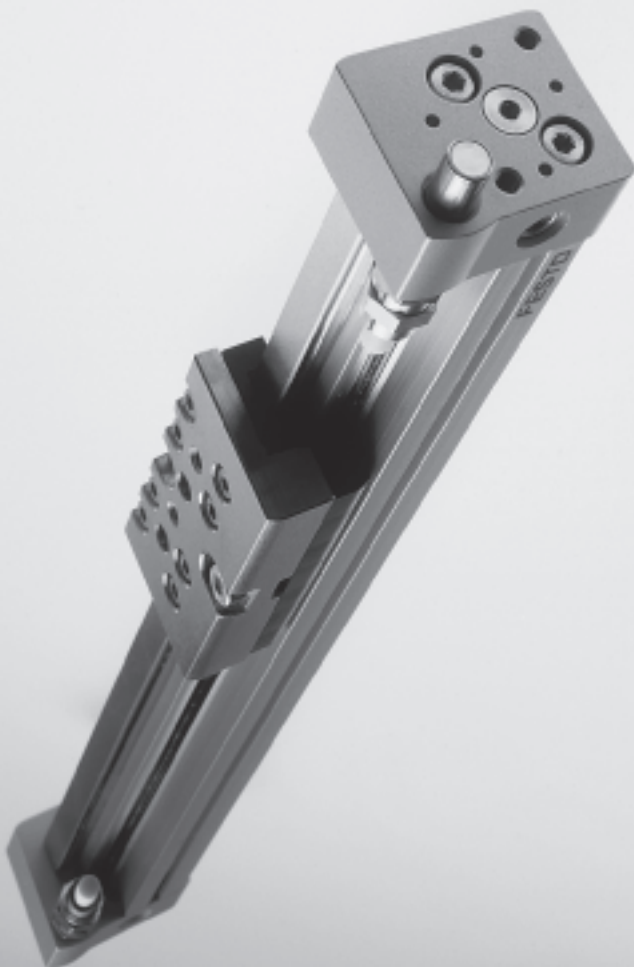




- Smallest dimensions
- Quick and easy installation
- Optimised mounting options
- Precise and reliable
- As individual component or for multi-axis applications



Linear drives DGC

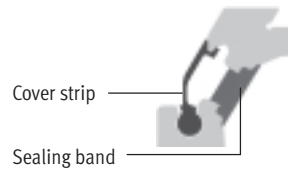
Key features

FESTO

General

- Compact – fitting length relative to stroke
- Loads and devices can be directly mounted on the slide
- Three types of cushioning available:
 - Flexible cushioning
 - Pneumatic cushioning
 - Hydraulic cushioning
- All settings accessible from one side:
 - Precision end-position adjustment
 - Position of proximity sensors
 - Mounting of drive
 - Speed regulation
 - Pneumatic end-position cushioning

- Sealing system



- Advantages of the sealing system
- Long strokes without restrictions
 - DGC-18 to 3,000 mm
 - Above DGC-25 to 5,000 mm
 - Virtually zero-leakage

Wide choice of variants

Basic design DGC-G



- Piston Ø 8 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0.2 mm
- For small loads
- Operating behaviour with torque load = Average

Plain-bearing guide DGC-GF



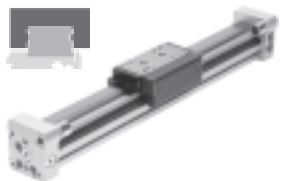
- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0.05 mm
- For small and medium loads
- Operating behaviour with torque load = Average

Recirculating ball bearing guide DGC-KF



- Piston Ø 8 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0 mm
- For medium and large loads
- Precision mounting interface with stainless steel slide
- Operating behaviour with torque load = Very good

Recirculating ball bearing guide with protected guide DGC-KF-GP



- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

Passive guide axis DGC-FA



- Without drive
- Piston Ø 8 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0 mm
- Precision guide, suitable for DGC-KF. Can be used as machine component or as twin guide with DGC-KF

Passive guide axis with protected guide DGC-FA-GP



- Without drive
- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm¹⁾
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

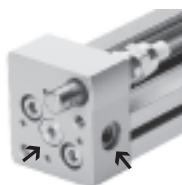
¹⁾ Up to 8,500 mm on request

Linear drives DGC

Key features

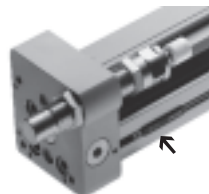
Versatile

1 Compressed air connections



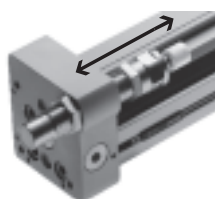
- Optionally on 2 sides (on the end face or from the front)
- For DGC-G/DGC-GF/DGC-KF

2 Proximity sensor G/H/I/J



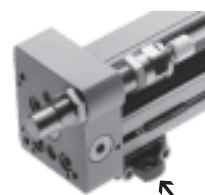
- Proximity sensors can be integrated, which means there is no projection. Cable can be guided through the slot behind a second sensor
- For DGC-G/DGC-GF/DGC-KF

3 Precision end-position adjustment



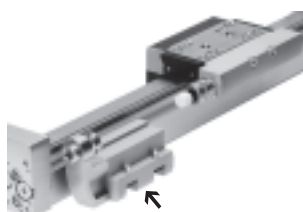
- Between 0 ... 25 mm per side
- For DGC-GF/DGC-KF/DGC-FA

4 Profile mounting M



- Profile mounting attachment remains on the base plate after the drive is dismantled. This means faster assembly and removal without repeat adjustment
- For DGC-G/DGC-GF/DGC-KF/DGC-FA

5 Mechanical end-position limiter YWZ



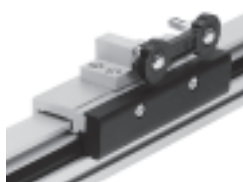
- For variable end-position adjustment, e.g. for format adjustments
- The end stop can be mounted at any position within the stroke
- For DGC-GF/DGC-KF/DGC-FA

6 Intermediate position Z1/Z2/Z3



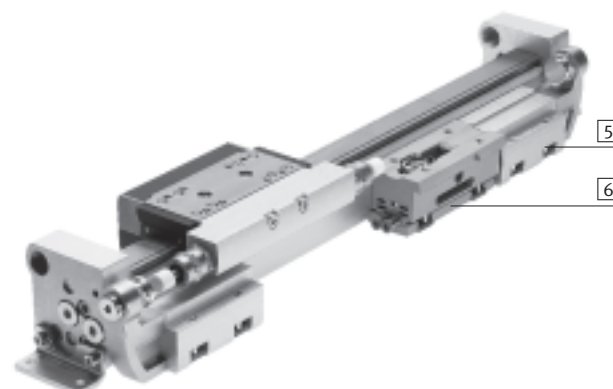
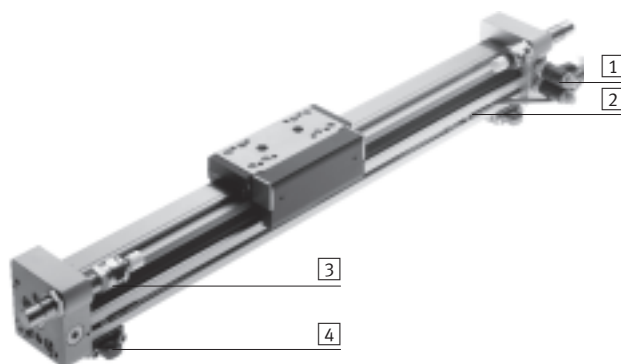
- Permits variable intermediate positions
- The intermediate position module can be mounted at any position within the stroke
- Precision repetition accuracy (0.02 mm) with highly dynamic response
- For DGC-KF

Driver FK



- Compensates inaccuracies during mounting of the linear drive and external guide
- Max. offset 2.5 mm
- For DGC-G

Example

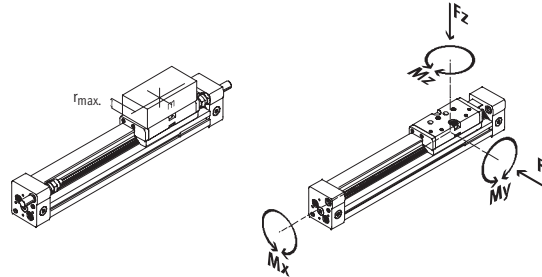


Linear drives DGC

Key features

FESTO

Product variants



	Piston Ø	Theoretical force at 6 bar	Max. perm. applied load ¹⁾ m [kg] / at max. load distance r [mm]	Guide characteristics					→ Page
	[mm]	[N]		Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	
Basic design DGC-G									
	8	30	0.06 / 25	150	150	0.5	2	2	1 / 3.1-8
	12	68	0.1 / 35	300	300	1.3	5	5	
	18	153	– / –	70	340	1.9	12	4	
	25	295	– / –	180	540	4	20	5	
	32	483	– / –	250	800	9	40	12	
	40	754	– / –	370	1,100	12	60	25	
Plain-bearing guide DGC-GF									
	18	153	3 / 35	440	540	3.4	20	8.5	1 / 3.1-22
	25	295	8 / 50	640	1,300	8.5	40	20	
	32	483	11 / 50	900	1,800	15	70	33	
	40	754	15 / 50	1,380	2,000	28	110	54	
Recirculating ball bearing guide DGC-KF/DGC-KF-GP									
	8	30	0.7 / 25	300	300	1.7	4.5	4.5	1 / 3.1-36
	12	68	1.8 / 35	650	650	3.5	10	10	
	18	153	10 / 35	1,850	1,850	16	51	51	
	25	295	30 / 50	3,050	3,050	36	97	97	
	32	483	30 / 50	3,310	3,310	54	150	150	
	40	754	50 / 50	6,890	6,890	144	380	380	
Passive guide axis without drive DGC-FA/DGC-FA-GP									
	8	0	0.7 / 25	300	300	1.7	4.5	4.5	Volume 5
	12	0	1.8 / 35	650	650	3.5	10	10	
	18	0	10 / 35	1,850	1,850	16	51	51	
	25	0	30 / 50	3,050	3,050	36	97	97	
	32	0	30 / 50	3,310	3,310	54	150	150	
	40	0	50 / 50	6,890	6,890	144	380	380	

1) At v = 0.5 m/s with shock absorber YSRW

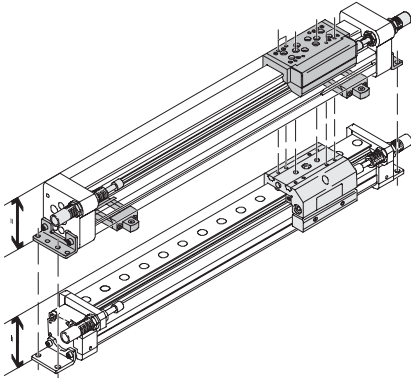
Linear drives DGC

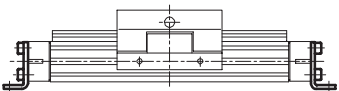
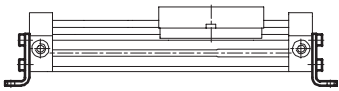
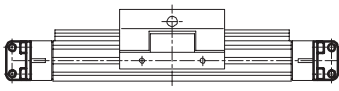
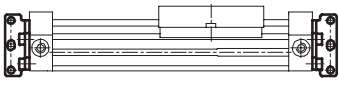
Key features



Interchangeability with linear drive DGPL

Special foot mountings for the drive DGC allow the linear drive DGPL to be replaced with the linear drive DGC-GF/-KF with identical slide position and identical interfaces.



Slide position	Linear drive DGPL	Linear drive DGC-GF/-KF	Foot mounting required ➔ 1 / 3.1-54
Top	 	 	Type HPC-...-SO/ HPC-...-S
Rear	 	 	Type HPC-...-SH/ HPC-...-S

Alternatives		
Electromechanical drives		Rodless cylinders, magnetically coupled
Toothed belt axes DGE-ZR	Spindle axes DGE-SP	Linear drives DGO



Advantages:
Positioning drive for approaching several positions
➔ Volume 5



Positioning drive for approaching several positions
➔ Volume 5



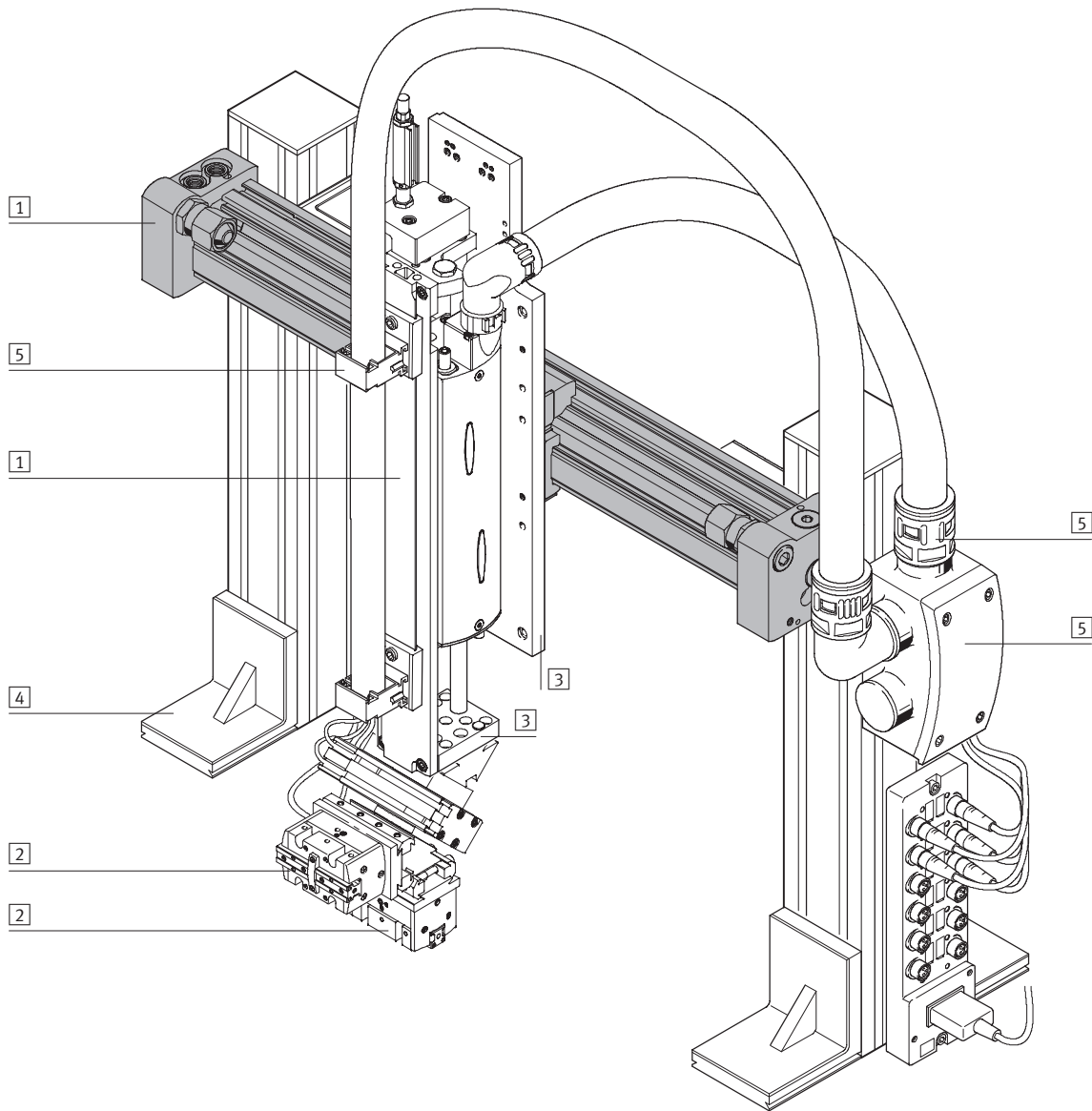
Hermetically sealed drive
➔ 1 / 3.2-1

Linear drives DGC

Key features

FESTO

System product for handling and assembly technology



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC

Key features

FESTO

System elements and accessories		
	Brief description	→ Page
1 Drives	Wide range of combinations possible within handling and assembly technology	Volume 1
2 Gripper	Wide range of variations possible within handling and assembly technology	Volume 1
3 Adapter	For drive/drive and drive/gripper connections	Volume 5
4 Basic components	Profiles and profile connections as well as profile/drive connections	Volume 5
5 Installation components	For manageable and secure guidance of electrical cables and tubing	Volume 5
– Axes	Wide range of combinations possible within handling and assembly technology	Volume 5
– Motors	Servo and stepper motors, with or without gearing	Volume 5

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-G

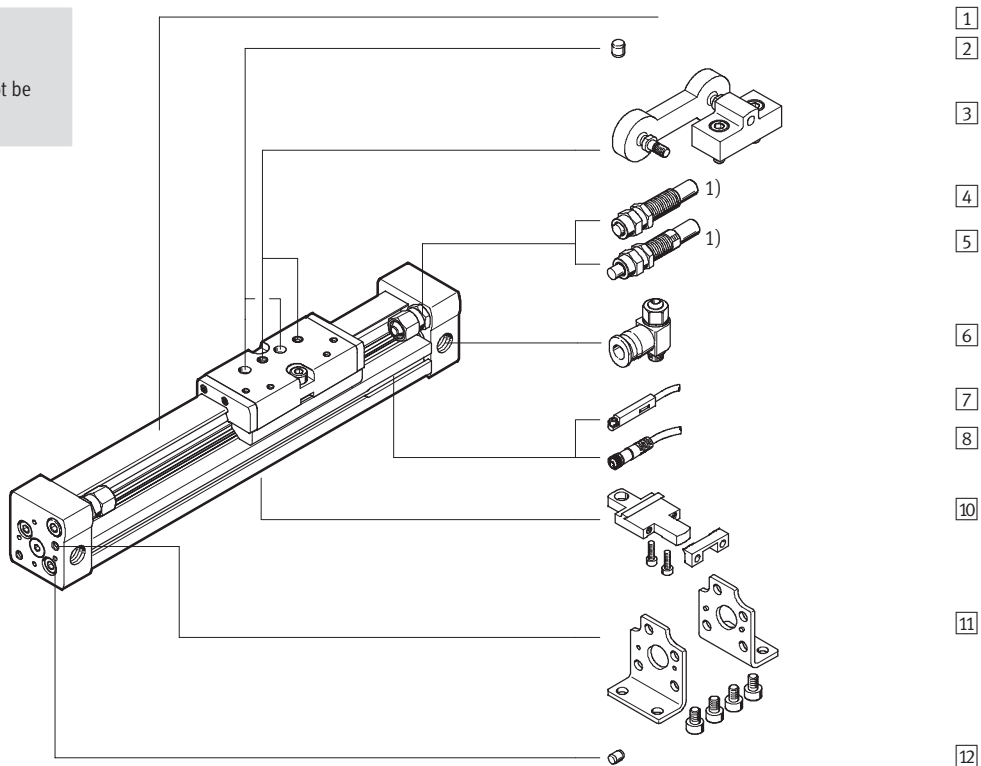
Peripherals overview

FESTO

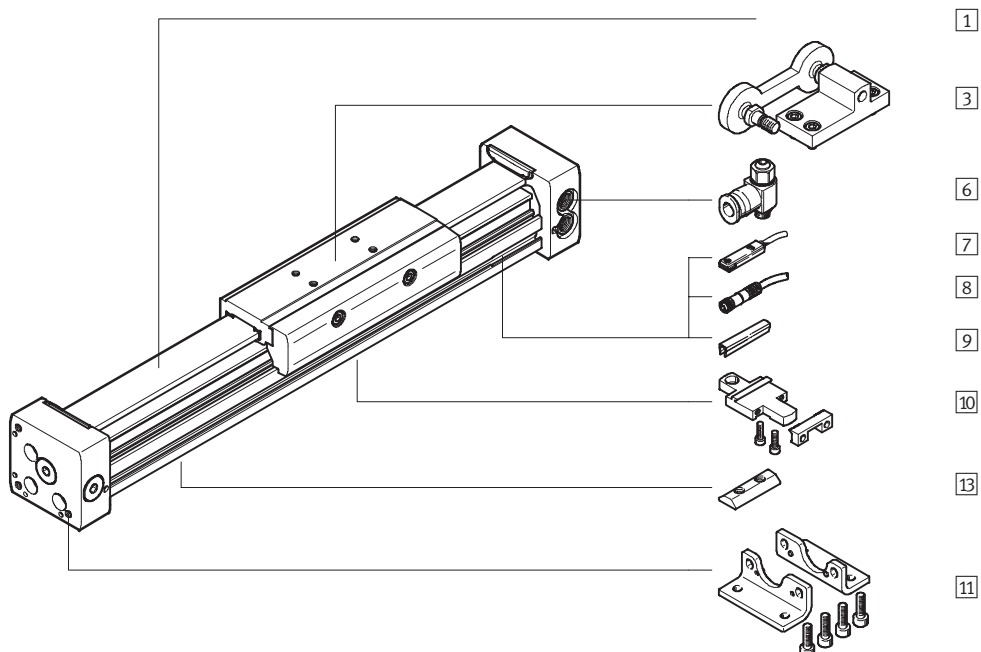


DGC-8/-12

-  - Note
1) End stops must not be removed.



DGC-18 ... 40



Linear drives DGC-G

Peripherals overview

FESTO

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page
1 Linear drive DGC-G	8 ... 40	Linear drive without accessories, basic design	1 / 3.1-12
2 Centring pin ¹⁾ ZBS	8, 12	For centring loads and attachments on the slide	1 / 3.1-64
3 Driver FK	8 ... 40	Compensates inaccuracies in the mounting of the linear drive and external guide	1 / 3.1-59
– Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds.	1 / 3.1-21
– Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-21
4 Shock absorber YSR	8, 12	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	1 / 3.1-21
5 Shock absorber YSRW	8, 12	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	1 / 3.1-21
6 One-way flow control valve GRLA	8 ... 40	For speed regulation	1 / 3.1-64
7 Proximity sensor G/H/I/J	8 ... 40	For sensing the slide position	1 / 3.1-65
8 Plug socket with cable V	8 ... 40	For proximity sensor	1 / 3.1-65
9 Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables	1 / 3.1-64
10 Profile mounting M	8 ... 40	Simple and precise mounting option via dovetail connection	1 / 3.1-58
11 Foot mounting F	8 ... 40	For mounting on end cap	1 / 3.1-54
12 Centring pin ¹⁾ ZBS	8, 12	For centring the drive without foot mountings (user-specific)	1 / 3.1-64
13 Slot nut B	25 ... 40	For mounting attachments	1 / 3.1-64

1) Included in the scope of delivery for the drive.

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-G

Type codes



		DGC	–	25	–	1000	–	G	–	PPV	–	A
Type												
DGC	Linear drive											
Piston ∅ [mm]												
Stroke [mm]												
Guide												
G	Basic design											
Cushioning												
P	Flexible cushioning, non-adjustable											
PPV	Adjustable end-position cushioning											
YSR	Shock absorber, linear, self-adjusting											
YSRW	Shock absorber, progressive, self-adjusting											
Position sensing												
A	Position sensing											

Linear drives DGC-G

Type codes

FESTO



		+ ZUB	-	F			2B	2G		2L	
Accessories											
ZUB	Accessories supplied loose										
Foot mounting											
F	Foot mounting										
Profile mounting											
...M	Profile mounting										
Driver											
FK	Alignment compensator										
Slot nut											
...B	For mounting slot										
Proximity sensor											
...G	With cable, 2.5 m										
...H	With plug										
...I	Contactless with cable, 2.5 m										
...J	Contactless, plug										
Plug socket											
...V	With cable, 2.5 m										
Slot cover											
...L	For sensor slot										
User's manual											
0	Express waiver – no user manual to be included										

Rodless cylinders
Mechanically coupled

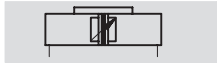
3.1

Linear drives DGC-G

Technical data

FESTO

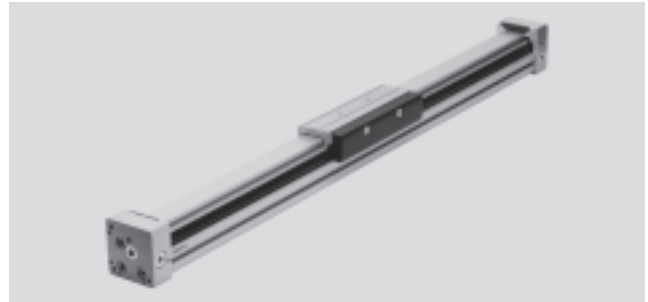
Function



www.festo.com/en/Spare_parts_service

-  Diameter
8 ... 40 mm
-  Stroke length
1 ... 5,000 mm

Wearing parts kits
→ 1 / 3.1-21



General technical data								
Piston Ø		8	12	18	25	32	40	
Stroke	[mm]	1 ... 1,500	1 ... 2,000	1 ... 3,000	1 ... 5,000 ¹⁾			
Pneumatic connection		M5			G1/8		G1/4	
Mode of operation		Double-acting						
Design		Rodless drive						
Driver principle		Slotted cylinder, mechanically coupled						
Guide		Basic guide						
Assembly position		Any						
Cushioning	P	Non-adjustable at either end			–			
➔ 1 / 3.1-15	PPV	–			Adjustable at both ends			
	YSR...	Self-adjusting at both ends			–			
Cushioning length with PPV cushioning	[mm]	–			16.5	15.5	17.5	29.5
Position sensing		For proximity sensing						
Type of mounting		Profile mounting						
		Foot mounting						
		Direct mounting						
Max. speed	[m/s]	1	1.2	3				
Stroke tolerance	[mm]	0 ... 1.7			0 ... 2.5			

1) Strokes up to 8,500 mm on request.

Operating and environmental conditions						
Piston Ø	8	12	18	25	32	40
Operating pressure [bar]	2.5 ... 8		2 ... 8			1.5 ... 8
Operating medium	Filtered compressed air, lubricated or unlubricated					
Ambient temperature ¹⁾ [°C]	+5 ... +60		−10 ... +60			
Corrosion resistance class CRC ²⁾	2					

1) Note operating range of proximity sensors.

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Forces [N] and impact energy [Nm]						
Piston Ø	8	12	18	25	32	40
Theoretical force at 6 bar	30	68	153	295	483	754
Perm. impact energy at end positions	➔ 1 / 3.1-15					

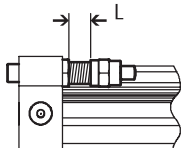
Linear drives DGC-G

Technical data

FESTO

Weights [g]						
Piston Ø	8	12	18	25	32	40
Basic weight with 0 mm stroke	170	290	546	1,004	2,126	4,121
Additional weight per 10 mm stroke	9	12	22	34	54	77
Moving load	36	65	178	287	508	1,312

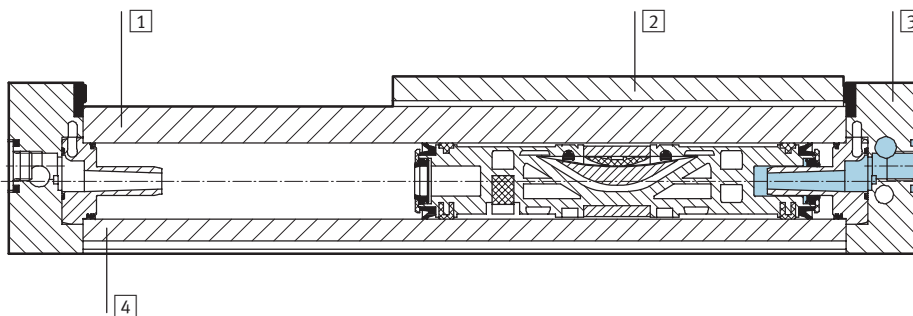
Adjustable end-position range L [mm]



Piston Ø	8	12	18	25	32	40
Cushioning P/PPV	0 ... 5		-			
Cushioning YSR/YSRW	0 ... 10		-			

Materials

Sectional view



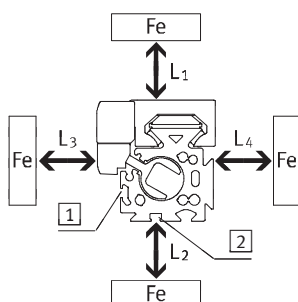
Cylinder		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see 1 and 2).



Piston Ø		8	12	18	25	32	40
Distance L1	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0
Distance L2	1 [mm]	20	10	10	10	0	0
	2 [mm]	-	-	25	25	25	25
Distance L3	1 [mm]	30	25	25	25	25	25
	2 [mm]	-	-	10	10	0	0
Distance L4	1 [mm]	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0

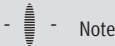
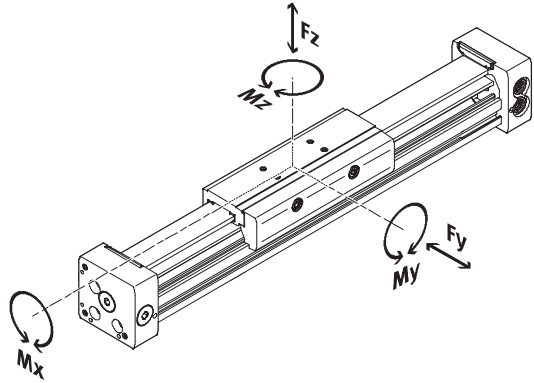
Linear drives DGC-G

Technical data



Characteristic load values

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



Note
In order to avoid frictional restraint of the guide in the case of the basic drive DGC-G when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF → 1 / 3.1-36 is recommended.

If the drive is simultaneously subjected to several of the indicated forces and torques listed below, 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							
Piston Ø		8	12	18	25	32	40
F _y max.	[N]	150	300	70	180	250	370
F _z max.	[N]	150	300	340	540	800	1,100
M _x max.	[Nm]	0.5	1.3	1.9	4	9	12
M _y max.	[Nm]	2	5	12	20	40	60
M _z max.	[Nm]	2	5	4	5	12	25

Selection and ordering aid
ProDrive
www.festo.com/en/engineering

Linear drives DGC-G

Technical data

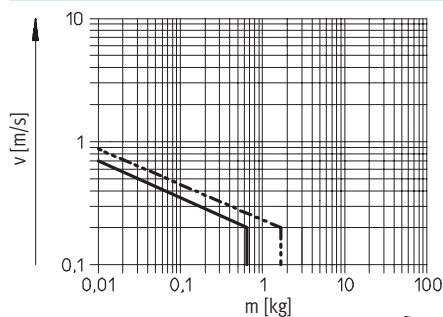
FESTO

Rodless cylinders
Mechanically coupled

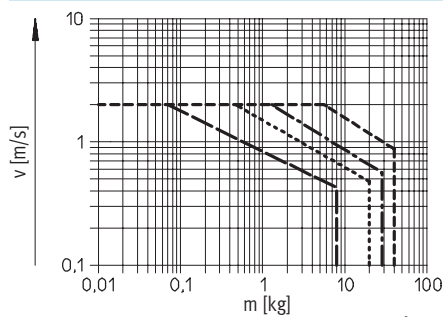
3.1

Maximum permissible piston speed v as a function of working load m

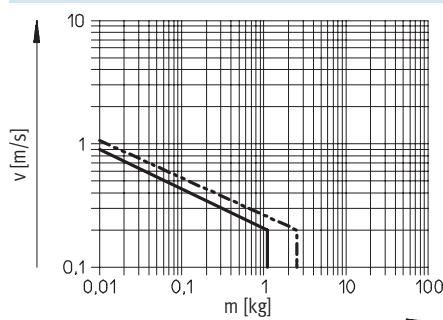
Ø 8/12 with P cushioning



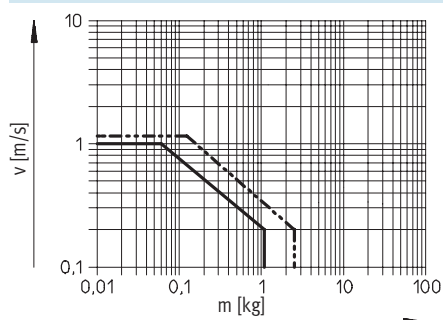
Ø 18 ... 40 with PPV cushioning



Ø 8/12 with YSR cushioning



Ø 8/12 with YSRW cushioning



— Ø 8 - - - - - Ø 25
- - - - - Ø 12 - - - - - Ø 32
- - - - - Ø 18 - - - - - Ø 40

- Note

This data represents the maximum values that can be achieved.

Values fluctuate in practice relative to the size of the effective load.

Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

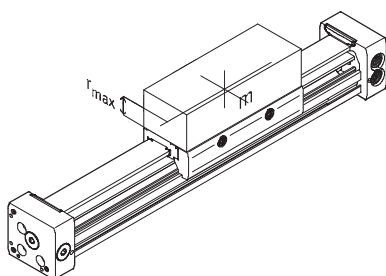
load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the mass.

- Note

To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least 0.03 mm.

Data for horizontal assembly position:

Piston Ø	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50



Linear drives DGC-G

Technical data

FESTO

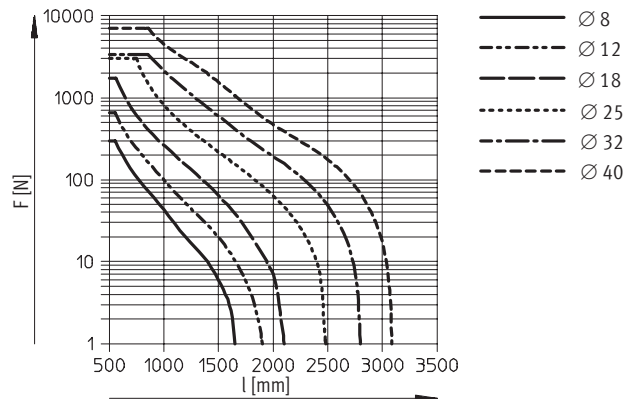
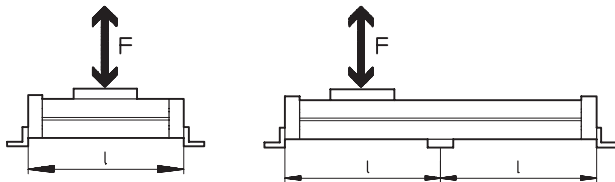
Number of profile mountings MUC dependent on force due to load F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

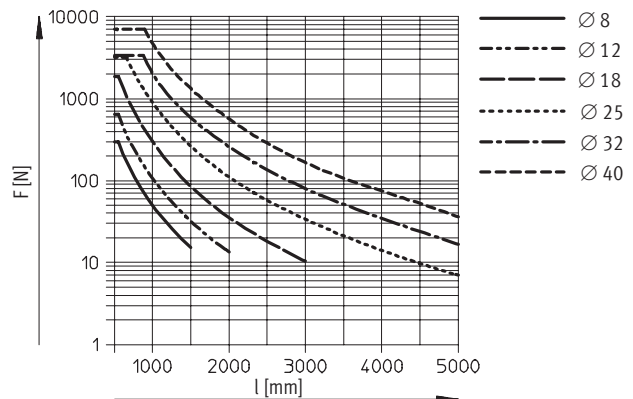
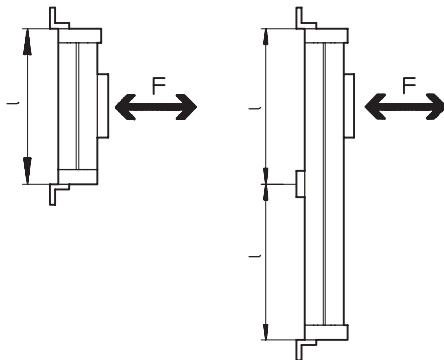
serve to determine the maximum permissible support span as a

function of the assembly position and the perpendicular force.

Horizontal assembly position



Vertical assembly position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal assembly position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1,500 \text{ mm} + 200 \text{ mm}$
 $= 1,700 \text{ mm}$

According to the diagram, the max. support span is 1,300 mm for the drive DGC-25 with a force of 300 N.

In this example, profile mounting attachments are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Linear drives DGC-G

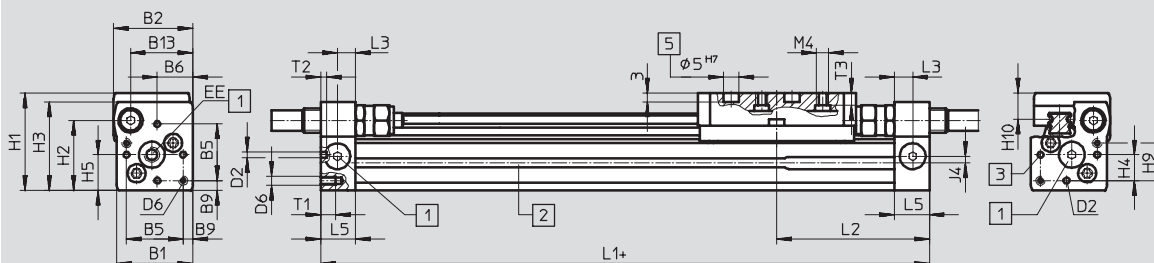
Technical data

FESTO

Dimensions

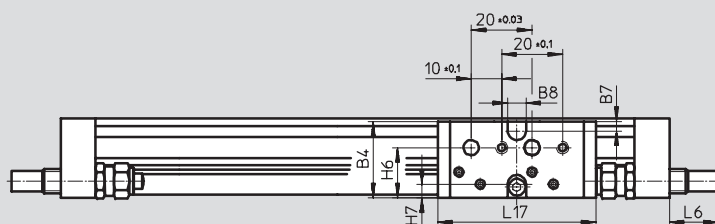
Download CAD data → www.festo.com/en/engineering

Ø 8 and 12



+ plus stroke length

- 1 Supply port
optional on three faces
- 2 Sensor slot for proximity
sensor
- 3 Mounting hole for foot
mounting or centring pin
- 5 Hole for centring pin ZBS



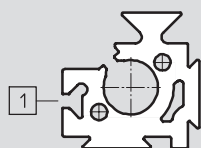
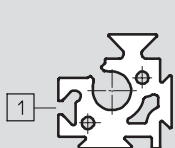
Ø	B1	B2	B4	B5	B6	B7	B8	B9	B13	D2	D6	EE	H1	H2	H3	H4	H5
[mm]							±0.05	±0.1		Ø H8							
8	25	26	25.5	18.6	11.7	3	6	3.2	20.5	2	M3	M5	32	23	29	8.5	11.7
12	30.2	31	30.5	20.6	13.5	3	8	4.8	25	2	M4	M5	37.5	28.5	34.5	8.7	13.5

Ø	H6	H7	H9	H10	J4	L1	L2	L3	L5	L6			L17	T1	T2	T3
[mm]						+0.5/ -0.4				P	YSR	YSRW				
8	16.5	4.5	12.3	8.7	2.2	100	50.1	6	11.5	0	16	16.2	52	5	2	4
12	20.5	5	14.7	9.8	3	125	62.1	8	16	0	11.3	12.3	65	6	2	5

Profile barrel

Ø 8

Ø 12

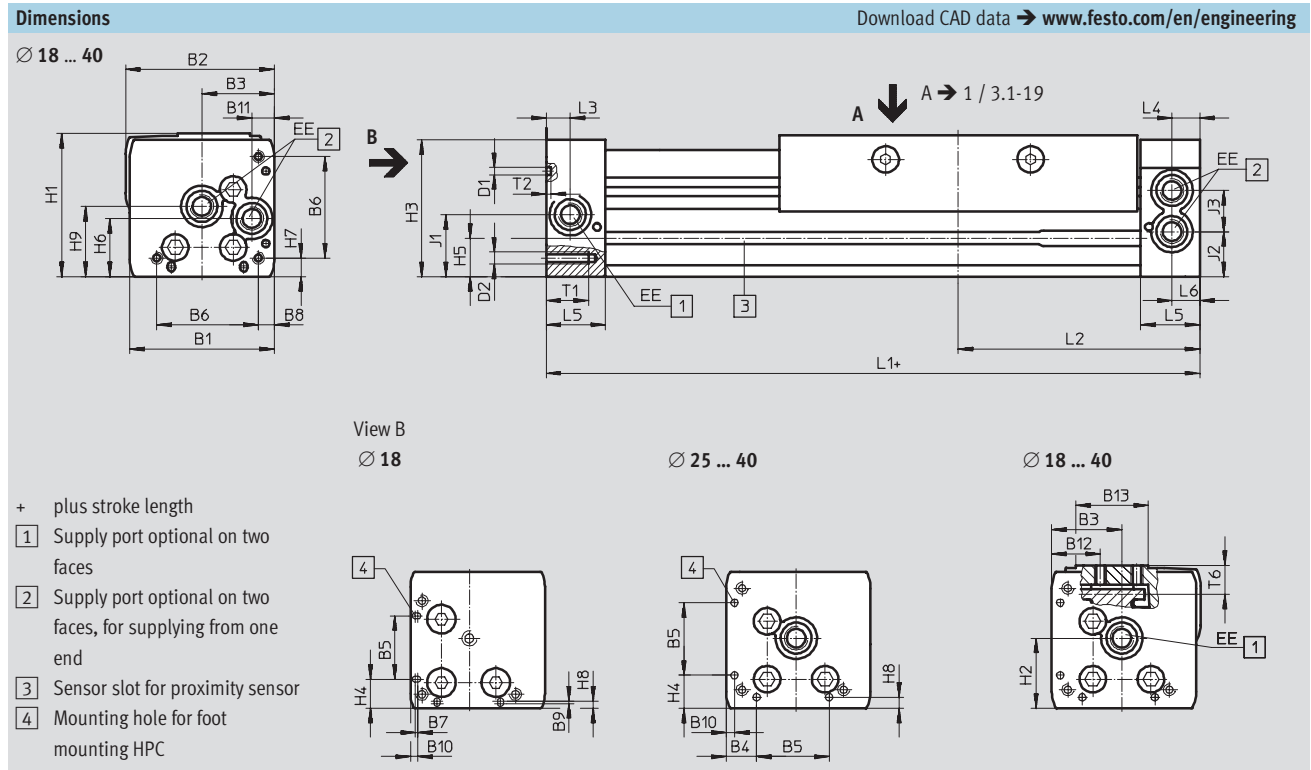


- 1 Sensor slot for proximity sensor

Linear drives DGC-G

Technical data

FESTO



Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05		
18	44.5	46.3	19.5	8.8	21	31	0.3	3.8	0.4	2.4	5.5	19.3	20
25	59.8	61.6	30	12.65	30	42	–	6.65	–	3.5	9.3	20.15	30
32	73	75.5	38.5	5.7	63.1	57.5	–	8.5	–	14	14.9	20.5	35
40	91	94.5	45	17.2	55	65	–	12.2	–	8	16.5	19.8	45

Ø	D1	D2	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9
[mm]	±0.05						±0.1		±0.1		±0.1	±0.1
18	2	M4	M5	49.8	23.1	48.3	10.3	13.4	20	5.3	2.4	25.2
25	3	M5	G1/8	58.5	29	56.5	13	15.8	24	7	4.5	29
32	3	M6	G1/8	73	30	71.5	5.7	17	27.7	8.5	14	35.2
40	4	M6	G1/4	88	41.5	85	17.2	25	36.5	12.2	8	44

Ø	J1	J2	J3	L1	L2	L3	L4	L5	L6	T1	T2	T6
[mm]		±0.1	±0.1	+0.9/-0.2								
18	20	16.5	11	150	74.5	5.7	5.8	15	5.5	9	2	10.7
25	26.1	18.6	17	200	100	10.5	10.6	24.5	10.6	17.5	2	12
32	30	22	18.5	250	124.8	14.5	14.5	30.5	14.5	15	2	13.8
40	35	26	26	300	150	14.6	14.6	33.5	14.6	20	3	16.8

Linear drives DGC-G

Technical data

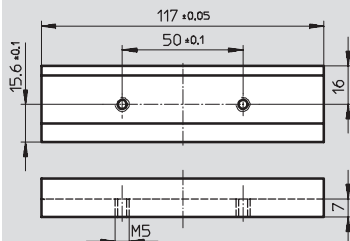
FESTO

Dimensions – Slide

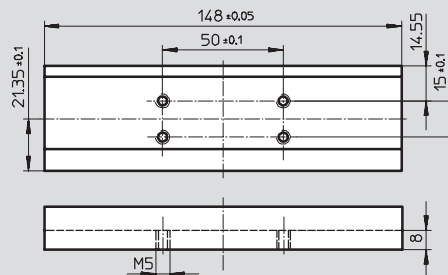
Download CAD data → www.festo.com/en/engineering

View A

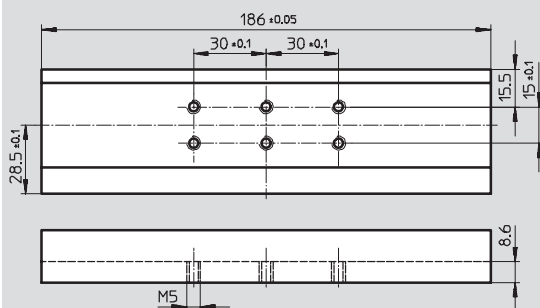
Ø 18



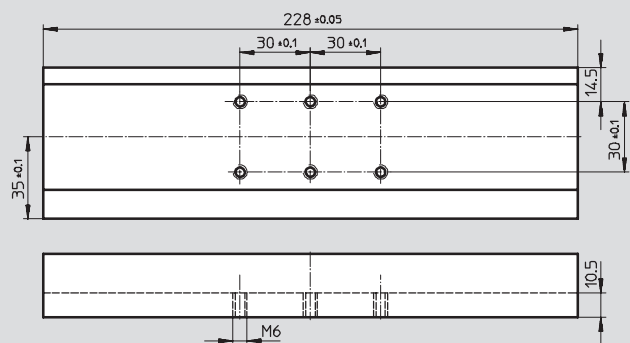
Ø 25



Ø 32



Ø 40



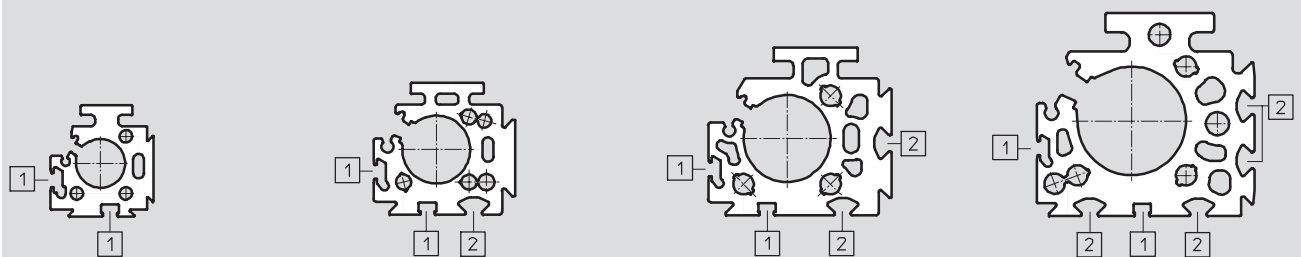
Profile barrel

Ø 18

Ø 25

Ø 32

Ø 40



- 1 Sensor slot for proximity sensor
- 2 Mounting slot for slot nut

Linear drives DGC-G

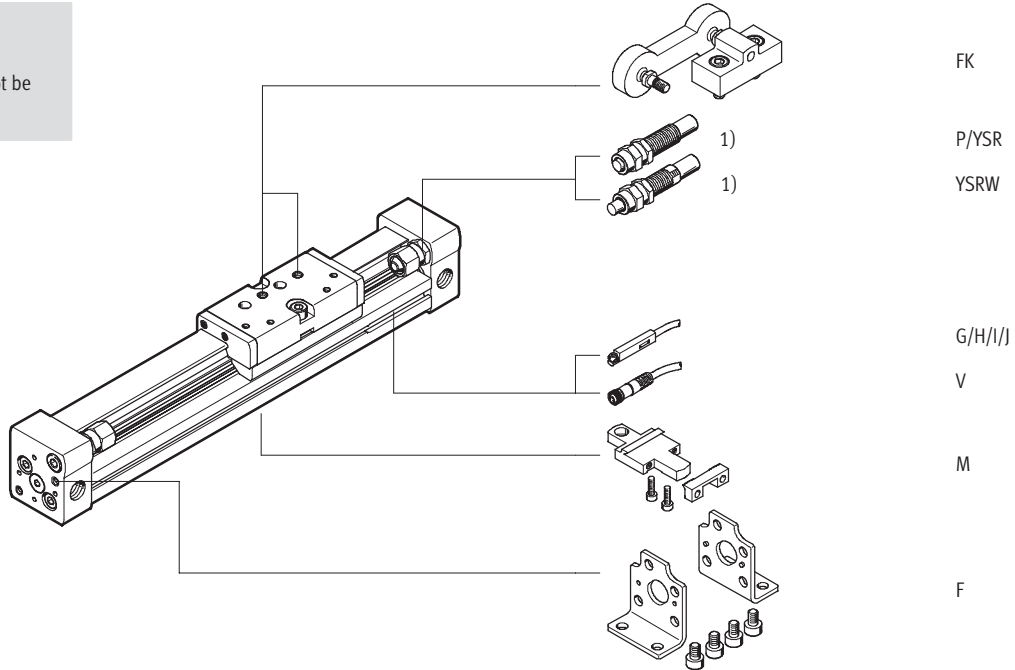
Ordering data – Modular products

FESTO

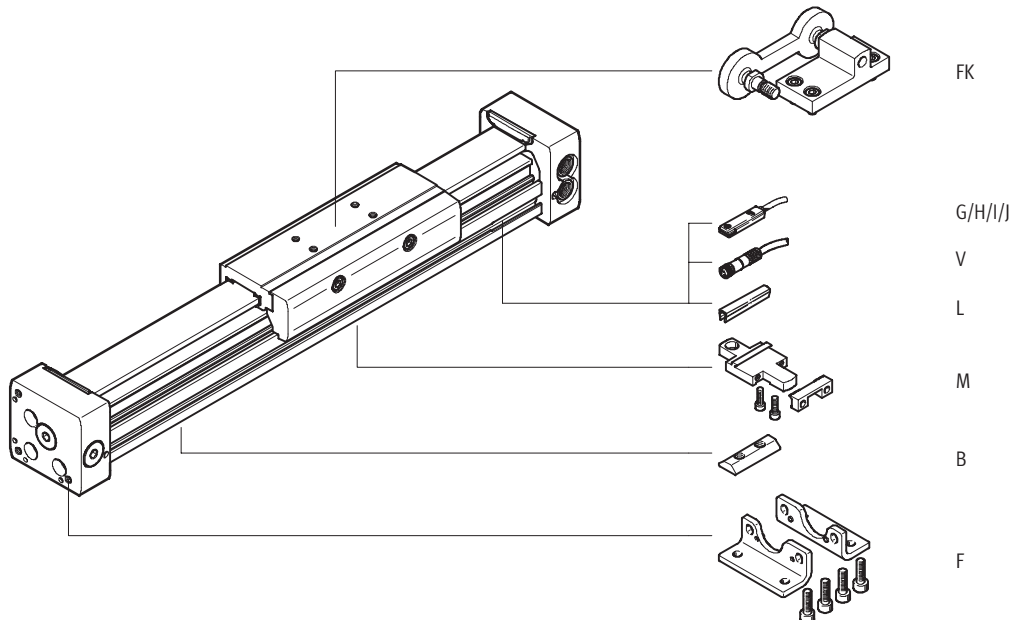
Order code
Mandatory data/options

DGC-8/-12

-  - Note
1) End stops must not be removed.



DGC-18 ... 40



Linear drives DGC-G

Ordering data – Modular products

FESTO

Rodless cylinders
Mechanically coupled

3.1

M Mandatory data							O Options	
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing	Accessories	User's manual
530 906	DGC	8	1 ... 5,000	G	P PPV YSR YSRW	A	F, ...M, FK, ...B, ...G, ...H, ...I, ...J, ...V, ...L	0
530 907		12						
532 446		18						
532 447		25						
532 448		32						
532 449		40						
Order example								
530 906	DGC	- 8	- 300	- G	- P	- A	+ F2M	-

Ordering table										
Size	8	12	18	25	32	40	Condi- tions	Code	Enter code	
M Module No.	530 906	530 907	532 446	532 447	532 448	532 449				
Function	Linear drive							DGC		DGC
Piston Ø [mm]	8	12	18	25	32	40		-...		
Stroke [mm]	1 ... 1,500	1 ... 2,000	1 ... 3,000	1 ... 5,000			1	-...		
Guide	Basic design							-G		-G
Cushioning	Flexible cushioning rings/plates at both ends		-	-	-	-		-P		
	-		Pneumatic cushioning, adjustable at both ends					-PPV		
	Shock absorber, self-adjusting		-	-	-	-		-YSR		
	Shock absorber, self-adjusting, progressive		-	-	-	-		-YSRW		
Position sensing	For proximity sensing							-A		-A
O Accessories	Supplied loose (can be retrofitted)							+		+
Foot mounting	1							F		
Profile mounting	1 ... 9							...M		
Driver	Alignment compensator							FK		
Slot nut for mounting slot	-	-	-	1 ... 9				...B		
Proximity sensor	Cable, 2.5 m		1 ... 9					...G		
	Plug M8		1 ... 9					...H		
Proximity sensor, contactless, PNP	Cable, 2.5 m		1 ... 9					...I		
	Plug M8		1 ... 9					...J		
Plug socket with cable	M8, 2.5 m	1 ... 9						...V		
Slot cover for sensor slot	-	-	1 ... 9					...L		
User's manual	Express waiver – no user manual to be included							-O		

1 Stroke Size 25, 32, 40: Strokes up to 8,500 mm on request.

Transfer order code

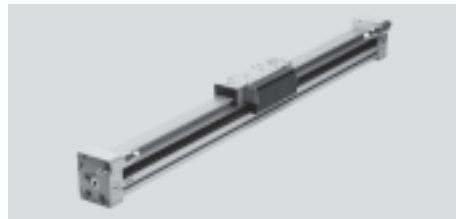
DGC - - - G - - A +

Ordering data – Wearing parts kits							
Piston Ø [mm]	Part No.	Type		Piston Ø [mm]	Part No.	Type	
8	665 333	DGC-8-G		25	684 408	DGC-25	
12	665 334	DGC-12-G		32	684 409	DGC-32	
18	684 407	DGC-18		40	684 410	DGC-40	

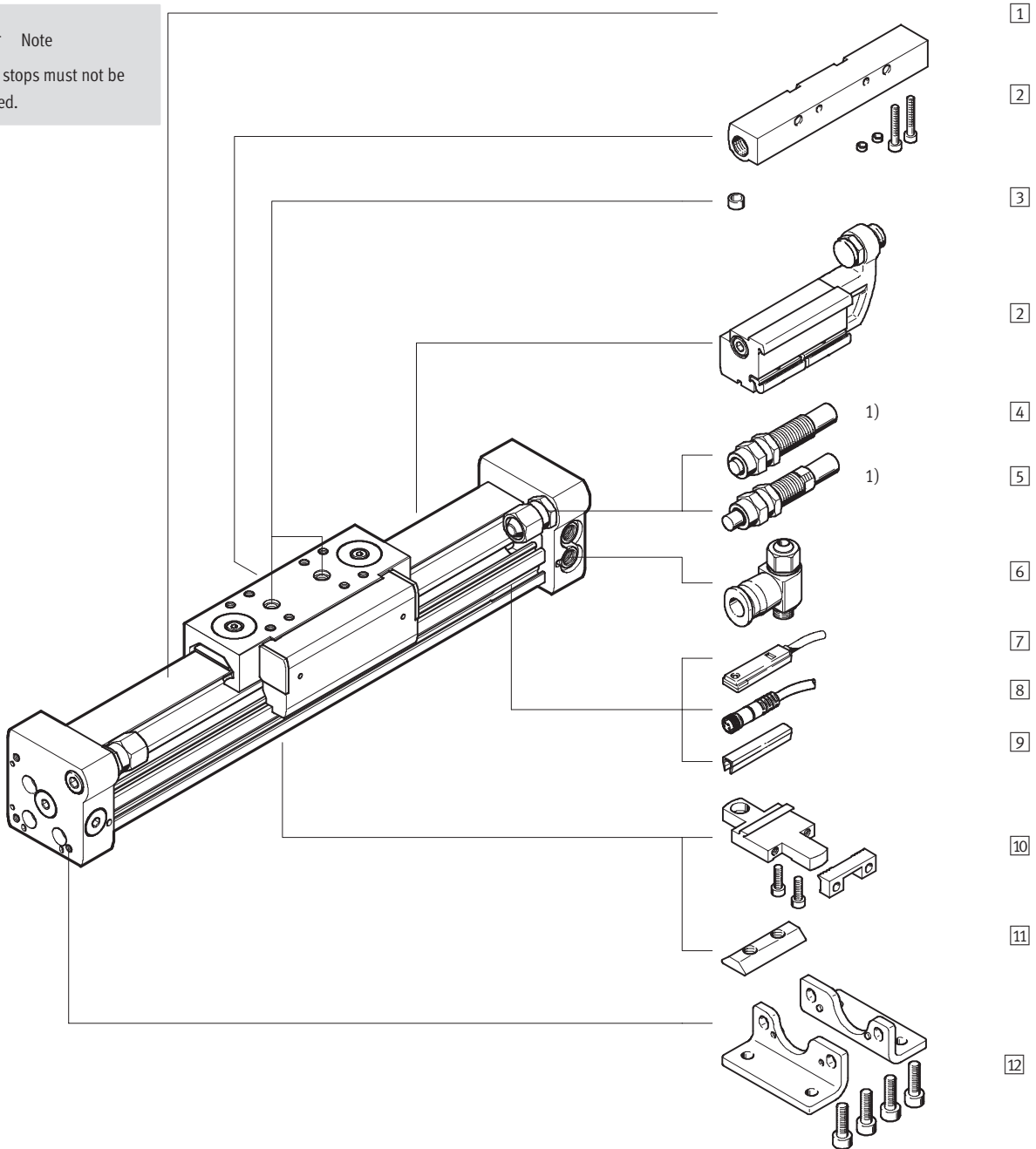
Linear drives DGC-GF, with plain-bearing guide

Peripherals overview

FESTO



Note
1) End stops must not be removed.



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-GF, with plain-bearing guide

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Peripherals overview

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page
1 Linear drive DGC-GF	18 ... 40	Linear drive without accessories, plain-bearing guide	1 / 3.1-26
2 Mechanical end-position limiter YWZ	18 ... 40	For variable end-position adjustment, e.g. with format adjustments	1 / 3.1-60
3 Centring pin/sleeve ¹⁾ ZBS/ZBH	18 ... 40	For centring loads and attachments on the slide	1 / 3.1-64
– Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-35
4 Shock absorber YSR	18 ... 40	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	1 / 3.1-35
5 Shock absorber YSRW	18 ... 40	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	1 / 3.1-35
6 One-way flow control valve GRLA	18 ... 40	To regulate speed	1 / 3.1-64
7 Proximity sensor G/H/I/J	18 ... 40	For sensing the slide position	1 / 3.1-65
8 Plug socket with cable V	18 ... 40	For proximity sensor	1 / 3.1-65
9 Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables	1 / 3.1-64
10 Profile mounting M	18 ... 40	Simple and precise mounting option via dovetail connection	1 / 3.1-58
11 Slot nut B	25 ... 40	For mounting attachments	1 / 3.1-64
12 Foot mounting F	18 ... 40	For mounting on end cap	1 / 3.1-54

1) Included in the scope of delivery for the drive.

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-GF, with plain-bearing guide

Type codes

FESTO

Rodless cylinders
Mechanically coupled

3.1

		DGC	–	25	–	1000	–	GF	–	YSR	–	A
Type												
DGC	Linear drive											
Piston ∅ [mm]												
Stroke [mm]												
Guide												
GF	Plain-bearing guide											
Cushioning												
PPV	Adjustable end-position cushioning											
YSR	Shock absorber, linear, self-adjusting											
YSRW	Shock absorber, progressive, self-adjusting											
Position sensing												
A	Position sensing											

Linear drives DGC-GF, with plain-bearing guide

FESTO

Type codes



		+ ZUB	-	F		2B		2G		2L	
Accessories											
ZUB	Accessories supplied loose										
Foot mounting											
F	Foot mounting										
Profile mounting											
...M	Profile mounting										
Slot nut											
...B	For mounting slot										
Mechanical end-position limiter											
YWZ1	Variable end position, at one end										
YWZ2	Variable end position, at both ends										
Proximity sensor											
...G	With cable, 2.5 m										
...H	With plug										
...I	Contactless with cable, 2.5 m										
...J	Contactless, plug										
Plug socket											
...V	With cable, 2.5 m										
Slot cover											
...L	For sensor slot										
User's manual											
0	Express waiver – no user manual to be included										

Rodless cylinders
Mechanically coupled

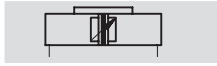
3.1

Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

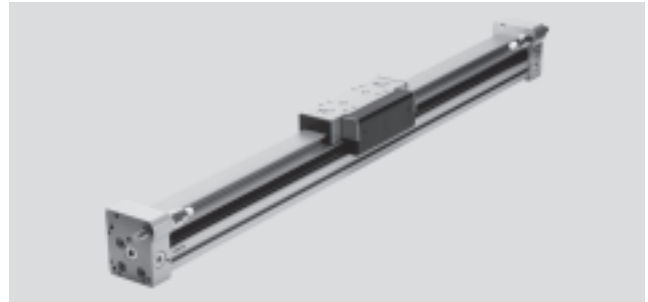
Function



[www.festo.com/en/
Spare_parts_service](http://www.festo.com/en/Spare_parts_service)

-  - Diameter
18 ... 40 mm
-  - Stroke length
1 ... 5,000 mm

Wearing parts kits
→ 1 / 3.1-35



General technical data				
Piston Ø	18	25	32	40
Stroke	[mm]	1 ... 3,000		
Pneumatic connection		1 ... 5,000 ¹⁾		
		M5	G1/8	G1/4
Mode of operation		Double-acting		
Design		Rodless drive		
Driver principle		Slotted cylinder, mechanically coupled		
Guide		Plain-bearing guide		
Assembly position		Any		
Cushioning	PPV	Adjustable at both ends		
➔ 1 / 3.1-29	YSR...	Self-adjusting at both ends		
Cushioning length with PPV cushioning	[mm]	16.5	15.5	17.5
				29.5
Position sensing		For proximity sensing		
Type of mounting		Profile mounting		
		Foot mounting		
		Direct mounting		
Max. speed	[m/s]	3		
Stroke tolerance	[mm]	0 ... 2.5		

1) Strokes up to 8,500 mm on request.

Operating and environmental conditions				
Piston Ø	18	25	32	40
Operating pressure [bar]	2 ... 8			1.5 ... 8
Operating medium	Filtered compressed air, lubricated or unlubricated			
Ambient temperature ¹⁾ [°C]	-10 ... +60			
Corrosion resistance class CRC ²⁾	2			

1) Note operating range of proximity sensors.

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Forces [N] and impact energy [Nm]				
Piston Ø	18	25	32	40
Theoretical force at 6 bar	153	295	483	754
Perm. impact energy at end positions	→ 1 / 3.1-29			

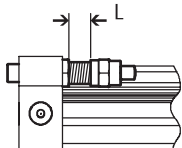
Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

Weights [g]				
Piston Ø	18	25	32	40
Basic weight with 0 mm stroke	763	1,609	2,532	5,252
Additional weight per 10 mm stroke	23	35	55	76
Moving load	267	526	824	1,725

Adjustable end-position range L [mm]



-  - Note

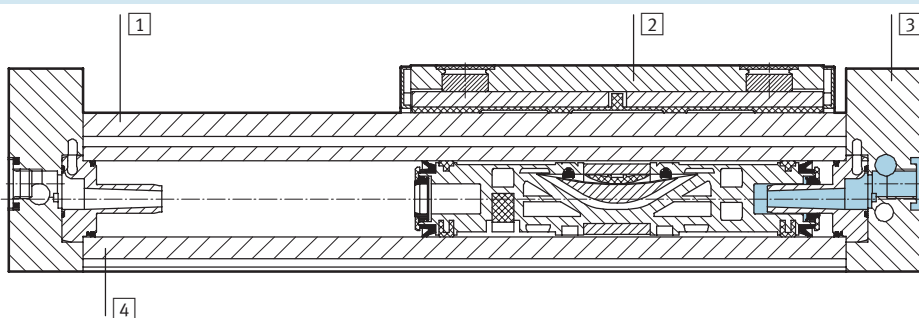
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston Ø	18	25	32	40
Cushioning PPV	0 ... 2	0 ... 4	0 ... 5	
Cushioning YSR/YSRW	0 ... 10			

Materials

Sectional view



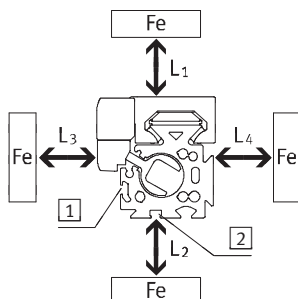
Cylinder		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see [1] and [2]).



Piston Ø		8	12	18	25	32	40
Distance L1	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0
Distance L2	[1] [mm]	20	10	10	10	0	0
	[2] [mm]	-	-	25	25	25	25
Distance L3	[1] [mm]	30	25	25	25	25	25
	[2] [mm]	-	-	10	10	0	0
Distance L4	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0

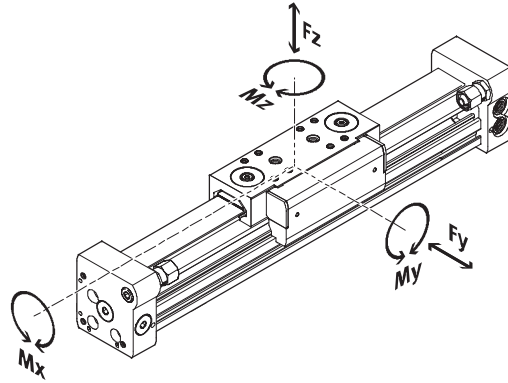
Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

Characteristic load values

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



- - Note

In order to avoid frictional restraint of the guide in the case of the drive DGC-GF with plain-bearing guide when used in vertical mode and with a high torque load, the variant with the recirculating ball bearing guide DGC-KF → 1 / 3.1-36 is recommended.

If the drive is simultaneously subjected to several of the indicated forces and torques listed below, 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 referred to a speed of travel of 0.2 m/s					
Piston Ø		18	25	32	40
F _y _{max.}	[N]	440	640	900	1,380
F _z _{max.}	[N]	540	1,300	1,800	2,000
M _x _{max.}	[Nm]	3.4	8.5	15	28
M _y _{max.}	[Nm]	20	40	70	110
M _z _{max.}	[Nm]	8.5	20	33	54



Selection and ordering aid
ProDrive
www.festo.com/en/engineering

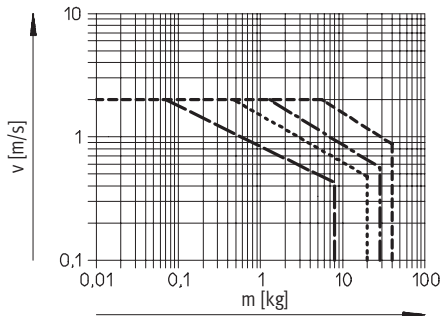
Linear drives DGC-GF, with plain-bearing guide

Technical data

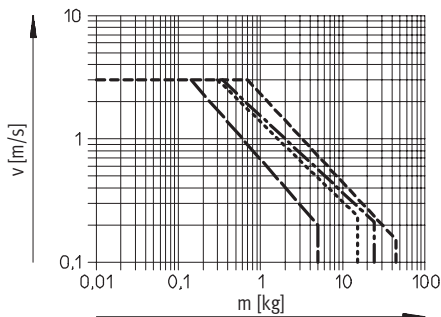
FESTO

Maximum permissible piston speed v as a function of working load m

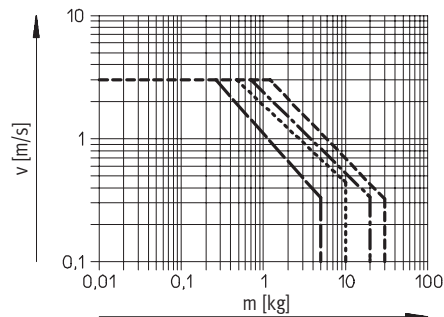
with PPV cushioning



with YSR cushioning



with YSRW cushioning



- Ø 18
- - - Ø 25
- · - Ø 32
- - - Ø 40

Operating range of cushioning

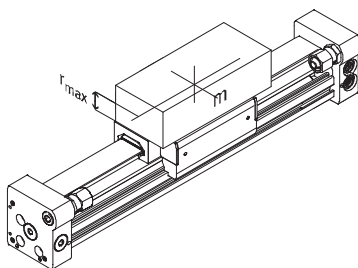
The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the mass.



Note

To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least 0.03 mm.



Data for horizontal assembly position:

Piston Ø	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50

Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

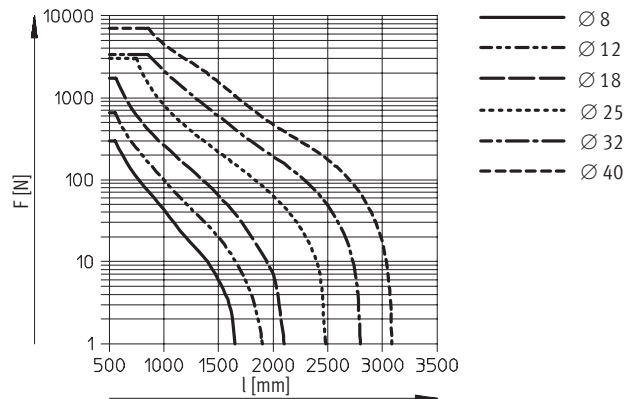
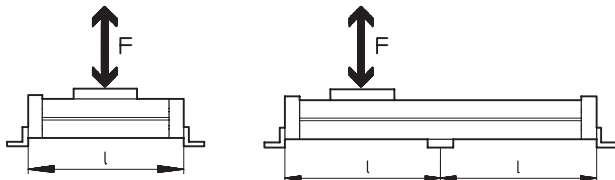
Number of profile mountings MUC dependent on force due to load F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

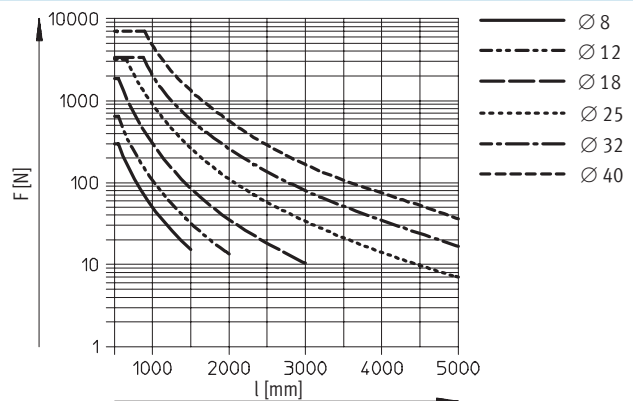
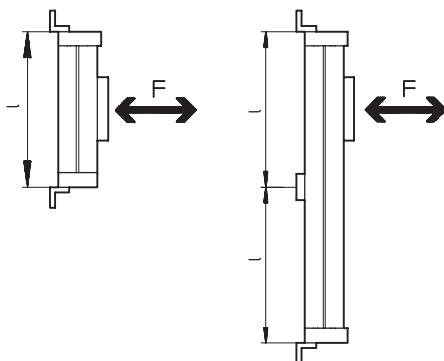
serve to determine the maximum permissible support span as a

function of the assembly position and the perpendicular force.

Horizontal assembly position



Vertical assembly position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal assembly position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1,500 \text{ mm} + 200 \text{ mm}$
 $= 1,700 \text{ mm}$

According to the diagram, the max. support span is 1,300 mm for the drive DGC-25 with a force of 300 N.

In this example, profile mounting attachments are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

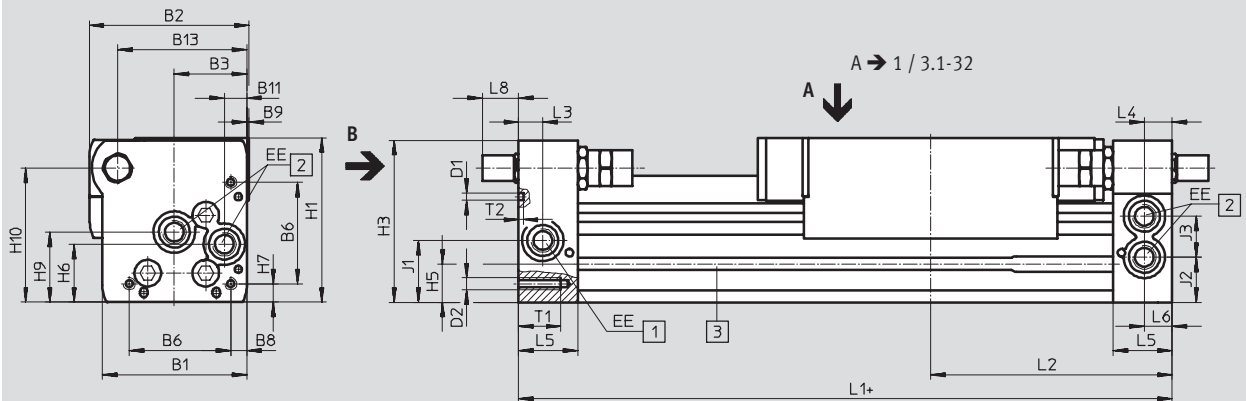
Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

Dimensions

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

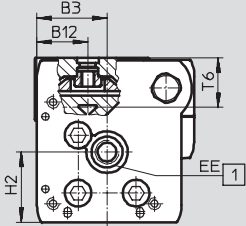
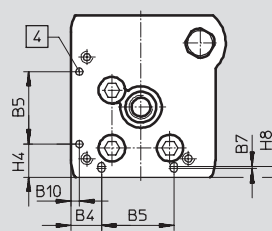
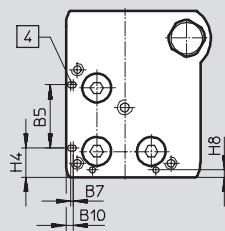


View B
Ø 18

Ø 25 ... 40

Ø 18 ... 40

- + plus stroke length
- 1 Supply port optional on two faces
- 2 Supply port optional on two faces, for supplying from one end
- 3 Sensor slot for proximity sensor
- 4 Mounting hole for foot mounting HPC



Ø	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12	B13	D1
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05		±0.1	±0.05
18	44.5	49.9	19.5	8.8	21	31	0.8	3.8	1	2.4	5.5	15.5	39	2
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21	53.5	3
32	73	79	38.5	5.7	63.1	57.5	–	8.5	1.5	14	14.9	18	66.5	3
40	91	98.5	45	17.2	55	65	–	12.2	2	8	16.5	24.8	80.5	4

Ø	D2	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	J1
[mm]				±0.1		±0.1		±0.1	±0.1	±0.1	±0.1	±0.1	±0.1
18	M4	M5	56.3	23.1	55	9.6	13.4	20	4.6	2.4	25.2	46	20
25	M5	G ¹ / ₈	68	29	67	13.65	15.8	24	7.65	4.5	29	55.5	26.1
32	M6	G ¹ / ₈	78.5	30	77	5.7	17	27.7	8.5	14	35.2	63.8	30
40	M6	G ¹ / ₄	99.5	41.5	97.5	17.2	25	36.5	12.2	8	44	81.5	35

Ø	J2	J3	L1	L2	L3	L4	L5	L6	L8			T1	T2	T6
[mm]	±0.1	±0.1	+0.9/–0.2						PPV	YSR	YSRW			
18	16.5	11	150	74.5	5.7	5.8	15	5.5	0	15.9	19.4	9	2	17.1
25	18.6	17	200	100	10.5	10.6	24.5	10.6	0	12.5	15	17.5	2	20.5
32	22	18.5	250	124.8	14.5	14.5	30.5	14.5	0	8.5	15.5	15	2	21.3
40	26	26	300	150	14.6	14.6	33.5	14.6	0	12.8	21	20	3	30.7

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-GF, with plain-bearing guide

Technical data

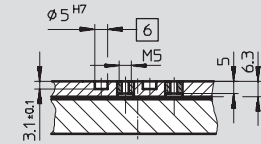
FESTO

Dimensions – Slide

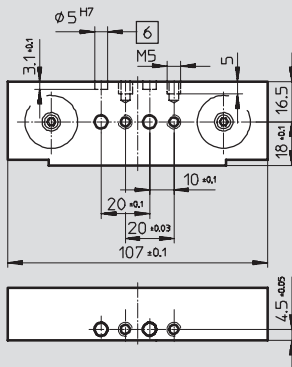
Download CAD data → www.festo.com/en/engineering

View A

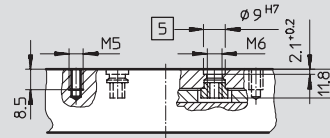
Ø 18



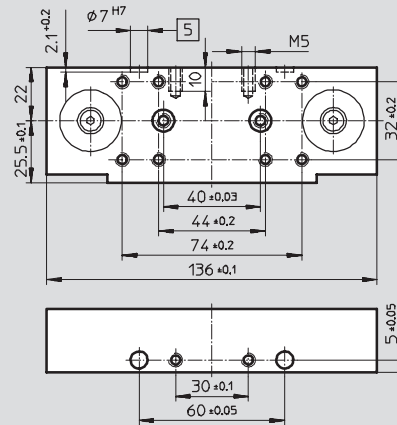
View A



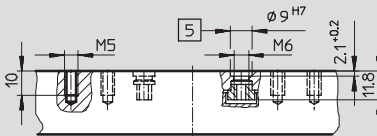
Ø 25



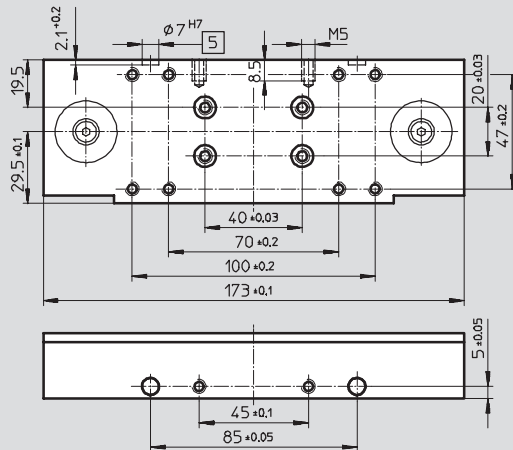
View A



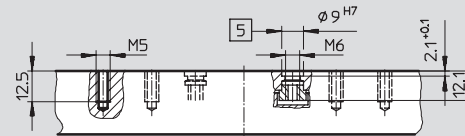
Ø 32



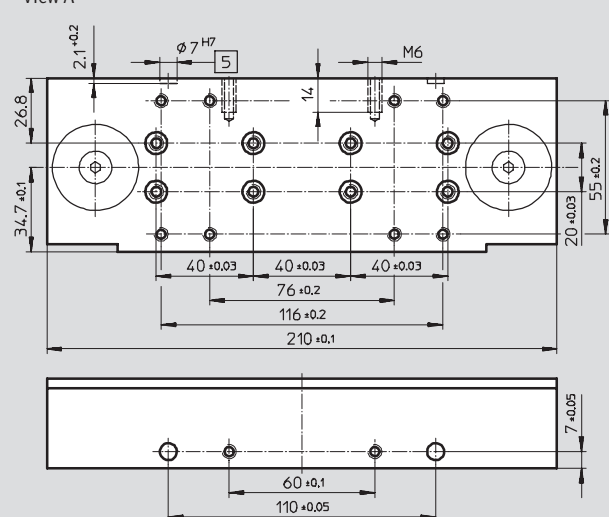
View A



Ø 40



View A

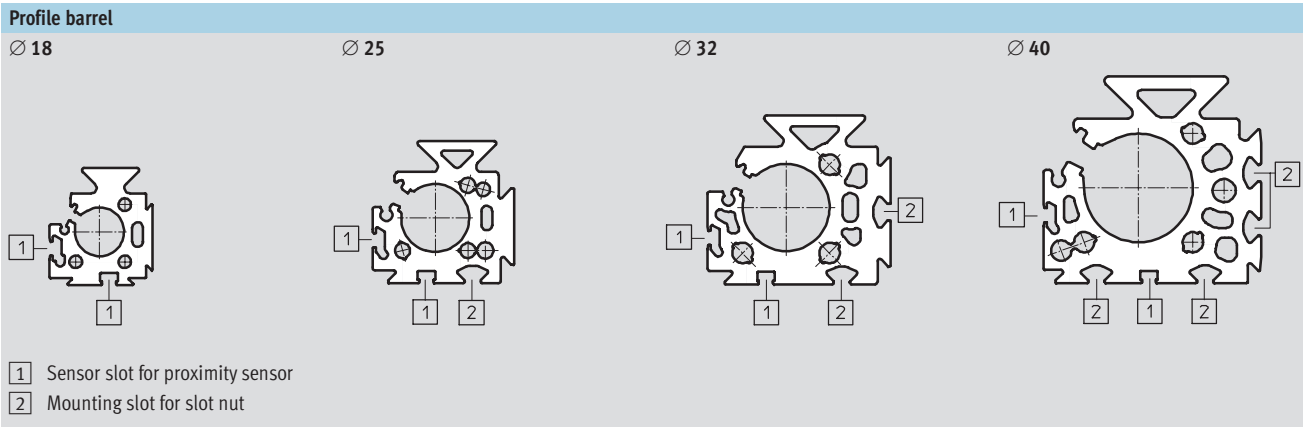


5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Linear drives DGC-GF, with plain-bearing guide

Technical data



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-GF, with plain-bearing guide

Ordering data – Modular products

FESTO

Order code

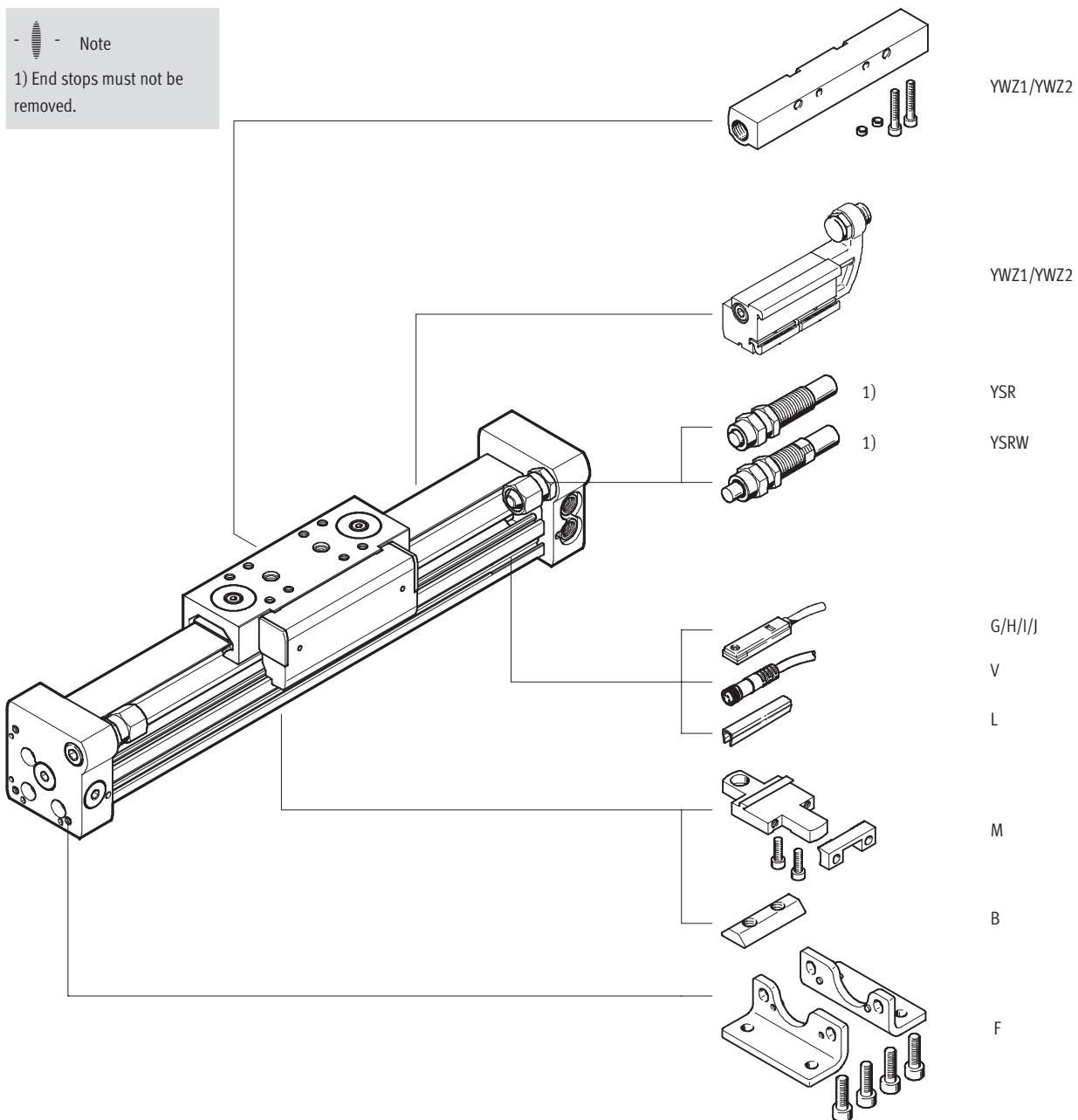
Mandatory data/options

-  - Note

1) End stops must not be removed.

Rodless cylinders
Mechanically coupled

3.1



Linear drives DGC-GF, with plain-bearing guide

Ordering data – Modular products

FESTO

Rodless cylinders
Mechanically coupled

3.1

M Mandatory data							O Options	
Module No.	Function	Piston 	Stroke	Guide	Cushioning	Position sensing	Accessories	User's manual
532 446	DGC	18	1 ... 5,000	GF	PPV YSR YSRW	A	F, ...M, ...B, YWZ1, YWZ2, ...G, ...H, ...I, ...J, ...V, ...L	O
532 447		25						
532 448		32						
532 449		40						
Order example								
532 446	DGC	- 18	- 250	- GF	- PPV	- A	+ F2M2I2V	-

Ordering table									
Size		18	25	32	40	Condi- tions	Code	Enter code	
M	Module No.		532 446	532 447	532 448	532 449			
	Function		Linear drive					DGC	DGC
	Piston Ø	[mm]	18	25	32	40		*...	
	Stroke	[mm]	1 ... 3,000	1 ... 5,000			1	*...	
	Guide		Plain-bearing guide					-GF	-GF
	Cushioning		Pneumatic cushioning, adjustable at both ends					-PPV	
			Shock absorber, self-adjusting					-YSR	
			Shock absorber, self-adjusting, progressive					-YSRW	
Position sensing		For proximity sensing					-A	-A	
O	Accessories		Supplied loose (can be retrofitted)					+	+
	Foot mounting		1					F	
	Profile mounting		1 ... 9					...M	
	Slot nut for mounting slot		–	1 ... 9				...B	
	Mechanical end-position limiter		Variable end position, at one end				2	YWZ1	
			Variable end position, at both ends				2	YWZ2	
	Proximity sensor	Cable, 2.5 m	1 ... 9					...G	
		Plug M8	1 ... 9					...H	
	Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9					...I	
		Plug M8	1 ... 9					...J	
	Plug socket with cable	M8, 2.5 m	1 ... 9					...V	
	Slot cover for sensor slot		1 ... 9					...L	
	User's manual		Express waiver – no user manual to be included					-O	

1 Stroke Size 25, 32, 40: Strokes up to 8,500 mm on request.

2 YWZ1, YWZ2 Only with YSR or YSRW cushioning.

Transfer order code

DGC - - - GF - - A +

Ordering data – Wearing parts kits					
Piston Ø [mm]	Part No.	Type	Piston Ø [mm]	Part No.	Type
18	684 407	DGC-18	32	684 409	DGC-32
25	684 408	DGC-25	40	684 410	DGC-40

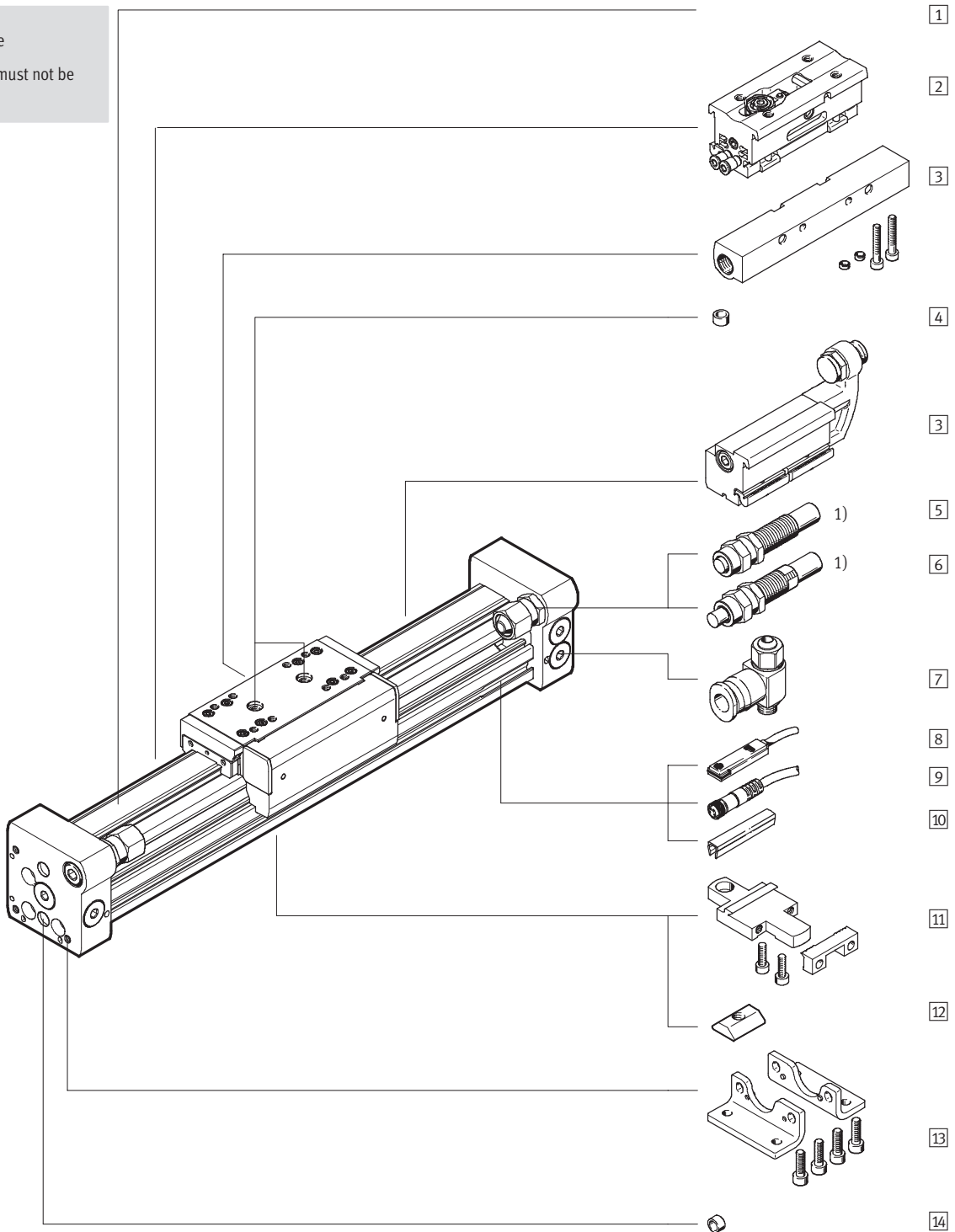
Linear drives DGC-KF, with recirculating ball bearing guide

Peripherals overview

FESTO



 Note
1) End stops must not be removed.



Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-KF, with recirculating ball bearing guide

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Peripherals overview

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page
1 Linear drive DGC-KF	8 ... 40	Linear drive without accessories, with recirculating ball bearing guide.	1 / 3.1-40
2 Intermediate position module Z1/Z2/Z3	25, 32	Permits up to three intermediate positions.	1 / 3.1-62
3 Mechanical end-position limiter YWZ	18 ... 40	For variable end-position adjustment, e.g. for format adjustments.	1 / 3.1-60
4 Centring pin/sleeve ¹⁾ ZBS/ZBH	8 ... 40	For centring loads and attachments on the slide.	1 / 3.1-64
– Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds.	1 / 3.1-52
– Cushioning PPV	18 ... 40	Adjustable pneumatic end-position cushioning. Used at medium speeds.	1 / 3.1-52
5 Shock absorber YSR	8 ... 40	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic.	1 / 3.1-52
6 Shock absorber YSRW	8 ... 40	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic.	1 / 3.1-52
7 One-way flow control valve GRLA	8 ... 40	For regulating speed.	1 / 3.1-64
8 Proximity sensor G/H/I/J	8 ... 40	For sensing the slide position.	1 / 3.1-65
9 Plug socket with cable V	8 ... 40	For proximity sensor.	1 / 3.1-65
10 Slot cover L	18 ... 40	For protecting against ingress of dirt and securing proximity sensor cables.	1 / 3.1-64
11 Profile mounting M	8 ... 40	Simple and precise mounting option via dovetail connection.	1 / 3.1-58
12 Slot nut B	25 ... 40	For mounting attachments.	1 / 3.1-64
13 Foot mounting F	8 ... 40	For mounting on end cap.	1 / 3.1-54
14 Centring pin/sleeve ¹⁾ ZBS/ZBH	8 ... 40	For centring the drive without foot mountings (user-specific).	1 / 3.1-64

1) Included in the scope of delivery of the drive.

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-KF, with recirculating ball bearing guide

Type codes

FESTO

Rodless cylinders
Mechanically coupled

3.1

		DGC	-	25	-	1000	-	KF	-	YSR	-	A	-		-	
Type																
DGC	Linear drive															
Piston $\varnothing$ [mm]																
Stroke [mm]																
Guide																
KF	Recirculating ball bearing guide															
Cushioning																
P	Flexible cushioning, non-adjustable															
PPV	Adjustable end-position cushioning															
YSR	Shock absorber, linear, self-adjusting															
YSRW	Shock absorber, progressive, self-adjusting															
Position sensing																
A	For proximity sensing															
Slide																
GP	Protected recirculating ball bearing guide															
Additional slide																
KL	Additional slide at left															
KR	Additional slide at right															

Linear drives DGC-KF, with recirculating ball bearing guide

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Type codes



		+ ZUB	-	F		2B	YWZ1	Z1	2G		2L	
Accessories												
ZUB	Accessories supplied loose											
Foot mounting												
F	Foot mounting											
Profile mounting												
...M	Profile mounting											
Slot nut												
...B	For mounting slot											
Mechanical end-position limitation												
YWZ1	Variable end position, at one end											
YWZ2	Variable end position, at both ends											
Intermediate position												
Z1	1 intermediate position											
Z2	2 intermediate positions											
Z3	3 intermediate positions											
Proximity sensor												
...G	With cable, 2.5 m											
...H	With plug											
...I	Contactless with cable, 2.5 m											
...J	Contactless, with plug											
Plug socket												
...V	With cable, 2.5 m											
Slot cover												
...L	For sensor slot											
User documentation												
0	Express waiver – no operating instructions to be included											

Rodless cylinders
Mechanically coupled

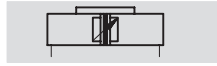
3.1

Linear drives DGC-KF, with recirculating ball bearing guide

FESTO

Technical data

Function



[www.festo.com/en/
Spare_parts_service](http://www.festo.com/en/Spare_parts_service)

-  Diameter
8 ... 40 mm
-  Stroke length
1 ... 5,000 mm

Wearing parts kits
→ 1 / 3.1-52



General technical data							
Piston Ø		8	12	18	25	32	40
Stroke	[mm]	1 ... 1,300	1 ... 1,900	1 ... 3,000	1 ... 5,000 ¹⁾		
Pneumatic connection		M5			G1/8		G1/4
Mode of operation		Double-acting					
Design		Rodless drive					
Driver principle		Slotted cylinder, mechanically coupled					
Guide		External recirculating ball bearing guide					
Assembly position		Any					
Cushioning	P	Non-adjustable at either end		–			
➔ 1 / 3.1-43	PPV	–		Adjustable at both ends			
	YSR...	Self-adjusting at both ends					
Cushioning length with PPV cushioning	[mm]	–		16.5	15.5	17.5	29.5
Position sensing		For proximity sensing					
Type of mounting		Profile mounting					
		Foot mounting					
		Direct mounting					
Max. speed	[m/s]	1	1.2	3			
Repetition accuracy	[mm]	0.02 (with shock absorber YSR/YSRW)					
Stroke tolerance	[mm]	0 ... 1.7			0 ... 2.5		

1) Strokes up to 8,500 mm on request.

Operating and environmental conditions						
Piston Ø	8	12	18	25	32	40
Operating pressure [bar]	2.5 ... 8		2 ... 8			1.5 ... 8
Operating medium	Filtered compressed air, lubricated or unlubricated					
Ambient temperature ¹⁾ [°C]	−10 ... +60					
Corrosion resistance class CRC ²⁾	1					

1) Note operating range of proximity sensors

2) Corrosion resistance class 1 according to Festo standard 940 070

Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Forces [N]						
Piston Ø	8	12	18	25	32	40
Theoretical force at 6 bar	30	68	153	295	483	754
Perm. impact energy at end positions	➔ 1 / 3.1-43					

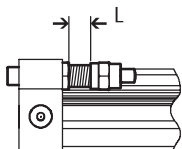
Linear drives DGC-KF, with recirculating ball bearing guide

FESTO

Technical data

Weights [g]						
Piston Ø	8	12	18	25	32	40
Basic weight with 0 mm stroke	225	391	975	2,113	2,837	6,996
Additional weight per 10 mm stroke	11	16	31	49	74	117
Moving load	77	149	331	732	1,146	2,330

Adjustable end-position range L [mm]



- Note

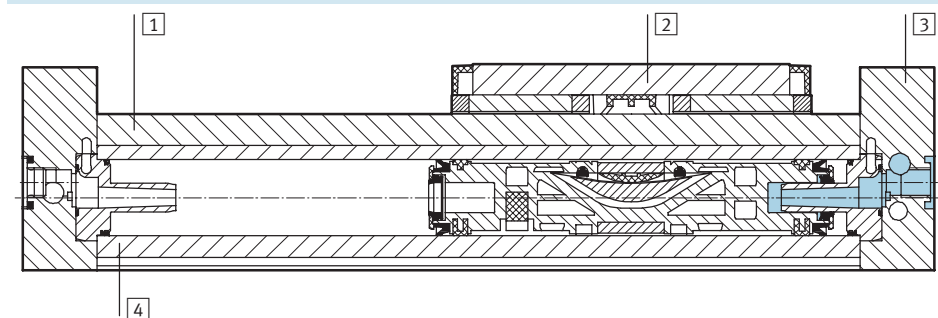
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston Ø	8	12	18	25	32	40
Cushioning P/PPV	0 ... 5		0 ... 2	0 ... 4	0 ... 5	
Cushioning YSR/YSRW	0 ... 10		0 ... 20	0 ... 25		

Materials

Sectional view



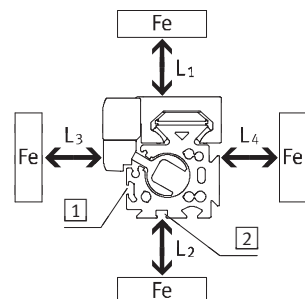
Cylinder		
1	Guide rail	High-alloy steel
2	Slide	High-alloy steel
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Note on materials	Free of copper, PTFE and silicone

Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) directly next to the proximity sensors can cause sensing

malfunctions. The following safety distances must be observed.

The distance depends on the position of the proximity sensor (see [1] and [2]).



Piston Ø		8	12	18	25	32	40
Distance L1	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0
Distance L2	[1] [mm]	20	10	10	10	0	0
	[2] [mm]	-	-	25	25	25	25
Distance L3	[1] [mm]	30	25	25	25	25	25
	[2] [mm]	-	-	10	10	0	0
Distance L4	[1] [mm]	0	0	0	0	0	0
	[2] [mm]	-	-	0	0	0	0

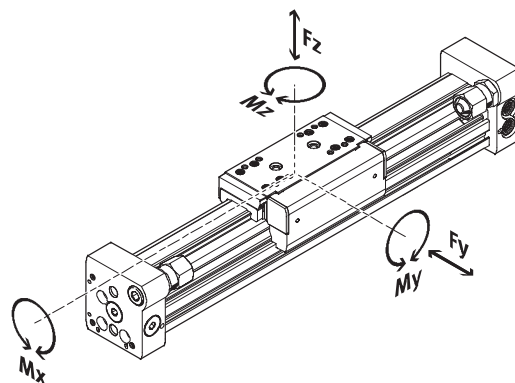
Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

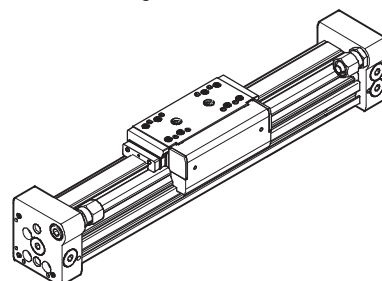
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Characteristic load values for linear drive with recirculating ball bearing guide and guide

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



GP – Protected guide



If the drive is simultaneously subjected to several of the indicated forces and torques listed below, 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						
Piston Ø	8	12	18	25	32	40
F _y _{max.} [N]	300	650	1,850	3,050	3,310	6,890
F _z _{max.} [N]	300	650	1,850	3,050	3,310	6,890
M _x _{max.} [Nm]	1.7	3.5	16	36	54	144
M _y _{max.} [Nm]	4.5	10	51	97	150	380
M _z _{max.} [Nm]	4.5	10	51	97	150	380



Selection and ordering aid
ProDrive
www.festo.com/en/engineering

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

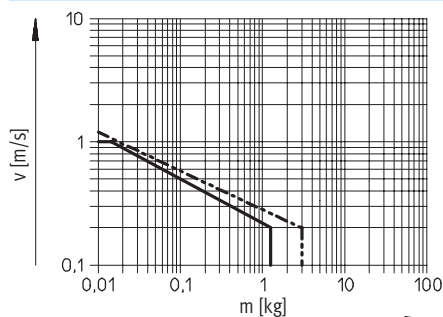
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Rodless cylinders
Mechanically coupled

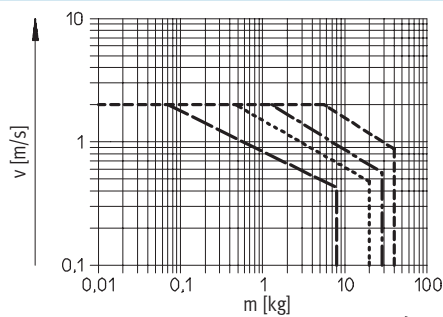
3.1

Maximum permissible piston speed v as a function of working load m

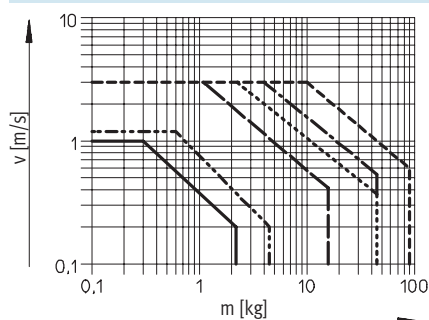
Ø 8/12 with P cushioning



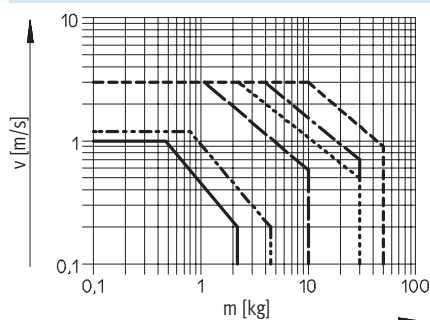
Ø 18 ... 40 with PPV cushioning



Ø 8 ... 40 with YSR cushioning



Ø 8 ... 40 with YSRW cushioning



— Ø 8 - - - - - Ø 25
- - - - - Ø 12 - - - - - Ø 32
- - - - - Ø 18 - - - - - Ø 40

-  - Note

This data represents the maximum values that can be achieved. Values fluctuate in practice relative to the size of the effective load.

Operating range of cushioning

The end-position cushioning must be adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the

load to be moved must be cushioned using suitable equipment (shock absorbers, stops, etc.), preferably at the centre of gravity of the mass.

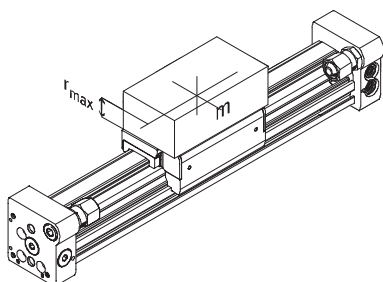
-  - Note

To avoid distortion in the slide, the bearing surfaces of the attachments must maintain a flatness of at least:

with piston Ø 8 and 12: 0.03 mm
with piston Ø 18 ... 40: 0.01 mm

The data applies to a horizontal mounting position:

Piston Ø	8	12	18	25	32	40
Distance r_{max} [mm]	25	35	35	50	50	50



Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

FESTO

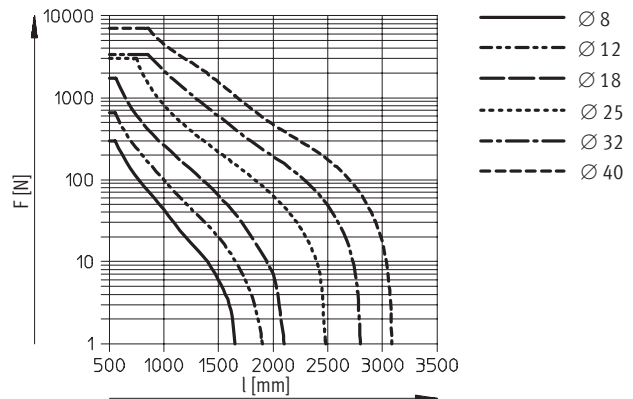
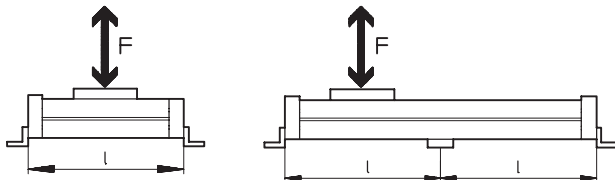
Number of profile mountings MUC dependent on force due to load F and support span l

In order to limit deflection in the case of large strokes, the drive may need to be supported. The following diagrams

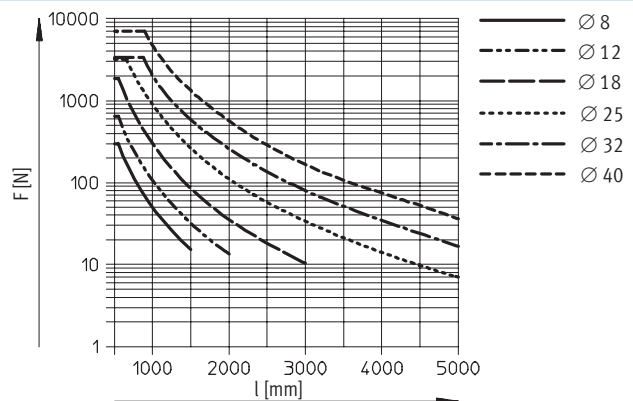
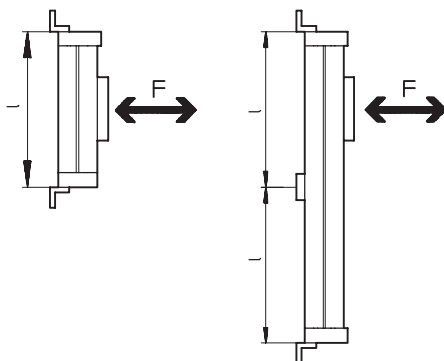
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular force.

Horizontal assembly position



Vertical assembly position



Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal assembly position.

The drive has an overall length of:
 $l = \text{stroke length} + L1$
 (see dimensions)
 $= 1,500 \text{ mm} + 200 \text{ mm}$
 $= 1,700 \text{ mm}$

According to the diagram, the max. support span is 1,300 mm for the drive DGC-25 with a force of 300 N.

In this example, profile mounting attachments are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

Linear drives DGC-KF, with recirculating ball bearing guide

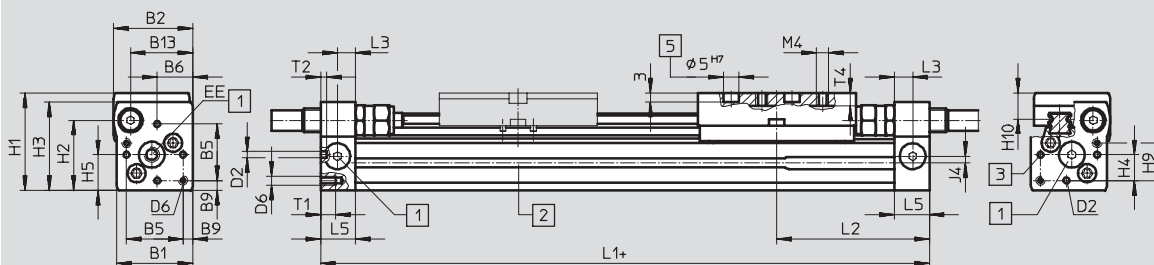
Technical data

FESTO

Dimensions

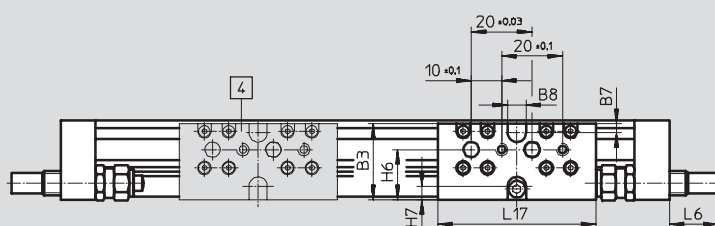
Download CAD data → www.festo.com/en/engineering

Ø 8 and 12



+ plus stroke length

- 1 Supply port options on three faces
- 2 Slot for proximity sensor
- 3 Mounting hole for foot mounting or centring pin
- 4 Additional slide KL
- 5 Hole for centring pin ZBS



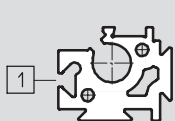
Ø	B1	B2	B3	B5	B6	B7	B8	B9	B13	D2	D6	EE	H1	H2	H3	H4	H5
[mm]							±0.05	±0.1		Ø H8							
8	25	26	25	18.6	11.7	3	6	3.2	20.5	2	M3	M5	32	23	29	8.5	11.7
12	30.2	31	31	20.6	13.5	3	8	4.8	25	2	M4	M5	37.5	28.5	34.5	8.7	13.5

Ø	H6	H7	H9	H10	J4	L1	L2	L3	L5	L6			L17	T1	T2	T4
[mm]						+0.5/ -0.4				P	YSR	YSRW				
8	16.5	4.5	12.3	8.7	2.2	100	50.1	6	11.5	0	16	16.2	52	5	2	4.3
12	20.5	5	14.7	9.8	3	125	62.1	8	16	0	11.3	12.3	65	6	2	5

Profile barrel

Ø 8

Ø 12



- 1 Slot for proximity sensor

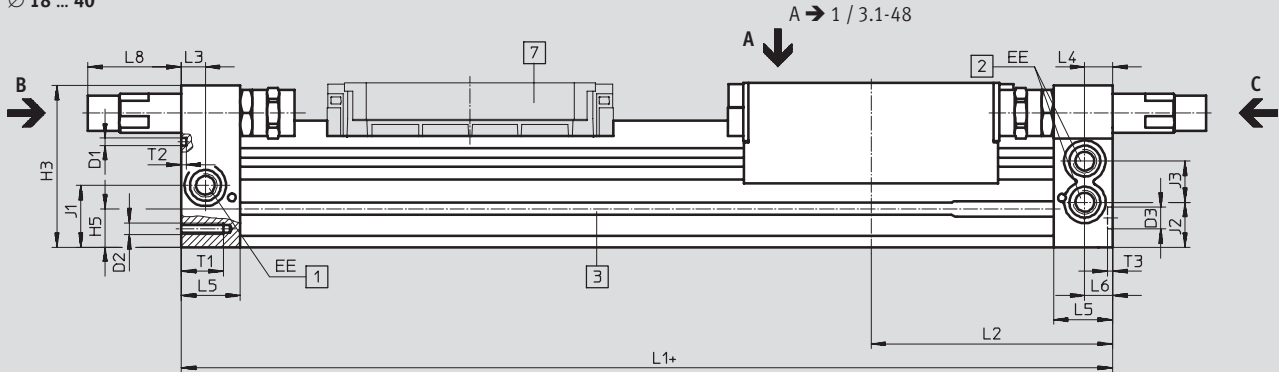
Rodless cylinders
Mechanically coupled

3.1

FESTO

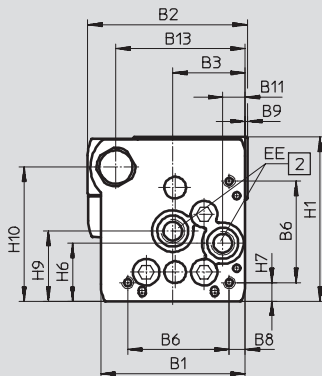
Download CAD data → www.festo.com/en/engineering

~~Ø~~ 18 ... 40



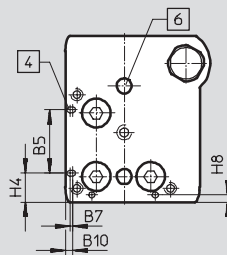
View C

Ø 18 .. 40

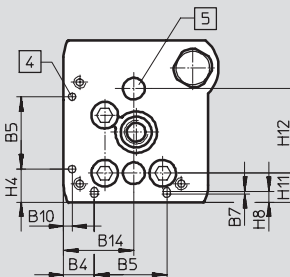


View B

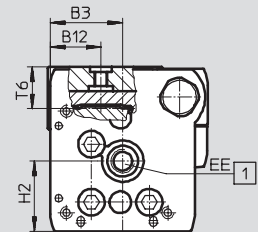
Ø 18



Ø 25 .. 40



Ø 18 ... 40



- + plus stroke length
- 1 Compressed air connection options on two faces

- 2 Compressed air connection options on two faces, for supplying from one end only
- 3 Slot for proximity sensor

- 4 Mounting hole for foot mounting HPC
- 5 Hole for centring sleeve ZBH

- 6 Hole for centring pin ZBS
- 7 Additional slide

Linear drives DGC-KF, with recirculating ball bearing guide

FESTO

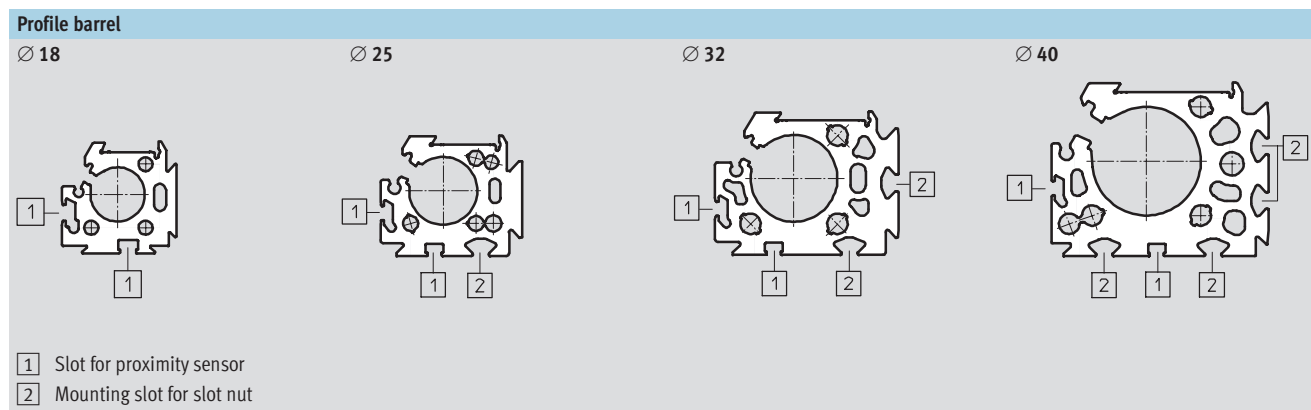
Technical data

∅	B1	B2	B3	B4	B5	B6	B7	B8	B9	B10	B11	B12
[mm]			±0.05	±0.1	±0.05	±0.1		±0.1			±0.05	
18	44.5	49.9	19.5	8.8	21	31	0.8	3.8	1	2.4	5.5	15.5
25	59.8	66	30	12.65	30	42	1	6.65	1	3.5	9.3	21
32	73	79	38.5	5.7	63.1	57.5	–	8.5	1.5	14	14.9	18
40	91	98.5	45	17.2	55	65	–	12.2	2	8	16.5	24.8

∅	B13	B14	D1 ∅	D2	D3 ∅	EE	H1	H2	H3	H4	H5	H6
[mm]	±0.1	±0.05	±0.05		H7			±0.1		±0.1		±0.1
18	39	19.5	2	M4	5	M5	56.3	23.1	55	9.6	13.4	20
25	53	29	3	M5	9	G $\frac{3}{8}$	68	29	67	13.65	15.8	24
32	65	38.5	3	M6	9	G $\frac{3}{8}$	78.5	30	77	5.7	17	27.7
40	80.5	45	4	M6	9	G $\frac{1}{4}$	99.5	41.5	97.5	17.2	25	36.5

∅	H7	H8	H9	H10	H11	H12	J1	J2	J3	L1	
										KF +0.9/–0.2	KF-GP +0.9/–0.2
[mm]	±0.1	±0.1	±0.1	±0.1	±0.05	±0.05	±0.1	±0.1	±0.1		
18	4.6	2.4	25.2	46	8.5	30	20	16.5	11	150	157
25	7.65	4.5	29	55.5	12	35	26.1	18.6	17	200	205
32	8.5	14	35.2	63.8	11.45	50	30	22	18.5	250	250
40	12.2	8	44	81.5	15	60	35	26	26	300	312

∅	L2		L3	L4	L5	L6	L8			T1	T2	T3	T6
	KF	KF-GP					PPV	YSR	YSRW				
[mm]												+0.2	
18	74.5	78	5.7	5.8	15	5.5	0	29.9	32.4	9	2	3.1	15
25	100	102.5	10.5	10.6	24.5	10.6	0	35.6	38.6	17.5	2	2.1	17.3
32	124.8	124.8	14.5	14.5	30.5	14.5	0	19.5	28	15	2	2.1	20
40	150	156	14.6	14.6	33.5	14.6	0	38.5	43.5	20	3	2.1	25.7



Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

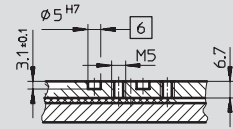
FESTO

Dimensions – Slide

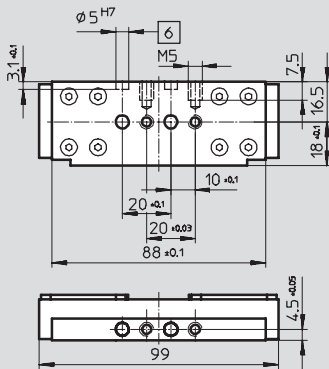
Download CAD data → www.festo.com/en/engineering

View A

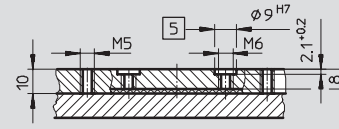
Ø 18



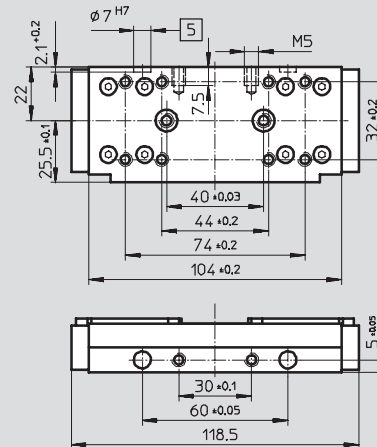
View A



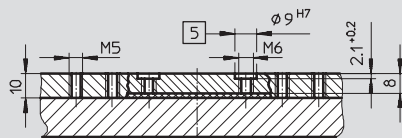
Ø 25



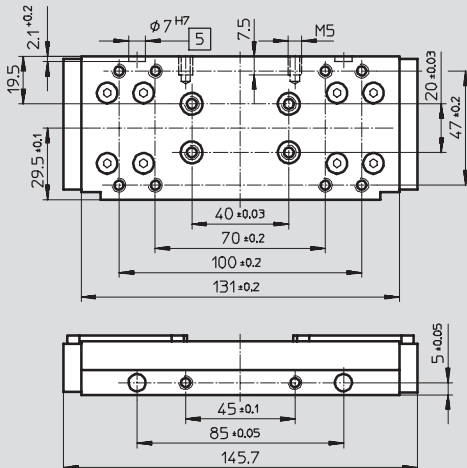
View A



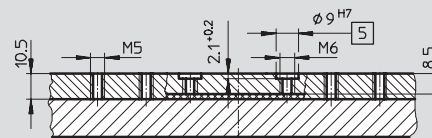
Ø 32



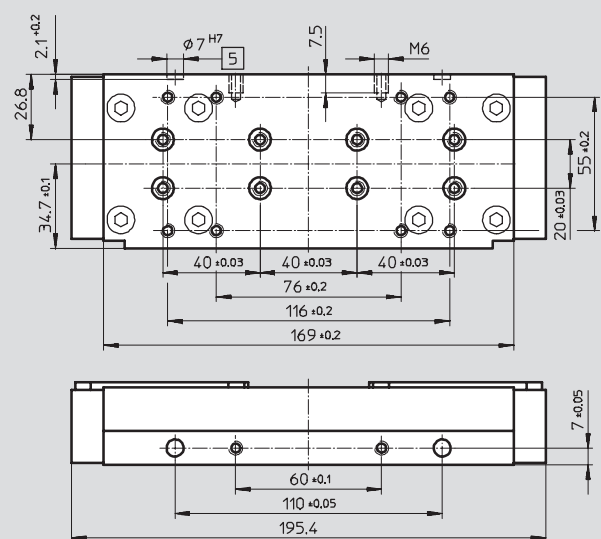
View A



Ø 40



View A



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

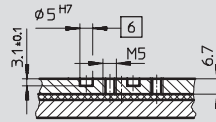
FESTO

Dimensions – Slide, variant GP – Protected recirculating ball bearing guide

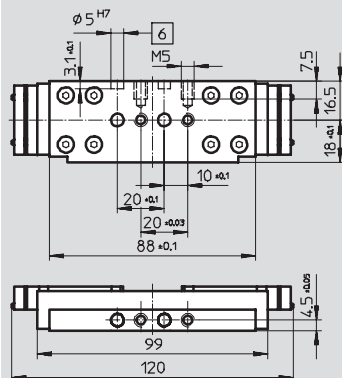
Download CAD-Daten → www.festo.com/en/engineering

View A

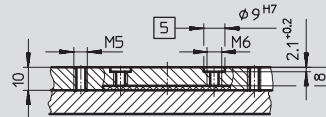
Ø 18



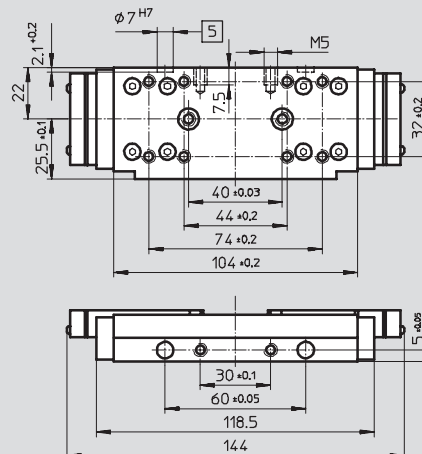
View A



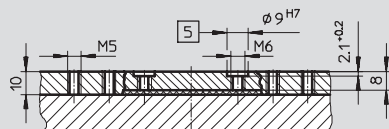
Ø 25



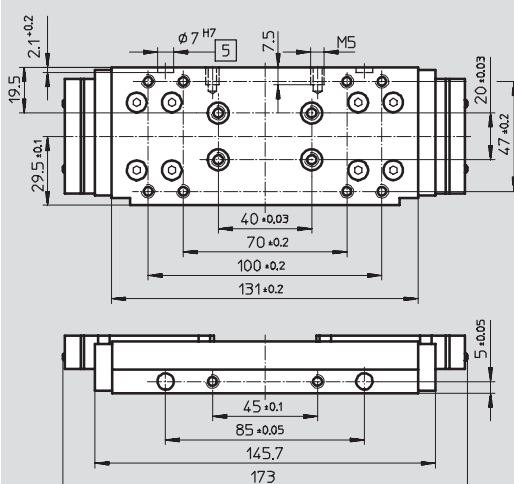
View A



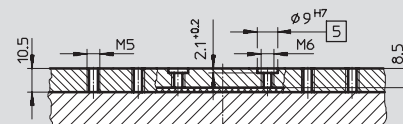
Ø 32



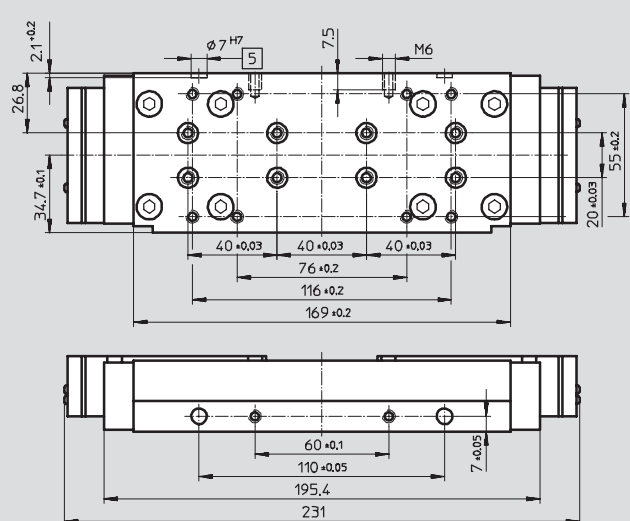
View A



Ø 40



View A



5 Hole for centring sleeve ZBH

6 Hole for centring pin ZBS

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

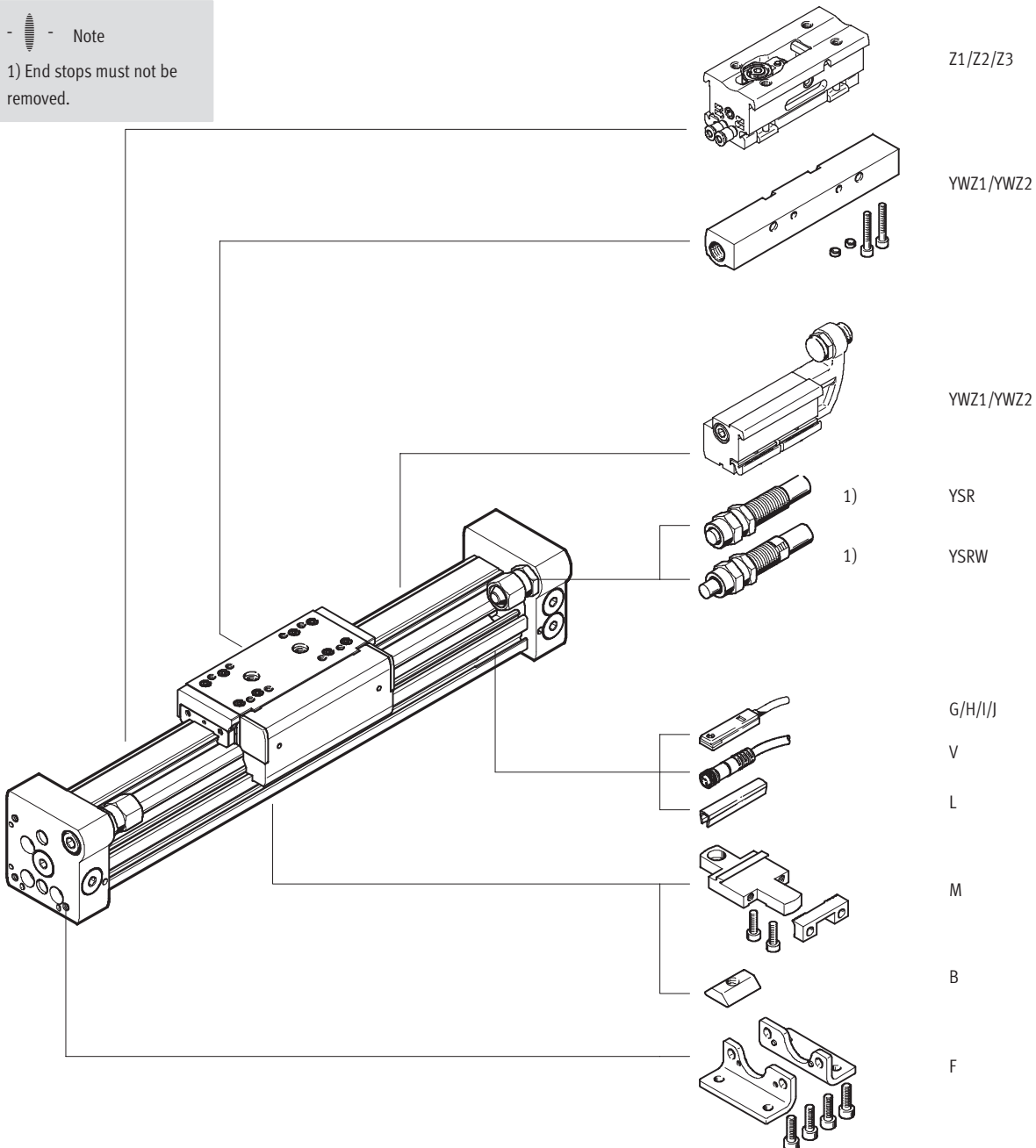
FESTO

Order code

Mandatory data/options

 Note

1) End stops must not be removed.



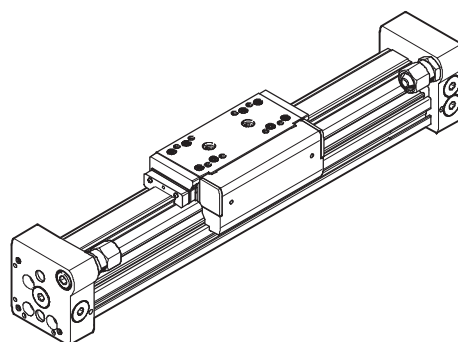
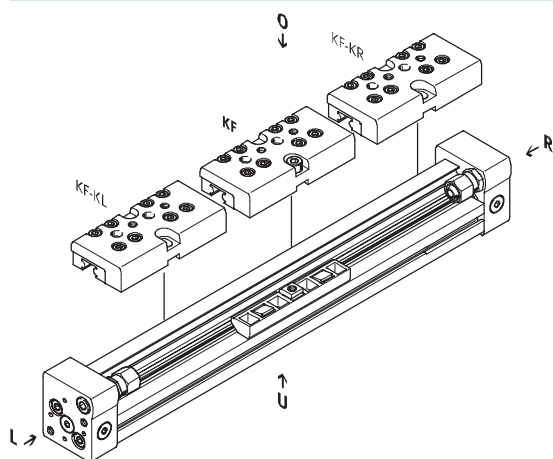
Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

Order code

KL/KR – With additional slide

GP – With protected recirculating ball bearing guide



Rodless cylinders
Mechanically coupled

3.1

Effective stroke reduction when ordering an additional slide KL or KR

For a linear drive DGC with additional slide, the effective stroke is reduced

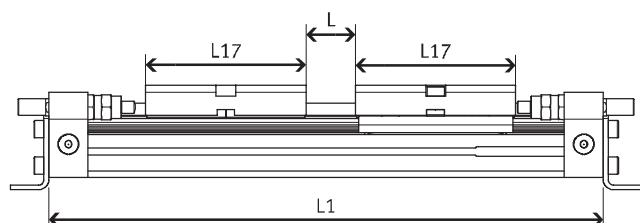
by the length of the additional slide and the distance between both slides.

Given:

DGC-12-500-...

L = 20 mm

L17 = 65 mm



The effective stroke is reduced to
 $415 \text{ mm} = 500 \text{ mm} - 20 \text{ mm} - 65 \text{ mm}$

Ø [mm]	8	12	18	25	32	40
L17	52	65	99	118.5	145.7	195.4

Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

Mandatory data							→
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing	
530 906	DGC	8	1 ... 5 000	KF	P PPV YSR YSRW	A	
530 907		12					
532 446		18					
532 447		25					
532 448		32					
532 449		40					
Ordering example							
530 907	DGC	- 12	- 250	- KF	- YSRW	- A	

Ordering table										
Size		8	12	18	25	32	40	Condi- tions	Code	Enter code
[M] 										

¹ **Stroke** Size 25, 32, 40: Strokes up to 8,500 mm on request

Transfer order code

DGC - - - **KF** - - **A** -

Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

FESTO

Options					
Slide	Additional slide at left	Additional slide at right	Accessories	Accessories supplied loose	User documentation
GP	KL	KR		F, ...M, ...B, YWZ1, YWZ2, Z1, Z2, Z3, ...G, ...H, ...I, ...J, ...V, ...L	0
-	- KL	- KR	ZUB	- F2M	-

Ordering table										
Size	8	12	18	25	32	40	Condi- tions	Code	Enter code	
0	Slide	–	–	Protected recirculating ball bearing guide			2	-GP		
	Additional slide at left	Additional slide, standard, at left					3	-KL		
	Additional slide at right	Additional slide, standard, at right					3	-KR		
	Accessories	Supplied loose (can be retrofitted)						ZUB-	ZUB-	
	Foot mounting	1						F		
	Profile mounting	1 ... 9						...M		
	Slot nut for mounting slot	–	–	–	1 ... 9			...B		
	Mechanical end-position limitation	–		Variable end position, at one end			4	YWZ1		
		–		Variable end position, at both ends			4	YWZ2		
	Intermediate position	–	–	–	1 intermediate position	–	5	-Z1		
		–	–	–	2 intermediate positions	–	5	-Z2		
		–	–	–	3 intermediate positions	–	5	-Z3		
	Proximity sensor	Cable, 2.5 m	1 ... 9						...G	
		Plug M8	1 ... 9						...H	
	Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9						...I	
		Plug M8	1 ... 9						...J	
	Plug socket with cable	M8, 2.5 m	1 ... 9						...V	
Slot cover for sensor slot	–	–	1 ... 9				...L			
User documentation	Express waiver – no operating instructions to be included (already available)							-O		

2 GP Not with cushioning YSR and YSRW

3 KL, KR For a linear drive DGC with additional slide, the effective stroke is reduced by the length of the additional slide and the distance between both slides

4 YWZ1, YWZ2 Only with cushioning YSR or YSRW

5 Z1, Z2, Z3 Only with cushioning YSR or YSRW and mechanical end-position limitation YWZ1 or YWZ2

Transfer order code

- - - - ZUB - -

Ordering data – Wearing parts kits					
Piston Ø [mm]	Part No.	Type	Piston Ø [mm]	Part No.	Type
8	665 335	DGC-8-KF	25	684 408	DGC-25
12	665 336	DGC-12-KF	32	684 409	DGC-32
18	684 407	DGC-18	40	684 410	DGC-40

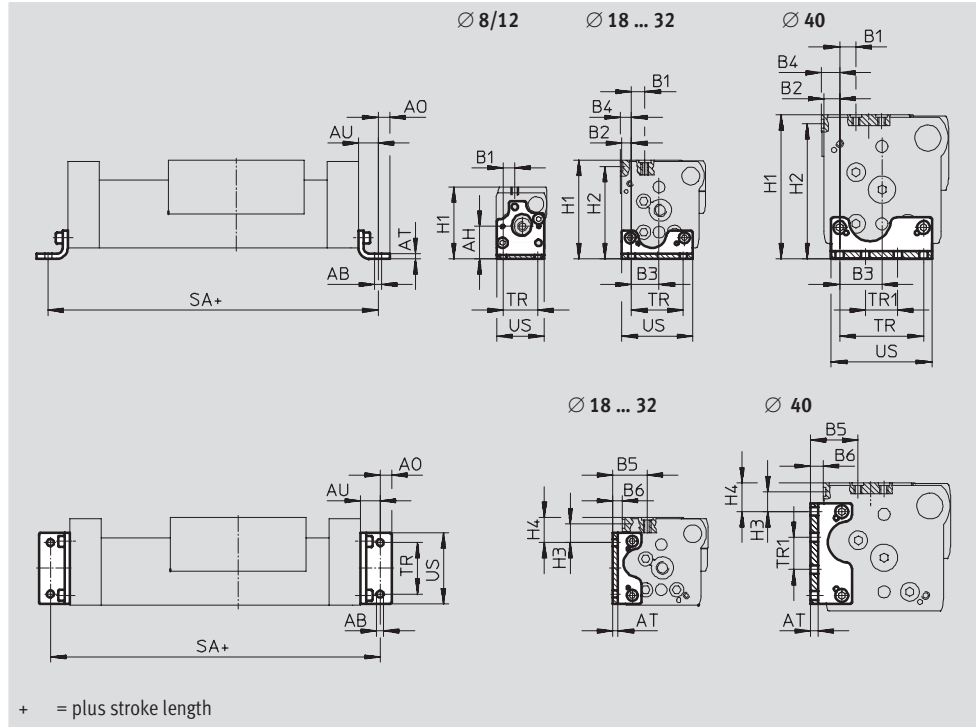
Linear drives DGC

Accessories

FESTO

Foot mounting HPC
(order code: F)

Material:
Galvanised steel



Dimensions and ordering data

For Ø [mm]	AB Ø	AH	AO	AT	AU	B1		B2	B3
						G	GF/KF		
8	3.4	16.7	3	2	9	6	6	–	–
12	4.5	18.5	4.5	2	11.5	5.4	5.4	–	–
18	5.5	–	6.75	3	13.25	15	11.2	4.3	15.2
25	5.5	–	9	4	15	12.5	13.35	7.65	22.35
32	6.6	–	10	5	19	11.5	9	9	29.5
40	6.6	–	10	6	20	7.6	12.6	12.2	32.8

For Ø [mm]	B4 GF/KF	B5		B6 GF/KF	H1		H2 GF/KF	H3 GF/KF
		G	GF/KF		G	GF/KF		
8	–	–	–	–	37	37	–	–
12	–	–	–	–	42.5	42.5	–	–
18	5.3	27	23.2	6.7	57.5	64	59.5	16.7
25	8.65	29.15	30	8	67	76.5	71.5	15
32	10.5	29.5	27	7.5	82	87.5	82.5	8
40	14.2	31.8	36.8	10	100	111.5	104.5	15.3

For Ø [mm]	H4		SA	TR	TR1	US	Weight [g]	Part No.	Type
	G	GF/KF							
8	–	–	118	18	–	24.4	26	526 385	HPC-8
12	–	–	148	20	–	29.6	38	526 388	HPC-12
18	14.7	21.5	176	30	–	38.6	58	533 667	HPC-18
25	10.5	20	230	40	–	55	131	533 668	HPC-25
32	7.5	13	288	56.5	19.5	68	239	533 669	HPC-32
40	10.8	22.3	340	65	25	78	348	533 670	HPC-40

Linear drives DGC

Accessories

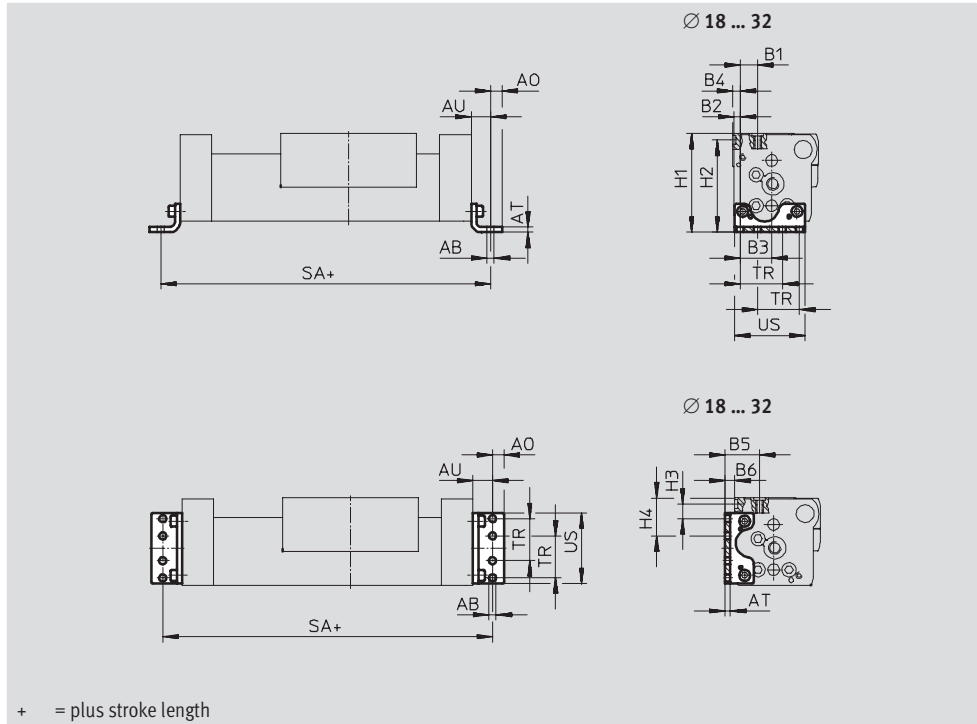
FESTO

Foot mounting HPC-S

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel



Dimensions and ordering data										
For Ø	AB	AO	AT	AU	B1	B2	B3	B4	B5	B6
[mm]	Ø									
18	5.5	4.75	3	13.25	12	3.5	15.6	4.5	24	7.5
25	5.5	6	3	13	16.25	4.75	24.25	5.75	29.5	7.5
32	6.6	7	4	17	9	9	29.5	10.5	27	7.5

For Ø	H1	H2	H3	H4	SA	TR	US	Weight	Part No.	Type
[mm]					+0.9/-0.2	±0.1		[g]		
18	64	59.5	16.7	28	176.5	24	40	54.5	535 600	HPC-18-S
25	75.5	70.5	11.45	29.75	226	32.5	55	89.5	535 601	HPC-25-S
32	87.5	82.5	8	31.5	284	38	68	180	538 413	HPC-32-S

Linear drives DGC

Accessories

FESTO

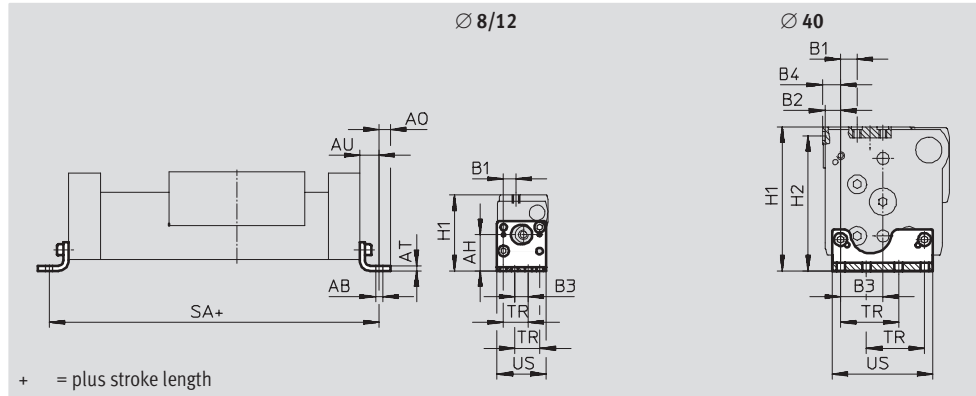
Foot mounting HPC-SO

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel

HPC-12-SO



Dimensions and ordering data								
For $\varnothing$	AB $\varnothing$	AH	AO	AT	AU	B1	B2	B3
[mm]								
8	3.4	18.7	3	2	9	6.5	–	7
12	3.4	23.5	3	2	9	9.3	–	9.4
40	6.6	–	8.5	5	17.5	12.5	12.3	32.7

For $\varnothing$	B4	H1	H2	SA	TR	US	Weight	Part No.	Type
[mm]				+0.9/–0.2	± 0.1		[g]		
8	–	39	–	118	13	25.4	26	529 346	HPC-8-SO
12	–	47.5	–	143	18.6	33.8	42	529 348	HPC-12-SO
40	14.3	104.5	97.5	335	45	78	264	536 745	HPC-40-SO

Linear drives DGC

Accessories

FESTO

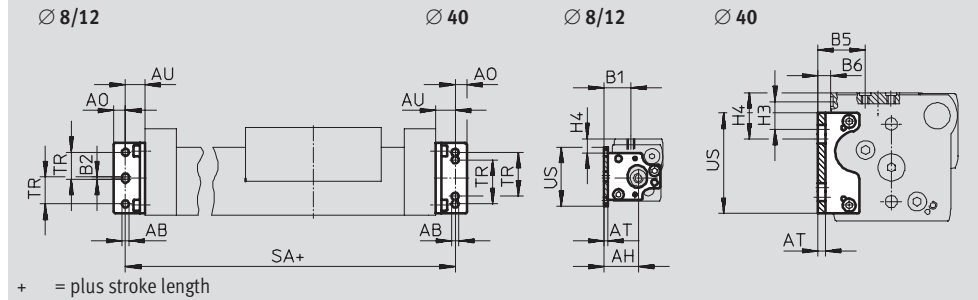
Foot mounting HPC-SH

(when replacing linear drive DGPL with linear drive DGC-GF/-KF)

Material:

Galvanised steel

HPC-12-SH



Dimensions and ordering data								
For Ø	AB Ø	AH	AO	AT	AU	B1	B2	B5
[mm]								
8	3.4	17.8	3	2	9	13.8	1.5	–
12	3.4	21.1	3	2	9	16.5	1.4	–
40	6.6	–	8.5	5	17.5	–	–	36

For Ø	B6	H3	H4	SA	TR	US	Weight	Part No.	Type
[mm]				+0.9/–0.2	±0.1		[g]		
8	–	–	7.25	118	13	30.5	25	529 347	HPC-8-SH
12	–	–	4.5	143	18.6	41.8	41.5	529 349	HPC-12-SH
40	9.2	21.6	36	335	45	78	275	536 746	HPC-40-SH

Rodless cylinders
Mechanically coupled

3.1

Linear drives DGC

Accessories

FESTO

Profile mounting MUC

(order code: M)

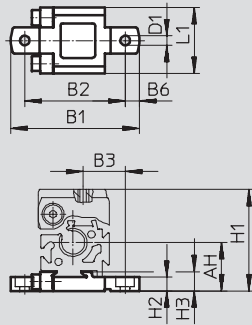
Material:

High-alloy steel

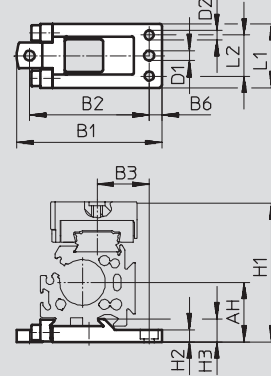
MUC-12



Ø 8/12

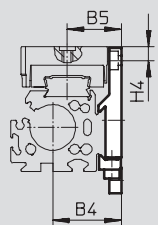


Ø 18 ... 40

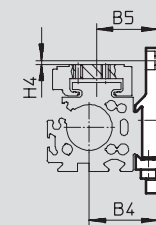


Position of the profile mounting attachment along the profile barrel is freely selectable.

Ø 18 ... 40-GF/KF



Ø 18 ... 40-G



Dimensions and ordering data

For Ø [mm]	AH	B1	B2 ±0.2	B3		B4	B5		B6	D1 Ø	D2 Ø H7
				G	GF/KF		G	GF/KF			
8	17.7	47	36.7	15.35	15.35	—	—	—	5.1	3.5	—
12	18.5	52.5	42.2	16.5	16.5	—	—	—	5.1	3.5	—
18	27.2	67.8	56	32.5	28.7	27.2	27	28.7	5.7	5.5	5
25	32.5	79.5	65.5	35.15	28.5	37.5	36.15	29.5	7	5.5	5
32	37.5	94	80	35	35	47.5	37	37	7	5.5	5
40	47	110.5	96	43	43	57	46.8	46.8	7	6.5	6

For Ø [mm]	H1		H2	H3	H4		L1	L2	Weight [g]	Part No.	Type
	G	GF/KF			G	GF/KF					
8	37	37	5	7	—	—	24	—	28	526 384	MUC-8
12	42.5	42.5	4.5	7	—	—	24	—	32	526 387	MUC-12
18	57.5	64	5.7	9.9	0.1	6.4	33	20.5	78	531 752	MUC-18
25	67	76.5	6.5	12.5	2.07	7.43	35	22.5	113	531 753	MUC-25
32	82	87.5	6.5	13	1.5	4	45	30	174	531 754	MUC-32
40	100	111.5	8.5	16	0.2	11.3	60	44	346	531 755	MUC-40

Linear drives DGC

Accessories

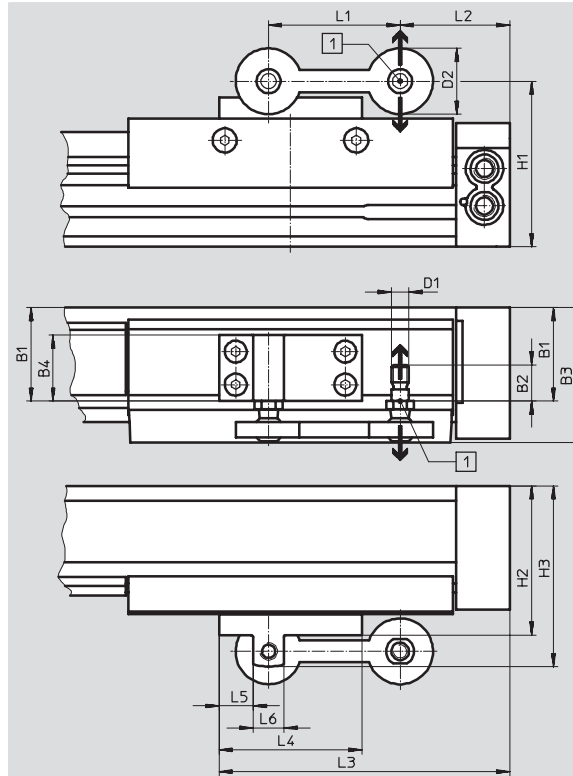
FESTO

Driver FKC
(order code: FK)



Materials:
Plate: Wrought aluminium alloy

Joint: Polyamide
Ball pin: High-alloy steel



-  - Note

Compensation possible in direction of arrow.

1 Radial deviation ± 2.5 mm

Rodless cylinders
Mechanically coupled

3.1

Dimensions and ordering data									
For $\varnothing$	Max. offset between linear drive and external guide	Max. permissible load in direction of force (backlash-free)	Ambient temperature	B1	B2	B3	B4	D1	D2
[mm]	[mm]	[N]	[°C]						
8	± 2.5	550	$-10 \dots +60$	17.5	10.2	30	16	M5	20
12		550		18.5	10.2	31	16	M5	20
18		1,400		29.3	16.5	47.8	20	M8	30
25		1,400		42.65	16.5	61.15	30	M8	30
32		1,400		43	16.5	61.5	30	M8	30
40		1,400		57.3	16.5	75.8	45	M8	30

For $\varnothing$	H1	H2	H3	L1	L2	L3	L4	L5	L6	CRC ¹⁾	Weight	Part No.	Type
[mm]											[g]		
8	43.5	42	48	40	5.1	62.6	35	13	9	1	29.3	529 350	FKC-8/12
12	49	47.5	53.5	40	17.1	74.6	35	13	9	1	29.3	529 350	FKC-8/12
18	66.8	59.8	73.8	60	24.5	107	65	15.5	14	1	96.8	538 714	FKC-18
25	75.5	68	82.5	60	50	132.5	65	15.5	14	1	119	538 715	FKC-25
32	90	82.5	97	60	77.5	162	75	17.5	14	1	122.3	538 961	FKC-32
40	105	97.5	113	60	103	187.5	75	17.5	14	1	180.2	538 962	FKC-40

1) Corrosion resistance class 1 to Festo standard 940 070
Components requiring low corrosion resistance. Transport and storage protection. Parts that do not have primarily decorative surface requirements, e.g. in internal areas that are not visible or behind covers.

Linear drives DGC

Accessories

FESTO

Shock absorber retainer DADP

Stop KYC

(order code: YWZ1 or YWZ2)

Materials: Stop

Housing: Anodised aluminium

Stop bracket: Stainless steel casting

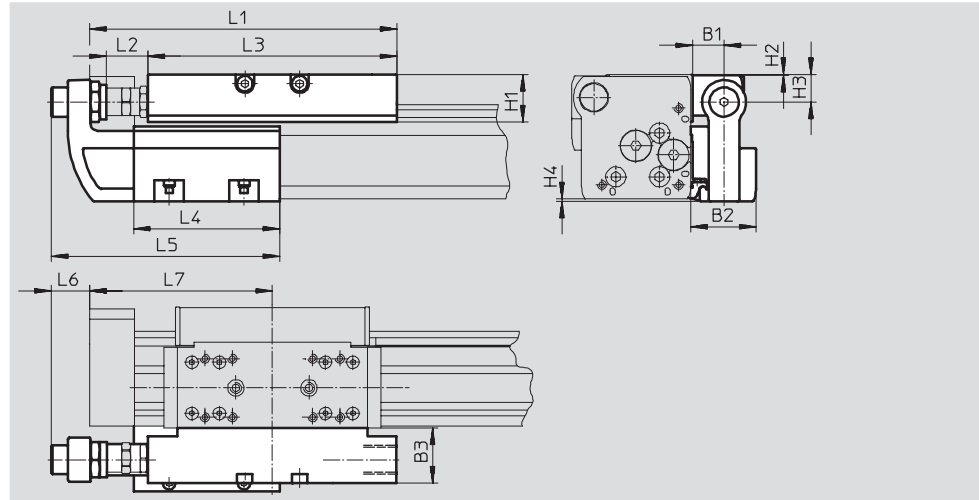
Clamp: High-alloy steel

Free of copper and PTFE

Materials: Shock absorber retainer

Housing: Anodised aluminium

Free of copper and PTFE



-  Note

- Shock absorber not included in scope of delivery. Existing shock absorbers can be removed from the end caps of the linear drive and installed in the

shock absorber retainer. Under no circumstances may the linear drive and the intermediate position module be operated without a shock absorber.

Dimensions								
For Ø [mm]		B1	B2	B3	H1	H2	H3	H4
18	GF	16	34.5	29	20.7	0.2	12.5	0.7
	KF	16	34.5	29	20.7	0.2	12.5	0.7
25	GF	16.5	35	28	25.5	0.5	15	1.4
	KF	16.5	35	30	25.5	0.5	15	1.4
32	GF	16.5	35	28	25.5	0.5	15	1.7
	KF	16.5	35	30	25.5	0.5	15	1.7
40	GF	16	35.7	29	32	0.5	21.5	1.6
	KF	16	35.7	35	37	0.5	21.5	2

For Ø [mm]		L1	L2 min.	L3	L4	L5	L6	L7
18	GF	128	14.5	107	80	118.5	23.5	69.5
	KF	128	14.5	107	80	118.5	23.5	69.5
25	GF	168	22.5	136	80	125	20.5	100
	KF	168	22.5	136	80	125	20.5	100
32	GF	206.8	42.8	164	120	165	14.5	124.8
	KF	206.8	27.3	164	120	165	14.5	124.8
40	GF	255	30.8	210	156	220.5	31	150
	KF	255	31	210	156	220.5	31	150

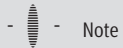
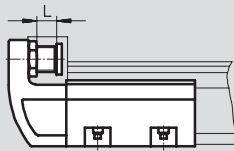
Linear drives DGC

Accessories

FESTO

Technical data and ordering codes

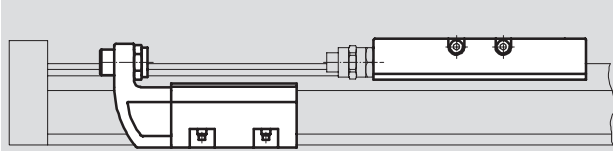
Precision adjustment



Note

The stop KYC can be used in both directions.

Installation example



Note

The stop KYC can be mounted at any position within the stroke.

For Ø [mm]	Precision adjustment L [mm]	Ambient temperature [°C]	CRC ¹⁾	Weight [g]	Part No.	Type
Shock absorber retainer						
18	GF	-10 ... +80	2	140	541 725	DADP-DGC-18-GF
	KF			130	541 729	DADP-DGC-18-KF
25	GF			205	541 726	DADP-DGC-25-GF
	KF			180	541 730	DADP-DGC-25-KF
32	GF			225	541 727	DADP-DGC-32-GF
	KF			215	541 731	DADP-DGC-32-KF
40	GF			380	541 728	DADP-DGC-40-GF
	KF			460	541 732	DADP-DGC-40-KF
Stop						
18		-10 ... +80	2	400	541 691	KYC-18
25				560	541 692	KYC-25
32				790	541 693	KYC-32
40				1,525	541 694	KYC-40

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Linear drives DGC

Accessories

FESTO

Intermediate position module DADM (order code: Z1, Z2 or Z3)

Materials:

Housing: Anodised aluminium

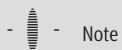
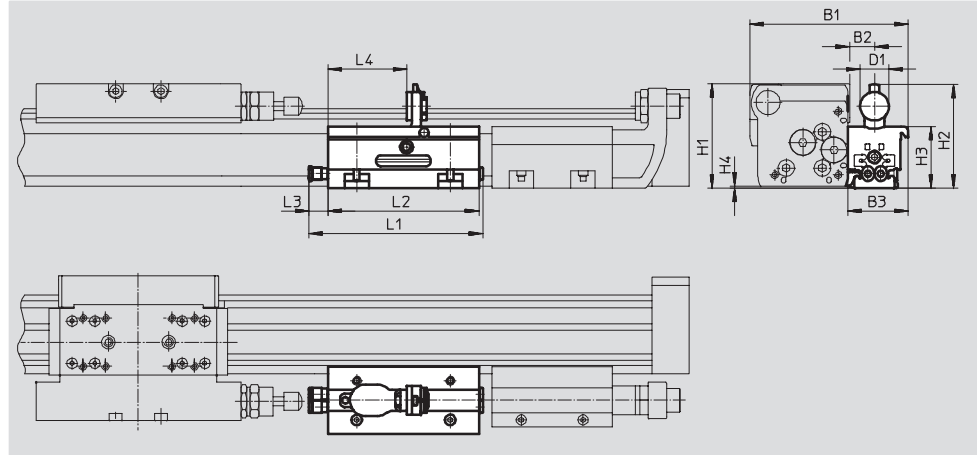
Stop screw, nut:

Galvanised steel

Clamp, lever:

High-alloy steel

Free of copper and PTFE



Note

- Shock absorber not included in scope of delivery. Existing shock absorbers can be removed from the end caps of the linear drive and installed in the shock absorber retainer. Under no circumstances may the

linear drive and the intermediate position module be operated without a shock absorber.

- A shock absorber retainer DADP and a stop KYC are additionally needed when using an intermediate position module.

- The projection (dimension H4) must be noted when using the drive in combination with the add-on intermediate position DADM. Mounting via foot mountings HP or profile mountings MUC is recommended in this case.

Dimensions						
For Ø [mm]	B1	B2	B3	D1	H1	H2
25	105	16.5	40	19	69.4	68.6
32	117.5	16.5	40	19	80.2	79.7

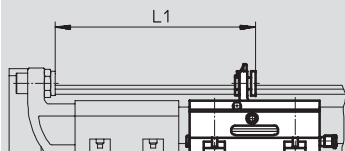
For Ø [mm]	H3	H4	L1	L2	L3	L4
25	41	1.4	116	100	13.4	52.2
32	52	1.7	116	100	13.4	52.2

Linear drives DGC

Accessories

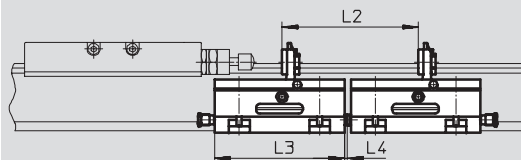
Minimum distance

between end stop and intermediate position



Ø	L1
25	145.3
32	185.3

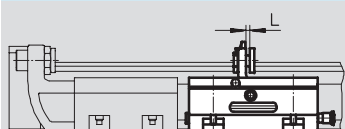
between two intermediate positions



Ø	L2	L3	L4
25	105	100	2.5
32	105	100	2.5

Technical data and ordering codes

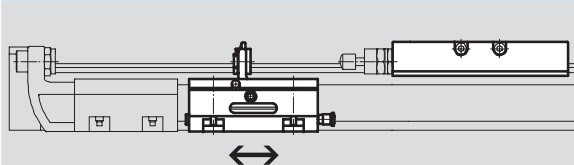
Precision adjustment L



 Note

The intermediate position module DADM can be used in both directions.
A shock absorber retainer DADP and a stop KYC are additionally needed when using an intermediate position module.

Installation example



 Note

The intermediate position module DADM can be mounted at any position within the stroke.

For Ø [mm]	Operating pressure [bar]	Impact velocity [m/s]	Swivel time [ms]	Repetition accuracy [mm]	Pneumatic connection	Precision adjustment L [mm]
25	2.5 ... 8	→ 1 / 3.1-43	<100	0.02	QS-4	2
32						

For Ø [mm]	Ambient temperature [°C]	CRC ¹⁾	Installation position	Position sensing	Weight [g]	Part No.	Type
25	-10 ... +60	2	Any	Via proximity sensor SME/SMT-10	430	541 700	DADM-DGC-25-A
32					530	541 701	DADM-DGC-32-A

1) Corrosion resistance class 2 to Festo standard 940 070

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

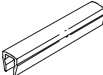
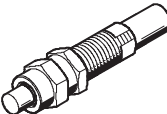
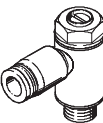
Linear drives DGC

Accessories

FESTO

Rodless cylinders
Mechanically coupled

3.1

Ordering data							
	For Ø	Remarks	Order code	Part No.	Type	PU ¹⁾	
Slot nut NST Technical data ➔ 1 / 10.1-3							
	25 ... 40	For mounting slot	B	547 264	HMBN-5-1M5	10	
Centring pin/sleeve ZBS/ZBH Technical data ➔ 1 / 10.1-3							
	8 ... 18	For slide	–	150 928	ZBS-5	10	
	25 ... 40			150 927	ZBH-9		
	8, 12	For end cap	–	525 273	ZBS-2		
	18			150 928	ZBS-5		
	25 ... 40			150 927	ZBH-9		
Slot cover ABP-S Technical data ➔ 1 / 10.1-3							
	18 ... 40	For sensor slot every 0.5 m	L	151 680	ABP-5-S	2	
Shock absorber YSRW Technical data ➔ 1 / 9.0-1							
	8	For DGC basic version and recirculating ball bearing guide	YSRW	540 344	YSRW-DGC-8	1	
	12			540 345	YSRW-DGC-12		
	18			540 346	YSRW-DGC-18-GF		
	25			540 348	YSRW-DGC-25-GF		
	32			540 350	YSRW-DGC-32-GF		
	40	For DGC with recirculating ball bearing guide		540 352	YSRW-DGC-40-GF		
	18			540 347	YSRW-DGC-18-KF		
	25			540 349	YSRW-DGC-25-KF		
	32			540 351	YSRW-DGC-32-KF		
	40			540 353	YSRW-DGC-40-KF		
One-way flow control valve GRLA Technical data ➔ Volume 2							
	8 ... 18	Metal design	–	193 137	GRLA-M5-QS-3-D	1	
	25, 32			193 138	GRLA-M5-QS-4-D		
				193 142	GRLA-1/8-QS-3-D		
				193 143	GRLA-1/8-QS-4-D		
				193 144	GRLA-1/8-QS-6-D		
				193 145	GRLA-1/8-QS-8-D		
	40			193 146	GRLA-1/4-QS-6-D		
				193 147	GRLA-1/4-QS-8-D		
193 148		GRLA-1/4-QS-10-D					

1) Packaging unit quantity

Linear drives DGC

Accessories

FESTO

Proximity sensors for piston $\varnothing$ 8/12 and intermediate position module DADM

Ordering data – Proximity sensors for slot type 10 (C-slot), magneto-resistive								Technical data → 1 / 10.2-57	
	Assembly	Electrical connection		Switch output	Cable length [m]	Connection direction	Part No.	Type	
		Cable	Plug M8						
N/O contact									
	Flush	–	3-pin	PNP	0.3	In-line	173 220	SMT-10-PS-SL-LED-24	
		3-wire	–		2.5		173 218	SMT-10-PS-KL-LED-24	

Ordering data – Proximity sensors for slot type 10 (C-slot), magnetic reed							Technical data ➔ 1 / 10.2-60	
	Assembly	Electrical connection		Cable length [m]	Connection direction	Part No.	Type	
		Cable	Plug M8					
N/O contact								
	Flush	–	3-pin	0.3	In-line	173 212	SME-10-SL-LED-24	
		3-wire	–	2.5		173 210	SME-10-KL-LED-24	

Proximity sensors for piston $\varnothing$ 18 ... 40

Ordering data – Proximity sensors for slot type 8 (T-slot), magneto-resistive							Technical data → 1 / 10.2-13	
	Assembly	Switch output	Electrical connection			Cable length [m]	Part No.	Type
			Cable	Plug M8	Plug M12			
N/O contact								
	Insertable from above	PNP	3-wire	–	–	2.5	525 898	SMT-8F-PS-24V-K2,5-OE
		NPN					525 909	SMT-8F-NS-24V-K2,5-OE
		–	2-wire	–	–	2.5	525 908	SMT-8F-ZS-24V-K2,5-OE
		PNP					–	3-pin
		NPN	–	–	–	0.3	525 910	SMT-8F-NS-24V-K0,3-M8D
		PNP					–	–
	Insertable from end, flush with the cylinder profile	PNP	3-wire	–	–	2.5	175 436	SMT-8-PS-K-LED-24-B
			–	3-pin	–	0.3	175 484	SMT-8-PS-S-LED-24-B
N/C contact								
	Insertable from above	PNP	3-wire	–	–	7.5	525 911	SMT-8F-PO-24V-K7,5-OE

Linear drives DGC

Accessories

FESTO

Proximity sensors for piston $\varnothing 18 \dots 40$

Ordering data – Proximity sensors for slot type 8 (T-slot), magnetic reed

Technical data → 1 / 10.2-18

	Assembly	Electrical connection		Cable length [m]	Part No.	Type
		Cable	Plug M8			
N/O contact						
	Insertable from above	3-wire	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE
				5.0	525 897	SME-8F-DS-24V-K5,0-OE
		2-wire	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE
		–	3-pin	0.3	525 896	SME-8F-DS-24V-K0,3-M8D
	Insertable from end, flush with the cylinder profile	3-wire	–	2.5	150 855	SME-8-K-LED-24
		–	3-pin	0.3	150 857	SME-8-S-LED-24
N/C contact						
	Insertable from end, flush with the cylinder profile	3-wire	–	7.5	160 251	SME-8-O-K-LED-24

Ordering data – Plug socket with cable

Technical data → 1 / 10.2-114

	Assembly	Switch output		Connection	Cable length [m]	Part No.	Type
		PNP	NPN				
Straight socket							
	Union nut M8			3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU
					5	159 421	SIM-M8-3GD-5-PU
	Union nut M12			3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU
					5	159 429	SIM-M12-3GD-5-PU
Angled socket							
	Union nut M8			3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU
					5	159 423	SIM-M8-3WD-5-PU
	Union nut M12			3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU
					5	159 431	SIM-M12-3WD-5-PU