



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

Specified types in accordance with ATEX directive for potentially explosive atmospheres

→ [www.festo.com/en/ex](http://www.festo.com/en/ex)

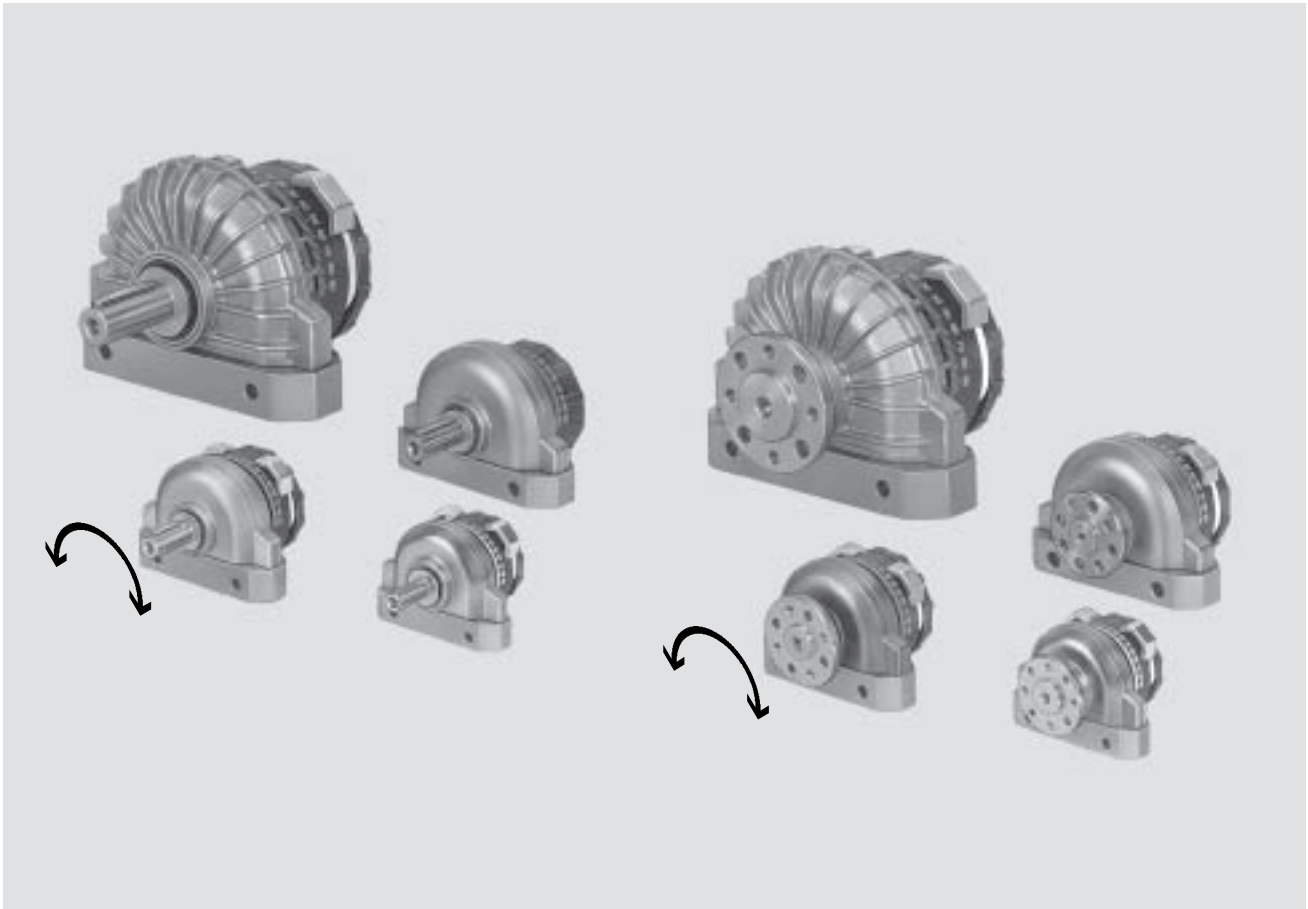
# Semi-rotary drives DSR/DSRL

Features



Swivel drives  
Semi-rotary-vane drives

4.1



### 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](http://www.festo.com/en/engineering)

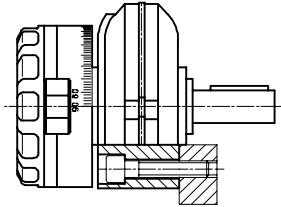
# Semi-rotary drives DSR/DSRL

Features

## 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-...-R (right)

Viewed from the drive shaft side, rotation clockwise

FLSR-...-L (left)

Viewed from the drive shaft side, rotation anti-clockwise

Accessories

Speed regulation

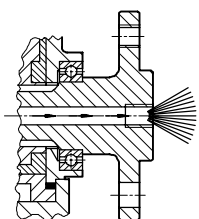
→ 1 / 4.1-52



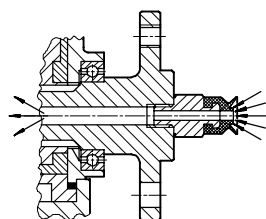
FLSR with semi-rotary drive

## Sample applications with hollow flanged shaft in DSRL

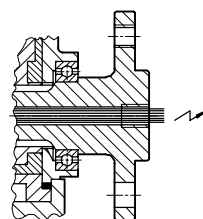
Air blast



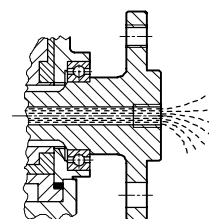
Vacuum



Electrical lines



Water, coolant, oil, glue, etc.



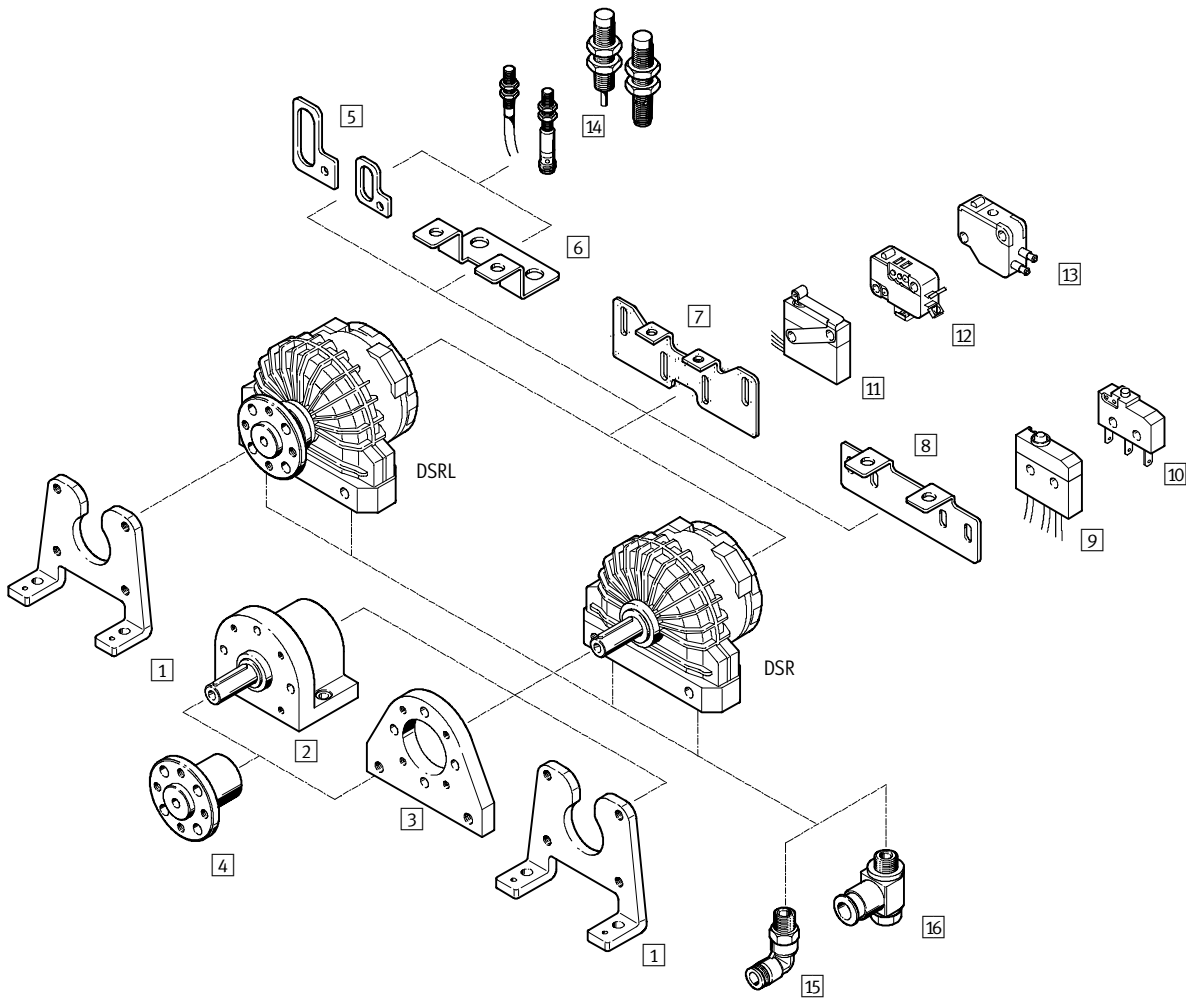
# Semi-rotary drives DSR/DSRL

Peripherals overview and type codes



Swivel drives  
Semi-rotary-vane drives

4.1



# Semi-rotary drives DSR/DSRL

Peripherals overview and type codes

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 WSM	■	■	1 / 4.1-52
6	Mounting kit WSR-...	■	■	1 / 4.1-48
7	Mounting kit WSR-12...40	■	■	1 / 4.1-47
8	Mounting kit WSR-10/12-K	■	■	1 / 4.1-47
9	Micro switch S-3-BE-SW	■	■	1 / 4.1-50
10	Micro switch S-3-BE	■	■	1 / 4.1-50
11	Micro switch SR-3-E-SW	■	■	1 / 4.1-50
12	Micro switch S-3-E	■	■	1 / 4.1-50
13	Micro stem actuated valve SO-3-PK-3-B/S-3-PK-3-B	■	■	1 / 4.1-51
14	Proximity sensors SIEN	■	■	1 / 4.1-52
15	Push-in L-fitting QSL	■	■	Volume 3
16	One-way flow control valve GRLA	■	■	1 / 4.1-52

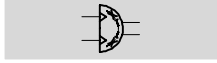
DSRL		10	180	P	FW
<b>Type</b>					
Double acting					
DSR	Semi-rotary drive with spigot shaft				
DSRL	Semi-rotary drive, with flanged, hollow drive shaft				
<b>Piston ∅ [mm]</b>					
<b>Swivel angle [°]</b>					
<b>Cushioning</b>					
P	Non-adjustable at either end				
<b>Shaft</b>					
	Spigot shaft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

# Semi-rotary drives DSR/DSRL

Technical data



## Function



⌀ Diameter  
10 ... 40 mm

≡ Force  
0.5 ... 20 Nm

www.festo.com/en/  
Spare\_parts\_service

## Variants

- With spigot shaft
- With hollow flanged shaft



DSR

DSRL

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 <sup>1)</sup> [°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 <sup>1)</sup> [Hz]	3					
Max. perm. radial load <sup>2)</sup> [N]	30	45	75	120	200	350
Max. perm. axial load <sup>2)</sup> [N]	10	18	30	50	75	120
Max. perm. mass moment of inertia <sup>2)</sup>	Diagrams → 1 / 4.1-40					

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

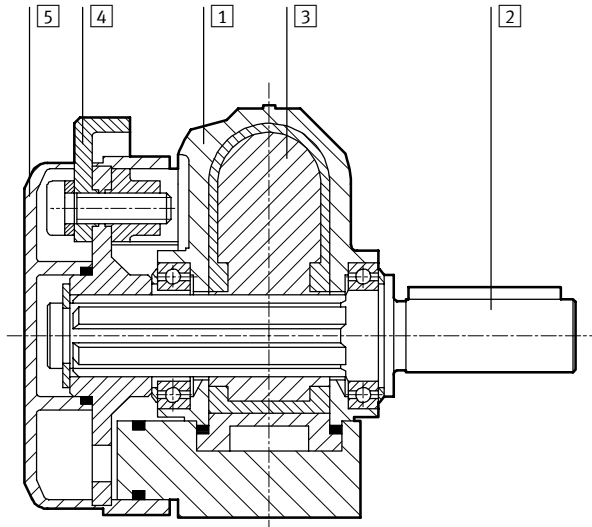
2) On the drive shaft at maximum frequency

# Semi-rotary drives DSR/DSRL

Technical data

## Materials

Sectional view



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

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

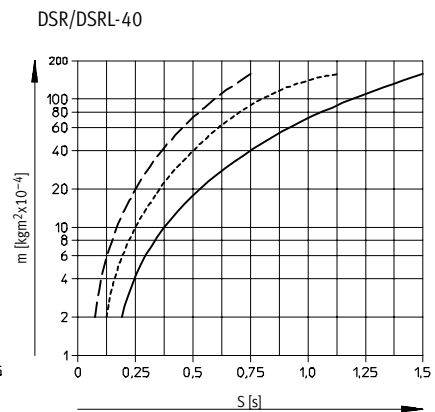
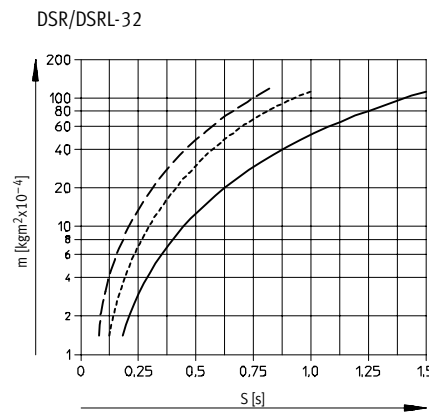
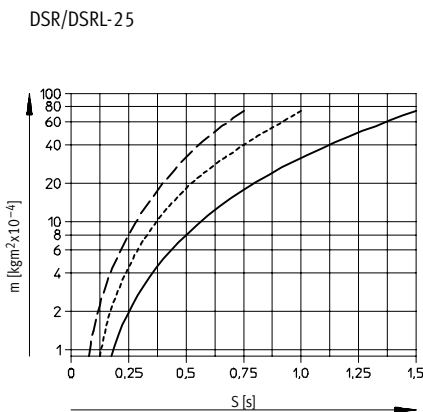
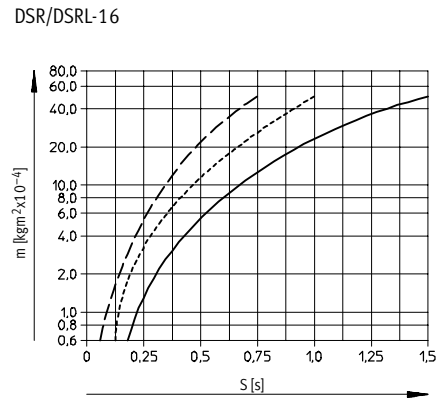
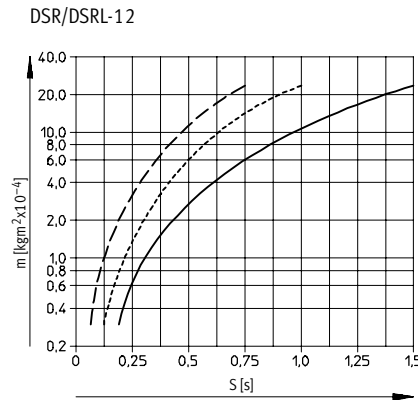
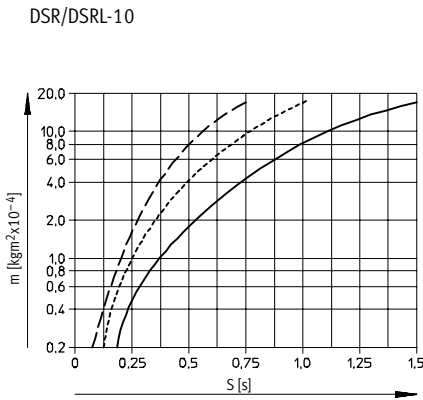
# Semi-rotary drives DSR/DSRL

Technical data



## Max. permissible mass moment of inertia

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



Mass moment of inertia calculation tool  
[www.festo.com/en/engineering](http://www.festo.com/en/engineering)

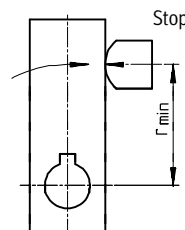
----- Swivel angle 90°  
..... Swivel angle 120°  
———— Swivel angle 180°

### 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.



∅ [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



Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

DSR

**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.

1) Angle scale for swivel angle reading  
 2) Woodruff key position at 0°  
 3) Supply port

∅	B1	B2	B3	D1 ∅ g7	D2 ∅	D3 ∅ h8	D4	E1	E2	H1	H2	H3	L1	L2
[mm]														
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

∅	L3	L4	L5	L6	L7	S1	S2	T1	T2	X	Woodruff key <sup>1)</sup> to DIN 6885	Tightening torque at D4 [Nm]
[mm]												
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



Swivel drives  
Semi-rotary-vane drives

## 4.1

Dimensions Download CAD data → [www.festo.com/en/engineering](http://www.festo.com/en/engineering)

DSRL

**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.

1 Angle scale for swivel angle reading  
2 Position of marking at angle scale 0°  
3 Supply port  
4 Through-hole



∅	B1	B2	B3	D1	D2	D3	D4	D5	D6	D7	D8	E1	E2	E3	H1
[mm]				∅ g7	∅	∅ h8		∅ f8	∅	∅ H13	∅ min.				
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

∅	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	S1	S2	T1	X	Tightening torque at D4 [Nm]
[mm]															
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

Ordering data				
Rotary actuator	Design	∅ [mm]	Part No.	Type
<b>DSR-...-P</b>				
	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
<b>DSRL-...-P-FW</b>				
	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

 Core Range

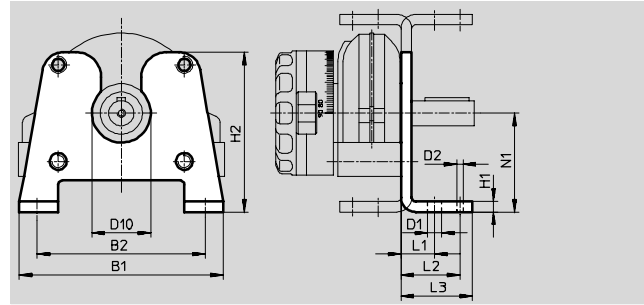
# Semi-rotary drives DSR/DSRL

Accessories



## Foot mounting HSR-...-FW

Material:  
Steel

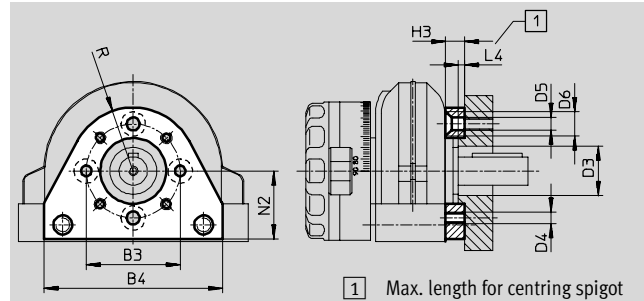


Dimensions and ordering data																
For $\varnothing$ [mm]	B1	B2	D1 $\varnothing$ H13	D2	D10	H1	H2	L1	L2	L3	N1	CRC <sup>1)</sup>	Weight [g]	Part No.	Type	
10	53.5	43	3.5	2	20	4	53	11	17	21	34	2	61	33 317	HSR-10-FW	
12	64	52	3.5	2	22	4	63	11	17	21	40	2	87	30 923	HSR-12-FW	
16	77	63	5.7	2	24	5	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 $\varnothing$ [mm]	B3	B4	D3 $\varnothing$ min.	D4	D5 $\varnothing$ H13	D6 $\varnothing$ H13	H3	L4 max.	N2	R	CRC <sup>1)</sup>	Weight [g]	Part No.	Type		
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

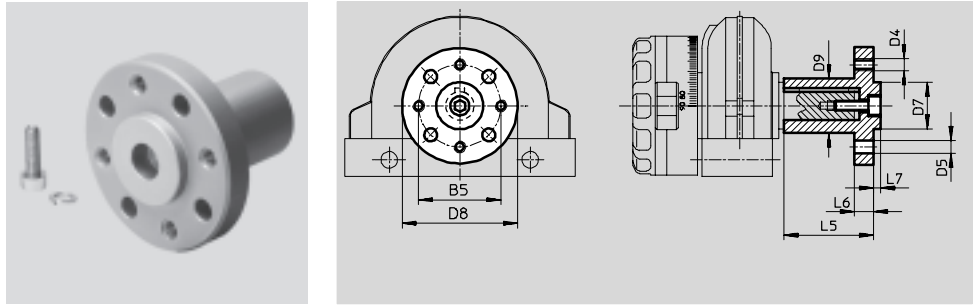
Accessories



## Push-on flange FWSR

Permissible tightening torque may not be exceeded when attaching additional components to the spigot shaft.

Material:  
Wrought aluminium alloy, anodised  
Copper, PTFE and silicone free



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

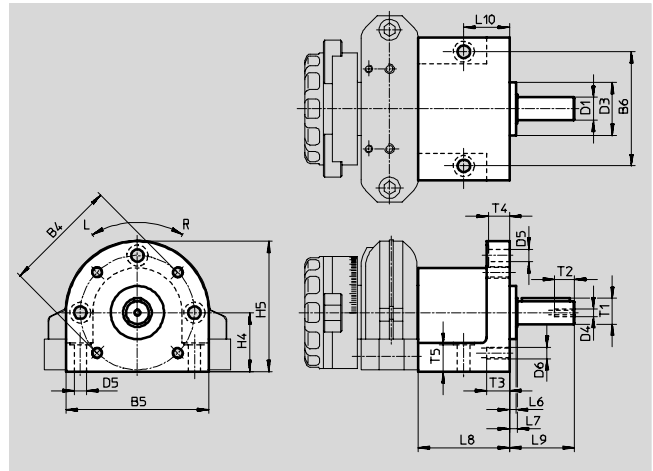
# Semi-rotary drives DSR/DSRL

Accessories



## Freewheel unit FLSR

Material:  
 Housing: Aluminium die-cast  
 Sleeve, shaft: Case-hardened steel  
 Seal, cap: Perbunan



Swivel drives  
Semi-rotary-vane drives

### 4.1

General technical data						
Piston Ø	10	12	16	25	32	40
Design	Freewheel unit as attachment					
Rotation angle	Infinitely adjustable steps (swivel angle independent)					
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 (⚡ : The load must be stopped externally!)					
Temperature range [°C]	-10 ... +60					

Dimensions and ordering data															
For Ø	B4	B5	B6	D1	D3	D4	D5	D6	H4	H5	L6	L7	L8	L9	L10
[mm]				Ø g7	Ø h8		Ø H13								
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 <sup>1)</sup> to DIN 6885	CRC <sup>2)</sup>	Weight	Direction of rotation	Part No.	Type
[mm]								[g]			
10	6.8	8	8	5	8	A2 x 2 x 12	2	165	left	33 298	FLSR-10-L
									right	33 299	FLSR-10-R
12	8.8	9	8	5	9	A2 x 2 x 16	2	225	left	30 930	FLSR-12-L
									right	30 929	FLSR-12-R
16	11.2	11	10	8	11	A3 x 3 x 18	2	340	left	15 281	FLSR-16-L
									right	15 280	FLSR-16-R
25	13.5	14	12	11	14	A4 x 4 x 25	2	500	left	13 778	FLSR-25-L
									right	13 730	FLSR-25-R
32	18	16	12	11	16	A5 x 5 x 36	2	1 140	left	15 688	FLSR-32-L
									right	15 687	FLSR-32-R
40	22.5	21	15	11	21	A6 x 6 x 45	2	1 800	left	19 037	FLSR-40-L
									right	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.

# Semi-rotary drives DSR/DSRL

Accessories

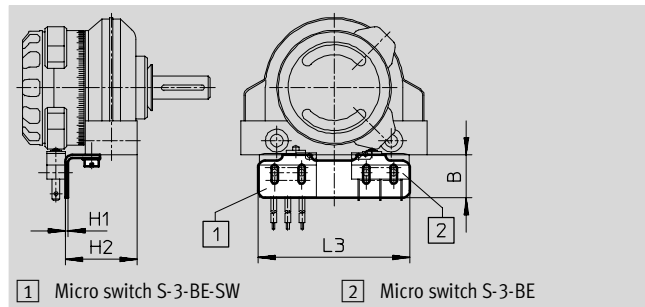


## Mounting kit for end-position sensing

WSR-10/12-K

Material:

Steel



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

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

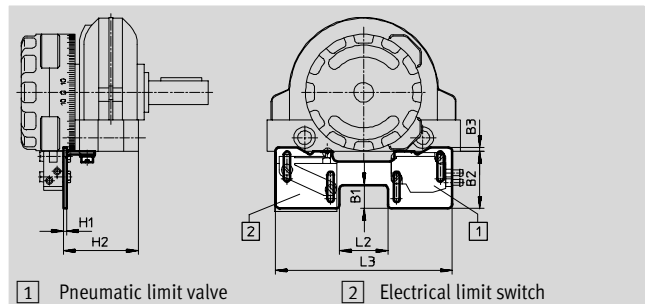
Components requiring moderate corrosion resistance. Externally visible parts with primarily decorative surface requirements which are in direct contact with a surrounding industrial atmosphere or media such as cooling or lubricating agents.

## Mounting kit for end-position sensing

WSR-12...40

Material:

Steel



Dimensions and ordering data											
For Ø	B1	B2	B3	H1	H2	L2	L3	CRC <sup>1)</sup>	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



## Mounting kit for end-position sensing

**WSR-...-J**

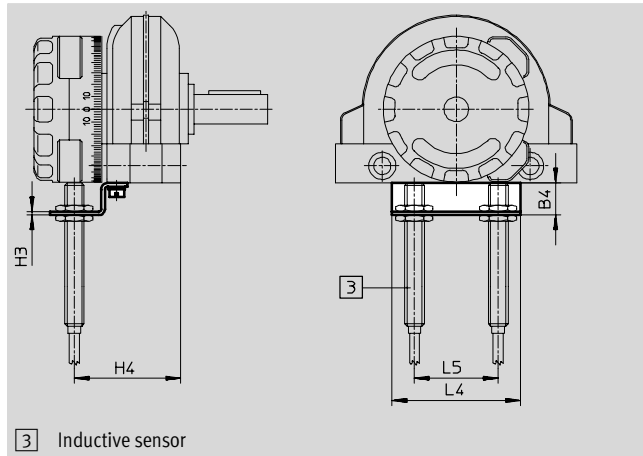
(for M8 threaded proximity sensors)

**WSR-...-J-M5**

(for M5 threaded proximity sensors)

Material:

Steel



3 Inductive sensor

### Dimensions and ordering data

WSR-...-J									
For Ø	B4	H3	H4	L4	L5	CRC <sup>1)</sup>	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 <sup>1)</sup>	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.

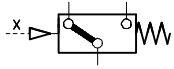


# Semi-rotary drives DSR/DSRL

Accessories



## 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.

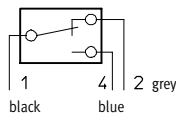
	S-3-BE	S-3-BE-SW	S-3-E	SR-3-E-SW
Connection	3 push-in connectors (2.8x0.5 mm)	3 wires (0.75 mm <sup>2</sup> )	Screw connector	3 wires 0.5 m long
Contact rating	→ Table below			
Operating voltage	250 V AC/250 V DC			
Line current ohmic load	-	-	6 A/250 V AC 0.25 A/250 V DC	5 A/250 V AC 0.25 A/250 V DC
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:

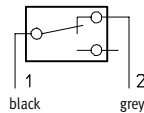
- S-3-BE: VDE-ÜG, UL, CSA, SEMKO
- S-3-BE-SW: VDE, SEV, SEMKO, BEAB
- S-3-E: VDE, ÖVE, SEMKO, SEV, UL, CSA

Contact configuration:

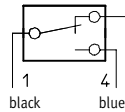
Changeover switch



NC contact

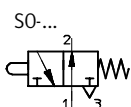
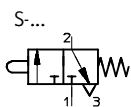


NO contact



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

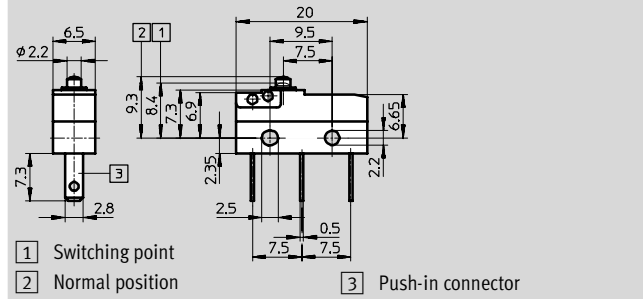
Accessories



## Electrical limit switch for end-position sensing

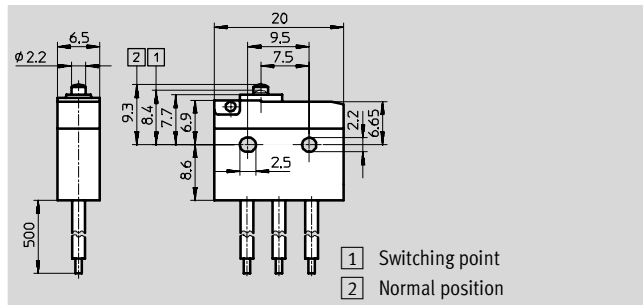
Micro switch

S-3-BE



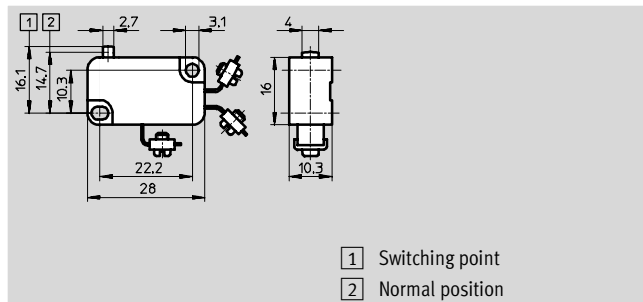
Micro switch with cable (splash-proof)

S-3-BE-SW



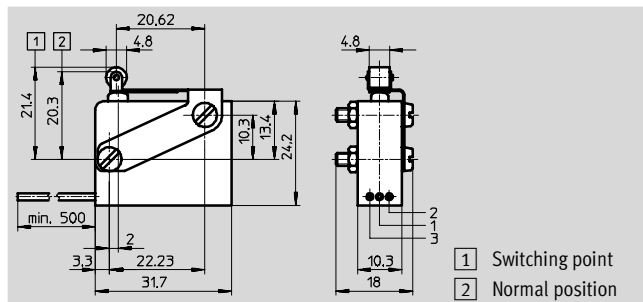
Micro switch

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

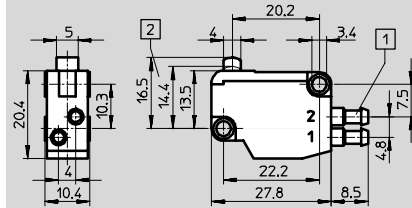
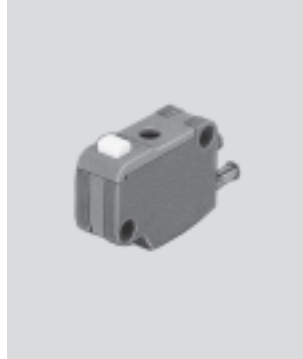


## Pneumatic limit valve for end-position sensing

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

Swivel drives  
Semi-rotary-vane drives

4.1

Ordering data – Proximity sensors		Technical data → Volume 4	
		Piston Ø	Type
	For swivel drive	16	SIEN-M5
		20	SIEN-M8
		25	
		32	
		40	

Ordering data – Mounting kit		Technical data → Volume 4	
Designation	Piston Ø	Part No.	Type
	For proximity sensor SIEN-M5	16	161 041 WSM-12-JM5
		20	161 042 WSM-16-JM5
		25	161 043 WSM-25-JM5
For proximity sensor SIEN-M8	32	161 044 WSM-32-JM8	
	40	161 045 WSM-40-JM8	

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
	4			193 138	GRLA-M5-QS-4-D
	6			193 139	GRLA-M5-QS-6-D
	G <sup>1</sup> / <sub>8</sub>	3		193 142	GRLA- <sup>1</sup> / <sub>8</sub> -QS-3-D
		4		193 143	GRLA- <sup>1</sup> / <sub>8</sub> -QS-4-D
		6		193 144	GRLA- <sup>1</sup> / <sub>8</sub> -QS-6-D
		8		193 145	GRLA- <sup>1</sup> / <sub>8</sub> -QS-8-D
	G <sup>1</sup> / <sub>4</sub>	6		193 146	GRLA- <sup>1</sup> / <sub>4</sub> -QS-6-D
		8		193 147	GRLA- <sup>1</sup> / <sub>4</sub> -QS-8-D
		10		193 148	GRLA- <sup>1</sup> / <sub>4</sub> -QS-10-D

 Core Range