

## Semi-rotary drives DSR/DSRL

**FESTO**



## Key features

### Brief description

The semi-rotary drive transmits the force directly to the drive shaft via the vane. The swivel angle is infinitely adjustable from 0 ... 184° (DSRL-10 and 12: 0 ... 181°). The adjustable stop system is separate from the vane so that any forces occurring are absorbed by the stop blocks. The stops are cushioned in the end positions by elastic polymer pads.

### DSRL-...-FW

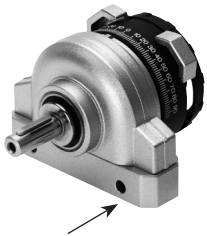
The versions with hollow flange shaft can convey liquid or gaseous media, or tubing and electric cables. The force is transmitted directly and without backlash via a multiple splined shaft.

### Note

Engineering software  
for calculating inertia  
→ [www.festo.com](http://www.festo.com)

### Mounting options

Without mounting attachments  
Direct mounting

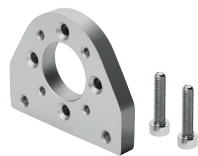


Mounting components  
for DSR

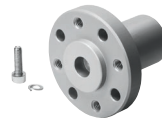
Foot mounting HSR-...-FW



Flange mounting FSR



Push-on flange FWSR



for DSRL

Foot mounting HSR-...-FW

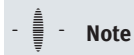


## Key features

### Free wheel unit for indexing motion

The free wheel unit is an attachment that is mounted on the drive shaft of the semi-rotary drive DSR. It converts the oscillating rotary motion of the semi-rotary drive into a smooth, synchronous motion. The drive shaft of the semi-rotary drive only moves clockwise or anticlockwise so that it is possible to set infinitely adjustable feed rates.

The minimum possible swivel angle is  $0.4^\circ$ . Switching accuracy is also dependent on the switching speed and load.



#### Note

The load must be stopped externally!

FLSR-...-L (anticlockwise)  
View of the drive shaft side, anticlockwise rotation.

FLSR-...-R (clockwise)  
View of the drive shaft side, clockwise rotation

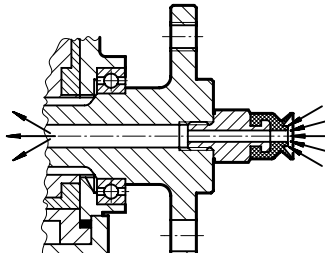
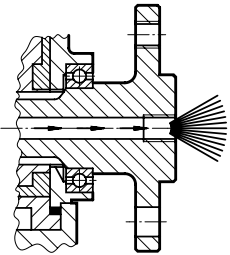
Accessories for regulating speed:  
One-way flow control valve  
→ page 19



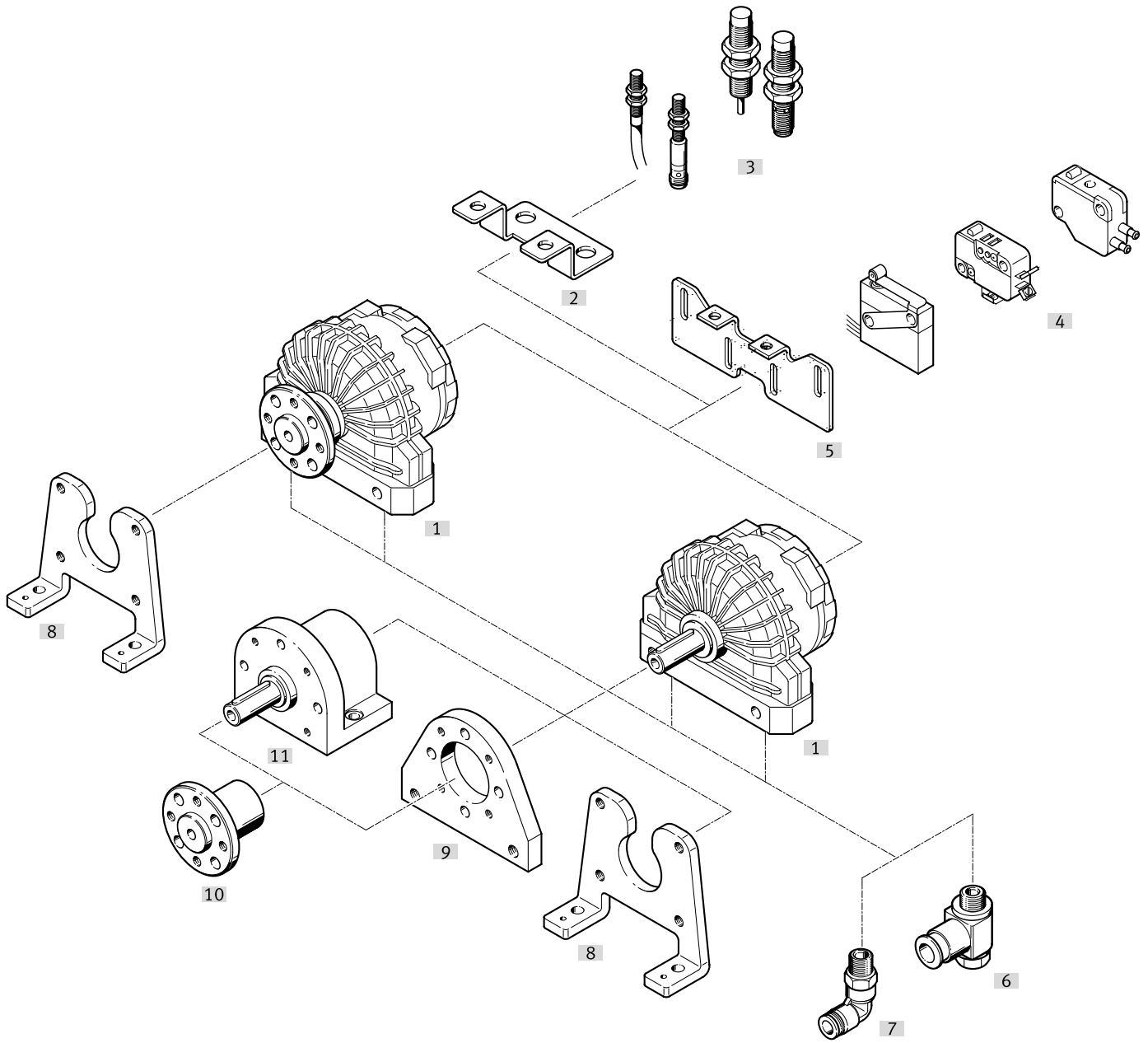
### Sample applications with hollow flanged shaft in DSRL

Air blast

Vacuum



Peripherals overview and type codes



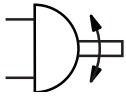
## Peripherals overview and type codes

Mounting attachments and accessories		Description	DSR	DSRL	→ Page/Internet
[1]	Semi-rotary drive DSR/DSRL				
[2]	Mounting kit WSR-...	For proximity switch SIEN	■	■	17
[3]	Proximity switch SIEN	Inductive	■	■	19
[4]	Micro stem actuated valve SO-3-PK-3-B, S-3-PK-3-B	Pneumatic, choice of normally open or normally closed	■	■	18
[5]	Mounting kit WSR-12 ... 40	For micro stem actuated valve SO-3-PK-3-B, S-3-PK-3-B	■	■	16
[6]	One-way flow control valve GRLA	For regulating speed	■	■	19
[7]	Push-in fitting QSL	For connecting tubing with standard O.D.	■	■	qs
[8]	Foot mounting HSR-...-FW	On the output side	■	■	12
[9]	Flange mounting FSR	On the output side	■	-	12
[10]	Push-on flange FWSR	For spigot shaft	■	-	13
[11]	Freewheel unit FLSR-...-L/R	For spigot shaft, either clockwise or anticlockwise rotation	■	-	14

## Type codes

<b>001</b>	<b>Series</b>		
<b>DSRL</b>	Semi-rotary drive		
<b>DSR</b>	Semi-rotary drive		
<b>002</b>	<b>Size</b>		
<b>10</b>	10		
<b>12</b>	12		
<b>16</b>	16		
<b>25</b>	25		
<b>32</b>	32		
<b>40</b>	40		
<b>003</b>	<b>Nominal swivel angle [°]</b>		
<b>180</b>	180		
<b>004</b>	<b>Cushioning</b>		
<b>P</b>	Elastic cushioning rings/plates on both sides		
<b>005</b>	<b>Shaft</b>		
	Spigot shaft		
<b>FW</b>	Flanged shaft		

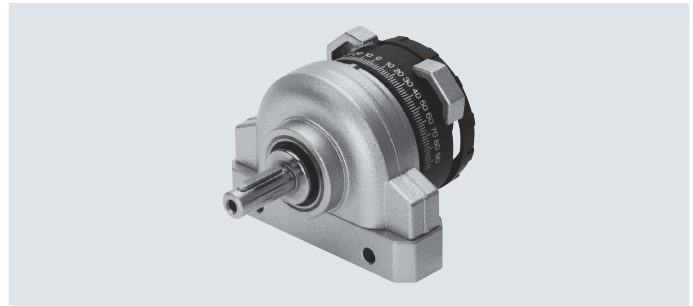
## Datasheet



-  Diameter  
10 ... 40 mm
-  Power  
0.5 ... 20 Nm
-  [www.festo.com](http://www.festo.com)

## Variants

- With spigot shaft
- With hollow flange shaft



General technical data						
Piston $\varnothing$	10	12	16	25	32	40
Pneumatic connection	M3	M5	M5	M5	G1/8	G1/4
Design	Rotary cylinder with rotary vane					
Cushioning	Non-adjustable at both ends					
Position sensing	Electrical					
	Pneumatic					
	Inductive					
Type of mounting	Via through-hole					
	With accessories					
Mounting position	Any					
Max. swivel angle	0 ... 181 °		0 ... 184 °			

† Note: This product conforms to ISO 1179-1 and ISO 228-1.

Operating and environmental conditions						
Piston $\varnothing$	10	12	16	25	32	40
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]					
Operating pressure <sup>1)</sup>	[bar]	2.5 ... 8	2 ... 8	1.5 ... 8		
Temperature range <sup>2)</sup>	[°C]	-10 ... +60				

- 1) The minimum operating pressure can be increased by up to 0.5 bar after a rest period of 24 h  
 2) Note operating range of proximity switches

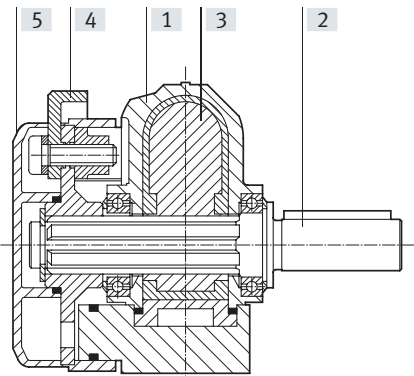
Forces and torques							
Piston $\varnothing$	10	12	16	25	32	40	
Torque at 6 bar	[Nm]	0.5	1	2	5	10	20
Max. swivel frequency <sup>1)</sup>	[Hz]	3					
Max. permissible radial load <sup>2)</sup>	[N]	30	45	75	120	200	350
Max. permissible axial load <sup>2)</sup>	[N]	10	18	30	50	75	120
Max. permissible mass moment of inertia <sup>2)</sup>		Graphs → page 8					

- 1) Please observe the max. permissible mass moments of inertia → page 8  
 2) On the drive shaft at maximum frequency

## Datasheet

### Materials

Sectional view



Semi-rotary drive

[1] Housing	Die-cast zinc
[2] Drive shaft	Nickel-plated steel
[3] Vane	Polymer
[4] Trip cam	Nickel-plated sintered steel
[5] Cover cap	Polymer
- Seals	Nitrile rubber

**Weight [g]**

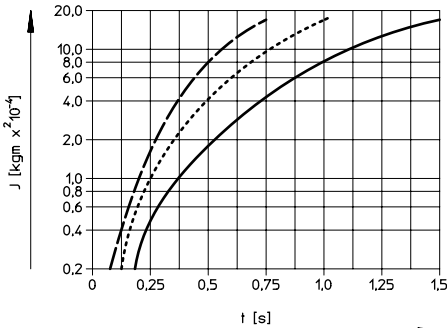
Piston $\varnothing$	10	12	16	25	32	40
DSR-...-P	100	200	310	540	1285	2400
DSRL-...-FW	140	240	350	610	1390	2700

Datasheet

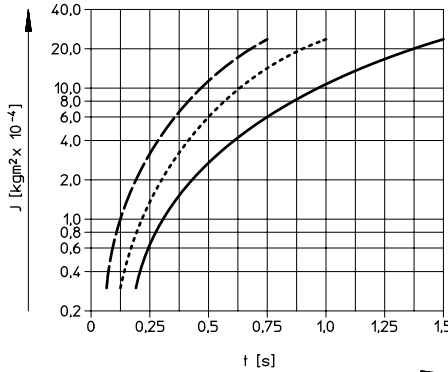
**Max. permissible mass moment of inertia**

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

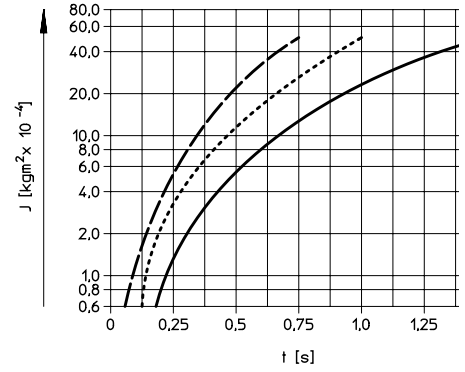
DSR/DSRL-10



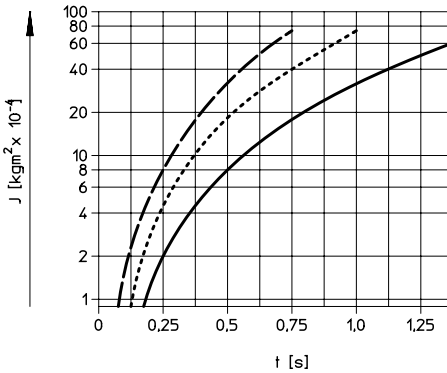
DSR/DSRL-12



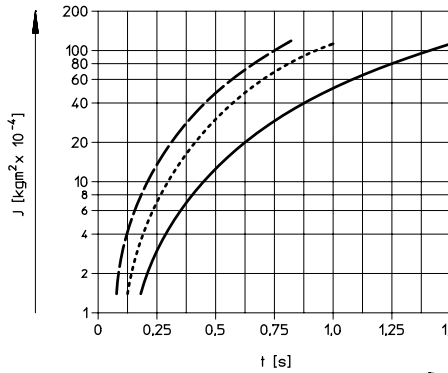
DSR/DSRL-16



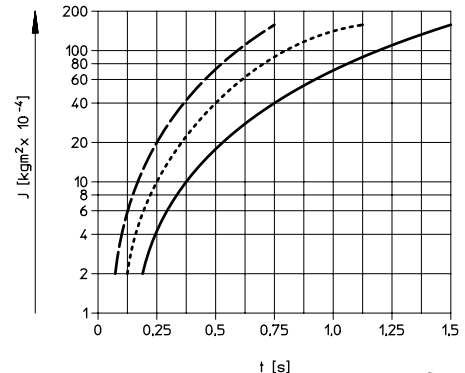
DSR/DSRL-25



DSR/DSRL-32



DSR/DSRL-40



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

**Assembly instructions:**

If the specified max. mass moments of inertia are exceeded, external stops must be used. The following must therefore be observed:  
 A minimum radius must be maintained at all times between the stop and the drive shaft ( $r_{\min}$ ). The stop force must not exceed the maximum force. Because of the elastic stops, a precise end position can only be achieved using an external stop.

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

**Note**

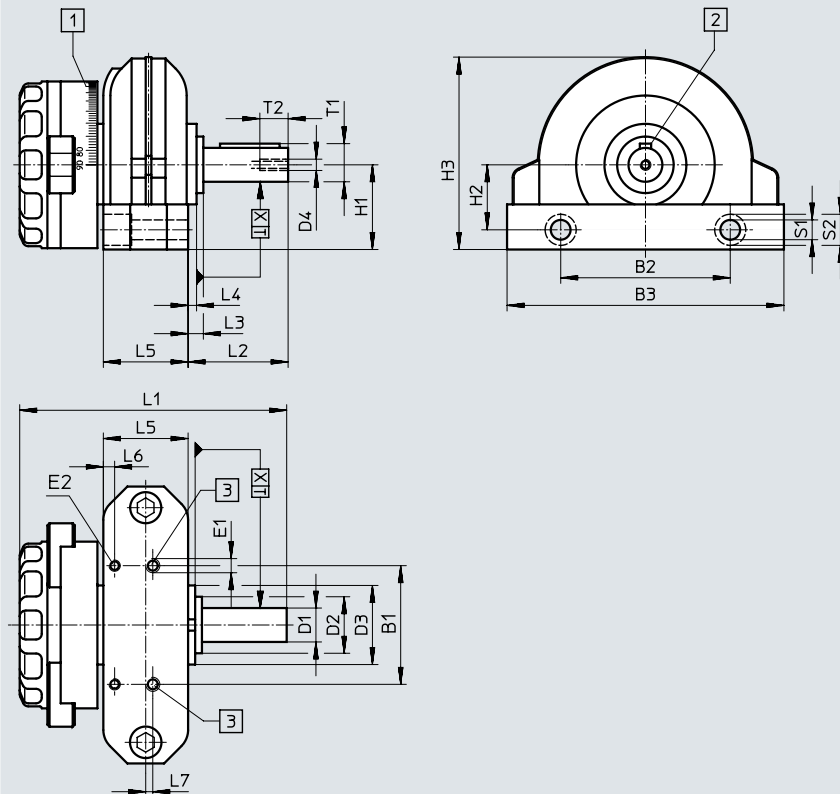
If the semi-rotary drives are restricted to a swivel speed of less than  $180^\circ/\text{s}$ , the drives must be operated with a minimum of 6 bar. In this case, a variation of 30% from the constant speed must be taken into account. Flow control valves have to be used to reduce the variations from the constant speed and obtain the swivel times indicated in the graphs.




## Datasheet

## Dimensions

DSR

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

- [1] Angle scale for reading the swivel angle  
 [2] Featherkey position at 0°  
 [3] Compressed air supply port

 **Note**

The swivel angle is 180° and is pressure-dependent.  
 The maximum cushioning angle on each side is approx. 1.6° at 8 bar.

If, at the end of the swivelling motion, the kinetic energy is absorbed by the cushioning, the drive shaft will swivel back by a corresponding proportion of the angle.

The stops must not be removed, as the vane itself is not designed for setting the end position. An angle scale is provided on the cover cap to help set the swivel angles.

The maximum permissible tightening torque of the bolt at D4 must not be exceeded when attaching additional components to the spigot shaft.

∅	B1	B2	B3	D1 ∅ g7	D2 ∅	D3 ∅ h9	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

∅	L3	L4	L5	L6	L7	S1	S2	T1	T2	X	Featherkey to DIN 6885 <sup>1)</sup>	Tightening torque for 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

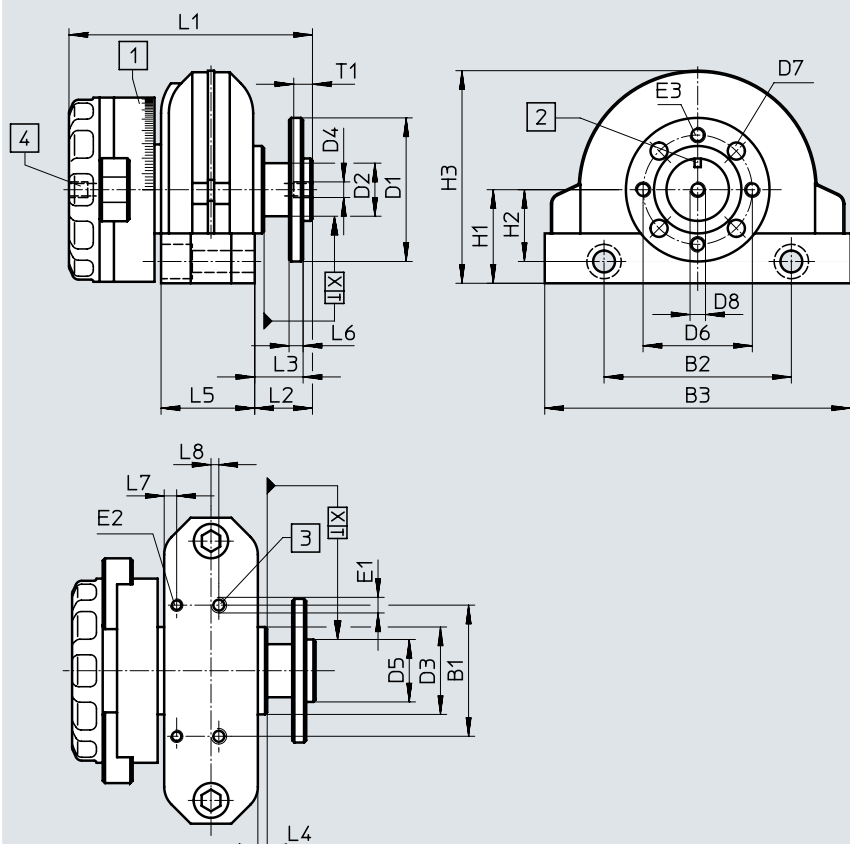
1) Included in the scope of delivery

Datasheet

Dimensions

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

DSRL



Note

The swivel angle is 180° and is pressure-dependent. The maximum cushioning angle on each side is approx. 1.6° at 8 bar.

If, at the end of the swivelling motion, the kinetic energy is absorbed by the cushioning, the drive shaft will swivel back by a corresponding proportion of the angle.

The stops must not be removed, as the vane itself is not designed for setting the end position. An angle scale is provided on the cover cap to help set the swivel angles.

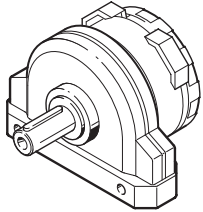
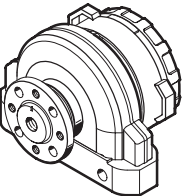
The maximum permissible tightening torque of the bolt at D4 must not be exceeded when attaching additional components to the spigot shaft.

- [1] Angle scale for reading the swivel angle
- [2] Featherkey position at 0°
- [3] Compressed air supply port
- [4] Through-hole

∅	B1	B2	B3	D1 ∅	D2 ∅	D3 ∅ h8	D4	D5 ∅ f8	D6 ∅	D7 ∅ H13	D8 ∅ 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

∅	H2	H3	L1	L2	L3	L4	L5	L6	L7	L8	S1	S2	T1	X	Tightening torque for 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

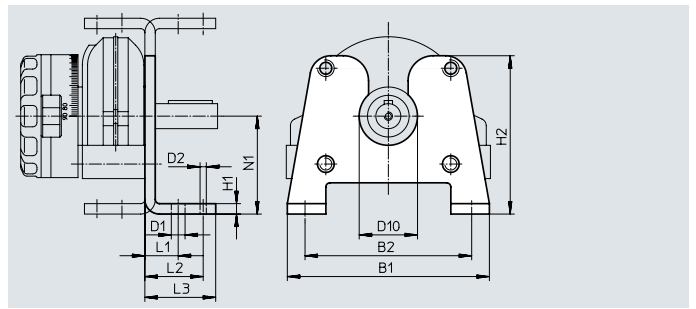
## Datasheet

Ordering data		Version	∅ [mm]	Part No.	Type
Semi-rotary drive					
<b>DSR-...-P</b>					
	With spigot shaft	10	<b>33297</b>	<b>DSR-10-180-P</b>	
		12	<b>11909</b>	<b>DSR-12-180-P</b>	
		16	<b>11910</b>	<b>DSR-16-180-P</b>	
		25	<b>11911</b>	<b>DSR-25-180-P</b>	
		32	<b>11912</b>	<b>DSR-32-180-P</b>	
		40	<b>13467</b>	<b>DSR-40-180-P</b>	
<b>DSRL-...-P-FW</b>					
	With hollow flanged shaft	10	<b>33296</b>	<b>DSRL-10-180-P-FW</b>	
		12	<b>30654</b>	<b>DSRL-12-180-P-FW</b>	
		16	<b>30655</b>	<b>DSRL-16-180-P-FW</b>	
		25	<b>30656</b>	<b>DSRL-25-180-P-FW</b>	
		32	<b>30657</b>	<b>DSRL-32-180-P-FW</b>	
		40	<b>30658</b>	<b>DSRL-40-180-P-FW</b>	

## Accessories

### Foot mounting HSR...-FW

Material:  
Steel



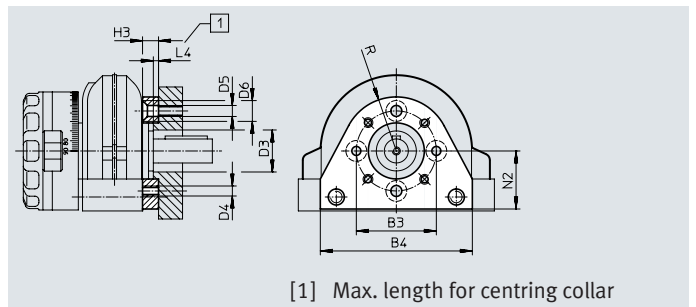
#### Dimensions and ordering data

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	33317	HSR-10-FW
12	64	52	3.5	2	22	4	63	11	17	21	40	2	87	30923	HSR-12-FW
16	77	63	5.7	2	24	5	71	14	22	26.5	44	2	170	30924	HSR-16-FW
25	97	80	6.8	3	28	5	76	16	28	34	47	2	235	30925	HSR-25-FW
32	129	105	8.8	4	42	8	108	20	34	43	66	2	660	30926	HSR-32-FW
40	159	130	8.8	5	52	8	134	25	42	52	81	2	1040	30927	HSR-40-FW

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

### Flange mounting FSR

Material:  
Aluminium



[1] Max. length for centring collar

#### 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	34480	FSR-10
12	31	54	17	M3	3.4	6.5	7	2	22	20.5	2	32	14658	FSR-12
16	35	62	19	M4	4.5	8.5	8	2	26.5	23.5	2	50	13236	FSR-16
25	40	76	21	M5	5.5	10.4	8	2.5	29	27	2	70	13237	FSR-25
32	56	100	32	M6	6.6	12.4	12	2.5	42	36	2	180	13238	FSR-32
40	72	120	37	M8	9	16.4	14	4	52	46	2	300	14655	FSR-40

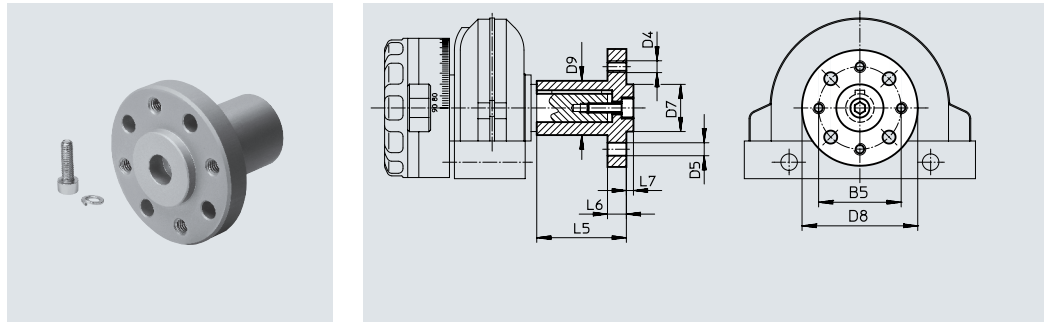
1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Accessories

### Push-on flange FWSR

The permissible tightening torque must not be exceeded when attaching the push-on flange FWSR to the drive shaft.

Material:  
Anodised wrought aluminium alloy



#### Dimensions and ordering data

For $\varnothing$ [mm]	B5	D4	D5 $\varnothing$ H13	D7 $\varnothing$ f8	D8 -0.5	D9 +0.4
10	21	M3	3.4	11	30	12
12	25	M3	3.4	14	35	15
16	28	M4	4.5	16	40	17
25	35	M5	5.5	20	50	23
32	45	M6	6.5	28	60	28
40	54	M8	9	36	70	38

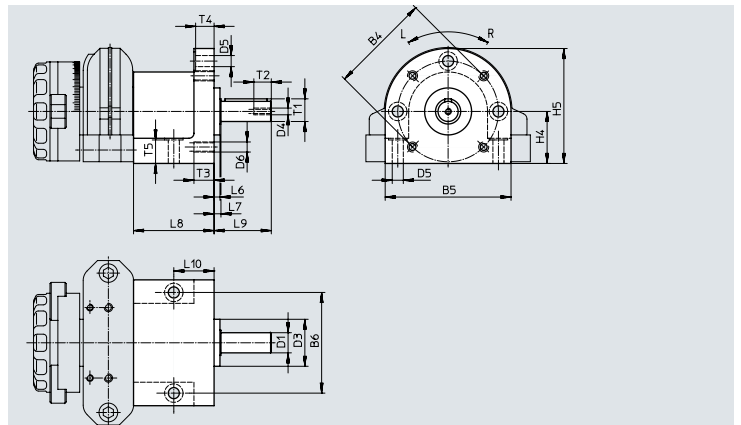
For $\varnothing$ [mm]	L5	L6	L7	Tightening torque [Nm]	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
10	22	3	1.6	0.7	2	12	<b>32798</b>	<b>FWSR-10</b>
12	25	3	3	1.2	2	19	<b>14659</b>	<b>FWSR-12</b>
16	28	5	3	1.2	2	30	<b>13239</b>	<b>FWSR-16</b>
25	38	8	3	5.5	2	70	<b>13240</b>	<b>FWSR-25</b>
32	48	10	4	5.5	2	125	<b>13241</b>	<b>FWSR-32</b>
40	60	11	5	5.5	2	240	<b>14656</b>	<b>FWSR-40</b>

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Accessories

### Free wheel unit FLSR

Material:  
 Housing: Cast aluminium  
 Sleeve, shaft: Case-hardened steel  
 Seal, cap: Nitrile rubber



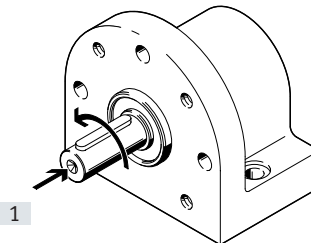
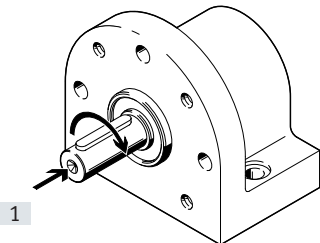
General technical data		10	12	16	25	32	40
Piston $\varnothing$		10	12	16	25	32	40
Design	Free wheel unit as attachment						
Rotation angle	Infinitely adjustable increment size (independent of rotation angle)						
Applied radial load	[N]	52	77	160	350	200	350
Applied axial load	[N]	30	50	100	200	75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

### Direction of rotation

The free wheel unit only allows movement in one of the two possible swivel directions of the semi-rotary drive DSR. The reverse direction is blocked.

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

FLSR-...-L, left-hand (anticlockwise) rotation



[1] View on drive shaft

## Accessories

## Dimensions and ordering data

For $\varnothing$ [mm]	B4	B5	B6	D1 $\varnothing$ g7	D3 $\varnothing$ h8	D4	D5 $\varnothing$ H13	D6	H4	H5	L6	L7	L8	L9	L10
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 $\varnothing$ [mm]	T1	T2	T3	T4	T5	Featherkey <sup>1)</sup> to DIN 6885	CRC <sup>2)</sup>	Weight [g]	Direction of rotation	Part no.	Type
10	6.8	8	8	5	8	A2 x 2 x 12	2	165	Anticlockwise rotation	<b>33298</b>	<b>FLSR-10-L</b>
									Clockwise rotation	<b>33299</b>	<b>FLSR-10-R</b>
12	8.8	9	8	5	9	A2 x 2 x 16	2	225	Anticlockwise rotation	<b>30930</b>	<b>FLSR-12-L</b>
									Clockwise rotation	<b>30929</b>	<b>FLSR-12-R</b>
16	11.2	11	10	8	11	A3 x 3 x 18	2	340	Anticlockwise rotation	<b>15281</b>	<b>FLSR-16-L</b>
									Clockwise rotation	<b>15280</b>	<b>FLSR-16-R</b>
25	13.5	14	12	11	14	A4 x 4 x 25	2	500	Anticlockwise rotation	<b>13778</b>	<b>FLSR-25-L</b>
									Clockwise rotation	<b>13730</b>	<b>FLSR-25-R</b>
32	18	16	12	11	16	A5 x 5 x 36	2	1140	Anticlockwise rotation	<b>15688</b>	<b>FLSR-32-L</b>
									Clockwise rotation	<b>15687</b>	<b>FLSR-32-R</b>
40	22.5	21	15	11	21	A6 x 6 x 45	2	1800	Anticlockwise rotation	<b>19037</b>	<b>FLSR-40-L</b>
									Clockwise rotation	<b>19036</b>	<b>FLSR-40-R</b>

1) Included in the scope of delivery.

2) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

## Accessories

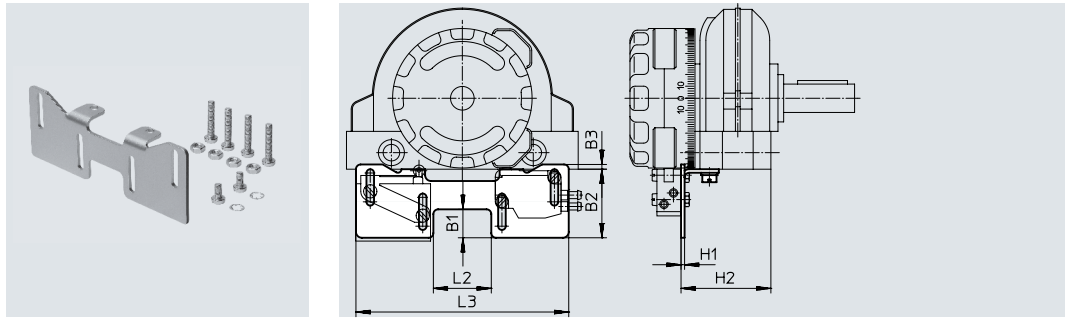
### Mounting kit

#### WSR-12 ... 40

For micro stem actuated valve  
S-3-PK-3-B, SO-3-PK-3-B

Material:

Steel



### Dimensions and ordering data

For $\varnothing$	B1	B2	B3	H1	H2	L2	L3	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12	5.8	23.4	4	1.5	23	14	79	2	12	<b>15684</b>	<b>WSR-12</b>
16	10	26.5	4.5	1.5	29.8	19	84.5	2	23	<b>14874</b>	<b>WSR-16</b>
25	12	29	2	1.5	38	24.5	90	2	26	<b>14796</b>	<b>WSR-25</b>
32	12	29	2	1.5	49.2	40.5	107	2	29	<b>14960</b>	<b>WSR-32</b>
40	12	29	2	1.5	68.7	52	118.5	2	32	<b>14961</b>	<b>WSR-40</b>

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)



## Accessories

### Mounting kit

#### WSR-...-J

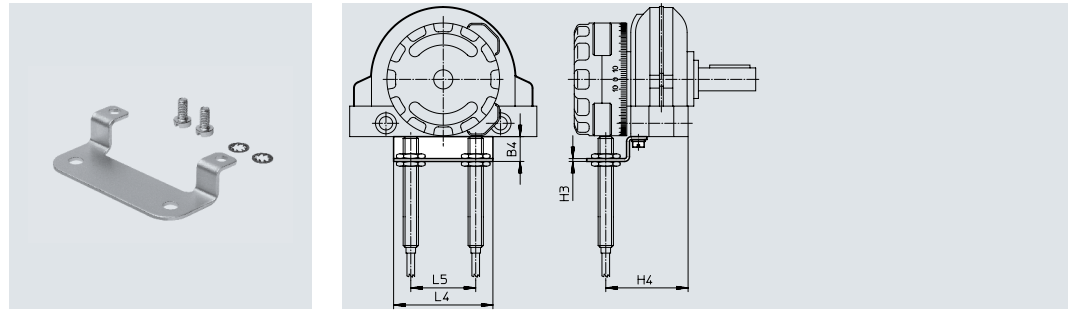
for proximity switch SIEN-M8

#### WSR-...-J-M5

for proximity switch SIEN-M5

Material:

Steel



### Dimensions and ordering data

#### WSR-...-J

For $\varnothing$ [mm]	B4	H3	H4	L4	L5	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
16	13	1.5	35	52	27	2	12	<b>14873</b>	<b>WSR-16-J</b>
25	13	1.5	43.1	52	34	2	17	<b>14799</b>	<b>WSR-25-J</b>
32	13	1.5	54.3	64	48	2	18	<b>14962</b>	<b>WSR-32-J</b>
40	13	1.5	76.3	80	60	2	24	<b>14963</b>	<b>WSR-40-J</b>

#### WSR-...-J-M5

For $\varnothing$ [mm]	B4	H3	H4	L4	L5	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
10	8	1	25.4	30	20	2	6	<b>33413</b>	<b>WSR-10-J-M5</b>
12	8	1	28.3	34	24.5	2	10	<b>15685</b>	<b>WSR-12-J-M5</b>
16	8	1	34.9	38	27	2	78	<b>15931</b>	<b>WSR-16-J-M5</b>
25	13	1.5	43	52	34	2	17	<b>15932</b>	<b>WSR-25-J-M5</b>
32	13	1.5	54.3	64	48	2	25	<b>15933</b>	<b>WSR-32-J-M5</b>
40	13	1.5	76.3	80	60	2	30	<b>15934</b>	<b>WSR-40-J-M5</b>

1) More information [www.festo.com/x/topic/crc](http://www.festo.com/x/topic/crc)

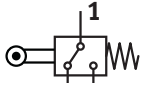
## Accessories

## Pneumatic limit valves for end-position sensing

Micro stem actuated valve

S-3-PK-3-B

SO-3-PK-3-B



## Technical data

Connection	Barbed connector for 3 mm I.D. plastic tubing
Nominal width	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

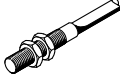
**Note**

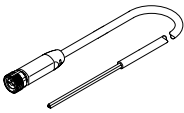
The switching point is pressure-dependent and varies up to 0.8 mm in a pressure range from 0 ... 8 bar. The switching point must not be exceeded by more than 0.5 mm. The valve must not be used as a fixed stop and should only be actuated in the direction of the plunger.

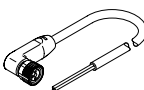
## Ordering data


For $\varnothing$ [mm]	Description	Part no.	Type
16 ... 40	Normally closed	<b>7843</b>	<b>S-3-PK-3-B</b>
	Normally open	<b>10403</b>	<b>SO-3-PK-3-B</b>

## Accessories

Ordering data – Proximity switches, inductive				Datasheets → Internet: sien	
	For Ø	Comment	Connection	Part no.	Type
	10 ... 40	For mounting kit WSR-...-J-M5	Cable	<b>150370</b>	<b>SIEN-M5B-PS-K-L</b>
			Plug	<b>150371</b>	<b>SIEN-M5B-PS-S-L</b>
	16 ... 40	For mounting kit WSR-...-J	Cable	<b>150386</b>	<b>SIEN-M8B-PS-K-L</b>
			Plug	<b>150387</b>	<b>SIEN-M8B-PS-S-L</b>

Connecting cables NEBA, straight						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	<b>8078223</b>	<b>NEBA-M8G3-U-2.5-N-LE3</b>
				5 m	<b>8078224</b>	<b>NEBA-M8G3-U-5-N-LE3</b>

Connecting cables NEBA, angled						
	Electrical connection 1, connection technology	Electrical connection 2, connection technology	Electrical connection 2, number of pins/cores	Cable length	Part no.	Type
	M8x1 A-coded to EN 61076-2-104	Open end	3	2.5 m	<b>8078230</b>	<b>NEBA-M8W3-U-2.5-N-LE3</b>
				5 m	<b>8078231</b>	<b>NEBA-M8W3-U-5-N-LE3</b>

Ordering data – One-way flow control valves				Datasheets → Internet: grla		
	Connection		Material	Part no.	Type	
	Thread	For tubing O.D.				
	M3	3	Metal design	<b>175041</b>	<b>GRLA-M3-QS-3</b>	
		M5		3	<b>193137</b>	<b>GRLA-M5-QS-3-D</b>
				4	<b>193138</b>	<b>GRLA-M5-QS-4-D</b>
				6	<b>193139</b>	<b>GRLA-M5-QS-6-D</b>
	G1/8	3		<b>193142</b>	<b>GRLA-1/8-QS-3-D</b>	
		4		<b>193143</b>	<b>GRLA-1/8-QS-4-D</b>	
		6		<b>193144</b>	<b>GRLA-1/8-QS-6-D</b>	
		8		<b>193145</b>	<b>GRLA-1/8-QS-8-D</b>	
	G1/4	6		<b>193146</b>	<b>GRLA-1/4-QS-6-D</b>	
		8		<b>193147</b>	<b>GRLA-1/4-QS-8-D</b>	
		10		<b>193148</b>	<b>GRLA-1/4-QS-10-D</b>	