

Positioning axes DMES

FESTO



- 2 - Type discontinued
Available up until 2018

Positioning axes DMES

Key features

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At a glance

General

DMES positioning axes are mechanical linear drives that are specially designed for movements involving high forces.

The mechanical interfaces are compatible with the spindle axis DGE-SP.

Properties

- High mechanical torques
- High feed forces up to 3000 N
- Self-retarding lead-screw spindle
- Compact dimensions
- Cost optimised

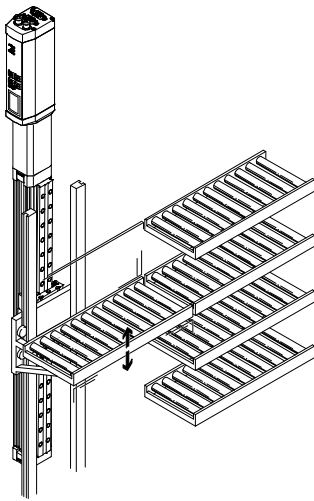
- Alternatively:
 - without guide
 - with recirculating ball bearing guide KF

Range of applications

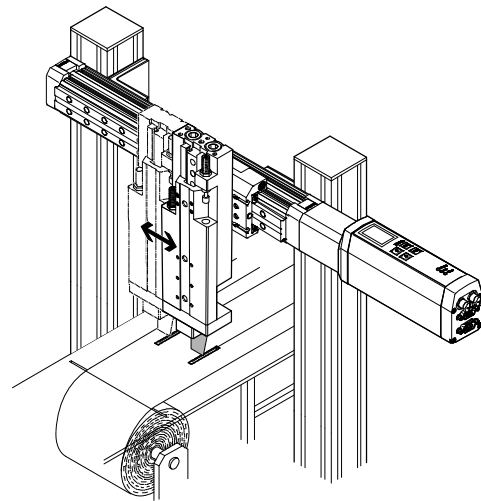
- For format adjustment:
 - in printing, paper and foil wrapping machines
 - in packaging machines
 - in feed technology

Application examples

Adjusting sorting conveyors



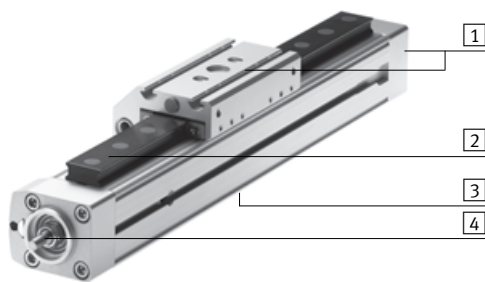
Programming formats for paper or foil cutting machines



The technology in detail

Positioning axis

→ page 4



- 1 Mechanical interfaces are identical to spindle axes DGE-...-SP
- 2 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

→ page 41



Motor unit
MTR-DCI



Intelligent servo motor
EMMS-ST



Servo motor
EMME-AS, EMMS-AS

A range of specially adapted complete solutions is available for the positioning axes DMES and the motors.

Two motor interfaces are available:

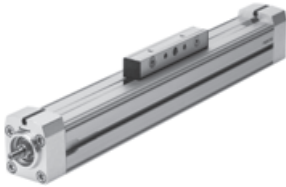
- Axial motor interface
- Parallel motor interface

Positioning axes DMES

Key features

Wide choice of variants

Basic design DMES, without guide



- For connection to an existing guide
- For small loads

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

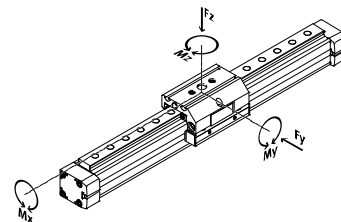
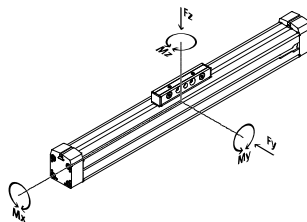


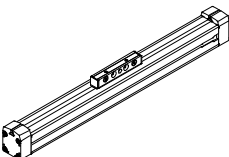
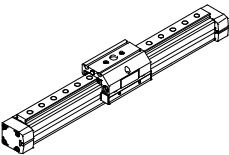
- With standard slide (GK)
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side

Guide characteristics

The specifications shown in the table are maximum values.

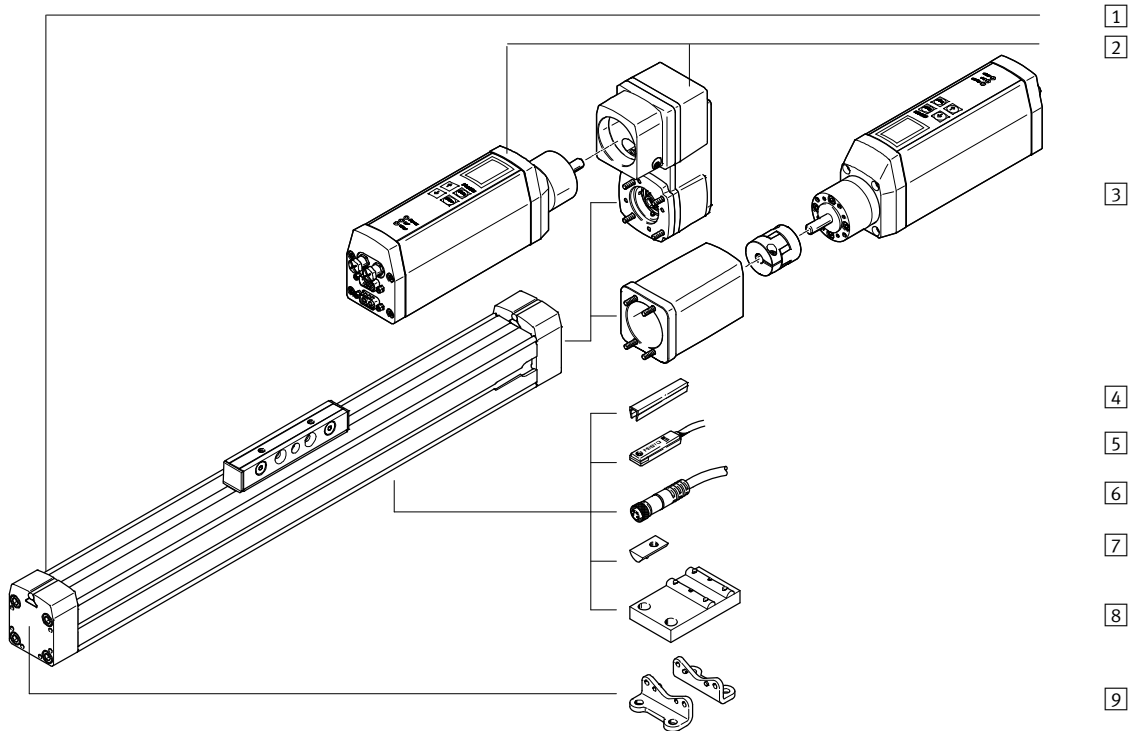
The precise values for each of the variants can be found in the relevant technical data in the catalogue.



	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 ... 1200	0.05	±0.05	1000	92	390	2.2	20	4.6	
	63	50 ... 1800	0.05	±0.07	3000	300	900	12	80	22	
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	3080	3080	45	170	170	
	40	50 ... 1200	0.05	±0.05	1000	7300	7300	170	660	660	
	63	50 ... 1800	0.05	±0.07	3000	13900	14050	580	1820	1820	

Positioning axes DMES, without guide

Peripherals overview



Variants and accessories		
Type/Order code	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	48
5 Proximity sensor SMT-8	For providing a proximity signal or safety sensing	47
6 Connecting cable KM8	For proximity sensor	47
7 Slot nut for mounting slot Y	For mounting attachments	48
8 Central support M	For mounting the axis	45
9 Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	45

- Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately → page 41

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														

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES, without guide

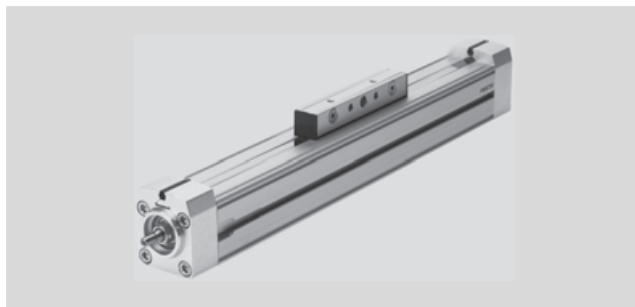
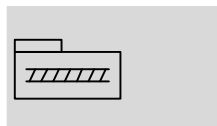
Technical data

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Function



www.festo.com



- Ø - Size
18 ... 63
- I - Stroke length
50 ... 1800 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 ... 1200	50 ... 1800
Max. feed force F_x [N]	240	500	1000	3000
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]	1700	2300	4200	5600
Duty cycle [%]	100			
Reversing backlash ³⁾ [mm]	< 0.1			

1) Measured at a speed of 200 rpm.

2) On drive shaft

3) In new condition

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

1) Note operating range of proximity sensors

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

1) Without coupling housing

Positioning axes DMES, without guide

Technical data

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

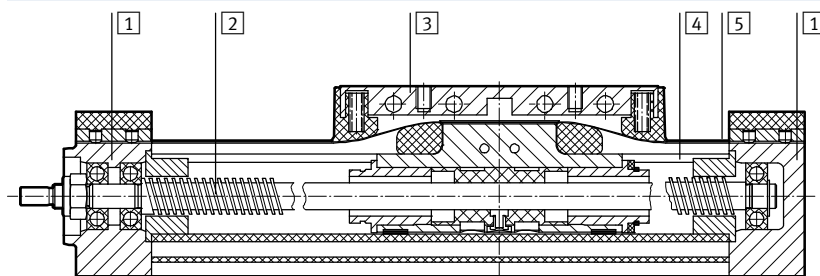
The mass moment of inertia J_A of the entire axis is calculated as follows:

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

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

Materials

Sectional view



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

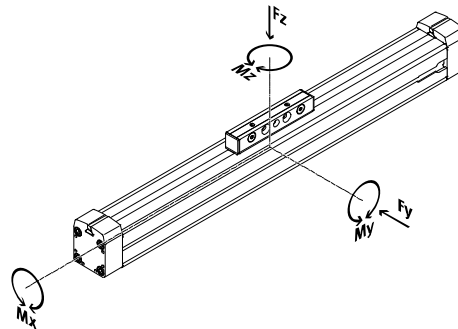
Positioning axes DMES, without guide

Technical data

Characteristic load values

The indicated forces refer to the centre line of the internal diameter of the profile.

They must not be exceeded during dynamic operation. Special attention must be paid to the cushioning phase.



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

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



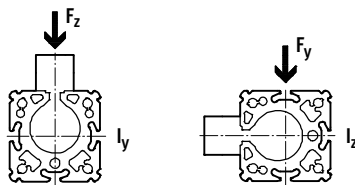
Note

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

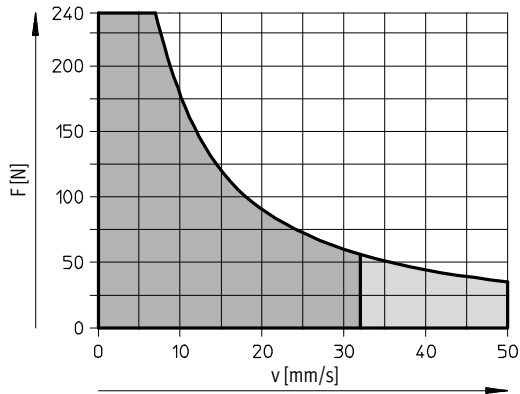
Sizing software
PositioningDrives
→ www.festo.com

Positioning axes DMES, without guide

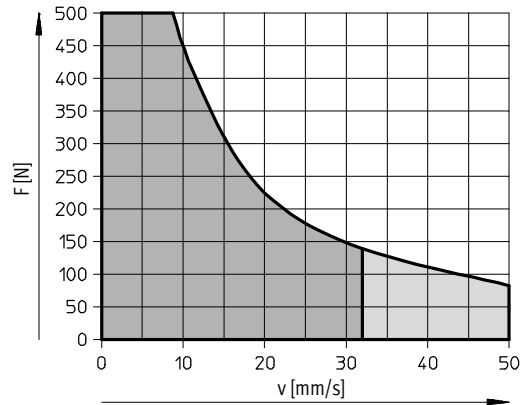
Technical data

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

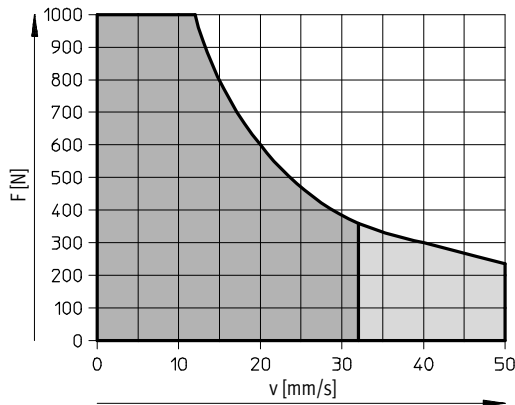
DMES-18



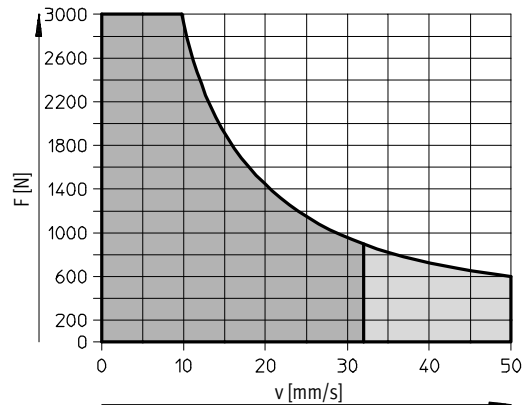
DMES-25



DMES-40



DMES-63



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

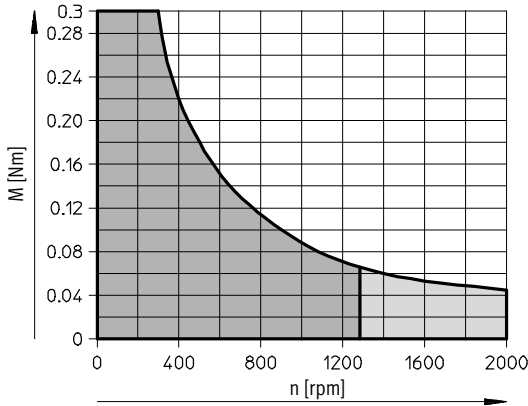
Positioning axes DMES, without guide

Technical data

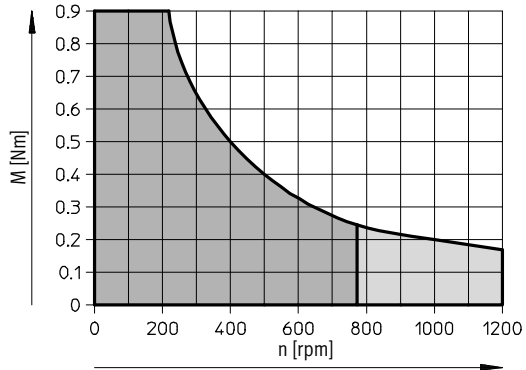
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Maximum permissible driving torque M as a function of n (rpm)

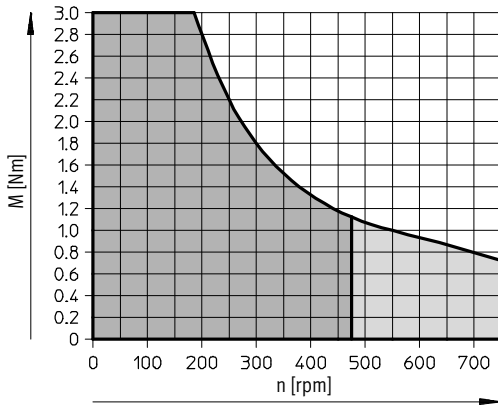
DMES-18



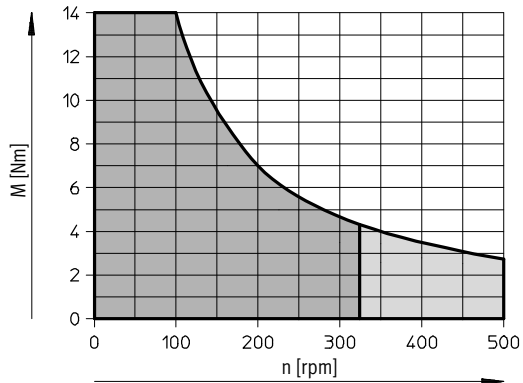
DMES-25



DMES-40

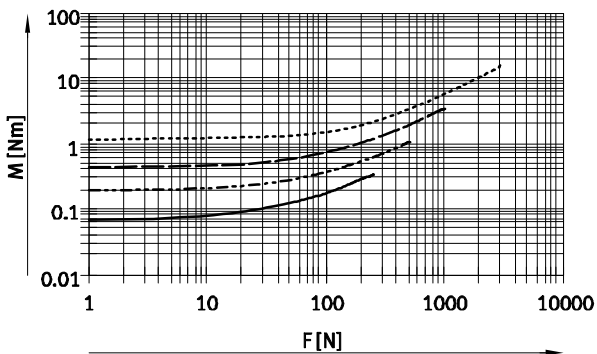


DMES-63

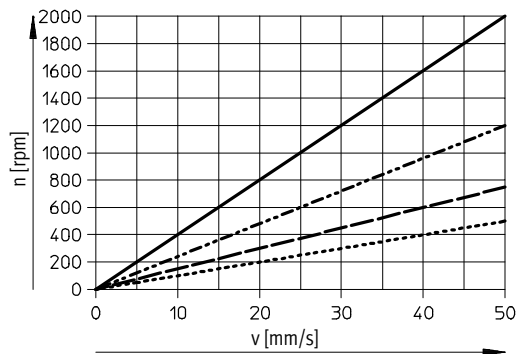


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

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

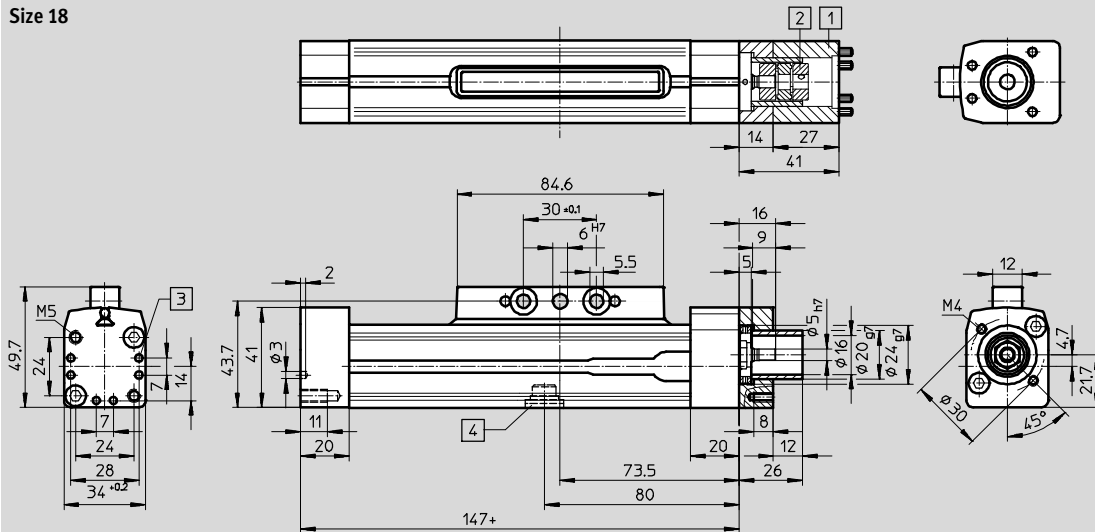
Technical data

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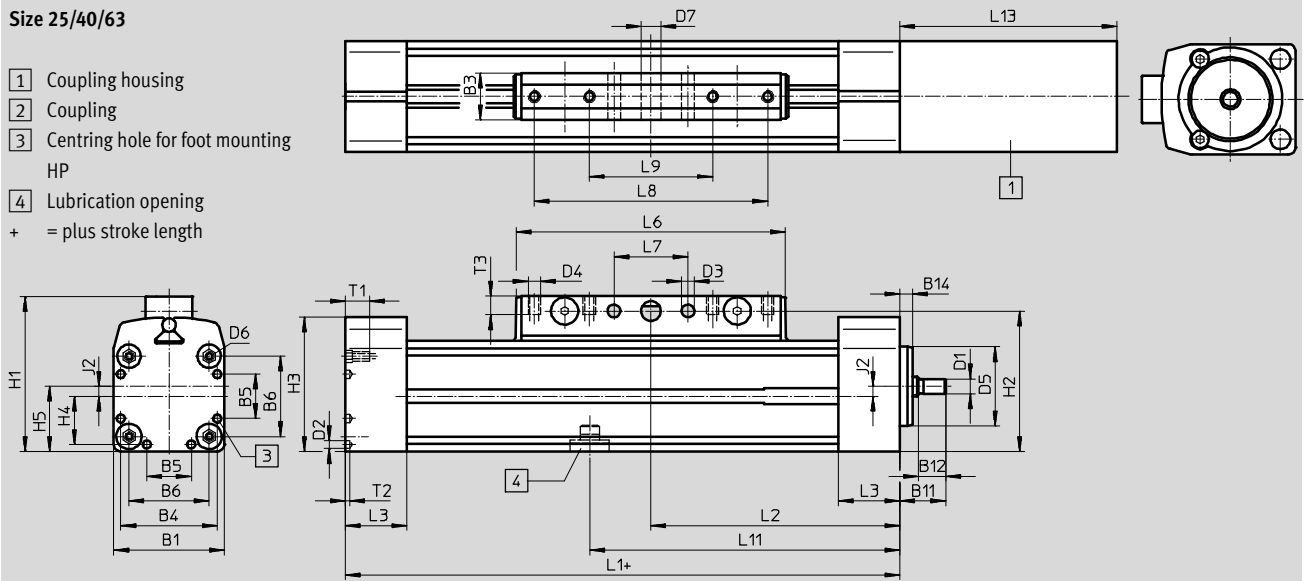
Dimensions

Download CAD data → www.festo.com

Size 18



Size 25/40/63



Size	B1	B3	B4	B5	B6	B11	B12	B14	D1 Ø h7	D2 Ø	D3 Ø	D4	D5 Ø g7	D6	D7 Ø H10	H1	H2	H3
25	45 +0.4	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
								±0.1	±0.1	±0.1		1)	2)			
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	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.

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES, without guide

Technical data

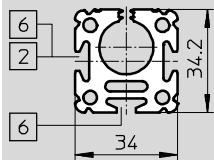
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Dimensions

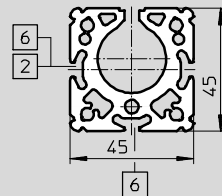
Download CAD data → www.festo.com

Profile

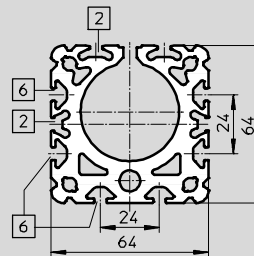
Size 18



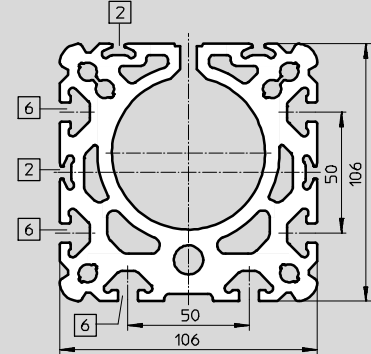
Size 25



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

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

1 Ordering positioning axis DMES Ordering table → page 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 later
533 699	DMES	18	50 – 1,800	AX		–, 1, 2, 3, 4, 5, 6, 7
533 700		25				
533 701		40				
533 702		63				
Order example						
533 700	DMES	25	700		ZUB	2S2Y2M
MTR-DCI-5-SC-E-10						

Ordering table	18	25	40	63	Condi- tions	Code	Enter code
Module No.	533 699	533 700	533 701	533 702		DMES	DMES
Function	Linear actuator without guided slide					DMES	DMES
Size	18	25	40	63		–	–
Stroke [mm]	50 – 400	50 – 700	50 – 1,200	50 – 1,800		–	–
Motor unit	Motor unit including axial kit (ordered separately)				(1)	AX	
Accessories	Supplied separately					ZUB	ZUB
Slot cover	Sensor slot	1 – 10				–S	
Mounting slot	Mounting slot	–	1 – 10			–B	
Slot nut	Mounting slot	1 – 10				–Y	
Control support	1 – 10					–B	
Foot mounting	1 – 10					–B	

3 Ordering intelligent motor unit MTR-DCI Ordering table → page 39

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	Stroke class	Nominal voltage	Plug design	Displacement encoder	Gear unit	Parameterisation interface	Electrical connection technology
533 700	DCI	32	5	VC	SC	E	67	R2	H2	IO
533 701		42		VC	SC	E	67	R2	H2	IO
533 702		52		VC	SC	E	67	R2	H2	IO
533 703		62		VC	SC	E	67	R2	H2	IO
Order example										
533 700	DCI	42	5	VC	SC	E	67	R2	H2	IO

Ordering table	32	42	52	62	Condi- tions	Code	Enter code
Module No.						533 700	533 700
Motor unit	Motor unit					533 700	533 700
Type of motor	DC servo motor with integrated position controller					DCI	DCI
Flange/size	32	42	52	62		–	–
Stroke class	Standard torque class					S	S
Nominal voltage	24 DC					VC	VC
Plug design	Straight plug					SC	SC
Displacement encoder	Encoder					E	E
Gear unit	Integrated planetary gearing i = 6.75					67	67
	Integrated planetary gearing i = 13.75					67A	67A
	Integrated planetary gearing i = 20.20					67Z	67Z
Parameterisation interface	RS232 interface					R2	R2
	RS232 interface + control panel					H2	H2
Electrical connection technology	IO 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...

4 Order example

Part No.	Type
	Positioning axis DMES
533700	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 → page 41

- 2 - Type discontinued
Available up until 2018

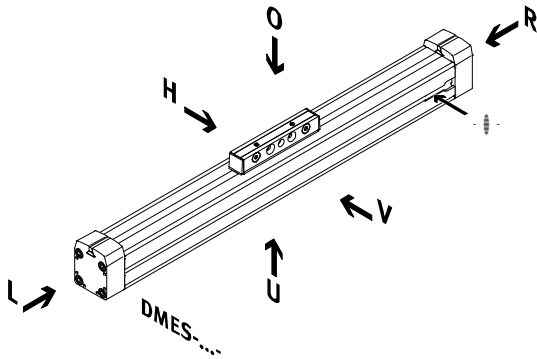
Positioning axes DMES, without guide

Ordering data – Modular products

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Order code

Mandatory data



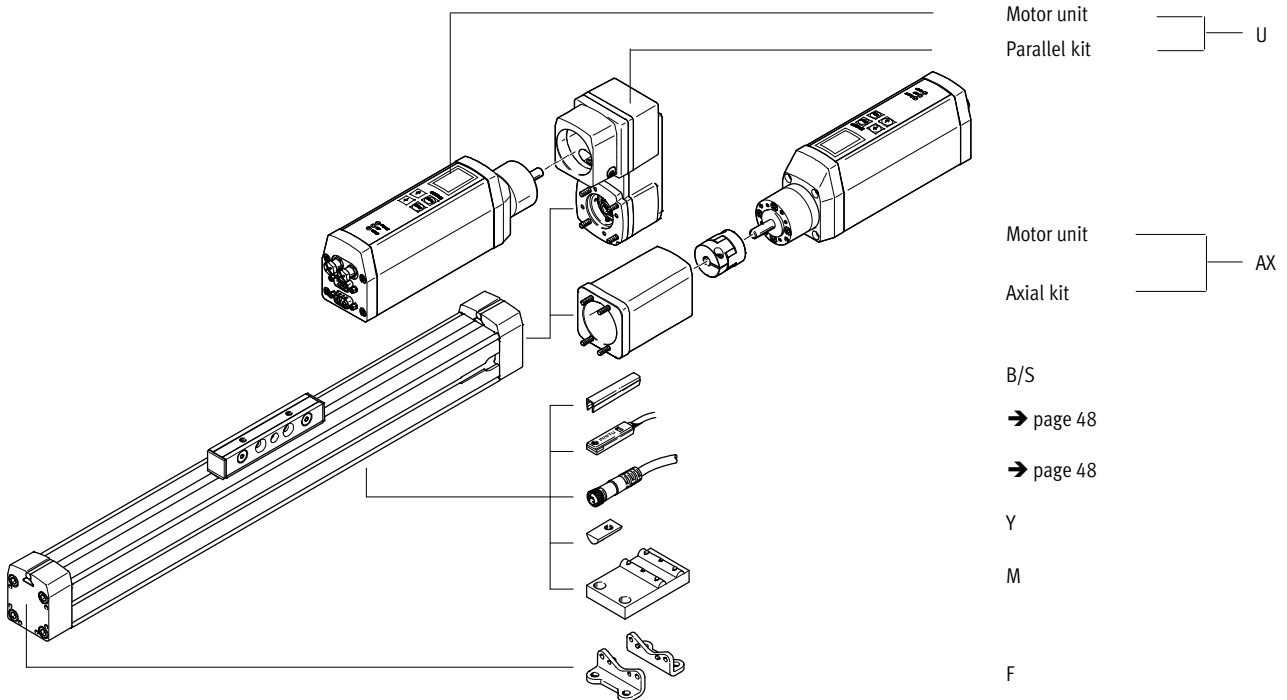
- Note

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



- 2 - Type discontinued
Available up until 2018

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Positioning axes DMES, without guide

Ordering data – Modular products

Ordering table									
Size		18	25	40	63	Condi- tions	Code		Enter code
M	Module No.	533699	533700	533701	533702				
	Function	Positioning axis without guided slide					DMES		DMES
	Size	18	25	40	63		- ...		
	Stroke [mm]	50 ... 400	50 ... 700	50 ... 1200	50 ... 1800		- ...		
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 → page 39.

M Mandatory data

O Options

Transfer order code

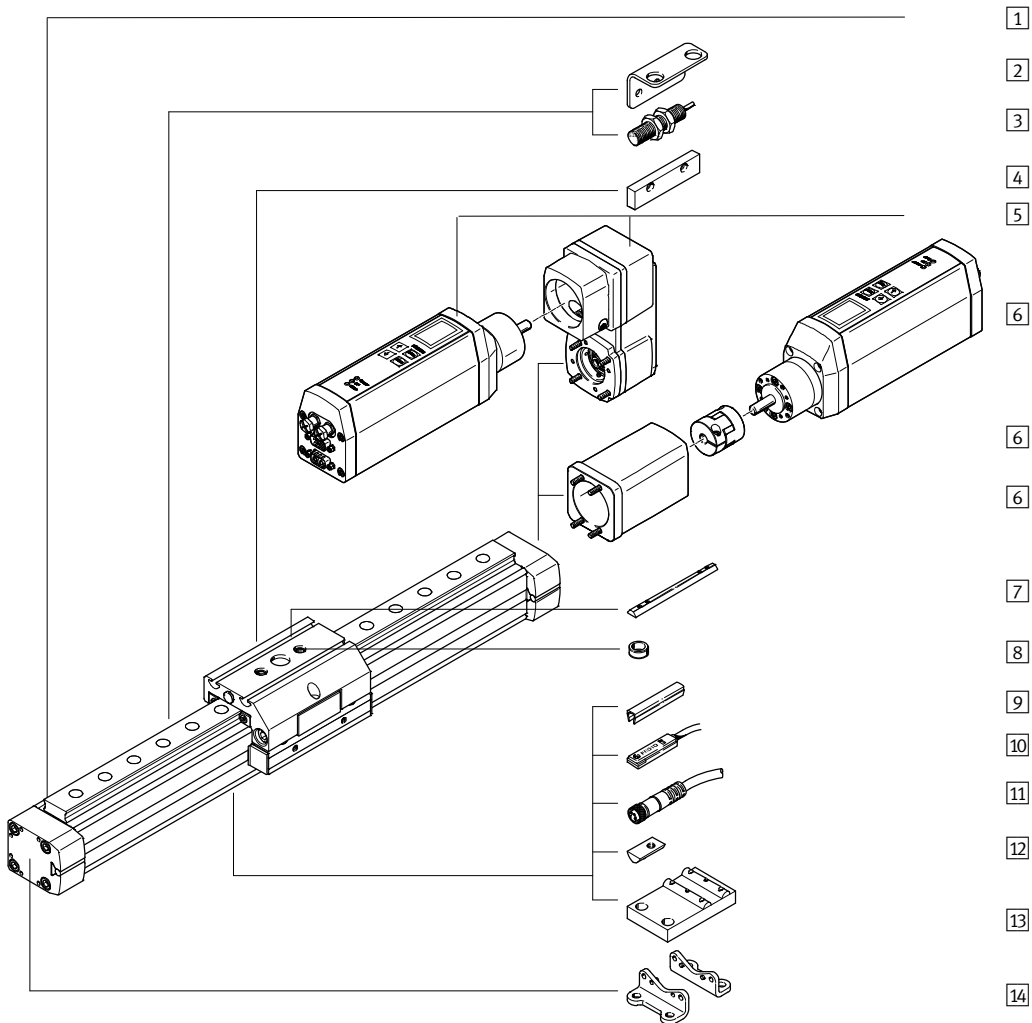
	DMES	-		-		-		:	ZUB	-	
MTR-DCI-...S-...SC-E-...-...IO											

- 1 - Type discontinued
Available up until 2018

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Positioning axes DMES-KF, with recirculating ball bearing guide

Peripherals overview

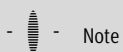


Positioning axes DMES-KF, with recirculating ball bearing guide

Peripherals overview

Variants and accessories					
Type/Order code	Description	GK/GV	GA	→ Page/Internet	
1 Positioning axis DMES	Electromechanical axis with spindle and recirculating ball bearing guide	■	■	20	
2 Sensor retainer T	Adapter for mounting the inductive proximity sensors on the axis	■	–	46	
3 Inductive proximity sensor SIEN	For providing a proximity signal or safety sensing	■	–	47	
4 Switching lug L	For sensing the slide position with inductive proximity sensors	■	–	46	
5 Motor unit and parallel kit U	Complete package for parallel motor attachment, comprising parallel kit and intelligent motor unit MTR-DCI	■	■	37	
6 Motor unit and axial kit AX	Complete package for axial motor attachment, comprising axial kit and intelligent motor unit MTR-DCI	■	■	37	
7 Slot nut for slide X	For mounting loads and attachments on the slide	■	■	48	
8 Centring sleeves Z	For centring loads and attachments on the slide	■	■	48	
9 Slot cover B/S	For protecting against ingress of dirt	■	■	48	
10 Proximity sensor SMT-8	For providing a proximity signal or safety sensing	■	■	47	
11 Connecting cable KM8	For proximity sensor	■	■	47	
12 Slot nut for mounting slot Y	For mounting attachments	■	■	48	
13 Central support M	For mounting the axis	■	■	45	
14 Foot mounting F	For mounting the axis (can only be attached to end cap, must be combined with central support)	■	■	45	

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



Note

Servo, stepper motors and the corresponding mounting kits must be ordered separately → page 41

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

Type code

		DMES	-	25	-	500	-	KF	-	GK	-	SH	-		-	AX
Type																
DMES	Positioning axis															
Size																
Stroke [mm]																
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-KF, with recirculating ball bearing 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								

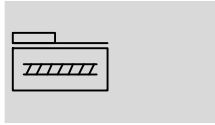
- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

Technical data

Function



www.festo.com



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

General technical data					
Size		18	25	40	63
Design		Electromechanical linear axis with lead-screw spindle			
Guide		With recirculating ball bearing guide			
Assembly position		Any			
Working stroke	[mm]	50 ... 400	50 ... 700	50 ... 1200	50 ... 1800
Max. feed force F _x	[N]	240	500	1000	3000
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]	1700	2300	4200	5600
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⁾	GK	0.93	1.70	5.06	16.48
	GV	1.37	2.61	8.06	27.14
	GA	1.65	2.90	8.14	—
Additional weight per 100 mm stroke	GK	0.294	0.547	1.170	2.958
	GV	0.294	0.547	1.170	2.958
	GA	0.369	0.638	1.294	—
Moving load	GK	0.38	0.66	1.83	5.29
	GV	0.56	0.99	2.72	7.88
	GA	0.81	1.30	3.24	—
Additional slide	KL/KR	0.29	0.440	1.21	3.55

1) Without coupling housing

Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

Technical data

Mass moment of inertia						
Size			18	25	40	63
J ₀	GK	[kg cm ²]	0.0030	0.0158	0.1879	1.8093
	GV	[kg cm ²]	0.0049	0.0265	0.3340	3.2258
	GA	[kg cm ²]	0.0039	0.0212	0.2476	–
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
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:

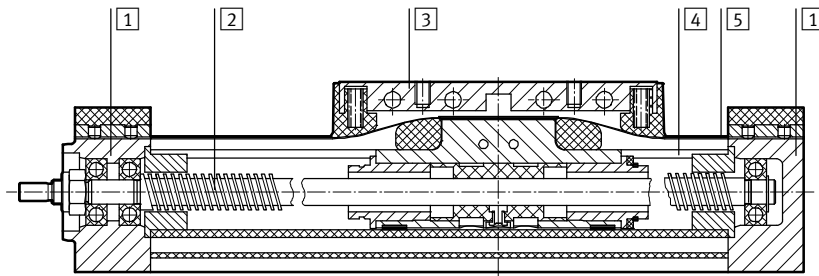
$$J_A = J_0 + j_H \times \text{working stroke [m]} + j_L \times m_{\text{working load [kg]}} + i \times j_W$$

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 KF	Hardened steel

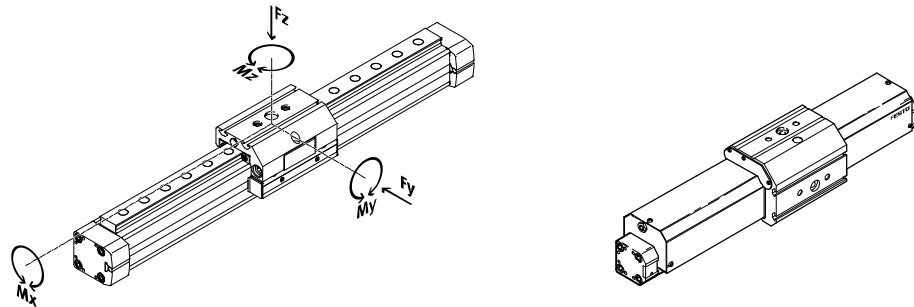
Positioning axes DMES-KF, with recirculating ball bearing guide

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.



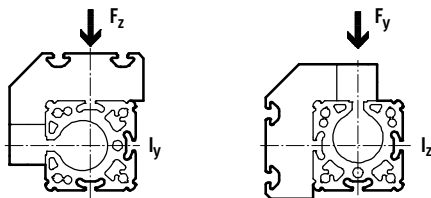
If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

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

Permissible forces and torques

Size	18	25	40	63
F _y max. [N]	930	2600	4300	6600
F _z max. [N]	930	2600	4300	6600
M _x max. [Nm]	7	45	160	400
M _y max. [Nm]	23	85	330	910
M _z max. [Nm]	23	85	330	910

2nd moment of area



Size	18	25	40	63
I _y [cm ⁴]	14.37	47.60	176.24	992.06
I _z [cm ⁴]	7.16	23.34	95.43	693.35

- Note

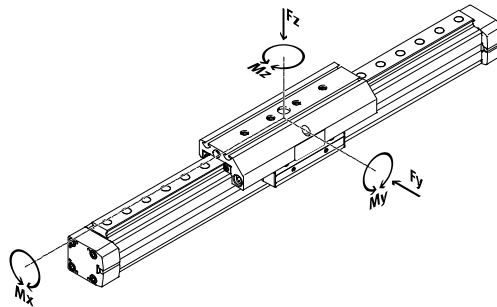
Sizing software
PositioningDrives
→ www.festo.com

Positioning axes DMES-KF, with recirculating ball bearing 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.

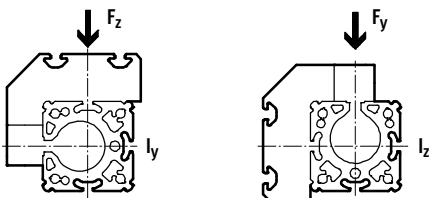


If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equation must be satisfied in addition to the indicated maximum loads:

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

Permissible forces and torques					
Size		18	25	40	63
F _y _{max.}	[N]	930	3080	7300	13900
F _z _{max.}	[N]	930	3080	7300	14050
M _x _{max.}	[Nm]	7	45	170	580
M _y _{max.}	[Nm]	45	170	660	1820
M _z _{max.}	[Nm]	45	170	660	1820

2nd moment of area



Size		18	25	40	63
I _y	[cm ⁴]	14.37	47.60	176.24	992.06
I _z	[cm ⁴]	7.16	23.34	95.43	693.35

Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

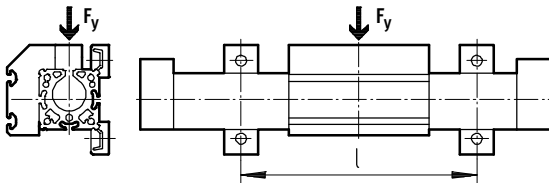
Deflection of the positioning axis as a function of the working load F and the support span l

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

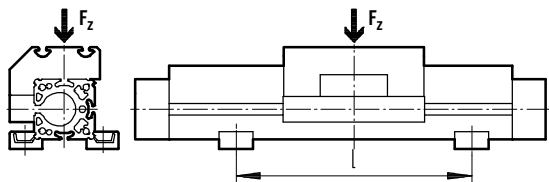
both ends (see drawing below). A differentiation is made between two load directions. The axis may also

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

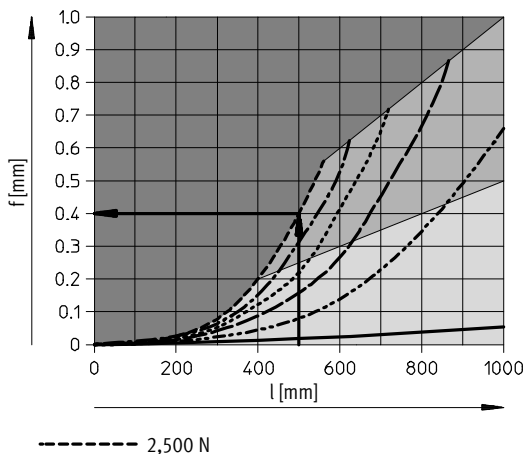
Deflection along the y-axis



Deflection along the z-axis



Example showing how to determine deflection



Given:

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

Working stroke = 700 mm
Total length of the positioning axis,
dimensional drawing → 29
700 mm + 175 mm = 875 mm
Working load F = 2500 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 2500 N (see characteristic curve) produces a deflection of 0.4 mm.

Note:

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

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

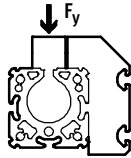
Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

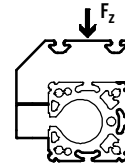
Technical data

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

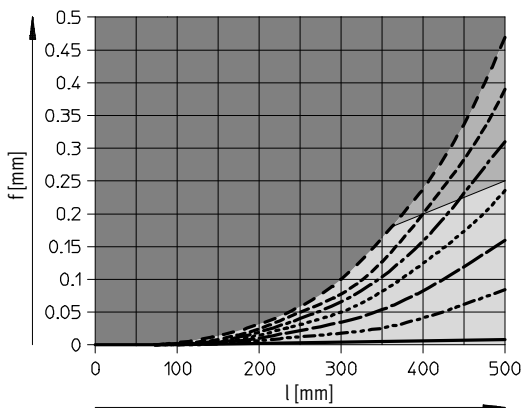
Along the y-axis



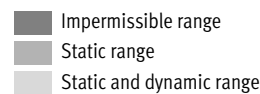
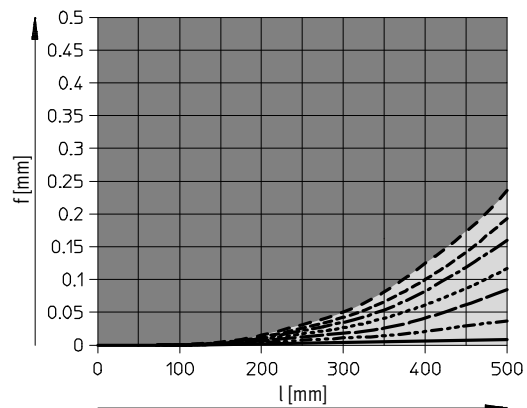
Along the z-axis



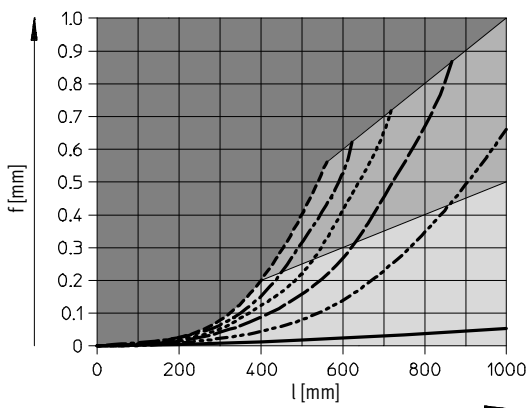
DMES-18



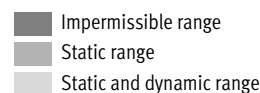
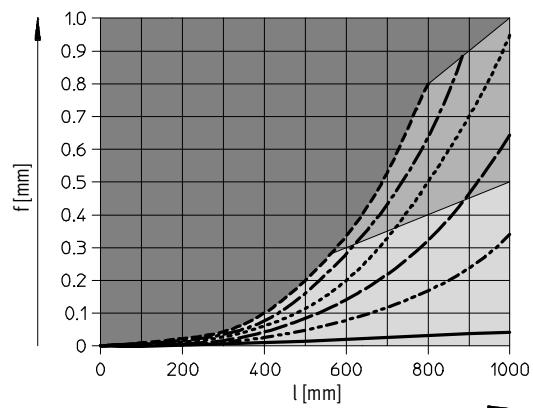
DMES-18



DMES-25



DMES-25



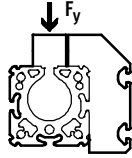
Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

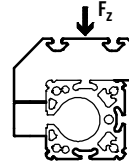
Technical data

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

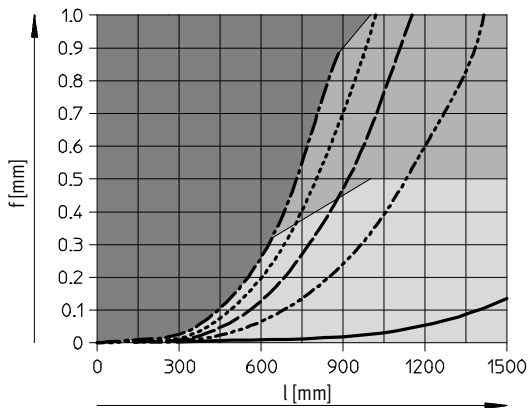
Along the y-axis



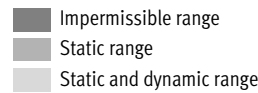
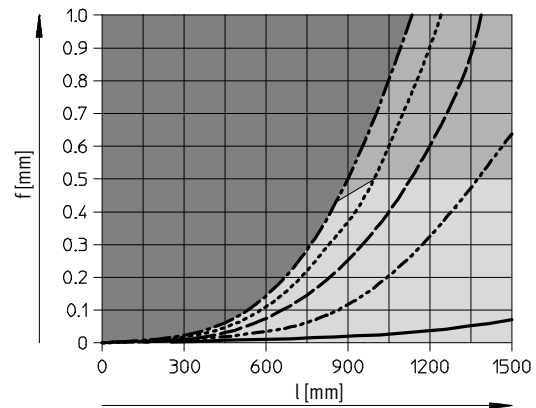
Along the z-axis



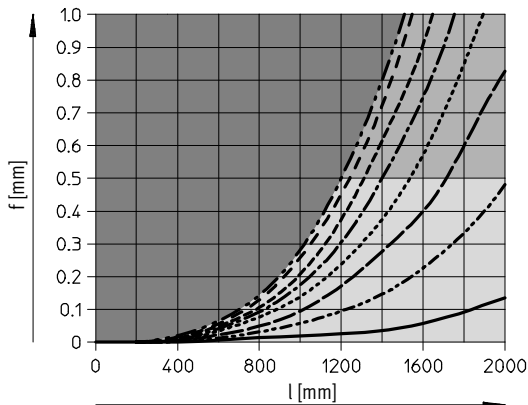
DMES-40



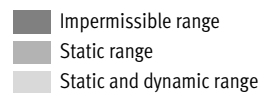
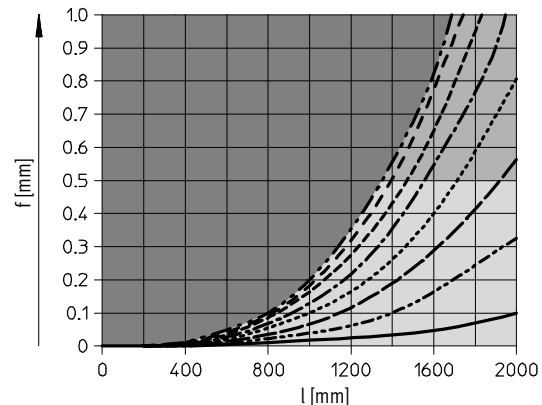
DMES-40



DMES-63



DMES-63



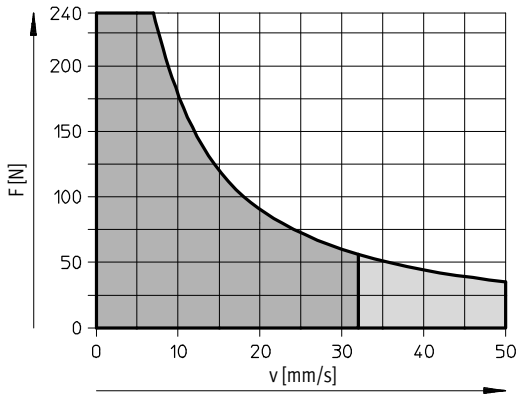
Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

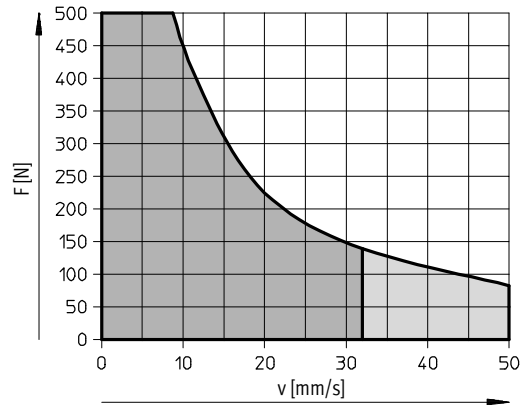
Technical data

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

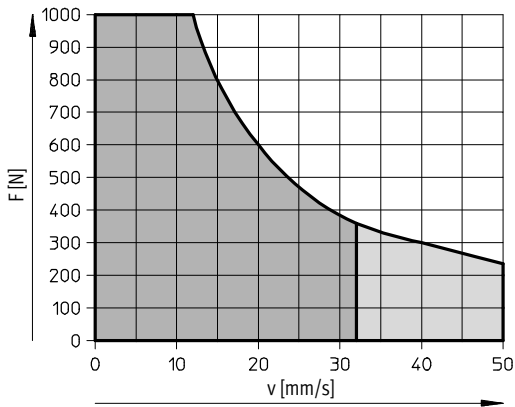
DMES-18



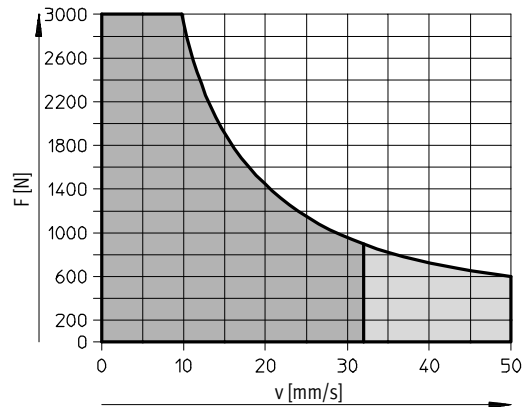
DMES-25



DMES-40



DMES-63



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

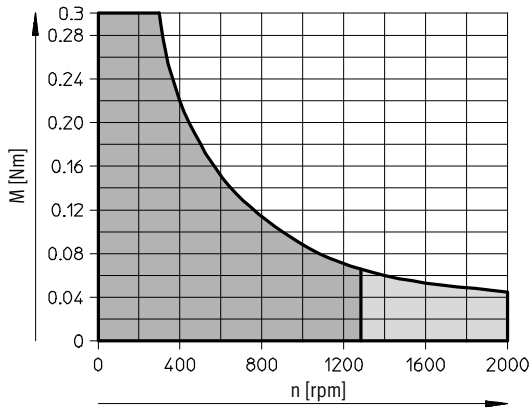
Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

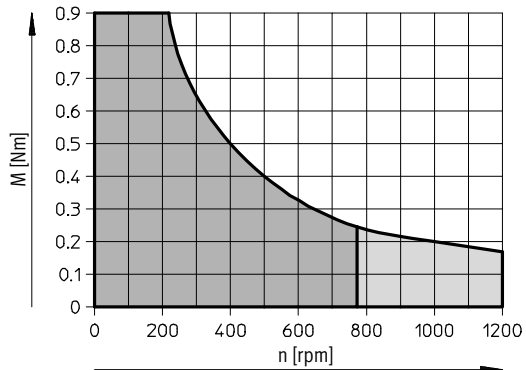
Technical data

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

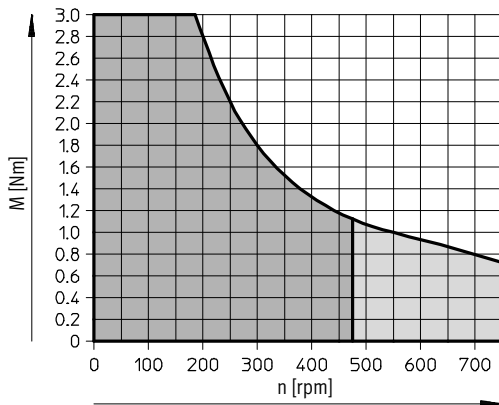
DMES-18



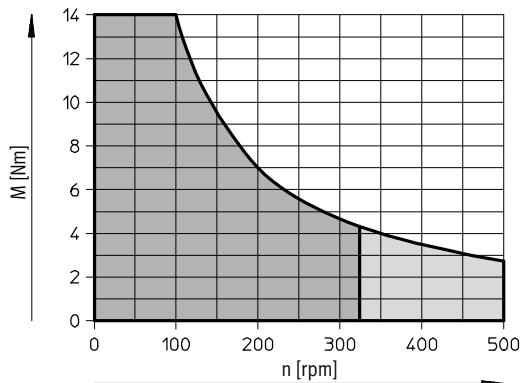
DMES-25



DMES-40

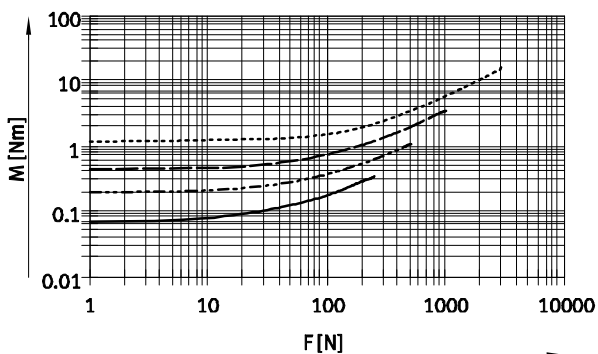


DMES-63

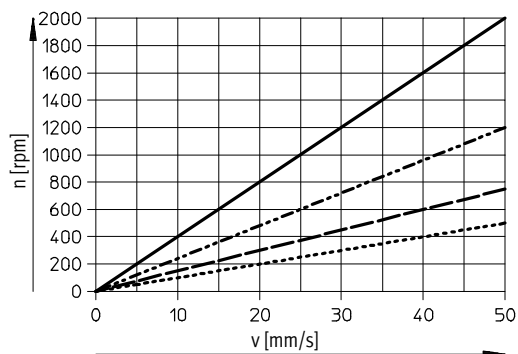


- Recommended operating range
- Permissible operating range (duty cycle < 50% recommended)

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-KF, with recirculating ball bearing guide

Technical data

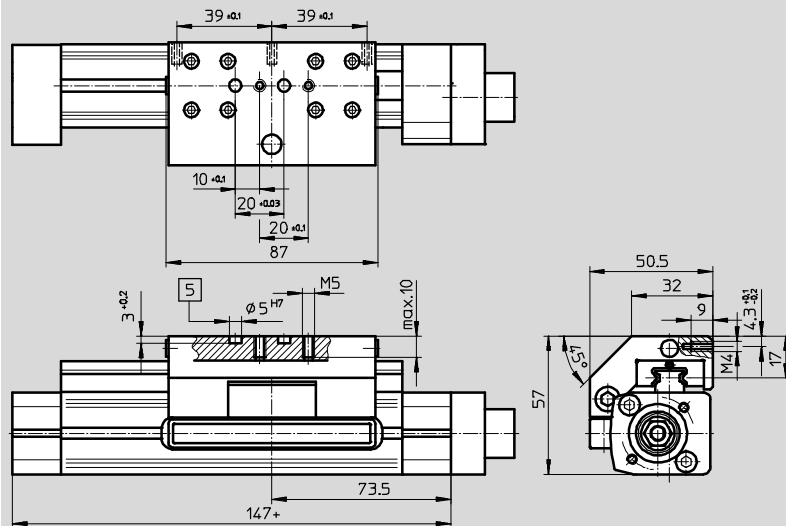
FESTO

Dimensions

Download CAD data → www.festo.com

Standard slide GK

Size 18

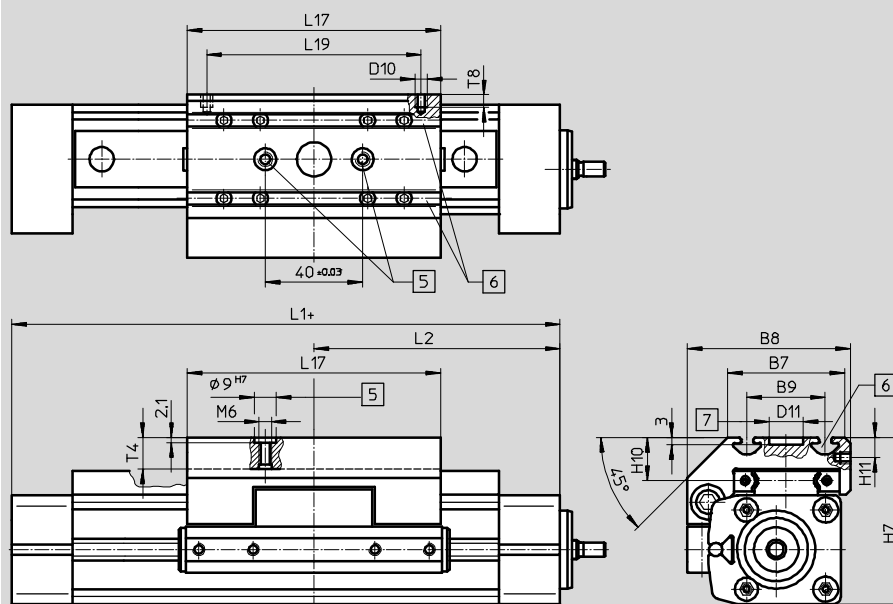


5 Hole for centring pin ZBS-5

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	B7	B8	B9	D10	D11 Ø	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

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

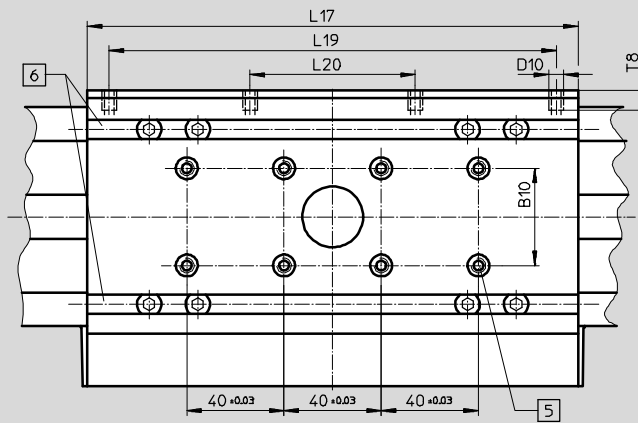
FESTO

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

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

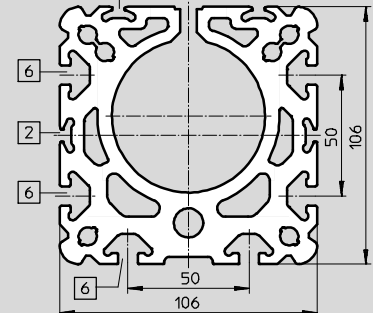
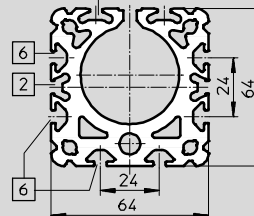
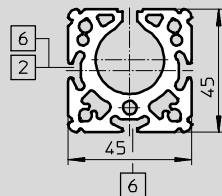
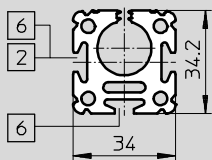
Profile

Size 18

Size 25

Size 40

Size 63



- 2 Sensor slot for proximity sensor

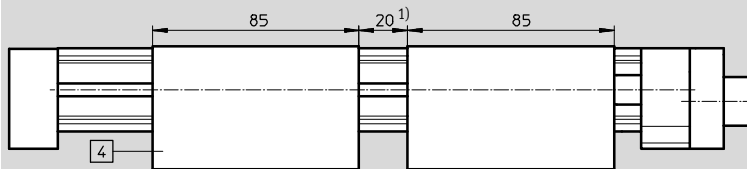
- 6 Mounting slot for slot nut NST

Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

Additional slide KL/KR

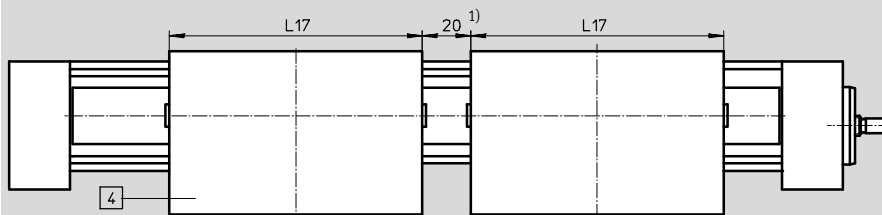
Size 18



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

1) Recommended minimum distance for access to lubrication nipple

Size 25/40/63



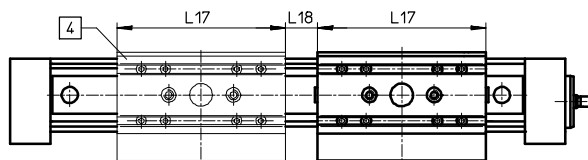
4 Additional slide
DMES-...-KL/KR

1) Recommended minimum distance for access to lubrication nipple

Size	L17
18	85
25	105
40	167
63	230

Working stroke reduction with standard slide GK or extended slide GV and additional slide KL/KR

- L17 = Slide/additional slide length
L18 = Distance between both slides
4 Additional slide



For a toothed belt axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between both slides.

Example:
Type DMES-25-500-KF-GK ... KL
Working stroke without additional slide = 500 mm
L18 = 20 mm
L17 = 105 mm
Working stroke with additional slide = 375 mm
(500 mm – 20 mm – 105 mm)

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

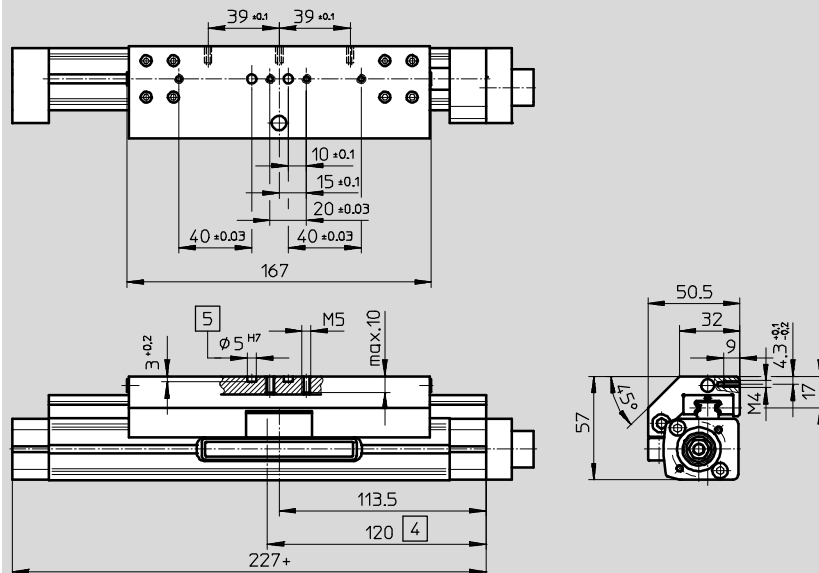
FESTO

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-KF, with recirculating ball bearing guide

Technical data

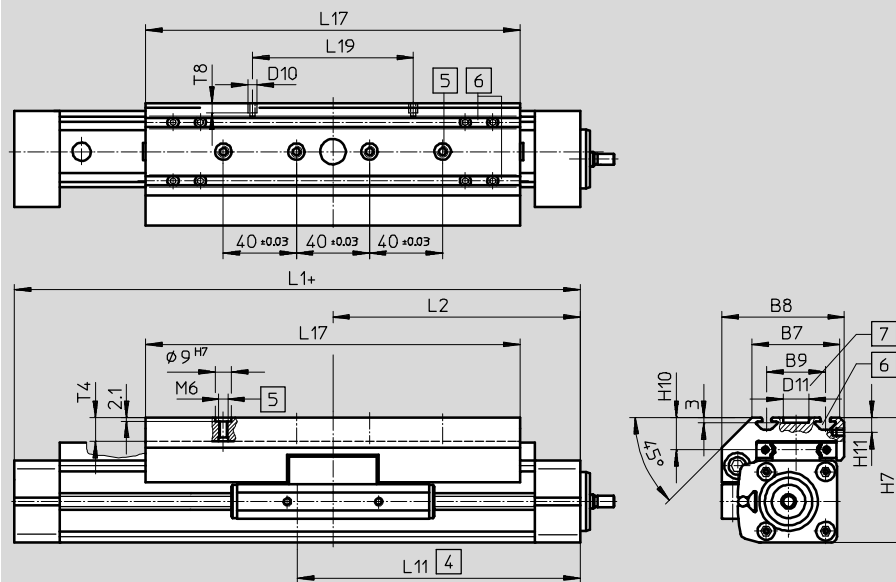
FESTO

Dimensions

Download CAD data → www.festo.com

Extended slide GV

Size 25/40/63

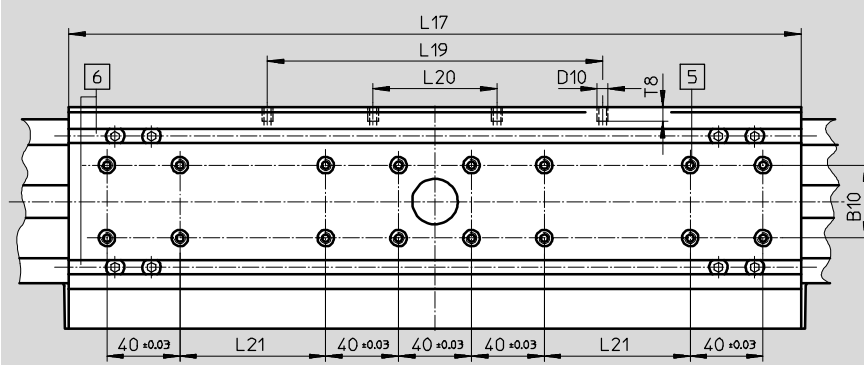


- 4 Lubrication opening
- 5 Hole for centring pin ZBS-9
- 6 Slot for slot nut NSTL
- 7 Hole for central mounting SLZZ
- + = plus stroke length

Basic dimensions

→ 11

Size 40



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

Size	B7	B8	B9	B10	D10	D11 Ø	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

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

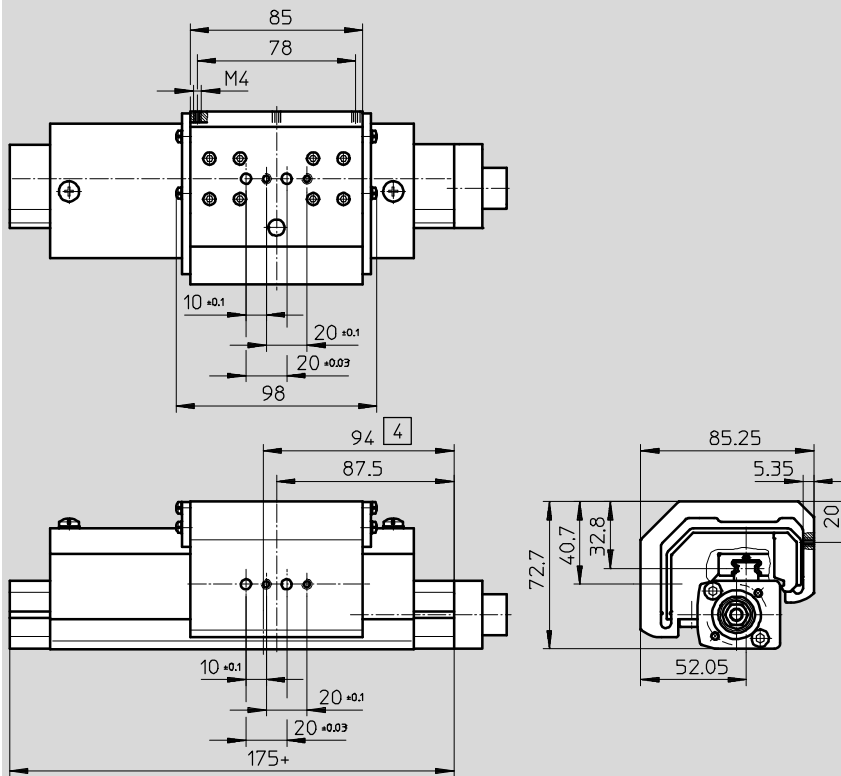
FESTO

Dimensions

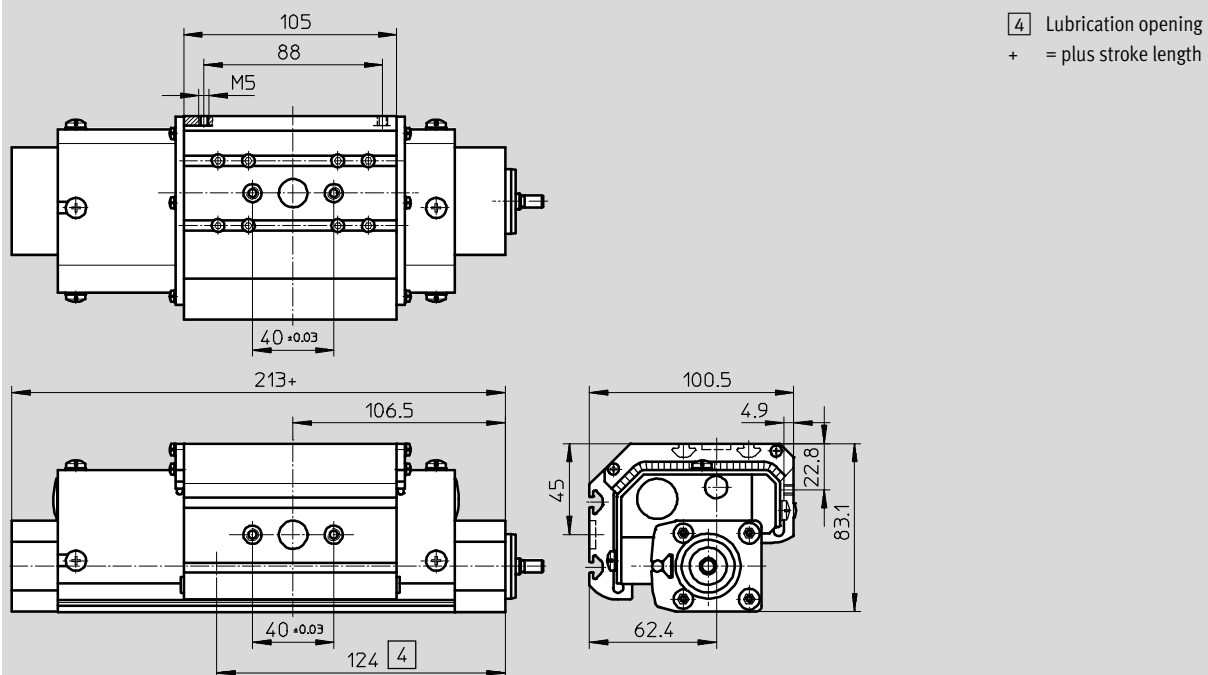
Download CAD data → www.festo.com

Protected version GA

Size 18



Size 25



Positioning axes DMES-KF, with recirculating ball bearing guide

Technical data

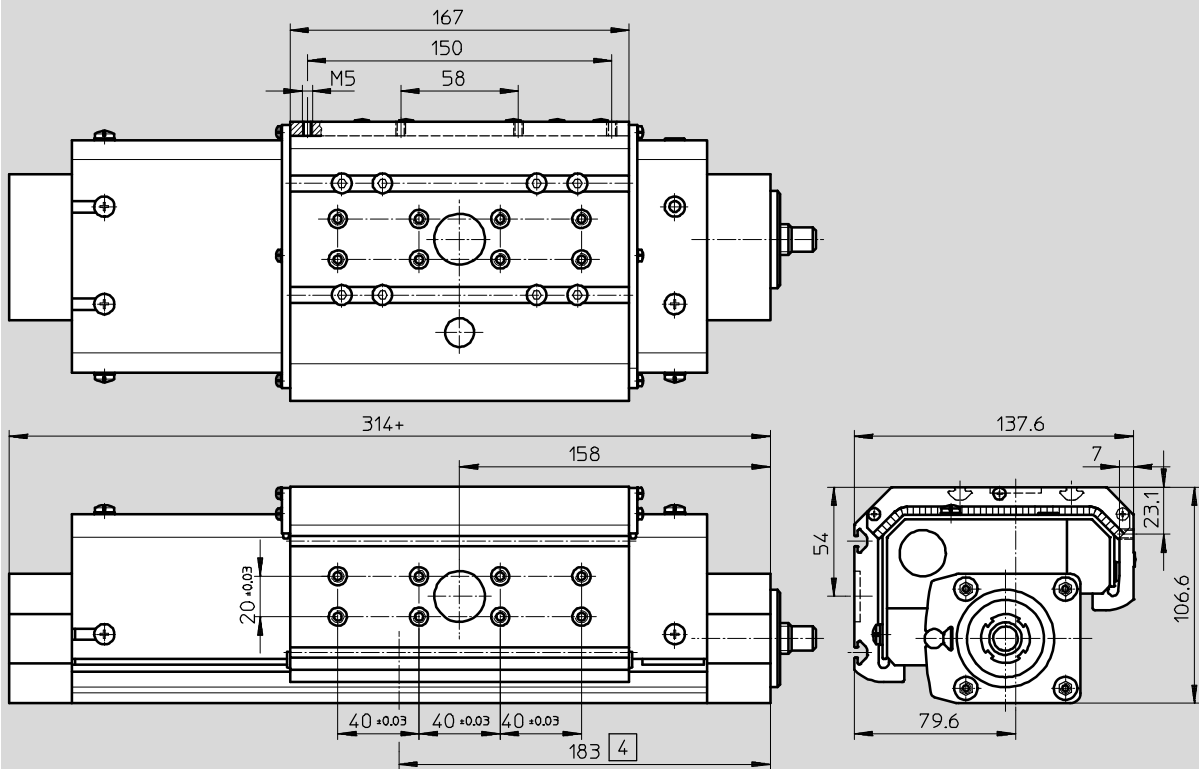
FESTO

Dimensions

Download CAD data → www.festo.com

Protected version GA

Size 40



4 Lubrication opening
+ = plus stroke length

Positioning axes DMES-KF, with recirculating ball bearing 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 → page 38

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.

10 Mandatory data				11 Options						
Module No.	Size	Stroke	Guide	Slide	Slide attachment position	Additional slide	Motor unit	Accessories	Accessories supplied basic	
533 499	DMES	18	50 ... 1,800	GF	GK	SH	KL	AX		..S...B...C
533 700		25		GF	GK	SH	KL			..X...B...C
533 701		40			GA					..Z...B...C
533 702		63								..Z...B...C
Order example										
533 701	DMES	40	800	GF	GV	SH	KL		ZUB	ZK30.302

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

Ordering table										
Size	18	25	40	63	Conditions	Code	Enter code			
10 Module No.	533 499	533 700	533 701	533 702		DMES				
Function	Linear actuator with slide					DMES				
Size	18	25	40	63						
Stroke [mm]	50 ... 1,800	50 ... 750	50 ... 1,800	50 ... 1,800						
12 Guide	Plain bearings					GF				
	Recirculating ball bearings					GV				
13 Slide	Standard slide					GK				
	Extended slide					GA				
	Protector version					SH				
Slide attachment position	Slide at front					SH				
	Slide at rear					SH				
Additional slide	Additional slide, standard, at left					KL				
	Additional slide, standard, at right					KL				
Motor unit	Motor unit (including gear unit) (see table separately)					AX				
Accessories	Supplied separately					ZUB				
14 Slot cover	Sensor slot					S				
	Mounting slot					B				
15 Slot nut	Mounting slot					V				
	Slide					X				
16 Centring support	1 ... 10					AB				
17 Foot mounting	1 ... 10					F				
18 Centring sleeve (pack of 10)	50 ... 90					Z				
19 Mounting bracket for inductive proximity sensors	1 ... 5					E				
20 Switching plug	1					L				

3 Ordering intelligent motor unit MTR-DCI Ordering table → page 39

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.

10 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
533 701	DCI	32	S	VC	SC	E	G7	R2	H2	I0
533 702		42		VC	SC	E	G7	R2	H2	I0
533 701		52		VC	SC	E	G7	R2	H2	I0
533 702		62		VC	SC	E	G7	R2	H2	I0
Order example										
533 701	DCI	42	S	VC	SC	E	G7	R2	H2	I0

Ordering table										
Size	32	42	52	62	Conditions	Code	Enter code			
10 Module No.						DCI				
Motor unit	Motor unit					DCI				
Type of motor	DC servo motor with integrated position controller					DCI				
Flange/size	32	42	52	62		S				
Torque class	Standard torque class					VC				
Nominal voltage	24 DC					VC				
	48 DC					VC				
Plug design	Straight plug					SC				
Displacement encoder	Encoder					E				
Gear unit	Integrated planetary gearing i = 6.75					G7				
	Integrated planetary gearing i = 13.75					G22				
	Integrated planetary gearing i = 20.20					R2				
Parameterisation interface	RS232 interface					R2				
	RS232 interface + control panel					R2				
Electrical connection technology	UV connection					I0				

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...

4 Order example

Part No. Type
Positioning axis DMES
533700 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 → page 41

Positioning axes DMES-KF, with recirculating ball bearing guide

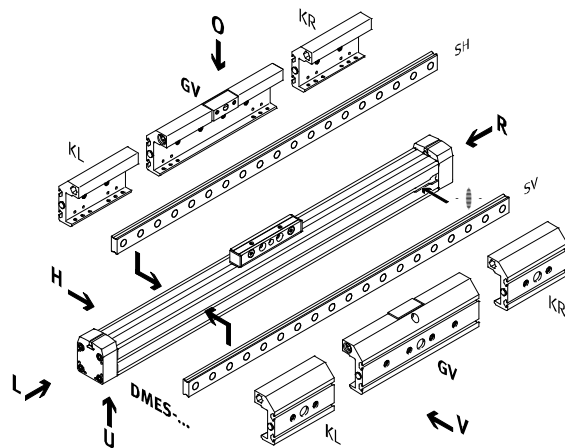
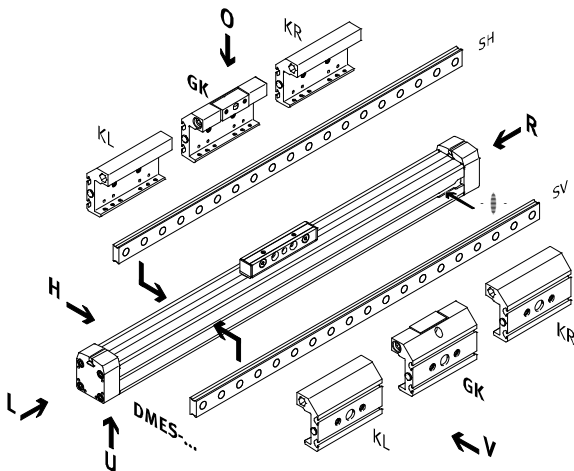
Ordering data – Modular products

Order code

Mandatory data

DMES-...-GK

DMES-...-GV



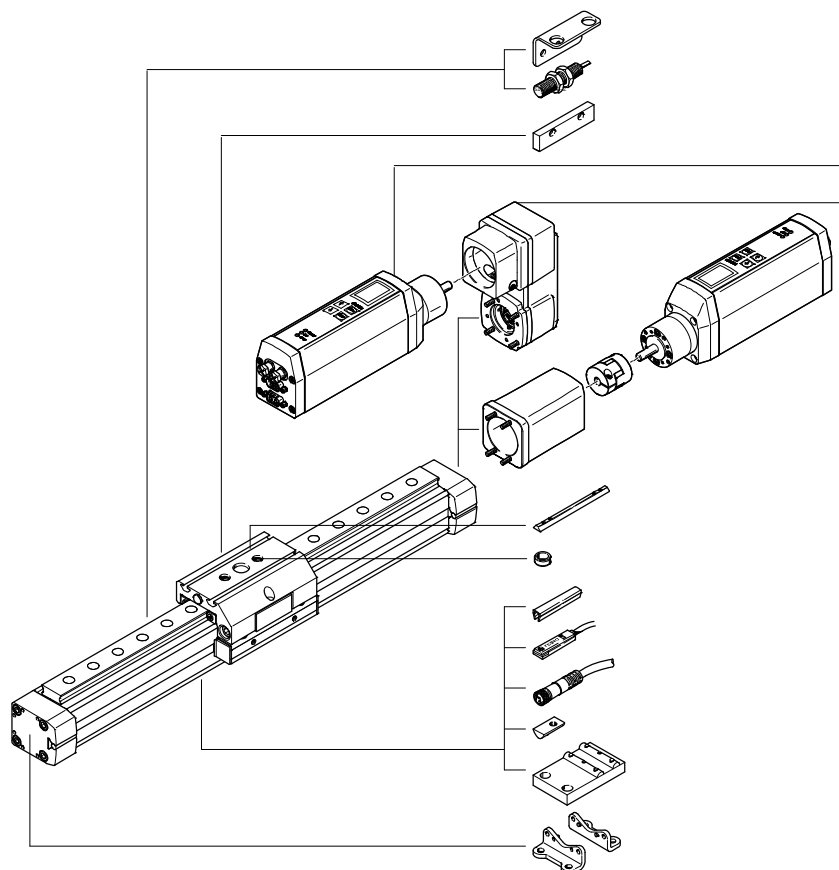
- - Note

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



T
→ page 48

L

Motor unit
Parallel kit

U

Motor unit
Axial kit

AX

X

Z
B/S

→ page 48

→ page 48

Y

M

F

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES-KF, with recirculating ball bearing guide

FESTO

Ordering data – Modular products

Ordering table							
Size	18	25	40	63	Condi- tions	Code	Enter code
[M] Module No.	533699	533700	533701	533702			
Function	Positioning axis with slide					DMES	DMES
Size	18	25	40	63		-...	
Stroke [mm]	50 ... 400	50 ... 700	50 ... 1200	50 ... 1800		-...	
Guide	Recirculating ball bearing guide					[1] -KF	-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] 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 KF

[3] KL, KR

[4] AX, U

[5] T, L

Only with guide KF (recirculating ball bearing guide) and with slide GK or GV

Order processing for intelligent motor unit MTR-DCI → page 39

Only with slide GK or GV

[M] Mandatory data
[O] Options

Transfer order code

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

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

- 2 - Type discontinued
Available up until 2018

Motor units MTR-DCI, intelligent servo motors

Ordering data – Modular products

FESTO

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES

Accessories – Motor units MTR-DCI

FESTO

Mandatory data										
Module No.	Motor unit		Flange/size		Nominal voltage		Measuring system		Parameterisation interface	
	Motor type		Torque class		Plug design		Gearing unit		Electrical connection technology	
533736	MTR	DCI	32	S	VC	SC	E	G7	R2	IO
533742			42					G14	H2	CO
533748			52							PB
										DN
Order example										
533742	MTR	- DCI	- 42	S	- VC	SC	- E	G7	- R2	IO

Ordering table						
Size	32	42	52	Condi- tions	Code	Enter code
M Module No.	533736	533742	533748			
Motor unit	Motor unit				MTR	MTR
Motor type	DC servo motor with integrated position controller				-DCI	-DCI
Flange/size	32	42	52		-...	
Torque class	Standard torque class				S	S
Nominal voltage [V]	24 DC				-VC	
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	
Parameterisation interface	RS232 interface				-R2	
	RS232 interface + control panel				-H2	
Electrical connection technology	I/O interface				IO	
	CANopen				CO	
	Profibus DP				PB	
	DeviceNet				DN	

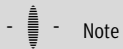
Transfer order code

MTR - DCI S SC - E - -

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

Positioning axes DMES

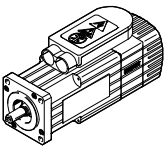
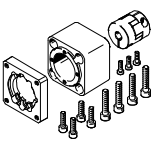
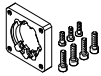
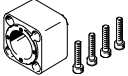
Accessories



Note

Depending on the combination of motor and drive, it may not be possible to reach the maximum feed force of the drive.

The respective no-load driving torque of the kit must be taken into consideration when using parallel kits.

Permissible axis/motor combinations with axial kit – Without gear unit					Technical data → Internet: eamm-a
Motor ¹⁾	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-...	550961 EAMM-A-E20-40A	552163 EAMF-A-28B-40A	540751 EAMC-B-15-22-5-6	170374 EAMK-A-E20-28B	
EMMS-AS-55-...	550963 EAMM-A-E20-55A	529946 EAMF-A-28A/B-55A	529953 EAMC-B-15-22-5-9	170374 EAMK-A-E20-28B	
With stepper motor					
EMMS-ST-42-...	550962 EAMM-A-E20-42A	552164 EAMF-A-28B-42A	530085 EAMC-B-15-22-5-5	170374 EAMK-A-E20-28B	
With motor unit					
MTR-DCI-32S-...	556991 EAMM-A-E20-32B	–	533707 EAMC-15-20-5-6	533703 EAMK-A-E20-32B	
DMES-25					
With servo motor					
EMMS-AS-40-...	550964 EAMM-A-E32-40A	550985 EAMF-A-44A/B-40A	123040 EAMC-30-35-6-6	124631 EAMK-A-E32-44A	
EMMS-AS-55-...	550965 EAMM-A-E32-55A	529942 EAMF-A-44A/B-55A	530941 EAMC-30-35-6-9	124631 EAMK-A-E32-44A	
With stepper motor					
EMMS-ST-57-...	550966 EAMM-A-E32-57A	530081 EAMF-A-44A/B-57A	530087 EAMC-30-35-6-6.35	124631 EAMK-A-E32-44A	
With integrated drive					
EMCA-EC-67-...	1454246 EAMM-A-E32-67A	1476305 EAMF-A-44A/B/C-67A-S1	530941 EAMC-30-35-6-9	124631 EAMK-A-E32-44A	
With motor unit					
MTR-DCI-42S-...G7	556992 EAMM-A-E32-42B	–	533708 EAMC-30-32-6-8	533704 EAMK-A-E32-42B	
MTR-DCI-42S-...G14	556993 EAMM-A-E32-42C	–	533708 EAMC-30-32-6-8	538578 EAMK-A-E32-42C	

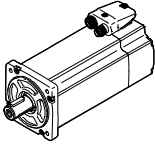
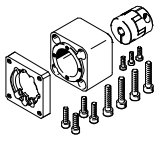
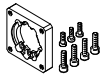
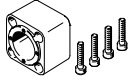
1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES

Accessories

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Permissible axis/motor combinations with axial kit – Without gear unit					Technical data → Internet: eamm-a
Motor ¹⁾	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-...	557448 EAMM-A-E48-64A-70A	529945 EAMF-A-64A/B-70A	525864 EAMC-40-66-11-12	529940 EAMK-A-E48-64A	
EMME-AS-100-...	550973 EAMM-A-E48-100A	529947 EAMF-A-64A/C/D-100A	529952 EAMC-40-66-12-19	529940 EAMK-A-E48-64A	
EMMS-AS-100-...	550973 EAMM-A-E48-100A	529947 EAMF-A-64A/C/D-100A	529952 EAMC-40-66-12-19	529940 EAMK-A-E48-64A	
With stepper motor					
EMMS-ST-57-...	550970 EAMM-A-E48-57A	530081 EAMF-A-44A/B-57A	550995 EAMC-30-35-6.35-12	124632 EAMK-A-E48-44A	
EMMS-ST-87-...	550972 EAMM-A-E48-87A	533140 EAMF-A-64A/B-87A	525864 EAMC-40-66-11-12	529940 EAMK-A-E48-64A	
With integrated drive					
EMCA-EC-67-...	1454248 EAMM-A-E48-67A	1460114 EAMF-A-64A/B-67A-S1	1731999 EAMC-40-66-9-12	529940 EAMK-A-E48-64A	
With motor unit					
MTR-DCI-52S-...-G7	556994 EAMM-A-E48-52B	–	533709 EAMC-42-50-12-12	533705 EAMK-A-E48-52B	
MTR-DCI-52S-...-G14	556995 EAMM-A-E48-52C	–	533709 EAMC-42-50-12-12	538579 EAMK-A-E48-52C	
DMES-63					
With servo motor					
EMMS-AS-70-...	550975 EAMM-A-E72-70A	529945 EAMF-A-64A/B-70A	550999 EAMC-40-66-11-20	529941 EAMK-A-E72-64A	
EMME-AS-100-...	550978 EAMM-A-E72-100A	529947 EAMF-A-64A/C/D-100A	132847 EAMC-40-66-19-20	529941 EAMK-A-E72-64A	
EMMS-AS-100-...	550978 EAMM-A-E72-100A	529947 EAMF-A-64A/C/D-100A	132847 EAMC-40-66-19-20	529941 EAMK-A-E72-64A	
With stepper motor					
EMMS-ST-87-...	550977 EAMM-A-E72-87A	533140 EAMF-A-64A/B-87A	550999 EAMC-40-66-11-20	529941 EAMK-A-E72-64A	

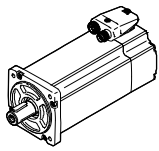
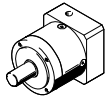
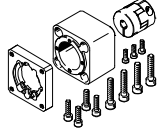
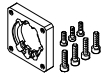
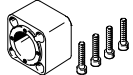
1) The input torque must not exceed the maximum permissible transferable torque of the axial kit.

- 2 - Type discontinued
Available up until 2018

FESTO

Positioning axes DMES

Accessories

Permissible axis/motor combinations with axial kit – With gear unit						Technical data → Internet: eamm-a
Motor ¹⁾	Gear unit	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-25						
With servo motor						
EMME-AS-40-...	EMGA-40-P-G...-EAS-40	1454247 EAMM-A-E32-40G	550986 EAMF-A-44A/B-40G	1453062 EAMC-30-35-6-10	124631 EAMK-A-E32-44A	
EMMS-AS-40-...	EMGA-40-P-G...-SAS-40	1454247 EAMM-A-E32-40G	550986 EAMF-A-44A/B-40G	1453062 EAMC-30-35-6-10	124631 EAMK-A-E32-44A	
With stepper motor						
EMMS-ST-42-...	EMGA-40-P-G...-SST-42	1454247 EAMM-A-E32-40G	550986 EAMF-A-44A/B-40G	1453062 EAMC-30-35-6-10	124631 EAMK-A-E32-44A	
With integrated drive						
EMCA-EC-67-...	EMGC-40-...	1454247 EAMM-A-E32-40G	550986 EAMF-A-44A/B-40G	1453062 EAMC-30-35-6-10	124631 EAMK-A-E32-44A	
DMES-40						
With motor unit						
EMCA-EC-67-...	EMGC-60-...	1454249 EAMM-A-E48-60H	550987 EAMF-A-64A/B-60G/H	1452803 EAMC-40-66-12-14	529940 EAMK-A-E48-64A	
DMES-63						
With servo motor						
EMMS-AS-55-...	EMGA-60-P-G...-SAS-55	550974 EAMM-A-E72-60G	550987 EAMF-A-64A/B-60G/H	550999 EAMC-40-66-11-20	529941 EAMK-A-E72-64A	
EMME-AS-60-...	EMGA-60-P-G...-EAS-60	1454250 EAMM-A-E72-60H	550987 EAMF-A-64A/B-60G/H	1452809 EAMC-40-66-14-20	529941 EAMK-A-E72-64A	
EMMS-AS-70-...	EMGA-60-P-G...-SAS-70	550974 EAMM-A-E72-60G	550987 EAMF-A-64A/B-60G/H	550999 EAMC-40-66-11-20	529941 EAMK-A-E72-64A	
EMMS-AS-70-...	EMGA-80-P-G...-SAS-70	550976 EAMM-A-E72-80G	533139 EAMF-A-64A/C-80G	123849 EAMC-40-66-20-20	529941 EAMK-A-E72-64A	
EMME-AS-80-...	EMGA-80-P-G...-EAS-80	550976 EAMM-A-E72-80G	533139 EAMF-A-64A/C-80G	123849 EAMC-40-66-20-20	529941 EAMK-A-E72-64A	
EMME-AS-100-...	EMGA-80-P-G...-SAS-100	550976 EAMM-A-E72-80G	533139 EAMF-A-64A/C-80G	123849 EAMC-40-66-20-20	529941 EAMK-A-E72-64A	
EMMS-AS-100-...	EMGA-80-P-G...-SAS-100	550976 EAMM-A-E72-80G	533139 EAMF-A-64A/C-80G	123849 EAMC-40-66-20-20	529941 EAMK-A-E72-64A	
With stepper motor						
EMMS-ST-57-...	EMGA-60-P-G...-SST-57	550974 EAMM-A-E72-60G	550987 EAMF-A-64A/B-60G/H	550999 EAMC-40-66-11-20	529941 EAMK-A-E72-64A	
EMMS-ST-87-...	EMGA-80-P-G...-SST-87	550976 EAMM-A-E72-80G	533139 EAMF-A-64A/C-80G	123849 EAMC-40-66-20-20	529941 EAMK-A-E72-64A	
With integrated drive						
EMCA-EC-67-...	EMGC-60-...	1454250 EAMM-A-E72-60H	550987 EAMF-A-64A/B-60G/H	1452809 EAMC-40-66-14-20	529941 EAMK-A-E72-64A	

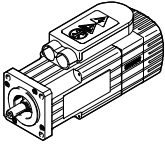
¹⁾ The input torque must not exceed the maximum permissible transferable torque of the axial kit.

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES

Accessories

FESTO

Permissible axis/motor combinations with parallel kit – Without gear unit			Technical data → Internet: eamm-u
Motor ¹⁾	Parallel kit		
	 • Space-saving gravity die-cast housing • Components can be mounted to the kit facing any direction		
Type	Part No.	Type	
DMES-18			
With servo motor			
EMMS-AS-40-...	543226	EAMM-U-E24-40A	
With motor unit			
MTR-DCI-32S-...	543225	EAMM-U-E24-32B	
DMES-25			
With servo motor			
EMMS-AS-55-...	543230	EAMM-U-E32-55A	
With motor unit			
MTR-DCI-42S-...-G7	543228	EAMM-U-E32-42B	
MTR-DCI-42S-...-G14	543229	EAMM-U-E32-42C	
DMES-40			
With servo motor			
EMMS-AS-70-...	543234	EAMM-U-E48-70A	
With motor unit			
MTR-DCI-52S-...-G7	543232	EAMM-U-E48-52B	
MTR-DCI-52S-...-G14	543233	EAMM-U-E48-52C	

1) The input torque must not exceed the maximum permissible transferable torque of the parallel kit.

- 2 - Type discontinued
Available up until 2018

FESTO

Positioning axes DMES

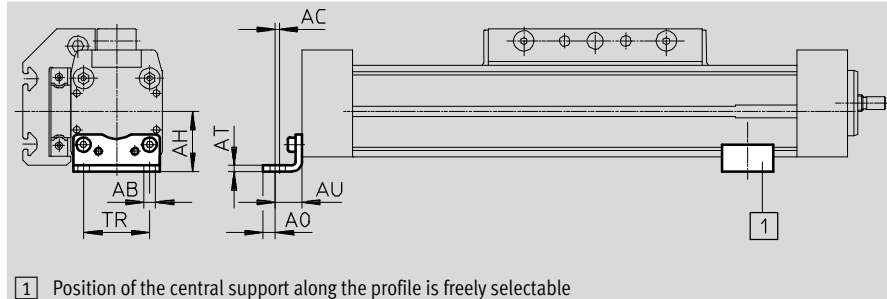
Accessories

Foot mounting HP (order code F)

Materials:
Galvanised steel
Free of copper and PTFE



HP-25



Dimensions and ordering data

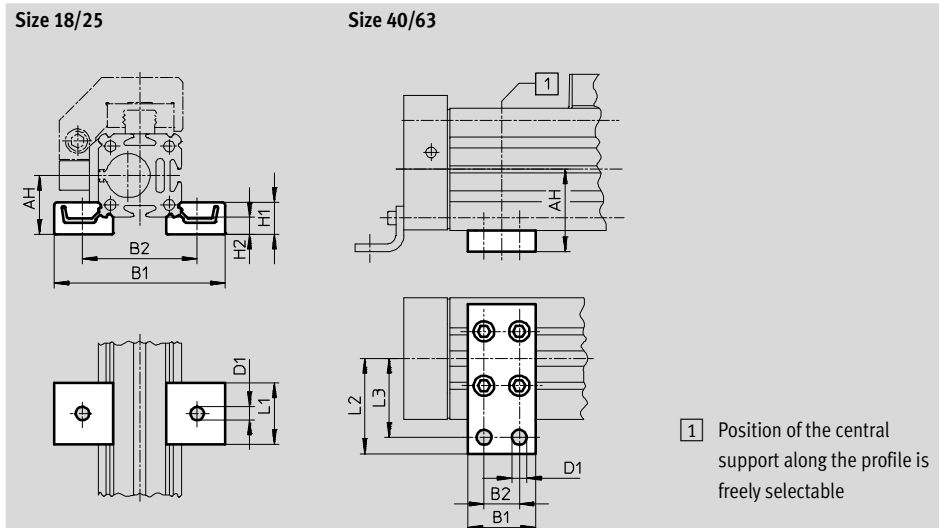
For size	AB Ø	AC	AH	AO	AT	AU	TR	Weight [g]	Part No.	Type
18	5.5	2	24	4.8	3	13.2	24	59	158472	HP-18
25	5.5	2	29.5	6	3	13	32.5	61	150731	HP-25
40	6.6	2	46	8.5	5	17.5	45	188	150733	HP-40
63	11	3	69	13.5	6	28	75	305	150735	HP-63

Central support MUP (order code M)

Materials:
Anodised aluminium
Free of copper and PTFE



MUP-40



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	150736	MUP-18/25
25	29.5	81	58	5.5	13	7	25	–	–	33	150736	MUP-18/25
40	46	35	22	6.6	–	–	–	47	40	126	150738	MUP-40
63	69	50	26	11	–	–	–	77	65	340	150800	MUP-63

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES

Accessories

FESTO

Sensor bracket HWS

for inductive proximity sensors

(order code T)

Material:

Galvanised steel



Switch lug SF

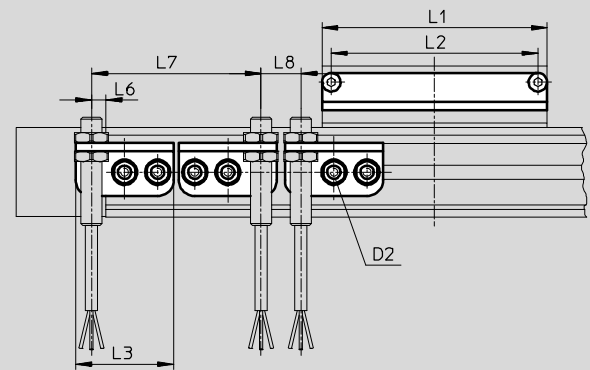
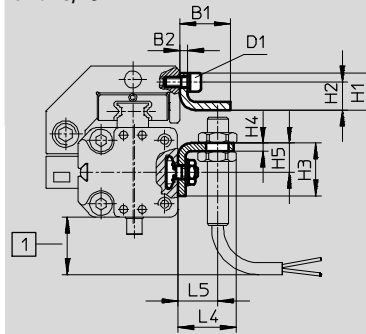
(order code L)

Material:

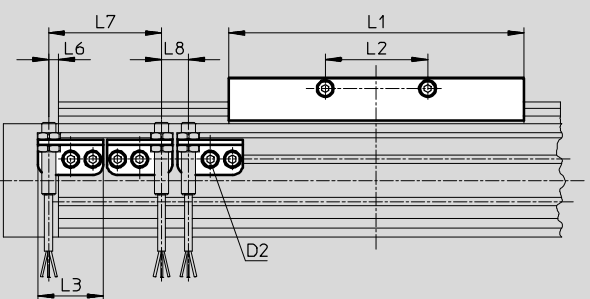
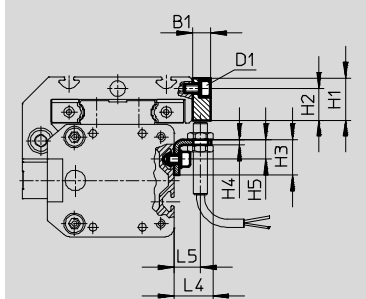
Galvanised steel



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	188968	HWS-18/25-M8
				59	188964	SF-18
25	5.5	64	15	34	188968	HWS-18/25-M8
				75	188965	SF-25
40	5.5	64	15	37	188969	HWS-40-M8
				328	188966	SF-40
63	5.5	64	15	45	188970	HWS-63-M8
				630	188967	SF-63

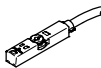
- 2 - Type discontinued
Available up until 2018

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	M8 plug connector					
N/O contact							
	3-wire	–	PNP	■	2.5	150386	SIEN-M8B-PS-K-L
	–	3-pin	PNP	■	–	150387	SIEN-M8B-PS-S-L
N/C contact							
	3-wire	–	PNP	■	2.5	150390	SIEN-M8B-PO-K-L
	–	3-pin	PNP	■	–	150391	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, short design	PNP	Plug connector M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
			Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE	

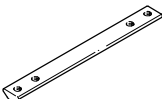
Ordering data – Connecting cable					Technical data ➔ Internet: nebu	
	Assembly	Connection	Cable length [m]	Part No.	Type	
Straight socket						
	Union nut M8, both ends	3-pin	0.5	541346	NEBU-M8G3-K-0.5-M8G3	
			1	541347	NEBU-M8G3-K-1-M8G3	
			2.5	541348	NEBU-M8G3-K-2.5-M8G3	
			5	541349	NEBU-M8G3-K-5-M8G3	

- 1 - Type discontinued
Available up until 2018

Positioning axes DMES

Accessories

FESTO

Ordering data				Technical data ➔ Internet: mounting component		
	For size	Comment	Order code	Part No.	Type	PU ¹⁾
Slot nut NST						
	18/25	For mounting slot	Y	526091	NST-HMV-M4	10
	40			150914	NST-5-M5	1
	63			150915	NST-8-M6	1
Slot nut NSTL						
	25	For slide	X	158410	NSTL-25	1
	40			158412	NSTL-40	1
	63			158414	NSTL-63	1
Centring pin ZBS/centring sleeve ZBH						
	18	For slide	Z	150928	ZBS-5	10
	25/40/63			150927	ZBH-9	10
Slot cover ABP						
	40	For mounting slot	B	151681	ABP-5	2
	63	Every 0.5 m		151682	ABP-8	2
Slot cover ABP-S						
	18/25/40/63	For sensor slot Every 0.5 m	S	151680	ABP-5-S	2

1) Packaging unit quantity

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