

- For positioning movements
- Suitable for high forces
- Cost optimised
- Interfaces identical to DGE-...-SP

Positioning axes DMES

Key features



Electrical positioning systems
Electromechanical drives
2.1

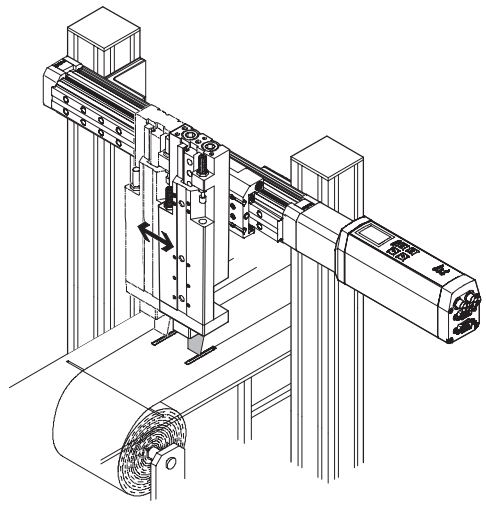
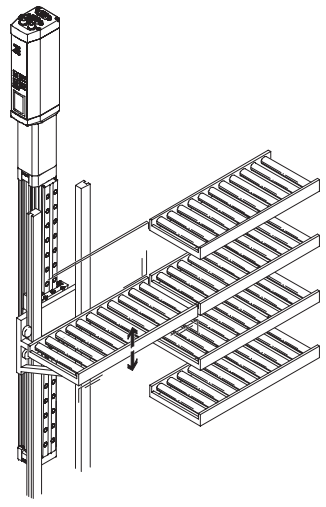
At a glance

General	Properties	Range of applications
<p>DMES positioning axes are mechanical linear drives that are specially designed for movements involving high forces.</p> <p>The mechanical interfaces are compatible with the spindle axis DGE-SP.</p>	<ul style="list-style-type: none"> • High mechanical torques • High feed forces up to 3,000 N • Self-retarding lead-screw spindle • Compact dimensions • Cost optimised 	<ul style="list-style-type: none"> • Alternatively: <ul style="list-style-type: none"> – without guide – with plain-bearing guide GF – with recirculating ball bearing guide KF • For format adjustment: <ul style="list-style-type: none"> – in printing, paper and foil wrapping machines – in packaging machines – in feed technology

Application examples

Adjusting sorting conveyors

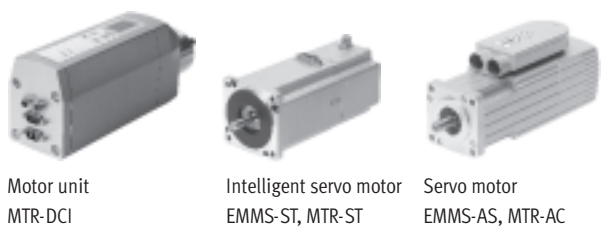
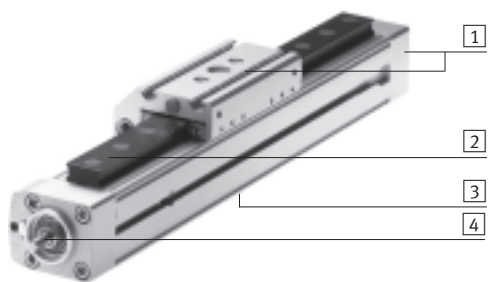
Programming formats for paper or foil cutting machines



The technology in detail

Positioning axis → 5 / 2.1-190

Motor → 5 / 2.1-228



- 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.

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

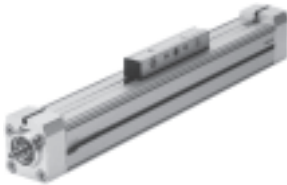
Positioning axes DMES

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

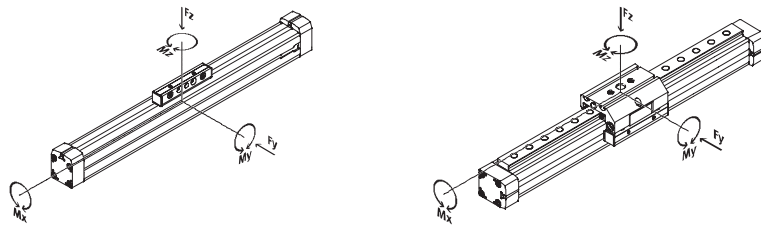


- With standard slide (GK)
- With plain or recirculating ball bearing guide as an option
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side

Guide characteristics

The specifications shown in the table are maximum values.

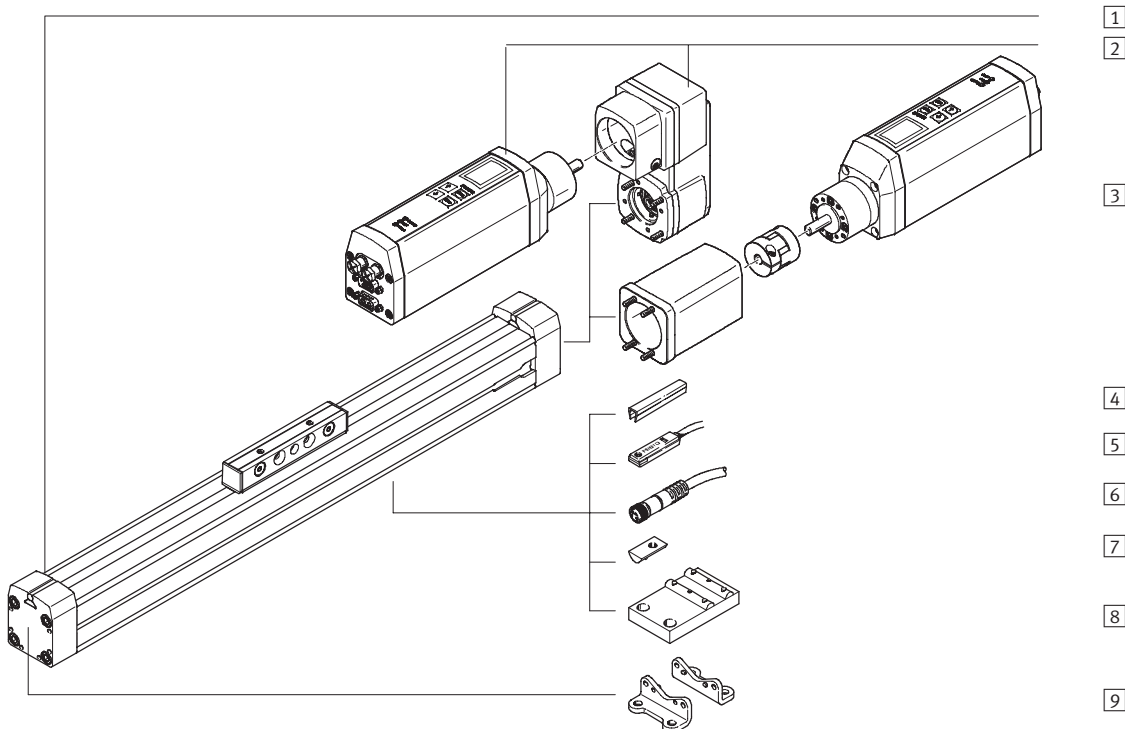
The precise values for each of the variants can be found in the relevant technical data in the catalogue.



	Size	Working stroke [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Forces and torques					→ Page
						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	5 / 2.1-192
	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	5 / 2.1-206
	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	5 / 2.1-206
	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
1 Positioning axis DMES	Electromechanical axis without guide	5 / 2.1-192
2 Intelligent servo unit and parallel kit U	Complete package for parallel motor attachment, comprising parallel kit and intelligent motor unit MTR-DCI	5 / 2.1-200
3 Intelligent servo unit and axial kit AX	Complete package for axial motor attachment, comprising axial kit and intelligent motor unit MTR-DCI	5 / 2.1-200
4 Slot cover B/S	For protecting against ingress of dirt	5 / 2.1-238
5 Proximity sensor SMT-8	For providing a proximity signal or safety sensing	5 / 2.1-237
6 Connecting cable KM8	For proximity sensor	5 / 2.1-237
7 Slot nut for mounting slot Y	For mounting attachments	5 / 2.1-238
8 Central support M	For mounting the axis	5 / 2.1-235
9 Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	5 / 2.1-235

Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately → 5 / 2.1-228

Positioning axes DMES, without guide

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

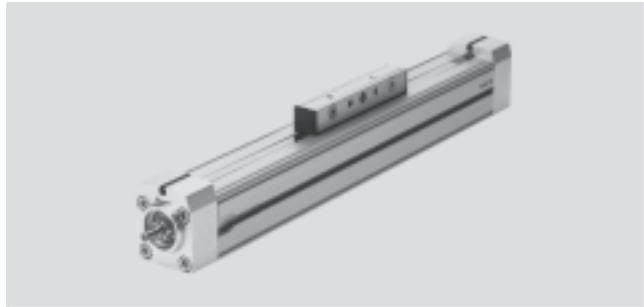
Positioning axes DMES, without guide

Technical data



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

-  - www.festo.com/en/Spare_parts_service



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 on drive shaft [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 ²⁾ [mm]	< 0.1			

- 1) Measured at a speed of 200 rpm.
2) 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

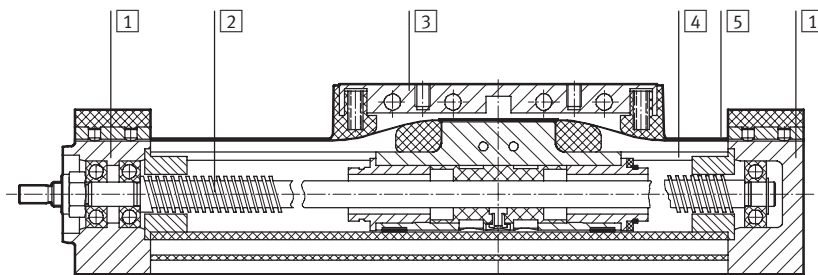
Mass moment of inertia					
Size		18	25	40	63
J_0	[kg cm ²]	0.0028	0.0147	0.1824	1.7747
j_H per metre stroke	[kg cm ² /m]	0.0210	0.0980	0.8400	5.5600
j_L per kg working load	[kg cm ² /Kg]	0.0006	0.0023	0.0041	0.0091

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

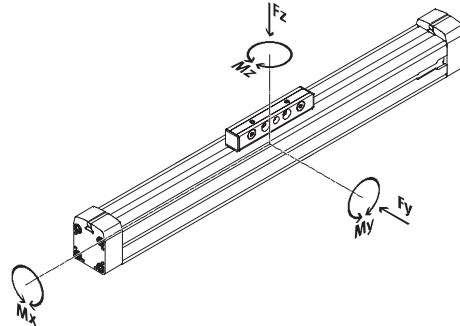
Technical data



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.



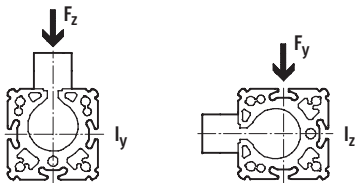
If the axis is subjected to more than two of the indicated forces simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{|F_y|}{F_{y\max.}} + \frac{|F_z|}{F_{z\max.}} + \frac{|M_x|}{M_{x\max.}} + \frac{|M_y|}{M_{y\max.}} + \frac{|M_z|}{M_{z\max.}} \leq 1$$

 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



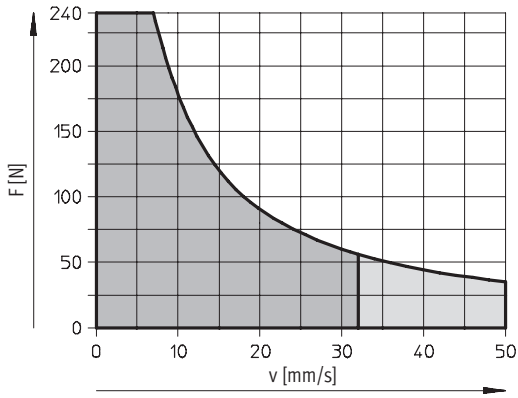
Engineering Tool
PositioningDrives
www.festo.com/en/engineering

Positioning axes DMES, without guide

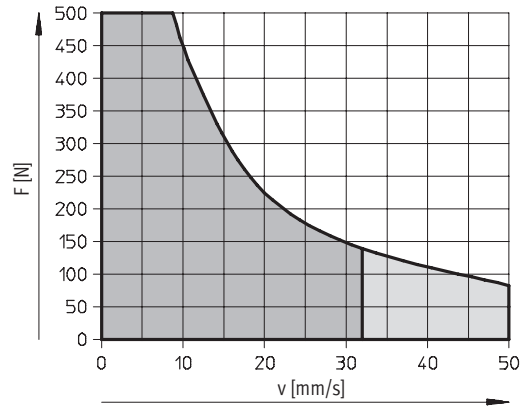
Technical data

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

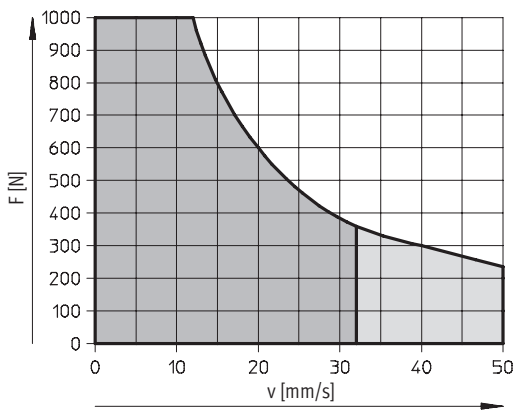
Size 18



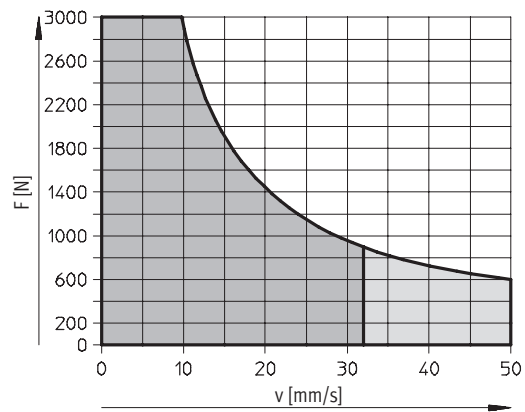
Size 25



Size 40



Size 63



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

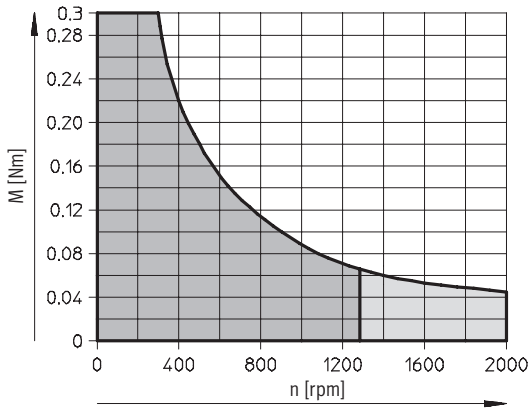
Positioning axes DMES, without guide

Technical data

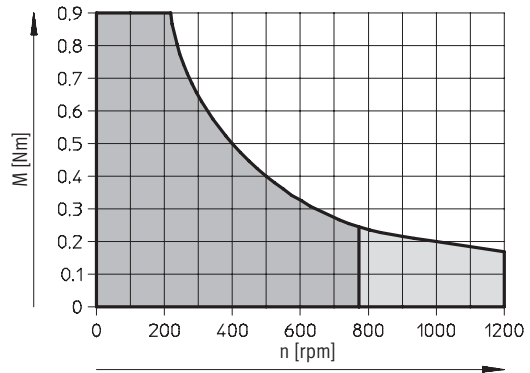


Maximum permissible driving torque M as a function of n (rpm)

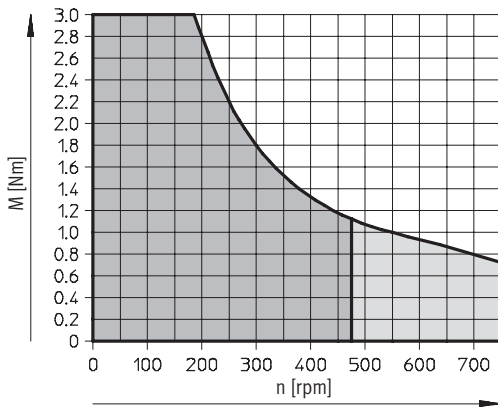
Size 18



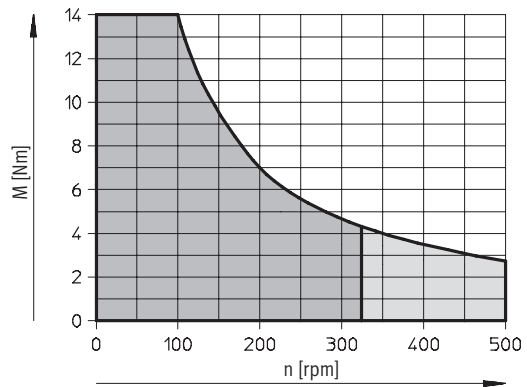
Size 25



Size 40

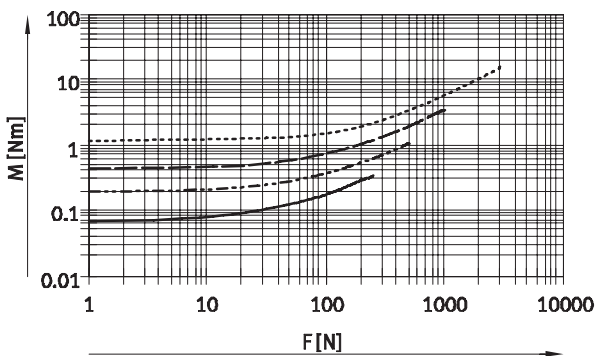


Size 63

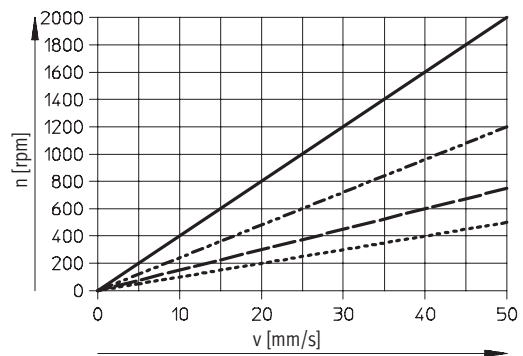


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

Driving torque M as a function of the feed force F



Speed as a function of the feed speed v



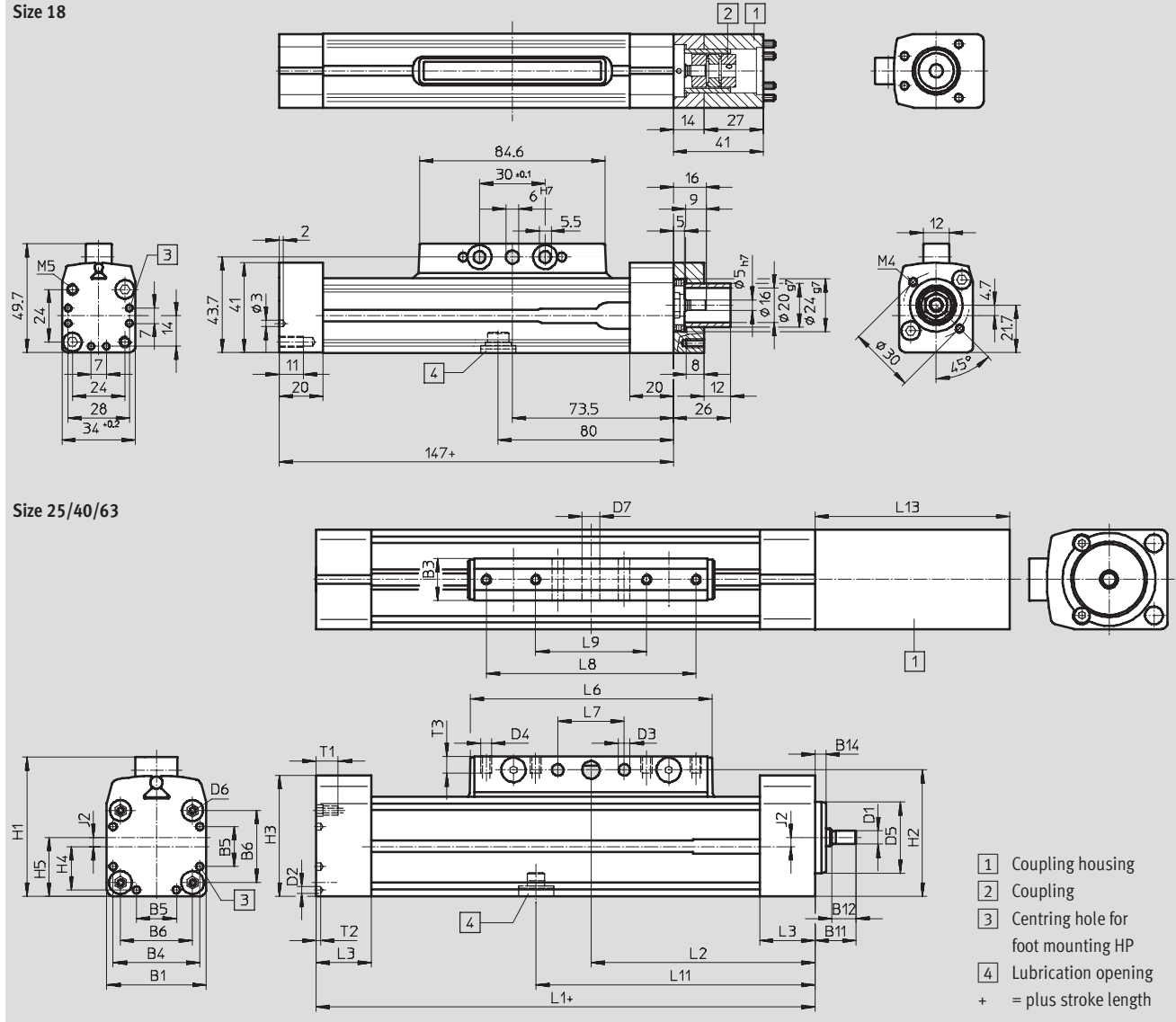
- DMES-18
- - - - - DMES-25
- DMES-40
- · · · · DMES-63

Positioning axes DMES, without guide

Technical data



Dimensions Download CAD data → www.festo.com/en/engineering



Size	B1	B3	B4	B5	B6	B11	B12	B14	D1	D2	D3	D4	D5	D6	D7	H1	H2	H3
	+0.4								∅	∅	∅		∅		∅			
									h7				g7		H10			
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	L8	L9	L11	L13			T1	T2	T3
												1)	2)	3)			
								±0.1	±0.1	±0.1		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

- 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.

Positioning axes DMES, without guide

Technical data



Dimensions Download CAD data → www.festo.com/en/engineering

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



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

1 Ordering positioning axis DMES Ordering table → 5 / 2.1-201

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.

1) Accessories data				2) Options		
Module No.	Accessories	Size	Stroke	Motor unit	Accessories	Necessarily supplied items
533 000	DMES	25	10 ... 1200	42		533 000, 533 001
533 001		25				
533 002		40				
533 003		63				
Order example 533 000 - 25 - 100 - 533 - 533 - 533 000						

Ordering table	25	40	63	80	Motor unit	Order	Accessories
1) Motor unit	533 000	533 001	533 002	533 003	533 004		
2) Accessories	533 000	533 001	533 002	533 003	533 004		
3) Motor unit	533 000	533 001	533 002	533 003	533 004		
4) Accessories	533 000	533 001	533 002	533 003	533 004		
5) Motor unit	533 000	533 001	533 002	533 003	533 004		
6) Accessories	533 000	533 001	533 002	533 003	533 004		
7) Motor unit	533 000	533 001	533 002	533 003	533 004		
8) Accessories	533 000	533 001	533 002	533 003	533 004		
9) Motor unit	533 000	533 001	533 002	533 003	533 004		
10) Accessories	533 000	533 001	533 002	533 003	533 004		

3 Ordering intelligent motor unit MTR-DCI Ordering table → 5 / 2.2-9

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.

1) Accessories data										
Module No.	Motor unit	Type of motor	Range/size	Encoder data	Rated voltage	Rated torque	Rated speed	Rated current	Rated power	Parameterisation interface
533 000	533 000	533 000	533 000	533 000	533 000	533 000	533 000	533 000	533 000	533 000
Ordering table										
Type	25	40	63	80	Motor unit	Order	Accessories			
1) Motor unit	533 000	533 001	533 002	533 003	533 004					
2) Accessories	533 000	533 001	533 002	533 003	533 004					
3) Motor unit	533 000	533 001	533 002	533 003	533 004					
4) Accessories	533 000	533 001	533 002	533 003	533 004					
5) Motor unit	533 000	533 001	533 002	533 003	533 004					
6) Accessories	533 000	533 001	533 002	533 003	533 004					
7) Motor unit	533 000	533 001	533 002	533 003	533 004					
8) Accessories	533 000	533 001	533 002	533 003	533 004					
9) Motor unit	533 000	533 001	533 002	533 003	533 004					
10) Accessories	533 000	533 001	533 002	533 003	533 004					

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-R210

Note
 Servo, stepper motors and the corresponding mounting kits must be ordered separately → 5 / 2.1-228

New
Parallel kit

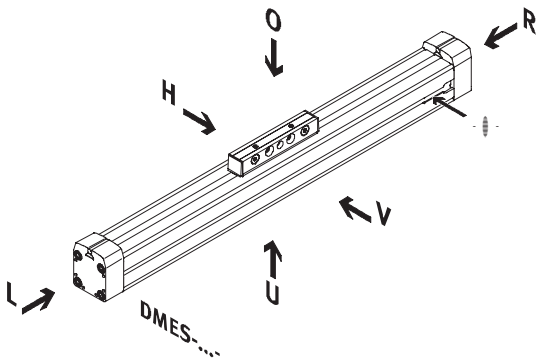
Positioning axes DMES, without guide

Ordering data – Modular products



Order code

Mandatory data



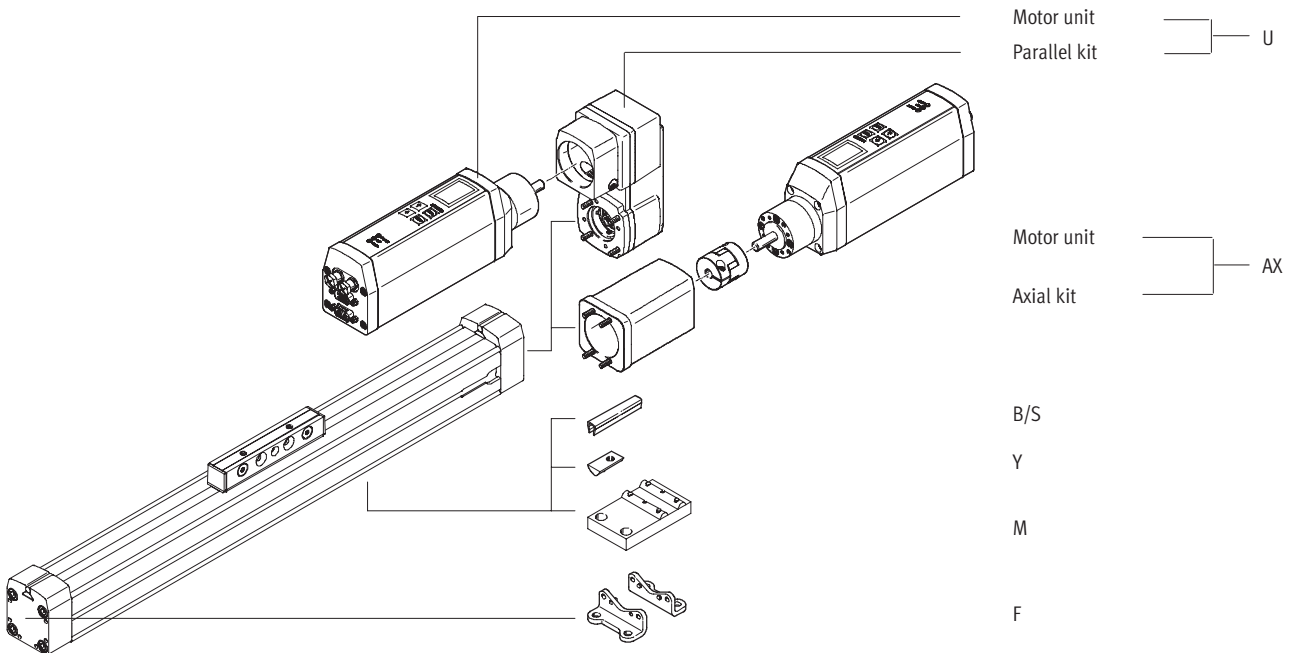
- - Note

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	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								Enter code
Size	18	25	40	63	Condi- tions	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)				-	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		

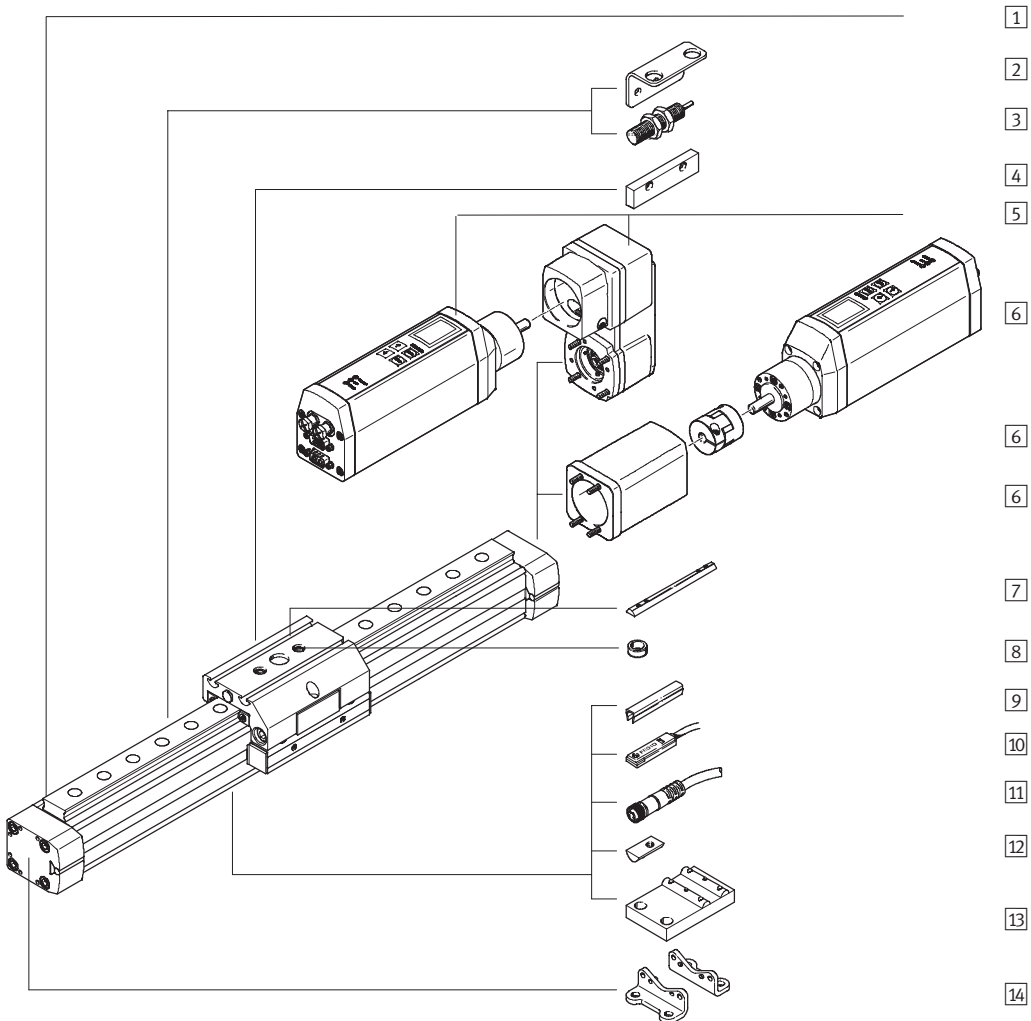
1 AX, U Order processing for intelligent motor unit MTR-DCI → 5 / 2.2-9.

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	
1	Positioning axis DMES	Electromechanical axis with spindle and plain-bearing guide or recirculating ball bearing guide	■	■	5 / 2.1-206
2	Sensor retainer T	Adapter for mounting the inductive proximity sensors on the axis	■	-	5 / 2.1-236
3	Inductive proximity sensor SIEN	For providing a proximity signal or safety sensing	■	-	5 / 2.1-237
4	Switching lug L	For sensing the slide position with inductive proximity sensors	■	-	5 / 2.1-236
5	Motor unit and parallel kit U	Complete package for parallel motor attachment, comprising parallel kit and intelligent motor unit MTR-DCI	■	■	5 / 2.1-225
6	Motor unit and axial kit AX	Complete package for axial motor attachment, comprising axial kit and intelligent motor unit MTR-DCI	■	■	5 / 2.1-225
7	Slot nut for slide X	For mounting loads and attachments on the slide	■	■	5 / 2.1-238
8	Centring sleeves Z	For centring loads and attachments on the slide	■	■	5 / 2.1-238
9	Slot cover B/S	For protecting against ingress of dirt	■	■	5 / 2.1-238
10	Proximity sensor SMT-8	For providing a proximity signal or safety sensing	■	■	5 / 2.1-237
11	Connecting cable KM8	For proximity sensor	■	■	5 / 2.1-237
12	Slot nut for mounting slot Y	For mounting attachments	■	■	5 / 2.1-238
13	Central support M	For mounting the axis	■	■	5 / 2.1-235
14	Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	■	■	5 / 2.1-235

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

 Note
Servo, stepper motors and the corresponding mounting kits must be ordered separately → 5 / 2.1-228

Positioning axes DMES-GF/-KF, with guide

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

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									

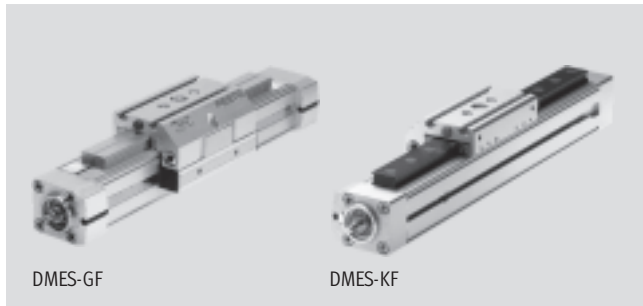
Positioning axes DMES-GF/-KF, with guide

Technical data



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

- - www.festo.com/en/Spare_parts_service



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 on drive shaft [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 ²⁾ [mm]	< 0.1			

- 1) Measured at a speed of 200 rpm.
2) 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:

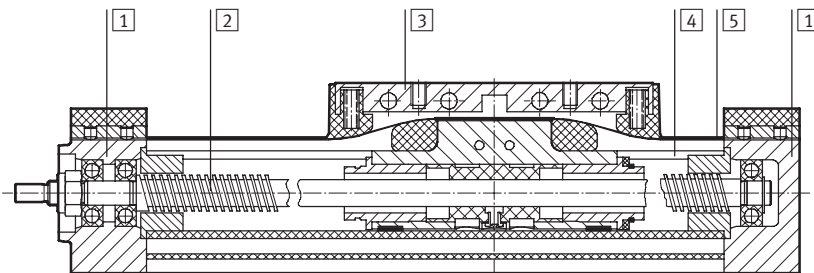
$$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{\text{working load [kg]}} + i \times j_W$$

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

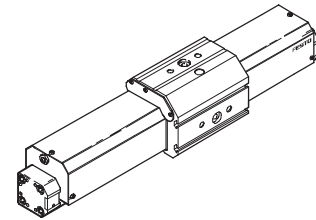
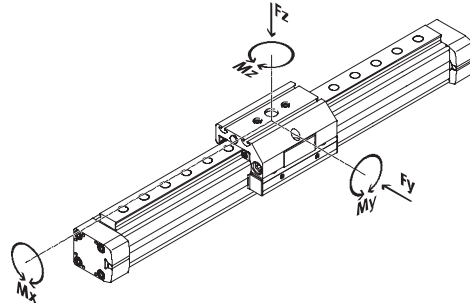
Positioning axes DMES-GF/-KF, with guide

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.



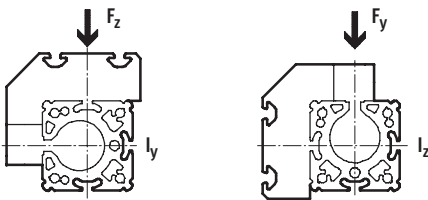
If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

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

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



Engineering Tool
PositioningDrives
www.festo.com/en/engineering

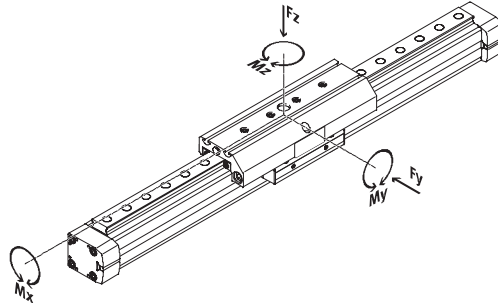
Positioning axes DMES-GF/-KF, with guide

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.

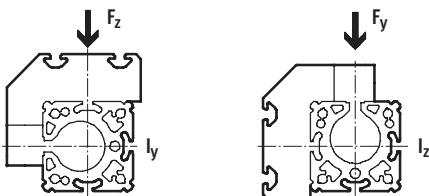


If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

$$\frac{|F_{y1}|}{F_{y_{max}}} + \frac{|F_{z1}|}{F_{z_{max}}} + \frac{|M_{x1}|}{M_{x_{max}}} + \frac{|M_{y1}|}{M_{y_{max}}} + \frac{|M_{z1}|}{M_{z_{max}}} \leq 1$$

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



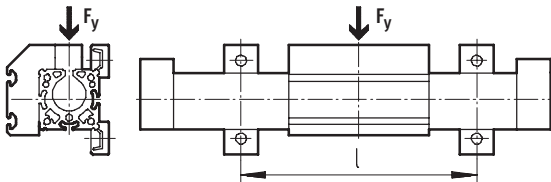
Deflection of the positioning axis as a function of the working load F and the support span l

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

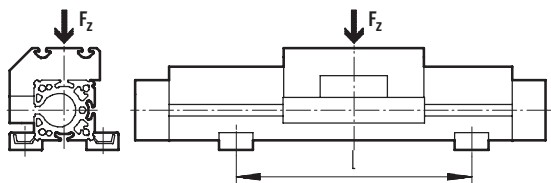
both ends (see drawing below). A differentiation is made between two load directions. The axis may also

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

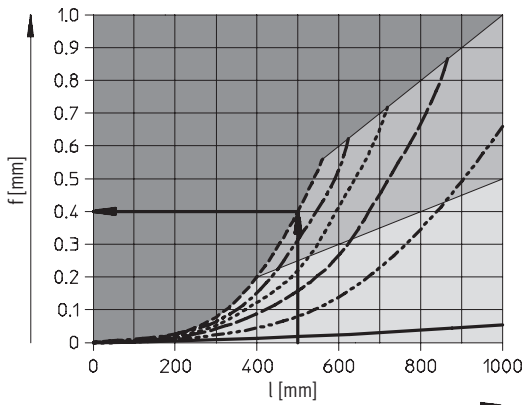
Deflection along the y-axis



Deflection along the z-axis



Example showing how to determine deflection



----- 2,500 N

- 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 → 5 / 2.1-217
700 mm + 175 mm = 875 mm
Working load F = 2,500 N
Support span l = 500 mm

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.

To be found:

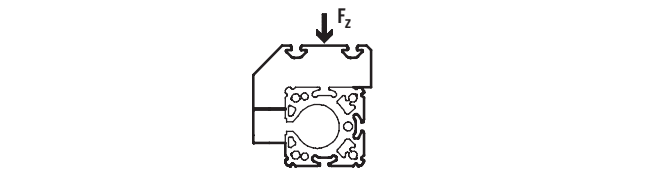
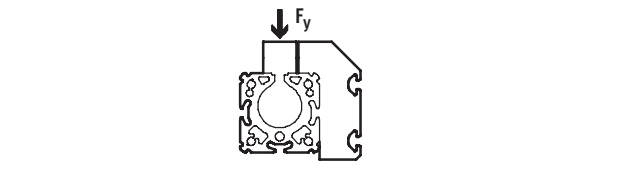
Deflection f

Positioning axes DMES-GF/-KF, with guide

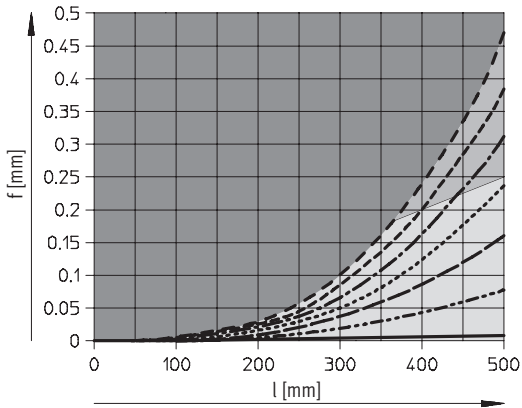
Technical data



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

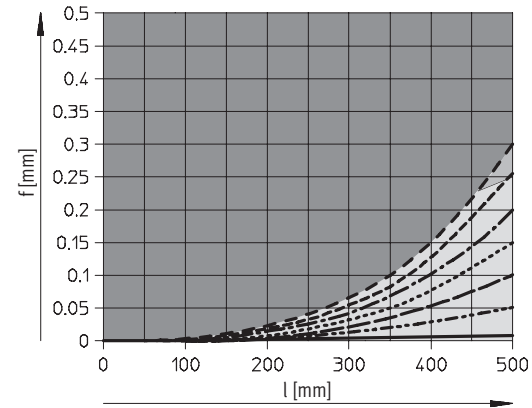


DMES-18-GF, with plain-bearing guide

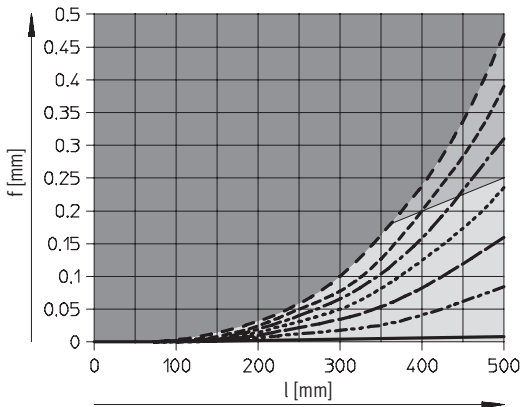


—	0 N	- - - - -	600 N
- · - · -	150 N	- - - - -	750 N
- - - - -	300 N	- - - - -	900 N
- · - · -	450 N		

DMES-18-GF, with plain-bearing guide

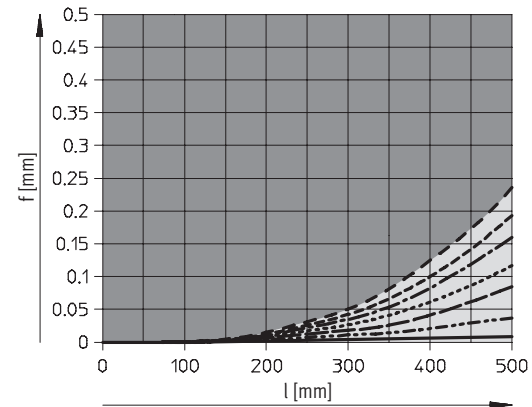


DMES-18-KF, with recirculating ball bearing guide



—	0 N	- - - - -	600 N
- · - · -	150 N	- - - - -	750 N
- - - - -	300 N	- - - - -	900 N
- · - · -	450 N		

DMES-18-KF, with recirculating ball bearing guide



- Impermissible range
- Static range
- Static and dynamic range

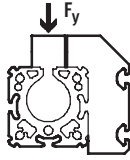
Positioning axes DMES-GF/-KF, with guide

Technical data

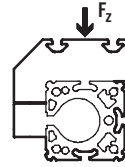


Deflection of the positioning axis as a function of the working load F and the working stroke l

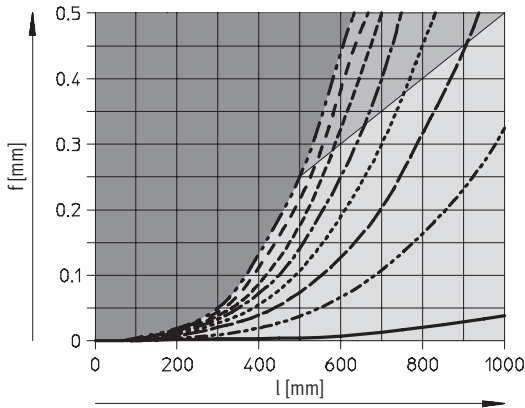
Along the y-axis



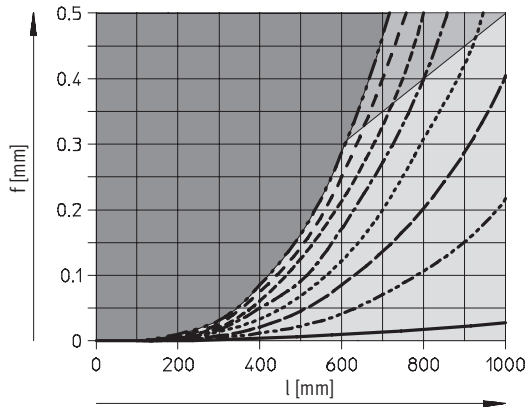
Along the z-axis



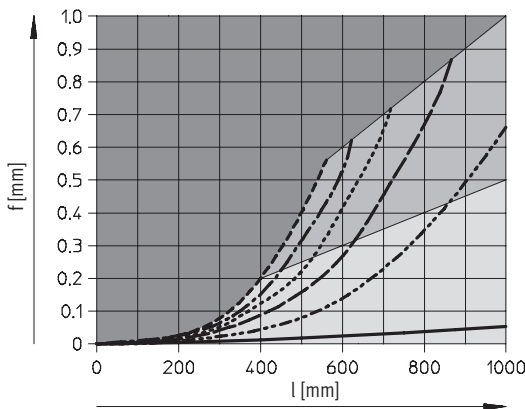
DMES-25-GF, with plain-bearing guide



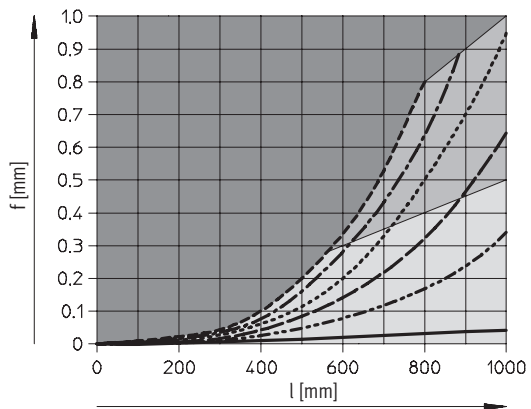
DMES-25-GF, with plain-bearing guide



DMES-25-KF, with recirculating ball bearing guide



DMES-25-KF, with recirculating ball bearing guide



- Impermissible range
- Static range
- Static and dynamic range

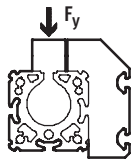
Positioning axes DMES-GF/-KF, with guide

Technical data

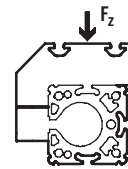


Deflection of the positioning axis as a function of the working load F and the working stroke l

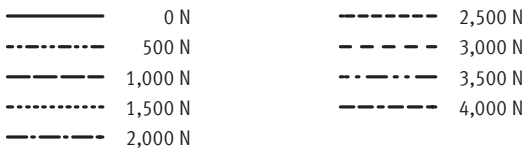
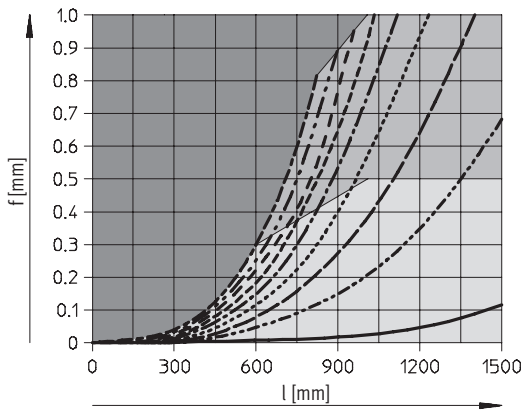
Along the y-axis



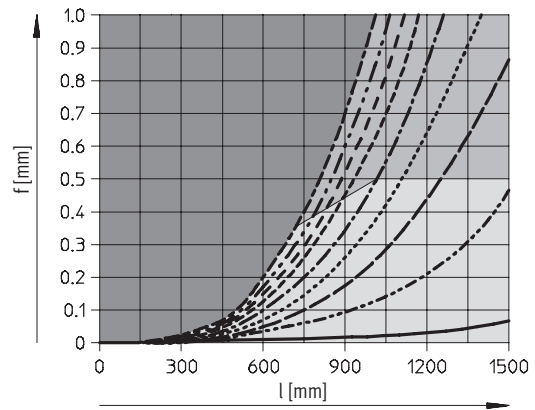
Along the z-axis



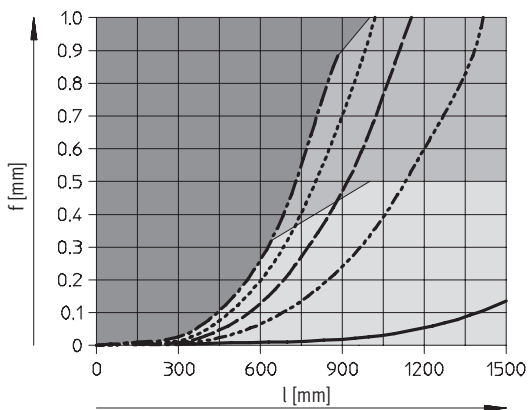
DMES-40-GF, with plain-bearing guide



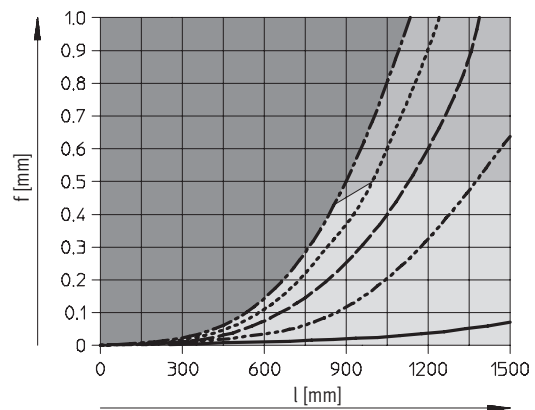
DMES-40-GF, with plain-bearing guide



DMES-40-KF, with recirculating ball bearing guide



DMES-40-KF, with recirculating ball bearing guide



- Impermissible range
- Static range
- Static and dynamic range

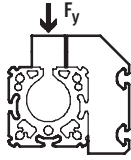
Positioning axes DMES-GF/-KF, with guide

Technical data

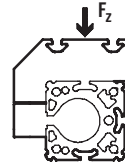


Deflection of the positioning axis as a function of the working load F and the working stroke l

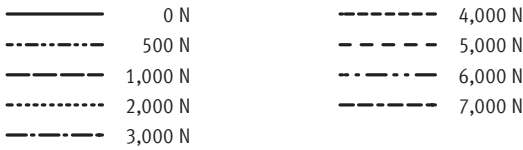
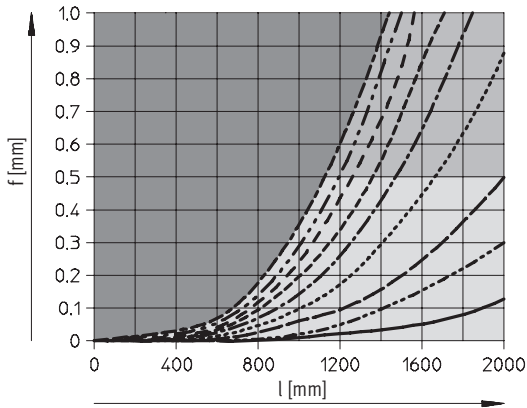
Along the y-axis



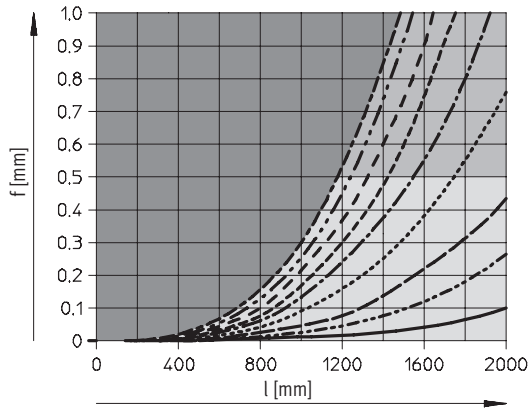
Along the z-axis



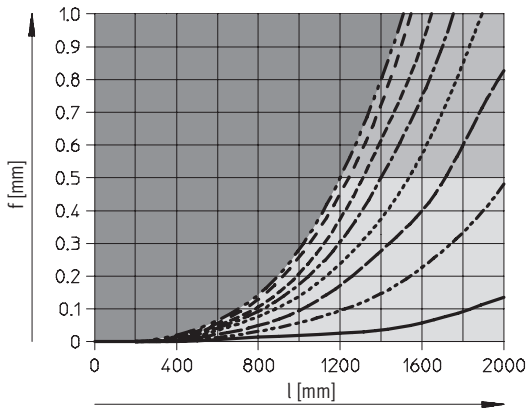
DMES-63-GF, with plain-bearing guide



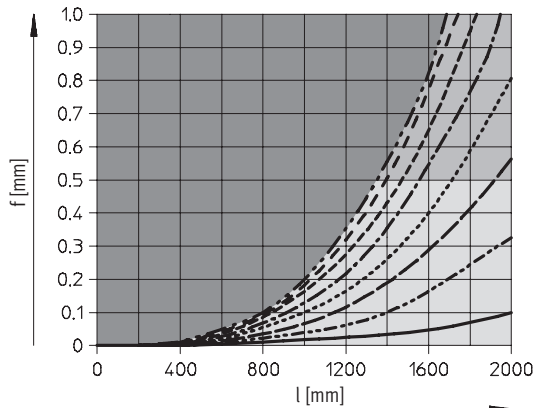
DMES-63-GF, with plain-bearing guide



DMES-63-KF, with recirculating ball bearing guide



DMES-63-KF, with recirculating ball bearing guide



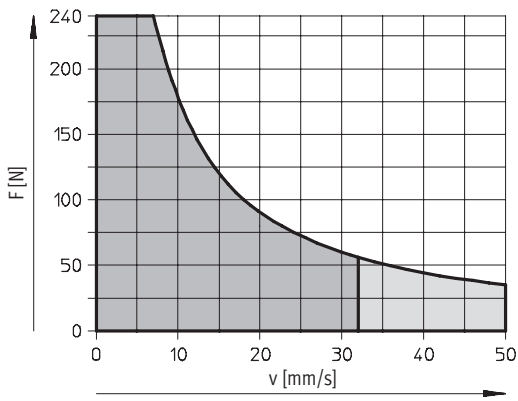
- Impermissible range
- Static range
- Static and dynamic range

Positioning axes DMES-GF/-KF, with guide

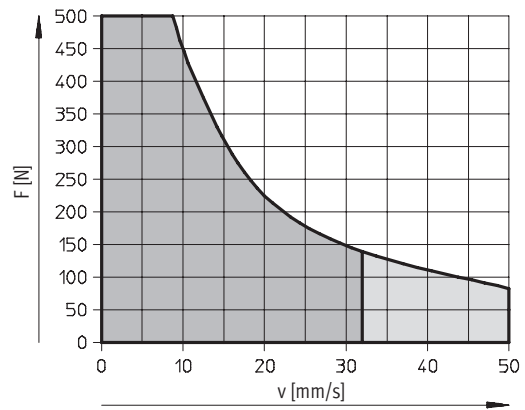
Technical data

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

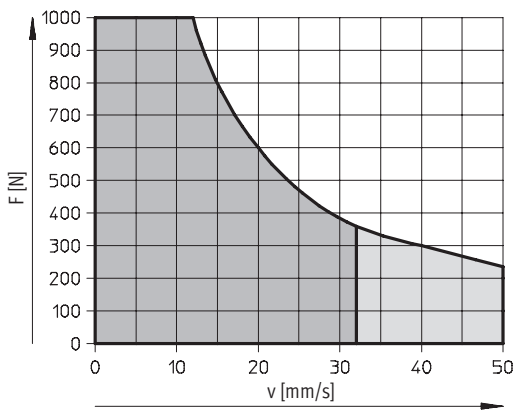
Size 18



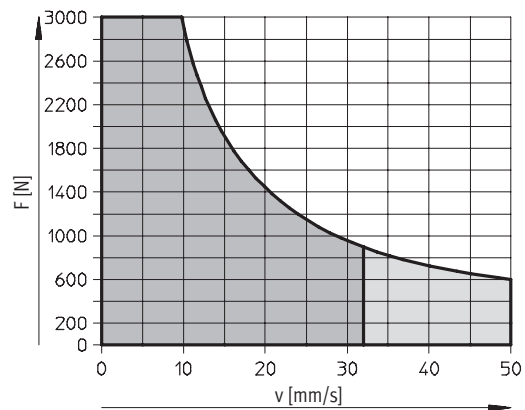
Size 25



Size 40



Size 63



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

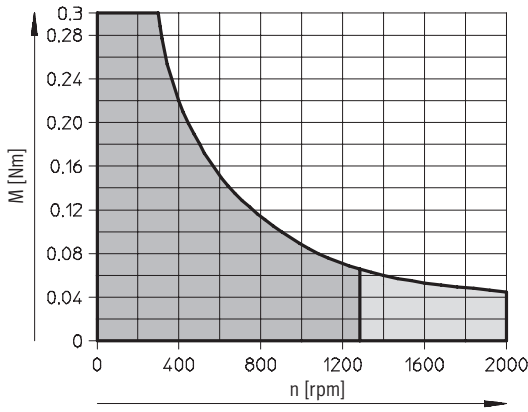
Positioning axes DMES-GF/-KF, with guide

Technical data

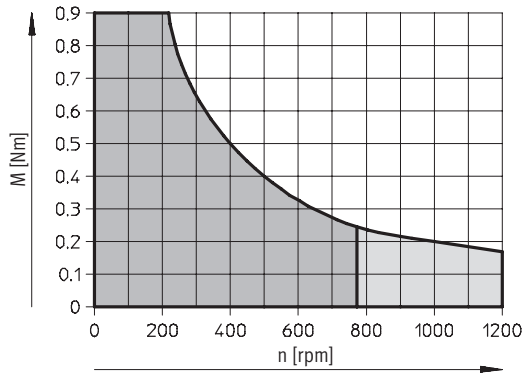


Maximum permissible driving torque M as a function of n (rpm)

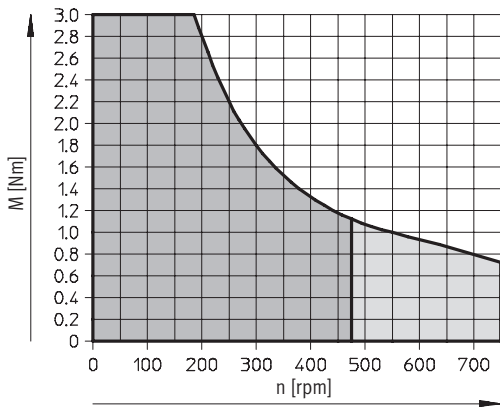
Size 18



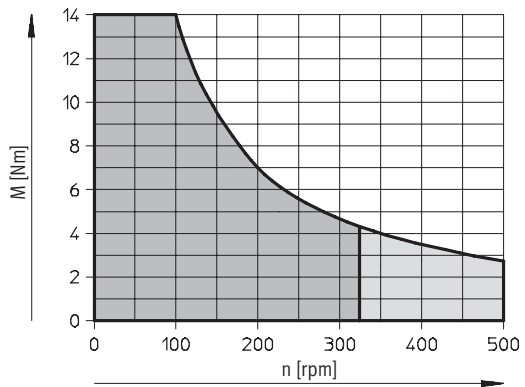
Size 25



Size 40

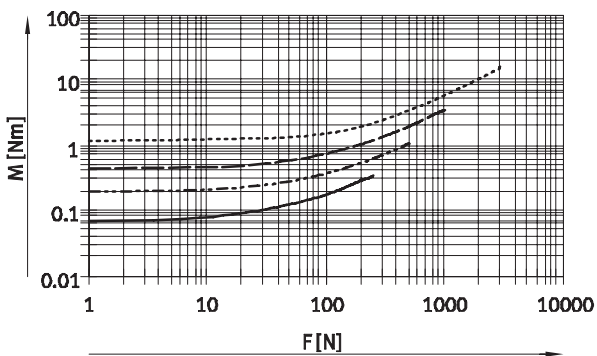


Size 63

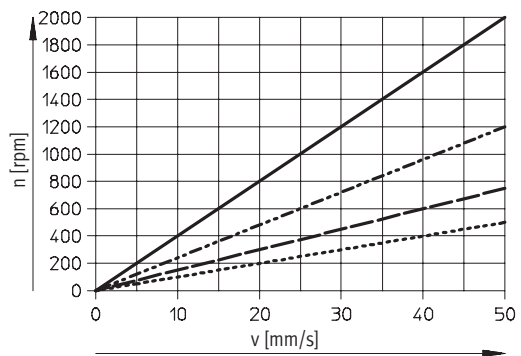


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

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

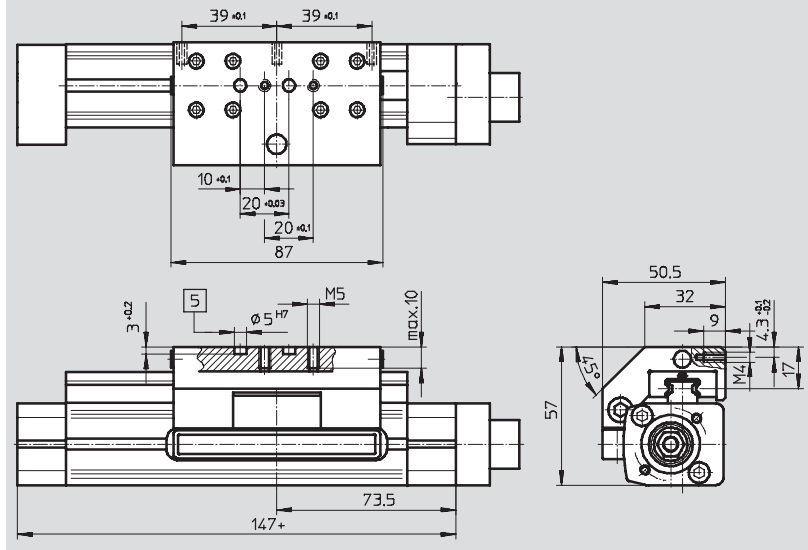
Technical data



Dimensions Download CAD data → www.festo.com/en/engineering

Standard slide GK

Size 18

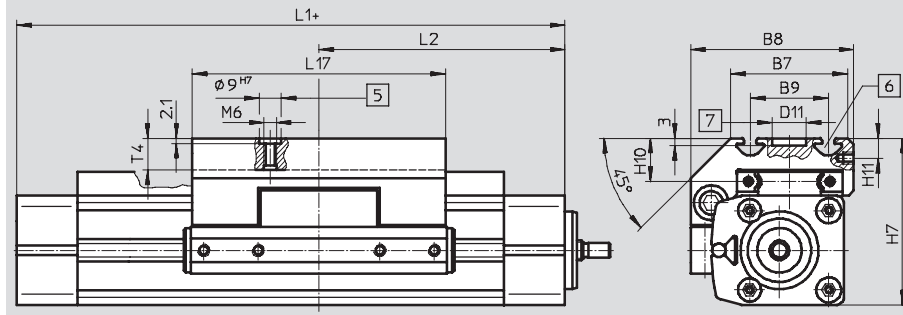


5 Hole for centring pin ZBS-5

Basic dimensions

→ 5 / 2.1-197

Size 25/40/63



5 Hole for centring pin ZBH-9

6 Mounting slot for slot nut NSTL

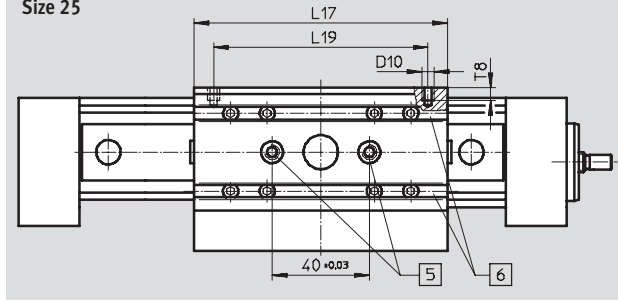
7 Hole for central mounting SLZZ

+ = plus stroke length

Basic dimensions

→ 5 / 2.1-197

Size 25



Size	B7	B8	B9	D10	D11	H7	H10	H11	L1	L2	L17	L19	T4	T8
			±0.2		∅ G7			+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

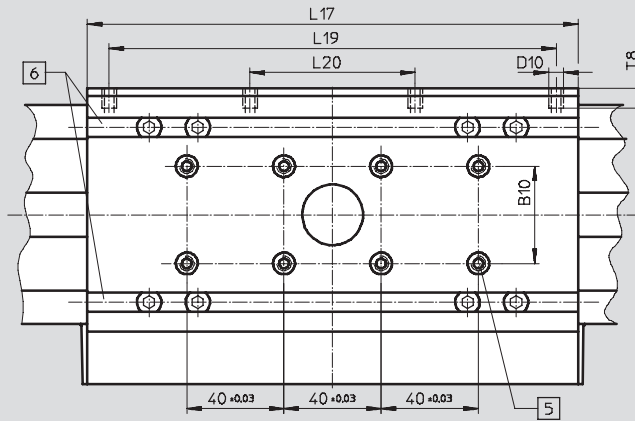


Dimensions

Download CAD data → www.festo.com/en/engineering

Standard slide GK

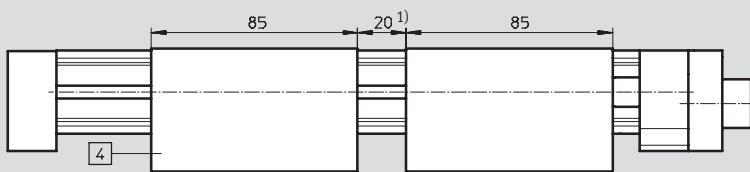
Size 40/63



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

Additional slide KL/KR

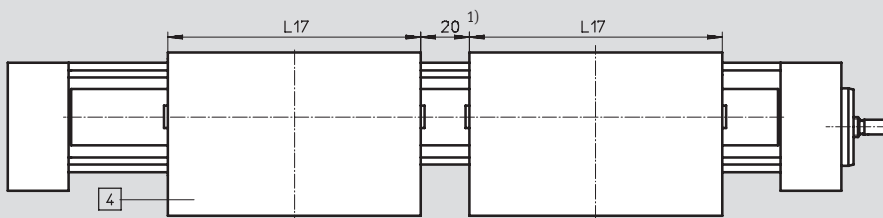
Size 18



- 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
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

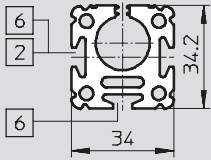
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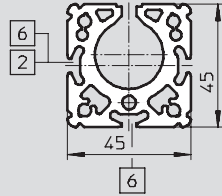
Dimensions Download CAD data → www.festo.com/en/engineering

Profile

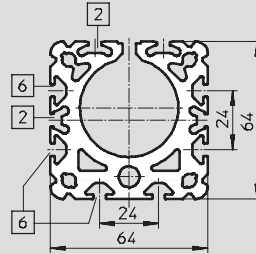
Size 18



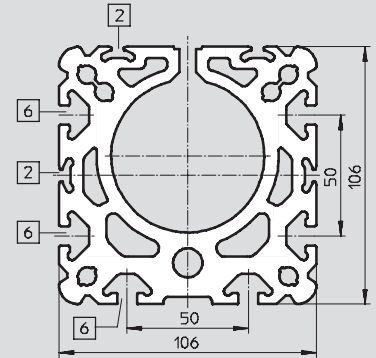
Size 25



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



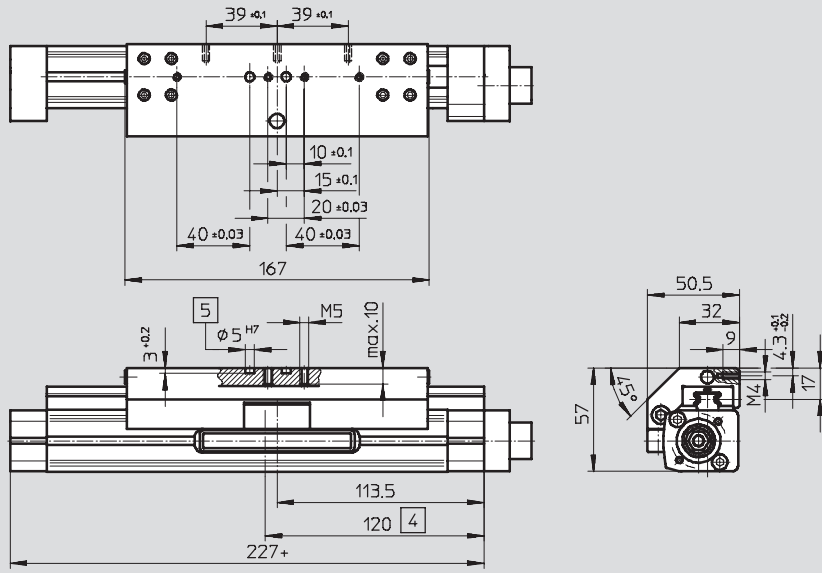
Electrical positioning systems
Electromechanical drives
2.1

Dimensions

Download CAD data → www.festo.com/en/engineering

Extended slide GV

Size 18



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

Basic dimensions
→ 5 / 2.1-197

Positioning axes DMES-GF/-KF, with guide

Technical data

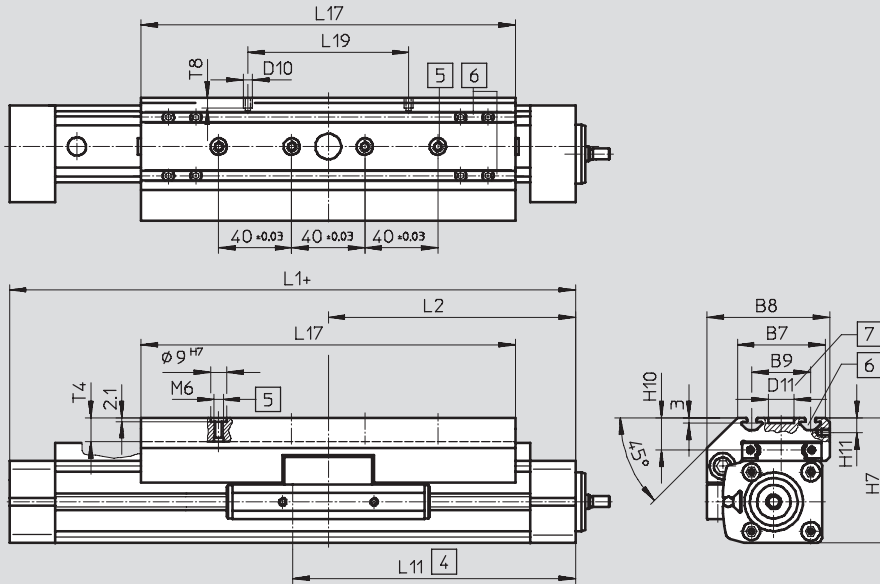


Dimensions Download CAD data → www.festo.com/en/engineering

Extended slide GV

Size 25/40/63

Size 25

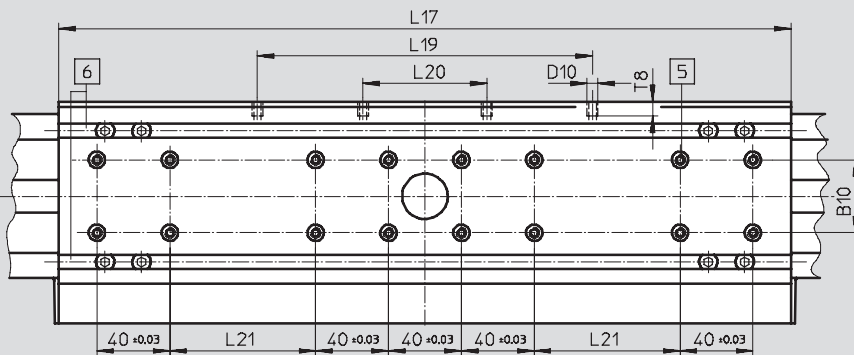


- 4 Lubrication opening
- 5 Hole for centring pin ZBS-9
- 6 Slot for slot nut NSTL
- 7 Hole for central mounting SLZZ
- + = plus stroke length

Basic dimensions

→ 5 / 2.1-197

Size 40



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

Size	B7	B8	B9	B10	D10	D11	H7	H10	H11
			±0.2			∅ G7			+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

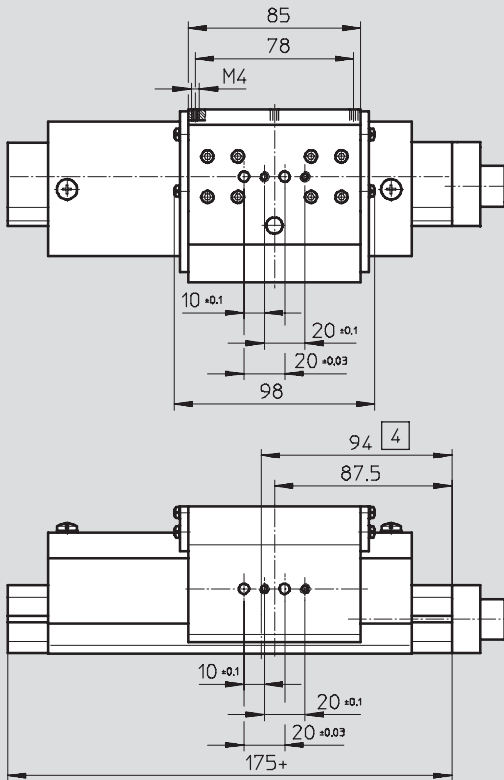


Dimensions

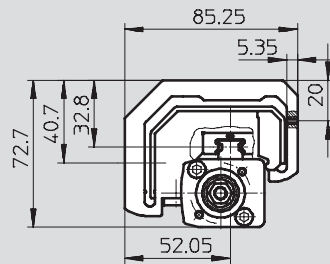
Download CAD data → www.festo.com/en/engineering

Protected version GA

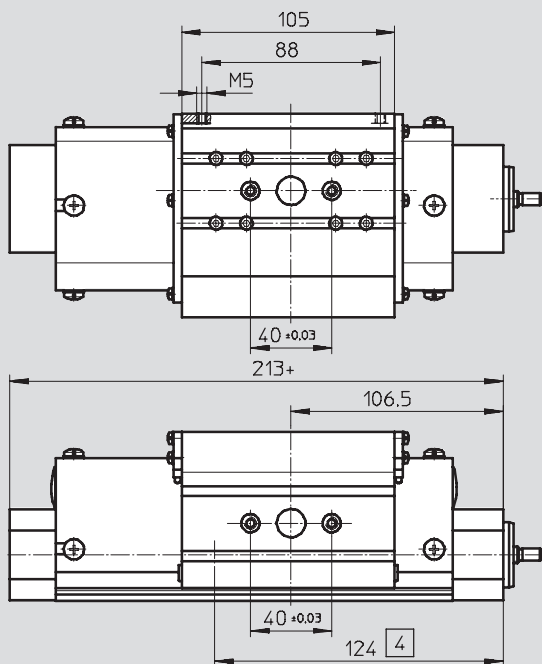
Size 18



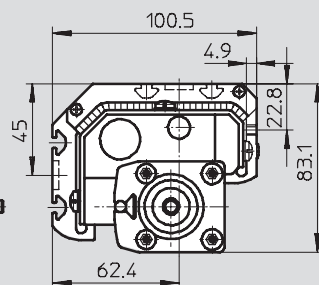
☐ 4 Lubrication opening
+ = plus stroke length



Size 25



☐ 4 Lubrication opening
+ = plus stroke length



Positioning axes DMES-GF/-KF, with guide

Technical data

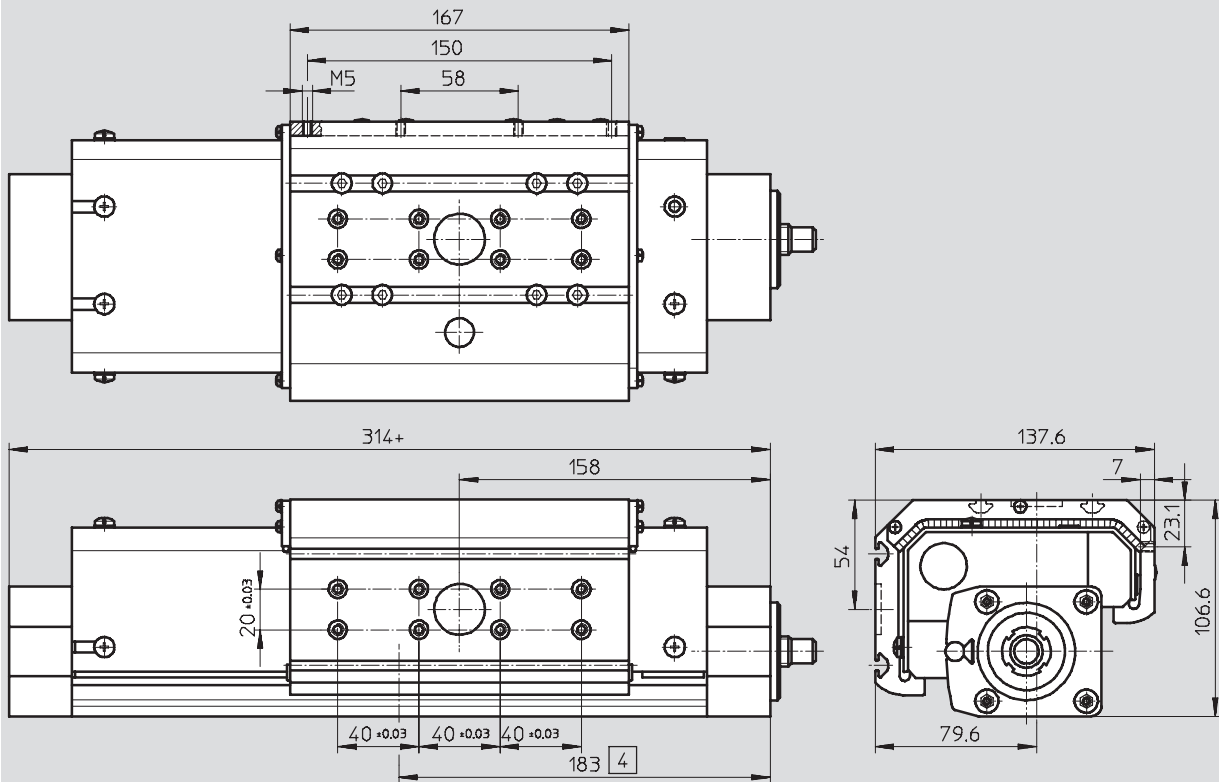


Dimensions

Download CAD data → www.festo.com/en/engineering

Protected version GA

Size 40



4 Lubrication opening
+ = plus stroke length

Positioning axes DMES-GF/-KF, with guide

Ordering data – Modular products



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

1 Ordering positioning axis DMES Ordering table → 5 / 2.1-226

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 → 5 / 2.2-9

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-R210

- - Note

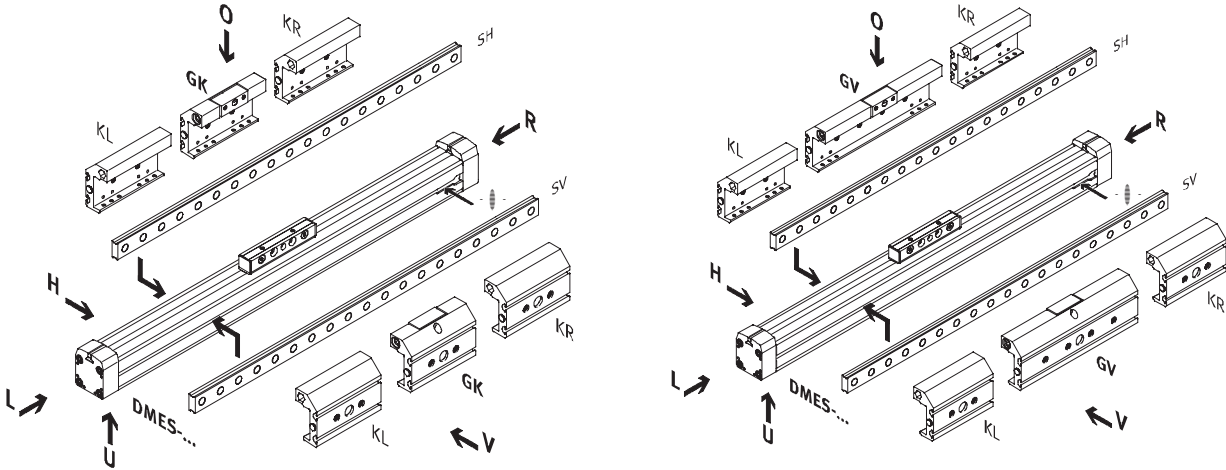
Servo, stepper motors and the corresponding mounting kits must be ordered separately → 5 / 2.1-228


Positioning axes DMES-GF/-KF, with guide

Ordering data – Modular products

FESTO

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

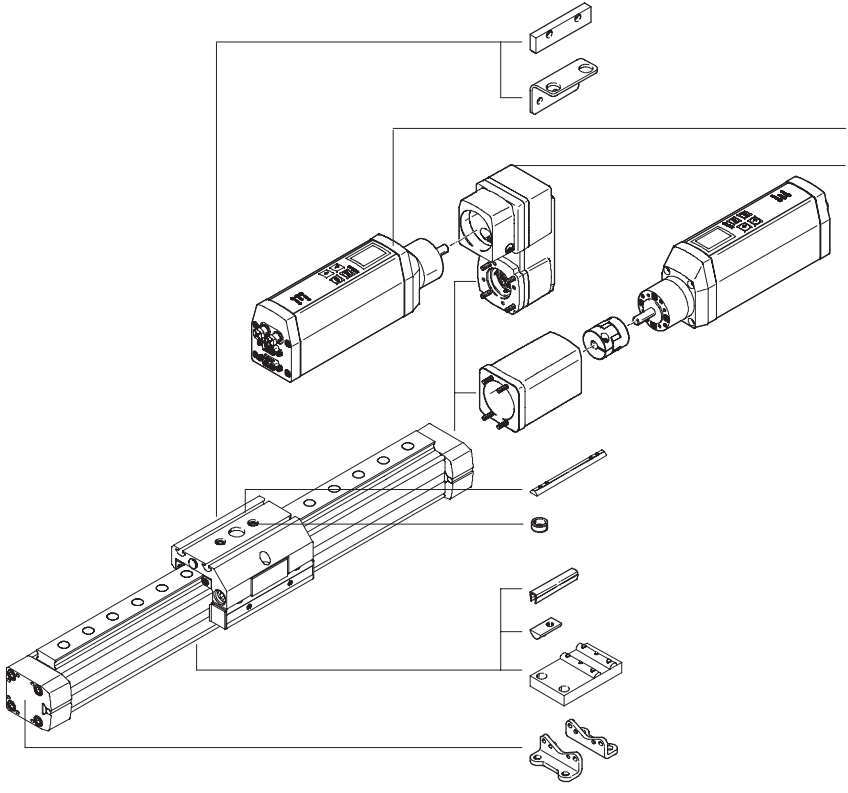






 - Note

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

Ordering data – Modular products



Mandatory data			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, ...X, ...M, ...F, ...Z, ...T, L
533 700	25		KF	GV	SH	KR	U	
533 701	40			GA				
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 → 5 / 2.2-9
- 5 T, L Only with slide GK or GV

Transfer order code

DMES - - - - - - - : **ZUB** -

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

Positioning axes DMES

Accessories – Motor units MTR-DCI



M 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	
	533 742	MTR	DCI	32 42 52 62	S	VC VD	SC	E G7 G14 G22	R2 H2	IO CO PB DN

Ordering table

Size	32	42	52	62	Condi- tions	Code	Enter code
M Module No.	533 736			533 754			
Motor unit	Motor unit						MTR
Motor type	DC servo motor with integrated position controller						-DCI
Flange/size	32	42	52	62		-...	
Torque class	Standard torque class						S
Nominal voltage	[V] 24 DC						-VC
	[V] -			48 DC			-VD
Plug design	Straight plug						SC
Measuring system	Encoder						-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

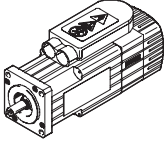
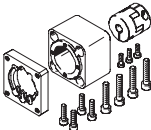
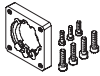

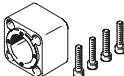
Transfer order code

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

Positioning axes DMES

Accessories



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	552 163	540 751	170 374
MTR-AC-40-3S-A...	EAMM-A-E20-40A	EAMF-A-28B-40A	KSE-15-22-D05-D06	DGE-KG-18-SP-FL28
EMMS-AS-55-...	550 963	529 946	529 953	170 374
MTR-AC-55-3S-A...	EAMM-A-E20-55A	MTR-FL28-AC55	KSE-15-22-D05-D09	DGE-KG-18-SP-FL28
With stepper motor				
EMMS-ST-42-...	550 962	552 164	530 085	170 374
MTR-ST-42-48S-A...	EAMM-A-E20-42A	EAMF-A-28B-42A	KSE-15-22-D05-D05	DGE-KG-18-SP-FL28
With intelligent motor unit				
MTR-DCI-32S-...	556 991 EAMM-A-E20-32B	–	533 707 KSE-15-20-D05-D06	533 703 DME-KG-18-AX-D32-L27
DMES-25				
With servo motor				
EMMS-AS-40-...	550 964	550 985	123 040	124 631
MTR-AC-40-3S-A...	EAMM-A-E32-40A	EAMF-A-44-40A	KSE-30-35-D06-D06	DGE-KG-25-SP-FL44
EMMS-AS-55-...	550 965	529 942	530 941	124 631
MTR-AC-55-3S-A...	EAMM-A-E32-55A	MTR-FL44-AC55	KSE-30-35-D06-D09	DGE-KG-25-SP-FL44
With stepper motor				
EMMS-ST-57-...	550 966	530 081	530 087	124 631
MTR-ST-57-48S-A...	EAMM-A-E32-57A	MTR-FL44-ST57	KSE-30-35-D06-D06.35	DGE-KG-25-SP-FL44
With intelligent motor unit				
MTR-DCI-42S-...G7	556 992 EAMM-A-E32-42B	–	533 708 KSE-30-32-D06-D08	533 704 DME-KG-25-AX-D42-L88
MTR-DCI-42S-...G14	556 993 EAMM-A-E32-42C	–	533 708 KSE-30-32-D06-D08	538 578 DME-KG-25-AX-D42-L101

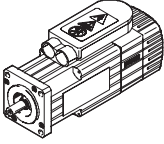
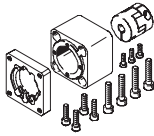
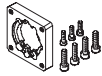

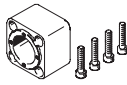
Positioning axes DMES

Accessories

FESTO

Electrical positioning systems
Electromechanical drives

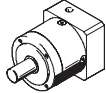
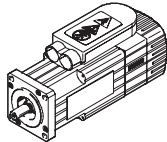
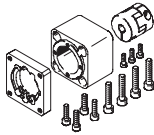
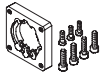

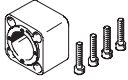
2.1

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	529 945	525 864	529 940
MTR-AC-70-3S-A...	EAMM-A-E48-64-70A	MTR-FL64-AC70	KSE-40-66-D11-D12	DGE-KG-40-SP-FL64
EMMS-AS-100-...	550 973	529 947	529 952	529 940
MTR-AC-100-3S-A...	EAMM-A-E48-100A	MTR-FL64-AC100	KSE-40-66-D12-D19	DGE-KG-40-SP-FL64
With stepper motor				
EMMS-ST-87-...	550 972	533 140	525 864	529 940
MTR-ST-87-48S-A...	EAMM-A-E48-87A	MTR-FL64-ST87	KSE-40-66-D11-D12	DGE-KG-40-SP-FL64
With intelligent motor unit				
MTR-DCI-52S-...-G7	556 994 EAMM-A-E48-52B	–	533 709 KSE-42-50-D12-D12	533 705 DME-KG-40-AX-D52-L121
MTR-DCI-52S-...-G14	556 995 EAMM-A-E48-52C	–	533 709 KSE-42-50-D12-D12	538 579 DME-KG-40-AX-D52-L135
DMES-63				
With servo motor				
EMMS-AS-70-...	550 975	529 945	550 999	529 941
MTR-AC-70-3S-A...	EAMM-A-E72-70A	MTR-FL64-AC70	KSE-40-66-D11-D20	DGE-KG-63-SP-FL64
EMMS-AS-100-...	550 978	529 947	132 847	529 941
MTR-AC-100-3S-A...	EAMM-A-E72-100A	MTR-FL64-AC100	KSE-40-66-D19-D20	DGE-KG-63-SP-FL64
With stepper motor				
EMMS-ST-87-...	550 977	533 140	550 999	529 941
MTR-ST-87-48S-A...	EAMM-A-E72-87A	MTR-FL64-ST87	KSE-40-66-D11-D20	DGE-KG-63-SP-FL64
With intelligent motor unit				
MTR-DCI-62S-...	556 996 EAMM-A-E72-62B	–	533 710 KSE-42-50-D14-D20	533 706 DME-KG-63-AX-D62-L150

Positioning axes DMES

Accessories

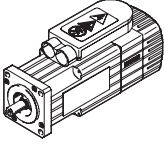
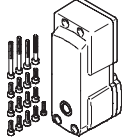


Permissible axis/motor combinations with axial kit – With gear unit					
Gear unit	Motor	Axial kit	Axial kit comprises:		
			Motor flange	Coupling	Coupling housing
					
Type	Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DMES-63					
With servo motor					
EMGA-60-P-G...-SAS-70	EMMS-AS-70-S...	550 974 EAMM-A-E72-60G	550 987 EAMF-A-64-60G	550 999 KSE-40-66-D11-D20	529 941 DGE-KG-63-SP-FL64
EMGA-80-P-G...-SAS-70	EMMS-AS-70-M...	550 976 EAMM-A-E72-80G	533 139 MTR-FL64-PL80	123 849 KSE-40-66-D20-D20	529 941 DGE-KG-63-SP-FL64
With stepper motor					
EMGA-80-P-G...-SST-87	EMMS-ST-87-L...	550 976 EAMM-A-E72-80G	533 139 MTR-FL64-PL80	123 849 KSE-40-66-D20-D20	529 941 DGE-KG-63-SP-FL64

Positioning axes DMES

Accessories

FESTO

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
MTR-AC-40-3S-A...		
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
MTR-AC-55-3S-A...		
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
MTR-AC-70-3S-A...		
With intelligent motor unit		
MTR-DCI-52S-...-G7	543 232	EAMM-U-E48-52B
MTR-DCI-52S-...-G14	543 233	EAMM-U-E48-52C

Positioning axes DMES

Accessories



Axial kit EAMM-A-...

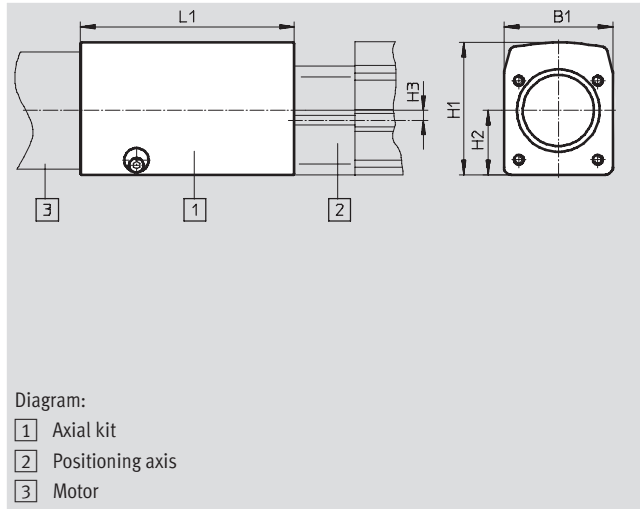
Material:

Coupling housing: Die-cast aluminium

Coupling hubs: Wrought aluminium alloy

Clamping component: High-alloy steel

Screws: Galvanised steel



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	64-70A	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

Positioning axes DMES

Accessories

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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
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-E48-64-70A	65	64	32		86.2	785	557 448		EAMM-A-E48-64-70A
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
→ 5 / 2.1-228

Electrical positioning systems
Electromechanical drives

2.1

Positioning axes DMES

Accessories



Parallel kit EAMM-U-...

Material:

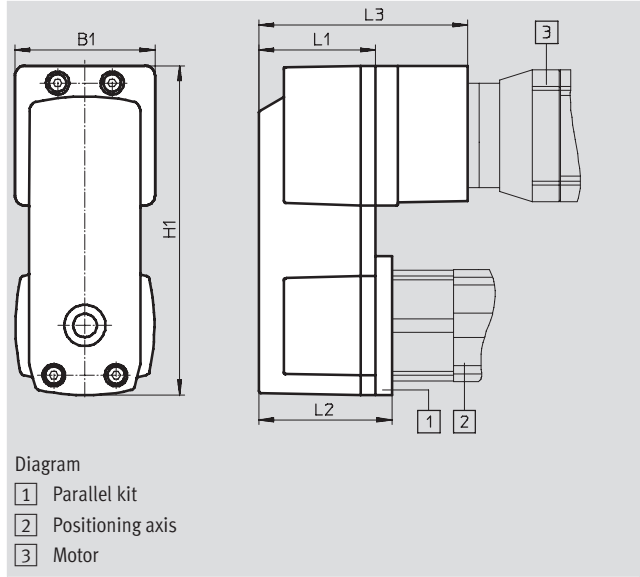
Coupling housing: Die-cast aluminium

Clamping component, clamping sleeve, toothed belt pulleys:

High-alloy steel

Toothed belt: Polychloroprene

Screws: Galvanised steel



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
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
97					690	543 229	EAMM-U-E32-42C	
-					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
120					1,800	543 233	EAMM-U-E48-52C	
-					1,300	543 234	EAMM-U-E48-70A	

- - Note
Permissible axis/motor combinations
→ 5 / 2.1-231

Positioning axes DMES

Accessories

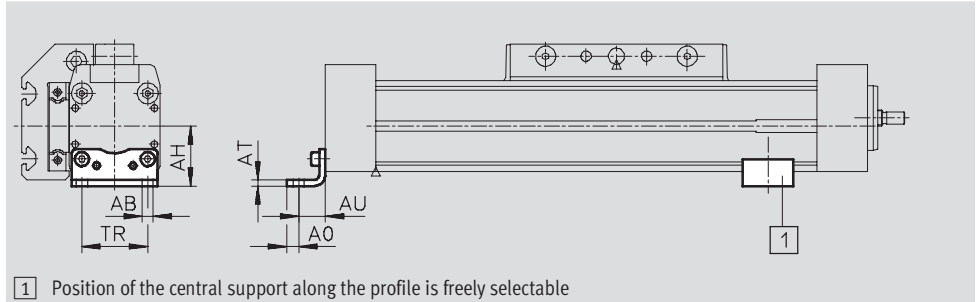


Foot mounting HP
(order code F)

Material:
Galvanised steel
Free of copper, PTFE and silicone



HP-25



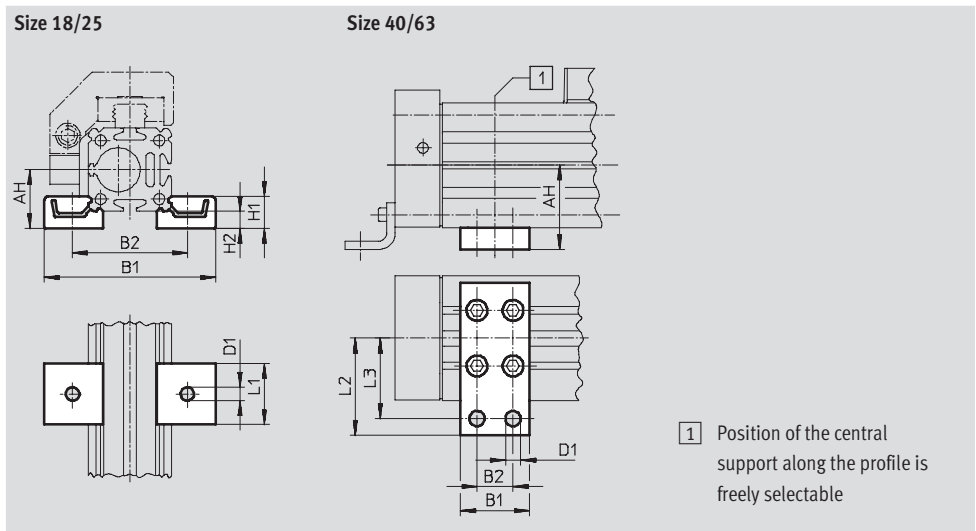
Dimensions and ordering data										
For size	AB ∅	AH	AO	AT	AU	TR	Weight [g]	Part No.	Type	
18	5.5	24	4.8	3	13.2	24	59	158 472	HP-18	
25	5.5	29.5	6	3	13	32.5	61	150 731	HP-25	
40	6.6	46	8.5	5	17.5	45	188	150 733	HP-40	
63	11	69	13.5	6	28	75	305	150 735	HP-63	

Central support MUP
(order code M)

Material:
Galvanised steel
Free of copper, PTFE and silicone



MUP-40



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

Positioning axes DMES

Accessories



Sensor retainer HWS

For inductive proximity sensors

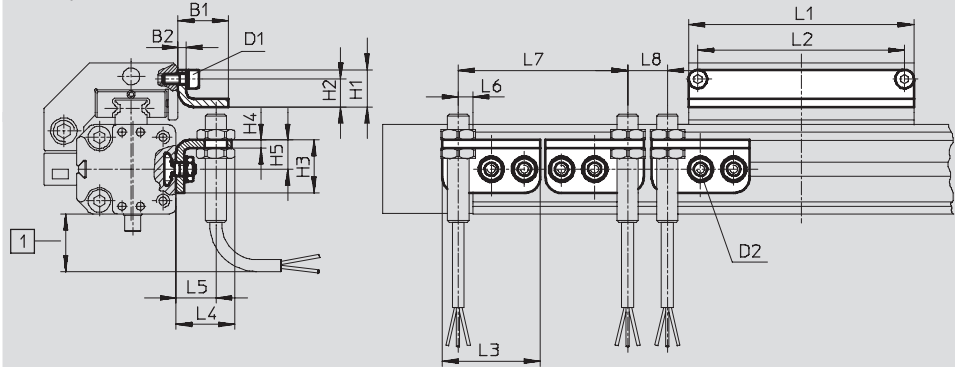
(order code: T)

Material:

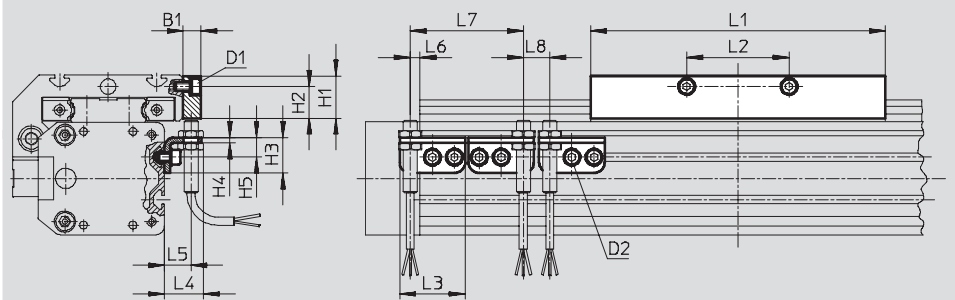
Galvanised steel



Size 18/25



Size 40/63



1 Protruding sensor cable, ensure sufficient installation space

Switching lug SF

(order code: L)

Material:

Galvanised steel



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	L7	L8	Weight	Part No.	Type
	max.	min.	min.	[g]		
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

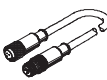
Positioning axes DMES

Accessories

FESTO

Ordering data – Inductive proximity sensors M8						Technical data → Volume 4	
	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 → www.festo.com/catalogue/sm	
	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 → Volume 1	
	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

Electrical positioning systems
Electromechanical drives

2.1


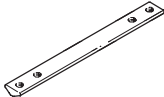



Positioning axes DMES

Accessories

FESTO

Electrical positioning systems
Electromechanical drives

2.1

Ordering data				Technical data → Volume 1		
	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