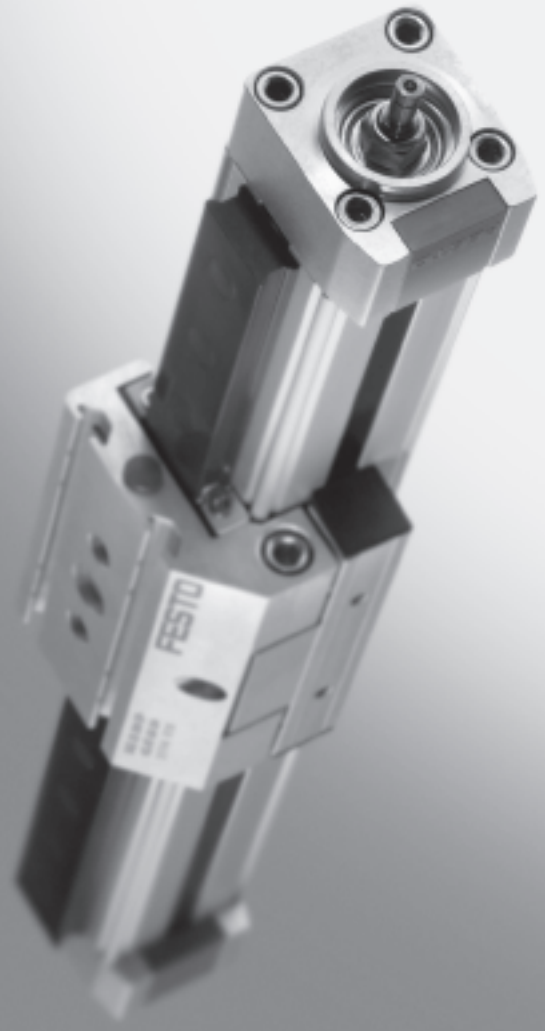


- Precision with flexibility
- Fully compatible with Festo's multi-axis modular system
- Everything from a single source

Spindle axes DGE

Key features

At a glance

- Precision, rigid guide
- Highly adaptable, thanks to wide choice of mounting and attachment options
- Wide range of options for attaching drive units
- Comprehensive range of mounting accessories for multi-axis combinations
- Optimally adapted motor controller combinations

Basic version DGE-SP

- Stroke lengths from 100 ... 2000 mm
- Without guide
- Low characteristic load values

With recirculating ball bearing guide DGE-SP-KF-GK/-GV

- Stroke lengths from 100 ... 2000 mm
- Standard slide or extended slide
- Medium to high characteristic load values

With protected version DGE-SP-KF-GA

- Stroke lengths from 140 ... 1500 mm
- Guide and slide are fitted with a cover to protect against the ingress of particles from above and from the side

With heavy-duty guide DGE-SP-HD

- Stroke lengths from 100 ... 1500 mm
- High guide precision
- Sturdy construction
- High characteristic load values

Spindle axes DGE

Key features

System selection for electromechanical drives

Spindle axis

- Note

For the spindle axes and the motors there are matching complete solutions.

Motor kit ➔ 5 / 2.1-170

Axial kit

Parallel kit

Axial kit consisting of:
- Motor flange
- Coupling housing
- Coupling
- Screws

Motor ➔ 5 / 2.1-170

1 Servo motor EMMS-AS, MTR-AC
2 Stepper motor EMMS-ST, MTR-ST

Motor controller ➔ www.festo.com

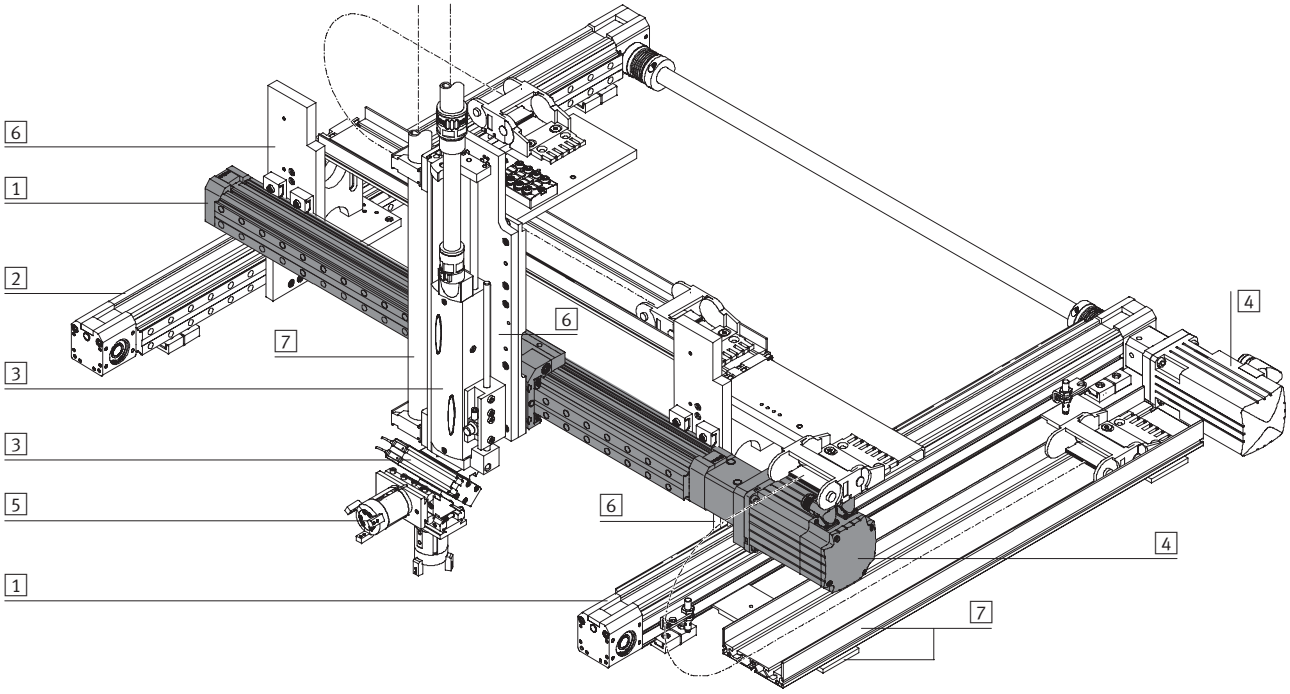
1 Servo motor ontroller CMMP-AS, SEC-AC
2 Stepper motor controller CMMS-ST

Spindle axes DGE

System example

FESTO

System product for handling and assembly technology



System components and accessories			
	Type	**Brief description**	**➔ Page**
1	Axes	Wide range of combination options within handling and assembly technology	www.festo.com
2	Passive guide axes	Diverse possible combinations in handling and assembly technology	www.festo.com
3	Drives	Wide range of combination options within handling and assembly technology	www.festo.com
4	Motors	Servo and stepper motors, with or without gearing	www.festo.com
5	Grippers	Wide range of combination options within handling and assembly technology	www.festo.com
6	Adapters	For combining drives with drives and drives with grippers	www.festo.com
7	Installation components	For achieving a clear-cut, safe layout for electrical cables and tubing	www.festo.com

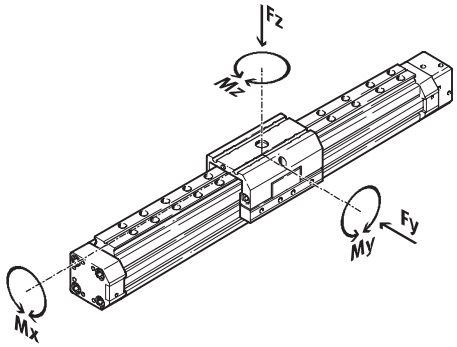
Spindle axes DGE

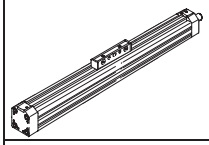
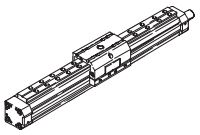
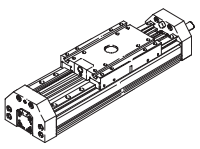
Selection aid

FESTO

Guide characteristics

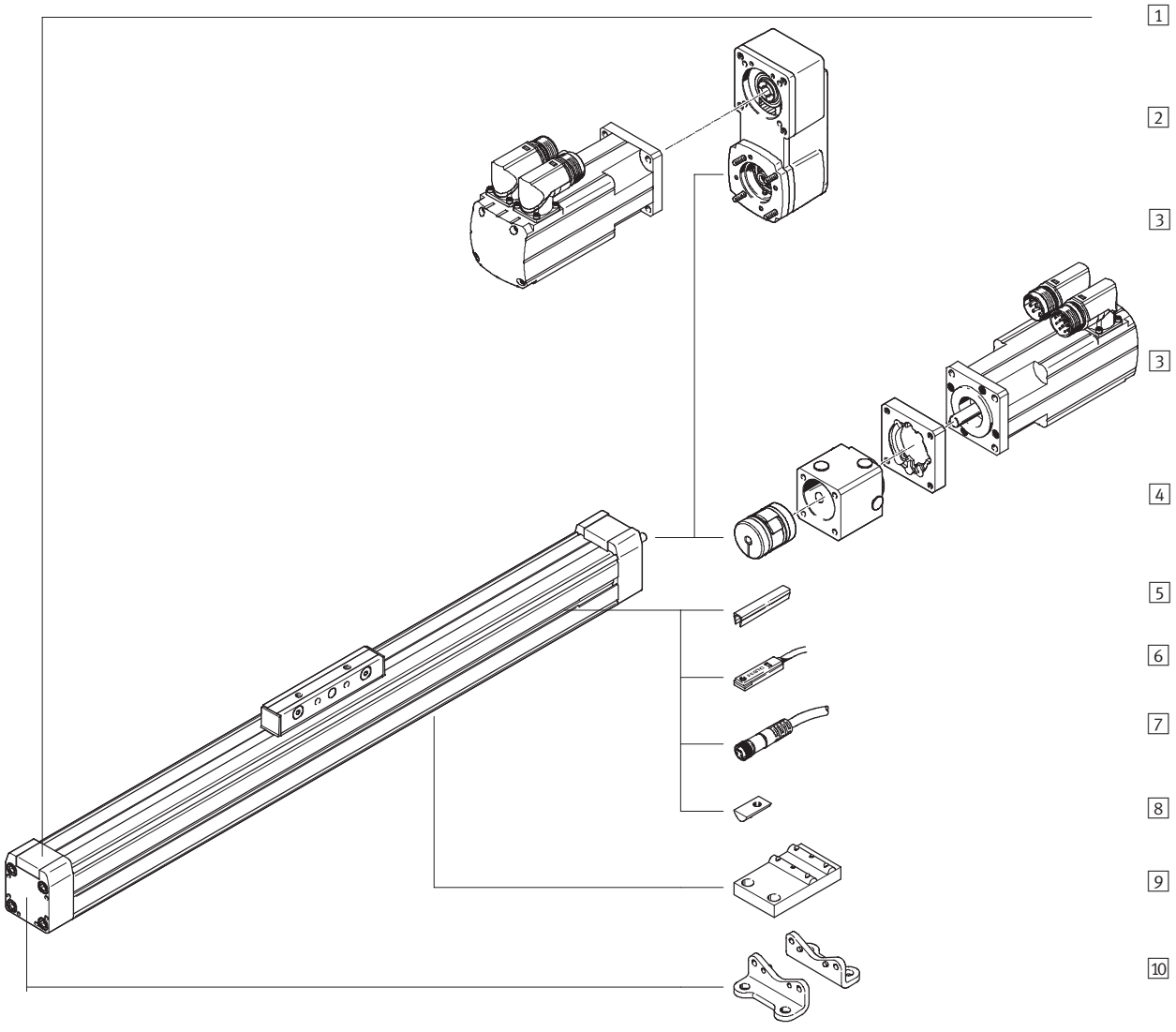
The data in the table are maximum values. The precise values for each variant can be found in the corresponding data sheet included in the catalogue.



Version	Size	Working stroke [mm]	Speed [m/s]	Repetition accuracy [mm]	Feed force [N]	Forces and torques Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	→ Page
Basic version without guide SP											
	18	100 … 500	0.2	±0.02	140	–	1.8	0.5	0.8	0.8	5 / 2.1-122
	25	100 … 1000	0.5	±0.02	250	–	2	1	1.5	1.5	
	40	200 … 1500	1	±0.02	600	–	15	4	4	4	
	63	300 … 2000	1.2	±0.02	1600	–	106	8	18	18	
With recirculating ball bearing guide SP-KF											
	18	100 … 500	0.2	±0.02	140	930	930	7	45	45	5 / 2.1-136
	25	100 … 1000	0.5	±0.02	250	3080	3080	45	170	170	
	40	140 … 1500	1	±0.02	600	7300	7300	170	660	660	
	63	150 … 2000	1.2	±0.02	1600	14050	14050	580	1820	1820	
With heavy-duty guide SP-HD											
	18	100 … 400	0.2	±0.02	140	1820	1820	70	115	112	5 / 2.1-158
	25	100 … 900	0.5	±0.02	250	5400	5600	260	415	400	
	40	200 … 1500	1	±0.02	600	5400	5600	375	560	540	

Spindle axes DGE-SP

Peripherals overview



Spindle axes DGE-SP

Peripherals overview

Variants and accessories			
	Type	**Brief description**	**→ Page**
1	Spindle axis DGE-SP	Electromechanical axis without guide	5 / 2.1-124
2	Parallel kit EAMM-U	For parallel motor attachment (consisting of: housing, Clamping component, clamping sleeve, toothed belt gearwheel, toothed belt)	5 / 2.1-173
3	Motor EMMS, MTR	Motors specially matched to the axis, with or without gearing, with or without brake	5 / 2.1-170
4	Axial kit EAMM-A	For axial motor attachment (consisting of: coupling housing, clamping component, motor flange)	5 / 2.1-170
5	Slot cover B/S	For protecting against the ingress of dirt	5 / 2.1-184
6	Proximity sensor G/H/I/J/N	For use as a signal generator and safety monitoring	5 / 2.1-185
7	Cable with socket V	For proximity sensors	5 / 2.1-185
8	Slot nut for mounting slot Y	For mounting attachments	5 / 2.1-184
9	Central support M	For mounting the axis	5 / 2.1-177
10	Foot mounting F	For mounting the axis	5 / 2.1-177

Spindle axes DGE-SP

Type code

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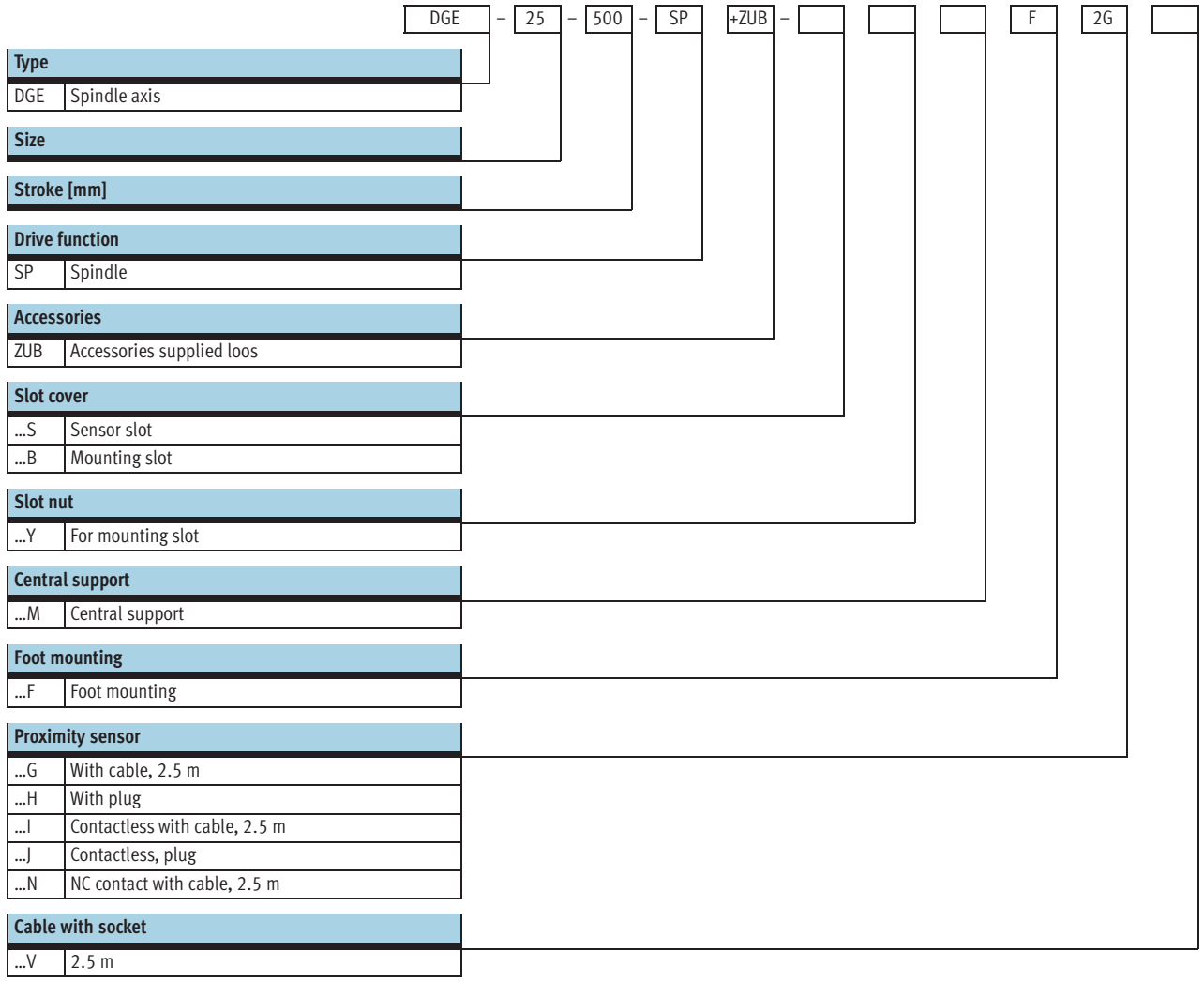


Spindle axes DGE-SP

Technical data

FESTO

Size
18 ... 63

Stroke length
100 ... 2000 mm

www.festo.com/en/
Spare_parts_service

General technical data					
Size		18	25	40	63
Constructional design		Electromechanical axis with spindle and driver			
Guide		–			
Mounting position		Any			
Max. working stroke[1]	[mm]	100 ... 500	100 ... 1000[2]	200 ... 1500[2]	300 ... 2000[2]
Max. feed force F_x	[N]	140	250	600	1600
Max. driving torque	[Nm]	0.1	0.45	2.1	8.5
Max. no-load driving torque[3]	[Nm]	0.05	0.15	0.5	1.4
Max. speed[2]	[m/s]	0.2	0.5	1	1.2
Max. acceleration	[m/s^2]	6			
Repetition accuracy	[mm]	±0.02			

1) Total stroke = working stroke + 2x stroke reserve
2) The maximum speed is dependent on the stroke length ➔ 5 / 2.1-129
3) Measured at a speed of 0.2 m/s

Operating and environmental conditions					
Size		18	25	40	63
Ambient temperature	[°C]	0 ... +40			
Protection class		IP40			

Weights [kg]				
Size	18	25	40	63
Basic weight with 0 mm stroke[1]	0.55	1.4	4.3	12.5
Additional weight per 100 mm stroke	0.21	0.41	0.71	2.53
Moving load	0,13	0,25	0,67	2,17

1) Including coupling housing

Mass moment of inertia					
Size		18	25	40	63
J_O	[kg cm^2]	0.007	0.029	0.364	3.15
J_H per metre stroke	[kg cm^2/m]	0.031	0.121	1	6.67
J_L per kg working load	[kg cm^2/kg]	0.005	0.025	0.101	0.228

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

$J_A = J_O + J_H \times \text{working stroke [m]} + J_L \times m_{\text{working load}}$ [kg]

Spindle axes DGE-SP

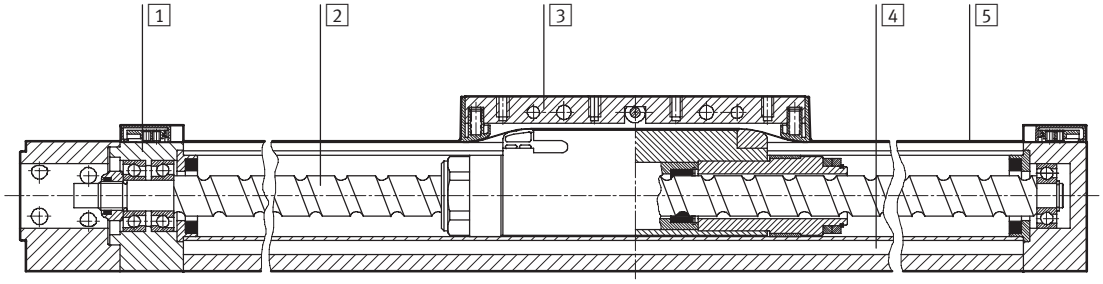
Technical data

FESTO

Spindle					
Size		18	25	40	63
Diameter	[mm]	8	12	20	32
Pitch	[mm/rev.]	4	10	20	30

Materials

Sectional view



Axis	
1 End cap	Wrought aluminium alloy, anodised
2 Spindle	Rolled steel
3 Driver	Wrought aluminium alloy, anodised
4 Profile	Wrought aluminium alloy, anodised
5 Cover strip	Corrosion resistant steel

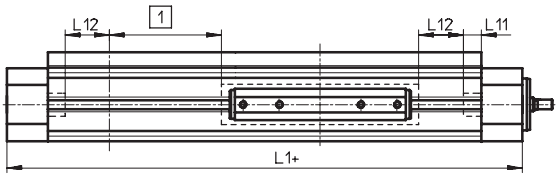
Stroke reserve

L1+ Overall length of axis
L11 Internal mechanical stop

1 The working stroke is the effective usable work range. Please quote this in your order.

L12 Stroke reserve:
Safety distance to mechanical stop, present at both ends of the axis in addition to the stroke.

Example:
Type DGE-25-500-SP
Working stroke = 500 mm
Stroke reserve = (2x 10 mm)
= 20 mm
Total stroke
520 mm = 500 mm +20 mm



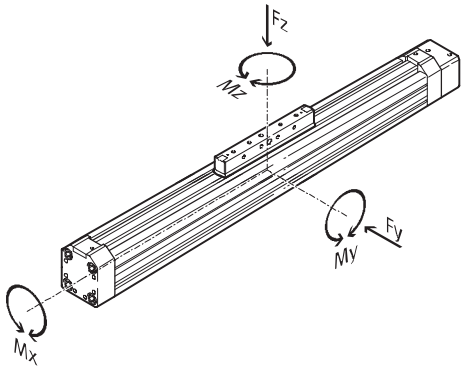
Size		18	25	40	63
L12 per end position	[mm]	6.5	10	20	30

Spindle axes DGE-SP

Technical data

Characteristic load values

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



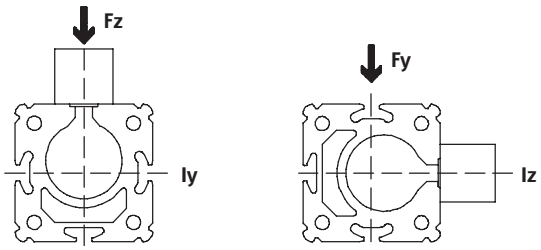
If the axis is subjected to more than two of the indicated forces and torques simultaneously, the following equations must be satisfied in addition to the indicated maximum loads:

$$\frac{Fz}{Fz_{max.}} + \frac{My}{My_{max.}} + \frac{Mz}{Mz_{max.}} \leq 1$$

$$\frac{Mx}{Mx_{max.}} \leq 1$$

Permissible forces and torques					
Size		18	25	40	63
$Fy_{max.}$	[N]	–	–	–	–
$Fz_{max.}$	[N]	1.8	2	15	106
$Mx_{max.}$	[Nm]	0.5	1	4	8
$My_{max.}$	[Nm]	0.8	1.5	4	18
$Mz_{max.}$	[Nm]	0.8	1.5	4	18

2nd moment of area



Size		18	25	40	63
Iy	[mm^4]	$69.8x10^3$	$224x10^3$	$673x10^3$	$5688x10^3$
Iz	[mm^4]	$72.3x10^3$	$240x10^3$	$748x10^3$	$6031x10^3$

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

Spindle axes DGE-SP

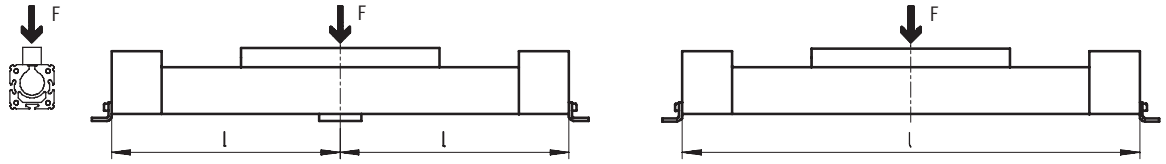
Technical data

FESTO

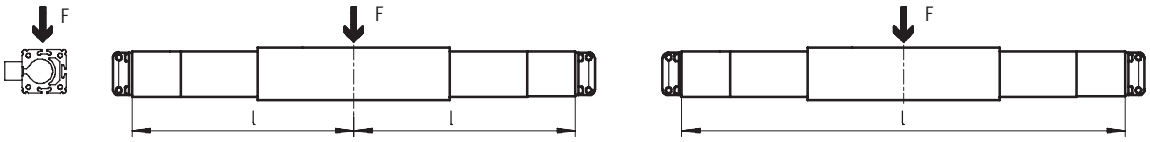
Maximum permissible support span l as a function of the force F

The axis may need to be supported with central supports in order to restrict deflection with long stroke lengths. The following diagrams serve to determine the maximum permissible support span l as a function of the force acting upon the axis F.

1 Force on the surface of the driver

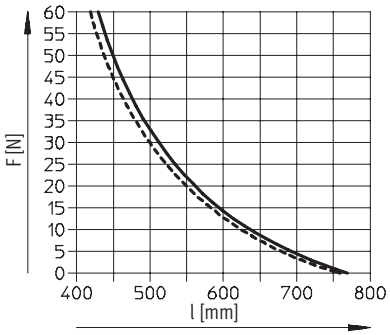


2 Force on the front of the driver

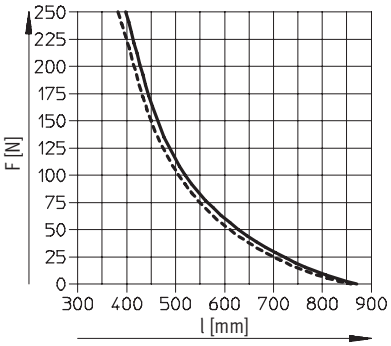


Maximum permissible support span l (without central support) as a function of the force F

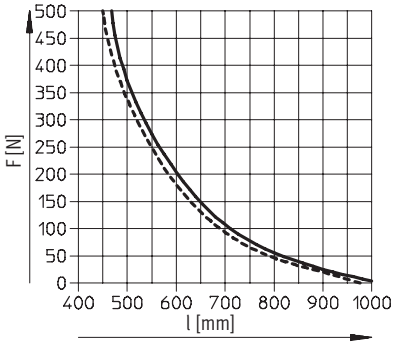
DGE-18



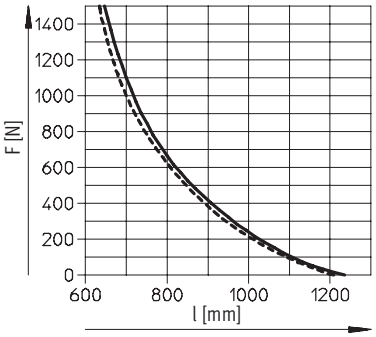
DGE-25



DGE-40



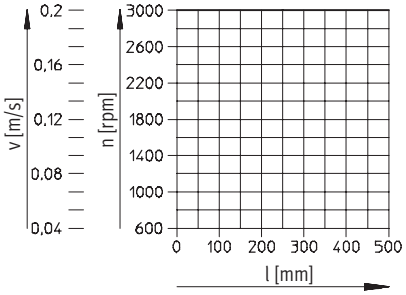
DGE-63



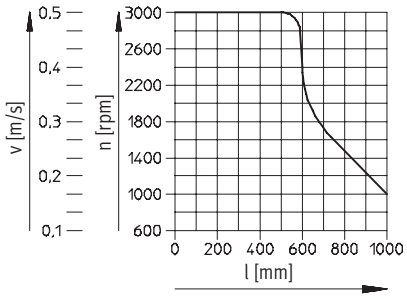
——— 1
- - - - - - - 2

Maximum permissible speed v or drive rpm n as a function of the stroke l

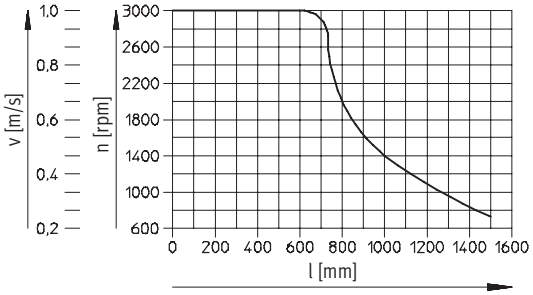
DGE-18



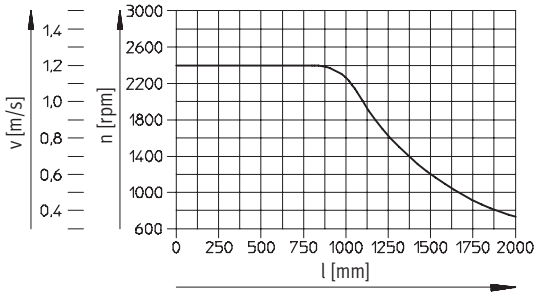
DGE-25



DGE-40



DGE-63



Spindle axes DGE-SP

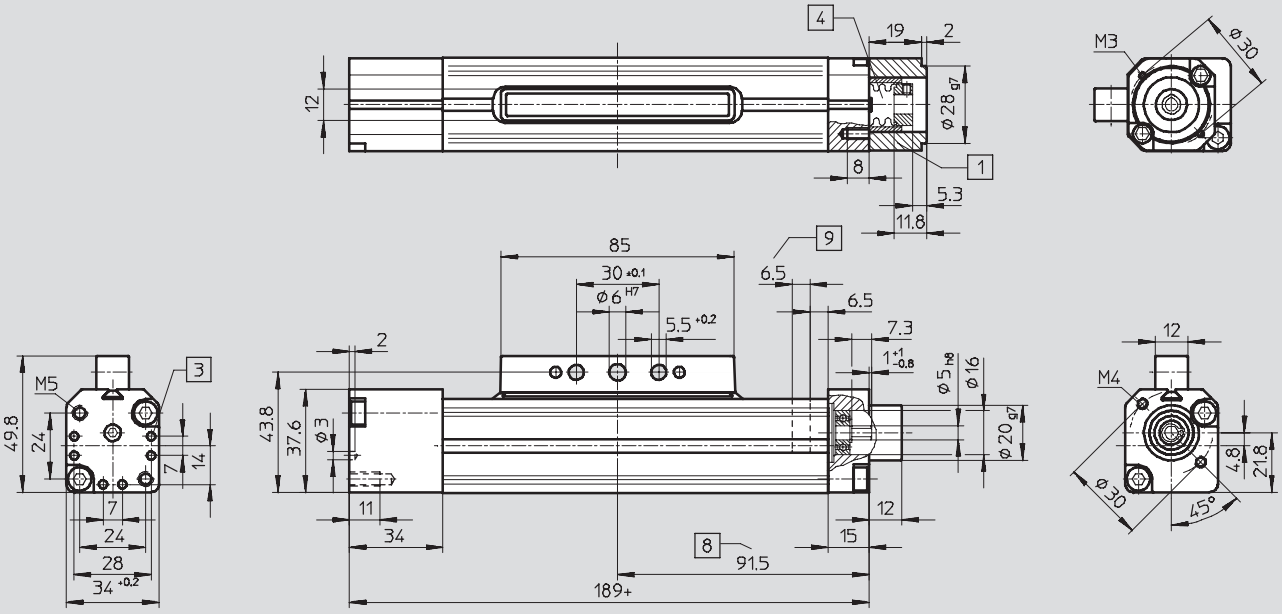
Technical data

FESTO

Dimensions

Download CAD data ➔ **www.festo.com/en/engineering**

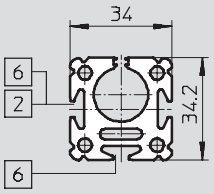
Size 18



1 Coupling housing
3 Centring hole for foot mounting HP
4 Coupling
8 Driver in end position of working stroke (stroke reserve up to mechanical stop still present)
9 Stroke reserve ➔ 5 / 2.1-126
\+ = plus stroke length

Profile

Size 18



2 Sensor slot for proximity sensor
6 Mounting slot for slot nut NST

Spindle axes DGE-SP

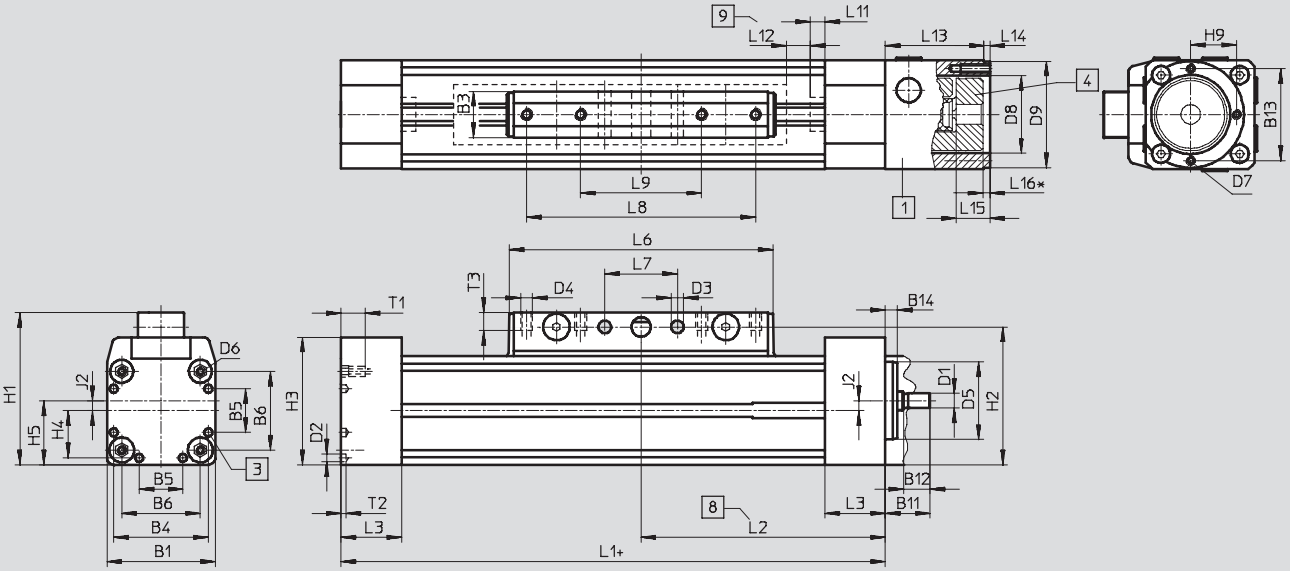
Technical data

FESTO

Dimensions

Download CAD data ➔ **www.festo.com/en/engineering**

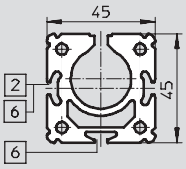
Size 25 ... 63



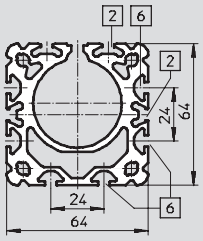
1 Coupling housing
3 Centring hole for foot mounting HP
4 Coupling
8 Driver in end position of working stroke (stroke reserve up to mechanical stop still present)
9 Stroke reserve ➔ 5 / 2.1-126
\+ = plus stroke length

Profile

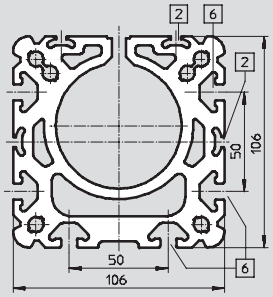
Size 25



Size 40



Size 63



2 Sensor slot for proximity sensor
6 Mounting slot for slot nut NST

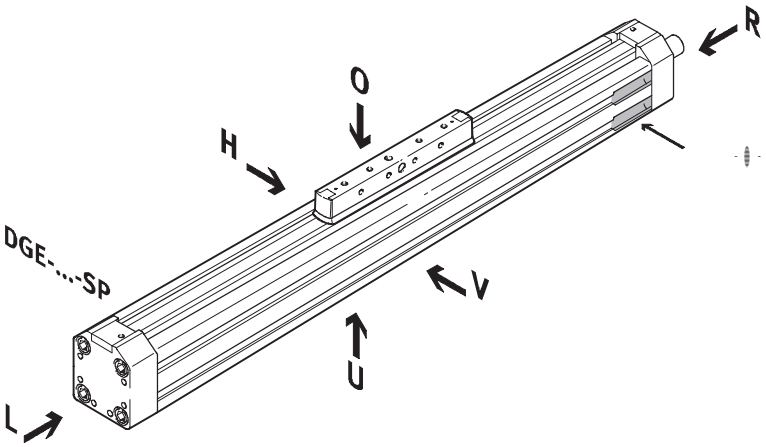
Size	B1	B3 +0.2	B4	B5	B6	B11	B12	B13	B14	D1 ∅ h6	D2 ∅	D3 ∅ +0.2	D4	D5 ∅ g7	D6	D7	D8 ∅	D9 ∅ g7	H1	H2	H3
25	45	19	39.1	18	32.5	18.5	11	38	4	6	3.3	5.2	M5	32	M4	M4	32	44	63	57	52.8
40	64	21	53	28	49	22.5	12	38	5	12	4.4	6.5	M6	48	M5	M4	32	44	86	78	71.8
63	106	24	89	44	83	47.5	25	56	7	20	6.4	8.5	M8	72	M8	M6	48	64	131	122	115

Size	H4	H5	H9	J2	L1	L2	L3	L6	L7 ±0.1	L8 ±0.1	L9 ±0.1	L11	L12	L13	L14	L15	L16[1)]	T1	T2	T3
25	19.6	26.5	19	4	213	101.5	25	109	30	–	50	6	10	43	2.5	14	3	13	2	7.5
40	26.5	37	19	5	315	153	31	171	70	130	40	7	20	46	3	14.5	3.5	13	3	10.5
63	44.5	61	28	8	410	200	36	234	110	190	70	9	30	83	4	23	–2	21	4	12.5

1) Negative dimension: Protrudes beyond coupling housing

Order code

Mandatory data

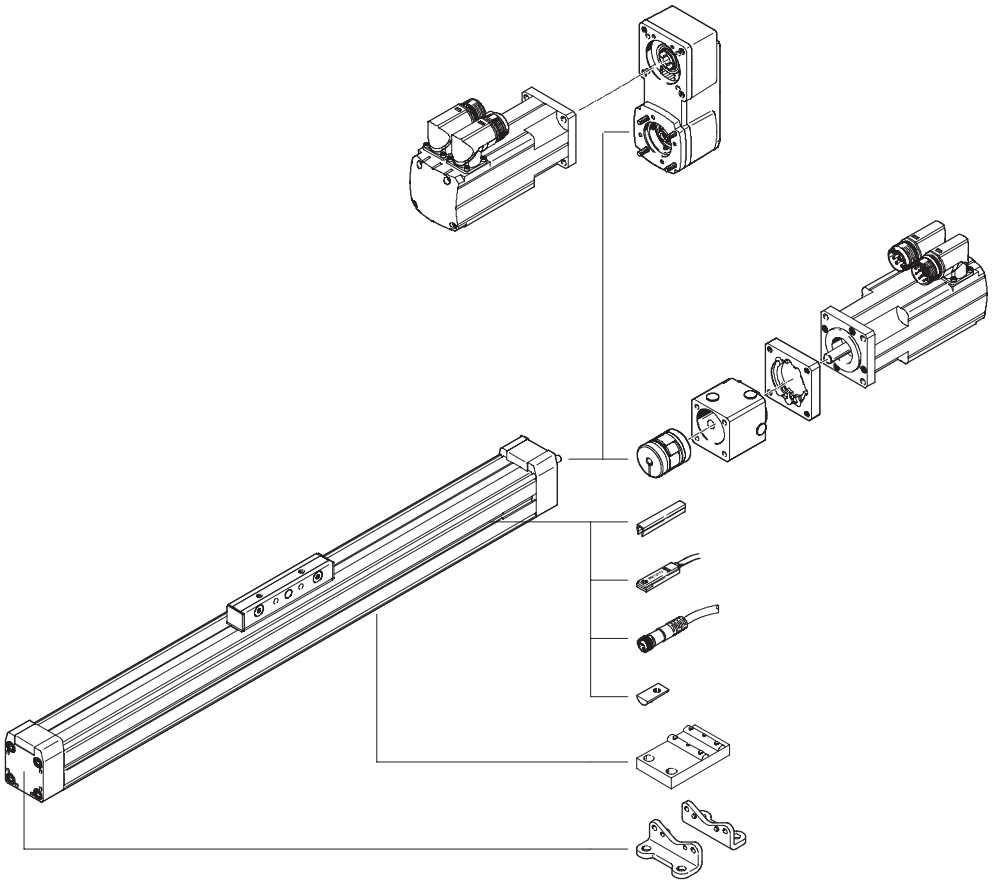


Note

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

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

Order code
Options



Parallel kit EAMM-U
➔ 5 / 2.1-173

Servo motor EMMS-AS, MTR-AC
Stepper motor EMMS-ST, MTR-ST
➔ 5 / 2.1-170

Axial kit EAMM-A
➔ 5 / 2.1-170

B/S

G/H/I/J/N

V

Y

M

F

Spindle axes DGE-SP

Ordering data – Modular products

FESTO

M Mandatory data →

Module No.	Design		Size		Stroke		Drive function
193 745 193 746 193 747 193 748	DGE		18 25 40 63		1 … 2 000		SP
Ordering example							
193 747	**DGE**	–	**40**	–	**800**	–	**SP**

Ordering table

Size		18	25	40	63	Condi-tions	Code		Enter code
M	Module No.	**193 745**	**193 746**	**193 747**	**193 748**				
	Design	Electromechanical linear axis					**DGE**		DGE
	Size	18	25	40	63		**-...**		
	Stroke [mm]	100, 200, 300, 400, 500	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000	200, 300, 400, 500, 600, 800, 1000, 1200, 1400, 1500	300, 400, 500, 600, 800, 1000, 1200, 1400, 1500, 1800, 2000		**-...**		
		–	1 … 990	1 … 1487	1 … 1982				
	Drive function	Electromechanical drive with ball screw					**-SP**		-SP

Transfer order code

	DGE	–		–		–	**SP**

Spindle axes DGE-SP

Ordering data – Modular products

FESTO

O Options

Accessories		Slot cover	Slot nut	Central support	Foot mounting	Proximity sensor	Plug socket
ZUB		...S ...B	...Y	...M	...F	...G ...H ...I ...J ...N	...V
ZUB	–	**2S2B**	**10Y**		**F**	**2G**	

Ordering table

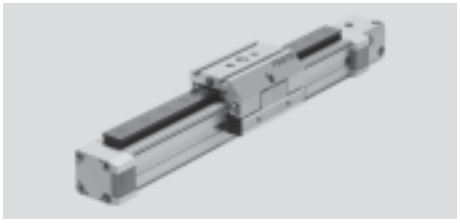
Size			18	25	40	63	Conditions	Code		Enter code
↓	Accessories		Supplied separately					**ZUB-**		ZUB-
O	Slot cover	Sensor slot	1 ... 10					**...S**		
		Mounting slot	–	–	1 ... 10			**...B**		
	Slot nut	for mounting slot	1 ... 10					**...Y**		
	Central support		1 ... 10					**...M**		
	Foot mounting (kit)		1 ... 10					**...F**		
	Proximity sensor	with cable, 2.5 m	1 ... 10					**...G**		
		with plug	1 ... 10					**...H**		
		contactless with cable, 2.5 m	1 ... 10					**...I**		
		contactless, plug	1 ... 10					**...J**		
		NC contact with cable, 2.5 m	1 ... 10					**...N**		
	Cable with socket, 2.5 m		1 ... 10					**...V**		

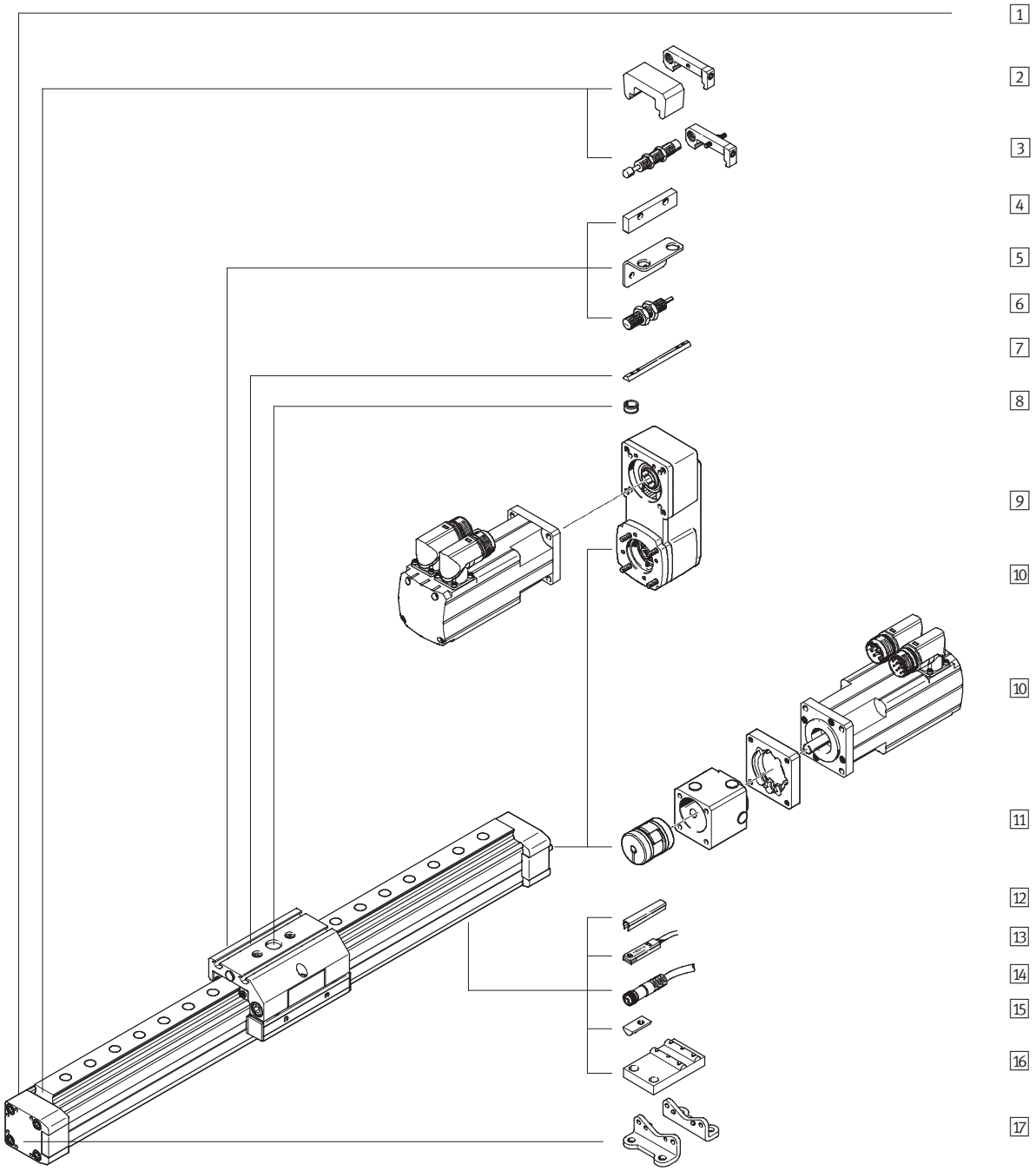
Transfer order code

ZUB	–						

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Peripherals overview





Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Peripherals overview

Variants and accessories					
	Type	Brief description	GK/GV	GA	➔ Page
1	Spindle axis DGE-SP-KF	Electromechanical axis with spindle and recirculating ball bearing guide	■	■	5 / 2.1-138
2	Emergency buffer with retainer[1)] A	For avoiding damage at the end stop in the event of malfunction	■	■	5 / 2.1-180
3	Shock absorber kit C	For avoiding damage at the end stop in the event of malfunction	■	–	5 / 2.1-179
3	Shock absorber kit E	For avoiding damage at the end stop in the event of malfunction	–	■	5 / 2.1-180
4	Switching lug L	For sensing the slide position	■	–	5 / 2.1-182
5	Sensor bracket T	Adapter for mounting the inductive proximity sensors on the axis	■	–	5 / 2.1-182
6	Inductive proximity sensor O/P/R/W	For use as a signal generator and safety monitoring	■	–	5 / 2.1-185
7	Slot nut for slide X	For mounting loads and attachments on the slide	■	■	5 / 2.1-184
8	Centring pins/sleeves Z	For centring loads and attachments on the slide	■	■	5 / 2.1-184
9	Parallel kit EAMM-U	For parallel motor attachment (consisting of: housing, Clamping component, clamping sleeve, toothed belt gearwheel, toothed belt)	■	■	5 / 2.1-173
10	Motor EMMS, MTR	Motors specially matched to the axis, with or without gearing, with or without brake	■	■	5 / 2.1-170
11	Axial kit EAMM-A	For axial motor attachment (consisting of: coupling housing, clamping component, motor flange)	■	■	5 / 2.1-170
12	Slot cover B/S	For protecting against the ingress of dirt	■	■	5 / 2.1-184
13	Proximity sensor G/H/I/J/N	For use as a signal or safety check	■	■	5 / 2.1-185
14	Cable with socket V	For proximity sensors	■	■	5 / 2.1-185
15	Slot nut for mounting slot Y	For mounting attachments	■	■	5 / 2.1-184
16	Central support M	For mounting the axis	■	■	5 / 2.1-177
17	Foot mounting F	For mounting the axis	■	■	5 / 2.1-177

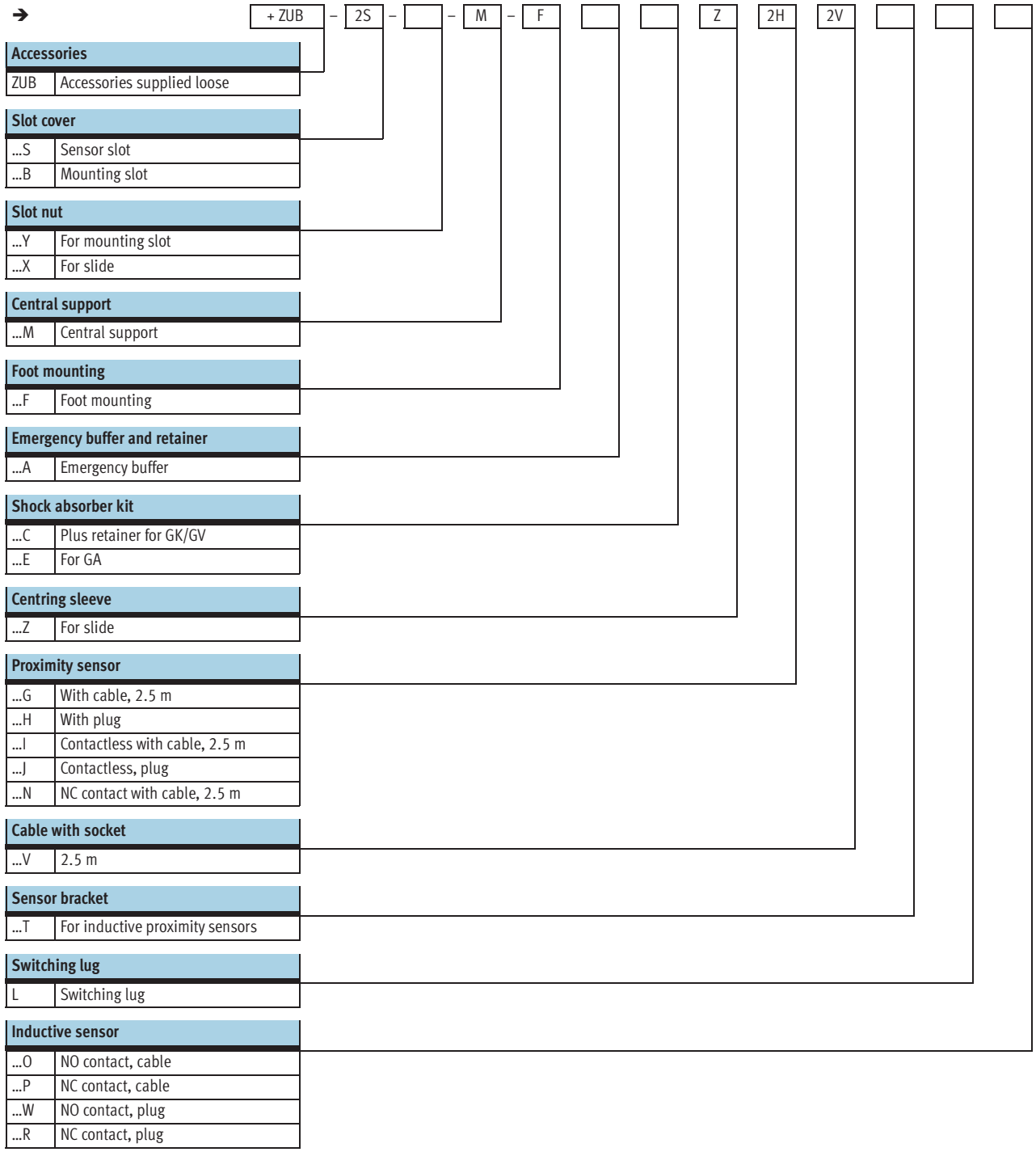
1) Fitted as standard for GV and GA.

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Type code

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Type code



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

Emergency buffer and retainer	
...A	Emergency buffer

Shock absorber kit	
...C	Plus retainer for GK/GV
...E	For GA

Centring sleeve	
...Z	For slide

Proximity sensor	
...G	With cable, 2.5 m
...H	With plug
...I	Contactless with cable, 2.5 m
...J	Contactless, plug
...N	NC contact with cable, 2.5 m

Cable with socket	
...V	2.5 m

Sensor bracket	
...T	For inductive proximity sensors

Switching lug	
L	Switching lug

Inductive sensor	
...O	NO contact, cable
...P	NC contact, cable
...W	NO contact, plug
...R	NC contact, plug

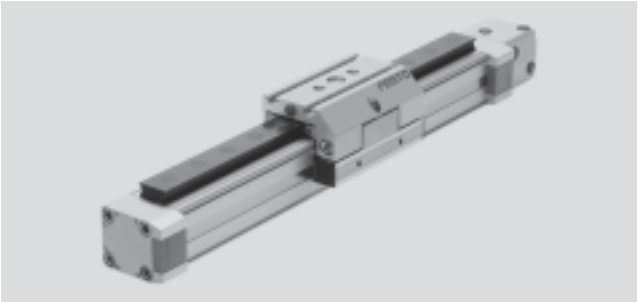
Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

FESTO

- Size
  18 ... 63
- Stroke length
  100 ... 2000 mm

- www.festo.com/en/
  Spare_parts_service



General technical data						
Size			18	25	40	63
Constructional design			Electromechanical axis with spindle and recirculating ball bearing guide			
Guide			Recirculating ball bearing guide			
Mounting position			Any			
Max. working stroke[1]	GK	[mm]	100 ... 500	100 ... 1000[2]	200 ... 1500[2]	300 ... 2000[2]
	GV	[mm]	110 ... 410	170 ... 870[2]	170 ... 1270[2]	150 ... 1650[2]
	GA	[mm]	–	170 ... 970[2]	140 ... 1440[2]	–
Max. working load		[kg]	6	25	50	150
Max. feed force F_x		[N]	140	250	600	1600
Max. driving torque		[Nm]	0.1	0.45	2.1	8.5
Max. no-load driving torque[3]		[Nm]	0.05	0.15	0.5	1.4
Max. speed[2]		[m/s]	0.2	0.5	1	1.2
Max. acceleration		[m/s²]	6			
Repetition accuracy		[mm]	±0.02			

1) Total stroke = working stroke + 2x stroke reserve ➔ 5 / 2.1-144
2) The maximum speed is dependent on the stroke length ➔ 5 / 2.1-146
3) Measured at a speed of 0.2m/s

Operating and environmental conditions					
Size		18	25	40	63
Ambient temperature	[°C]	0 ... +40			
Protection class		IP40			

Weights [kg]					
Size		18	25	40	63
Basic weight with 0 mm stroke[1]	GK	1	2.1	6.4	18.1
	GV	1.52	3.26	10.04	32.2
	GA	–	3.1	8.97	–
Additional weight per 100 mm stroke	GK	0.3	0.56	1.14	3.31
	GV	0.3	0.56	1.14	3.31
	GA	–	0.65	1.26	–
Moving load	GK	0,45	0,68	1,82	5,38
	GV	0,61	0,94	2,54	7,84
	GA	–	1,24	3,19	–
Additional slide	KL/KR	0.25	0.38	1.06	3.1

1) Including coupling housing and slide

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

FESTO

Mass moment of inertia						
Size			18	25	40	63
J_O	GK	[kg cm²]	0.008	0.04	0.48	3.88
	GV	[kg cm²]	0.0117	0.0617	0.782	6.77
	GA	[kg cm²]	–	0.0573	0.678	–
J_H per metre stroke		[kg cm²/m]	0.031	0.121	1	6.67
J_L per kg working load		[kg cm²/kg]	0.005	0.025	0.101	0.228
J_W for additional slide		[kg cm²]	0.001	0.0096	0.107	0.707

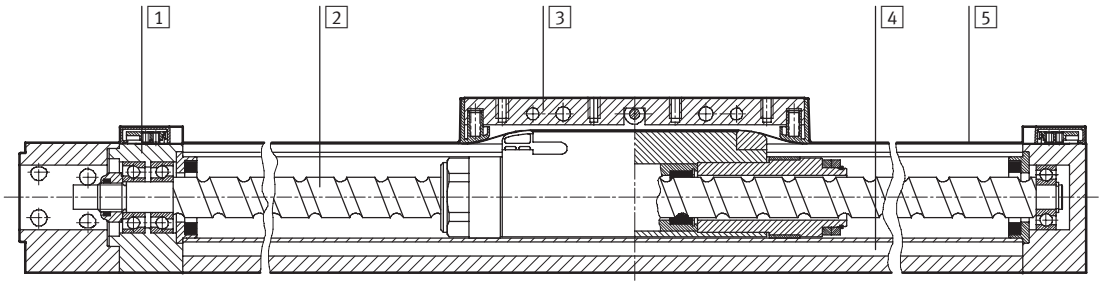
The mass moment of inertia J_A of the entire axis is calculated as follows:

$$J_A = J_O + J_H \times \text{working stroke [m]} + J_L \times m_{\text{working load}} \text{ [kg]}$$

Spindle					
Size		18	25	40	63
Diameter	[mm]	8	12	20	32
Pitch	[mm/rev.]	4	10	20	30

Materials

Sectional view



Axis		
1	End cap	Wrought aluminium alloy, anodised
2	Spindle	Rolled steel
3	Slide	Wrought aluminium alloy, anodised
4	Profile	Wrought aluminium alloy, anodised
5	Cover strip	Corrosion resistant steel

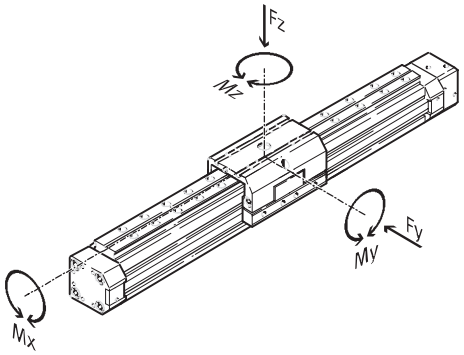
Spindle axes DGE-SP-KF, with recirculating ball bearing guide

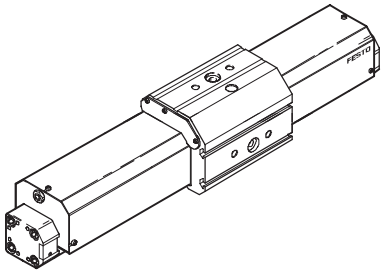
Technical data

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 in the dynamic range. Special attention must be paid to the cushioning phase.



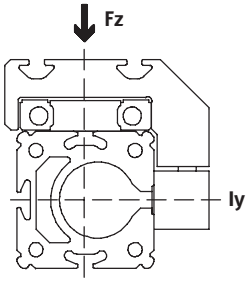


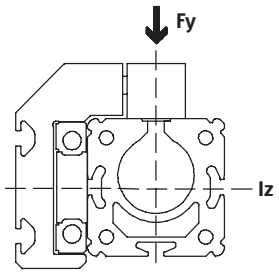
If the drive is subjected to more than two of the indicated forces and torques simultaneously, the following equations must be satisfied in addition to the indicated maximum loads:

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

Permissible forces and torques GK/-GA					
Size		18	25	40	63
$Fy_{max.}$	[N]	930	3080	7300	14050
$Fz_{max.}$	[N]	930	3080	7300	14050
$Mx_{max.}$	[Nm]	7	45	170	580
$My_{max.}$	[Nm]	23	85	330	910
$Mz_{max.}$	[Nm]	23	85	330	910

2nd moment of area





Size		18	25	40	63
Iy	[mm^4]	$172.3x10^3$	$551x10^3$	$1908x10^3$	$13677x10^3$
Iz	[mm^4]	$73.7x10^3$	$250x10^3$	$875x10^3$	$6987x10^3$

Engineering Tool
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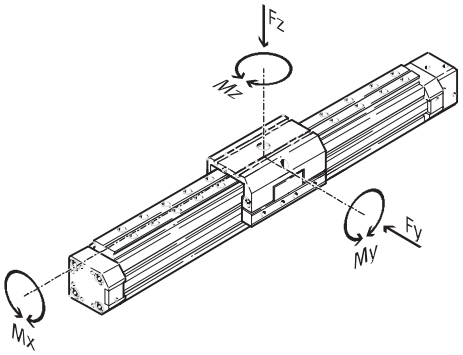
Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

FESTO

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 in the dynamic range. Special attention must be paid to the cushioning phase.

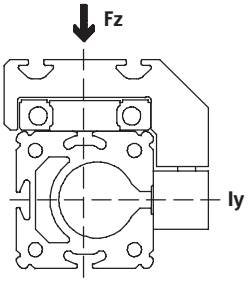


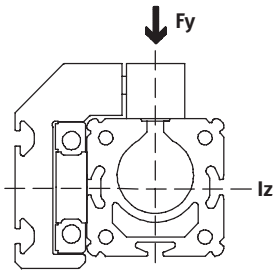
If the drive is subjected to more than two of the indicated forces and torques simultaneously, the following equations must be satisfied in addition to the indicated maximum loads:

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

Permissible forces and torques					
Size		18	25	40	63
$Fy_{max.}$	[N]	930	3080	7300	14050
$Fz_{max.}$	[N]	930	3080	7300	14050
$Mx_{max.}$	[Nm]	7	45	170	580
$My_{max.}$	[Nm]	45	170	660	1820
$Mz_{max.}$	[Nm]	45	170	660	1820

2nd moment of area





Size		18	25	40	63
Iy	[mm^4]	$172.3x10^3$	$551x10^3$	$1908x10^3$	$13677x10^3$
Iz	[mm^4]	$73.7x10^3$	$250x10^3$	$875x10^3$	$6987x10^3$

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

FESTO

Stroke reserve

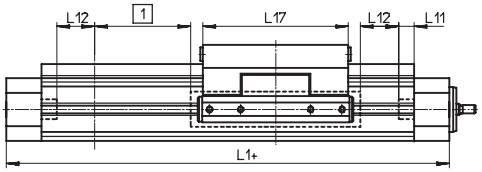
L11 Internal mechanical stop
L1+ Overall length of axis
L17 Slide length

[1] The working stroke is the effective usable work range. Please quote this in your order.

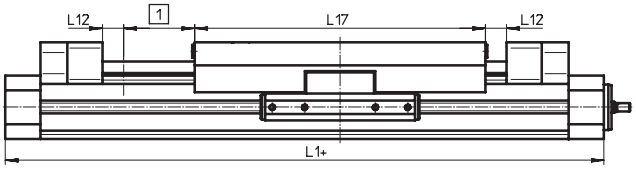
L12 The stroke reserve is a safety distance available on both sides of the axis in addition to the stroke.

Example:
Type DGE-25-500-SP
Working stroke = 500 mm
Stroke reserve = (2x 10 mm)
= 20 mm
Total stroke:
520 mm = 500 mm +20 mm

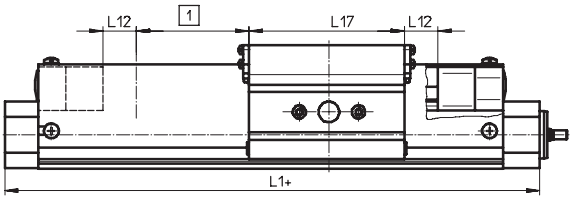
for standard slide GK



for extended slide GV



for protected version GA

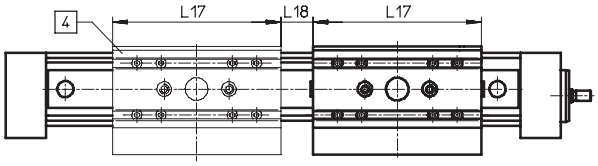


Stroke reserve L12 [mm] per end position

Size Variant	18	25	40	63
Standard slide GK	6.5	10	20	30
Extended slide GV	3.5	0	1	0
Protected version GA	–	0	1	–

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

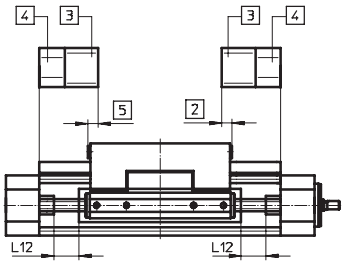


For a spindle axis with additional slide, the working stroke is reduced by the length of the additional slide and the distance between both slides.

Example:
Type DGE-25-500-SP-...-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)

Working stroke reduction with standard slide GK with optional emergency buffer

[2] Reduction of working stroke
[5] Reduction of working stroke
[3] Emergency buffer
[4] Shock absorber retainer
L12 Stroke reserve



For a spindle axis with optional emergency buffer, the working stroke is reduced, as the stroke reserve is smaller than the overall dimensions of the emergency buffer and shock absorber retainer.
The working stroke reduction varies depending on the size of the axis.

		18	25	40	63
[2]	[mm]	–5	20	33.5	55
[5]	[mm]	8	10	24.5	45

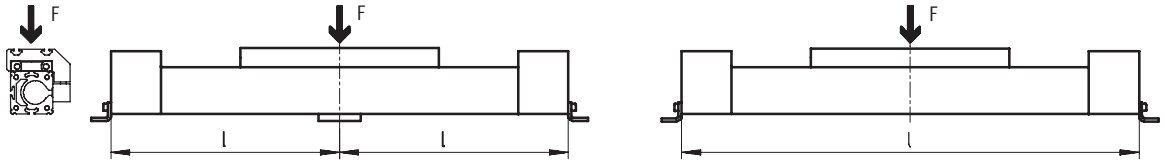
Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

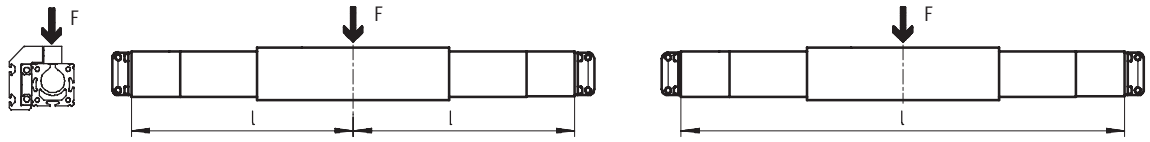
Maximum permissible support span l as a function of the force F

The axis may need to be supported with central supports in order to restrict deflection with long stroke lengths. The following diagrams serve to determine the maximum permissible support span l as a function of the force acting upon the axis F.

1 Force on the surface of the slide

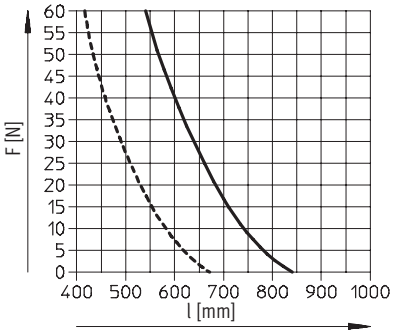


2 Force on the front of the slide

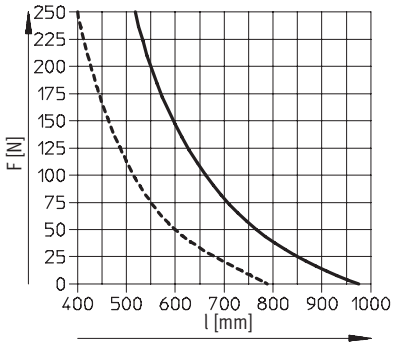


Maximum permissible support span l (without central support) as a function of the force F

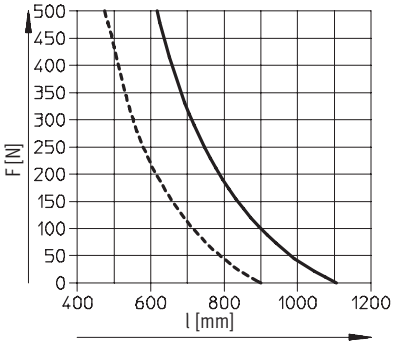
DGE-18



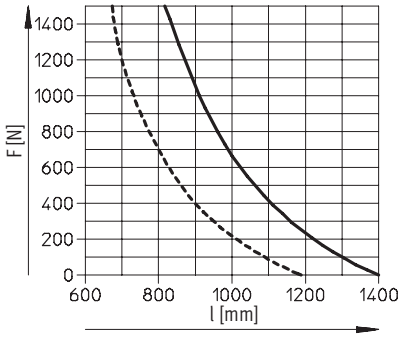
DGE-25



DGE-40



DGE-63



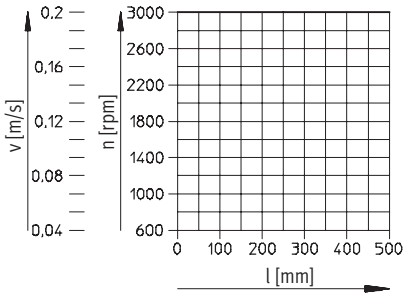
1
2

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

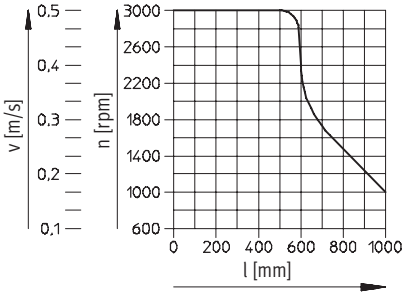
Technical data

Maximum permissible speed v or drive rpm n as a function of the stroke l

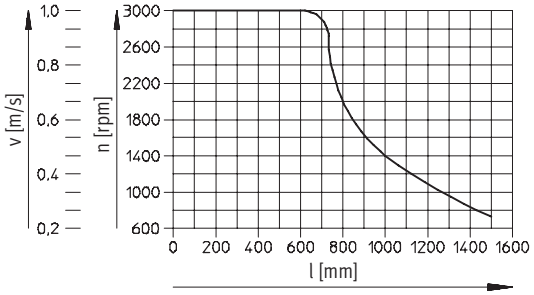
DGE-18



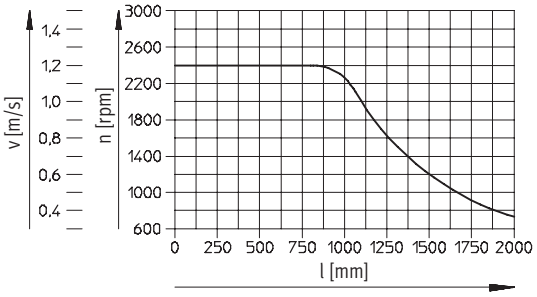
DGE-25



DGE-40



DGE-63



Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

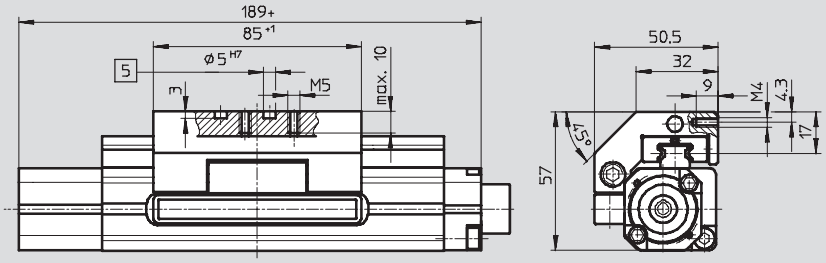
FESTO

Dimensions

Download CAD data ➔ **www.festo.com/en/engineering**

Standard slide GK

Size 18

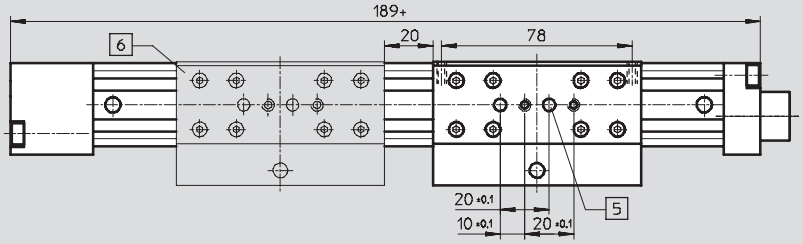


5 Hole for centring pin ZBS-5
\+ = plus stroke length

Basic dimensions
➔ 5 / 2.1-130
Stroke reserve
➔ 5 / 2.1-144

Additional slide KL/KR

Size 18

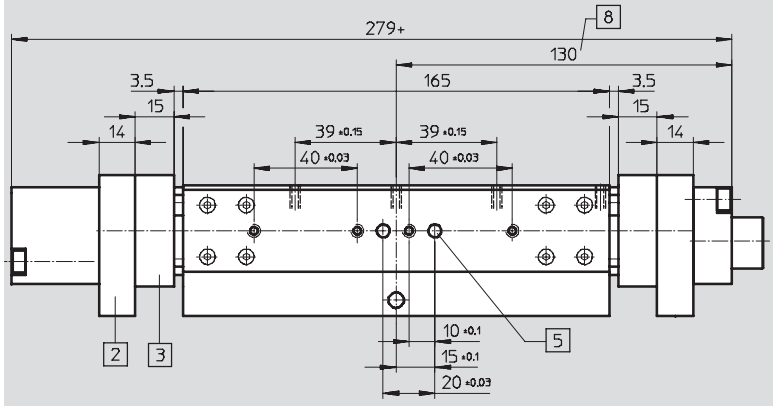


5 Hole for centring pin ZBS-5
6 Additional slide DGE-18-...-KL/KR
\+ = plus stroke length

Reduction of working stroke
➔ 5 / 2.1-144

Extended slide GV

Size 18

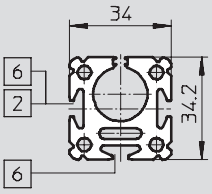


2 Shock absorber retainer KYP
3 Emergency buffer NPE
5 Hole for centring pin ZBS-5
8 Driver in end position of working stroke (stroke reserve up to mechanical stop still present)
\+ = plus stroke length

Stroke reserve
➔ 5 / 2.1-144

Profile

Size 18



2 Sensor slot for proximity sensor
6 Mounting slot for slot nut NST

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

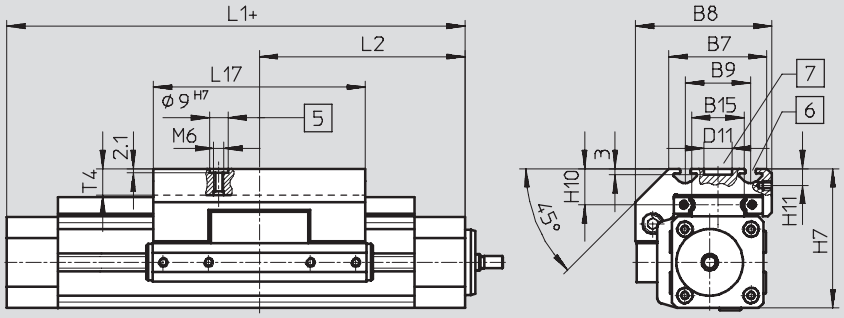
Technical data

FESTO

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

Standard slide GK

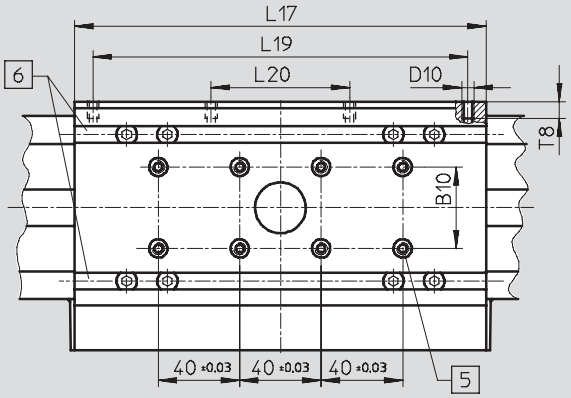
Size 25 ... 63



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

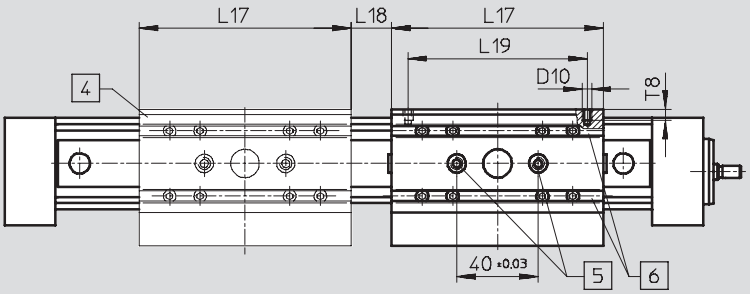
Basic dimensions
➔ 5 / 2.1-131
Stroke reserve
➔ 5 / 2.1-144

Size 40/63



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

Size 25 ... 63



4 Additional slide DGE-...-...-KL/KR
5 Hole for centring sleeve ZBH-9
6 Mounting slot for slot nut NSTL
\+ = plus stroke length

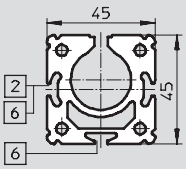
Reduction of working stroke
➔ 5 / 2.1-144

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

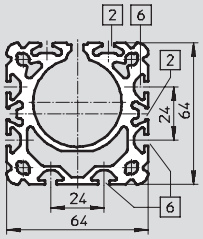
Technical data

Profile

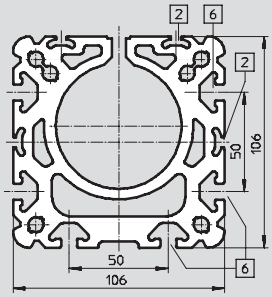
Size 25



Size 40



Size 63



2 Sensor slot for proximity sensor
6 Mounting slot for slot nut NST

Size	B7	B8	B9 ±0.2	B10	B15	D10	D11 ∅ G7	H7	H10
25	48	67	32	–	23.5	M5	14	68.5	18.5
40	78.5	96.5	55	20	42	M5	25	90.5	20
63	121	142	90	40	71	M8	25	144.5	30

Size	H11	L1	L2	L17	L18[1)]	L19 ±0.1	L20 ±0.1	T4 max.	T8
25	8.2	213	101.5	105	20	88	–	12.5	8.5
40	7	315	153	167	20	150	58	12.5	8.5
63	12.5	410	200	230	27	200	72	20.5	10.5

1) Recommended minimum distance for access to lubrication nipple

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

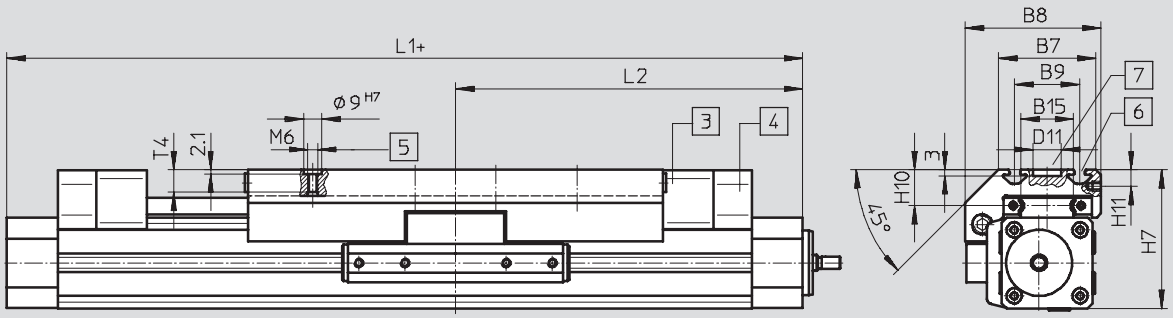
Technical data

FESTO

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

Extended slide GV

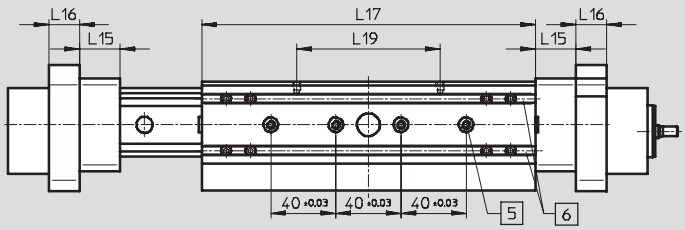
Size 25 ... 63



3 Emergency buffer NPE
4 Shock absorber retainer KYP
5 Hole for centring sleeve ZBH-9
6 Slot for slot nut NSTL
7 Hole for central mounting SLZZ
\+ = plus stroke length

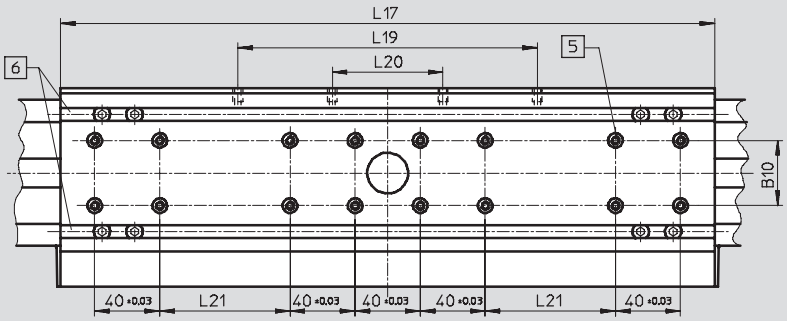
Basic dimensions
➔ 5 / 2.1-131

Size 25



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

Size 40/63



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

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Technical data

Size	B7	B8	B9 ±0.2	B10	B15	D10	D11 ∅ G7	H7	H10	H11
25	48	67	32	–	23.5	M5	14	68.5	18.5	8.2
40	78.5	96.5	55	20	42	M5	25	90.5	20	7
63	121	142	90	40	71	M8	25	144.5	30	12.5

Size	L1	L2	L15	L16	L17 ±0.2	L19 ±0.1	L20 ±0.1	L21 ±0.1	T4 max.	T8
25	343	171.5	25	19	205	88	–	–	12.5	8.5
40	545	271.5	40	32	337	150	58	40	12.5	8.5
63	760	380	60	44	480	200	72	120	20.5	10.5

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

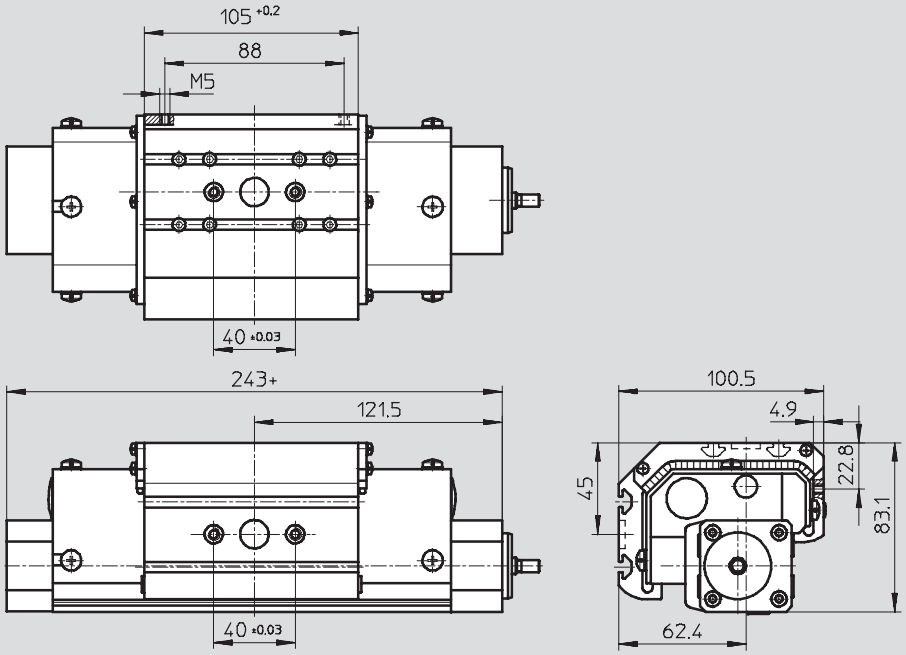
Technical data

FESTO

Dimensions Download CAD data ➔ **www.festo.com/en/engineering**

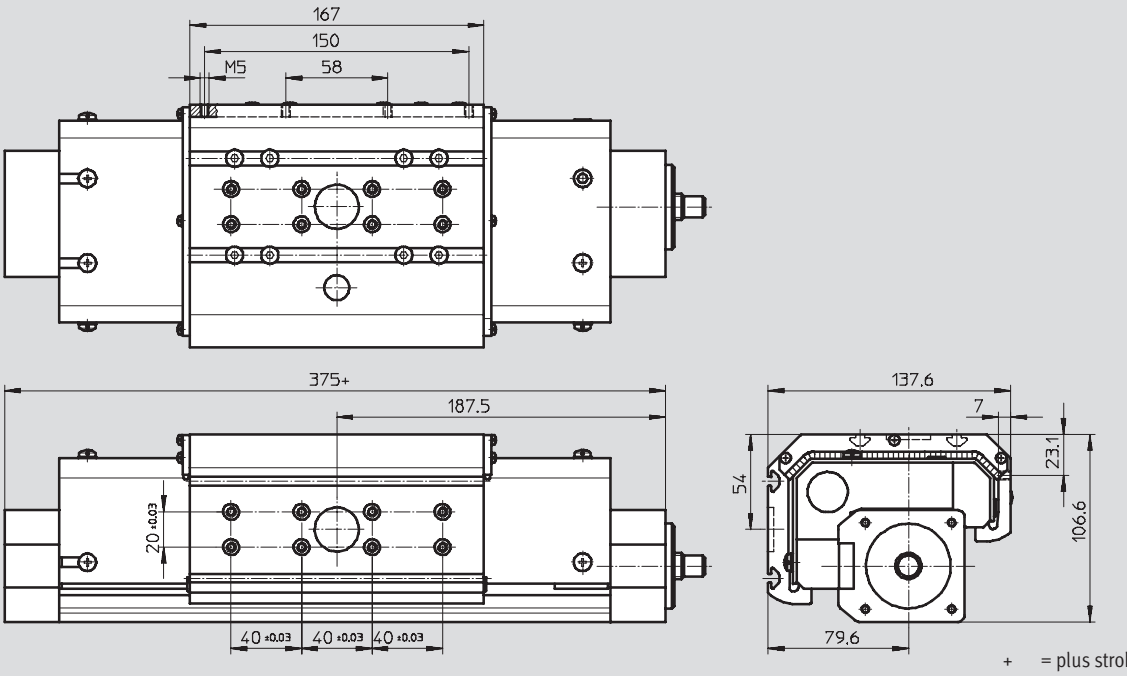
Protected version GA

Size 25



\+ = plus stroke length
Stroke reserve
➔ 5 / 2.1-144

Size 40



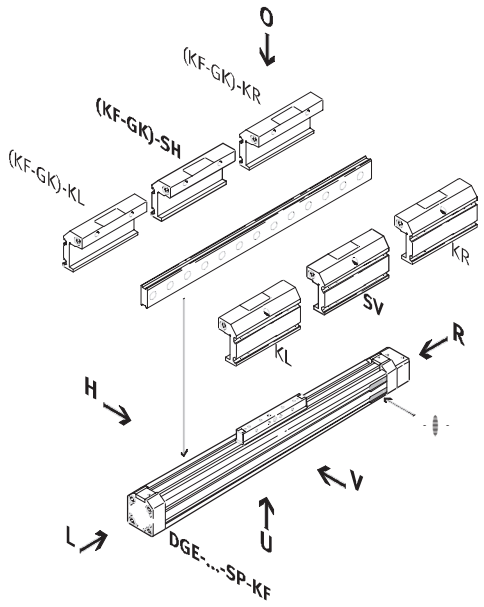
\+ = plus stroke length
Stroke reserve
➔ 5 / 2.1-144

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

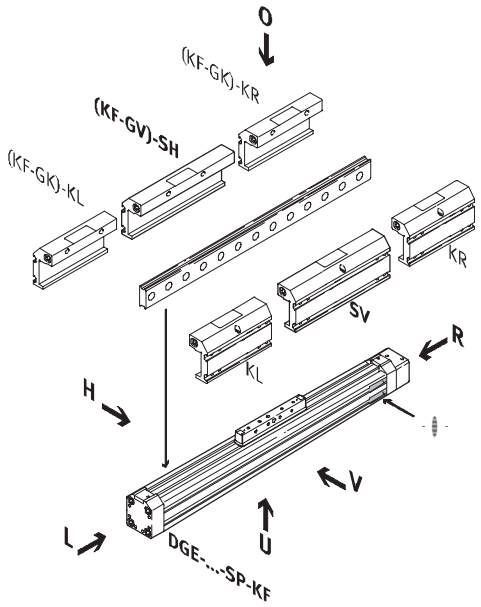
Ordering data – Modular products

Order code
Mandatory data

Standard slide GK



Extended slide GV



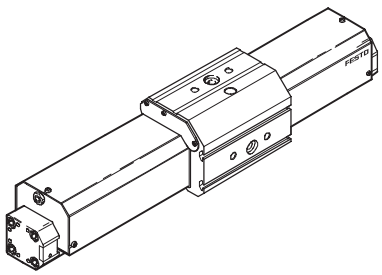
KF	Recirculating ball bearing guide
KL	Additional slide at left
KR	Additional slide at right
SV	Slide at front
SH	Slide at rear

Note

The insertion point for the proximity sensor is located on the right-hand side of the spindle drive DGE-...-SP-KF

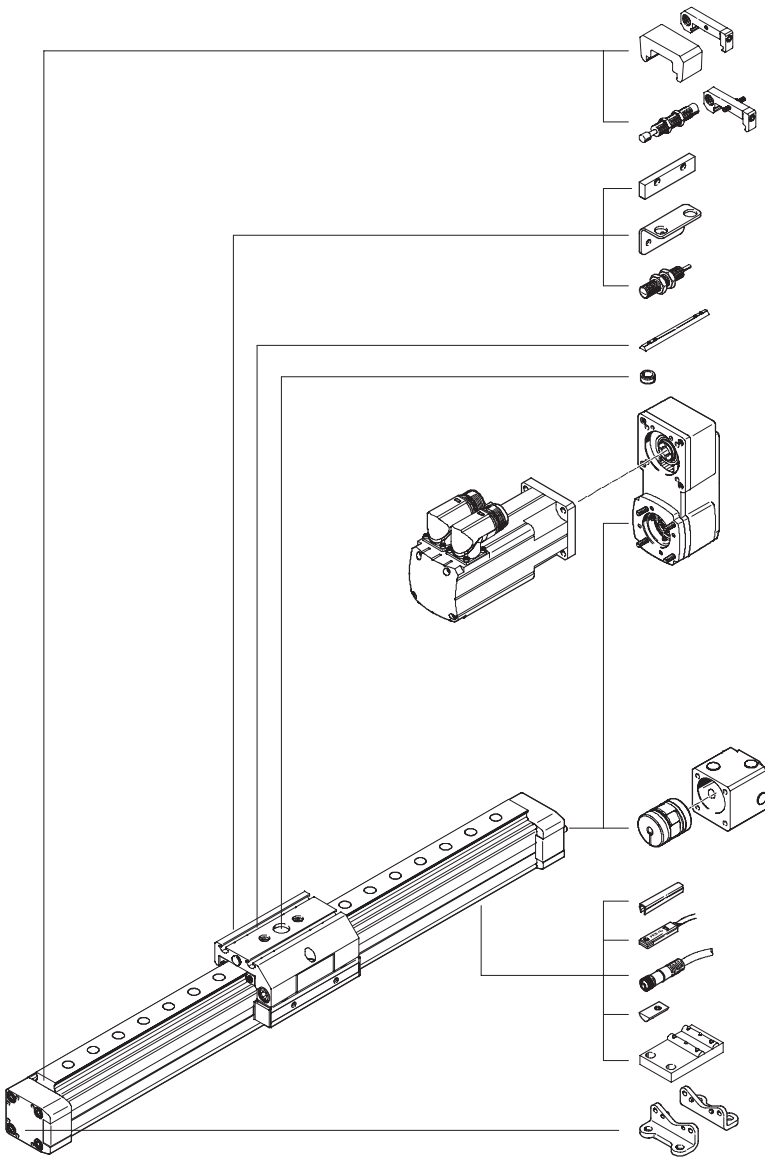
U = underneath
O = top
R = right
L = left
V = front
H = rear

Protected version GA



Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Ordering data – Modular products



A

C/E

L

T

O/P/W/R

X

Z

Parallel kit EAMM-U
➔ 5 / 2.1-173

Servo motor EMMS-AS, MTR-AC
Stepper motor EMMS-ST, MTR-ST
➔ 5 / 2.1-170

Axial kit EAMM-A
➔ 5 / 2.1-170

B/S

G/H/I/J/N

V

Y

M

F

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

M Mandatory data →

Module No.	Design		Size		Stroke		Drive function
193 745 193 746 193 747 193 748	DGE		18 25 40 63		1 ... 2000		SP
Ordering example							
193 745	**DGE**	–	**18**	–	**410**	–	**SP**

Ordering table

Size			18	25	40	63	Condi-tions	Code		Enter code
M	Module No.		**193 745**	**193 746**	**193 747**	**193 748**				
	Design		Electromechanical linear axis					**DGE**		DGE
	Size		18	25	40	63		**-...**		
	Stroke [mm]	Standard slide GK	100, 200, 300, 400, 500	100, 200, 300, 400, 500, 600, 700, 800, 900, 1000	200, 300, 400, 500, 600, 800, 1000, 1200, 1400, 1500	300, 400, 500, 600, 800, 1000, 1200, 1400, 1500, 1800, 2000		**-...**		
			–	1 ... 990	1 ... 1487	1 ... 1982				
		Extended slide GV	110, 210, 310, 410	170, 270, 370, 470, 570, 670, 770, 870	170, 270, 370, 570, 770, 970, 1170, 1270	150, 250, 450, 650, 850, 1050, 1150, 1450, 1650		**-...**		
			–	1 ... 860	1 ... 1257	1 ... 1632				
		Protected version GA	–	170, 270, 370, 470, 570, 670, 770, 870, 970	140, 240, 340, 440, 540, 740, 940, 1140, 1340, 1440	–		**-...**		
			–	1 ... 960	1 ... 1427	–				
	Drive function		Electromechanical drive with ball screw					**-SP**		-SP

Transfer order code

	DGE	–		–		–	SP

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

0 Options ➔

Guide	Slide	Slide attachment position	Additional slide
KF	GK GV GA	SV SH	KL KR
– KF	– GV	– SV	–

Ordering table

Size			18	25	40	63	Condi-tions	Code		Enter code
0	Guide		Recirculating ball bearing guide				1	-KF		-KF
	Slide	Standard	Standard				2	-GK		
		Extended	Extended				3	-GV		
		Dust protection	–	Dust-proof version		–	3	-GA		
	Slide attachment position		Slide at front					-SV		
			Slide at rear					-SH		
	Additional slide	left (effective stroke reduction)	Standard slide at left (85 mm*)	(105 mm*)	(167 mm*)	(230 mm*)	4	-KL		
↓		right (effective stroke reduction)	Standard slide at right (85 mm*)	(105 mm*)	(167 mm*)	(230 mm*)	4	-KR		

* Plus working tolerance between slide and additional slide.

1 **KF** Only with slide GK, GV, GA.

2 **GK** Only with slide attachment position SV, SH.
Emergency buffer recommended ➔ Accessory option "A".

3 **GV, GA** Only with slide attachment position SV, SH.
Emergency buffer included in delivery.

4 **KL, KR** Not with slide GA.
Emergency buffer recommended ➔ Accessory option "A".

Transfer order code

– KF	–	–	–

Spindle axes DGE-SP-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

[0] Options

Accessories	Slot cover	Slot nut	Central support	Foot mounting	Emergency buffer and retainer	Shock absorber	Centring pins/ sleeves	Proximity sensor	Plug socket	Sensor bracket	Switching lug	Inductive sensor
ZUB	...S ...B	...Y ...X	...M	...F	...A	...C ...E	...Z	...G ...H ...I ...J ...N	...V	...T	L	...O ...P ...W ...R
ZUB –	**2S**	**10Y**		**F**				**2G**				

Ordering table

Size			18	25	40	63	Conditions	Code	Enter code
↓	Accessories		Supplied separately					**ZUB-**	ZUB-
[0]	Slot cover	Sensor slot	1 ... 10					**...S**	
		Mounting slot	–	–	1 ... 10			**...B**	
	Slot nut	for mounting slot	1 ... 10					**...Y**	
		for slide	–	1 ... 10				**...X**	
	Central support		1 ... 10					**...M**	
	Foot mounting (kit)		1 ... 10					**...F**	
	Emergency buffer and retainer for KF	(effective stroke reduction with emergency buffer at both ends)	1 ... 2 (10 mm)	(30 mm)	(60 mm)	(100 mm)	[9]	**...A**	
	Shock absorber	and retainer for KF-GK, KF-GV	1 ... 2				[10]	**...C**	
		for KF-GA	–	1 ... 2		–	[11]	**...E**	
	Centring pins/sleeves (pack of 10)		10, 20, 30, 40, 50, 60, 70, 80, 90					**...Z**	
	Proximity sensor	with cable, 2.5 m	1 ... 10					**...G**	
		with plug	1 ... 10					**...H**	
		contactless with cable, 2.5 m	1 ... 10					**...I**	
		contactless, plug	1 ... 10					**...J**	
		NC contact with cable, 2.5 m	1 ... 10					**...N**	
	Cable with socket, 2.5 m		1 ... 10					**...V**	
	Sensor bracket for inductive sensors		1 ... 5				[10]	**...T**	
	Switching lug		1				[10]	**L**	
	Inductive sensor	NO contact, cable	1 ... 5				[10]	**...O**	
		NC contact, cable	1 ... 5				[10]	**...P**	
		NO contact, plug	1 ... 5				[10]	**...W**	
		NC contact, plug	1 ... 5				[10]	**...R**	

[9] **A** Only with slide GK.
Mounted as standard for slide GV, GA

[10] **C, T, L, O, P, W, R.**
Not with slide GA.

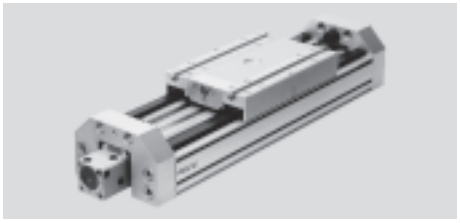
[11] **E** Only with slide GA.

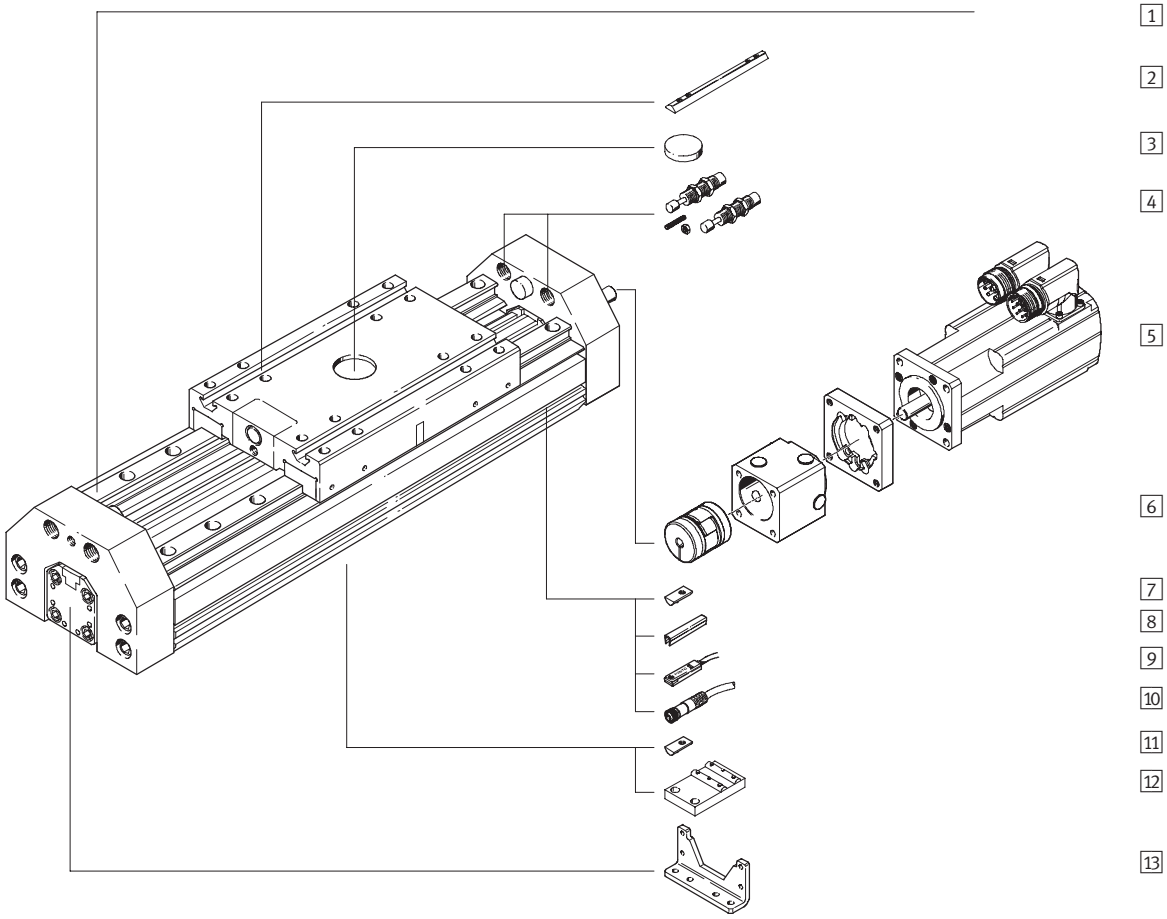
Transfer order code

ZUB	–												

Spindle axes DGE-SP-HD, with heavy-duty guide

Peripherals overview





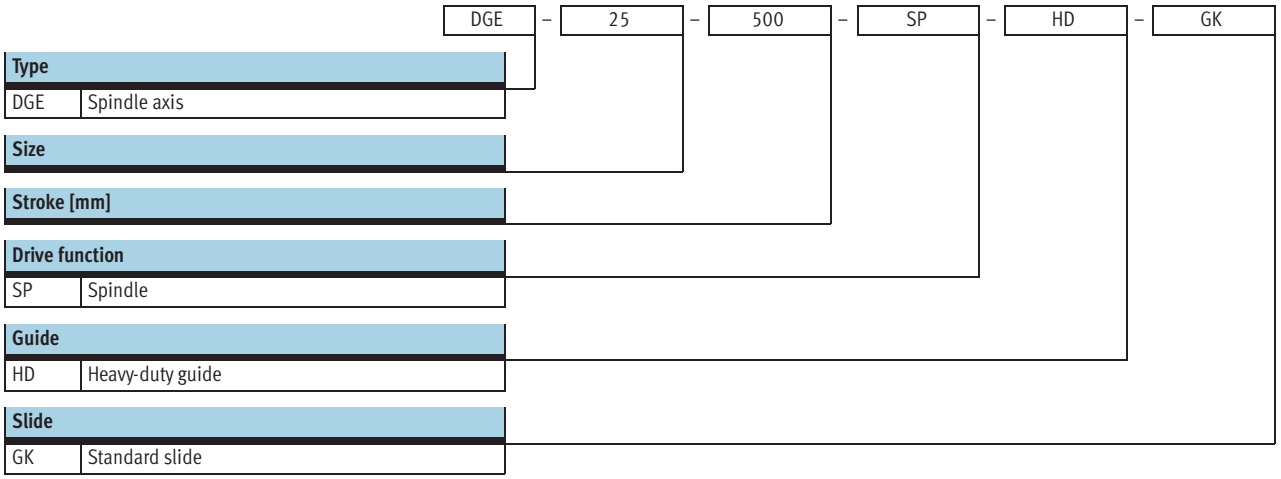
Spindle axes DGE-SP-HD, with heavy-duty guide

Peripherals overview

Variants and accessories			
	Type	**Brief description**	**➔ Page**
1	Spindle axis DGE-SP-HD	Electromechanical axis with heavy-duty guide	5 / 2.1-160
2	Slot nut for slide X	For mounting loads and attachments on the slide	5 / 2.1-184
3	Centring disc Q	For centring loads and attachments on the slide	5 / 2.1-184
4	Shock absorber kits D	For avoiding damage at the end stop in the event of malfunction	5 / 2.1-181
5	Axial kit EAMM-A	For axial motor attachment (consisting of: coupling housing, clamping component, motor flange)	5 / 2.1-170
6	Motor EMMS, MTR	Motors specially matched to the axis, with or without gearing, with or without brake	5 / 2.1-170
7	Slot nut for mounting slot Y	For mounting attachments	5 / 2.1-184
8	Slot cover B/S	For protecting against the ingress of dirt	5 / 2.1-184
9	Proximity sensor G/H/I/J/N	For use as a signal generator and safety monitoring	5 / 2.1-185
10	Cable with socket V	For proximity sensors	5 / 2.1-185
11	Slot nut for HD underneath U	For mounting attachments	5 / 2.1-184
12	Central support M	For mounting the axis	5 / 2.1-178
13	Foot mounting F	For mounting the axis	5 / 2.1-178

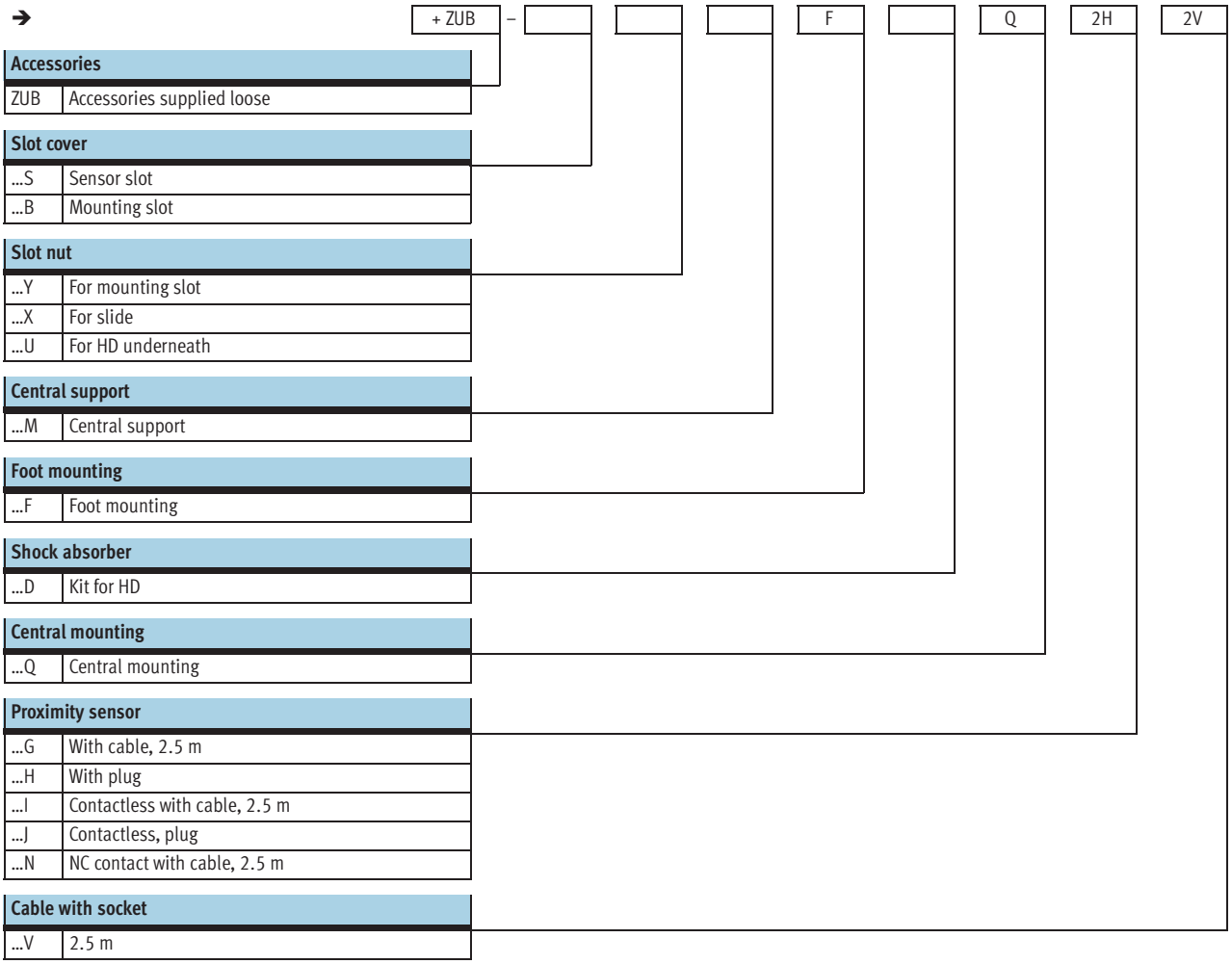
Spindle axes DGE-SP-HD, with heavy-duty guide

Type code



Spindle axes DGE-SP-HD, with heavy-duty guide

Type code



Accessories	
ZUB	Accessories supplied loose

Slot cover	
...S	Sensor slot
...B	Mounting slot

Slot nut	
...Y	For mounting slot
...X	For slide
...U	For HD underneath

Central support	
...M	Central support

Foot mounting	
...F	Foot mounting

Shock absorber	
...D	Kit for HD

Central mounting	
...Q	Central mounting

Proximity sensor	
...G	With cable, 2.5 m
...H	With plug
...I	Contactless with cable, 2.5 m
...J	Contactless, plug
...N	NC contact with cable, 2.5 m

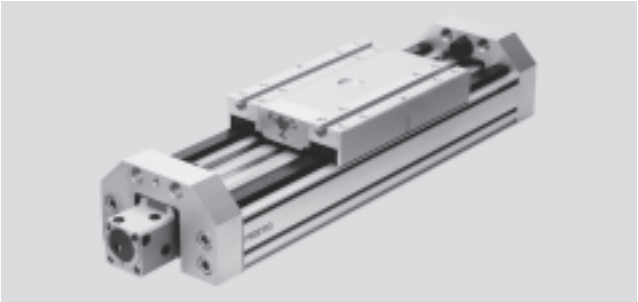
Cable with socket	
...V	2.5 m

Spindle axes DGE-SP-HD, with heavy-duty guide

Technical data

FESTO

- Ø - Size
  18 ... 40
- I - Stroke length
  100 ... 1500 mm



General technical data					
Size		18-HD18	25-HD25	25-HD40	40-HD40
Constructional design		Electromechanical axis with heavy-duty guide			
Guide		Recirculating ball bearing guide			
Mounting position		Any			
Max. working stroke	[mm]	100 ... 400	100 ... 900	100 ... 900	200 ... 1500
Max. working load	[kg]	6	25	25	50
Max. feed force F_x	[N]	140	250	250	600
Max. driving torque	[Nm]	0.1	0.45	0.45	2.1
No-load torque[1)]	[Nm]	0.05	0.2	0.2	0.6
Max. speed	[m/s]	0.2	0.5	0.5	1
Max. acceleration	[m/s²]	6			
Repetition accuracy	[mm]	±0.02			

1) Measured at a speed of 0.2 m/s

Operating and environmental conditions					
Size		18-HD18	25-HD25	25-HD40	40-HD40
Ambient temperature	[°C]	0 ... +40			
Protection class		IP40			

Weights [kg]				
Size	18-HD18	25-HD25	25-HD40	40-HD40
Basic weight with 0 mm stroke[1)]	4.31	7.04	16.13	19.02
Additional weight per 100 mm stroke	0.32	1.6	2.19	2.62

1) Including coupling housing and slide

Mass moment of inertia					
Size		18-HD18	25-HD25	25-HD40	40-HD40
J_O	[kg cm²]	0.013	0.086	0.375	0.698
J_H per metre stroke	[kg cm²/m]	0.031	0.121	0.121	1
J_L per kg working load	[kg cm²/kg]	0.005	0.025	0.025	0.101

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

$$J_A = J_O + J_H \times \text{working stroke [m]} + J_L \times m_{\text{working load}} \text{ [kg]}$$

Spindle axes DGE-SP-HD, with heavy-duty guide

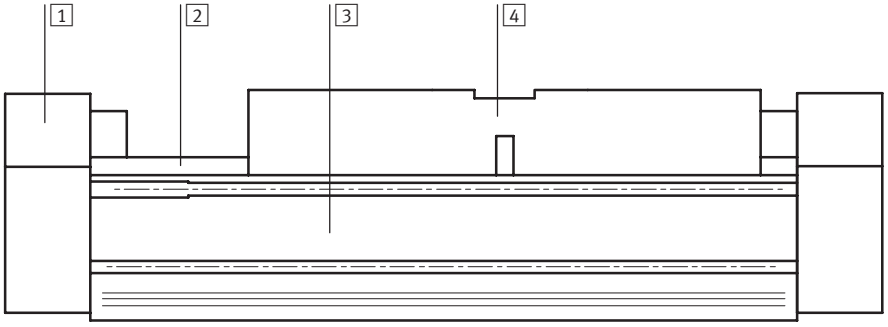
Technical data

FESTO

Spindle					
Size		18-HD18	25-HD25	25-HD40	40-HD40
Diameter	[mm]	8	12	12	20
Pitch	[mm/rev.]	4	10	10	20

Materials

Sectional view



Axis		
1	End cap	Anodised aluminium
2	Guide	Rolled steel
3	Profile	Anodised aluminium
4	Slide	Anodised aluminium

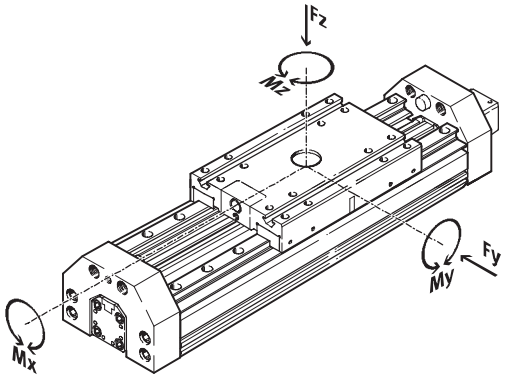
Spindle axes DGE-SP-HD, with heavy-duty guide

Technical data

FESTO

Characteristic load values

The indicated forces and torques refer to the centre of the heavy-duty guide.
They must not be exceeded in the dynamic range. Special attention must be paid to the cushioning phase.



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

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

Permissible forces and torques

Size		18-HD18	25-HD25	25-HD40	40-HD40
$Fy_{max.}$	[N]	1820	5400	5400	5400
$Fz_{max.}$	[N]	1820	5600	5600	5600
$Mx_{max.}$	[Nm]	70	260	375	375
$My_{max.}$	[Nm]	115	415	560	560
$Mz_{max.}$	[Nm]	112	400	540	540

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

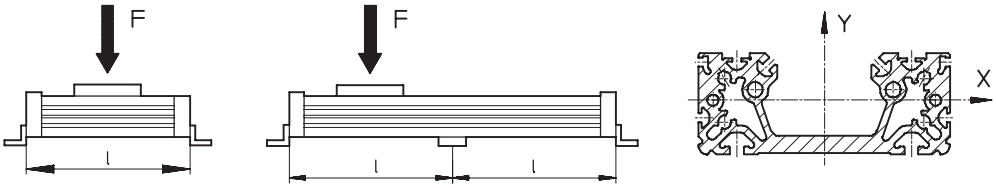
Spindle axes DGE-SP-HD, with heavy-duty guide

Technical data

Maximum permissible support span l as a function of the force F

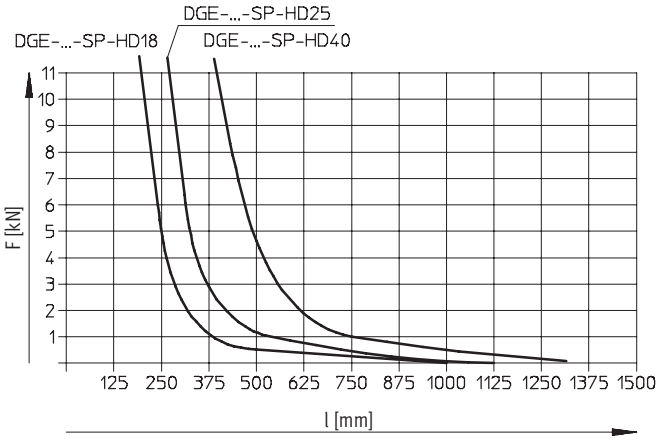
The drive may need to be supported in order to restrict deflection with long stroke lengths. The following diagrams serve to determine the maximum permissible support span l as a function of the force acting upon the axis F.

Force on the surface of the slide

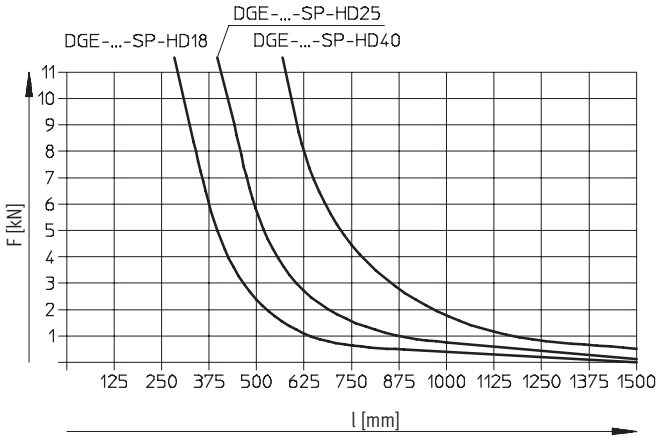


Maximum permissible support span l (without central support) as a function of the force F

Deflection around the X axis



Deflection around the Y axis



Spindle axes DGE-SP-HD, with heavy-duty guide

Technical data

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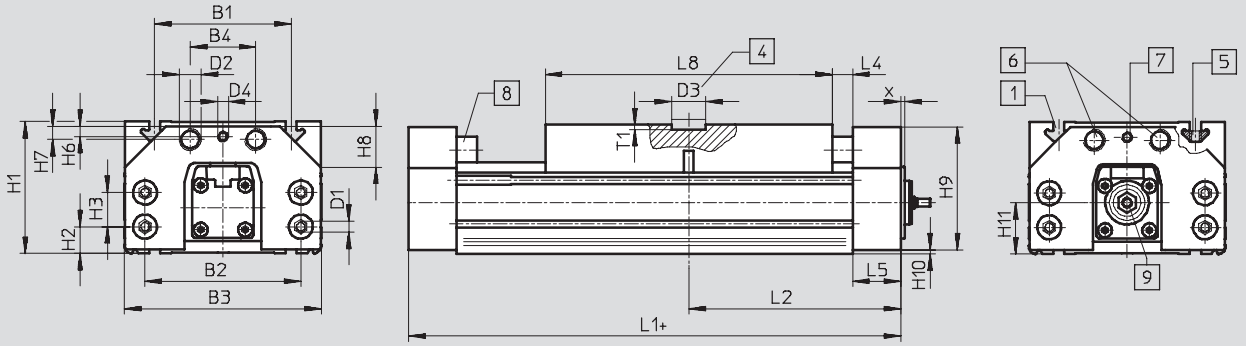
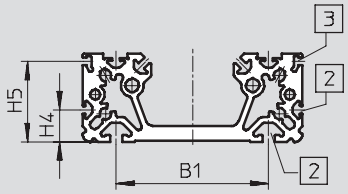
Dimensions

Download CAD data ➔ **www.festo.com/en/engineering**



1 Mounting slot for slot nut NSTH
4 Hole for central mounting SLZZ
5 Slot nut NSTH
6 Thread for shock absorber
7 Thread for threaded pin
8 Rubber buffer
9 Dimension for motor connection on one side
\+ = plus stroke length

Profile



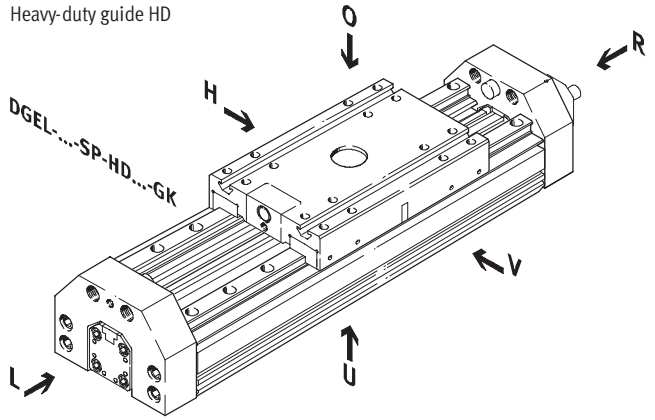
2 Mounting slot for slot nut NST
3 Sensor slot for proximity sensor

Size	B1	B2 ±0,2	B3	B4	D1	D2	D3 ∅ G7	D4	D5	H1	H2	H3	H4
18-HD18	80±0,3	85	116	40	M5	M12x1	25	M6	M5	70	12.8	19.5±0,1	14
25-HD-25	100±0,3	114	144	48	M8	M16x1	25	M8	G⅛	93.5	18.5	25±0,2	21
25-HD40	140±0,35	156	185	54	M8	M22x1.5	25	M8	G⅛	124.5	21	48±0,2	35
40-HD40	140±0,35	156	185	54	M8	M22x1.5	25	M8	G¼	124.5	21	48±0,2	35

Size	H5	H6	H7	H8	H9	H10	H11	L1	L2	L4	L5	L8	T1	X
18-HD18	42.3	5.9	8.7	20x45°	68	0.8	30.3	240	120	15	25	160	3.5	49
25-HD25	52.8	9	9.8	30x45°	90	2	37	310	155	15	35	210	3.5	3
25-HD40	82.8	5.5	15.5	35x45°	120	2	63	354	177	15	32	260	4	–
40-HD40	82.8	5.5	15.5	35x45°	120	2	52.5	354	177	15	32	260	4	–7

Order code
Mandatory data

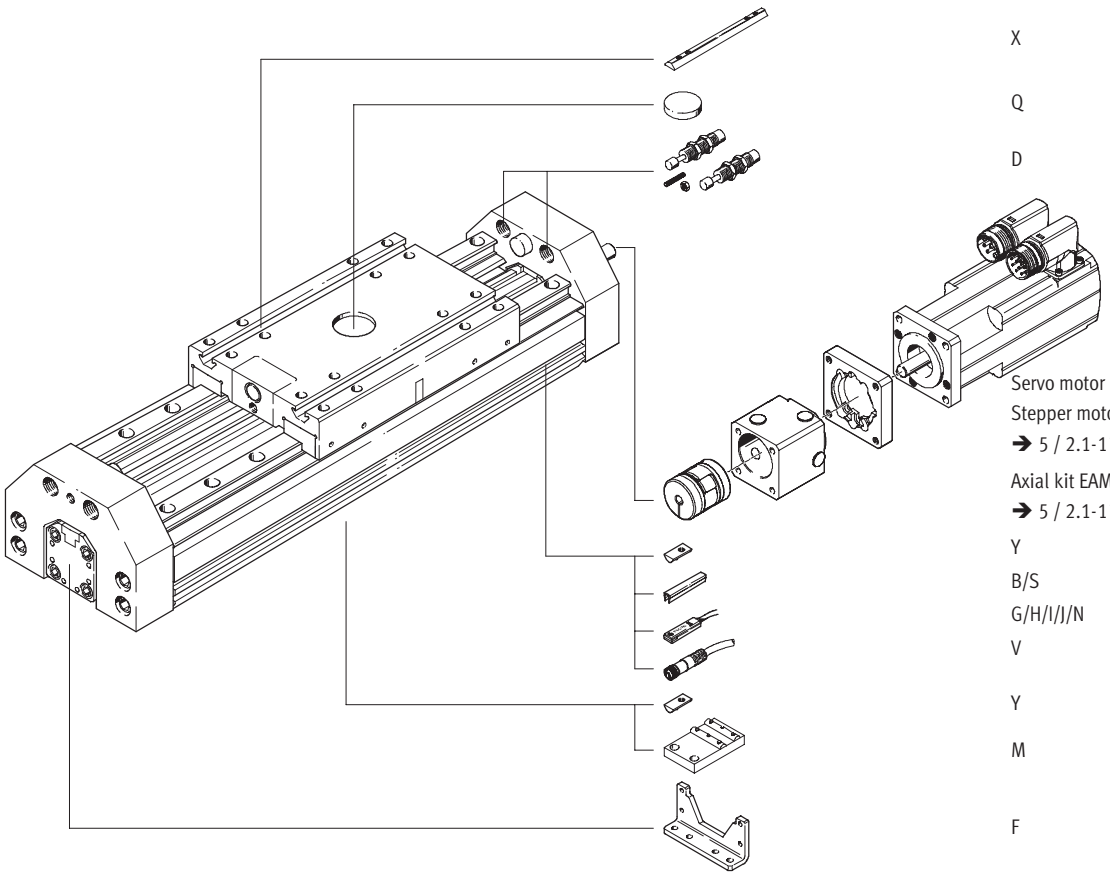
Heavy-duty guide HD



- Note

The insertion point for the proximity sensor is located on the right-hand side of the heavy-duty guide

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



X

Q

D

Servo motor EMMS-AS, MTR-AC
Stepper motor EMMS-ST, MTR-ST
➔ 5 / 2.1-170

Axial kit EAMM-A
➔ 5 / 2.1-170

Y

B/S

G/H/I/J/N

V

Y

M

F

Spindle axes DGE-SP-HD, with heavy-duty guide

Ordering data – Modular products

FESTO

M Mandatory data					O Options →	
Module No.	**Design**	**Size**	**Stroke**	**Drive function**	**Guide**	**Slide**
193 745 193 746 193 747	DGE	18 25 40	1 … 1 500	SP	HD18 HD25 HD40	GK
Ordering example						
193 747	**DGE**	– **40**	– **800**	– **SP**	– **HD40**	– **GK**

Ordering table

Size		18	25	40	Condi-tions	Code		Enter code
M	Module No.	**193 745**	**193 746**	**193 747**				
	Design	Electromechanical linear axis				**DGE**		DGE
	Size	18	25	40		**-...**		
	Stroke [mm]	100, 200, 300, 400	100, 200, 300, 400, 500, 600, 700, 800, 900	200, 300, 400, 500, 600, 800, 1000, 1200, 1400, 1500		**-...**		
		–	1 … 900	1 … 1487				
	Drive function	Electromechanical drive with ball screw				**-SP**		-SP
O	Guide	Heavy-duty guide HD18	–	–		**-HD18**		-HD...
		–	Heavy-duty guide HD25	–		**-HD25**		
		–	Heavy-duty guide HD40	Heavy-duty guide HD40		**-HD40**		
↓	Slide	Standard			1	**-GK**		-GK

1 **GK** Emergency buffer recommended → Accessory option "A".

Transfer order code

	DGE	–		–		–	**SP**	–	**HD...**	– **GK**

Spindle axes DGE-SP-HD, with heavy-duty guide

Ordering data – Modular products

FESTO

O Options

Accessories	Slot cover	Slot nut	Central support	Foot mounting	Shock absorber	Central mounting	Proximity sensor	Plug socket
ZUB	...S ...B	...Y ...X ...U	...M	...F	...D	...Q	...G ...H ...I ...J ...N	...V
ZUB –	**2SB**	**10Y2X**	**M**	**F**		**Q**	**2J**	**2V**

Ordering table

Size			18	25	40	Conditions	Code		Enter code
↓	Accessories		Supplied separately				**ZUB-**		ZUB-
O	Slot cover	Sensor slot	1 ... 10				**...S**		
		Mounting slot	1 ... 10				**...B**		
	Slot nut	for mounting slot	1 ... 10				**...Y**		
		for slide	1 ... 10				**...X**		
		for HD underneath	1 ... 10				**...U**		
	Central support		1 ... 10				**...M**		
	Foot mounting (kit)		1 ... 10				**...F**		
	Shock absorber	Kit for HD	1 ... 2				**...D**		
	Central mounting		1 ... 10				**...Q**		
	Proximity sensor	with cable, 2.5 m	1 ... 10				**...G**		
		with plug	1 ... 10				**...H**		
		contactless with cable, 2.5 m	1 ... 10				**...I**		
		contactless, plug	1 ... 10				**...J**		
		NC contact with cable, 2.5 m	1 ... 10				**...N**		
	Cable with socket, 2.5 m		1 ... 10				**...V**		

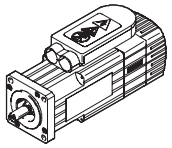
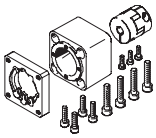
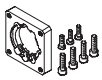
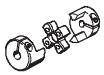
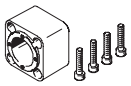
Transfer order code

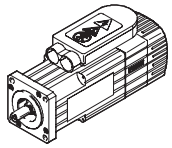
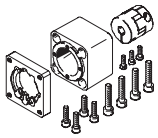
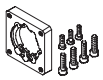
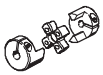
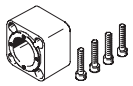
ZUB	–								

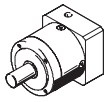
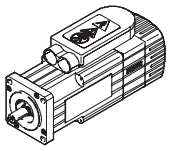
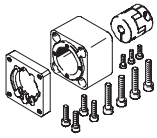
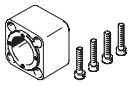
Spindle axes DGE

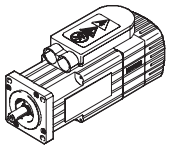
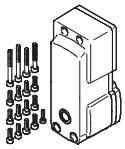
Accessories

FESTO

Permissible axis/motor combinations with axial kit – Without gear unit				
Motor	Axial kit	Axial kit consisting of:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DGE-18				
with servo motor				
EMMS-AS-40-... **MTR-AC-40-3S-A...**	**550 961** **EAMM-A-E20-40A**	**552 163** **EAMF-A-28B-40A**	**540 751** **KSE-15-22-D05-D06**	**170 374** **DGE-KG-18-SP-FL28**
EMMS-AS-55-... **MTR-AC-55-3S-A...**	**550 963** **EAMM-A-E20-55A**	**529 946** **MTR-FL28-AC55**	**529 953** **KSE-15-22-D05-D09**	**170 374** **DGE-KG-18-SP-FL28**
with stepper motor				
EMMS-ST-42-... **MTR-ST-42-48S-A...**	**550 962** **EAMM-A-E20-42A**	**552 164** **EAMF-A-28B-42A**	**530 085** **KSE-15-22-D05-D05**	**170 374** **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**
DGE-25				
with servo motor				
EMMS-AS-40-... **MTR-AC-40-3S-A...**	**550 964** **EAMM-A-E32-40A**	**550 985** **EAMF-A-44-40A**	**123 040** **KSE-30-35-D06-D06**	**124 631** **DGE-KG-25-SP-FL44**
EMMS-AS-55-... **MTR-AC-55-3S-A...**	**550 965** **EAMM-A-E32-55A**	**529 942** **MTR-FL44-AC55**	**530 941** **KSE-30-35-D06-D09**	**124 631** **DGE-KG-25-SP-FL44**
with stepper motor				
EMMS-ST-57-... **MTR-ST-57-48S-A...**	**550 966** **EAMM-A-E32-57A**	**530 081** **MTR-FL44-ST57**	**530 087** **KSE-30-35-D06-D06.35**	**124 631** **DGE-KG-25-SP-FL44**
with intelligent motor unit				
MTR-DCI-42S-...-G07	**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**

Permissible axis/motor combinations with axial kit – Without gear unit				
Motor	Axial kit	Axial kit consisting of:		
		Motor flange	Coupling	Coupling housing
				
Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DGE-40				
With servo motor				
EMMS-AS-55-... **MTR-AC-55-3S-A...**	**550 969** **EAMM-A-E48-55A**	**529 942** **MTR-FL44-AC55**	**550 996** **KSE-30-35-D09-D12**	**124 632** **DGE-KG-40-SP-FL44**
EMMS-AS-70-... **MTR-AC-70-3S-A...**	**550 971** **EAMM-A-E48-44-70A**	**529 943** **MTR-FL44-AC70**	**123 051** **KSE-30-35-D11-D12**	**124 632** **DGE-KG-40-SP-FL44**
EMMS-AS-100-... **MTR-AC-100-3S-A...**	**550 973** **EAMM-A-E48-100A**	**529 947** **MTR-FL64-AC100**	**529 952** **KSE-40-66-D12-D19**	**529 940** **DGE-KG-40-SP-FL64**
With stepper motor				
EMMS-ST-57-... **MTR-ST-57-48S-A...**	**550 970** **EAMM-A-E48-57A**	**530 081** **MTR-FL44-ST57**	**550 995** **KSE-30-35-D6.35-D12**	**124 632** **DGE-KG-40-SP-FL44**
EMMS-ST-87-... **MTR-ST-87-48S-A...**	**550 972** **EAMM-A-E48-87A**	**533 140** **MTR-FL64-ST87**	**525 864** **KSE-40-66-D11-D12**	**529 940** **DGE-KG-40-SP-FL64**
With intelligent motor unit				
MTR-DCI-52S-...-G07	**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**
DGE-63				
With servo motor				
EMMS-AS-70-... **MTR-AC-70-3S-A...**	**550 975** **EAMM-A-E72-70A**	**529 945** **MTR-FL64-AC70**	**550 999** **KSE-40-66-D11-D20**	**529 941** **DGE-KG-63-SP-FL64**
EMMS-AS-100-... **MTR-AC-100-5S-A...**	**550 978** **EAMM-A-E72-100A**	**529 947** **MTR-FL64-AC100**	**123 847** **KSE-40-66-D19-D20**	**529 941** **DGE-KG-63-SP-FL64**
With stepper motor				
EMMS-ST-87-... **MTR-ST-87-48S-A...**	**550 977** **EAMM-A-E72-87A**	**533 140** **MTR-FL64-ST87**	**550 999** **KSE-40-66-D11-D20**	**529 941** **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**

Permissible axis/motor combinations with axial kit – With gear unit					
Gear unit	Motor	Axial kit	Axial kit consisting of:		
			Motor flange	Coupling	Coupling housing
					
Type	Type	Part No. Type	Part No. Type	Part No. Type	Part No. Type
DGE-40					
with servo motor					
EMGA-40-P-G...-SAS-40	**EMMS-AS-40-...**	**550 968** **EAMM-A-E48-40G**	**550 986** **EAMF-A-44-40G**	**552 640** **KSE-30-35-D10-D12**	**124 632** **DGE-KG-40-SP-FL44**
DGE-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-...**	**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**

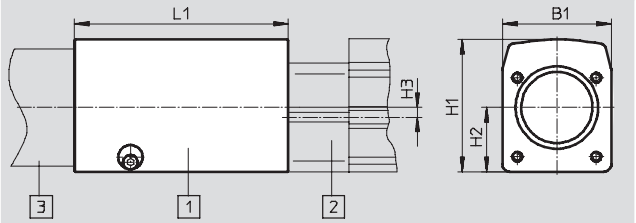
Permissible axis/motor combinations with parallel kit – Without gear unit		
Motor	Parallel kit	
		
Type	Part No.	Type
DGE-25		
with servo motor		
EMMS-AS-55-...	**543 230**	**EAMM-U-E32-55A**
MTR-AC-55-3S-A...		
with intelligent motor unit		
MTR-DCI-42S-...-G07	**543 228**	**EAMM-U-E32-42B**
MTR-DCI-42S-...-G14	**543 229**	**EAMM-U-E32-42C**
DGE-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-...-G07	**543 232**	**EAMM-U-E48-52B**
MTR-DCI-52S-...-G14	**543 233**	**EAMM-U-E48-52C**

Spindle axes DGE

Accessories

FESTO

Axial kit EAMM-A-...
Material:
Coupling housing, coupling hubs: aluminium
Clamping component: steel, corrosion resistant
Motor flange: Wrought aluminium alloy
Screws: Galvanised steel



Schematic diagram:
1 Axial kit
2 Spindle axis
3 Motor

General technical data										
EAMM-A-...		E20-				E32-				
		32B	40A	42A	55A	40A	42B	42C	55A	57A
Transferable torque	[Nm]	1.5	1			7.5	7		7.5	
Mass moment of inertia	[kgmm^2]	0.23	0.13			6.1	5.87		6.1	
Max. speed	[1/min]	10000	12000			8000				
Mounting position		Any								

EAMM-A-...		E48-							
		52B	52C	55A	57A	44-70A	87A	100A	40G
Transferable torque	[Nm]	17		8.3	7.5	8.9	17		8.6
Mass moment of inertia	[kgmm^2]	35.5		6.1			42.3		6.1
Max. speed	[1/min]	6000		8000			6500		8000
Mounting position		Any							

EAMM-A-...		E72-					
		62B	70A	87A	100A	60G	80G
Transferable torque	[Nm]	17					
Mass moment of inertia	[kgmm^2]	35.5	42.3				
Max. speed	[1/min]	6000	6500				
Mounting position		Any					

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

1) Only with combined attachment of motor and axis

Dimensions and ordering data								
Type	B1	H1	H2	H3	L1	Weight [g]	Part No.	Type
EAMM-A-E20-32B	33.6	41	21.6	0	27	80	**556 991**	**EAMM-A-E20-32B**
EAMM-A-E20-40A	33.5	31.5	15.75		27.4	78	**550 961**	**EAMM-A-E20-40A**
EAMM-A-E20-42A					35.7	91	**550 962**	**EAMM-A-E20-42A**
EAMM-A-E20-55A					29.5	134	**550 963**	**EAMM-A-E20-55A**
EAMM-A-E32-40A	45	45	26.5	4	52.5	243	**550 964**	**EAMM-A-E32-40A**
EAMM-A-E32-42B	44.8	54.4	26.4		88	50	**556 992**	**EAMM-A-E32-42B**
EAMM-A-E32-42C					101	50	**556 993**	**EAMM-A-E32-42C**
EAMM-A-E32-55A	45	45	26.5		53.7	271	**550 965**	**EAMM-A-E32-55A**
EAMM-A-E32-57A					55	288	**550 966**	**EAMM-A-E32-57A**
EAMM-A-E48-52B	63.8	76.4	36.9	5	121	142	**556 994**	**EAMM-A-E48-52B**
EAMM-A-E48-52C					135	142	**556 995**	**EAMM-A-E48-52C**
EAMM-A-E48-55A	64	64	32		57.2	523	**550 969**	**EAMM-A-E48-55A**
EAMM-A-E48-57A					58.5	534	**550 970**	**EAMM-A-E48-57A**
EAMM-A-E48-44-70A					60	591	**550 971**	**EAMM-A-E48-44-70A**
EAMM-A-E48-87A	65	64	32		87.7	1278	**550 972**	**EAMM-A-E48-87A**
EAMM-A-E48-100A					91.2	1492	**550 973**	**EAMM-A-E48-100A**
EAMM-A-E48-40G	64	64	32		63.5	542	**550 968**	**EAMM-A-E48-40G**
EAMM-A-E72-62B	105.1	127.3	60.8	8	150	2800	**556 996**	**EAMM-A-E72-62B**
EAMM-A-E72-70A	105.6	114.8			98.7	2362	**550 975**	**EAMM-A-E72-70A**
EAMM-A-E72-87A					100.2	3032	**550 977**	**EAMM-A-E72-87A**
EAMM-A-E72-100A					103.7	3235	**550 978**	**EAMM-A-E72-100A**
EAMM-A-E72-60G					106.9	3182	**550 974**	**EAMM-A-E72-60G**
EAMM-A-E72-80G					106.9	3183	**550 976**	**EAMM-A-E72-80G**

- Note

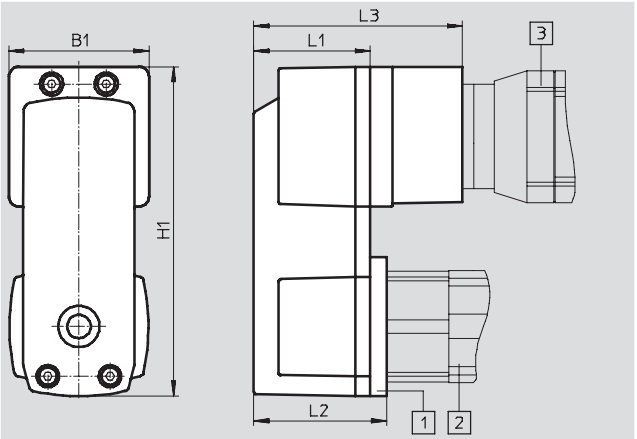
Permissible axis/motor combinations
➔ 5 / 2.1-170

Spindle axes DGE

Accessories

FESTO

Parallel kit EAMM-U-...
Material:
Housing: Aluminium
Clamping component, clamping sleeve, toothed belt gearwheel: steel, corrosion resistant
Toothed belt: Polychloroprene
Screws: Galvanised steel



Schematic diagram:
1 Parallel kit
2 Spindel axis
3 Motor

General technical data							
EAMM-U-...		E32-			E48-		
		42B	42C	55A	52B	52C	70A
Transferable torque	[Nm]	3			5.5		
No-load drive torque	[Nm]	0.1			0.3		
Mass moment of inert	[kgmm^2]	10.22			71.138		
Max. speed	[1/min]	3000					
Mounting 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-E32-42B	56.4	132.7	47	53.5	84	660	**543 228**	**EAMM-U-E32-42B**
EAMM-U-E32-42C					97	690	**543 229**	**EAMM-U-E32-42C**
EAMM-U-E32-55A					–	540	**543 230**	**EAMM-U-E32-55A**
EAMM-U-E48-52B	85.8	189.9	58	66.5	106	1700	**543 232**	**EAMM-U-E48-52B**
EAMM-U-E48-52C					120	1800	**543 233**	**EAMM-U-E48-52C**
EAMM-U-E48-70A					–	1300	**543 234**	**EAMM-U-E48-70A**

Note

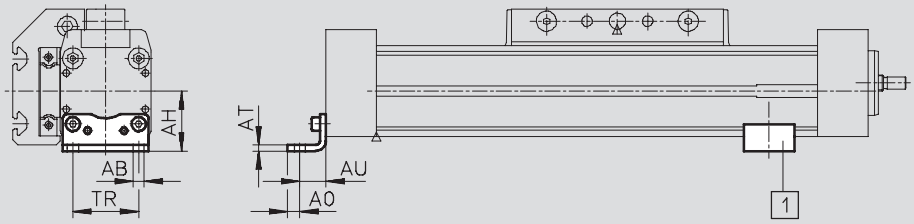
Permissible axis/motor combinations
➔ 5 / 2.1-173

Foot mounting HP
(order code F)

Material:
Galvanised steel
Free of copper, PTFE and silicone


HP-25

DGE-18-...-63

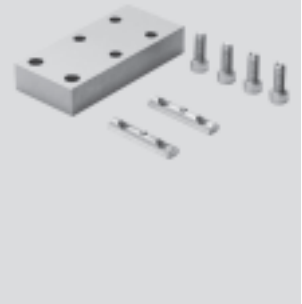


Dimensions and ordering data

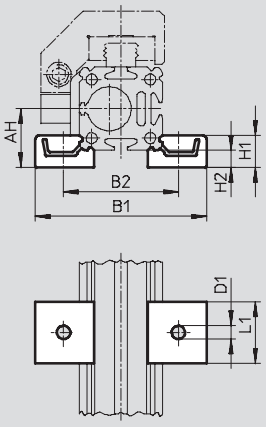
for size	AB ∅	AH	AO	AT	AU	TR	Weight [g]	Part No.	Type
18	5.5	24	4.8	3	13.3	24	70	**158 472**	**HP-18**
25	5.5	29.5	6	3	13	32.5	61	**150 731**	**HP-25**
40	6.6	46	8.5	5	17.5	45	188	**150 733**	**HP-40**
63	11	69	13.5	6	28	75	305	**150 735**	**HP-63**

Central support MUP
(order code M)

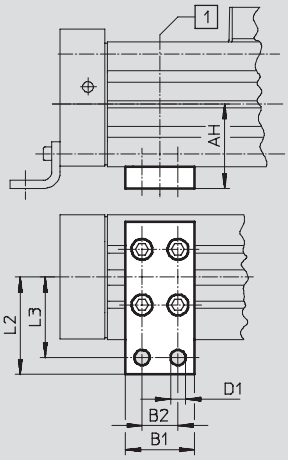
Material:
Galvanised steel
Free of copper, PTFE and silicone


MUP-40

DGE-18-...-25



DGE-40-...-63



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

Dimensions and ordering data

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

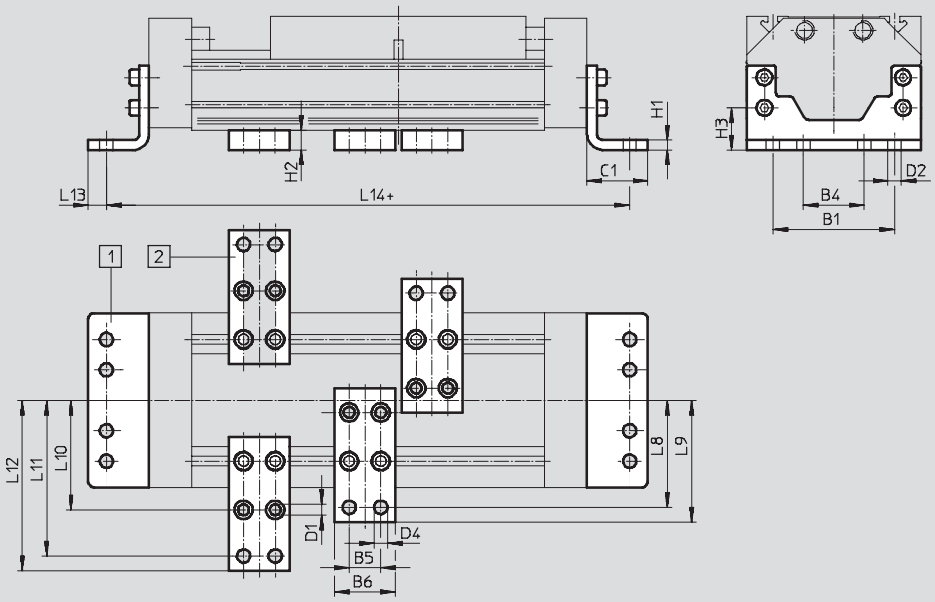
Spindle axes DGE

Accessories

Foot mounting HHP
for heavy-duty guide
(order code F)
Material:
Galvanised steel

Central support MUP
for heavy-duty guide
(order code M)
Material:
Galvanised steel
Free of copper, PTFE and silicone

DGE-...-HD18/-HD25/-HD40



1 Foot mounting HHP
2 Central support MUP

\+ = plus stroke length

Dimensions and ordering data

for heavy-duty guide	B1	B4	B5	B6	C1	D1	D2	D4	H1	H2	H3
HD18	80	40	22	35	34	5.5	6.6	6.6	8	14	26.8
HD25	100	50	26	50	50	9	11	11	8	16	34.5
HD40	140	70	26	50	50	9	11	11	10	16	37

for heavy-duty guide	L8	L9	L10	L11	L12	L13	L14	Weight [g]	Part No.	Type
HD18	68	75	64	92	99	9	290	357	**161 993**	**HHP-18**
								126	**150 738**	**MUP-40**
HD25	88	100	90	128	140	15	380	794	**161 994**	**HHP-25**
								347	**150 739**	**MUP-50**
HD40	108	120	110	148	160	15	424	1318	**161 995**	**HHP-40**
								347	**150 739**	**MUP-50**

Shock absorber YSR-...-C
(order code C)

Material:
Housing: galvanised steel; piston rod: high-alloy steel,
seals: nitrile rubber, polyurethane
Free of copper, PTFE and silicone

Note

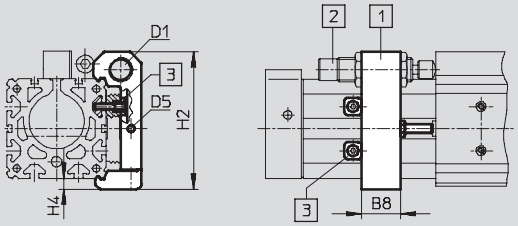
Shock absorber YSRW with progressive characteristics
➔ Volume 1

Ordering data

for size	Weight [g]	Part No.	Type
18	30	**34 571**	**YSR-8-8-C**
25	70	**34 572**	**YSR-12-12-C**
40	140	**34 573**	**YSR-16-20-C**
63	240	**34 574**	**YSR-20-25-C**

Shock absorber retainer KYP
(order code C)

Material:
Retainer: Aluminium
Sleeve: Corrosion resistant steel



1 Shock absorber retainer KYP (if the retainer is in contact with the end cap, i.e. cap serves to secure position, the entire stroke length can be utilised)

2 Shock absorber YSR-...-C

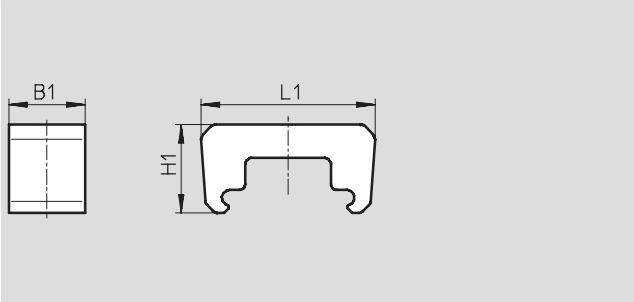
3 Position retainer (included in scope of delivery) either behind or underneath the shock absorber retainer KYP

Dimensions and ordering data

for size	B8	D1	D5	H2	H4	Weight [g]	Part No.	Type
18	14	M12x1	M4	50.5	4.5	66	**158 907**	**KYP-18**
25	19	M16x1	M5	69.5	6	95	**158 908**	**KYP-25**
40	32	M22x1.5	M5	102	8	209	**158 910**	**KYP-40**
63	44	M26x1.5	M10	152.5	11.5	609	**158 912**	**KYP-63**

Emergency buffer NPE
(order code A)

Material:
Polyurethane



Dimensions and ordering data

for size	B1	L1	H1	Weight [g]	Part No.	Type
18	15	43.1	28.5	6	**193 901**	**NPE-18**
25	25	57	29	12	**193 902**	**NPE-25**
40	40	80.5	36	41	**193 904**	**NPE-40**
63	60	128.6	55	152	**193 906**	**NPE-63**

Note

The emergency buffer can only be used in conjunction with shock absorber retainer KYP.
➔5 / 2.1-179
(A threaded pin and nut are not required.)

Shock absorber DG-GA
for protected version GA
(order code E)

Material:
Housing: galvanised steel; piston rod: high-alloy steel,
seals: nitrile rubber, polyurethane
Free of copper, PTFE and silicone

Ordering data

for size	Weight [g]	Part No.	Type
25	70	**192 875**	**DG-GA-25-YSR**
40	140	**192 877**	**DG-GA-40-YSR**

Shock absorber kit YHD
for heavy-duty guide
(order code D)

Material:
Housing: Galvanised steel
Seals: TPE-U(PU) NBR
Free of copper, PTFE and silicone

Ordering data			
for heavy-duty guide	Weight [g]	Part No.	Type
HD18	203	**174 544**	**YHD-18**
HD25	293	**174 545**	**YHD-25**
HD40	515	**174 546**	**YHD-40**

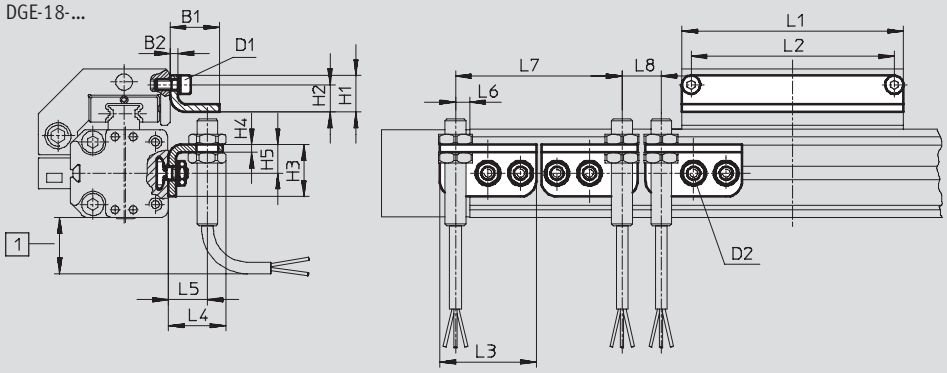
Spindle axes DGE

Accessories

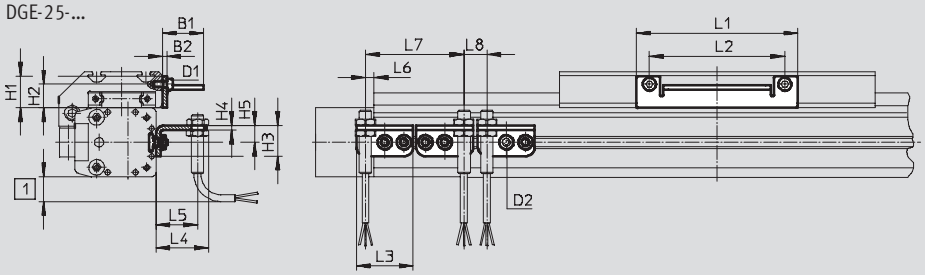
Sensor bracket HWS
for inductive proximity sensors
(order code T)
Material:
Galvanised steel

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

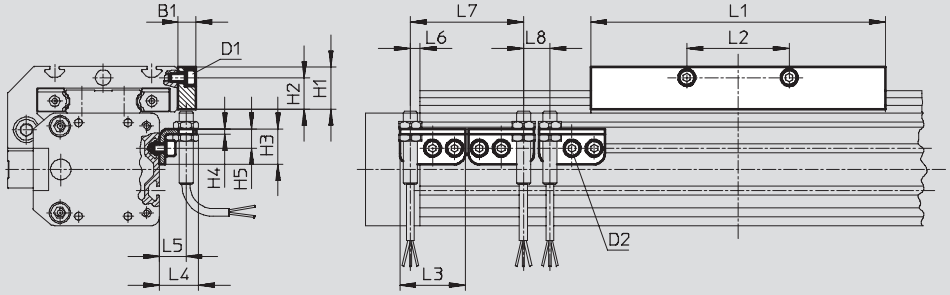
DGE-18-...



DGE-25-...



DGE-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

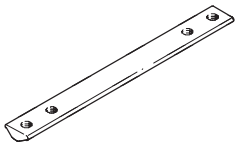
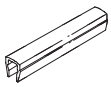
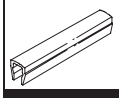
for size	L6 max.	L7 min.	L8 min.	Weight [g]	Part No.	Type
18	5.5	64	15	30	**188 968**	**HWS-18/25-M8**
				60	**188 964**	**SF-18**
25	5.5	64	15	30	**540 780**	**HWS-25-MAB-M8**
				80	**540 430**	**SF-25-MAB**
40	5.5	64	15	40	**188 969**	**HWS-40-M8**
				310	**188 966**	**SF-40**
63	5.5	64	15	40	**188 970**	**HWS-63-M8**
				630	**188 967**	**SF-63**

Spindle axes DGE

Accessories

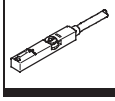
FESTO

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**	1
	40			**150 914**	**NST-5-M5**	1
	63			**150 915**	**NST-8-M6**	1
	HD18, HD25	For heavy-duty guide: mounting slot	Y	**150 914**	**NST-5-M5**	1
	HD40			**150 915**	**NST-8-M6**	1
	HD18	For heavy-duty guide: HD underneath	U	**150 914**	**NST-5-M5**	1
	HD25, HD40			**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
	HD18	For heavy-duty guide: slide	X	**161 020**	**NSTH-18**	1
	HD25			**161 021**	**NSTH-25**	1
	HD40			**161 022**	**NSTH-40**	1
Centring pin/sleeve ZBS/ZBH						
	18	For slide	Z	**150 928**	**ZBS-5**	10
	25 ... 63			**150 927**	**ZBH-9**	10
Central mounting SLZZ						
	HD18	For heavy-duty guide: slide	Q	**150 901**	**SLZZ-25/16**	1
	HD25					
	HD40					
Slot cover ABP						
	40	For mounting slot each 0.5 m	B	**151 681**	**ABP-5**	2
	63			**151 682**	**ABP-8**	
	HD18, HD25	For mounting slot at side and underneath, each 0.5 m		**151 681**	**ABP-5**	
	HD40			**151 682**	**ABP-8**	
Slot cover ABP-S						
	18 ... 63	For sensor slot each 0.5 m	S	**151 680**	**ABP-5-S**	2

1) Packaging unit quantity

Ordering data – Proximity sensors 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 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**
N/C contact						
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	7.5	**543 873**	**SMT-8M-PO-24V-K7,5-OE**

Ordering data – Proximity sensors for T-slot, magnetic reed — 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 lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	**150 855**	**SME-8-K-LED-24**
			Plug M8x1, 3-pin	0.3	**150 857**	**SME-8-S-LED-24**
N/C contact						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	**160 251**	**SME-8-O-K-LED-24**

Ordering data – Inductive proximity sensors M8 — Technical data ➔ Volume 4

	Electrical connection		Switch output	LED	Cable length [m]	Part No.	Type
	Cable	Plug M8					
Normally open contact							
	3-wire	–	PNP	■	2.5	**150 386**	**SIEN-M8B-PS-K-L**
	–	3-pin	PNP	■		**150 387**	**SIEN-M8B-PS-S-L**
Normally closed 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 – Connecting cables — Technical data ➔ www.festo.com/catalogue/nebu

	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541 333**	**NEBU-M8G3-K-2.5-LE3**
			5	**541 334**	**NEBU-M8G3-K-5-LE3**
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	**541 338**	**NEBU-M8W3-K-2.5-LE3**
			5	**541 341**	**NEBU-M8W3-K-5-LE3**