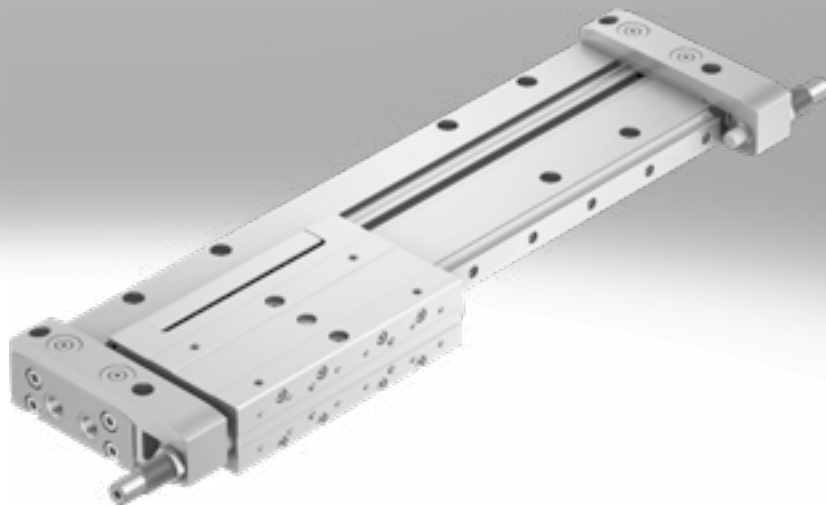


## Linear drives DLGF

**FESTO**



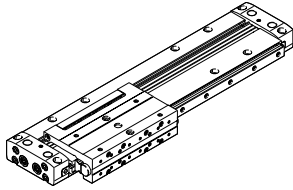
## Key features

### At a glance

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

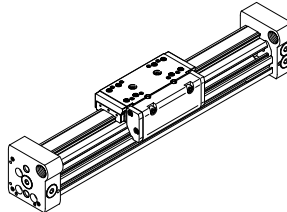
### Comparison of linear drive DLGF and linear drive DGC

#### Recirculating ball bearing guide DLGF-KF



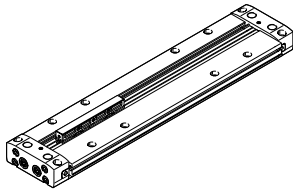
- Piston diameter 20 ... 40 mm
- Stroke lengths from 50 ... 1000 mm
- For small and medium loads
- Operating behaviour under torque load = very good
- Much smaller installation dimensions (approx. -46%)

#### Recirculating ball bearing guide DGC-KF



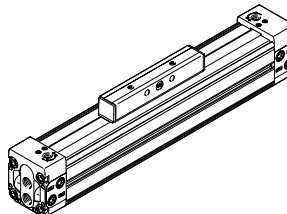
- Piston diameter 8 ... 63 mm
- Stroke lengths from 1 ... 8500 mm
- Guide backlash = 0 mm
- For medium and large loads
- Operating behaviour under torque load = very good

#### Basic design DLGF-G

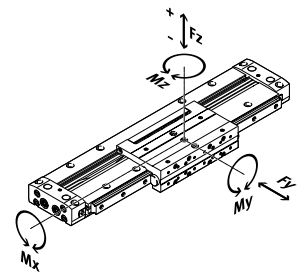


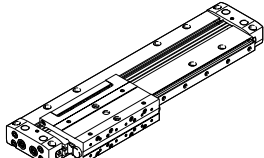
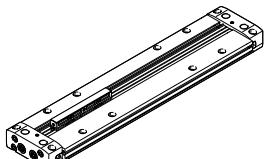
- Piston diameter 20 ... 40 mm
- Stroke lengths from 50 ... 1000 mm
- Low moving dead weight
- Much smaller installation dimensions (approx. -42%)

#### Compact design DGC-K



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

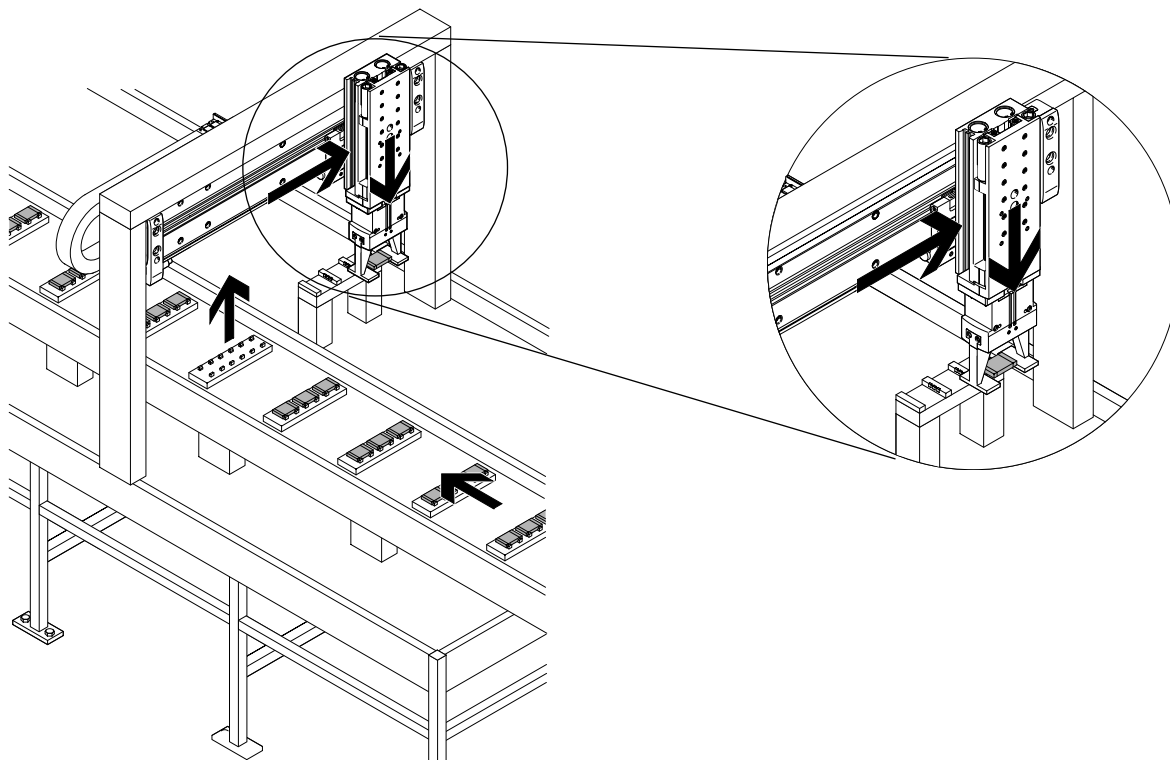


	Piston diameter [mm]	Theoretical force at 6 bar [N]	Guide characteristics						→ Page/ Internet
			Fy [N]	Fz+ [N]	Fz- [N]	Mx [Nm]	My [Nm]	Mz [Nm]	
<b>Recirculating ball bearing guide DLGF-KF</b>									
	20	188	600	400	700	5.4	15	15	9
	25	295	1000	700	1200	12.3	30	30	
	32	483	1300	950	1600	30	50	50	
	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	

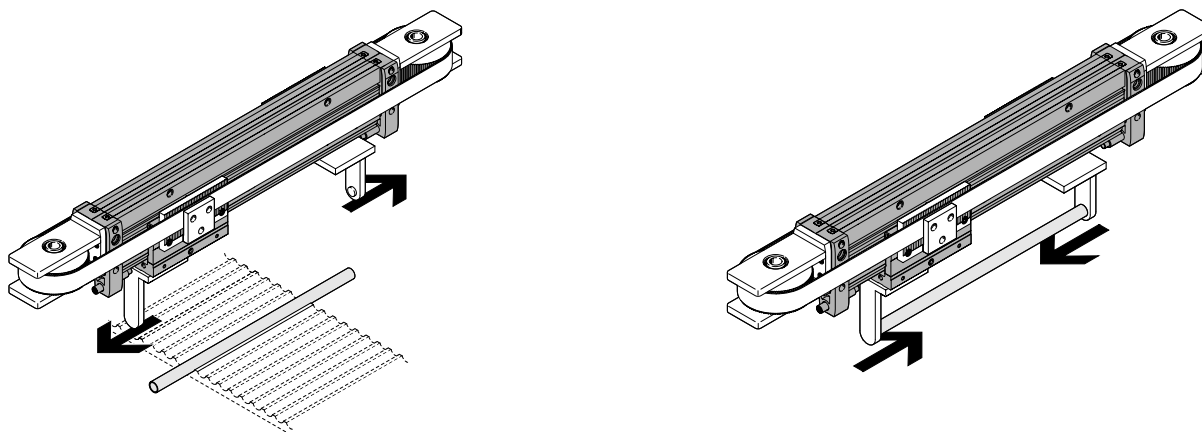
## Key features

### Application examples

As a space-optimised pick&place unit



As a long-stroke gripper



## Key features

### Compressed air supply variants

#### Supply ports at both ends:

At 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:

At 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

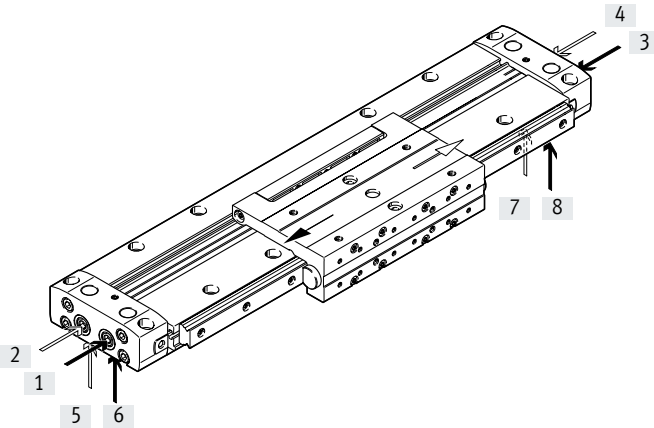
From below:

Option 1:

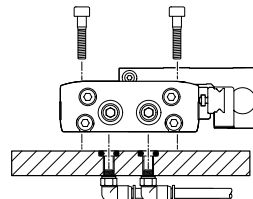
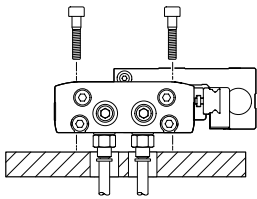
- [6] Slide moves to the left
- [5] Slide moves to the right

Option 2:

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



### Connection variants from below



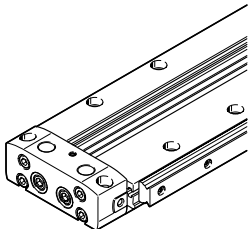
Suitable O-rings:

- 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

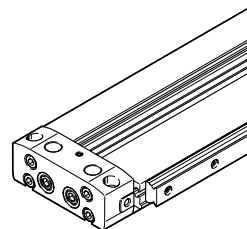
#### With mounting holes

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



#### Without mounting holes

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

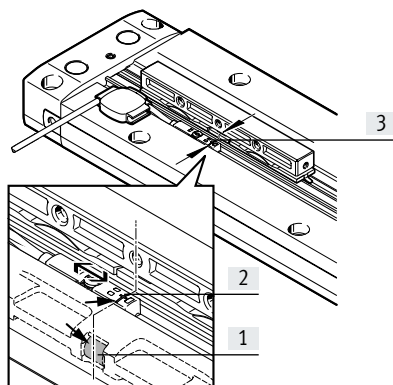


The maximum support spacing is 300 mm. For longer strokes, the drive must be supported accordingly.

## Key features

### Easy preassembly of the proximity switches

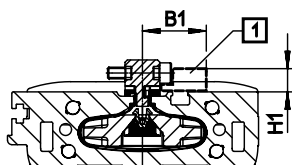
The magnet [1] for sensing the slide position is located in the centre of the slide. The cross [2] on the proximity switch SMT-8M-A marks the position of the switching point. The switching point is set when both locations are at the same level [3].



### Influence of ferritic materials on proximity switches

Ferritic materials (steel parts or panels) in the immediate vicinity of the proximity switches can cause sensing malfunctions. The following safety distances must be observed.

No ferritic materials should be used in the shaded area [1].

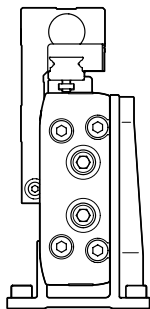


Piston diameter	B1	H1
20	22	8
25	22	8
32	27	13
40	27	13

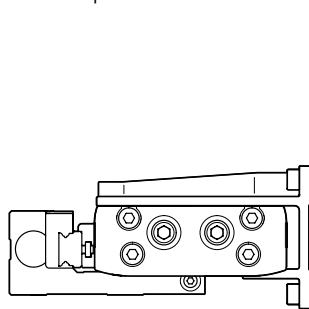
### Possible installation variants

With profile mounting DAMH-L8-P

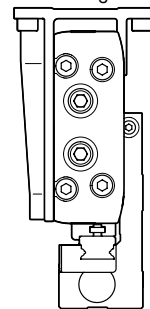
Slide on left



Slide at top



Slide on right



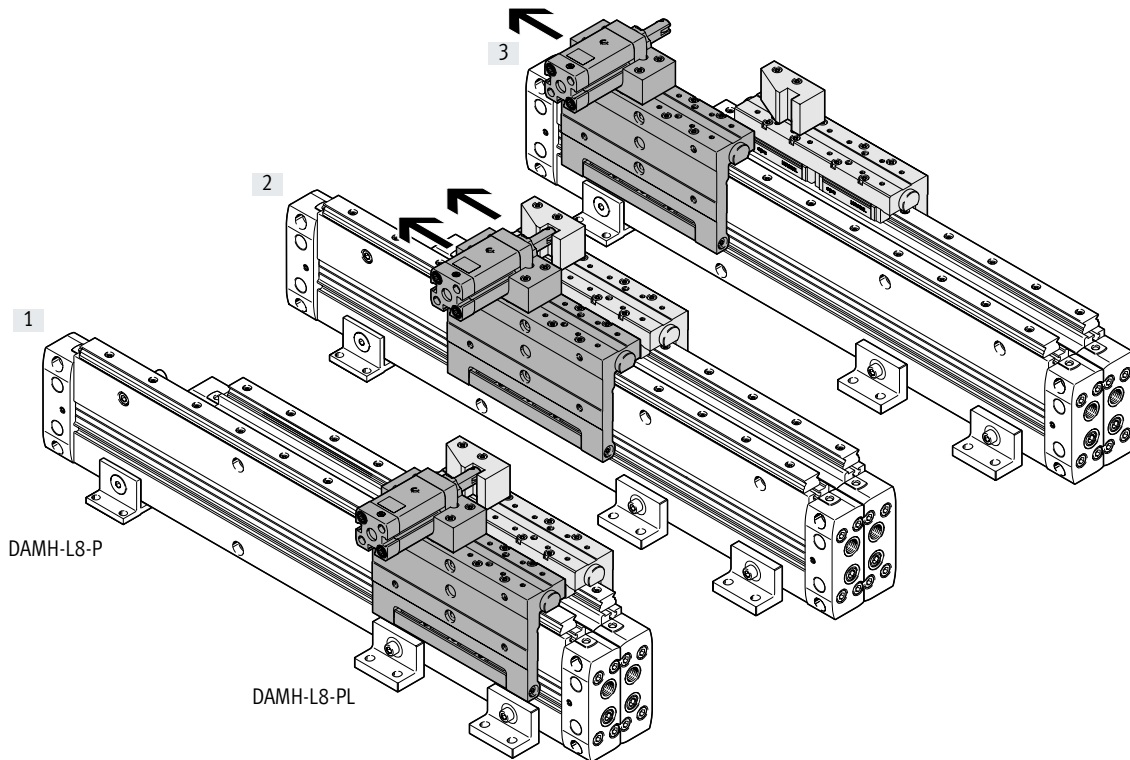
## Key features

### Possible installation variants

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

Application example:

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 linear drive on the left is normally extended and thus locks the slide of the right-hand linear drive.

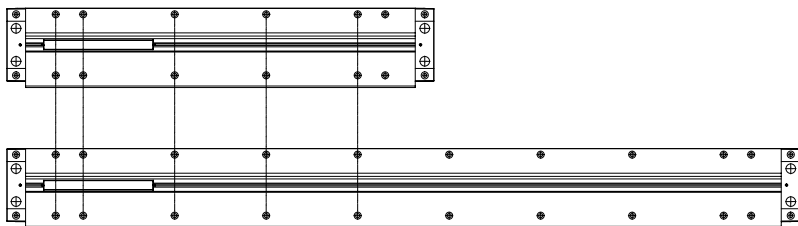
[2] The linear drive on the right is supplied with compressed air and takes the drive on the left with it as it moves. On reaching the end position of the linear drive on the right, the intermediate position is approached.

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

## Key features

### Possible installation variants

Number of matching mounting holes on the 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

Type codes

001	Series
DLGF	Linear drive

002	Guide
KF	Recirculating ball bearing guide
G	Basic variant

003	Piston diameter
20	20
25	25
32	32
40	40

004	Stroke
50	50
100	100
150	150
200	200
250	250
300	300
350	350
400	400
450	450
500	500
550	550
600	600
650	650
700	700
750	750
800	800
850	850
900	900
950	950
1000	1000

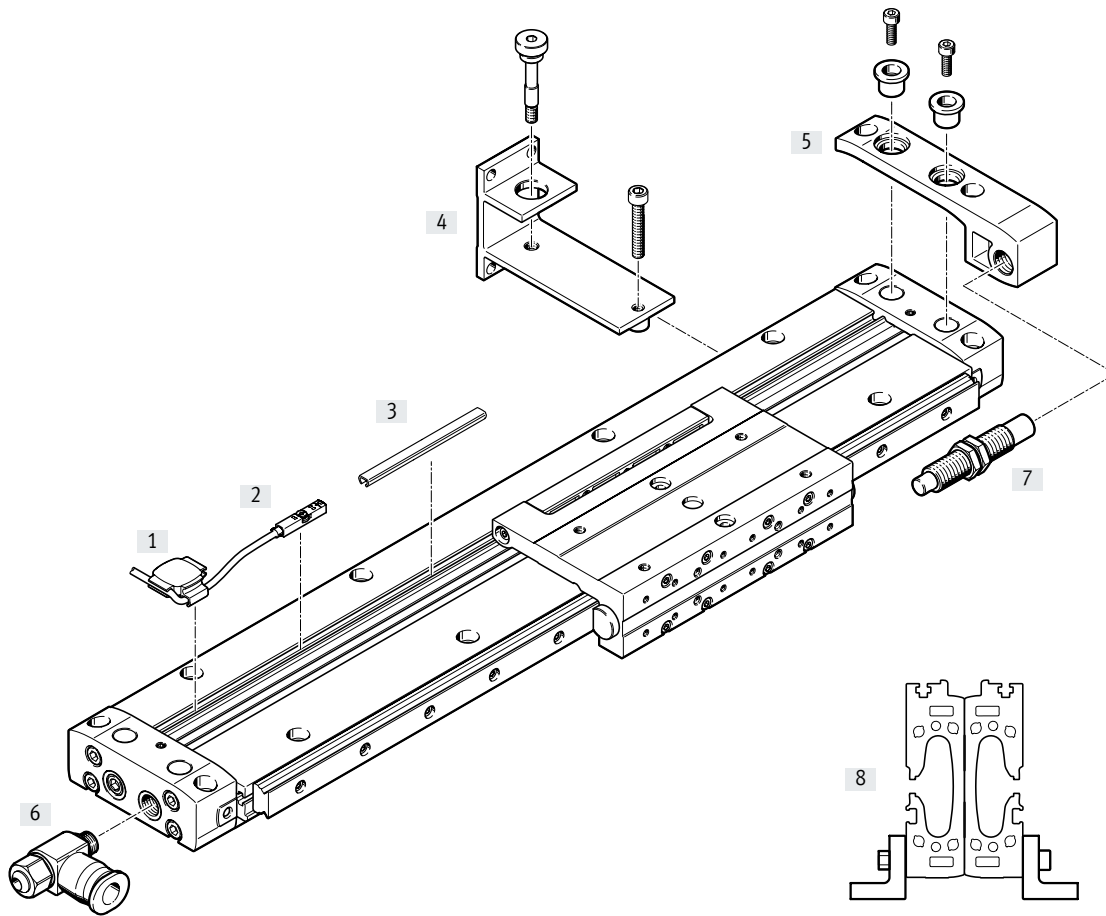
005	Cushioning
PPS	Pneumatic cushioning, self-adjusting at both ends

006	Position sensing
A	For proximity sensor

007	Profile design
	With mounting holes
W	Without mounting holes

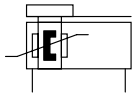




Peripherals overview

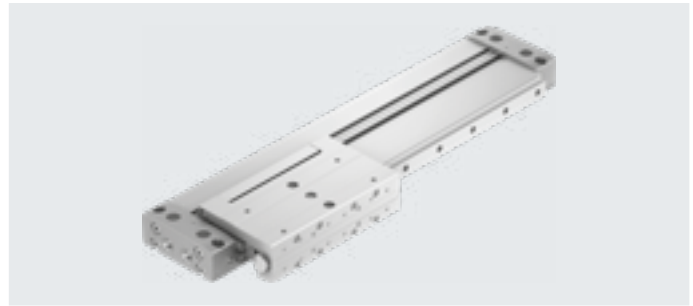


Accessories		
Type/order code	Description	→ Page/Internet
[1] Cable holder DADG	For securing the proximity switch cable	35
[2] Proximity switch SMT-8M	For sensing the position of the moment compensator	35
[3] Slot cover ABP-5-S1	For protecting against contamination	35
[4] Profile mounting DAMH-L8-P	For mounting the linear drive in a vertical position	30
[5] Shock absorber retainer DAYP-L8	For mounting the shock absorbers on the linear drive Must be ordered separately as an accessory	34
[6] One-way flow control valve GRLA	For speed regulation	35
[7] Shock absorber DYSS	Self-adjusting hydraulic shock absorber with spring return and progressive cushioning characteristics Must be ordered separately as an accessory	34
[8] Profile mounting DAMH-L8-PL	For mounting two linear drives back to back in a vertical position	31

Data sheet



-  - Size  
20 ... 40
-  - 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		For proximity switch			
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 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 CRC <sup>1)</sup>		1			

1) Corrosion resistance class CRC 1 to Festo standard FN 940070

Low corrosion stress. Dry internal application 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).

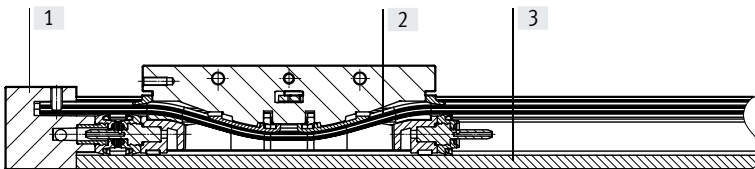
Forces and impact energy					
Piston diameter		20	25	32	40
Theoretical force at 6 bar	[N]	188	295	483	754
Impact energy in the end positions					
DLGF...-PPS	[J]	0.17	0.27	0.44	0.69
DLGF... with shock absorber	[J]	2	3	6	10

## Data sheet

Weights [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

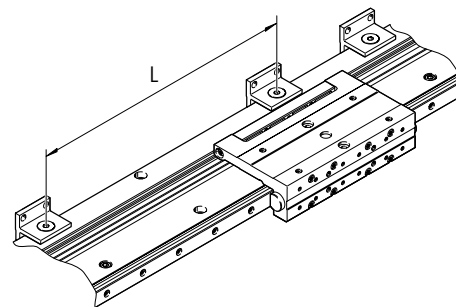
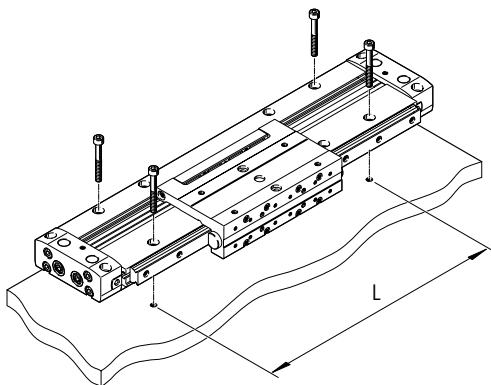


Linear drive	
[1] Cover	Coated die-cast aluminium
[2] Seals	NBR TPE-U(PU)
[3] Housing	Anodised aluminium
Note on materials	Free of copper and PTFE RoHS-compliant

### 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.

Appropriate support should therefore also be used for the variant without mounting holes (feature W).

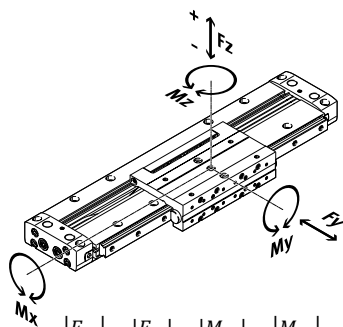


Stroke [mm]	Number of pairs of screws			
	DLGF-20	DLGF-25	DLGF-32	DLGF-40
50 ... 150	2	2	2	2
200	2	2	2	3
250	2	2	3	3
300	3	3	3	3
350 ... 450	3	3	3	4
500 ... 600	4	4	4	4
650 ... 750	4	4	4	5
800 ... 1000	5	5	5	5

## Data sheet

### 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 deceleration phase.



$$f_v = \frac{|F_{y1}|}{F_{y2}} + \frac{|F_{z1}|}{F_{z2}} + \frac{|M_{x1}|}{M_{x2}} + \frac{|M_{y1}|}{M_{y2}} + \frac{|M_{z1}|}{M_{z2}} \leq 1$$

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

$$F_1/M_1 = \text{dynamic value}$$

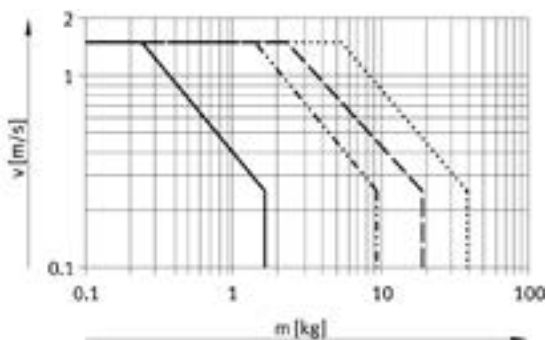
$$F_2/M_2 = \text{maximum value}$$

### 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

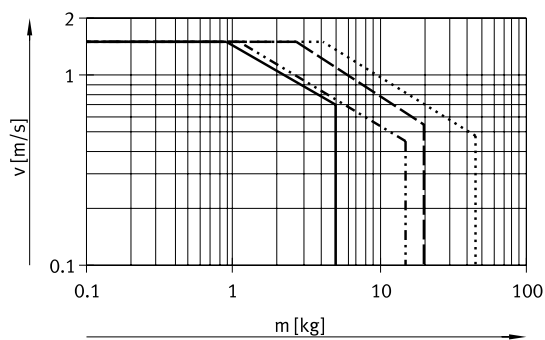
### Maximum permissible speed v as a function of payload m

With PPS cushioning



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

With shock absorber DYSS

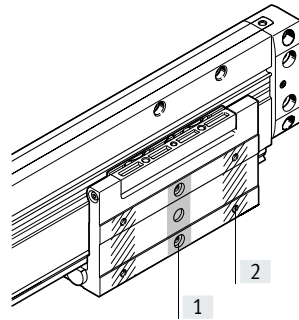
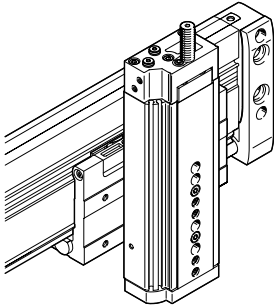


Data sheet

Direct mounting using Festo components or connection by the customer

With mini slide DGST or DGSL

For connection by the customer



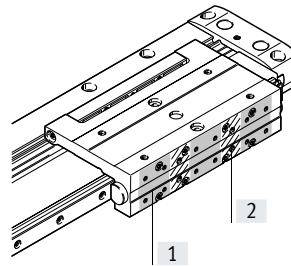
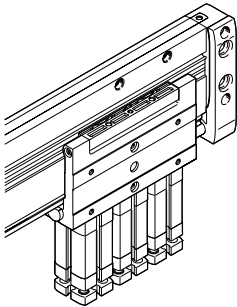
- [1] Interface for DGST/DGSL
- [2] Available interface

Linear drive DLGF	Mini slide DGST	Mini slide DGSL		Mounting screws	Connector sleeve for DGSL
Piston diameter	Piston diameter	Piston diameter	Min. stroke [mm]		
20	10	8	30	M4	-
	12 <sup>1)</sup>	10	20		
25, 32	16	12	30	M5	ZBV-9-7
		16	20		
40	20 <sup>2)</sup>	20	20	M6	ZBV-12-9
	25 <sup>2)</sup>	25	20		

- 1) Not with stroke 10 mm
- 2) Not with centring sleeve ZBH

With compact cylinder ADN or ADNGF

For connection by the customer



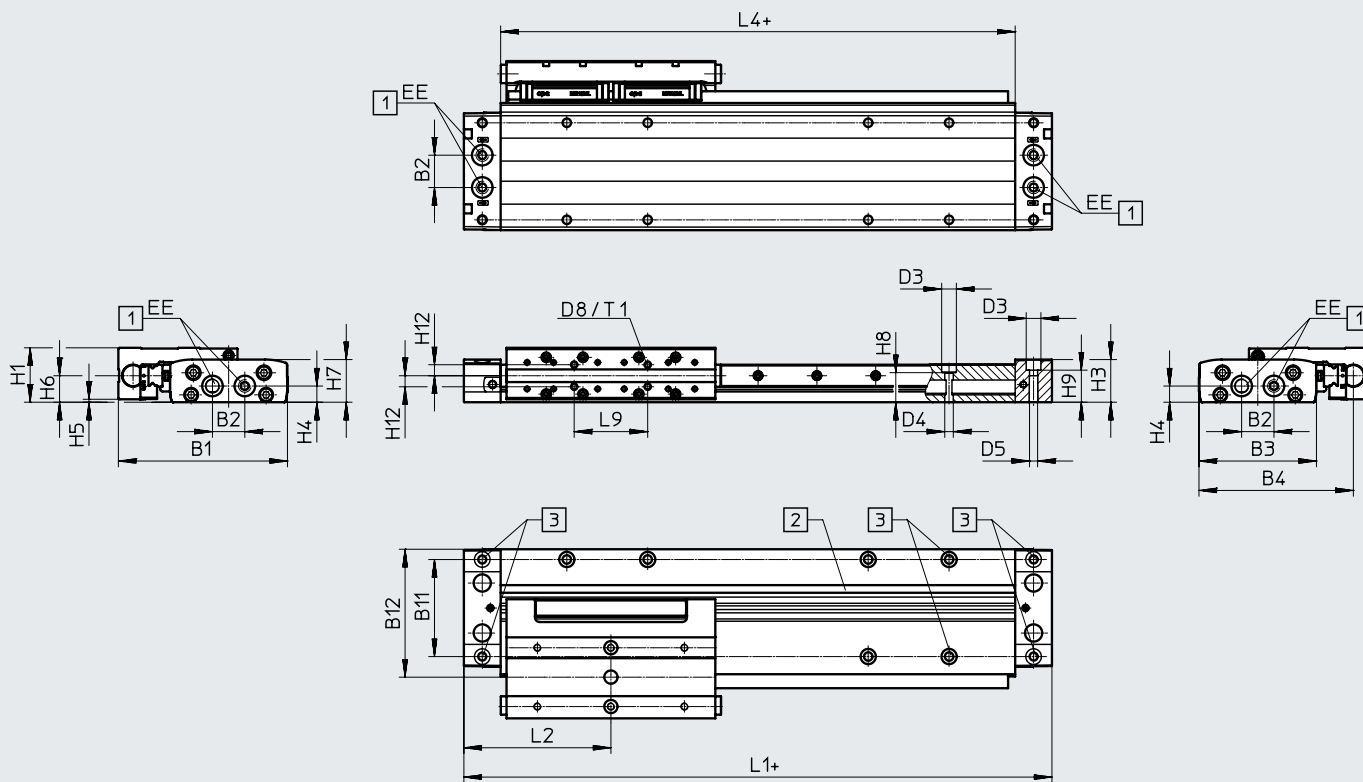
- [1] Interface for ADN/ADNGF
- [2] Available interface

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

Data sheet

Dimensions

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



+ = plus stroke length

- [1] Supply ports
- [2] Sensor slot for proximity switch
- [3] Mounting holes for accessories  
→ page 30, 31
- [4] Mounting holes

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

$\varnothing$	B1	B2	B3	B4	B11	B12	D3 $\varnothing$	D4 $\varnothing$
[mm]								
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

$\varnothing$	D5 $\varnothing$	D8	EE	H1	H3	H4	H5	H6	H7
[mm]									
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

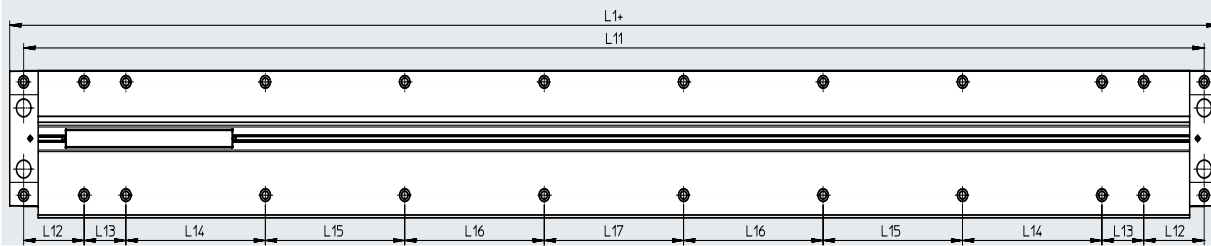
$\varnothing$	H8	H9	H12	L1 $\pm 0.35$	L2	L4	L9	T1	Stroke tolerance
[mm]									
20	15.6	17.6	7.5	160	80	120	45	7	+1.5
25	20.1	21.8	7.5	200	100	150	50	9	
32	24.6	26.5	10	230	115	170	80	10	
40	32.1	34.7	12.5	300	150	238.8	125	10	

Data sheet

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
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

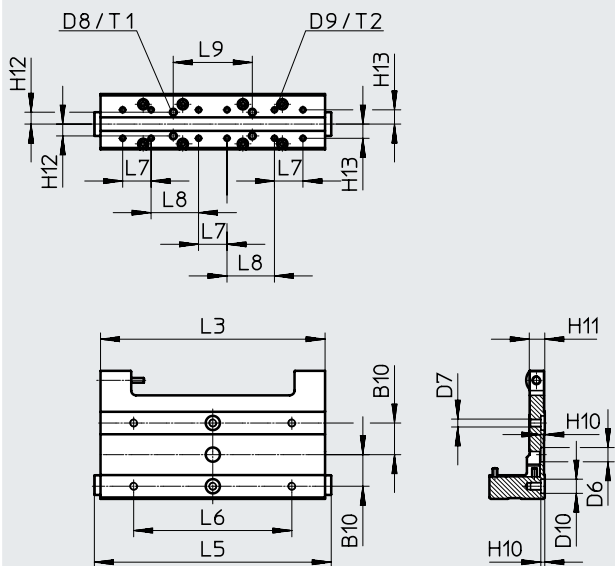
Dimension	L14				L15				L16				L17			
	20	25	32	40	20	25	32	40	20	25	32	40	20	25	32	40
Stroke																
50				75												
100																
150																
200				150									150	150	150	
250																
300																
350	150	150	150	150												150
400																
450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

Data sheet

Dimensions

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

Slide



∅ [mm]	B10	D6 ∅ H7	D7	D8	D9	D10 ∅	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

∅ [mm]	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



Data sheet

Dimensions

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

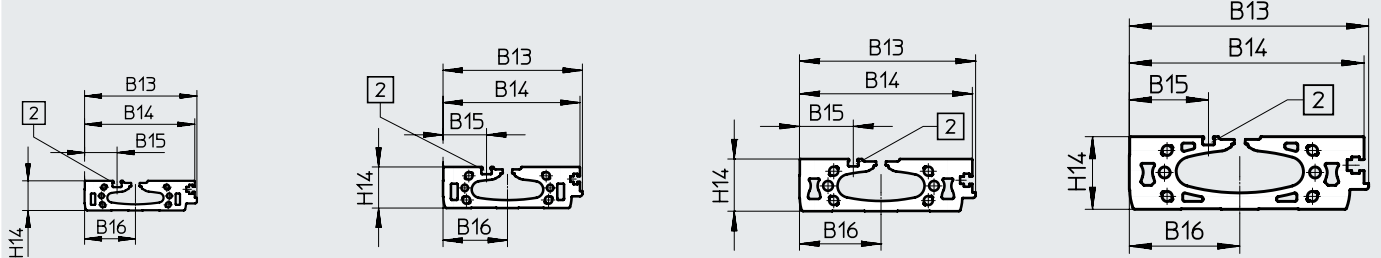
Profile barrel

∅ 20

∅ 25

∅ 32

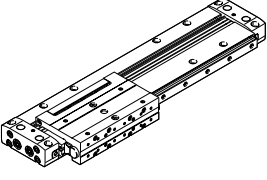
∅ 40



[2] Sensor slot for proximity switch

∅	B13	B14	B15	B16	H14
[mm]					
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

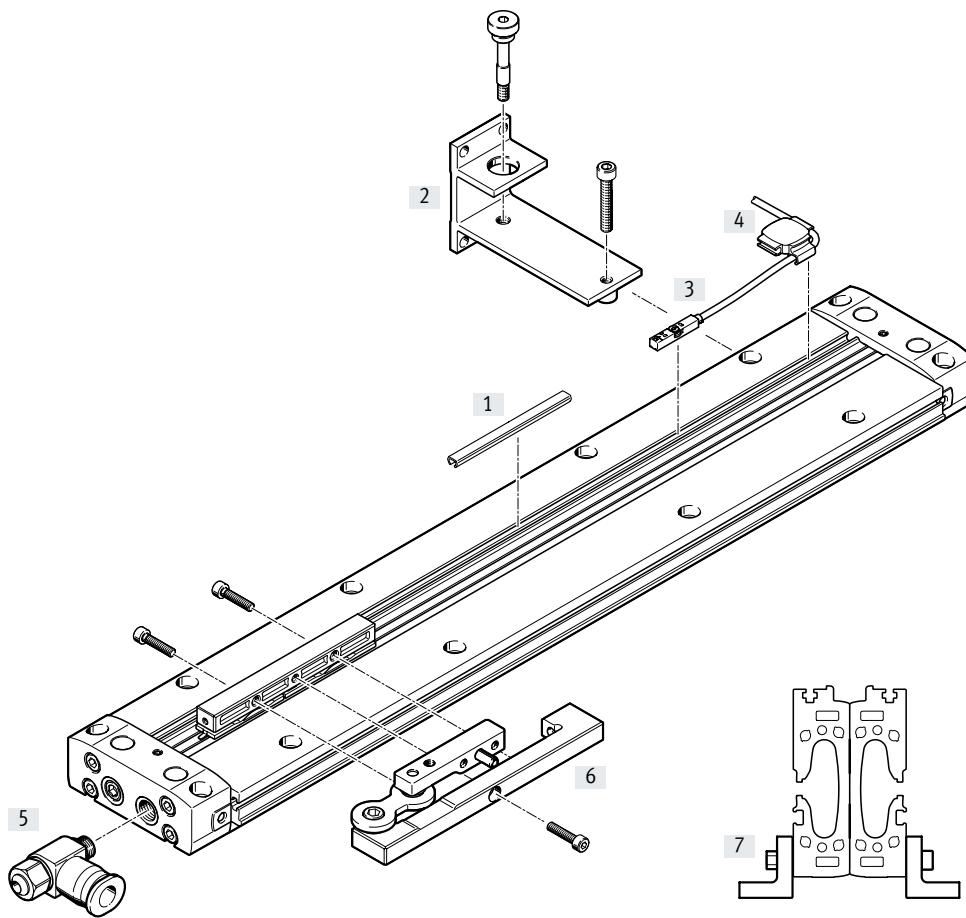
Data sheet

Ordering data	Piston diameter	Stroke [mm]	Part no.	Type
	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
	25	600	5074948	DLGF-KF-20-600-PPSA
		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
	32	500	5072378	DLGF-KF-25-500-PPSA
		600	5072380	DLGF-KF-25-600-PPSA
		200	5074802	DLGF-KF-32-200-PPSA
		300	5074804	DLGF-KF-32-300-PPSA
		400	5074806	DLGF-KF-32-400-PPSA
	40	500	5074808	DLGF-KF-32-500-PPSA
		600	5074810	DLGF-KF-32-600-PPSA
		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

Ordering data – Modular product system

	20	25	32	40	Conditions	Code	Enter code
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	For proximity switch					<b>A</b>	A
Profile design	With mounting holes						
	Without mounting holes					<b>-W</b>	

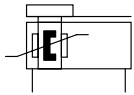
Peripherals overview





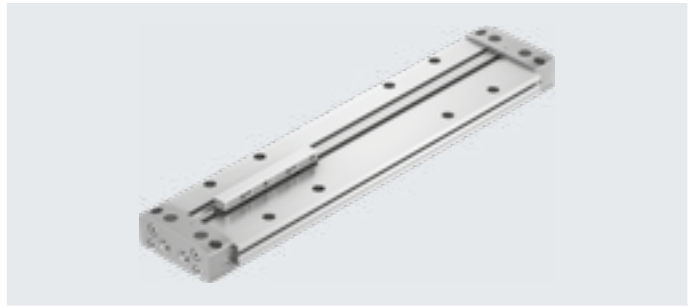
## Peripherals overview

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 switch SMT-8M	For sensing the position of the moment compensator	35
[4]	Cable holder DADG	For securing the proximity switch 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 linear drives back to back in a vertical position	31

Data sheet



-  - Size  
20 ... 40
-  - 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 design			
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		For proximity switch			
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 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 CRC <sup>1)</sup>		1			

1) Corrosion resistance class CRC 1 to Festo standard FN 940070  
Low corrosion stress. Dry internal application 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

Weights [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

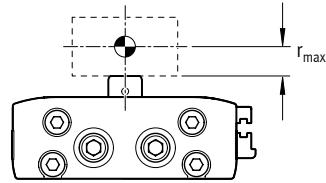
## Data sheet

### Operating range of the 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:

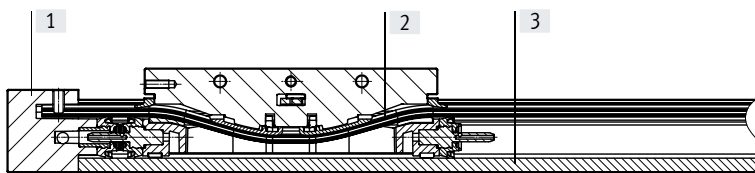
- Horizontal mounting position
- Payload at top



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

### Materials

Sectional view

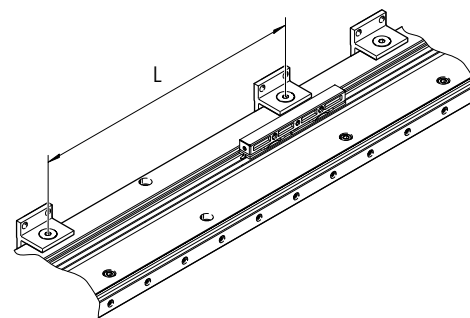
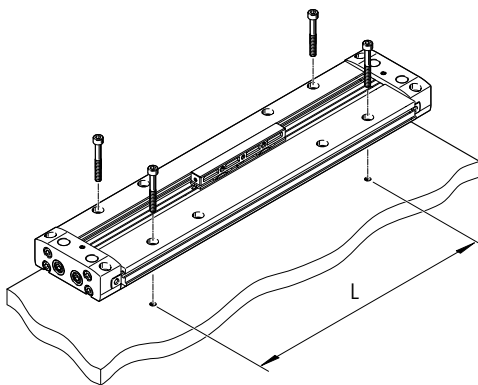


Linear drive	
[1] Cover	Coated die-cast aluminium
[2] Seals	NBR TPE-U(PU)
[3] Housing	Anodised aluminium
Note on materials	Free of copper and PTFE RoHS-compliant

### 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.

Appropriate support should therefore also be used for the variant without mounting holes (feature W).



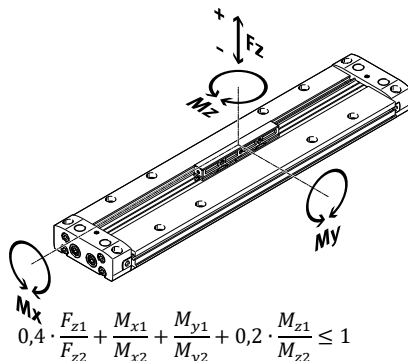
Stroke [mm]	Number of pairs of screws			
	DLGF-20	DLGF-25	DLGF-32	DLGF-40
50 ... 150	2	2	2	2
200	2	2	2	3
250	2	2	3	3
300	3	3	3	3
350 ... 450	3	3	3	4
500 ... 600	4	4	4	4
650 ... 750	4	4	4	5
800 ... 1000	5	5	5	5

## Data sheet

### 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 deceleration phase.



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

$$0,4 \cdot \frac{F_{z1}}{F_{z2}} + \frac{M_{x1}}{M_{x2}} + \frac{M_{y1}}{M_{y2}} + 0,2 \cdot \frac{M_{z1}}{M_{z2}} \leq 1$$

$$\frac{F_{z1}}{F_{z2}} \leq 1 \qquad \frac{M_{z1}}{M_{z2}} \leq 1$$

$F_1/M_1$  = dynamic value

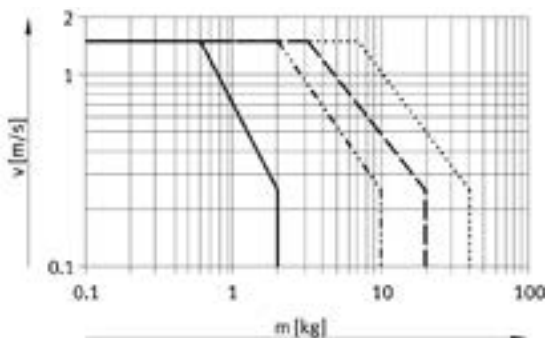
$F_2/M_2$  = maximum value

### 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



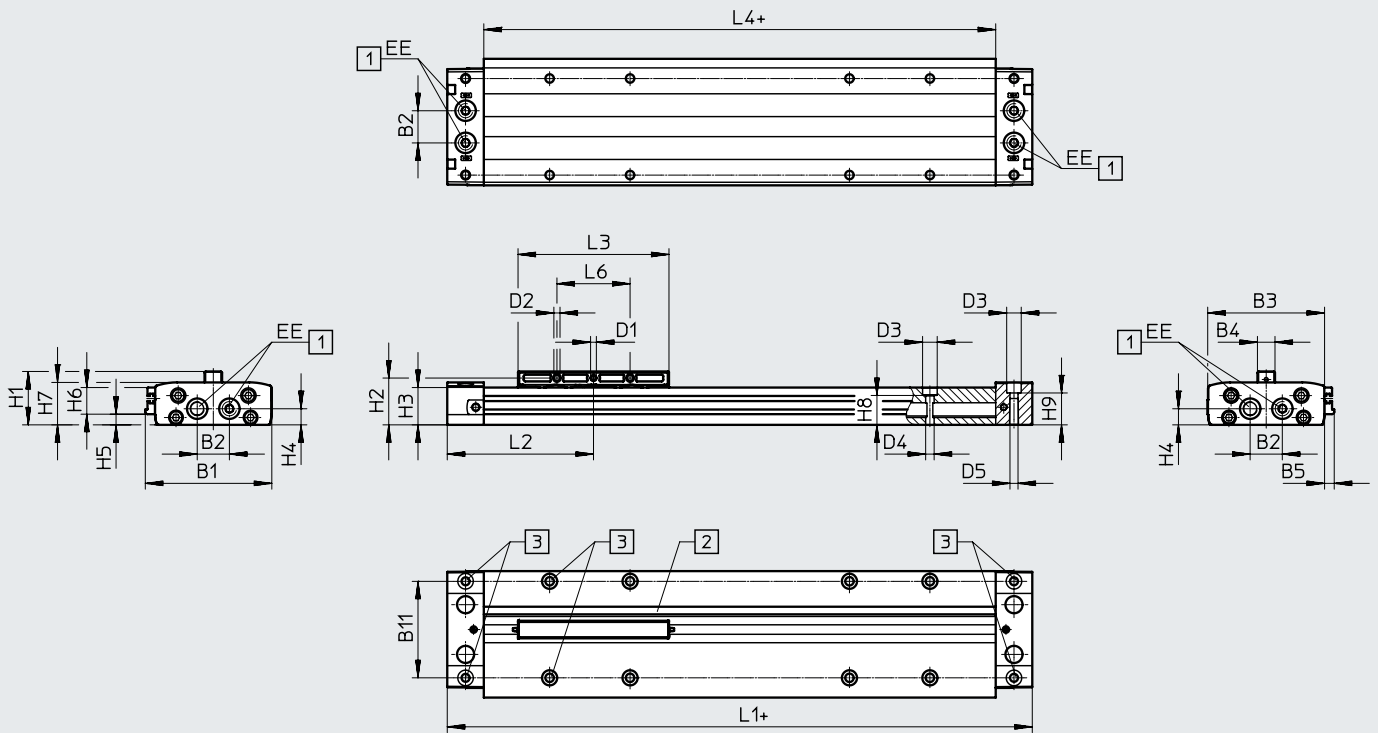
- DLGF-G-20
- - - - - DLGF-G-25
- — — — DLGF-G-32
- ..... DLGF-G-40



Data sheet

Dimensions

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+ = plus stroke length

- [1] Supply ports
- [2] Sensor slot for proximity switch
- [3] Mounting holes for accessories  
→ page 30, 31
- [4] Mounting holes

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

$\varnothing$ [mm]	B1	B2	B3	B4	B5	B11	D1	D2 $\varnothing$	D3 $\varnothing$
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

$\varnothing$ [mm]	D4 $\varnothing$	D5 $\varnothing$	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

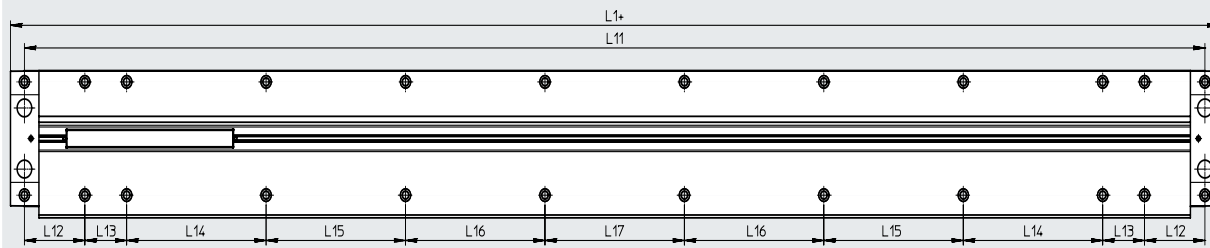
$\varnothing$ [mm]	H7	H8	H9	L1	L2	L3	L4	L6	Stroke tolerance
				$\pm 0.35$					
20	24	15.6	17.6	160	80	87.6	120	40	+1.5
25	29	20.1	21.8	200	100	103.2	150	50	
32	35	24.6	26.5	230	115	121.6	170	60	
40	42.7	32.1	34.7	300	150	180	238.8	70	

Data sheet

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
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			
	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	
850																
900																
950	150	150	150	150	150	150	150	150	150	150	150	150				150
1000																

# Data sheet

## Dimensions

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

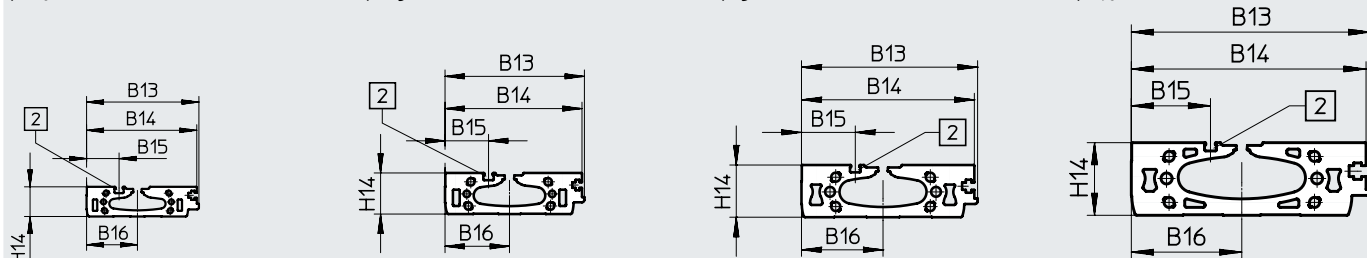
Profile barrel

∅ 20

∅ 25

∅ 32

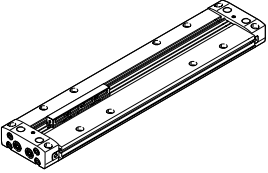
∅ 40



[2] Sensor slot for proximity switch

∅	B13	B14	B15	B16	H14
[mm]					
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

Data sheet

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
	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	

Ordering data – Modular product system

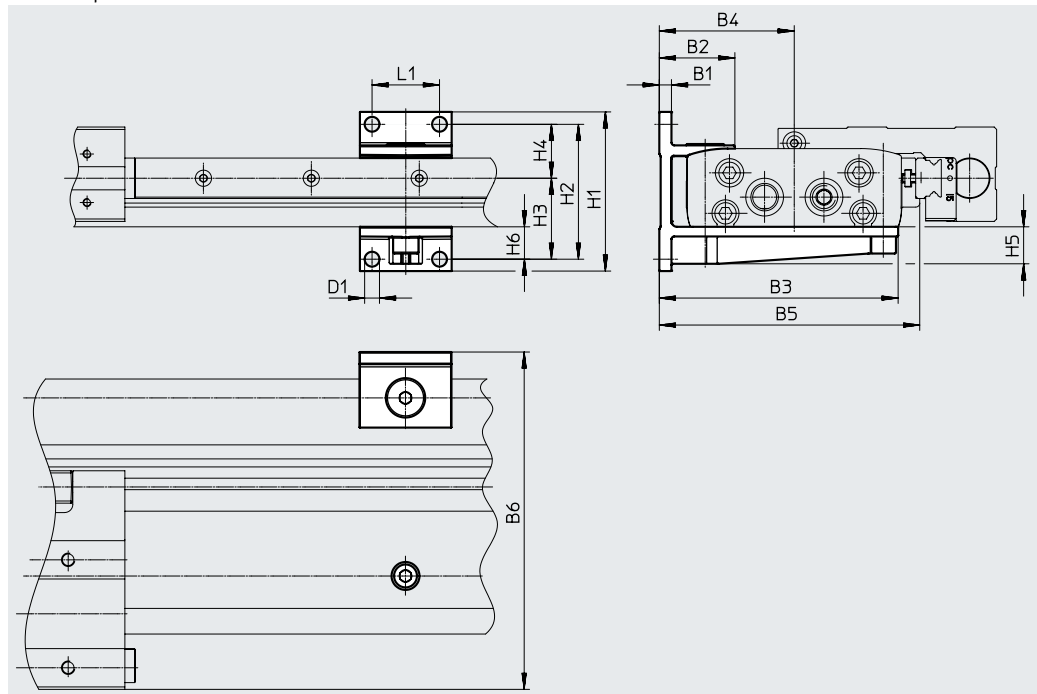
	20	25	32	40	Conditions	Code	Enter code
Module no.	<b>8063799</b>	<b>8063800</b>	<b>8063801</b>	<b>8063802</b>			
Function	Linear drives					<b>DLGF</b>	DLGF
Guide	Basic design					<b>-G</b>	-G
Piston diameter [mm]	20	25	32	40		<b>-...</b>	
Stroke [mm]	50, 100, 150, 200, 250, 300, 350, 400, 450, 500,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

## Accessories

### Profile mounting DAMH-L8-P

For DLGF-G/-KF

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



#### Dimensions and ordering data

For diameter	B1	B2	B3	B4	B5 <sup>1)</sup>	B6 <sup>2)</sup>	D1 ∅	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 diameter	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	8069009	DAMH-L8-20-P-1
25	50	30	20	13.7	12	25	204	8069010	DAMH-L8-25-P-1
32	60	30	30	14	11	30	373	8069011	DAMH-L8-32-P-1
40	65	35	30	14.8	11	30	438	8069012	DAMH-L8-40-P-1

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

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

## Accessories

### Profile mounting DAMH-L8-PL

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

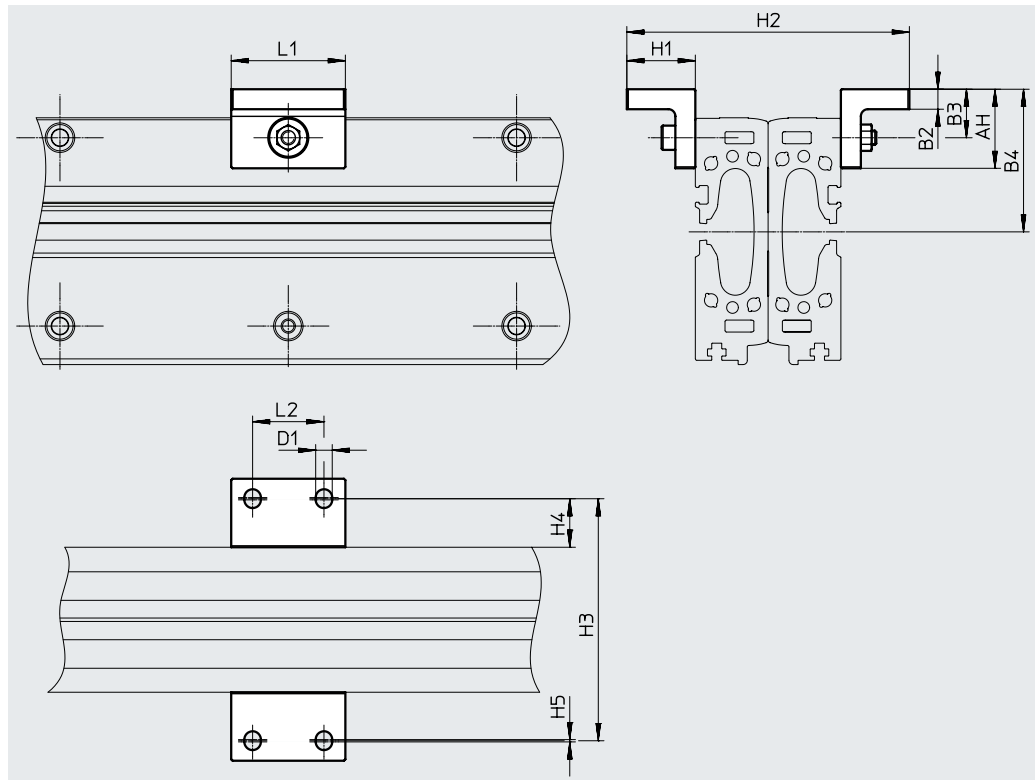
Material:

Anodised wrought aluminium alloy

Free of copper and PTFE

RoHS-compliant

For DLGF-G/-KF



#### Dimensions and ordering data

For diameter	AH	B2	B3	B4	D1 ∅	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 diameter	H4	H5	L1	L2	Weight	Part no.	Type
[mm]					[g]		
20	14	1	35	20	64	8069013	DAMH-L8-20-PL-1
25	17	1	40	25	99	8069014	DAMH-L8-25-PL-1
32	18	1	45	30	160	8069015	DAMH-L8-32-PL-1
40	18	1	45	30	166	8069016	DAMH-L8-40-PL-1

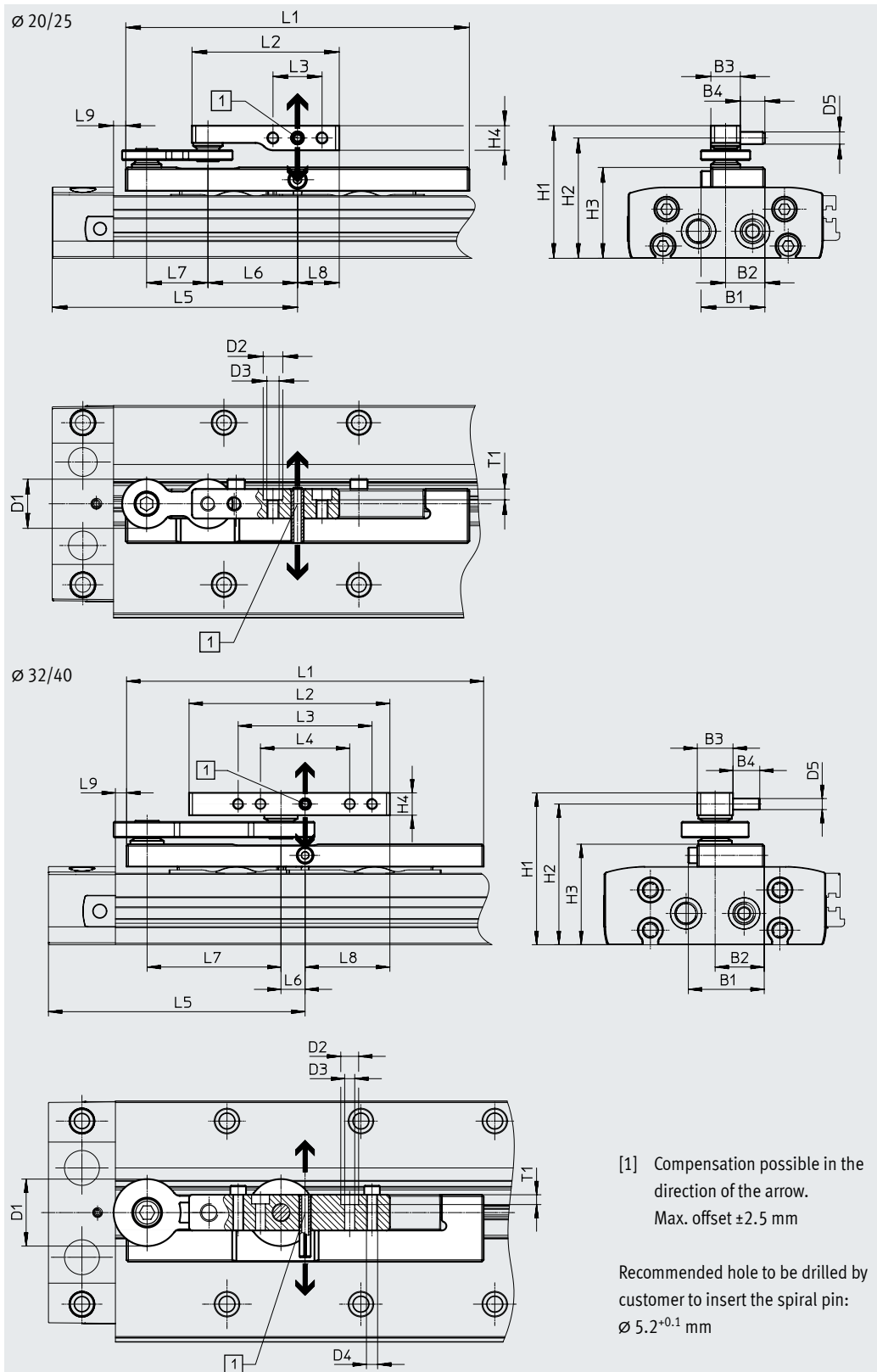
## Accessories

### Moment compensator DARD-L8

For compensating misalignments when using external guides.

Material:  
Anodised aluminium  
Free of copper and PTFE  
RoHS-compliant

For DLGF-G





## Accessories

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

For diameter	B1	B2	B3	B4	D1 ∅	D2 ∅	D3	D4	D5 ∅
[mm]									
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 diameter	H1	H2	H3	L1	L2	L3	L4	L5	L6
[mm]						±0.1	±0.1		
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 diameter	L7	L8	L9	T1	KBK <sup>1)</sup>	Weight	Part no.	Type
[mm]						[g]		
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. Dry internal application 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.

## Accessories

### Shock absorber retainer DAYP-L8

For shock absorber DYSS

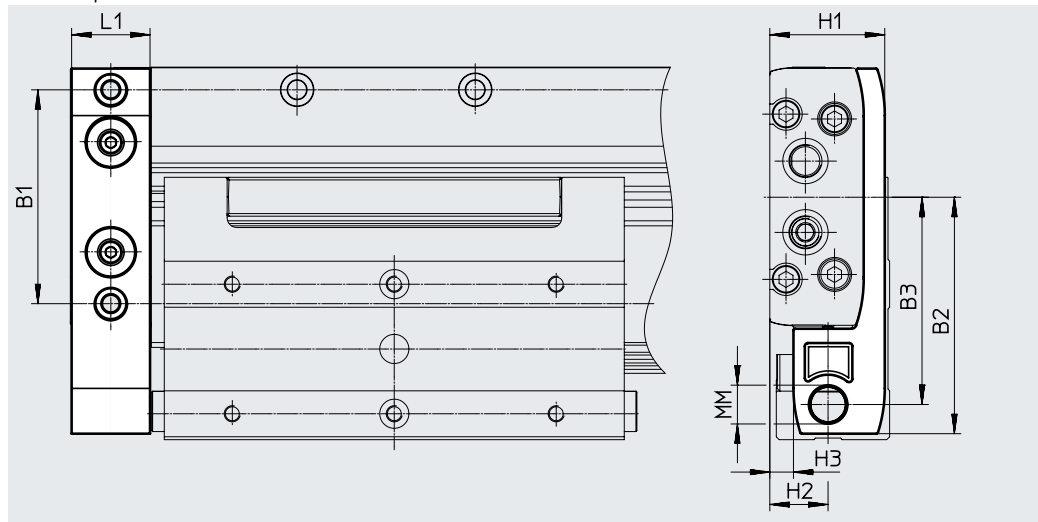
For DLGC-KF

Material:

High-alloy stainless steel

Free of copper and PTFE

RoHS-compliant



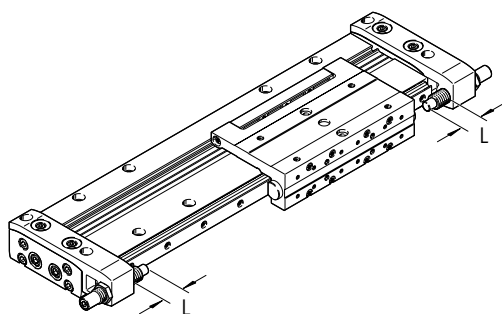
#### Dimensions and ordering data

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

#### 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.

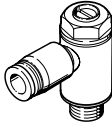

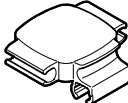
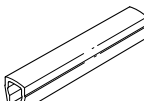


#### Ordering data


	For diameter	Comment	Part no.	Type	PE <sup>1)</sup>
Shock absorber DYSS					
Data sheets → Internet: dyss					
	20	For DLGC-KF	8069001	DYSS-7-5-Y1F	1
	25		8069002	DYSS-8-8-Y1F	
	32		8069003	DYSS-10-10-Y1F	
	40		8069004	DYSS-12-12-Y1F	



1) Packaging unit

## Accessories

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

1) Packaging unit

Ordering data – Proximity switch for T-slot, magneto-resistive						Data sheets → Internet: smt
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type	
<b>N/O contact</b>						
	Insertable in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D

Ordering data – Connecting cables						Data sheets → 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	541333	NEBU-M8G3-K-2.5-LE3	
			5	541334	NEBU-M8G3-K-5-LE3	
	Angled socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541338	NEBU-M8W3-K-2.5-LE3	
			5	541341	NEBU-M8W3-K-5-LE3	