

Type codes

001	Series	
DGST	Slide drive	

002	Size [mm]	
6	6	
8	8	
10	10	
12	12	
16	16	
20	20	
25	25	

003	Stroke [mm]	
10	10	
20	20	
30	30	
40	40	
50	50	
80	80	
100	100	
125	125	
150	150	
200	200	

004	Version	
	Standard	
L	Mirror-inverted	

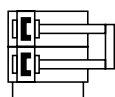
005	Cushioning	
P	Elastic cushioning rings/plates on both sides	
P1	Elastomer cushioning, adjustable on both sides, with fixed stop	
E	Elastomer cushioning, short, on both sides	
E1	Elastomer cushioning, double-sided, stroke not adjustable	
Y12	Shock absorber, self-adjusting, linear at both ends, external	

006	Position sensing	
A	For proximity sensor	

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

008	Lubrication	
	Standard	
H1	Food-safe lubrication	

Datasheet



- Ø - Size
6 ... 25
- I - Stroke length
10 ... 200 mm



General technical data								
Size		6	8	10	12	16	20	25
Design		Twin piston, piston rod, slide, yoke						
Guide		Recirculating ball bearing guide					Three-part cage guide	
Operating mode		Double-acting						
Type of mounting		With through-hole						
		Via female thread						
Pneumatic connection		M3	M5				G1/8	
Stroke ¹⁾	[mm]	10 ... 50	10 ... 80	10 ... 100	10 ... 100	10 ... 150	10 ... 200	10 ... 200
Cushioning								
DGST-...-P		Elastic cushioning rings/plates at both ends						
DGST-...-P1		Elastomer cushioning, adjustable at both ends, with fixed stop						
DGST-...-E		Elastomer cushioning, short, at both ends						
DGST-...-E1		Elastomer cushioning, at both ends, stroke not adjustable						
DGST-...-Y12		Shock absorber, self-adjusting, linear, at both ends, external						
Max. cushioning length								
DGST-...-P/-E	[mm]	0.9	1.5	1.5	1.3	1	1.2	1.2
DGST-...-P1	[mm]	1.7	2.8	3.1	3.4	3.7	–	–
DGST-...-E1 ²⁾	[mm]	0.25/0.9	0.5/1.5	0.6/1.6	0.5/1.1	0.6/0.8	0.5/1	0.5/1.2
DGST-...-Y12	[mm]	4	4	4	5	5	8	10
Position sensing		Via proximity switch						
Mounting position		Any						
Max. speed								
DGST-...-P/-E	[m/s]	0.5	0.8					
DGST-...-P1	[m/s]	0.45	0.5				–	–
DGST-...-E1	[m/s]	0.5						
DGST-...-Y12	[m/s]	0.5	0.8					
Repetition accuracy								
DGST-...-P/-E/-E1	[mm]	≤ 0.3						
DGST-...-P1 ³⁾ /-Y12	[mm]	≤ 0.02						

1) For variant DGST...-E1, the actual stroke is slightly longer → page 18

2) Advanced end position/retracted end position

3) Variant P1 only available for sizes 6 ... 16

Operating and environmental conditions								
Size		6	8	10	12	16	20	25
Operating medium		Compressed air to ISO 8573-1:2010 [7:4:4]						
Information on the operating medium		Lubricated operation possible (in which case lubricated operation will always be required)						
Operating pressure ¹⁾	[MPa]	0.15 ... 0.8		0.1 ... 0.8				
	[psi]	21.75 ... 116		14.5 ... 116				
	[bar]	1.5 ... 8		1 ... 8				
Ambient temperature	[°C]	−10 ... +60						
Corrosion resistance class CRC ²⁾		1 - Low corrosion stress						

1) For sizes 6/8/10/12, the min. operating pressure can increase slightly after a rest period > 24 h.

2) More information: www.festo.com/x/topic/kbk

Datasheet

Forces and impact energy								
Size		6	8	10	12	16	20	25
Theoretical force at 6 bar, advancing	[N]	34	60	94	136	241	377	589
Theoretical force at 6 bar, retracting	[N]	25	45	79	102	207	317	495
Impact energy in the end positions								
DGST...-P/-E	[Nm]	0.018	0.05	0.08	0.12	0.25	0.35	0.45
DGST...-P1	[Nm]	0.005	0.02	0.03	0.04	0.06	–	–
DGST...-E1	[Nm]	0.012	0.03	0.05	0.07	0.15	0.2	0.3
DGST...-Y12, per stroke	[Nm]	0.1	0.4	0.8	1.4	2	3	6
Max. operating frequency								
DGST...-Y12	[Cycles/min]	50	80	80	80	70	50	50

For cushioning DGST...-P/-P1/-E/-E1, the following applies:

Permissible impact velocity:

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

Maximum permissible mass:

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

v Permissible impact velocity

E Maximum impact energy

m₁ Moving mass (drive)

m₂ Moving payload

**Note**

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

For cushioning DGST...-Y12, the following applies:

Permissible impact velocity:

$$v = \sqrt{\frac{2 \cdot (E - (F + (m_1 + m_2) \cdot g \cdot \sin(\alpha)) \cdot s)}{m_1 + m_2}}$$

Maximum permissible mass:

$$m_2 = \frac{E - F \cdot s}{\frac{1}{2} \cdot v^2 + g \cdot s \cdot \sin(\alpha)} - m_1$$

v Permissible impact velocity

E Kinetic impact energy

F Cylinder force minus friction force

m₁ Moving mass (drive)

m₂ Moving payload

g Gravitational acceleration

s Shock absorber stroke

α Impact angle

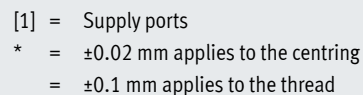
v Impact velocity

**Note**

These specifications represent the maximum values that can be achieved. The maximum permissible impact energy must be observed.

Download CAD data → www.festo.com

[] Standard



Size	G5	G6	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	L3	L4
6	–	M4x0.5	20	14.5	5.5	2.5	7	1.5	4.5	10	5	–	5	22
8	M3	M5x0.5	24	17.7	6.3	3.1	8.1	1.5	5.6	10	7.3	12.3	6	30.5
10	M3	M6x0.5	29	21	8	4	10	1.5	7	20	5	–	8	31
12	M4	M8x1	36	26.5	9.5	5.9	11.9	1.5	8.9	20	9.5	–	10	36
16	M4	M10x1	40	30	10	5.8	14.8	1.5	10.3	20	11.6	–	12	39
20	M5	M12x1	49	36.5	12.5	8.7	17.7	2.5	13.2	20	15.5	–	14.5	51
25	M6	M14x1	60	44.5	15.5	11	21	2.5	16	40	10	–	17.5	65

Datasheet

Ordering data							
Size	Stroke [mm]	Part no.	Type	Size	Stroke [mm]	Part no.	Type
With cushioning E1				With cushioning P			
20	10	★ 8078862	DGST-20-10-E1A	20	10	8085139	DGST-20-10-PA
	20	★ 8078863	DGST-20-20-E1A		20	8085140	DGST-20-20-PA
	30	★ 8078864	DGST-20-30-E1A		30	8085141	DGST-20-30-PA
	40	★ 8078865	DGST-20-40-E1A		40	8085142	DGST-20-40-PA
	50	★ 8078866	DGST-20-50-E1A		50	8085143	DGST-20-50-PA
	80	★ 8078867	DGST-20-80-E1A		80	8085144	DGST-20-80-PA
	100	★ 8078868	DGST-20-100-E1A		100	8085145	DGST-20-100-PA
	125	8078869	DGST-20-125-E1A		125	8085146	DGST-20-125-PA
	150	8078870	DGST-20-150-E1A		150	8085147	DGST-20-150-PA
	200	8078871	DGST-20-200-E1A		200	8085148	DGST-20-200-PA
25	10	8078872	DGST-25-10-E1A	25	10	8085149	DGST-25-10-PA
	20	8078873	DGST-25-20-E1A		20	8085150	DGST-25-20-PA
	30	8078874	DGST-25-30-E1A		30	8085151	DGST-25-30-PA
	40	8078875	DGST-25-40-E1A		40	8085152	DGST-25-40-PA
	50	8078876	DGST-25-50-E1A		50	8085153	DGST-25-50-PA
	80	8078877	DGST-25-80-E1A		80	8085154	DGST-25-80-PA
	100	8078878	DGST-25-100-E1A		100	8085155	DGST-25-100-PA
	125	8078879	DGST-25-125-E1A		125	8085156	DGST-25-125-PA
	150	8078880	DGST-25-150-E1A		150	8085157	DGST-25-150-PA
	200	8078881	DGST-25-200-E1A		200	8085158	DGST-25-200-PA