

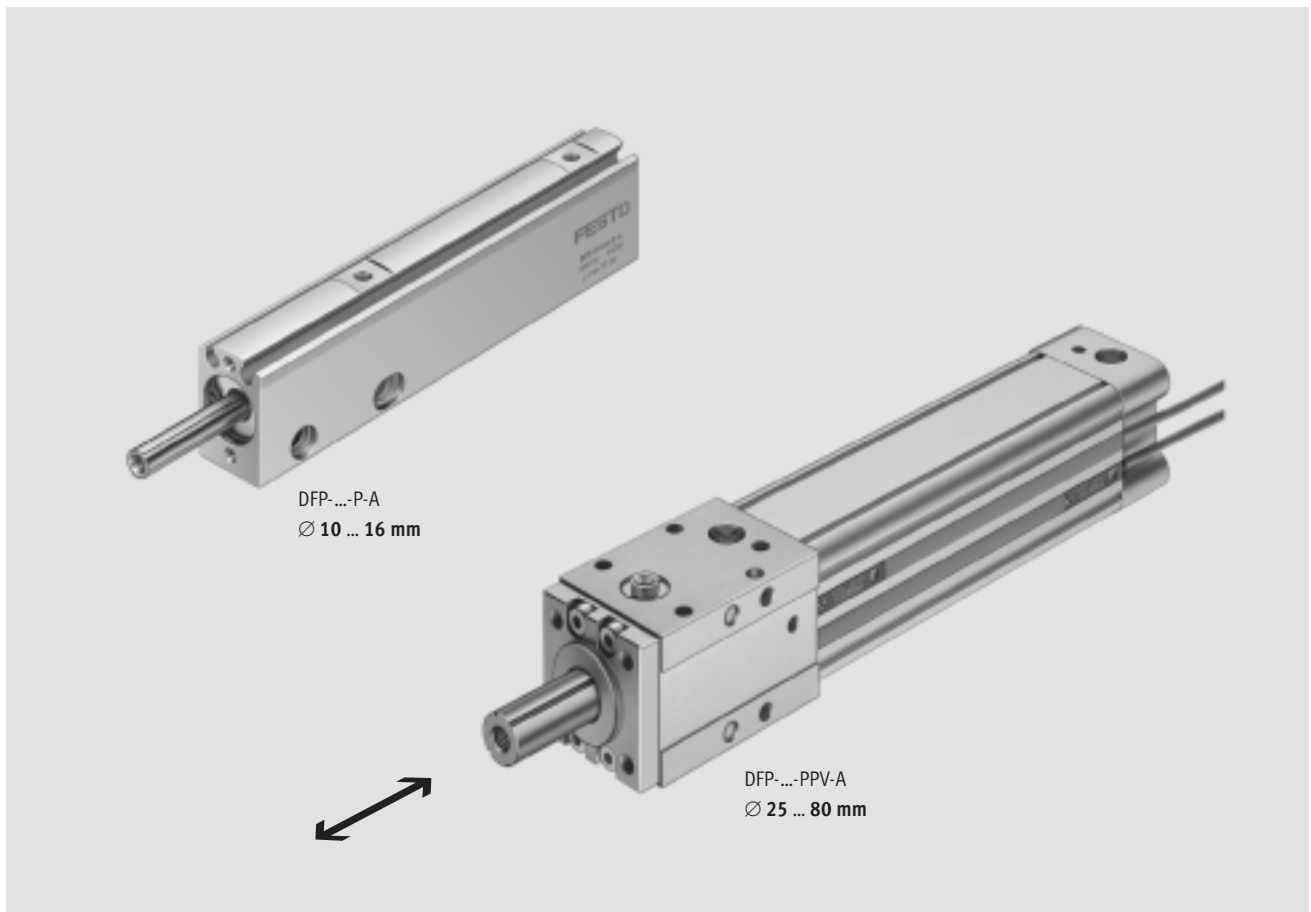


- High-precision guidance
- Able to absorb high torques
- Saves space in comparison with standard cylinders
- For contactless position sensing

Guided cylinder DFP

Features

FESTO



Brief description

- Double-acting
- High-precision guidance thanks to recirculating ball bearing guide
- Able to absorb high torques
- Saves space in comparison with standard cylinders with external guide unit
- Flexible cushioning rings/plates at both ends for Ø 10 ... 16 mm
- Pneumatic cushioning adjustable at both ends for Ø 25 ... 80 mm
- For contactless position sensing

Guided cylinder DFP

Features

FESTO

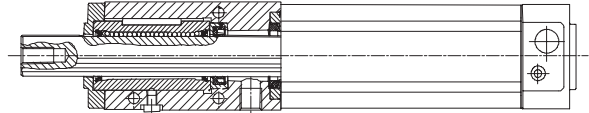
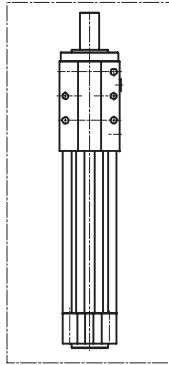
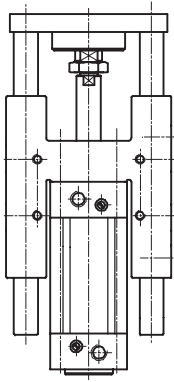
Less installation space required

Standard cylinder with guide unit

Guided cylinder DFP

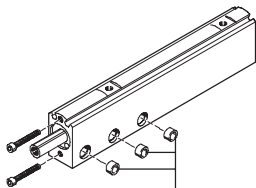
High precision

Grooved piston rod with recirculating ball bearing guide

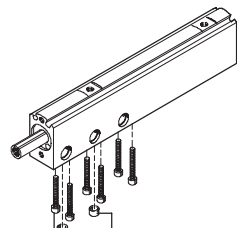


Mounting options

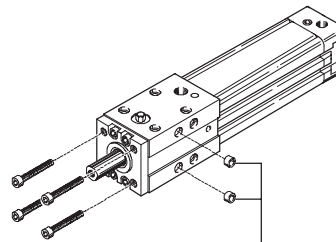
Via female thread



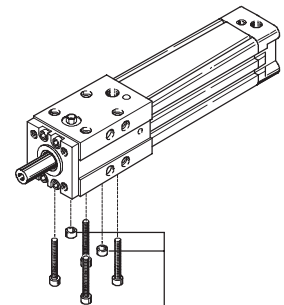
Centring sleeves
(both sides,
max. 2 pieces)



Centring sleeves
(one side only)
Mounting screws
(max. 6 pieces)

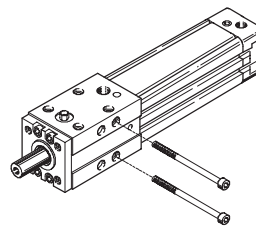
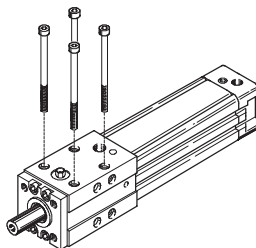
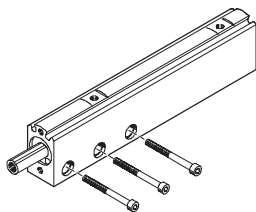


Centring sleeves
(both sides)



Centring sleeves
(one side only)

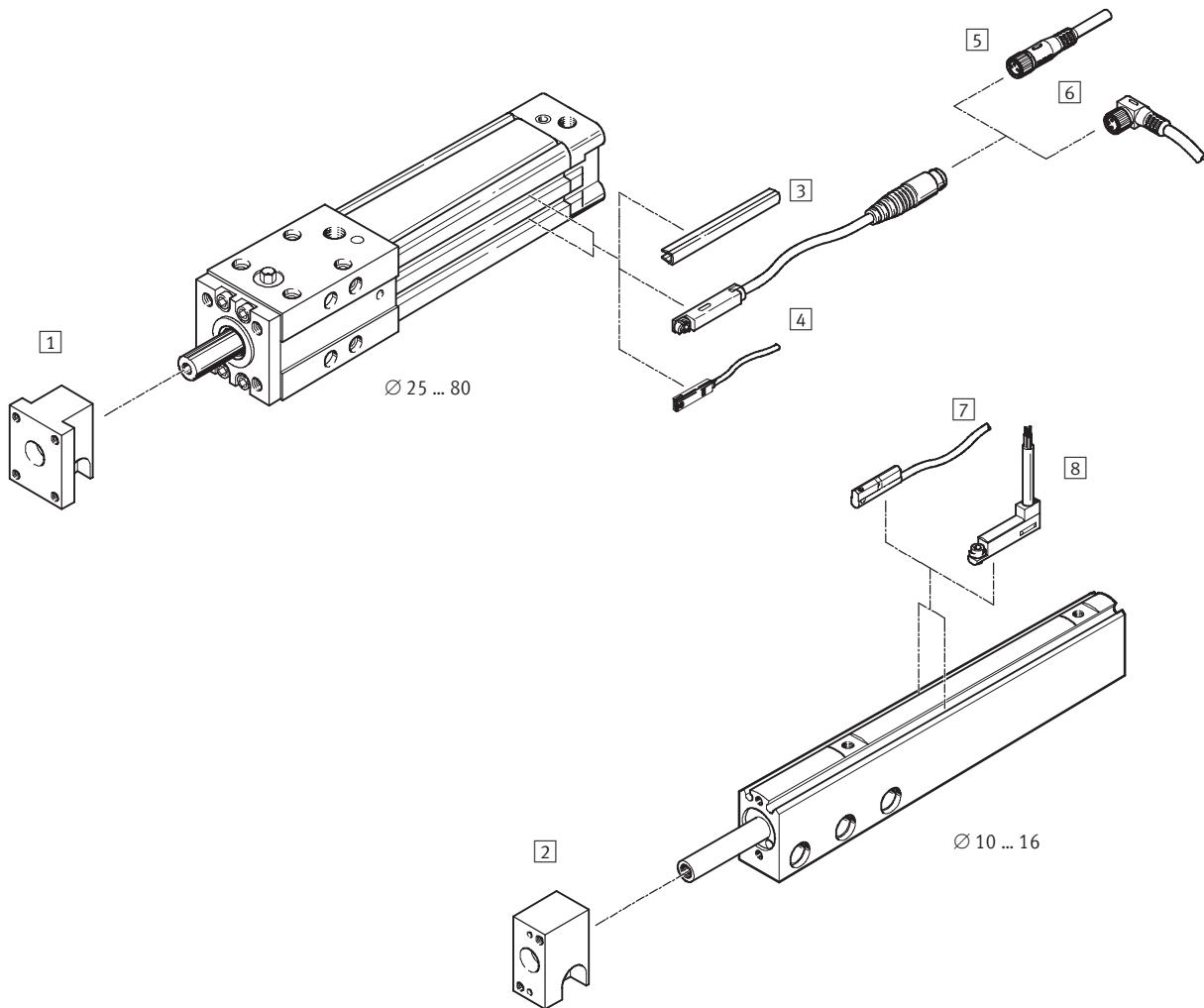
Via through-holes



Guide cylinders DFP

Peripherals overview

FESTO



Accessories				
	Brief description	Piston Ø [mm]		→ Page
		10 ... 16	25 ... 32	
1	Push-on flange FFP	For piston Ø 25 ... 32 mm	–	1 / 6.2-16
2	Push-on flange FFP	For piston Ø 10 ... 16 mm	–	1 / 6.2-16
3	Slot cover ABP-5-S	To protect the sensor cable and keep dirt out of the sensor slots	–	1 / 6.2-18
4	Proximity sensors SME/SMT-8	Can be integrated in the cylinder profile barrel	–	1 / 6.2-18
5	Plug socket with cable, straight SIM-M8	–	–	1 / 6.2-18
6	Plug socket with cable, angled SIM-M8	–	–	1 / 6.2-18
7	Proximity sensors SME/SMT-10	Can be integrated in the cylinder profile barrel	–	1 / 6.2-17
8	Proximity sensors SME/SMT-10F	Can be integrated in the cylinder profile barrel	–	1 / 6.2-17
–	Centring pins/sleeves ZBH	–	–	1 / 6.2-17

Guided cylinder DFP

Type codes

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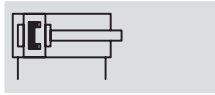
		DFP	–	50	–	80	–	PPV	–	A		S2
Type												
Double-acting												
DFP	Guided cylinder											
Piston Ø [mm]												
Stroke [mm]												
Cushioning												
P	Flexible cushioning rings/plates at both ends											
PPV	Pneumatic cushioning adjustable at both ends											
Sensing												
A	Via proximity sensor											
Variant												
S2	Through piston rod											

Guided cylinder DFP

Technical data

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Function



- - Diameter
10 ... 16 mm
- - Stroke length
25 ... 100 mm

- - www.festo.com/en/Spare_parts_service

Variant

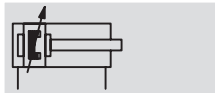


S2



DFP-...-P-A

Function



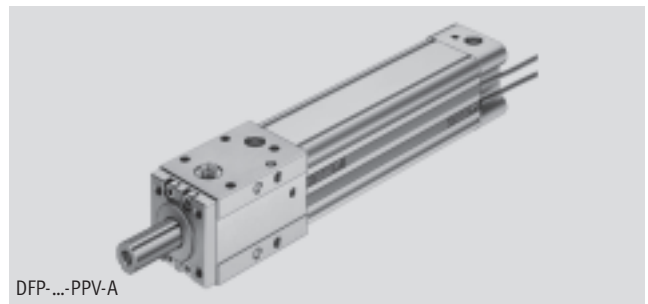
- - Diameter
25 ... 80 mm
- - Stroke length
25 ... 500 mm

- - www.festo.com/en/Spare_parts_service

Variant



S2



DFP-...-PPV-A

General technical data						
Piston Ø	10	16	25	32	50	80
Pneumatic connection	M3	M5	G1/8	G1/8	G1/4	G3/8
Operating medium	Filtered compressed air, lubricated or unlubricated					
Guide	Via ball bearings					
Cushioning	Flexible cushioning rings/plates at both ends		Adjustable at both ends			
Cushioning length [mm]	–	–	17	20	22	32
Position sensing	Via proximity sensor					
Type of mounting	Via female threads					
	Using through holes					
Mounting position	Any					

Operating and environmental conditions		
Operating pressure [bar]	0.5 ... 10	
Ambient temperature ¹⁾ [°C]	–10 ... +60	

1) Note operating range of proximity sensors

Forces [N] and impact energy [Nm]						
Piston Ø	10	16	25	32	50	80
Theoretical force at 6 bar, advancing ¹⁾	47	121	295	483	1,178	3,016
Theoretical force at 6 bar, retracting	31	91	217	364	884	2,262
Max. impact energy at the end positions	0.05	0.07	0.2	0.35	0.6	1.6

1) The force in the advance stroke is the same as the force in the return stroke with the variant S2.

Guided cylinder DFP

Technical data

FESTO

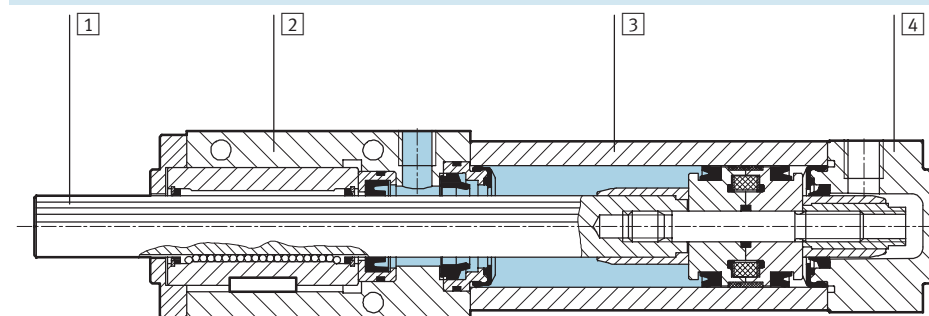
Speed [m/s]						
Piston Ø	10	16	25	32	50	80
Maximum speed advancing $v_{\max A}$	0.8	0.8	1.5	1.5	1	0.9
Maximum speed retracting $v_{\max L}$	0.8	0.8	1.5	1.5	1	0.7

Max. torque ¹⁾ [Nm]						
Piston Ø	10	16	25	32	50	80
	dynamic	0.2	0.4	1.1	5.8	19
	static	0.4	0.6	2.7	8.5	25

1) Torque at piston rod

Weights [g]												
Stroke [mm]	Piston Ø											
	10		16		25		32		50		80	
	Basic version	S2	Basic version	S2	Basic version	S2	Basic version	S2	Basic version	S2	Basic version	S2
25	118	124	180	195	590	652	–	–	–	–	–	–
50	147	156	218	238	660	737	1,180	1,297	2,960	3,351	8,077	8,814
80	173	185	263	290	740	836	1,295	1,439	3,150	3,570	8,561	9,414
100	198	212	293	325	794	902	1,357	1,519	3,340	3,855	8,856	9,787
160	–	–	–	–	957	1,102	1,590	1,805	3,804	4,468	9,786	10,949
200					–	–	1,732	1,983	4,100	4,863	10,460	11,778
250					–	–	1,914	2,210	4,490	5,377	11,289	12,801
320					–	–	–	–	5,030	6,091	12,436	14,220
400					–	–	–	–	5,610	6,869	13,750	15,844
500					–	–	–	–	–	–	15,442	17,924

Materials	
Sectional view	



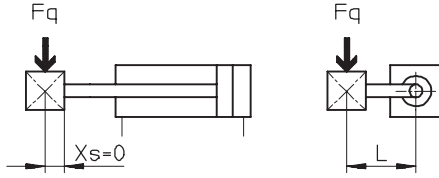
Guided cylinder	
1	Piston rod
2	Bearing end cap
3	Cylinder barrel
4	End cap
–	Seals
Note on material	
Tempered steel	
Aluminium	
Anodised aluminium	
Aluminium	
Polyurethane, polyacetal, nitrile rubber	
Free of copper, PTFE and silicone	

Guided cylinder DFP

Technical data

FESTO

Max. permissible dynamic lateral force F_q at the piston rod



Calculation of the max. permissible dynamic lateral force F_q

$$F_q = \frac{A}{(B + X_s + H) \times K + 1 + C \times L}$$

F_q = Permissible lateral force [N]
 A = Equivalent bearing load [N]
 B = Constant [mm]
 C = Constant [1/mm]
 H = Stroke [mm]
 L = Lever arm [mm]
 K = Constant [1/mm]
 X_s = Distance from centre of mass [mm]

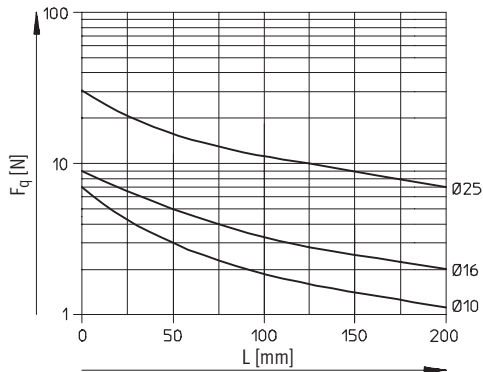
Calculation parameters

	Piston Ø [mm]					
	10	16	25	32	50	80
A	220	274	725	1,460	2,430	5,620
B	37.5	37.5	48	57	75.5	96
C	0.84	0.51	0.4	0.22	0.14	0.09
K	0.47	0.47	0.3	0.19	0.13	0.088

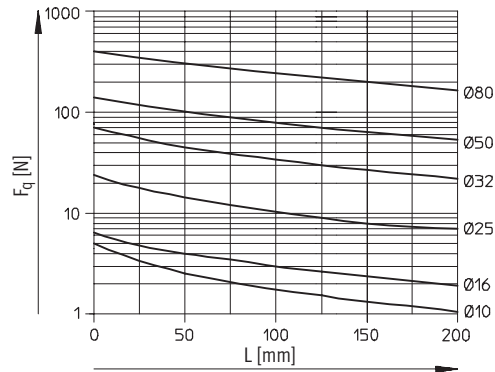
Max. permissible dynamic lateral force F_q at the piston rod as a function of the lever arm L

Distance from the centre of mass $X_s = 0$ mm

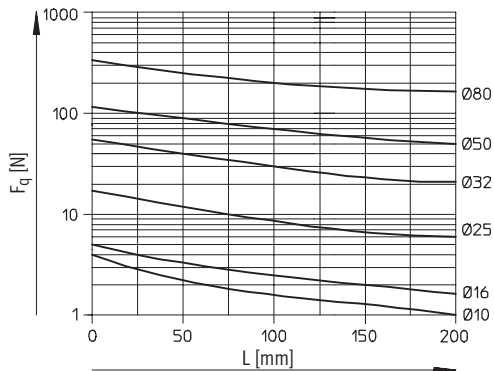
F_q with 25 mm stroke



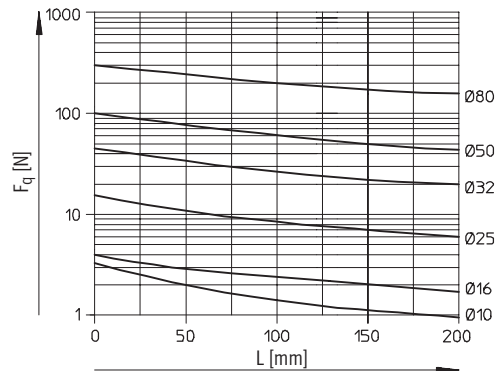
F_q with 50 mm stroke



F_q with 80 mm stroke



F_q with 100 mm stroke



Guided cylinder DFP

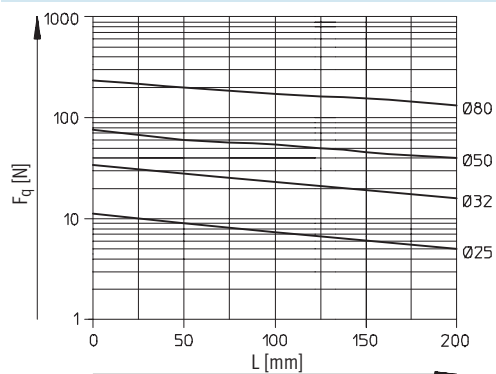
Technical data

FESTO

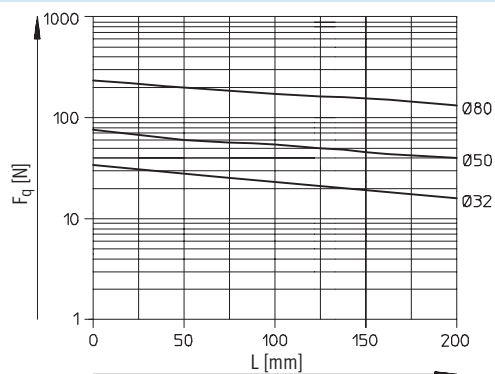
Max. permissible dynamic lateral force F_q at the piston rod as a function of the lever arm L

Distance from the centre of mass $X_s = 0$ mm

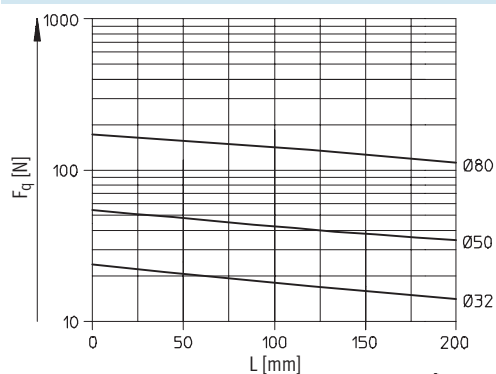
F_q with 160 mm stroke



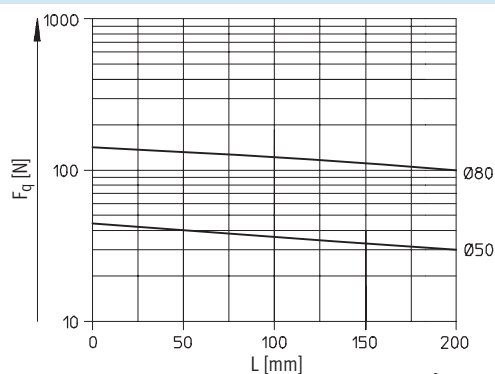
F_q with 200 mm stroke



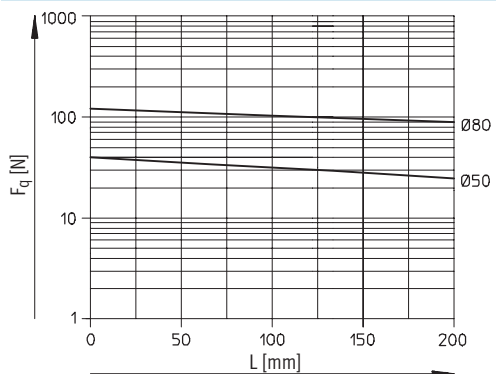
F_q with 250 mm stroke



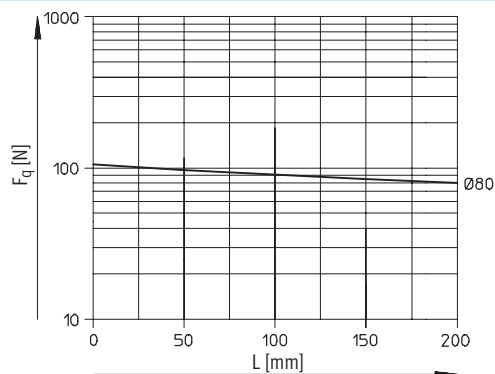
F_q with 320 mm stroke



F_q with 400 mm stroke



F_q with 500 mm stroke

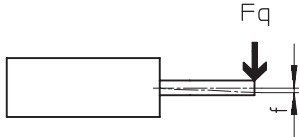


Guided cylinder DFP

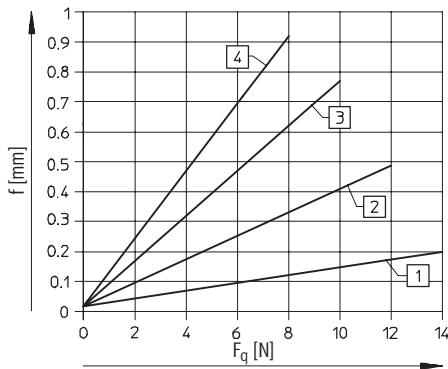
Technical data

FESTO

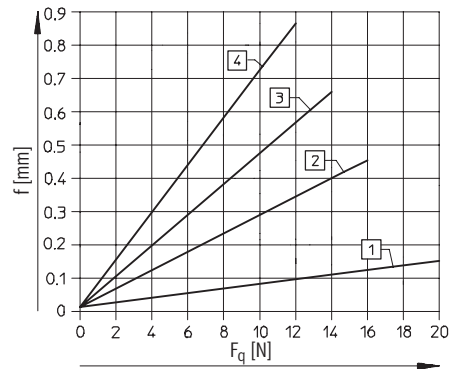
Deflection f at the piston rod as a function of the lateral force F_q



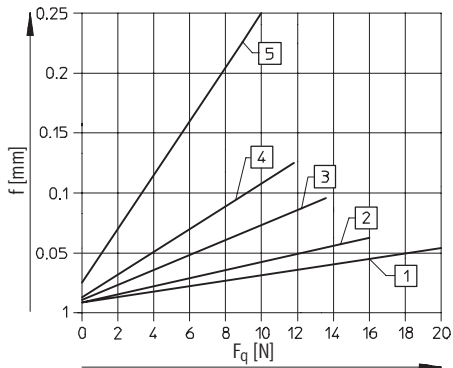
DFP-10



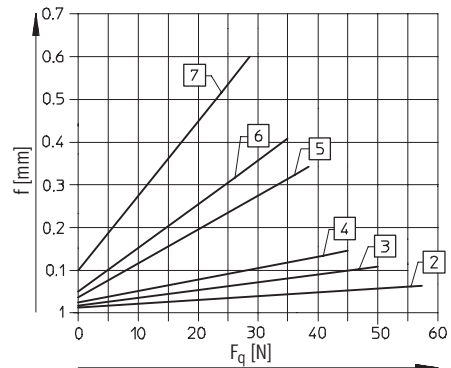
DFP-16



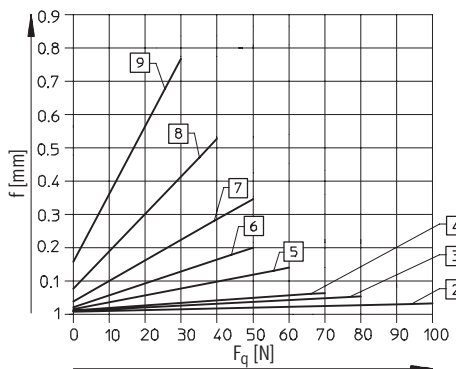
DFP-25



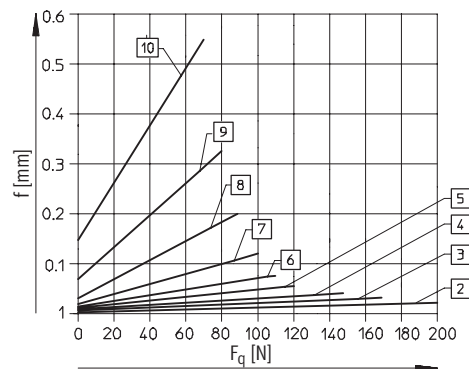
DFP-32



DFP-50



DFP-80



- 1 25 mm stroke
- 2 50 mm stroke
- 3 80 mm stroke

- 4 100 mm stroke
- 5 160 mm stroke
- 6 200 mm stroke

- 7 250 mm stroke
- 8 320 mm stroke

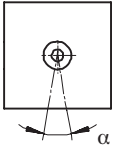
- 9 400 mm stroke
- 10 500 mm stroke

Guided cylinder DFP

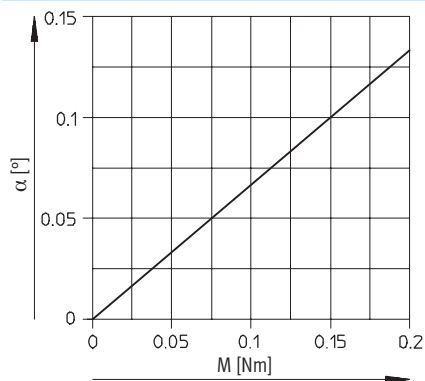
Technical data

FESTO

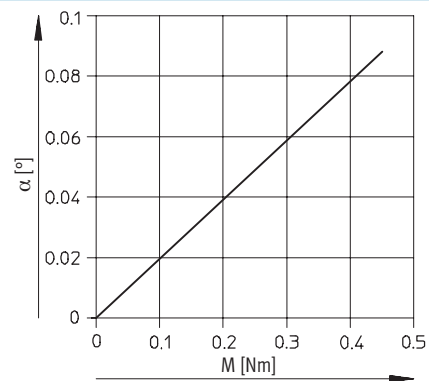
Torsion angle α of the piston rod as a function of the torque M



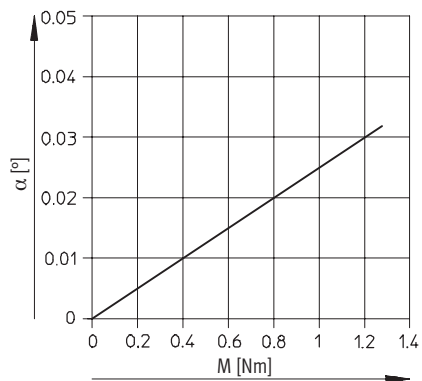
DFP-10



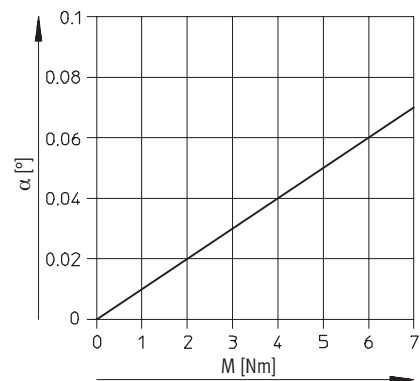
DFP-16



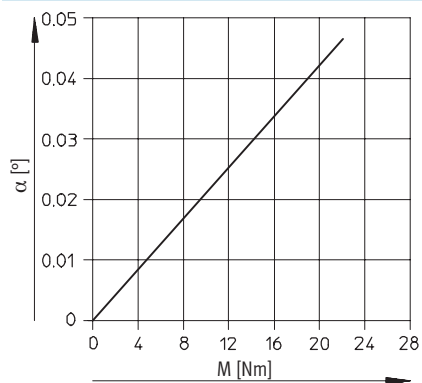
DFP-25



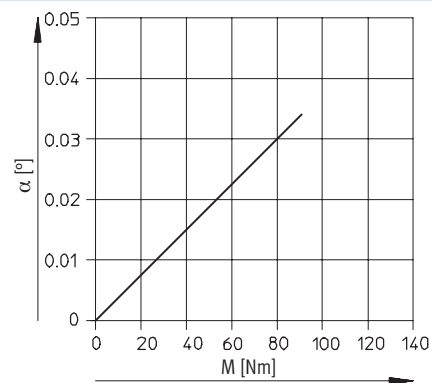
DFP-32



DFP-50



DFP-80



Guided cylinder DFP

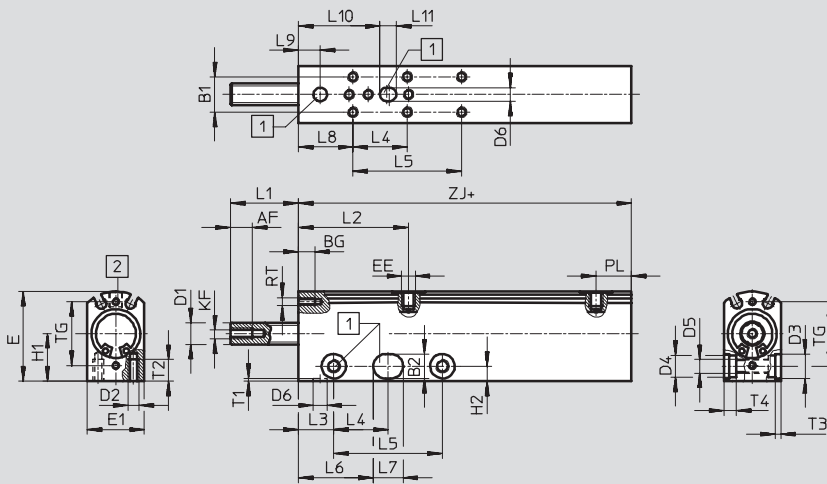
Technical data

FESTO

Dimensions

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

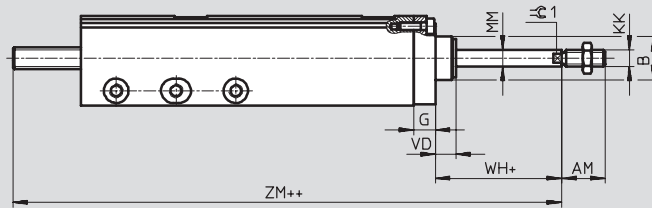
Piston Ø 10...16 mm



- 1 Centring hole for centring sleeves ZBH (accessory)
- 2 Mounting hole pattern (not for S2 variant)

+ = plus stroke length

Variant S2



+ = plus stroke length

++ = plus 2x stroke length

Ø	AF	AM	B Ø	B1	B2 Ø H7	BG	D1 Ø h7	D2	D3 Ø H7	D4	D5	D6 Ø H7	E	E1	EE
[mm]															
10	8	12	—	11	7	6	6	M3	7	6	M4	5	28	17	M3
16	8	16	15.9	13	9	6	8	M4	9	8	M5	5	33	21	M5

Ø	G	H1	H2	KF	KK	L1 min.	L2	L3	L4	L5 ¹⁾	L6	L7	L8	L9	L10
[mm]															
10	6	14.3	4.5	M4	M4	25	38.5	12.5	25	50	33	9	5.5	5.5	28.5
16	8	17.5	5.5	M4	M6	25	40.5	13	20	44	27.5	11	20	8	30

Ø	L11	MM Ø	PL	RT	T1	T2	T3	T4	TG	VD	WH	ZJ	ZM	≈ 1
[mm]														
10	6	4	12	M2.5	1	6	1.6	3.2	21	—	4.8	65	100.8	—
16	6	6	13	M3	1	8	2.1	4.6	23.5	7.5	12.5	72.5	118	5

1) With stroke > 80 mm

Guided cylinder DFP

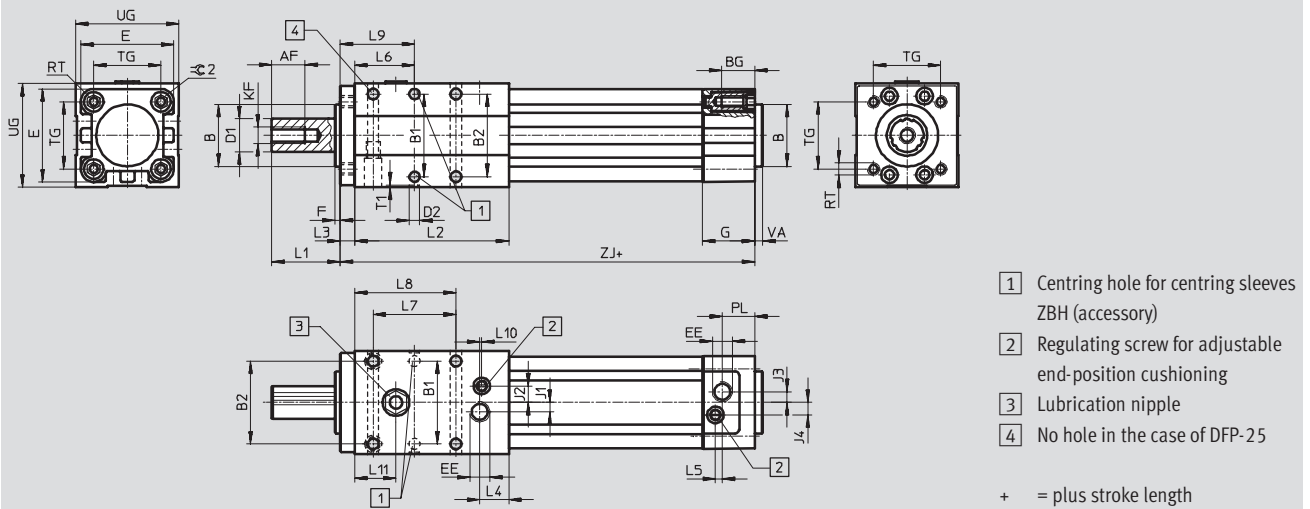
Technical data

FESTO

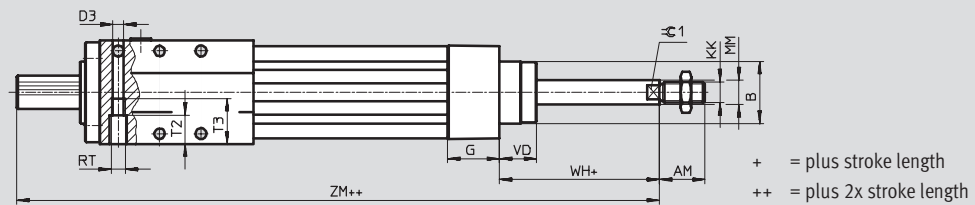
Dimensions

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

Piston Ø 25 ... 80 mm



Variant S2



Ø [mm]	AF	AM	B Ø d11	B1 ±0.02	B2	BG	D1 Ø h7	D2 Ø H7	D3 Ø	I	EE	F	G	J1	J2
25	12.5	22	25	31	31	14	13	5	4.5	38	G $\frac{1}{8}$	2.5	22	3.6	7
32	16	22	30	40	40	16	16	5	5.3	45	G $\frac{1}{8}$	2.5	25.1	4.5	8
50	20	32	40	52	52	17	25	9	6.6	64	G $\frac{1}{4}$	2.5	29.6	7.5	14
80	24	40	45	75	75	17	40	9	8.4	93	G $\frac{3}{8}$	2.5	35.9	7	20

Ø [mm]	J3	J4	KF	KK	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11
25	3.1	6	M6	M10x1.25	30	58	6.5	11.8	4.1	22.5	31	38	29	2.3	12.8
32	5.2	6	M8	M10x1.25	32	74.5	7	14	3.3	29	40	49	36	1	20
50	8.5	10.4	M10	M16x1.5	40	107.5	10	18	5.1	44	52	70	54	4.2	29
80	8	12.5	M12	M20x1.5	41	143	14	23	10.5	58.5	75	96	72.5	5	39.5

Ø [mm]	MM Ø f8	PL	RT	T1	T2	T3	TG	UG	VA	VD	WH	ZJ	ZM	≈C1	≈C2
25	10	8.5	M5	1	11	21	27	40	2	17.5	29.4	119.5	179	9	5
32	12	15.6	M6	1	14	22	32.5	50	4	18	26	150.4	210	10	6
50	20	14	M8	2.1	16	32	46.5	66	4	28	37	194	273	17	8
80	25	16.4	M10	2.1	20	40	72	96	4	34.7	46	249	338	22	6

Guided cylinder DFP

Technical data

FESTO

Ordering data – Basic version					
Design	Stroke [mm]	Part No.	Type ¹⁾	Stroke [mm]	Part No. Type ¹⁾
	Piston Ø 10 mm			Piston Ø 16 mm	
	25	186 729	DFP-10-25-P-A	25	186 733 DFP-16-25-P-A
	50	186 730	DFP-10-50-P-A	50	186 734 DFP-16-50-P-A
	80	186 731	DFP-10-80-P-A	80	186 735 DFP-16-80-P-A
	100	186 732	DFP-10-100-P-A	100	186 736 DFP-16-100-P-A
	Piston Ø 25 mm			Piston Ø 32 mm	
	25	186 737	DFP-25-25-PPV-A	25	– –
	50	186 738	DFP-25-50-PPV-A	50	186 742 DFP-32-50-PPV-A
	80	186 739	DFP-25-80-PPV-A	80	186 743 DFP-32-80-PPV-A
	100	186 740	DFP-25-100-PPV-A	100	186 744 DFP-32-100-PPV-A
	160	186 741	DFP-25-160-PPV-A	160	186 745 DFP-32-160-PPV-A
	200	–	–	200	186 746 DFP-32-200-PPV-A
	250	–	–	250	186 747 DFP-32-250-PPV-A
	Piston Ø 50 mm			Piston Ø 80 mm	
	50	186 748	DFP-50-50-PPV-A	50	186 756 DFP-80-50-PPV-A
	80	186 749	DFP-50-80-PPV-A	80	186 757 DFP-80-80-PPV-A
	100	186 750	DFP-50-100-PPV-A	100	186 758 DFP-80-100-PPV-A
	160	186 751	DFP-50-160-PPV-A	160	186 759 DFP-80-160-PPV-A
	200	186 752	DFP-50-200-PPV-A	200	186 760 DFP-80-200-PPV-A
	250	186 753	DFP-50-250-PPV-A	250	186 761 DFP-80-250-PPV-A
	320	186 754	DFP-50-320-PPV-A	320	186 762 DFP-80-320-PPV-A
	400	186 755	DFP-50-400-PPV-A	400	186 763 DFP-80-400-PPV-A
	500	–	–	500	186 764 DFP-80-500-PPV-A

1) In each case the scope of delivery includes 2 of the centring sleeves listed as accessories. Centring sleeves are supplied to repeat order in packs of 10. Proximity sensors and mounting screws are not included in the scope of delivery for guided cylinders.

Guided cylinder DFP

Technical data

FESTO

Ordering data – Variants					
Design	Stroke [mm]	Part No.	Type ¹⁾²⁾	Stroke [mm]	Part No. Type ¹⁾²⁾
S2 – Through piston rod					
	Piston Ø 10 mm			Piston Ø 16 mm	
	25	186 765	DFP-10-25-P-A-S2	25	186 769 DFP-16-25-P-A-S2
	50	186 766	DFP-10-50-P-A-S2	50	186 770 DFP-16-50-P-A-S2
	80	186 767	DFP-10-80-P-A-S2	80	186 771 DFP-16-80-P-A-S2
	100	186 768	DFP-10-100-P-A-S2	100	186 772 DFP-16-100-P-A-S2
	Piston Ø 25 mm			Piston Ø 32 mm	
	25	186 773	DFP-25-25-PPV-A-S2	25	– –
	50	186 774	DFP-25-50-PPV-A-S2	50	186 778 DFP-32-50-PPV-A-S2
	80	186 775	DFP-25-80-PPV-A-S2	80	186 779 DFP-32-80-PPV-A-S2
	100	186 776	DFP-25-100-PPV-A-S2	100	186 780 DFP-32-100-PPV-A-S2
	160	186 777	DFP-25-160-PPV-A-S2	160	186 781 DFP-32-160-PPV-A-S2
	200	–	–	200	186 782 DFP-32-200-PPV-A-S2
	250	–	–	250	186 783 DFP-32-250-PPV-A-S2
	Piston Ø 50 mm			Piston Ø 80 mm	
	50	186 784	DFP-50-50-PPV-A-S2	50	186 792 DFP-80-50-PPV-A-S2
	80	186 785	DFP-50-80-PPV-A-S2	80	186 793 DFP-80-80-PPV-A-S2
	100	186 786	DFP-50-100-PPV-A-S2	100	186 794 DFP-80-100-PPV-A-S2
	160	186 787	DFP-50-160-PPV-A-S2	160	186 795 DFP-80-160-PPV-A-S2
	200	186 788	DFP-50-200-PPV-A-S2	200	186 796 DFP-80-200-PPV-A-S2
	250	186 789	DFP-50-250-PPV-A-S2	250	186 797 DFP-80-250-PPV-A-S2
	320	186 790	DFP-50-320-PPV-A-S2	320	186 798 DFP-80-320-PPV-A-S2
	400	186 791	DFP-50-400-PPV-A-S2	400	186 799 DFP-80-400-PPV-A-S2
	500	–	–	500	186 800 DFP-80-500-PPV-A-S2

- 1) In each case the scope of delivery includes 2 of the centring sleeves listed as accessories. Centring sleeves are supplied to repeat order in packs of 10. Proximity sensors and mounting screws are not included in the scope of delivery for guided cylinders.
- 2) The scope of delivery also includes a hex nut for the piston rod thread.

Guided cylinder DFP

Accessories

FESTO

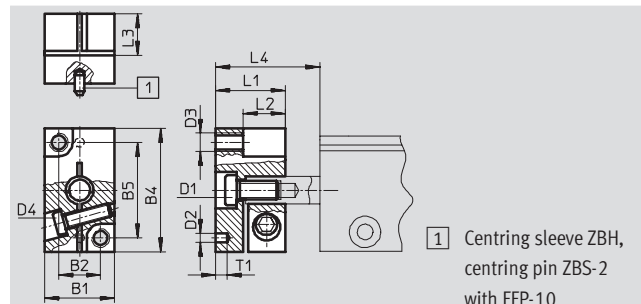
Push-on flange FFP

for piston $\varnothing$ 10 ... 16 mm

Material:

Wrought aluminium alloy

Free of copper, PTFE and silicone



Dimensions and ordering data

For $\varnothing$	B1	B2	B4	B5	D1	D2 $\varnothing$ H7	D3	D4	L1	L2	L3	L4	T1	CRC ¹⁾	Part No.	Type
[mm]		± 0.02											$+0.2$			
10	15	9	26	20	M4	2	M4	M3	15	8.5	9	31.5	2.5	2	186 801	FFP-10
16	19	12	33	26	M4	5	M4	M4	17	10.5	11	31.5	1	2	186 802	FFP-16

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

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

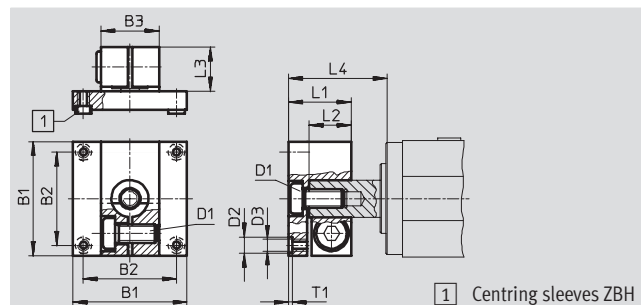
Push-on flange FFP

for piston $\varnothing$ 25 ... 80 mm

Material:

Wrought aluminium alloy

Free of copper, PTFE and silicone



Dimensions and ordering data

For $\varnothing$	B1	B2	B3	D1	D2 $\varnothing$ H7	D3	L1	L2	L3	L4	T1	CRC ¹⁾	Part No.	Type
[mm]		± 0.02									$+0.2$			
25	38	30	22	M6	7	M5	27	18	19	39	1.6	2	186 803	FFP-25
32	49	40	25	M8	7	M5	27	18	19	41	1.6	2	186 804	FFP-32
50	64	50	36	M10	9	M6	35	23	25	52	2.1	2	186 805	FFP-50
80	94	70	54	M12	12	M8	40	25	27	56	2.6	2	186 806	FFP-80

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

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

Guided cylinder DFP

Accessories

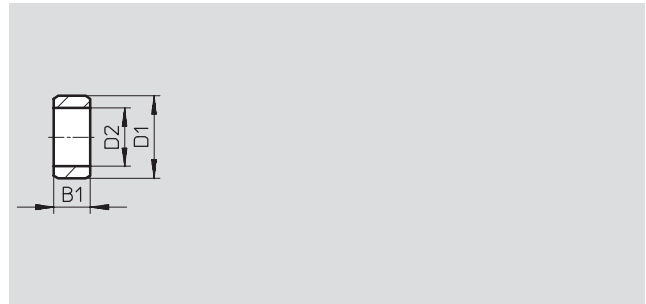
FESTO

Centring sleeves ZBH

Material:

Steel, corrosion resistant

Free of copper, PTFE and silicone



Dimensions and ordering data						
D1 Ø	B1	D2 Ø	CRC ¹⁾	Weight [g]	Part No.	Type
h7	-0.2					PU ²⁾
5	2.4	3.2	2	1	189 652	ZBH-5
7	3	5.3	2	1	186 717	ZBH-7
9	4	6.4	2	1	150 927	ZBH-9

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

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

2) Packaging unit quantity

Ordering data – Proximity sensors for C-slot, magneto-resistive								Technical data➔ 1 / 10.2-52	
	Mounting	Switch output	Electrical connection		Cable length [m]	Connection direction	Part No.	Type	
			Cables	M8 plug					
NO contact									
	Insertable from above	PNP	3-wire	–	2.5	In-line	525 915	SMT-10F-PS-24V-K2,5L-OE	
			–	3-pin	0.3	In-line	525 916	SMT-10F-PS-24V-K0,3L-M8D	
						Lateral	526 675	SMT-10F-PS-24V-K0,3Q-M8D	
	Insertable from end	PNP	–	3-pin	0.3	In-line	173 220	SMT-10-PS-SL-LED-24	
			3-wire	–	2.5		173 218	SMT-10-PS-KL-LED-24	

Ordering data – Proximity sensors for C-slot, magnetic reed							Technical data➔ 1 / 10.2-55	
	Mounting	Electrical connection		Cable length	Connection direction	Part No.	Type	
		Cables	M8 plug					
NO contact								
	Insertable from above	–	3-pin	0.3	In-line	525 914	SME-10F-DS-24V-K0,3L-M8D	
		3-wire	–	2.5	In-line	525 913	SME-10F-DS-24V-K2,5L-OE	
		2-wire				526 672	SME-10F-ZS-24V-K2,5L-OE	
	Insertable from end	3-wire	–	0.3	In-line	173 212	SME-10-SL-LED-24	
		–	3-pin	2.5		173 210	SME-10-KL-LED-24	

Core Range

Guided cylinder DFP

Accessories

FESTO

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

Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data➔ 1 / 10.2-16	
	Mounting	Electrical connection		Cable length [m]	Part No.	Type	
		Cables	M8 plug				
NO contact							
	Insertable from above	3-wire	–	2.5	525 895	SME-8F-DS-24V-K2,5-OE	
				5.0	525 897	SME-8F-DS-24V-K5,0-OE	
		2-wire	–	2.5	525 907	SME-8F-ZS-24V-K2,5-OE	
		–	3-pin	0.3	525 896	SME-8F-DS-24V-K0,3-M8D	
	Insertable, flush with the cylinder profile	3-wire	–	2.5	150 855	SME-8-K-LED-24	
		–	3-pin	0.3	150 857	SME-8-S-LED-24	
NC contact							
	Insertable from end, flush with the cylinder profile	3-wire	–	7.5	160 251	SME-8-O-K-LED-24	

Ordering data – Plug sockets with cable							Technical data➔ 1 / 10.2-109	
	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type	
		PNP	NPN					
Straight socket								
	M8 union nut	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU	
					5	159 421	SIM-M8-3GD-5-PU	
	M12 union nut	■	■	3-pin	2.5	159 428	SIM-M12-3GD-2,5-PU	
					5	159 429	SIM-M12-3GD-5-PU	
Angled plug socket								
	M8 union nut	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU	
					5	159 423	SIM-M8-3WD-5-PU	
	M12 union nut	■	■	3-pin	2.5	159 430	SIM-M12-3WD-2,5-PU	
					5	159 431	SIM-M12-3WD-5-PU	

Ordering data – Slot cover for T-slot					
	Mounting	Length		Part No.	Type
	Insertable from above	2x 0.5 m		151 680	ABP-5-S

Core Range