

Type codes

001	Series	
DFM	Guided drive, double-acting	

002	Piston diameter [mm]	
6	6	
10	10	
12	12	
16	16	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	
80	80	
100	100	

003	Stroke range [mm]	
...	10 ... 400	

004	Generation	
	Standard	
B	Function-optimised	

005	Cushioning	
P	Elastic cushioning rings/plates on both sides	
PPV	Pneumatic cushioning, adjustable at both ends	
YSRW	Shock absorber, self-adjusting, progressive	

006	Position sensing	
A	For proximity sensor	

007	Guide	
GF	Plain bearing	
KF	Recirculating ball bearing guide	

008	Special material properties	
	None	
F1A	Recommended for production facilities for the manufacture of lithium-ion batteries	

009	Temperature range	
	Standard	
S6	Heat-resistant seals max. 120 °C	

010	Precision adjustment extended	
	None	
AJ	Precision adjustment in the end positions, advancing	

011	Precision adjustment retracting	
	None	
EJ	Precision adjustment in the end positions, retracting	

012	Slot cover, sensor slot	
	None	
...S	1 ... 10 pieces	

013	Proximity switch, with cable, 2.5 m	
	None	
...G	1 ... 10 pieces	

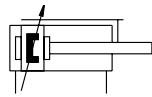
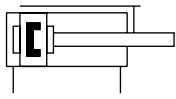
014	Proximity switch, contactless, with cable, 2.5 m	
	None	
...I	1 ... 10 pieces	

Data sheet

Function



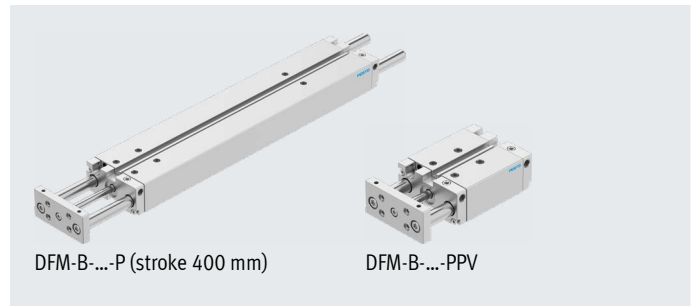
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- - Diameter
12 ... 63 mm
- - Stroke length
10 ... 400 mm

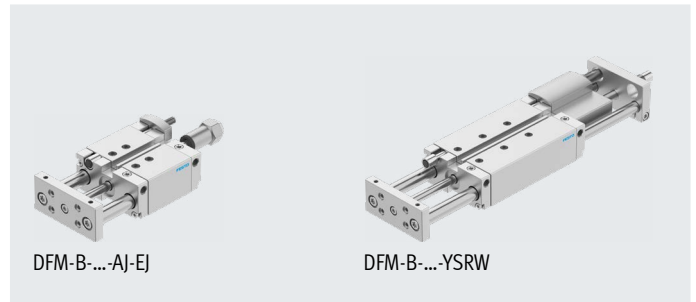
$$v = \sqrt{\frac{2 \cdot E}{m_1 + m_2}}$$

$$m_2 = \frac{2 \cdot E}{v^2} - m_1$$



DFM-B-...-P (stroke 400 mm)

DFM-B-...-PPV



DFM-B-...-AJ-EJ

DFM-B-...-YSRW

General technical data								
Piston diameter	12	16	20	25	32	40	50	63
Pneumatic connection	M5	M5	M5	G1/8	G1/8	G1/8	G1/4	G1/4
Design	Piston							
	Piston rod							
	Guide rods with yoke							
Cushioning								
DFM-...-P	Elastic cushioning rings/plates at both ends							
DFM-...-PPV	–	Pneumatic cushioning, adjustable at both ends						
DFM-...-YSRW	–	Self-adjusting at both ends						
Cushioning length								
DFM-...-PPV	[mm]	–	12	15	15	16	17	19
Position sensing	Via proximity switch							
Type of mounting	With through-hole							
	With female thread							
Mounting position	Any							
Protection against torsion/guide	Guide rod with yoke/plain-bearing or recirculating ball bearing guide							
Variant AJ								
Setting range	[mm]	0 ... 10						
Variant EJ and YSRW								
Setting range	[mm]	–	–	0 ... 10				
Variant YSRW with shock absorber								
Repetition accuracy	[mm]	–	–	max. 0.05				

† Note: This product conforms to ISO 1179-1 and ISO 228-1.

Data sheet

Operating and environmental conditions									
Piston diameter		12	16	20	25	32	40	50	63
Operating pressure									
	[MPa]	0.2 ... 1			0.15 ... 1			0.1 ... 1	
	[bar]	2 ... 10			1.5 ... 10			1 ... 10	
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]							
Note on operating/pilot medium		Lubricated operation possible (in which case lubricated operation will always be required)							
Ambient temperature ¹⁾									
DFM-...-GF	[°C]	-20 ... +80							
DFM-...-KF	[°C]	-5 ... +60							
DFM-...-YSRW	[°C]	0 ... +60							
DFM-...-S6	[°C]	0 ... +120							
Corrosion resistance CRC ²⁾									
DFM-...-GF		2							
DFM-...-S6		2							
ATEX		Selected types → www.festo.com							

1) Note operating range of proximity switches

2) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment.

Speeds [m/s]								
Piston diameter	12	16	20	25	32	40	50	63
Cushioning P, precision stroke adjustment AJ and EJ								
Maximum speed advancing, retracting	0.8	0.8	0.8	0.8	0.8	0.8	0.6	0.6
Cushioning P, plain-bearing guide GF in combination with S6								
Maximum speed advancing, retracting	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4
Cushioning PPV, YSRW, PPV S6								
Maximum speed advancing, retracting	–	1.5	1.5	1.5	1.5	1.5	1	1

Forces [N]								
Piston diameter	12	16	20	25	32	40	50	63
Cushioning P, PPV, YSRW, precision stroke adjustment E]								
Theoretical force at 0,6 MPa (6 bar, 87 psi), advancing	68	121	188	295	482	754	1178	1870
Theoretical force at 0,6 MPa (6 bar, 87 psi), retracting	51	90	141	247	415	686	1057	1750
Precision stroke adjustment AJ and AJ+E]								
Theoretical force at 0,6 MPa (6 bar, 87 psi), advancing	51	90	141	247	415	686	1057	1750
Theoretical force at 0,6 MPa (6 bar, 87 psi), retracting	51	90	141	247	415	686	1057	1750

Ordering data

Ordering data – Plain-bearing guide GF						
	Part no.	Type	Part no.	Type	Part no.	Type
Stroke [mm]	Diameter 16 mm		Diameter 20 mm		Diameter 25 mm	
10	8165512	DFM-16-10-B-PPV-A-GF	–		–	
20	8162429	DFM-16-20-B-PPV-A-GF	8161411	DFM-20-20-B-PPV-A-GF	8161420	DFM-25-20-B-PPV-A-GF
25	8162430	DFM-16-25-B-PPV-A-GF	8161412	DFM-20-25-B-PPV-A-GF	8161421	DFM-25-25-B-PPV-A-GF
30	8162431	DFM-16-30-B-PPV-A-GF	8161413	DFM-20-30-B-PPV-A-GF	8161423	DFM-25-30-B-PPV-A-GF
40	8162432	DFM-16-40-B-PPV-A-GF	8161414	DFM-20-40-B-PPV-A-GF	8161424	DFM-25-40-B-PPV-A-GF
50	8162433	DFM-16-50-B-PPV-A-GF	8161415	DFM-20-50-B-PPV-A-GF	8161425	DFM-25-50-B-PPV-A-GF
80	8162434	DFM-16-80-B-PPV-A-GF	8161416	DFM-20-80-B-PPV-A-GF	8161426	DFM-25-80-B-PPV-A-GF
100	604968	DFM-16-100-B-PPV-A-GF	8161417	DFM-20-100-B-PPV-A-GF	578876	DFM-25-100-B-PPV-A-GF
125	8162435	DFM-16-125-B-PPV-A-GF	8161418	DFM-20-125-B-PPV-A-GF	8161428	DFM-25-125-B-PPV-A-GF
160	–		609167	DFM-20-160-B-PPV-A-GF	588785	DFM-25-160-B-PPV-A-GF
200			8161419	DFM-20-200-B-PPV-A-GF	8165513	DFM-25-200-B-PPV-A-GF
Stroke [mm]	Diameter 32 mm		Diameter 40 mm		Diameter 50 mm	
20	8161431	DFM-32-20-B-PPV-A-GF	–		–	
25	562063	DFM-32-25-B-PPV-A-GF	8161440	DFM-40-25-B-PPV-A-GF	8165515	DFM-50-25-B-PPV-A-GF
30	8161434	DFM-32-30-B-PPV-A-GF	–		–	
40	8161436	DFM-32-40-B-PPV-A-GF				
50	595430	DFM-32-50-B-PPV-A-GF	595646	DFM-40-50-B-PPV-A-GF	588730	DFM-50-50-B-PPV-A-GF
80	578877	DFM-32-80-B-PPV-A-GF	8161443	DFM-40-80-B-PPV-A-GF	609206	DFM-50-80-B-PPV-A-GF
100	578878	DFM-32-100-B-PPV-A-GF	8161445	DFM-40-100-B-PPV-A-GF	593601	DFM-50-100-B-PPV-A-GF
125	578879	DFM-32-125-B-PPV-A-GF	8161446	DFM-40-125-B-PPV-A-GF	–	
160	578880	DFM-32-160-B-PPV-A-GF	–			
200	604969	DFM-32-200-B-PPV-A-GF				
250	578881	DFM-32-250-B-PPV-A-GF				

Ordering data – Recirculating ball bearing guide KF						
	Part no.	Type	Part no.	Type	Part no.	Type
Stroke [mm]	Diameter 16 mm		Diameter 20 mm		Diameter 25 mm	
10	609346	DFM-16-10-B-PPV-A-KF	–		–	
20	609345	DFM-16-20-B-PPV-A-KF	609349	DFM-20-20-B-PPV-A-KF	609351	DFM-25-20-B-PPV-A-KF
25	559460	DFM-16-25-B-PPV-A-KF	559477	DFM-20-25-B-PPV-A-KF	8161422	DFM-25-25-B-PPV-A-KF
30	609347	DFM-16-30-B-PPV-A-KF	609348	DFM-20-30-B-PPV-A-KF	578921	DFM-25-30-B-PPV-A-KF
40	559461	DFM-16-40-B-PPV-A-KF	559478	DFM-20-40-B-PPV-A-KF	609350	DFM-25-40-B-PPV-A-KF
50	559462	DFM-16-50-B-PPV-A-KF	559479	DFM-20-50-B-PPV-A-KF	604962	DFM-25-50-B-PPV-A-KF
80	559463	DFM-16-80-B-PPV-A-KF	559480	DFM-20-80-B-PPV-A-KF	609352	DFM-25-80-B-PPV-A-KF
100	559464	DFM-16-100-B-PPV-A-KF	559481	DFM-20-100-B-PPV-A-KF	8161427	DFM-25-100-B-PPV-A-KF
125	559465	DFM-16-125-B-PPV-A-KF	559482	DFM-20-125-B-PPV-A-KF	8161429	DFM-25-125-B-PPV-A-KF
160	–		559483	DFM-20-160-B-PPV-A-KF	609353	DFM-25-160-B-PPV-A-KF
200			559484	DFM-20-200-B-PPV-A-KF	8161430	DFM-25-200-B-PPV-A-KF
Stroke [mm]	Diameter 32 mm		Diameter 40 mm		Diameter 50 mm	
20	8161432	DFM-32-20-B-PPV-A-KF	–		–	
25	8161433	DFM-32-25-B-PPV-A-KF	8161441	DFM-40-25-B-PPV-A-KF	8161448	DFM-50-25-B-PPV-A-KF
30	8161435	DFM-32-30-B-PPV-A-KF	–		–	
40	8161437	DFM-32-40-B-PPV-A-KF				
50	609359	DFM-32-50-B-PPV-A-KF	8161442	DFM-40-50-B-PPV-A-KF	609361	DFM-50-50-B-PPV-A-KF
80	609355	DFM-32-80-B-PPV-A-KF	8161444	DFM-40-80-B-PPV-A-KF	8161449	DFM-50-80-B-PPV-A-KF
100	609357	DFM-32-100-B-PPV-A-KF	8165514	DFM-40-100-B-PPV-A-KF	8161450	DFM-50-100-B-PPV-A-KF
125	609358	DFM-32-125-B-PPV-A-KF	8161447	DFM-40-125-B-PPV-A-KF	–	
160	609356	DFM-32-160-B-PPV-A-KF	–			
200	8161438	DFM-32-200-B-PPV-A-KF				
250	8161439	DFM-32-250-B-PPV-A-KF				