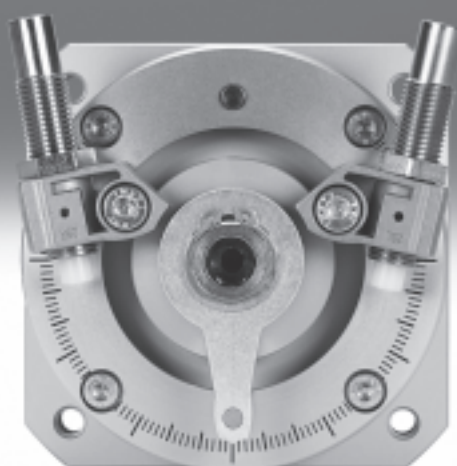


Swivel modules DSM/DSM-B

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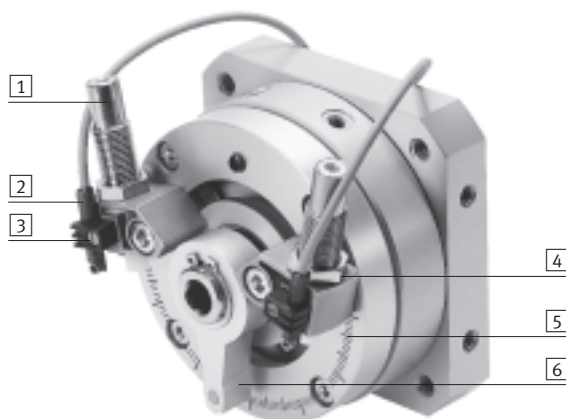
Swivel modules DSM/DSM-B

Key features

At a glance

- The swivel module DSM is a double-acting semi-rotary drive with rotary 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 swivel module prevents movement of the stop system under load
- Torques of up to 40 Nm with rotary vane principle in combination with multi-tooth shaft

The technology in detail



- 1** Cushioning
 - Three types of cushioning, with metal fixed stop:
 - Elastic cushioning components (P)
 - Adjustable, elastic cushioning components (P1)
 - Hydraulic shock absorbers (CC)
- 2** Position sensing
 - Compact sensing of the swivel position:
 - For size 6 ... 40: SME/SMT-10 or SIEN
 - For size 63: SME/SMT-8
- 3** Sensor bracket
 - The sensor brackets are mounted directly on the stop system
- 4** Precision end-position adjustment
 - After the lock nut is loosened, precision adjustment of the end positions is possible using an Allen key
- 5** Swivel angle scale
 - The required swivel angle can easily be preset using the scale
- 6** Stop lever
 - The magnet in the stop lever enables the swivel angle to be sensed

Note

If the swivel modules DSM-...-B are used without a stop system or the maximum permissible mass moment of inertia is exceeded, external stops

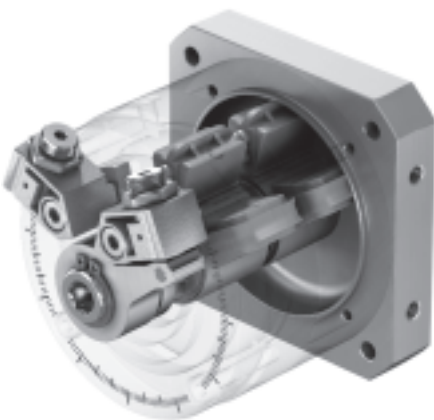
must be attached. The rotary vane is not suitable for use in defining end positions.

Technical data:

Size 6 ... 10 → 6

Size 12 ... 63 → 18

Swivel module DSM-T-B with tandem rotary vanes



The arrangement of two rotary vanes on the multi-tooth shaft permits torques of up to 80 Nm.

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

- Infinitely adjustable swivel angle
- Identical interfaces
- Identical accessories

The cushioning type P1 can only be ordered as an accessory in combination with the swivel module DSM-T-B (→ 40).

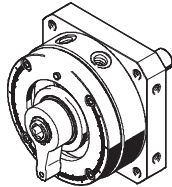
Swivel modules DSM/DSM-B

Key features

Wide choice of variants

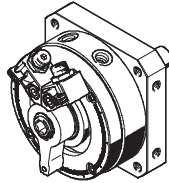
Without stop system

for size 12 ... 63



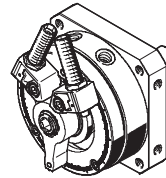
With elastic cushioning components (P)

for size 6 ... 63



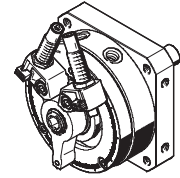
With adjustable, elastic cushioning components (P1)

for size 12 ... 63



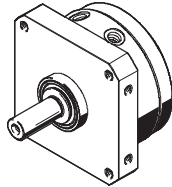
With hydraulic shock absorbers (CC)

for size 12 ... 63



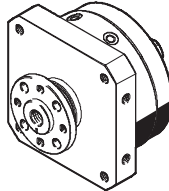
With spigot shaft

for size 6 ... 63



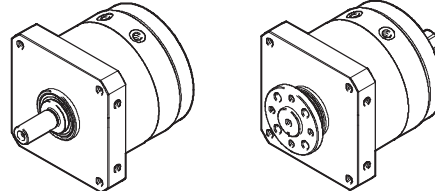
With flanged shaft

for size 6 ... 63



With tandem rotary vanes

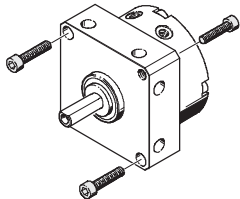
for size 12 ... 63



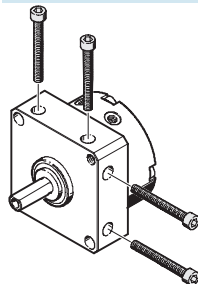
Mounting options

For size 6 ... 10

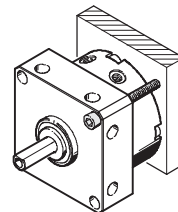
Via threaded through-holes/through-holes



Via through-holes, lateral

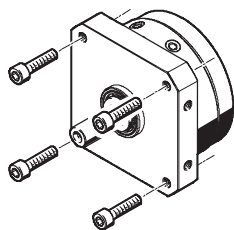


Via threaded holes, lateral

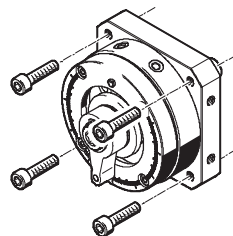


For size 12 ... 63

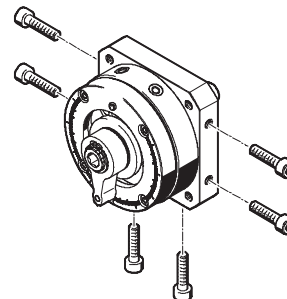
Via threaded through-holes



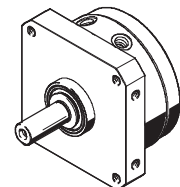
Via through-holes



Via threaded holes, lateral



Centring via centring collar



Swivel modules DSM/DSM-B

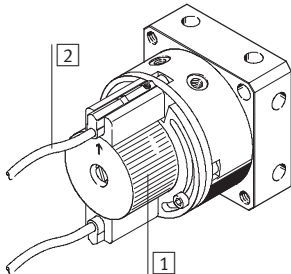
Key features

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Accessories

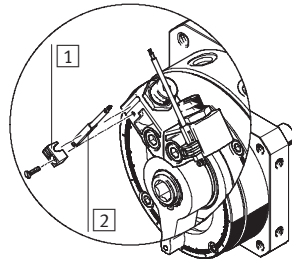
Position sensing

For size 6 ... 10
with SME/SMT-10



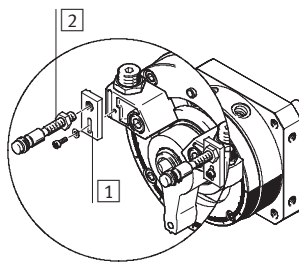
- 1 Mounting kit
- 2 Proximity sensor

For size 12 ... 63
with SME/SMT-8 or -10



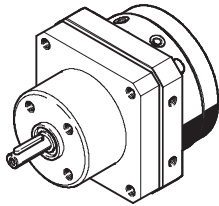
- 1 Sensor bracket
- 2 Proximity sensor

For size 12 ... 40
with SIEN

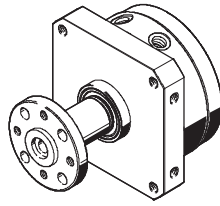


- 1 Sensor bracket
- 2 Proximity sensor

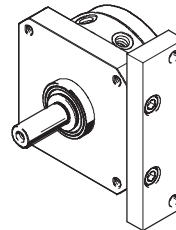
Freewheel unit FLSM
for size 6 ... 40



Push-on flange FWSR
for size 6 ... 40



Mounting plate HSM
for size 12 ... 40



Swivel modules DSM

Type codes DSM-6 ... 10

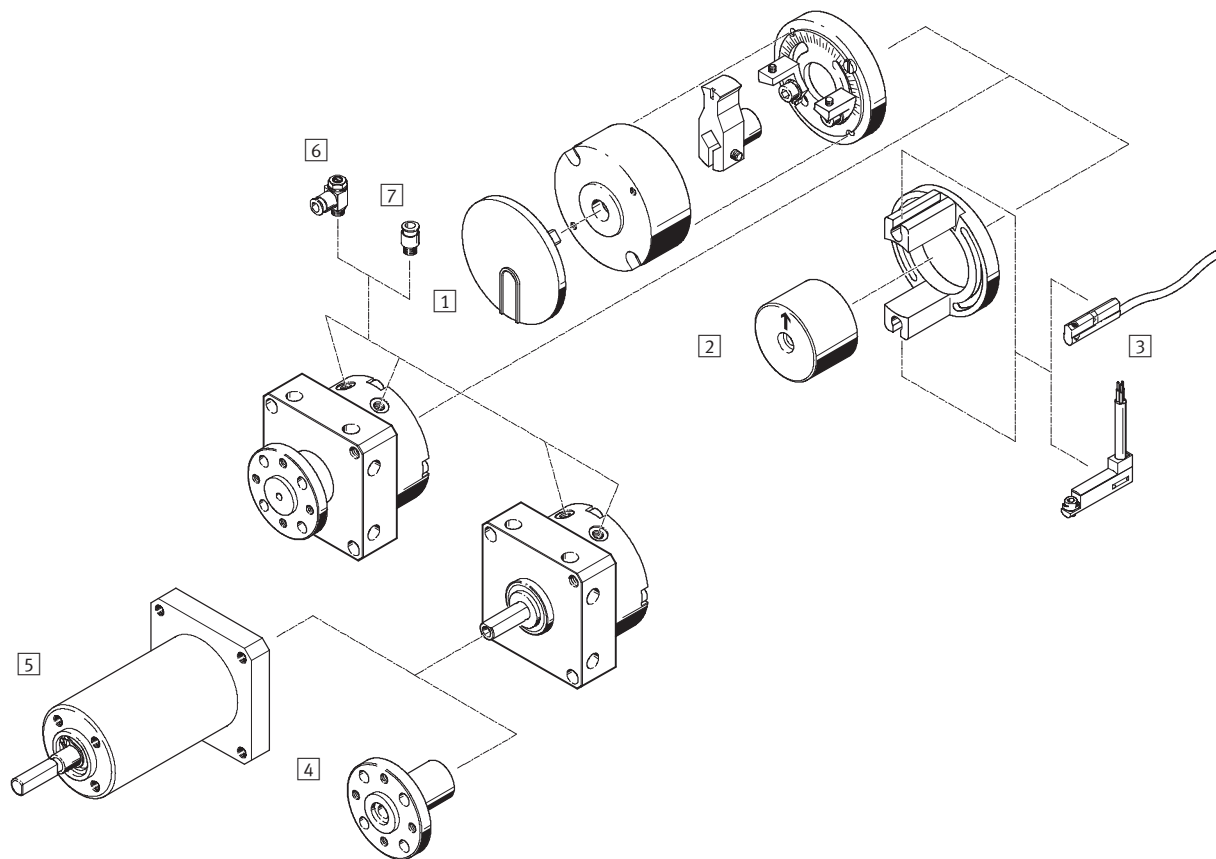
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		DSM	–	8	–	180	–	P	–	A	–	FF	–	FW
Type														
Double-acting														
DSM	Swivel module													
Size [mm]														
Swivel angle [°]														
Cushioning														
P	Flexible cushioning rings/pads at both ends													
Position sensing														
	No position sensing													
A	Via proximity sensor													
Adjustable swivel angle														
	Fixed swivel angle													
FF	Adjustable swivel angle													
Shaft														
	Spigot shaft													
FW	Flanged shaft													

Swivel modules DSM

Peripherals overview DSM-6 ... 10

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Swivel modules DSM

Peripherals overview DSM-6 ... 10

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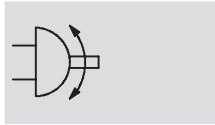
Accessories		
	Brief description	→ Page/Internet
1 Stop kit KSM	- For adjusting the swivel angle - Can be retrofitted for swivel module DSM-...-P(-A)/DSM-...-P(-A)-FW - Can be combined with mounting kit WSM - An adapter and socket head screws must also be ordered for installation of the stop kit in combination with the mounting kit WSM → 40	40
2 Mounting kit WSM-...-SME-10	- For sensing the swivel angle - For mounting the proximity sensors SME-/SMT-10 - Can be retrofitted for swivel module DSM-...-P(-FF)/DSM-...-P(-FF)-FW - Can be combined with stop kit KSM - An adapter and socket head screws must also be ordered for installation of the mounting kit in combination with the stop kit WSM → 40	40
3 Proximity sensor SME/SMT-10	Proximity sensor for sensing the end position	41
4 Push-on flange FWSR	For retrofitting on swivel module DSM with spigot shaft	38
5 Freewheel unit FLSM	- For synchronous rotation in one direction - Only in combination with swivel module DSM with spigot shaft	36
6 One-way flow control valve GRLA	For regulating speed	42
7 Push-in fitting QS	For connecting compressed air tubing with standard O.D.	quick star

Swivel modules DSM

Technical data DSM-6 ... 10

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Function



Ø - Size
6 ... 10 mm



General technical data					
Size			6	8	10
Pneumatic connection			M3		
Constructional design			Rotary vane		
Cushioning			P – flexible cushioning rings/pads at both ends		
Type of mounting			Via female thread		
Mounting position			Any		
Swivel angle	fixed	[°]	90 or 180	90 or 180	90, 180 or 240
	adjustable	[°]	0 ... 180		0 ... 200
Max. swivel frequency at 6 bar		[Hz]	3		3 (at 240°: 2 Hz)
Cushioning angle		[°]	0.5		
Air consumption at max. swivel angle and 6 bar ¹⁾	90°	[cm ³]	0.6	0.7	5.5
	180°	[cm ³]	1.2	1.4	11
	240°	[cm ³]	–		15

1) Theoretical values

Operating and environmental conditions				
Size		6	8	10
Operating medium		Filtered compressed air, lubricated or unlubricated		
Operating pressure	[bar]	3.5 ... 8	3.5 ... 8	2.5 ... 8
Ambient temperature ¹⁾	[°C]	0 ... +60		
ATEX		Specified types → www.festo.com		

1) Note operating range of proximity sensors

Forces and torques				
Size		6	8	10
Torque at 6 bar	[Nm]	0.15	0.35	0.85
Max. perm. radial load on drive shaft	[N]	15	20	30
Max. perm. axial load on drive shaft	[N]	10		
Max. perm. mass moment of inertia on drive shaft ¹⁾	[kgm ²]	0.05 x 10 ⁻⁴	0.1 x 10 ⁻⁴	0.2 x 10 ⁻⁴

1) Unthrottled, please see graphs on → 11

Swivel modules DSM

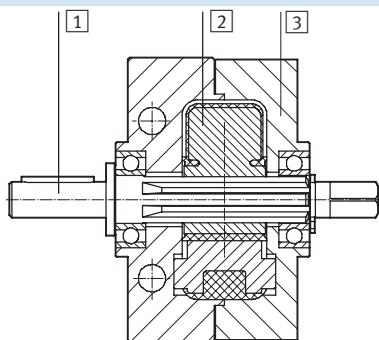
Technical data DSM-6 ... 10

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Weight [g]				
Size		6	8	10
Spigot shaft				
DSM-...-P	90°	45	78	140
	180°	78	140	140
	240°	–	–	140
DSM-...-P-A				
DSM-...-P-A	90°	50	85	149
	180°	50	85	149
	240°	–	–	149
DSM-...-P-FF				
DSM-...-P-FF	180°	70	140	–
	200°	–	–	240
DSM-...-P-A-FF				
DSM-...-P-A-FF	180°	85	155	–
	200°	–	–	255
Flanged shaft				
DSM-...-P-FW	90°	51	85	150
	180°	51	85	150
	240°	–	–	150
DSM-...-P-A-FW				
DSM-...-P-A-FW	90°	56	92	159
	180°	56	92	159
	240°	–	–	159
DSM-...-P-FF-FW				
DSM-...-P-FF-FW	180°	76	147	–
	200°	–	–	250
DSM-...-P-A-FF-FW				
DSM-...-P-A-FF-FW	180°	91	162	–
	200°	–	–	265

Materials

Sectional view



Swivel module

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

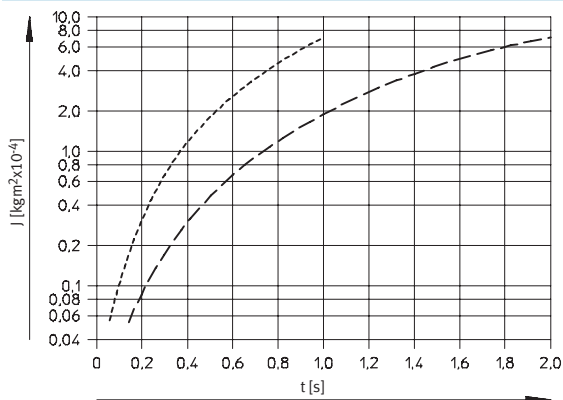
Swivel modules DSM

Technical data DSM-6 ... 10

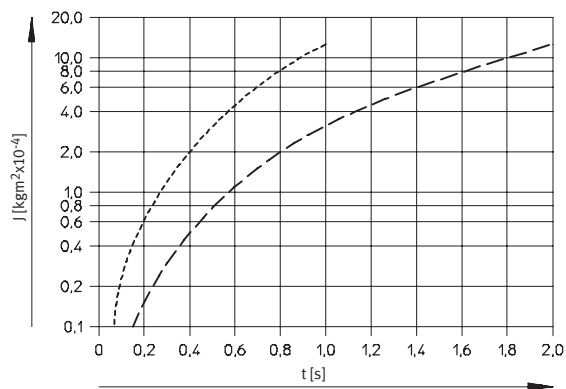
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Mass moment of inertia J as a function of swivel time t

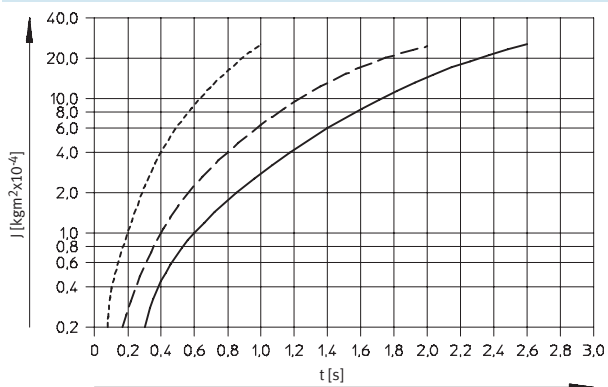
DSM-6



DSM-8



DSM-10



--- 90°
 --- 180°
 — 240°

Swivel modules DSM

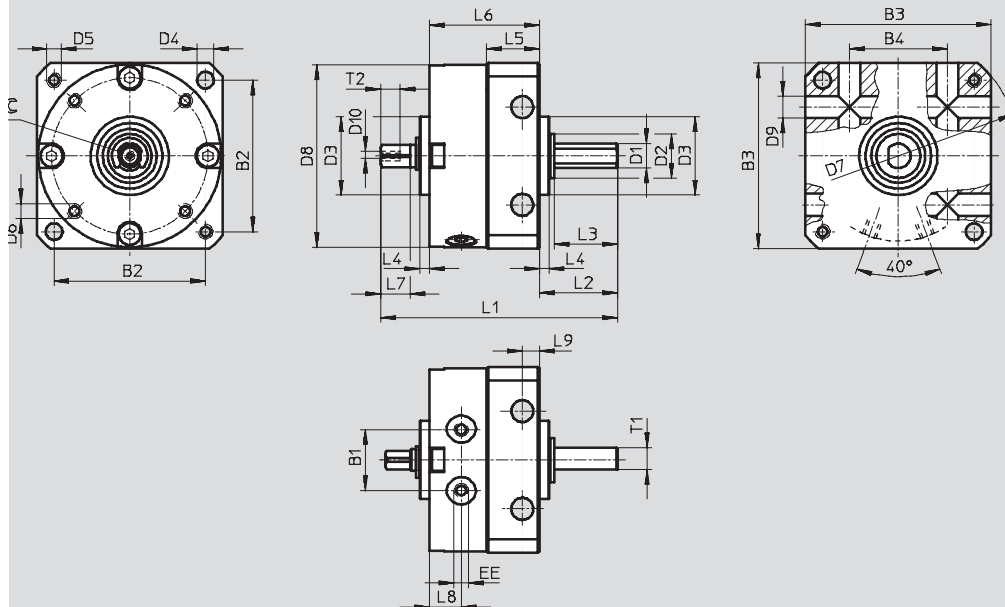
Technical data DSM-6 ... 10

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Dimensions

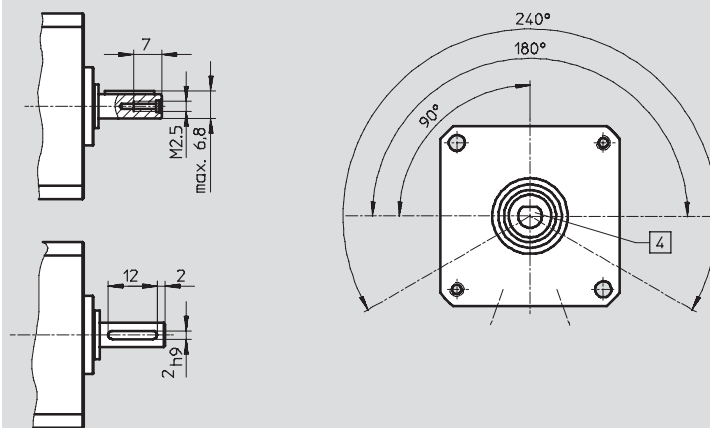
Download CAD Data → www.festo.com/us/cad

With spigot shaft and fixed stop



Spigot design for swivel module DSM-10

Shaft position



Note

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

Size	B1	B2	B3	B4	D1 Ø	D2 Ø	D3 Ø	D4 Ø	D5	D6	D7 Ø	D8 Ø	D9 Ø	D10	EE
[mm]					g7			H12			H12		H12		
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	≙	Swivel angle tolerance
[mm]											h12		
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°

Swivel modules DSM

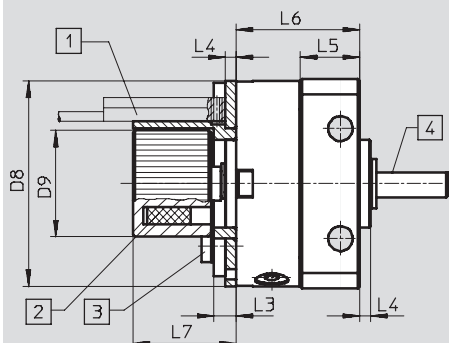
Technical data DSM-6 ... 10

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Dimensions

Download CAD Data → www.festo.com/us/cad

With spigot shaft, fixed stop and position sensing



1 Proximity sensor not included in the scope of delivery.

Observe fitting space for proximity sensor and cable

2 Magnet position

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

4 The flat or the woodruff key on the shaft indicates the position of the rotary vane

Size [mm]	D8 Ø	D9 Ø	L3	L4	L5	L6	L7	Tightening torque [Nm]
6	29.4	17.3	4	2	9.8	21	19.5	0.19
8	37.4	19.3	4	2	11.3	23	19.5	0.32
10	46.4	22.3	4	2	14.3	28	19.5	0.44

Swivel modules DSM

Technical data DSM-6 ... 10

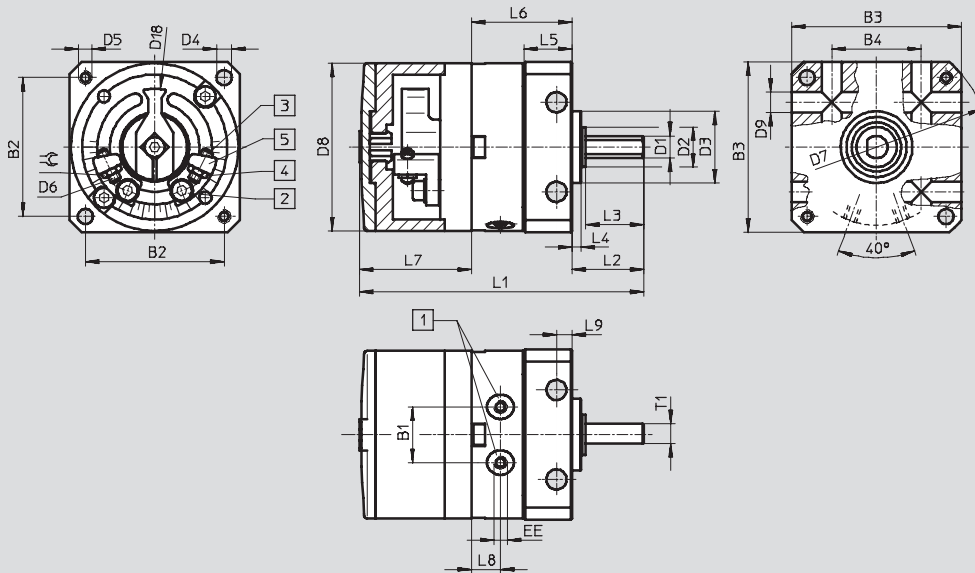
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Dimensions

Download CAD Data → www.festo.com/us/cad

With spigot shaft, fixed stop and adjustable swivel angle

without orifice and cover



Note

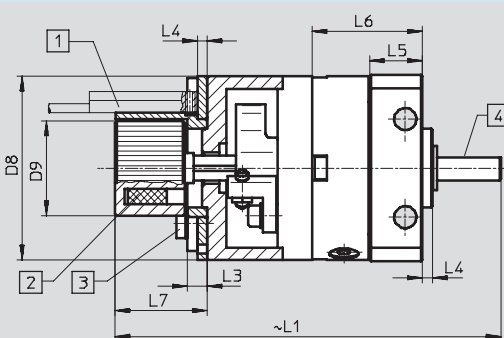
The swivel angle is infinitely adjustable over the entire swivel range. Size 6 can only be adjusted symmetrically to the centre.

- 1 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 Ø g7	D2 Ø	D3 Ø	D4 Ø H12	D5	D6	D7 Ø H12	D8 Ø	D9 Ø H12	D18 Ø	EE
[mm]															
6	10	25	30	17	4	8	14	3.2	M3	M2	40	29.4	3.5	22	M3
8	12.8	31	38	20	5	9	16	3.2	M3	M2.5	50	37.4	3.5	26	M3
10	15.9	38	47	26	6	12	19	4.3	M4	M3	62	46.4	4.5	35.8	M3

Size	L1	L2	L3	L4	L5	L6	L7	L8	L9	T1	≈	Max. swivel angle	Precision adjustment per end
[mm]													
6	52	13	10	2	9.8	21	17.8	6	3	3.5	4	180°+5°	+1°/-5°
8	64	16	13	2	11.3	23	24.9	6.5	3	4.5	5	180°+5°	+1°/-5°
10	76	19.6	16	2	14.3	28.4	28.2	7.5	4	—	5.5	200°+5°	+1°/-5°

With spigot shaft, fixed stop, adjustable swivel angle and position sensing



- 1 Sensor not included in the scope of delivery. Observe fitting space for proximity sensor and cable
- 2 Magnet position

- 3 See table below for maximum tightening torque for sensor bracket screw
- 4 The flat or the woodruff key on the shaft indicates the position of the rotary vane

Size	D8 Ø	D9	L1	L3	L4	L5	L6	L7	Tightening torque
[mm]									[Nm]
6	29.4	17.3	68.5	4	2	9.8	21	19.5	0.19
8	37.4	19.3	80	4	2	11.3	23	19.5	0.32
10	46.4	22.3	91.5	4	2	14.3	28.4	19.5	0.44

Swivel modules DSM

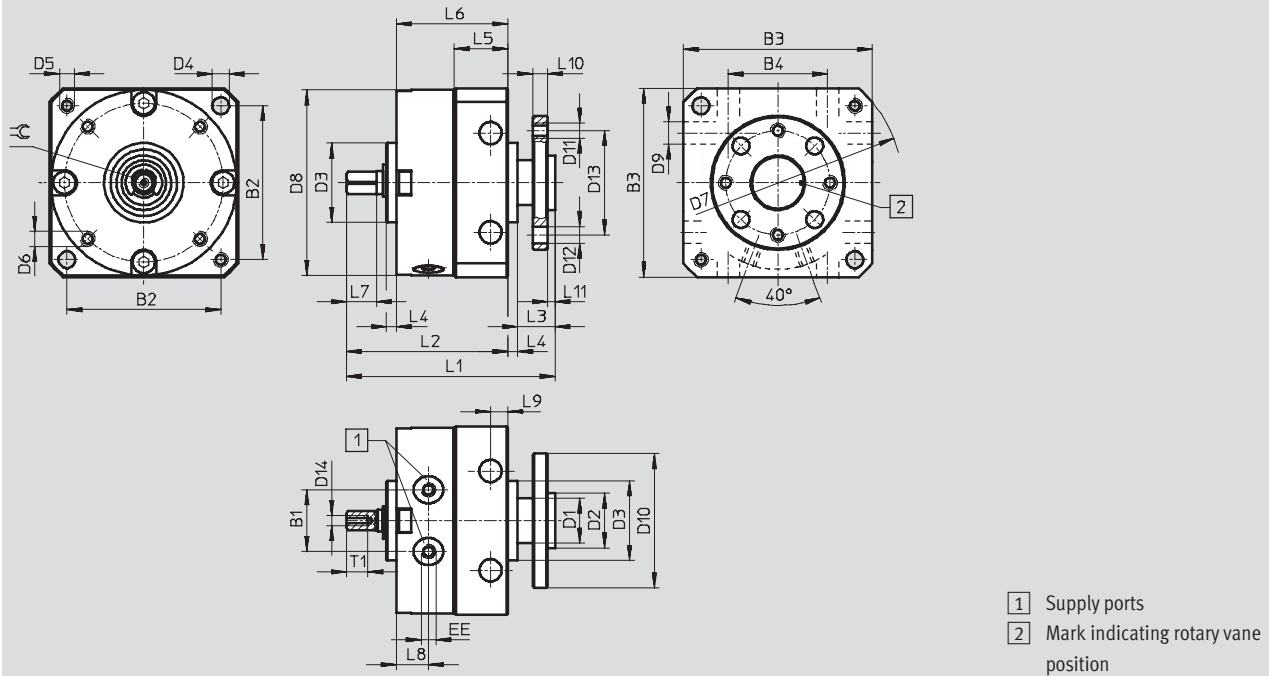
Technical data DSM-6 ... 10

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

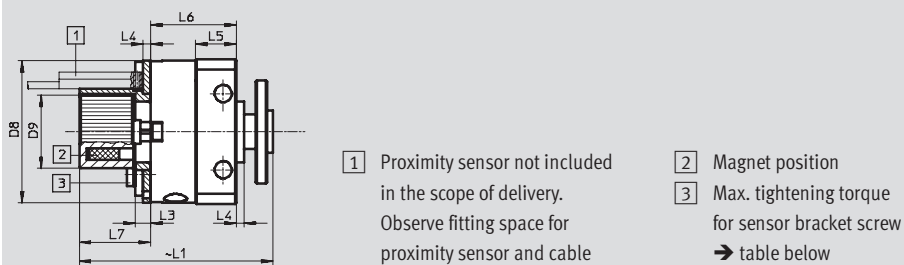
With flanged shaft and fixed stop



Size [mm]	B1	B2	B3	B4	D1 Ø	D2 Ø g7	D3 Ø f8	D4 Ø	D5	D6	D7 Ø H12	D8 Ø	D9 Ø H12	D10 Ø	D11	D12 Ø H13	D13 Ø
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 [mm]	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°

With flanged shaft, fixed stop and position sensing



Size [mm]	D8 Ø	D9 Ø	L1	L3	L4	L5	L6	L7	Tightening torque [Nm]
6	29.4	17.3	50	4	2	9.8	21	19.5	0.19
8	37.4	19.3	52	4	2	11.3	23	19.5	0.32
10	46.4	22.3	59.5	4	2	14.3	28.4	19.5	0.44

Swivel modules DSM

Technical data DSM-6 ... 10

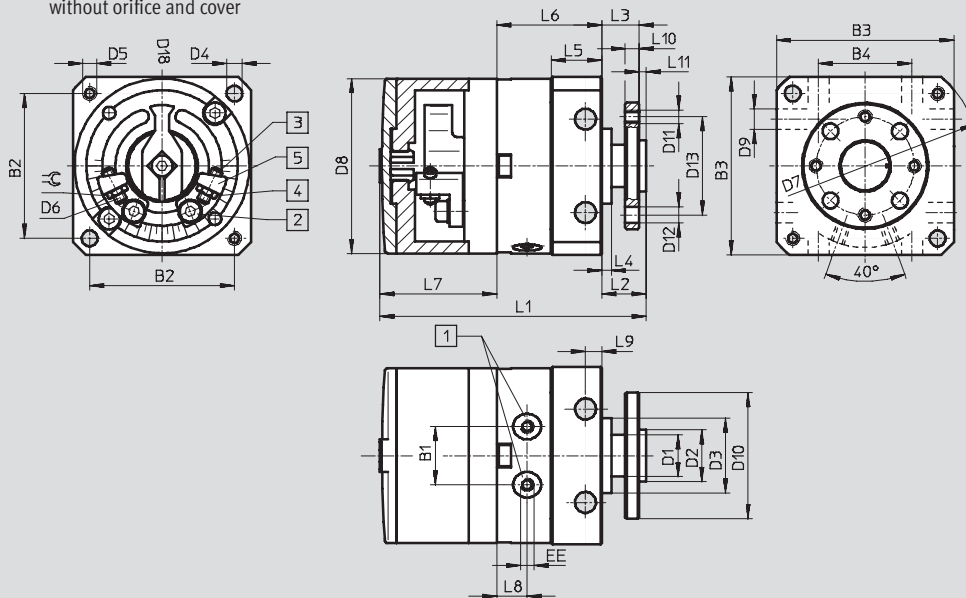
FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

With flanged shaft, fixed stop and adjustable swivel angle

without orifice and cover



Note

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

- 1 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 Ø	D2 Ø g7	D3 Ø f8	D4 Ø H12	D5	D6	D7 Ø H12	D8 Ø
[mm]												
6	10	25	30	17	8	8	14	3.2	M3	M2	40	29.4
8	12.8	31	38	20	9	11	16	3.2	M3	M2.5	50	37.4
10	15.9	38	47	26	10	11	19	4.3	M4	M3	62	46.4

Size	D9 Ø H12	D10 Ø	D11	D12 Ø H13	D13 Ø	D18 Ø	EE	L1	L2	L3	L4
[mm]											
6	3.5	23	M3	3.4	16	22	M3	48	9.5	8	2
8	3.5	27	M3	3.4	21	26	M3	58	9.5	8	2
10	4.5	30	M3	3.4	21	35.8	M3	68	11.6	10	2

Size	L5	L6	L7	L8	L9	L10	L11	≈	Max. swivel angle	Precision adjustment per end
[mm]										
6	9.8	21	17.8	6	3	3	1.5	4	180° +5°	+1°/-5°
8	11.3	23	24.9	6.5	3	3	1.5	5	180° +5°	+1°/-5°
10	14.3	28.4	28.2	7.5	4	3	1.6	5.5	200° +5°	+1°/-5°

Swivel modules DSM

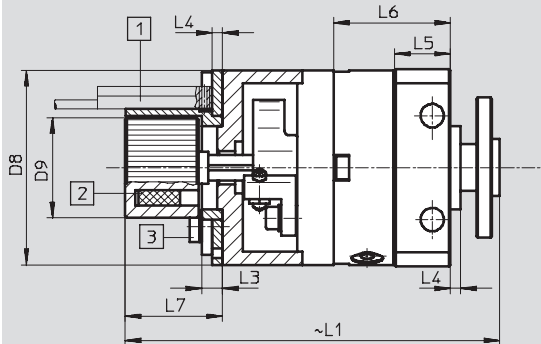
Technical data DSM-6 ... 10

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Dimensions

Download CAD Data → www.festo.com/us/cad

With flanged shaft, fixed stop, adjustable swivel angle and position sensing



- 1 Proximity sensor not included in the scope of delivery. Observe fitting space for proximity sensor and cable
- 2 Magnet position

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

Note

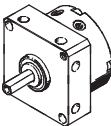
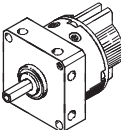
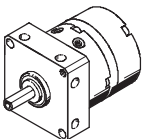
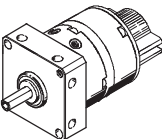
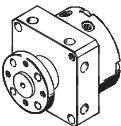
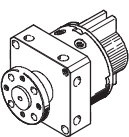
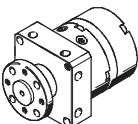
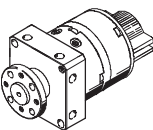
The swivel angle is infinitely adjustable over the entire swivel range.
Size 6 can only be adjusted symmetrically to the centre.

Size	D8 Ø	D9 Ø	L1	L3	L4	L5	L6	L7	Tightening torque [Nm]
6	29.4	17.3	65	4	2	9.8	21	19.5	0.19
8	37.4	19.3	73.5	4	2	11.3	23	19.5	0.32
10	46.4	22.3	83	4	2	14.3	28.4	19.5	0.44

Swivel modules DSM

Technical data DSM-6 ... 10

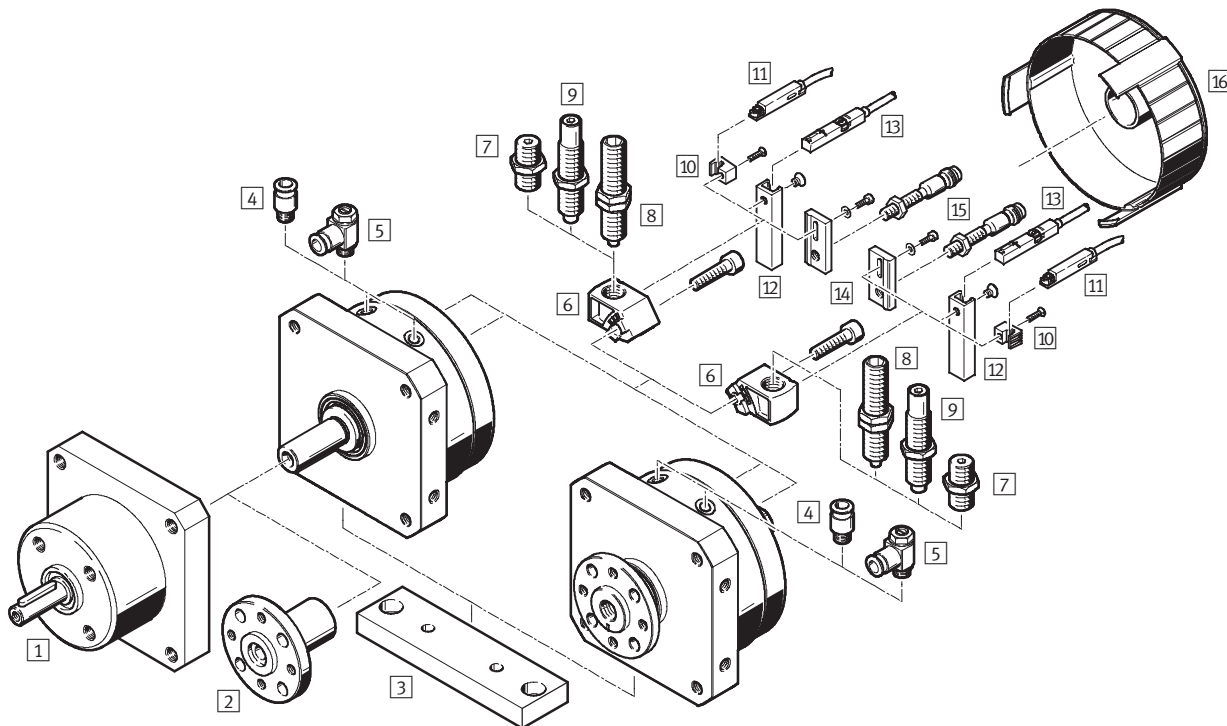
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Ordering data					
Swivel module	Key features	Swivel angle	Size [mm]	Part No.	Type
Spigot shaft					
	Flexible cushioning rings/pads at both ends	90°	6	173188	DSM-6-90-P
			8	173190	DSM-8-90-P
			10	173192	DSM-10-90-P
		180°	6	173189	DSM-6-180-P
			8	173191	DSM-8-180-P
			10	173193	DSM-10-180-P
		240°	10	173194	DSM-10-240-P
	- Flexible cushioning rings/pads at both ends - Position sensing	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
	- Flexible cushioning rings/pads at both ends - Adjustable swivel angle	180°	6	175827	DSM-6-180-P-FF
			8	175828	DSM-8-180-P-FF
		200°	10	175829	DSM-10-240-P-FF
	- Flexible cushioning rings/pads at both ends - Position sensing - Adjustable swivel angle	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
Flanged shaft					
	Flexible cushioning rings/pads 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
	- Flexible cushioning rings/pads at both ends - Position sensing	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
	- Flexible cushioning rings/pads at both ends - Adjustable swivel angle	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
	- Flexible cushioning rings/pads at both ends - Position sensing - Adjustable swivel angle	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

Swivel modules DSM-B

Peripherals overview DSM-12 ... 63

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Accessories	For size	Brief description	→ Page/ Internet
1 Freewheel unit FLSM	12 ... 40	- For synchronous rotation in one direction - Only in combination with swivel module DSM with spigot shaft	37
2 Push-on flange FWSR	12 ... 40	For retrofitting on swivel module DSM with spigot shaft	38
3 Mounting plate HSM	12 ... 40	For foot or flange mounting	39
4 Push-in fitting QS	12 ... 63	For connecting compressed air tubing with standard O.D.	quick star
5 One-way flow control valve GRLA	12 ... 63	For regulating speed	42
6 Cushioning mount DSM-B	12 ... 63	- For mounting elastic cushioning components or shock absorbers - Included in the scope of delivery with swivel module DSM-...-P/P1/CC	40
7 Cushioning kit DSM-...-P	12 ... 63	- Elastic cushioning components with fixed stop - Included in the scope of delivery with swivel module DSM-...-P	34
8 Shock absorber DYEF	12 ... 63	- Adjustable, elastic cushioning components with fixed stop - Included in the scope of delivery with swivel module DSM-...-P1	34
9 Shock absorber DYSC	12 ... 63	- Self-adjusting shock absorbers with fixed stop - Included in the scope of delivery with swivel module DSM-...-CC	34
10 Sensor bracket SL-DSM-B	12 ... 40	For mounting the proximity sensors SME/SMT-10	41
11 Proximity sensor SME/SMT-10	12 ... 40	For sensing the end positions	41
12 Sensor bracket SL-DSM-63-B	63	For mounting the proximity sensors SME/SMT-8	41
13 Proximity sensor SME/SMT-8	63	For sensing the end positions	41
14 Sensor bracket SL-DSM-S	12 ... 40	For mounting the round, inductive proximity sensors SIEN	41
15 Proximity sensor SIEN	12 ... 40	Inductive proximity sensor for sensing the end positions	42
16 Cover cap AKM	12 ... 40	Reduces the risk of injury in the swivel range of the stop lever	39

Swivel modules DSM-B

Type codes DSM-12 ... 63

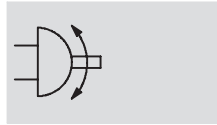
		DSM	–		–	16	–	270	–	P	–	FW	–	A	–	B
Type																
Double-acting																
DSM	Swivel module															
Design																
T	Tandem rotary vanes															
Size [mm]																
Max. swivel angle [°], adjustable																
Cushioning																
P	Elastic cushioning at both ends															
P1	Adjustable elastic cushioning components at both ends															
CC	Self-adjusting shock absorbers at both ends															
Shaft																
	Spigot shaft															
FW	Flanged shaft															
Position sensing																
A	Via proximity sensor															
Variant																
B	B series															

Swivel modules DSM-B

Technical data – DSM-12 ... 63

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Function



Size
12 ... 63

General technical data							
Size	Code ¹⁾	12	16	25	32	40	63
Pneumatic connection		M5			G1/8		G1/4
Design		Semi-rotary drive with rotary vane					
Cushioning	P	Elastic cushioning at both ends					
	P1	Adjustable elastic cushioning at both ends					
	CC	Self-adjusting shock absorbers at both ends					
Type of mounting		Via female thread					
Mounting position		Any					
Swivel angle		[°]	270				
	P	[°]	270/262 ²⁾	270			
	P1	[°]	246			240	
	CC	[°]	246			240	
Swivel angle adjustment	P	[°]	–6				
	P1	[°]	–6				
	CC	[°]	–3				
Swivel frequency (at max. swivel angle)	P	[Hz]	2				1.6
	P1	[Hz]	2				1.6
	CC	[Hz]	1.5	1	0.7		0.6
Swivel frequency (at smaller swivel angle)	CC	[Hz]	2	1.5			
Cushioning angle	P1	[°]	10	9	7.5	6.5	6
	CC	[°]	15	12	10	12	17.5
Repetition accuracy	P	[°]	1				
	P1	[°]	0.1				
	CC	[°]	0.1				

1) Variant code → 19

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

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

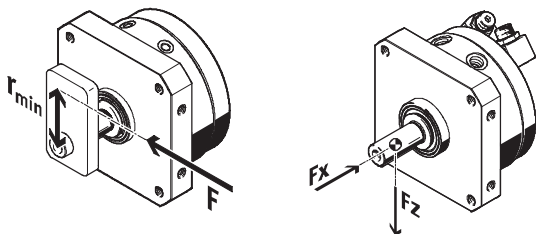
Operating and environmental conditions							
Size		12	16	25	32	40	63
Operating medium		Filtered compressed air, lubricated or unlubricated					
Operating pressure	[bar]	2 ... 10	1.8 ... 10	1.5 ... 10			
	T [bar]	2.5 ... 10		2 ... 10			
Ambient temperature	[°C]	–10 ... +60					
Storage temperature	[°C]	20					
ATEX		Specified types → www.festo.com					

Swivel modules DSM-B

Technical data – DSM-12 ... 63

Forces and torques								
Size		12	16	25	32	40	63	
Torque at 6 bar		[Nm]	1.25	2.5	5	10	20	40
	T	[Nm]	2.5	5	10	20	40	80
Torque per bar		[Nm]	0.2	0.41	0.83	1.66	3.33	6.66
	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	1,050
Max. perm. radial load F _z on drive shaft		[N]	45	75	120	200	350	500
Max. perm. axial load F _x on drive shaft		[N]	18	30	50	75	120	500
Max. perm. mass moment of inertia	P	[kgm ²]	➔ 23					
	P1	[kgm ²]	➔ 24					
	CC	[kgm ²]	➔ 25					

Weight [g]							
Size		12	16	25	32	40	63
Swivel module without cushioning							
DSM-...-B		240	410	620	1,250	2,400	4,220
DSM-...-FW-B		260	450	645	1,325	2,535	4,475
DSM-T-...-B		330	590	890	1,865	3,570	6,050
DSM-T-...-FW-B		350	630	915	1,940	3,705	6,305
P – Swivel module with elastic cushioning components							
DSM-...-P-A-B		275	470	700	1,425	2,700	4,900
DSM-...-P-FW-A-B		293	510	725	1,500	2,835	5,150
DSM-T-...-P-A-B		365	650	970	2,040	3,870	6,730
DSM-T-...-P-FW-A-B		383	690	995	2,115	4,005	6,980
P1 – Swivel module with adjustable, elastic cushioning components							
DSM-...-P1-A-B		285	475	715	1,475	2,870	5,090
DSM-...-P1-FW-A-B		303	515	740	1,550	3,005	5,340
CC – Swivel module with shock absorbers							
DSM-...-CC-A-B		285	480	710	1,460	2,800	5,150
DSM-...-CC-FW-A-B		300	520	735	1,550	2,935	5,400
DSM-T-...-CC-A-B		375	660	980	2,075	3,970	6,980
DSM-T-...-CC-FW-A-B		390	700	1,005	2,165	4,105	7,230



Note

If the swivel modules DSM-...-A-B are used without a stop system or the maximum mass moment of inertia is exceeded, external stops must be

attached. A minimum radius relative to the drive shaft (r_{min}) must be observed. The stop force must not exceed the maximum force.

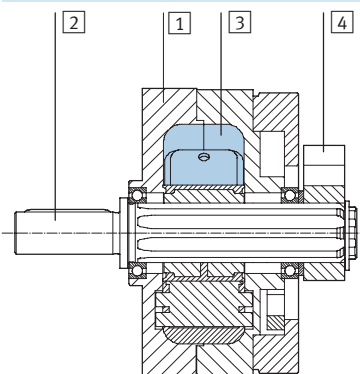
Swivel modules DSM-B

Technical data – DSM-12 ... 63

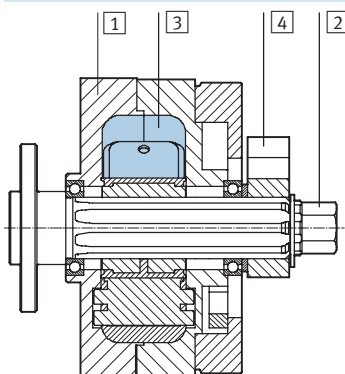
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Materials

Sectional view
with spigot shaft



with flanged shaft



Swivel module

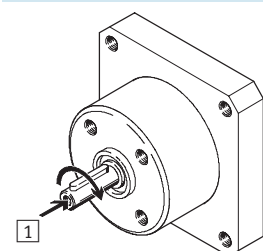
1	Housing, flange	Anodised aluminium
2	Shaft	Nickel-plated steel
3	Rotary vane	Glass fibre-reinforced plastic
4	Stop lever	Anodised aluminium
–	Fixed stops	Stainless steel
	Screws	Galvanised steel
	Stop screws	Stainless steel
	Cover cap	Glass fibre-reinforced plastic
	Seals	Polyurethane
	Note on materials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

Direction of rotation in combination with freewheel unit FLSM

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

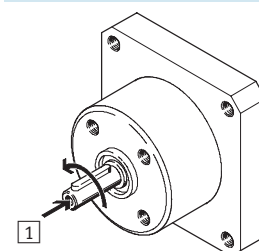
Dimensions and ordering data → 36

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



1 View towards drive shaft

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

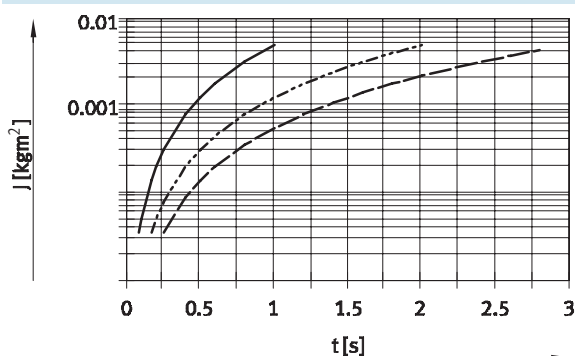


Swivel modules DSM-B

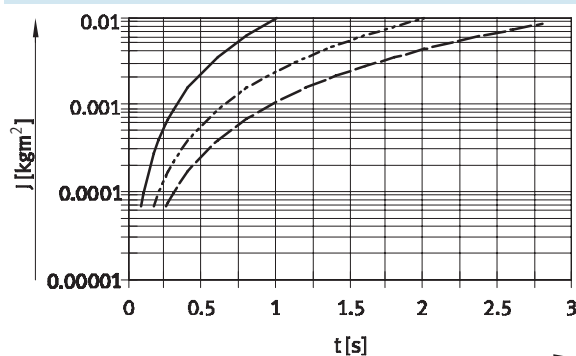
Technical data – DSM-12 ... 63

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

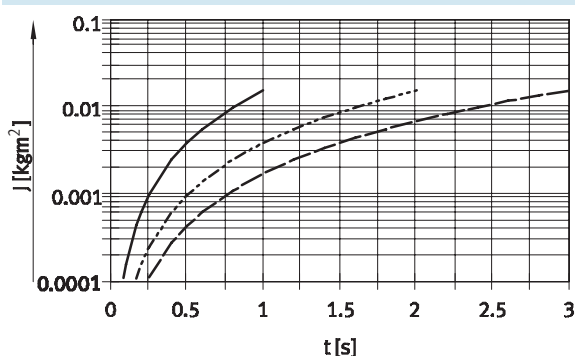
DSM-12-270-P-...



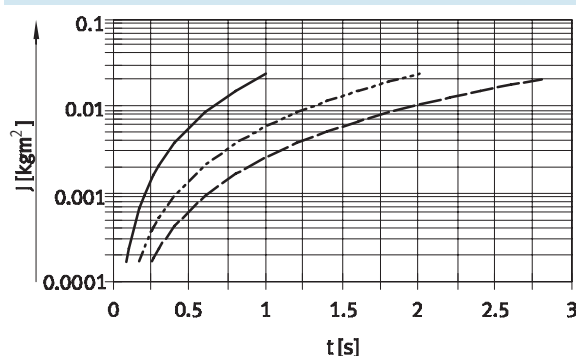
DSM-16-270-P-...



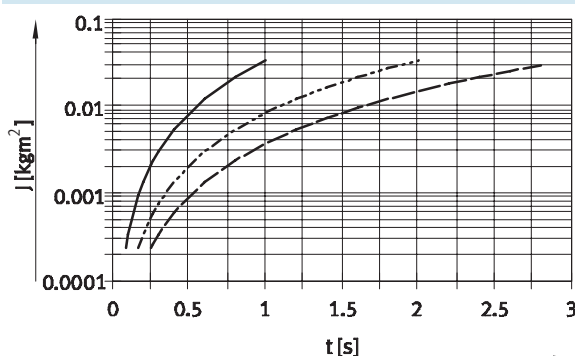
DSM-25-270-P-...



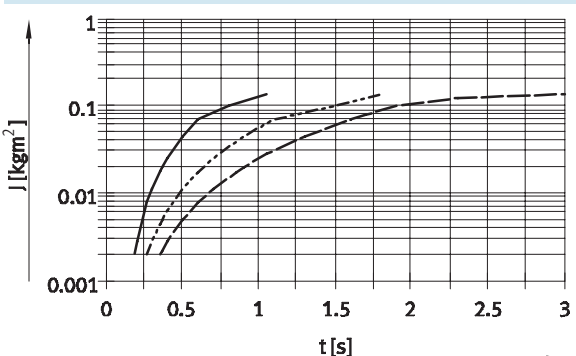
DSM-32-270-P-...



DSM-40-270-P-...



DSM-63-270-P-...



— 90°
- - - 180°
- · - 270°

Note

Dimensioning software for
calculating mass moment of inertia
→ www.festo.com

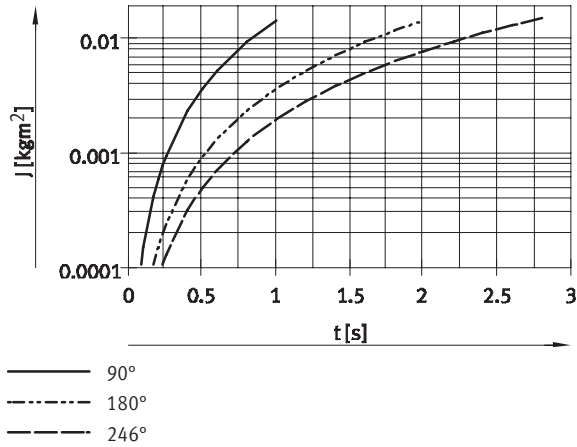
Swivel modules DSM-B

Technical data – DSM-12 ... 63

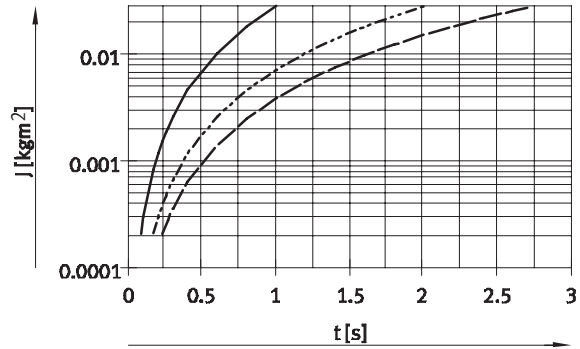
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Mass moment of inertia J as a function of swivel time t
With adjustable, elastic cushioning components (P1)

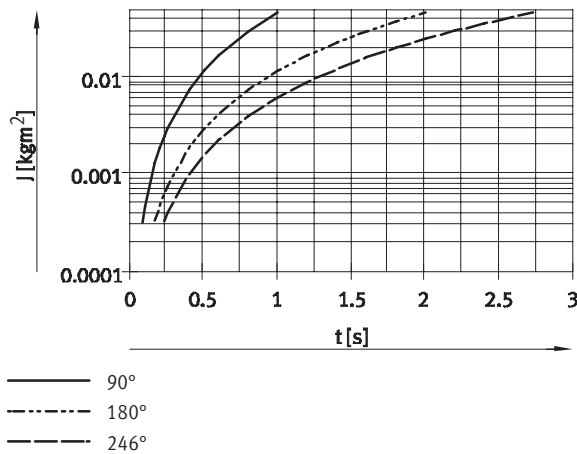
DSM-12-270-P1-...



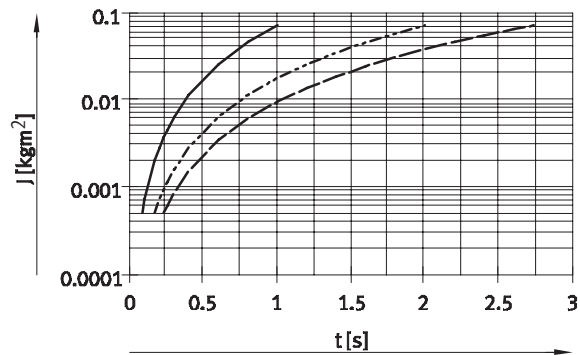
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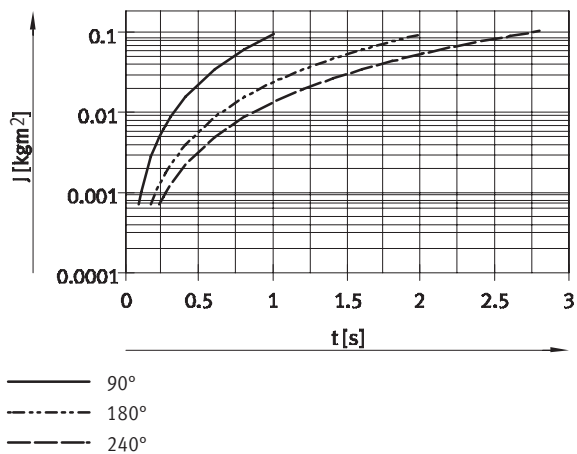
DSM-25-270-P1-...



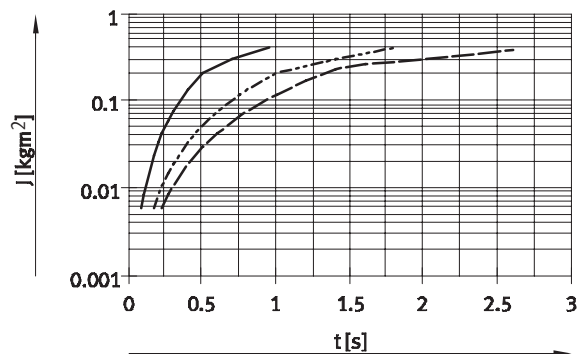
DSM-32-270-P1-...



DSM-40-270-P1-...



DSM-63-270-P1-...

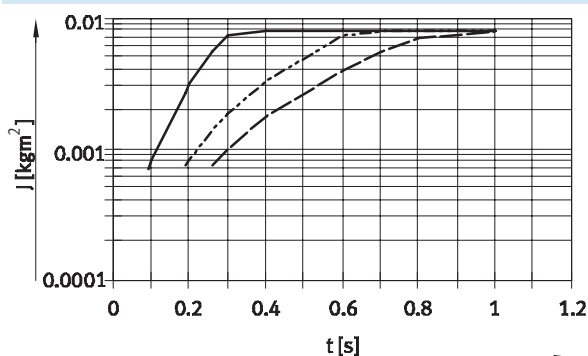


Swivel modules DSM-B

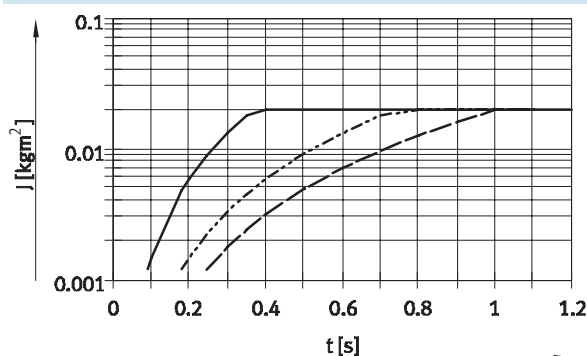
Technical data – DSM-12 ... 63

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

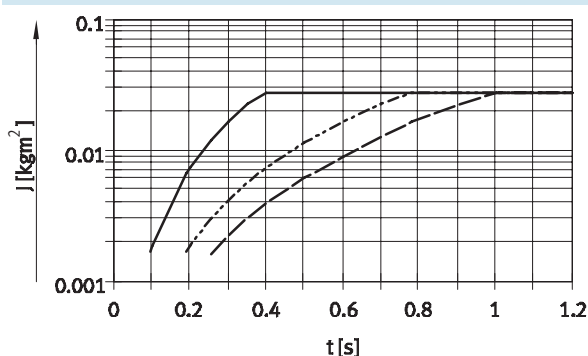
DSM-12-270-CC-...



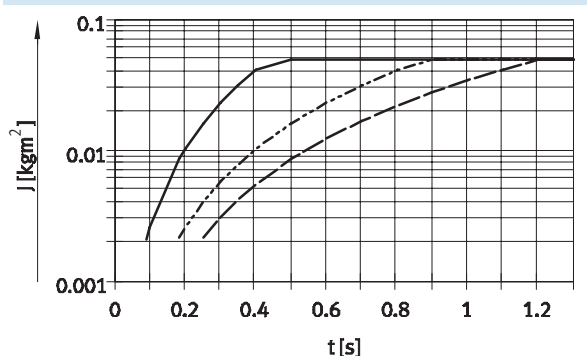
DSM-16-270-CC-...



DSM-25-270-CC-...

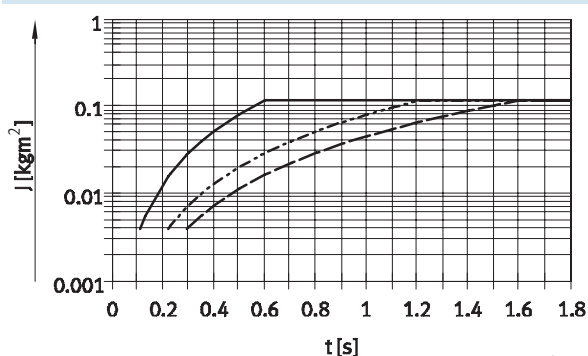


DSM-32-270-CC-...

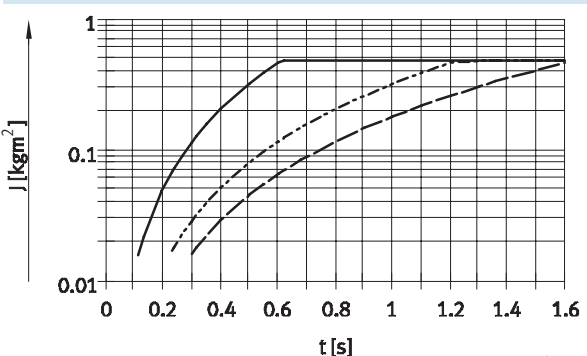


— 90°
- - - 180°
- · - 246°

DSM-40-270-CC-...



DSM-63-270-CC-...



— 90°
- - - 180°
- · - 240°

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.

Cushioning time of the shock absorber

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

Swivel modules DSM-B

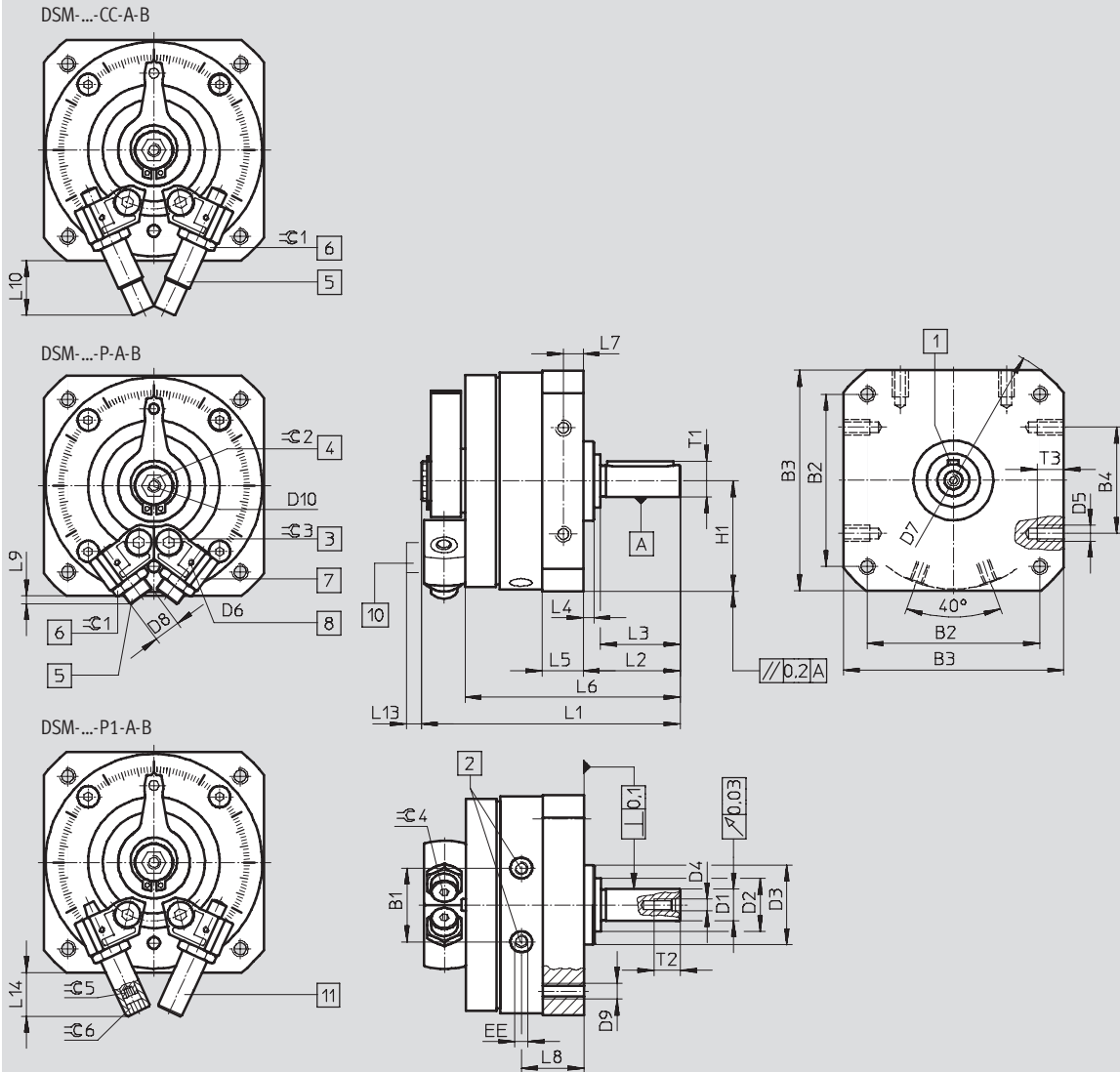
Technical data – DSM-12 ... 63

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Dimensions

Download CAD Data → www.festo.com/us/cad

DSM-B – With spigot shaft



- | | | | |
|-------------------------------|---------------------------------------|--|--------------------------------------|
| 1 Woodruff key position at 0° | 3 Locking screw for clamping the stop | 5 End-position adjustment | 8 Mounting thread for sensor bracket |
| 2 Supply ports | 4 Manual override (internal hex) | 6 Lock nut for end-position adjustment | 10 Sensor bracket |
| | | 7 Infinitely adjustable stops | 11 End-position adjustment |

Swivel modules DSM-B

Technical data – DSM-12 ... 63

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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 _{0.3}	28	M3
25	28	65±0.3	83±0.3	40±0.2	12	20 _{0.3}	30	M4
32	35.5	85±0.3	105±0.3	60±0.3	16	27 _{0.4}	42	M5
40	43.8	105±0.3	130±0.5	80±0.3	20	36 _{0.4}	52	M6
63	50.3	125±0.5	152 ^{+0.2}	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	G ¹ / ₈
40	M10	M2	168±0.5	M16x1	M10	M6	G ¹ / ₈
63	M10	M3	200±0.5	M22x1.5	M12	M6	G ¹ / 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	Woodruff key to DIN 6885 ¹⁾
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

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

Swivel modules DSM-B

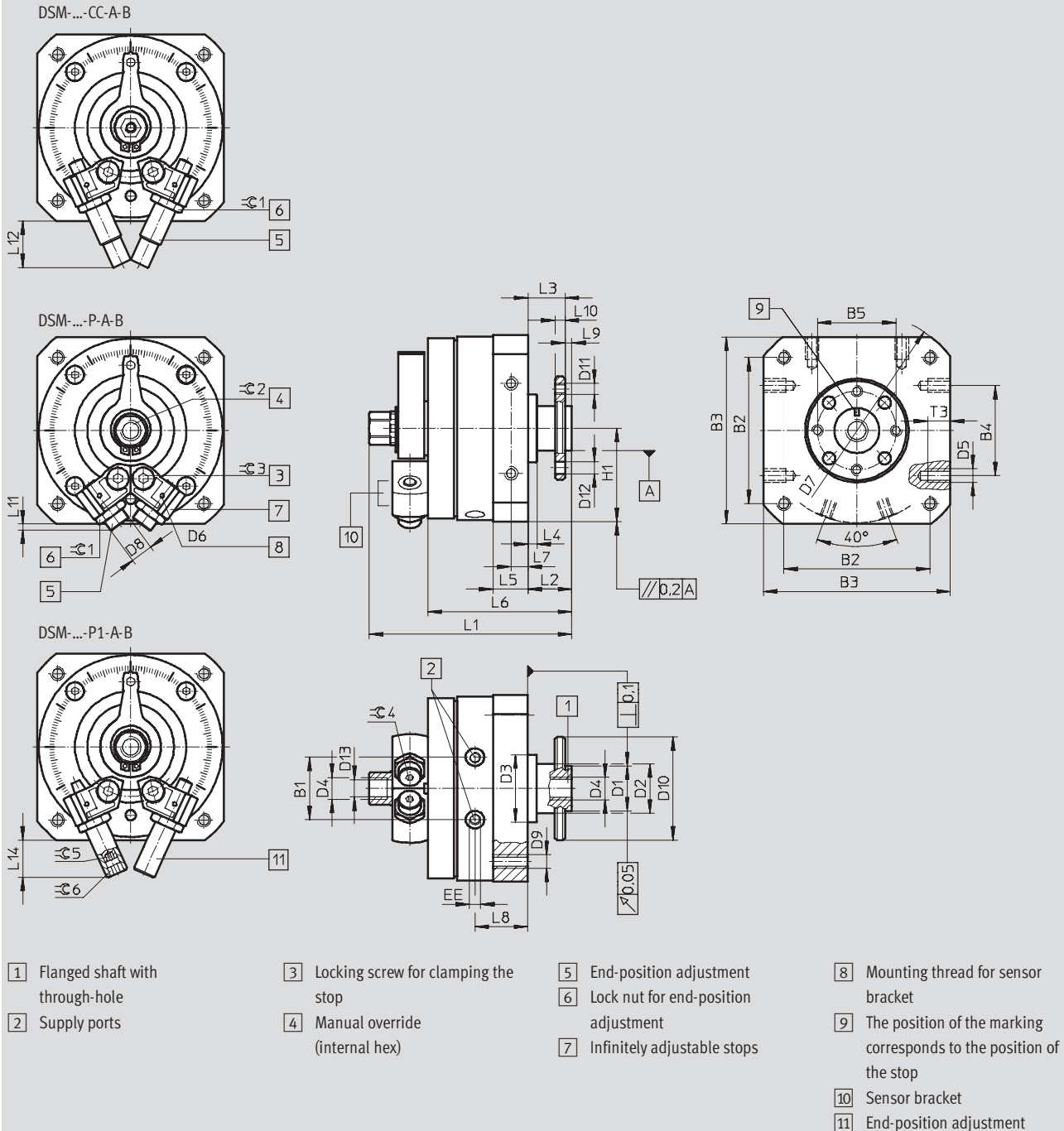
Technical data – DSM-12 ... 63

FESTO

Dimensions

Download CAD Data → www.festo.com/us/cad

DSM-B – With flanged shaft



Swivel modules DSM-B

Technical data – DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	B5	D1 Ø f8	D2 Ø	D3 Ø 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 _{-0.3}	28	M5	M5
25	28	65±0.3	83±0.3	40±0.2	35	20	20 _{-0.3}	30	G ¹ / ₈	M6
32	35.5	85±0.3	105±0.3	60±0.3	45	28	27 _{-0.4}	42	G ¹ / ₈	M8
40	43.8	105±0.3	130±0.5	80±0.3	54	36	36 _{-0.4}	52	G ¹ / ₄	M10
63	50.3	125±0.5	152±0.2	80±0.3	64	38	40±0.3	70	G ¹ / ₄	M10

Size	D6	D7 Ø	D8	D9	D10 Ø	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	G ¹ / ₈	52.5
40	M2	168±0.5	M16x1	M10	70	M8	9	11.5	G ¹ / ₈	65
63	M3	200±0.5	M22x1.5	M12	88	M8	12	11.5	G ¹ / 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	≈C 1	≈C 2	≈C 3	≈C 4	≈C 5	≈C 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	–	–

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

Swivel modules DSM-B

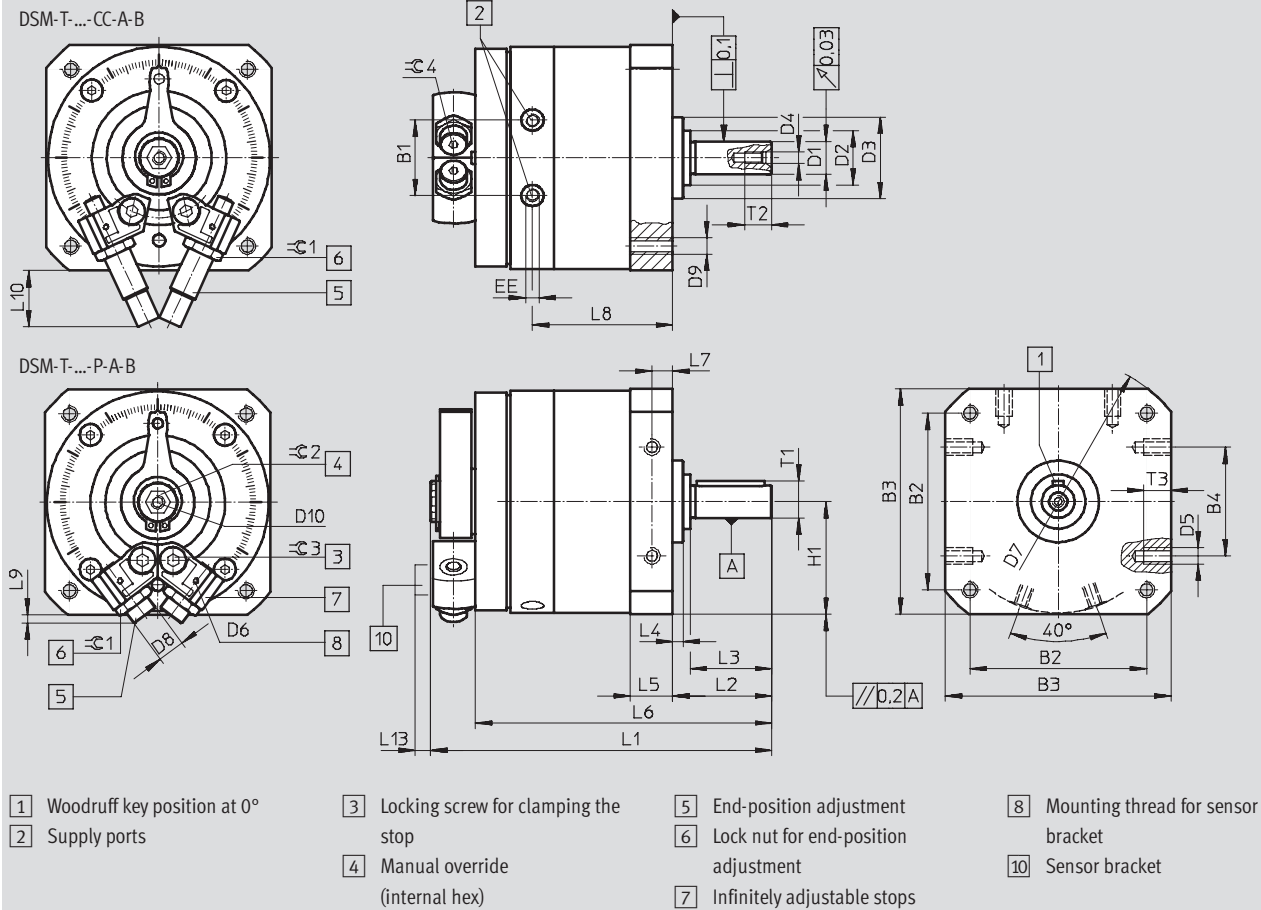
Technical data – DSM-12 ... 63

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Dimensions

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



Swivel modules DSM-B

Technical data – DSM-12 ... 63

Size	B1 ±0.5	B2	B3	B4	D1 Ø g7	D2 Ø	D3 Ø 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 _{-0.3}	28
25	28	65±0.3	83±0.3	40±0.2	12	20 _{-0.3}	30
32	35.5	85±0.3	105±0.3	60±0.3	16	27 _{-0.4}	42
40	43.8	105±0.3	130±0.5	80±0.3	20	36 _{-0.4}	52
63	50.3	125±0.5	152±0.2	80±0.3	25	40±0.3	70

Size	D4	D5	D6	D7 Ø	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	≈ 1	≈ 2	≈ 3	≈ 4	Woodruff key to DIN 6885 ¹⁾
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

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

Swivel modules DSM-B

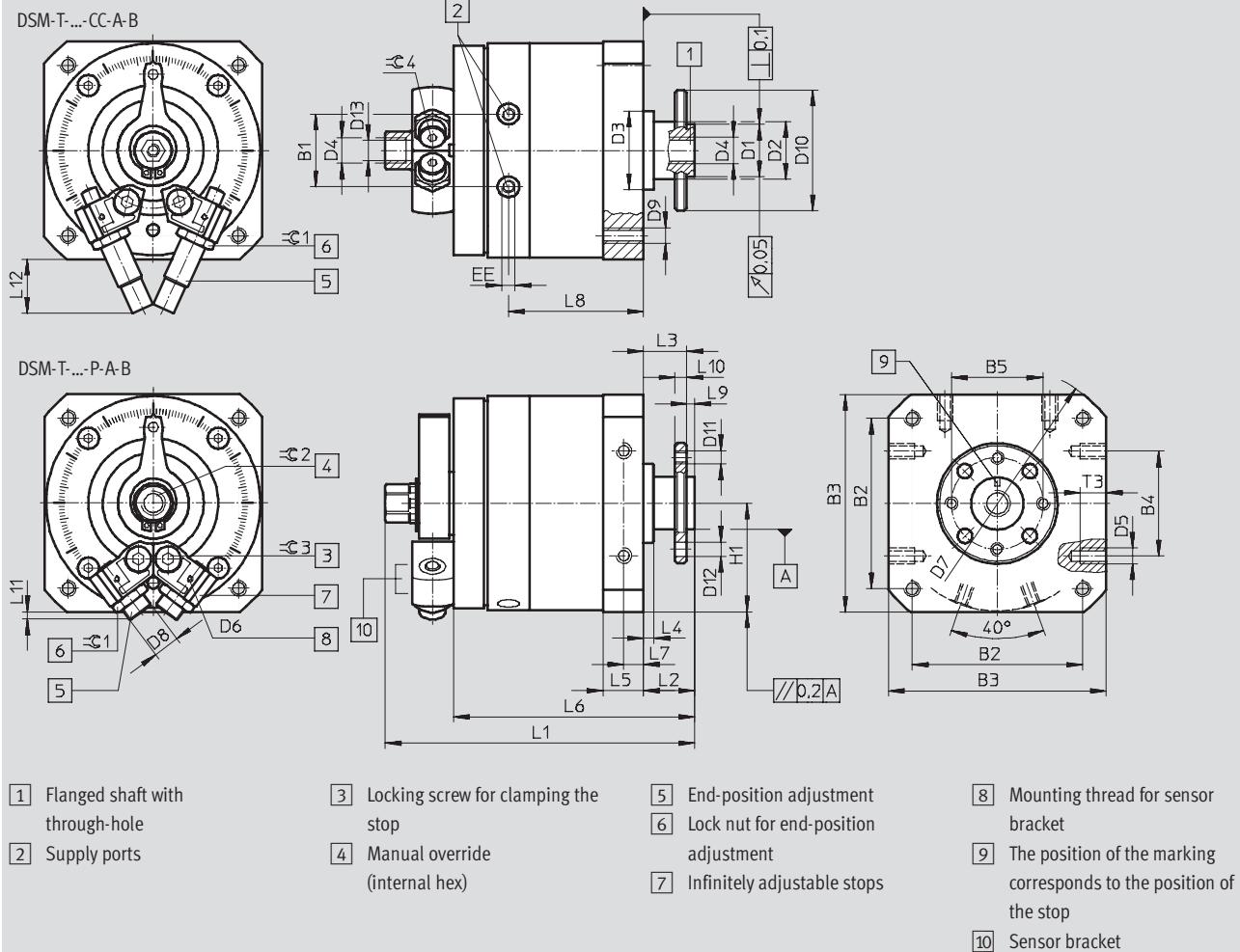
Technical data – DSM-12 ... 63

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Dimensions

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DSM-T-B – With tandem rotary vanes and flanged shaft



Swivel modules DSM-B

Technical data – DSM-12 ... 63

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Size	B1 ±0.5	B2	B3	B4	B5	D1 Ø f8	D2 Ø	D3 Ø 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 _{-0.3}	28	M5
25	28	65±0.3	83±0.3	40±0.2	35	20	20 _{-0.3}	30	G1/8
32	35.5	85±0.3	105±0.3	60±0.3	45	28	27 _{-0.4}	42	G1/8
40	43.8	105±0.3	130±0.5	80±0.3	54	36	36 _{-0.4}	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 Ø	D8	D9	D10 Ø	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

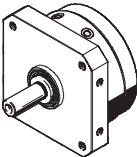
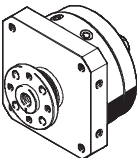
Size	L8	L9 -0.2	L10	L11	L12	T3 +0.2	≈C 1	≈C 2	≈C 3	≈C 4
12	35.5	2	3±0.1	3	22.7	8	10	8	2.5	2.5
16	44.1	2	4±0.1	7.2	26.1	8	13	11	3	3
25	51.5	3	4.5±0.1	2.9	20.7	10	13	13	4	3
32	67.4	4	6±0.1	3.8	29.1	12	15	13	5	4
40	81	5	7.5±0.1	3.4	43.5	15	19	19	6	5
63	99	6	9±0.2	10	72.5	16	27	22	8	5

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

Swivel modules DSM-B

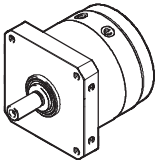
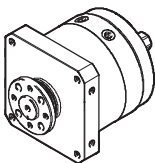
Technical data – DSM-12 ... 63

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Ordering data					
Swivel module	Key features	Swivel angle	Size	Part No.	Type
DSM-B – With spigot shaft					
	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 absorbers	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
DSM-B – With flanged shaft					
	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	556204	DSM-12-270-P1-FW-A-B
			16	556206	DSM-16-270-P1-FW-A-B
			25	556208	DSM-25-270-P1-FW-A-B
			32	556210	DSM-32-270-P1-FW-A-B
		240°	40	556212	DSM-40-270-P1-FW-A-B
			63	566214	DSM-63-270-P1-FW-A-B
	CC Shock absorbers	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

Swivel modules DSM-B

Technical data – DSM-12 ... 63

Ordering data					
Swivel module	Key features	Swivel angle	Size	Part No.	Type
DSM-T-B – With tandem rotary vanes and spigot shaft					
	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 absorbers	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
			32	1145106	DSM-T-32-270-CC-A-B
		240°	40	1145112	DSM-T-40-270-CC-A-B
			63	1145118	DSM-T-63-270-CC-A-B
DSM-T-B – With tandem rotary vanes and flanged shaft					
	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 absorbers	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
			32	1145107	DSM-T-32-270-CC-FW-A-B
		240°	40	1145113	DSM-T-40-270-CC-FW-A-B
			63	1145119	DSM-T-63-270-CC-FW-A-B

Swivel modules DSM/DSM-B

Accessories

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Freewheel unit FLSM

for size 6, 8

Materials:

Housing: Anodised aluminium

Shaft, sleeve: Size 6, 8:

Steel

Size 10:

Hardened steel

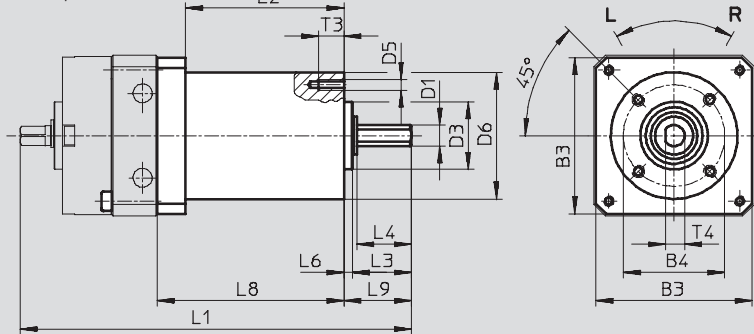


Note

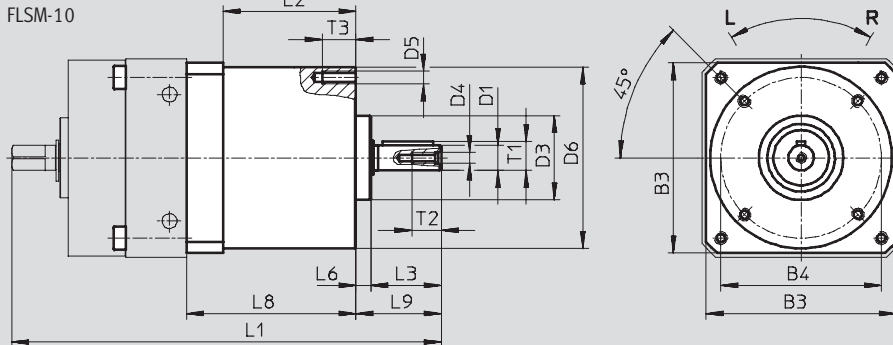
The minimum possible swivel angle is 3°. Switching accuracy is, however, dependent on speed and load.

Dimensions and ordering data

FLSM-6/8



FLSM-10



For size	B3	B4	D1 Ø g7	D3 Ø h8	D4	D5	D6 Ø ±0.3	L1	L2	L3	L4	L6 ±0.2
6	29.5	23 ±0.15	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 ±0.1	L9	T1	T2	T3	T4	Woodruff key to DIN 6885	CRC ¹⁾	Weight [g]	Direction of rotation	Part No.	Type
6	43	12.8	–	–	5	3.5	–	2	100	Anti-clockwise rotation	188523	FLSM-6-L
										Clockwise rotation	188522	FLSM-6-R
8	44.5	16	–	–	6	4.5	–	2	125	Anti-clockwise rotation	188525	FLSM-8-L
										Clockwise rotation	188524	FLSM-8-R
10	40	20.2	6.8	7	8	–	A2x2x12	2	160	Anti-clockwise rotation	188527	FLSM-10-L
										Clockwise rotation	188526	FLSM-10-R

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

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Swivel modules DSM/DSM-B

Accessories

FESTO

Freewheel unit FLSM

for size 12 ... 40

Materials:

Housing: Anodised aluminium

Shaft, sleeve: Hardened steel

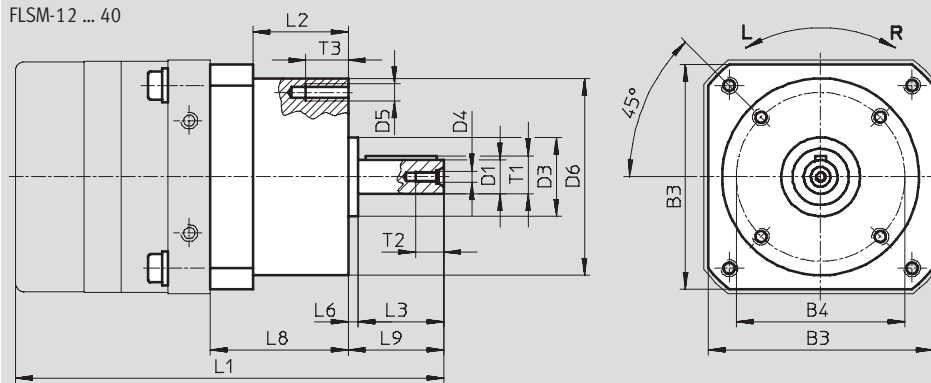


Note

The minimum possible swivel angle is 3°. Switching accuracy is, however, dependent on speed and load.

Dimensions and ordering data

FLSM-12 ... 40



For size [mm]	B3	B4 ±0.15	D1 Ø g7	D3 Ø h8	D4	D5	D6 Ø ±0.3	L1	L2	L3	L6 +0.2	L8 ±0.1
12	55	42	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 [mm]	L9	T1	T2	T3	Woodruff key to DIN 6885	CRC ¹⁾	Weight [g]	Direction of rotation	Part No.	Type
12	24.5	8.8	9	8	A2x2x16	2	300	Anti-clockwise rotation	164229	FLSM-12-L
								Clockwise rotation	164234	FLSM-12-R
16	27.4	11.2	9	10	A3x3x18	2	450	Anti-clockwise rotation	164230	FLSM-16-L
								Clockwise rotation	164235	FLSM-16-R
25	34	13.5	10	15	A4x4x25	2	650	Anti-clockwise rotation	164231	FLSM-25-L
								Clockwise rotation	164236	FLSM-25-R
32	48.5	18	12.5	15	A5x5x36	2	1,500	Anti-clockwise rotation	164232	FLSM-32-L
								Clockwise rotation	164237	FLSM-32-R
40	58	22.5	16	15	A6x6x45	2	2,350	Anti-clockwise rotation	164233	FLSM-40-L
								Clockwise rotation	164238	FLSM-40-R

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

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Swivel modules DSM/DSM-B

Accessories

FESTO

Push-on flange FWSR

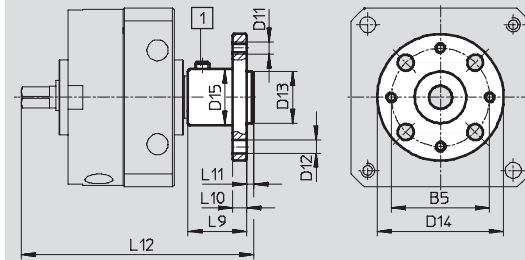
Materials:

Anodised wrought aluminium alloy

Free of copper, PTFE and silicone

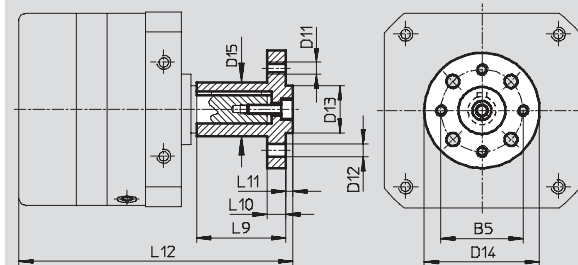


FWSR-6/8



1 Threaded pin M3x5 DIN 916

FWSR-10 ... 40



Dimensions and ordering data														
For size [mm]	B5	D11	D12 Ø H13	D13 Ø g7	D14 Ø	D15 Ø	L9	L10	L11	L12	CRC ¹⁾	Weight [g]	Part No.	Type
6	16	M3	3.4	8	23	10	10.5	3	1.5	45	2	6	185948	FWSR-6
8	21	M3	3.4	11	27	12	12.5	3	1.5	51	2	8	185949	FWSR-8
10	21	M3	3.4	11	30	12	22	3	1.6	68.6	2	14	32798	FWSR-10
12	25	M3	3.4	14	35	15	25	3	3	85.5	2	32	14659	FWSR-12
16	28	M4	4.5	16	40	17	28	5	3	98.8	2	51	13239	FWSR-16
25	35	M5	5.5	20	50	23	38	8	3	116.5	2	68	13240	FWSR-25
32	45	M6	6.5	28	60	28	48	10	4	151.5	2	180	13241	FWSR-32
40	54	M8	9	36	70	38	60	11	5	186.5	2	300	14656	FWSR-40

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

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

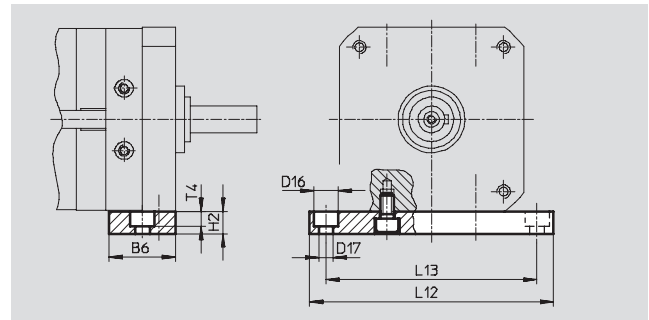
Swivel modules DSM/DSM-B

Accessories

FESTO

Mounting plate HSM

Materials:
Aluminium



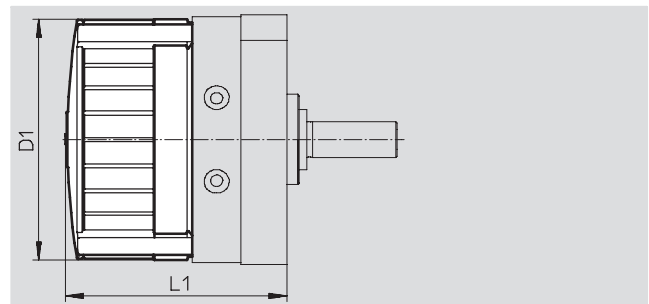
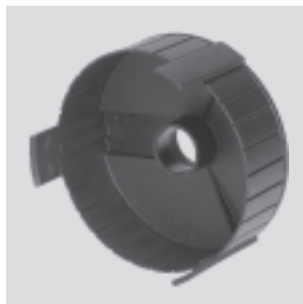
Dimensions and ordering data											
For size [mm]	B6	D16 Ø	D17 Ø	H2	L12	L13	T4	CRC ¹⁾	Weight [g]	Part No.	Type
12	20	8	4.5	10	84	72	4.6	2	48	165571	HSM-12
16	28	10	5.5	10	98	84	5.7	2	80	165572	HSM-16
25	30	11	6.6	10	110	95	6.8	2	94	165573	HSM-25
32	40	15	9	15	145	125	9	2	246	165574	HSM-32
40	45	18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

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

Components subject to moderate corrosion stress. Externally visible parts with primarily decorative surface requirements which are in direct contact with a normal industrial environment or media such as coolants or lubricating agents.

Cover cap AKM

Materials:
Polyamide



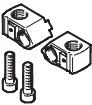
Dimensions and ordering data					
For size [mm]	D1 Ø	L1		Part No.	Type
		DSM-...	DSM-T-...		
12	59	56.2±1.2	75.2±1.2	549194	AKM-12
16	70	68±1.2	92±1.2	549195	AKM-16
25	83	73.4±1.2	101.5±1.2	549196	AKM-25
32	105	89.7±1.5	126.7±1.5	549197	AKM-32
40	130	107.1±1.5	152.1±1.5	549198	AKM-40

New Cushioning P1

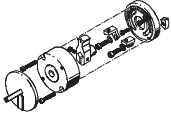
Swivel modules DSM/DSM-B

Accessories

FESTO

Ordering data					
	For size	Brief description	Part No.	Type	PU ¹⁾
Cushioning kit					
	12	- Elastic cushioning components with fixed stop - Included in the scope of delivery with the swivel module DSM-...-P	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	
Shock absorber Technical data → Internet: dyef					
	12	- Adjustable, elastic cushioning components with fixed stop - Included in the scope of delivery with the swivel module DSM-...-P1	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	
Shock absorber Technical data → Internet: dysc					
	12	- Self-adjusting shock absorbers with fixed stop - Included in the scope of delivery with the swivel module DSM-...-CC	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	
Cushioning mount					
	12	For mounting elastic cushioning components DSM-...-P-B, DYEF or shock absorber DYSC	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 – Kits					
	For size	Brief description	Part No.	Type	
Mounting kit					
				Technical data → Internet: wsm	
	6	For proximity sensor SME/SMT-10	173205	WSM-6-SME-10	
	8		173206	WSM-8-SME-10	
	10		173207	WSM-10-SME-10	
Stop kit					
				Technical data → Internet: ksm	
	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 – Kit accessories			
For size	Brief description	Part No.	Type
6	Adapter for attaching the stop kit KSM in combination with mounting kit	375098	DSM-6-180-P-A-FF
8	WSM-...-SME-10	375099	DSM-8-180-P-A-FF
10		375100	DSM-10-240-P-A-FF
6	Socket head screw for attaching the stop kit KSM in combination with mounting kit WSM-...-SME-10	258568	DIN 84-M2x25-4.8
8		385259	DIN 84-M2x30-4.8
10		365902	M2.5x32¹⁾

1) Screw similar to DIN 84

Swivel modules DSM/DSM-B

Accessories

FESTO

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

1) Packaging unit

Proximity sensors for size 6 ... 40

Ordering data – Proximity sensors for C-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Is clamped to the DSM using the sensor bracket	PNP	Cable, 3-wire, in-line	2.5	525915	SMT-10F-PS-24V-K2,5L-OE
			Plug M8x1, 3-pin, in-line	0.3	525916	SMT-10F-PS-24V-K0,3L-M8D

Ordering data – Proximity sensors for C-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Switching output	Electrical connection, connection direction	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot lengthwise	Contacting	Plug M8x1, 3-pin, in-line	0.3	173212	SME-10-SL-LED-24
			Cable, 3-wire, in-line	2.5	173210	SME-10-KL-LED-24

Proximity sensors for size 63

Ordering data – Proximity sensors for T-slot, magneto-resistive						Technical data → Internet: smt
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	543867	SMT-8M-PS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0.3	543866	SMT-8M-PS-24V-K-0,3-M8D
			Plug M12x1, 3-pin	0.3	543869	SMT-8M-PS-24V-K-0,3-M12
		NPN	Cable, 3-wire	2.5	543870	SMT-8M-NS-24V-K-2,5-OE
			Plug M8x1, 3-pin	0.3	543871	SMT-8M-NS-24V-K-0,3-M8D
			Plug M12x1, 3-pin	0.3	543872	SMT-8M-NS-24V-K-0,3-M12
	Insertable in the slot lengthwise, flush with the cylinder profile	PNP	Cable, 3-wire	2.5	175436	SMT-8-PS-K-LED-24-B
			Plug M8x1, 3-pin	0.3	175484	SMT-8-PS-S-LED-24-B

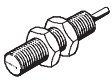
Ordering data – Proximity sensors for T-slot, magnetic reed						Technical data → Internet: sme
	Type of mounting	Switching output	Electrical connection	Cable length [m]	Part No.	Type
N/O contact						
	Insertable in the slot from above, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	543862	SME-8M-DS-24V-K-2,5-OE
				5.0	543863	SME-8M-DS-24V-K-5,0-OE
			Cable, 2-wire	2.5	543872	SME-8M-ZS-24V-K-2,5-OE
				0.3	543861	SME-8M-DS-24V-K-0,3-M8D
				0.3	543871	SMT-8M-NS-24V-K-0,3-M8D
	Insertable in the slot lengthwise, flush with the cylinder profile	Contacting	Cable, 3-wire	2.5	150855	SME-8-K-LED-24
			Plug M8x1, 3-pin	0.3	150857	SME-8-S-LED-24

Swivel modules DSM/DSM-B

Accessories

FESTO

Inductive proximity sensors for size 12 ... 40

Ordering data – Proximity sensors, inductive				Technical data → Internet: sien	
	Thread	Contact	Connection	Part No.	Type
	M5	N/O contact	Cable	150370	SIEN-M5B-PS-K-L
			Plug	150371	SIEN-M5B-PS-S-L
	M8	N/O contact	Cable	150386	SIEN-M8B-PS-K-L
			Plug	150387	SIEN-M8B-PS-S-L

Ordering data – Connecting cables				Technical data → Internet: nebu	
	Electrical connection, left	Electrical connection, right	Cable length [m]	Part No.	Type
	Straight socket, M8x1, 3-pin	Cable, open end, 3-wire	2.5	541333	NEBU-M8G3-K-2.5-LE3
			5	541334	NEBU-M8G3-K-5-LE3
	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

Ordering data – One-way flow control valves				Technical data → Internet: grla		
	For size	Connection		Material	Part No.	Type
		Thread	For tubing O.D.			
For exhaust air						
	12, 16, 25	M5	3	Metal design	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
			8		193145	GRLA-1/8-QS-8-D
	63	G1/4	8		193147	GRLA-1/4-QS-8-D
			10		193148	GRLA-1/4-QS-10-D

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Festo North America

Festo Regional Contact Center

5300 Explorer Drive
Mississauga, Ontario L4W 5G4
Canada

USA Customers:

For ordering assistance,

Call: 1.800.99.FESTO (1.800.993.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: customer.service@us.festo.com

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Call: 1.866.GO.FESTO (1.866.463.3786)

Fax: 1.800.96.FESTO (1.800.963.3786)

Email: product.support@us.festo.com

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Call: 1.877.GO.FESTO (1.877.463.3786)

Fax: 1.877.FX.FESTO (1.877.393.3786)

Email: festo.canada@ca.festo.com

USA Headquarters

Festo Corporation
395 Moreland Road
P.O. Box 18023
Hauppauge, NY 11788, USA
www.festo.com/us

USA Sales Offices

Appleton

North 922 Tower View Drive, Suite N
Greenville, WI 54942, USA

Boston

120 Presidential Way, Suite 330
Woburn, MA 01801, USA

Chicago

1441 East Business Center Drive
Mt. Prospect, IL 60056, USA

Dallas

1825 Lakeway Drive, Suite 600
Lewisville, TX 75057, USA

Detroit – Automotive Engineering Center

2601 Cambridge Court, Suite 320
Auburn Hills, MI 48326, USA

New York

395 Moreland Road
Hauppauge, NY 11788, USA

Silicon Valley

4935 Southfront Road, Suite F
Livermore, CA 94550, USA

United States



USA Headquarters, East: Festo Corp., 395 Moreland Road, Hauppauge, NY 11788

Phone: 1.631.435.0800; Fax: 1.631.435.8026;

Email: info@festo-usa.com

www.festo.com/us

Canada



Headquarters: Festo Inc., 5300 Explorer Drive, Mississauga, Ontario L4W 5G4

Phone: 1.905.624.9000; Fax: 1.905.624.9001;

Email: festo.canada@ca.festo.com

www.festo.ca

Mexico



Headquarters: Festo Pneumatic, S.A., Av. Ceylán 3, Col. Tequesquahuac,
54020 Tlalneapantla, Edo. de México

Phone: 011 52 [55] 53 21 66 00; Fax: 011 52 [55] 53 21 66 65;

Email: festo.mexico@mx.festo.com

www.festo.com/mx

Central USA

Festo Corporation
1441 East Business
Center Drive
Mt. Prospect, IL 60056, USA
Phone: 1.847.759.2600
Fax: 1.847.768.9480



Western USA

Festo Corporation
4935 Southfront Road,
Suite F
Livermore, CA 94550, USA
Phone: 1.925.371.1099
Fax: 1.925.245.1286



Festo Worldwide

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