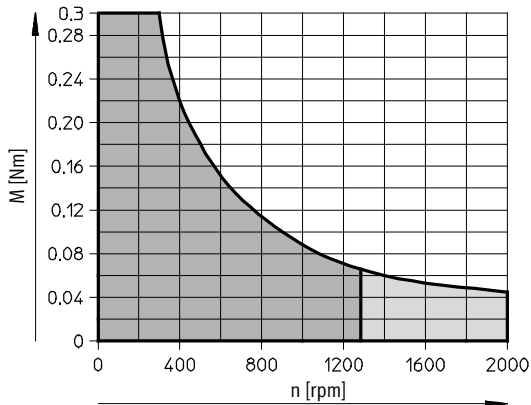
Positioning axes DMES-GF/-KF, with guide

Technical data

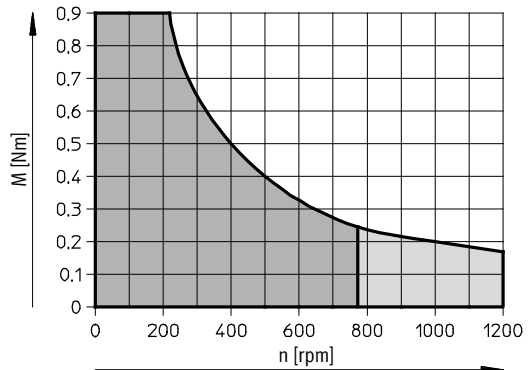
FESTO

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

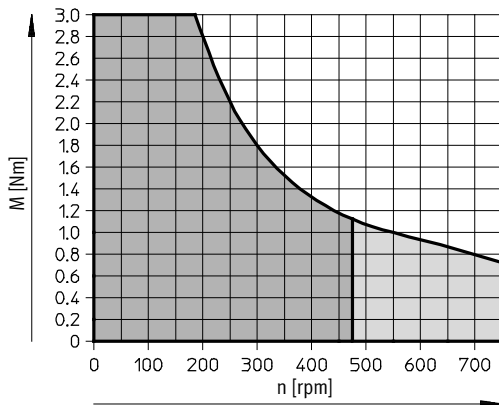
Size 18



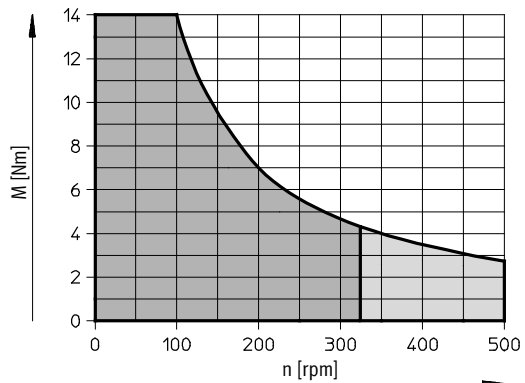
Size 25



Size 40

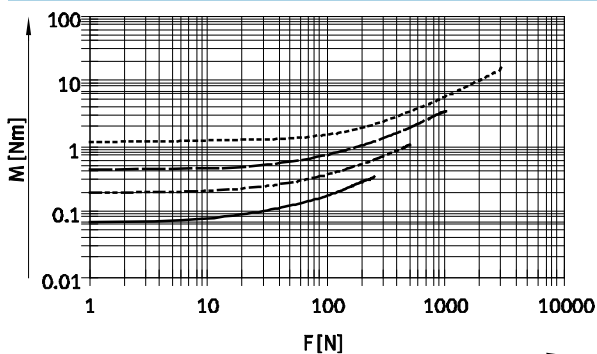


Size 63

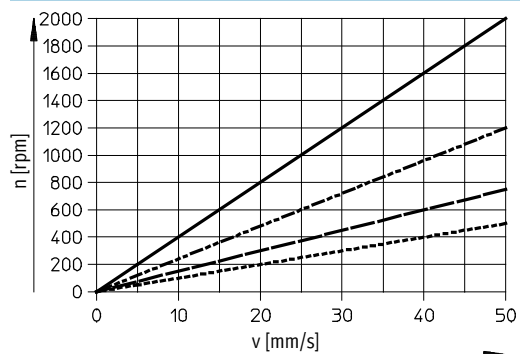


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

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

Positioning axes DMES-GF/-KF, with guide

FESTO

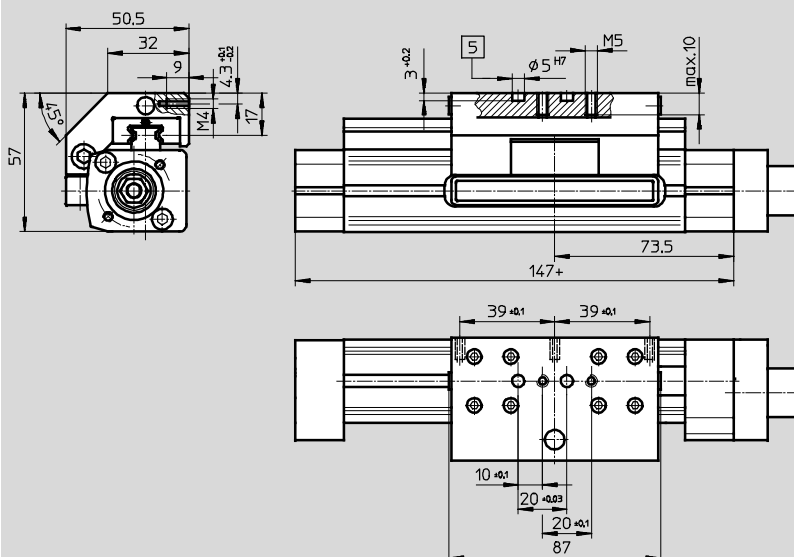
Technical data

Dimensions

Download CAD data → www.festo.com

Standard slide GK

Size 18

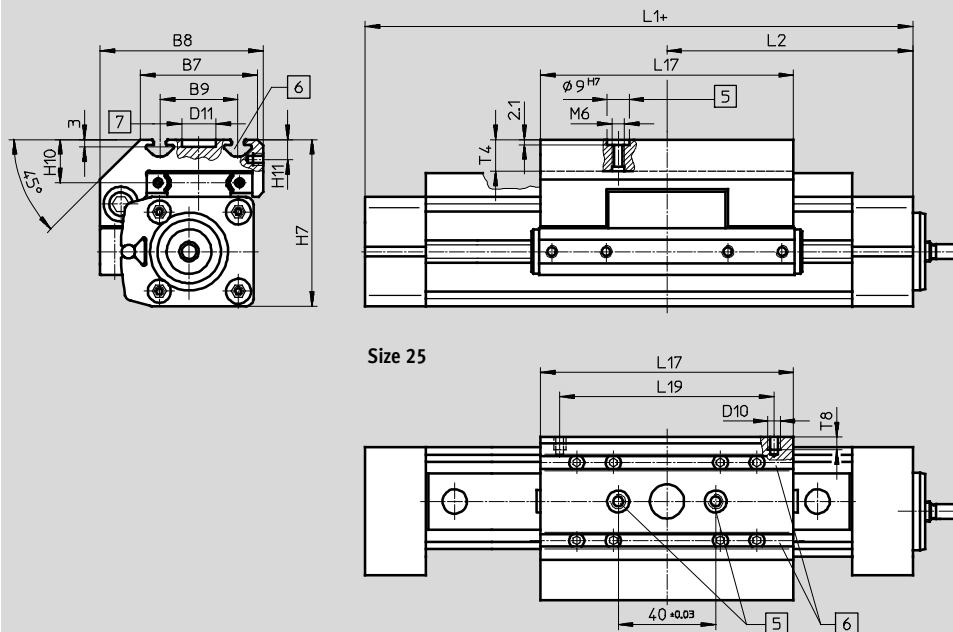


5 Hole for centring pin ZBS-5

Basic dimensions

→ 11

Size 25/40/63



5 Hole for centring pin ZBH-9

6 Mounting slot for slot nut NSTL

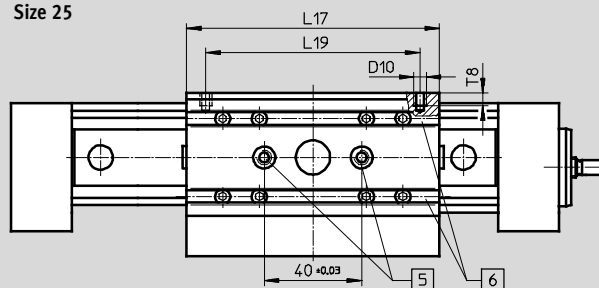
7 Hole for central mounting SLZZ

+ = plus stroke length

Basic dimensions

→ 11

Size 25



Size	B7	B8	B9	D10	D11 Ø G7	H7	H10	H11	L1	L2	L17	L19	T4	T8
			±0.2					+0.3				±0.1	max.	
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

Positioning axes DMES-GF/-KF, with guide

Technical data

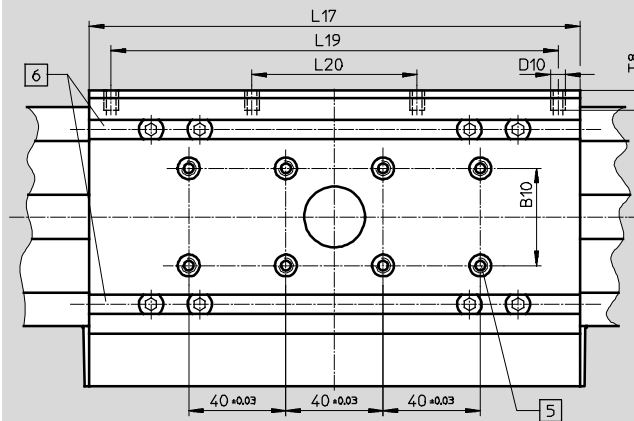
FESTO

Dimensions

Download CAD data → www.festo.com

Standard slide GK

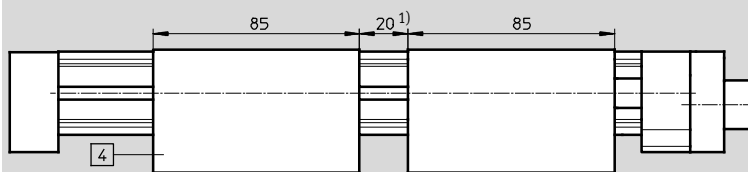
Size 40/63



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

Additional slide KL/KR

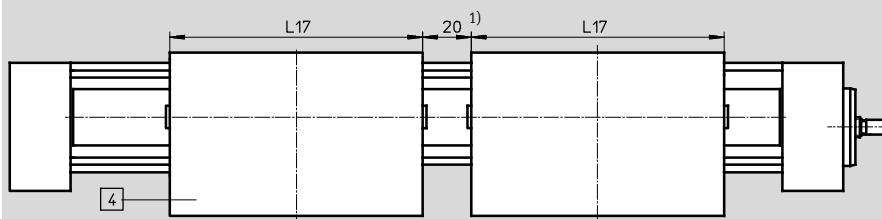
Size 18



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

Positioning axes DMES-GF/-KF, with guide

Technical data

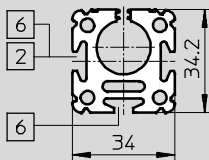
FESTO

Dimensions

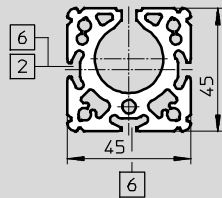
Download CAD data → www.festo.com

Profile

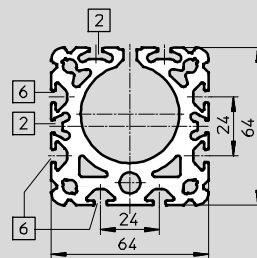
Size 18



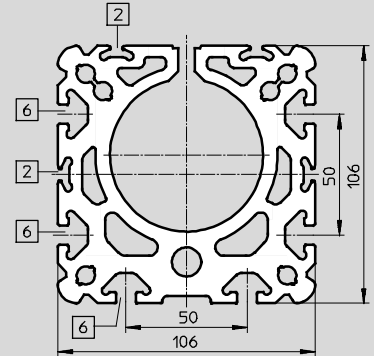
Size 25



Size 40



Size 63



2 Sensor slot for proximity sensor

6 Mounting slot for slot nut NST

Positioning axes DMES-GF/-KF, with guide

Technical data

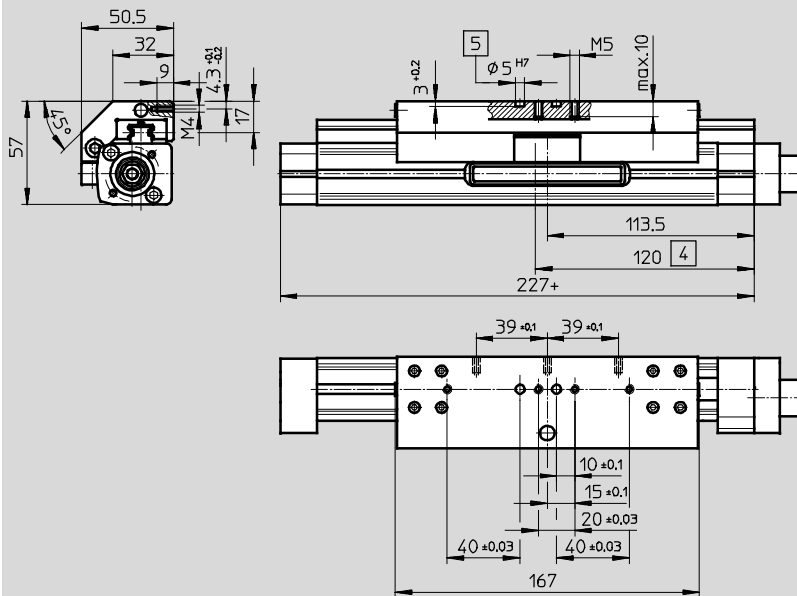
FESTO

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

Positioning axes DMES-GF/-KF, with guide

Technical data

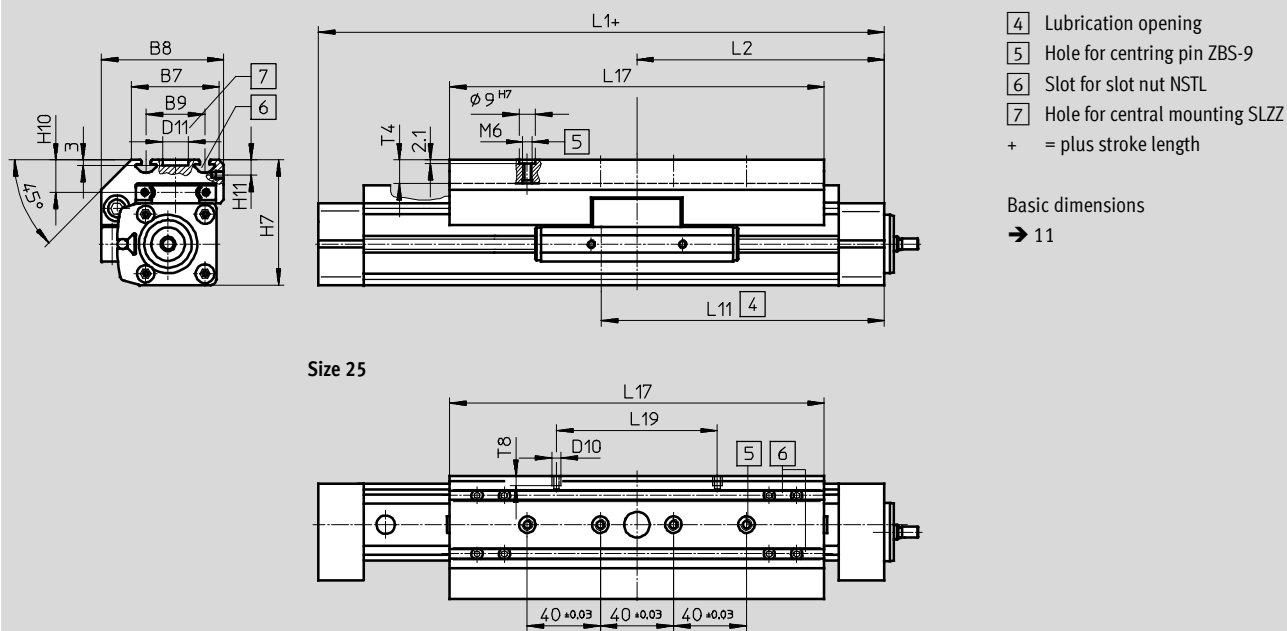
FESTO

Dimensions

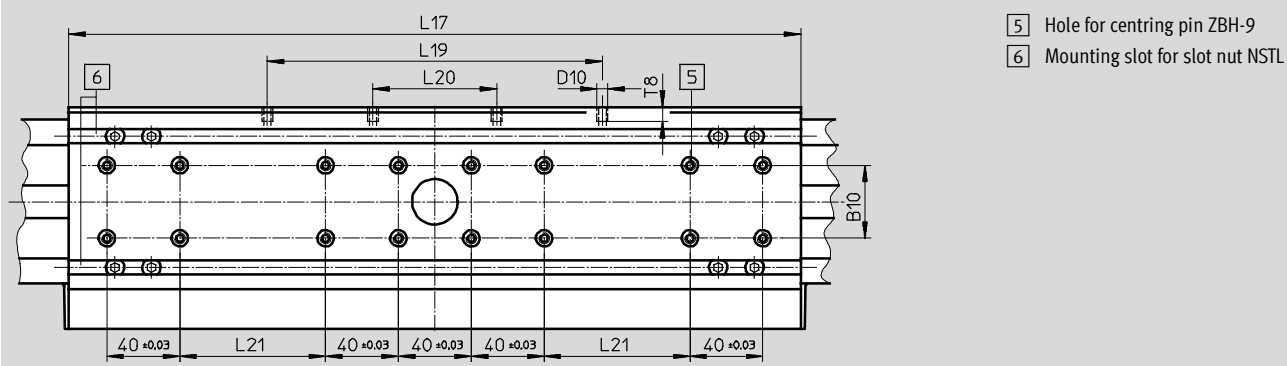
Download CAD data → www.festo.com

Extended slide GV

Size 25/40/63



Size 40



Size	B7	B8	B9	B10	D10	D11 Ø G7	H7	H10	H11
			±0.2						+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	L19	L20	L21	T4	T8
				±0.1	±0.1	±0.1	±0.1	max.	
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

Positioning axes DMES-GF/-KF, with guide

Technical data

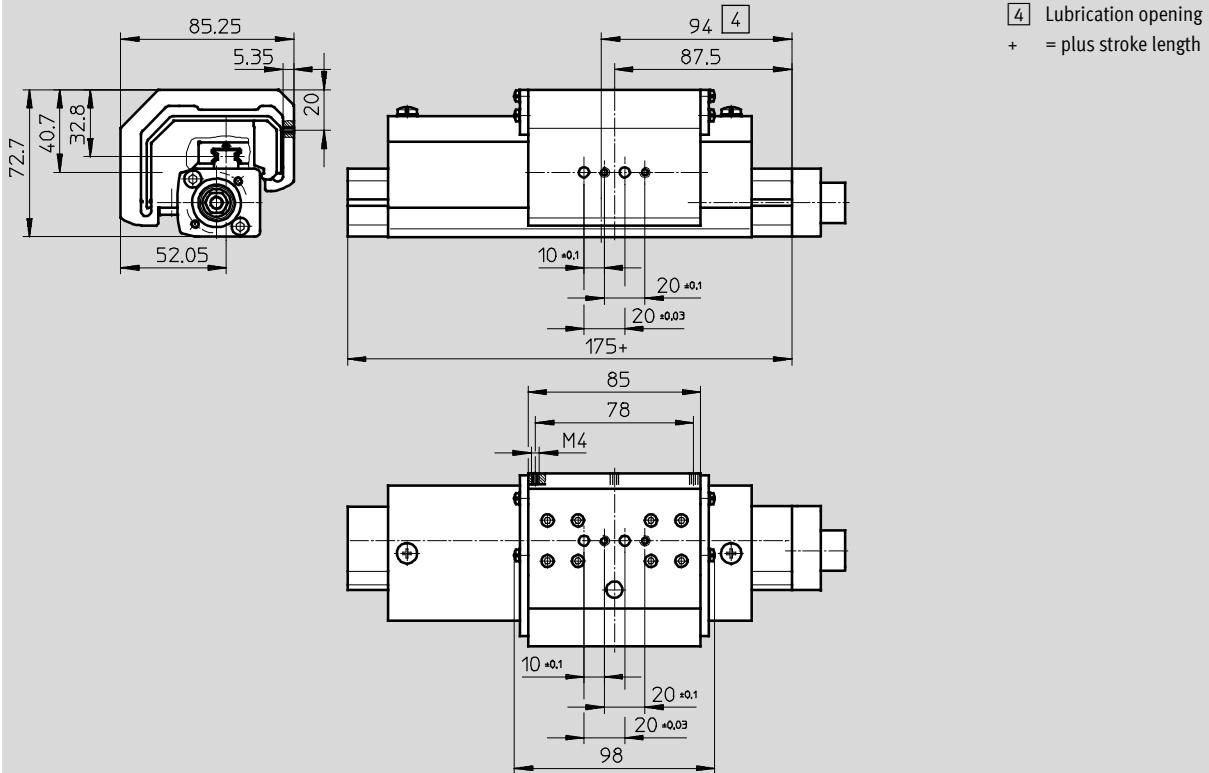
FESTO

Dimensions

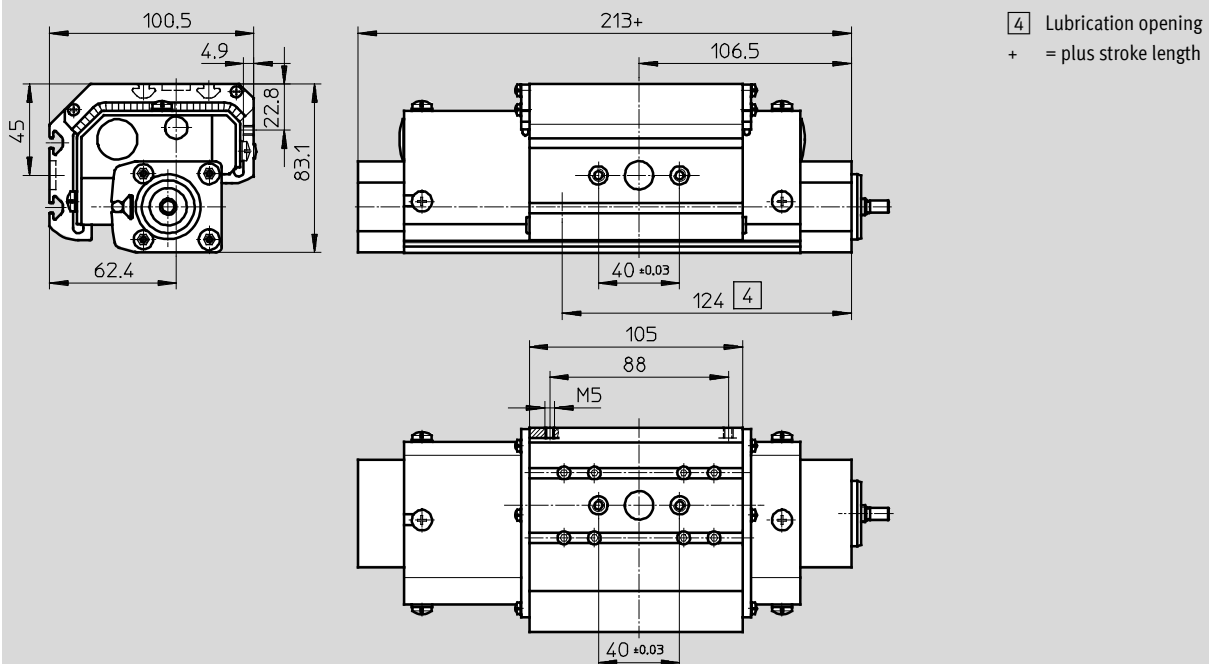
Download CAD data → www.festo.com

Protected version GA

Size 18



Size 25



Positioning axes DMES-GF/-KF, with guide

Technical data

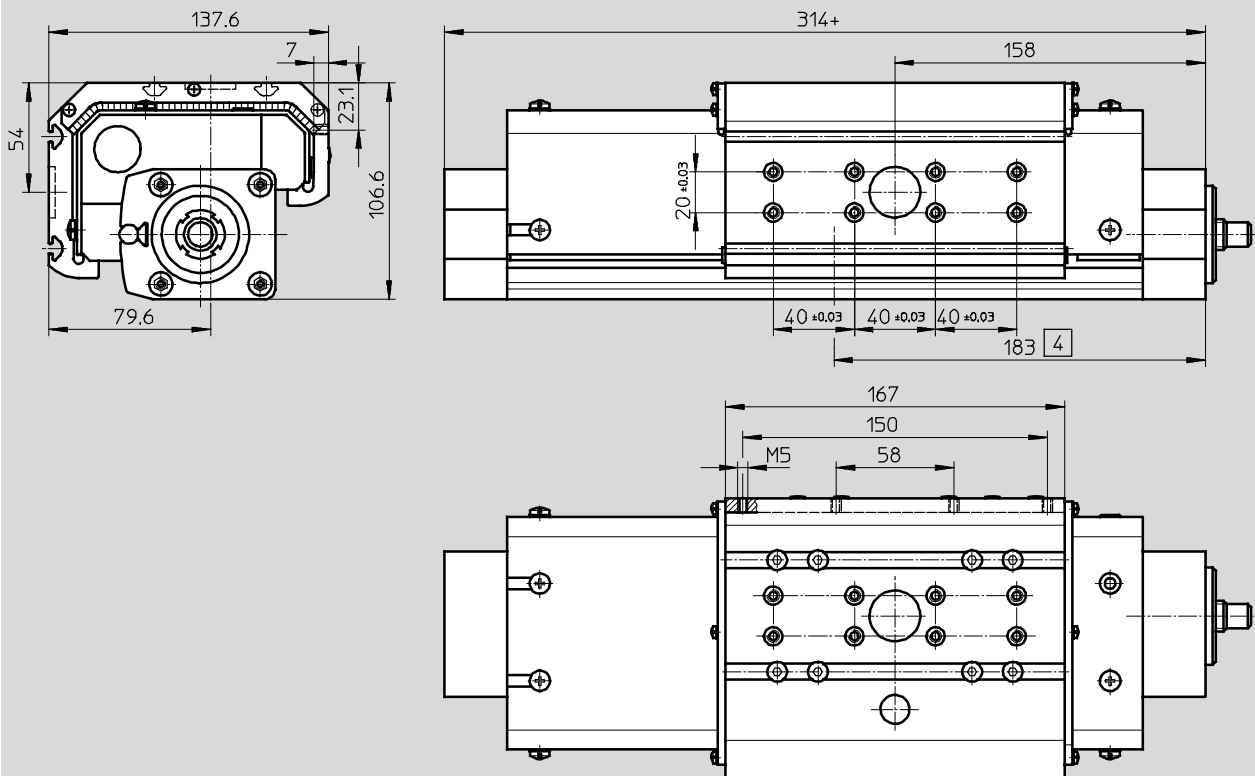
FESTO

Dimensions

Download CAD data → www.festo.com

Protected version GA

Size 40



4 Lubrication opening
+ = plus stroke length

Positioning axes DMES-GF/-KF, with guide

Ordering data – Modular products

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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.

1B Mandatory data				1C Options						
Module No.	Function	Size	Stroke	Guide slide	Slide	Slide attachment position	Additional slide	Motor unit	Accessories	Accessories supplied base
533 699	DMES	18	50 ... 1,800	GF	GK	SV	KL	AX		... B ... C
533 700		25		KF	GV	SH	KR			... A ... F
533 701		40			GA					... G ... I
533 702		63								... J ... L
Order example										
533 701	DMES	40	800	KF	GV	SV	KL		ZUB	ZC30 30Z

MTR-DCI...S...SC-E...J0

Ordering table										
Size	18	25	40	63	Conditions	Code	Enter code			
1B Module No.	533 699	533 700	533 701	533 702			DMES			
Function	Linear actuator with slide						DMES			
Size	18	25	40	63			...			
Stroke [mm]	50 ... 480	50 ... 700	50 ... 1,200	50 ... 1,800			...			
1C Guide	Plain bearing guide						GF			
	Recirculating ball bearing guide						GK			
1D Slide	Standard slide						SV			
	Extended slide						GV			
	Protected version						GA			
Slide attachment position	Slide at front						SH			
	Slide at rear						KL			
Additional slide	Additional slide, standard, at left						KR			
	Additional slide, standard, at right						AX			
Motor unit	Motor unit (including axial kit (enclosed separately))						ZUB			
Accessories	Supplied separately						S			
Slot cover	Sensor slot						B			
	Mounting slot						Y			
Slot nut	Mounting slot						X			
	Slide						J0			
Centre support	1 ... 10						F			
Foot mounting	1 ... 10						2			
Centring sleeve (pack of 10)	10 ... 90						I			
Mounting bracket for inductive proximity sensors	1 ... 5						L			
Switching plug	1									

3 Ordering intelligent motor unit MTR-DCI

Ordering table → 41

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.

1B Mandatory data										
Module No.	Motor unit	Type of motor	Flange/size	Torque class	Nominal voltage	Plug design	Displacement encoder	Gear unit	Parameterisation interface	Electrical connection technology
MTR	DCI		32	S	VC	SC	E	G7	R2	I0
			42		VD			G14	H2	
			52					G22		
			62							
Order example										
MTR	DCI		42	S	VC	SC	E	G7	R2	I0

Ordering table										
Size	32	42	52	62	Conditions	Code	Enter code			
1B Module No.							MTR			
Motor unit	Motor unit						DCI			
Type of motor	DC servo motor with integrated position controller						S			
Flange/size	32	42	52	62			VC			
Torque class	Standard torque class						VD			
Nominal voltage	IM						SC			
	IM						E			
Plug design	Straight plug						G7			
Displacement: encoder	Encoder						G14			
Gear unit	Integrated planetary gearing i = 6.75						G22			
	Integrated planetary gearing i = 15.73						R2			
	Integrated planetary gearing i = 20.20						H2			
Parameterisation: interface	RS232 interface						I0			
	RS232 interface + control panel									
Electrical connection technology	I/O connection									

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-R2I0

 **Note**
 Servo, stepper motors and the corresponding mounting kits must be ordered separately → 42

Positioning axes DMES-GF/-KF, with guide

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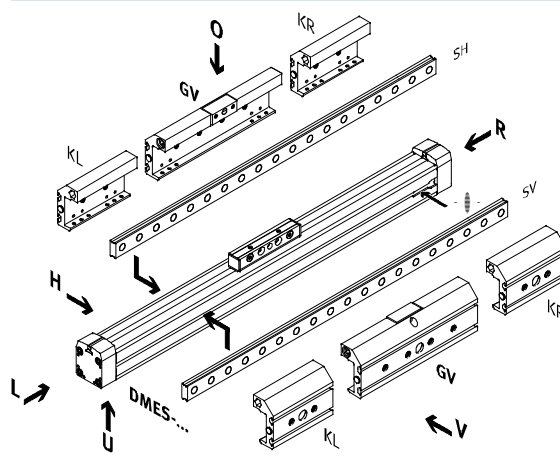
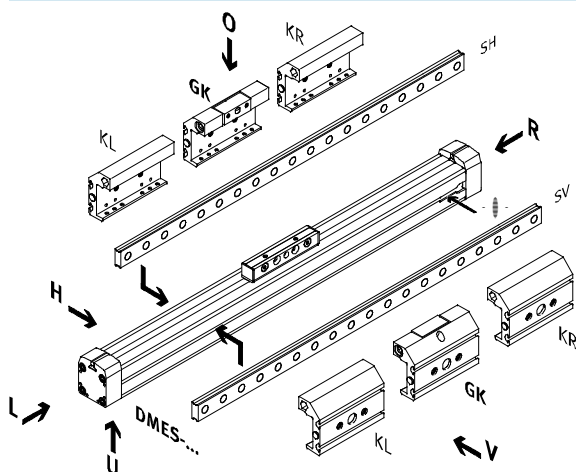
Ordering data – Modular products

Order code

Mandatory data

DMES-...-GK

DMES-...-GV



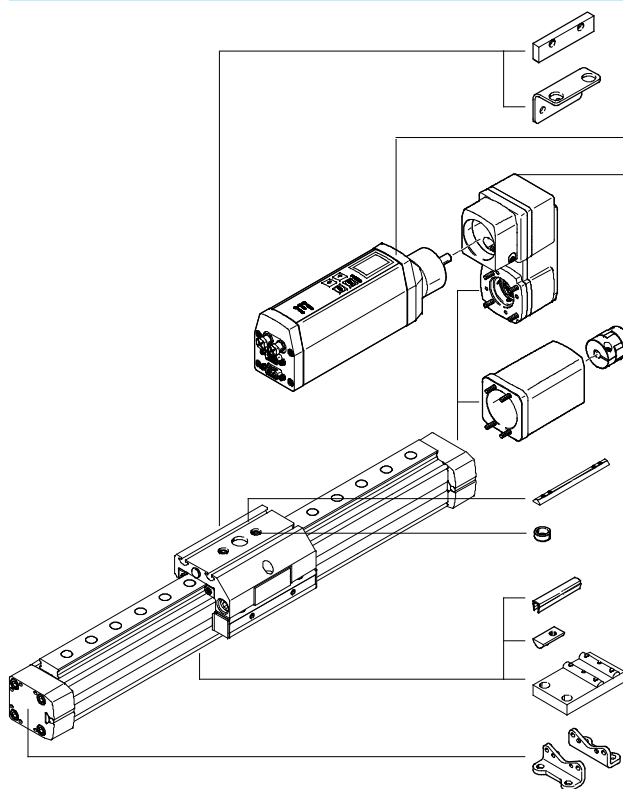
- - Note

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



L

T

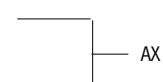
Motor unit

Parallel kit



Motor unit

Axial kit



X

Z

B/S

Y

M

F

Positioning axes DMES-GF/-KF, with guide

FESTO

Ordering data – Modular products

M Mandatory data			O Options							
Module No.	Function		Stroke	Guide		Slide attachment position		Motor unit	Accessories	
	Size			Slide		Additional slide			Accessories supplied loose	
533 699	DMES	18	50 ... 1,800	GF	GK	SV	KL	AX		...S, ...B, ...Y,
533 700		25		KF	GV	SH	KR	U		...X, ...M, ...F,
533 701		40			GA					...Z, ...T, L
533 702		63								
Order example										
533 701	DMES	- 40	- 800	- KF	- GV	- SV	- KL	-	:	ZUB - 2X2M20Z
MTR-DCI-...S-VCSC-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 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	
	Mounting slot	-	1 ... 10			...B	
Slot nut	Mounting slot	1 ... 10				...Y	
	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 → 41

5 T, L Only with slide GK or GV

Transfer order code

	DMES	-		-		-		-		-		-		:	ZUB	-	
MTR-DCI-...S-VCSC-E...-...IO																	

Positioning axes DMES

FESTO

Accessories – Motor units MTR-DCI

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

Ordering table								
Size	32	42	52	62	Condi- tions	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

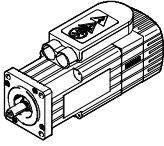
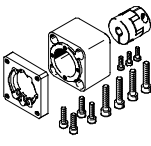
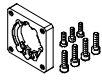
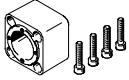
	MTR	-	DCI		S		SC	-	E		-		-	
--	-----	---	-----	--	---	--	----	---	---	--	---	--	---	--

PROFIBUS®, DeviceNet®, CANopen® is a registered trademark of its respective trademark holder in certain countries.

Positioning axes DMES

Accessories

FESTO

Permissible axis/motor combinations with axial kit – Without gear unit					Technical data → Internet: eamm-a
Motor unit	Axial kit	Axial kit consisting of:			
		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 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 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

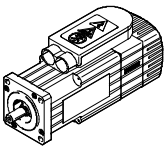
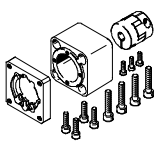
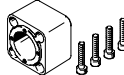
At ambient temperatures below room temperature, the frictional torques increase in the case of the DMES-...-GF (plain-bearing guide). Depending on the combination of motor/motor unit and positioning axis, it may not be possible to reach the maximum feed force of the axis.

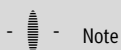
The following tool is available for sizing:
PositioningDrives
sizing software
→ www.festo.com

Positioning axes DMES

FESTO

Accessories

Permissible axis/motor combinations with axial kit – Without gear unit				Technical data → Internet: eamm-a
Motor/motor unit	Axial kit	Axial kit consisting of:		
		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 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 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

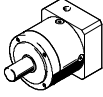
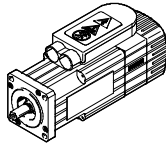
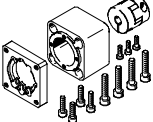
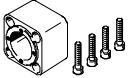
At ambient temperatures below room temperature, the frictional torques increase in the case of the DMES-...-GF (plain-bearing guide). Depending on the combination of motor/motor unit and positioning axis, it may not be possible to reach the maximum feed force of the axis.

The following tool is available for sizing:
PositioningDrives
sizing software
→ www.festo.com

Positioning axes DMES

Accessories

FESTO

Permissible axis/motor combinations with axial kit – With gear unit					Technical data → Internet: eamm-a
Gear unit	Motor	Axial kit	Axial kit consisting of:		
			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

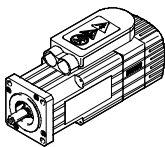
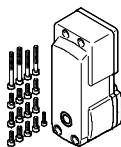
At ambient temperatures below room temperature, the frictional torques increase in the case of the DMES-...-GF (plain-bearing guide). Depending on the combination of motor/motor unit and positioning axis, it may not be possible to reach the maximum feed force of the axis.

The following tool is available for sizing:
PositioningDrives
sizing software
→ www.festo.com

Positioning axes DMES

FESTO

Accessories

Permissible axis/motor combinations with parallel kit – Without gear unit			Technical data → Internet: eamm-u
Motor/motor unit	Parallel kit		
			
Type	Part No.	Type	
DMES-18			
With servo motor			
EMMS-AS-40-...	543 226	EAMM-U-E24-40A	
With 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 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 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 frictional torques increase in the case of the DMES-...-GF (plain-bearing guide). Depending on the combination of motor/motor unit and positioning axis, it may not be possible to reach the maximum feed force of the axis. The respective no-load driving torque of the kit must be taken into consideration when using parallel kits.

The following tool is available for sizing:
PositioningDrives
sizing software
→ www.festo.com

Positioning axes DMES

Accessories

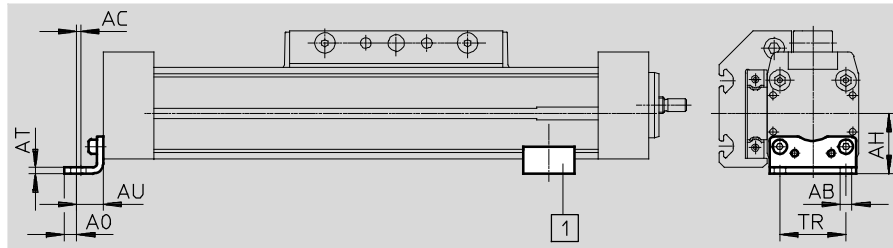
FESTO

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 Ø	AC	AH	AO	AT	AU	TR	Weight [g]	Part No.	Type
18	5.5	2	24	4.8	3	13.2	24	59	158 472	HP-18
25	5.5	2	29.5	6	3	13	32.5	61	150 731	HP-25
40	6.6	2	46	8.5	5	17.5	45	188	150 733	HP-40
63	11	3	69	13.5	6	28	75	305	150 735	HP-63

Central support MUP (order code M)

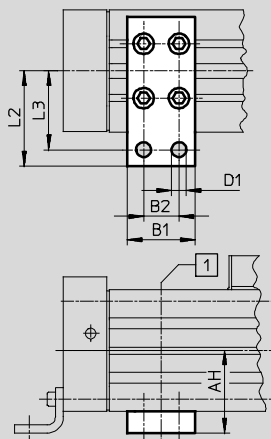
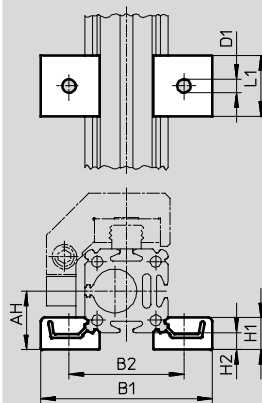
Material:
Galvanised steel
Free of copper, PTFE and silicone



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 Ø	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

Positioning axes DMES

FESTO

Accessories

Sensor bracket HWS

for inductive proximity sensors

(order code T)

Material:

Galvanised steel



Switch lug SF

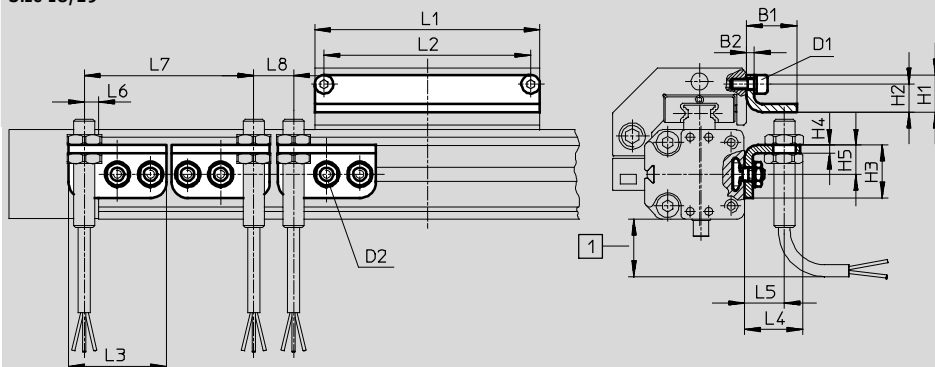
(order code L)

Material:

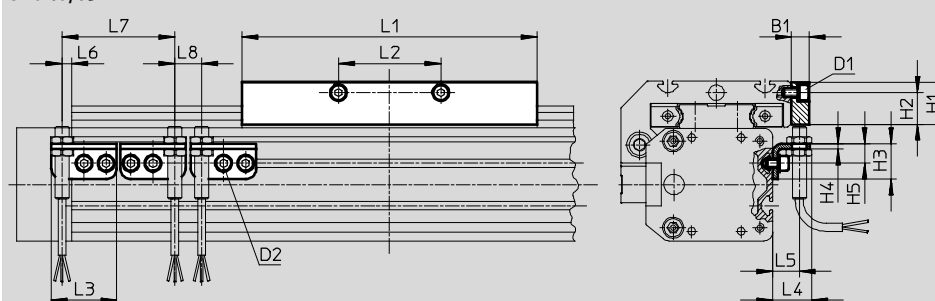
Galvanised steel



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

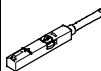
For size	L6 max.	L7 min.	L8 min.	Weight [g]	Part No.	Type
18	5.5	64	15	34	188 968	HWS-18/25-M8
				59	188 964	SF-18
25	5.5	64	15	34	188 968	HWS-18/25-M8
				75	188 965	SF-25
40	5.5	64	15	37	188 969	HWS-40-M8
				328	188 966	SF-40
63	5.5	64	15	45	188 970	HWS-63-M8
				630	188 967	SF-63

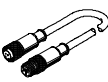
Positioning axes DMES

Accessories

FESTO

Ordering data – Inductive proximity sensors M8						Technical data ➔ Internet: sien	
	Electrical connection		Switching output	LED	Cable length [m]	Part No.	Type
	Cable	Plug M8					
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

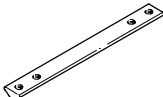
Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data → Internet: smt	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with the cylinder profile	PNP	Plug M8x1, 3-pin	0.3	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 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	

Positioning axes DMES

Accessories

FESTO

Ordering data			Technical data → Internet: mounting attachment			
	For size	Comment	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 every 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 every 0.5 m	S	151 680	ABP-5-S	2

1) Packaging unit