

Linear drives DLGF



# Linear drives DLGF

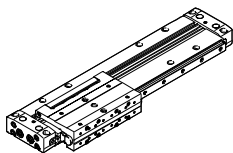
Key features

## At a glance

- Very flat, rodless drive
  - Enabling very space-saving installation
- Three pneumatic connection options:
    - At the left-hand end
    - At the right-hand end
    - At both ends
  - Alternatively, also from below
- Choice of two cushioning types:
    - PPS cushioning
    - External hydraulic shock absorber
- Loads and devices can be directly mounted on the slide
  - For DLGF-KF: two complete customer interfaces  
→ page 13

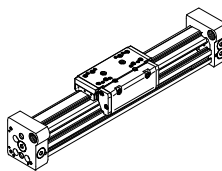
## Comparison of linear drive DLGF and linear drive DGC

### Recirculating ball bearing guide DLGF-KF



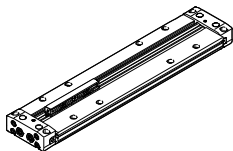
- Piston diameter 20 ... 40 mm
- Stroke lengths from 50 ... 1000 mm
- For small and medium loads
- Operating behaviour under torque load = very good
- Much smaller installation dimensions (approx. –46 %)

### Recirculating ball bearing guide DGC-KF



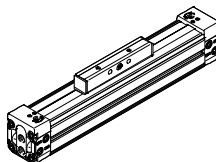
- Piston diameter 8 ... 63 mm
- Stroke lengths from 1 ... 8500 mm
- Guide backlash = 0 mm
- For medium and large loads
- Operating behaviour under torque load = very good

### Basic design DLGF-G



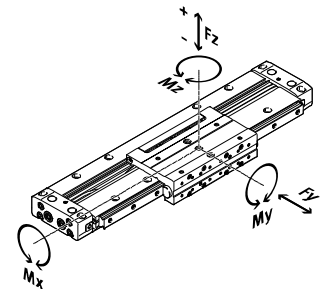
- Piston diameter 20 ... 40 mm
- Stroke lengths from 50 ... 1000 mm
- Low moving dead weight
- Much smaller installation dimensions (approx. –42 %)

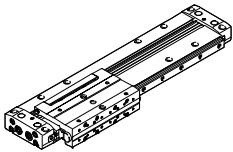
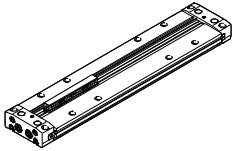
### Compact design DGC-K



- Piston diameter 18 ... 80 mm
- Stroke lengths from 1 ... 8500 mm
- Low moving dead weight
- Symmetrical design

## Product variants



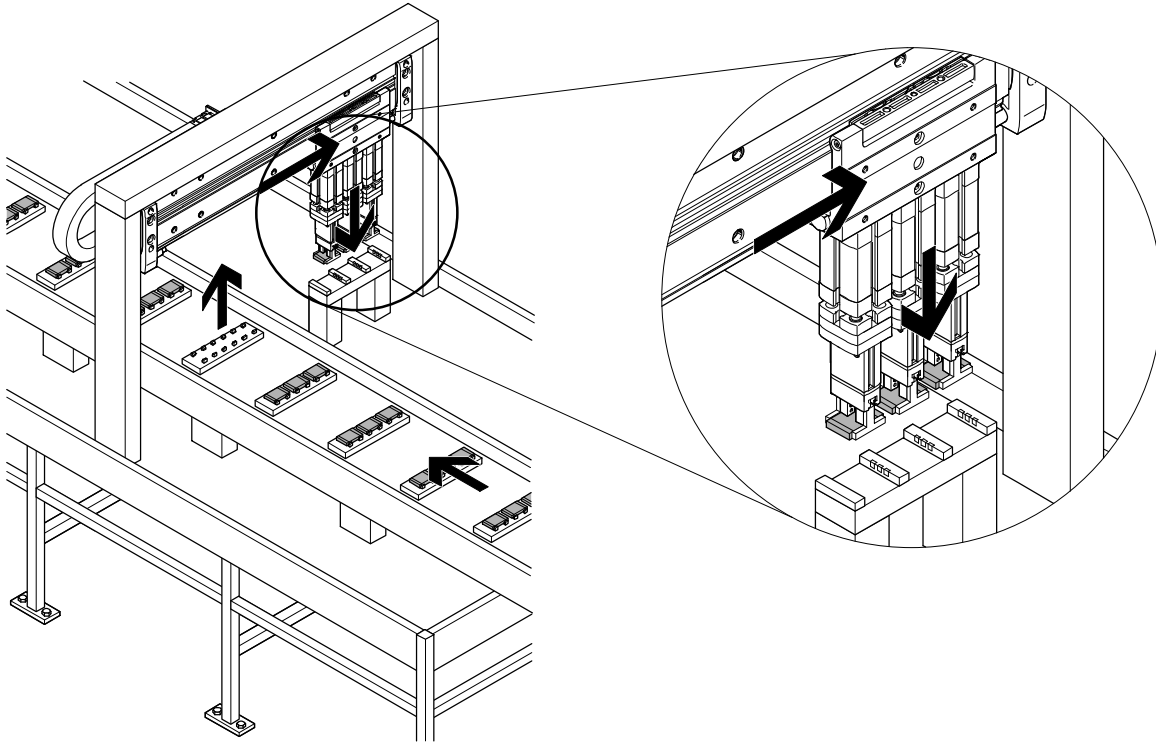
	Piston diameter [mm]	Theoretical force At 6 bar [N]	Guide characteristics						→ Page/ Internet
			Fy [N]	Fz+ [N]	Fz- [N]	Mx [Nm]	My [Nm]	Mz [Nm]	
<b>Recirculating ball bearing guide DLGF-KF</b>									
	20	188	600	400	700	5.4	15	15	8
	25	295	1000	700	1200	12.3	30	30	
	32	483	1300	950	1600	30	50	50	
	40	754	1700	1150	2000	54	90	90	
<b>Basic design DLGF-G</b>									
	20	188	–	54	98	0.6	2.2	0.7	20
	25	295	–	95	164	1.1	4.5	1.4	
	32	483	–	138	276	1.8	7.6	2.9	
	40	754	–	456	662	7.7	37.6	11.2	

# Linear drives DLGF

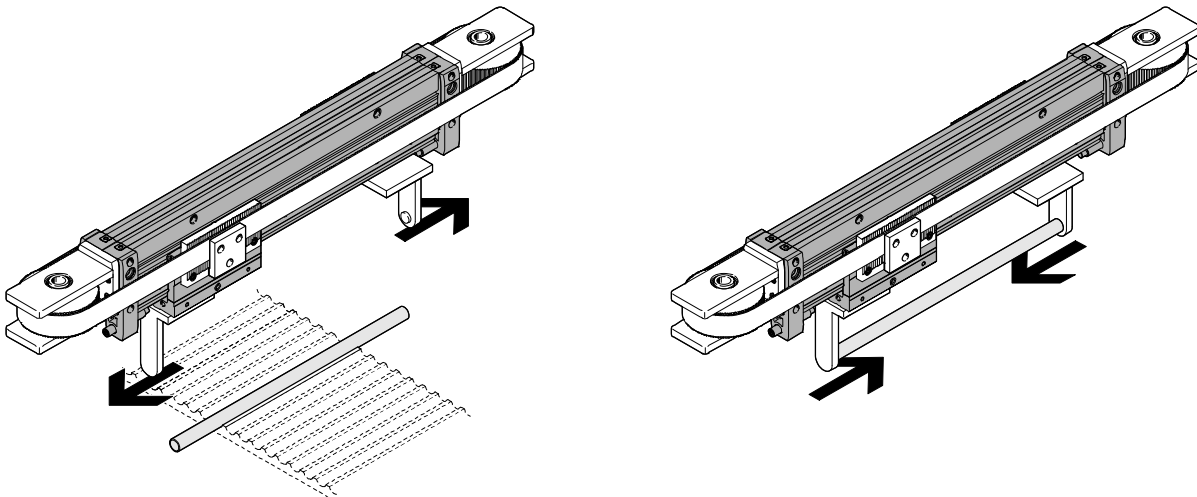
Key features

## Application examples

As a space-optimised "pick & place" unit



As a long-stroke gripper



# Linear drives DLGF

Key features

## Compressed air supply variants

### Supply ports at both ends:

On the end:

Option 1:

- 1 Slide moves to the left
- 4 Slide moves to the right

Option 2:

- 3 Slide moves to the left
- 2 Slide moves to the right

From below:

Option 1:

- 6 Slide moves to the left
- 7 Slide moves to the right

Option 2:

- 8 Slide moves to the left
- 5 Slide moves to the right

### Supply port at one end:

On the end:

Option 1:

- 1 Slide moves to the left
- 2 Slide moves to the right

Option 2:

- 3 Slide moves to the left
- 4 Slide moves to the right

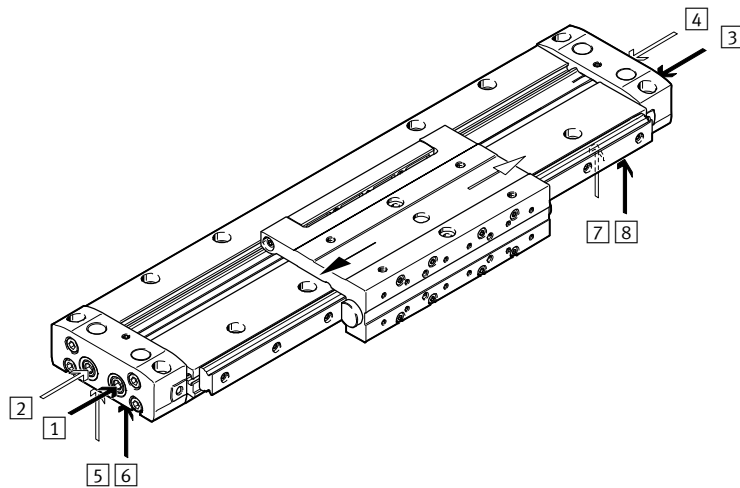
From below:

Option 1:

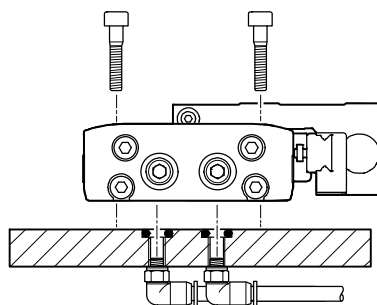
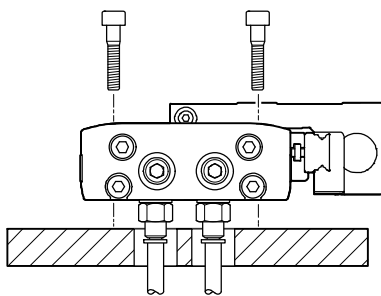
- 6 Slide moves to the left
- 5 Slide moves to the right

Option 2:

- 8 Slide moves to the left
- 7 Slide moves to the right



## Connection variants from below



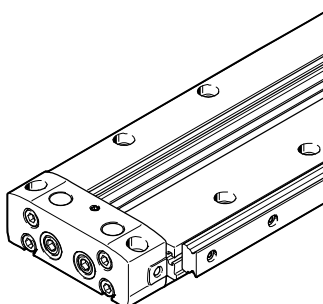
Suitable O-rings:

- For piston diameter 20:  $\varnothing$  5x2
- For piston diameter 25:  $\varnothing$  12x2
- For piston diameter 32:  $\varnothing$  12x2
- For piston diameter 40:  $\varnothing$  16x2

## Profile design

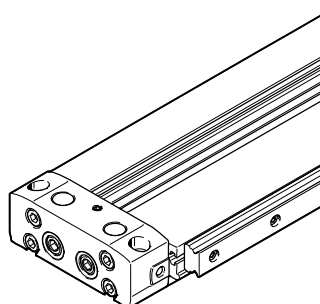
With mounting holes

- In the end cap: yes
- In the profile: yes



Without mounting holes

- In the end cap: yes
- In the profile: no

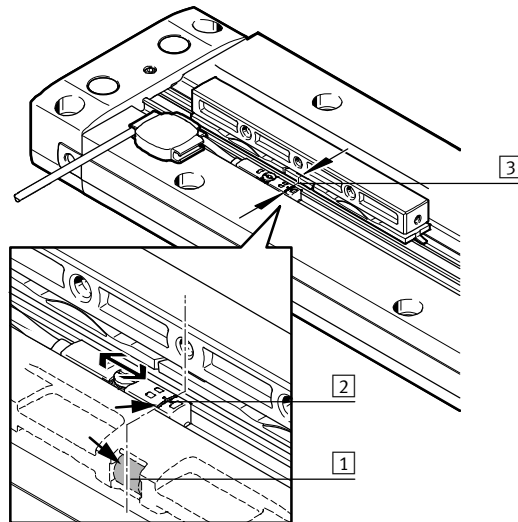


# Linear drives DLGF

Key features

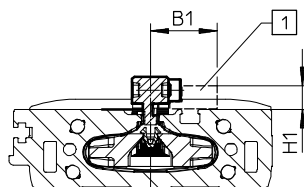
## Simple preassembly of the proximity sensor

The magnet **1** for sensing the slide position is in the centre of the slide. The cross **2** on the proximity sensor SMT-8M-A marks the position of the switching point. When both points are at the same height **3**, the switching point is set.



## Influence of ferritic materials on proximity sensors

Ferritic materials (steel parts or panels) in the immediate vicinity of the proximity sensors can cause sensing malfunctions. The following safety distances must be observed. No ferritic materials should be used in the shaded area **1**.

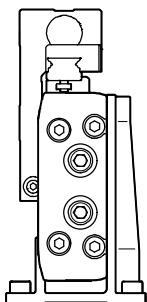


Piston diameter	B1	H1
20	22	8
25	22	8
32	27	13
40	27	13

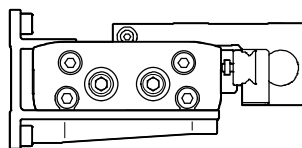
## Possible installation variants

With profile mounting DAMH-L8-P

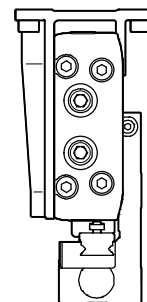
Slide on left



Slide at top



Slide on right



# Linear drives DLGF

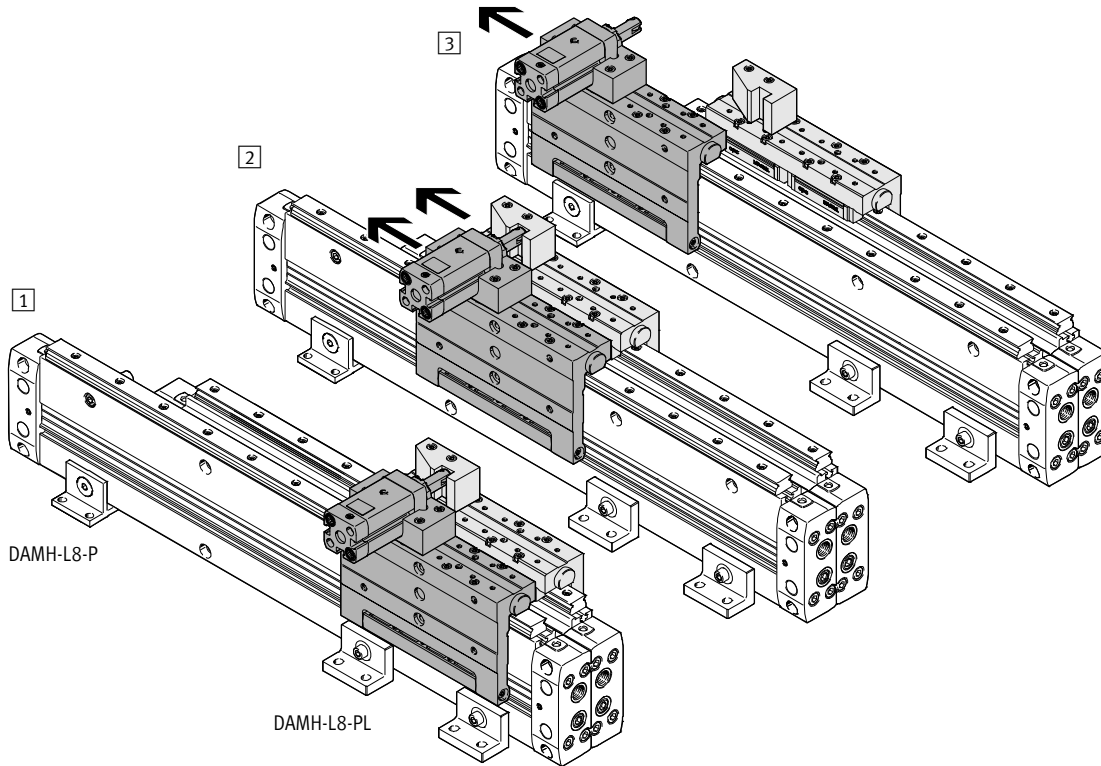
Key features

## Possible installation variants

With profile mountings DAMH-L8-PL and DAMH-L8-P

Sample application:

Simple implementation of an intermediate position using two linear drives DLGF “back to back”



**1** Both linear drives are in the initial position on the right. The stopper cylinder on the slide of the left-hand linear drive is normally extended and thus locks the slide of the right-hand linear drive.

**2** The right-hand linear drive is supplied with compressed air and takes the left-hand drive with it as it moves. On reaching the end position of the right-hand linear drive, the intermediate position is approached.

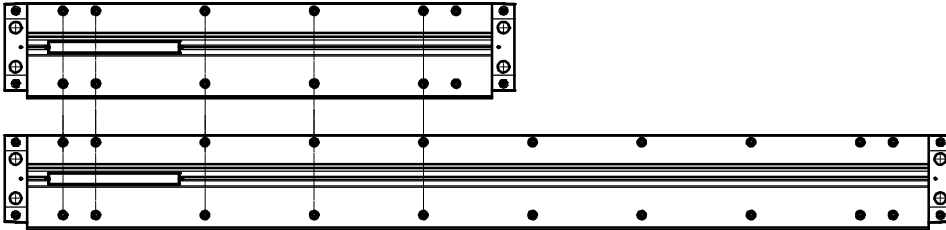
**3** By supplying compressed air to the stopper cylinder, the two slides are released. The left-hand linear drive is then supplied with compressed air and moves to its end position.

# Linear drives DLGF

Key features

## Possible installation variants

Number of matching mounting holes from cover to attach the profile mountings DAMH-L8-PL



For piston diameter 20, 25, 32

Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
50	3																				
100		3																			
150			3																		
200	2			4																	
250		2			4																
300			2			4															
350	2			3			5														
400		2			3			5													
450			2			3			5												
500	2			3			4			6											
550		2			3			4			6										
600			2			3			4			6									
650	2			3			4			5			7								
700		2			3			4			5			7							
750			2			3			4			5			7						
800	2			3			4			5			6			8					
850		2			3			4			5			6			8				
900			2			3			4			5			6			8			
950	2			3			4			5			6			7			9		
1000		2			3			4			5			6			7			9	

For piston diameter 40

Stroke [mm]	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	
50	5																				
100		5																			
150			5																		
200	3			5																	
250		3			5																
300			3			5															
350	3			4			6														
400		3			4			6													
450			3			4			6												
500	3			4			5			7											
550		3			4			5			7										
600			3			4			5			7									
650	3			4			5			6			8								
700		3			4			5			6			8							
750			3			4			5			6			8						
800	3			4			5			6			7			9					
850		3			4			5			6			7			9				
900			3			4			5			6			7			9			
950	3			4			5			6			7			8			10		
1000		3			4			5			6			7			8			10	

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

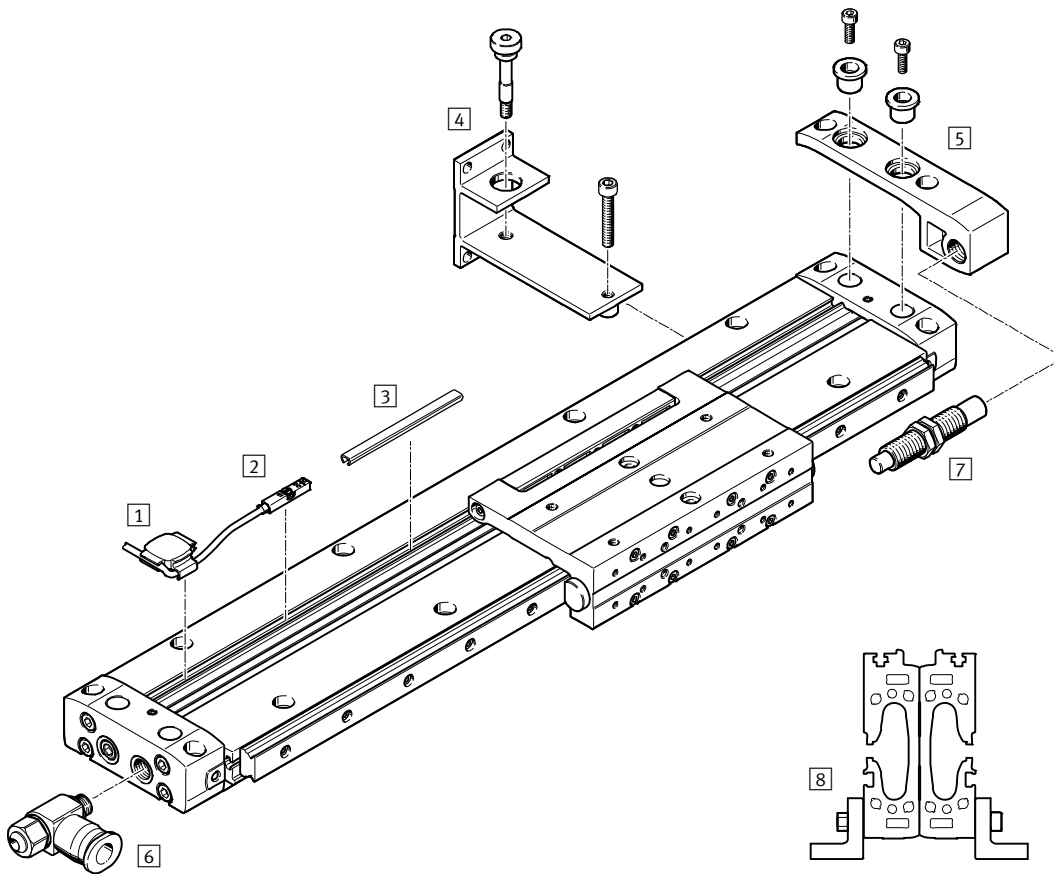
Type codes

		DLGF	-	KF	-	25	-	40	-	PPS	-	A	-	
<b>Type</b>														
DLGF	Linear drive													
<b>Guide</b>														
KF	Recirculating ball bearing guide													
<b>Piston diameter [mm]</b>														
<b>Stroke [mm]</b>														
<b>Cushioning</b>														
PPS	Pneumatic cushioning, self-adjusting at both ends													
<b>Position sensing</b>														
A	Via proximity sensor													
<b>Profile design</b>														
-	With mounting holes													
W	Without mounting holes													



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

Peripherals overview

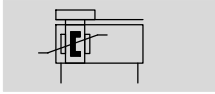




Accessories			
	Type/order code	Description	→ Page/Internet
1	Cable holder DADG	For fixing the proximity sensor cable	35
2	Proximity sensor SMT-8M	For sensing the position of the moment compensator	35
3	Slot cover ABP-5-S1	For protecting against contamination	35
4	Profile mounting DAMH-L8-P	For mounting the linear drive in a vertical position	30
5	Shock absorber retainer DAYP-L8	<ul style="list-style-type: none"> <li>• For mounting the shock absorbers on the linear drive</li> <li>• Must be ordered separately as an accessory</li> </ul>	34
6	One-way flow control valve GRLA	For speed regulation	35
7	Shock absorber DYSS	<ul style="list-style-type: none"> <li>• Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristics</li> <li>• Must be ordered separately as an accessory</li> </ul>	34
8	Profile mounting DAMH-L8-PL	For mounting two back-to-back linear drives in a vertical position	31

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

Technical data

Function



-  Diameter  
20 ... 40 mm
-  Stroke length  
50 ... 1000 mm

General technical data					
Piston diameter		20	25	32	40
Design	Rodless drive				
Moment compensator principle	Positive-locking (slot)				
Guide	Recirculating ball bearing guide				
Mode of operation	Double-acting				
Stroke					
Standard stroke	[mm]	100, 150, 200, 250, 300, 350, 400, 500, 600		200, 300, 400, 500, 600	
Modular product system <sup>1)</sup>	[mm]	50 ... 1000			
Pneumatic connection		M5	G1/8	G1/8	G1/4
Cushioning	Pneumatic cushioning, self-adjusting at both ends				
Cushioning length	[mm]	9.6	9	11.6	12.9
Min. speed	[m/s]	0.07			
Max. speed	[m/s]	1.5			
Repetition accuracy	[mm]	±0.05			
Position sensing	Via proximity sensor				
Type of mounting	Direct mounting via through-hole				
	With accessories				
Mounting position	Any				

1) The drive can only be ordered in 50 mm increments.

Operating and environmental conditions					
Piston diameter		20	25	32	40
Operating pressure	[bar]	2 ... 8		1.5 ... 8	
Operating medium	Compressed air according to ISO 8573-1:2010 [7:-:-]				
Note on operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)				
Ambient temperature	[°C]	0 ... 60			
Corrosion resistance class CRC <sup>1)</sup>		1			

1) Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Forces and impact energy					
Piston diameter		20	25	32	40
Theoretical force at 6 bar	[N]	188	295	483	754
Impact energy in the end positions					
DLGF-...-PPS	[J]	0.17	0.27	0.44	0.69
DLGF-... with shock absorber	[J]	2	3	6	10

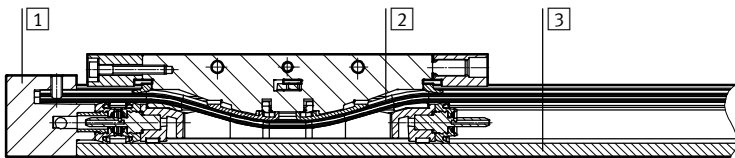
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

Weight [g]				
Piston diameter	20	25	32	40
Basic weight with 0 mm stroke	1015	1640	2829	5585
Additional weight per 10 mm stroke	35.5	45.5	69.4	105.5
Moving mass	566	998	1622	3300

## Materials

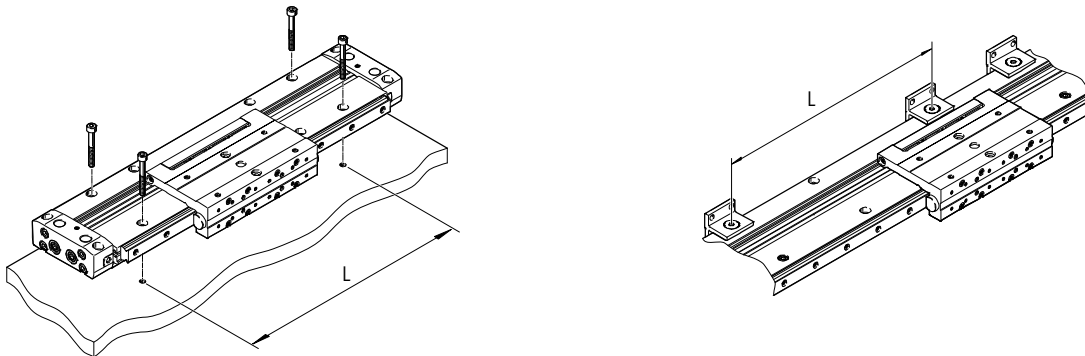
Sectional view



Linear drive	
1 Cover	Coated die-cast aluminium
2 Seals	NBR TPE-U(PU)
3 Housing	Anodised aluminium
Note on materials	Free of copper and PTFE RoHS-compliant

## Direct mounting

In order to avoid strain, the drive must be mounted at varying intervals depending on the length. The maximum support spacing is 300 mm.



Stroke [mm]	Number of pairs of screws			
	DLGF-20	DLGF-25	DLGF-32	DLGF-40
50 ... 150	2	2	2	2
200	2	2	2	3
250	2	2	3	3
300	3	3	3	3
350 ... 450	3	3	3	4
500 ... 600	4	4	4	4
650 ... 750	4	4	4	5
800 ... 1000	5	5	5	5

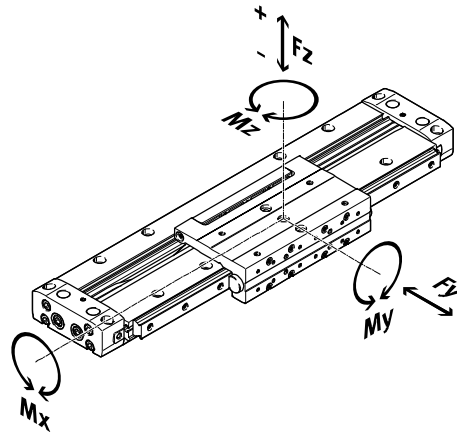
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

## Characteristic load values

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

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



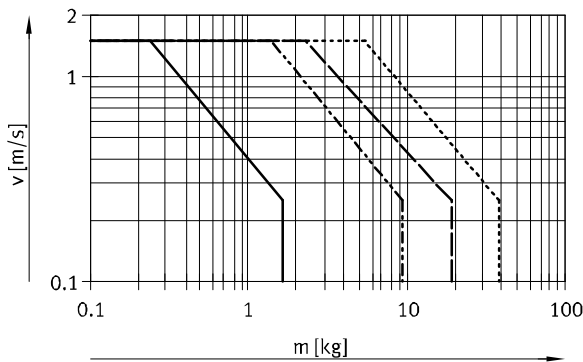
If the drive is simultaneously subjected to several of the indicated forces and torques, the following equation must be satisfied in addition to the indicated maximum loads:

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

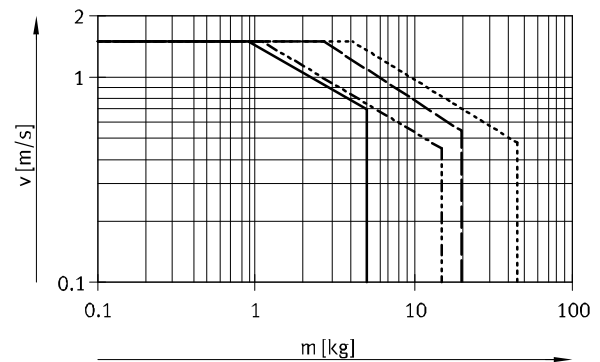
Permissible forces and torques					
Piston diameter		20	25	32	40
$F_{y_{max.}}$	[N]	600	1000	1300	1700
$F_{z_{max.}+}$	[N]	400	700	950	1150
$F_{z_{max.}-}$	[N]	700	1200	1600	2000
$M_{x_{max.}}$	[Nm]	5.4	12.3	30	54
$M_{y_{max.}}$	[Nm]	15	30	50	90
$M_{z_{max.}}$	[Nm]	15	30	50	90

## Maximum permissible speed v as a function of payload m

With PPS cushioning



With shock absorber DYSS



- DLGF-KF-20
- - - DLGF-KF-25
- · - DLGF-KF-32
- · · DLGF-KF-40

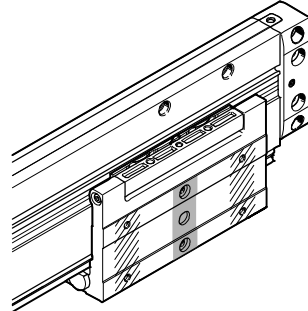
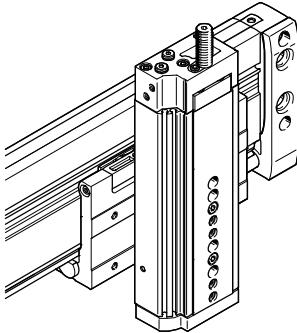
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

**Direct mounting using Festo components or connection by the customer**

With mini slide DGST, DGSL or SLT

For connection by the customer

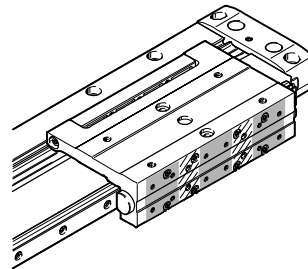
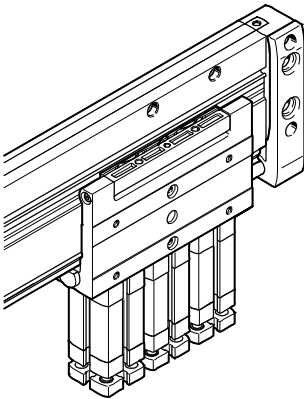


■ Interface for DGST, DGSL, SLT  
 ▨ Available interface

Linear drive DLGF Piston diameter	Mini slide DGST/DGSL/SLT Piston diameter		Mounting screws	Connector sleeve for DGSL
		For DGSL from stroke [mm]		
20	8	0	M4	-
	10	20		
25, 32	12	30	M5	ZBV-9-7
	16	20		
40	20	30	M6	ZBV-12-9
	25	20		

With compact cylinder ADN, ADNGF

For connection by the customer



■ Interface for ADN, ADNGF  
 ▨ Available interface

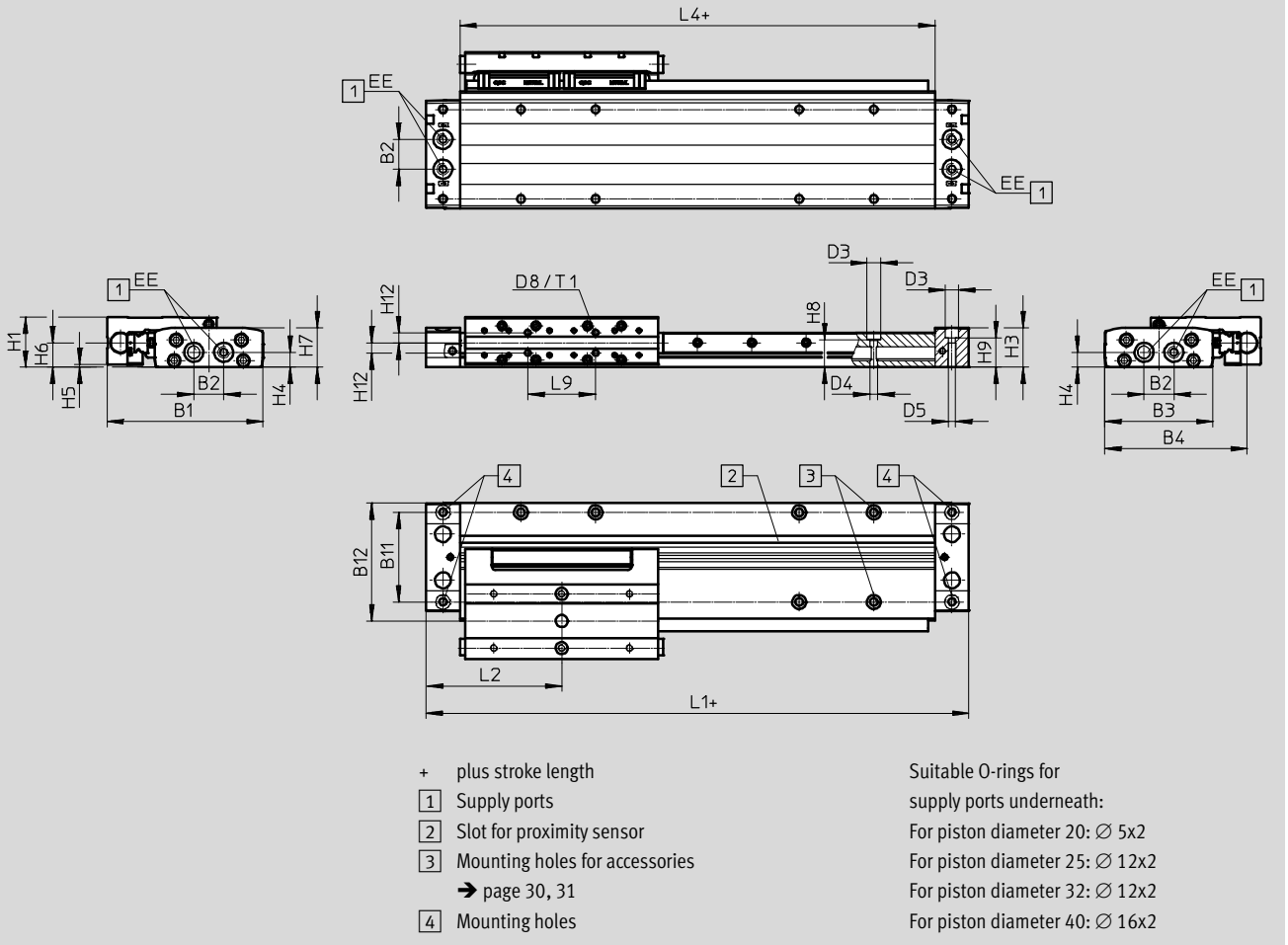
Linear drive DLGF Piston diameter	Compact cylinder ADN/ADNGF Piston diameter		Mounting screws
		Max. stroke	
20	12	20	M3
25	16	20	M3
32	20	40	M4
40	25	50	M4

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

Technical data

**Dimensions**

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



Piston diameter	B1	B2	B3	B4	B11	B12	D3 Ø	D4 Ø
20	105	17	71.8	95	60	78	8	4.7
25	115	22	79.8	105	66	87	10	5.8
32	145	26	99.6	134.5	82	115	11	6.8
40	175	32	119.8	160.5	100	141	11	6.8

Piston diameter	D5 Ø	D8	EE	H1	H3	H4	H5	H6	H7
20	4.5	M4	M5	32	21	9	1.5	15	24
25	5.5	M4	G1/8	37	25.5	11	2	18	29
32	6.5	M5	G1/8	45	32	14	2	19	35
40	6.6	M6	G1/4	52	39.5	19.5	3	24	42.7

Piston diameter	H8	H9	H12	L1 ±0.35	L2	L4	L9	T1	Stroke tolerance
20	15.6	17.6	7.5	160	80	120	45	7	+1.5
25	20.1	21.8	7.5	200	100	150	50	9	
32	24.6	26.5	10	230	115	170	80	10	
40	32.1	34.7	12.5	300	150	238.8	125	10	

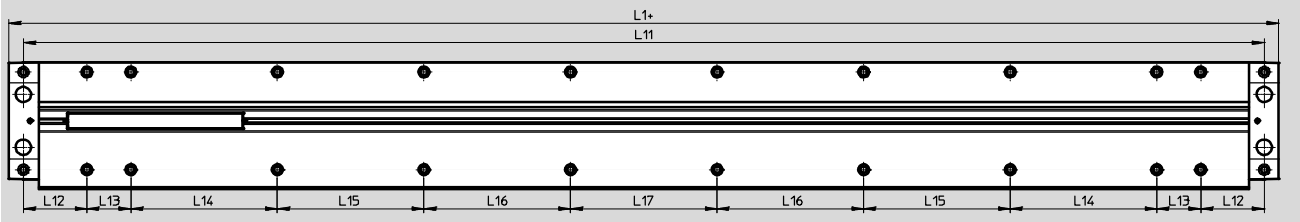
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

**Dimensions**

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

Mounting holes



Dimension	L1				L11				L12				L13				
	Piston diameter	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Stroke																	
50	210	250	280	350	190	225	250	320	55	57.5	65	65	40	55	60	20	
100	260	300	330	400	240	275	300	370					65	80	80	45	
150	310	350	380	450	290	325	350	420					90	105	110	70	
200	360	400	430	500	340	375	400	470					40	55	60	20	
250	410	450	480	550	390	425	450	520					65	80	80	45	
300	460	500	530	600	440	475	500	570					90	105	110	70	
350	510	550	580	650	490	525	550	620					40	55	60	20	
400	560	600	630	700	540	575	600	670					65	80	80	45	
450	610	650	680	750	590	625	650	720					90	105	110	70	
500	660	700	730	800	640	675	700	770					40	55	60	20	
550	710	750	780	850	690	725	750	820					65	80	80	45	
600	760	800	830	900	740	775	800	870					90	105	110	70	
650	810	850	880	950	790	825	850	920					40	55	60	20	
700	860	900	930	1000	840	875	900	970					65	80	80	45	
750	910	950	980	1050	890	925	950	1020					90	105	110	70	
800	960	1000	1030	1100	940	975	1000	1070					40	55	60	20	
850	1010	1050	1080	1150	990	1025	1050	1120					65	80	80	45	
900	1060	1100	1130	1200	1040	1075	1100	1170	90	105	110	70					
950	1110	1150	1180	1250	1090	1125	1150	1220	40	55	60	20					
1000	1160	1200	1230	1300	1140	1175	1200	1370	65	80	80	45					

Dimension	L14				L15				L16				L17				
	Size	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Stroke																	
50	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-	-
100																	
150																	
200				150										150	150	150	
250																	
300																	
350	150	150	150	150	-	-	-	-	-	-	-	-	-	-	-	-	150
400																	
450																	
500								150						150	150	150	-
550																	
600																	
650	150	150	150	150	150	150	150	150	-	-	-	-	-	-	-	-	150
700																	
750																	
800												150	150	150	150	150	-
850																	
900																	
950	150	150	150	150	150	150	150	150	150	150	150	150	-	-	-	-	150
1000																	

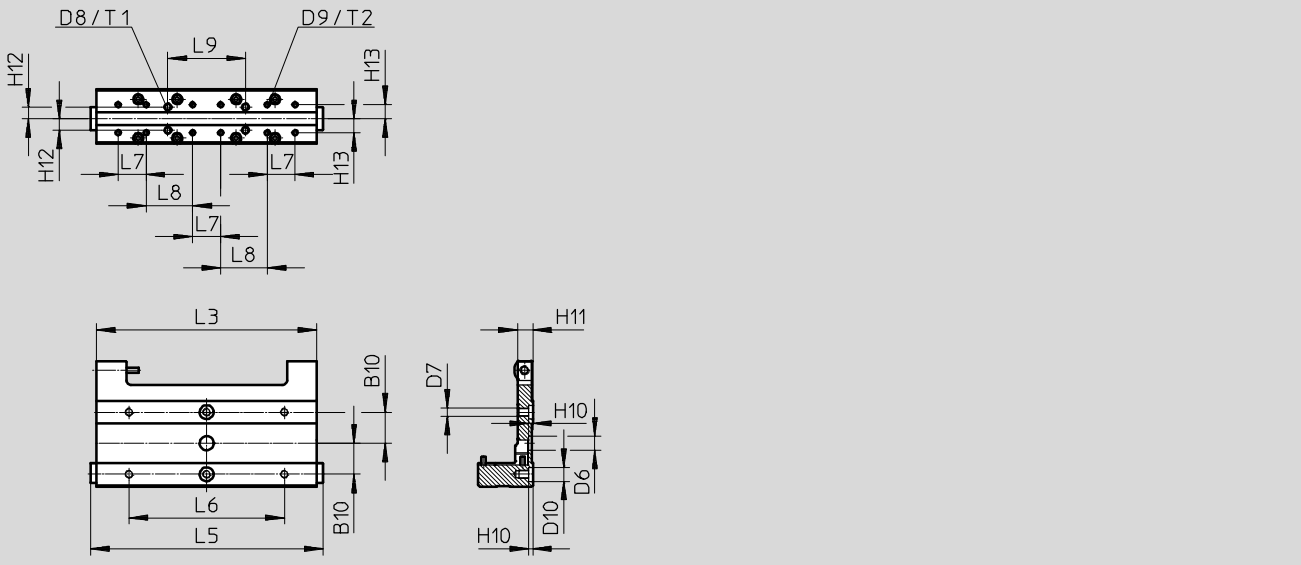
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

**Dimensions**

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

Slide



Piston diameter	B10	D6 Ø H7	D7	D8	D9	D10 Ø	H10	H11	H12
20	20	7	M4	M4	M3	7	2.5	8.8	7.5
25	20	9	M5	M4	M3	9	2.5	9.8	7.5
32	20	9	M5	M5	M4	9	2.5	10.3	10
40	20	12	M6	M6	M4	-	2.5	10.3	12.5

Piston diameter	H13	L3	L5	L6	L7	L8	L9	T1	T2
20	8	112	119.8	64	16	20	45	7	7
25	9	142	149.8	100	18	30	50	9	7
32	11	161	170	100	22	35	80	10	7.5
40	13	230.6	239.6	140	26	62	125	10	8



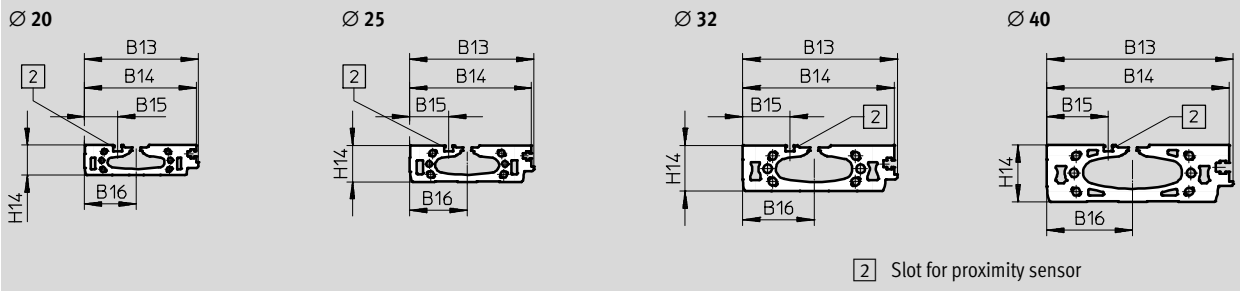
# Linear drives DLGF-KF, with recirculating ball bearing guide

Technical data

**Dimensions**

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

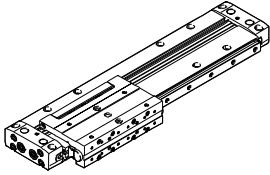
Profile barrel



Piston diameter	B13	B14	B15	B16	H14
20	79.5	78	23	36	21
25	86.5	85	27	40	25.5
32	108	106	33	50	32
40	130	127.5	43	60	39.5

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

Technical data

Ordering data				
	Piston diameter	Stroke [mm]	Part No.	Type code
	20	100	5074938	DLGF-KF-20-100-PPSA
		150	5074939	DLGF-KF-20-150-PPSA
		200	5074940	DLGF-KF-20-200-PPSA
		250	5074941	DLGF-KF-20-250-PPSA
		300	5074942	DLGF-KF-20-300-PPSA
		350	5074943	DLGF-KF-20-350-PPSA
		400	5074944	DLGF-KF-20-400-PPSA
		500	5074946	DLGF-KF-20-500-PPSA
		600	5074948	DLGF-KF-20-600-PPSA
	25	100	5072370	DLGF-KF-25-100-PPSA
		150	5072371	DLGF-KF-25-150-PPSA
		200	5072372	DLGF-KF-25-200-PPSA
		250	5072373	DLGF-KF-25-250-PPSA
		300	5072374	DLGF-KF-25-300-PPSA
		350	5072375	DLGF-KF-25-350-PPSA
		400	5072376	DLGF-KF-25-400-PPSA
		500	5072378	DLGF-KF-25-500-PPSA
		600	5072380	DLGF-KF-25-600-PPSA
	32	200	5074802	DLGF-KF-32-200-PPSA
		300	5074804	DLGF-KF-32-300-PPSA
		400	5074806	DLGF-KF-32-400-PPSA
		500	5074808	DLGF-KF-32-500-PPSA
		600	5074810	DLGF-KF-32-600-PPSA
	40	200	5074756	DLGF-KF-40-200-PPSA
		300	5074758	DLGF-KF-40-300-PPSA
		400	5074760	DLGF-KF-40-400-PPSA
		500	5074762	DLGF-KF-40-500-PPSA
		600	5074764	DLGF-KF-40-600-PPSA

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

Ordering data – Modular product system

Ordering table							
Size	20	25	32	40	Condi- tions	Code	Entry code
<b>M</b> Module no.	<b>8063799</b>	<b>8063800</b>	<b>8063801</b>	<b>8063802</b>			
Function	Linear drives					<b>DLGF</b>	DLGF
Guide	Recirculating ball bearing guide					<b>-KF</b>	-KF
Piston diameter [mm]	20	25	32	40		-...	
Stroke [mm]	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000					-...	
Cushioning	Pneumatic cushioning, self-adjusting at both ends					<b>-PPS</b>	-PPS
Position sensing	Via proximity sensor					<b>A</b>	A
<b>O</b> Profile design	With mounting holes						
	Without mounting holes					<b>-W</b>	

**Transfer order code**

	<b>DLGF</b>	-	<b>KF</b>	-		-		-	<b>PPS</b>	<b>A</b>	-	
--	-------------	---	-----------	---	--	---	--	---	------------	----------	---	--

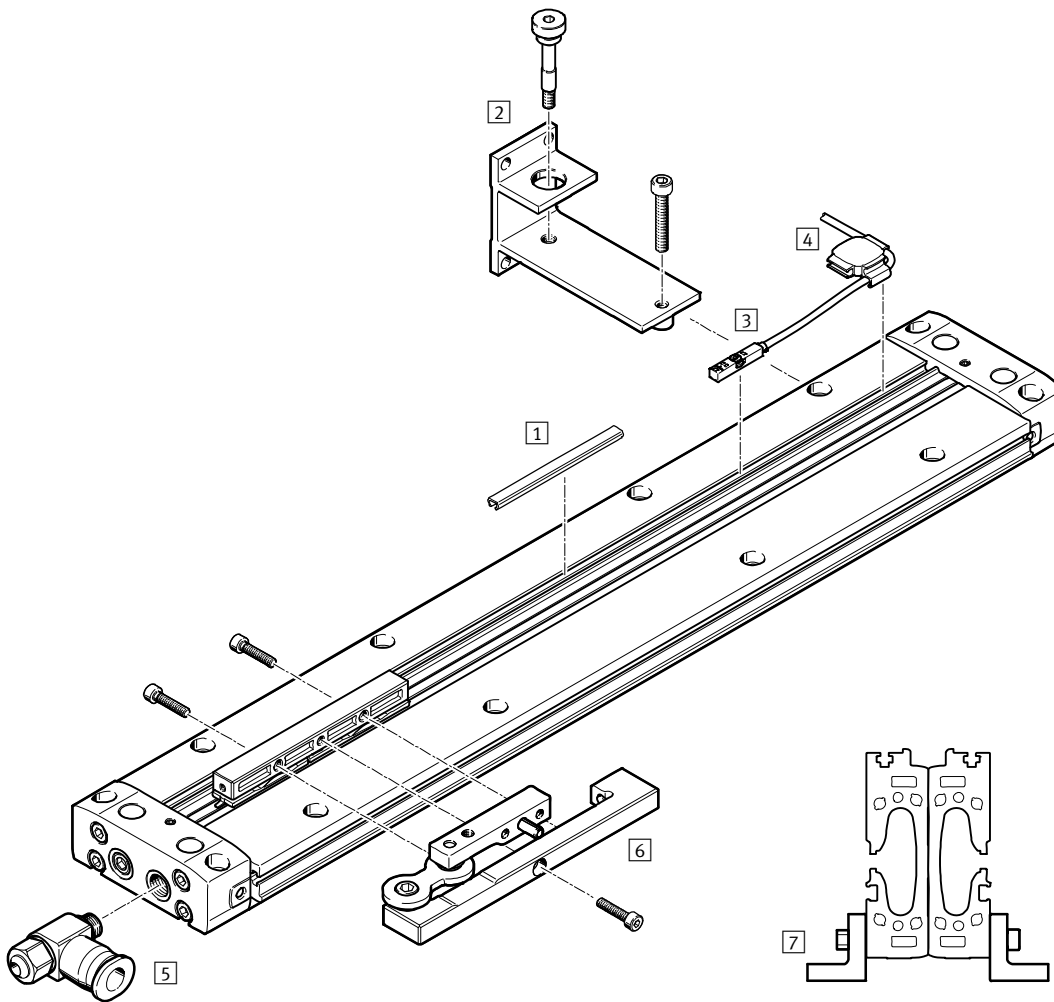
# Linear drives DLGF-G

Type codes

		DLGF	-	G	-	25	-	40	-	PPS	-	A	-	
<b>Type</b>														
DLGF	Linear drive													
<b>Guide</b>														
G	Basic variant													
<b>Piston diameter [mm]</b>														
<b>Stroke [mm]</b>														
<b>Cushioning</b>														
PPS	Pneumatic cushioning, self-adjusting at both ends													
<b>Position sensing</b>														
A	For proximity sensor													
<b>Profile design</b>														
-	With mounting holes													
W	Without mounting holes													

# Linear drives DLGF-G

Peripherals overview

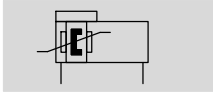




Accessories			
	Type/order code	Description	→ Page/Internet
1	Slot cover ABP-5-S1	For protecting against contamination	35
2	Profile mounting DAMH-L8-P	For mounting the linear drive in a vertical position	30
3	Proximity sensor SMT-8M	For sensing the position of the moment compensator	35
4	Cable holder DADG	For fixing the proximity sensor cable	35
5	One-way flow control valve GRLA	For speed regulation	35
6	Moment compensator DARD-L8	For compensating misalignments when using external guides	32
7	Profile mounting DAMH-L8-PL	For mounting two back-to-back linear drives in a vertical position	31

# Linear drives DLGF-G

Technical data

Function



-  Diameter  
20 ... 40 mm
-  Stroke length  
50 ... 1000 mm

General technical data					
Piston diameter		20	25	32	40
Design	Rodless drive				
Moment compensator principle	Positive-locking (slot)				
Guide	Basic variant				
Mode of operation	Double-acting				
Stroke					
Standard stroke	[mm]	100, 150, 200, 250, 300, 350, 400, 500, 600		200, 300, 400, 500, 600	
Modular product system <sup>1)</sup>	[mm]	50 ... 1000			
Pneumatic connection		M5	G1/8	G1/8	G1/4
Cushioning	Pneumatic cushioning, self-adjusting at both ends				
Cushioning length	[mm]	9.6	9	11.6	12.9
Min. speed	[m/s]	0.07			
Max. speed	[m/s]	1.5			
Repetition accuracy	[mm]	±0.05			
Position sensing	Via proximity sensor				
Type of mounting	Direct mounting via through-hole				
	With accessories				
Mounting position	Any				

1) The drive can only be ordered in 50 mm increments.

Operating and environmental conditions					
Piston diameter		20	25	32	40
Operating pressure	[bar]	2 ... 8	1.5 ... 8		
Operating medium	Compressed air according to ISO 8573-1:2010 [7:-:-]				
Note on operating/pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)				
Ambient temperature	[°C]	0 ... 60			
Corrosion resistance class CRC <sup>1)</sup>		1			

1) Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).

Forces and impact energy					
Piston diameter		20	25	32	40
Theoretical force at 6 bar	[N]	188	295	483	754
Impact energy in the end positions	[J]	0.17	0.27	0.44	0.69

Weight [g]					
Piston diameter		20	25	32	40
Basic weight with 0 mm stroke		590	957	1703	3234
Additional weight per 10 mm stroke		28.2	35.3	54.7	80.6
Moving mass		66	110	208	450

# Linear drives DLGF-G

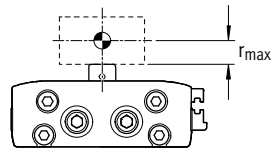
Technical data

## Operating range of cushioning

The end-position cushioning is adjusted to ensure jerk-free operation. If the operating conditions are outside the permissible range, the moving mass must be cushioned using suitable equipment (external shock absorbers), preferably at the centre of gravity of the load.

The values apply to:

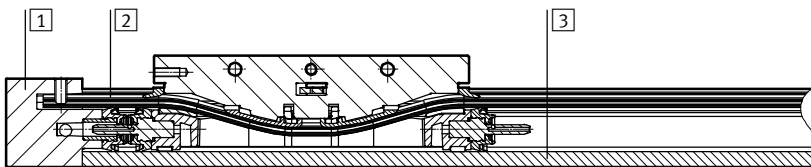
- Horizontal mounting position
- Payload at top



Piston diameter	20	25	32	40
Distance $r_{max}$ [mm]	6	6	8	8

## Materials

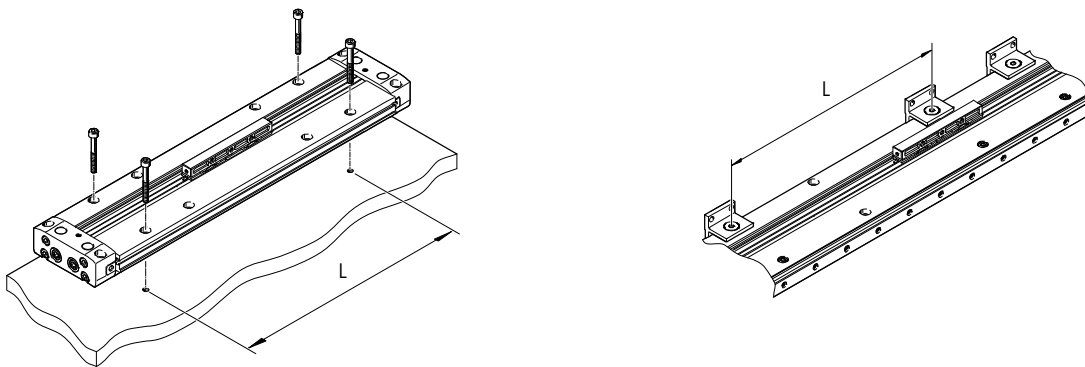
Sectional view



Linear drive	
1 Cover	Coated die-cast aluminium
2 Seals	NBR TPE-U(PU)
3 Housing	Anodised aluminium
Note on materials	Free of copper and PTFE RoHS-compliant

## Direct mounting

In order to avoid strain, the drive must be mounted at varying intervals depending on the length. The maximum support spacing is 300 mm.



Stroke [mm]	Number of pairs of screws			
	DLGF-20	DLGF-25	DLGF-32	DLGF-40
50 ... 150	2	2	2	2
200	2	2	2	3
250	2	2	3	3
300	3	3	3	3
350 ... 450	3	3	3	4
500 ... 600	4	4	4	4
650 ... 750	4	4	4	5
800 ... 1000	5	5	5	5

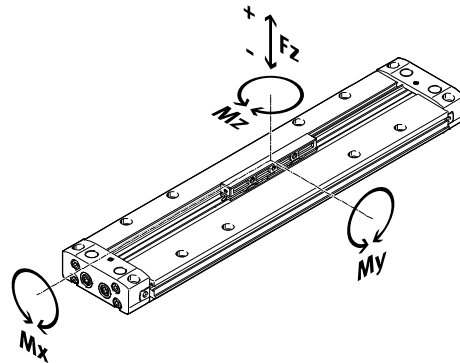
# Linear drives DLGF-G

Technical data

## Characteristic load values

The indicated forces and torques refer to the centre of the moment compensator.

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



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

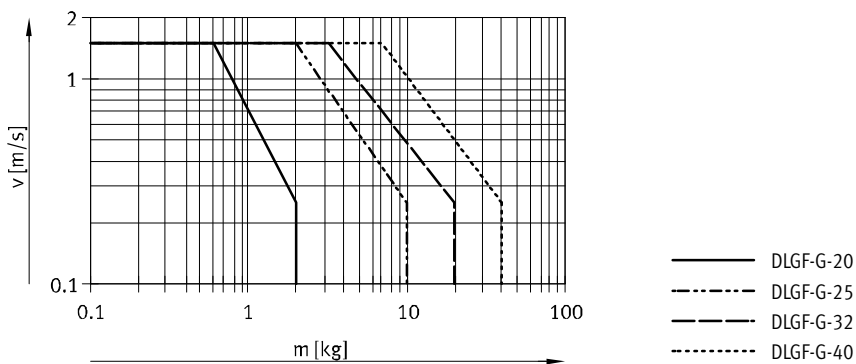
$$0,4 \times \frac{F_z}{F_{z_{max.}}} + \frac{M_x}{M_{x_{max.}}} + \frac{M_y}{M_{y_{max.}}} + 0,2 \times \frac{M_z}{M_{z_{max.}}} \leq 1$$

$$\frac{F_z}{F_{z_{max.}}} \leq 1 \quad \frac{M_z}{M_{z_{max.}}} \leq 1$$

Permissible forces and torques					
Piston diameter		20	25	32	40
$F_{z_{max.+}}$	[N]	54	95	138	456
$F_{z_{max.-}}$	[N]	98	164	276	662
$M_{x_{max.}}$	[Nm]	0.6	1.1	1.8	7.7
$M_{y_{max.}}$	[Nm]	2.2	4.5	7.6	37.6
$M_{z_{max.}}$	[Nm]	0.7	1.4	2.9	11.2

## Maximum permissible speed v as a function of payload m

With PPS cushioning



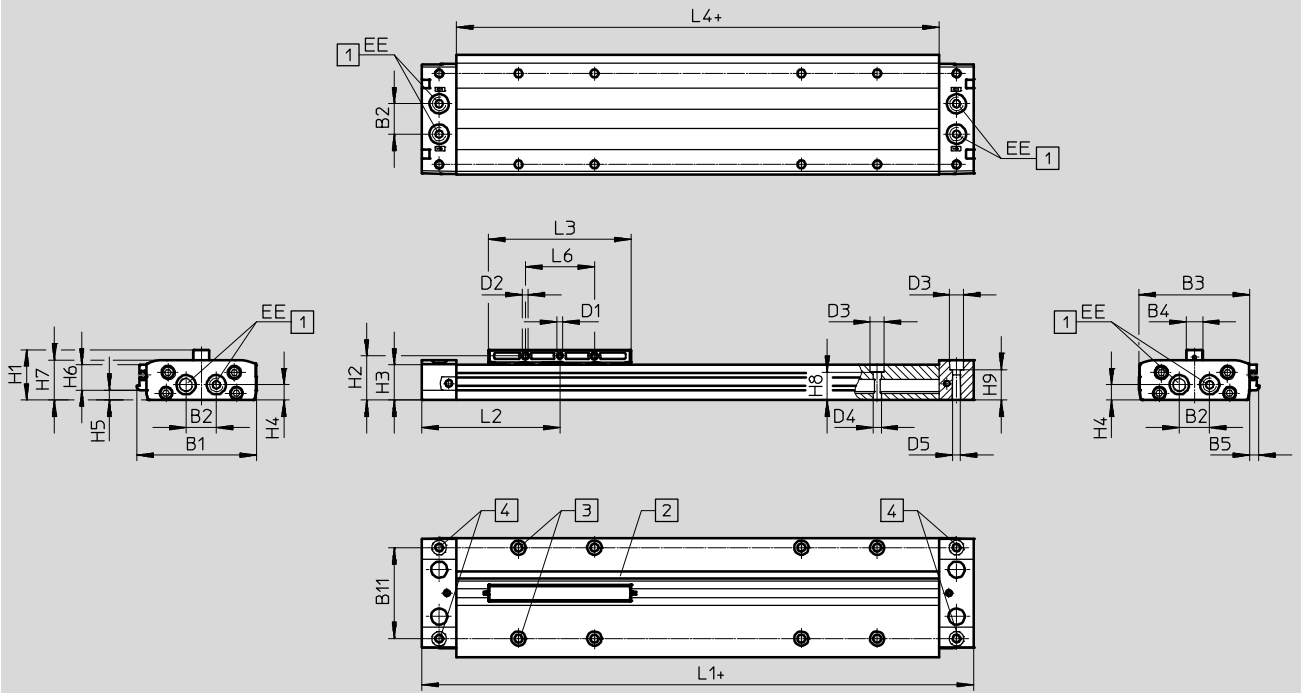


# Linear drives DLGF-G

Technical data

## Dimensions

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



- + plus stroke length
- 1 Supply ports
- 2 Slot for proximity sensor
- 3 Mounting holes for accessories  
→ page 30, 31
- 4 Mounting holes

Suitable O-rings for supply ports underneath:  
 For piston diameter 20:  $\varnothing$  5x2  
 For piston diameter 25:  $\varnothing$  10x2  
 For piston diameter 32:  $\varnothing$  12x2  
 For piston diameter 40:  $\varnothing$  16x2

Piston diameter	B1	B2	B3	B4	B5	B11	D1	D2	D3
20	79.5	17	71.8	12	7.6	60	M4	4.2	8
25	86.5	22	79.8	12	6.6	66	M4	4.2	10
32	108	26	99.6	16	8.2	82	M4	4.2	11
40	130	32	119.8	16	10.1	100	M4	4.2	11

Piston diameter	D4	D5	EE	H1	H2	H3	H4	H5	H6
20	4.7	4.5	M5	31.5	27	21	9	5	16
25	5.8	5.5	G1/8	36.5	32	25.5	11	7.3	18.2
32	6.8	6.5	G1/8	44.5	40	32	14	8.1	23.9
40	6.8	6.6	G1/4	51.5	46.5	39.5	19.5	10.8	28.7

Piston diameter	H7	H8	H9	L1	L2	L3	L4	L6	Stroke tolerance
				$\pm 0.35$					
20	24	15.6	17.6	160	80	87.6	120	40	+1.5
25	29	20.1	21.8	200	100	103.2	150	50	
32	35	24.6	26.5	230	115	121.6	170	60	
40	42.7	32.1	34.7	300	150	180	238.8	70	

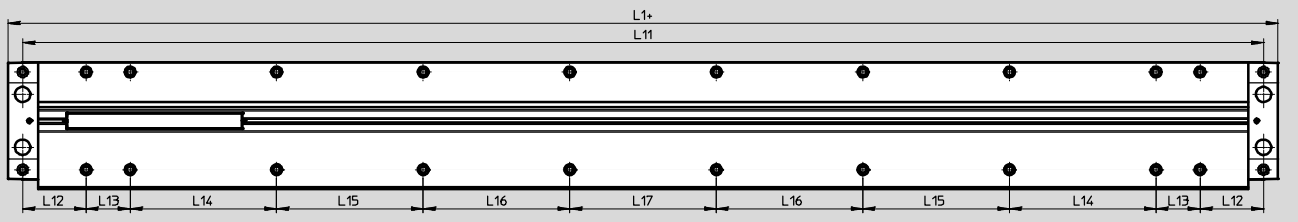
# Linear drives DLGF-G

Technical data

**Dimensions**

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

Mounting holes



Dimension	L1				L11				L12				L13			
	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Piston diameter	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Stroke	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
50	210	250	280	350	190	225	250	320	55	57.5	65	65	40	55	60	20
100	260	300	330	400	240	275	300	370					65	80	80	45
150	310	350	380	450	290	325	350	420					90	105	110	70
200	360	400	430	500	340	375	400	470					40	55	60	20
250	410	450	480	550	390	425	450	520					65	80	80	45
300	460	500	530	600	440	475	500	570					90	105	110	70
350	510	550	580	650	490	525	550	620					40	55	60	20
400	560	600	630	700	540	575	600	670					65	80	80	45
450	610	650	680	750	590	625	650	720					90	105	110	70
500	660	700	730	800	640	675	700	770					40	55	60	20
550	710	750	780	850	690	725	750	820	65	80	80	45				
600	760	800	830	900	740	775	800	870	90	105	110	70				
650	810	850	880	950	790	825	850	920	40	55	60	20				
700	860	900	930	1000	840	875	900	970	65	80	80	45				
750	910	950	980	1050	890	925	950	1020	90	105	110	70				
800	960	1000	1030	1100	940	975	1000	1070	40	55	60	20				
850	1010	1050	1080	1150	990	1025	1050	1120	65	80	80	45				
900	1060	1100	1130	1200	1040	1075	1100	1170	90	105	110	70				
950	1110	1150	1180	1250	1090	1125	1150	1220	40	55	60	20				
1000	1160	1200	1230	1300	1140	1175	1200	1370	65	80	80	45				

Dimension	L14				L15				L16				L17			
	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Size	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Stroke	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
50	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-	-
100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	-	-	-	150	-	-	-	-	-	-	-	-	150	150	150	-
250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
350	150	150	150	150	-	-	-	-	-	-	-	-	-	-	-	150
400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
500	-	-	-	-	-	-	-	150	-	-	-	-	150	150	150	-
550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
650	150	150	150	150	150	150	150	150	-	-	-	-	-	-	-	150
700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
800	-	-	-	-	-	-	-	-	-	-	-	150	150	150	150	-
850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
950	150	150	150	150	150	150	150	150	150	150	150	150	-	-	-	150
1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

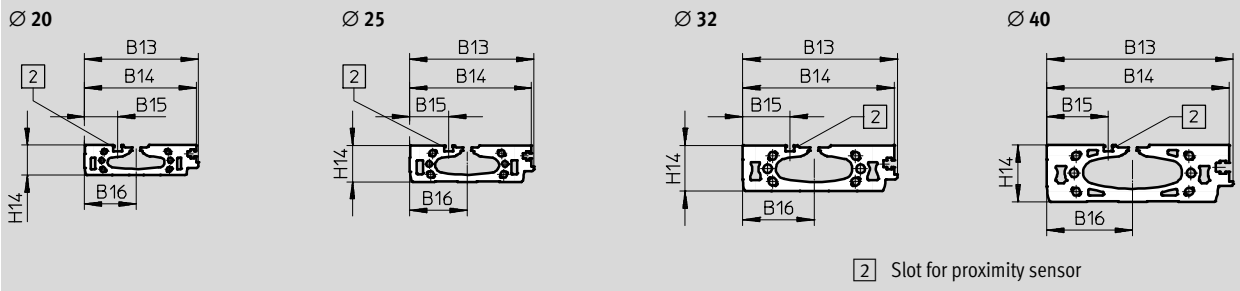
# Linear drives DLGF-G

Technical data

**Dimensions**

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

Profile barrel

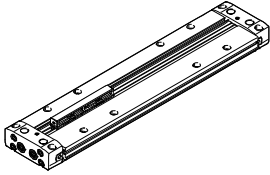


2 Slot for proximity sensor

Piston diameter	B13	B14	B15	B16	H14
20	79.5	78	23	36	21
25	86.5	85	27	40	25.5
32	108	106	33	50	32
40	130	127.5	43	60	39.5

# Linear drives DLGF-G

Technical data

Ordering data				
	Piston diameter	Stroke [mm]	Part No.	Type
	20	100	5074918	DLGF-G-20-100-PPSA
		150	5074919	DLGF-G-20-150-PPSA
		200	5074920	DLGF-G-20-200-PPSA
		250	5074921	DLGF-G-20-250-PPSA
		300	5074922	DLGF-G-20-300-PPSA
		350	5074923	DLGF-G-20-350-PPSA
		400	5074924	DLGF-G-20-400-PPSA
		500	5074926	DLGF-G-20-500-PPSA
		600	5074928	DLGF-G-20-600-PPSA
	25	100	5072350	DLGF-G-25-100-PPSA
		150	5072351	DLGF-G-25-150-PPSA
		200	5072352	DLGF-G-25-200-PPSA
		250	5072353	DLGF-G-25-250-PPSA
		300	5072354	DLGF-G-25-300-PPSA
		350	5072355	DLGF-G-25-350-PPSA
		400	5072356	DLGF-G-25-400-PPSA
		500	5072358	DLGF-G-25-500-PPSA
		600	5072360	DLGF-G-25-600-PPSA
	32	200	5074782	DLGF-G-32-200-PPSA
		300	5074784	DLGF-G-32-300-PPSA
		400	5074786	DLGF-G-32-400-PPSA
		500	5074788	DLGF-G-32-500-PPSA
		600	5074790	DLGF-G-32-600-PPSA
	40	200	5074736	DLGF-G-40-200-PPSA
		300	5074738	DLGF-G-40-300-PPSA
		400	5074740	DLGF-G-40-400-PPSA
		500	5074742	DLGF-G-40-500-PPSA
		600	5074744	DLGF-G-40-600-PPSA

# Linear drives DLGF-G

Ordering data – Modular product system

Ordering table							
Size	20	25	32	40	Condi- tions	Code	Entry code
<b>M</b> Module no.	<b>8063799</b>	<b>8063800</b>	<b>8063801</b>	<b>8063802</b>			
Function	Linear drives					<b>DLGF</b>	DLGF
Guide	Basic variant					<b>-G</b>	-G
Piston diameter [mm]	20	25	32	40		-...	
Stroke [mm]	50, 100, 150, 200, 250, 300, 350, 400, 450, 500, 550, 600, 650, 700, 750, 800, 850, 900, 950, 1000					-...	
Cushioning	Pneumatic cushioning, self-adjusting at both ends					<b>-PPS</b>	-PPS
Position sensing	Via proximity sensor					<b>A</b>	A
<b>O</b> Profile design	With mounting holes						
	Without mounting holes					<b>-W</b>	

**Transfer order code**

	<b>DLGF</b>	-	<b>G</b>	-		-		-	<b>PPS</b>	<b>A</b>	-	
--	-------------	---	----------	---	--	---	--	---	------------	----------	---	--

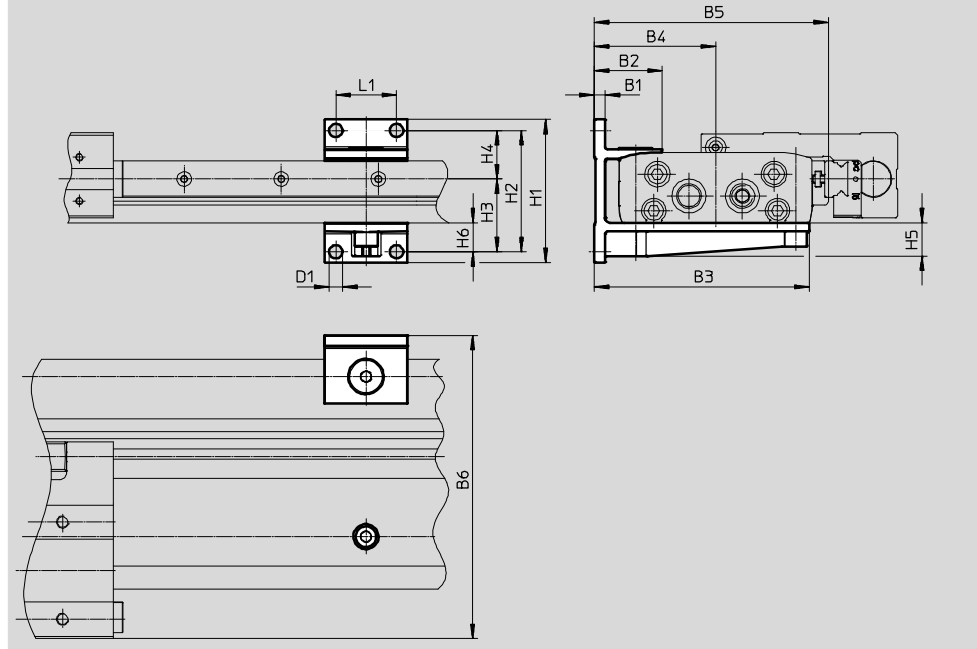
# Linear drives DLGF

Accessories

## Profile mounting DAMH-L8-P

For DLGF-G/-KF

Materials:  
High-alloy stainless steel  
Free of copper and PTFE  
RoHS-compliant



### Dimensions and ordering data

For Ø	B1	B2	B3	B4	B5 <sup>1)</sup>	B6 <sup>2)</sup>	D1 Ø	H1
[mm]								
20	4.5	27	80.5	46	89.5	115	4.5	50
25	4.5	28	88.5	50	96.5	125	5.5	59
32	5.5	32	108	60	118	155	6.6	73
40	5.7	33.7	127	70	140	185	6.6	80

For Ø	H2	H3 <sup>2)</sup>	H4 <sup>2)</sup>	H5	H6	L1	Weight [g]	Part No.	Type
[mm]									
20	40	25	15	10.7	10	25	169	<b>8069009</b>	<b>DAMH-L8-20-P-1</b>
25	50	30	20	13.7	12	25	204	<b>8069010</b>	<b>DAMH-L8-25-P-1</b>
32	60	30	30	14	11	30	373	<b>8069011</b>	<b>DAMH-L8-32-P-1</b>
40	65	35	30	14.8	11	30	438	<b>8069012</b>	<b>DAMH-L8-40-P-1</b>

1) Only in combination with DLGF...-G  
2) Only in combination with DLGF...-KF

# Linear drives DLGF

Accessories

## Profile mounting DAMH-L8-PL

For mounting two back-to-back linear drives in a vertical position.

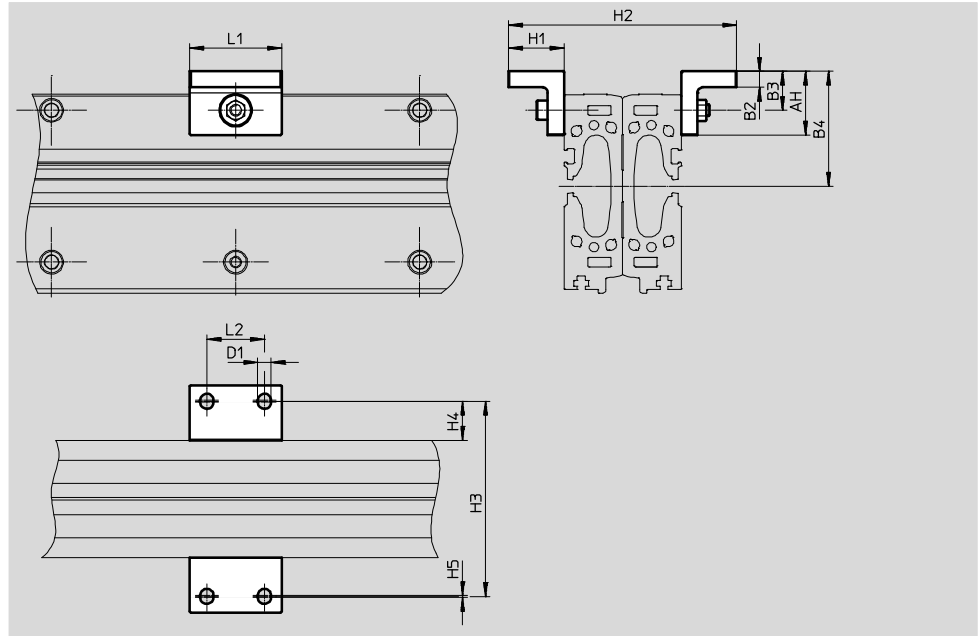
For DLGF-G/-KF

Materials:

Anodised wrought aluminium alloy

Free of copper and PTFE

RoHS-compliant



Dimensions and ordering data								
For $\varnothing$	AH	B2	B3	B4	D1 $\varnothing$	H1	H2	H3
[mm]								
20	25.2	6.5	16	46	4.6	19.5	81	70
25	27.7	7	17	50	5.8	24	99	85
32	32.5	9	19	60	6.7	26	116	100
40	32.5	9	20	70	6.7	26	131	115

For $\varnothing$	H4	H5	L1	L2	Weight	Part No.	Type
[mm]					[g]		
20	14	1	35	20	64	<b>8069013</b>	<b>DAMH-L8-20-PL-1</b>
25	17	1	40	25	99	<b>8069014</b>	<b>DAMH-L8-25-PL-1</b>
32	18	1	45	30	160	<b>8069015</b>	<b>DAMH-L8-32-PL-1</b>
40	18	1	45	30	166	<b>8069016</b>	<b>DAMH-L8-40-PL-1</b>

# Linear drives DLGF

Accessories

## Moment compensator DARD-L8

For compensating misalignments when using external guides.

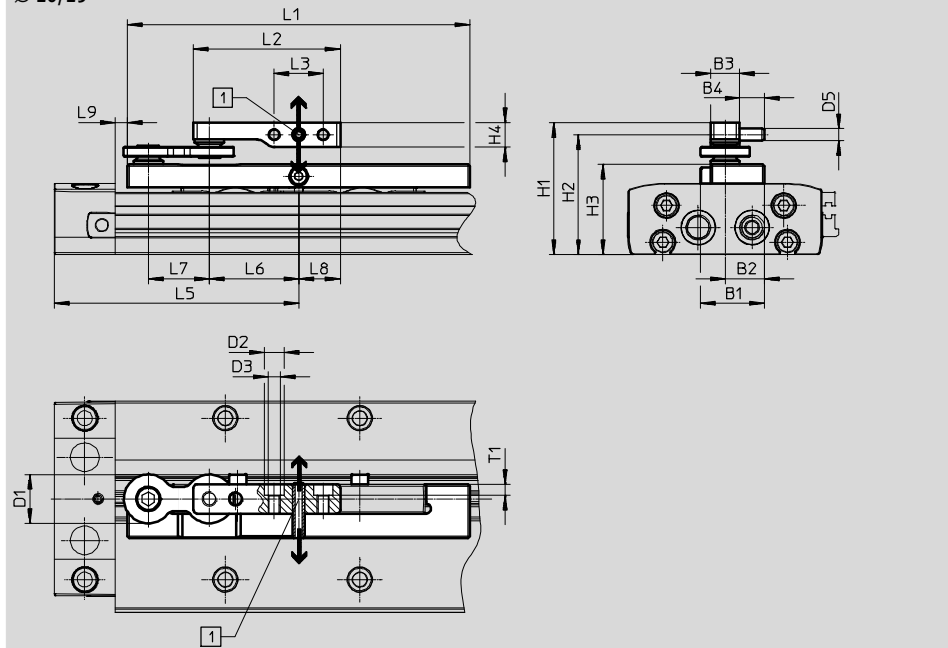
For DLGF-G

Materials:

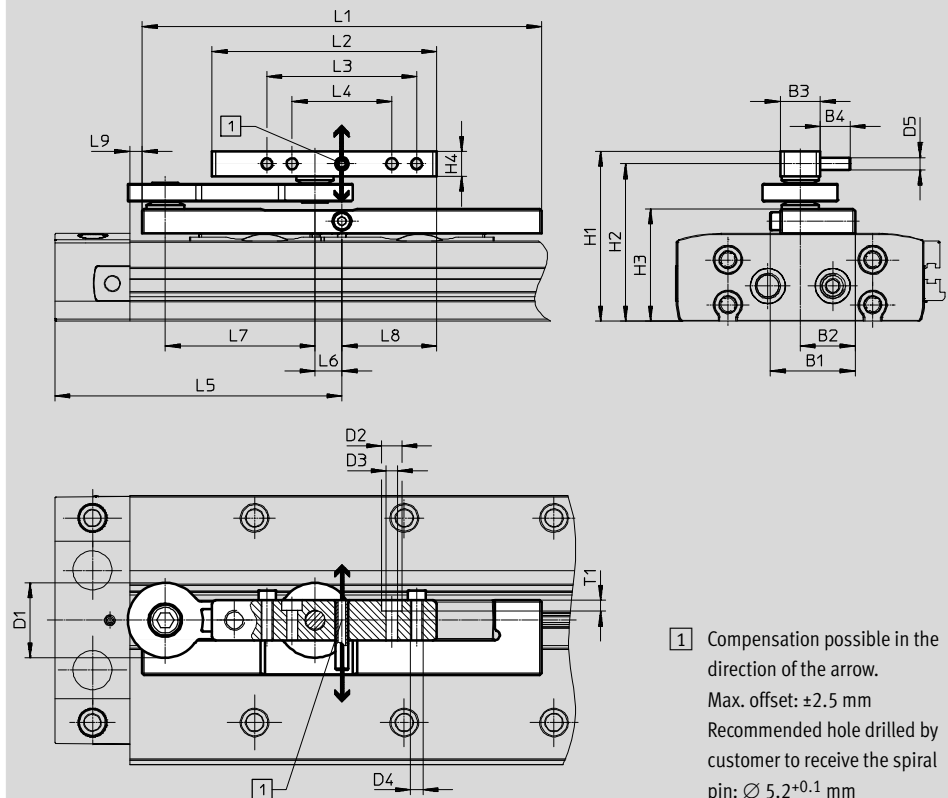
Anodised aluminium  
Free of copper and PTFE  
RoHS-compliant



Ø 20/25



Ø 32/40



- 1 Compensation possible in the direction of the arrow.  
Max. offset: ±2.5 mm  
Recommended hole drilled by customer to receive the spiral pin:  $\varnothing 5.2^{+0.1}$  mm



## Linear drives DLGF

Accessories

Dimensions and ordering data				
For Ø [mm]	Max. offset between linear drive and external guide [mm]	Max. permissible load in direction of force		Ambient temperature
		[N]		[°C]
20, 25	±2.5	550	Low-backlash	0 ... +60
32, 40	±2.5	1500		

For Ø [mm]	B1	B2	B3	B4	D1 Ø	D2 Ø	D3	D4	D5 Ø
20	26	16	12	10	20	8	M5 <sup>2)</sup>	–	5.2
25	26	16	12	10	20	8	M5 <sup>2)</sup>	–	5.2
32	34	22	16	12	30	8	4.5	M5	5.2
40	34	22	16	12	30	8	4.5	M5	5.2

For Ø [mm]	H1	H2	H3	L1	L2	L3 ±0.1	L4 ±0.1	L5	L6
20	49	44	32	114	60	20	–	80	25.8
25	54	49	37	140	60	20	–	100	36.5
32	68	63	45	160	90	60	40	115	10.8
40	75	70	52	228	90	60	40	150	43

For Ø [mm]	L7	L8	L9	T1	CRC <sup>1)</sup>	Weight [g]	Part No.	Type
20	25	17	2.2	4.4	1	137	<b>8081466</b>	<b>DARD-L8-20-S</b>
25	25	17	5	4.4		166	<b>4134871</b>	<b>DARD-L8-25-S</b>
32	60	38	5	4.4		294	<b>8081467</b>	<b>DARD-L8-32-S</b>
40	60	38	5	4.4		440	<b>4448222</b>	<b>DARD-L8-40-S</b>

- 1) Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. For dry indoor applications or transport and storage protection. Also applies to parts behind covers, in the non-visible interior area, and parts which are covered in the application (e.g. drive trunnions).
- 2) The threaded hole can also be used as a through-hole for screws with M4-thread.

# Linear drives DLGF

Accessories

## Shock absorber retainer DAYP-L8

For shock absorber DYSS

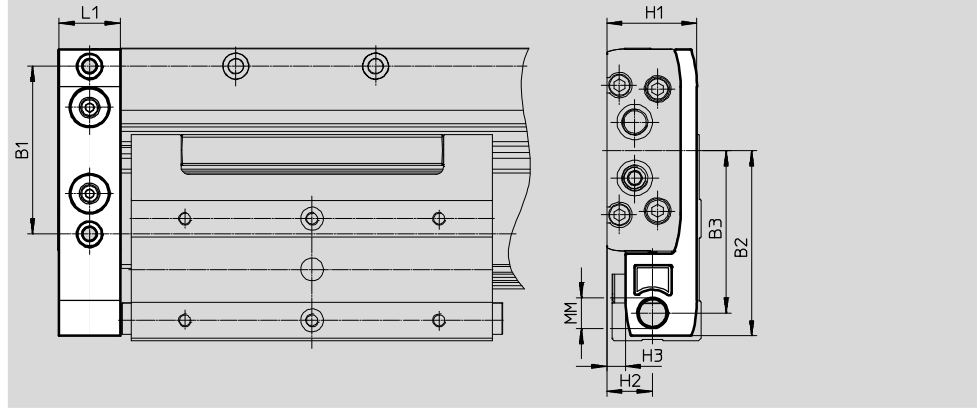
For DLGC-KF

Materials:

High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant

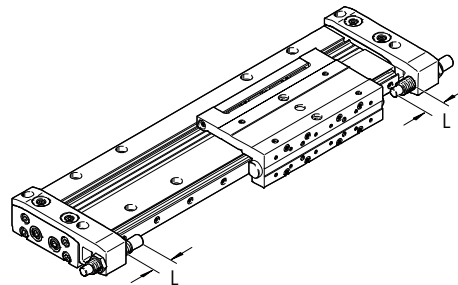


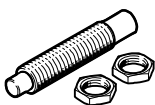
Dimensions and ordering data					
For Ø	B1	B2	B3	H1	H2
[mm]					
20	60	67.1	59	30.5	14.9
25	66	73	64	35.5	18
32	82	92.3	83.4	43.5	19
40	100	113	100.5	50.5	24

For Ø	H3	L1	MM	Weight	Part No.	Type
[mm]				[g]		
20	5	19.5	M10x1	165	<b>8069005</b>	<b>DAYP-L8-20</b>
25	7.3	24.2	M12x1	224	<b>8069006</b>	<b>DAYP-L8-25</b>
32	8	29	M14x1	429	<b>8069007</b>	<b>DAYP-L8-32</b>
40	10.8	29.5	M16x1	560	<b>8069008</b>	<b>DAYP-L8-40</b>

### Stroke adjustment with the aid of the shock absorbers DYSS

The shock absorbers can be moved by up to L = 25 mm at each end. This means that the stroke can be reduced by max. 50 mm.



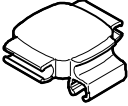
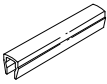


Ordering data					
	For Ø	Comments	Part No.	Type	PU <sup>1)</sup>
	Shock absorber DYSS				
	Technical data → Internet: dyss				
	20	For DLGC-KF	<b>8069001</b>	<b>DYSS-7-5-Y1F</b>	1
	25		<b>8069002</b>	<b>DYSS-8-8-Y1F</b>	
	32		<b>8069003</b>	<b>DYSS-10-10-Y1F</b>	
40	<b>8069004</b>		<b>DYSS-12-12-Y1F</b>		

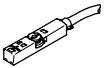
1) Packaging unit quantity



# Linear drives DLGF

Accessories

Ordering data					
	For Ø	Comments	Part No.	Type	PU <sup>1)</sup>
<b>One-way flow control valve GRLA</b>					
	20	Metal design	<b>193137</b>	<b>GRLA-M5-QS-3-D</b>	1
	25, 32		<b>193138</b>	<b>GRLA-M5-QS-4-D</b>	
			<b>193142</b>	<b>GRLA-1/8-QS-3-D</b>	
	40		<b>193143</b>	<b>GRLA-1/8-QS-4-D</b>	
			<b>193144</b>	<b>GRLA-1/8-QS-6-D</b>	
			<b>193146</b>	<b>GRLA-1/4-QS-6-D</b>	
			<b>193147</b>	<b>GRLA-1/4-QS-8-D</b>	
	<b>193148</b>		<b>GRLA-1/4-QS-10-D</b>		
<b>Connector sleeve ZBV</b>					
	25, 32	For centring with direct mounting of mini slide DGSL	<b>548805</b>	<b>ZBV-9-7</b>	10
	40		<b>548806</b>	<b>ZBV-12-9</b>	
<b>Cable holder DADG</b>					
	20 ... 40	For fixing the proximity sensor cable at an angle of 90°	<b>8069000</b>	<b>DADG-HL-N8-P2</b>	2
<b>Slot cover ABP</b>					
	20 ... 40	For sensor slot, 0.5 mm each	<b>563360</b>	<b>ABP-5-S1</b>	2

1) Packaging unit quantity

Ordering data – Proximity sensor for T-slot, magneto-resistive					Technical data → Internet: smt	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
<b>N/O contact</b>						
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	<b>574335</b>	<b>SMT-8M-A-PS-24V-E-2,5-OE</b>
			Plug connector M8x1, 3-pin	0.3	<b>574334</b>	<b>SMT-8M-A-PS-24V-E-0,3-M8D</b>
		NPN	Cable, 3-wire	2.5	<b>574338</b>	<b>SMT-8M-A-NS-24V-E-2,5-OE</b>
			Plug connector M8x1, 3-pin	0.3	<b>574339</b>	<b>SMT-8M-A-NS-24V-E-0,3-M8D</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>541333</b>	<b>NEBU-M8G3-K-2.5-LE3</b>
			5	<b>541334</b>	<b>NEBU-M8G3-K-5-LE3</b>
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	<b>541338</b>	<b>NEBU-M8W3-K-2.5-LE3</b>
			5	<b>541341</b>	<b>NEBU-M8W3-K-5-LE3</b>