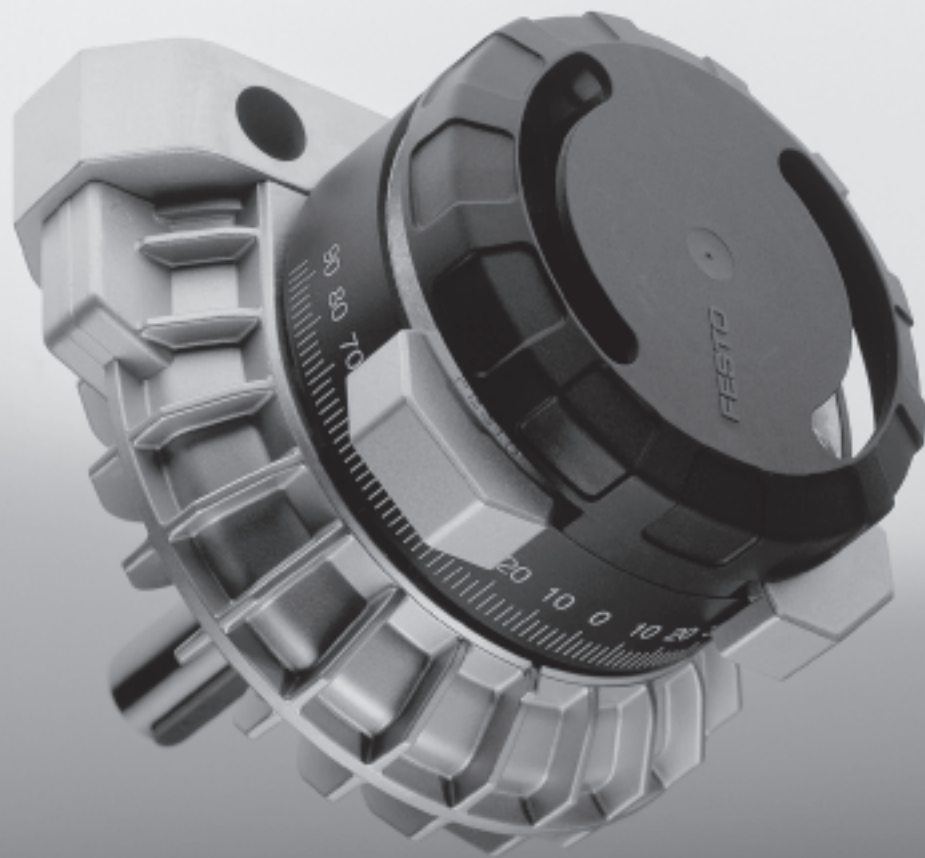




- Wide variety of mounting options
- Infinitely adjustable swivel angle
- Comprehensive range of accessories

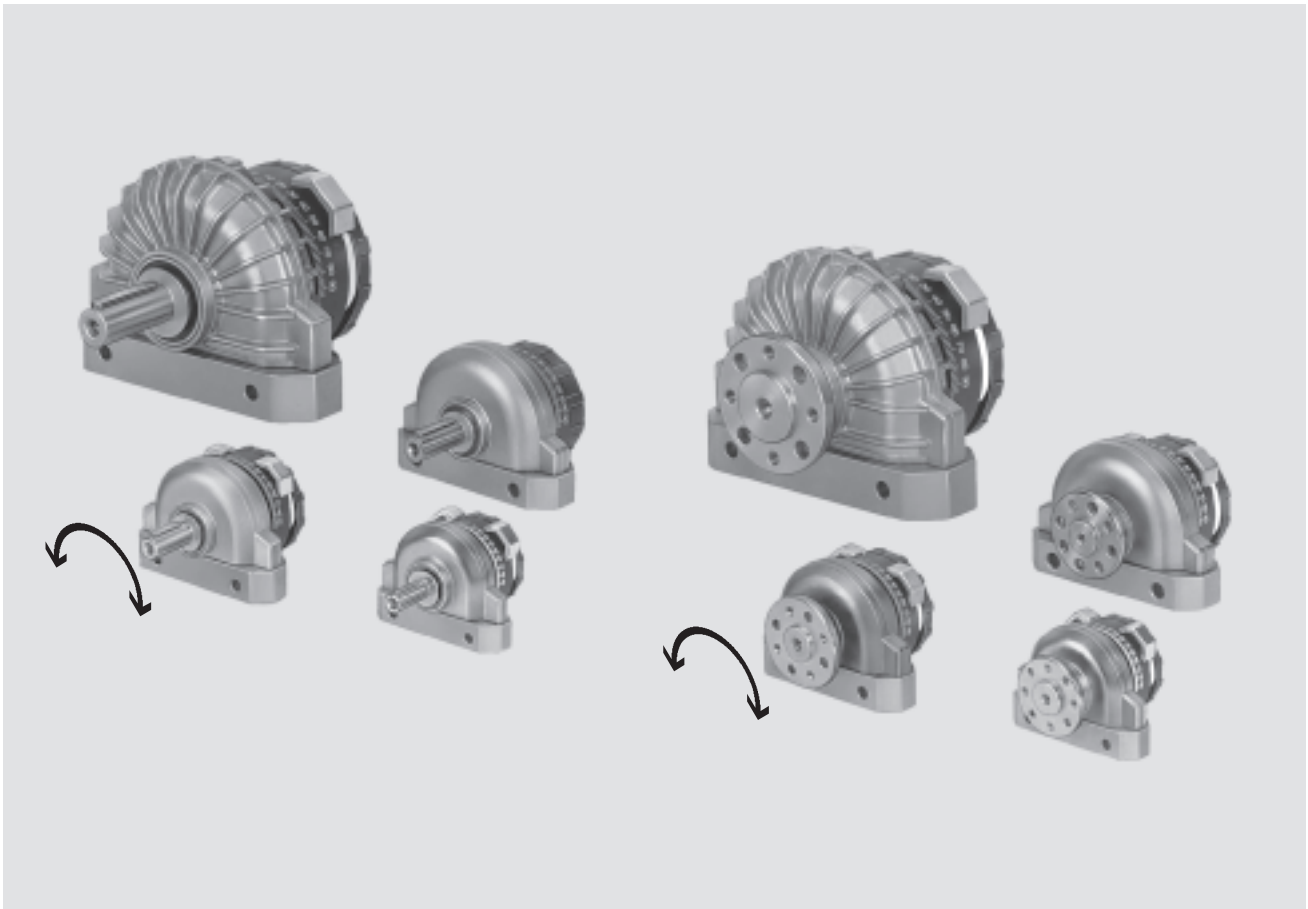
Specified types in accordance with ATEX directive for potentially explosive atmospheres

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Semi-rotary drives DSR/DSRL

Features

FESTO



Brief description

In these semi-rotary drives, the force is directly transmitted to the drive shaft via a rotary vane. The swivel angle is infinitely adjustable from 0 ... 184° (DSRL-10 and 12: 0 ... 181°).

The adjustable stop system is separate from the rotary vane so that any forces which occur are absorbed by the stop blocks. The impacts are cushioned at the end positions by flexible plastic plates.

DSRL-...-FW

This design with hollow flanged shaft permits the passage of liquid or gaseous media, or even tubing or

wiring. The force is transmitted directly and backlash-free via a splined shaft.



Mass moment of inertia calculation
tool
www.festo.com/en/engineering

Semi-rotary drives DSR/DSRL

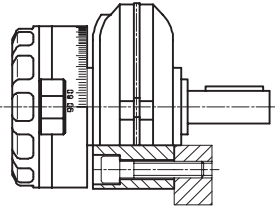
Features

FESTO

Mounting options

Without mounting attachments

Direct mounting



With mounting attachments
for DSR

Foot mounting HSR-...-FW



Flange mounting FSR



Push-on flange FWSR



for DSRL

Foot mounting HSR-...-FW



Freewheel unit for synchronous movements

The freewheel unit is an attachment which is fitted to the drive shaft of the semi-rotary drive DSR. The freewheel unit converts the oscillating rotary movement of the semi-rotary drive into a synchronous, indexing movement. The movement of the semi-rotary drive shaft only occurs in the working directions left or right. This permits infinitely adjustable feed movements.

The minimum possible swivel angle is 0.4° . Switching accuracy is also dependent upon switching speed and load.

-  - Note

The load must be stopped externally!

FLSR-...-L (left-hand)

Viewed from the drive shaft side, rotation counter-clockwise.

FLSR-...-R (right-hand)

Viewed from the drive shaft side, rotation clockwise.

Accessories

Speed regulation

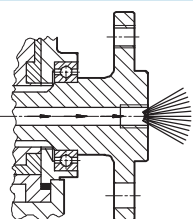
→ 1 / 4.1-53



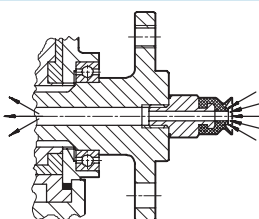
FLSR with semi-rotary drive

Sample applications with hollow flanged shaft in DSRL

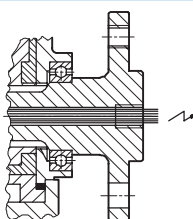
Air blast



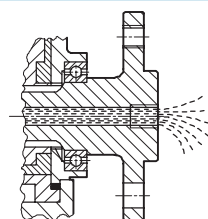
Vacuum



Electrical lines



Water, coolant, oil, glue, etc.



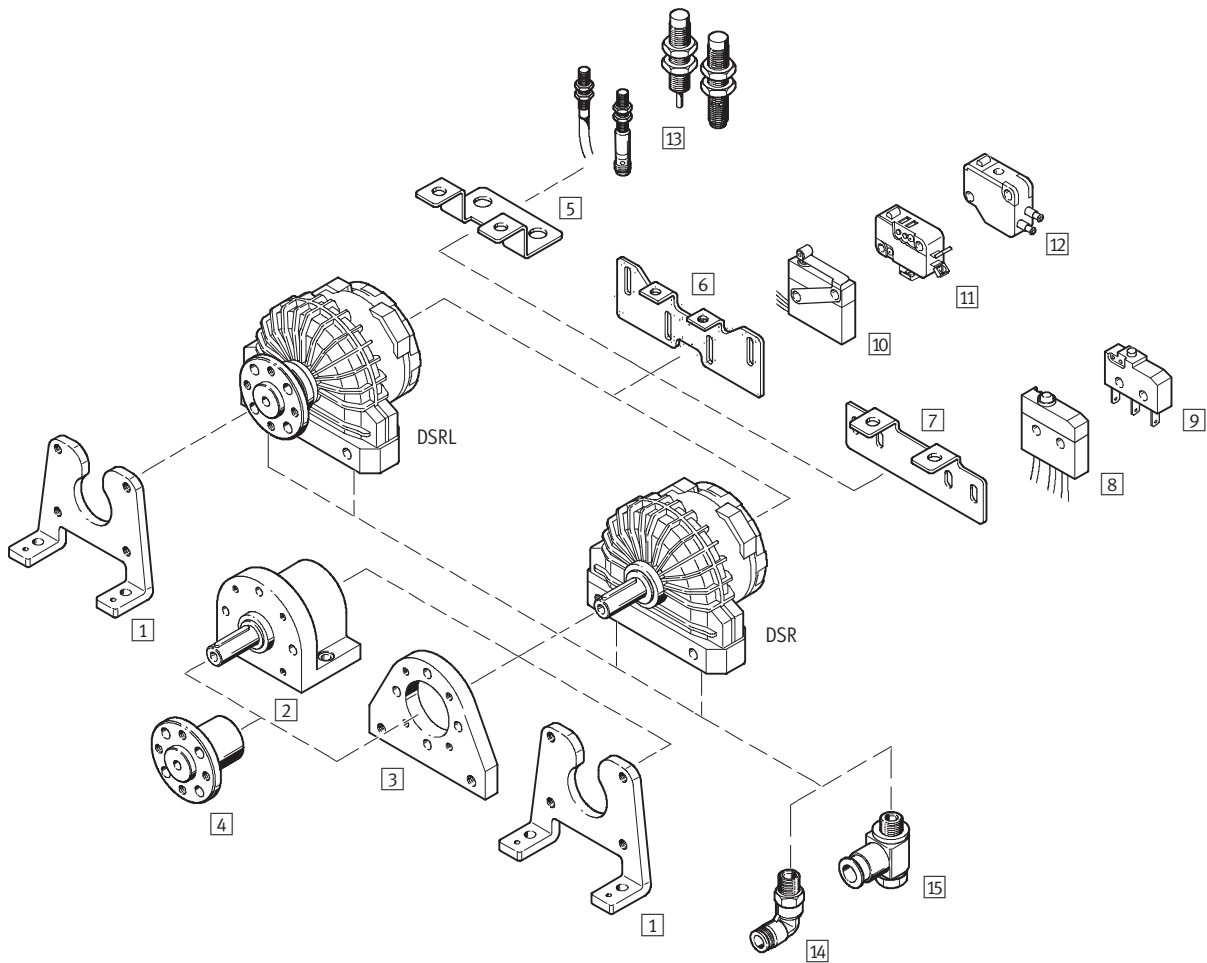
Semi-rotary drives DSR/DSRL

Peripherals overview and type codes

FESTO

Swivel drives
Semi-rotary vane drives

4.1



Semi-rotary drives DSR/DSRL

Peripherals overview and type codes

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Mounting attachments and accessories				
	Brief description	DSR	DSRL	→ Page
1	Foot mounting HSR-...-FW	■	■	1 / 4.1-44
2	Freewheel unit FLSR-...-L/R	■	–	1 / 4.1-46
3	Flange mounting FSR	■	–	1 / 4.1-44
4	Push-on flange FWSR	■	–	1 / 4.1-45
5	Mounting kit WSR-...	■	■	1 / 4.1-49
6	Mounting kit WSR-12 ... 40	■	■	1 / 4.1-48
7	Mounting kit WSR-10/12-K	■	■	1 / 4.1-48
8	Micro switch S-3-BE-SW	■	■	1 / 4.1-51
9	Micro switch S-3-BE	■	■	1 / 4.1-51
10	Micro switch SR-3-E-SW	■	■	1 / 4.1-51
11	Micro switch S-3-E	■	■	1 / 4.1-51
12	Micro stem actuated valve SO-3-PK-3-B, S-3-PK-3-B	■	■	1 / 4.1-52
13	Proximity sensors SIEN	■	■	1 / 4.1-53
14	Push-in L-fitting QSL	■	■	Volume 3
15	One-way flow control valve GRLA	■	■	1 / 4.1-53

DSRL		–	10	–	180	–	P	–	FW
Type									
Double acting									
DSR	Semi-rotary drive with spigot shaft								
DSRL	Semi-rotary drive, with flanged, hollow drive shaft								
Piston ∅ [mm]									
Swivel angle [°]									
Cushioning									
P	Non-adjustable at either end								
Shaft									
	Spigot shaft								
FW	Drive shaft								

Semi-rotary drives DSR/DSRL

Technical data

FESTO

Function



Ø Diameter
10 ... 40 mm

≡ Force
0.5 ... 20 Nm

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Spare_parts_service

Variants

- With spigot shaft
- With hollow flanged shaft



General technical data						
Piston Ø	10	12	16	25	32	40
Pneumatic connection	M3	M5	M5	M5	G1/8	G1/4
Design	Semi-rotary actuator with vane drive					
Cushioning	Non-adjustable at either end					
Position sensing	Electrical					
	Pneumatic					
	Inductive					
Type of mounting	Via through-holes					
	Via accessories					
Mounting position	Any					
Swivel angle	0 ... 181 °		0 ... 184 °			

Operating and environmental conditions						
Piston Ø	10	12	16	25	32	40
Operating medium	Filtered compressed air, lubricated or unlubricated					
Operating pressure [bar]	2.5 ... 8	2 ... 8		1.5 ... 8		
Temperature range ¹⁾ [°C]	-10 ... +60					

1) Note operating range of proximity sensors

Forces and torques						
Piston Ø	10	12	16	25	32	40
Torque at 6 bar [Nm]	0.5	1	2	5	10	20
Max. swivelling frequency ¹⁾ [Hz]	3					
Max. perm. radial load ²⁾ [N]	30	45	75	120	200	350
Max. perm. axial load ²⁾ [N]	10	18	30	50	75	120
Max. perm. mass moment of inertia ²⁾	Diagrams → 1 / 4.1-40					

1) Please observe the max. permissible mass moments of inertia → 1 / 4.1-40

2) On the drive shaft at maximum frequency

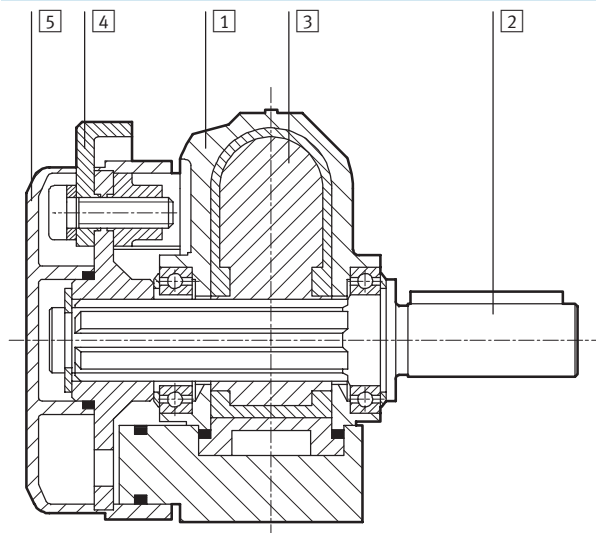
Semi-rotary drives DSR/DSRL

Technical data



Materials

Sectional view



Rotary actuator		
1	Housing	Die-cast zinc
2	Drive shaft	Nickel plated steel
3	Rotary vane	Plastic
4	Trip cam	Sintered steel, nickel plated
5	Cover cap	Plastic
-	Seals	Nitrile rubber

Weights [g]						
Piston Ø	10	12	16	25	32	40
DSR-...-P	100	200	310	540	1,285	2,400
DSRL-...-FW	140	240	350	610	1,390	2,700

Semi-rotary drives DSR/DSRL

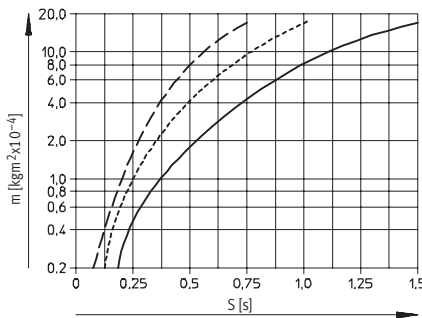
Technical data

FESTO

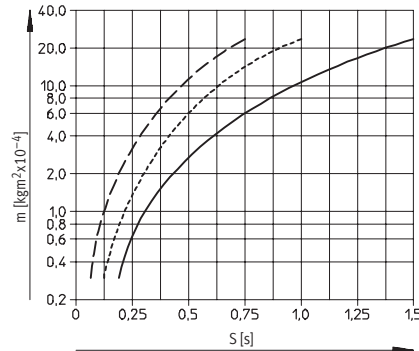
Max. permissible mass moment of inertia

Mass moment of inertia m as a function of swivel time S and swivel angle

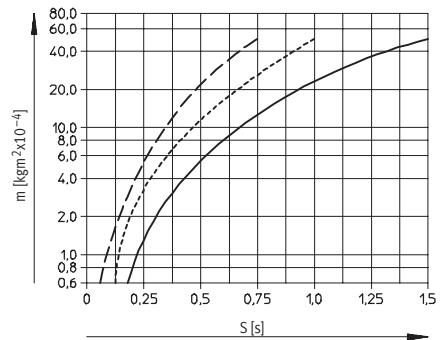
DSR/DSRL-10



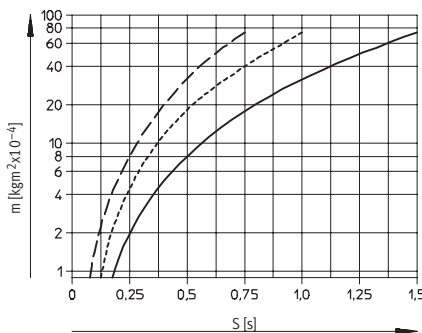
DSR/DSRL-12



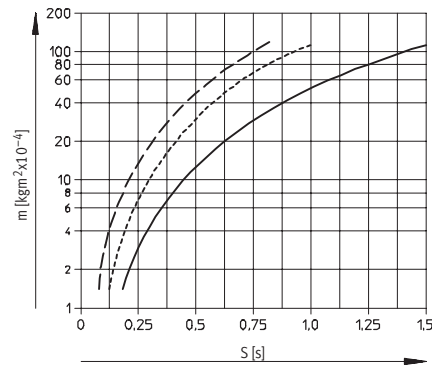
DSR/DSRL-16



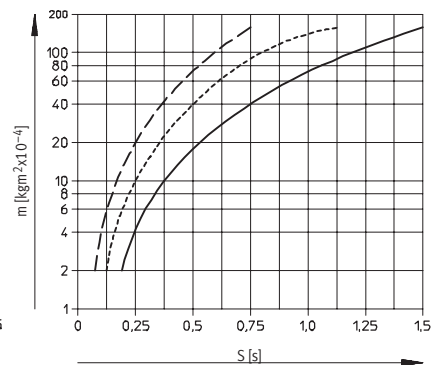
DSR/DSRL-25



DSR/DSRL-32



DSR/DSRL-40



Mass moment of inertia calculation tool
www.festo.com/en/engineering

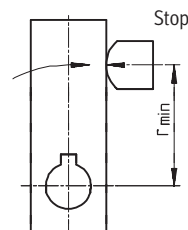
----- Swivel angle 90°
 Swivel angle 120°
 ——— Swivel angle 180°

Assembly instructions:

If the listed maximum permissible mass moment of inertia is exceeded, external stops must be attached. Please note:

The stop must not be less than the minimum radius to the drive shaft (r_{min}). The stop force must not exceed

the maximum force. Due to the flexibility of the stops, a precise end position can only be achieved using external stops.



Ø [mm]	Stop radius r_{min} [mm]	Force [N]
10	13	60
12	15	90
16	17	160
25	21	320
32	28	480
40	40	650

Note

When throttling the semi-rotary drives to swivelling speeds under 180°/s, the drives must be operated

at a pressure of at least 6 bar. A constant speed fluctuation of $\pm 30\%$ is to be expected. The flutters and the

swivelling times shown in the diagrams can only be improved by using flow control valves.

Semi-rotary drives DSR/DSRL

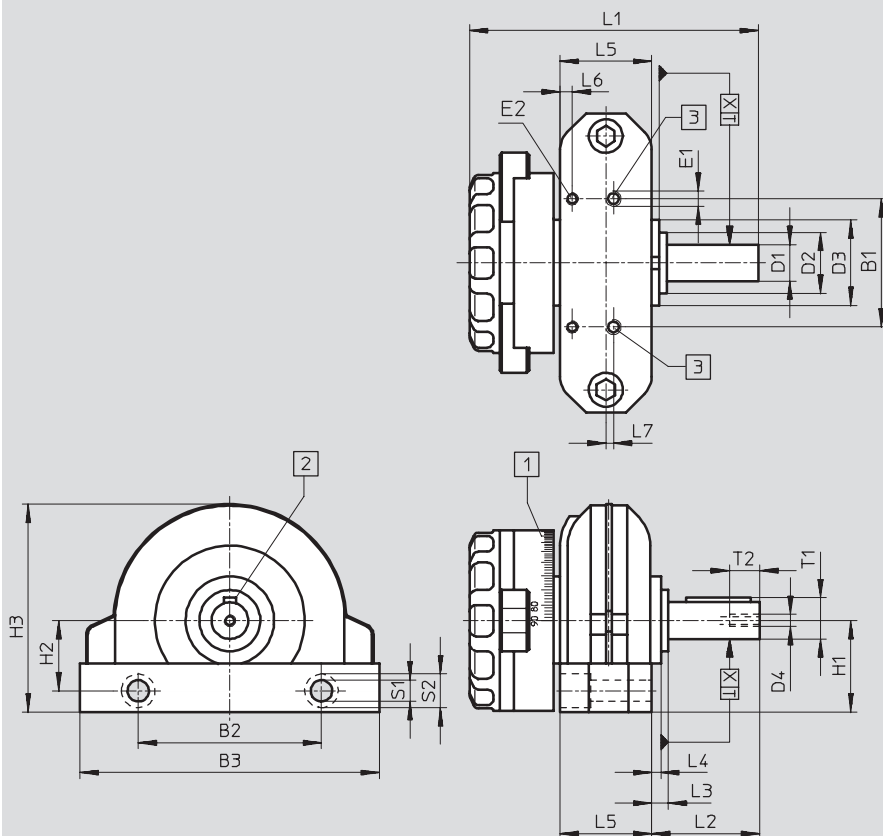
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering

DSR



1 Angle scale for swivel angle reading

2 Woodruff key position at 0 °

3 Supply port

Note

Swivel angle in both directions is 90°.

The swivel angle is pressure-dependent. The cushioning angle on each side is approx. 1.6° maximum at 8 bar.

If after the swivel process, the kinetic energy is converted by cushioning, the drive shaft swivels back by a corresponding angle.

The stops must not be removed as the rotary vane is not suitable for end-position limiting. The cover cap is equipped with an angle scale for adjusting.

When attaching additional components to the drive shaft, the maximum permissible tightening torque of the bolt at D4 must not be exceeded.

Swivel drives
Semi-rotary vane drives

4.1

Ø [mm]	B1	B2	B3	D1 Ø g7	D2 Ø	D3 Ø h8	D4	E1	E2	H1	H2	H3	L1	L2
10	22	32	53	6	12	20	M2.5	M3	M3	19.4	15.5	38.8	57	22.4
12	26	40	65	8	16	22	M3	M5	M3	23.5	18.5	48	65.6	25.5
16	30	46	78	10	17	24	M3	M5	M3	27	20.5	56.5	75.8	29
25	42	60	98	12	18	28	M4	M5	M4	30	23	68.1	94.5	35.4
32	54	80	130	16	27	42	M5	G1/8	M4	43	34	92	125.5	50
40	70	100	160	20	36	52	M6	G1/4	M4	53	40	121	162	60

Ø [mm]	L3	L4	L5	L6	L7	S1	S2	T1	T2	X	Woodruff key to DIN 6885 ¹⁾	Tightening torque at D4 [Nm]
10	6.5	4.5	15.1	2.2	2	3.4	6	6.8	7	0.35	A2 x 2 x 12	0.7
12	5.5	3.5	18	2.1	2.5	4.4	8	8.8	9	0.35	A2 x 2 x 16	1.2
16	6	3.5	22.5	2.1	–	5.5	10	11.2	9	0.35	A3 x 3 x 18	1.2
25	5.4	3	30	4	–	7	11	13.5	10	0.4	A4 x 4 x 25	5.5
32	10	7	36	4	–	8.5	15	18	12.5	0.45	A5 x 5 x 36	5.5
40	10	6	50	4	–	8.5	15	22.5	16	0.5	A6 x 6 x 45	5.5

1) Included in scope of delivery

Semi-rotary drives DSR/DSRL

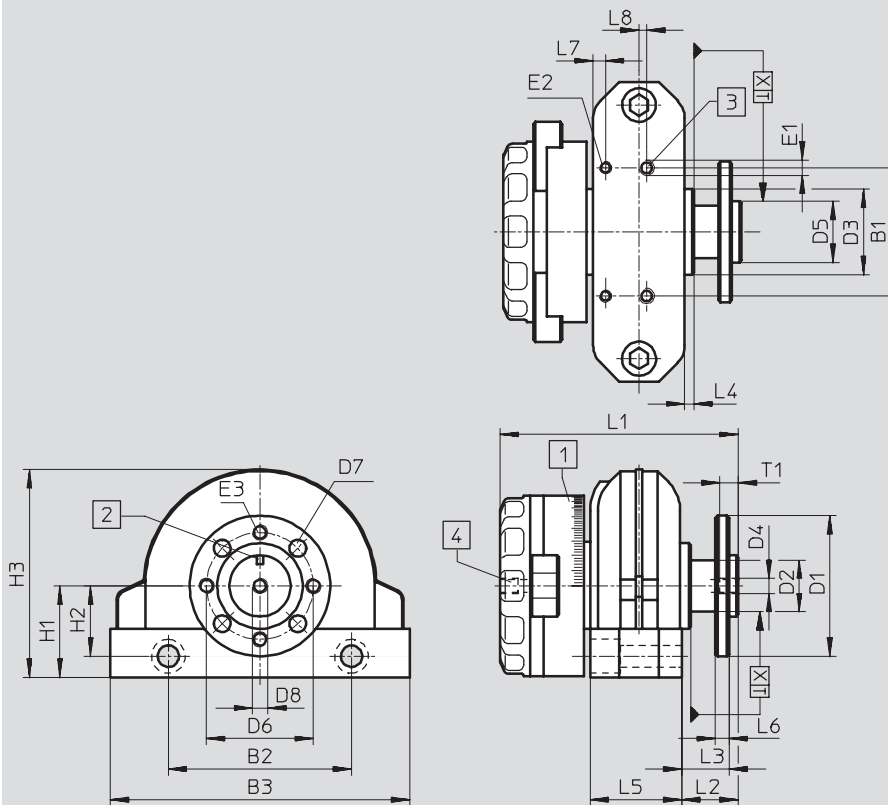
Technical data

FESTO

Dimensions

Download CAD data → www.festo.com/en/engineering

DSRL



1 Angle scale for swivel angle reading

2 Position of marking at angle scale 0°

3 Supply port
4 Through-hole



Note

Swivel angle in both directions is 90°.

The swivel angle is pressure-dependent. The cushioning angle on each side is approx. 1.6° maximum at 8 bar.

If after the swivel process, the kinetic energy is converted by cushioning, the drive shaft swivels back by a corresponding angle.

The stops must not be removed as the rotary vane is not suitable for end-position limiting. The cover cap is equipped with an angle scale for adjusting.

When attaching additional components to the drive flange, the maximum permissible tightening torque of the bolt at D4 must not be exceeded.

Ø [mm]	B1	B2	B3	D1 Ø g7	D2 Ø	D3 Ø h8	D4	D5 Ø f8	D6 Ø	D7 Ø H13	D8 Ø min.	E1	E2	E3	H1
10	22	32	53	30	10	20	M3	11	21	3.4	1.5	M3	M3	M3	19.4
12	26	40	65	33	13	22	M3	14	25	3.4	1.5	M5	M3	M3	23.5
16	30	46	78	38	14	24	M5	16	28	4.5	3.5	M5	M3	M4	27
25	42	60	98	46	17	28	M5	20	35	5.5	3.5	M5	M4	M5	30
32	54	80	130	60	24	42	G1/8	28	45	6.5	7	G1/8	M4	M6	43
40	70	100	160	70	30	52	G1/8	36	54	9	7	G1/4	M4	M8	53

Ø [mm]	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	S1	S2	T1	X	Tightening torque at D4 [Nm]
10	15.5	38.8	49	14	12.3	4.5	15.1	3	2.2	2	3.4	6	5	0.35	0.7
12	18.5	48	54.2	13.5	11.5	3.5	18	3	2.1	2.5	4.4	8	5	0.35	1.2
16	20.5	56.5	64.7	16	14	3.5	22.5	4	2.1	–	5.5	10	6	0.35	1.2
25	23	68.1	78	18.5	15.5	3	30	4.5	4	–	7	11	6	0.4	5.5
32	34	92	102.8	26	22	7	36	6	4	–	8.5	15	8	0.45	5.5
40	40	121	134.5	31	26	6	50	7.5	4	–	8.5	15	8	0.5	5.5

Semi-rotary drives DSR/DSRL

Technical data

FESTO

Ordering data				
Rotary actuator	Design	Ø [mm]	Part No.	Type
DSR-...-P				
	With spigot shaft	10	33 297	DSR-10-180-P
		12	11 909	DSR-12-180-P
		16	11 910	DSR-16-180-P
		25	11 911	DSR-25-180-P
		32	11 912	DSR-32-180-P
		40	13 467	DSR-40-180-P
DSRL-...-P-FW				
	With hollow flanged shaft	10	33 296	DSRL-10-180-P-FW
		12	30 654	DSRL-12-180-P-FW
		16	30 655	DSRL-16-180-P-FW
		25	30 656	DSRL-25-180-P-FW
		32	30 657	DSRL-32-180-P-FW
		40	30 658	DSRL-40-180-P-FW

Swivel drives
Semi-rotary vane drives

4.1

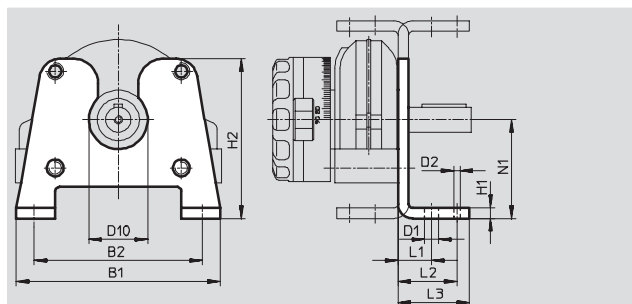
Semi-rotary drives DSR/DSRL

Accessories

FESTO

Foot mounting HSR-...-FW

Material:
Steel



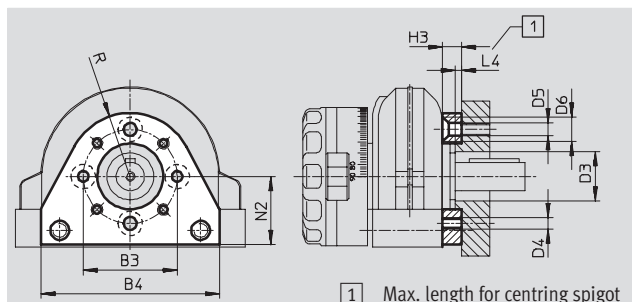
Dimensions and ordering data															
For Ø	B1	B2	D1 Ø H13	D2	D10	H1	H2	L1	L2	L3	N1	CRC ¹⁾	Weight	Part No.	Type
[mm]													[g]		
10	53.5	43	3.5	2	20	4	53	11	17	21	34	2	61	33 317	HSR-10-FW
12	64	52	3.5	2	22	4	63	11	17	21	40	2	87	30 923	HSR-12-FW
16	77	63	5.7	2	24	5	71	14	22	26.5	44	2	170	30 924	HSR-16-FW
25	97	80	6.8	3	28	5	76	16	28	34	47	2	235	30 925	HSR-25-FW
32	129	105	8.8	4	42	8	108	20	34	43	66	2	660	30 926	HSR-32-FW
40	159	130	8.8	5	52	8	134	25	42	52	81	2	1,040	30 927	HSR-40-FW

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Flange mounting FSR

Material:
Aluminium die-cast



1 Max. length for centring spigot

Dimensions and ordering data														
For Ø	B3	B4	D3 Ø min.	D4	D5 Ø H13	D6 Ø H13	H3	L4 max.	N2	R	CRC ¹⁾	Weight	Part No.	Type
[mm]												[g]		
10	28	46	13	M3	3.4	6.5	7	2	20	18	2	22	34 480	FSR-10
12	31	54	17	M3	3.4	6.5	7	2	22	20.5	2	32	14 658	FSR-12
16	35	62	19	M4	4.5	8.5	8	2	26.5	23.5	2	50	13 236	FSR-16
25	40	76	21	M5	5.5	10.4	8	2.5	29	27	2	70	13 237	FSR-25
32	56	100	32	M6	6.6	12.4	12	2.5	42	36	2	180	13 238	FSR-32
40	72	120	37	M8	9	16.4	14	4	52	46	2	300	14 655	FSR-40

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Semi-rotary drives DSR/DSRL

Accessories

FESTO

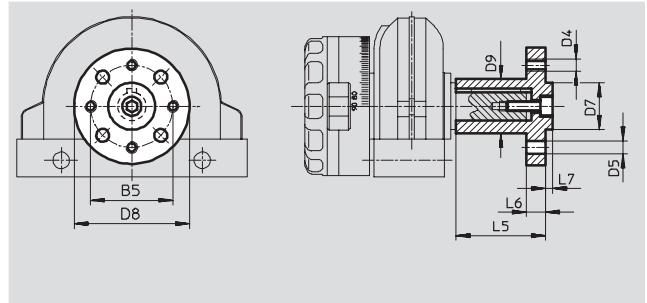
Push-on flange FWSR

The permissible tightening torque may not be exceeded when installing the push-on flange FWSR on the drive shaft.

Material:

Wrought aluminium alloy, anodised

Copper, PTFE and silicone free



Dimensions and ordering data														
For Ø [mm]	B5	D4	D5 Ø H13	D7 Ø f8	D8	D9	L5	L6	L7	Tightening torque [Nm]	CRC ¹⁾	Weight [g]	Part No.	Type
10	21	M3	3.4	11	30	12	22	3	1.6	0.7	2	10	32 798	FWSR-10
12	25	M3	3.4	14	35	15	25	3	3	1.2	2	19	14 659	FWSR-12
16	28	M4	4.5	16	40	17	28	5	3	1.2	2	30	13 239	FWSR-16
25	35	M5	5.5	20	50	23	38	8	3	5.5	2	70	13 240	FWSR-25
32	45	M6	6.6	28	60	28	48	10	4	5.5	2	120	13 241	FWSR-32
40	54	M8	9	36	70	38	60	11	5	5.5	2	240	14 656	FWSR-40

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Semi-rotary drives DSR/DSRL

Accessories

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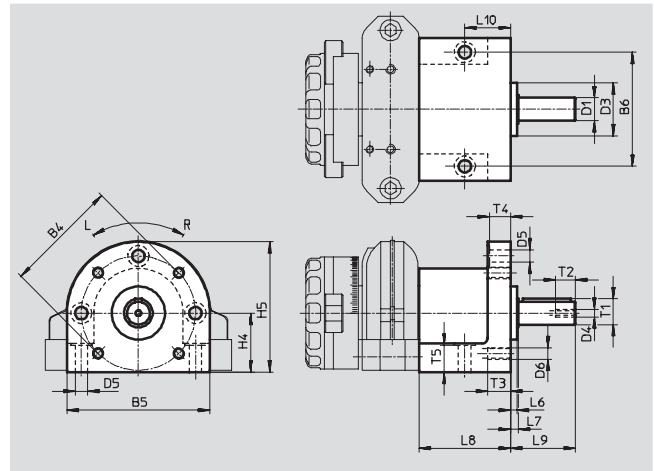
Freewheel unit FLSR

Material:

Housing: Aluminium die-cast

Sleeve, shaft: Case-hardened steel

Seal, cap: Nitrile rubber

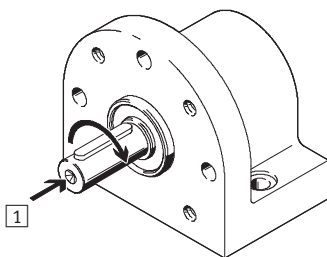


General technical data						
Piston Ø	10	12	16	25	32	40
Design	Freewheel unit as attachment					
Rotation angle	Infinitely adjustable steps (independent of rotation angle)					
Applied radial load [N]	52	77	160	350	200	350
Applied axial load [N]	30	50	100	200	75	120
Max. torque [Nm]	0.7	1.3	2.7	6.6	13.3	26.7
Frequency	3 Hz ($\frac{1}{3}$: The load must be stopped externally!)					
Temperature range [°C]	-10 ... +60					

Direction of rotation

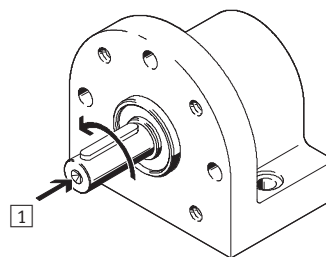
The freewheel unit blocks one of the two possible swivel directions of the DSM swivel module.

FLSM-...-R, right-hand (clockwise) rotation



1 Viewed towards drive shaft

FLSM-...-L, left-hand (counter-clockwise) rotation



Semi-rotary drives DSR/DSRL

Accessories

FESTO

Dimensions and ordering data															
For Ø	B4	B5	B6	D1 Ø g7	D3 Ø h8	D4	D5 Ø H13	D6	H4	H5	L6	L7	L8	L9	L10
[mm]															
10	38	45	38.5	6	20	–	3.3	M3	20	42.5	3.5	4.2	41.5	20.2	23
12	42	49	41.5	8	25	M3	3.3	M3	24	48.5	3.5	4.5	47.3	24.5	25
16	50	60	50	10	24	M3	4.5	M4	28	58	3.5	4.4	47	27.4	23.5
25	60	75	60	12	28	M4	6.6	M6	31	68.5	3.5	4.1	48	34	24
32	83	98	83	16	42	M5	6.6	M6	44	93	7.2	8.5	60	48.5	30
40	96	114	96	20	52	M6	8.6	M8	54	111	6	8	75	58	38

For Ø	T1	T2	T3	T4	T5	Woodruff key ¹⁾ to DIN 6885	CRC ²⁾	Weight	Direction of rotation	Part No.	Type
[mm]								[g]			
10	6.8	8	8	5	8	A2 x 2 x 12	2	165	left-hand	33 298	FLSR-10-L
									right-hand	33 299	FLSR-10-R
12	8.8	9	8	5	9	A2 x 2 x 16	2	225	left-hand	30 930	FLSR-12-L
									right-hand	30 929	FLSR-12-R
16	11.2	11	10	8	11	A3 x 3 x 18	2	340	left-hand	15 281	FLSR-16-L
									right-hand	15 280	FLSR-16-R
25	13.5	14	12	11	14	A4 x 4 x 25	2	500	left-hand	13 778	FLSR-25-L
									right-hand	13 730	FLSR-25-R
32	18	16	12	11	16	A5 x 5 x 36	2	1 140	left-hand	15 688	FLSR-32-L
									right-hand	15 687	FLSR-32-R
40	22.5	21	15	11	21	A6 x 6 x 45	2	1 800	left-hand	19 037	FLSR-40-L
									right-hand	19 036	FLSR-40-R

1) Included in scope of delivery

2) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Swivel drives
Semi-rotary vane drives

4.1

Semi-rotary drives DSR/DSRL

Accessories

FESTO

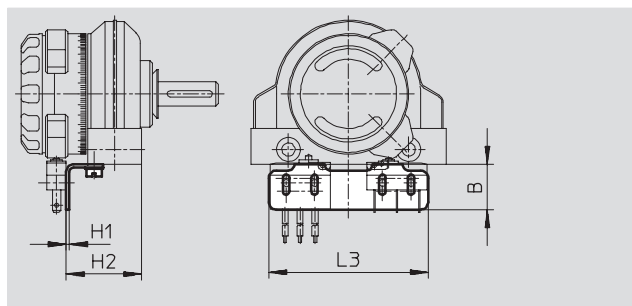
Mounting kit

WSR-10/12-K

for micro switch S-3-BE, S-3-BE-SW

Material:

Steel



Dimensions and ordering data								
For Ø	B	H1	H2	L3	CRC ¹⁾	Weight	Part No.	Type
[mm]						[g]		
10	15	1	22.2	47	2	11	33 414	WSR-10-K
12	15	1	25.1	53	2	13	15 686	WSR-12-K

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Mounting kit

WSR-12 ... 40

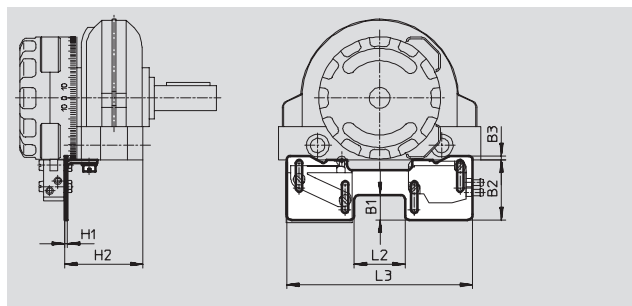
for micro switch S-3-E, SR-3-E-SW and

micro stem actuated valve

S-3-PK-3-B, SO-3-PK-3-B

Material:

Steel



Dimensions and ordering data										
For Ø	B1	B2	B3	H1	H2	L2	L3	CRC ¹⁾	Weight	Part No. Type
[mm]									[g]	
12	5.8	23.4	4	1.5	23	14	79	2	12	15 684 WSR-12
16	10	26.5	4.5	1.5	29.8	19	84.5	2	23	14 874 WSR-16
25	12	29	2	1.5	38	24.5	90	2	26	14 796 WSR-25
32	12	29	2	1.5	49.2	40.5	107	2	29	14 960 WSR-32
40	12	29	2	1.5	68.7	52	118.5	2	32	14 961 WSR-40

1) Corrosion resistance class 2 according to Festo standard 940 070

Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Semi-rotary drives DSR/DSRL

Accessories

FESTO

Mounting kit

WSR-...-J

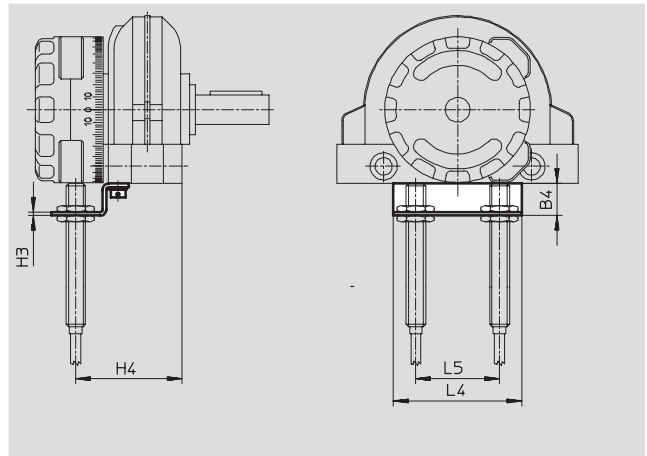
for proximity sensors SIEN-M8

WSR-...-J-M5

for proximity sensors SIEN-M5

Material:

Steel



Dimensions and ordering data									
WSR-...-J									
For Ø	B4	H3	H4	L4	L5	CRC ¹⁾	Weight	Part No.	Type
[mm]							[g]		
16	13	1.5	35	52	27	2	12	14 873	WSR-16-J
25	13	1.5	43.1	52	34	2	17	14 799	WSR-25-J
32	13	1.5	54.3	64	48	2	18	14 962	WSR-32-J
40	13	1.5	76.3	80	60	2	24	14 963	WSR-40-J

WSR-...-J-M5									
For Ø	B4	H3	H4	L4	L5	CRC ¹⁾	Weight	Part No.	Type
[mm]							[g]		
10	8	1	25.4	30	20	2	6	33 413	WSR-10-J-M5
12	8	1	28.3	34	24.5	2	10	15 685	WSR-12-J-M5
16	8	1	34.9	38	27	2	78	15 931	WSR-16-J-M5
25	13	1.5	43	52	34	2	17	15 932	WSR-25-J-M5
32	13	1.5	54.3	64	48	2	25	15 933	WSR-32-J-M5
40	13	1.5	76.3	80	60	2	30	15 934	WSR-40-J-M5

1) Corrosion resistance class 2 according to Festo standard 940 070

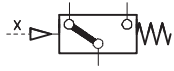
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents

Semi-rotary drives DSR/DSRL

Accessories

FESTO

Electrical limit switch for end-position sensing



The switching point may only be exceeded by 0.5 mm in these electrical limit switches. Actuation only vertical to stem axis.

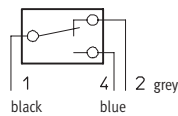
	S-3-BE	S-3-BE-SW	S-3-E	SR-3-E-SW
Connection	3 push-in connectors (2.8x0.5 mm)	3 wires (0.75 mm ²)	Screw connector	3 wires 0.5 m long
Contact rating	➔ Table below			
Operating voltage	250 V AC/250 V DC			
Line current ohmic load	–	–	6 A/250 V AC 0.25 A/250 V DC	5 A/250 V AC 0.25 A/250 V DC
Line current inductive load	–	–	2 A/250 V AC 0.1 A/250 V DC	2 A/250 V AC 0.03 A/250 V DC
Utilisation category	AC 12/DC 12 (ohmic load)			
	AC 14/DC 13 (inductive load)			
CE symbol	Yes, as per EU Directive 73/23/EEC			
Protection class to EN 60 529	IP40	IP67	IP 00	IP65
Temperature range	–20 ... +85 °C		–20 ... +80 °C	
Material	Housing, cover: black plastic			
Weight	2 g	16 g	7 g	10 g

Test symbols:

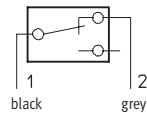
S-3-BE: VDE-ÜG, UL, CSA, SEMKO
S-3-BE-SW: VDE, SEV, SEMKO, BEAB
S-3-E: VDE, ÖVE, SEMKO, SEV, UL, CSA

Contact configuration:

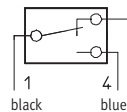
Changeover switch



NC contact

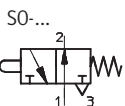
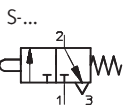


NO contact



S-3-BE, S-3-BE-SW				
AC voltage				
Voltage [V] ~	Resistance load [A]	Inductive load [A]		
12	6	6		
24	3	2		
60	1	0.5		
110	0.5	0.2		
220	0.25	0.1		
S-3-E	DC	AC	DC	AC
12	6	–	6	–
24	6	–	6	–
60	1	–	0.5	–
110	0.5	–	0.2	–
220	0.25	–	0.1	–
250	–	6	–	2
SR-3-E-SW	DC	AC	DC	AC
15	3	–	5	–
30	3	–	5	–
50	1	–	1	–
75	0.25	–	0.75	–
125	0.03	5	0.5	5
250	0.03	5	0.25	5

Pneumatic limit valve for end-position sensing



The switching point is pressure-dependent and deviates up to 0.8 mm in the pressure range from 0 ... 8 bar. The switching point may only be exceeded by 0.5 mm. The valve must not be used as a fixed stop and should only be operated vertically to the stem.

S-3-PK-3-B/SO-3-PK-3-B	
Connection	Barbed fitting for 3 mm plastic tubing
Nominal size	1.8 mm
Standard nominal flow rate (1 > 2)	60 l/min
Pressure range	–0.95 ... +8 bar
Actuating force at 6 bar	6 N
Temperature range	–10 ... +60 °C
Materials	Plastic, brass
Weight	7 g

Semi-rotary drives DSR/DSRL

Accessories

FESTO

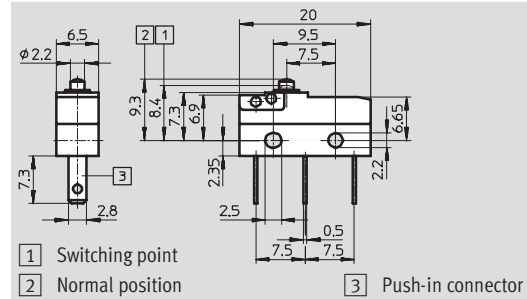
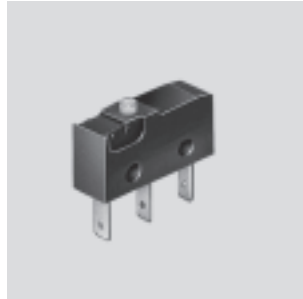
Swivel drives
Semi-rotary vane drives

4.1

Electrical limit switch for end-position sensing

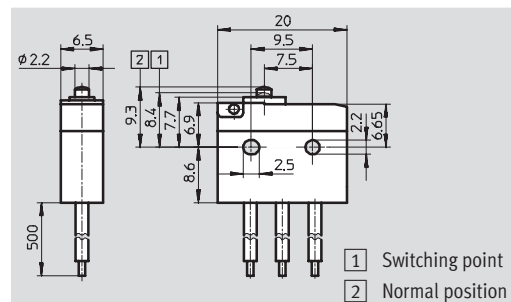
Micro switch

S-3-BE



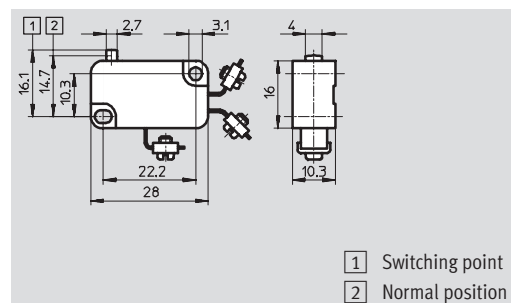
Micro switch with cable (splash-proof)

S-3-BE-SW



Micro switch

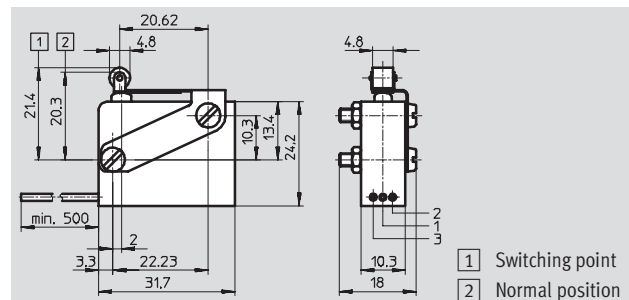
S-3-E



Micro switch with roller lever

(splash-proof)

SR-3-E-SW



Ordering data

For Ø [mm]	Electrical limit switches, splash-proof	Design	Part No.	Type
10 ... 12			30 648	S-3-BE
		With cable	30 649	S-3-BE-SW
16 ... 40		With roller lever	7 347	S-3-E
			14 797	SR-3-E-SW

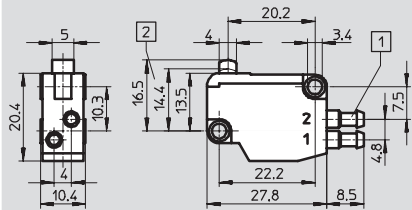
Semi-rotary drives DSR/DSRL

Accessories



Pneumatic limit valve for end-position sensing

Micro stem actuated valve
S-3-PK-3-B
SO-3-PK-3-B



- 1

Barbed fittings for 3 mm plastic tubing
- 2
- Switching point min.

1 (P)

= supply port

2 (A)

= working or outlet line

3 (R)

= exhaust

Ordering data				
For Ø	Pneumatic limit switch	Design	Part No.	Type
[mm]				
16 ... 40		Normally closed	7 843	S-3-PK-3-B
		Normally open	10 403	SO-3-PK-3-B

Semi-rotary drives DSR/DSRL

Accessories

FESTO

Ordering data – Proximity sensors, inductive				Technical data → Volume 4	
	For Ø	Remarks	Connection	Part No.	Type
	10 ... 40	For mounting kit WSR-...-J-M5	Cable	150 370	SIEN-M5B-PS-K-L
			Plug	150 371	SIEN-M5B-PS-S-L
	16 ... 40	For mounting kit WRM-...-J	Cable	150 386	SIEN-M8B-PS-K-L
			Plug	150 387	SIEN-M8B-PS-S-L

Ordering data – Plug sockets with cable							Technical data → 1 / 10.2-114	
	Mounting	Switch output		Connection	Cable length [m]	Part No.	Type	
		PNP	NPN					
Straight socket								
	M8 union nut	■	■	3-pin	2.5	159 420	SIM-M8-3GD-2,5-PU	
					5	159 421	SIM-M8-3GD-5-PU	
Angled socket								
	M8 union nut	■	■	3-pin	2.5	159 422	SIM-M8-3WD-2,5-PU	
					5	159 423	SIM-M8-3WD-5-PU	

Ordering data – One-way flow control valves				Technical data➔ Volume 2	
	Connection		Material	Part No.	Type
	Thread	For tubing OD			
	M3	3	Metal design	175 041	GRLA-M3-QS-3
	M5	3		193 137	GRLA-M5-QS-3-D
		4		193 138	GRLA-M5-QS-4-D
		6		193 139	GRLA-M5-QS-6-D
		G1/8		3	193 142
	4			193 143	GRLA-1/8-QS-4-D
	6			193 144	GRLA-1/8-QS-6-D
	8			193 145	GRLA-1/8-QS-8-D
	G1/4	6		193 146	GRLA-1/4-QS-6-D
		8		193 147	GRLA-1/4-QS-8-D
		10		193 148	GRLA-1/4-QS-10-D