

Linear drives DGC



## Linear drives DGC

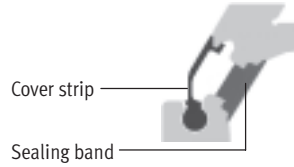
Key features

**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 ... 63 mm
- Stroke lengths from 1 ... 5,000 mm
- Guide backlash = 0.2 mm
- For small loads
- Operating behaviour with torque load = Average

#### Plain-bearing guide DGC-GF



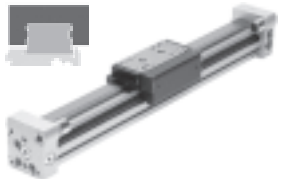
- Piston Ø 18 ... 63 mm
- Stroke lengths from 1 ... 5,000 mm
- Guide backlash = 0.05 mm
- For small and medium loads
- Operating behaviour with torque load = Average

#### Recirculating ball bearing guide DGC-KF



- Piston Ø 8 ... 63 mm
- Stroke lengths from 1 ... 5,000 mm
- 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 mm
- 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 ... 63 mm
- Stroke lengths from 1 ... 5,000 mm
- 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



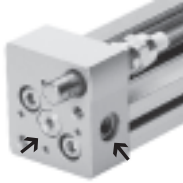
- Without drive
- Piston Ø 18 ... 40 mm
- Stroke lengths from 1 ... 5,000 mm
- Guide backlash = 0 mm
- The protected guide cleans the guide rail and protects the recirculating ball bearing guide by means of an additional wiper seal and lubrication unit

# Linear drives DGC

Key features

## Versatile

### 1 Supply ports



- Optional on two faces (on the end face or from the front)
- For DGC-G/DGC-GF/DGC-KF

### 2 Proximity sensor G/H/I/J



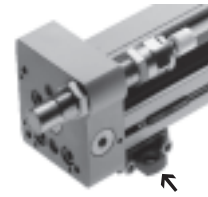
- Proximity sensors can be integrated, which means there is no projection. Cable can be guided through the slot behind a second sensor
- For DGC-G/DGC-GF/DGC-KF

### 3 Precision end position adjustment



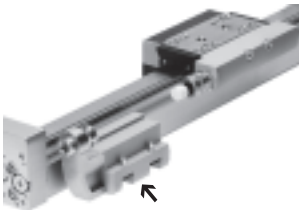
- Between 0 ... 25 mm per side
- For DGC-GF/DGC-KF/DGC-FA

### 4 Profile mounting M



- Profile mounting 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



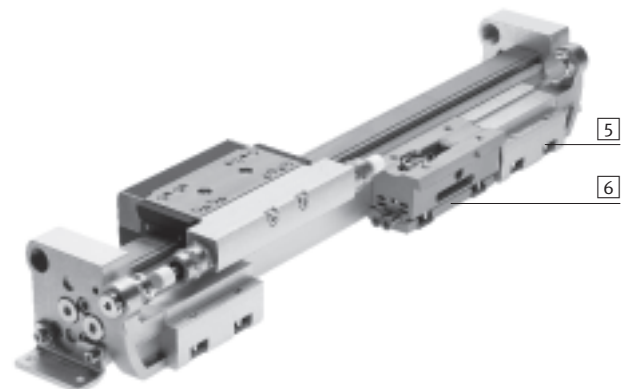
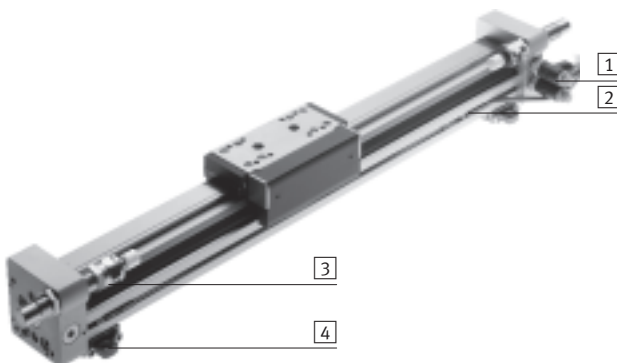
- Permits variable intermediate positions
- The intermediate position module can be mounted at any position within the stroke
- Precision repetition accuracy (0.02 mm) with highly dynamic response
- For DGC-KF

## Driver FK



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

## Example

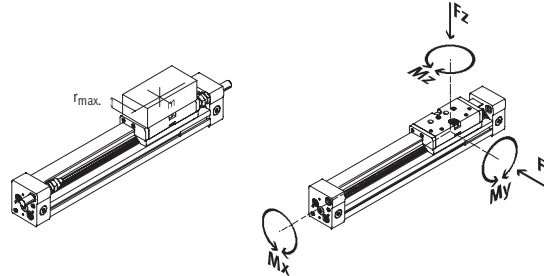






## Linear drives DGC

Key features

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### Product variants



	Piston $\varnothing$ [mm]	Theoretical force at 6 bar [N]	Max. perm. effective load <sup>1)</sup> m [kg] / at max. load distance r [mm]	Guide characteristics					→ Page/ Internet
				Fy [N]	Fz [N]	Mx [Nm]	My [Nm]	Mz [Nm]	
<b>Basic design DGC-G</b>									
	8	30	0.06 / 25	150	150	0.5	2	2	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	
	50	1,178	- / -	480	1,600	20	150	37	
63	1,870	- / -	650	2,000	26	150	48		
<b>Plain-bearing guide DGC-GF</b>									
	18	153	3 / 35	440	540	3.4	20	8.5	24
	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	
	50	1,178	48 / 50	1,500	2,870	54	270	103	
	63	1,870	75 / 50	2,300	4,460	96	450	187	
<b>Recirculating ball bearing guide DGC-KF/DGC-KF-GP</b>									
	8	30	0.7 / 25	300	300	1.7	4.5	4.5	40
	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	
	50	1,178	90 / 50	6,890	6,890	144	634	634	
63	1,870	130 / 50	15,200	15,200	529	1,157	1,157		
<b>Passive guide axis without drive DGC-FA/DGC-FA-GP</b>									
	8	0	0.7 / 25	300	300	1.7	4.5	4.5	dgc-fa
	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	
	50	0	90 / 50	6,890	6,890	144	634	634	
63	0	130 / 50	15,200	15,200	529	1,157	1,157		

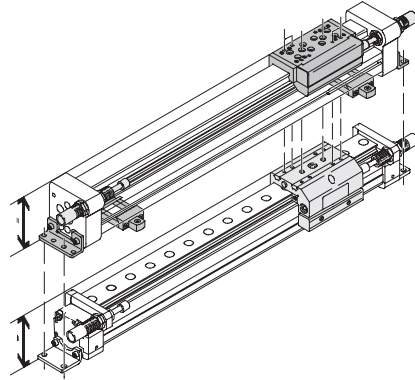
1) At v = 0.5 m/s with shock absorber YSR or YSRW

# 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 → 60
Top			Type HPC-...-SO/ HPC-...-S
Rear			Type HPC-...-SH/ HPC-...-S

## Alternatives

Electro-mechanical drives

Rodless cylinders,  
magnetically coupled  
Linear drives DGO

Toothed belt axes DGE-ZR

Spindle axes DGE-SP



Advantages:

Positioning drive for approaching several positions

→ Internet: dge-zr

Positioning drive for approaching several positions

→ Internet: dge-sp

Hermetically sealed drive

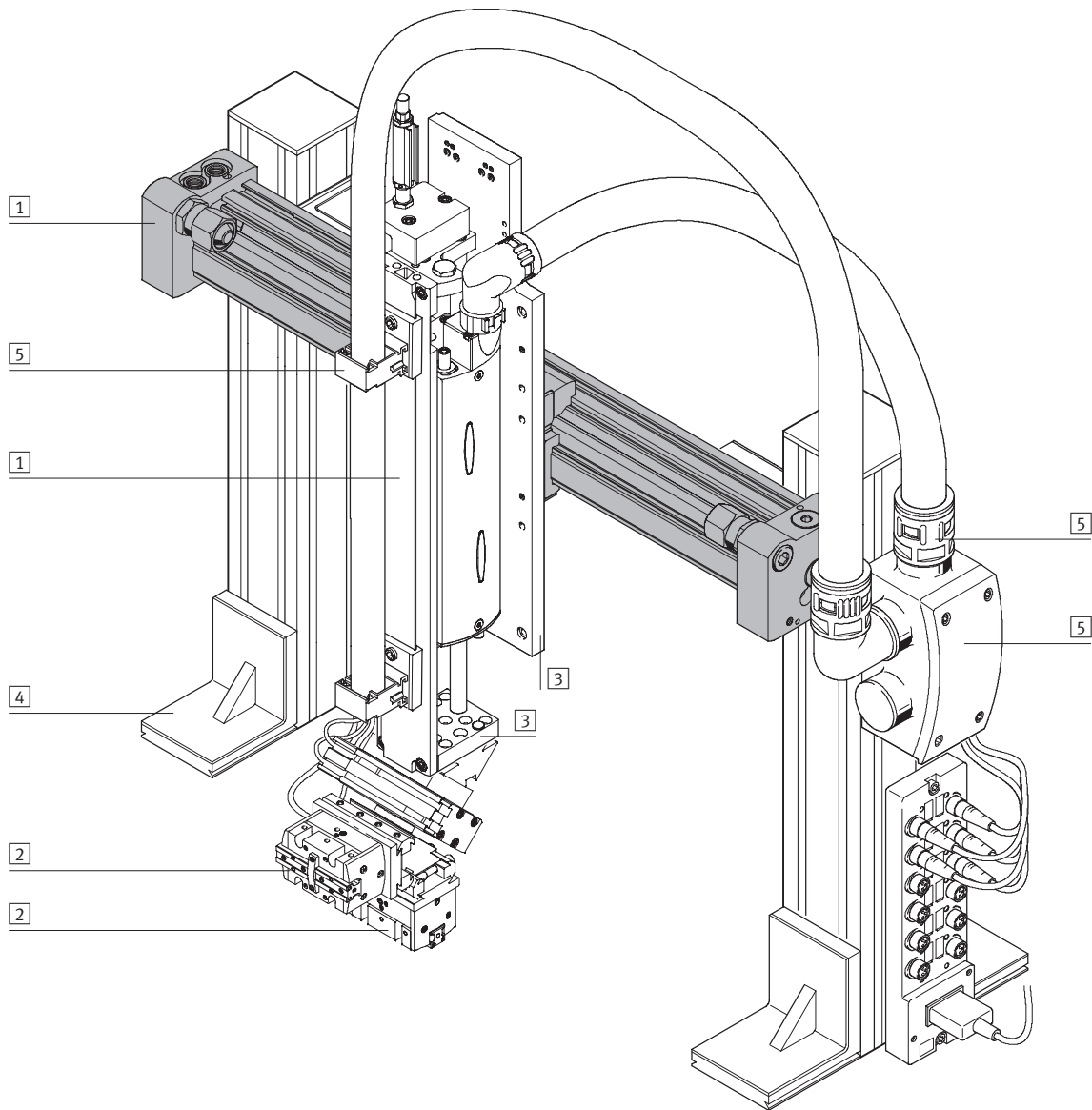
→ Internet: dgo

# Linear drives DGC

Key features

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System product for handling and assembly technology



# Linear drives DGC

Key features


System elements and accessories			
	Brief description	→ Page/Internet	
1	Drive units	Wide range of combinations possible within handling and assembly technology	drive
2	Grippers	Diverse variation options in handling and assembly technology	gripper
3	Adapters	For drive/drive and drive/gripper combinations	adapter kit
4	Basic mounting components	Profiles and profile connectors as well as profile/drive connectors	basic component
5	Installation components	For achieving a clear-cut, safe layout for electrical cables and tubing	installation component
-	Axes	Wide range of combinations possible within handling and assembly technology	axes
-	Motors	Servo and stepper motors, with or without gear unit	motor

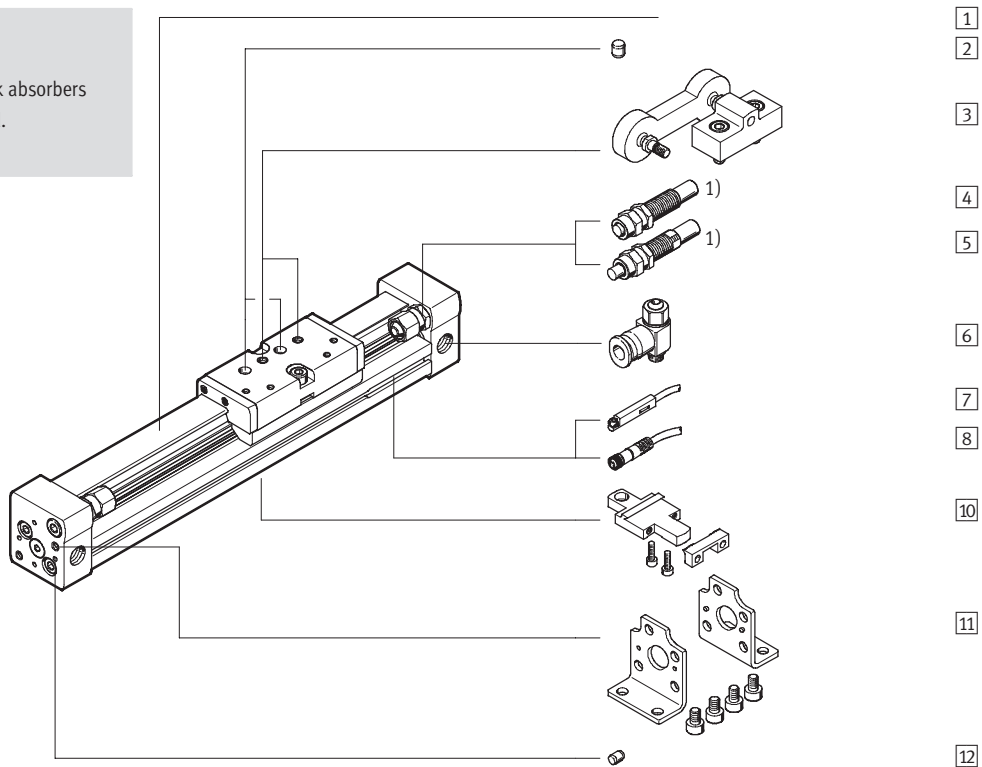
# Linear drives DGC-G

Peripherals overview

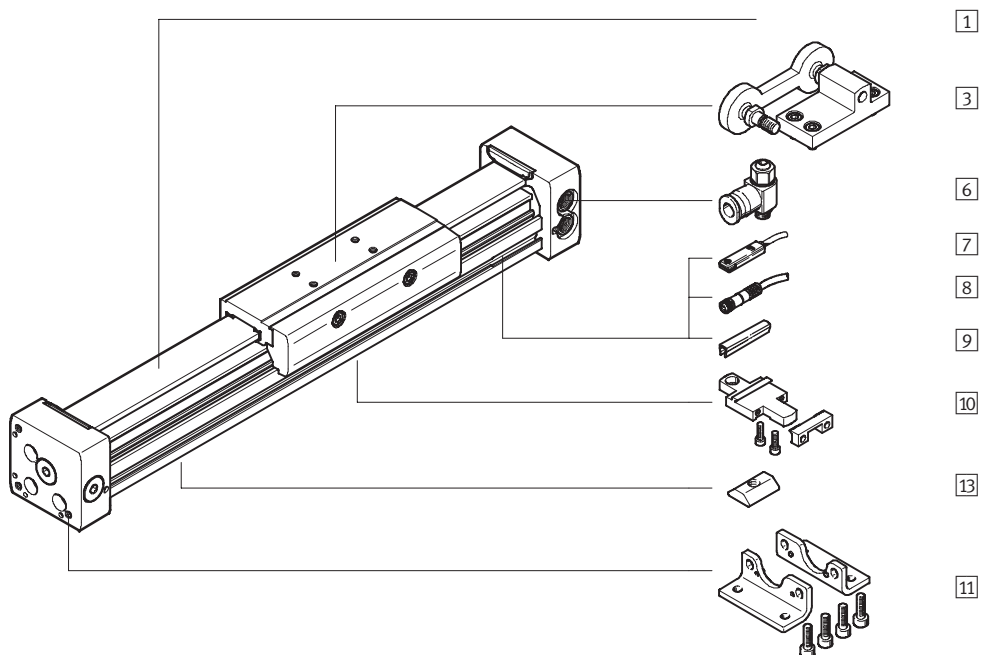


## DGC-8/-12

-  - Note  
 1) End stops or shock absorbers must not be removed.



## DGC-18 ... 63





# Linear drives DGC-G

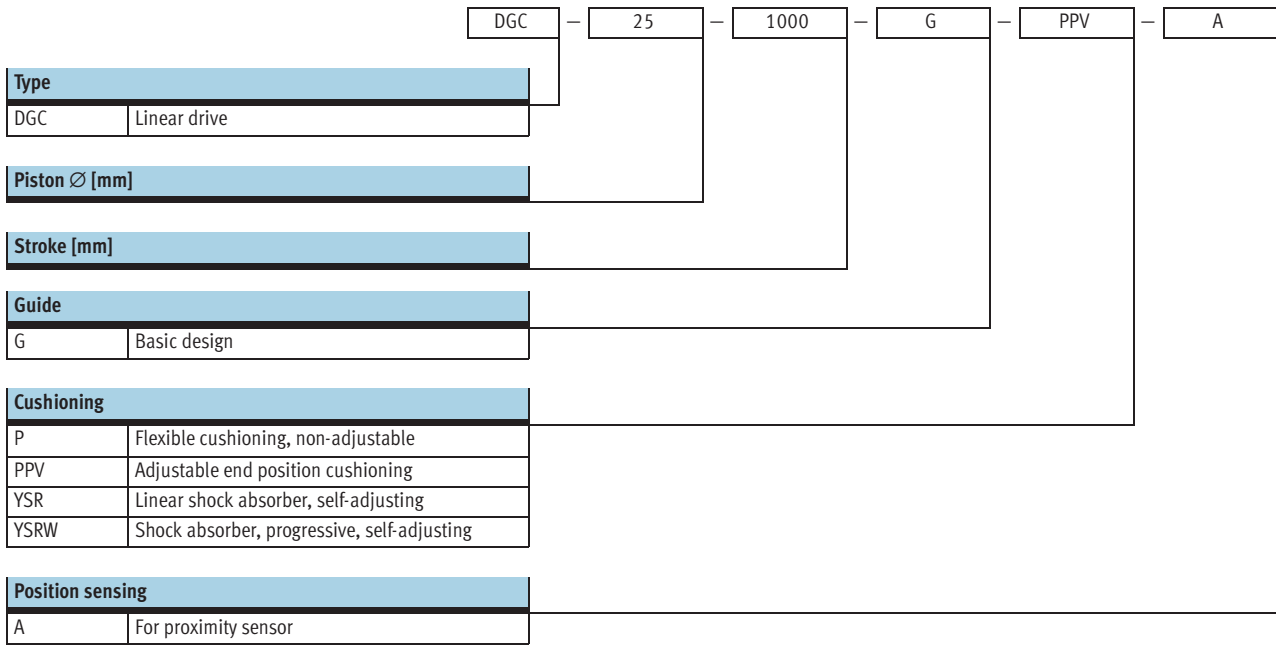
Peripherals overview

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page/Internet
1) Linear drive DGC-G	8 ... 63	Linear drive without accessories, basic design	12
2) Centring pin <sup>1)</sup> ZBS	8, 12	For centring loads and attachments on the slide	72
3) Driver FK	8 ... 63	Compensates inaccuracies in the mounting of the linear drive and external guide	66
– Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds	23
– Cushioning PPV	18 ... 63	Adjustable pneumatic end position cushioning. Used at medium speeds	23
4) Shock absorber YSR	8, 12	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	23
5) Shock absorber YSRW	8, 12	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	23
6) One-way flow control valve GRLA	8 ... 63	For regulating speed	72
7) Proximity sensor G/H/I/J	8 ... 63	For sensing the slide position	73
8) Cable with socket V	8 ... 63	For proximity sensor	73
9) Slot cover L	18 ... 63	For protecting against ingress of dirt and securing proximity sensor cables	72
10) Profile mounting M	8 ... 63	Simple and precise mounting option via dovetail connection	64
11) Foot mounting F	8 ... 63	For mounting on end cap	60
12) Centring pin <sup>1)</sup> ZBS	8, 12	For centring the drive without foot mountings (user-specific)	72
13) Slot nut B	25 ... 63	For mounting attachments	72

1) Included in the scope of delivery of the drive

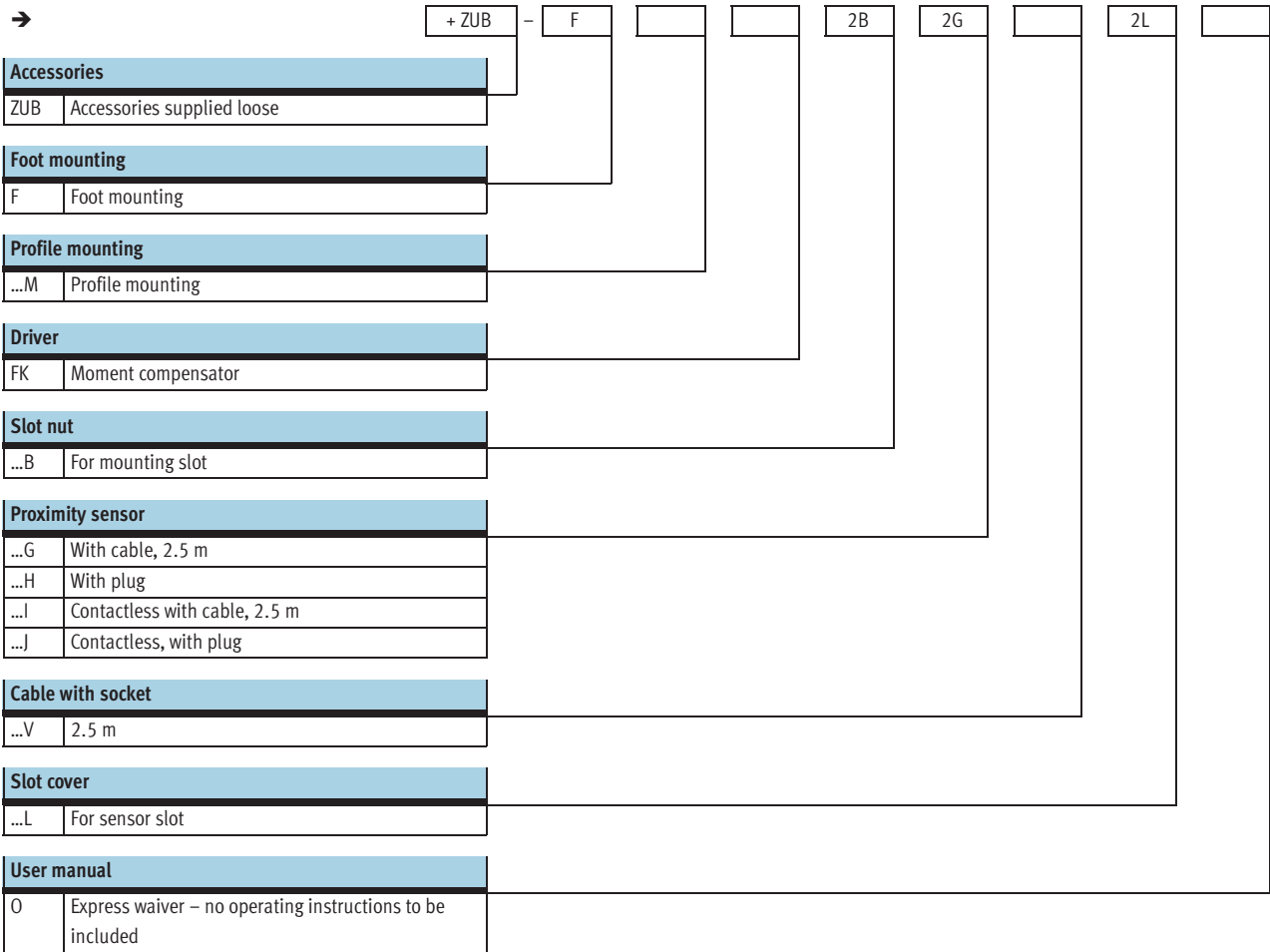
# Linear drives DGC-G

Type codes



# Linear drives DGC-G

Type codes

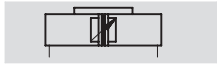


# Linear drives DGC-G

Technical data

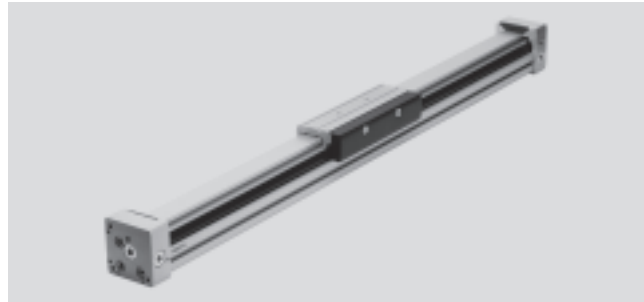
FESTO

Function



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Wearing parts kits  
→ 23



- Ø - Diameter  
8 ... 63 mm
- | - Stroke length  
1 ... 5,000 mm

General technical data									
Piston Ø		8	12	18	25	32	40	50	63
Stroke	[mm]	1 ... 1,500	1 ... 2,000	1 ... 3,000	1 ... 5,000				
Pneumatic connection		M5			G1/8		G1/4	G3/8	
Mode of operation		Double-acting							
Design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		Basic design							
Mounting position		Any							
Cushioning → 15	P	Non-adjustable at either end		-					
	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	29.8	31.1
Position sensing		For proximity sensor							
Type of mounting		Profile mounting							
		Foot mounting							
		Direct mounting							
Max. speed	[m/s]	1	1.2	3					

– | – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions									
Piston Ø		8	12	18	25	32	40	50	63
Operating pressure	[bar]	2.5 ... 8		2 ... 8		1.5 ... 8			
Operating medium		Filtered compressed air, lubricated or unlubricated							
Ambient temperature <sup>1)</sup>	[°C]	+5 ... +60		-10 ... +60					
Corrosion resistance class CRC <sup>2)</sup>		2							
Certification		C-Tick							

1) Note operating range of proximity sensors

2) 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.

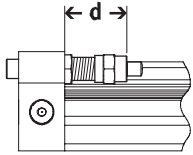
Forces [N] and impact energy [J]									
Piston Ø		8	12	18	25	32	40	50	63
Theoretical force at 6 bar		30	68	153	295	483	754	1,178	1,870
Impact energy at end positions		→ 15							

Weights [g]									
Piston Ø		8	12	18	25	32	40	50	63
Basic weight with 0 mm stroke		170	290	546	1,004	2,126	4,121	9,050	14,040
Additional weight per 10 mm stroke		9	12	22	34	54	77	116	150
Moving load		36	65	178	287	508	1,312	2,850	4,330

# Linear drives DGC-G

Technical data

## Adjustable end position range d [mm]



-  - Note

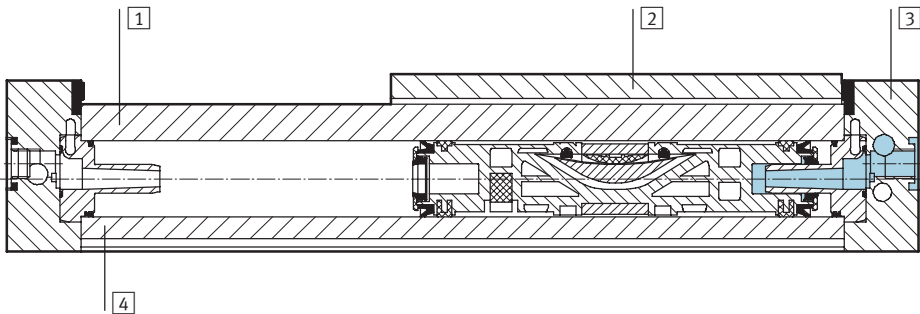
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston Ø	8	12	18	25	32	40	50	63
Cushioning P/PPV	11.3 ... 16.3	12.7 ... 17.7	-					
Cushioning YSR/YSRW	12.8 ... 22.8	14 ... 24	-					

## Materials

Sectional view



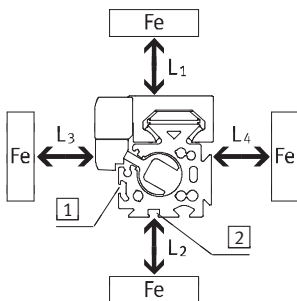
Linear drives		
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

## 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	50	63
Distance L1	1 [mm]	0	0	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0	0	0
Distance L2	1 [mm]	20	10	10	10	0	0	0	0
	2 [mm]	-	-	25	25	25	25	25	25
Distance L3	1 [mm]	30	25	25	25	25	25	25	25
	2 [mm]	-	-	10	10	0	0	0	0
Distance L4	1 [mm]	0	0	0	0	0	0	0	0
	2 [mm]	-	-	0	0	0	0	0	0

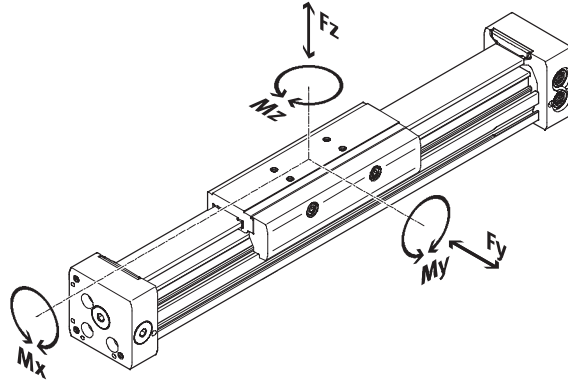
# Linear drives DGC-G

Technical data

## Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

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 → 40 is recommended.

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

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

## Permissible forces and torques

Piston Ø	8	12	18	25	32	40	50	63
$F_{y_{max}}$ [N]	150	300	70	180	250	370	480	650
$F_{z_{max}}$ [N]	150	300	340	540	800	1,100	1,600	2,000
$M_{x_{max}}$ [Nm]	0.5	1.3	1.9	4	9	12	20	26
$M_{y_{max}}$ [Nm]	2	5	12	20	40	60	150	150
$M_{z_{max}}$ [Nm]	2	5	4	5	12	25	37	48

-  - Note

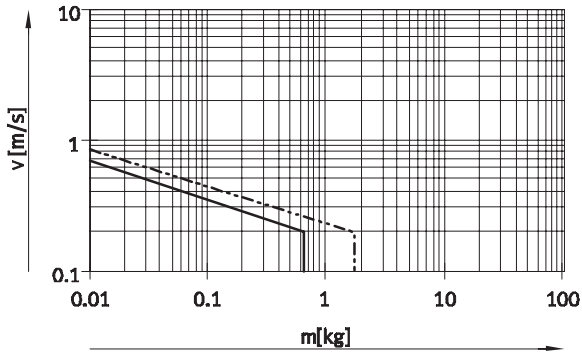
Sizing software  
ProDrive  
→ [www.festo.com](http://www.festo.com)

# Linear drives DGC-G

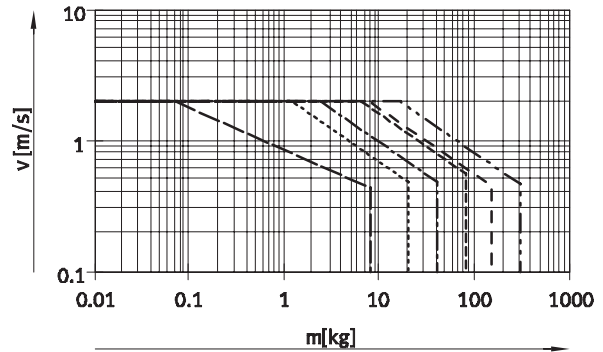
Technical data

## Maximum permissible piston speed $v$ as a function of effective load $m$

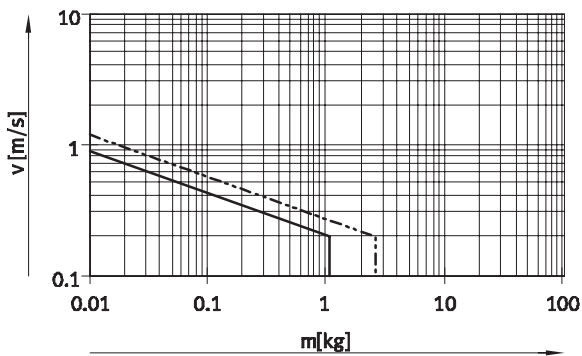
Piston  $\varnothing$  8/12 with P cushioning



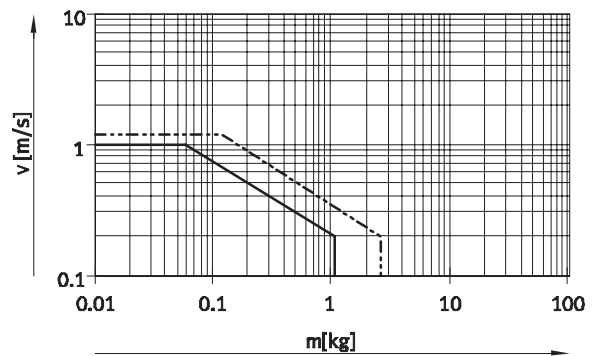
Piston  $\varnothing$  18 ... 63 with PPV cushioning



Piston  $\varnothing$  8/12 with YSR cushioning



Piston  $\varnothing$  8/12 with YSRW cushioning



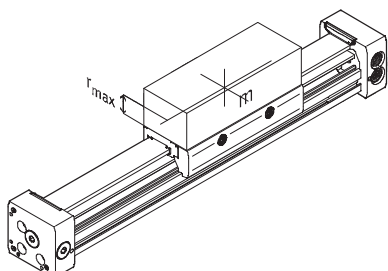
- $\varnothing$  8      - - -  $\varnothing$  18      - - - -  $\varnothing$  40
- - -  $\varnothing$  12    - · - ·  $\varnothing$  25      - - -  $\varnothing$  50
- · - ·  $\varnothing$  32      - - -  $\varnothing$  63

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

## 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 mounting position:

Piston $\varnothing$	8	12	18	25	32	40	50	63
Distance $r_{max}$ [mm]	25	35	35	50	50	50	50	50

# Linear drives DGC-G

Technical data

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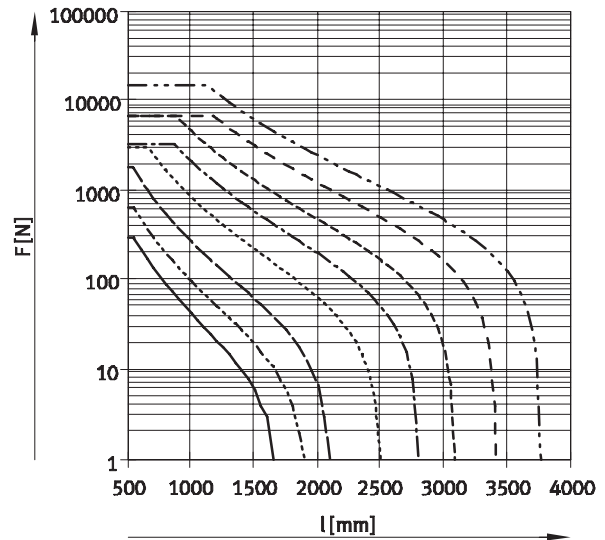
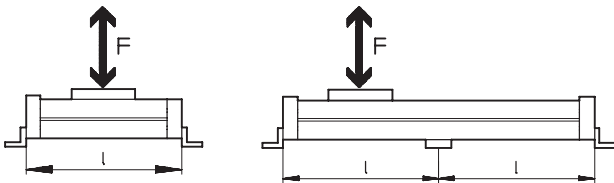
## Number of profile mountings MUC dependent on force due to weight F and support span l

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

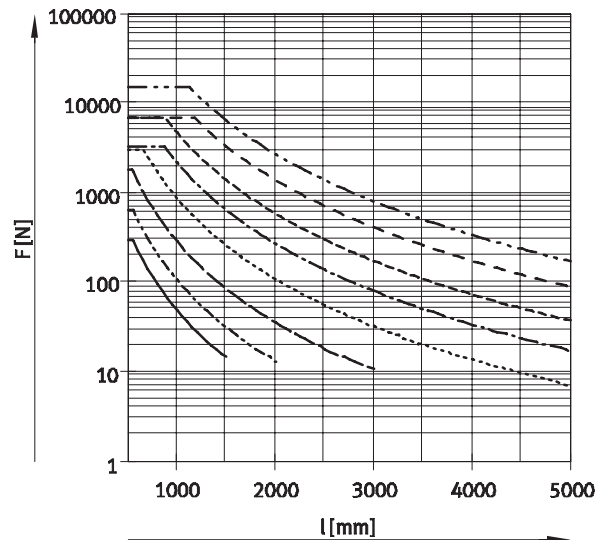
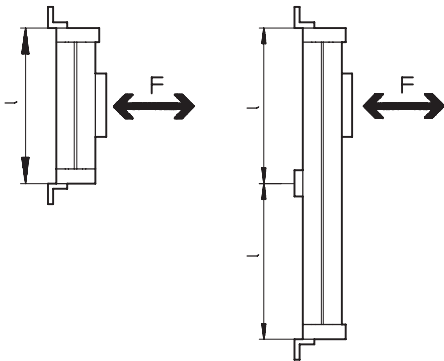
The following diagrams serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular force.

### Horizontal mounting position



### Vertical mounting position



### Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal mounting 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 mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).



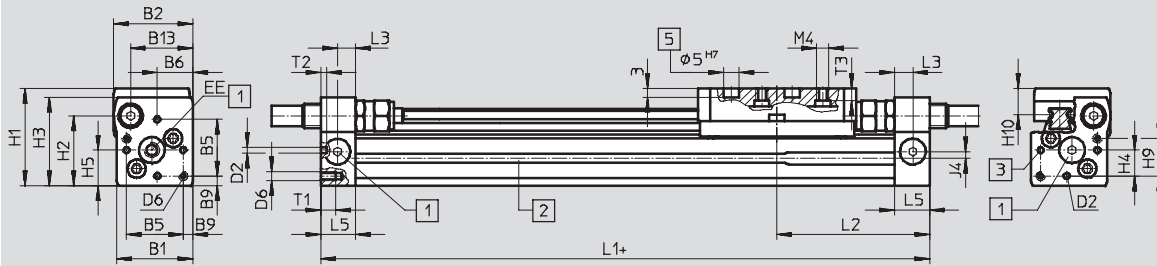
# Linear drives DGC-G

Technical data

## Dimensions

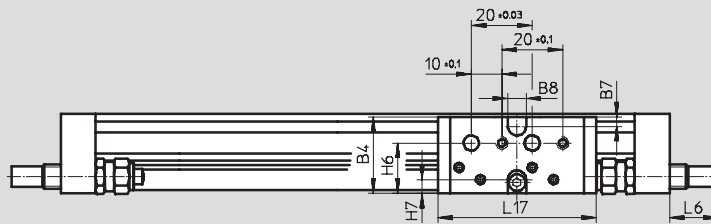
Download CAD data → [www.festo.com](http://www.festo.com)

∅ 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



∅	B1	B2	B4	B5	B6	B7	B8	B9	B13	D2	D6	EE
[mm]							±0.05	±0.1		∅ H8		
8	25	26	25.5	18.6	11.7	3	6	3.2	20.5	2	M3	M5
12	30.2	31	30.5	20.6	13.5	3	8	4.8	25	2	M4	M5

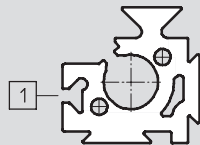
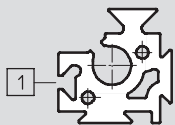
∅	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1	L2
[mm]											+0.5/ -0.4	
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100	50.1
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125	62.1

∅	L3	L5	L6			L17	T1	T2	T3	Stroke tolerance
			P	YSR	YSRW					
[mm]										
8	6	11.5	0	16	16.2	52	5	2	4	0 ... 1.7
12	8	16	0	11.3	12.3	65	6	2	5	

## Profile barrel

∅ 8

∅ 12



- 1 Sensor slot for proximity  
sensor

# Linear drives DGC-G

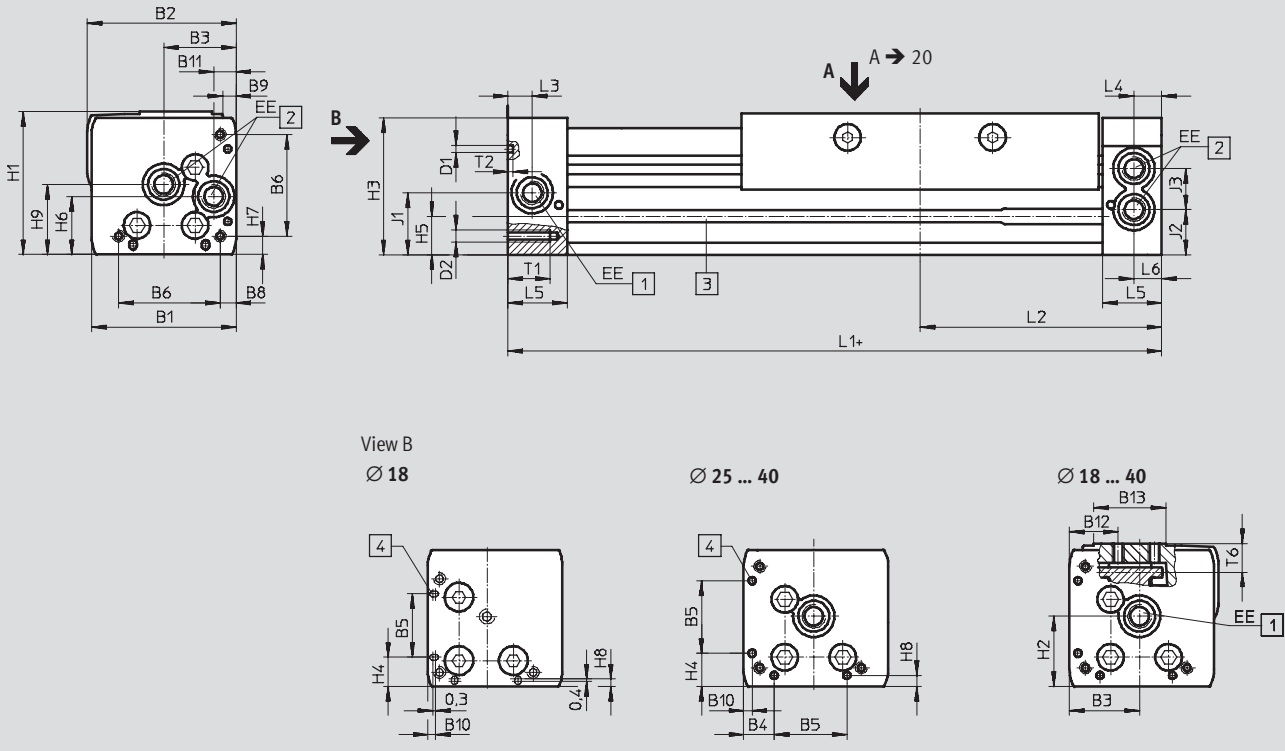
Technical data

FESTO

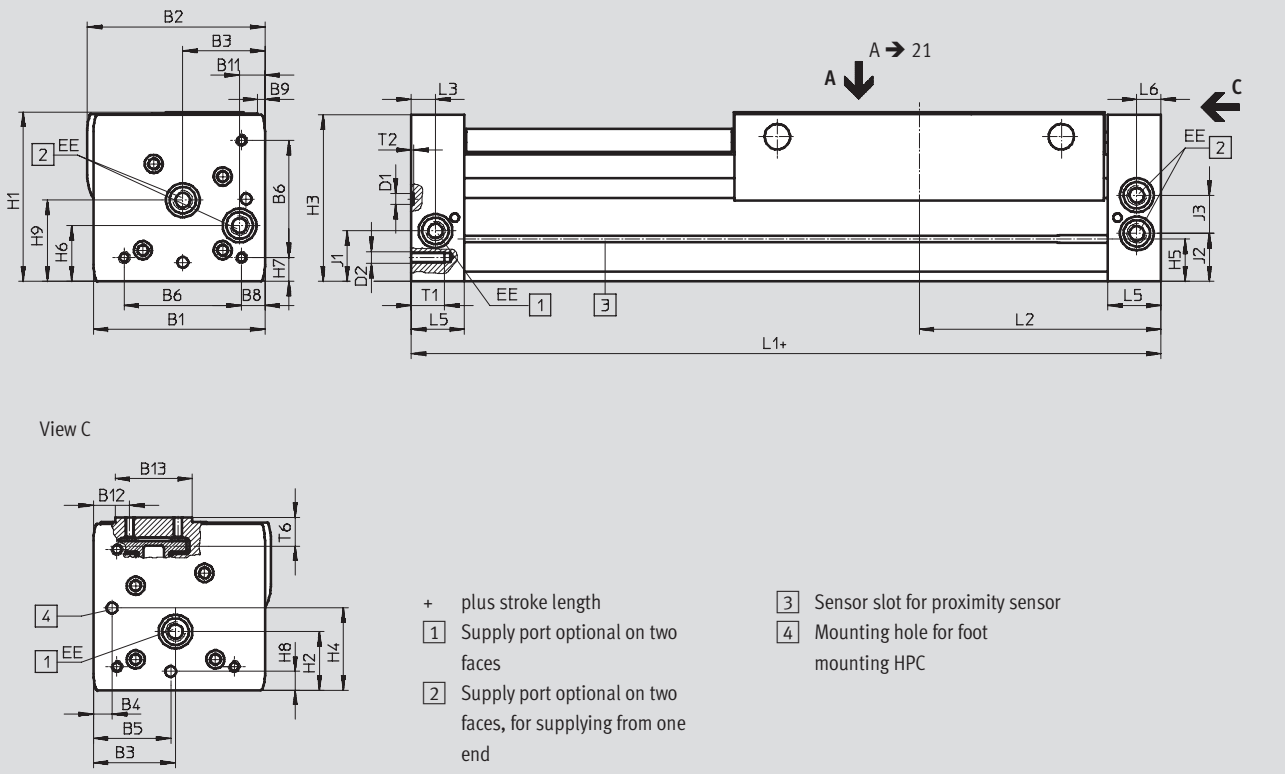
## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

∅ 18 ... 40



∅ 50/63



# Linear drives DGC-G

Technical data

∅	B1	B2	B3	B4	B5	B6	B8	B9
[mm]					±0.05			
18	44.5	46.3	19.5	8.8	21	31	3.8	3.3
25	59.8	61.6	30	12.65	30	42	6.65	5.6
32	73	75.5	38.5	5.7	63.1	57.5	8.5	5
40	91	94.5	45	17.2	55	65	12.2	5.3
50	113	127	60	8	52.8	81.6	12	0
63	142	147	68	15.5	68	97	19.5	6

∅	B10	B11	B12	B13	D1	D2	EE	H1	H2
[mm]					∅				
18	2.4	5.5	19.3	20	2±0.05	M4	M5	49.8	23.1
25	3.5	9.3	20.15	30	3±0.05	M5	G1/8	58.5	29
32	14	14.9	20.5	35	3±0.05	M6	G1/8	73	30
40	8	16.5	19.8	45	4±0.05	M6	G1/4	88	41.5
50	-	21	24	64	9H7	M8	G1/4	120	38.5
63	-	21	30	64	9H7	M10	G3/8	140	48.5

∅	H3	H4	H5	H6	H7	H8	H9	J1	J2
[mm]		±0.2							
18	48.3	10.3	13.4	20	5.3	2.4	25.2	20	16.5
25	56.5	13	15.8	24	7	4.5	29	26.1	18.6
32	71.5	5.7	17	27.7	8.5	14	35.2	30	22
40	85	17.2	25	36.5	12.2	8	44	35	26
50	116	52.8	29.3	36	12	8	53	30.5	30.5
63	137.5	68	34.8	46	19.5	15.5	67	41.5	39.5

∅	J3	L1	L2	L3	L4	L5	L6	T1	T2	T6	Stroke tolerance
[mm]		+0.9/-0.2									
18	11	150	74.5	5.7	5.8	15	5.5	9	2	10.7	0 ... 2.5
25	17	200	100	10.5	10.6	24.5	10.6	17.5	2	12	
32	18.5	250	124.8	14.5	14.5	30.5	14.5	15	2	13.8	
40	26	300	150	14.6	14.6	33.5	14.6	20	3	16.8	
50	28	350	175	17	-	41	17	24	2.1 <sup>+0.2</sup>	20.75	
63	31.5	400	200	20	-	44	20	27.5	2.1 <sup>+0.2</sup>	20.75	

· | - Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Linear drives DGC-G

Technical data

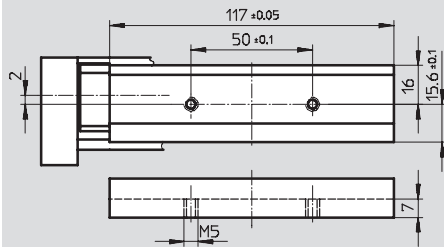
FESTO

## Dimensions

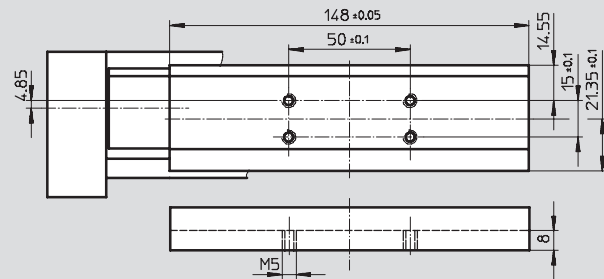
Download CAD data → [www.festo.com](http://www.festo.com)

Slide – View A

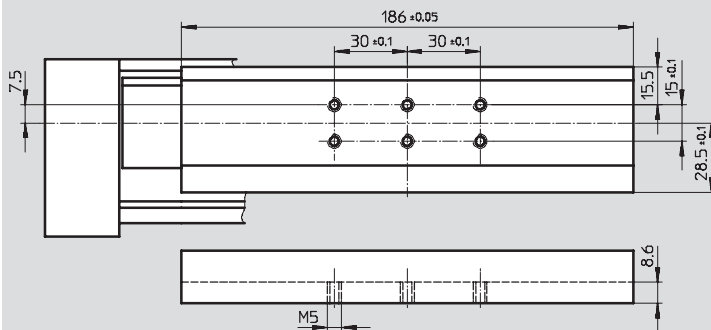
Ø 18



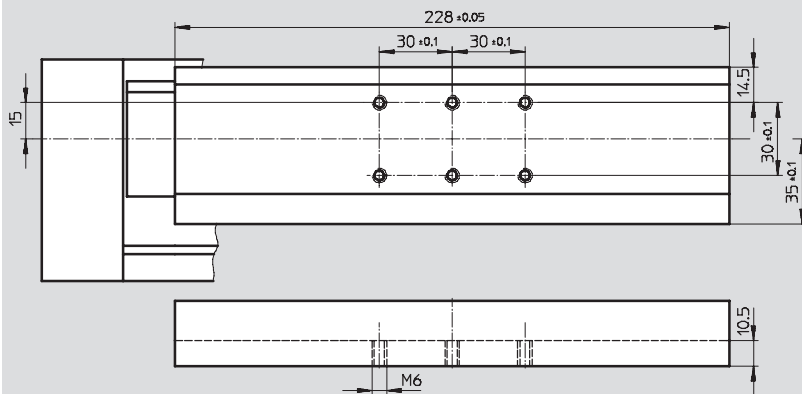
Ø 25



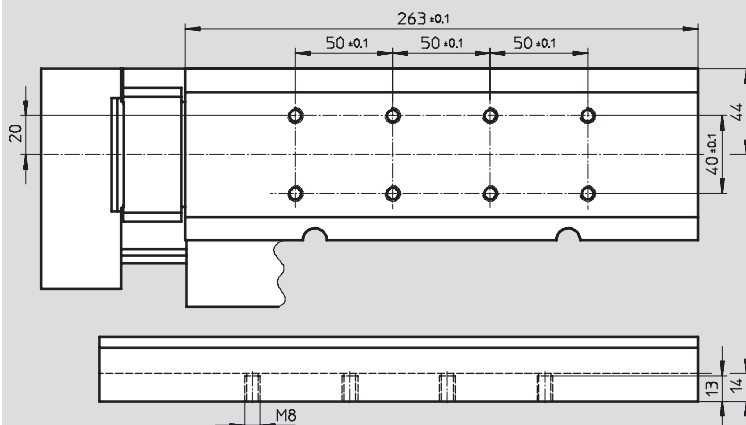
Ø 32



Ø 40



Ø 50



# Linear drives DGC-G

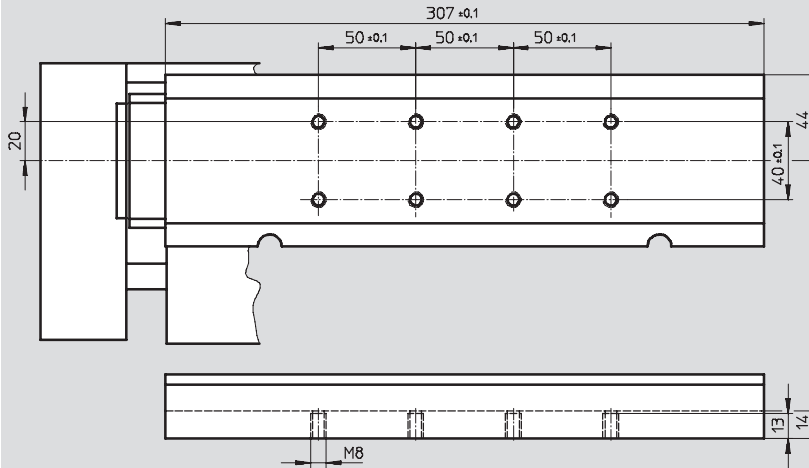
Technical data

## Dimensions

Download CAD data → [www.festo.com](http://www.festo.com)

Slide – View A

Ø 63



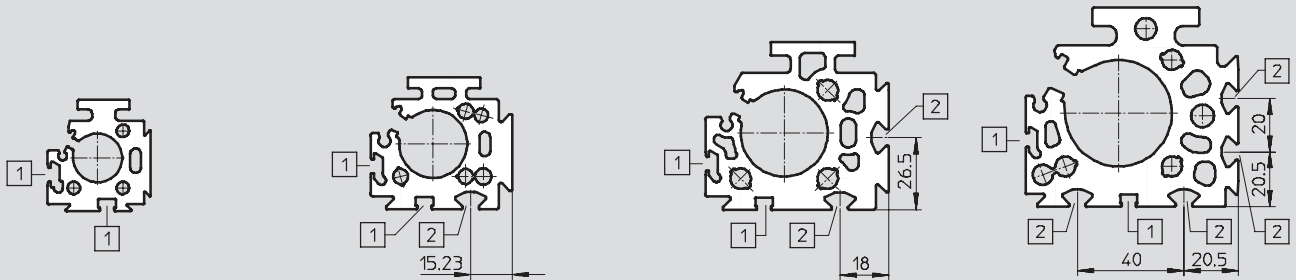
## Profile barrel

Ø 18

Ø 25

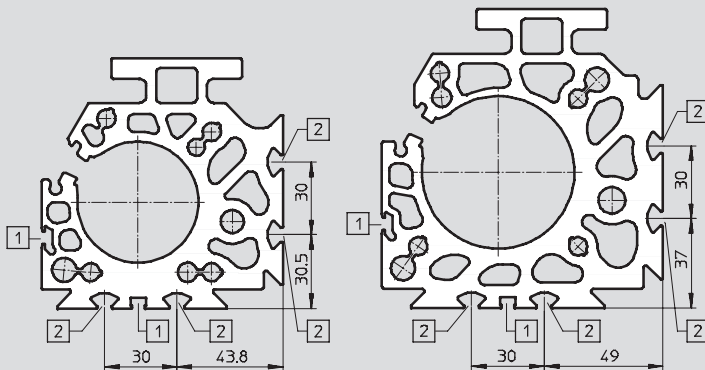
Ø 32

Ø 40



Ø 50

Ø 63



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


# Linear drives DGC-G

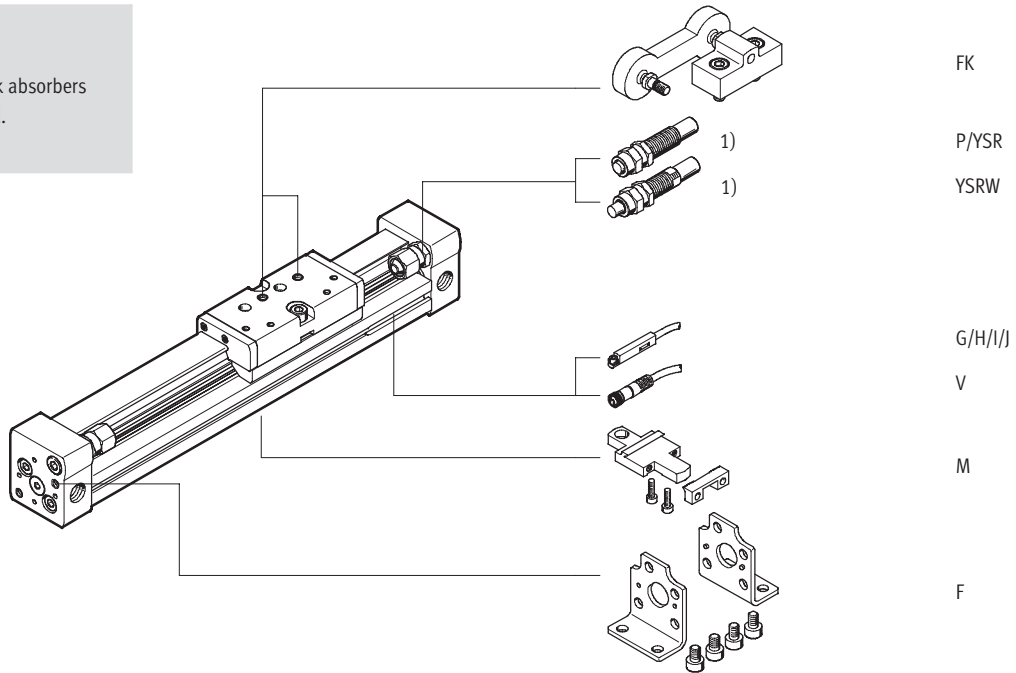
Ordering data – Modular products

## Order code

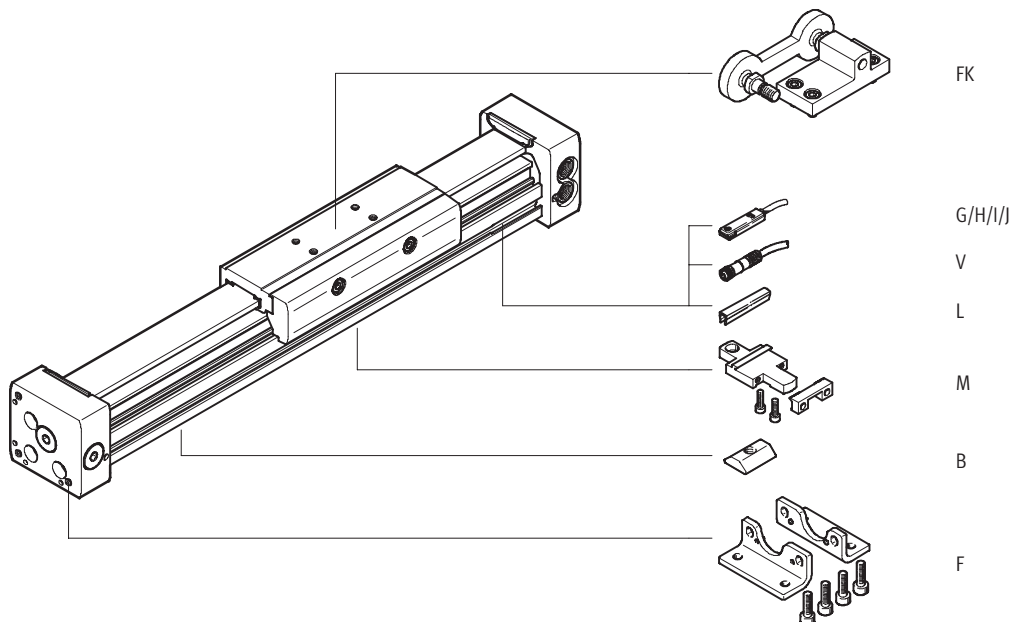
Mandatory data/options

## DGC-8/-12

-  - Note  
1) End stops or shock absorbers must not be removed.



## DGC-18 ... 63



# Linear drives DGC-G

Ordering data – Modular products

Mandatory data				Options					
Module No.	Function	Stroke	Cushioning	Accessories					
	Piston Ø	Guide	Position sensing	Accessories supplied loose	User manual				
530 906	DGC	8	P	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							
532 450		50							
532 451		63							
<b>Order example</b>									
<b>530 906</b>	<b>DGC</b>	<b>8</b>	<b>300</b>	<b>G</b>	<b>P</b>	<b>A</b>	<b>ZUB</b>	<b>F2M</b>	<b>0</b>

Ordering table												
Size	8	12	18	25	32	40	50	63	Condi- tions	Code	Enter code	
M Module No.	530 906	530 907	532 446	532 447	532 448	532 449	532 450	532 451				
Function	Linear drive									DGC	DGC	
Piston Ø [mm]	8	12	18	25	32	40	50	63		-...		
Stroke [mm]	1 ... 1500	1 ... 2000	1 ... 3000	1 ... 5000					1	-...		
Guide	Basic design									-G	-G	
Cushioning	At both ends	Flexible cushioning rings/plates	-	-	-	-	-	-		-P		
	Adjustable at both ends	-	-	Pneumatic cushioning							-PPV	
	Self-adjusting	Shock absorber	-	-	-	-	-	-	-		-YSR	
Shock absorber, progressive		-	-	-	-	-	-	-		-YSRW		
Position sensing	For proximity sensor									-A	-A	
O Accessories	Supplied loose (can be retrofitted)									ZUB-	ZUB-	
Foot mounting	1									F		
Profile mounting	1 ... 9									...M		
Driver	Moment compensator									FK		
Slot nut for mounting slot	-	-	-	1 ... 9						...B		
Proximity sensor	Cable, 2.5 m	1 ... 9									...G	
	M8 plug	1 ... 9									...H	
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9									...I	
	M8 plug	1 ... 9									...J	
Cable with socket	M8, 2.5 m	1 ... 9									...V	
Slot cover for sensor slot	-	-	1 ... 9							...L		
User manual	Express waiver – no operating instructions to be included (already available)									-O		

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

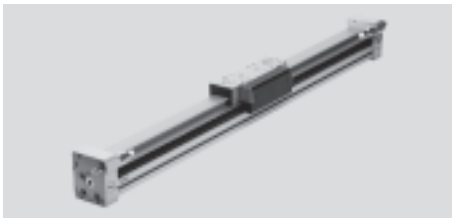
### Transfer order code


**DGC** -  -  - **G** -  - **A** **ZUB** -  -

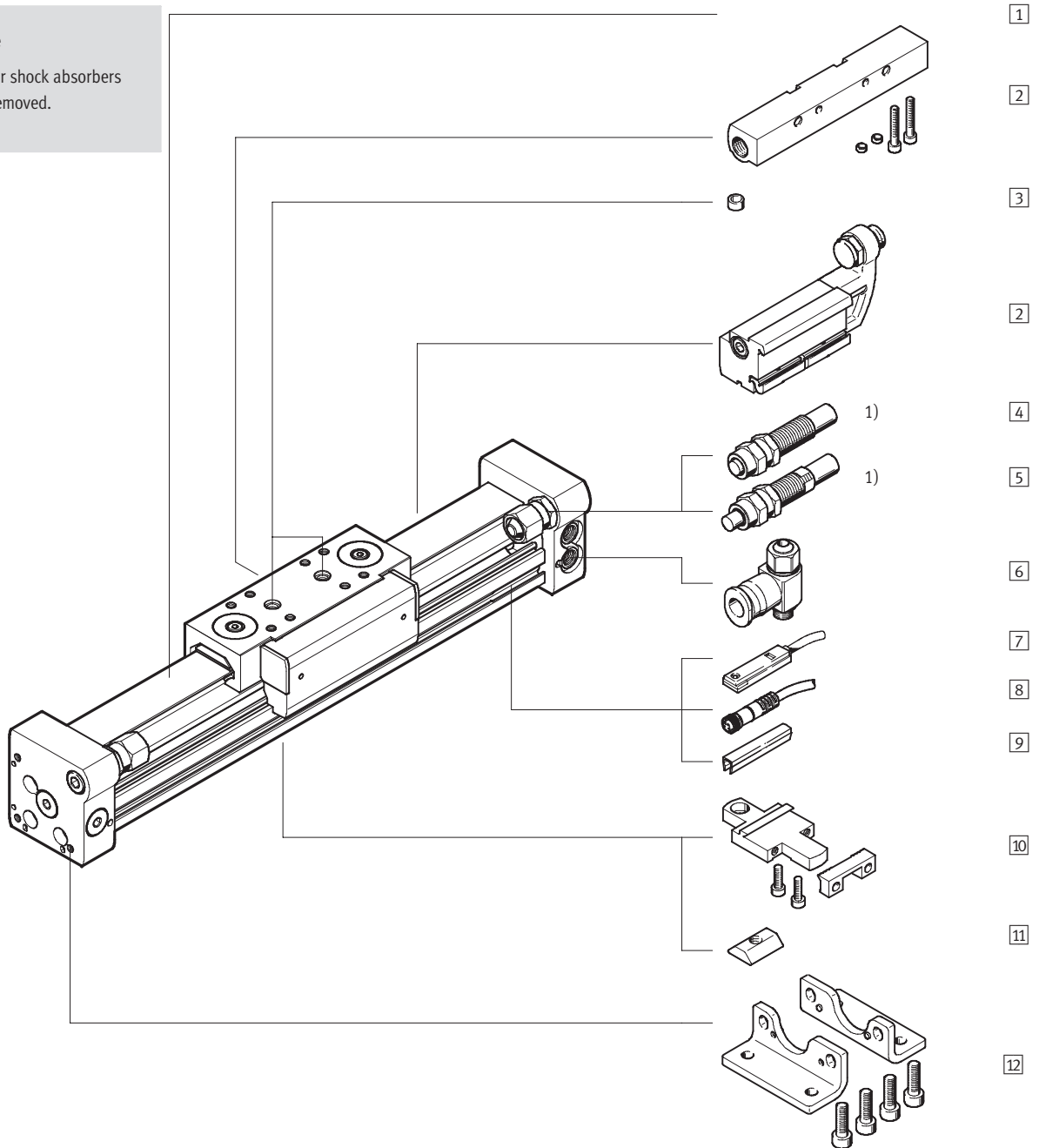
Ordering data – Wearing parts kits					
Piston Ø	Part No.	Type	Piston Ø	Part No.	Type
8	665 333	DGC-8-G	32	684 488	DGC-32
12	665 334	DGC-12-G	40	684 489	DGC-40
18	684 486	DGC-18	50	719 825	DGC-50
25	684 487	DGC-25	63	719 826	DGC-63

# Linear drives DGC-GF, with plain-bearing guide

Peripherals overview



-  - Note  
 1) End stops or shock absorbers must not be removed.





# Linear drives DGC-GF, with plain-bearing guide

Peripherals overview

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page/Internet
1) Linear drive DGC-GF	18 ... 63	Linear drive without accessories, plain-bearing guide	28
2) Mechanical end position limiter YWZ	18 ... 63	For variable end position adjustment, e.g. for format adjustments	68
3) Centring pin/sleeve <sup>1)</sup> ZBS/ZBH	18 ... 63	For centring loads and attachments on the slide	72
– Cushioning PPV	18 ... 63	Adjustable pneumatic end position cushioning. Used at medium speeds	39
4) Shock absorber YSR	18 ... 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	39
5) Shock absorber YSRW	18 ... 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	39
6) One-way flow control valve GRLA	18 ... 63	For regulating speed	72
7) Proximity sensor G/H/I/J	18 ... 63	For sensing the slide position	73
8) Cable with socket V	18 ... 63	For proximity sensor	73
9) Slot cover L	18 ... 63	For protecting against ingress of dirt and securing proximity sensor cables	72
10) Profile mounting M	18 ... 63	Simple and precise mounting option via dovetail connection	64
11) Slot nut B	25 ... 63	For mounting attachments	72
12) Foot mounting F	18 ... 63	For mounting on end cap	60

1) Included in the scope of delivery of the drive

# Linear drives DGC-GF, with plain-bearing guide

Type codes

DGC – 25 – 1000 – GF – YSR – A

**Type**

DGC	Linear drive
-----	--------------

**Piston Ø [mm]**

**Stroke [mm]**

**Guide**

GF	Plain-bearing guide
----	---------------------

**Cushioning**

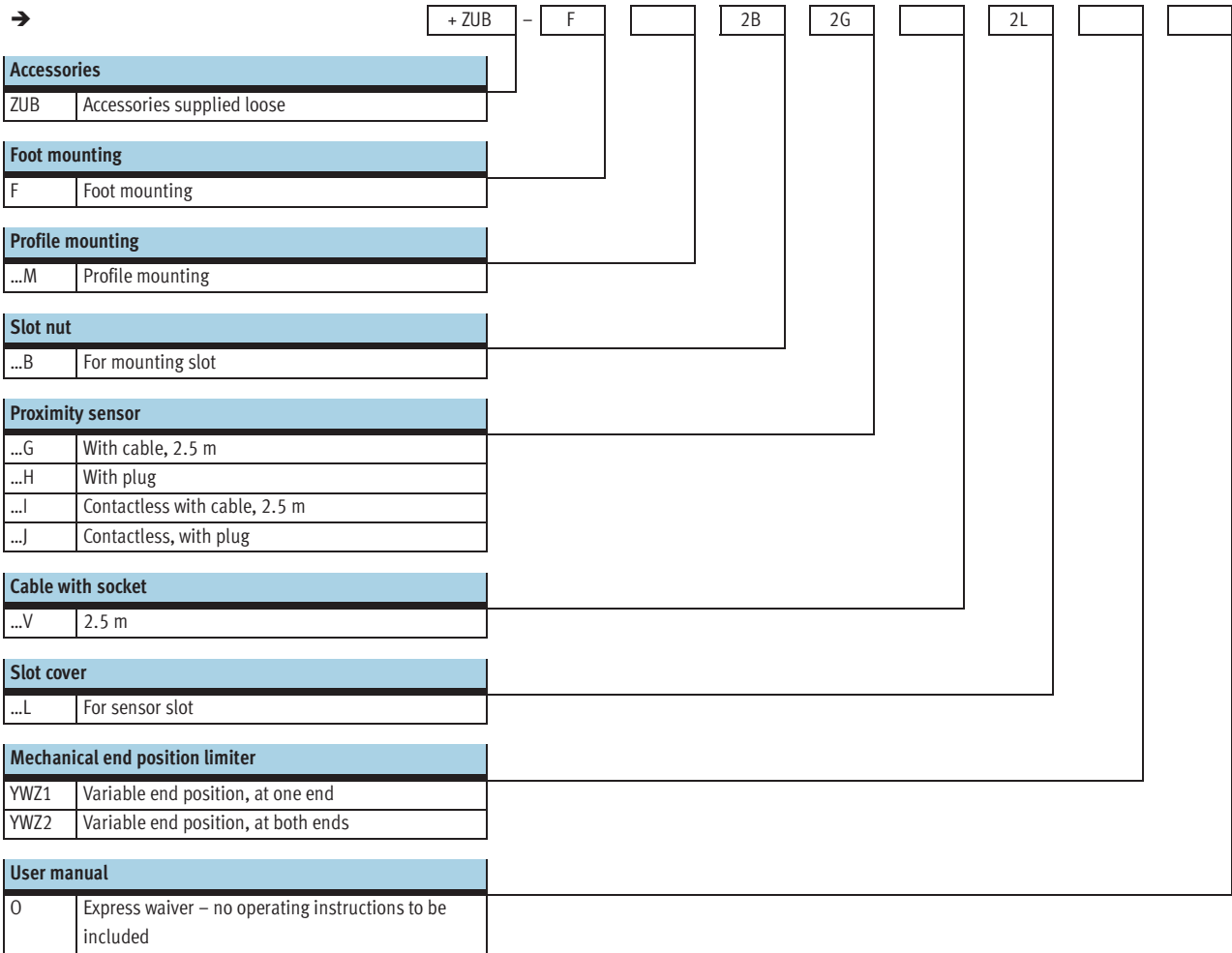
PPV	Adjustable end position cushioning
YSR	Linear shock absorber, self-adjusting
YSRW	Shock absorber, progressive, self-adjusting

**Position sensing**

A	For proximity sensor
---	----------------------

# Linear drives DGC-GF, with plain-bearing guide

Type codes

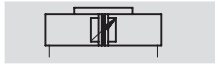


# Linear drives DGC-GF, with plain-bearing guide

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Technical data

Function

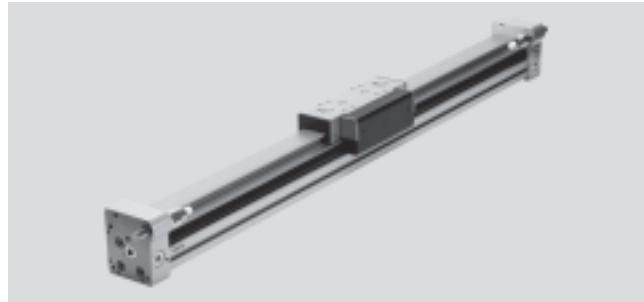


www.festo.com

Wearing parts kits  
→ 39

∅ - Diameter  
18 ... 63 mm

l - Stroke length  
1 ... 5,000 mm



General technical data						
Piston ∅	18	25	32	40	50	63
Stroke [mm]	1 ... 3,000		1 ... 5,000			
Pneumatic connection	M5	G $\frac{1}{8}$		G $\frac{1}{4}$	G $\frac{3}{8}$	
Mode of operation	Double-acting					
Design	Rodless drive					
Driver principle	Slotted cylinder, mechanically coupled					
Guide	Plain-bearing guide					
Mounting position	Any					
Cushioning → 31	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	29.8	31.1
Position sensing	For proximity sensor					
Type of mounting	Profile mounting					
	Foot mounting					
	Direct mounting					
Max. speed [m/s]	3					

⚠ Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions						
Piston ∅	18	25	32	40	50	63
Operating pressure [bar]	2 ... 8			1.5 ... 8		
Operating medium	Filtered compressed air, lubricated or unlubricated					
Ambient temperature <sup>1)</sup> [°C]	-10 ... +60					
Corrosion resistance class CRC <sup>2)</sup>	2					
Certification	C-Tick					

1) Note operating range of proximity sensors

2) 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

Forces [N] and impact energy [J]						
Piston ∅	18	25	32	40	50	63
Theoretical force at 6 bar	153	295	483	754	1,178	1,870
Impact energy at end positions	→ 31					

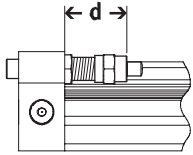
Weights [g]						
Piston ∅	18	25	32	40	50	63
Basic weight with 0 mm stroke	763	1,609	2,532	5,252	10,065	16,308
Additional weight per 10 mm stroke	23	35	55	76	117	180
Moving load	267	526	824	1,725	3,319	5,226

# Linear drives DGC-GF, with plain-bearing guide

Technical data

FESTO

## Adjustable end position range d [mm]



-  - Note

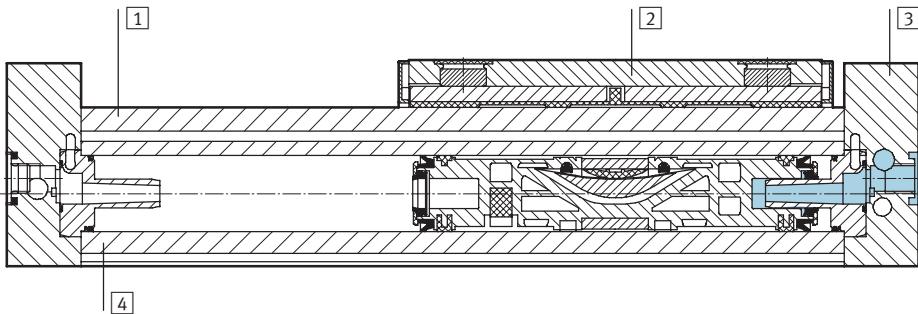
The permissible kinetic energy decreases if the stroke is reduced

with PPV adjustable cushioning at both ends.

Piston $\varnothing$	18	25	32	40	50	63
Cushioning PPV	13.8 ... 15.8	21.1 ... 25.1	25.2 ... 30.2	28.7 ... 33.7	28.7 ... 33.7	38.8 ... 43.8
Cushioning YSR/YSRW	14.5 ... 24.5	22.5 ... 32.5	27.3 ... 37.3	31 ... 41	31 ... 56	41 ... 76

## Materials

Sectional view



## Linear drives

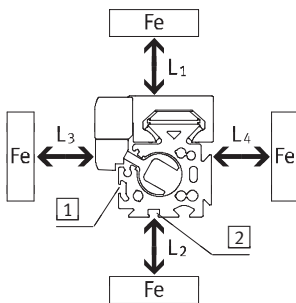
1	Guide rail	Anodised aluminium
2	Slide	Anodised aluminium
3	End cap	Anodised aluminium
4	Cylinder barrel	Anodised aluminium
-	Piston seal	Polyurethane
-	Sealing band/cover strip	Polyurethane
-	Slide elements	Polyacetate

## 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 $\varnothing$			8	12	18	25	32	40	50	63
Distance L1	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	-	-	0	0	0	0	0	0
Distance L2	1	[mm]	20	10	10	10	0	0	0	0
	2	[mm]	-	-	25	25	25	25	25	25
Distance L3	1	[mm]	30	25	25	25	25	25	25	25
	2	[mm]	-	-	10	10	0	0	0	0
Distance L4	1	[mm]	0	0	0	0	0	0	0	0
	2	[mm]	-	-	0	0	0	0	0	0

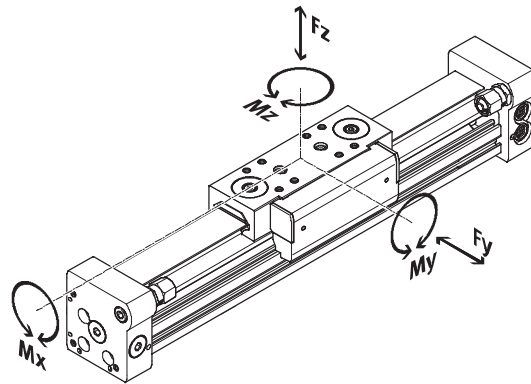
# Linear drives DGC-GF, with plain-bearing guide

Technical data

## Characteristic load values

The indicated forces and torques refer to the centre of the slide surface.

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 → 40 is recommended.

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

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

Permissible forces and torques referred to a speed of travel of 0.2 m/s							
Piston Ø		18	25	32	40	50	63
F <sub>y</sub> <sub>max.</sub>	[N]	440	640	900	1,380	1,500	2,300
F <sub>z</sub> <sub>max.</sub>	[N]	540	1,300	1,800	2,000	2,870	4,460
M <sub>x</sub> <sub>max.</sub>	[Nm]	3.4	8.5	15	28	54	96
M <sub>y</sub> <sub>max.</sub>	[Nm]	20	40	70	110	270	450
M <sub>z</sub> <sub>max.</sub>	[Nm]	8.5	20	33	54	103	187

-  - Note

Sizing software

ProDrive

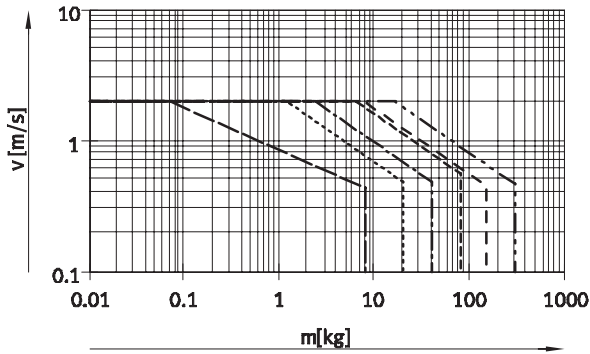
→ [www.festo.com](http://www.festo.com)

# Linear drives DGC-GF, with plain-bearing guide

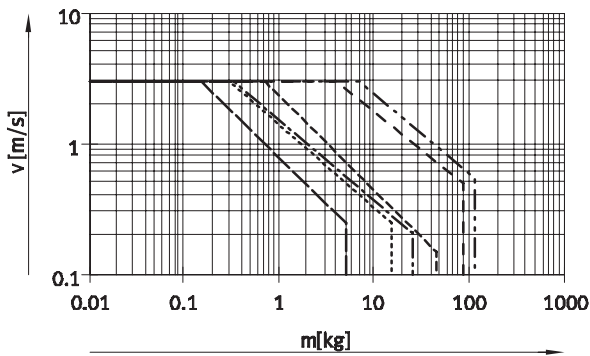
Technical data

## Maximum permissible piston speed $v$ as a function of effective load $m$

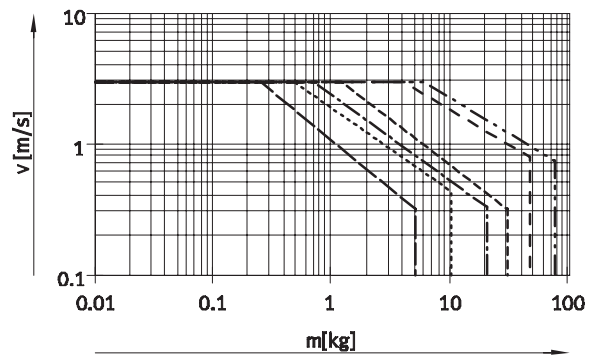
With PPV cushioning



With YSR cushioning



With YSRW cushioning



- Ø 18
- - - - - Ø 25
- · - · - Ø 32
- - - - - Ø 40
- - - - - Ø 50
- · - · - Ø 63

Note

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

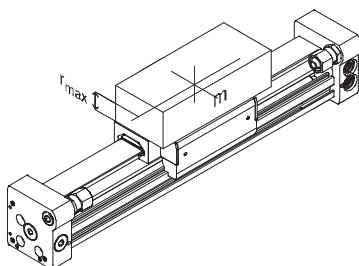
## Operating range of cushioning

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.



Piston Ø	8	12	18	25	32	40	50	63
Distance $r_{max}$ [mm]	25	35	35	50	50	50	50	50

# Linear drives DGC-GF, with plain-bearing guide

Technical data

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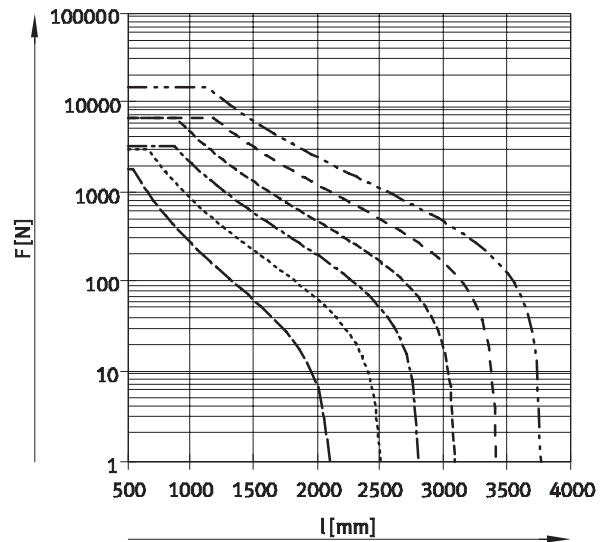
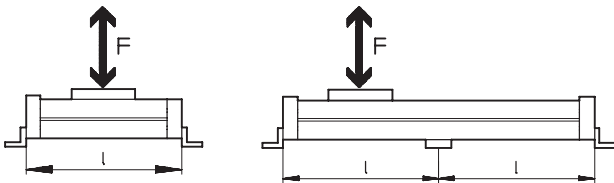
## Number of profile mountings MUC dependent on force due to weight F and support span l

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

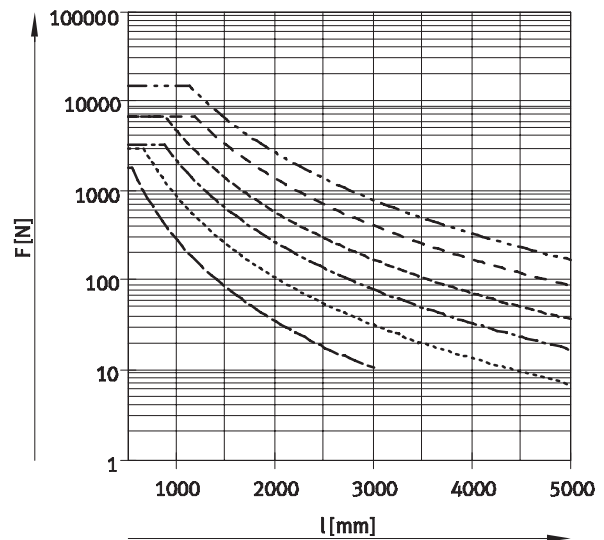
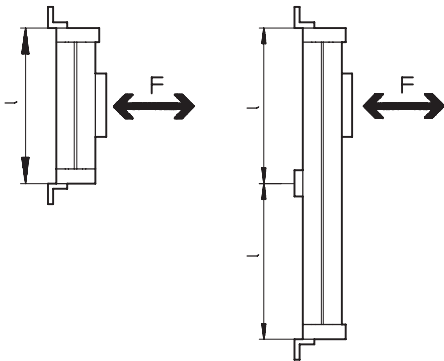
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular force.

### Horizontal mounting position



### Vertical mounting position



- |           |      |           |      |
|-----------|------|-----------|------|
| —         | ∅ 18 | - - - -   | ∅ 40 |
| - · - · - | ∅ 25 | - - - -   | ∅ 50 |
| - · - · - | ∅ 32 | - · - · - | ∅ 63 |

### Example:

The drive DGC-25-1500 is subjected to a force of 300 N in horizontal mounting 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 mountings 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

**Dimensions** Download CAD data → [www.festo.com](http://www.festo.com)

Ø 50/63

**View C**

- + 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	B8	B9	B11	B12	B13	D1	D2
[mm]					±0.05							Ø H7	
50	113	126.5	60	8	52.8	81.6	12	-	21	24	97	9	M8
63	142	149	68	15.5	68	97	19.5	5	21	30	123.5	9	

Ø	EE	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	J1
[mm]												±0.05	
50	G¼	124.5	38.5	122.5	52.8	29.3	36	12	8	53	104.5	100	30.5
63	G¾	153.5	48.5	151	68	34.8	46	19.5	15.5	67	131	120	41.5

Ø	J2	J3	L1	L2	L3	L5	L6	L8			T1	T2	T6	Stroke tolerance
								PPV	YSR	YSRW				
[mm]			+0.9/-0.2								+0.2			
50	30.5	28	350	175	17	41	17	0	31	36.3	24	2.1	30.4	0 ... 2.5
63	39.5	31.5	400	200	20	44	20	0	38.3	48.3	27.5	2.1	36.2	

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Linear drives DGC-GF, with plain-bearing guide

Technical data

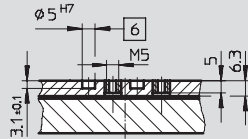
FESTO

## Dimensions

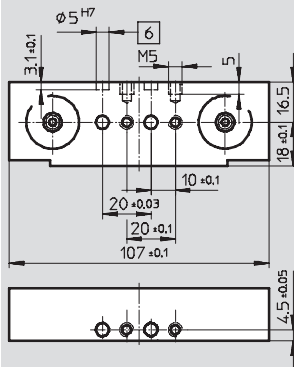
Download CAD data → [www.festo.com](http://www.festo.com)

Slide

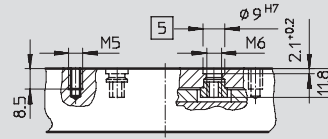
Ø 18



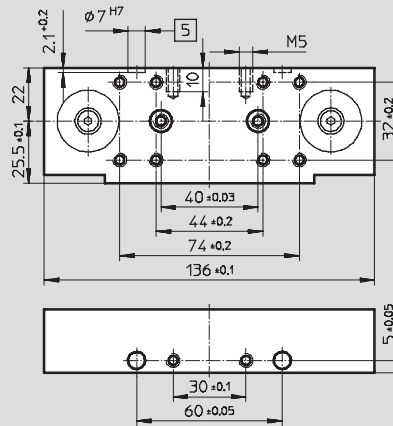
View A



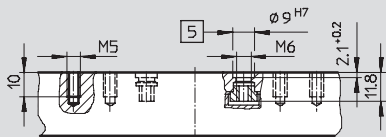
Ø 25



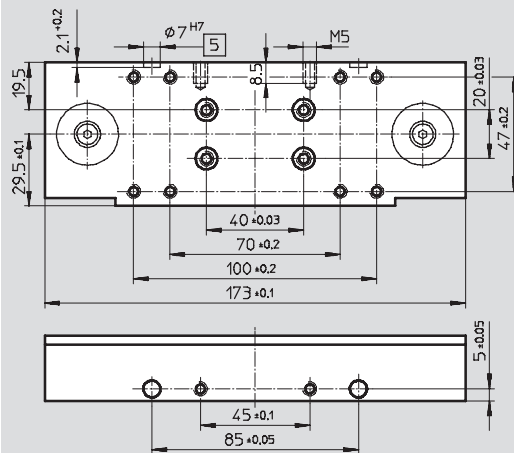
View A



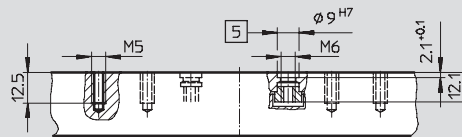
Ø 32



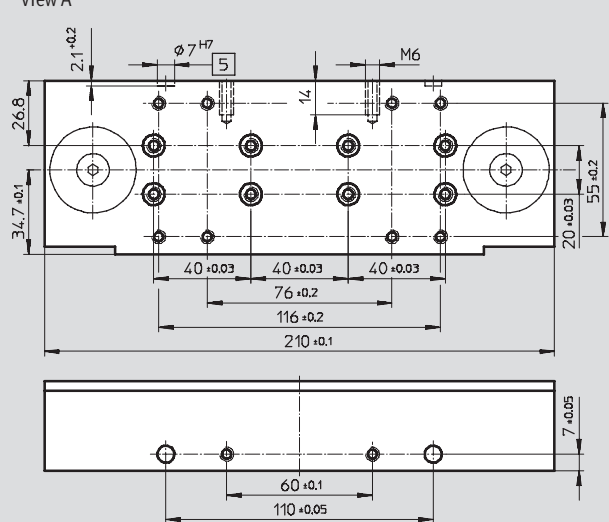
View A



Ø 40



View A



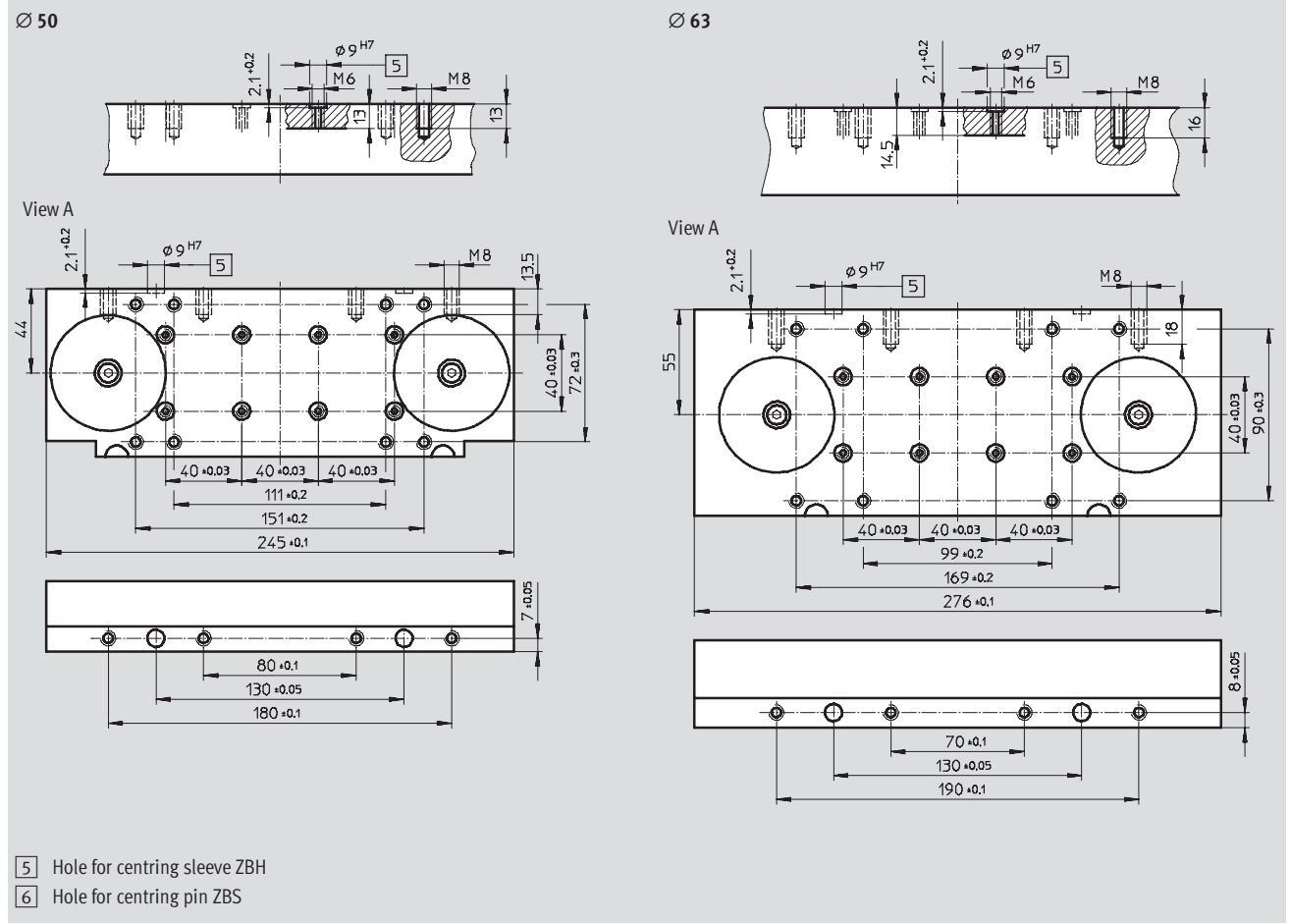
- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

# Linear drives DGC-GF, with plain-bearing guide

Technical data

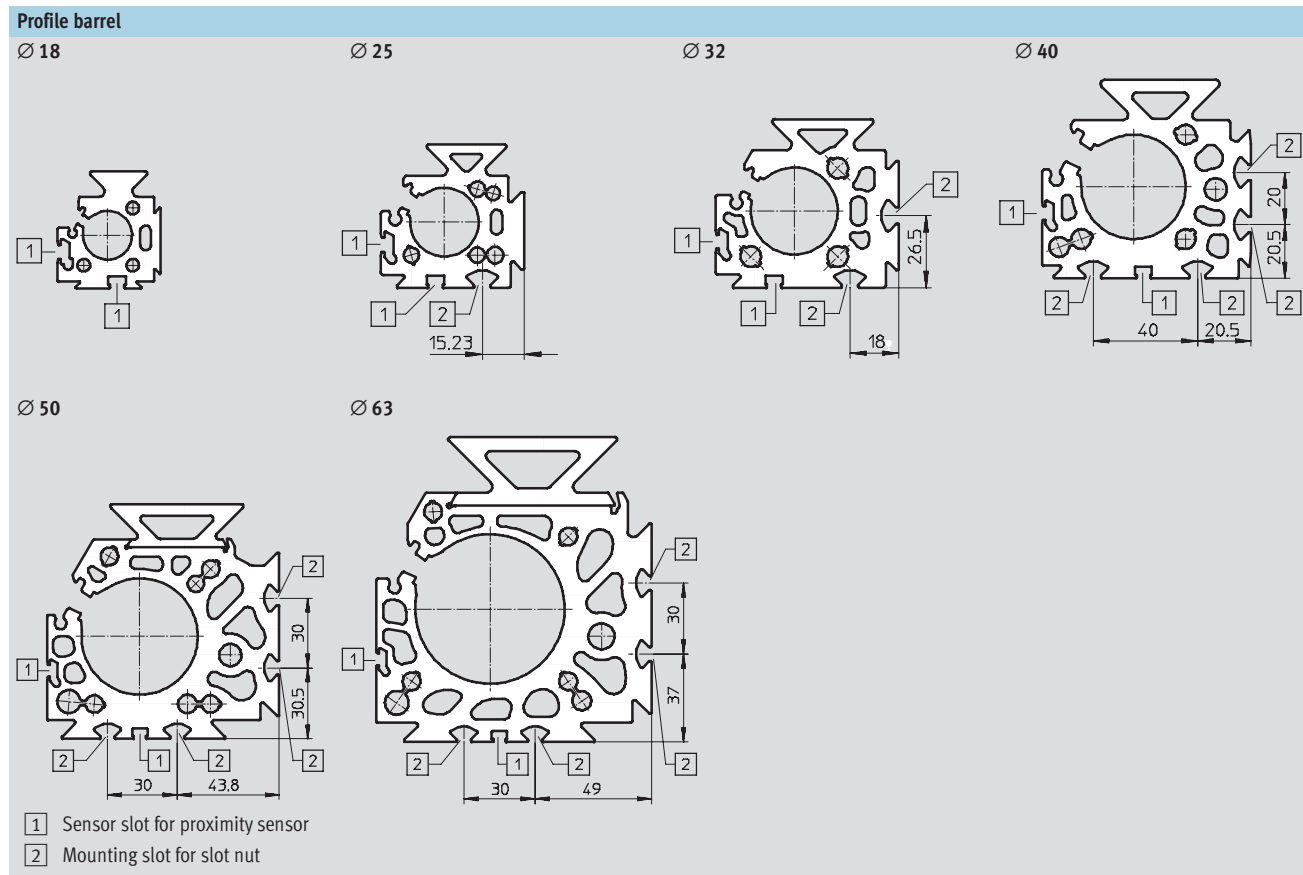
Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

Slide



# Linear drives DGC-GF, with plain-bearing guide

Technical data




# Linear drives DGC-GF, with plain-bearing guide

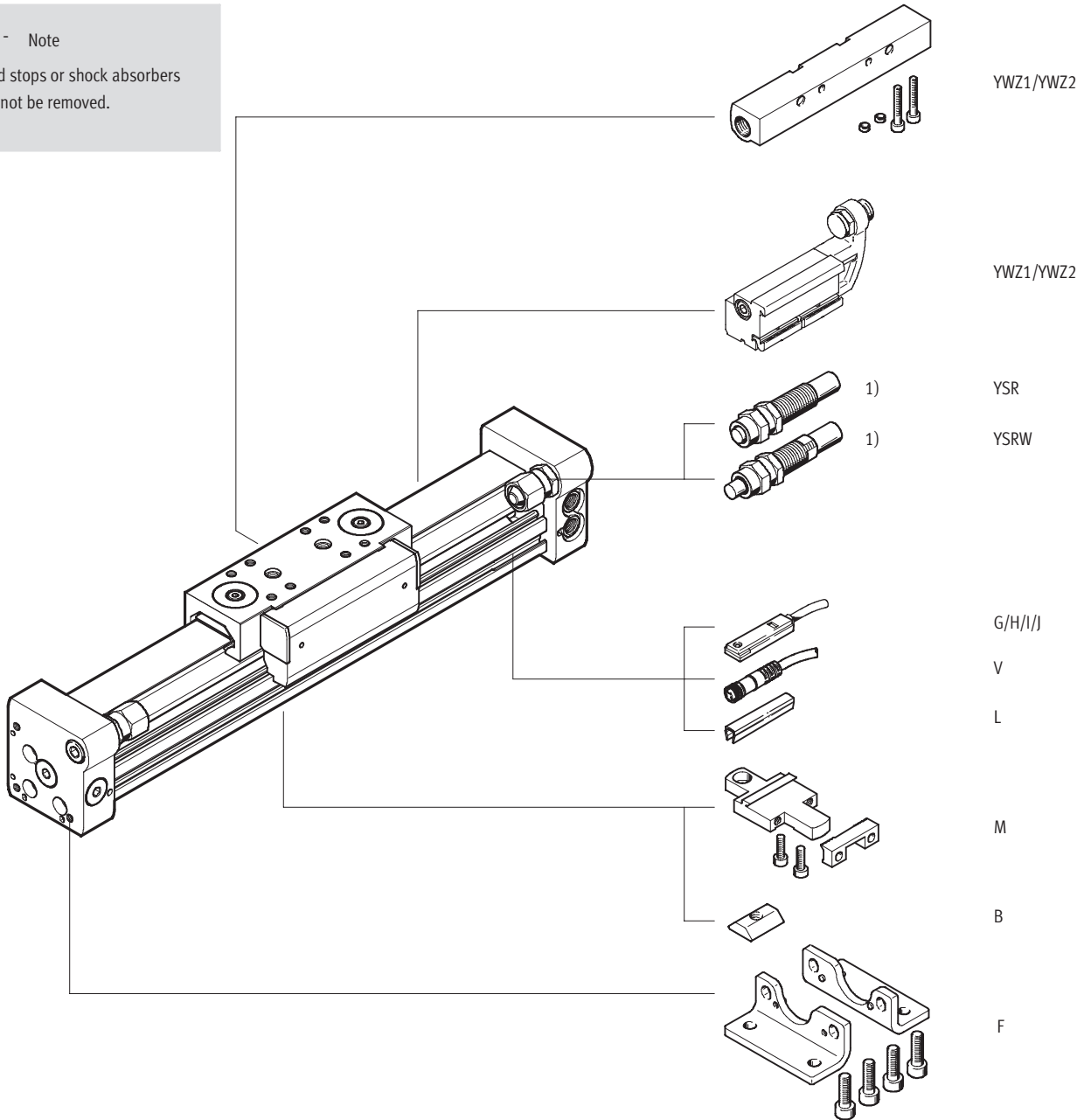
Ordering data – Modular products

**Order code**

Mandatory data/options

-  - Note

1) End stops or shock absorbers must not be removed.



## Linear drives DGC-GF, with plain-bearing guide

FESTO

Ordering data – Modular products

M Mandatory data				O Options		
Module No.	Function	Stroke	Cushioning	Accessories		
	Piston $\varnothing$	Guide	Position sensing	Accessories supplied loose	User manual	
532 446	DGC 18	1 ... 5000 GF	PPV A	F, ...M, ...B, ...G, ...H, ...I, ...J, ...V, ...L, YWZ1, YWZ2	0	
532 447	25		YSR			
532 448	32		YSRW			
532 449	40					
532 450	50					
532 451	63					
<b>Order example</b>						
532 446	DGC - 18	- 250 - GF	- PPV - A	ZUB - F2M2I2V	-	

Ordering table										
Size	18	25	32	40	50	63	Condi- tions	Code		Enter code
M Module No.	532 446	532 447	532 448	532 449	532 450	532 451				
Function	Linear drive								DGC	DGC
Piston $\varnothing$ [mm]	18	25	32	40	50	63		-...		
Stroke [mm]	1 ... 3000	1 ... 5000					<sup>1</sup>	-...		
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 sensor								-A	-A
O Accessories	Supplied loose (can be retrofitted)								ZUB-	ZUB-
Foot mounting	1								F	
Profile mounting	1 ... 9								...M	
Slot nut for mounting slot	-								...B	
Proximity sensor	Cable, 2.5 m	1 ... 9						...G		
	M8 plug	1 ... 9						...H		
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9						...I		
	M8 plug	1 ... 9						...J		
Cable with socket	M8, 2.5 m	1 ... 9						...V		
Slot cover for sensor slot	1 ... 9								...L	
Mechanical end position limiter	Variable end position, at one end							<sup>2</sup>	YWZ1	
	Variable end position, at both ends							<sup>2</sup>	YWZ2	
User manual	Express waiver – no operating instructions to be included (already available)								-0	

<sup>1</sup> Stroke Size 25, 32, 40: Strokes up to 8,500 mm on request

<sup>2</sup> YWZ1, YWZ2 Only with cushioning YSR or YSRW

### Transfer order code


DGC -  -  - GF -  - A  ZUB -  -

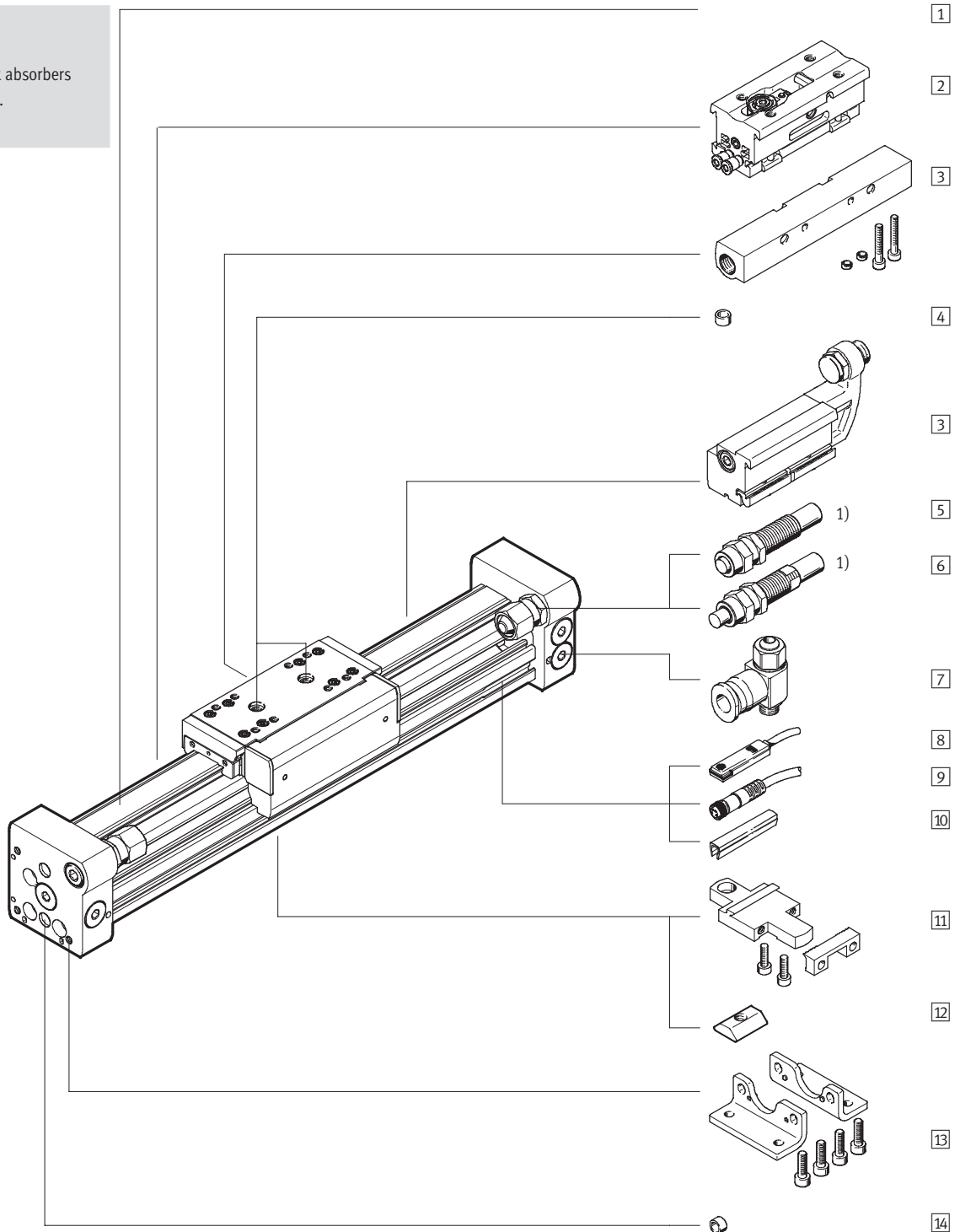
Ordering data – Wearing parts kits						
Piston $\varnothing$	Part No.	Type	Piston $\varnothing$	Part No.	Type	
18	684 486	DGC-18	40	684 489	DGC-40	
25	684 487	DGC-25	50	719 825	DGC-50	
32	684 488	DGC-32	63	719 826	DGC-63	

# Linear drives DGC-KF, with recirculating ball bearing guide

Peripherals overview



-  - Note  
 1) End stops or shock absorbers must not be removed.





# Linear drives DGC-KF, with recirculating ball bearing guide

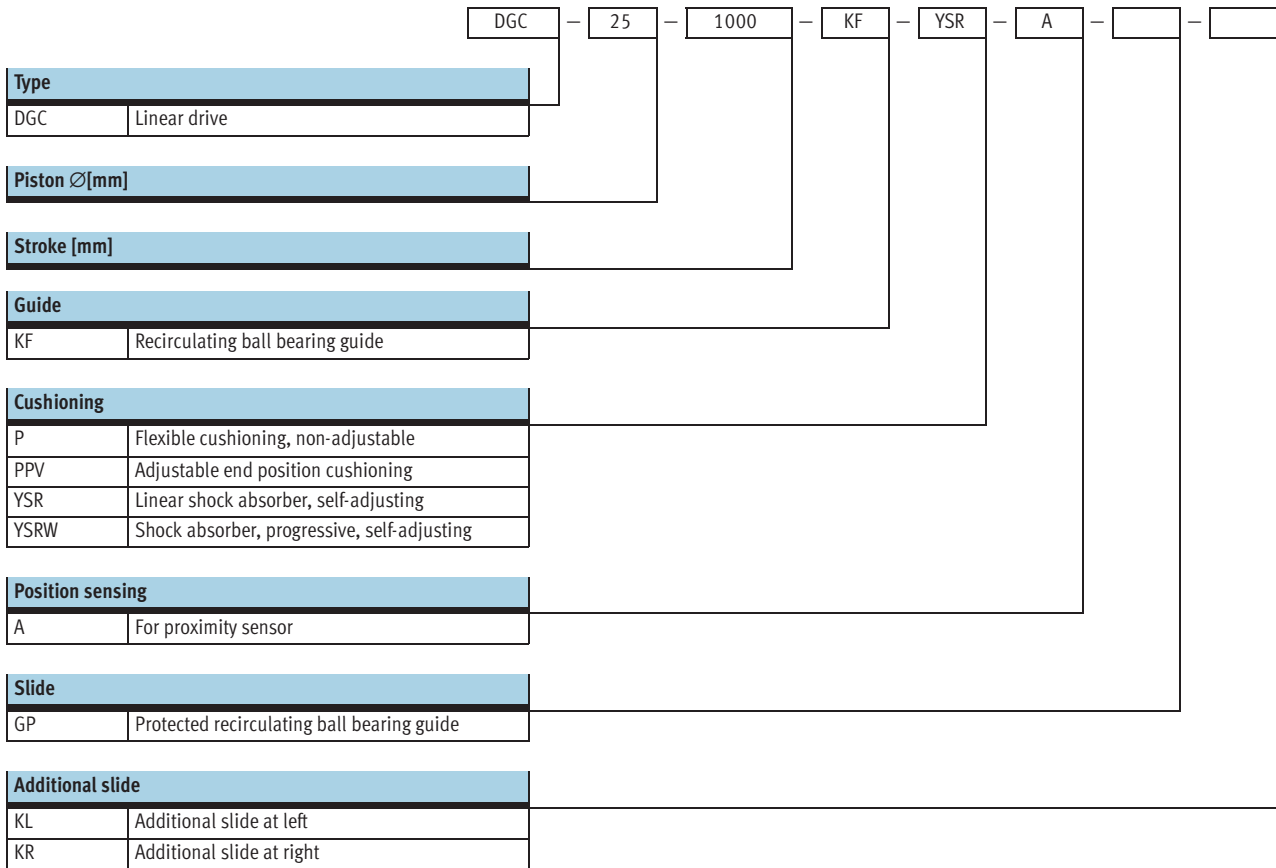
Peripherals overview

Variants and accessories			
Type	For piston $\varnothing$	Brief description	→ Page/Internet
1 Linear drive DGC-KF	8 ... 63	Linear drive without accessories, with recirculating ball bearing guide	44
2 Intermediate position module Z1/Z2/Z3	25, 32	Permits up to three intermediate positions	70
3 Mechanical end position limiter YWZ	18 ... 63	For variable end position adjustment, e.g. for format adjustments	68
4 Centring pin/sleeve <sup>1)</sup> ZBS/ZBH	8 ... 63	For centring loads and attachments on the slide	72
– Cushioning P	8, 12	Non-adjustable, flexible cushioning. Used only at low speeds	58
– Cushioning PPV	18 ... 63	Adjustable pneumatic end position cushioning. Used at medium speeds	58
5 Shock absorber YSR	8 ... 63	Self-adjusting hydraulic shock absorber with spring return and linear cushioning characteristic	58
6 Shock absorber YSRW	8 ... 63	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristic	58
7 One-way flow control valve GRLA	8 ... 63	For regulating speed	72
8 Proximity sensor G/H/I/J	8 ... 63	For sensing the slide position	73
9 Cable with socket V	8 ... 63	For proximity sensor	73
10 Slot cover L	18 ... 63	For protecting against ingress of dirt and securing proximity sensor cables	72
11 Profile mounting M	8 ... 63	Simple and precise mounting option via dovetail connection	64
12 Slot nut B	25 ... 63	For mounting attachments	72
13 Foot mounting F	8 ... 63	For mounting on end cap	60
14 Centring pin/sleeve <sup>1)</sup> ZBS/ZBH	8 ... 63	For centring the drive without foot mountings (user-specific)	72

1) Included in the scope of delivery of the drive

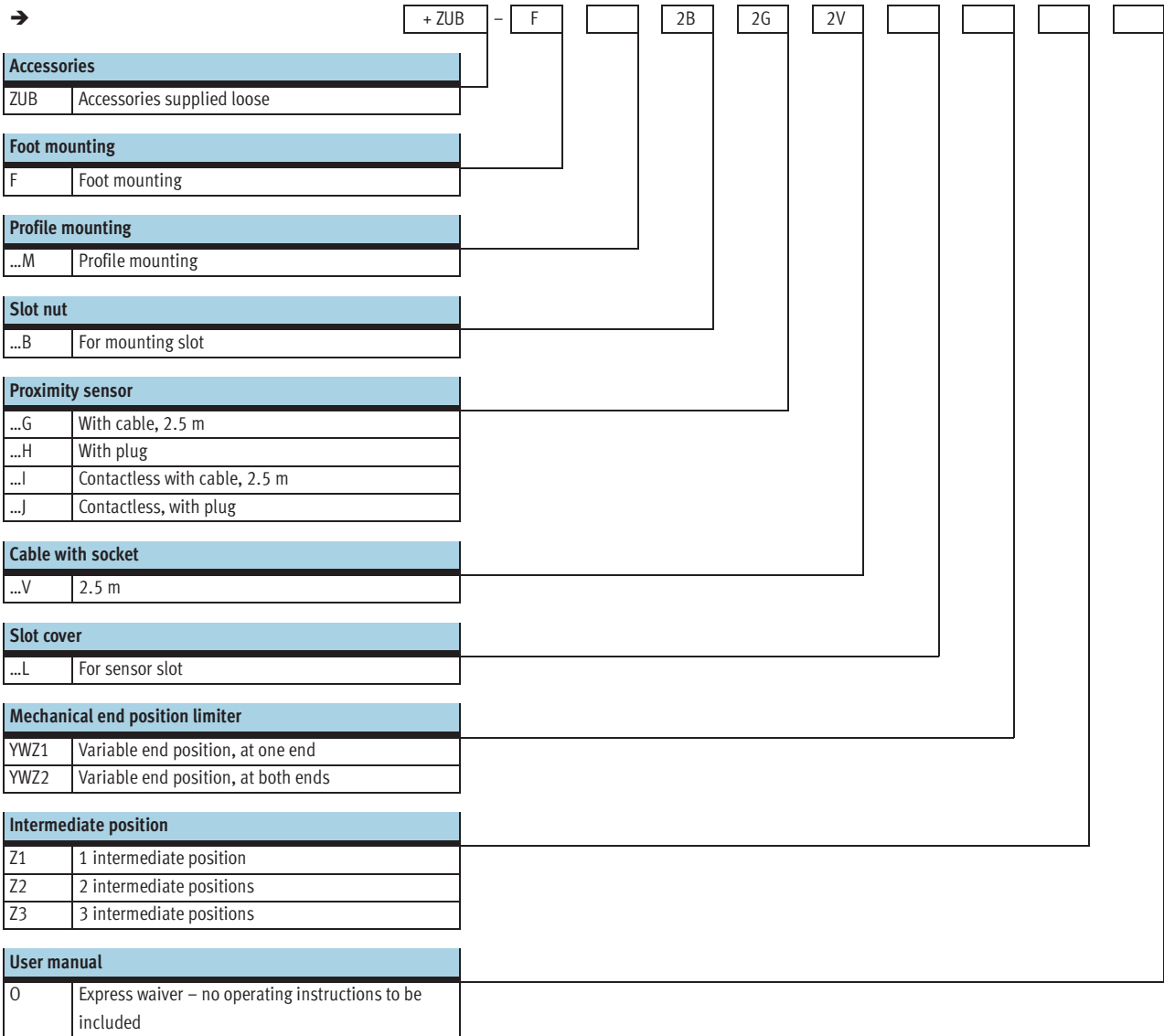
# Linear drives DGC-KF, with recirculating ball bearing guide

Type codes



# Linear drives DGC-KF, with recirculating ball bearing guide

Type codes

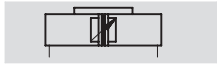


# Linear drives DGC-KF, with recirculating ball bearing guide

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Technical data

Function



www.festo.com

Wearing parts kits  
→ 58

- Ø - Diameter  
8 ... 63 mm
- | - Stroke length  
1 ... 5,000 mm



General technical data									
Piston Ø		8	12	18	25	32	40	50	63
Stroke	[mm]	1 ... 1,300	1 ... 1,900	1 ... 3,000	1 ... 5,000				
Pneumatic connection		M5			G $\frac{1}{8}$		G $\frac{1}{4}$	G $\frac{3}{8}$	
Mode of operation		Double-acting							
Design		Rodless drive							
Driver principle		Slotted cylinder, mechanically coupled							
Guide		External recirculating ball bearing guide							
Mounting position		Any							
Cushioning → 47	P	Non-adjustable at either end		-					
	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	29.8	31.1
Position sensing		For proximity sensor							
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)							

• Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

Operating and environmental conditions										
Piston Ø		8	12	18	25	32	40	50	63	
Operating pressure	[bar]	2.5 ... 8		2 ... 8			1.5 ... 8			
Operating medium		Filtered compressed air, lubricated or unlubricated								
Ambient temperature <sup>1)</sup>	[°C]	-10 ... +60								
Corrosion resistance class CRC <sup>2)</sup>		1								
Certification		C-Tick								

1) Note operating range of proximity sensors

2) 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

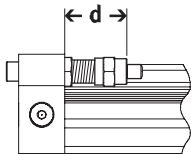
Forces [N]									
Piston Ø		8	12	18	25	32	40	50	63
Theoretical force at 6 bar		30	68	153	295	483	754	1,178	1,870
Impact energy at end positions		→ 47							


# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

Weights [g]								
Piston Ø	8	12	18	25	32	40	50	63
Basic weight with 0 mm stroke	225	391	975	2,113	2,837	6,996	13,342	22,220
Additional weight per 10 mm stroke	11	16	31	49	74	117	153	236
Moving load	77	149	331	732	1,146	2,330	4,511	8,225

## Adjustable end position range d [mm]

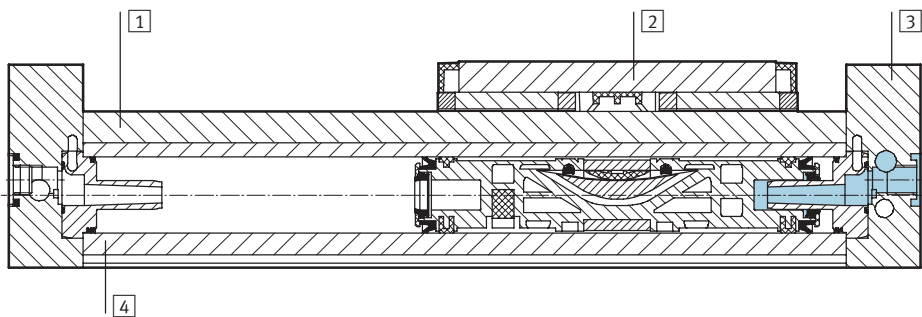


-  - Note  
 The permissible kinetic energy decreases if the stroke is reduced with PPV adjustable cushioning at both ends.

Piston Ø	8	12	18	25	32	40	50	63
Cushioning P/PPV	11.3 ... 16.3	12.7 ... 17.7	13.8 ... 15.8	21.1 ... 25.1	25.2 ... 30.2	28.7 ... 33.7	28.7 ... 33.7	38.8 ... 43.8
Protected guide with cushioning P/PPV	-	-	16.9 ... 18.9	23.6 ... 27.6	25.2 ... 30.2	34.7 ... 39.7	-	-
Cushioning YSR/YSRW	12.8 ... 22.8	14 ... 24	14.5 ... 34.5	22.5 ... 47.5	27.3 ... 52.3	31 ... 56	31 ... 56	41 ... 76

## Materials

Sectional view



Linear drives		
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

# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

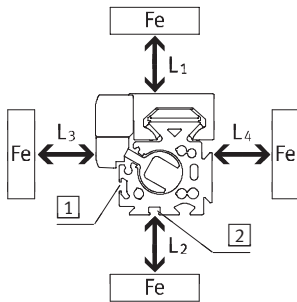
FESTO

## 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](#)).

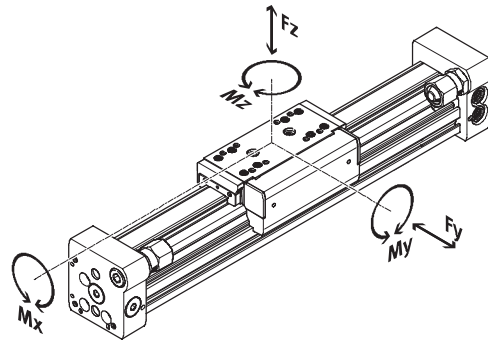


Piston Ø		8	12	18	25	32	40	50	63
Distance L1	<a href="#">1</a> [mm]	0	0	0	0	0	0	0	0
	<a href="#">2</a> [mm]	-	-	0	0	0	0	0	0
Distance L2	<a href="#">1</a> [mm]	20	10	10	10	0	0	0	0
	<a href="#">2</a> [mm]	-	-	25	25	25	25	25	25
Distance L3	<a href="#">1</a> [mm]	30	25	25	25	25	25	25	25
	<a href="#">2</a> [mm]	-	-	10	10	0	0	0	0
Distance L4	<a href="#">1</a> [mm]	0	0	0	0	0	0	0	0
	<a href="#">2</a> [mm]	-	-	0	0	0	0	0	0

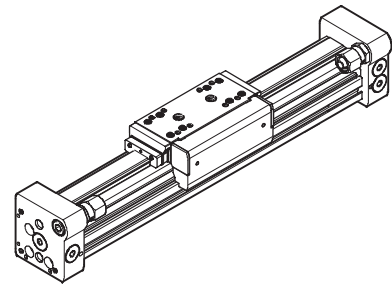
## Characteristic load values for linear drive with recirculating ball bearing guide and guide

The indicated forces and torques refer to the centre of the slide surface.

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

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

## Permissible forces and torques

Piston Ø		8	12	18	25	32	40	50	63
F <sub>y</sub> <sub>max.</sub>	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
F <sub>z</sub> <sub>max.</sub>	[N]	300	650	1,850	3,050	3,310	6,890	6,890	15,200
M <sub>x</sub> <sub>max.</sub>	[Nm]	1.7	3.5	16	36	54	144	144	529
M <sub>y</sub> <sub>max.</sub>	[Nm]	4.5	10	51	97	150	380	634	1,157
M <sub>z</sub> <sub>max.</sub>	[Nm]	4.5	10	51	97	150	380	634	1,157

- - Note

Sizing software

ProDrive

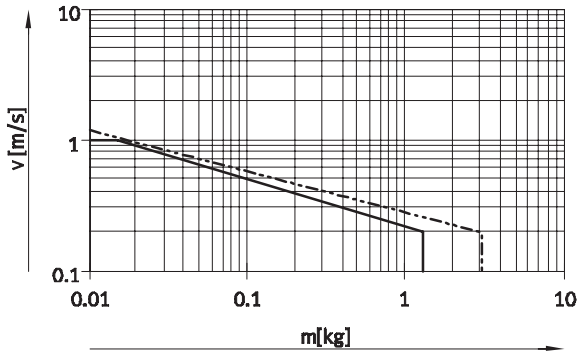
→ [www.festo.com](http://www.festo.com)

# Linear drives DGC-KF, with recirculating ball bearing guide

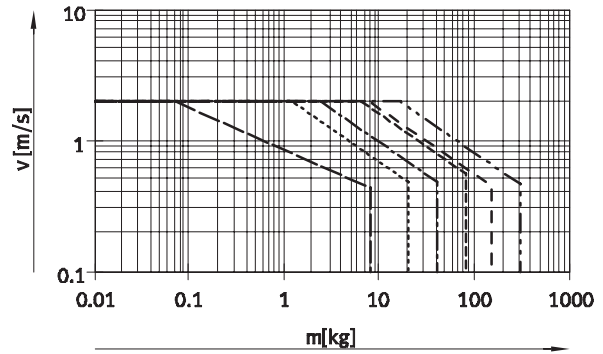
Technical data

## Maximum permissible piston speed $v$ as a function of effective load $m$

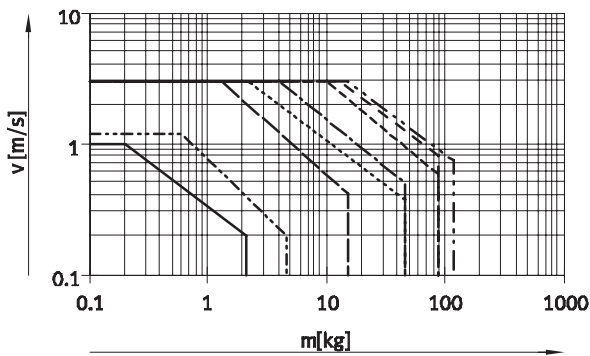
Piston  $\varnothing$  8/12 with P cushioning



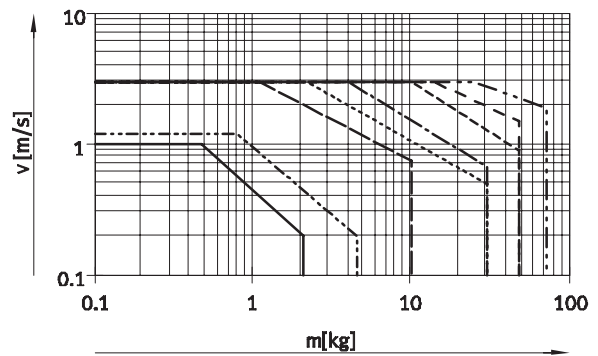
Piston  $\varnothing$  18 ... 63 with PPV cushioning



Piston  $\varnothing$  8 ... 63 with YSR cushioning



Piston  $\varnothing$  8 ... 63 with YSRW cushioning



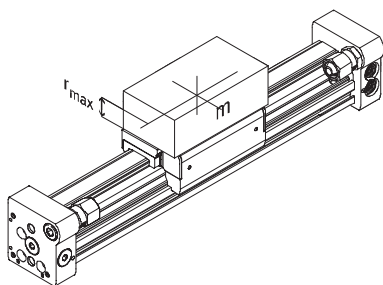
- $\varnothing$  8      - - -  $\varnothing$  18      - - - -  $\varnothing$  40
- - -  $\varnothing$  12    - · - ·  $\varnothing$  25    - - -  $\varnothing$  50
- · —  $\varnothing$  32    - - -  $\varnothing$  63

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

## 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 0.01 mm.



The data applies to a horizontal mounting position:

Piston $\varnothing$	8	12	18	25	32	40	50	63
Distance $r_{max}$ [mm]	25	35	35	50	50	50	50	50

# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

FESTO

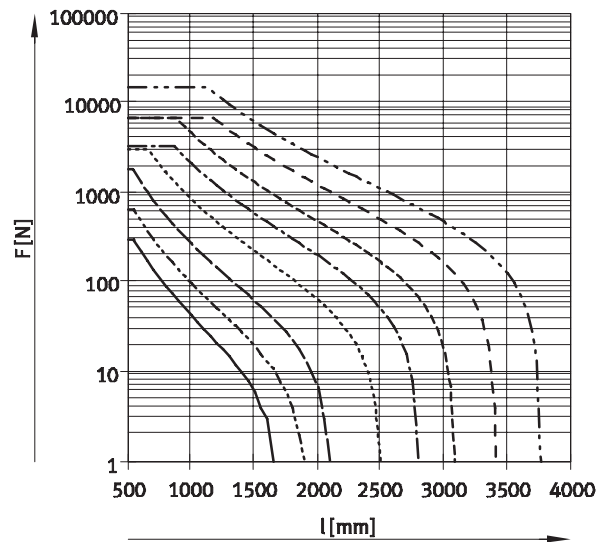
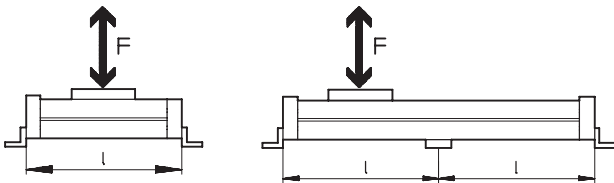
## Number of profile mountings MUC dependent on force due to weight F and support span l

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

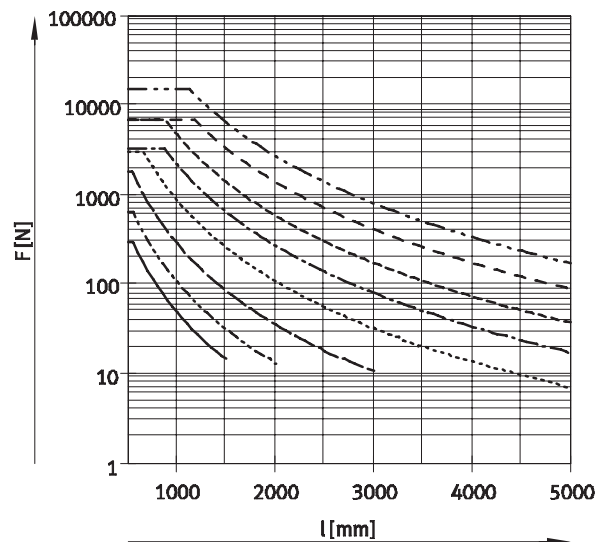
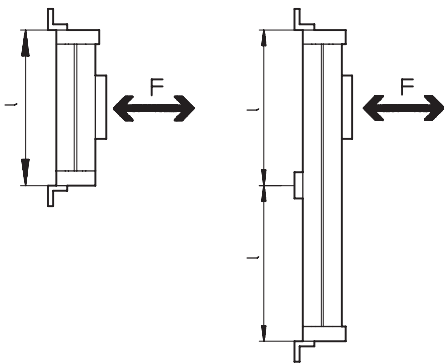
serve to determine the maximum permissible support span as a

function of the mounting position and the perpendicular force.

### Horizontal mounting position



### Vertical mounting position



### Example:

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

The drive has an overall length of:

$$\begin{aligned} l &= \text{stroke length} + L1 \\ &= 1,500 \text{ mm} + 200 \text{ mm} \\ &= 1,700 \text{ mm} \end{aligned}$$

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 mountings are required as the max. support span (1,300 mm) is smaller than the overall length of the drive (1,700 mm).

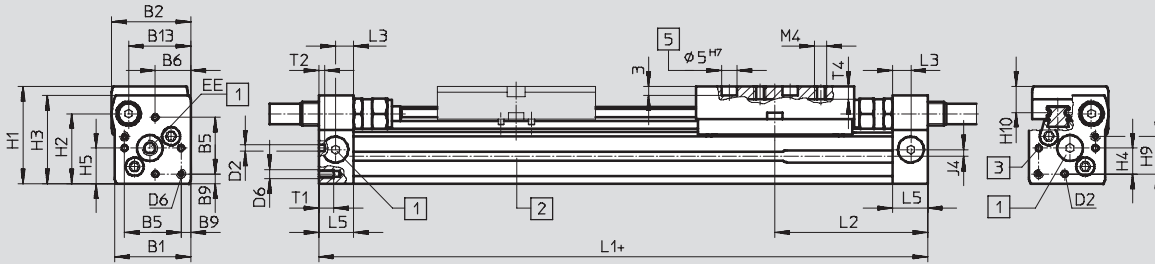


# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

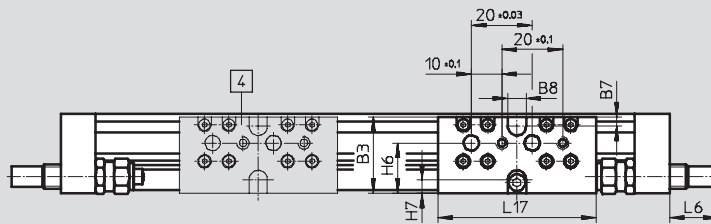
Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

∅ 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
- 4 Additional slide KL
- 5 Hole for centring pin ZBS



∅	B1	B2	B3	B5	B6	B7	B8	B9	B13	D2	D6	EE
[mm]							±0.05	±0.1		∅ H8		
8	25	26	25	18.6	11.7	3	6	3.2	20.5	2	M3	M5
12	30.2	31	31	20.6	13.5	3	8	4.8	25	2	M4	M5

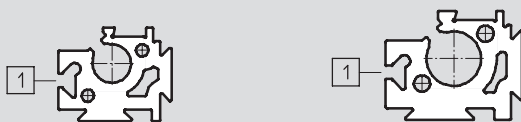
∅	H1	H2	H3	H4	H5	H6	H7	H9	H10	J4	L1	L2
[mm]											+0.5/ -0.4	
8	32	23	29	8.5	11.7	16.5	4.5	12.3	8.7	2.2	100	50.1
12	37.5	28.5	34.5	8.7	13.5	20.5	5	14.7	9.8	3	125	62.1

∅	L3	L5	L6			L17	T1	T2	T4	Stroke tolerance
			P	YSR	YSRW					
[mm]										
8	6	11.5	0	16	16.2	52	5	2	4.3	0 ... 1.7
12	8	16	0	11.3	12.3	65	6	2	5	

## Profile barrel

∅ 8

∅ 12



1 Sensor slot for proximity sensor



# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

∅ [mm]	B1	B2	B3	B4	B5 ±0.05	B6	B7	B8	B9	B10	B11	B12
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
50	113	126.5	60	8	52.8	81.6	–	12	–	–	21	24
63	142	149	68	15.5	68	97	–	19.5	5	–	21	30

∅ [mm]	B13	B14	D1 ∅	D2	D3 ∅ H7	EE	H1	H2	H3	H4 ±0.2	H5	H6
18	39	19.5	2±0.05	M4	5	M5	56.3	23.1	55	9.6	13.4	20
25	53	30	3±0.05	M5	9	G $\frac{1}{8}$	68	29	67	13.65	15.8	24
32	65	38.5	3±0.05	M6	9	G $\frac{1}{8}$	78.5	30	77	5.7	17	27.7
40	80.5	45	4±0.05	M6	9	G $\frac{1}{4}$	99.5	41.5	97.5	17.2	25	36.5
50	97	–	9 <sup>H7</sup>	M8	9	G $\frac{1}{4}$	124.5	38.5	122.5	52.8	29.3	36
63	123.5	–	9 <sup>H7</sup>	M10	9	G $\frac{3}{8}$	153.5	48.5	151	68	34.8	46

∅ [mm]	H7	H8	H9	H10	H11	H12 ±0.05	J1	J2	J3	L1	
										KF +0.9/–0.2	KF-GP +0.9/–0.2
18	4.6	2.4	25.2	46	8.5±0.15	30	20	16.5	11	150	157
25	7.65	4.5	29	55.5	12±0.15	35	26.1	18.6	17	200	205
32	8.5	14	35.2	63.8	11.45±0.15	50	30	22	18.5	250	250
40	12.2	8	44	81.5	15±0.15	60	35	26	26	300	312
50	12	8	53	104.5	100±0.05	–	30.5	30.5	28	350	–
63	19.5	15.5	67	131	120±0.05	–	41.5	39.5	31.5	400	–

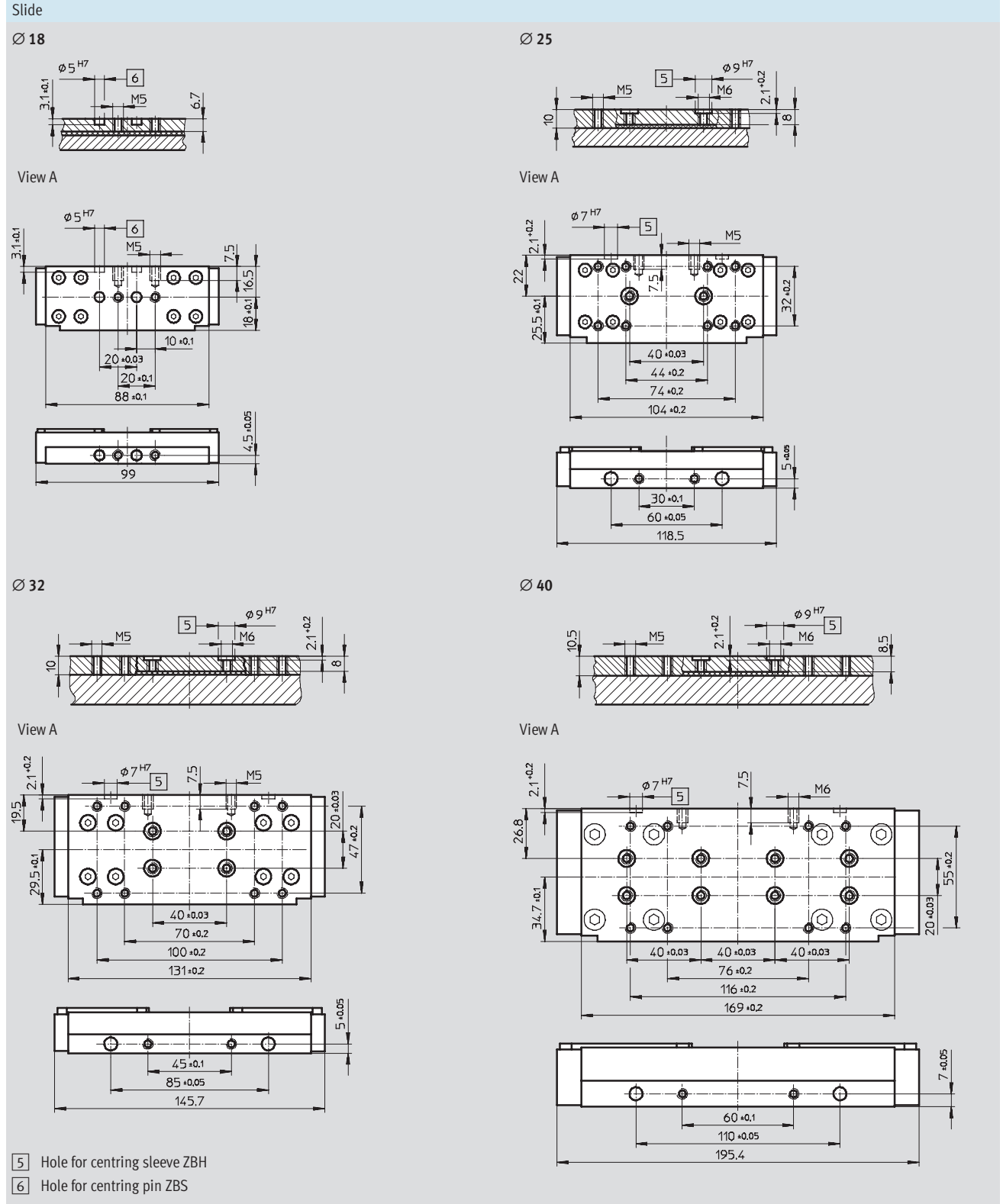
∅ [mm]	L2		L3	L4	L5	L6	L8			T1	T2	T3 +0.2	T6	Stroke tolerance
	KF	KF-GP					PPV	YSR	YSRW					
18	74.5	78	5.7	5.8	15	5.5	0	29.9	32.4	9	2	3.1	15	0 ... 2.5
25	100	102.5	10.5	10.6	24.5	10.6	0	35.6	38.6	17.5	2	2.1	17.3	
32	124.8	124.8	14.5	14.5	30.5	14.5	0	19.5	28	15	2	2.1	20	
40	150	156	14.6	14.6	33.5	14.6	0	38.5	43.5	20	3	2.1	25.7	
50	175	–	17	–	41	17	0	31	36.3	24	2.1 <sup>+0.2</sup>	2.1	28.75	
63	200	–	20	–	44	20	0	38.3	48.3	27.5	2.1 <sup>+0.2</sup>	2.1	36.1	

– | – Note: This product conforms with the ISO 1179-1 standard and the ISO 228-1 standard.

# Linear drives DGC-KF, with recirculating ball bearing guide

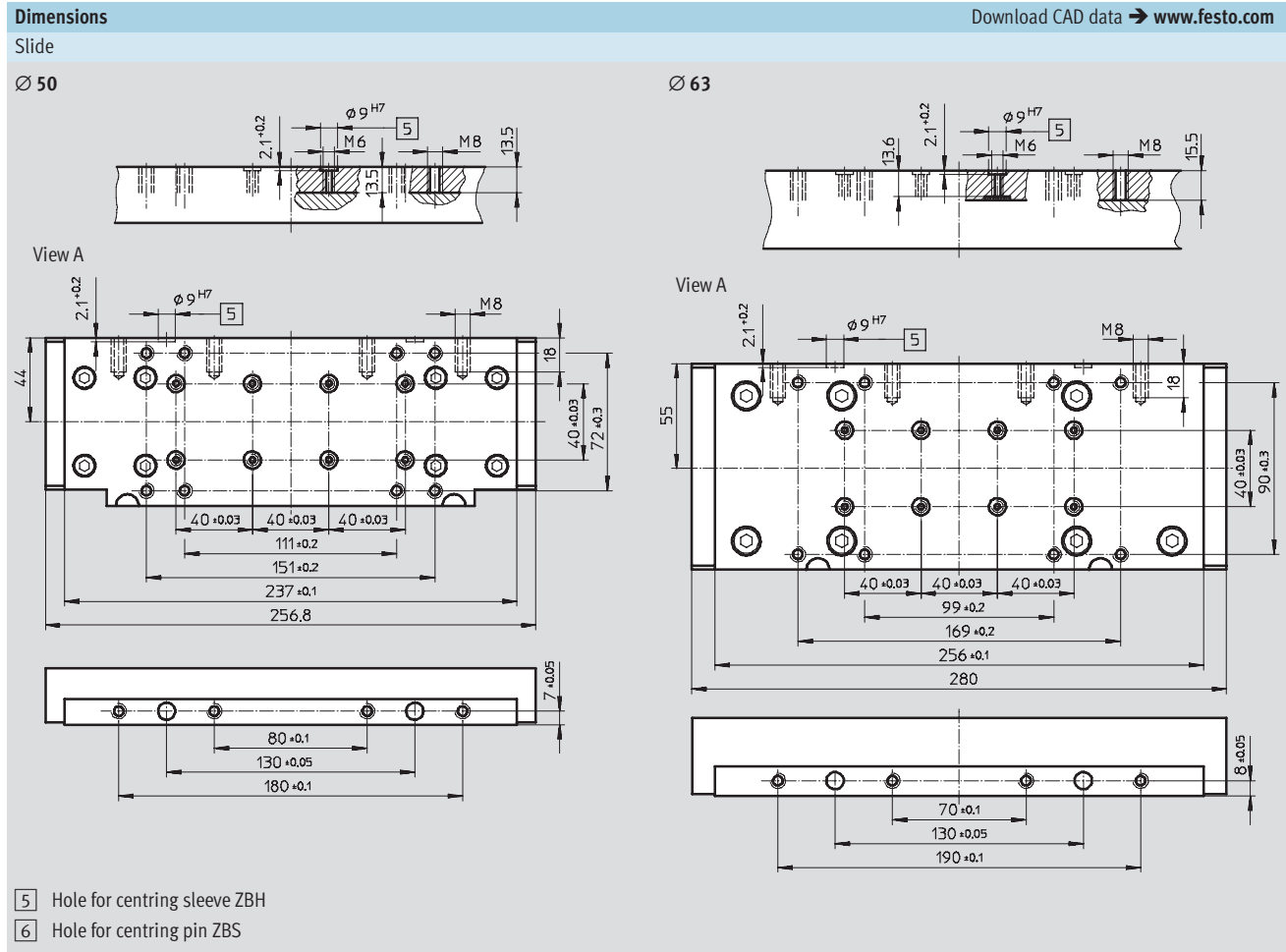
Technical data

Dimensions Download CAD data → [www.festo.com](http://www.festo.com)



# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data



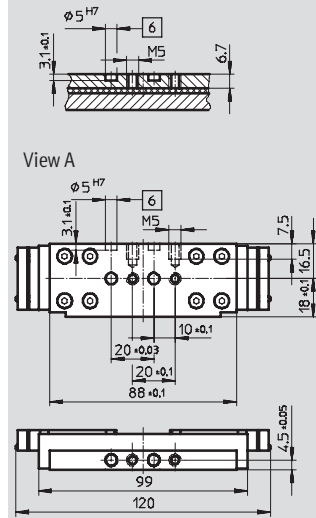
# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data

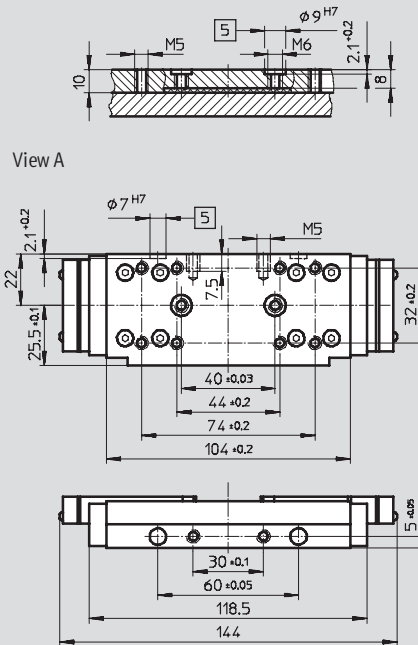
Dimensions Download CAD data → [www.festo.com](http://www.festo.com)

Slide, variant GP – Protected recirculating ball bearing guide

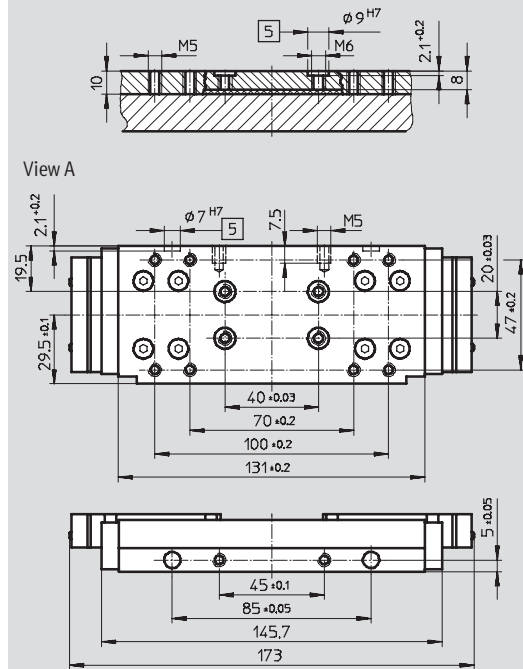
Ø 18



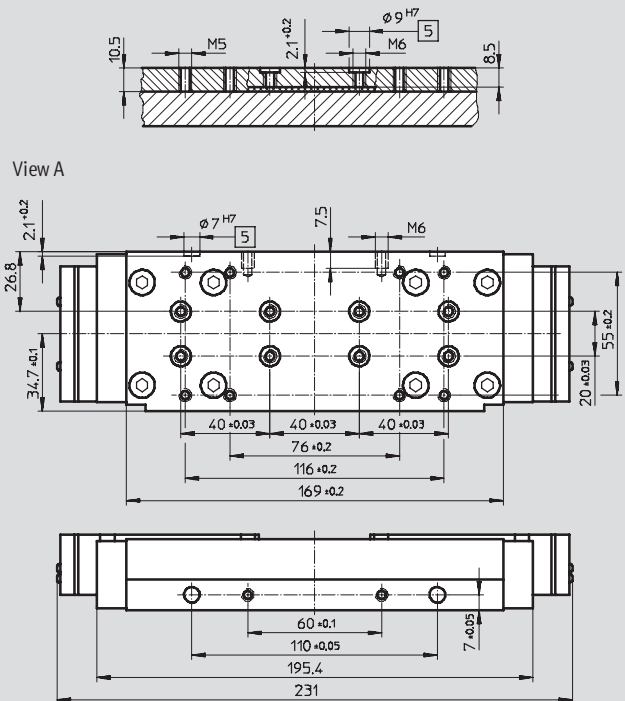
Ø 25



Ø 32



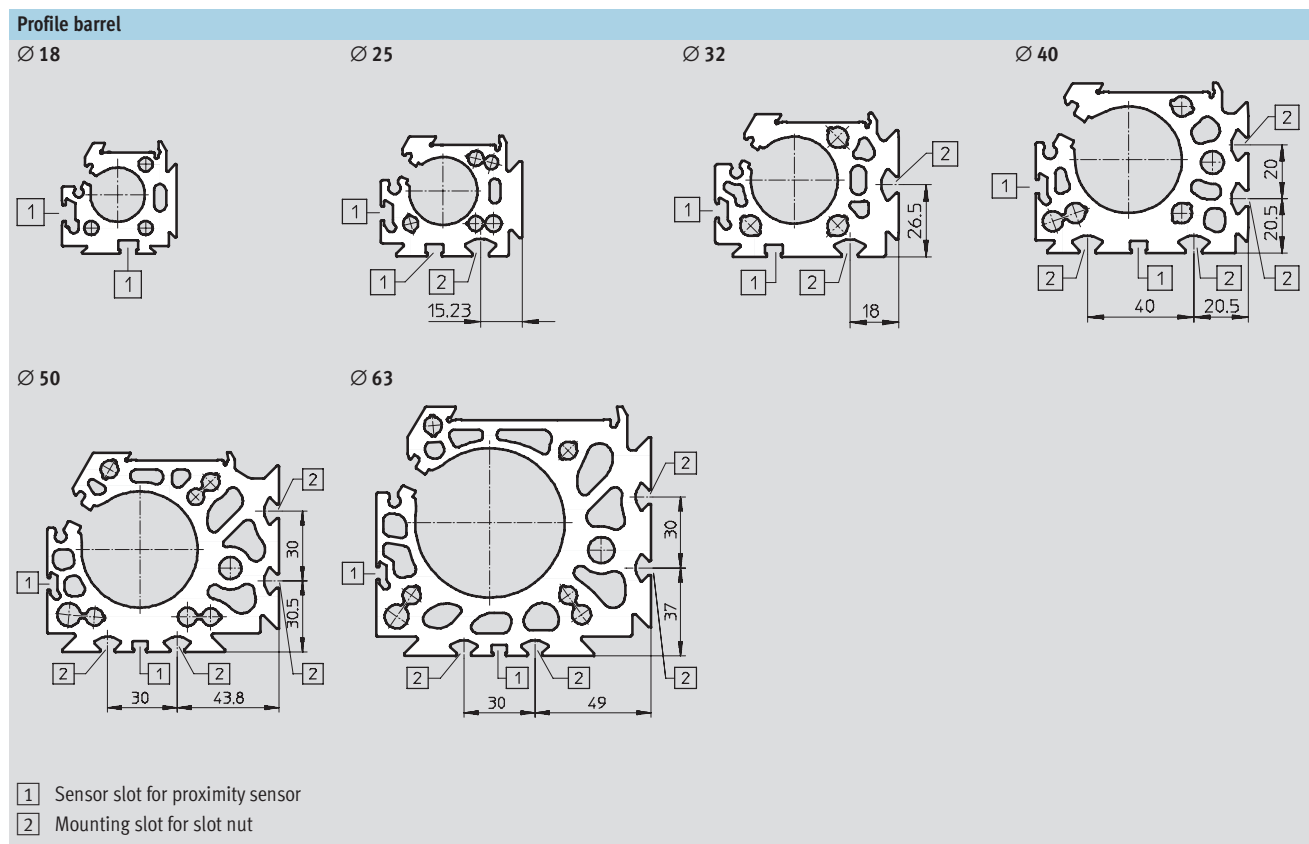
Ø 40



- 5 Hole for centring sleeve ZBH
- 6 Hole for centring pin ZBS

# Linear drives DGC-KF, with recirculating ball bearing guide

Technical data




# Linear drives DGC-KF, with recirculating ball bearing guide

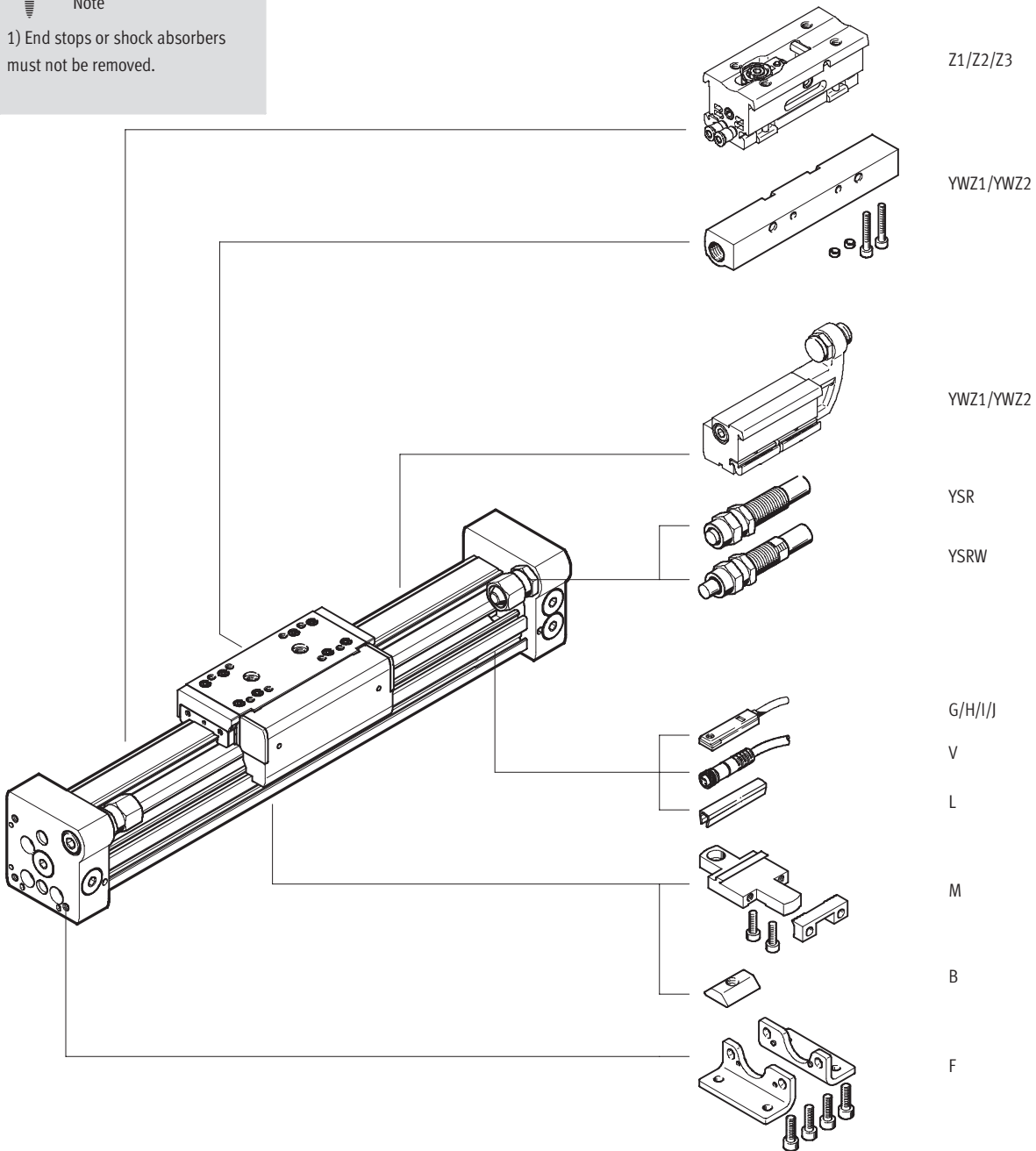
Ordering data – Modular products

**Order code**

Mandatory data/options

-  - Note

1) End stops or shock absorbers must not be removed.

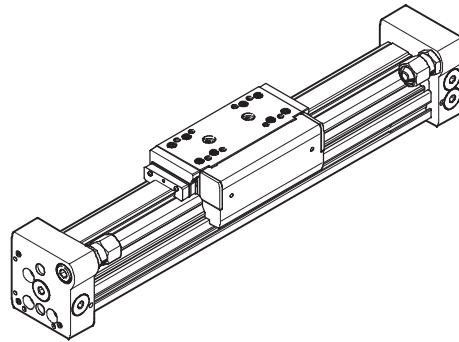
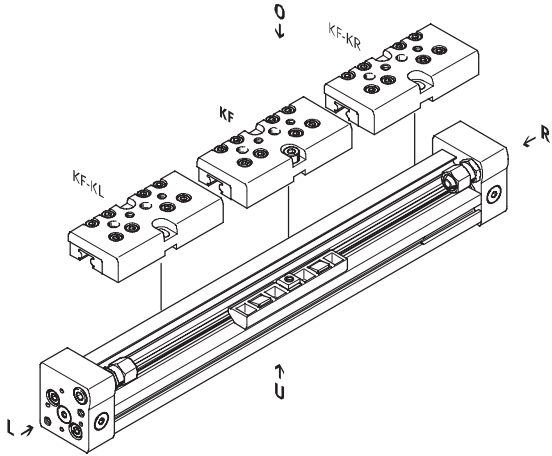




# Linear drives DGC-KF, with recirculating ball bearing guide

Ordering data – Modular products

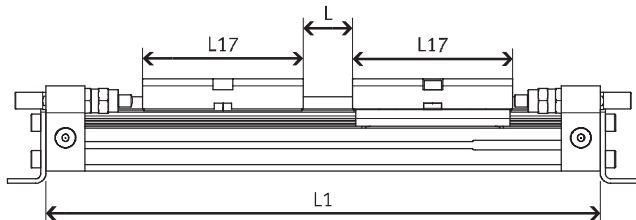
<b>Order code</b>	KL/KR – With additional slide	GP – With protected recirculating ball bearing guide
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## Effective stroke reduction when ordering an additional slide KL or KR

For a guide axis 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



Ø [mm]	8	12	18	25	32	40	50	63
L17	52	65	99	118.5	145.7	195.4	256.8	280

The effective stroke is reduced to  
 415 mm = 500 mm – 20 mm – 65 mm

**New**  
**Piston Ø 50/63 mm**

**Linear drives DGC-KF, with recirculating ball bearing guide**

Ordering data – Modular products



M Mandatory data →						
Module No.	Function	Piston Ø	Stroke	Guide	Cushioning	Position sensing
530 906	DGC	8	1 ... 5000	KF	P PPV YSR YSRW	A
530 907						
532 446						
532 447						
532 448						
532 449						
532 450						
532 451						
<b>Order example</b>						
530 907	DGC	12	250	KF	YSRW	A

Ordering table												
Size	8	12	18	25	32	40	50	63	Condi- tions	Code	Enter code	
M Module No.	530 906	530 907	532 446	532 447	532 448	532 449	532 450	532 451				
Function	Linear drive									DGC	DGC	
Piston Ø [mm]	8	12	18	25	32	40	50	63		-...		
Stroke [mm]	1 ... 1300	1 ... 1900	1 ... 3000	1 ... 5000					[1]	-...		
Guide	Recirculating ball bearing guide									-KF	-KF	
Cushioning	Flexible cushioning rings/pads 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 sensor									-A	-A	

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

Transfer order code

# Linear drives DGC-KF, with recirculating ball bearing guide

**FESTO**

Ordering data – Modular products

→ **0** Options

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

Ordering table												
Size	8	12	18	25	32	40	50	63	Conditions	Code	Enter code	
<b>0</b> Slide	-	-	Protected recirculating ball bearing guide			-	-	-	<b>2</b>	-GP		
Additional slide at left	Additional slide, standard, left								<b>3</b>	-KL		
Additional slide at right	Additional slide, standard, right								<b>3</b>	-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		
Proximity sensor	Cable, 2.5 m	1 ... 9								...G		
	M8 plug	1 ... 9								...H		
Proximity sensor, contactless, PNP	Cable, 2.5 m	1 ... 9								...I		
	M8 plug	1 ... 9								...J		
Cable with socket	M8, 2.5 m	1 ... 9								...V		
Slot cover for sensor slot	-	-	1 ... 9							...L		
Mechanical end position limiter	-			Variable end position, at one end					<b>4</b>	YWZ1		
	-			Variable end position, at both ends					<b>4</b>	YWZ2		
Intermediate position	-			1 intermediate position			-	-	-	<b>5</b>	-Z1	
	-			2 intermediate positions			-	-	-	<b>5</b>	-Z2	
	-			3 intermediate positions			-	-	-	<b>5</b>	-Z3	
User manual	Express waiver – no operating instructions to be included (already available)									-0		

- 2** GP Not with cushioning YSR and YSRW
- 3** KL, KR Not with additional slide left (-KL) or additional slide right (-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.  
Not with cushioning PPV
- 4** YWZ1, YWZ2 Only with cushioning YSR or YSRW
- 5** Z1, Z2, Z3 Only with cushioning YSR or YSRW and mechanical end position limiter YWZ1 or YWZ2

**Transfer order code**

-  -  -  ZUB -  -  -

Ordering data – Wearing parts kits						
Piston $\varnothing$	Part No.	Type	Piston $\varnothing$	Part No.	Type	
8	665 335	DGC-8-KF	32	684 488	DGC-32	
12	665 336	DGC-12-KF	40	684 489	DGC-40	
18	684 486	DGC-18	50	719 825	DGC-50	
25	684 487	DGC-25	63	719 826	DGC-63	

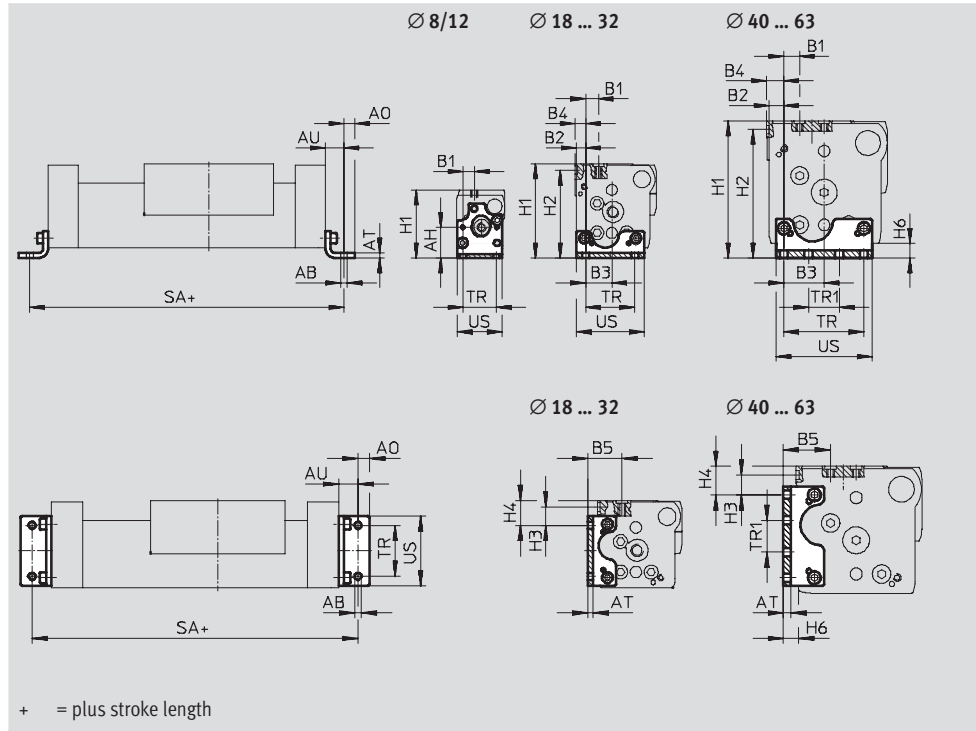
# Linear drives DGC

Accessories



Foot mounting HPC  
(order code: F)

Material:  
Galvanised steel



Dimensions and ordering data															
For Ø	AB Ø	AH	AO	AT	AU	B1		B2	B3	B4		B5		H1	
						G	GF/KF			GF	KF	G	GF/KF	G	GF/KF
8	3.4	16.7	3	2	9	6	6	-	-	-	-	-	-	37	37
12	4.5	18.5	4.5	2	11.5	5.4	5.4	-	-	-	-	-	-	42.5	42.5
18	5.5	-	6.75	3	13.25	15	11.2	4.3	15.2	-	5.3	27	23.2	57.5	64
25	5.5	-	9	4	15	12.5	13.35	7.65	21.35	-	8.65	28.65	29.5	67	76.5
32	6.6	-	10	5	19	11.5	9	9	29.5	-	10.5	29.5	27	82	87.5
40	6.6	-	10	6	20	7.6	12.6	12.2	32.8	-	14.2	31.8	36.8	100	111.5
50	9	-	11	8	25	12.5	12.5	11.5	48.5	11.5	11.5	41	41	137	141.5
63	11	-	13.5	8	28	17.5	17.5	12.5	55.5	6.5	17.5	49	49	159	172.5

For Ø	H2	H3	H4		H6	SA	TR	TR1	US	Weight	Part No.	Type
			G	GF/KF								
8	-	-	-	-	5	118	18	-	24.4	25	526 385	HPC-8
12	-	-	-	-	5	148	20	-	29.6	41	526 388	HPC-12
18	59.5	16	14	21.2	7.7	176.5	30	-	38.6	58	533 667	HPC-18
25	71.5	14.35	9.85	19.35	8.5	230	40	-	55	131	533 668	HPC-25
32	82.5	8	7.5	13	9	288	56.5	19.5	68	239	533 669	HPC-32
40	104.5	15.3	10.8	22.3	12	340	65	25	78	348	533 670	HPC-40
50	134.5	23.4	25.9	30.4	17	400	82.6	47.4	102	754	545 236	HPC-50
63	164.5	22	24	30	19	456	111	39	133	1,245	545 237	HPC-63

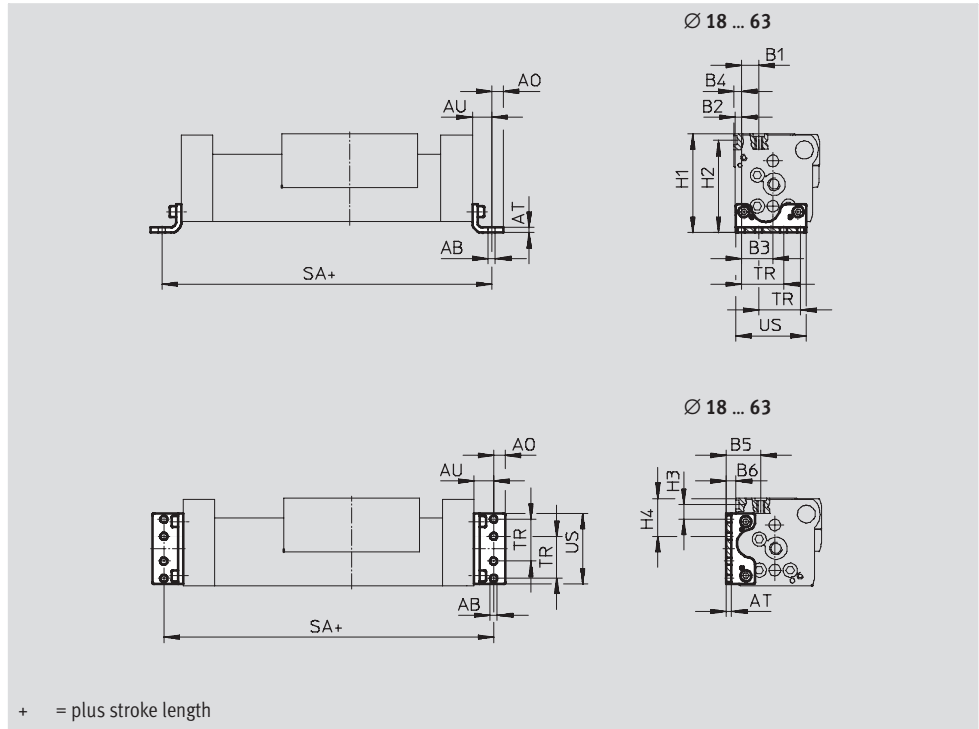
# Linear drives DGC

Accessories



**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
50	9	11	8	25	12.5	11.5	48.5	11.5	38	14
63	11	13.5	8	28	17.5	12.5	55.5	17.5	37	2

For Ø	H1	H2	H3	H4	SA	TR	US	Weight	Part No.	Type
[mm]						±0.1		[g]		
18	64	59.5	15.9	28	176.5+0.9/-0.2	24	40	54	535 600	HPC-18-S
25	75.5	70.5	11.45	29.75	226+0.9/-0.2	32.5	55	89	535 601	HPC-25-S
32	87.5	82.5	8	31.5	284+0.9/-0.2	38	68	180	538 413	HPC-32-S
50	138.5	131.5	23.4	48	400+1.7/-0.2	65	102	754	545 238	HPC-50-S
63	160.5	152.5	22	66	456+1.7/-0.2	75	133	1,138	545 239	HPC-63-S

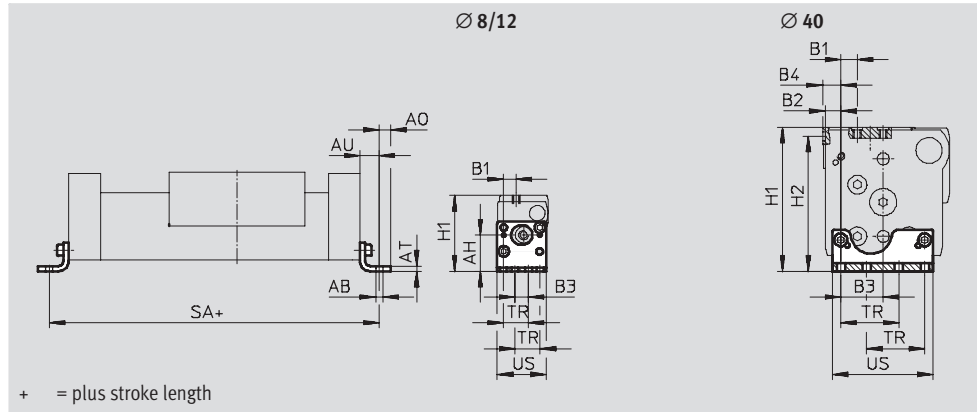
# Linear drives DGC

Accessories



**Foot mounting HPC-SO**  
(when replacing linear drive DGPL  
with linear drive DGC-GF/-KF)

Material:  
Galvanised steel



### Dimensions and ordering data

For Ø	AB Ø	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 Ø	B4	H1	H2	SA	TR	US	Weight	Part No.	Type
[mm]				+0.9/-0.2	±0.1		[g]		
8	–	39	–	118	13	25.4	25	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

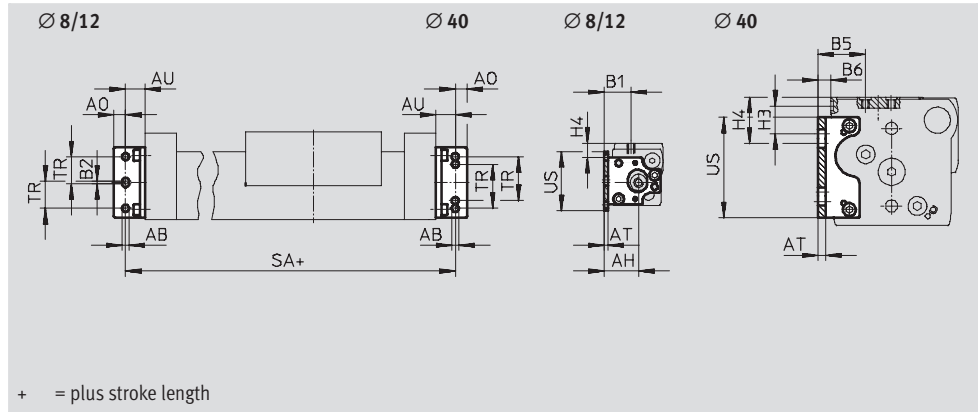
# Linear drives DGC

Accessories



**Foot mounting HPC-SH**  
(when replacing linear drive DGPL  
with linear drive DGC-GF/-KF)

Material:  
Galvanised steel



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	529 349	HPC-12-SH
40	9.2	21.6	36	335	45	78	275	536 746	HPC-40-SH

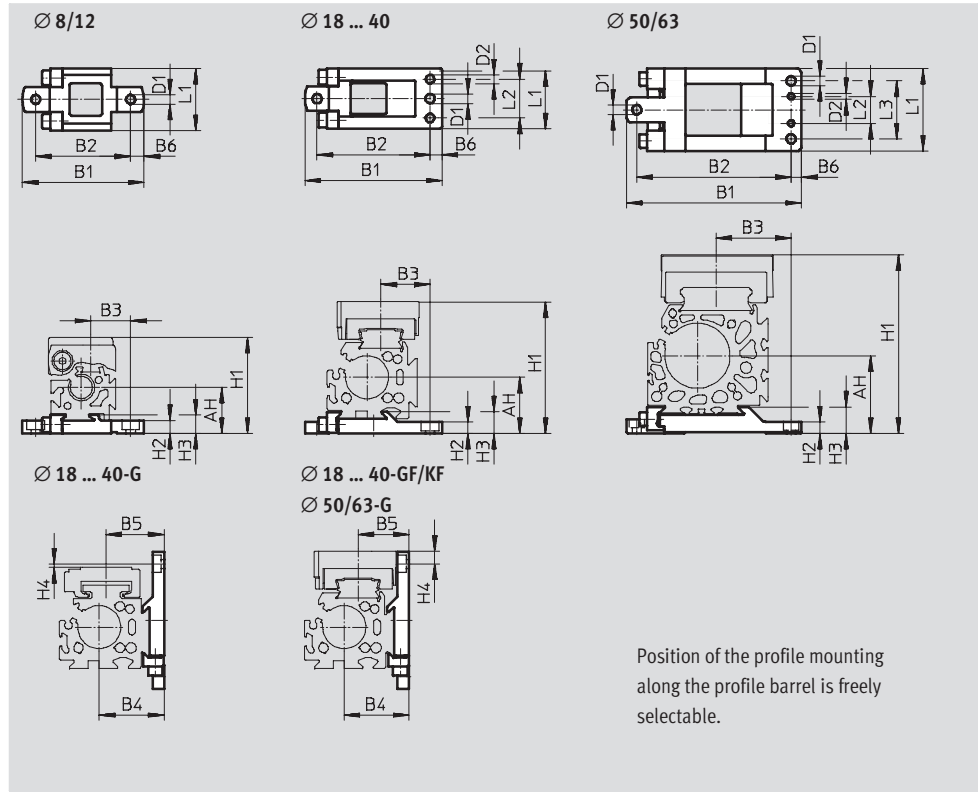
# Linear drives DGC

Accessories

FESTO

Profile mounting MUC  
(order code: M)

Material:  
High-alloy steel



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

Dimensions and ordering data						
For Ø	AH	B1	B2	B3		B4
[mm]				G	GF/KF	
8	17.7	47	36.7	15.35	15.35	–
12	18.5	52.5	42.2	16.5	16.5	–
18	27.2	67.8±0.2	56±0.15	30.5	28.7	27.2
25	32.5	79.5±0.2	65.5±0.15	32.5	28.5	37.5
32	37.5	94±0.2	80±0.15	35	35	47.5
40	47	110.5±0.2	96±0.15	43	43	57
50	61	145±0.5	125±0.2	56	56	77
63	75	169±0.5	149±0.2	72.5	72.5	87

For Ø	B5		B6	D1 Ø H13	D2 Ø H7	H1	
[mm]	G	GF/KF				G	GF/KF
8	–	–	5.1	3.5	–	37	37
12	–	–	5.1	3.5	–	42.5	42.5
18	25	23.2	5.7	5.5	5	57.5	64
25	33.5	29.5	7	5.5	5	67	76.5
32	37	37	7	5.5	5	82	87.5
40	46.8	46.8	7	6.5	6	100	111.5
50	61	61	7	9	6	137	141.5
63	69	69	10	9	6	159	172.5



# Linear drives DGC

Accessories

**FESTO**

Dimensions and ordering data					
For Ø	H2	H3	H4		L1
[mm]			G	GF/KF	
8	5	7	–	–	24
12	4.5	7	–	–	24
18	5.7 $_{-0.2}$	9.9 $\pm 0.1$	0.1	6.4	33 $\pm 0.1$
25	6.5 $_{-0.2}$	12.5 $\pm 0.1$	2.07	7.43	35 $\pm 0.1$
32	6.5 $_{-0.2}$	13 $\pm 0.1$	1.5	4	45 $\pm 0.1$
40	8.5 $_{-0.2}$	16 $\pm 0.1$	0.2	11.3	60 $\pm 0.1$
50	11	23.5	4.7	9.2	80 $\pm 0.4$
63	11	25.5	1.5	15	80 $\pm 0.4$

For Ø	L2	L3	Weight	Part No.	Type
[mm]	$\pm 0.05$	$\pm 0.2$	[g]		
8	–	–	28	<b>526 384</b>	<b>MUC-8</b>
12	–	–	32	<b>526 387</b>	<b>MUC-12</b>
18	20.5	–	78	<b>531 752</b>	<b>MUC-18</b>
25	22.5	–	113	<b>531 753</b>	<b>MUC-25</b>
32	30	–	174	<b>531 754</b>	<b>MUC-32</b>
40	44	–	346	<b>531 755</b>	<b>MUC-40</b>
50	26	56	874	<b>531 756</b>	<b>MUC-50</b>
63	26	56	1,080	<b>531 757</b>	<b>MUC-63</b>

# Linear drives DGC

Accessories



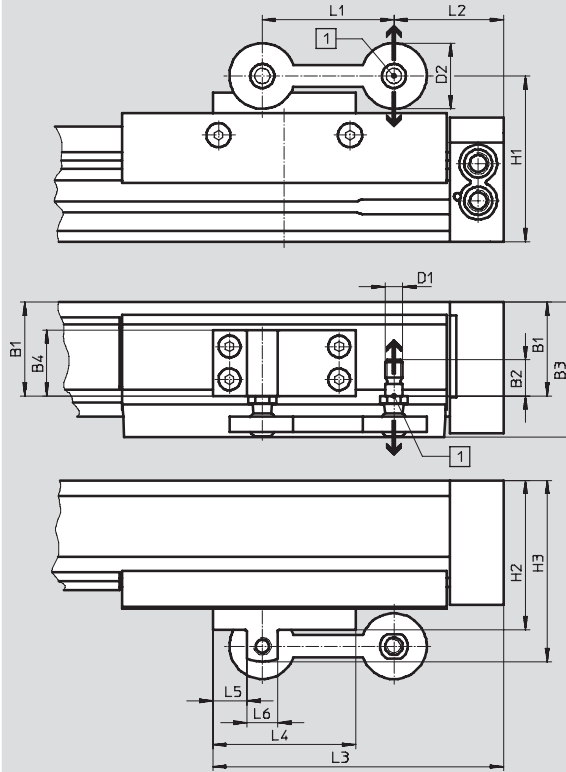
**Driver FK**  
(order code: FK)  
for DGC-G

Materials:  
Plate: Wrought aluminium alloy

Joint: Polyamide  
Ball pin: High-alloy steel



For  $\varnothing 8 \dots 40$

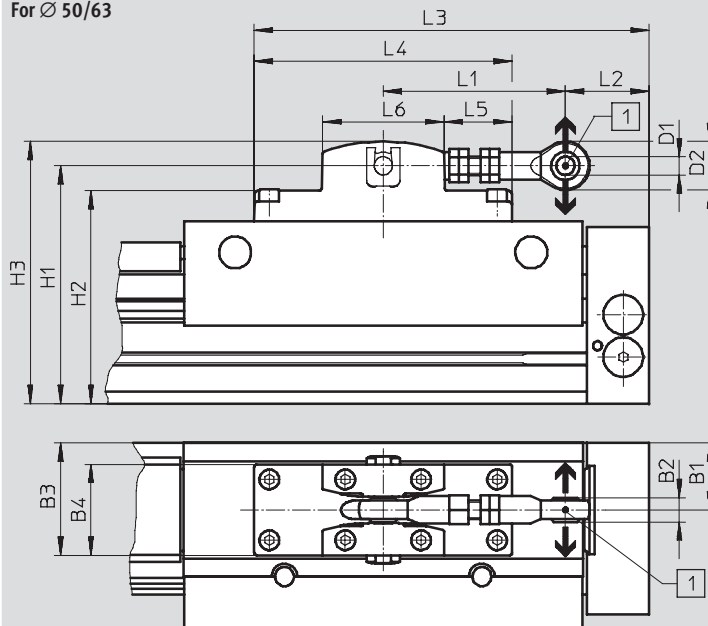


- - Note

Compensation possible in direction of arrow.

- 1 Radial deflection:  
with  $\varnothing 8 \dots 40$ :  $\pm 2.5$  mm  
with  $\varnothing 50/63$ :  $\pm 4$  mm

For  $\varnothing 50/63$



# Linear drives DGC

Accessories

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Dimensions and ordering data				
For $\varnothing$ [mm]	Max. offset between linear drive and external guide [mm]	Max. permissible load in direction of force		Ambient temperature [°C]
		[N]		
8	±2.5	550	Backlash-free	-10 ... +60
12		550	Backlash-free	
18		1,400	Backlash-free	
25		1,400	Backlash-free	
32		1,400	Backlash-free	
40		1,400	Backlash-free	
50	±4	5,000	Low-backlash	
63		5,000	Low-backlash	

For $\varnothing$ [mm]	B1	B2	B3	B4	D1	D2	H1	H2	H3	L1
8	17.5	10.2	30	16	M5	20	43.5	42	48	40
12	18.5	10.2	31	16	M5	20	49	47.5	53.5	40
18	29.3	16.5	47.8	20	M8	30	66.8	59.8	73.8	60
25	42.65	16.5	61.15	30	M8	30	75.5	68	82.5	60
32	43	16.5	61.5	30	M8	30	90	82.5	97	60
40	57.3	16.5	75.8	45	M8	30	105	97.5	113	60
50	44	16	74	60	12 <sup>H7</sup>	32	156.5	140	172.4	120 ... 125
63	50	16	80	60	12 <sup>H7</sup>	32	176.5	161.5	192.4	120 ... 125

For $\varnothing$ [mm]	L2	L3	L4	L5	L6	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
8	5.1	62.6	35	13	9	1	29	529 350	FKC-8/12
12	17.1	74.6	35	13	9	1	29	529 350	FKC-8/12
18	24.5	107	65	15.5	14	1	97	538 714	FKC-18
25	50	132.5	65	15.5	14	1	119	538 715	FKC-25
32	77.5	162	75	17.5	14	1	122	538 961	FKC-32
40	103	187.5	75	17.5	14	1	180	538 962	FKC-40
50	50 ... 55	260	170	45	80	1	1,200	545 240	FKC-50/63
63	75 ... 80	260	170	45	80	1	1,200	545 240	FKC-50/63

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

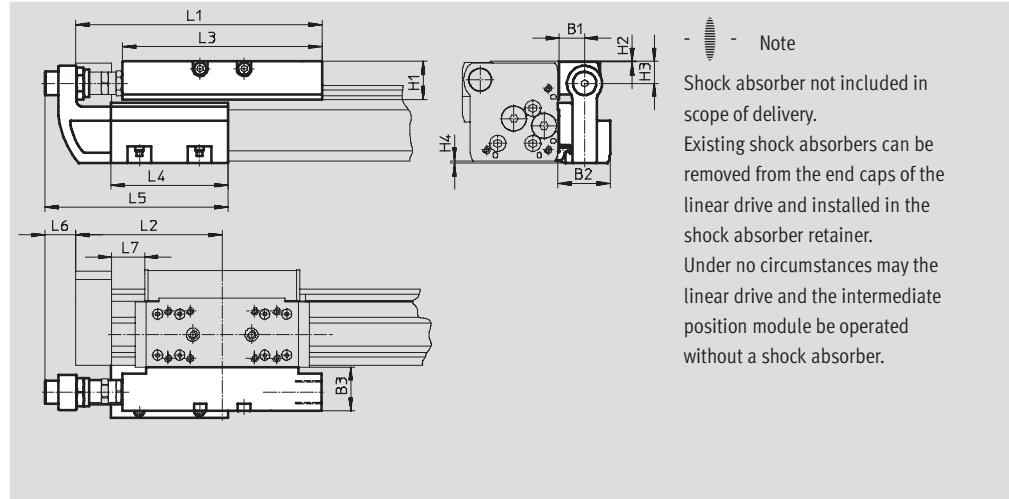


## Shock absorber retainer DADP Stop KYC

(order code: YWZ1 or YWZ2)  
For DGC-GF, DGC-KF, DGC-FA

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 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			30				
32	GF	16.5	35	28	25.5	0.5	15	1.7
	KF			30				
40	GF	16	35.7	29	32	0.5	21.5	1.6
	KF			35	37			2
50	GF	25	50	41	40.5	0.5	24	0
	KF							
63	GF	25	50	40	51.5	1.5	33	0
	KF							

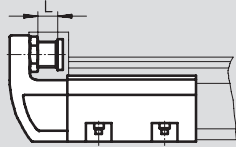
For Ø [mm]		L1	L2	L3	L4	L5	L6	L7 min.
18	GF KF	128	74.5	107	80	118.5	23.5	14.5
25	GF	168	100	136	80	125	20.5	22.5
	KF							
32	GF	206.8	124.8	164	120	165	14.5	42.8
	KF							27.3
40	GF	255	150	210	156	220.5	31	30.8
	KF							31
50	GF	301	175	252	170	238	27	31
	KF							
63	GF	328	200	256	200	268	24	41
	KF							

# Linear drives DGC

Accessories

## Technical data and ordering codes

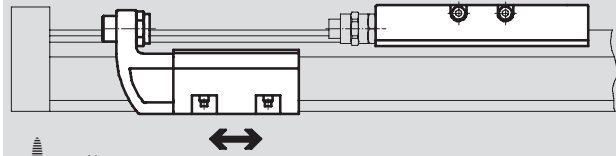
### Precision adjustment



-  - 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 $\varnothing$ [mm]	Max. impact force [N]	Ambient temperature [°C]	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
<b>Shock absorber retainer</b>						
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
50	GF			890	545 244	DADP-DGC-50
	KF					
63	GF			1,080	545 245	DADP-DGC-63
	KF					

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

For $\varnothing$ [mm]	Precision adjustment L [mm]	Ambient temperature [°C]	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
<b>Stop</b>						
18	10	-10 ... +80	2	400	541 691	KYC-18
25	10			560	541 692	KYC-25
32	10			790	541 693	KYC-32
40	15			1,525	541 694	KYC-40
50	15			2,270	545 242	KYC-50
63	15			2,950	545 243	KYC-63

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



## Intermediate position module DADM

(order code: Z1, Z2 or Z3)

For DGC-KF

Materials:

Housing: Anodised aluminium

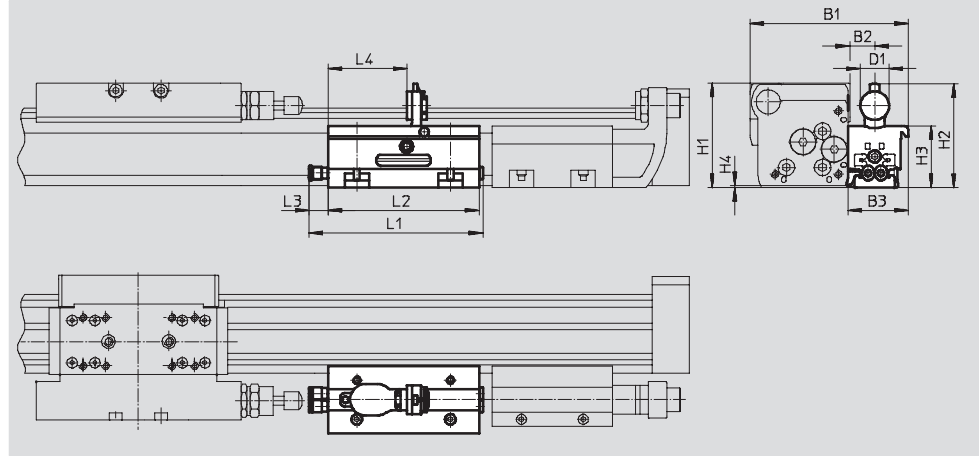
Stop screw, nut:

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 intermediate position module DADM. Mounting via foot mountings HP or profile mountings MUC is recommended in this case.
- The position of the stop lever can be detected using proximity sensors SME/SMT-10 → 73.

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	

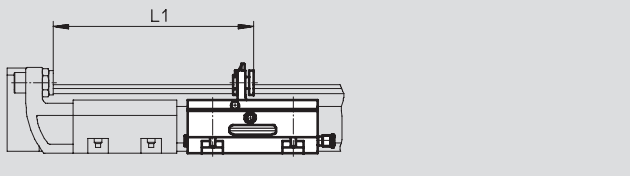
# Linear drives DGC

Accessories

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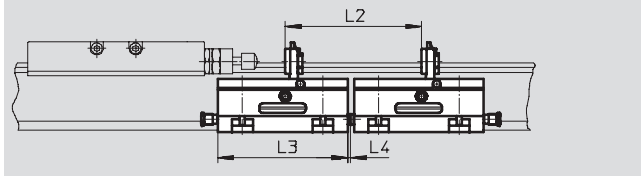
## Minimum distance

between end stop and intermediate position



∅	L1
25	145.3
32	185.3

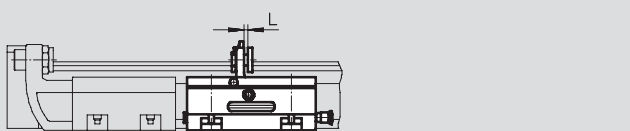
between two intermediate positions



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

## Technical data and ordering codes

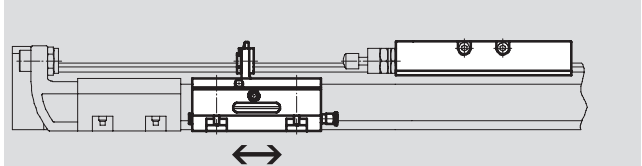
Precision adjustment L



-  - 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 ∅ [mm]	Operating pressure [bar]	Impact velocity [m/s]	Swivel time [ms]	Repetition accuracy [mm]	Pneumatic connection	Precision adjustment L [mm]
25	2.5 ... 8	→ 47	<100	0.02	QS-4	2
32						




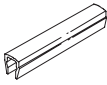
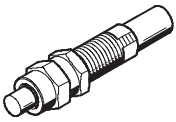
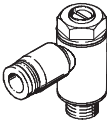
For ∅ [mm]	Ambient temperature [°C]	CRC <sup>1)</sup>	Mounting position	Position sensing	Weight [g]	Part No.	Type
25	-10 ... +60	2	Any	For proximity sensor SME/SMT-10	430	541 700	DADM-DGC-25-A
32							

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

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Ordering data						
	For Ø	Remarks	Order code	Part No.	Type	PU <sup>1)</sup>
Slot nut NST <span style="float: right;">Technical data → Internet: hmbn</span>						
	25 ... 40	For mounting slot	B	547 264	HMBN-5-1M5	10
	50, 63			186 566	HMBN-5-2M5	
Centring pin/sleeve ZBS/ZBH <span style="float: right;">Technical data → Internet: zbs, zbh</span>						
	8 ... 18	For slide	-	150 928	ZBS-5	10
	25 ... 63			150 927	ZBH-9	
	8, 12	For end cap	-	525 273	ZBS-2	
	18			150 928	ZBS-5	
	25 ... 63			150 927	ZBH-9	
Slot cover ABP-S <span style="float: right;">Technical data → Internet: abp</span>						
	18 ... 63	For sensor slot each 0.5 m	L	151 680	ABP-5-S	2
Shock absorber YSRW <span style="float: right;">Technical data → Internet: ysrw</span>						
	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	540 352		YSRW-DGC-40-GF		
	50	540 353		YSRW-DGC-40/50		
	63	543 069		YSRW-DGC-63		
	18	For DGC with recirculating ball bearing guide		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-40/50	
	50					
	63			543 069	YSRW-DGC-63	
One-way flow control valve GRLA <span style="float: right;">Technical data → Internet: grla</span>						
	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, 50			193 146	GRLA-1/4-QS-6-D	
				193 147	GRLA-1/4-QS-8-D	
				193 148	GRLA-1/4-QS-10-D	
	63			193 149	GRLA-3/8-QS-6-D	
193 150		GRLA-3/8-QS-8-D				
			193 151	GRLA-3/8-QS-10-D		

1) Packaging unit quantity





# Linear drives DGC

Accessories




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

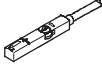


Ordering data – Proximity sensors for C-slot, magneto-resistive						Technical data → Internet: smt	
	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot lengthwise	PNP	Plug M8x1, 3-pin, in-line	0.3	173 220	SMT-10-PS-SL-LED-24	
			Cable, 3-wire, in-line	2.5	173 218	SMT-10-PS-KL-LED-24	



Ordering data – Proximity sensors for C-slot, magnetic reed						Technical data → Internet: sme	
	Type of mounting	Switch output	Electrical connection, connection direction	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0.3	173 212	SME-10-SL-LED-24	
			Cable, 3-wire, in-line	2.5	173 210	SME-10-KL-LED-24	

## Proximity sensors for piston $\varnothing$ 18 ... 63

Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data → Internet: smt	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with cylinder profile	PNP	Cable, 3-wire	2.5	543 867	SMT-8M-PS-24V-K-2,5-OE	
			Plug M8x1, 3-pin	0.3	543 866	SMT-8M-PS-24V-K-0,3-M8D	
			Plug M12x1, 3-pin	0.3	543 869	SMT-8M-PS-24V-K-0,3-M12	
		NPN	Cable, 3-wire	2.5	543 870	SMT-8M-NS-24V-K-2,5-OE	
			Plug M8x1, 3-pin	0.3	543 871	SMT-8M-NS-24V-K-0,3-M8D	
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	175 436	SMT-8-PS-K-LED-24-B	
			Plug M8x1, 3-pin	0.3	175 484	SMT-8-PS-S-LED-24-B	
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	

## Proximity sensors for piston $\varnothing 18 \dots 63$

Ordering data – Proximity sensors for T-slot, magnetic reed					Technical data → Internet: sme	
	Type of mounting	Switch output	Electrical connection	Cable length [m]	Part No.	Type
<b>N/O contact</b>						
	Insertable in the slot from above, flush with cylinder profile	Contacting	Cable, 3-wire	2.5	<b>543 862</b>	<b>SME-8M-DS-24V-K-2,5-OE</b>
				5.0	<b>543 863</b>	<b>SME-8M-DS-24V-K-5,0-OE</b>
			Cable, 3-wire	2.5	<b>543 872</b>	<b>SME-8M-ZS-24V-K-2,5-OE</b>
			Plug M8x1, 3-pin	0.3	<b>543 861</b>	<b>SME-8M-DS-24V-K-0,3-M8D</b>
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	<b>150 855</b>	<b>SME-8-K-LED-24</b>
			Plug M8x1, 3-pin	0.3	<b>150 857</b>	<b>SME-8-S-LED-24</b>
<b>N/C contact</b>						
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	7.5	<b>160 251</b>	<b>SME-8-O-K-LED-24</b>

Ordering data – Connecting cables				Technical data → Internet: 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	<b>541 333</b>	<b>NEBU-M8G3-K-2.5-LE3</b>
			5	<b>541 334</b>	<b>NEBU-M8G3-K-5-LE3</b>
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	<b>541 363</b>	<b>NEBU-M12G5-K-2.5-LE3</b>
			5	<b>541 364</b>	<b>NEBU-M12G5-K-5-LE3</b>
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	<b>541 338</b>	<b>NEBU-M8W3-K-2.5-LE3</b>
			5	<b>541 341</b>	<b>NEBU-M8W3-K-5-LE3</b>
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	<b>541 367</b>	<b>NEBU-M12W5-K-2.5-LE3</b>
			5	<b>541 370</b>	<b>NEBU-M12W5-K-5-LE3</b>