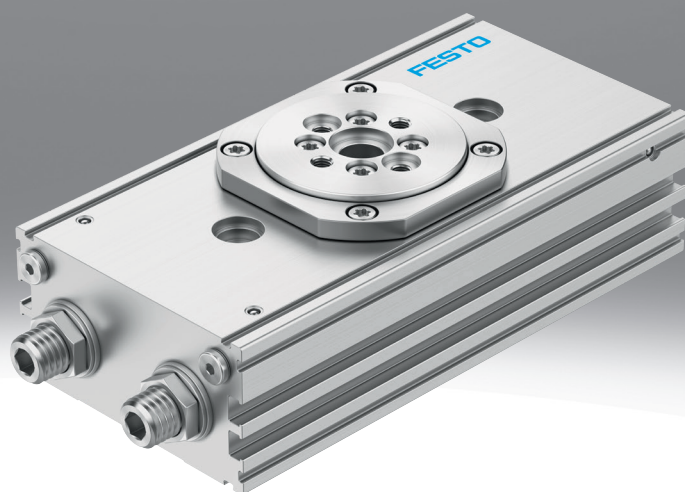


Semi-rotary drive DRRS

FESTO



Characteristics

At a glance

[Link](#) [drrs](#)

- Rack-and-pinion principle
- Extremely accurate in the end positions
- High load-bearing capacity for the bearing, precise and backlash-free
- High mass moments of inertia
- Defined interfaces
- Compressed air connection on both sides for the larger models
- Slots on both sides for mounting proximity switches
- Choice of mounting options
- Perfectly suited for handling applications

Diagrams

[Link](#) [drrs](#)


The diagrams shown in this document are also available online. These can be used to display precise values.

Nominal swivel angle [°]

The swivel angle is adjusted via the cushioning elements using a hex screwdriver. If possible, the reduction of the swivel angle should be evenly distributed over both end positions.

- Clockwise direction of rotation: swivel angle decreases
- Anticlockwise direction of rotation: swivel angle increases

Output shaft

[FH] Flanged shaft, hollow

- The shaft is hollow on the inside. This allows it to be used for carrying electrical signals or compressed air
- Compressed air tubing is required to pass compressed air through the hollow flanged shaft

Position sensing

[A] For proximity sensor

By using proximity switches, any position can be detected.

Type code

001	Series		003	Nominal swivel angle [°]	
DRRS	Semi-rotary drive		180	180	
002	Size [mm]		004	Output shaft	
8	8		FH	Flanged shaft, hollow	
10	10		005	Cushioning	
12	12		P	Elastic cushioning rings/plates on both sides	
16	16		Y9	Shock absorber, self-adjusting, linear, at both ends	
20	20		006	Position sensing	
25	25		A	For proximity sensor	

Datasheet

General technical data

Size	8	10	12	16	20	25
Design	Rack and pinion					
Mode of operation	Double-acting					
Pneumatic connection	M3			M5		
Type of mounting	Either: With mounting kit With through-hole With female thread					
Swivel angle	180 deg					
Cushioning	Elastic cushioning rings/plates on both sides		Elastic cushioning rings/plates on both sides Shock absorber, self-adjusting, linear, at both ends			
Repetition accuracy	0.05 deg			0.07 deg		
Axial eccentricity poppet valve	<0.05 mm			<0.07 mm		
Position detection ¹⁾	Via proximity switch					
Mounting position	Any					

1) Note the operating range of the proximity switches.

Operating and environmental conditions

Size	8	10	12	16		20		25		
Cushioning	Elastic cushioning rings/plates on both sides [P]			Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]
Operating pressure ¹⁾	0.3 ... 0.8 MPa			0.2 ... 0.8 MPa	0.3 ... 0.8 MPa	0.2 ... 0.8 MPa	0.3 ... 0.8 MPa	0.2 ... 0.8 MPa	0.3 ... 0.8 MPa	0.2 ... 0.8 MPa
Operating pressure	3 ... 8 bar			2 ... 8 bar	3 ... 8 bar	2 ... 8 bar	3 ... 8 bar	2 ... 8 bar	3 ... 8 bar	2 ... 8 bar
Operating pressure	43.5 ... 116 psi			29 ... 116 psi	43.5 ... 116 psi	29 ... 116 psi	43.5 ... 116 psi	29 ... 116 psi	43.5 ... 116 psi	29 ... 116 psi
Note on operating and pilot medium	Lubricated operation possible (in which case lubricated operation will always be required)									
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]									
Ambient temperature	0 ... 60°C									
Storage temperature	-20 ... 60°C									
Corrosion resistance class CRC ²⁾	1 - Low corrosion stress									

1) DRRS-8: At ambient temperatures below 10°C, a higher minimum operating pressure (0.4 MPa) may be required to ensure that the end position is fully reached.

2) More information www.festo.com/x/topic/crc

Weight

Size	8	10	12	16	20	25
Product weight	135 g	230 g	310 g	630 g	790 g	1,240 g

Forces and torques

Size	8	10	12		16		20		25	
Cushioning	Elastic cushioning rings/plates on both sides [P]			Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]
Max. axial load static	50 N	60 N	80 N		140 N		350 N		450 N	
Max. bending moment	1.3 Nm	1.8 Nm	2 Nm		4 Nm		5 Nm		10 Nm	
Theoretical torque at 0.6 MPa (6 bar, 87 psi) ¹⁾	0.29 Nm	0.56 Nm	0.9 Nm		2.1 Nm		3.3 Nm		6.6 Nm	
Permissible mass moment of inertia	0.0005 kgm²	0.0015 kgm²	0.005 kgm²	0.01 kgm²	0.008 kgm²	0.02 kgm²	0.0175 kgm²	0.03 kgm²	0.04 kgm²	0.06 kgm²

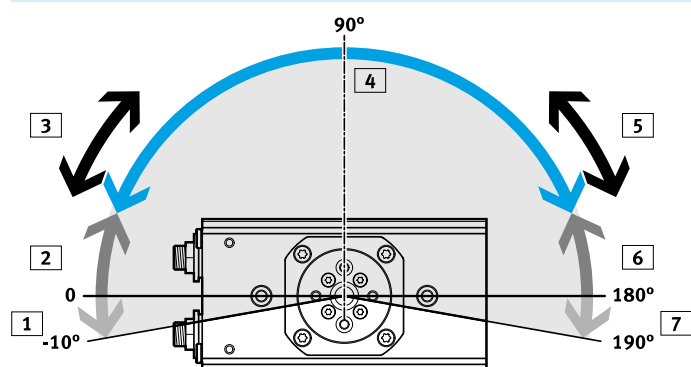
1) If, in the end positions, a torque which exceeds 50% of the theoretical torque acts against the direction of rotation, no exact end position is guaranteed.

This can be avoided by using a semi-rotary drive with double the torque.

Datasheet

Materials						
Size	8	10	12	16	20	25
Material housing	Anodised aluminium					
Material drive shaft	Tempered steel					
Flange shaft material	Wrought aluminium alloy					
Pinion material	Tempered steel					
Material seals	TPE-U(PU)		NBR TPE-U(PU)			
Note on materials	RoHS compliant					
LABS (PWIS) conformity	VDMA24364-C1-L					
Cleanroom suitability, measured according to ISO 14644-14	Class 9 according to ISO 14644-1					
Suitability for the production of Li-ion batteries	Suitable for battery production with reduced Cu/Zn/Ni values (F1a)					

Swivel angle



Fundamentally, the following applies:

Swivel angle $\geq$ cushioning angle

Swivel angle = $180^\circ + \text{difference swivel angle right} + \text{difference swivel angle left}$

1 = difference swivel angle left (+)

2 = difference swivel angle left (-)

3 = cushioning angle

4 = swivel angle

5 = cushioning angle

6 = difference swivel angle right (-)

7 = difference swivel angle right (+)

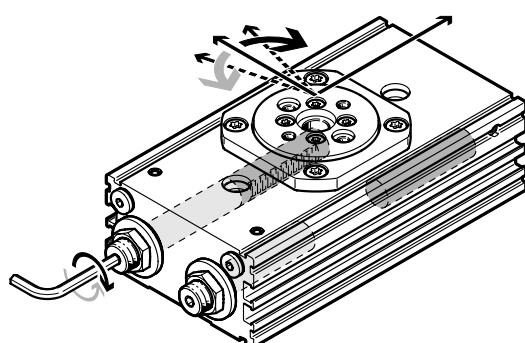
Note: Illustrated position of the flange shaft corresponds to the mid-position (swivel angle 90°).

Size	8	10	12	16		20		25		
Cushioning	Elastic cushioning rings/plates on both sides [P]			Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]	Elastic cushioning rings/plates on both sides [P]	Shock absorber, self-adjusting, linear, at both ends [Y9]
Swivel angle	180 deg									
Min. swivel angle ¹⁾	45 deg			80 deg	45 deg	80 deg	45 deg	80 deg	45 deg	80 deg
Max. swivel angle	200 deg									
Setting range of swivel angle for each end position ²⁾	10 /-100 deg									
Cushioning angle	32.2 deg	25.8 deg	23.5 deg	34.7 deg	19.5 deg	32.5 deg	27.5 deg	32.8 deg	25.5 deg	40.8 deg

1) Smaller swivel angles are adjustable. However, this reduces the cushioning energy.

2) Continuously adjustable

Swivel angle adjustment



Direction of rotation to the right:

- Swivel angle decreases

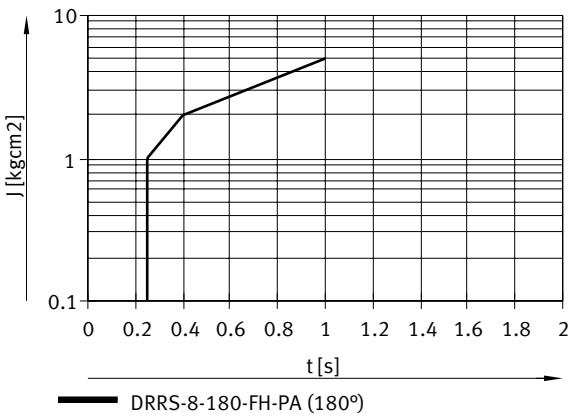
Anticlockwise direction of rotation:

- Swivel angle increases

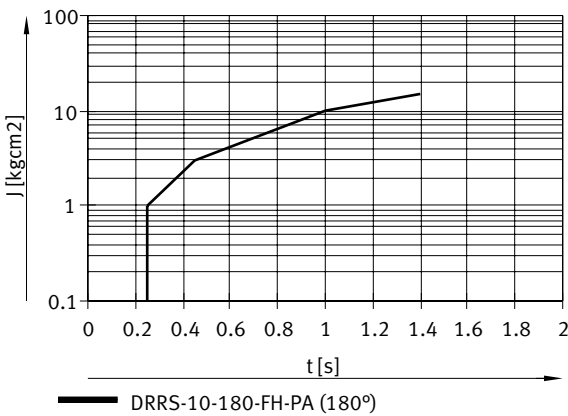
The swivel angle is adjusted via the cushioning elements using a hex screwdriver. If possible, the swivel angle should be reduced evenly over both end positions.

Datasheet

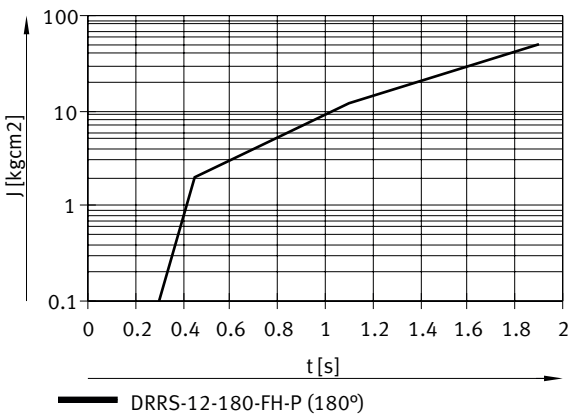
Max. permissible mass moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi) – DRRS-8-180-FH-P



Max. permissible mass moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi) – DRRS-10-180-FH-P

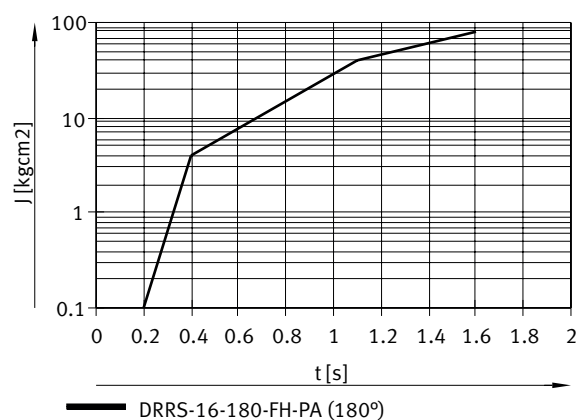


Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi) – DRRS-12-180-FH-P

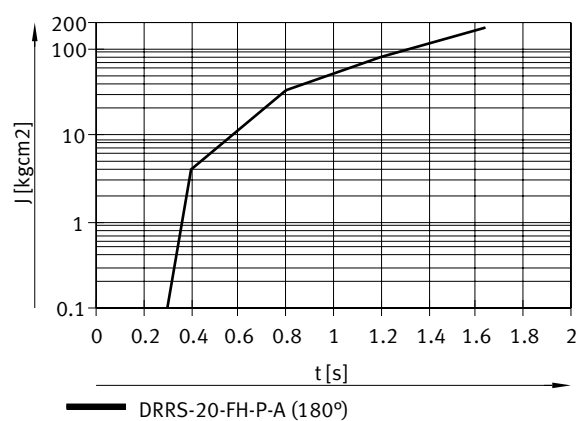


Datasheet

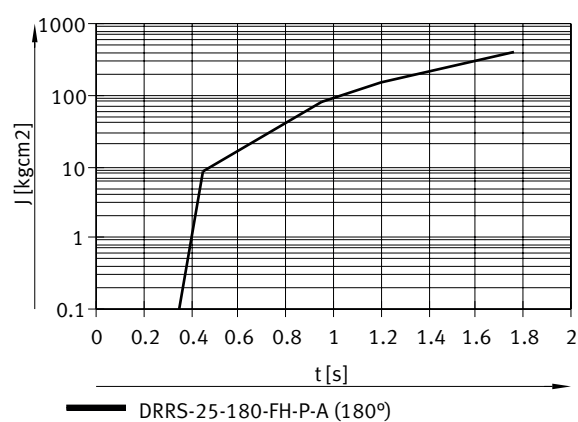
Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
 – DRRS-16-180-FH-P



Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
 – DRRS-20-180-FH-P

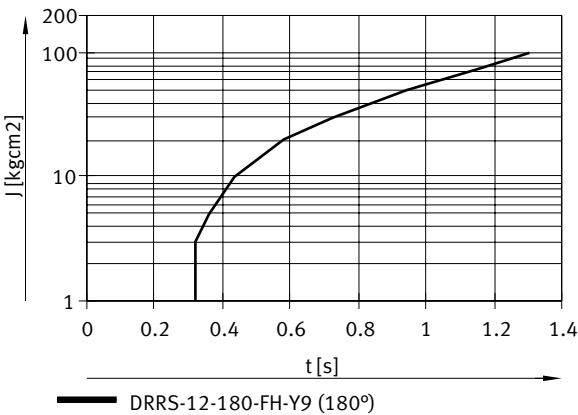


Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
 – DRRS-25-180-FH-P

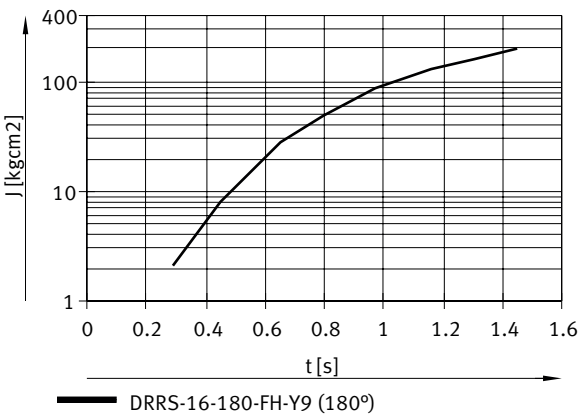


Datasheet

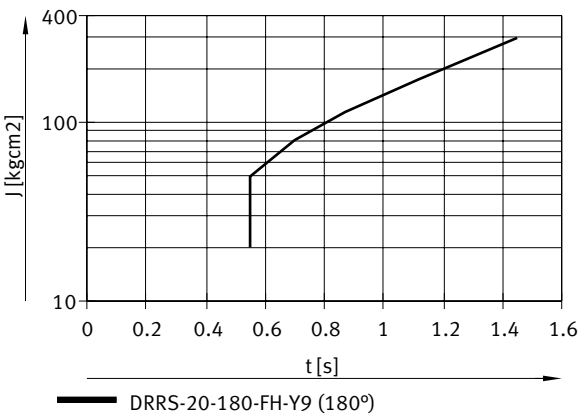
Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
– DRRS-12-180-FH-Y9



Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
– DRRS-16-180-FH-Y9

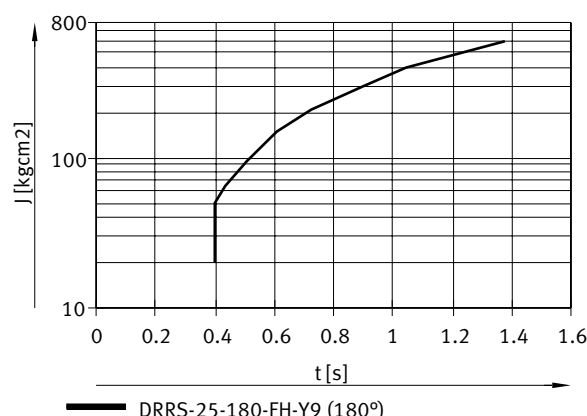


Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
– DRRS-20-180-FH-Y9

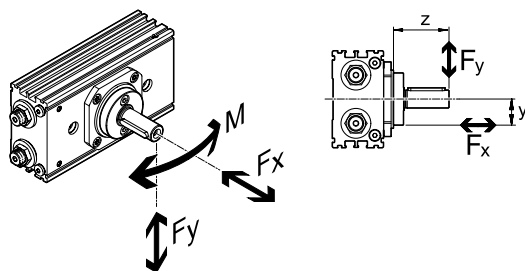


Datasheet

Max. permissible moment of inertia J at the flange shaft as a function of swivel time t at room temperature and an operating pressure of 0.6 MPa (6 bar, 87 psi)
– DRRS-25-180-FH-Y9



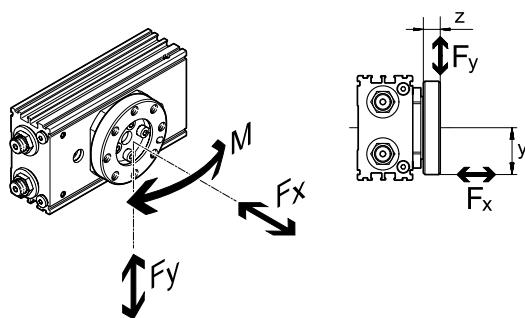
Max. load capacity at drive shaft adapter DARF-Q13-...



- For the radial forces F_y , the limits of the flange shaft and max. bending moment of the drive shaft adapter.
- The max. bending moment represents the load limit of the drive shaft adapter and must not be exceeded.
- The zero point for dimension z is always the flange level of the basic drive, independently of the attachments.
- The max. static axial load represents an additional load.

Size	12	16	20	25
Max. axial load static	80 N	140 N	350 N	450 N
Max. bending moment	2 Nm	4 Nm	5 Nm	10 Nm

Max. load capacity on push-on flange DARF-Q13-...-1

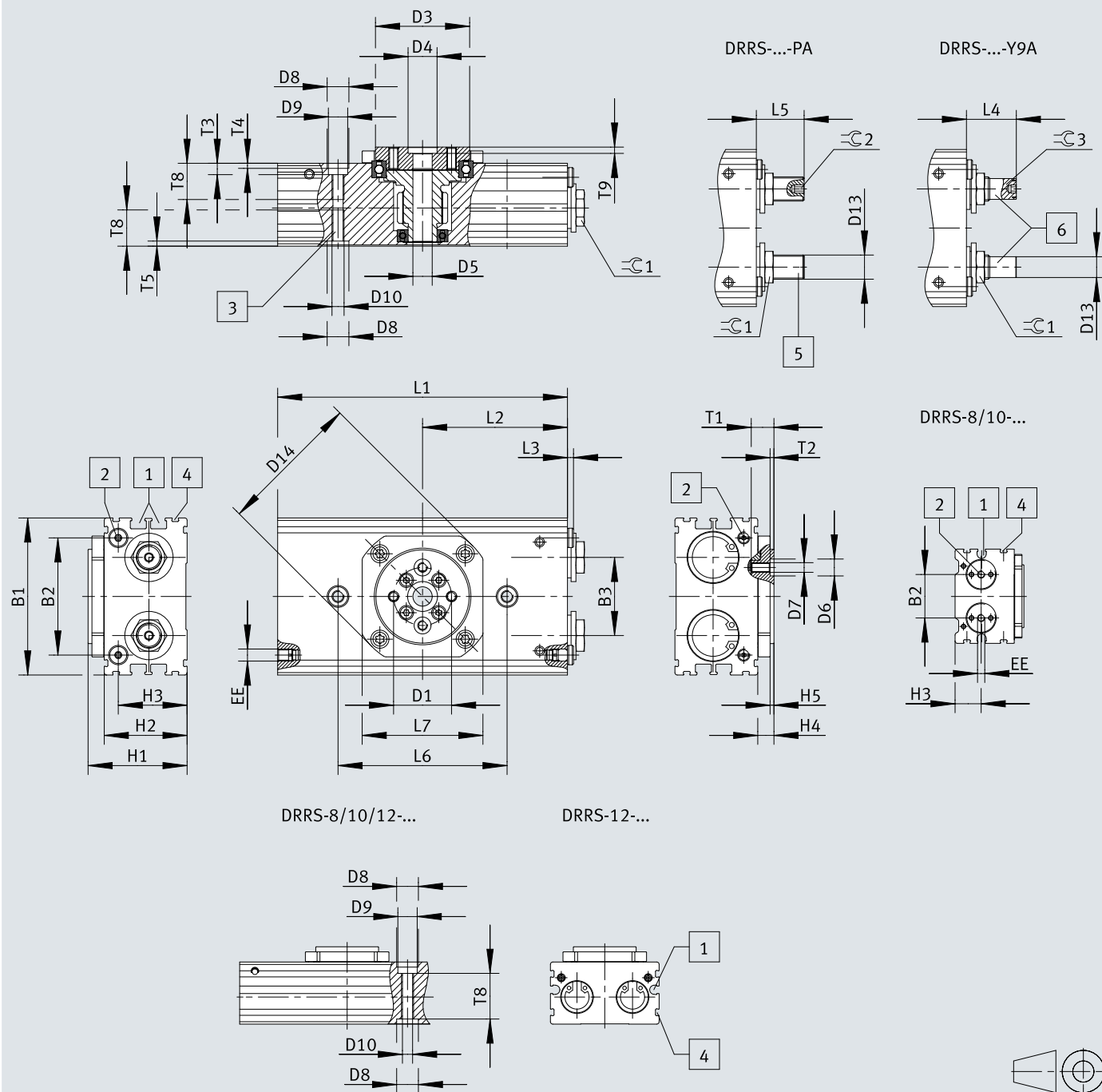


- The limits of the flange shaft and the max. bending moment of the push-on flange apply to the radial forces F_y .
- The maximum bending moment represents the load limit of the push-on flange and must not be exceeded.
- The zero point for dimension z is always the flange level of the basic drive, independently of the attachments.
- The maximum axial static load represents an additional load.

Size	8	10	12	16	20	25
Max. axial load static	50 N	60 N	80 N	140 N	350 N	450 N
Max. bending moment	1.3 Nm	1.8 Nm	2 Nm	4 Nm	5 Nm	10 Nm

Dimensions

Dimensions – Semi-rotary drives DRRS

Download CAD data www.festo.com

[1] Sensor slot for proximity switch

[2] Compressed air ports

[3] Mounting thread

[4] For profile mounting

[5] Cushioning P

[6] Cushioning Y9

[7] Note: The semi-rotary drive may only be operated with a flow control valve. The flow control valves should be installed as close as possible to the semi-rotary drive.

[8] Note: Illustrated position of the flange shaft corresponds to the mid-position (swivel angle 90°).

Dimensions

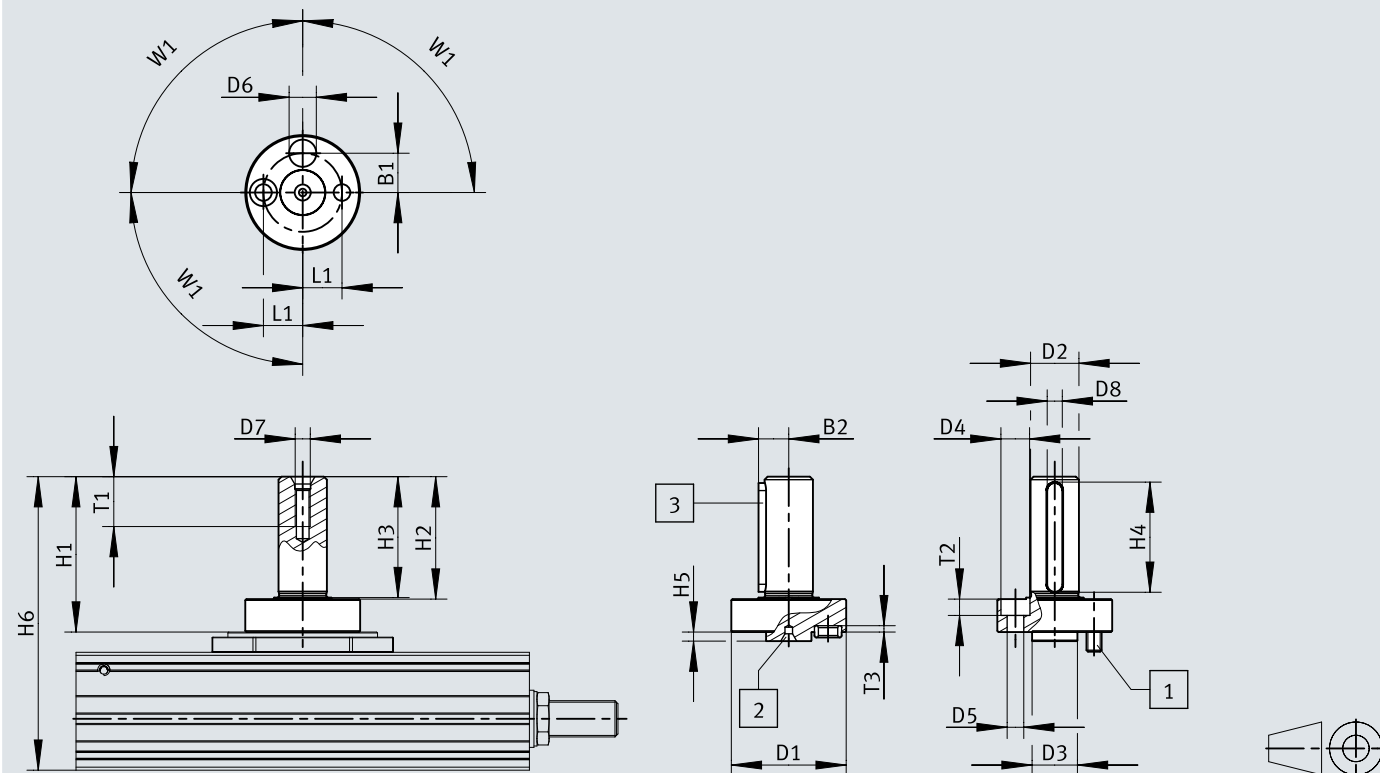
	B1	B2	B3	D1 Ø	D3 Ø ±0,05	D4 H8	D5 Ø	D6 Ø H8	D7	D8 Ø H8	D9 Ø	D10	D13											
DRRS-8-180-FH-PA	31,5	13,7	13,7	12	20,5	5	3	5	M3	7	6	M4	M6x0,5											
DRRS-10-180-FH-PA	39	18	18	15	26	7	3,4			9	8	M5												
DRRS-12-180-FH-PA	45	36	23	20			5							M8x1										
DRRS-12-180-FH-Y9A							12	8	7			M4	M10x1											
DRRS-16-180-FH-PA	60	44,2	30,8	21	34	M12x1																		
DRRS-16-180-FH-Y9A													65	48,5	32,35	24	39							
DRRS-20-180-FH-PA	60	60	37,2	26	49,5	15												10,5	9	M5	12	10	M6	M12x1
DRRS-20-180-FH-Y9A																								
DRRS-25-180-FH-PA	60	60	37,2	26	49,5	15	10,5	9	M5	12	10	M6	M12x1											
DRRS-25-180-FH-Y9A																								

	D14 Ø	EE	H1	H2	H3	H4	H5	L1 ±0,1	L2	L3	L4			L5		
											180°	min.	max.	180°	min.	max.
DRRS-8-180-FH-PA	–	M3	25,2	21,2	9,6	4	1	69	34,5	–	–	–	–	16	–7,5	1
DRRS-10-180-FH-PA	42		28,5	24,5	10,8		0,8	78,2	39,1					16,3	–9,4	1
DRRS-12-180-FH-PA			32	25,7	19,2	6,3	2,1	89	44,5					18	–10,4	1,1
DRRS-12-180-FH-Y9A											25,8	–10,4	1,1	–	–	–
DRRS-16-180-FH-PA	52	M5	39	32	27,2	7	2,3	114	57	2,5	–	–	–	23,1	–13,8	1,6
DRRS-16-180-FH-Y9A											30,1	–13,8	1,6	–	–	–
DRRS-20-180-FH-PA	59		41	34,3	28,5	6,7	1,6	120	60		–	–	–	23,3	–13,8	1,5
DRRS-20-180-FH-Y9A											34,4	–13,8	1,5	–	–	–
DRRS-25-180-FH-PA			68	46	39	31,5	7	1,8	150		75	–	–	–	27	–17,7
DRRS-25-180-FH-Y9A	48,9											–17,7	1,9	–	–	–

	L6	L7	T1	T2	T3	T4	T5	T8	T9	≡C1	≡C2	≡C3
			max.	+0,1					+0,1			
DRRS-8-180-FH-PA	36	27,5	6,3	1,2	3,5	1,6	1,6	16,1	1,6	8	2	–
DRRS-10-180-FH-PA	44	34,6	6,5					19,4				
DRRS-12-180-FH-PA	50		4,8					18,9				2
DRRS-12-180-FH-Y9A												
DRRS-16-180-FH-PA	64	43,4	6	1,6	4,7	2,1	2,1	14,5	2,6	10	2,5	2,5
DRRS-16-180-FH-Y9A												
DRRS-20-180-FH-PA	70	50	9,2							15	13	3
DRRS-20-180-FH-Y9A												
DRRS-25-180-FH-PA	80	60	9	2,1	5,7	2,6	2,6	18	3,2	15	4	4
DRRS-25-180-FH-Y9A												

Dimensions

Dimensions – Drive shaft adapter DARF-Q13-...

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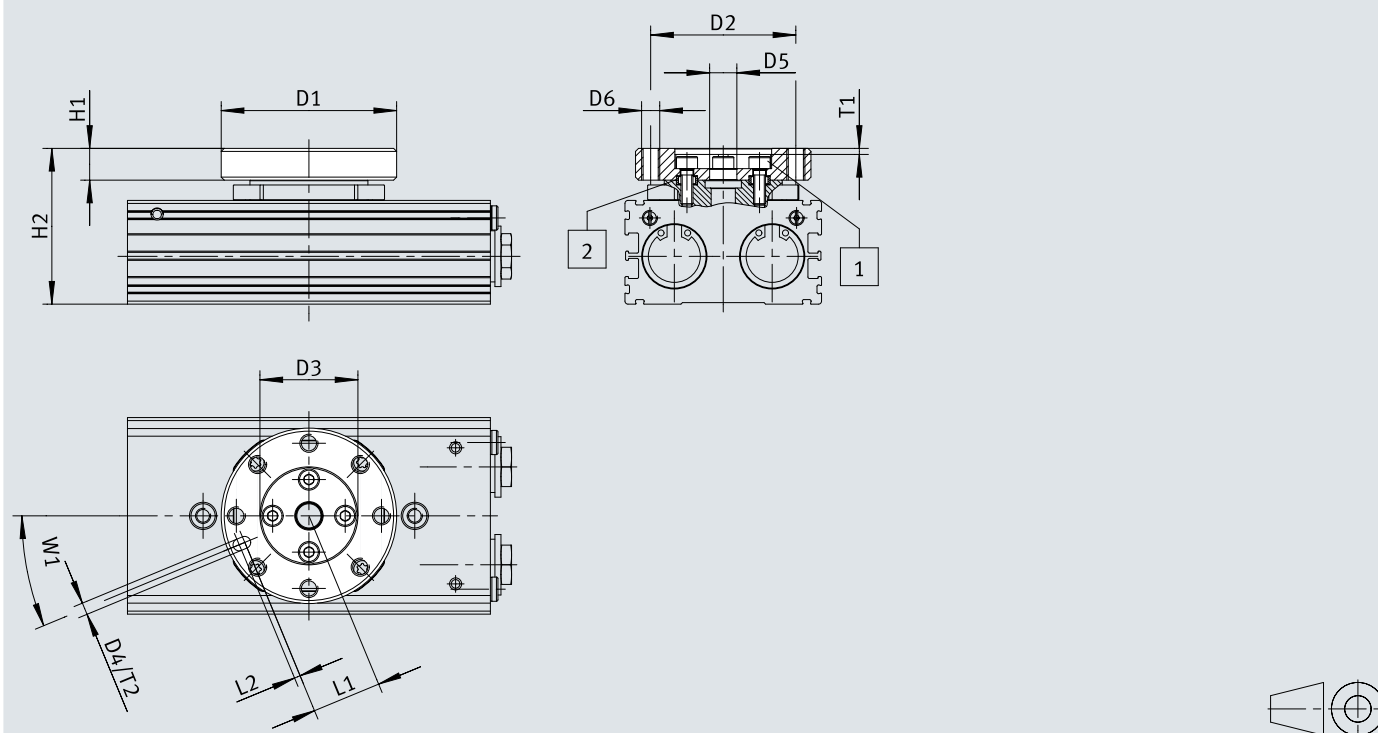
- [1] Socket head screw
[2] Drilled hole for centring sleeve

	B1	B2	D1	D2	D3	D4	D5	D6	D7	D8
		+0,1/−0,2	∅ −0,2	∅ g7	∅ h8	∅	∅	∅ H8		P9
DARF-Q13-12	10	4,8	30	8	7	6,5	3,4	5	M3	2
DARF-Q13-16	10,5	6,2	32	10	12	8	4,5	7		3
DARF-Q13-20	12	7,5	35	12					M4	4
DARF-Q13-25	13	10	38	16	15	9,6	5,5	9	M5	5

	H1	H2	H3	H4	H5	H6	L1	T1	T2	T3
	±0,1		±0,2	+0,3	-0,1	+0,3/-0,2		+2		+0,1
DARF-Q13-12	27,2	20,5	20	16	1,5	59,2	10	11,6	3,4	1,2
DARF-Q13-16	32,1	23,5	23	18,1	2,5	71,1	10,5		4,4	1,6
DARF-Q13-20	38,8	30,5	30	25,1		79,8	12	13,5		
DARF-Q13-25	51,4	40,5	40	36,1	3	97,4	13	16,5	5,4	2,1

Dimensions

Dimensions – Push-on flange DARF-Q13-...-1

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


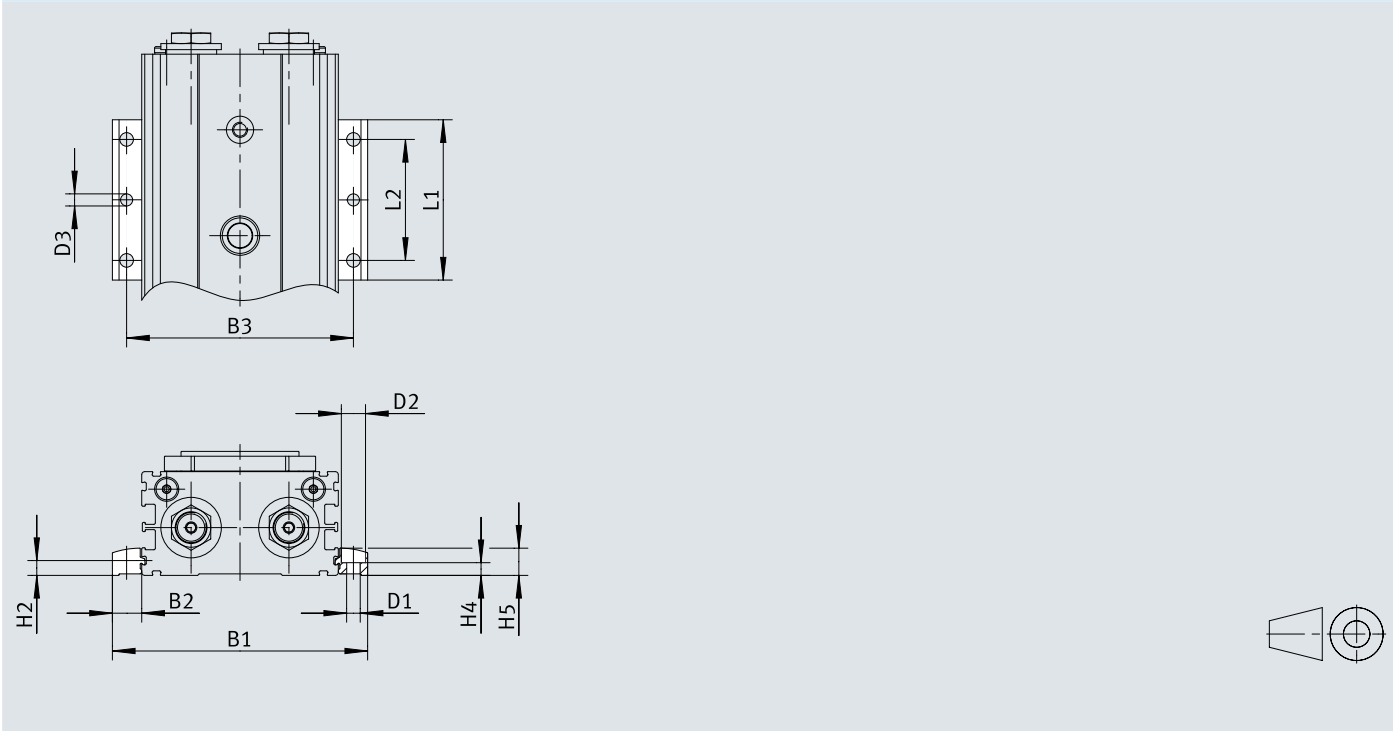
- [1] Socket head screw
 [2] Drilled hole for centring sleeve
 [3] The attachment can be positioned every 90°

	D1 ø h9	D2 ø	D3 ø H8	D4 H9	D5 ø	D6	H1 ±0,05
DARF-Q13-8-1	29	21	14	2	3,8	M3x0,5	7,5
DARF-Q13-10-1	33	25	17		5		8
DARF-Q13-12-1	40	32	20	3	6	M5x0,8	9
DARF-Q13-16-1	51,5	43	28	4	9	M6x1	10
DARF-Q13-20-1	58	48	32				10,5
DARF-Q13-25-1	66	55	35	5	11	M8x1,25	12

	H2	L1	L2	T1	T2	W1
DARF-Q13-8-1	32,7	10	1	2	2	22,5°
DARF-Q13-10-1	36,5	12			3,5	
DARF-Q13-12-1	41	15	2		4,5	
DARF-Q13-16-1	49	20,5			5,5	
DARF-Q13-20-1	51,5	23				
DARF-Q13-25-1	58	26,5				

Dimensions

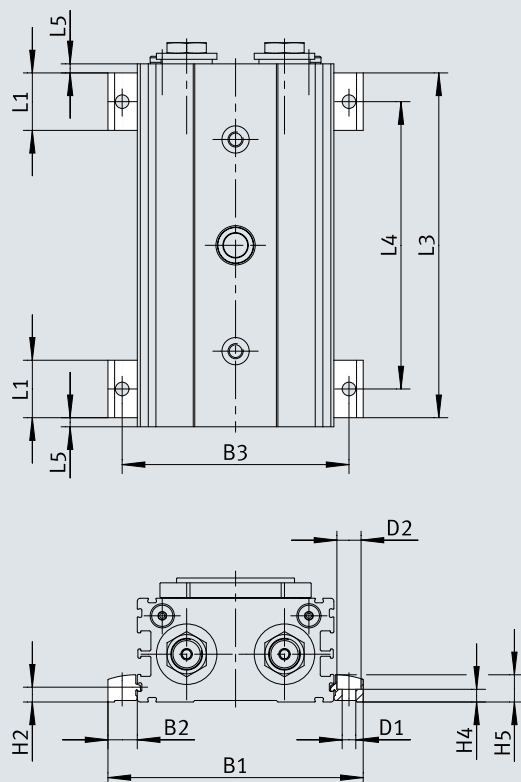
Dimensions – Profile mounting EAHF-L2-...-P Download CAD data www.festo.com



		B1	B2	B3	D1 ∅ H13	D2 ∅ H13	D3 ∅	H2	H4 ±0,1	H5	L1	L2
EAHF-L2-25-P	DRRS-8	50,9	9,7	41,5	4,5	8	4	4,9	4,2	9	53	40
	DRRS-10	58,4		49								
	DRRS-12	64,4		55								
	DRRS-16	79,4		70								
	DRRS-20	84,4		75								
	DRRS-25	94,4		85								

Dimensions

Dimensions – Profile mounting EAHF-L2-...-P-S

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		B1	B2	B3	D1 ø H13	D2 ø H13	H2	H4 ±0,1
EAHF-L2-25-P-S	DRRS-8	50,9	9,7	41,5	4,5	8	4,9	4,2
	DRRS-10	58,4		49				
	DRRS-12	64,4		55				
	DRRS-16	79,4		70				
	DRRS-20	84,4		75				
	DRRS-25	94,4		85				

		H5	L1	L3		L4		L5
				min.	max.	min.	max.	min.
EAHF-L2-25-P-S	DRRS-8	9	19	46	63	27	44	3
	DRRS-10			49	72,2	30	53,2	
	DRRS-12			59	83	40	64	
	DRRS-16			73	108	54	89	
	DRRS-20			79	114	60	95	
	DRRS-25			89	144	70	125	

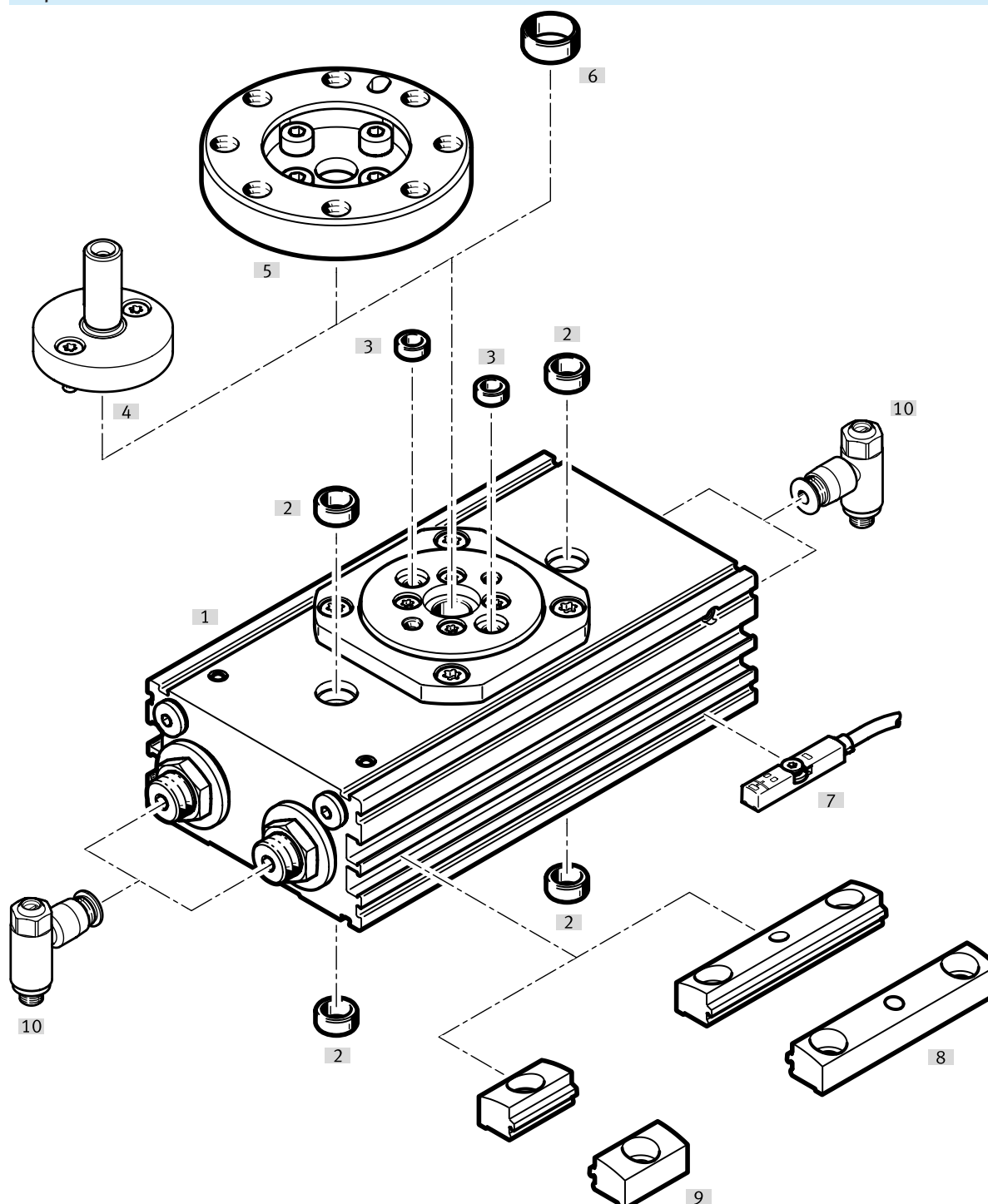
Ordering data

With cushioning P				
	Cushioning	Size	Part no.	Type
	Elastic cushioning rings/plates on both sides	8	8163605	DRRS-8-180-FH-PA
		10	8163606	DRRS-10-180-FH-PA
		12	8163607	DRRS-12-180-FH-PA
		16	8163609	DRRS-16-180-FH-PA
		20	8163611	DRRS-20-180-FH-PA
		25	8163613	DRRS-25-180-FH-PA

With cushioning Y9				
	Cushioning	Size	Part no.	Type
	Shock absorber, self-adjusting, linear, at both ends	12	8163608	DRRS-12-180-FH-Y9A
		16	8163610	DRRS-16-180-FH-Y9A
		20	8163612	DRRS-20-180-FH-Y9A
		25	8163614	DRRS-25-180-FH-Y9A

Peripherals

Peripherals overview

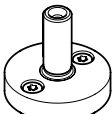


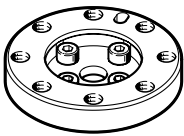
Accessories			→ Link
Type/order code	Description		
[1] Semi-rotary drive DRRS	Double-acting		drds
[2] Centring sleeve ZBH	For centring the drive		20
[3] Centring sleeve ZBH	For centring attachments		20
[4] Drive shaft adapter DARF-Q13-...	For mounting on the flange shaft		19
[5] Push-on flange DARF-Q13-...-1	For mounting on the flanged shaft		19
[6] Centring sleeve ZBH	For centring attachments		20
[7] Proximity switch SMT-8	• For size 16 ... 25 • For sensing the piston position		21
[7] Proximity switch SDBT-MSB	• For size 16 ... 25 • For sensing the piston position		21

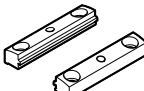
Peripherals

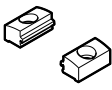
Accessories		→ Link
Type/order code	Description	
[7] Proximity switch SMT-10	- For size 8 ... 12 - For sensing the piston position	20
[7] Proximity switch SDBC-MSB	- For size 8 ... 12 - For sensing the piston position	21
[8] Profile mounting EAHF-L2-...-P	For mounting on the side of the profile	19
[9] Profile mounting EAHF-L2-...-P-S	For mounting on the side of the profile	19
[10] Cushioning Y9	- Shock absorber, self-adjusting, linear at both ends - Included in the scope of delivery of the drive	19
[11] One-way flow control valve GRLA	For regulating speed	20
[11] One-way flow control valve VFOE	For regulating speed	vfoe

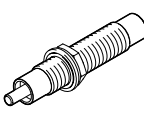
Accessories

Drive shaft adapter DARF-Q13-...						
	Size	Type of mounting	Drive shaft adapter material	Product weight	Part no.	Type
	12	Via through-hole and centring sleeve	Tempered steel	50 g	8200997	DARF-Q13-12
	16			75 g	8200998	DARF-Q13-16
	20			93 g	8200999	DARF-Q13-20
	25			160 g	8201000	DARF-Q13-25

Push-on flange DARF-Q13-...-1						
	Size	Type of mounting	Material flange	Product weight	Part no.	Type
	8	Via through-hole and centring sleeve	Anodised wrought aluminium alloy	11 g	8163619	DARF-Q13-8-1
	10			14 g	8163620	DARF-Q13-10-1
	12			23 g	8163621	DARF-Q13-12-1
	16			52 g	8163622	DARF-Q13-16-1
	20			66 g	8163623	DARF-Q13-20-1
	25			94 g	8163624	DARF-Q13-25-1

Profile mounting EAHF-L2-...-P					
	Material plate	Note on materials	Product weight	Part no.	Type
	Anodised wrought aluminium alloy	RoHS compliant	19 g	4835684	EAHF-L2-25-P

Profile mounting EAHF-L2-...-P-S					
	Material plate	Note on materials	Product weight	Part no.	Type
	Anodised wrought aluminium alloy	RoHS compliant	4 g	5183153	EAHF-L2-25-P-S

Shock absorber DYSD-Q13-...-Y9						
	Description	Cushioning	Material housing	Product weight	Part no.	Type
	For size 12, Especially for pressure chamber, included in the scope of delivery of the drive	Self-adjusting	High-alloy steel	6.5 g	8199038	DYSD-Q13-4-4-Y1F-Y9
	For size 16, Especially for pressure chamber, included in the scope of delivery of the drive			12 g	8199039	DYSD-Q13-5-5-Y1F-Y9
	For size 20, Especially for pressure chamber, included in the scope of delivery of the drive			20 g	8199040	DYSD-Q13-7-5-Y1F-Y9
	For size 25, Especially for pressure chamber, included in the scope of delivery of the drive			41.5 g	8199041	DYSD-Q13-8-8-Y1F-Y9

Accessories

Centring sleeve ZBH-5

	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For sizes 8, 10, 12	Steel	10	1 g	8146543	ZBH-5-B

Centring sleeve ZBH-7

	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For sizes 8, 10, 12, 16, 20	Steel	10	1 g	8146544	ZBH-7-B

Centring sleeve ZBH-9

	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For sizes 12, 16, 20, 25	Steel	10	2 g	8137184	ZBH-9-B

Centring sleeve ZBH-12

	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For sizes 16, 20, 25	Steel	10	1 g	8137185	ZBH-12-B

Centring sleeve ZBH-15

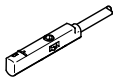
	Description	Material sleeve	Size of pack	Product weight	Part no.	Type
	For size 25	High-alloy stainless steel	10	3 g	191409	ZBH-15

One-way flow control valve GRLA

	Pneumatic connection, port 2	Pneumatic connection 1	Product weight	Part no.	Type
	M3	Push-in connector 3 mm	7 g	175041	GRLA-M3-QS-3
	M5	Push-in connector 4 mm	13 g	193137	GRLA-M5-QS-3-D
		Push-in connector 6 mm		193138	GRLA-M5-QS-4-D
		Push-in connector 6 mm		193139	GRLA-M5-QS-6-D

Proximity switch SMT-10M for round slot, magneto-resistive – for sizes 8 ... 12

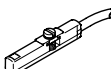
Link [smt](#)

	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	551377	SMT-10M-NS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	551379	SMT-10M-NS-24V-E-0,3-L-M8D
		3-wire PNP N/O contact	Open end	2.5 m	551373	SMT-10M-PS-24V-E-2,5-L-OE
			Plug M8, A-coded	0.3 m	551375	SMT-10M-PS-24V-E-0,3-L-M8D
		2-wire N/O contact	Open end	2.5 m	551382	SMT-10M-ZS-24V-E-2,5-L-OE

Accessories

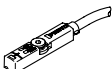
Proximity switch SDBC-MSB for round slot, magneto-resistive – for sizes 8 ... 12

Link [sdbc](#)

Proximity switch SDBC-MSB for round slot magnets resistive for sizes 6...12							Link 
	Switching output	Switching element function	Electrical connection	Cable length	Part no.	Type	
	NPN	N/O contact	Open end	2 m	8139724	SDBC-MSB-1L-NU-K-2-LE	
			Plug M8, A-coded	0.3 m	8139727	SDBC-MSB-1L-NU-K-0.3-M8	
	PNP		Open end	2 m	8139723	SDBC-MSB-1L-PU-K-2-LE	
			Plug M8, A-coded	0.3 m	8139726	SDBC-MSB-1L-PU-K-0.3-M8	
	Contactless, 2-wire		Open end	2 m	8139725	SDBC-MSB-1L-ZU-K-2-LE	

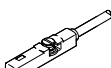
Proximity switch SMT-8M for T-slot, magneto-resistive – for sizes 16 ... 25

Link [smt](#)

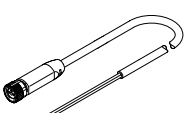
	Type of mounting	Switching output	Electrical connection	Cable length	Part no.	Type
	Screw-clamped, Insertable in the slot from above	3-wire NPN N/O contact	Open end	2.5 m	574338	SMT-8M-A-NS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	574339	SMT-8M-A-NS-24V-E-0,3-M8D
		3-wire PNP N/O contact	Open end	2.5 m	574335	SMT-8M-A-PS-24V-E-2,5-OE
			Plug M8, A-coded	0.3 m	574334	SMT-8M-A-PS-24V-E-0,3-M8D
	2-wire N/O contact	Open end	Open end	5 m	8165237	SMT-8M-A-ZS-24V-E-5,0-OE

Proximity switch SDBT-MSB for T-slot, magneto-resistive – for sizes 16 ... 25

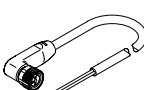
Link [sdbt](#)

Proximity switch SDBT-MSB for T-slot, magnetic resistance for sizes 10 to 25						
	Switching output	Switching element function	Electrical connection	Cable length	Part no.	Type
	NPN	N/O contact	Open end	2 m	8150172	SDBT-MSB-1L-NU-K-2-LE
			Plug M8, A-coded	0.3 m	8150175	SDBT-MSB-1L-NU-K-0.3-M8
	PNP		Open end	2 m	8150171	SDBT-MSB-1L-PU-K-2-LE
			Plug M8, A-coded	0.3 m	8150174	SDBT-MSB-1L-PU-K-0.3-M8
	Contactless, 2-wire		Open end	2 m	8150173	SDBT-MSB-1L-ZU-K-2-LE

Connecting cables NEBA, straight

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078223	NEBA-M8G3-U-2.5-N-LE3
				5 m	8078224	NEBA-M8G3-U-5-N-LE3

Connecting cables NEBA, angled

	Electrical connection 1, connector system	Electrical connection 2, connector system	Electrical connection 2, number of connections/cores	Cable length	Part no.	Type
	M8x1, A-coded, to EN 61076-2-104	Open end	3	2.5 m	8078230	NEBA-M8W3-U-2.5-N-LE3
				5 m	8078231	NEBA-M8W3-U-5-N-LE3