Guided drives DGRF-C, clean design

FESTO

Key features and product range overview

At a glance

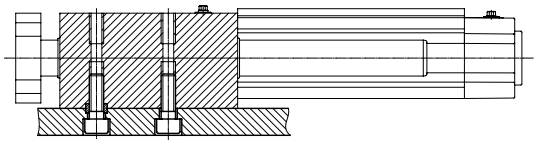
- The guided drive is used wherever hygiene, ease of cleaning and resistance are important, predominantly in dry and splash zones in the food and packaging industry.
- Corrosion-resistant in harsh environmental conditions
- Easy-to-clean design
- NSF H1-compliant lubrication
- Resistant to conventional cleaning agents
- For hygiene reasons, the threads on the end caps should be sealed with suitable plug screws
- With a dry-running seal (A3), the drive will continue to function reliably even if the lubricant has been washed away due to frequent cleaning.

Areas of application:

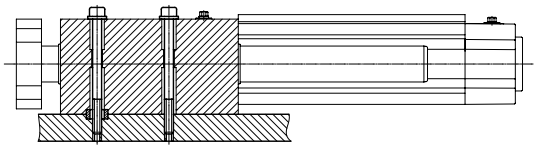
- Bottling systems in the beverage industry
  - Labelling and palletising machines
- Milk processing
  - Filling ice cream and yoghurt containers, etc.
- Meat processing
- Confectionery production
- Production of baked goods
- Packaging industry
  - Food, pharmaceuticals, cosmetics, chemicals, beverages and tobacco

Mounting options

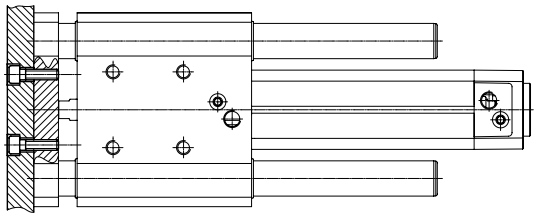
From underneath



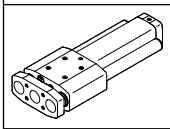
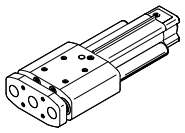
From above



On the yoke plate

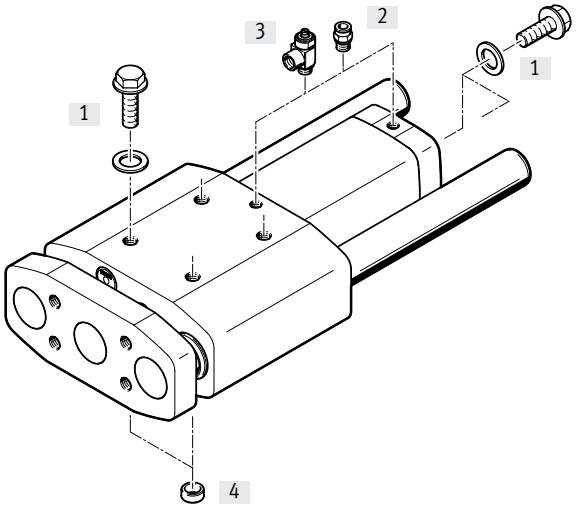


Product range overview

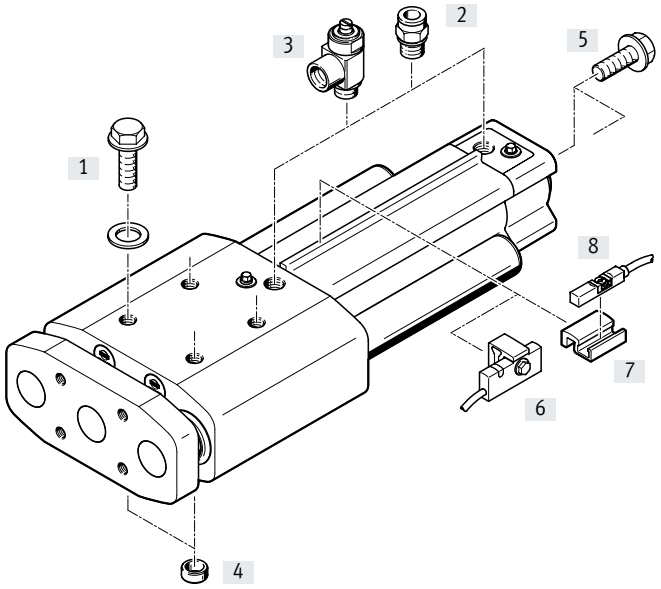
Function	Type	Piston diameter	Stroke	Cushioning			Position sensing	Mounting rail	Unlubricated operation
				P	PPV	PPS	A	R	A3
Double-acting	**DGRF-C-GF**								
		20, 25	10 ... 400	■	–	–	–	–	■
		32	10 ... 400	■	■	■	■	■	■
		40, 50, 63	10 ... 400	–	■	■	■	■	■

Peripherals overview

Piston diameter 20, 25



Piston diameter 32, 40, 50, 63



Accessories

		Description	DGRF-...-			→ Page/ Internet
			P	PPV	PPS	
[1]	Plug screw DAMD	• For sealing unused mounting threads • Screws are not included in the scope of delivery of the drive • Cover plate is included in scope of delivery of the screw	■	■	■	15
[2]	Push-in fitting NPQH/CRQS/CRQSL/NPQP	• For connecting compressed air tubing with standard O.D.	■	■	■	13
[3]	One-way flow control valve CRGRLA/VFOH	• For regulating speed	■	■	■	14
[4]	Centring sleeve ZBH	• For centring the guided drive • Two centring sleeves included in the scope of delivery	■	■	■	15
[5]	Plug screw DAMD	• For sealing unused mounting threads • Screws are not included in the scope of delivery of the drive	■	■	■	15
[6]	Proximity sensor SMT-C1	• For sensing the piston rod position • Proximity sensor is fitted on the sensor mounting rail	■	■	■	12
[7]	Mounting kit SMB-8-C	• For fitting the proximity sensor CRSMT-8M • Mounting kit is fitted on the sensor mounting rail	–	■ 1)	■	12
[8]	Proximity sensor CRSMT-8M	• For sensing the piston rod position	–	■ 1)	■	12

1) Possible when ordering drives from 02/2014 (series E2).

Type codes

001	Series	
DGRF	Guided drive, double-acting, clean design	

002	Product version	
C	Easy-to-clean design	

003	Guide	
GF	Plain bearing	

004	Piston diameter	
20	20	
25	25	
32	32	
40	40	
50	50	
63	63	

005	Stroke	
...	10 ... 400	

006	Cushioning	
P	Elastic cushioning rings/plates on both sides	
PPS	Pneumatic cushioning, self-adjusting at both ends	
PPV	Pneumatic cushioning, adjustable at both ends	

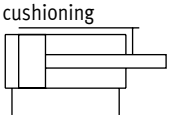
007	Position sensing	
	None	
A	For proximity sensor	

008	Sensor mounting, external	
	None	
R	Mounting rail for sensors	

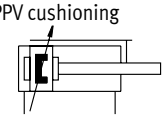
009	Scraper variant	
	None	
A3	For unlubricated operation	

Data sheet

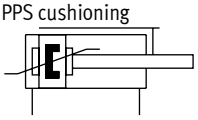
P cushioning



PPV cushioning



PPS cushioning



Diameter
20 ... 63 mm

Stroke length
10 ... 400 mm

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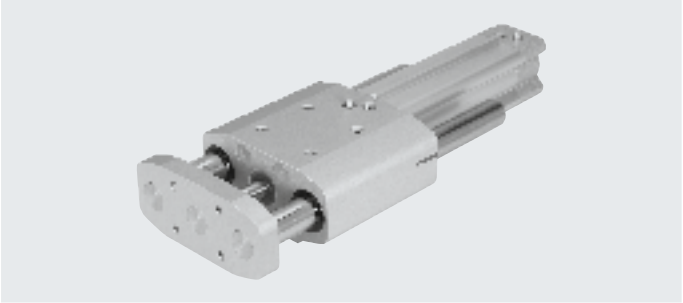


General technical data							
Piston diameter		20	25	32	40	50	63
Pneumatic connection		M5	M5	G1/8	G1/4	G1/4	G3/8
Mode of operation		Double-acting					
Design		Guide					
		Guide rods with yoke					
Guide		Plain-bearing guide					
Cushioning	P	Elastic cushioning rings at both ends			–		
	PPV	–		Pneumatic cushioning, adjustable at both ends			
	PPS	–		Pneumatic cushioning, self-adjusting at both ends			
Cushioning length	[mm]	–		20	20	22	22
Position sensing		–		Via proximity sensor			
Type of mounting		With through-hole					
		Via female thread					
Mounting position		Any					
Torsional backlash[1]	[°]	0.13	0.11	0.10	0.09	0.07	0.06

1) Retracted state, without load

Operating and environmental conditions								
Piston diameter			20	25	32		40	50	63
Variant					P	PPV/PPS			
Operating medium			Compressed air to ISO 8573-1:2010 [7:4:4]						
Note on the operating/pilot medium			Lubricated operation possible (in which case lubricated operation will always be required)						
Operating pressure		[bar]	2.5 ... 10		2 ... 10	2 ... 12	2 ... 12		1.5 ... 12
	A3	[bar]	2 ... 10			2 ... 12	1.5 ... 12		
Ambient temperature		[°C]	–20 ... +80						
Food-safe[1]			→ Supplementary information on materials						
Corrosion resistance class CRC[2]			3						

1) Additional information is available at www.festo.com/sp → Certificates.

2) Corrosion resistance class CRC 3 to Festo standard FN 940070
High corrosion stress. Outdoor exposure under moderate corrosive conditions. Externally visible parts with primarily functional surface requirements which are in direct contact with a normal industrial environment.

Data sheet

Forces [N] and impact energy [J]						
Piston diameter	20	25	32	40	50	63
Theoretical force at 6 bar, advancing	189	295	483	754	1178	1870
Theoretical force at 6 bar, retracting	141	247	415	633	990	1682
Max. impact energy in the end positions with P cushioning	0.2	0.3	0.4	–	–	–

Permissible impact velocity:

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

Maximum permissible mass:

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

$v_{perm.}$	Permissible impact velocity
E	Max. impact energy
m_1	Moving mass (drive)
m_2	Moving payload

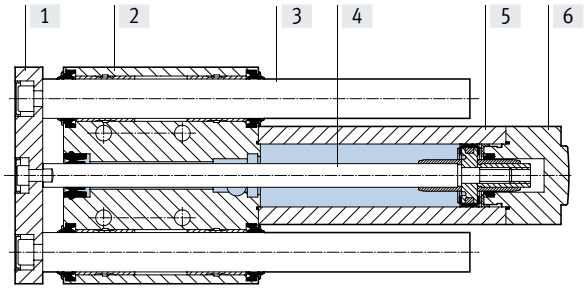
Note

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

Weight [g]							
Piston diameter	20	25	32		40	50	63
Variant			P	PPV/PPS			
Product weight with 0 mm stroke	885	1199	2090	2305	3000	4800	6405
Additional weight per 10 mm stroke	52	55	80	78	90	140	143
Moving mass with 0 mm stroke	417	486	902	904	1065	1792	2114
Moving mass per 10 mm stroke	38	38	58	58	65	102	102

Materials

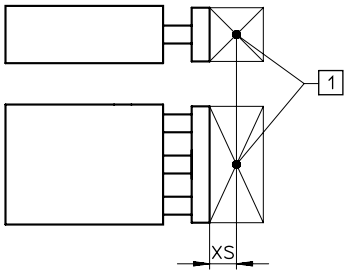
Sectional view



Guided drive		
[1]	Yoke plate	Anodised wrought aluminium alloy
[2]	Housing	Anodised wrought aluminium alloy
[3]	Guide rod	High-alloy stainless steel
[4]	Piston rod	High-alloy stainless steel
[5]	Cylinder barrel	Anodised wrought aluminium alloy
[6]	Cover	
	DGRF-...-20/-25/-32-P	Anodised wrought aluminium alloy
	DGRF-...-32-PPV/-PPS	Coated die-cast aluminium
	DGRF-...-40/-50/-63	Coated die-cast aluminium
–	Seal	
	DGRF-...	TPE-U (PUR) media seal (modified for resistance to hydrolysis and cleaning)
	DGRF-...-A3	PE
	Note on materials	RoHS-compliant

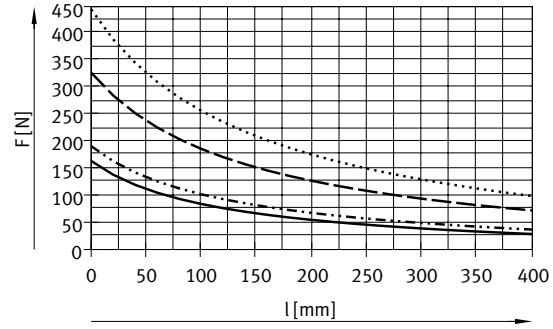
Data sheet

Max. effective load F as a function of stroke l



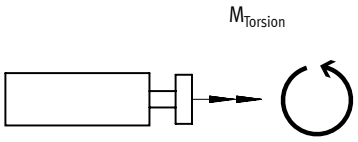
- Load data is based on a distance from the centre of gravity of XS = 50 mm
- Load data can be requested for larger distances

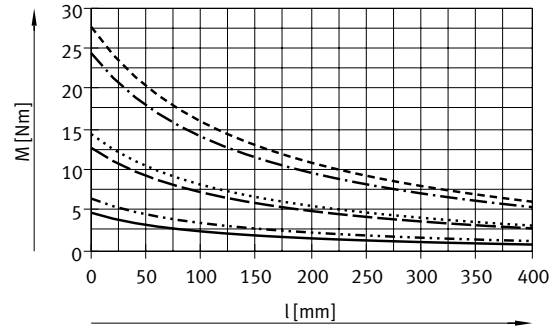
[1] Centre of gravity of payload



Ø 20
Ø 25
Ø 32/40
Ø 50/63

Max. torque load M as a function of stroke l



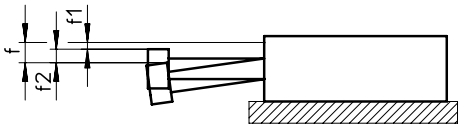


Ø 20
Ø 25
Ø 32
Ø 40
Ø 50
Ø 63

Data sheet

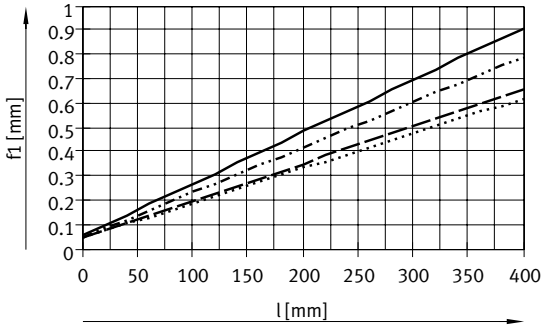
Deflection of the piston rod

Deflection f1 due to bearing clearance as a function of stroke l



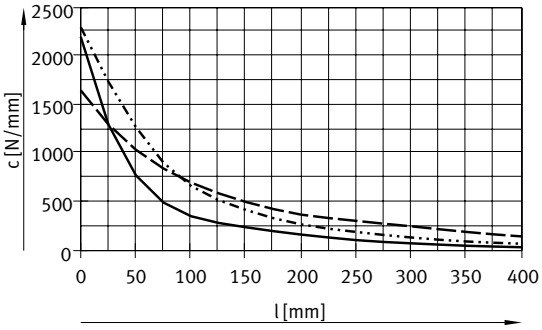
f = f1 + f2
f = Total deflection of the piston rod
f1 = Deflection due to bearing clearance
f2 = Deflection due to transverse load

Deflection f1,
due to bearing clearance as a function of stroke l



Ø 20
Ø 25
Ø 32/40
Ø 50/63

Deflection f2,
due to payload F and rigidity c as a function of stroke l



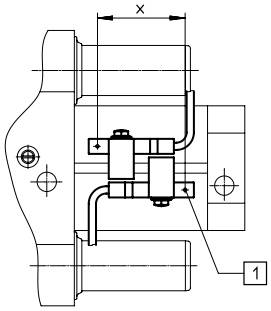
Ø 20/25
Ø 32/40
Ø 50/63

End-position sensing

With proximity sensor SMT-C1

A minimum stroke is required to be able to sense both end positions at the cylinder.

[1] Position of the proximity sensor within the housing.

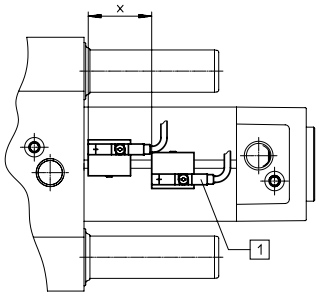


Piston diameter		32	40	50	63
Minimum stroke x	[mm]	35	35	35	30

With mounting kit SMB-8-C and proximity sensor CRSMT-8M

A minimum stroke is required to be able to sense both end positions at the cylinder.

[1] Position of the proximity sensor within the housing.

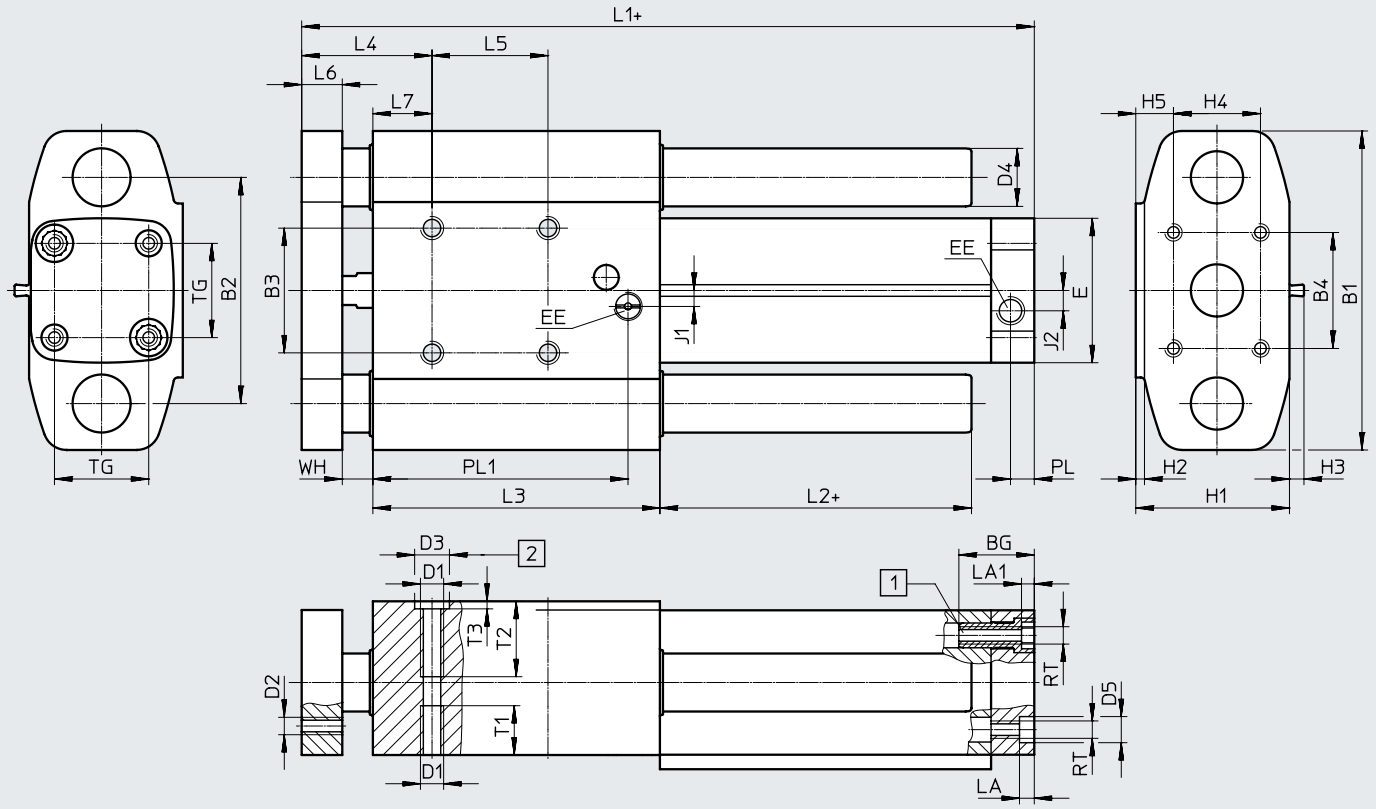


Piston diameter		32	40	50	63
Minimum stroke x	[mm]	30	30	30	30

Data sheet

Dimensions Download CAD data ➔ www.festo.com

DGRF-...-P – Elastic cushioning rings at both ends



\+ = plus stroke length

[1] Socket head screw with female thread

[2] Centring holes for centring sleeve ZBH

ø [mm]	BG	B1	B2	B3[2]	B4	D1	D2	D3[3] ø H7	D4 ø	D5 ø F9	E	EE
20	19.5	83	58	30	30	M6	M5	9	16	9	37	M5
25	19.5	95	68	35	40	M6	M6	9	16	9	42	M5
32	26	110	78	43	40	M8	M6	12	20	9	50	G1/8

ø [mm]	H1	H2	H3[1]	H4	H5	J1	J2	L1	L2	L3	L4	L5
20	39	2	–	20	10.5	0	0	115 +1.4/–0.8	7	68	40 +1/–0.9	30
25	44	2	–	20	13	0	0	126 +1.4/–0.8	7	77	40+1/–0.9	40
32	53	3	5	30	13	5.5	7	152.8 ±1.1	7.4	99	45+0.9/–1	40

ø [mm]	L6	L7	LA	LA1	PL	PL1	RT	T1	T2	T3	TG	WH
20	12	18	4.9	4.6	6	62	M5	13	20	2.1	22	10 +0.5/–0.7
25	12	18	4.9	4.6	6	71	M5	13	25	2.1	26	10 +0.5/–0.7
32	14	20.4	5.1	4.6	8.2	88	M6	17	26	2.6	32.5	10.7 +0.3/–0.9

1) Only in combination with sensor mounting rail (DGRF-32-...-R)

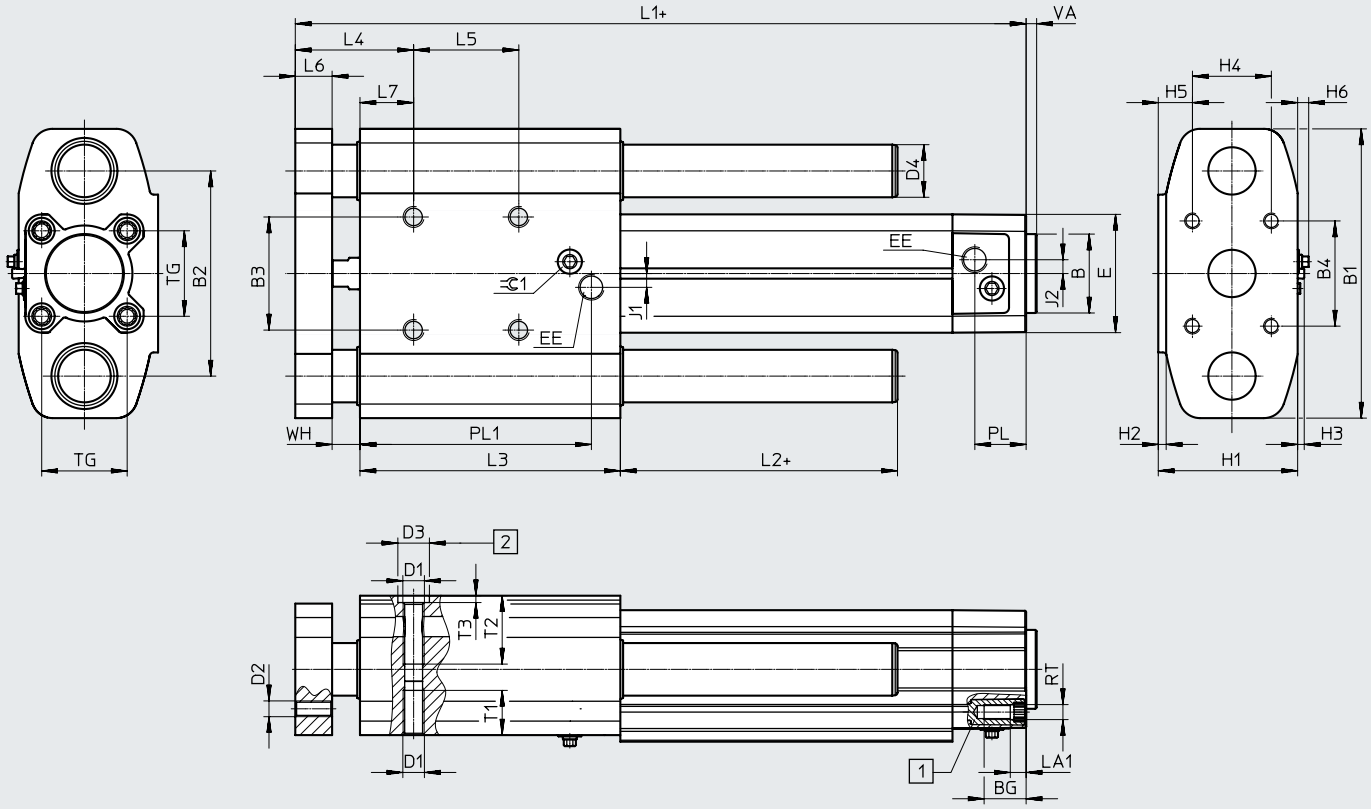
2) Tolerance between the centring holes ±0.02 mm

3) Two centring sleeves included in the scope of delivery

Data sheet

Dimensions Download CAD data ➔ www.festo.com

DGRF-...-PPV – Pneumatic cushioning, adjustable at both ends,
DGRF-...-PPS – Pneumatic cushioning, self-adjusting at both ends



\+ = plus stroke length
[1] Socket head screw with female thread
[2] Centring holes for centring sleeve ZBH

ø [mm]	B ø d11	BG	B1	B2	B3[2]	B4	D1	D2	D3[3] ø H7	D4 ø	E	EE	H1	H2
32	30	16	110	78	43	40	M8	M6	12	20	45	G1/8	53	3
40	35	16	120	88	51	50	M8	M6	12	20	54	G1/4	61	3
50	40	17	148	110	64	60	M8	M8	12	25	64	G1/4	73	3
63	45	17	162	125	80	80	M10	M8	12	25	75	G3/8	84	3

ø [mm]	H3[1]	H4	H5	H6	J1	J2	L1	L2	L3	L4	L5
32	2.5	30	13	5.6	5.3	5.3	177.6 +1.9/–1.2	7.4	99	45 +1.5/–1.1	40
40	3	30	17	5.6	4	4	183.5 +1.9/–1.3	7.5	99	45 +1.5/–1.1	40
50	2	40	18	7.5	5.5	5.5	193.5 +1.7/–1.3	7.7	105	50 +1.3/–1.2	40
63	2	40	23.5	9.3	6.3	6.3	207.3 +1.7/–1.3	7.5	105	50 +1.3/–1.2	40

ø [mm]	L6	L7	LA1	PL	PL1	RT	T1	T2	T3	TG	VA	WH	⫷1
32	14	20.4	5.6	19.5	88	M6	17	26	2.6	32.5	4	10.6 +1/–0.9	4
40	14	20.5	5.6	22.5	83	M6	17	26	2.6	38	4	10.5 ±1/–1	4
50	16	22.7	6.1	22.5	89	M8	17	20	2.6	46.5	4	11.3 +0.8/–1	4
63	20	18.5	6.1	27.5	88	M8	17	24	2.6	56.5	4	11.5 +0.8/–1	4

1) Only in combination with sensor mounting rail (DGRF-...-R)
2) Tolerance between the centring holes ±0.02 mm
3) Two centring sleeves included in the scope of delivery

Ordering data – Modular product system

Ordering table

Size	20	25	32	40	50	63	Conditions	Code		Enter code
Module no.	**562216**	**562217**	**563366**	**562219**	**562220**	**562221**				
Function	Guided drive							**DGRF**		DGRF
Product version	Easy-to-clean design							**-C**		-C
Guide	Plain-bearing guide							**-GF**		-GF
Piston diameter [mm]	20	25	32	40	50	63		**-...**		
Stroke [mm]	10 ... 400							**-...**		
Cushioning	Elastic cushioning rings at both ends			–				**-P**		
	–		Pneumatic cushioning, adjustable at both ends					**-PPV**		
			Pneumatic cushioning, self-adjusting at both ends					**-PPS**		
Position sensing	–		Via proximity sensor				[1]	**A**		
Sensor mounting, external	–		Mounting rail for proximity sensor				[1]	**-R**		
Wiper variant	Standard									
	For unlubricated operation							**-A3**		

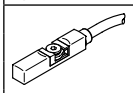
[1] A, R Always present with piston diameter 32 ... 63.

Accessories

Permissible with DGRF-...-PPV[1)]/-PPS:

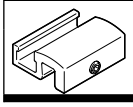
Ordering data – Proximity sensor for T-slot, magneto-resistive

Data sheets → Internet: smt

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O contact						
	Inserted in the slot from above, flush with the mounting kit	PNP	Cable, 3-wire	5.0	**574380**	**CRSMT-8M-PS-24V-K-5.0-OE**
			Cable, 3-wire	10.0	**574381**	**CRSMT-8M-PS-24V-K-10.0-OE**
			Plug M8x1, 3-pin	0.3	**574383**	**CRSMT-8M-PS-24V-K-0.3-M8D**
			Plug M12x1, 3-pin	0.3	**574382**	**CRSMT-8M-PS-24V-K-0.3-M12**

1) Possible when ordering drives from 02/2014 (series E2).

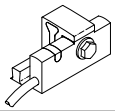
Ordering data – Mounting kit

	Description	Part no.	Type
	For fitting the proximity sensor CRSMT-8M on the mounting rail	**1806790**	**SMB-8-C**

Permissible with DGRF-...-P/-PPV/-PPS:

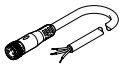
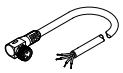
Ordering data – Proximity sensor for T-slot, magneto-resistive

Data sheets → Internet: smt

	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type
N/O contact						
	Fitted on the mounting rail	PNP	Cable, 3-wire	5.0	**571339**	**SMT-C1-PS-24V-K-5.0-OE**
			Plug M8x1, 3-pin	0.3	**571342**	**SMT-C1-PS-24V-K-0,3-M8D**
			Plug M12x1, 3-pin	0.3	**571341**	**SMT-C1-PS-24V-K-0.3-M12**

Ordering data – Connecting cables for SMT-C1-...

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**
	Straight socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541363**	**NEBU-M12G5-K-2.5-LE3**
			5	**541364**	**NEBU-M12G5-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**
	Angled socket, M12x1, 5-pin	Cable, open end, 3-wire	2.5	**541367**	**NEBU-M12W5-K-2.5-LE3**
			5	**541370**	**NEBU-M12W5-K-5-LE3**

Accessories

Ordering data – Push-in fittings

Data sheets → Internet: qs

	Connection Thread	Tubing O.D.	Material	Weight [g]	Part no.	Type	PU[2]
With external hex							
	M5	4	High-alloy stainless steel	4.2	**1857681**	**NPCK-C-D-M5-K4**	1
	G1/8	6		14.1	**1366257**	**NPCK-C-D-G18-K6**	
		8		13.4	**1490383**	**NPCK-C-D-G18-K8**	
	G1/4	8		28.85	**1691701**	**NPCK-C-D-G14-K8**	
		10		32.9	**1489336**	**NPCK-C-D-G14-K10**	
	G3/8	10		51.15	**1489614**	**NPCK-C-D-G38-K10**	
	M5	4	Nickel-plated brass, with sealing ring	5.8	**578334**	**NPQH-D-M5-Q4-P10**	10
		6		11.2	**578335**	**NPQH-D-M5-Q6-P10**	
	G1/8	4		6.3	**578338**	**NPQH-D-G18-Q4-P10**	
		6		9.2	**578339**	**NPQH-D-G18-Q6-P10**	
		8		11.9	**578340**	**NPQH-D-G18-Q8-P10**	
	G1/4	6		13.1	**578341**	**NPQH-D-G14-Q6-P10**	
		8		14.1	**578342**	**NPQH-D-G14-Q8-P10**	
		10		17.5	**578343**	**NPQH-D-G14-Q10-P10**	
	G3/8	8		20.6	**578345**	**NPQH-D-G38-Q8-P10**	
		10		22.7	**578346**	**NPQH-D-G38-Q10-P10**	
		12		29.8	**578347**	**NPQH-D-G38-Q12-P10**	
	M5	4	Stainless steel	6.0	**162860**	**CRQS-M5-4[1]**	1
		6		8.4	**162861**	**CRQS-M5-6[1]**	
	R1/8	4		8.7	**132643**	**CRQS-1/8-4**	
		6		9.9	**162862**	**CRQS-1/8-6**	
		8		12	**162863**	**CRQS-1/8-8**	
	R1/4	6		18	**132644**	**CRQS-1/4-6**	
		8		18	**162864**	**CRQS-1/4-8**	
		10		22	**162865**	**CRQS-1/4-10**	
	R3/8	10		29	**162866**	**CRQS-3/8-10**	
		12		37	**162867**	**CRQS-3/8-12**	
	R1/8	4	Polypropylene	2.5	**133041**	**NPQP-D-R18-Q4-FD-P10**	10
		6		3.0	**133043**	**NPQP-D-R18-Q6-FD-P10**	
		8		4.5	**133045**	**NPQP-D-R18-Q8-FD-P10**	
	R1/4	6		3.5	**133044**	**NPQP-D-R14-Q6-FD-P10**	
		8		4.5	**133046**	**NPQP-D-R14-Q8-FD-P10**	
		10		7.0	**133047**	**NPQP-D-R14-Q10-FD-P10**	
	R3/8	10		8.0	**133048**	**NPQP-D-R38-Q10-FD-P10**	
		12		12.0	**133049**	**NPQP-D-R38-Q12-FD-P10**	
With internal hex							
	M5	4	Nickel-plated brass, with sealing ring	4.5	**578370**	**NPQH-DK-M5-Q4-P10**	10
		6		8.8	**578371**	**NPQH-DK-M5-Q6-P10**	
	G1/8	4		6.2	**578374**	**NPQH-DK-G18-Q4-P10**	
		6		9.1	**578375**	**NPQH-DK-G18-Q6-P10**	
		8		12.8	**578376**	**NPQH-DK-G18-Q8-P10**	
	G1/4	8		14.4	**578377**	**NPQH-DK-G14-Q8-P10**	
		10		18.6	**578378**	**NPQH-DK-G14-Q10-P10**	
	G3/8	12		28.2	**578379**	**NPQH-DK-G38-Q12-P10**	
	M5	4	Stainless steel	5	**132328**	**CRQS-M5-4-I[1]**	1
		6		7.7	**132329**	**CRQS-M5-6-I[1]**	
	R1/8	6		8.4	**132330**	**CRQS-1/8-6-I**	
		8		12	**132331**	**CRQS-1/8-8-I**	
	R1/4	8		15	**132332**	**CRQS-1/4-8-I**	
		10		21	**132333**	**CRQS-1/4-10-I**	
	R3/8	10		24	**132334**	**CRQS-3/8-10-I**	

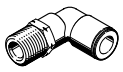
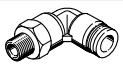
1) With sealing ring

2) Packaging unit

Accessories

Ordering data – Push-in L-fittings

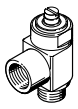
Data sheets → Internet: qs

	Connection Thread	Tubing O.D.	Material	Weight [g]	Part no.	Type	PU[2]
With external hex							
	M5	4	Nickel-plated brass, with sealing ring	8.9	**578276**	**NPQH-L-M5-Q4-P10**	10
		6		12.2	**578277**	**NPQH-L-M5-Q6-P10**	
	G1/8	4		16.3	**578280**	**NPQH-L-G18-Q4-P10**	
		6		19.3	**578281**	**NPQH-L-G18-Q6-P10**	
		8		22.2	**578282**	**NPQH-L-G18-Q8-P10**	
	G1/4	6		22.4	**578283**	**NPQH-L-G14-Q6-P10**	
		8		25.8	**578284**	**NPQH-L-G14-Q8-P10**	
		10		33.1	**578285**	**NPQH-L-G14-Q10-P10**	
		12		59.6	**578286**	**NPQH-L-G14-Q12-P10**	
	G3/8	8		36.7	**578287**	**NPQH-L-G38-Q8-P10**	
		10		38.2	**578288**	**NPQH-L-G38-Q10-P10**	
		12		58.2	**578289**	**NPQH-L-G38-Q12-P10**	
	M5	4	Stainless steel	12	**162870**	**CRQSL-M5-4[1]**	1
		6		18	**162871**	**CRQSL-M5-6[1]**	
	R1/8	4		14	**132598**	**CRQSL-1/8-4**	
		6		19	**162872**	**CRQSL-1/8-6**	
		8		26	**162873**	**CRQSL-1/8-8**	
	R1/4	6		26	**132599**	**CRQSL-1/4-6**	
		8		30	**162874**	**CRQSL-1/4-8**	
		10		42	**162875**	**CRQSL-1/4-10**	
	R3/8	10		49	**162876**	**CRQSL-3/8-10**	
		12		65	**162877**	**CRQSL-3/8-12**	
	R1/8	4	Polypropylene	4.0	**133051**	**NPQP-L-R18-Q4-FD-P10**	10
		6		5.0	**133053**	**NPQP-L-R18-Q6-FD-P10**	
		8		7.0	**133055**	**NPQP-L-R18-Q8-FD-P10**	
	R1/4	6		5.5	**133054**	**NPQP-L-R14-Q6-FD-P10**	
		8		7.5	**133056**	**NPQP-L-R14-Q8-FD-P10**	
		10		12	**133057**	**NPQP-L-R14-Q10-FD-P10**	
	R3/8	10		13	**133058**	**NPQP-L-R38-Q10-FD-P10**	
		12		18	**133059**	**NPQP-L-R38-Q12-FD-P10**	

1) With sealing ring
2) Packaging unit

Ordering data – One-way flow control valves

Data sheets → Internet: crgrla

	Connection Thread	For push-in fitting	Material	Part no.	Type	PU[1]
	M5	CRQS/CRQSL/CRQST, QS	Electropolished stainless steel casting	**161403**	**CRGRLA-M5-B**	1
	G1/8			**161404**	**CRGRLA-1/8-B**	
	G1/4			**161405**	**CRGRLA-1/4-B**	
	G3/8			**161406**	**CRGRLA-3/8-B**	
	G1/8	Push-in connector is integrated	Nickel-plated brass	**578797**	**VFOH-LE-A-G18-Q4**	1
				578798	**VFOH-LE-A-G18-Q6**	
				578799	**VFOH-LE-A-G18-Q8**	
	G1/4			**578800**	**VFOH-LE-A-G14-Q8**	
				578801	**VFOH-LE-A-G14-Q10**	

1) Packaging unit

Accessories

Ordering data – Plastic tubing, standard O.D.

Data sheets ➔ Internet: tubing

		Type
	Approved for use in the food zone and resistant to hydrolysis	**PUN-H**
	Good resistance to chemicals and hydrolysis	**PLN**
	Pneumatic tubing with resistance to high temperatures and chemicals	**PFAN**

Ordering data – Plug screws, corrosion-resistant

	For ø	Description	Part no.	Type	PU[1]
For mounting thread on the guide					
	20, 25	With cover plate	**543715**	**DAMD-P-M6-12-R1**	4
	32, 40, 50		**543716**	**DAMD-P-M8-16-R1**	
	63		**543717**	**DAMD-P-M10-16-R1**	
For mounting thread on the end cap					
	20, 25	With cover plate	**543714**	**DAMD-P-M5-10-R1**	4
	32[2]		**543715**	**DAMD-P-M6-12-R1**	
	32[3], 40	–	**1355016**	**DAMD-PS-M6-12-R1**	
	50, 63		**650121**	**DAMD-PS-M8-16-R1**	

1) Packaging unit
2) For drives with P cushioning
3) For drives with PPV/PPS cushioning

Ordering data – Centring sleeves

Data sheets ➔ Internet: zbh

	For ø	Part no.	Type	PU[1]
	20, 25	**8137184**	**ZBH-9-B**	10
	32, 40, 50, 63	**8137185**	**ZBH-12-B**	

1) Packaging unit