

## Semi-rotary drives DSM/DSM-B

**FESTO**



## Characteristics

### At a glance

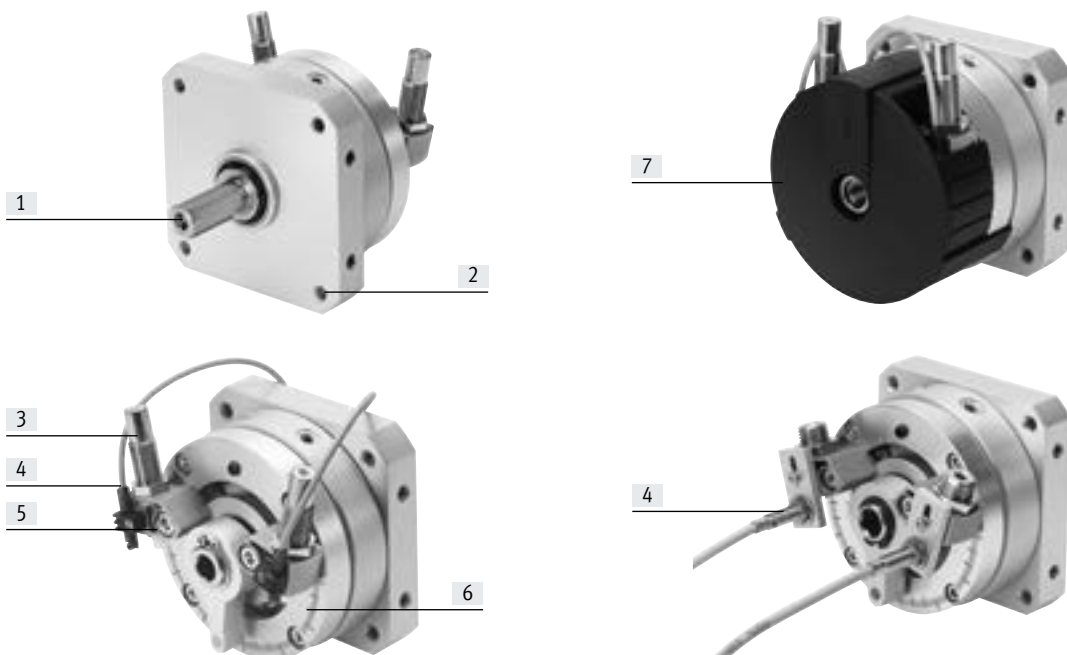
- Double-acting semi-rotary drive with vane
- The swivel angle is infinitely adjustable over the entire swivel range
- High precision thanks to metal fixed stops
- Polyurethane ensures a long service life for the rotary vane and sealing system
- Easy precision adjustment of the end positions using the cushioning components
- The mechanical gearing between the stop element and the semi-rotary drive prevents movement of the stop system under load
- Torques of up to 80 Nm with tandem rotary vanes in combination with multi-tooth shaft

### The technology in detail

Size 6 ... 10



Size 12 ... 63



- [1] Interface  
Choice of:
  - Spigot shaft
  - Flange shaft
- [2] Wide range of mounting options
- [3] Cushioning with size 6 ... 10: elastic cushioning components with metal fixed stop (P)  
Cushioning with size 12 ... 63:  
Three types of cushioning, with metal fixed stop:
  - Elastic cushioning components (P)
  - Adjustable, elastic cushioning components (P1)
  - Hydraulic shock absorbers (CC)
- [4] Position sensing
  - With size 6 ... 10: SME/SMT-10
  - With size 12 ... 40: SME/SMT-10 or SIEN
  - With size 63: SME/SMT-8
- [5] Precision adjustment of the end positions: the end positions can be very accurately adjusted by moving the stops
- [6] Angle scale: the required swivel angle can be easily preset using the scale
- [7] The cover cap prevents unwanted interference in the swivel motion and reduces the risk of injury

## Characteristics

### Wide choice of variants

DSM-T-...: semi-rotary drive with tandem rotary vanes



Torques of up to 80 Nm can be achieved by having two rotary vanes on the multi-tooth shaft.

The functionality corresponds to that of the DSM without tandem rotary vanes:

- Infinitely adjustable swivel angle
- Identical interfaces
- Identical accessories

DSM-...-HD: semi-rotary drive with heavy-duty bearing



Backlash-free, preloaded, high-quality bearing elements allow very high load torques and very precise bearing with high running accuracy.

The functionality corresponds to that of the DSM-B without heavy-duty bearing:

- Infinitely adjustable swivel angle
- Identical mounting interfaces
- Identical accessories

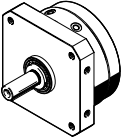
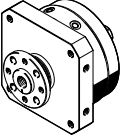
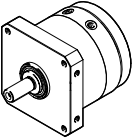
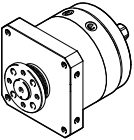
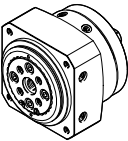
Choice of two cushioning types:

- Cushioning P1 and CC

## Product range overview

## Characteristic values of the semi-rotary drives

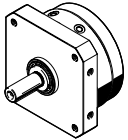
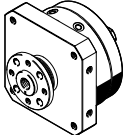
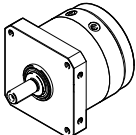
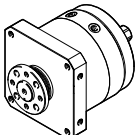
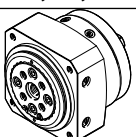
The specifications shown in the table are maximum values. The precise values for each of the sizes can be found in the relevant data sheet in the catalogue.

Design	Type	Size	Swivel angle [°]	Torque [Nm]	Axial force [N]	Radial force [N]
<b>Spigot shaft</b>						
	DSM-...	6, 8, 10	90, 180	0.85	10	30
		10	240			
		12, 16, 25, 32, 40, 63	270	40	500	500
		12, 16, 25, 32	246			
		40, 63	240			
<b>Flange shaft</b>						
	DSM-...-FW	6, 8, 10	90, 180	0.85	10	30
		10	240			
		12, 16, 25, 32, 40, 63	270	40	500	500
		12, 16, 25, 32	246			
		40, 63	240			
<b>Tandem rotary vanes and spigot shaft</b>						
	DSM-T...	6, 8, 10	90, 180	1.7	10	30
		10	240			
		12, 16, 25, 32, 40, 63	270	80	500	500
		12, 16, 25, 32	246			
		40, 63	240			
<b>Tandem rotary vanes and flange shaft</b>						
	DSM-T-...-FW	6, 8, 10	90, 180	1.7	10	30
		10	240			
		12, 16, 25, 32, 40, 63	270	80	500	500
		12, 16, 25, 32	246			
		40, 63	240			
<b>Heavy-duty bearing</b>						
	DSM-...-HD	12, 16, 25, 32, 40, 63	270	40	1300	1800
		12, 16, 25, 32	246			
		40, 63	240			

## Product range overview

## Characteristic values of the semi-rotary drives

The specifications shown in the table are maximum values. The precise values for each of the sizes can be found in the relevant data sheet in the catalogue.

Design	Cushioning			Adjustable swivel angle	Position sensing	→ Page
	P	P1	CC			
<b>Spigot shaft</b>						
	■	–	–	■	■	8
	■	–	–	■	■	
	■	–	–	■	■	24
	–	■	■	■	■	
	–	■	■	■	■	
<b>Flange shaft</b>						
	■	–	–	■	■	8
	■	–	–	■	■	
	■	–	–	■	■	24
	–	■	■	■	■	
	–	■	■	■	■	
<b>Tandem rotary vanes and spigot shaft</b>						
	■	–	–	■ <sup>2)</sup>	■ <sup>3)</sup>	8
	■	–	–	■ <sup>2)</sup>	■ <sup>3)</sup>	
	■	–	–	■	■	24
	–	■ <sup>1)</sup>	■	■	■	
	–	■ <sup>1)</sup>	■	■	■	
<b>Tandem rotary vanes and flange shaft</b>						
	■	–	–	■ <sup>2)</sup>	■ <sup>3)</sup>	8
	■	–	–	■ <sup>2)</sup>	■ <sup>3)</sup>	
	■	–	–	■	■	24
	–	■ <sup>1)</sup>	■	■	■	
	–	■ <sup>1)</sup>	■	■	■	
<b>Heavy-duty bearing</b>						
	–	–	–	■	■	24
	–	■	■	■	■	
	–	■	■	■	■	

1) The cushioning type P1 can be ordered as an accessory (→ page 53).

2) The stop kit (adjustable swivel angle) can be ordered as an accessory (→ page 54).

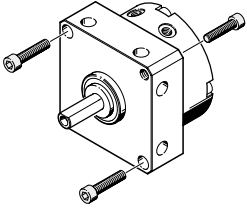
3) The mounting kit (for position sensing) can be ordered as an accessory (→ page 54).

## Characteristics

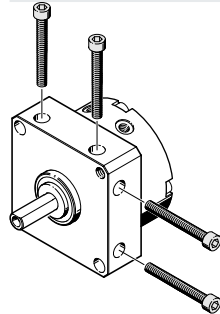
### Mounting options

Size 6 ... 10

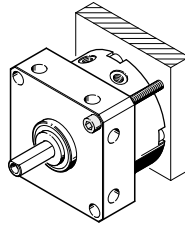
Via threaded through-hole/  
through-hole



Via through-hole, lateral

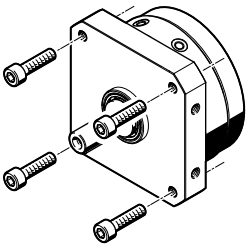


Via thread, lateral

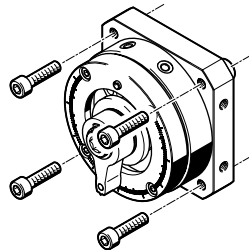


Size 12 ... 63

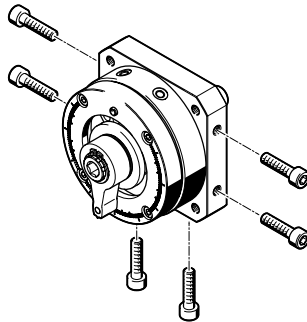
Via threaded through-hole



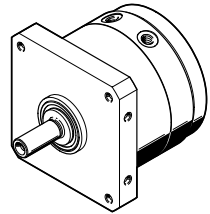
Via through-hole



Via thread, lateral

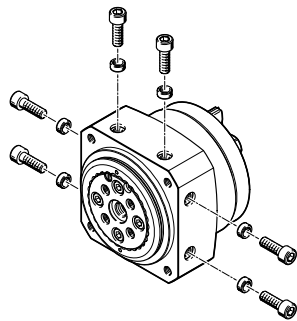


Centring via centring collar

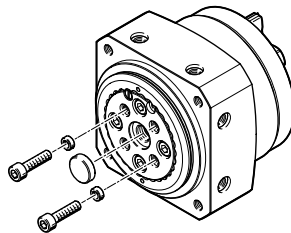


### Special mounting options for DSM-...-HD

Via thread, lateral



Of attachments



Positive-locking connections possible  
when using centring sleeves ZBH.

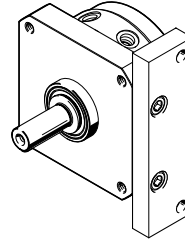
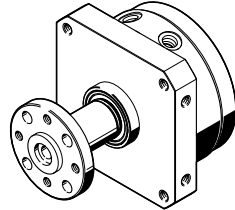
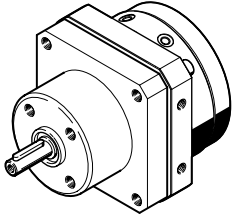
## Characteristics

### Accessories

Free wheel unit FLSM  
Size 6 ... 40

Push-on flange FWSR  
Size 6 ... 40

Mounting plate HSM  
Size 12 ... 40

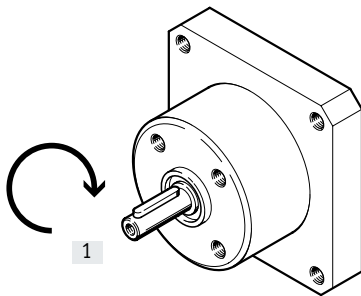


### Direction of rotation in combination with free wheel unit FLSM

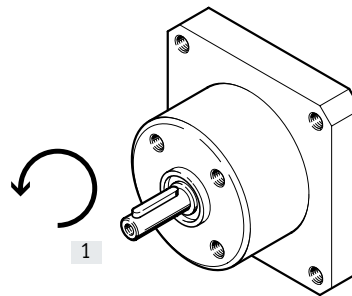
The free wheel unit only allows movement in one of the two possible swivel directions of the semi-rotary drive DSM. The reverse direction is blocked.

Dimensions and ordering data  
→ page 49

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



### FLSM-...-L, left-hand (anticlockwise) rotation



[1] View towards drive shaft

### Position sensor SRBS

The position sensor is used for sensing the end positions of semi-rotary drives DSM.

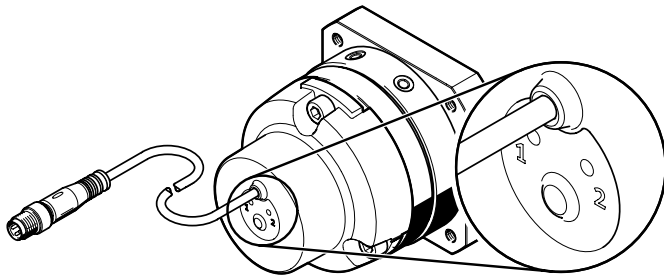
Sensing is done magnetically and contactless. Two switching points are output.

#### Characteristics:

- Quick assembly without having to manually search for switching points
- Simple and reliable operation using one pushbutton
- Only one connecting cable required
- Long service life thanks to sturdy and non-contacting position sensing

#### Technical data:

- Possible sensing range: 0 ... 270°
- Repetition accuracy:  $\leq 1^\circ$
- 2 switching outputs (24 V)
- Switching output: PNP or NPN programmable
- Switching element function: N/O contact or N/C contact programmable



Type codes DSM-6 ... 10

001	Series	
<b>DSM</b>	Semi-rotary drive	

002	Design type	
	Standard	
<b>T</b>	Tandem vane	

003	Size	
<b>6</b>	6	
<b>8</b>	8	
<b>10</b>	10	

004	Nominal swivel angle [°]	
<b>90</b>	90	
<b>180</b>	180	
<b>200</b>	200	
<b>240</b>	240	

005	Cushioning	
<b>P</b>	Elastic cushioning rings/plates on both sides	

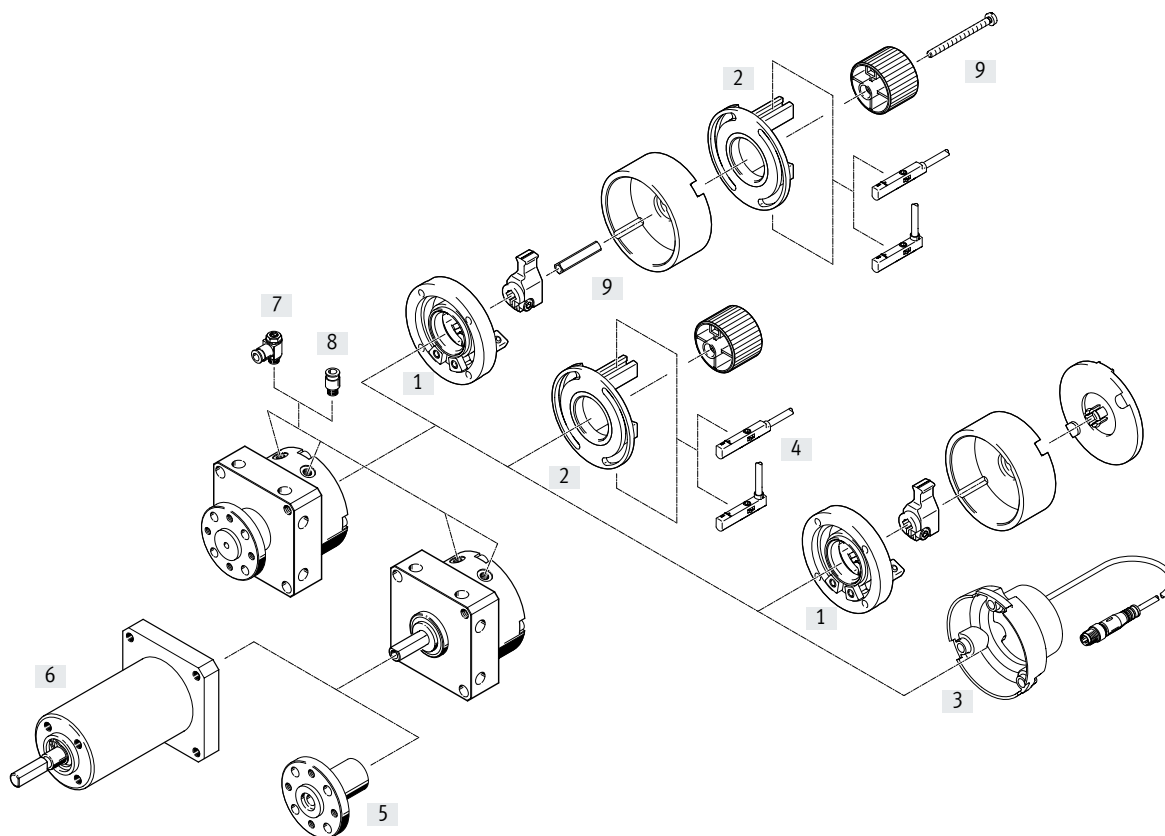
006	Position sensing	
	None	
<b>A</b>	For proximity sensor	

007	Adjustable swivel angle	
	Fixed swivel angle	
<b>FF</b>	Adjustable swivel angle	

008	Shaft	
	Spigot shaft	
<b>FW</b>	Flanged shaft	



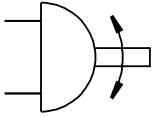
## Peripherals overview DSM-6 ... 10



Accessories	Description	→ Page/Internet
[1] Stop kit KSM	<ul style="list-style-type: none"> <li>For adjusting the swivel angle</li> <li>Can be retrofitted for semi-rotary drive DSM-...-P(-A)/DSM-...-P(-A)-FW</li> <li>With DSM-T-..., the stop kit must be ordered separately as an accessory</li> <li>Can be combined with mounting kit WSM</li> <li>The adapter kit DADP-AK must also be ordered in combination with mounting kit WSM → page 54</li> </ul>	54
[2] Mounting kit WSM-...SME-10	<ul style="list-style-type: none"> <li>For sensing the swivel angle</li> <li>For mounting the proximity switches SME-/SMT-10</li> <li>Can be retrofitted for semi-rotary drive DSM-...-P(-FF)/DSM-...-P(-FF)-FW</li> <li>The mounting kit must be ordered as an accessory with DSM-T-...</li> <li>Can be combined with stop kit KSM</li> <li>The adapter kit DADP-AK must also be ordered in combination with stop kit KSM → page 54</li> </ul>	54
[3] Position sensor SRBS	<ul style="list-style-type: none"> <li>For sensing the swivel angle</li> <li>No adjustment of the proximity switches required</li> <li>The end positions of the swivel angle are taught in at the touch of a button</li> <li>Can only be mounted directly on the semi-rotary drive, without other accessories</li> <li>Must be ordered separately as an accessory</li> </ul>	53
[4] Proximity switches SME/SMT-10	Proximity switches for sensing the end position	54
[5] Push-on flange FWSR	For retrofitting on semi-rotary drive DSM with spigot shaft	51
[6] Free wheel unit FLSM	<ul style="list-style-type: none"> <li>For indexed rotation in one direction</li> <li>Only in combination with semi-rotary drive DSM with spigot shaft</li> </ul>	49
[7] One-way flow control valve GRLA	For speed regulation	56
[8] Push-in fitting QS	For connecting compressed air tubing with standard O.D.	qs
[9] Adapter kit DADP-AK	For attaching mounting kit WSM to stop kit KSM	54

## Data sheet DSM-6 ... 10

## Function



Size  
6 ... 10



## General technical data

Size	6	8	10
Pneumatic connection	M3		
Design	Rotary vane		
Cushioning	Elastic cushioning rings/plates at both ends		
Type of mounting	Via female thread		
Mounting position	Any		
Swivel angle			
DSM-... [°]	90 or 180	90 or 180	90, 180 or 240
DSM-...-FF [°]	0 ... 180		0 ... 200
Max. swivel frequency at 6 bar [Hz]	3		3 (at 240°: 2 Hz)
Cushioning angle [°]	0.5		
Air consumption at swivel angle of 90° and 6 bar <sup>1)</sup>			
DSM-... [cm <sup>3</sup> ]	0.6	0.7	5.5
DSM-T-... [cm <sup>3</sup> ]	1.2	1.4	11

1) Theoretical values

## Operating and environmental conditions

Size	6	8	10
Operating medium	Compressed air to ISO 8573-1:2010 [7:4:4]		
Operating pressure			
DSM-... [bar]	3.5 ... 8	3.5 ... 8	2.5 ... 8
DSM-T-... [bar]	4 ... 8	4 ... 8	3.5 ... 8
Ambient temperature <sup>1)</sup> [°C]	0 ... +60		
Storage temperature [°C]	20		
ATEX	Selected types → <a href="http://www.festo.com">www.festo.com</a>		

1) Note operating range of proximity switches

## Forces and torques

Size	6	8	10
Torque at 6 bar			
DSM-... [Nm]	0.15	0.35	0.85
DSM-T-... [Nm]	0.3	0.7	1.7
Max. permissible axial force on drive shaft <sup>1)</sup> [N]	10		
Max. permissible radial force on drive shaft <sup>1)</sup> [N]	15	20	30
Max. perm. mass moment of inertia on drive shaft <sup>2)</sup> [kgm <sup>2</sup> ]	0.00065	0.0013	0.0026

1) The axis of rotation and the centre of the drive shaft are the point of reference for the forces

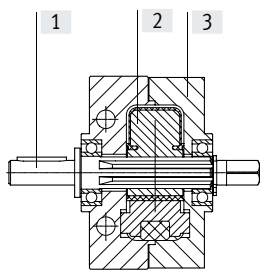
2) Maximum value; please see graphs starting on → page 12

## Data sheet DSM-6 ... 10

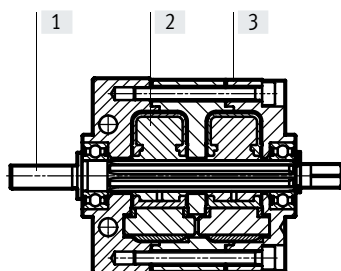
Weight [g]			
Size	6	8	10
<b>Spigot shaft</b>			
DSM-...-P	45	78	140
DSM-...-P-A	50	85	149
DSM-...-P-FF	70	140	240
DSM-...-P-A-FF	85	155	255
<b>Flange shaft</b>			
DSM-...-P-FW	51	85	150
DSM-...-P-A-FW	56	92	159
DSM-...-P-FF-FW	76	147	250
DSM-...-P-A-FF-FW	91	162	265
<b>Tandem rotary vanes and spigot shaft</b>			
DSM-T-...-P	60	110	200
<b>Tandem rotary vanes and flange shaft</b>			
DSM-T-...-P-FW	65	117	210

**Materials**

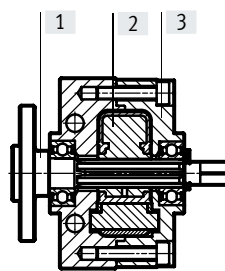
Sectional view  
with spigot shaft  
DSM-...



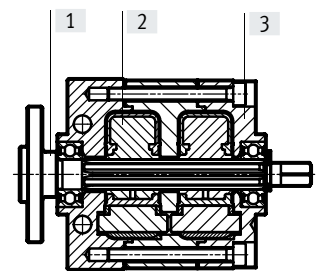
DSM-T-...



with flange shaft  
DSM-...-FW



DSM-T-...-FW



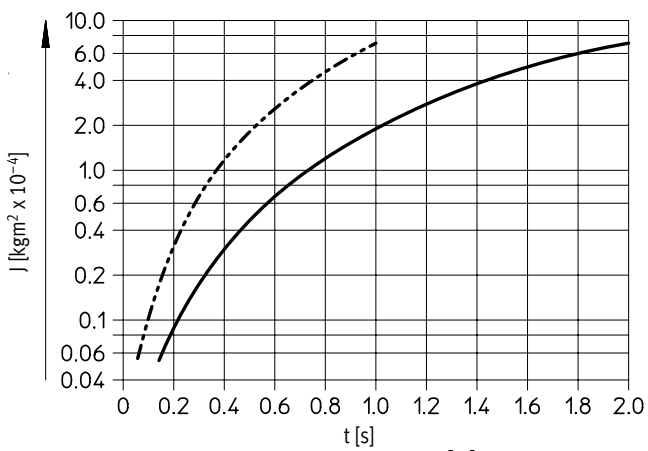
## Semi-rotary drive

[1] Shaft	High-alloy stainless steel
[2] Rotary vane	Glass fibre-reinforced plastic
[3] Housing	Anodised aluminium
- Screws	Galvanised steel
- Seals	Polyurethane
Note on materials	Free of copper and PTFE
	RoHS-compliant

## Data sheet DSM-6 ... 10

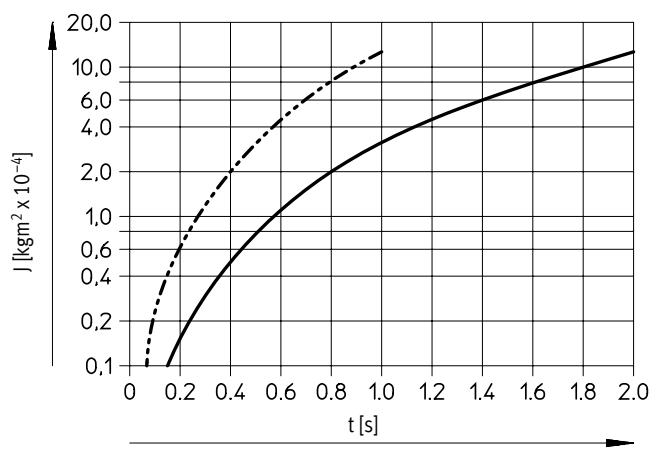
### Mass moment of inertia J as a function of swivel time t

DSM-6



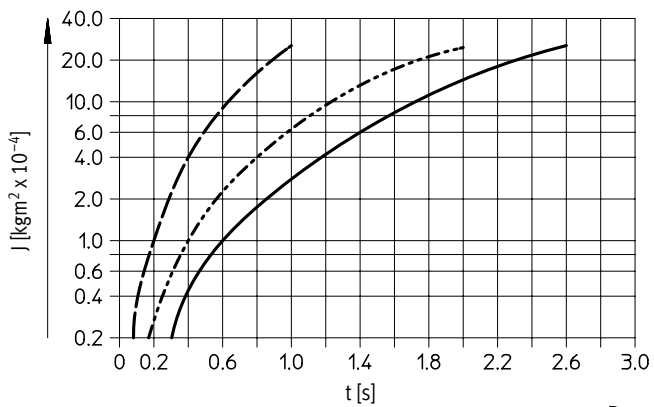
— 180°  
 - - - 90°

DSM-8



— 180°  
 - - - 90°

DSM-10



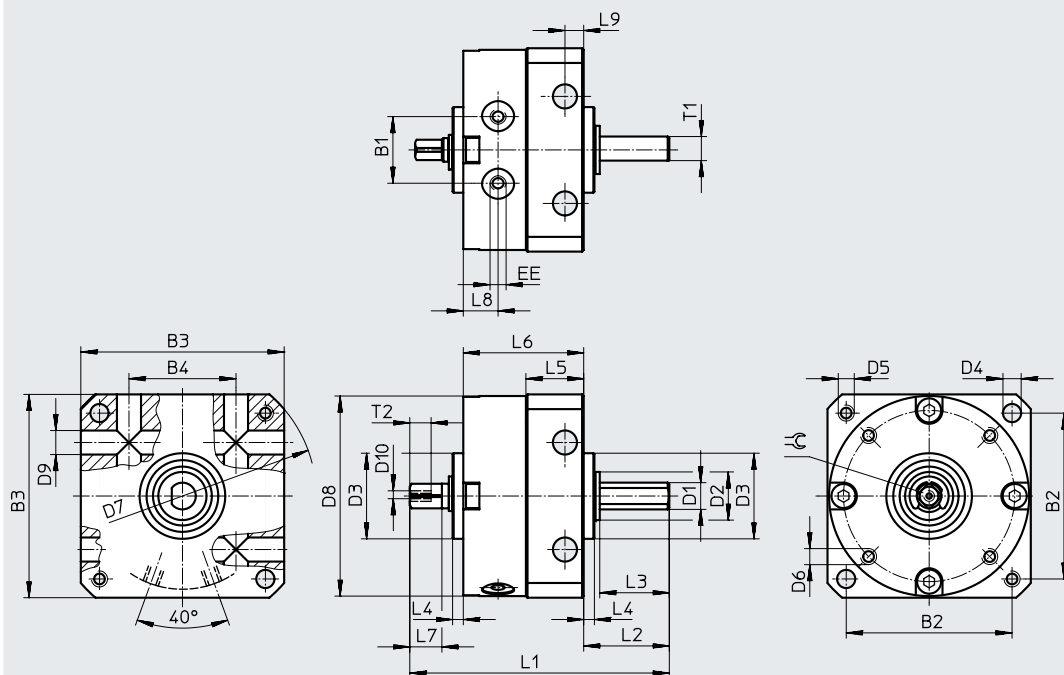
— 240°  
 - - - 180°  
 - · - 90°

## Data sheet DSM-6 ... 10

## Dimensions

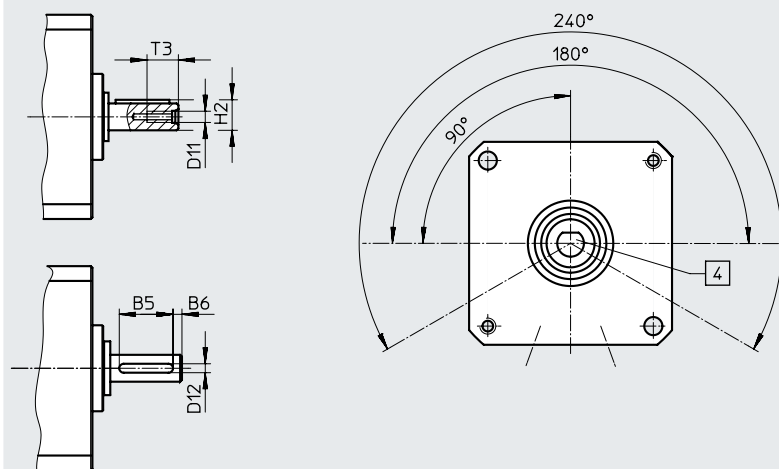
Download CAD data → [www.festo.com](http://www.festo.com)

DSM... – With spigot shaft



For DSM-10

Shaft position



- Note

For swivel angle tolerance → table below. The compressed air supply ports are at the bottom in this drawing.

Size	B1	B2	B3	B4	D1 ∅ g7	D2 ∅	D3 ∅ f8	D4 ∅ H12	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D10 ∅ H12	EE
6	10	25	30	17	4	8	14	3.2	M3	M2	40	29.4	3.5	M2	M3
8	12.8	31	38	20	5	9	16	3.2	M3	M2.5	50	37.4	3.5	M2	M3
10	15.9	38	47	26	6	12	19	4.3	M4	M3	62	46.4	4.5	M2.5	M3

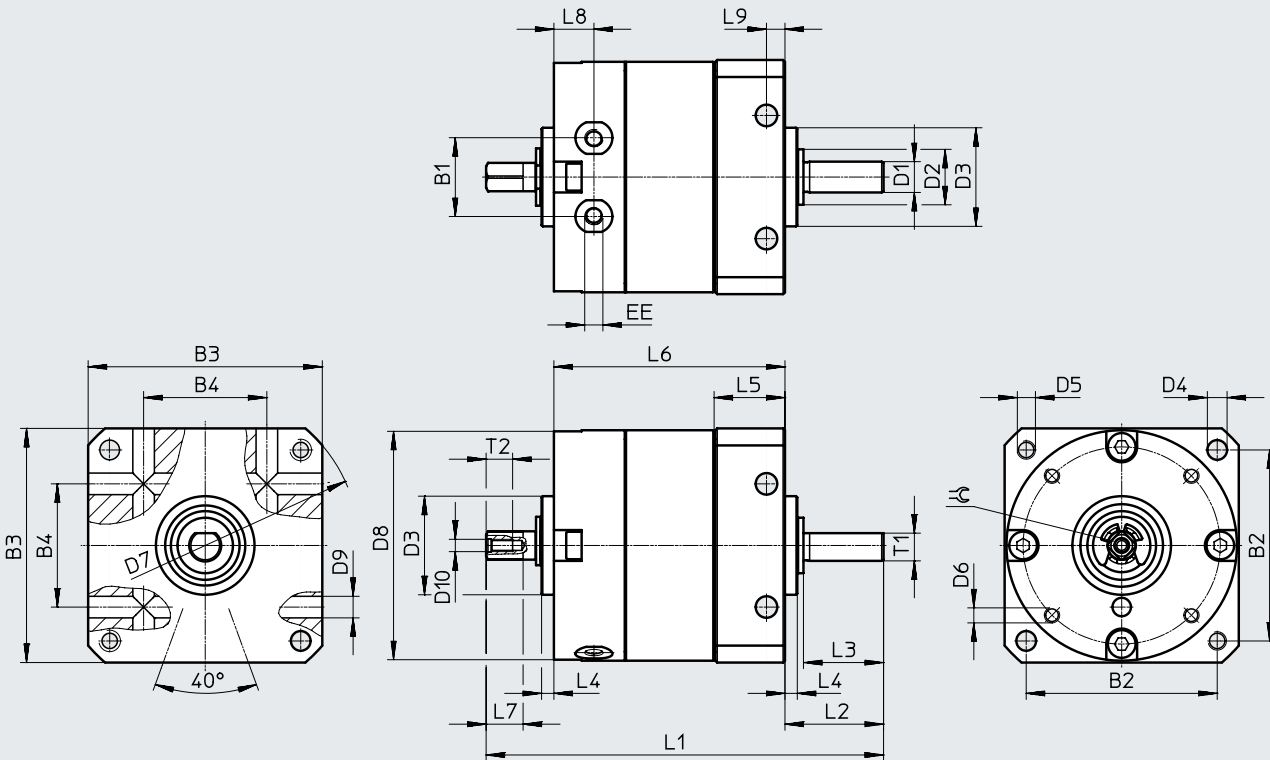
Size	L1	L2	L3	L4	L5	L6	L7	L8	L9	T1	T2 h12	⊖	Swivel angle tolerance
6	43	13	10	2	9.8	21	5	6	3	3.5	4	3	0/+5°
8	50	16	13	2	11.3	23	6	6.5	3	4.5	4.3	3.5	0/+5°
10	61	19.6	16	2	14.3	28.4	8	7.5	4	-	5	4.5	0/+5°

Data sheet DSM-6 ... 10

Dimensions

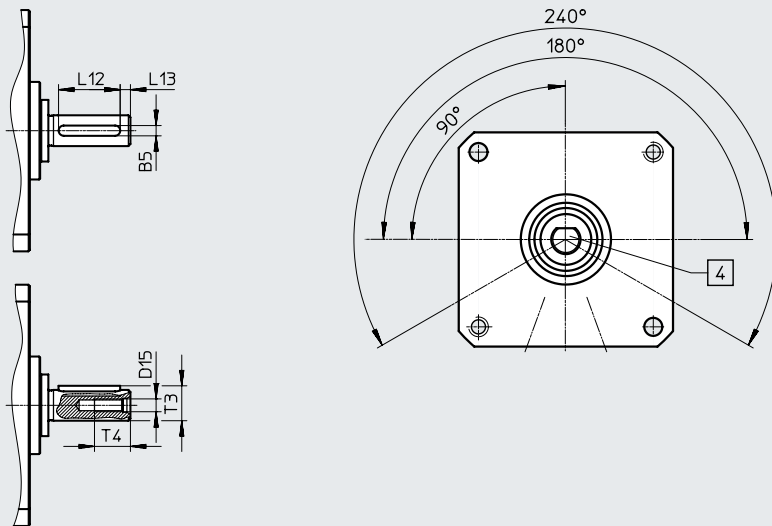
Download CAD data → [www.festo.com](http://www.festo.com)

DSM-T... – With spigot shaft and tandem rotary vanes



For DSM-T-10

Shaft position



Note

For swivel angle tolerance → table below. The compressed air supply ports are at the bottom in this drawing.

Size	B1	B2	B3	B4	D1 ∅ g7	D2 ∅	D3 ∅ f8	D4 ∅ H12	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D10
6	10	25	30	17	4	8	14	3.2	M3	M2	40	29.4	3.5	M2
8	12.8	31	38	20	5	9	16	3.2	M3	M2.5	50	37.4	3.5	M2
10	15.9	38	47	26	6	12	19	4.3	M4	M3	62	46.4	4.5	M2.5

Size	EE	L1	L2	L3	L4	L5	L6	L7	L8	L9	T1	T2 h12	⊖	Swivel angle tolerance
6	M3	55.5	13	10	2	9.8	33.5	5	6	3	3.5	4	3	0/+5°
8	M3	64.5	16	13	2	11.3	37.5	6	6.5	3	4.5	4.3	3.5	0/+5°
10	M3	79	19.6	16	2	14.3	46	8	7.5	4	-	5	4.5	0/+5°

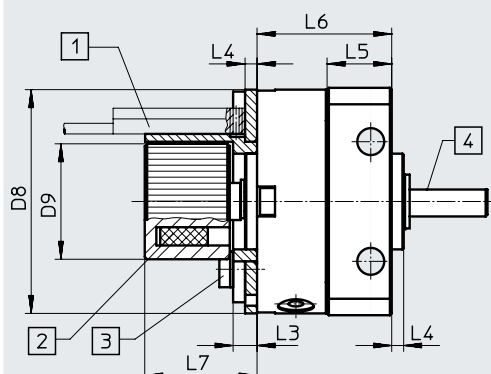
## Data sheet DSM-6 ... 10

## Dimensions

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

DSM-... – With spigot shaft and position sensing

DSM-T... – With spigot shaft, tandem rotary vanes and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

[3] Max. tightening torque for sensor bracket screws  
→ table below

[4] The flat or the featherkey on the shaft indicates the position of the rotary vane

Size	D8 ∅	D9 ∅	L3	L4	L5	L6		L7	Tightening torque [Nm]
						DSM-...	DSM-T...		
6	29.4	17.3	4	2	9.8	21	33.5	19.5	0.19
8	37.4	19.3	4	2	11.3	23	37.5	19.5	0.32
10	46.4	22.3	4	2	14.3	28	45.6	19.5	0.44

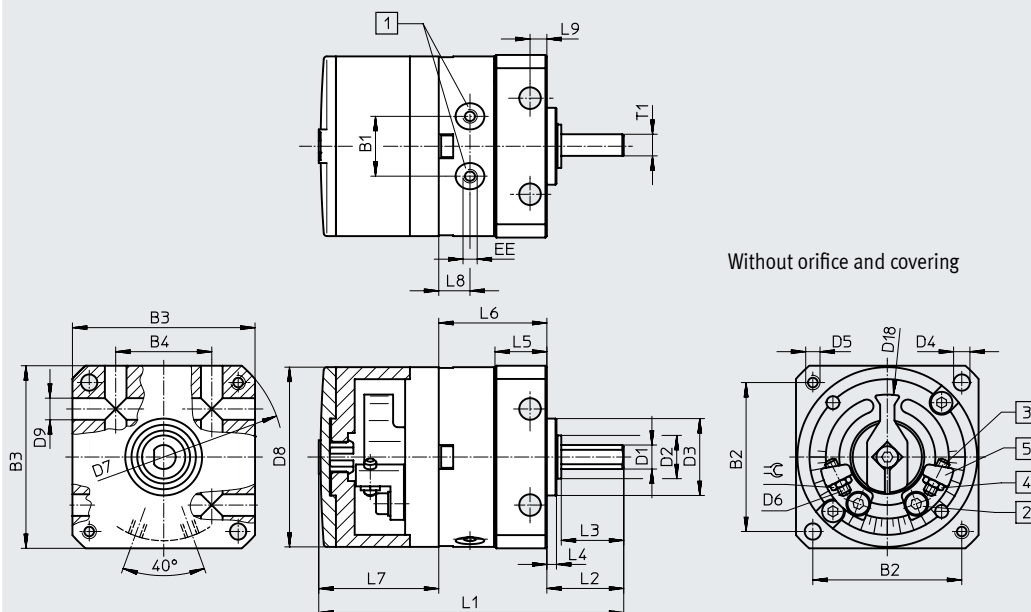
## Data sheet DSM-6 ... 10

### Dimensions

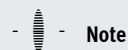
Download CAD data → [www.festo.com](http://www.festo.com)

DSM-... – With spigot shaft and adjustable swivel angle

DSM-T... – With spigot shaft, tandem rotary vanes and adjustable swivel angle



Without orifice and covering



### Note

The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

- [1] Compressed air supply ports
- [2] Locking screw for clamping the stop
- [3] End-position adjustment
- [4] Lock nut for end-position adjustment
- [5] Infinitely adjustable stops

Size	B1	B2	B3	B4	D1 ∅ g7	D2 ∅	D3 ∅ f8	D4 ∅ H12	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D18 ∅	EE	L1	
																DSM-...	DSM-T...
6	10	25	30	17	4	8	14	3.2	M3	M2	40	29.4	3.5	22	M3	52	64.5
8	12.8	31	38	20	5	9	16	3.2	M3	M2.5	50	37.4	3.5	26		64	78.5
10	15.9	38	47	26	6	12	19	4.3	M4	M3	62	46.4	4.5	35.8		76	93.6

Size	L2	L3	L4	L5	L6		L7	L8	L9	T1	≈G	Max. swivel angle	Precision adjustment per side
					DSM-...	DSM-T...							
6	13	10	2	9.8	21	33.5	17.8	6	3	3.5	4	180°+5°	+1°/-5°
8	16	13	2	11.3	23	37.5	24.9	6.5	3	4.5	5	180°+5°	+1°/-5°
10	19.6	16	2	14.3	28.4	46	28.2	7.5	4	-	5.5	200°+5°	+1°/-5°



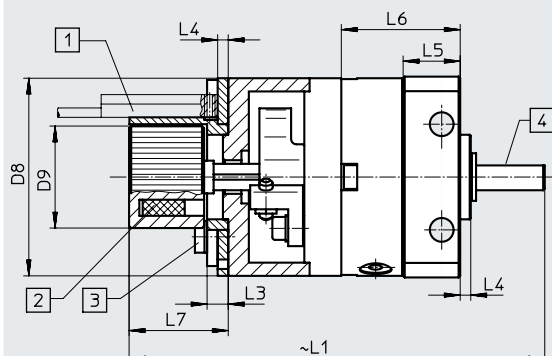
## Data sheet DSM-6 ... 10

## Dimensions

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

DSM-... – With spigot shaft, adjustable swivel angle and position sensing

DSM-T... – With spigot shaft, tandem rotary vanes, adjustable swivel angle and position sensing



[1] Sensor not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

[3] Max. tightening torque for sensor bracket screw → table below

[4] The flat or the featherkey on the shaft indicates the position of the rotary vane

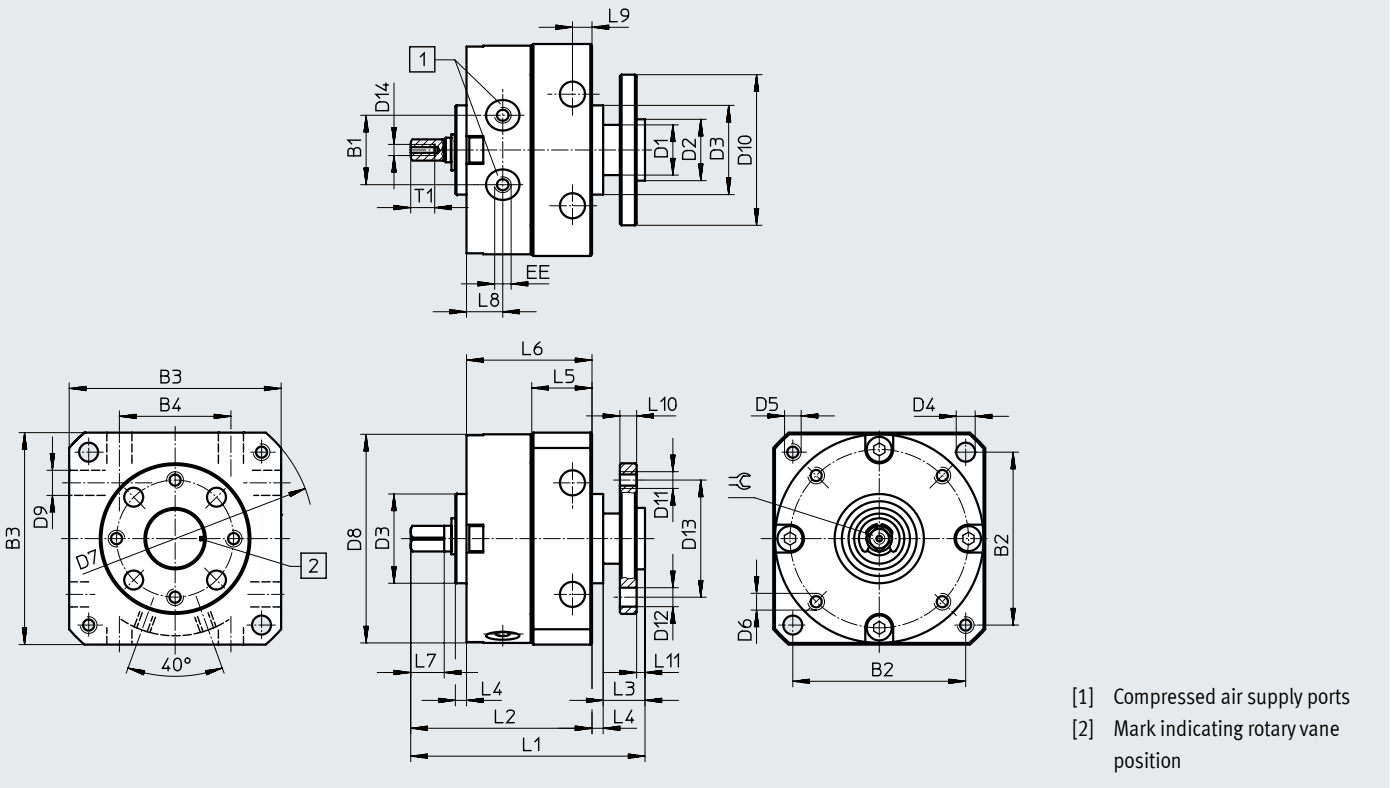
Size	D8 ∅	D9	L1		L3	L4	L5	L6		L7	Tightening torque [Nm]
			DSM-...	DSM-T...				DSM-...	DSM-T...		
6	29.4	17.3	68.5	81	4	2	9.8	21	33.5	19.5	0.19
8	37.4	19.3	80	94.5	4	2	11.3	23	37.5	19.5	0.32
10	46.4	22.3	91.5	109.1	4	2	14.3	28.4	46	19.5	0.44

Data sheet DSM-6 ... 10

Dimensions

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

DSM-... – With flange shaft



Size	B1	B2	B3	B4	D1 ∅	D2 ∅ g7	D3 ∅ f8	D4 ∅	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D10 ∅	D11	D12 ∅ H13	D13 ∅
6	10	25	30	17	8	8	14	3.2	M3	M2	40	29.4	3.5	23	M3	3.4	16
8	12.8	31	38	20	9	11	16	3.2	M3	M2.5	50	37.4	3.5	27	M3	3.4	21
10	15.9	38	47	26	10	11	19	4.3	M4	M3	62	46.4	4.5	30	M3	3.4	21

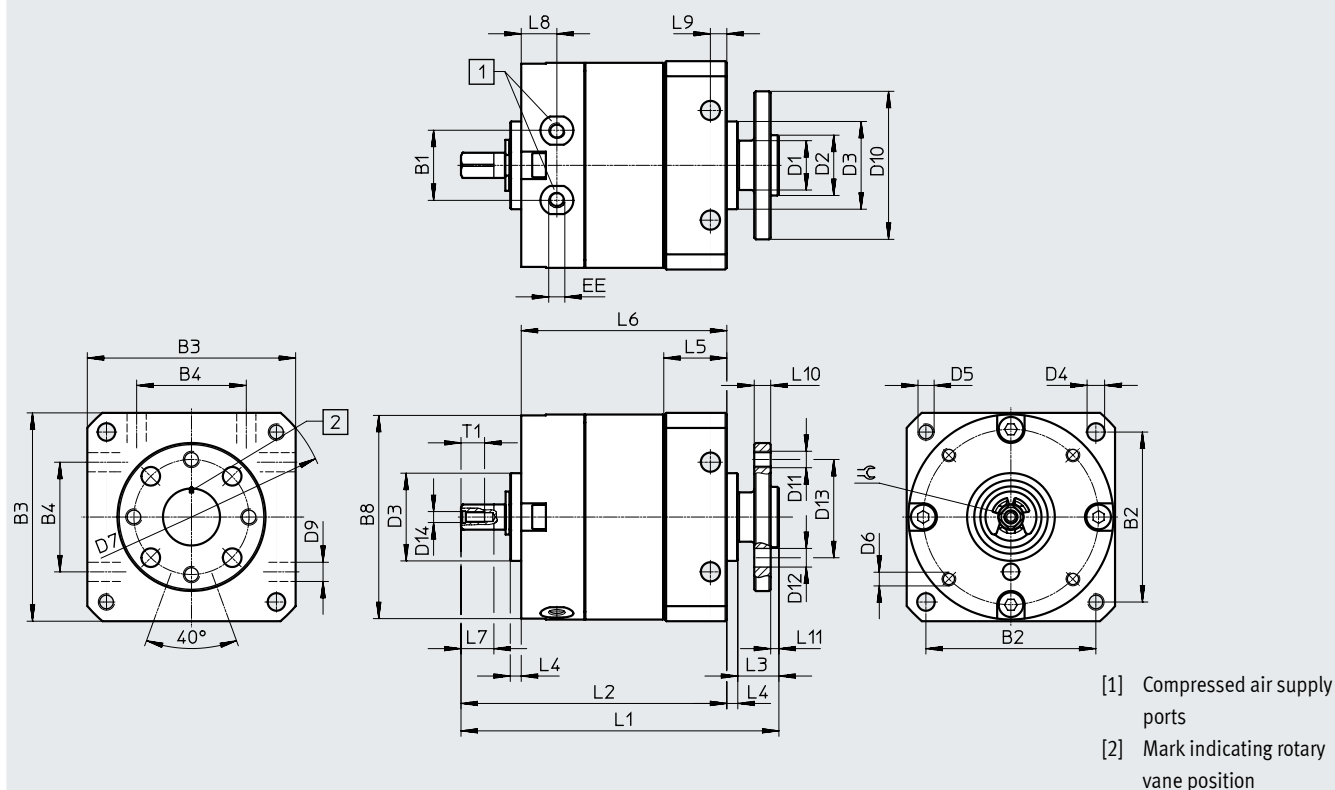
Size	D14	EE	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	T1	⊕	Swivel angle tolerance
6	M2	M3	39.5	30	7.5	2	9.8	21	5	6	3	3	1.5	4	3	0/+5°
8	M2	M3	43.5	34	7.5	2	11.3	23	6	6.5	3	3	1.5	4.3	3.5	0/+5°
10	M2.5	M3	53	41.4	9.6	2	14.3	28.4	8	7.5	4	3	1.6	5	4.5	0/+5°

## Data sheet DSM-6 ... 10

## Dimensions

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

DSM-T... – With flange shaft and tandem rotary vanes



Size	B1	B2	B3	B4	D1 ∅	D2 ∅ g7	D3 ∅ f8	D4 ∅	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D10 ∅	D11 ∅	D12 ∅ H13	D13 ∅
6	10	25	30	17	8	8	14	3.2	M3	M2	40	29.4	3.5	23	M3	3.4	16
8	12.8	31	38	20	9	11	16	3.2	M3	M2.5	50	37.4	3.5	27	M3	3.4	21
10	15.9	38	47	26	10	11	19	4.3	M4	M3	62	46.4	4.5	30	M3	3.4	21

Size	D14	EE	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	T1	⊖	Swivel angle tolerance
6	M2	M3	52	42.5	7.5	2	9.8	33.5	5	6	3	3	1.5	4	3	0/+5°
8	M2	M3	58	48.5	7.5	2	11.3	37.5	6	6.5	3	3	1.5	4.3	3.5	0/+5°
10	M2.5	M3	71	59.4	9.6	2	14.3	46	8	7.5	4	3	1.6	5	4.5	0/+5°

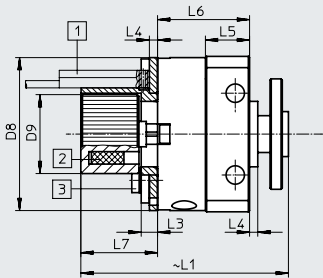
Data sheet DSM-6 ... 10

**Dimensions**

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DSM-... – With flange shaft and position sensing

DSM-T... – With flange shaft, tandem rotary vanes and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

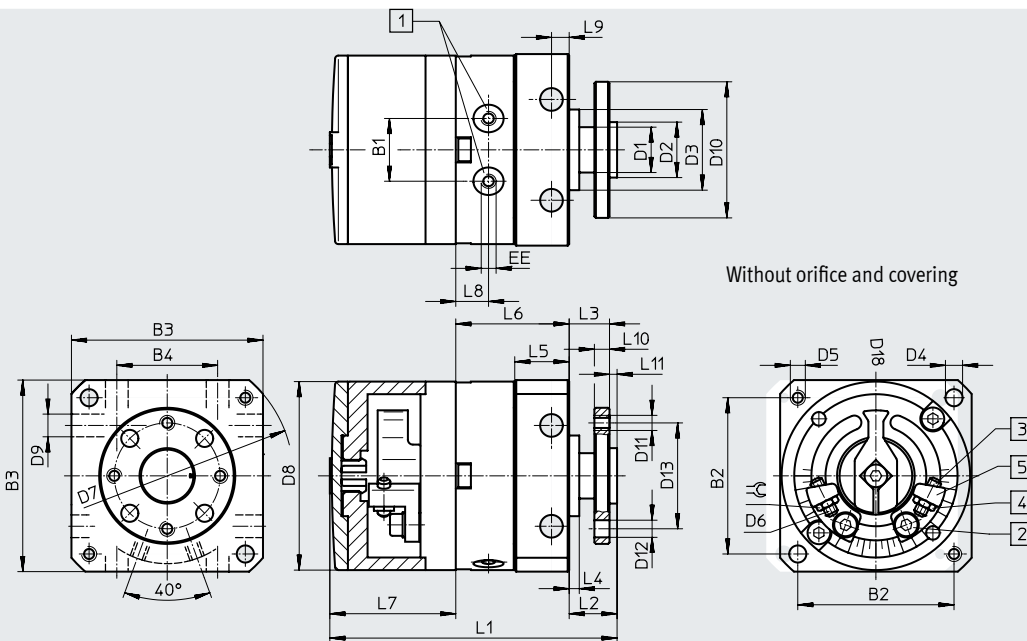
[2] Position of the magnet

[3] Max. tightening torque for sensor bracket screw → table below

Size	D8 ∅	D9 ∅	L1		L3	L4	L5	L6		L7	Tightening torque [Nm]
			DSM-...	DSM-T-...				DSM-...	DSM-T-...		
6	29.4	17.3	50	62.5	4	2	9.8	21	33.5	19.5	0.19
8	37.4	19.3	52	66.5	4	2	11.3	23	37.5	19.5	0.32
10	46.4	22.3	59.5	77.1	4	2	14.3	28.4	46	19.5	0.44

DSM-... – With flange shaft and adjustable swivel angle

DSM-T... – With flange shaft, tandem rotary vanes and adjustable swivel angle



**Note**

The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

- [1] Compressed air supply ports
- [2] Locking screw for clamping the stop
- [3] End-position adjustment
- [4] Lock nut for end-position adjustment
- [5] Infinitely adjustable stops

Size	B1	B2	B3	B4	D1 ∅	D2 ∅ g7	D3 ∅ f8	D4 ∅ H12	D5	D6	D7 ∅ H12	D8 ∅	D9 ∅ H12	D10 ∅	D11	D12 ∅ H13	D13 ∅	D18 ∅	EE
6	10	25	30	17	8	8	14	3.2	M3	M2	40	29.4	3.5	23	M3	3.4	16	22	M3
8	12.8	31	38	20	9	11	16	3.2	M3	M2.5	50	37.4	3.5	27	M3	3.4	21	26	M3
10	15.9	38	47	26	10	11	19	4.3	M4	M3	62	46.4	4.5	30	M3	3.4	21	35.8	M3

Size	L1		L2	L3	L4	L5	L6		L7	L8	L9	L10	L11	⊕	Max. swivel angle	Precision adjustment per side
	DSM-...	DSM-T-...					DSM-...	DSM-T-...								
6	48	60.5	9.5	8	2	9.8	21	33.5	17.8	6	3	3	1.5	4	180° +5°	+1°/-5°
8	58	72.5	9.5	8	2	11.3	23	37.5	24.9	6.5	3	3	1.5	5	180° +5°	+1°/-5°
10	68	85.6	11.6	10	2	14.3	28.4	46	28.2	7.5	4	3	1.6	5.5	200° +5°	+1°/-5°

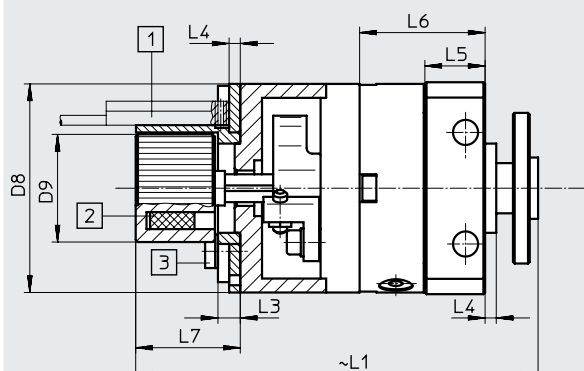
## Data sheet DSM-6 ... 10

## Dimensions

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

DSM-... – With flange shaft, adjustable swivel angle and position sensing


DSM-T... – With flange shaft, tandem rotary vanes, adjustable swivel angle and position sensing



[1] Proximity switch not included in the scope of delivery. Observe fitting space for proximity switch and cable guide

[2] Position of the magnet

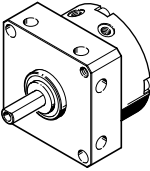
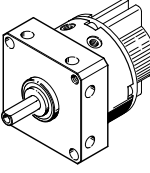
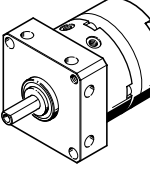
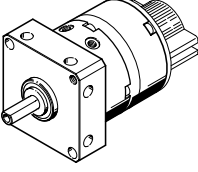
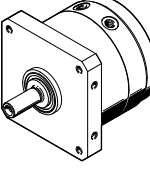
[3] Max. tightening torque for sensor bracket screws  
→ table below

 **Note**

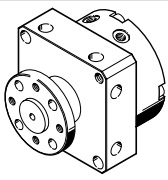
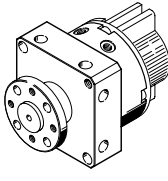
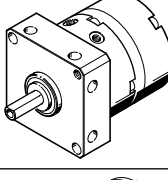
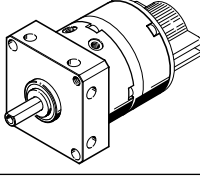
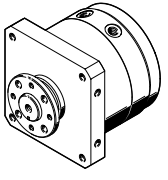
The swivel angle is infinitely adjustable over the entire swivel range. Size 6 mm can only be adjusted symmetrically around the centre position.

Size	D8 ∅	D9 ∅	L1		L3	L4	L5	L6		L7	Tightening torque [Nm]
			DSM-...	DSM-T...				DSM-...	DSM-T...		
6	29.4	17.3	65	77.5	4	2	9.8	21	33.5	19.5	0.19
8	37.4	19.3	73.5	88	4	2	11.3	23	37.5	19.5	0.32
10	46.4	22.3	83	100.6	4	2	14.3	28.4	46	19.5	0.44

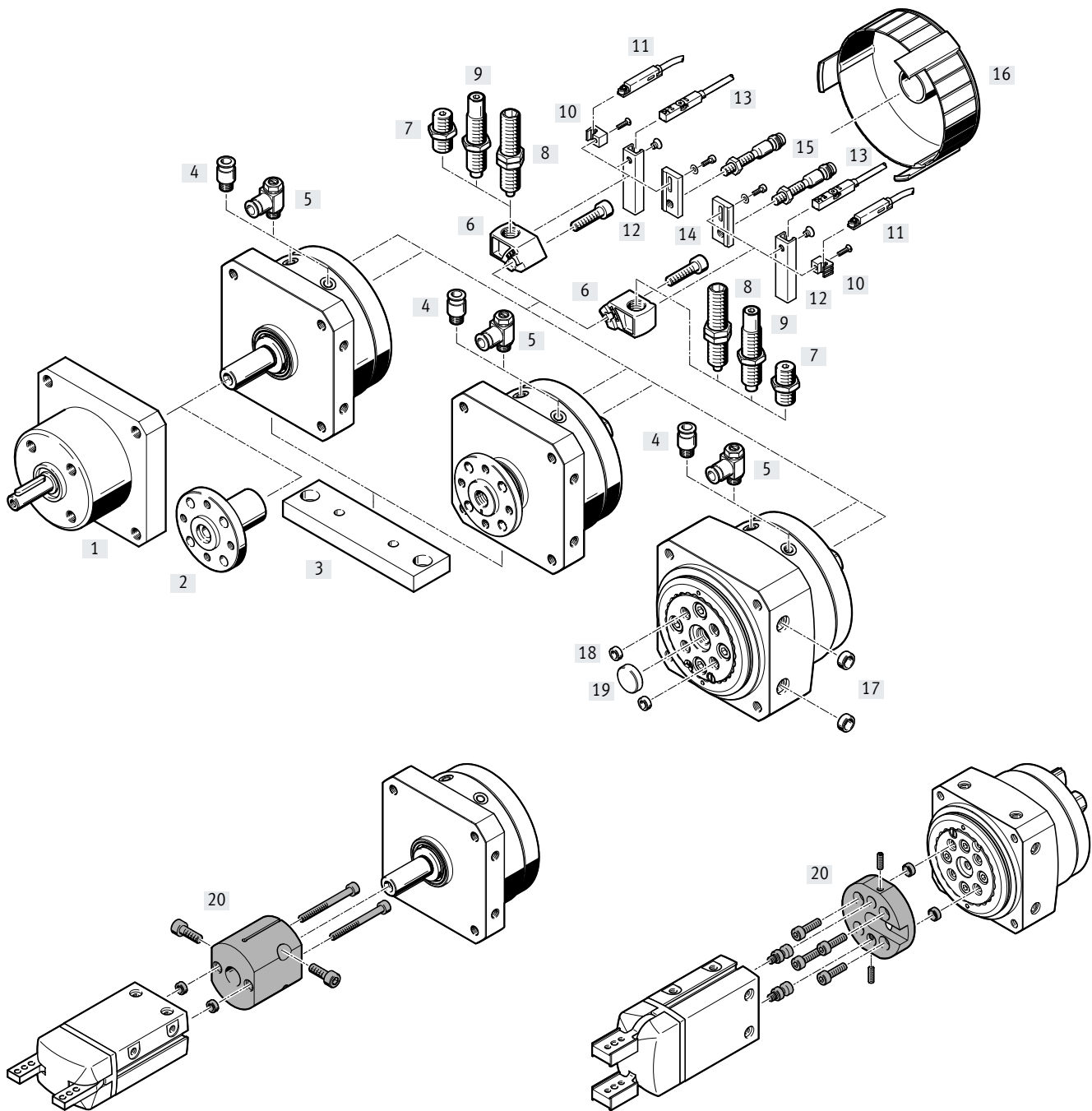
Data sheet DSM-6 ... 10

Ordering data	Characteristics	Swivel angle	Size [mm]	Part no.	Type		
<b>Spigot shaft</b>							
	<ul style="list-style-type: none"> <li>Elastic cushioning rings/plates at both ends</li> </ul>	90°	6	173188	DSM-6-90-P		
			8	173190	DSM-8-90-P		
			10	173192	DSM-10-90-P		
		180°		6	173189	DSM-6-180-P	
				8	173191	DSM-8-180-P	
				10	173193	DSM-10-180-P	
		240°		10	173194	DSM-10-240-P	
			<ul style="list-style-type: none"> <li>Position sensing</li> <li>Elastic cushioning rings/plates at both ends</li> </ul>	90°	6	173195	DSM-6-90-P-A
					8	173197	DSM-8-90-P-A
10	173199				DSM-10-90-P-A		
180°				6	173196	DSM-6-180-P-A	
				8	173198	DSM-8-180-P-A	
				10	173200	DSM-10-180-P-A	
240°				10	173201	DSM-10-240-P-A	
	<ul style="list-style-type: none"> <li>Adjustable swivel angle</li> <li>Elastic cushioning rings/plates at both ends</li> <li></li> <li></li> </ul>			180°	6	175827	DSM-6-180-P-A-FF
					8	175828	DSM-8-180-P-A-FF
		200°		10	175829	DSM-10-240-P-A-FF	
	<ul style="list-style-type: none"> <li>Position sensing</li> <li>Adjustable swivel angle</li> <li>Elastic cushioning rings/plates at both ends</li> <li></li> </ul>	180°	6	175830	DSM-6-180-P-A-FF		
			8	175831	DSM-8-180-P-A-FF		
		200°		10	175832	DSM-10-240-P-A-FF	
	<ul style="list-style-type: none"> <li>Tandem rotary vanes</li> <li>Elastic cushioning rings/plates at both ends</li> </ul>	90°	6	1564894	DSM-T-6-90-P		
			8	1563451	DSM-T-8-90-P		
			10	1559484	DSM-T-10-90-P		
		180°		6	1565579	DSM-T-6-180-P	
				8	1564407	DSM-T-8-180-P	
				10	1561689	DSM-T-10-180-P	
		240°		10	1562093	DSM-T-10-240-P	

## Data sheet DSM-6 ... 10

Ordering data Semi-rotary drive	Characteristics	Swivel angle	Size [mm]	Part no.	Type		
<b>Flange shaft</b>							
	• Elastic cushioning rings/plates at both ends	90°	6	185928	DSM-6-90-P-FW		
			8	185934	DSM-8-90-P-FW		
			10	185940	DSM-10-90-P-FW		
		180°		6	185929	DSM-6-180-P-FW	
				8	185935	DSM-8-180-P-FW	
				10	185941	DSM-10-180-P-FW	
		240°		10	185942	DSM-10-240-P-FW	
			• Position sensing • Elastic cushioning rings/plates at both ends	90°	6	185930	DSM-6-90-P-A-FW
					8	185936	DSM-8-90-P-A-FW
10	185943				DSM-10-90-P-A-FW		
180°				6	185931	DSM-6-180-P-A-FW	
				8	185937	DSM-8-180-P-A-FW	
				10	185944	DSM-10-180-P-A-FW	
240°				10	185945	DSM-10-240-P-A-FW	
	• Adjustable swivel angle • Elastic cushioning rings/plates at both ends			180°	6	185932	DSM-6-180-P-FF-FW
					8	185938	DSM-8-180-P-FF-FW
		200°		10	185946	DSM-10-240-P-FF-FW	
	• Position sensing • Adjustable swivel angle • Elastic cushioning rings/plates at both ends	180°	6	185933	DSM-6-180-P-A-FF-FW		
			8	185939	DSM-8-180-P-A-FF-FW		
		200°		10	185947	DSM-10-240-P-A-FF-FW	
	• Tandem rotary vanes • Elastic cushioning rings/plates at both ends	90°	6	1565425	DSM-T-6-90-P-FW		
			8	1564334	DSM-T-8-90-P-FW		
			10	1560818	DSM-T-10-90-P-FW		
		180°		6	1565483	DSM-T-6-180-P-FW	
				8	1564669	DSM-T-8-180-P-FW	
				10	1561556	DSM-T-10-180-P-FW	
		240°		10	1562318	DSM-T-10-240-P-FW	

Peripherals overview DSM-12 ... 63





## Peripherals overview DSM-12 ... 63

Accessories	For size	Description	→ Page/Internet
[1] Free wheel unit FLSM	12 ... 40	<ul style="list-style-type: none"> <li>For indexed rotation in one direction</li> <li>Only in combination with semi-rotary drive DSM with spigot shaft</li> </ul>	50
[2] Push-on flange FWSR	12 ... 40	For retrofitting on semi-rotary drive DSM with spigot shaft	51
[3] Mounting plate HSM	12 ... 40	For foot or flange mounting	52
[4] Push-in fitting QS	12 ... 63	For connecting compressed air tubing with standard O.D.	qs
[5] One-way flow control valve GRLA	12 ... 63	For speed regulation	56
[6] Cushioning mount DSM-B	12 ... 63	<ul style="list-style-type: none"> <li>For mounting elastic cushioning components or shock absorbers</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-P/P1/CC</li> </ul>	53
[7] Cushioning kit DSM-...-P	12 ... 63	<ul style="list-style-type: none"> <li>Elastic cushioning components with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-P</li> </ul>	46
[8] Shock absorber DYEF	12 ... 63	<ul style="list-style-type: none"> <li>Adjustable, elastic cushioning components with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-P1</li> </ul>	46
[9] Shock absorber DYSC	12 ... 63	<ul style="list-style-type: none"> <li>Self-adjusting shock absorbers with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-CC</li> </ul>	46
[10] Sensor bracket SL-DSM-B	12 ... 40	For mounting the proximity switches SME/SMT-10	54
[11] Proximity switches SME/SMT-10	12 ... 40	For sensing the end positions	54
[12] Sensor bracket SL-DSM-63-B	63	For mounting the proximity switches SME/SMT-8	54
[13] Proximity switches SME/SMT-8	63	For sensing the end positions	55
[14] Sensor bracket SL-DSM-S	12 ... 40	For mounting the inductive proximity switches SIEN	54
[15] Proximity switch SIEN	12 ... 40	Inductive proximity switch for sensing the end positions	56
[16] Cover cap AKM	12 ... 40	<ul style="list-style-type: none"> <li>Reduces the risk of injury in the swivel range of the stop lever</li> <li>Cannot be used in combination with inductive proximity switch SIEN</li> </ul>	52
[17] Centring sleeve ZBH	12 ... 63	For centring the drive	56
[18] Centring sleeve ZBH	12 ... 63	For centring attachments on the rotating plate	56
[19] Centring sleeve/disc ZBH/SLZZ	12, 16, 25, 40, 63	For centring attachments in the middle of the rotating plate	56
[20] Adapter kit HAPG, DHAA	12 ... 40	For drive/gripper connections	grippers

## Type codes DSM-12 ... 63

001	Series	
<b>DSM</b>	Semi-rotary drive	

002	Design type	
	Standard	
<b>T</b>	Tandem vane	

003	Size	
<b>12</b>	12	
<b>16</b>	16	
<b>25</b>	25	
<b>32</b>	32	
<b>40</b>	40	
<b>63</b>	63	

004	Nominal swivel angle [°]	
<b>240</b>	240	
<b>246</b>	246	
<b>270</b>	270	

005	Cushioning	
	None	
<b>P</b>	Elastic cushioning rings/plates on both sides	
<b>P1</b>	Elastic cushioning components, at both ends, adjustable	
<b>CC</b>	Shock absorber at both ends, self-adjusting	

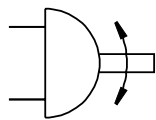
006	Shaft	
	Spigot shaft	
<b>FW</b>	Flanged shaft	
<b>HD</b>	Flange shaft for high load torques	

007	Position sensing	
<b>A</b>	For proximity sensor	

008	Variant	
<b>B</b>	B-series	

## Data sheet DSM-12 ... 63

## Function



Size  
12 ... 63



General technical data							
Size	12	16	25	32	40	63	
Pneumatic connection	M5			G1/8		G1/4	
Design	Rotary vane						
Cushioning							
DSM-...-P	Elastic cushioning at both ends						
DSM-...-P1	Adjustable elastic cushioning at both ends						
DSM-...-CC	Self-adjusting shock absorber at both ends						
Type of mounting	Via female thread						
Mounting position	Any						
Swivel angle							
DSM-...	[°]	270					
DSM-...-P	[°]	270/262 <sup>1)</sup>		270			
DSM-...-P1	[°]	246			240		
DSM-...-CC	[°]	246			240		
Swivel angle adjustment							
DSM-...-P	[°]	-6					
DSM-...-P1	[°]	-6					
DSM-...-CC	[°]	-3					
Cushioning angle							
DSM-...-P1	[°]	10	9	7.5	6.5	6.5	6
DSM-...-CC	[°]	15	12	10	12	16	17.5
Repetition accuracy							
DSM-...-P	[°]	1					
DSM-...-P1	[°]	0.1					
DSM-...-CC	[°]	0.1					

1) Restricted swivel angle in combination with sensor bracket SL-DSM-S-...

Swivel frequency [Hz]								
Size	12	16	25	32	40	63		
<b>DSM-... / DSM-T-...</b>								
With max. swivel angle								
DSM-...-P	2						1.6	
DSM-...-P1	2						1.6	
DSM-...-CC	1.5	1			0.7		0.6	
With smaller swivel angle								
DSM-...-CC	2		1.5					
<b>DSM-...-HD</b>								
With max. swivel angle								
DSM-...-P1	1.5						1	
DSM-...-CC	1			0.5				

## Data sheet DSM-12 ... 63

Operating and environmental conditions							
Size		12	16	25	32	40	63
Operating medium	Compressed air to ISO 8573-1:2010 [7:-:-]						
Operating pressure							
DSM-...	[bar]	2 ... 10	1.8 ... 10	1.5 ... 10			
DSM-T...	[bar]	2.5 ... 10		2 ... 10			
DSM-...-HD	[bar]	3 ... 10		2 ... 10			
Ambient temperature <sup>1)</sup>	[°C]	-10 ... +60					
Storage temperature	[°C]	20					
ATEX	Selected types → <a href="http://www.festo.com">www.festo.com</a>						

1) Note operating range of proximity switches

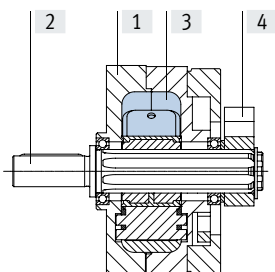
Weight [g]							
Size		12	16	25	32	40	63
<b>Spigot shaft</b>							
DSM-...		240	410	620	1250	2400	4220
DSM-...-P		275	470	700	1425	2700	4900
DSM-...-P1		285	475	715	1475	2870	5090
DSM-...-CC		285	480	710	1460	2800	5150
<b>Flange shaft</b>							
DSM-...-FW		260	450	645	1325	2535	4475
DSM-...-P-FW		293	510	725	1500	2835	5150
DSM-...-P1-FW		303	515	740	1550	3005	5340
DSM-...-CC-FW		300	520	735	1550	2935	5400
<b>Tandem rotary vanes and spigot shaft</b>							
DSM-T...		330	590	890	1865	3570	6050
DSM-T...-P		365	650	970	2040	3870	6730
DSM-T...-CC		375	660	980	2075	3970	6980
<b>Tandem rotary vanes and flange shaft</b>							
DSM-T...-FW		350	630	915	1940	3705	6305
DSM-T...-P-FW		383	690	995	2115	4005	6980
DSM-T...-CC-FW		390	700	1005	2165	4105	7230
<b>Heavy-duty bearing</b>							
DSM-...-HD		375	625	950	1810	3712	5730
DSM-...-P1-HD		420	700	1015	2035	4100	6600
DSM-...-CC-HD		420	705	1010	2020	4030	6660

## Data sheet DSM-12 ... 63

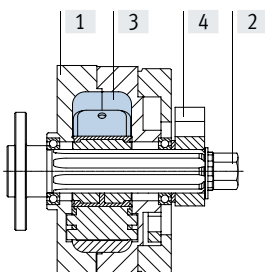
## Materials

Sectional view

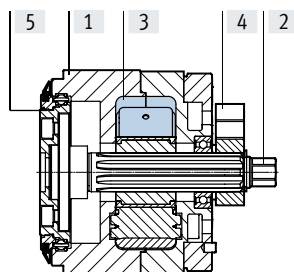
DSM-... / DSM-T-...



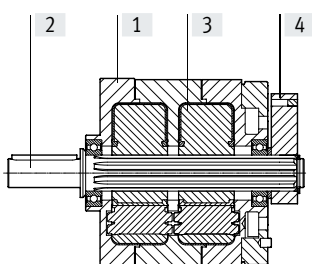
DSM-... FW



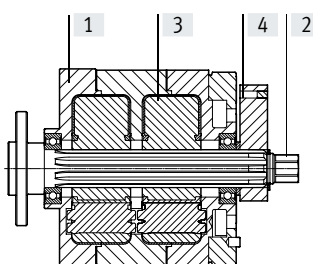
DSM-...-HD



DSM-T-...



DSM-T-...-FW



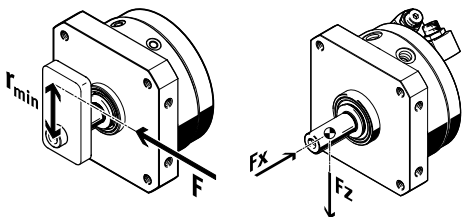
## Semi-rotary drive


[1] Housing, flange	Anodised aluminium
[2] Shaft	Nickel-plated steel
[3] Rotary vane	Glass fibre-reinforced plastic
[4] Stop lever	Anodised aluminium
[5] Rotating plate	Anodised aluminium
- Fixed stops	Stainless steel
Screws	Galvanised steel
Cover cap	Glass fibre-reinforced plastic
Seals	Polyurethane
Note on materials	Free of copper and PTFE
	RoHS-compliant

## Data sheet DSM-12 ... 63

Forces and torques							
Size		12	16	25	32	40	63
Torque at 6 bar							
DSM-...	[Nm]	1.25	2.5	5	10	20	40
DSM-T...	[Nm]	2.5	5	10	20	40	80
DSM-...-HD	[Nm]	1.25	2.5	5	10	20	40
Torque per bar							
DSM-...	[Nm]	0.2	0.41	0.83	1.66	3.33	6.66
DSM-T...	[Nm]	0.4	0.82	1.66	3.33	6.66	13.33
Min. perm. stop radius r	[mm]	15	17	21	28	40	50
Max. perm. stop force F	[N]	90	160	320	480	650	1050
Max. perm. dyn. axial force $F_x$ on drive shaft <sup>1)</sup>							
DSM-.../DSM-T...	[N]	18	30	50	75	120	500
DSM-...-HD	[N]	180	290	350	450	950	1300
Max. perm. dyn. radial force $F_z$ on drive shaft <sup>1)</sup>							
DSM-.../DSM-T...	[N]	45	75	120	200	350	500
DSM-...-HD	[N]	200	300	450	550	1200	1600
Max. permissible mass moment of inertia							
DSM-...-P	[kgm <sup>2</sup> ]	→ Page 33					
DSM-...-P1	[kgm <sup>2</sup> ]	→ Page 34					
DSM-...-CC	[kgm <sup>2</sup> ]	→ Page 35					

1) The axis of rotation and the centre of the drive shaft are the point of reference for the forces



-  - **Note**

If the semi-rotary drives DSM-...-A-B are used without a stop system or the mass moments of inertia are exceeded, external stops must be used. A minimum radius relative to the drive shaft ( $r_{min}$ ) must be observed. The stop force must not exceed the maximum force.

## Data sheet DSM-12 ... 63

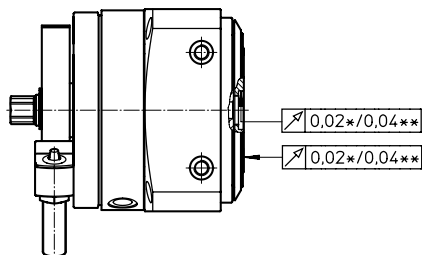
**Axial eccentricity and concentricity of DSM-...-HD**

Axial eccentricity:

Measured on the surface of the rotating plate at the plate edge, when new.

Concentricity:

Measured at the centre of the rotating plate, when new.

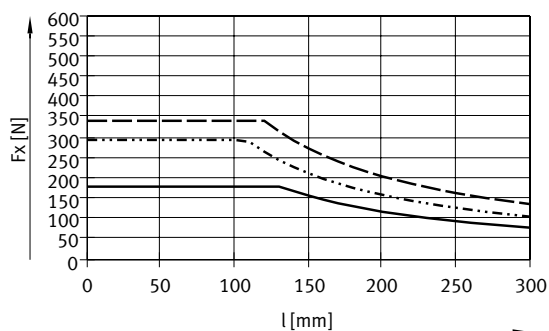
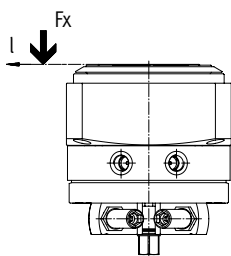


Size		12	16	25	32	40	63
Axial eccentricity Y	[mm]	≤ 0.02	≤ 0.02	≤ 0.02	≤ 0.04	≤ 0.04	≤ 0.04
Concentricity Z	[mm]	≤ 0.02	≤ 0.02	≤ 0.02	≤ 0.04	≤ 0.04	≤ 0.04

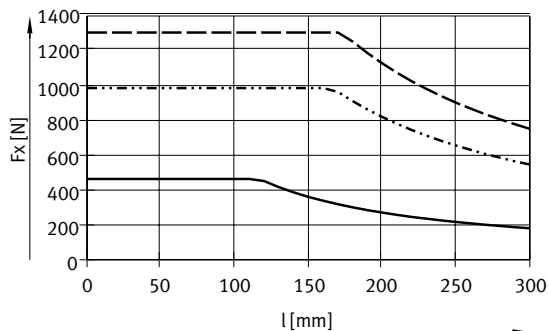
## Data sheet DSM-12 ... 63

### Permissible dynamic load for DSM-...-HD

Permissible axial force  $F_x$  as a function of distance  $l$

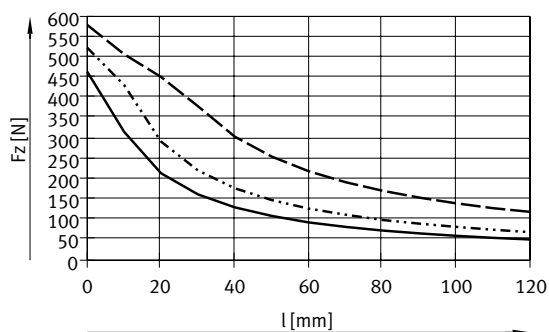
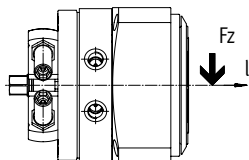


— DSM-12-...-HD  
 - - - DSM-16-...-HD  
 - - - DSM-25-...-HD

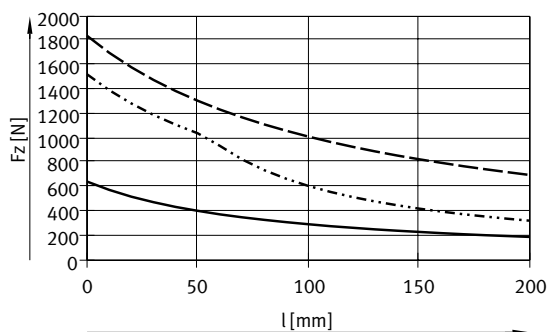


— DSM-32-...-HD  
 - - - DSM-40-...-HD  
 - - - DSM-63-...-HD

### Permissible radial force $F_z$ as a function of distance $l$



— DSM-12-...-HD  
 - - - DSM-16-...-HD  
 - - - DSM-25-...-HD



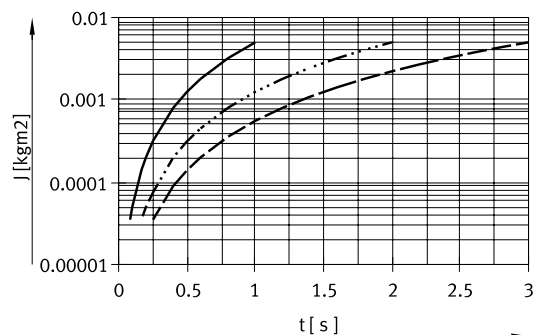
— DSM-32-...-HD  
 - - - DSM-40-...-HD  
 - - - DSM-63-...-HD



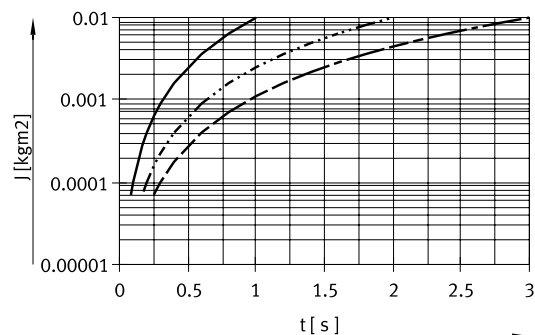
## Data sheet DSM-12 ... 63

Mass moment of inertia  $J$  as a function of swivel time  $t$   
With elastic cushioning components (P)

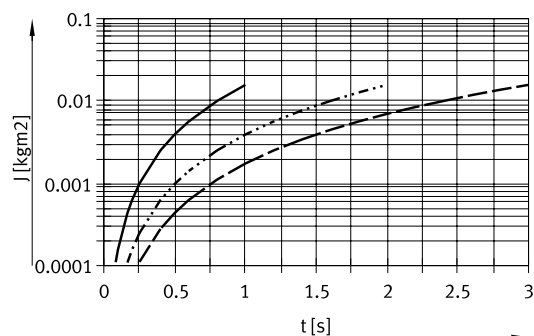
DSM-12-270-P



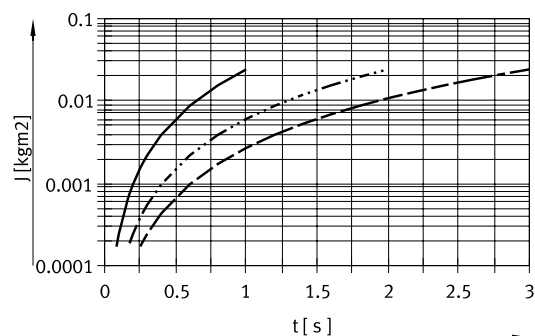
DSM-16-270-P



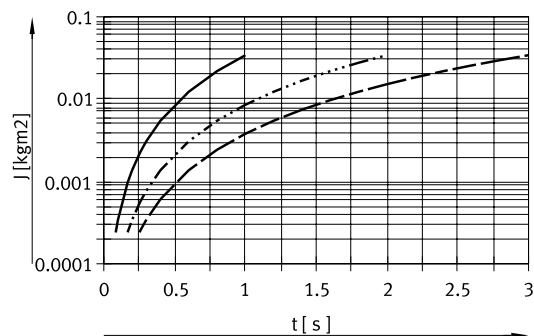
DSM-25-270-P



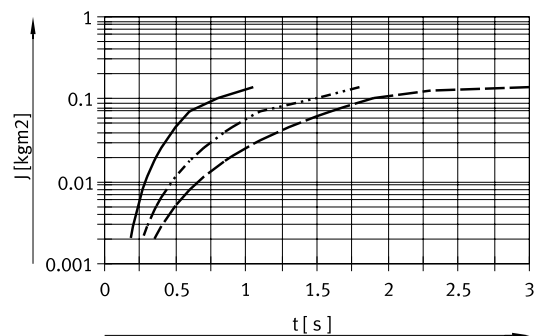
DSM-32-270-P




DSM-40-270-P



DSM-63-270-P



— 90°  
- · - · - 180°  
- - - 270°

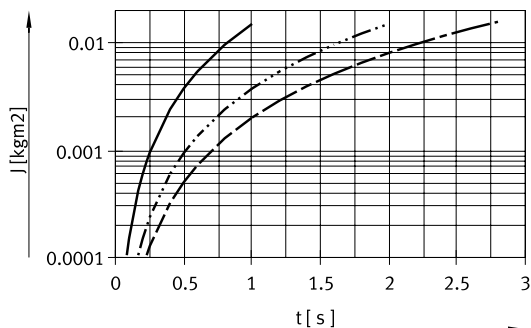
-  - **Note**

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

## Data sheet DSM-12 ... 63

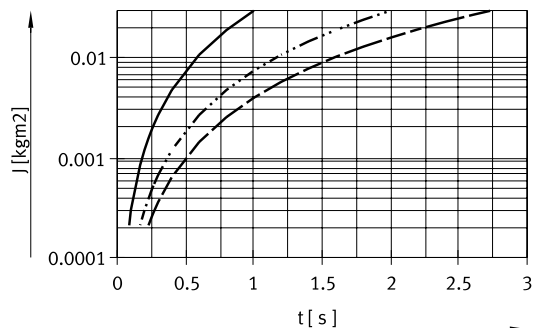
Mass moment of inertia  $J$  as a function of swivel time  $t$   
 With adjustable, elastic cushioning components (P1)

DSM-12-270-P1

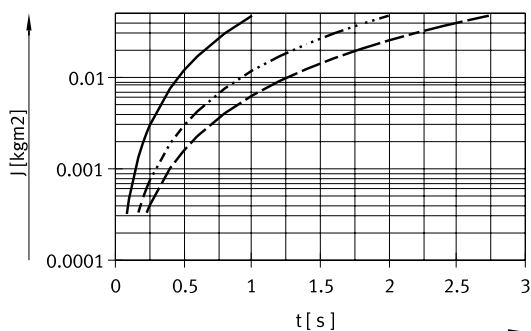


— 90°  
 - - - 180°  
 - - - 246°

DSM-16-270-P1

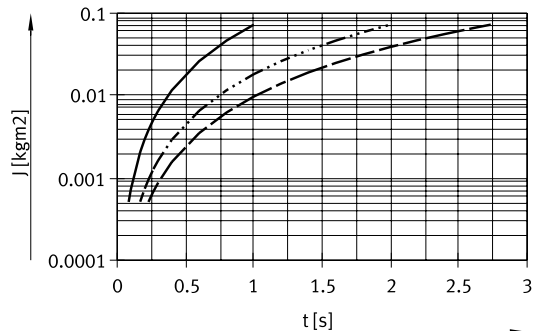


DSM-25-270-P1

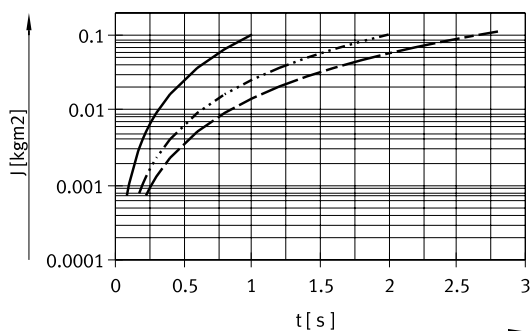


— 90°  
 - - - 180°  
 - - - 246°

DSM-32-270-P1

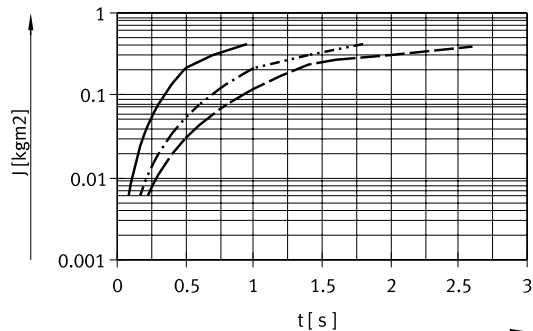


DSM-40-270-P1



— 90°  
 - - - 180°  
 - - - 240°

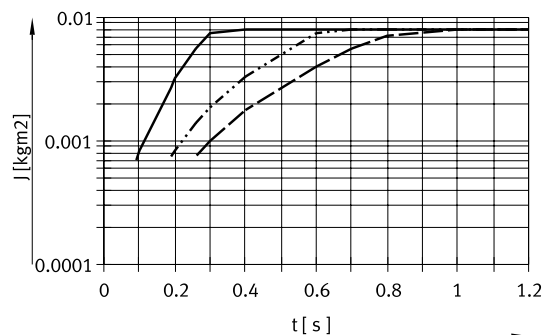
DSM-63-270-P1



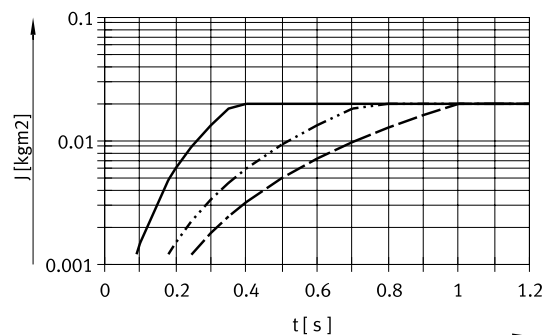
## Data sheet DSM-12 ... 63

**Mass moment of inertia  $J$  as a function of swivel time  $t$   
 With hydraulic shock absorbers (CC)**

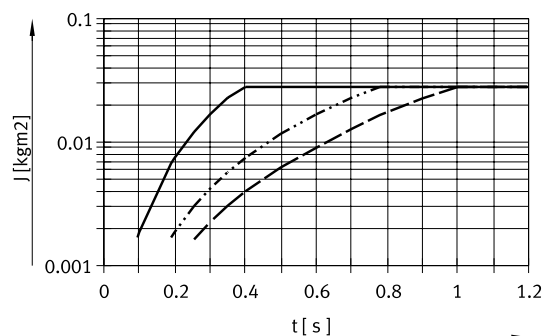
DSM-12-270-CC



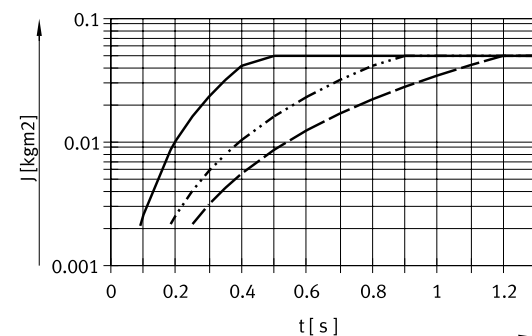
DSM-16-270-CC



DSM-25-270-CC

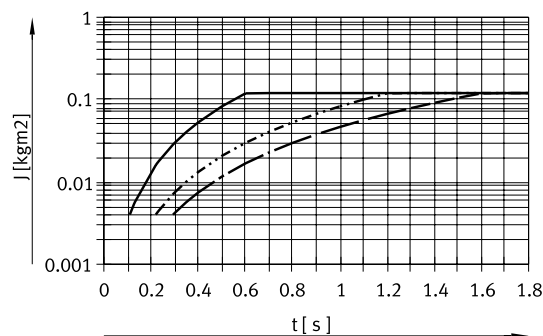


DSM-32-270-CC

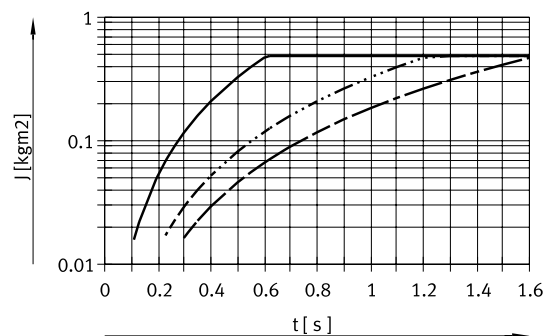


— 90°  
 ..... 180°  
 - - - 246°

DSM-40-270-CC



DSM-63-270-CC



— 90°  
 ..... 180°  
 - - - 240°

**Cushioning time of the shock absorber**

Size	12/16/25	32	40	63
Cushioning time	[s] 0.1	0.25	0.3	0.4

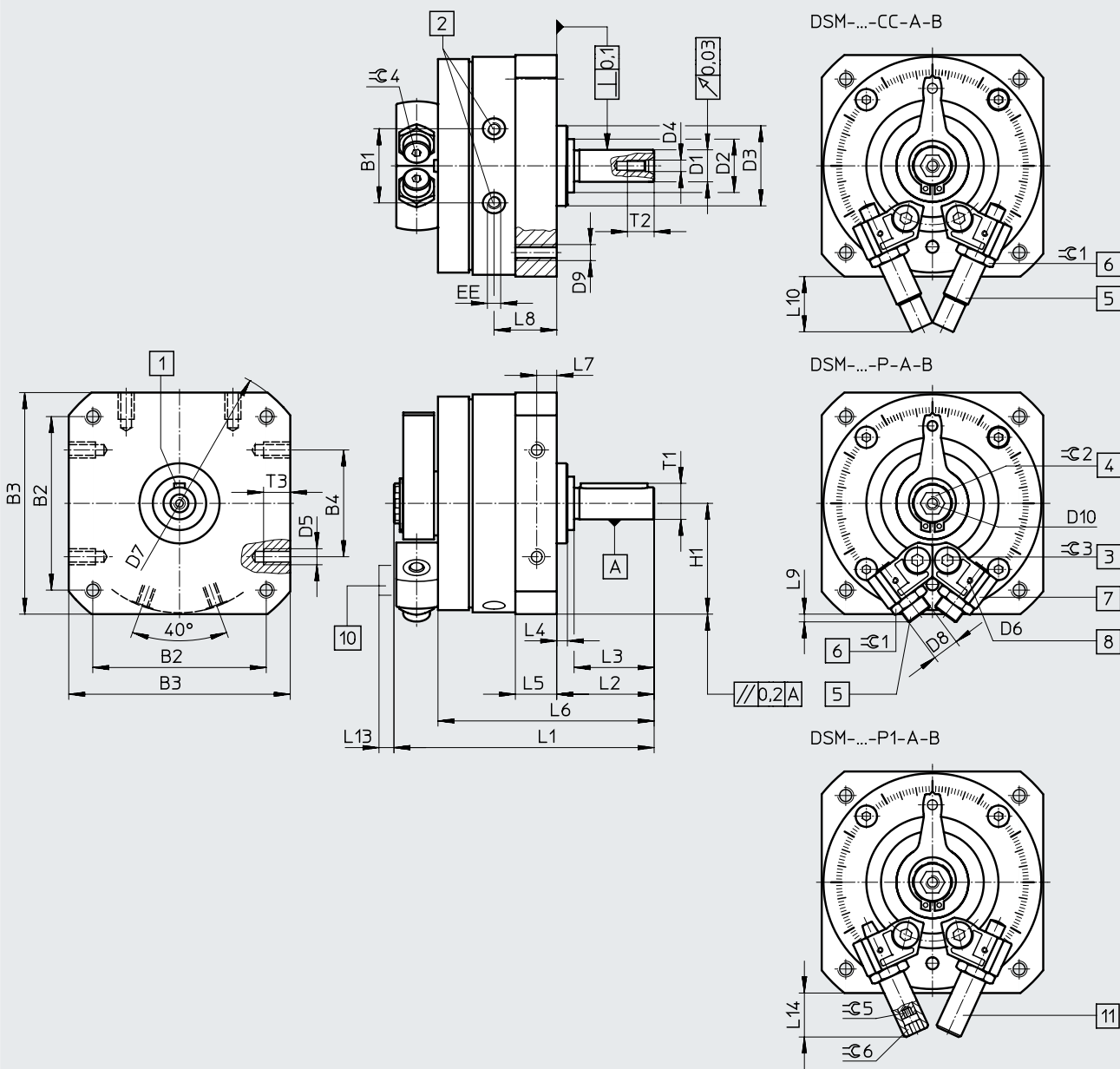
The graphs for the DSM-...-CC show the swivel time up to the point where the stop lever meets the shock absorber. The cushioning time of the shock absorber must be added in order to obtain the total swivel time.

Data sheet DSM-12 ... 63

Dimensions

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

DSM-... – With spigot shaft



- [1] Featherkey position at 0°
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (internal hexagon). The position of the internal hexagon is not defined.
- [5] End-position adjustment

- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [10] Sensor bracket
- [11] End-position adjustment

## Data sheet DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	D1 ∅ g7	D2 ∅	D3 ∅ f8	D4
12	19.8	48±0.3	59±0.3	30±0.2	8	15±0.2	24	M3
16	23.5	57±0.3	70±0.3	40±0.2	10	18 <sub>0.3</sub>	28	M3
25	28	65±0.3	83±0.3	40±0.2	12	20 <sub>0.3</sub>	30	M4
32	35.5	85±0.3	105±0.3	60±0.3	16	27 <sub>0.4</sub>	42	M5
40	43.8	105±0.3	130±0.5	80±0.3	20	36 <sub>0.4</sub>	52	M6
63	50.3	125±0.5	152 <sup>+0.2</sup>	80±0.3	25	40±0.3	70	M10

Size	D5	D6	D7 ∅	D8	D9	D10	EE
12	M4	M2	78±0.3	M8x1	M4	M4	M5
16	M5	M2	91±0.3	M10x1	M5	M5	M5
25	M6	M2	106±0.3	M10x1	M6	M5	M5
32	M8	M2	135±0.3	M12x1	M8	M5	G1/8
40	M10	M2	168±0.5	M16x1	M10	M6	G1/8
63	M10	M3	200±0.5	M22x1.5	M12	M6	G1/4

Size	H1 ±0.2	L1	L2 +0.6 -0.7	L3	L4 ±0.4	L5	L6	L7
12	29.5	68.3±0.3	24.5	20±0.2	3	10.3±0.2/-0.3	55.5±0.8	5±0.1
16	35	82.7±1	28	23±0.2	2.6	13±0.2/-0.4	67.1±0.9	6.5±0.2
25	41.5	97.5±0.5	36.5	30±0.2	4	15.2±0.2/-0.4	81±1	7.5±0.2
32	52.5	127.1±0.5	51	40±0.2	8	19.2±0.2/-0.4	107±1.1	9.5±0.2
40	65	155.5±0.6	62	50±0.3	8	23.7±0.2/-0.4	131±1.2	12±0.2
63	76	197±0.4/-0.55	75.5	60±0.3	10.5	28.5±0.3/-0.5	159.5±1.2	14±0.2

Size	L8	L9	L10	L13	L14 max.	T1 max.	T2 +2	T3 +0.2
12	16.5	3	22.7	6.5	21.2	8.8	9	8
16	20.2	7.2	26.1	6.5	22	11.2	9	8
25	23.5	2.9	20.7	6.5	17	13.5	10	10
32	30.5	3.8	29.1	6.5	23	18	12.5	12
40	36	3.4	43.5	6.5	36.5	22.5	16	15
63	45	10	72.5	4.5	-	28	22	16

Size	⊕ 1	⊕ 2	⊕ 3	⊕ 4	⊕ 5	⊕ 6	Featherkey to DIN 6885 <sup>1)</sup>
12	10	6	2.5	2.5	2.5	2.5	A2x2x16
16	13	8	3	3	3	5	A3x3x18
25	13	8	4	3	3	6	A4x4x25
32	15	10	5	4	4	8	A5x5x36
40	19	10	6	5	5	10	A6x6x45
63	27	10	8	5	-	-	A8x7x50

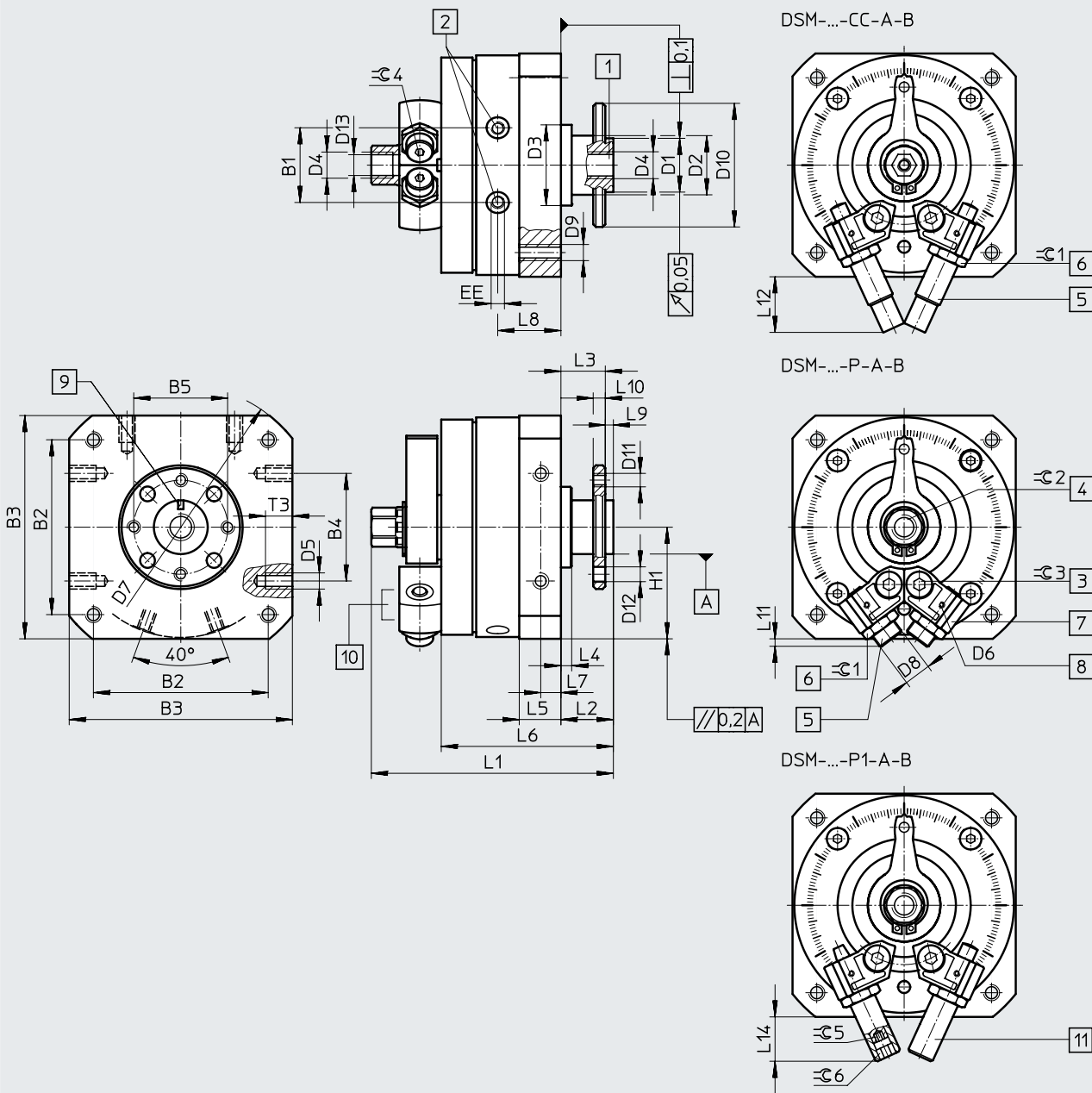
1) Included in the scope of delivery.

Data sheet DSM-12 ... 63

Dimensions

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

DSM-...-FW – With flange shaft



- [1] Flange shaft with through-hole
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (external hexagon). The position of the external hexagon is not defined.
- [5] End-position adjustment

- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [9] Position of marking corresponds to position of stop
- [10] Sensor bracket
- [11] End-position adjustment

## Data sheet DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	B5	D1 ∅ f8	D2 ∅	D3 ∅ f8	D4	D5
12	19.8	48±0.3	59±0.3	30±0.2	25	14	15±0.2	24	M5	M4
16	23.5	57±0.3	70±0.3	40±0.2	28	16	18 <sub>-0.3</sub>	28	M5	M5
25	28	65±0.3	83±0.3	40±0.2	35	20	20 <sub>-0.3</sub>	30	G1/8	M6
32	35.5	85±0.3	105±0.3	60±0.3	45	28	27 <sub>-0.4</sub>	42	G1/8	M8
40	43.8	105±0.3	130±0.5	80±0.3	54	36	36 <sub>-0.4</sub>	52	G1/4	M10
63	50.3	125±0.5	152±0.2	80±0.3	64	38	40±0.3	70	G1/4	M10

Size	D6	D7 ∅	D8	D9	D10 ∅	D11	D12 H13	D13	EE	H1 ±0.2
12	M2	78±0.3	M8x1	M4	33	M3	3.4	4.2	M5	29.5
16	M2	91±0.3	M10x1	M5	38	M4	4.5	4.2	M5	35
25	M2	106±0.3	M10x1	M6	46	M5	5.5	8.6	M5	41.5
32	M2	135±0.3	M12x1	M8	60	M6	6.5	8.6	G1/8	52.5
40	M2	168±0.5	M16x1	M10	70	M8	9	11.5	G1/8	65
63	M3	200±0.5	M22x1.5	M12	88	M8	12	11.5	G1/4	76

Size	L1	L2 +0.5 -0.85	L3 +0.5 -0.62	L4 ±0.4	L5	L6 ±1	L7	L8	L9 -0.2	L10
12	67.3+0.4/-0.65	13	11	3	10.3+0.2/-0.3	44	5±0.1	16.5	2	3±0.1
16	79+0.4/-0.65	15	13	2.6	13+0.2/-0.4	54.1	6.5±0.2	20.2	2	4±0.1
25	90+0.4/-0.65	19.5	16.5	4	15.2+0.2/-0.4	64	7.5±0.2	23.5	3	4.5±0.1
32	115.8+0.4/-0.65	27	23	8	19.2+0.2/-0.4	83	9.5±0.2	30.5	4	6±0.1
40	143.8+0.4/-0.7	33	28	8	23.7+0.2/-0.4	102	12±0.2	36	5	7.5±0.1
63	177.4+0.2/-0.55	37.5	31.5	10.5	28.5+0.3/-0.5	121.5	14±0.2	45	6	9±0.2

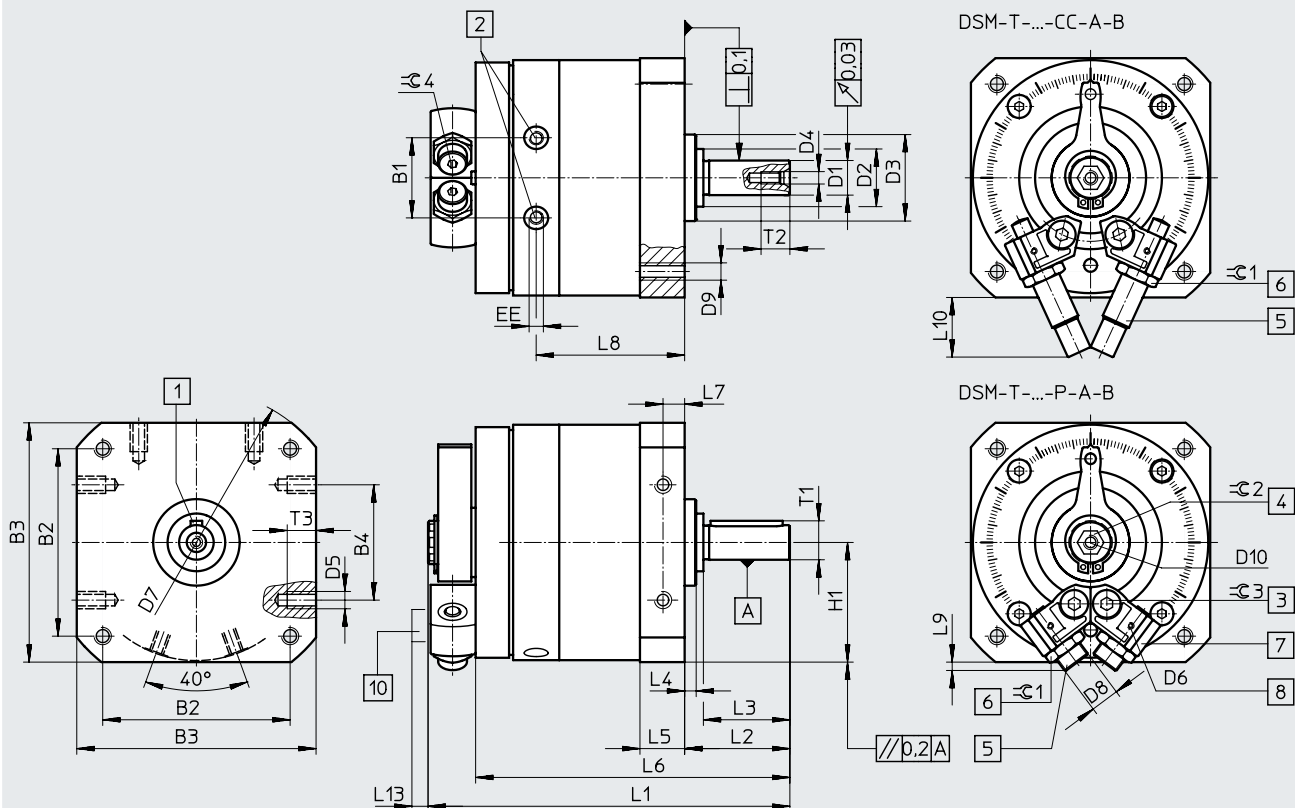
Size	L11	L12	L14 max.	T3 +0.2	≈ 1	≈ 2	≈ 3	≈ 4	≈ 5	≈ 6
12	3	22.7	21.2	8	10	8	2.5	2.5	2.5	2.5
16	7.2	26.1	22	8	13	11	3	3	3	5
25	2.9	20.7	17	10	13	13	4	3	3	6
32	3.8	29.1	23	12	15	13	5	4	4	8
40	3.4	43.5	36.5	15	19	19	6	5	5	10
63	10	72.5	-	16	27	22	8	5	-	-

## Data sheet DSM-12 ... 63

### Dimensions

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DSM-T... – With spigot shaft and tandem rotary vanes



- [1] Featherkey position at 0°
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (internal hexagon). The position of the internal hexagon is not defined.

- [5] End-position adjustment
- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [10] Sensor bracket



## Data sheet DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	D1 ∅ g7	D2 ∅	D3 ∅ f8
12	19.8	48±0.3	59±0.3	30±0.2	8	15±0.2	24
16	23.5	57±0.3	70±0.3	40±0.2	10	18 <sub>0.3</sub>	28
25	28	65±0.3	83±0.3	40±0.2	12	20 <sub>0.3</sub>	30
32	35.5	85±0.3	105±0.3	60±0.3	16	27 <sub>0.4</sub>	42
40	43.8	105±0.3	130±0.5	80±0.3	20	36 <sub>0.4</sub>	52
63	50.3	125±0.5	152 <sup>+0.2</sup>	80±0.3	25	40±0.3	70

Size	D4	D5	D6	D7 ∅	D8	D9	D10
12	M3	M4	M2	78±0.3	M8x1	M4	M4
16	M3	M5	M2	91±0.3	M10x1	M5	M5
25	M4	M6	M2	106±0.3	M10x1	M6	M5
32	M5	M8	M2	135±0.3	M12x1	M8	M5
40	M6	M10	M2	168±0.5	M16x1	M10	M6
63	M10	M10	M3	200±0.5	M22x1.5	M12	M6

Size	EE	H1 ±0.2	L1	L2 +0.6 -0.7	L3	L4 ±0.4	L5
12	M5	29.5	87.3±0.3	24.5	20±0.2	3	10.3±0.2/-0.3
16	M5	35	106.6±1	28	23±0.2	2.6	13±0.2/-0.4
25	M5	41.5	125.5±0.5	36.5	30±0.2	4	15.2±0.2/-0.4
32	G1/8	52.5	164±0.5	51	40±0.2	8	19.2±0.2/-0.4
40	G1/8	65	200.5±0.6	62	50±0.3	8	23.7±0.2/-0.4
63	G1/4	76	254.4±0.4/-0.55	75.5	60±0.3	10.5	28.5±0.3/-0.5

Size	L6	L7	L8	L9	L10	L13	T1 max.
12	74.5±0.8	5±0.1	35.5	3	22.7	6.5	8.8
16	91±0.9	6.5±0.2	44.1	7.2	26.1	6.5	11.2
25	109±1	7.5±0.2	51.5	2.9	20.7	6.5	13.5
32	144±1.1	9.5±0.2	67.4	3.8	29.1	6.5	18
40	176±1.2	12±0.2	81	3.4	43.5	6.5	22.5
63	216.5±1.2	14±0.2	99	10	72.5	4.5	28

Size	T2 +2	T3 +0.2	≈G 1	≈G 2	≈G 3	≈G 4	Featherkey to DIN 6885 <sup>1)</sup>
12	9	8	10	6	2.5	2.5	A2x2x16
16	9	8	13	8	3	3	A3x3x18
25	10	10	13	8	4	3	A4x4x25
32	12.5	12	15	10	5	4	A5x5x36
40	16	15	19	10	6	5	A6x6x45
63	22	16	27	10	8	5	A8x7x50

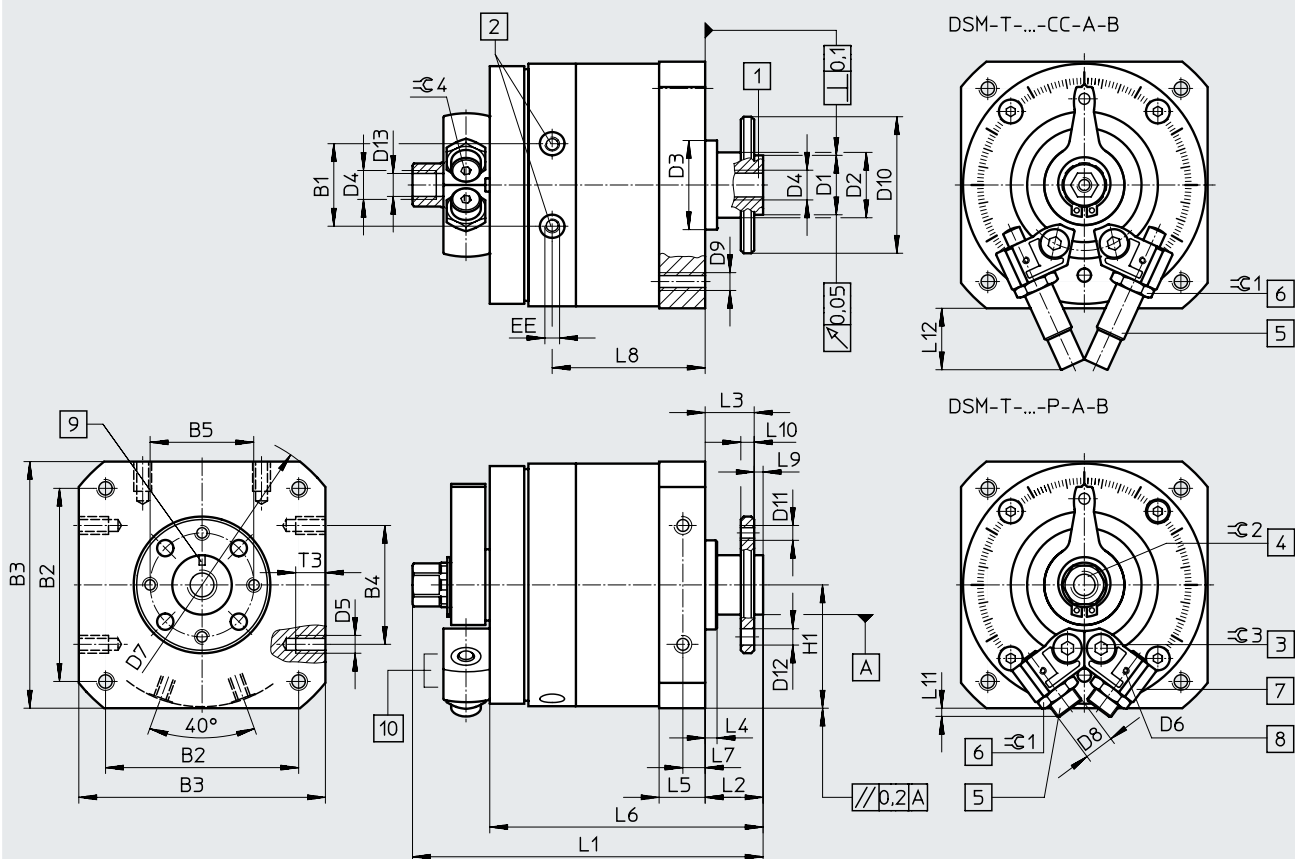
1) Included in the scope of delivery.

Data sheet DSM-12 ... 63

Dimensions

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DSM-T...-FW – With flange shaft and tandem rotary vanes



- [1] Flange shaft with through-hole
- [2] Compressed air supply ports
- [3] Locking screw for clamping the stop
- [4] Manual override (external hexagon). The position of the external hexagon is not defined.
- [5] End-position adjustment
- [6] Lock nut for end-position adjustment
- [7] Infinitely adjustable stops
- [8] Mounting thread for sensor bracket
- [9] Position of marking corresponds to position of stop
- [10] Sensor bracket

## Data sheet DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	B5	D1 ∅ f8	D2 ∅	D3 ∅ f8	D4
12	19.8	48±0.3	59±0.3	30±0.2	25	14	15±0.2	24	M5
16	23.5	57±0.3	70±0.3	40±0.2	28	16	18 <sub>-0.3</sub>	28	M5
25	28	65±0.3	83±0.3	40±0.2	35	20	20 <sub>-0.3</sub>	30	G1/8
32	35.5	85±0.3	105±0.3	60±0.3	45	28	27 <sub>-0.4</sub>	42	G1/8
40	43.8	105±0.3	130±0.5	80±0.3	54	36	36 <sub>-0.4</sub>	52	G1/4
63	50.3	125±0.5	152±0.2	80±0.3	64	38	40±0.3	70	G1/4

Size	D5	D6	D7 ∅	D8	D9	D10 ∅	D11	D12 H13	D13
12	M4	M2	78±0.3	M8x1	M4	33	M3	3.4	4.2
16	M5	M2	91±0.3	M10x1	M5	38	M4	4.5	4.2
25	M6	M2	106±0.3	M10x1	M6	46	M5	5.5	8.6
32	M8	M2	135±0.3	M12x1	M8	60	M6	6.5	8.6
40	M10	M2	168±0.5	M16x1	M10	70	M8	9	11.5
63	M10	M3	200±0.5	M22x1.5	M12	88	M8	12	11.5

Size	EE	H1 ±0.2	L1	L2 +0.5 -0.85	L3 +0.5 -0.62	L4 ±0.4	L5	L6 ±1	L7
12	M5	29.5	86.3+0.4/-0.65	13	11	3	10.3+0.2/-0.3	63	5±0.1
16	M5	35	103+0.4/-0.65	15	13	2.6	13+0.2/-0.4	78	6.5±0.2
25	M5	41.5	118+0.4/-0.65	19.5	16.5	4	15.2+0.2/-0.4	92	7.5±0.2
32	G1/8	52.5	152.8+0.4/-0.65	27	23	8	19.2+0.2/-0.4	120	9.5±0.2
40	G1/8	65	188.8+0.4/-0.7	33	28	8	23.7+0.2/-0.4	147	12±0.2
63	G1/4	76	234.4+0.2/-0.55	37.5	31.5	10.5	28.5+0.3/-0.5	178.5	14±0.2

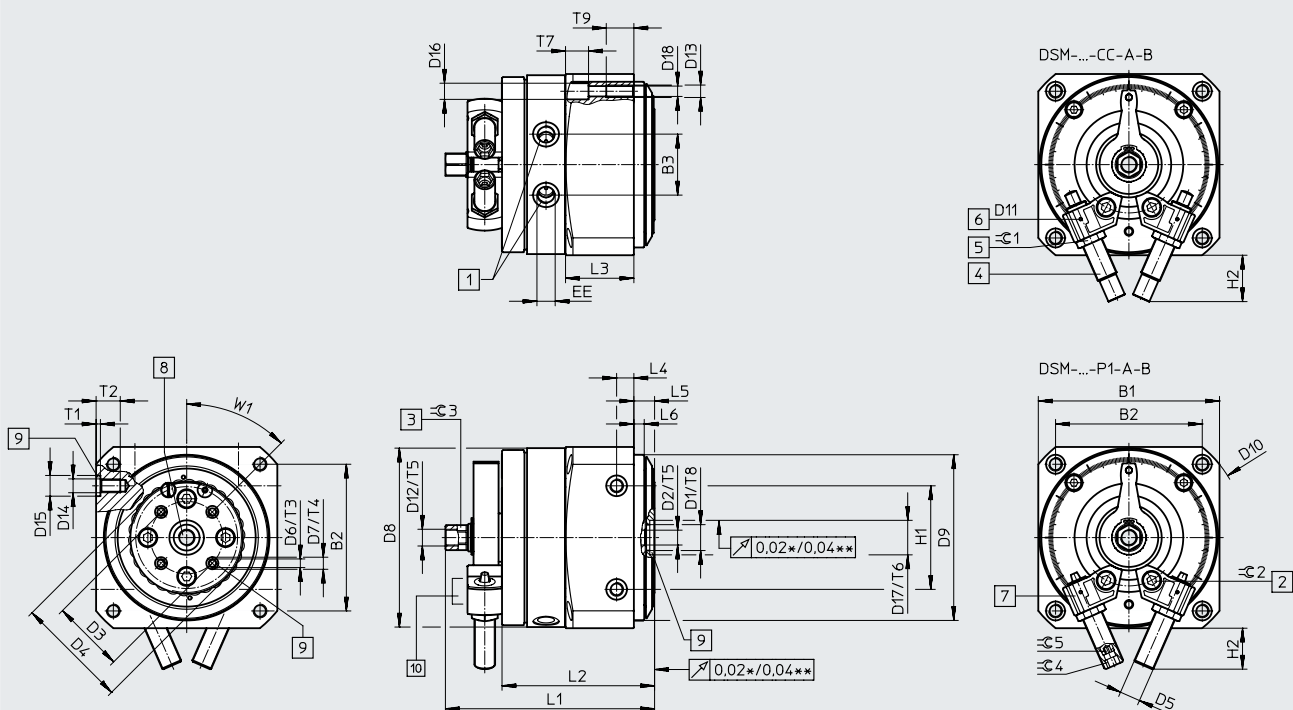
Size	L8	L9 -0.2	L10	L11	L12	T3 +0.2	∅ 1	∅ 2	∅ 3	∅ 4
12	35.5	2	3±0.1	3	22.7	8	10	8	2.5	2.5
16	44.1	2	4±0.1	7.2	26.1	8	13	11	3	3
25	51.5	3	4.5±0.1	2.9	20.7	10	13	13	4	3
32	67.4	4	6±0.1	3.8	29.1	12	15	13	5	4
40	81	5	7.5±0.1	3.4	43.5	15	19	19	6	5
63	99	6	9±0.2	10	72.5	16	27	22	8	5

## Data sheet DSM-12 ... 63

### Dimensions

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DSM-...-HD – With heavy-duty bearing



- |  |  |
|--|--|
| [1] Compressed air supply ports  | [8] Flange shaft with through-hole       |
| [2] Locking screw for clamping the stop  | [9] Drilled hole for centring sleeve ZBH |
| [3] Manual override (external hexagon). The position of the external hexagon is not defined. | [10] Sensor bracket                      |
| [4] End-position adjustment  | * Size 12 ... 25                         |
| [5] Lock nut for end-position adjustment   | ** Size 32 ... 63                        |
| [6] Mounting thread for sensor bracket   |  |
| [7] Infinitely adjustable stops  |  |

## Data sheet DSM-12 ... 63

Size	B1 ±0.3	B2 ±0.3	B3 ±0.5	D1 <sup>1)</sup>	D2 <sup>2)</sup> ∅	D3 ±0.02	D4	D5 DSM-...-P1/DSM-...-CC
12	59	48	19.8	M5	–	22	36	M8x1
16	70	57	23.5	M5	–	28	45	M10x1
25	83	65	28	G1/8	–	30	50	M10x1
32	105	85	35.5	15	G1/8	42	65	M12x1
40	130	105	43.8	20	G1/4	56	90	M16x1
63	152	125	50.3	20	G1/4	70	105	M22x1.5

Size	D6	D7 H7	D8	D9 f8	D10 ±0.5	D11	D12	D13	D14
12	M3	5	57.5	58	78	M2	M5	M4	M4
16	M4	7	68.5	68	91	M2	M5	M5	M5
25	M5	7	81.5	76	106	M2	G1/8	M6	M6
32	M5	7	103.5	96	135	M2	G1/8	M8	M8
40	M8	12	128	126	168	M2	G1/4	M10	M10
63	M8	12	149	150	200	M3	G1/4	M12	M10

Size	D15 H7	D16	D17 H8	D18	EE	H1 ±0.03	H2 max. DSM-...-P1   DSM-...-CC		L1 +0.4 –0.65	L2 +1
	12	7	6	12	3.3	M5	30	21.2	22.7	76.3
16	7	8	12	4.2	M5	40	22	26.1	88.5	63.6
25	9	10	15	5.1	M5	40	17	20.7	98.7	72.7
32	12	11	20	6.8	G1/8	60	23	29.1	121	88.5
40	12	15	25	8.5	G1/8	80	36.5	43.5	154	112
63	12	18	25	10.2	G1/4	80	44	72.5	185.5	129.5

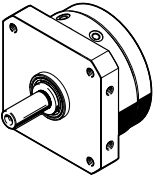
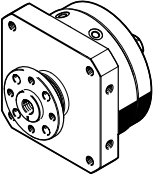
Size	L3	L4 ±0.1	L5 ±0.2	L6 ±0.1	T1 +0.1	T2	T3	T4 +0.1	T5	T6 +0.1
12	22.3	10	10	4	1.5	9	9	1.2	6	2.5
16	27.6	10	10	4	1.5	9	9	1.5	6	2.5
25	33.4	10	10	6	2	12	8	1.5	8	2.5
32	39.6	10	12	6	2.5	14	9.5	1.5	8	2.8
40	52.7	12	14	5.5	2.5	17	15	2.5	12	2.8
63	58	14	16	10	2.5	18	14	2.5	15	2.8

Size	T7	T8	T9	⊕ 1	⊕ 2	⊕ 3 h13	⊕ 4 DSM-...-P1   DSM-...-CC		⊕ 5 DSM-...-P1	W1
	12	6.3	5.5	12	10	2.5	8	5	2.5	2.5
16	8.5	6	14	13	3	11	6	3	3	45°
25	10	5.3	16	13	4	13	6	3	3	45°
32	9.5	–	20	15	5	13	8	4	4	45°
40	15	–	24	19	6	19	8	5	5	45°
63	18	–	28	27	8	22	10	5	5	45°

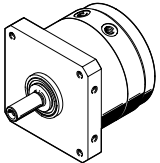
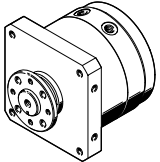
1) Thread for compressed air through-feed with size 12 ... 25

2) Thread for compressed air through-feed with size 32 ... 63

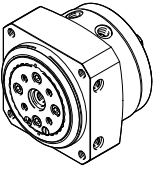
## Data sheet DSM-12 ... 63

Ordering data – DSM-..., semi-rotary drive					
Semi-rotary drive	Characteristics	Swivel angle	Size	Part no.	Type
<b>Spigot shaft</b>					
	Without cushioning components	270°	12	547591	DSM-12-270-A-B
			16	547592	DSM-16-270-A-B
			25	547593	DSM-25-270-A-B
			32	547594	DSM-32-270-A-B
			40	547595	DSM-40-270-A-B
			63	552083	DSM-63-270-A-B
	P With elastic cushioning components	270°	12	547570	DSM-12-270-P-A-B
			16	547574	DSM-16-270-P-A-B
			25	547578	DSM-25-270-P-A-B
			32	547582	DSM-32-270-P-A-B
			40	547586	DSM-40-270-P-A-B
			63	552079	DSM-63-270-P-A-B
	P1 With adjustable, elastic cushioning components	246°	12	566203	DSM-12-270-P1-A-B
			16	566205	DSM-16-270-P1-A-B
			25	566207	DSM-25-270-P1-A-B
			32	566209	DSM-32-270-P1-A-B
		240°	40	566211	DSM-40-270-P1-A-B
			63	566213	DSM-63-270-P1-A-B
	CC With shock absorber	246°	12	547572	DSM-12-270-CC-A-B
			16	547576	DSM-16-270-CC-A-B
			25	547580	DSM-25-270-CC-A-B
32			547584	DSM-32-270-CC-A-B	
240°		40	547588	DSM-40-270-CC-A-B	
		63	552081	DSM-63-270-CC-A-B	
<b>Flange shaft</b>					
	Without cushioning components	270°	12	547596	DSM-12-270-FW-A-B
			16	547597	DSM-16-270-FW-A-B
			25	547598	DSM-25-270-FW-A-B
			32	547599	DSM-32-270-FW-A-B
			40	547600	DSM-40-270-FW-A-B
			63	552084	DSM-63-270-FW-A-B
	P With elastic cushioning components	270°	12	547571	DSM-12-270-P-FW-A-B
			16	547575	DSM-16-270-P-FW-A-B
			25	547579	DSM-25-270-P-FW-A-B
			32	547583	DSM-32-270-P-FW-A-B
			40	547587	DSM-40-270-P-FW-A-B
			63	552080	DSM-63-270-P-FW-A-B
	P1 With adjustable, elastic cushioning components	246°	12	566204	DSM-12-270-P1-FW-A-B
			16	566206	DSM-16-270-P1-FW-A-B
			25	566208	DSM-25-270-P1-FW-A-B
			32	566210	DSM-32-270-P1-FW-A-B
		240°	40	566212	DSM-40-270-P1-FW-A-B
			63	566214	DSM-63-270-P1-FW-A-B
	CC Shock absorber	246°	12	547573	DSM-12-270-CC-FW-A-B
			16	547577	DSM-16-270-CC-FW-A-B
			25	547581	DSM-25-270-CC-FW-A-B
32			547585	DSM-32-270-CC-FW-A-B	
240°		40	547589	DSM-40-270-CC-FW-A-B	
		63	552082	DSM-63-270-CC-FW-A-B	

## Data sheet DSM-12 ... 63

Ordering data – DSM-T..., semi-rotary drive with tandem rotary vanes					
Semi-rotary drive	Characteristics	Swivel angle	Size	Part no.	Type
<b>Spigot shaft</b>					
	Without cushioning components	270°	12	1145122	DSM-T-12-270-A-B
			16	1145123	DSM-T-16-270-A-B
			25	1145124	DSM-T-25-270-A-B
			32	1145125	DSM-T-32-270-A-B
			40	1145126	DSM-T-40-270-A-B
			63	1145127	DSM-T-63-270-A-B
	P With elastic cushioning components	270°	12	1145086	DSM-T-12-270-P-A-B
			16	1145092	DSM-T-16-270-P-A-B
			25	1145098	DSM-T-25-270-P-A-B
			32	1145104	DSM-T-32-270-P-A-B
			40	1145110	DSM-T-40-270-P-A-B
			63	1145116	DSM-T-63-270-P-A-B
	CC With shock absorber	246°	12	1145088	DSM-T-12-270-CC-A-B
			16	1145094	DSM-T-16-270-CC-A-B
			25	1145100	DSM-T-25-270-CC-A-B
		240°	32	1145106	DSM-T-32-270-CC-A-B
			40	1145112	DSM-T-40-270-CC-A-B
			63	1145118	DSM-T-63-270-CC-A-B
<b>Flange shaft</b>					
	Without cushioning components	270°	12	1145128	DSM-T-12-270-FW-A-B
			16	1145129	DSM-T-16-270-FW-A-B
			25	1145130	DSM-T-25-270-FW-A-B
			32	1145131	DSM-T-32-270-FW-A-B
			40	1145132	DSM-T-40-270-FW-A-B
			63	1145133	DSM-T-63-270-FW-A-B
	P With elastic cushioning components	270°	12	1145087	DSM-T-12-270-P-FW-A-B
			16	1145093	DSM-T-16-270-P-FW-A-B
			25	1145099	DSM-T-25-270-P-FW-A-B
			32	1145105	DSM-T-32-270-P-FW-A-B
			40	1145111	DSM-T-40-270-P-FW-A-B
			63	1145117	DSM-T-63-270-P-FW-A-B
	CC Shock absorber	246°	12	1145089	DSM-T-12-270-CC-FW-A-B
			16	1145095	DSM-T-16-270-CC-FW-A-B
			25	1145101	DSM-T-25-270-CC-FW-A-B
		240°	32	1145107	DSM-T-32-270-CC-FW-A-B
			40	1145113	DSM-T-40-270-CC-FW-A-B
			63	1145119	DSM-T-63-270-CC-FW-A-B

## Data sheet DSM-12 ... 63

Ordering data – DSM-...-HD, semi-rotary drive with heavy-duty guide					
Semi-rotary drive	Characteristics	Swivel angle	Size	Part no.	Type
<b>Heavy-duty bearing</b>					
	Without cushioning components	270°	12	1369110	DSM-12-270-HD-A-B
			16	1369111	DSM-16-270-HD-A-B
			25	1369112	DSM-25-270-HD-A-B
			32	1369113	DSM-32-270-HD-A-B
			40	1369114	DSM-40-270-HD-A-B
			63	1369115	DSM-63-270-HD-A-B
	P1 With adjustable, elastic cushioning components	246°	12	1369116	DSM-12-270-P1-HD-A-B
			16	1369117	DSM-16-270-P1-HD-A-B
			25	1369118	DSM-25-270-P1-HD-A-B
		240°	32	1369119	DSM-32-270-P1-HD-A-B
			40	1369120	DSM-40-270-P1-HD-A-B
			63	1369121	DSM-63-270-P1-HD-A-B
	CC With shock absorber	246°	12	1369122	DSM-12-270-CC-HD-A-B
			16	1369123	DSM-16-270-CC-HD-A-B
			25	1369124	DSM-25-270-CC-HD-A-B
240°		32	1369125	DSM-32-270-CC-HD-A-B	
		40	1369126	DSM-40-270-CC-HD-A-B	
		63	1369127	DSM-63-270-CC-HD-A-B	



## Accessories

### Free wheel unit FLSM

for size 6, 8

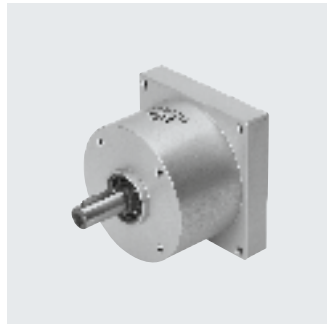
Material:

Housing: anodised aluminium

Shaft, sleeve:

Size 6, 8: steel

Size 10: hardened steel

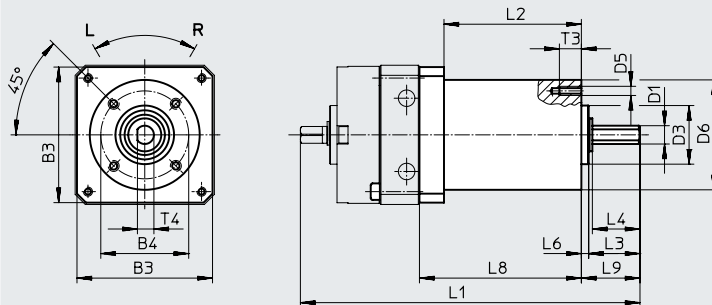


-  - **Note**

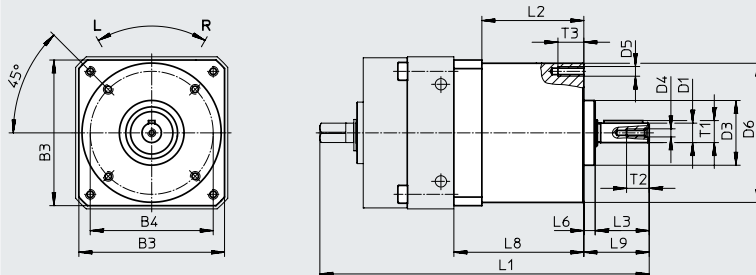
The minimum possible rotation angle is 3°. However, the switching accuracy is dependent on speed and load.

### Dimensions and ordering data

#### FLSM-6/8



#### FLSM-10



For size	B3	B4	D1 ∅	D3 ∅	D4	D5	D6 ∅	L1	L2	L3	L4	L6
		±0.15	g7	h8			±0.3					±0.2
6	29.5	23	4	14	–	M3	28	85.8	36 ±0.1	10.8	10	2
8	37	24	5	16	–	M3	30	94.5	37.5 ±0.1	14	13	2
10	45	38	6	20	M2.5	M3	43	101	30 ±0.1	16.7	–	3.5

For size	L8	L9	T1	T2	T3	T4	Featherkey to DIN 6885	CRC <sup>1)</sup>	Weight [g]	Direction of rotation	Part no.	Type
	±0.1											
6	43	12.8	–	–	5	3.5	–	2	100	Anticlockwise rotation	<b>188523</b>	<b>FLSM-6-L</b>
										Clockwise rotation	<b>188522</b>	<b>FLSM-6-R</b>
8	44.5	16	–	–	6	4.5	–	2	125	Anticlockwise rotation	<b>188525</b>	<b>FLSM-8-L</b>
										Clockwise rotation	<b>188524</b>	<b>FLSM-8-R</b>
10	40	20.2	6.8	7	8	–	A2x2x12	2	160	Anticlockwise rotation	<b>188527</b>	<b>FLSM-10-L</b>
										Clockwise rotation	<b>188526</b>	<b>FLSM-10-R</b>

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements in direct contact with a normal industrial environment.

## Accessories

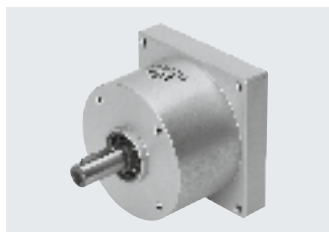
### Free wheel unit FLSM


For size 12 ... 40

Material:

Housing: anodised aluminium

Shaft, sleeve: hardened steel

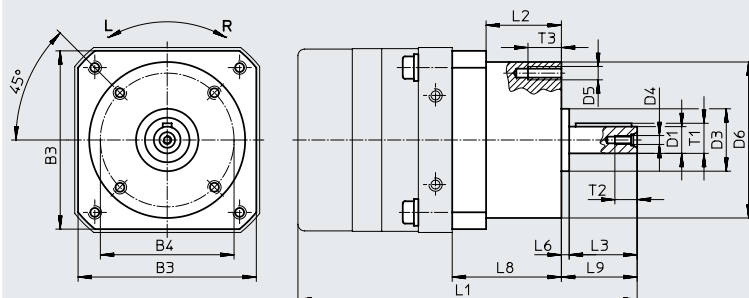


 **Note**

The minimum possible rotation angle is 3°. However, the switching accuracy is dependent on speed and load.

### Dimensions and ordering data

FLSM-12 ... 40



For size	B3	B4	D1 ∅ g7	D3 ∅ h8	D4	D5	D6 ∅ ±0.3	L1	L2	L3	L6	L8
12	55	42 ±0.15	8	25	M3	M3	48.5	125	37 ±0.4	20	3.5	47.3
16	65	50	10	24	M3	M4	60	137	34 ±0.4	23	3.5	47
25	80	60	12	28	M4	M6	70	152	34 ±0.4	30	3.5	49
32	100	83	16	42	M5	M6	95	197.8	42.8 ±0.4	40	7.2	60.8
40	120	96	20	52	M6	M8	110	244.5	54 ±0.4	50	6	77

For size	L9	T1	T2	T3	Featherkey to DIN 6885	CRC <sup>1)</sup>	Weight [g]	Direction of rotation	Part no.	Type
12	24.5	8.8	9	8	A2x2x16	2	300	Anticlockwise rotation	164229	FLSM-12-L
								Clockwise rotation	164234	FLSM-12-R
16	27.4	11.2	9	10	A3x3x18	2	450	Anticlockwise rotation	164230	FLSM-16-L
								Clockwise rotation	164235	FLSM-16-R
25	34	13.5	10	15	A4x4x25	2	650	Anticlockwise rotation	164231	FLSM-25-L
								Clockwise rotation	164236	FLSM-25-R
32	48.5	18	12.5	15	A5x5x36	2	1500	Anticlockwise rotation	164232	FLSM-32-L
								Clockwise rotation	164237	FLSM-32-R
40	58	22.5	16	15	A6x6x45	2	2350	Anticlockwise rotation	164233	FLSM-40-L
								Clockwise rotation	164238	FLSM-40-R

1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements in direct contact with a normal industrial environment.

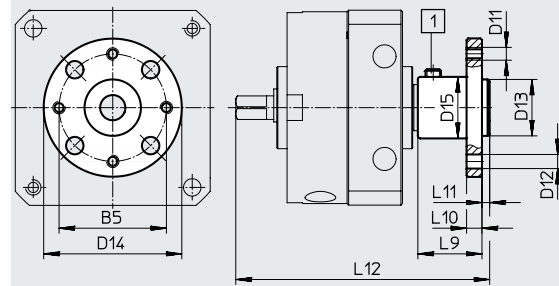
## Accessories

### Push-on flange FWSR

Material:  
Anodised wrought aluminium alloy  
Free of copper and PTFE

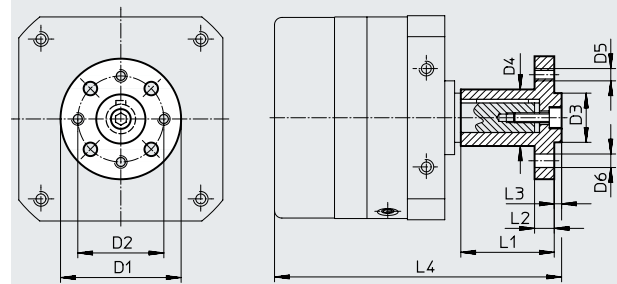


FWSM-6/8



[1] Threaded pin M3x5 DIN 916

FWSM-10



#### Dimensions and ordering data

For size	B5	D11	D12 ∅ H13	D13 ∅	D14 ∅	D15 ∅ +0.4
6	16	M3	3.4	8 <sub>g7</sub>	23	10
8	21	M3	3.4	11 <sub>g7</sub>	27	12
10	21	M3	3.4	11 <sub>f8</sub>	30 <sub>-0.5</sub>	12
12	25	M3	3.4	14 <sub>f8</sub>	35 <sub>-0.5</sub>	15
16	28	M4	4.5	16 <sub>f8</sub>	40 <sub>-0.5</sub>	17
25	35	M5	5.5	20 <sub>f8</sub>	50 <sub>-0.5</sub>	23
32	45	M6	6.5	28 <sub>f8</sub>	60 <sub>-0.5</sub>	28
40	54	M8	9	36 <sub>f8</sub>	70 <sub>-0.5</sub>	38

For size	L9	L10	L11	L12	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
6	10.5	3	1.5	45	2	6	185948	FWSR-6
8	12.5	3	1.5	51	2	8	185949	FWSR-8
10	22	3	1.6	68.6	2	12	32798	FWSR-10
12	25	3	3	85.5	2	19	14659	FWSR-12
16	28	5	3	98.8	2	30	13239	FWSR-16
25	38	8	3	116.5	2	70	13240	FWSR-25
32	48	10	4	151.5	2	125	13241	FWSR-32
40	60	11	5	186.5	2	240	14656	FWSR-40

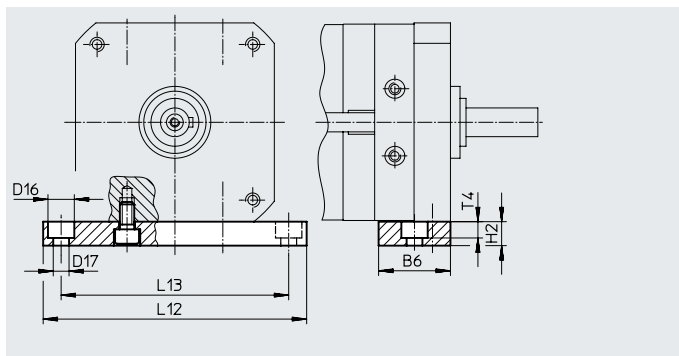
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements in direct contact with a normal industrial environment.

## Accessories

### Mounting plate HSM

Material:  
Aluminium



#### Dimensions and ordering data

For size	B6	D16 ∅	D17 ∅	H2	L12	L13	T4	CRC <sup>1)</sup>	Weight [g]	Part no.	Type
12	20	8	4.5	10	84	72	4.6	2	48	165571	HSM-12
16	28	10	5.5	10	98	84	5.7	2	80	165572	HSM-16
25	30	11	6.6	10	110	95	6.8	2	94	165573	HSM-25
32	40	15	9	15	145	125	9	2	246	165574	HSM-32
40	45	18	11	20	180	155	11	2	459	165575	HSM-40

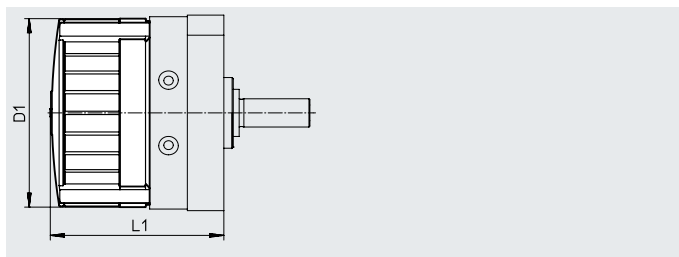
1) Corrosion resistance class CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation can occur. External visible parts with primarily decorative surface requirements in direct contact with a normal industrial environment.

### Cover cap AKM

Material:  
Polyamide


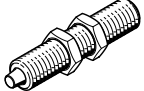

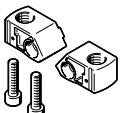
Cannot be used in combination with inductive proximity switch SIEN.



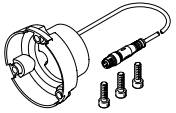
#### Dimensions and ordering data

For size	D1 ∅	L1			Part no.	Type
		DSM-...	DSM-T...	DSM-...-HD...		
12	59	56.2±1.2	75.2±1.2	68.2±1.2	549194	AKM-12
16	70	68±1.2	92±1.2	82.6±1.2	549195	AKM-16
25	83	73.4±1.2	101.5±1.2	91.6±1.2	549196	AKM-25
32	105	89.7±1.5	126.7±1.5	110.2±1.5	549197	AKM-32
40	130	107.1±1.5	152.1±1.5	136.1±1.5	549198	AKM-40


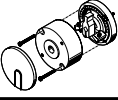
## Accessories

Ordering data		For size	Description	Part no.	Type	PU <sup>1)</sup>
<b>Cushioning kit</b>						
	12	<ul style="list-style-type: none"> <li>Elastic cushioning components with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-P</li> </ul>	550657	DSM-12-P-B	2	
	16, 25		550658	DSM-16/25-P-B		
	32		550659	DSM-32-P-B		
	40		550660	DSM-40-P-B		
	63		552086	DSM-63-P-B		
<b>Shock absorber</b>						
Data sheets → Internet: dyef						
	12	<ul style="list-style-type: none"> <li>Adjustable, elastic cushioning components with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-P1</li> </ul>	548373	DYEF-M8-Y1F	1	
	16, 25		548374	DYEF-M10-Y1F		
	32		548375	DYEF-M12-Y1F		
	40		548377	DYEF-M16-Y1F		
	63		1113706	DYEF-M22-Y1F		
<b>Shock absorber</b>						
Data sheets → Internet: dysc						
	12	<ul style="list-style-type: none"> <li>Self-adjusting shock absorbers with fixed stop</li> <li>Included in the scope of delivery for semi-rotary drive DSM-...-CC</li> </ul>	548011	DYSC-5-5-Y1F	1	
	16, 25		548012	DYSC-7-5-Y1F		
	32		548013	DYSC-8-8-Y1F		
	40		548014	DYSC-12-12-Y1F		
	63		553593	DYSC-16-18-Y1F		
<b>Cushioning mount</b>						
	12	<ul style="list-style-type: none"> <li>For mounting elastic cushioning components DSM-...-P-B, DYEF or shock absorber DYSC</li> </ul>	547900	DSM-12-B	2	
	16		547901	DSM-16-B		
	25		547902	DSM-25-B		
	32		547903	DSM-32-B		
	40		547904	DSM-40-B		
	63		552085	DSM-63-B		




1) Packaging unit

Ordering data – Position sensor		For size	Description	Part no.	Type	PU <sup>1)</sup>
	6	<ul style="list-style-type: none"> <li>For sensing the end positions</li> <li>Simple and reliable operation using one pushbutton</li> <li>Only one connecting cable required</li> <li>Possible sensing range: 0 ... 270°</li> <li>Repetition accuracy: ≤ 1°</li> <li>Number of switching outputs: 2</li> <li>Switching output: PNP/NPN</li> <li>Switching element: N/O contact / N/C contact</li> </ul>	2619969	SRBS-Q12-6-E270-EP-1-S-M8	1	
	8		2619972	SRBS-Q12-8-E270-EP-1-S-M8		
	10		2412001	SRBS-Q1-10-E270-EP-1-S-M8		

## Accessories

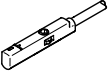
Ordering data – Kits					
	For size	Description	Part no.	Type	
Mounting kit <span style="float: right;">Data sheets → Internet: wsm</span>					
	6	For proximity switches SME/SMT-10	173205	WSM-6-SME-10	
	8		173206	WSM-8-SME-10	
	10		173207	WSM-10-SME-10	
Stop kit <span style="float: right;">Data sheets → Internet: ksm</span>					
	6	For adjusting the swivel angle, max. 180°	175833	KSM-6	
	8		175834	KSM-8	
	10	For adjusting the swivel angle, max. 200°	175835	KSM-10	

Ordering data – Adapter kit					
	For size	Description	Part no.	Type	
	6	For attaching mounting kit WSM to stop kit KSM	3617044	DADP-AK-Q1-6	
	8		3617045	DADP-AK-Q1-8	
	10		3617046	DADP-AK-Q1-10	

Ordering data – Sensor brackets					
	For size	Description	Part no.	Type	PU <sup>1)</sup>
	12, 16, 25, 32, 40	For proximity switches SME-/SMT-10	550661	SL-DSM-B	2
		For proximity switches SME-/SMT-8			
	63	For proximity switches SME-/SMT-8	552088	SL-DSM-63-B	2
	12, 16, 25, 32, 40	For inductive proximity switches SIEN-M5	1130882	SL-DSM-S-M5-B	2
		For inductive proximity switches SIEN-M8	1132360	SL-DSM-S-M8-B	

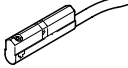
1) Packaging unit

## Proximity switches for size 6, 8, 12, 25, 32, 40 (not suitable for size 10 and 16)

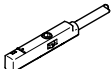
Ordering data – Proximity switches for C-slot, magnetoresistive						Data sheets → Internet: smt
	Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Type
<b>N/O contact</b>						
	With size 6, 8: via mounting kit WSM-...SME-10 With size 12, 25, 32, 40: mounted on the DSM using sensor bracket SL-DSM-B	PNP	Cable, 3-wire, in-line	2.5	551373	SMT-10M-PS-24V-E-2,5-L-OE
			Plug M8x1, 3-pin, in-line	0.3	551375	SMT-10M-PS-24V-E-0,3-L-M8D

## Accessories

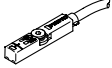
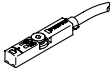
## Proximity switches for size 6 ... 40

Ordering data – Proximity switches for C-slot, magnetic reed							Data sheets → Internet: sme
Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Type		
<b>N/O contact</b>							
	With size 6, 8, 10: via mounting kit WSM-...SME-10 With size 12 ... 40: mounted on the DSM using sensor bracket SL-DSM-B	Contacting	Cable, 3-wire, in-line	2.5	<b>173210</b>	<b>SME-10-KL-LED-24</b>	
			Plug M8x1, 3-pin, in-line	0.3	<b>173212</b>	<b>SME-10-SL-LED-24</b>	

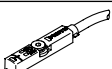
## Proximity switches for size 12 ... 40

Ordering data – Proximity switches for C-slot, magnetic reed							Data sheets → Internet: sme
Type of mounting	Switching output	Electrical connection, outlet direction of connection	Cable length [m]	Part no.	Type		
<b>N/O contact</b>							
	Mounted on the DSM using sensor bracket SL-DSM-B	Contacting	Cable, 3-wire, in-line	2.5	<b>551365</b>	<b>SME-10M-DS-24V-E-2,5-L-OE</b>	
			Plug M8x1, 3-pin, in-line	0.3	<b>551367</b>	<b>SME-10M-DS-24V-E-0,3-L-M8D</b>	

## Proximity switches for size 63

Ordering data – Proximity switches for T-slot, magnetoresistive							Data sheets → Internet: smt
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type		
<b>N/O contact</b>							
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	2.5	<b>574335</b>	<b>SMT-8M-A-PS-24V-E-2.5-OE</b>	
			Plug M8x1, 3-pin	0.3	<b>574334</b>	<b>SMT-8M-A-PS-24V-E-0.3-M8D</b>	
			Plug M12x1, 3-pin	0.3	<b>574337</b>	<b>SMT-8M-A-PS-24V-E-0.3-M12</b>	
		NPN	Cable, 3-wire	2.5	<b>574338</b>	<b>SMT-8M-A-NS-24V-E-2.5-OE</b>	
			Plug M8x1, 3-pin	0.3	<b>574339</b>	<b>SMT-8M-A-NS-24V-E-0.3-M8D</b>	
<b>N/C contact</b>							
	Inserted in the slot from above, flush with the cylinder profile, short design	PNP	Cable, 3-wire	7.5	<b>574340</b>	<b>SMT-8M-A-PO-24V-E-7.5-OE</b>	

## Ordering data – Proximity switches for T-slot, magnetic reed

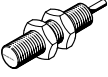
Ordering data – Proximity switches for T-slot, magnetic reed							Data sheets → Internet: sme
Type of mounting	Switching output	Electrical connection	Cable length [m]	Part no.	Type		
<b>N/O contact</b>							
	Inserted in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	<b>543862</b>	<b>SME-8M-DS-24V-K-2.5-OE</b>	
					5.0	<b>543863</b>	<b>SME-8M-DS-24V-K-5.0-OE</b>
			Cable, 2-wire	2.5	<b>543872</b>	<b>SME-8M-ZS-24V-K-2.5-OE</b>	
			Plug M8x1, 3-pin	0.3	<b>543861</b>	<b>SME-8M-DS-24V-K-0.3-M8D</b>	

## Accessories

## Inductive proximity switches for size 12 ... 40

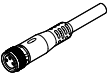
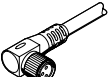
## Ordering data – Proximity switches, inductive

Data sheets → Internet: sien

	Thread	Contact	Connection	Part no.	Type
	M5	N/O	Cable, 2.5 m	150370	SIEN-M5B-PS-K-L
			Plug	150371	SIEN-M5B-PS-S-L
	M8	N/O	Cable, 2.5 m	150386	SIEN-M8B-PS-K-L
			Plug	150387	SIEN-M8B-PS-S-L

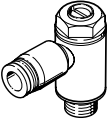
## Ordering data – Connecting cables

Data sheets → 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



## Ordering data – One-way flow control valves

Data sheets → Internet: grla

	For size	Connection Thread	For tubing O.D.	Material	Part no.	Type
	12, 16, 25	M5	3	Metal version	193137	GRLA-M5-QS-3-D
			4		193138	GRLA-M5-QS-4-D
			6		193139	GRLA-M5-QS-6-D
	32, 40	G1/8	3		193142	GRLA-1/8-QS-3-D
			4		193143	GRLA-1/8-QS-4-D
			6		193144	GRLA-1/8-QS-6-D
	63	G1/4	8		193145	GRLA-1/8-QS-8-D
			8		193147	GRLA-1/4-QS-8-D
			10		193148	GRLA-1/4-QS-10-D

## Ordering data – Centring sleeves for DSM-...-HD

Data sheets → Internet: zbh

	For size	Description	Part no.	Type	PU <sup>1)</sup>
	12, 16	For centring the drive in the case of side mounting	186717	ZBH-7	10
	25		8137184	ZBH-9-B	
	32 ... 63		8137185	ZBH-12-B	
	12	For centring attachments on the rotating plate	189652	ZBH-5	
	16 ... 32		186717	ZBH-7	
	40, 63		8137185	ZBH-12-B	
	12, 16		8137185	ZBH-12-B	
25	For centring attachments in the middle of the rotating plate	191409	ZBH-15		
40, 63		8023856	ZBH-25		
	40, 63	For centring attachments in the middle of the rotating plate	150901	SLZZ-2 5/16	1

1) Packaging unit