

Twin-piston semi-rotary drives DRRD

FESTO



Twin-piston semi-rotary drives DRRD

Key features

FESTO

At a glance

- Rack and pinion principle
- Very high accuracy in the end positions
- Very high load bearing capacity
- Very good axial run-out at the flanged shaft
- High mass moments of inertia
- Low-backlash and dynamic
- Splash-proof design to IP65 based on EN 60529
- Defined interfaces
- Supply port at one end
- Choice of mounting options
- Ideal for use in handling applications

Wide choice of variants

Flanged shaft



- Size 16 ... 40
- Torque: 1.6 ... 24.1 Nm
- Swivel angle: 0 ... 180°

End-position locking



- Size 16 ... 40
- Mechanical lock in the end positions to prevent unwanted movement in unpressurised condition

Position sensing



- Size 16 ... 40
- T-slot for proximity sensor SMT-/SME-8

External position sensing (sensor mounting)



- Size 16 ... 40
- Position sensing possible directly at the flanged shaft
- Inductive sensors SIES can be used in combination with external position sensing

Cushioning



- Size 16 ... 40
- Choice of four cushioning types:
 - Elastic cushioning with metal end position (P)
 - Shock absorber (Y9)
 - Shock absorber, hard (Y10)
 - Shock absorber, external (Y12)

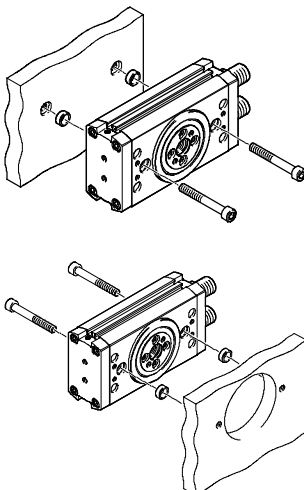
External cushioning



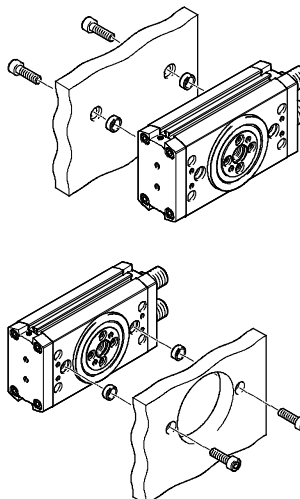
- Size 16 ... 40
- The full torque can be realised in the end positions in combination with external cushioning

Mounting options

Via through-holes



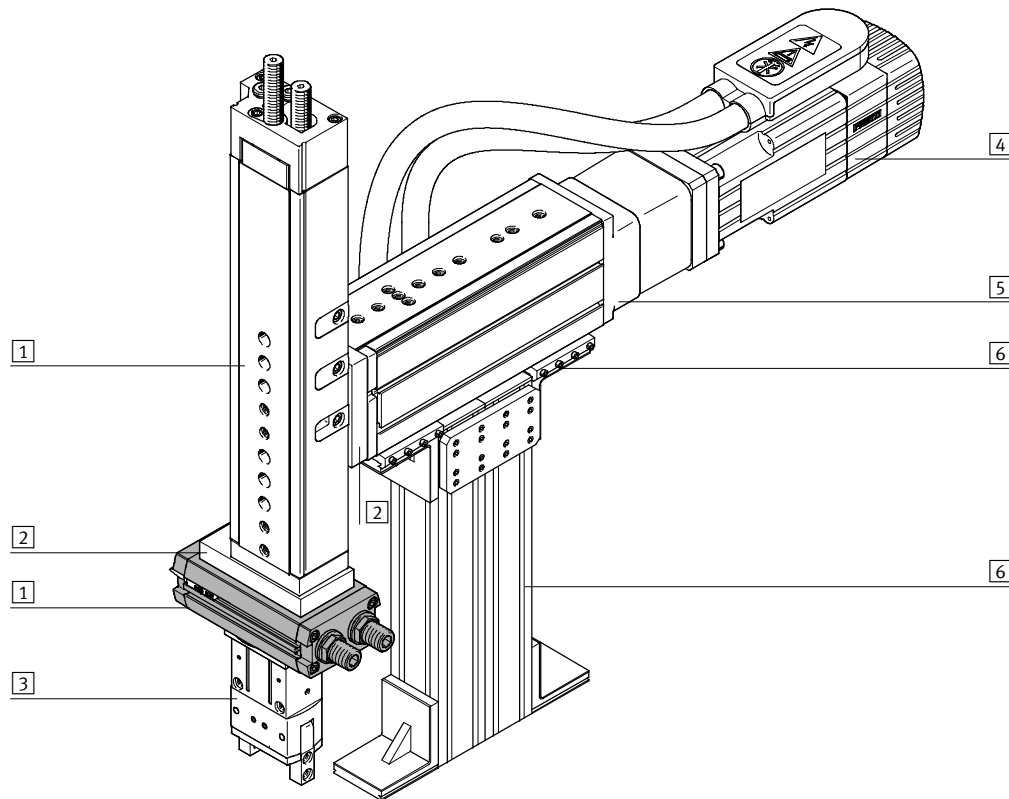
Via thread in the housing profile



Twin-piston semi-rotary drives DRRD

System example

System product for handling and assembly technology

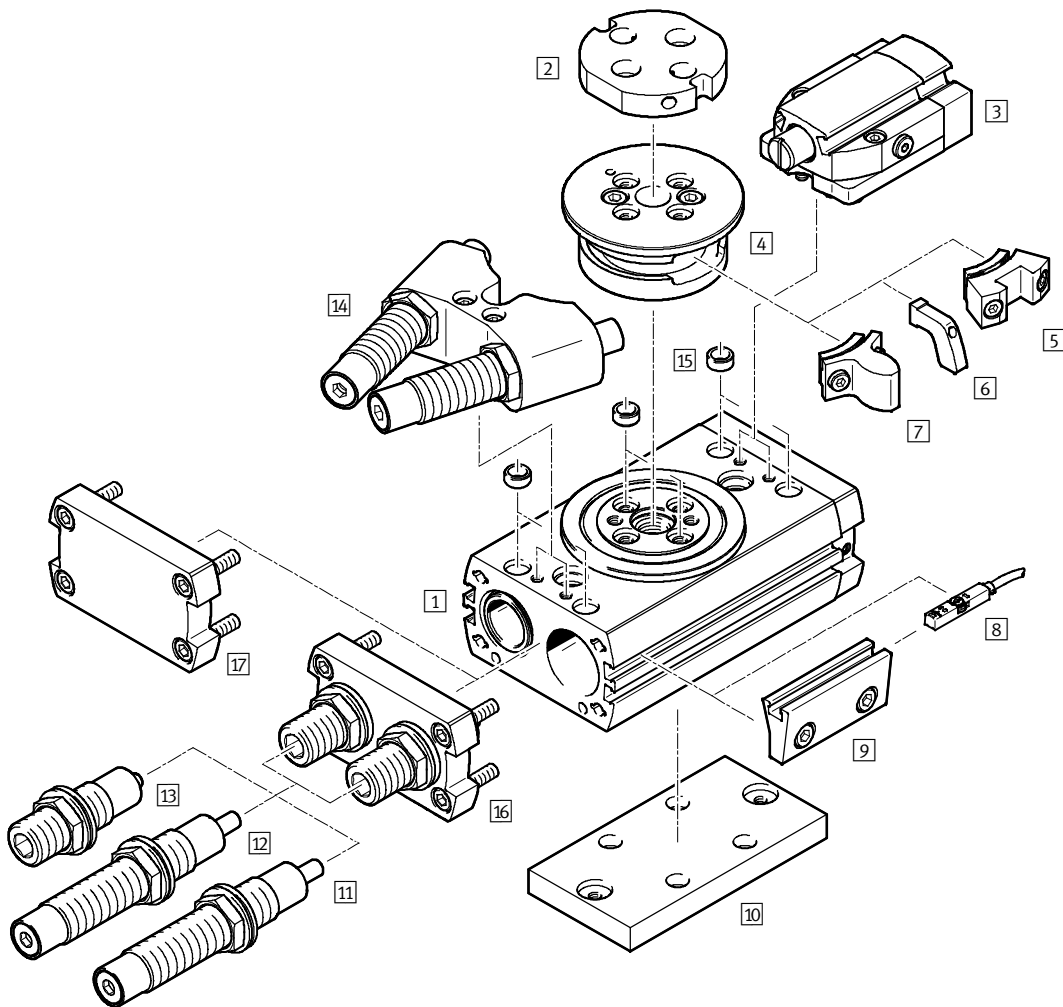


System components and accessories		
	Brief description	→ Page/Internet
1 Drives	Wide range of combinations possible within handling and assembly technology	drive
2 Adapters	For drive/drive and drive/gripper connections	adapter kit
3 Grippers	Wide range of combination options within handling and assembly technology	gripper
4 Motors	Servo and stepper motors, with or without gear unit	motor
5 Axes	Wide range of combinations possible within handling and assembly technology	axis
6 Basic components	Profiles and profile connections as well as profile/drive connections	basic component
– Installation components	For a clear, safe layout of electrical cables and tubing	installation component

Twin-piston semi-rotary drives DRRD

Peripherals overview

FESTO



Variants, mounting attachments and accessories								
	Brief description	Size						→ Page/ Internet
		16	20	25	32	35	40	
[1]	Semi-rotary drive DRRD	Double-acting	■	■	■	■	■	6
[2]	Adapter kit DHAA	Connecting plate between semi-rotary drive and gripper	■	■	■	■	■	gripper
[3]	End-position lock E1 (clamping unit DADL-...-EL as an accessory)	- Mechanical lock in the end positions to prevent unwanted movement in unpressurised condition - Included in the scope of delivery: [3], [4], 2x [5]	■	■	■	■	■	23
[4]	Flange assembly	Required to mount components [5], [6] and [7]	■	■	■	■	■	23
[5]	Clamping component (type: DADL-EC)	- Secures the semi-rotary drive DRRD when cylinder [3] is advanced - Two clamping components are included in the scope of delivery of the end-position lock (E1)	■	■	■	■	■	25

Twin-piston semi-rotary drives DRRD

Peripherals overview

Variants, mounting attachments and accessories								
	Brief description	Size						→ Page/ Internet
		16	20	25	32	35	40	
6 Switch lug DASI-Q11-...-SL	- For sensing the piston position using e.g. inductive proximity sensors SIES-8M → 26, in combination with sensor bracket 9 - Two switch lugs are included in the scope of delivery of the sensor mounting kit (R)	■	■	■	■	■	■	25
7 Stop element	- Serves as an end stop in combination with external shock absorbers (Y12) - Two stop elements are included in the scope of delivery of external shock absorbers (Y12)	■	■	■	■	■	■	22
8 Proximity sensor SMT-/SME-8	For sensing the piston position	■	■	■	■	■	■	25
9 Sensor mounting kit R (sensing kit DASI-...-KT as an accessory)	- For sensing the piston position using e.g. inductive proximity sensors SIES-8M → 26 - Included in the scope of delivery: 4, 2x 6, 9	■	■	■	■	■	■	24
10 Adapter kit DHAA	Connecting plate between semi-rotary drive and drive	■	■	■	■	■	■	adapter
11 Shock absorber Y9	Linear shock absorber, self-adjusting at both ends	■	■	■	■	■	■	22
12 Shock absorber, hard Y10	Linear shock absorber, self-adjusting at both ends, hard	–	–	■	–	■	■	22
13 Shock absorber P	Elastic cushioning with metal end position, both ends	■	■	■	■	■	■	22
14 Shock absorber, external Y12	- Linear shock absorber, self-adjusting at both ends, external - Included in the scope of delivery: 4, 2x 7, 14	■	■	■	■	■	■	22
15 Centring sleeve ZBH	For centring attachments (two centring sleeves for mounting the semi-rotary drive included in the scope of delivery)	■	■	■	■	■	■	25
16 End cap	In combination with elastic cushioning P or shock absorber Y9, Y10	■	■	■	■	■	■	–
17 End cap	In combination with external shock absorber Y12	■	■	■	■	■	■	–

Twin-piston semi-rotary drives DRRD

Type codes

FESTO

		DRRD	-		-	180	-	FH	-		
Product type											
Double-acting											
DRRD	Semi-rotary drive										
Size											
Nominal swivel angle											
180	180°										
Output shaft											
FH	Flanged shaft, hollow										
Cushioning											
P	Elastic cushioning rings/pads at both ends										
Y9	Linear shock absorber, self-adjusting at both ends										
Y10	Linear shock absorber, self-adjusting at both ends, hard										
Y12	Linear shock absorber, self-adjusting at both ends, external										
Position sensing											
A	Via proximity sensor										

Twin-piston semi-rotary drives DRRD

Type codes

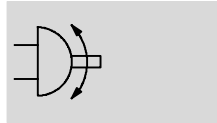
		-		-		-		-		-	
EU certification											
-	None										
EX4	II 2GD										
End-position locking											
-	None										
E1	At both ends										
Sensor mounting, external											
-	None										
R	Mounting rail for proximity sensor										
Design											
-	Standard										
SG	Splash-proof design										
Operating instructions											
-	With operating instructions										
DN	Without operating instructions										

Twin-piston semi-rotary drives DRRD

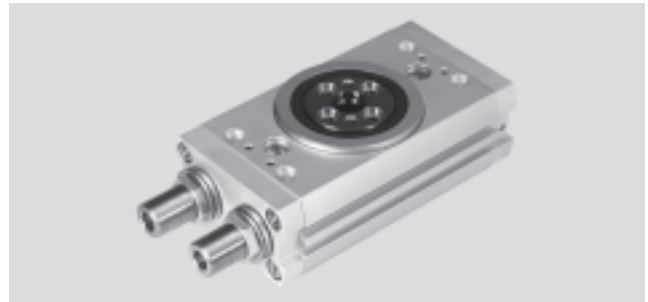
Technical data

FESTO

Function



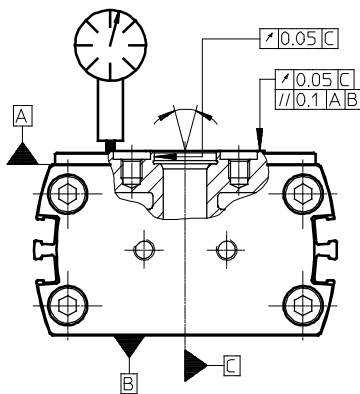
www.festo.com



-  Diameter
16 ... 40 mm
-  Force
1.59 ... 24.1 Nm

General technical data							
Size	16	20	25	32	35	40	
Design	Rack and pinion						
Mode of operation	Double-acting						
Pneumatic connection	M5			G1/8			
Type of mounting	Via through-hole						
	Via female thread						
Swivel angle	[°]	180 (➔ 10)					
Cushioning with fixed stop							
DRRD-...-P	Elastic cushioning rings/pads at both ends						
DRRD-...-Y9	Linear shock absorber, self-adjusting at both ends						
DRRD-...-Y10	-		Linear shock absorber, self-adjusting at both ends, hard		-	Linear shock absorber, self-adjusting at both ends, hard	
DRRD-...-Y12	Linear shock absorber, self-adjusting at both ends, external						
Repetition accuracy	[°]	< 0.05					
Axial run-out ¹⁾	[mm]	< 0.05					
Max. axial load (static)	[N]	1,500	2,400	2,400	3,750	6,100	6,100
Mounting position	Any						

1) Axial run-out in new condition



Operating and environmental conditions	
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)
Operating pressure	
DRRD-...-P [bar]	3 ... 8
DRRD-...-Y9/-Y10/-Y12 [bar]	2 ... 10
Ambient temperature [°C]	-10 ... +60
Storage temperature [°C]	-20 ... +60
Protection class based on EN 60529	
DRRD-...-SG	IP65

Twin-piston semi-rotary drives DRRD

Technical data

ATEX ¹⁾	
ATEX category for gas	II 2G
Explosion ignition protection type for gas	c T4
ATEX category for dust	II 2D
Explosion ignition protection type for dust	c T120°C
Explosion-proof temperature rating	-10 °C ≤ Ta ≤ +60 °C
CE marking (see declaration of conformity)	To EU Explosion Protection Directive (ATEX)

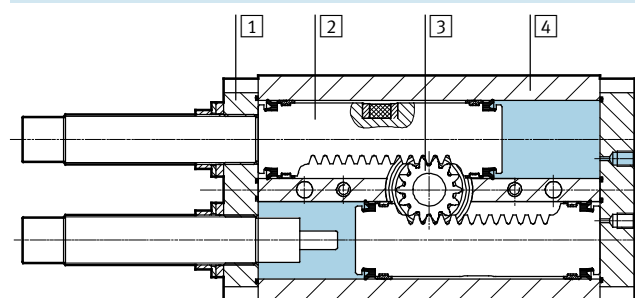
1) Make sure that the accessories are suited for ATEX application.

Weight [g]						
Size	16	20	25	32	35	40
Basic drive						
DRRD-...-P	640	839	1,349	2,815	4,510	6,070
DRRD-...-Y9/-Y10	650	883	1,358	2,976	4,784	6,424
DRRD-...-Y12	757	1,132	1,705	3,760	5,425	7,160
End-position locking						
DRRD-...-E1	166	382	370	600	900	900
Sensor mounting, external						
DRRD-...-R	110	192	192	366	485	485

Forces and torques						
Size	16	20	25	32	35	40
Theoretical torque at 6 bar [Nm]	1.6	2.4	5.1	10.1	15.8	24.1
Max. permissible mass moment of inertia						
DRRD-...-P [kgcm ²]	180	400	900	1,500	2,500	6,700
DRRD-...-Y9 [kgcm ²]	700	1,300	1,500	8,000	15,000	23,000
DRRD-...-Y10 [kgcm ²]	-	-	5,500	-	45,000	67,000
DRRD-...-Y12 [kgcm ²]	900	1,500	5,500	26,000	45,000	67,000

Materials

Sectional view



Semi-rotary drive	
3 Flanged shaft	Tempered steel
1 End cap	Anodised wrought aluminium alloy
4 Housing	Smooth anodised wrought aluminium alloy
2 Piston	Stainless steel
Seals	Nitrile rubber
Piston seal	Polyurethane
Note on materials	RoHS-compliant

Twin-piston semi-rotary drives DRRD

Technical data

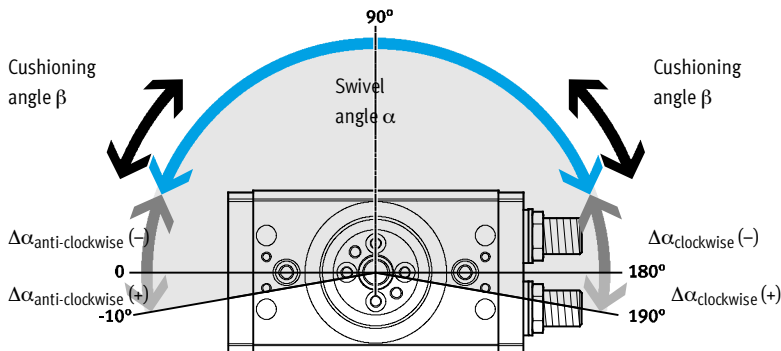
FESTO

Swivel angle

Fundamentally, the following applies:

Swivel angle $\alpha \geq$ cushioning angle β

Swivel angle $\alpha = 180^\circ + \Delta\alpha_{\text{clockwise}} + \Delta\alpha_{\text{anti-clockwise}}$



Size		16	20	25	32	35	40
Swivel angle α	[°]	180					
Min. swivel angle α							
DRRD-...-P	[°]	36	45	33	33	36	23
DRRD-...-Y9/-Y10	[°]	43	72	79	82	85	56
DRRD-...-Y12	[°]	20	24	38	34	34	34
DRRD-...-E1	[°]	60	60	60	55	57	57
Max. swivel angle α							
DRRD-...	[°]	200					
DRRD-...-Y12	[°]	182	186	180	186	187	187
Swivel angle adjustment α per side (infinitely adjustable)							
DRRD-...-P	[°]	−100 ... +10					
DRRD-...-Y9/-Y10	[°]	≥ −100 ... +10					
DRRD-...-Y12	[°]	−97 ... +7	−98 ... +8	−95 ... +5	−97 ... +7		
Cushioning angle β							
DRRD-...-P	[°]	36	45	33	33	36	23
DRRD-...-Y9/-Y10	[°]	43	72	79	82	85	56
DRRD-...-Y12	[°]	10	12	19	17	17	17

Swivel angle adjustment

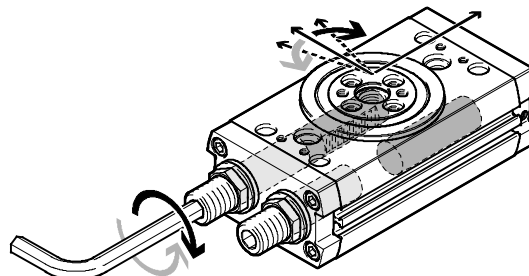
Clockwise direction of rotation:

- Swivel angle decreases

Anti-clockwise direction of rotation:

- Swivel angle increases

The swivel angle is adjusted via the cushioning components using an Allen key. Any reduction in the swivel angle should preferably be evenly split between the two end positions.



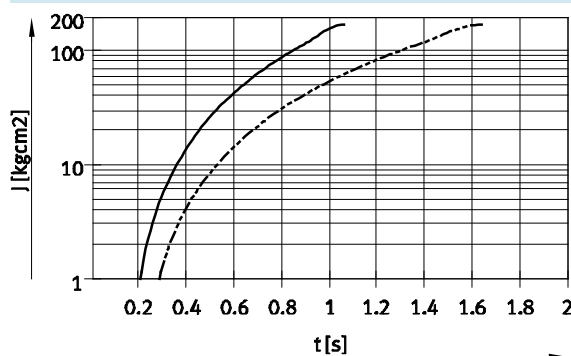
Twin-piston semi-rotary drives DRRD

Technical data

Max. permissible mass moment of inertia J at the flanged shaft as a function of swivel time s

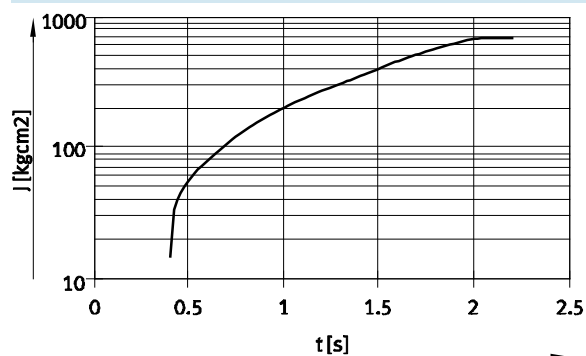
Size 16

With cushioning P



— DRRD-16-...-P (90°) Ranges
 → 1 ... 180 kgcm²
 - - - DRRD-16-...-P (180°) → 1 ... 180 kgcm²

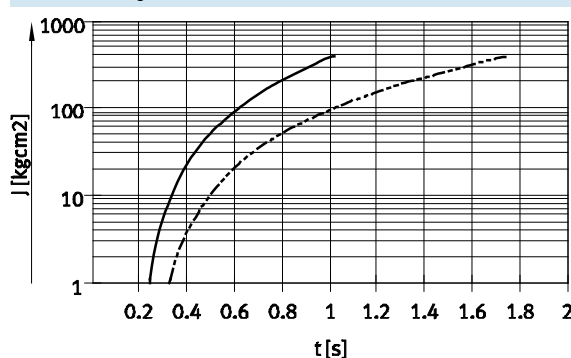
With cushioning Y9



— DRRD-16-180-...-Y9 (180) Ranges
 → 15 ... 700 kgcm²

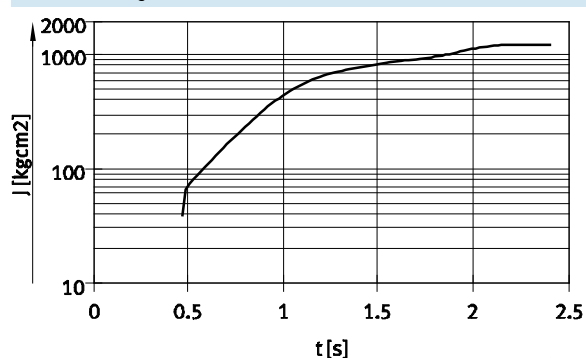
Size 20

With cushioning P



— DRRD-20-...-P (90°) Ranges
 → 1 ... 400 kgcm²
 - - - DRRD-20-...-P (180°) → 1 ... 400 kgcm²

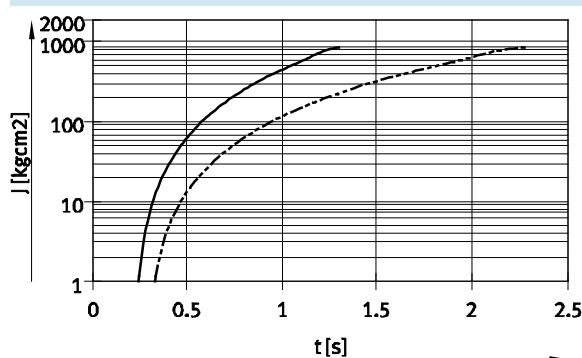
With cushioning Y9



— DRRD-20-180-...-Y9 (180) Ranges
 → 40 ... 1,300 kgcm²

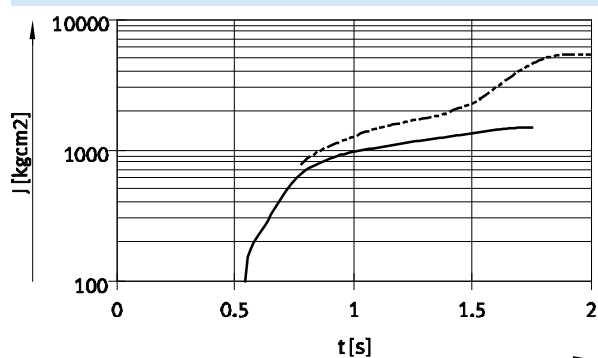
Size 25

With cushioning P



— DRRD-25-...-P (90°) Ranges
 → 1 ... 900 kgcm²
 - - - DRRD-25-...-P (180°) → 1 ... 900 kgcm²

With cushioning Y9/Y10



— DRRD-25-180-...-Y9 (180) Ranges
 → 100 ... 1,500 kgcm²
 - - - DRRD-25-180-...-Y10 (180) → 800 ... 5,500 kgcm²

Twin-piston semi-rotary drives DRRD

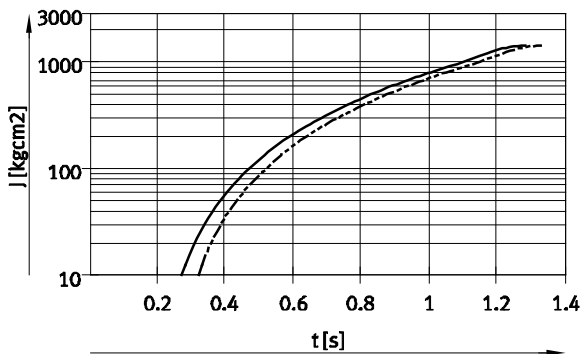
Technical data

FESTO

Max. permissible mass moment of inertia J at the flanged shaft as a function of swivel time s

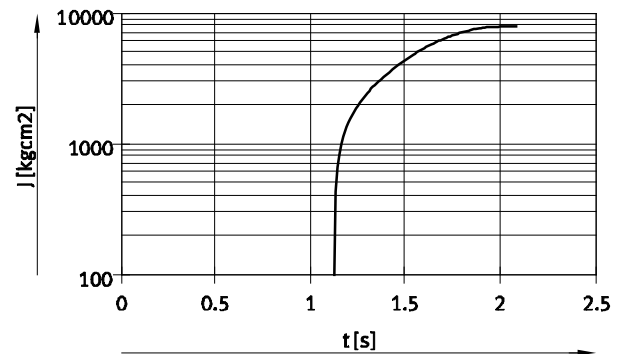
Size 32

With cushioning P



— DRRD-32-...-P (90°) → 10 ... 1,500 kgcm²
 - - - DRRD-32-...-P (180°) → 10 ... 1,500 kgcm²

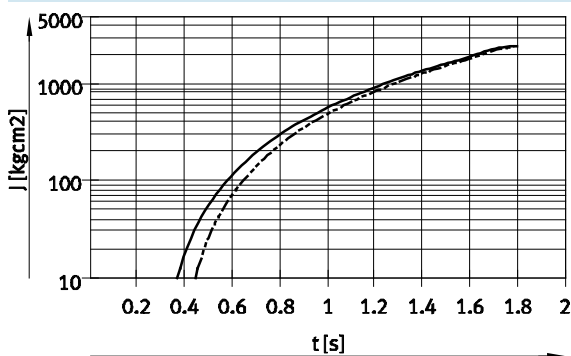
With cushioning Y9



— DRRD-32-180-...-Y9 (180) → 100 ... 8,000 kgcm²

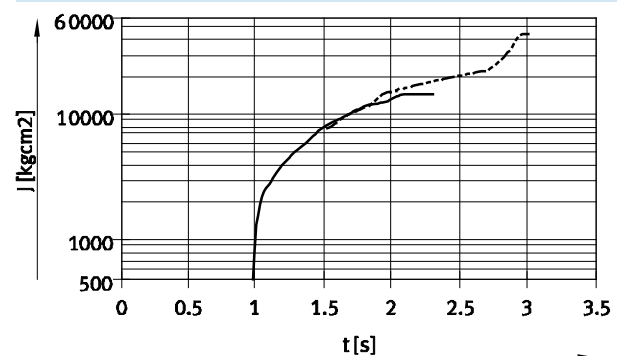
Size 35

With cushioning P



— DRRD-35-...-P (90°) → 10 ... 2,500 kgcm²
 - - - DRRD-35-...-P (180°) → 10 ... 2,500 kgcm²

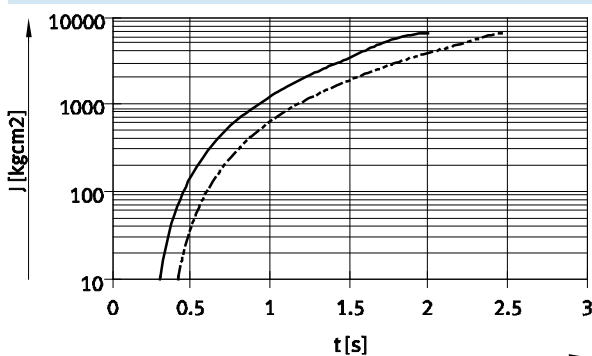
With cushioning Y9/Y10



— DRRD-35-180-...-Y9 (180) → 500 ... 15,000 kgcm²
 - - - DRRD-35-180-...-Y10 (180) → 8,000 ... 45,000 kgcm²

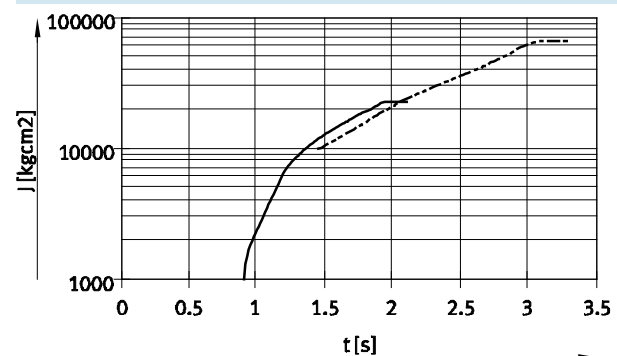
Size 40

With cushioning P



— DRRD-40-...-P (90°) → 10 ... 6,700 kgcm²
 - - - DRRD-40-...-P (180°) → 10 ... 6,700 kgcm²

With cushioning Y9/Y10



— DRRD-40-180-...-Y9 (180) → 1,000 ... 23,000 kgcm²
 - - - DRRD-40-180-...-Y10 (180) → 10,000 ... 67,000 kgcm²

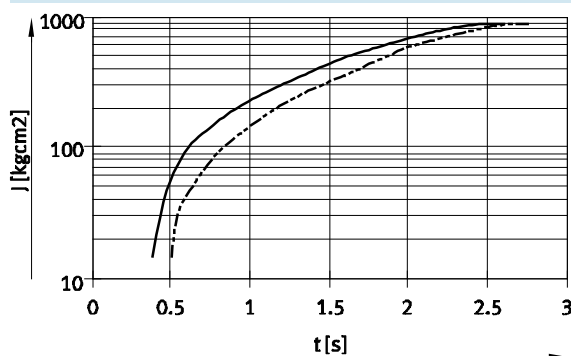
Twin-piston semi-rotary drives DRRD

Technical data

Max. permissible mass moment of inertia J at the flanged shaft as a function of swivel time s

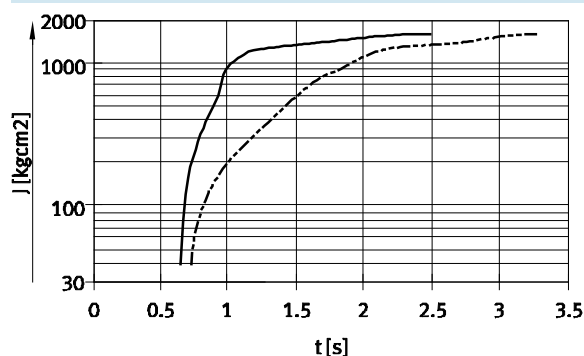
With cushioning Y12

Size 16



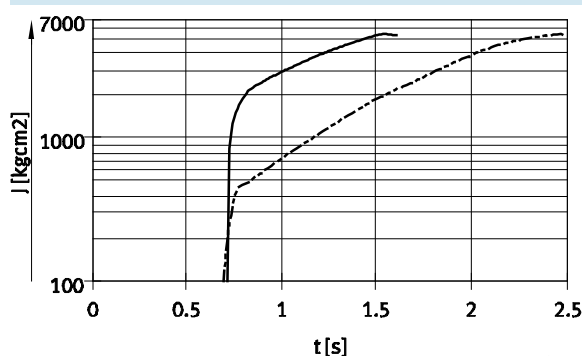
— DRRD-16-...-Y12 (90°) → 15 ... 900 kgcm²
 - - - DRRD-16-...-Y12 (180°) → 15 ... 900 kgcm²

Size 20



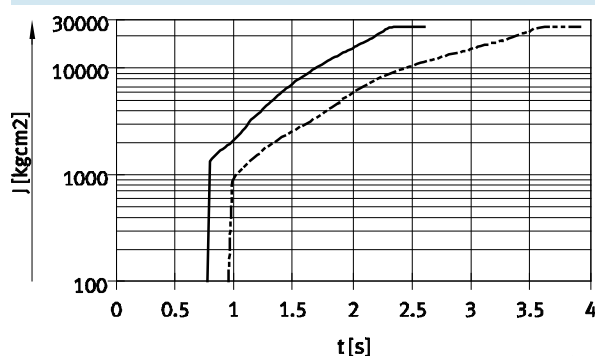
— DRRD-20-...-Y12 (90°) → 40 ... 1,500 kgcm²
 - - - DRRD-20-...-Y12 (180°) → 40 ... 1,500 kgcm²

Size 25



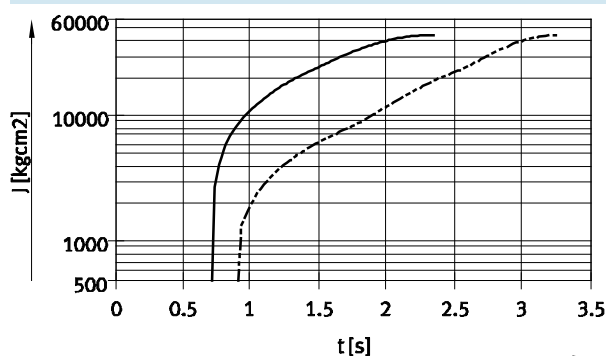
— DRRD-25-...-Y12 (90°) → 100 ... 5,500 kgcm²
 - - - DRRD-25-...-Y12 (180°) → 100 ... 5,500 kgcm²

Size 32



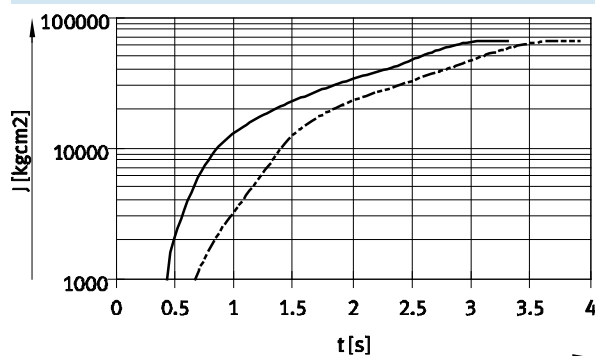
— DRRD-32-...-Y12 (90°) → 100 ... 26,000 kgcm²
 - - - DRRD-32-...-Y12 (180°) → 100 ... 26,000 kgcm²

Size 35



— DRRD-35-...-Y12 (90°) → 500 ... 45,000 kgcm²
 - - - DRRD-35-...-Y12 (180°) → 500 ... 45,000 kgcm²

Size 40



— DRRD-40-...-Y12 (90°) → 1,000 ... 67,000 kgcm²
 - - - DRRD-40-...-Y12 (180°) → 1,000 ... 67,000 kgcm²

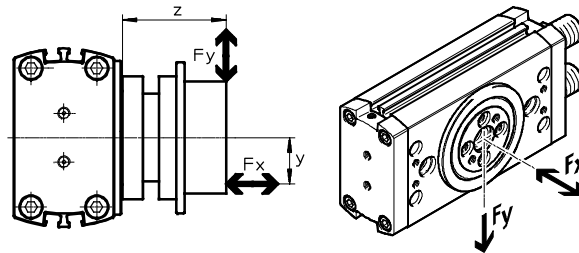
Twin-piston semi-rotary drives DRRD

Technical data

FESTO

Max. dynamic load capacity at the flanged shaft

The zero point for the dimension Z is always the flange surface of the basic drive, regardless of the attachments (flange assembly).

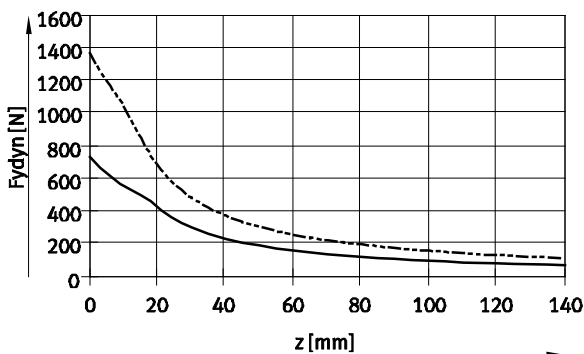


The following equation applies to combined loads (axial and radial):

$$\frac{F_y(z)}{F_{y, \max.}(z)} + \frac{F_z(v)}{F_{z, \max.}(v)} \leq 1$$

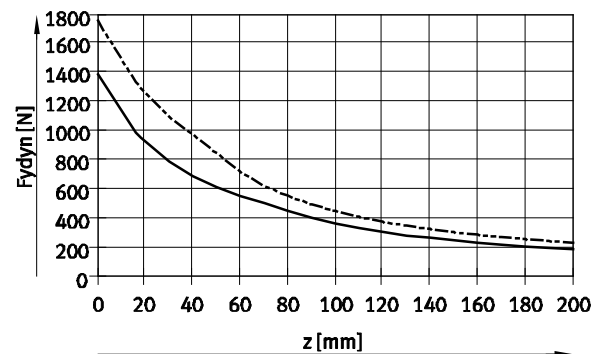
Max. dynamic radial force F_y as a function of distance z

Size 16/20



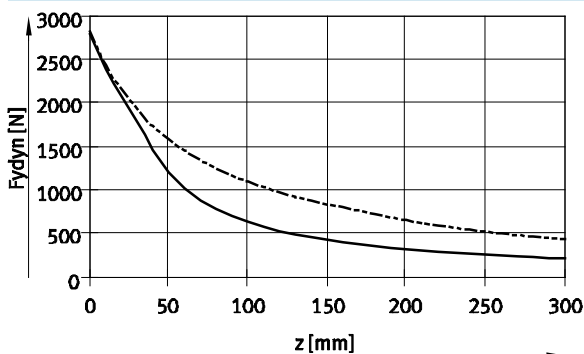
— DRRD-16
- - - DRRD-20

Size 25/32



— DRRD-25
- - - DRRD-32

Size 35/40



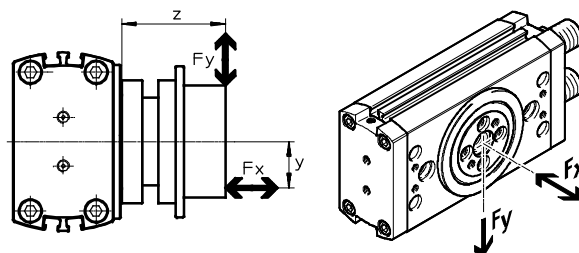
— DRRD-35
- - - DRRD-40

Twin-piston semi-rotary drives DRRD

Technical data

Max. dynamic load capacity at the flanged shaft

The zero point for the dimension Z is always the flange surface of the basic drive, regardless of the attachments (flange assembly).

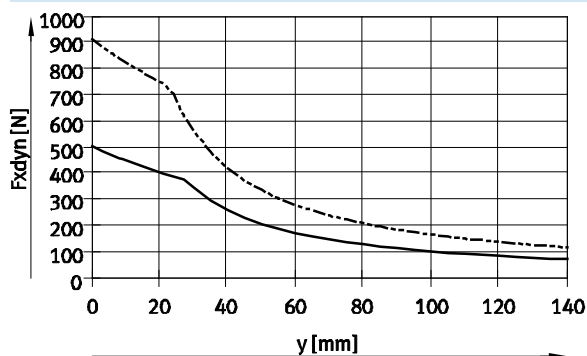


The following equation applies to combined loads (axial and radial):

$$\frac{F_{y(z)}}{F_{y, \max. (z)}} + \frac{F_{z(y)}}{F_{z, \max. (y)}} \leq 1$$

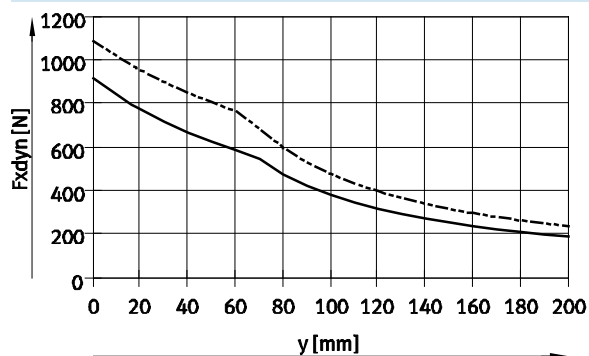
Max. dynamic axial force F_x as a function of distance y

Size 16/20



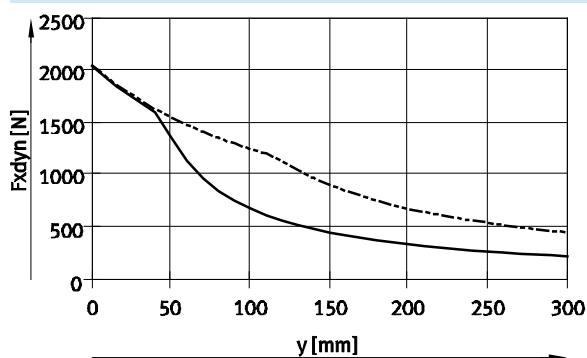
— DRRD-16
- - - DRRD-20

Size 25/32



— DRRD-25
- - - DRRD-32

Size 35/40



— DRRD-35
- - - DRRD-40

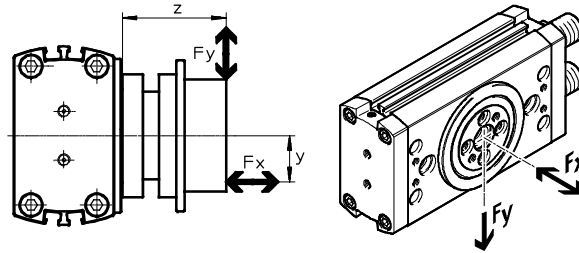
Twin-piston semi-rotary drives DRRD

Technical data

FESTO

Max. static load capacity at the flanged shaft

The zero point for the dimension Z is always the flange surface of the basic drive, regardless of the attachments (flange assembly).

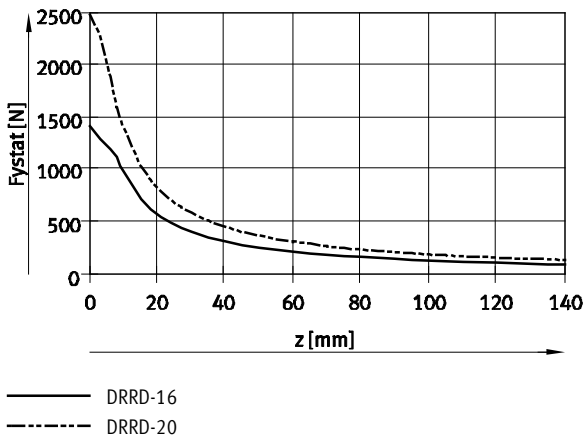


The following equation applies to combined loads (axial and radial):

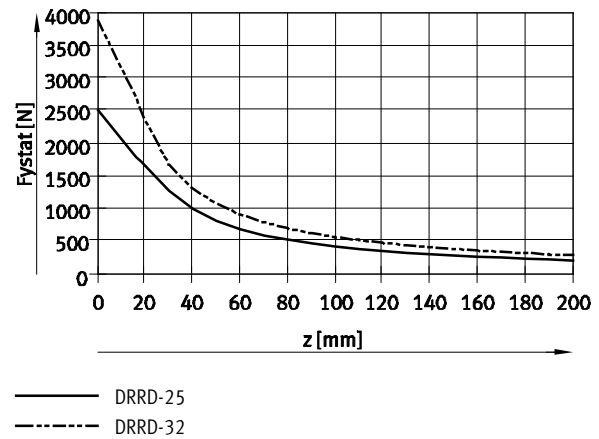
$$\frac{F_y(z)}{F_{y, \max.}(z)} + \frac{F_z(v)}{F_{z, \max.}(v)} \leq 1$$

Max. static radial force F_y as a function of distance z

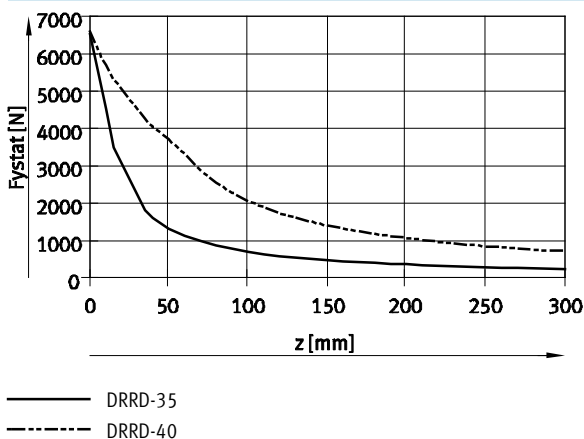
Size 16/20



Size 25/32



Size 35/40

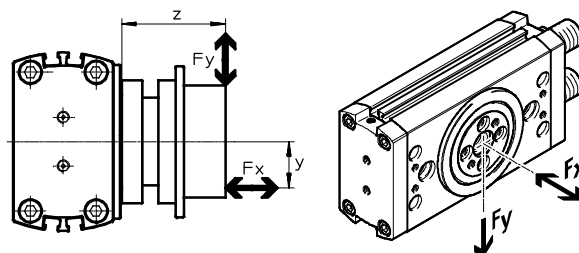


Twin-piston semi-rotary drives DRRD

Technical data

Max. static load capacity at the flanged shaft

The zero point for the dimension Z is always the flange surface of the basic drive, regardless of the attachments (flange assembly).

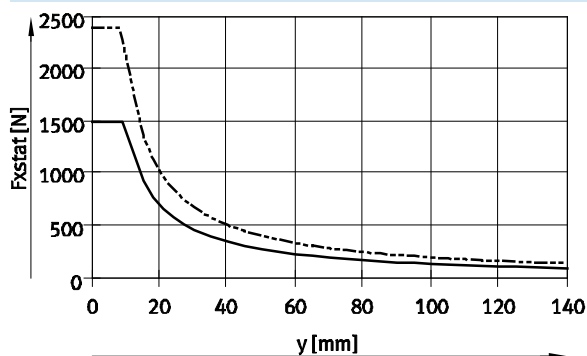


The following equation applies to combined loads (axial and radial):

$$\frac{F_{y(z)}}{F_{y, \max. (z)}} + \frac{F_{z(y)}}{F_{z, \max. (y)}} \leq 1$$

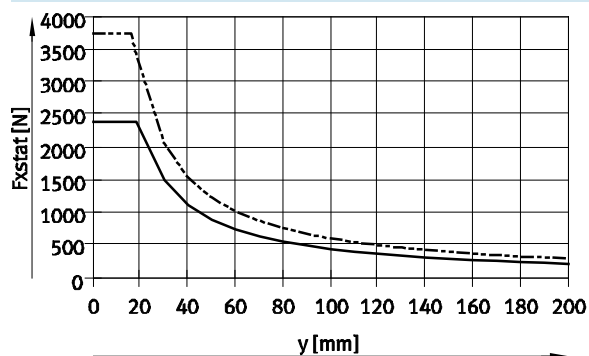
Max. static axial force F_x as a function of distance y

Size 16/20



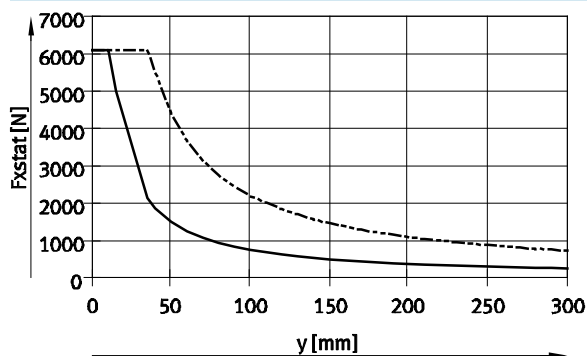
— DRRD-16
- - - DRRD-20

Size 25/32



— DRRD-25
- - - DRRD-32

Size 35/40



— DRRD-35
- - - DRRD-40

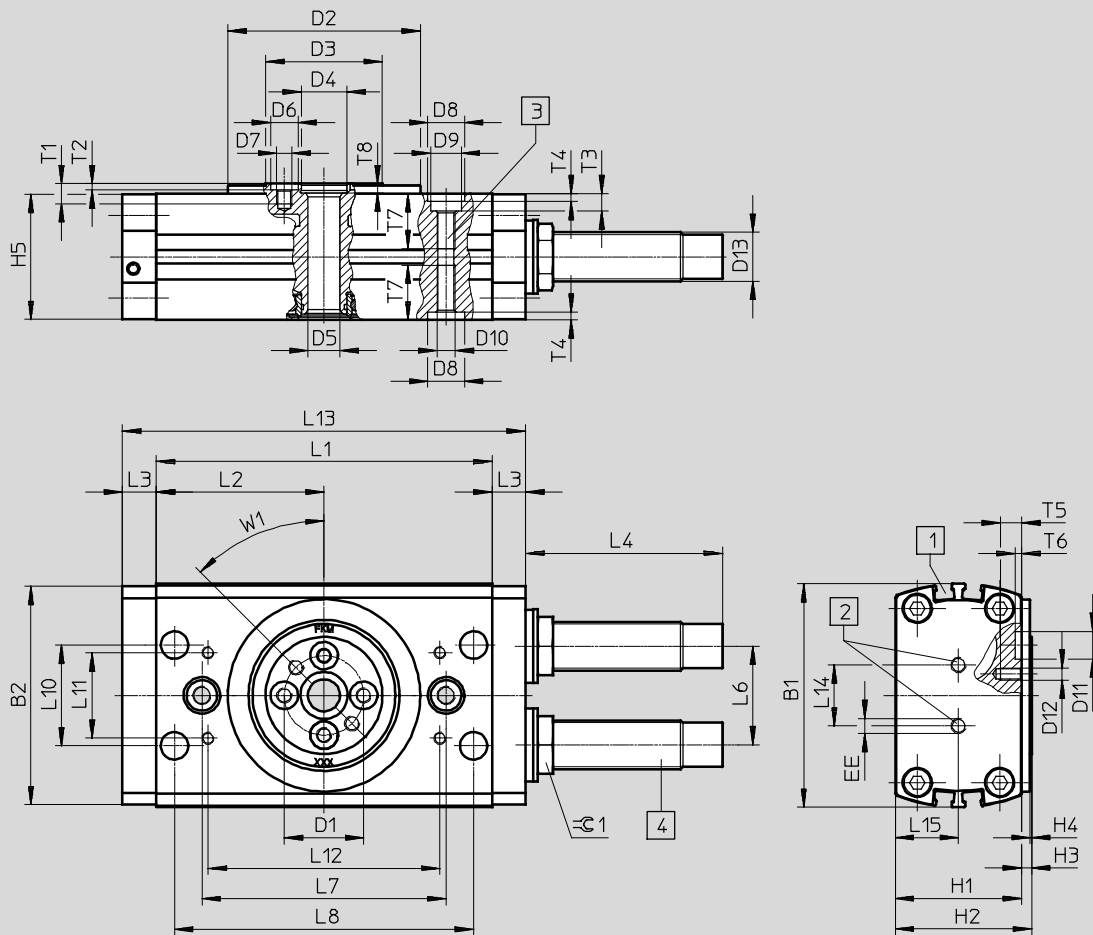
Twin-piston semi-rotary drives DRRD

Technical data

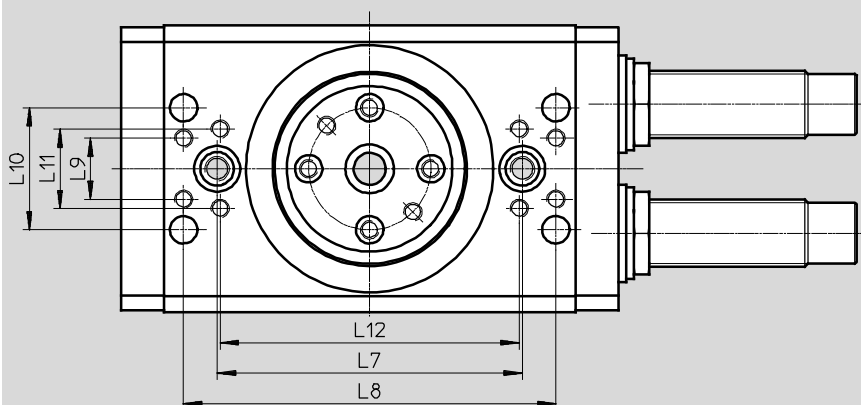
FESTO

Dimensions

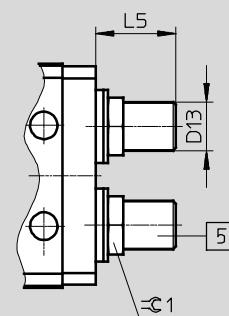
Download CAD data → www.festo.com



DRRD-32 ... 40



DRRD-...-P



- 1 Sensor slots for proximity sensor
- 2 Supply ports
- 3 Mounting thread
- 4 Shock absorber (DRRD-...-Y9/-Y10)
- 5 Cushioning components (DRRD-...-P)

Twin-piston semi-rotary drives DRRD

Technical data

Size	L1 ±0.1	L2	L3 ±0.1	L6	L7 ±0.02	L8 ±0.2	L9 ±0.15	L10 ±0.02	L11	L12
16	84	42	10.5	23.2	64	74	–	26	22	61
20	86	43	11	26	70	74	–	33	14	80
25	110	55	11	32.35	80	98	–	33	14	98
32	135	67.5	14	42.2	100	122	20	40	26	98
35	148	74	15	49.6	120	130	44	26	44	105
40	199	99.5	15	56	120	130	44	26	44	105

Size	L13	L14	L15	B1	B2	H1 ±0.1	H2 +0.2/–0.1	H3 +0.3/–0.2	H4	H5	D1 Ø ±0.025
16	105	20	16.3	58	56.2	33	35.6	2.6	0.5	32.6	21
20	108	20	17.8	65	63.4	36	39.6	3.6	0.5	35.6	24
25	132	20	20.5	73.2	71.5	41.4	44.7	3.3	0.5	41	26
32	163	30	24.8	94	92.6	50	55.5	5.5	1	49.6	40
35	178	42	31.1	106	104	63	67	4	1	62.2	45
40	229	42	33.6	113	111	68	72	4	1	67.2	45

Size	D2 Ø h7	D3 Ø	D4 Ø	D5 Ø +0.15/–0.05	D6 Ø H7	D7	D8 Ø H7	D9 Ø	D10	D11 Ø H7	D12
16	50	32	12	8	7	M4	9	8	M5	7	M3
20	56	34.9	12	8	7	M4	9	8	M5	9	M4
25	63	38.25	15	10.5	9	M5	12	10	M6	9	M4
32	81	54.2	15	10.5	9	M6	15	11	M8	9	M6
35	91	59.9	25	10.5	9	M6	15	11	M8	9	M6
40	91	59.9	25	21	9	M6	15	14	M10	9	M6

Size	D13	T1	T2 +0.1	T3	T4	T5	T6	T7	T8	EE	W1	≈ 1
16	M10x1	5.6	1.6	4.7	2.1	6.3	1.6	15	2.6	M5	45°	13
20	M12x1	6	1.6	4.7	2.1	6.3	2.1	15	2.6	M5	45°	15
25	M16x1	6.6	2.1	5.7	2.6	7	2.1	18	3.1	M5	45°	19
32	M22x1.5	8	2.1	6.5	3.1	7.8	2.1	23.1	3.1	G½	45°	27
35	M26x1.5	8	2.1	6.5	3.1	8.5	2.1	22.6	3.5	G½	45°	32
40	M26x1.5	8	2.1	8.6	3.1	9	2.1	32	3.5	G½	45°	32

Size	Dimension with swivel angle of 180°		Swivel angle adjustment range		
	L4	L5	L4 min./max.	L5 min./max.	1 mm = ...°
16	37	17.6	–20/+1.5	–12/+1.4	8.7
20	41.8	18	–21.1/+1.5	–11/+1.4	9
25	63	24.3	–28.9/+1.9	–15/+1.8	6.6
32	78.3	29.5	–34.7/+2.4	–19/+2.3	5.6
35	97.5	40.9	–34.7/+2.4	–27/+2.3	5.6
40	98.2	41.6	–53/+3.2	–28/+3.1	3.6

Twin-piston semi-rotary drives DRRD

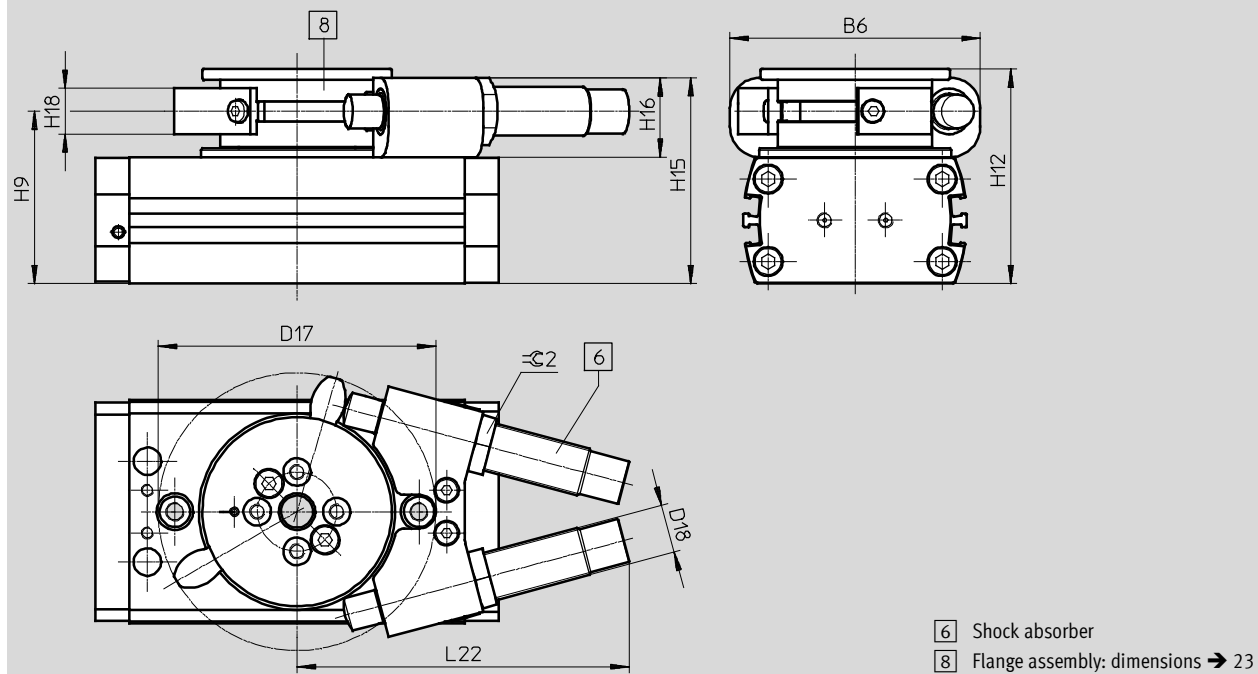
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com

Y12 – With external shock absorber



Size	L22	B6	H9	H12 +0.3/-0.2	H15	H16	H18	D17	D18	±0.2
16	65.2	58	43.1	52.6	51	18	10	69.4	M10x1	13
20	85.3	75	51.2	65.2	59.5	23.5	15	91	M12x1	15
25	108.9	82	56.5	70.3	67.4	26	15	91	M16x1	19
32	149.7	120	68.5	87	85	35	22	126.2	M22x1.5	27
35	155.5	133	83	101	99	36	21	146.7	M26x1.5	27
40	155.5	133	88	106	104	36	21	146.7	M30x1.5	27

Twin-piston semi-rotary drives DRRD

Technical data

Ordering data – Stock items				
DRRD	Size	Nominal swivel angle [°]	Part No.	Type
P – Elastic cushioning rings/pads at both ends				
	16	180	1577238	DRRD-16-180-FH-PA
	20		1395606	DRRD-20-180-FH-PA
	25		1359980	DRRD-25-180-FH-PA
	32		1578512	DRRD-32-180-FH-PA
	35		1526825	DRRD-35-180-FH-PA
	40		1503269	DRRD-40-180-FH-PA
Y9 – Linear shock absorber, self-adjusting at both ends				
	16	180	1644389	DRRD-16-180-FH-Y9A
	20		1427379	DRRD-20-180-FH-Y9A
	25		1360248	DRRD-25-180-FH-Y9A
	32		1578518	DRRD-32-180-FH-Y9A
	35		1547102	DRRD-35-180-FH-Y9A
	40		1526986	DRRD-40-180-FH-Y9A

Twin-piston semi-rotary drives DRRD

FESTO

Ordering data – Modular products

Ordering table									
Size	16	20	25	32	35	40	Condi- tions	Code	Enter code
M Module No.	574399	574400	574401	574402	574403	574404			
Function	Semi-rotary drive							DRRD	DRRD
Size	16	20	25	32	35	40		-...	
Nominal swivel angle	180°							-180	-180
Output shaft	Flanged shaft, hollow							-FH	-FH
Cushioning	Elastic cushioning rings/pads at both ends							-P	
	Linear shock absorber, self-adjusting at both ends							-Y9	
	-	-	Linear shock absorber, self-adjusting at both ends, hard	-	Linear shock absorber, self-adjusting at both ends, hard			-Y10	
	Linear shock absorber, self-adjusting at both ends, external						1	-Y12	
Position sensing	Via proximity sensor							A	A
0 EU certification	None								
	II 2GD						2	-EX4	
End-position locking	None								
	At both ends						3	-E1	
Sensor mounting, external	None								
	Mounting rail for proximity sensor							-R	
Design	Standard								
	Splash-proof design							-SG	
Operating instructions	With operating instructions								
	Without operating instructions							-DN	

- 1 Y12** Not with end-position lock E1 and splash-proof design SG
2 EX4 Not with end-position lock E1
3 E1 Not with sensor mounting kit R

Transfer order code

	DRRD	-		-	180	-	FH	-		-	A	-		-		-		-	
--	------	---	--	---	-----	---	----	---	--	---	---	---	--	---	--	---	--	---	--

Twin-piston semi-rotary drives DRRD

Accessories

Clamping unit DADL-EL

(order code: E1)

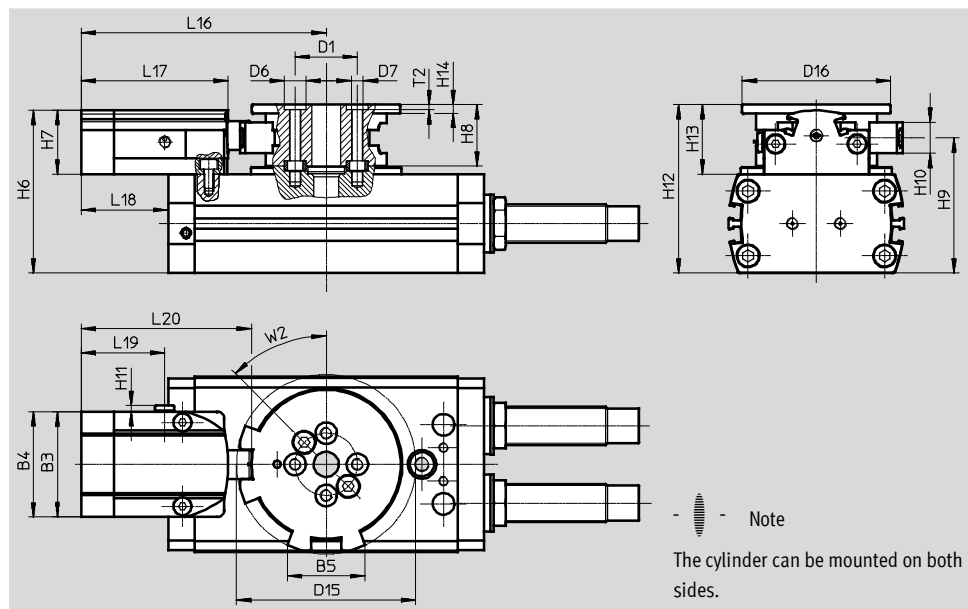
Cannot be used in the ATEX zone

Materials:

Housing: Anodised aluminium

Bearing: Plastic

RoHS-compliant



Dimensions and ordering data

For size	L16	L17	L18	L19	L20	B3 ±0.2	B4 ±0.2	B5	H6	H7 ±0.15	H8 ±0.1	H9
16	83	50	30.5	34	58.3	37.6	38	26.9	51	18	17	43.1
20	102.2	61.2	48.2	34.8	71.1	43.6	44	32.4	62.5	26.5	25.6	51.2
25	102.2	61.2	36.2	34.8	71.1	43.6	44	32.4	67.9	26.5	25.6	56.5
32	112.2	61.2	30.7	34.8	71.1	43.6	44	39.4	79	26.7	31.5	68.5
35	132.5	70.6	43.5	42.6	85.4	57.6	58	50.2	98	35	34	83
40	132.5	70.6	18	42.6	85.4	57.6	58	50.2	103	35	34	88

For size	H10	H11	H12 +0.3/-0.2	H13 +0.4/-0.3	H14	D1 Ø ±0.025	D6 Ø H7	D7	D15 Ø	D16 Ø	T2 +0.1	W2
16	9	2.5	52.6	19.6	3.5	21	7	M4	61.9	49	1.6	45°
20	13	2.5	65.2	29.2	3.5	24	7	M4	74.9	62	1.6	45°
25	13	2.5	70.3	28.9	3.5	26	9	M5	74.9	62	2.1	45°
32	17	2.5	87	37	4	40	9	M6	95.4	79	2.1	45°
35	14.8	2.5	101	38	5	45	9	M6	110.9	89	2.1	45°
40	14.8	2.5	106	38	5	45	9	M6	110.9	89	2.1	45°

For size	Pneumatic connection	Operating pressure [bar]	Position sensing	Adjustable swivel angle [°]	Weight [g]	Part No.	Type
16	M5	5 ... 8	Via proximity sensor	60 ... 200	166	1692770	DADL-EL-Q11-16
20					382	1579786	DADL-EL-Q11-20
25					370	1568183	DADL-EL-Q11-25
32				55 ... 200	600	1631139	DADL-EL-Q11-32
35				57 ... 200	900	1544900	DADL-EL-Q11-35/40
40					900	1544900	DADL-EL-Q11-35/40

Twin-piston semi-rotary drives DRRD

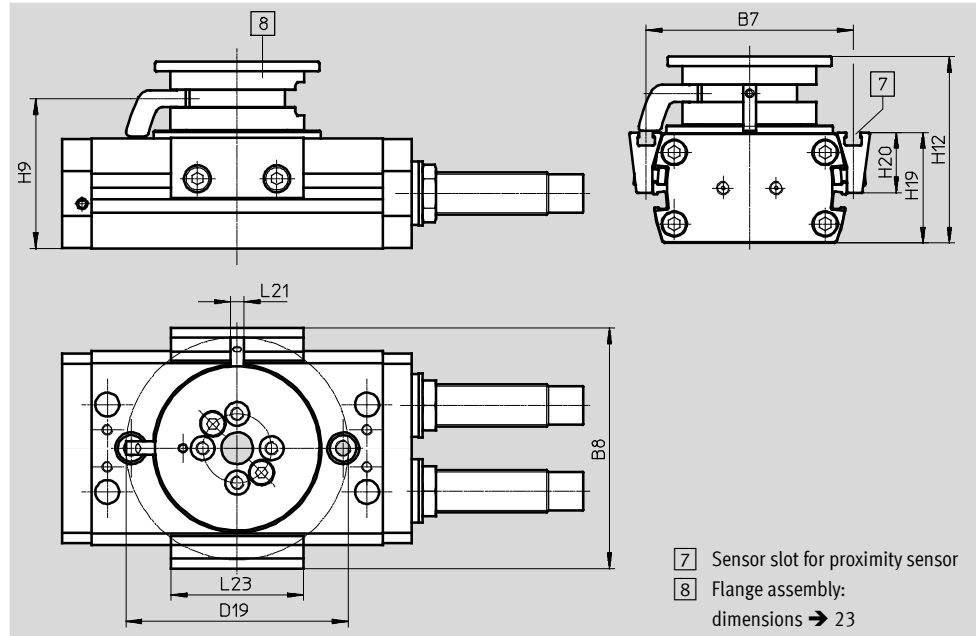
Accessories

FESTO

Sensing kit DASI-...-KT
(order code: R)

Materials:
Anodised aluminium
RoHS-compliant

Also with inductive proximity sensor
SIES for sensing the piston position
→ 26

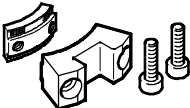
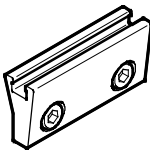


Dimensions and ordering data						
For size	L21	L23	B7	B8	H9	H12 +0.3/-0.2
16	5	50	64.4	76.1	43.1	52.6
20	5	50	74	85.7	51.2	65.2
25	5	50	78.2	90.7	56.5	70.3
32	7	50	100	113.5	68.5	87
35	7	50	116	132.9	83	101
40	7	50	118	135.8	88	106

For size	H19	H20 ±0.1	D19	Weight [g]	Part No.	Type
16	33.5	18.5	70.9	110	1693008	DASI-Q11-16-A-KT
20	36.4	20.2	84	192	1580899	DASI-Q11-20-A-KT
25	41.8	22.8	84	192	1568461	DASI-Q11-25-A-KT
32	50.5	26.5	107.5	366	1632097	DASI-Q11-32-A-KT
35	63.5	33.1	125.2	485	1551144	DASI-Q11-35-A-KT
40	68.5	35.5	125.2	485	1550027	DASI-Q11-40-A-KT

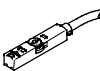
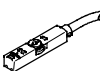
Twin-piston semi-rotary drives DRRD

Accessories

Ordering data						
	For size	Brief description	Weight [g]	Part No.	Type	PU ¹⁾
Clamping component DADL-EC						
	16	For securing an intermediate position in combination with the clamping unit DADL-EL	18	1692496	DADL-EC-Q11-16	1
	20, 25		36	1435411	DADL-EC-Q11-20/25	
	32		67	1631170	DADL-EC-Q11-32	
	35, 40		98	1535091	DADL-EC-Q11-35/40	
Sensor bracket DASI-...-SR						
	16	Additional sensing option in combination with the sensing kit DASI-...-KT	28	1692983	DASI-Q11-16-A-SR	2
	20		32	1581420	DASI-Q11-20-A-SR	
	25		32	1568451	DASI-Q11-25-A-SR	
	32		42	1631997	DASI-Q11-32-A-SR	
	35		62	1550870	DASI-Q11-35-A-SR	
	40		62	1548054	DASI-Q11-40-A-SR	
Switch lug DASI-...-SL						
	16	Additional sensing option in combination with the sensing kit DASI-...-KT	2.5	1692969	DASI-Q11-16-A-SL	1
	20, 25		4	1568436	DASI-Q11-20/25-A-SL	
	32		6	1631824	DASI-Q11-32-A-SL	
	35, 40		8	1548155	DASI-Q11-35/40-A-SL	
Centring sleeve ZBH ²⁾						
	16, 20	For centring the semi-rotary drive	1	150927	ZBH-9	10
	25		1	189653	ZBH-12	
	32, 40		3	191409	ZBH-15	
	16, 20	For centring attachment parts on the flanged shaft	1	186717	ZBH-7	
	25 ... 40		1	150927	ZBH-9	

1) Packaging unit

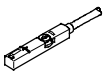
2) 2 included in the scope of delivery of the semi-rotary drive or attachments.

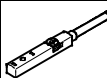
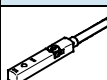
Ordering data – Proximity sensor for T-slot, magneto-resistive						Technical data → Internet: smt	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type	
N/O contact							
	Insertable in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	574335	SMT-8M-A-PS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574334	SMT-8M-A-PS-24V-E-0,3-M8D	
			Plug M12x1, 3-pin	0.3	574337	SMT-8M-A-PS-24V-E-0,3-M12	
		NPN	Cable, 3-wire	2.5	574338	SMT-8M-A-NS-24V-E-2,5-OE	
			Plug M8x1, 3-pin	0.3	574339	SMT-8M-A-NS-24V-E-0,3-M8D	
N/C contact							
	Insertable in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	7.5	574340	SMT-8M-A-PO-24V-E-7,5-OE	

Twin-piston semi-rotary drives DRRD

Accessories

FESTO

Ordering data – Proximity sensor for T-slot, magnetic reed					Technical data → Internet: sme	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	543862	SME-8M-DS-24V-K-2,5-OE
				5.0	543863	SME-8M-DS-24V-K-5,0-OE
			Cable, 2-wire	2.5	543872	SME-8M-ZS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0.3	543861	SME-8M-DS-24V-K-0,3-M8D
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150855	SME-8-K-LED-24
			Plug M8x1, 3-pin	0.3	150857	SME-8-S-LED-24

Ordering data – Proximity sensor for T-slot, inductive					Technical data → Internet: sies	
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551386	SIES-8M-PS-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551387	SIES-8M-PS-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551396	SIES-8M-NS-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551397	SIES-8M-NS-24V-K-0,3-M8D
N/C contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	7.5	551391	SIES-8M-PO-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551392	SIES-8M-PO-24V-K-0,3-M8D
		NPN	Cable, 3-wire	7.5	551401	SIES-8M-NO-24V-K-7,5-OE
			Plug M8x1, 3-pin	0.3	551402	SIES-8M-NO-24V-K-0,3-M8D

 **Note**
The inductive proximity sensors SIES can only be used in combination with the sensing kit DASI-...-KT.

Ordering data – Connecting cables				Technical data → 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