

Swivel modules DSM/DSM-B



Swivel modules DSM/DSM-B

Key features

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At a glance

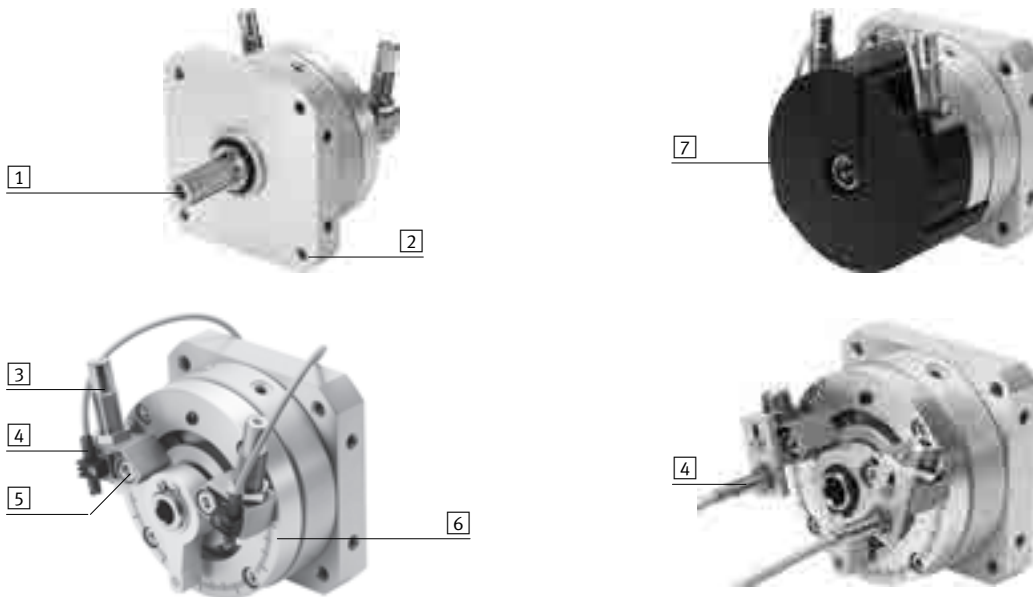
- Double-acting swivel module with rotary vanes
- The swivel angle is infinitely adjustable over the entire swivel range
- High precision thanks to metal fixed stops
- Polyurethane ensures a long service life for the rotary vane and sealing system
- Easy precision adjustment of the end positions using the cushioning components
- The mechanical gearing between the stop element and the swivel module 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



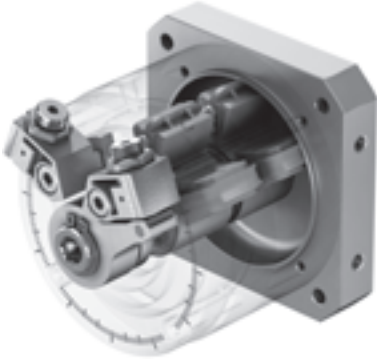
- 1** Interface
 - Choice of:
 - Spigot shaft
 - Flanged shaft
- 2** Wide range of mounting options
- 3** Cushioning with size 6 ... 10:
 - Elastic cushioning components with metal fixed stop (P)
 - Adjustable, elastic cushioning components (P1)
 - Hydraulic shock absorbers (CC)
- 3** Cushioning with size 12 ... 63:
 - Three cushioning types, 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 end-position adjustment
 - Very precise adjustment of the end positions is possible by moving the stops
- 6** Angle scale
 - The required swivel angle can be easily preset using the scale
- 7** Cover cap
 - The cover cap prevents unwanted interference in the swivel motion and reduces the risk of injury

Swivel modules DSM/DSM-B

Key features

Wide choice of variants

DSM-T...: Swivel module with tandem rotary vanes



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

The functionality is the same as that of the DSM without tandem rotary vanes:

- Infinitely adjustable swivel angle
- Identical interfaces
- Identical accessories

DSM-...-HD: Swivel module 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

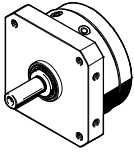
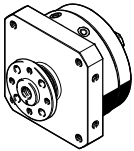
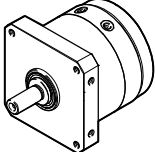
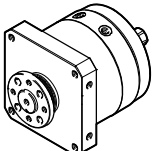
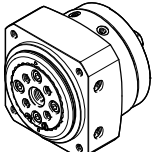
Swivel modules DSM/DSM-B

Product range overview



Characteristic values of the swivel modules

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

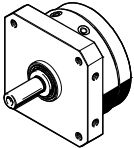
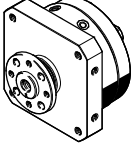
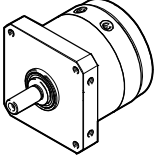
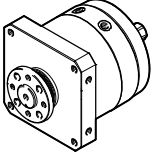
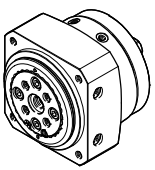
| Version | Type | Size | Swivel angle [°] | Torque [Nm] | Axial force [N] | Radial force [N] |
|---|-------------|------------------------|------------------|-------------|-----------------|------------------|
| Spigot shaft | | | | | | |
|  | DSM-... | 6, 8, 10 | 90, 180 | 0.85 | 10 | 30 |
| | | 10 | 240 | | | |
| | | 12, 16, 25, 32, 40, 63 | 270 | 40 | 500 | 500 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |
| Flanged shaft | | | | | | |
|  | 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 | | | |
| Tandem rotary vanes and spigot shaft | | | | | | |
|  | 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 | | | |
| Tandem rotary vanes and flanged shaft | | | | | | |
|  | 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 | | | |
| Heavy-duty bearing | | | | | | |
|  | DSM-...-HD | 12, 16, 25, 32, 40, 63 | 270 | 40 | 1,300 | 1,800 |
| | | 12, 16, 25, 32 | 246 | | | |
| | | 40, 63 | 240 | | | |

Swivel modules DSM/DSM-B

Product range overview

Characteristic values of the swivel modules

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

| Version | Cushioning | | | Adjustable swivel angle | Position sensing | → Page |
|---|------------|-----------------|----|-------------------------|------------------|--------|
| | P | P1 | CC | | | |
| Spigot shaft | | | | | | |
|  | ■ | - | - | ■ | ■ | 8 |
| | ■ | - | - | ■ | ■ | |
| | ■ | - | - | ■ | ■ | 24 |
| | - | ■ | ■ | ■ | ■ | |
| | - | ■ | ■ | ■ | ■ | |
| Flanged shaft | | | | | | |
|  | ■ | - | - | ■ | ■ | 8 |
| | ■ | - | - | ■ | ■ | |
| | ■ | - | - | ■ | ■ | 24 |
| | - | ■ | ■ | ■ | ■ | |
| | - | ■ | ■ | ■ | ■ | |
| Tandem rotary vanes and spigot shaft | | | | | | |
|  | ■ | - | - | ■ ²⁾ | ■ ³⁾ | 8 |
| | ■ | - | - | ■ ²⁾ | ■ ³⁾ | |
| | ■ | - | - | ■ | ■ | 24 |
| | - | ■ ¹⁾ | ■ | ■ | ■ | |
| | - | ■ ¹⁾ | ■ | ■ | ■ | |
| Tandem rotary vanes and flanged shaft | | | | | | |
|  | ■ | - | - | ■ ²⁾ | ■ ³⁾ | 8 |
| | ■ | - | - | ■ ²⁾ | ■ ³⁾ | |
| | ■ | - | - | ■ | ■ | 24 |
| | - | ■ ¹⁾ | ■ | ■ | ■ | |
| | - | ■ ¹⁾ | ■ | ■ | ■ | |
| Heavy-duty bearing | | | | | | |
|  | - | - | - | ■ | ■ | 24 |
| | - | ■ | ■ | ■ | ■ | |
| | - | ■ | ■ | ■ | ■ | |

- 1) The cushioning type P1 can be ordered as an accessory (→ 53).
- 2) The stop kit (adjustable swivel angle) can be ordered as an accessory (→ 54).
- 3) The mounting kit (for position sensing) can be ordered as an accessory (→ 54).

Swivel modules DSM/DSM-B

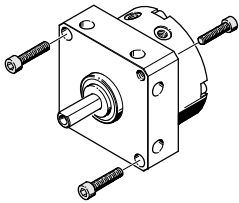
Key features

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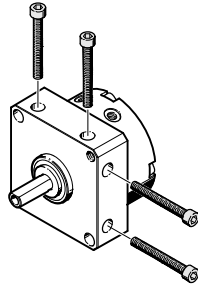
Mounting options

Size 6 ... 10

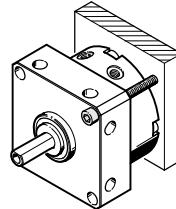
Via threaded through-holes/
through-holes



Via through-holes, lateral

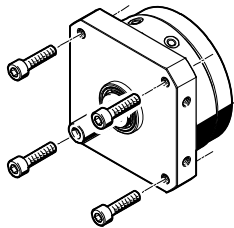


Via threaded holes, lateral

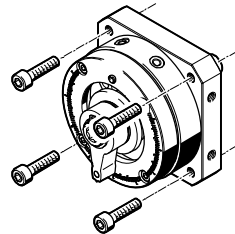


Size 12 ... 63

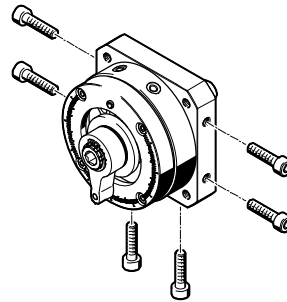
Via threaded through-holes



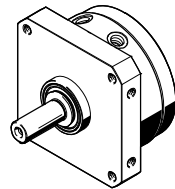
Via through-holes



Via threaded holes, lateral

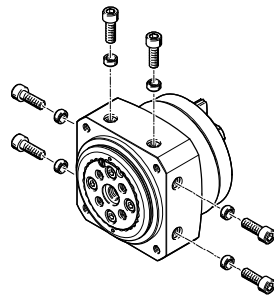


Centring via centring collar

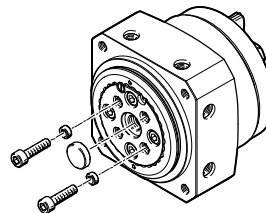


Special mounting options for DSM-...-HD

Via threaded holes, lateral



Of attachments



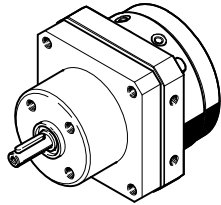
Positive-locking connections possible
through use of centring sleeves ZBH.

Swivel modules DSM/DSM-B

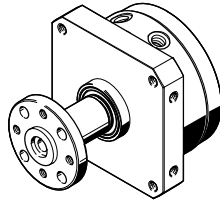
Key features

Accessories

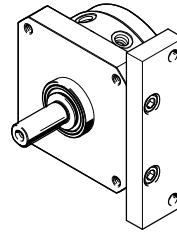
Freewheel unit FLSM
Size 6 ... 40



Push-on flange FWSR
Size 6 ... 40



Mounting plate HSM
Size 12 ... 40



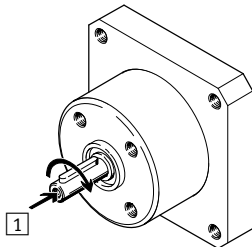
Direction of rotation in combination with freewheel unit FLSM

The freewheel unit only allows movement in one of the two possible swivel

directions of the swivel module DSM. The reverse direction is blocked.

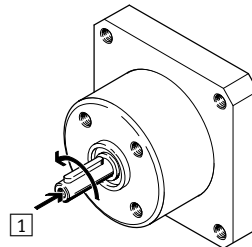
Dimensions and ordering data → 49

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



1 View towards drive shaft

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



Position sensor SRBS

The position sensor is used for sensing the end positions of the swivel module DSM.

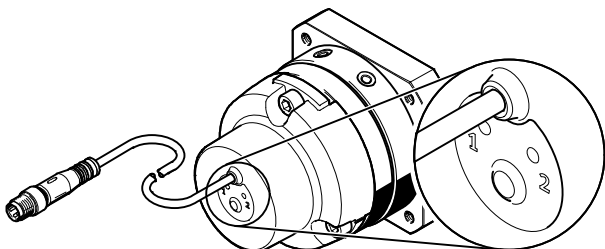
Sensing is performed magnetically and without contact. Two switching points are output.

Key features:

- Quick assembly without having to manually search for switching points
- Simple and reliable operation using one button
- 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: ≤ 1°
- 2 switching outputs (24 V)
- Switching output: PNP or NPN programmable
- Switching element function: N/O contact or N/C contact programmable



Swivel modules DSM

Type codes DSM-6 ... 10

DSM-...: Swivel module

DSM - 8 - 180 - P - A - FF - FW

Type

| | |
|---------------|---------------|
| Double-acting | |
| DSM | Swivel module |

Size [mm]

Swivel angle [°]

Cushioning

| | |
|---|--|
| P | Elastic 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 |

DSM-T-...: Swivel module with tandem rotary vanes

DSM - T - 8 - 180 - P - FW

Type

| | |
|---------------|---------------|
| Double-acting | |
| DSM | Swivel module |

Design

| | |
|---|---------------------|
| T | Tandem rotary vanes |
|---|---------------------|

Size [mm]

Swivel angle [°]

Cushioning

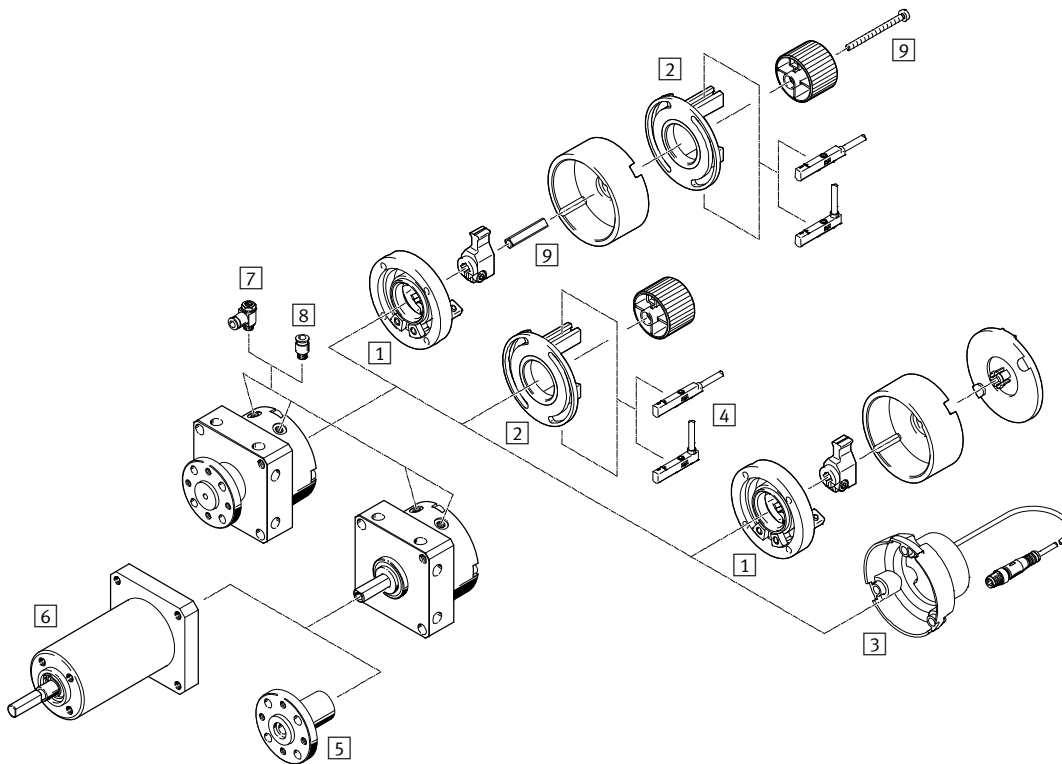
| | |
|---|--|
| P | Elastic cushioning rings/pads at both ends |
|---|--|

Shaft

| | |
|----|---------------|
| - | Spigot shaft |
| FW | Flanged shaft |

Swivel modules DSM

Peripherals overview DSM-6 ... 10



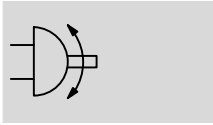
| Accessories | | Description | → Page/Internet |
|-------------|------------------------------------|---|-----------------|
| 1 | Stop kit KSM | <ul style="list-style-type: none"> For adjusting the swivel angle Can be retrofitted for swivel module DSM-...-P(-A)/DSM-...-P(-A)-FW With DSM-T-..., the stop kit must be ordered separately as an accessory Can be combined with mounting kit WSM The adapter kit DADP-AK must also be ordered in combination with mounting kit WSM → 54 | 54 |
| 2 | Mounting kit WSM-...-SME-10 | <ul style="list-style-type: none"> 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 The mounting kit must be ordered as an accessory with DSM-T-... Can be combined with stop kit KSM The adapter kit DADP-AK must also be ordered in combination with stop kit KSM → 54 | 54 |
| 3 | Position sensor SRBS | <ul style="list-style-type: none"> For sensing the swivel angle No adjustment of the proximity sensors required The end positions of the swivel angle are taught in at the touch of a button Can only be mounted directly on the swivel module, without other accessories Must be ordered separately as an accessory | 53 |
| 4 | Proximity sensor SME/SMT-10 | Proximity sensor for end position sensing | 54 |
| 5 | Push-on flange FWSR | For retrofitting on swivel module DSM with spigot shaft | LEERER MERKER |
| 6 | Freewheel unit FLSM | <ul style="list-style-type: none"> For indexed rotation in one direction Only in combination with swivel module DSM with spigot shaft | 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. | quick star |
| 9 | Adapter kit DADP-AK | For attaching mounting kit WSM to stop kit KSM | 54 |

Swivel modules DSM

Technical data DSM-6 ... 10

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Function



Size
6 ... 10

| General technical data | | | | |
|--|--------------------|--|-----------|-------------------|
| Size | | 6 | 8 | 10 |
| Pneumatic connection | | M3 | | |
| Design | | Rotary vane | | |
| Cushioning | | Elastic cushioning rings/pads 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 ¹⁾ | | | | |
| DSM-... | [cm ³] | 0.6 | 0.7 | 5.5 |
| DSM-T-... | [cm ³] | 1.2 | 1.4 | 11 |

1) Theoretical values

| Operating and environmental conditions | | | | |
|--|-------|--|-----------|-----------|
| Size | | 6 | 8 | 10 |
| Operating medium | | Compressed air in accordance with 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 ¹⁾ | [°C] | 0 ... +60 | | |
| Storage temperature | [°C] | 20 | | |
| ATEX | | Specified types → www.festo.com | | |

1) Note operating range of proximity sensors

| 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 | [N] | 10 | | |
| Max. permissible radial force on drive shaft | [N] | 15 | 20 | 30 |
| Max. perm. mass moment of inertia on drive shaft ¹⁾ | [kgm ²] | 0.00065 | 0.0013 | 0.0026 |

1) Maximum value, please see graphs → 12

Swivel modules DSM

Technical data DSM-6 ... 10

| Weight [g] | | | |
|--|----|-----|-----|
| Size | 6 | 8 | 10 |
| Spigot shaft | | | |
| DSM-...-P | 45 | 78 | 140 |
| DSM-...-P-A | 50 | 85 | 149 |
| DSM-...-P-FF | 70 | 140 | 240 |
| DSM-...-P-A-FF | 85 | 155 | 255 |
| Flanged shaft | | | |
| 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 |
| Tandem rotary vanes and spigot shaft | | | |
| DSM-T-...-P | 60 | 110 | 200 |
| Tandem rotary vanes and flanged shaft | | | |
| DSM-T-...-P-FW | 65 | 117 | 210 |

Materials

Sectional view

With spigot shaft

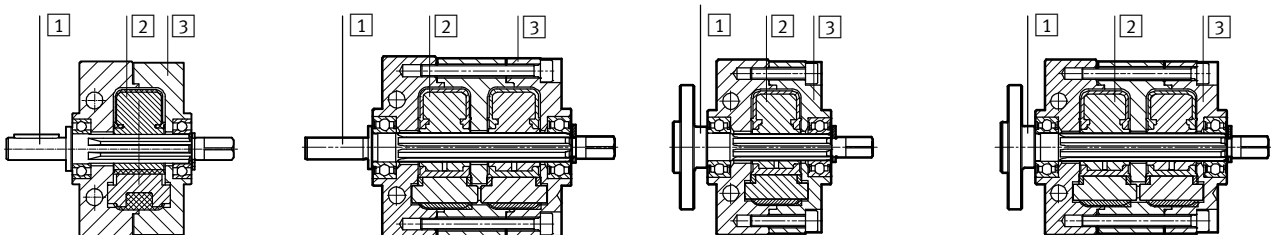
DSM-...

DSM-T-...

With flanged shaft

DSM-...-FW

DSM-T-...-FW



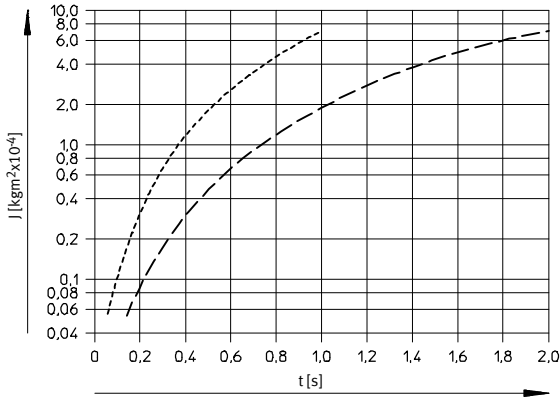
| Swivel module | |
|-------------------|--------------------------------|
| 1 Shaft | High-alloy stainless steel |
| 2 Rotary vane | Glass fibre-reinforced plastic |
| 3 Housing | Anodised aluminium |
| - Screws | Galvanised steel |
| - Seals | Polyurethane |
| Note on materials | Free of copper and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

Swivel modules DSM

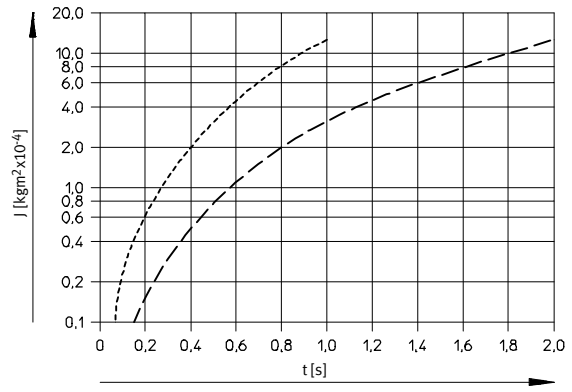
Technical data DSM-6 ... 10

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

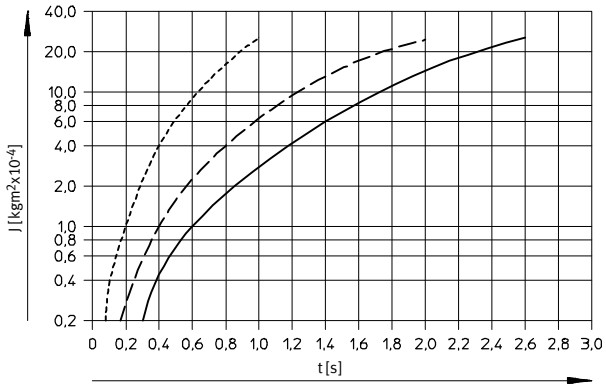
DSM-6



DSM-8



DSM-10



- - - 90°
- · - 180°
- 240°

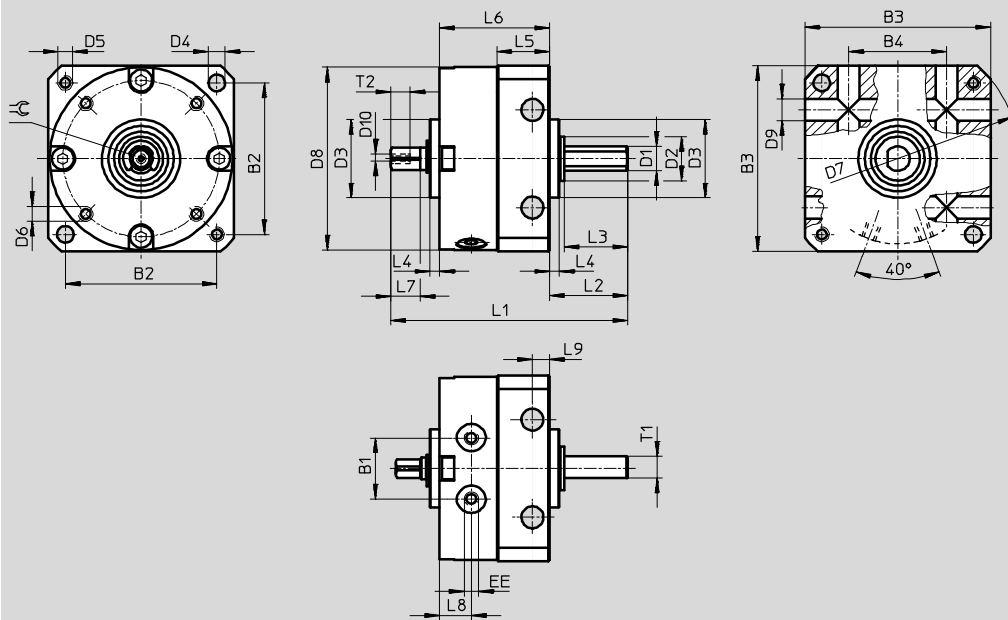
Swivel modules DSM

Technical data DSM-6 ... 10

Dimensions

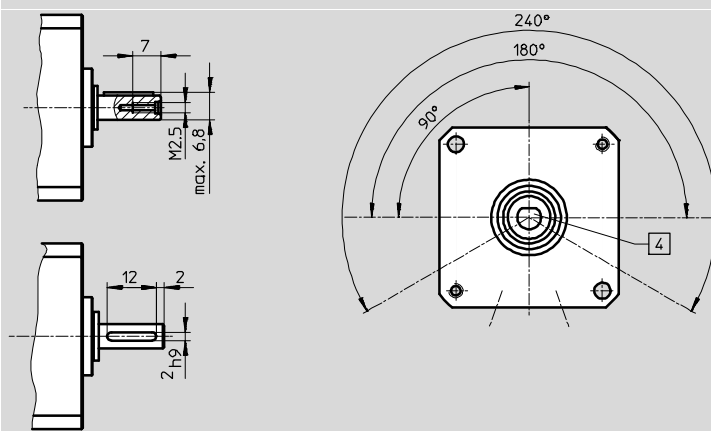
Download CAD data → www.festo.com

DSM-... – With spigot shaft



For DSM-10

Shaft position



Note

For swivel angle tolerance → table below. The 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 | 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° |

Swivel modules DSM

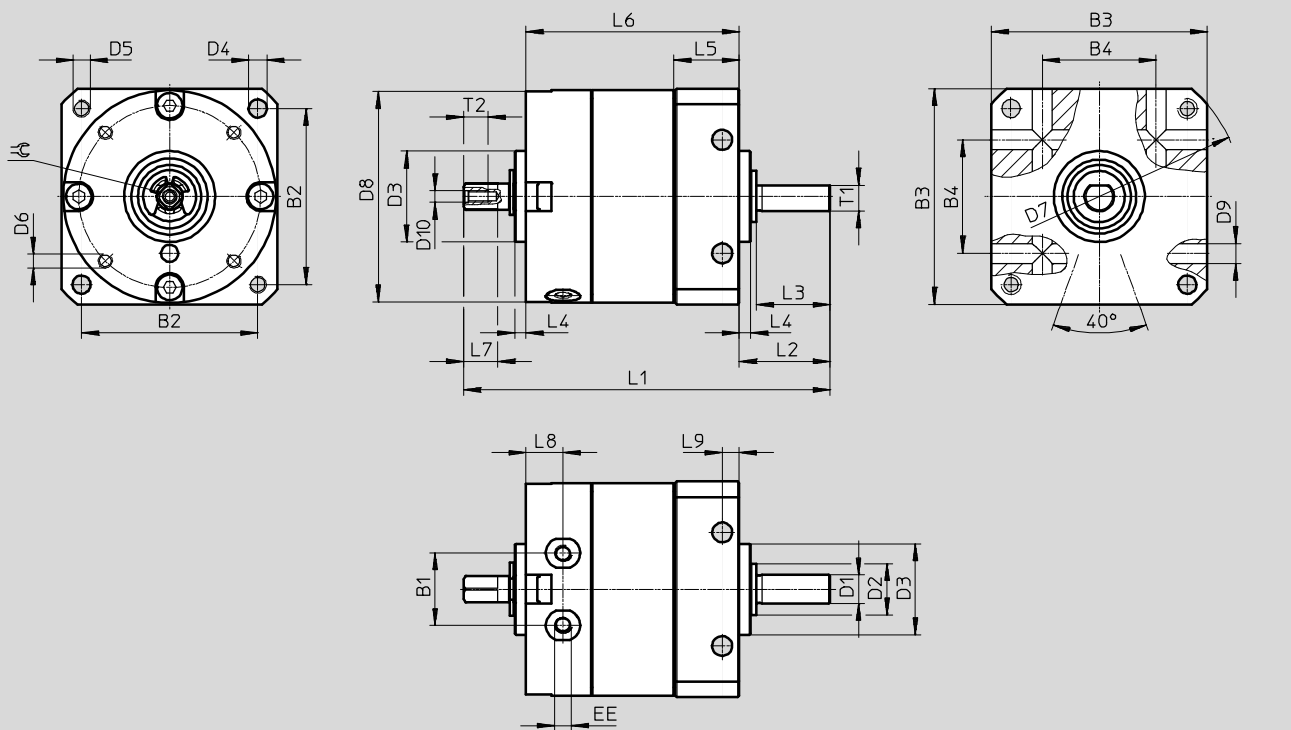
Technical data DSM-6 ... 10



Dimensions

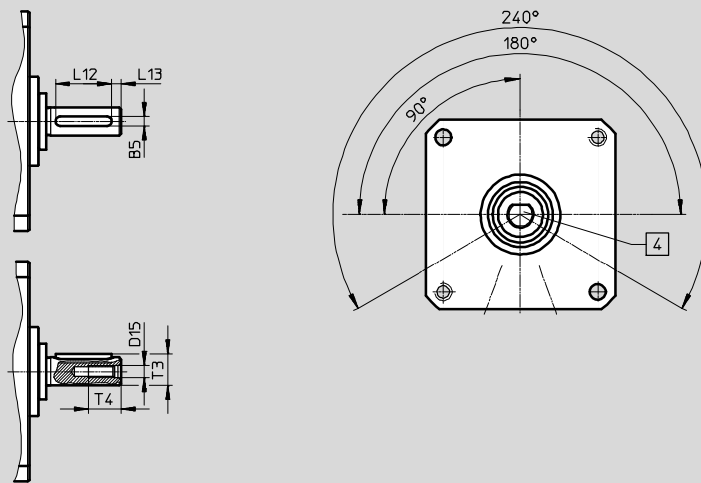
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DSM-T... – With spigot shaft and tandem rotary vanes



For DSM-T-10

Shaft position



Note

For swivel angle tolerance → table below. The 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° |

Swivel modules DSM

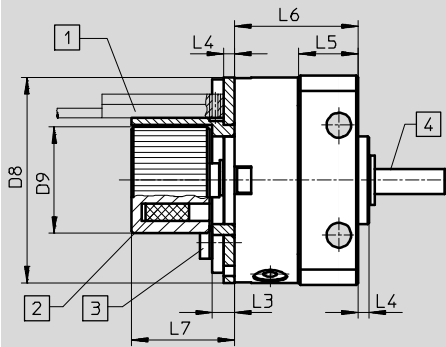
Technical data DSM-6 ... 10

Dimensions

Download CAD data → www.festo.com

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

DSM-T-... – With spigot shaft, tandem rotary vanes 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 feather key 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 |

Swivel modules DSM

Technical data DSM-6 ... 10



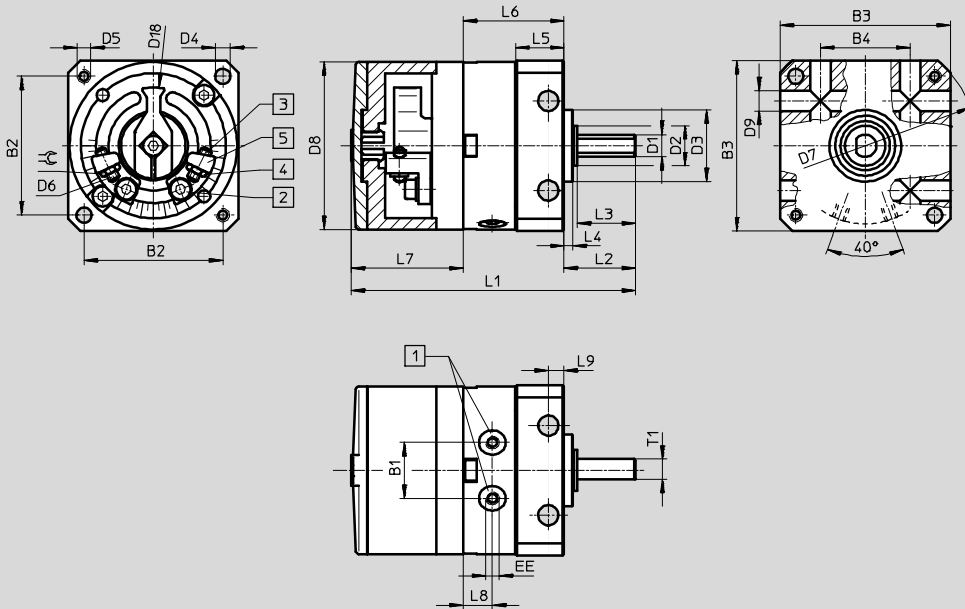
Dimensions

Download CAD data → 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 cover



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 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 | M3 | 64 | 78.5 |
| 10 | 15.9 | 38 | 47 | 26 | 6 | 12 | 19 | 4.3 | M4 | M3 | 62 | 46.4 | 4.5 | 35.8 | M3 | 76 | 93.6 |

| Size | L2 | L3 | L4 | L5 | L6 | | L7 | L8 | L9 | T1 | ≈ | Max. swivel angle | Precision adjustment per end |
|------|------|----|----|------|---------|-----------|------|-----|----|-----|-----|-------------------|------------------------------|
| | | | | | 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° |

Swivel modules DSM

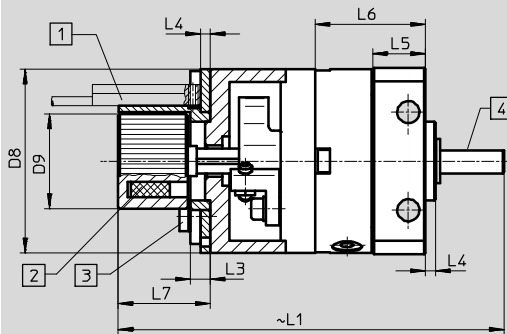
Technical data DSM-6 ... 10

Dimensions

Download CAD data → 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 sensor and cable

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

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

2 Magnet position

| 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 |

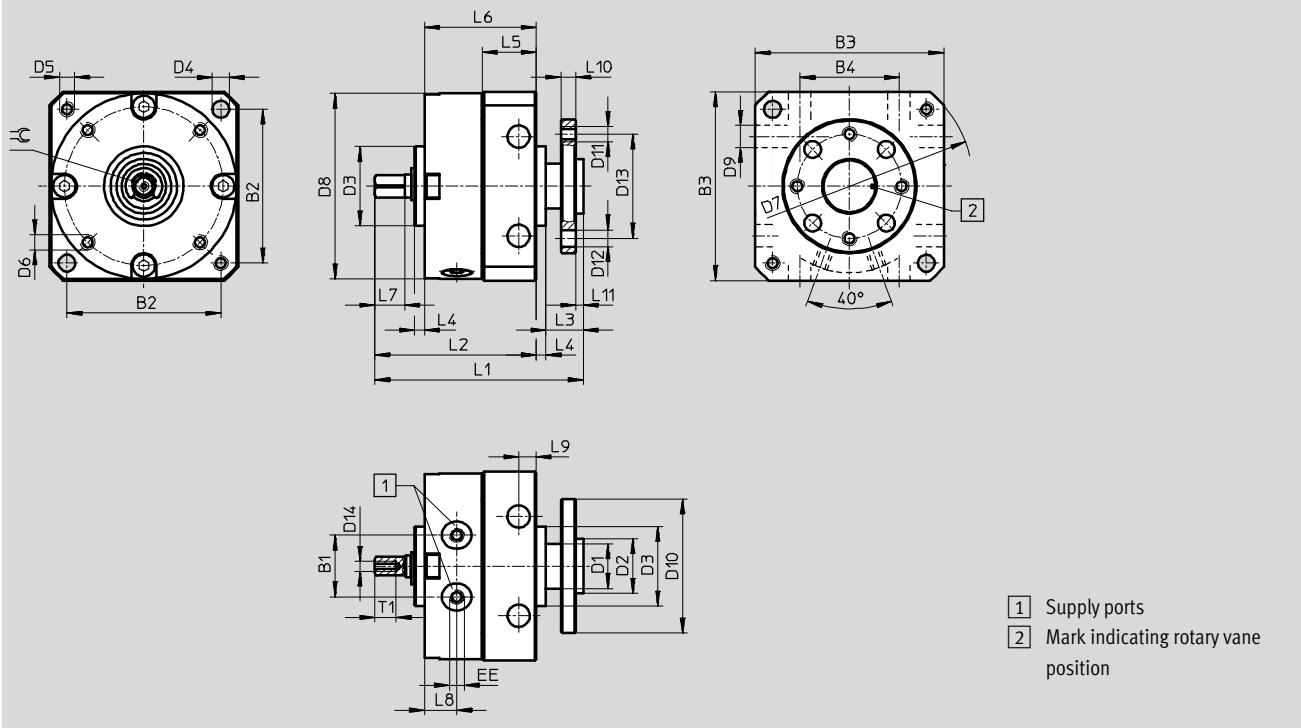
Swivel modules DSM

Technical data DSM-6 ... 10

Dimensions

Download CAD data → www.festo.com

DSM-... – With flanged 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 | ∓C | 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° |

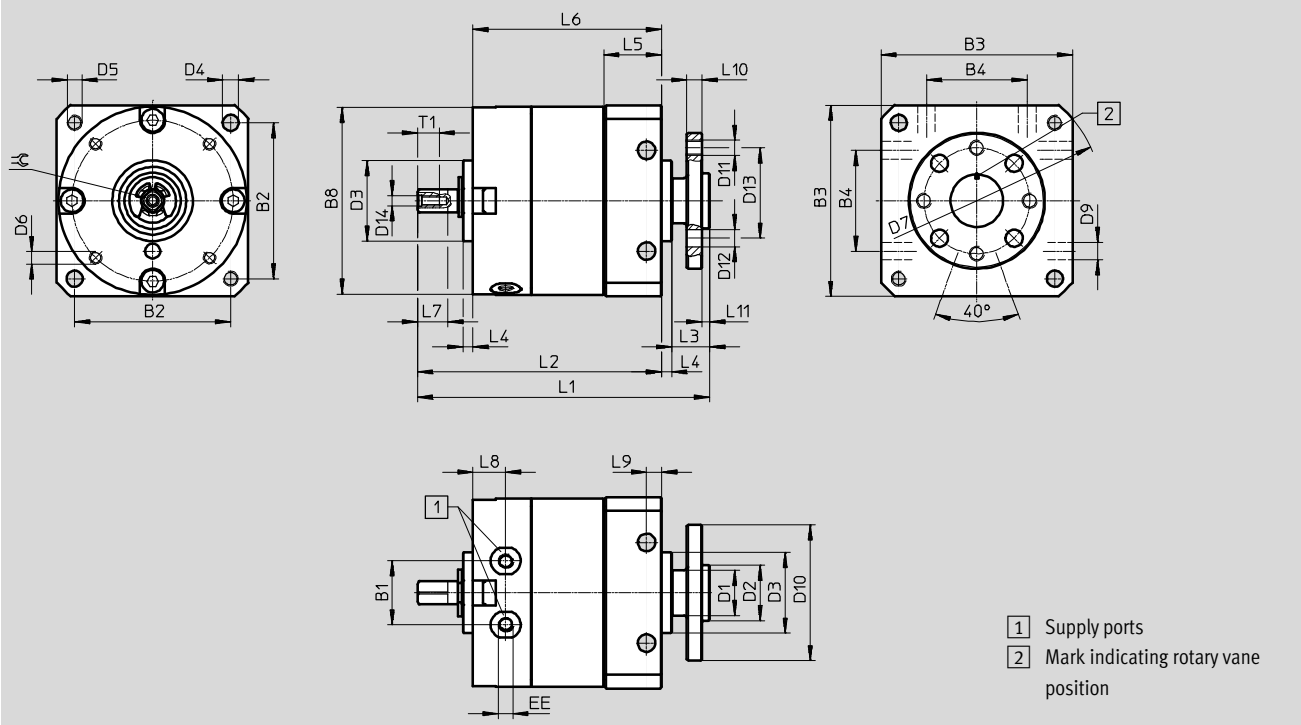
Swivel modules DSM

Technical data DSM-6 ... 10

Dimensions

Download CAD data → www.festo.com

DSM-T... – With flanged 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 | ≈C | 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° |

Swivel modules DSM

Technical data DSM-6 ... 10

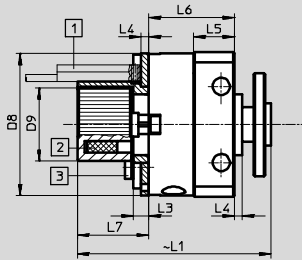


Dimensions

Download CAD data → www.festo.com

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

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



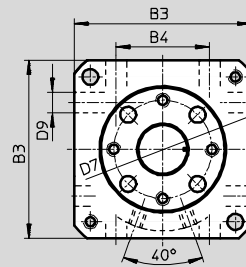
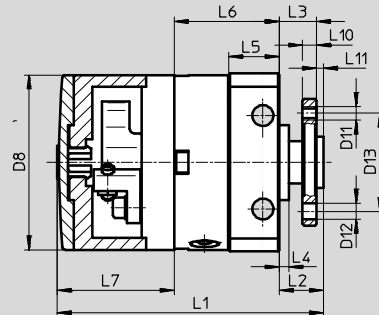
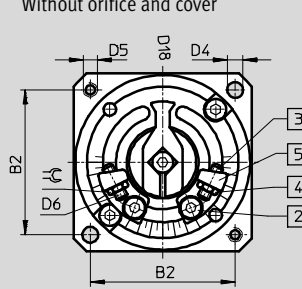
- 1 Proximity sensor not included in the scope of delivery. Observe fitting space for proximity sensor and cable
- 2 Magnet position
- 3 Max. tightening torque for sensor bracket screw → table below

| 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 flanged shaft and adjustable swivel angle

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

Without orifice and cover



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 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 end |
|------|---------|-----------|------|----|----|------|---------|-----------|------|-----|----|-----|-----|-----|-------------------|------------------------------|
| | 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° |

Swivel modules DSM

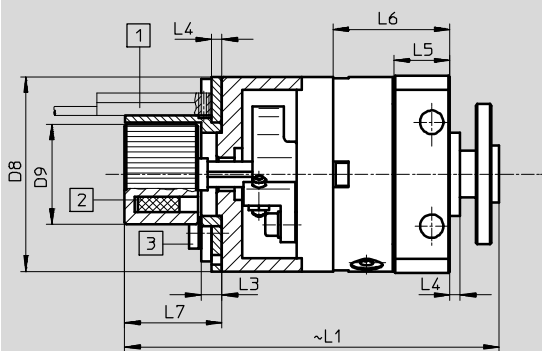
Technical data DSM-6 ... 10

Dimensions

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

DSM-T... – With flanged shaft, tandem rotary vanes, 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 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 |

Swivel modules DSM

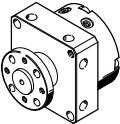
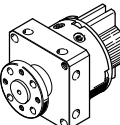
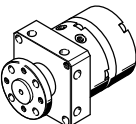
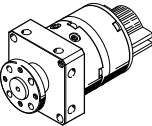
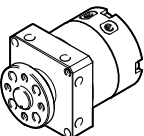
Technical data DSM-6 ... 10



| Ordering data | | | | | | | |
|---------------------|---|--------------|--|----------------|-------------------------|--------------------------|-----------------------|
| Swivel module | Features | Swivel angle | Size [mm] | Part No. | Type | | |
| Spigot shaft | | | | | | | |
| | <ul style="list-style-type: none"> Elastic 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 | |
| | | | <ul style="list-style-type: none"> Position sensing Elastic cushioning rings/pads at both ends | 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"> Adjustable swivel angle Elastic cushioning rings/pads at both ends | | | 180° | 6 | 175827 | DSM-6-180-P-FF |
| | | | | | 8 | 175828 | DSM-8-180-P-FF |
| | | 200° | | 10 | 175829 | DSM-10-240-P-FF | |
| | <ul style="list-style-type: none"> Position sensing Adjustable swivel angle Elastic cushioning rings/pads at both ends | 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"> Tandem rotary vanes Elastic cushioning rings/pads at both ends | 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 | |

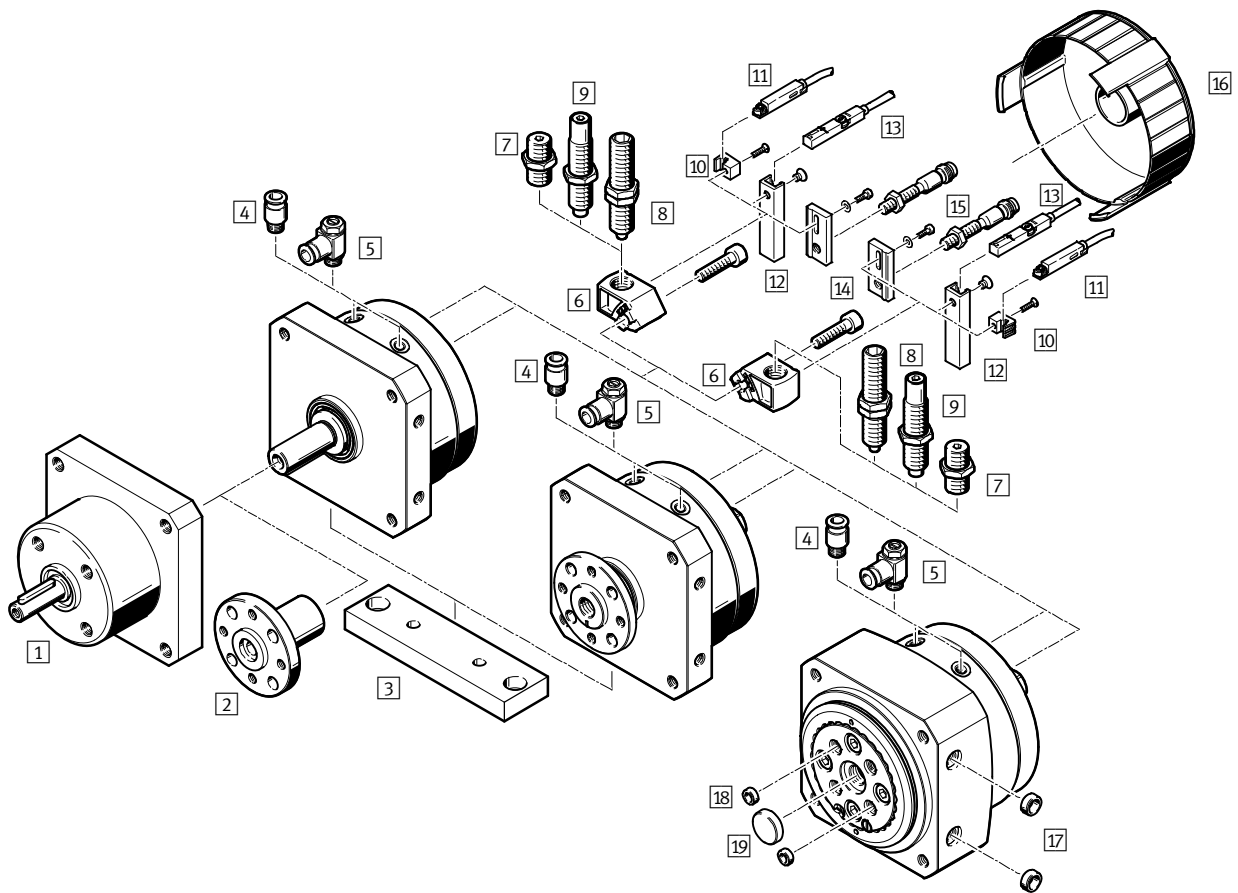
Swivel modules DSM

Technical data DSM-6 ... 10

| Ordering data | | | | | | | |
|---|---|---|--|----------|---------------------|----------------------|-------------------|
| Swivel module | Features | Swivel angle | Size [mm] | Part No. | Type | | |
| Flanged shaft | | | | | | | |
|  | <ul style="list-style-type: none"> Elastic 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 | |
| | |  | <ul style="list-style-type: none"> Position sensing Elastic cushioning rings/pads 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 | |
|  | <ul style="list-style-type: none"> Adjustable swivel angle Elastic cushioning rings/pads 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 | |
|  | <ul style="list-style-type: none"> Position sensing Adjustable swivel angle Elastic cushioning rings/pads 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 | |
|  | <ul style="list-style-type: none"> Tandem rotary vanes Elastic cushioning rings/pads 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 | |

Swivel modules DSM-B

Peripherals overview DSM-12 ... 63



Swivel modules DSM-B

Peripherals overview DSM-12 ... 63

FESTO

| Accessories | For size | Description | → Page/ Internet |
|--------------------------------------|-----------------------|--|---------------------|
| 1 Freewheel unit FLSM | 12 ... 40 | <ul style="list-style-type: none"> For indexed rotation in one direction Only in combination with swivel module DSM with spigot shaft | 50 |
| 2 Push-on flange FWSR | 12 ... 40 | For retrofitting on swivel module DSM with spigot shaft | LEERER MERKER |
| 3 Mounting plate HSM | 12 ... 40 | For foot or flange mounting | LEERER MERKER |
| 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 | 56 |
| 6 Cushioning mount DSM-B | 12 ... 63 | <ul style="list-style-type: none"> For mounting elastic cushioning components or shock absorbers Included in the scope of delivery for swivel module DSM-...-P/P1/CC | 53 |
| 7 Cushioning kit DSM-...-P | 12 ... 63 | <ul style="list-style-type: none"> Elastic cushioning components with fixed stop Included in the scope of delivery for swivel module DSM-...-P | 46 |
| 8 Shock absorber DYEF | 12 ... 63 | <ul style="list-style-type: none"> Adjustable, elastic cushioning components with fixed stop Included in the scope of delivery for swivel module DSM-...-P1 | 46 |
| 9 Shock absorber DYSC | 12 ... 63 | <ul style="list-style-type: none"> Self-adjusting shock absorbers with fixed stop Included in the scope of delivery for swivel module DSM-...-CC | 46 |
| 10 Sensor bracket SL-DSM-B | 12 ... 40 | For mounting the proximity sensor SME/SMT-10 | 54 |
| 11 Proximity sensor SME/SMT-10 | 12 ... 40 | For sensing the end positions | 54 |
| 12 Sensor bracket SL-DSM-63-B | 63 | For mounting the proximity sensor SME/SMT-8 | 54 |
| 13 Proximity sensor SME/SMT-8 | 63 | For sensing the end positions | 55 |
| 14 Sensor bracket SL-DSM-S | 12 ... 40 | For mounting the round inductive proximity sensor SIEN | 54 |
| 15 Proximity sensor SIEN | 12 ... 40 | Inductive proximity sensor for sensing the end positions | 56 |
| 16 Cover cap AKM | 12 ... 40 | Reduces the risk of injury in the swivel range of the stop lever | 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 |

Swivel modules DSM-B

Type codes DSM-12 ... 63

DSM-...: Swivel module

DSM – 16 – 270 – P – FW – A – B

| | |
|--|---|
| Type | |
| Double-acting | |
| DSM | Swivel module |
| 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 |

DSM-T-...: Swivel module with tandem rotary vanes

DSM – T – 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 |
| 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

Type codes DSM-12 ... 63

DSM-...-HD: Swivel module with heavy-duty bearing

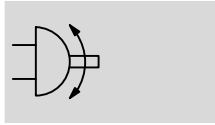
| | | | | | | | | | | | | | | |
|--|---|-----|---|----|---|-----|---|----|---|----|---|---|---|---|
| | | DSM | - | 16 | - | 270 | - | CC | - | HD | - | A | - | B |
| Type | | | | | | | | | | | | | | |
| Double-acting | | | | | | | | | | | | | | |
| DSM | Swivel module | | | | | | | | | | | | | |
| Size [mm] | | | | | | | | | | | | | | |
| Max. swivel angle [°], adjustable | | | | | | | | | | | | | | |
| Cushioning | | | | | | | | | | | | | | |
| P1 | Adjustable elastic cushioning components at both ends | | | | | | | | | | | | | |
| CC | Self-adjusting shock absorbers at both ends | | | | | | | | | | | | | |
| Shaft | | | | | | | | | | | | | | |
| HD | Heavy-duty bearing | | | | | | | | | | | | | |
| Position sensing | | | | | | | | | | | | | | |
| A | Via proximity sensor | | | | | | | | | | | | | |
| Variant | | | | | | | | | | | | | | |
| B | B series | | | | | | | | | | | | | |

Swivel modules DSM-B

Technical data DSM-12 ... 63

FESTO

Function



⌀ - Size
12 ... 63

| General technical data | | | | | | | |
|-------------------------|---|-----------------------|----|------|-----|------|------|
| Size | 12 | 16 | 25 | 32 | 40 | 63 | |
| Pneumatic connection | M5 | | | G1/8 | | G1/4 | |
| Design | Swivel module with rotary vane | | | | | | |
| Cushioning | | | | | | | |
| DSM-...-P | Elastic cushioning at both ends | | | | | | |
| DSM-...-P1 | Adjustable elastic cushioning at both ends | | | | | | |
| DSM-...-CC | Self-adjusting shock absorbers at both ends | | | | | | |
| Type of mounting | Via female thread | | | | | | |
| Mounting position | Any | | | | | | |
| Swivel angle | | | | | | | |
| DSM-... | [°] | 270 | | | | | |
| DSM-...-P | [°] | 270/262 ¹⁾ | | 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...

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

| Technical data – Swivel frequency [Hz] | | | | | | | |
|--|-----|-----|-----|-----|-----|----|-----|
| Size | 12 | 16 | 25 | 32 | 40 | 63 | |
| DSM-.../DSM-T-... | | | | | | | |
| Swivel frequency (at max. swivel angle) | | | | | | | |
| DSM-...-P | 2 | | | 1.6 | | | 1.6 |
| DSM-...-P1 | 2 | | | 1.6 | | | 1.6 |
| DSM-...-CC | 1.5 | 1 | 0.7 | | 0.6 | | |
| Swivel frequency (at smaller swivel angle) | | | | | | | |
| DSM-...-CC | 2 | 1.5 | | | | | |
| DSM-...-HD | | | | | | | |
| Swivel frequency (at max. swivel angle) | | | | | | | |
| DSM-...-P1 | 1.5 | | | 1 | | | 1 |
| DSM-...-CC | 1 | 0.5 | | | 0.5 | | |

Swivel modules DSM-B

Technical data DSM-12 ... 63



| Operating and environmental conditions | | | | | | | |
|--|-------|--|------------|------------|----|----|----|
| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
| Operating medium | | Compressed air in accordance with 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 ¹⁾ | [°C] | -10 ... +60 | | | | | |
| Storage temperature | [°C] | 20 | | | | | |
| ATEX | | Specified types → www.festo.com | | | | | |

1) Note operating range of proximity sensors

| Weight [g] | | | | | | | |
|---------------------------------------|--|-----|-----|------|------|------|------|
| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
| Spigot shaft | | | | | | | |
| 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 |
| Flanged shaft | | | | | | | |
| 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 |
| Tandem rotary vanes and spigot shaft | | | | | | | |
| 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 |
| Tandem rotary vanes and flanged shaft | | | | | | | |
| 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 |
| Heavy-duty bearing | | | | | | | |
| 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 |

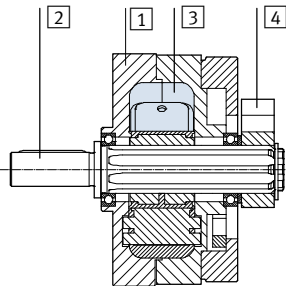
Swivel modules DSM-B

Technical data DSM-12 ... 63

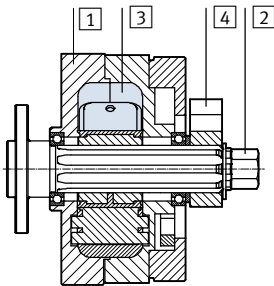
Materials

Sectional view

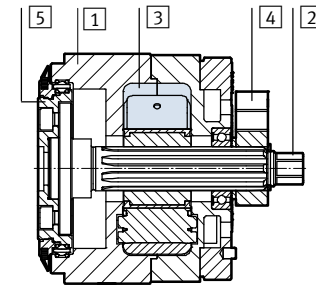
DSM-.../DSM-T-...



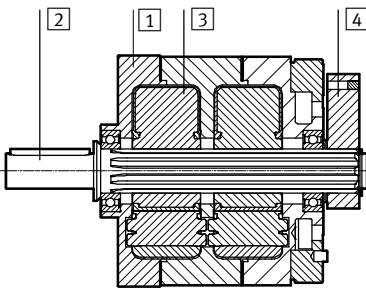
DSM-... FW



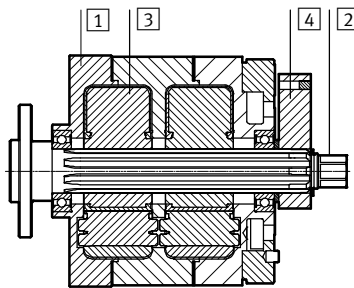
DSM-...-HD



DSM-T-...



DSM-T-...-FW



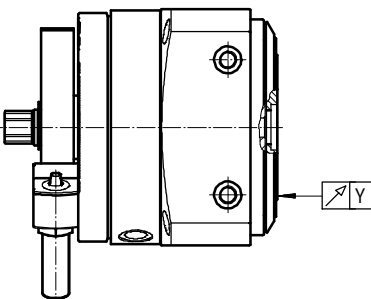
Swivel module

| | | |
|---|-------------------|---|
| 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 |

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

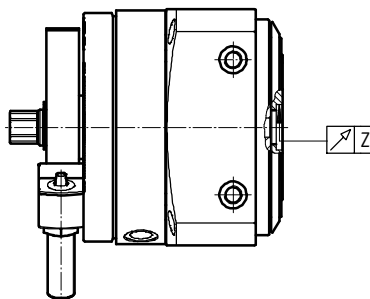
Axial eccentricity

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



Concentricity

Measured on the centre of the rotating plate, in new condition.

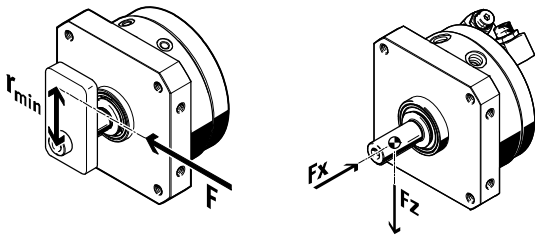


| Size | | 12 | 16 | 25 | 32 | 40 | 63 |
|----------------------|------|-------|-------|-------|-------|-------|-------|
| Axial eccentricity Y | [mm] | ≤0.02 | ≤0.02 | ≤0.02 | ≤0.04 | ≤0.04 | ≤0.04 |
| Concentricity Z | [mm] | ≤0.02 | ≤0.02 | ≤0.02 | ≤0.04 | ≤0.04 | ≤0.04 |

Swivel modules DSM-B

Technical data 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 | | | | | | | |
| 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 | | | | | | | |
| 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 ²] | → 33 | | | | | |
| DSM-...-P1 | [kgm ²] | → 34 | | | | | |
| DSM-...-CC | [kgm ²] | → 35 | | | | | |



Note

If the swivel modules DSM-...-A-B are used without a stop system or the mass moment of inertia is 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.

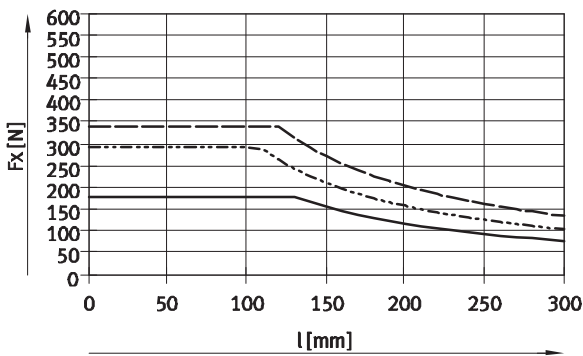
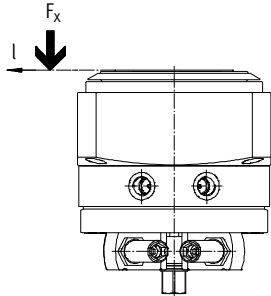
Swivel modules DSM-B

Technical data DSM-12 ... 63

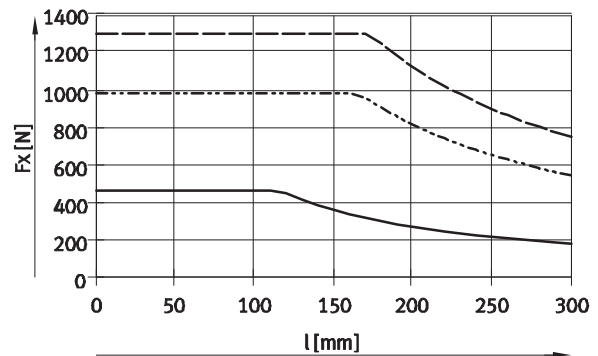


Permissible dynamic load for DSM-...-HD

Permissible axial force F_x as a function of distance l

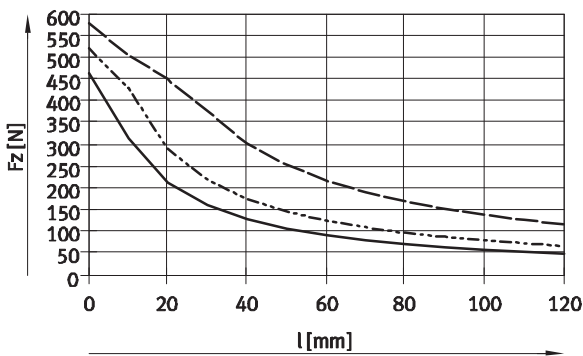
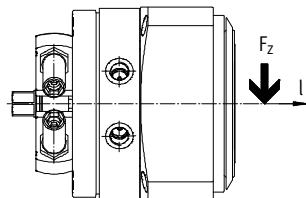


- DSM-12-...-HD
- - - DSM-16-...-HD
- · - DSM-25-...-HD

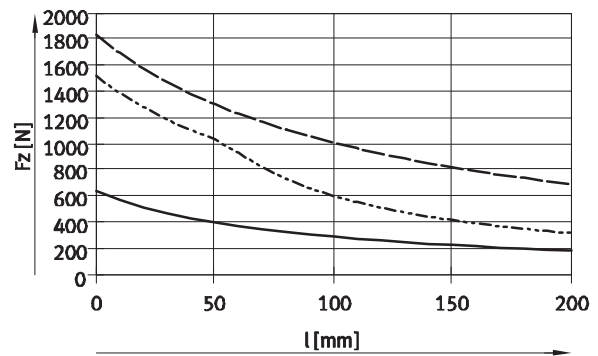


- DSM-32-...-HD
- - - DSM-40-...-HD
- · - DSM-63-...-HD

Permissible radial force F_z as a function of distance l



- DSM-12-...-HD
- - - DSM-16-...-HD
- · - DSM-25-...-HD



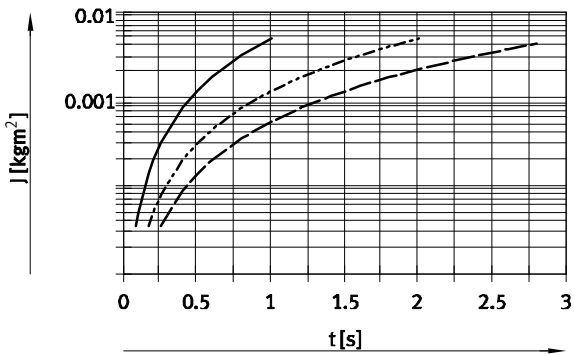
- DSM-32-...-HD
- - - DSM-40-...-HD
- · - DSM-63-...-HD

Swivel modules DSM-B

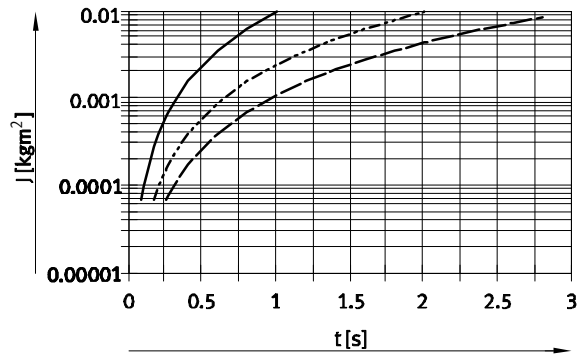
Technical data DSM-12 ... 63

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

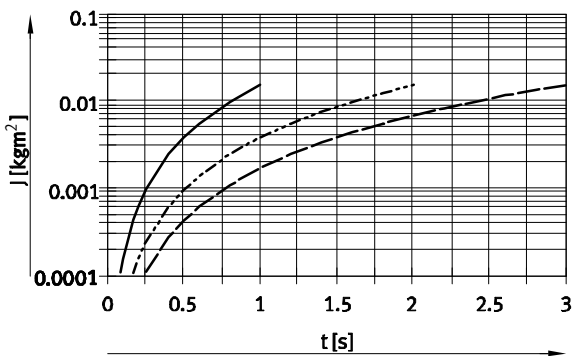
DSM-12-270-P



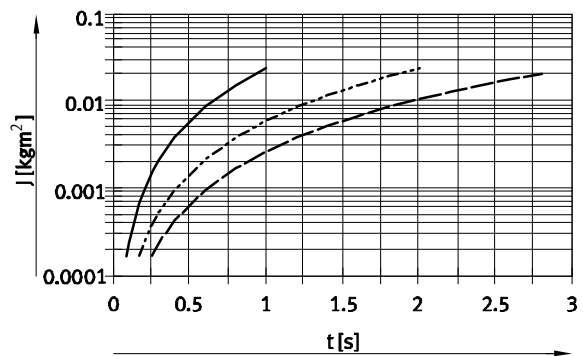
DSM-16-270-P



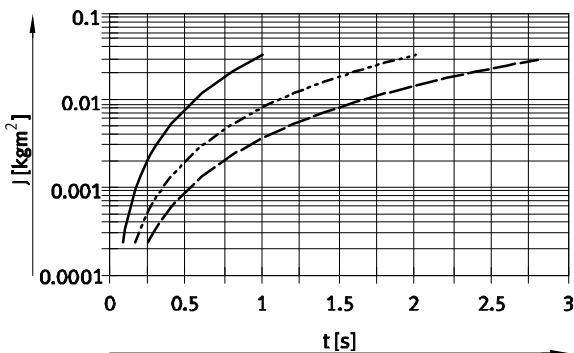
DSM-25-270-P



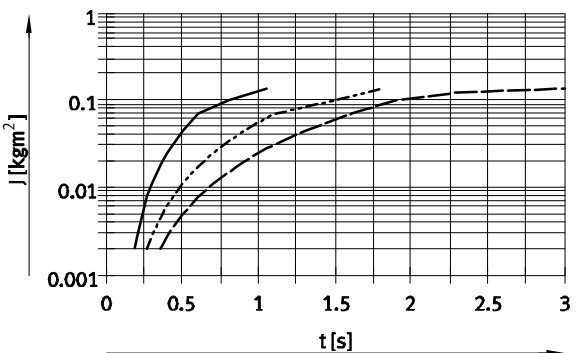
DSM-32-270-P




DSM-40-270-P



DSM-63-270-P



- 90°
- - - 180°
- · - 270°

 Note

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

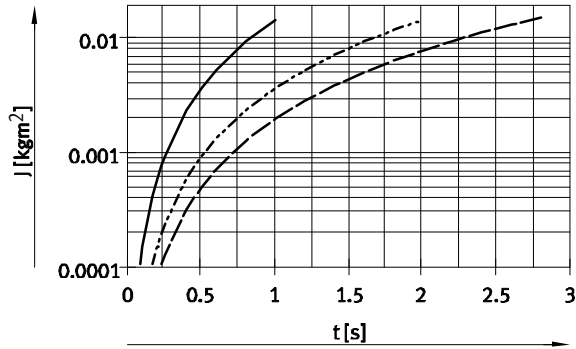
Swivel modules DSM-B

Technical data DSM-12 ... 63



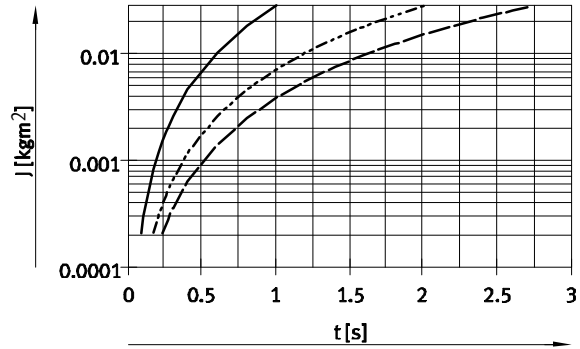
Mass moment of inertia J as a function of swivel time t
With adjustable, elastic cushioning components (P1)

DSM-12-270-P1

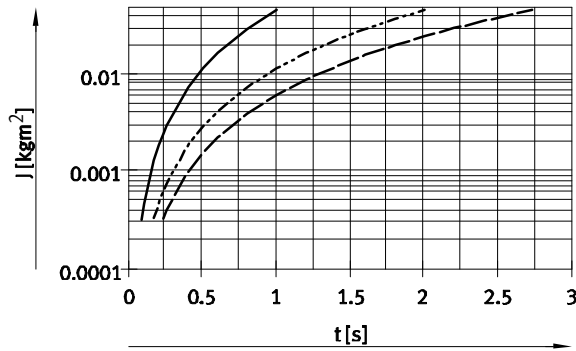


— 90°
- - - 180°
- · - 246°

DSM-16-270-P1

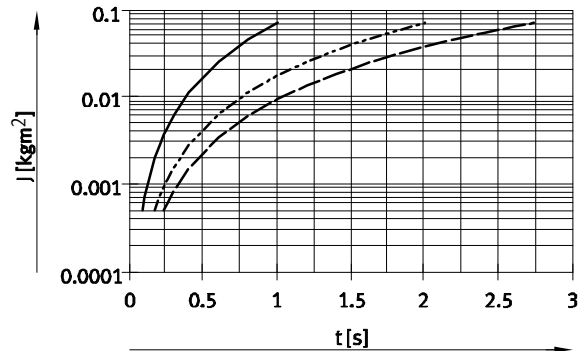


DSM-25-270-P1

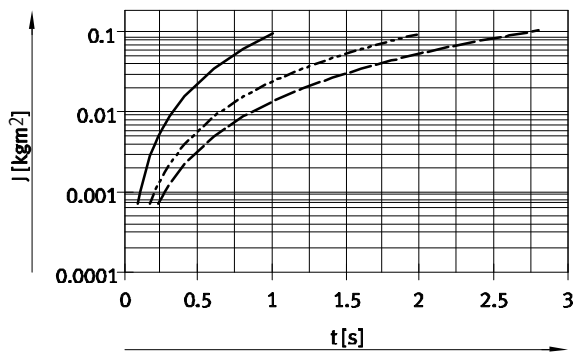


— 90°
- - - 180°
- · - 246°

DSM-32-270-P1

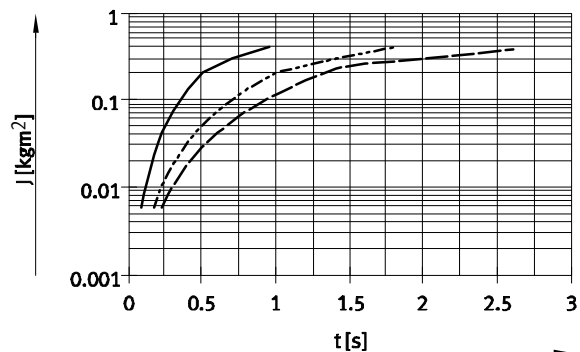


DSM-40-270-P1



— 90°
- - - 180°
- · - 240°

DSM-63-270-P1

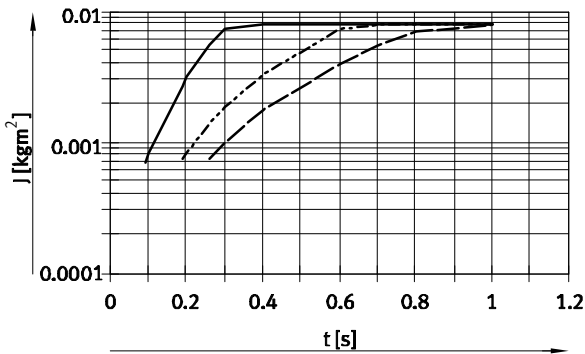


Swivel modules DSM-B

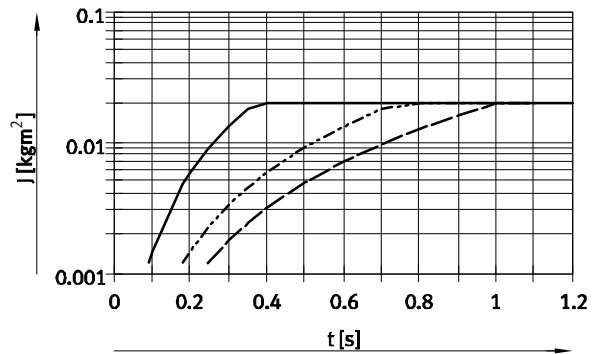
Technical data DSM-12 ... 63

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

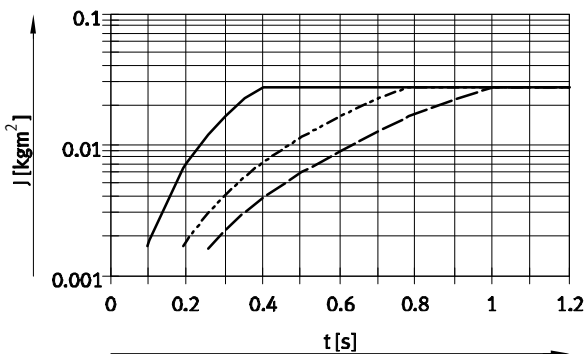
DSM-12-270-CC



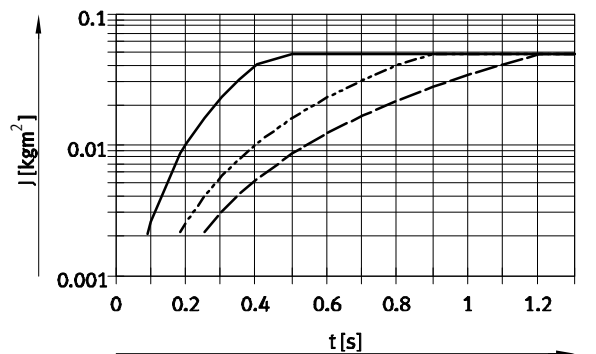
DSM-16-270-CC



DSM-25-270-CC

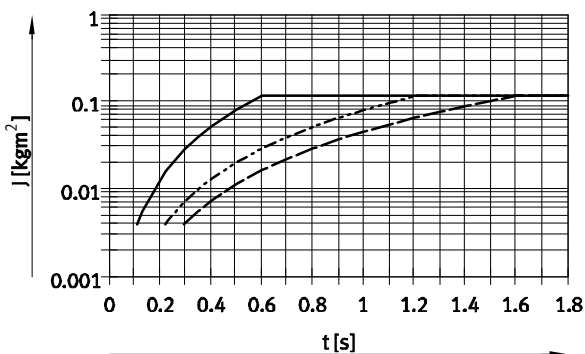


DSM-32-270-CC

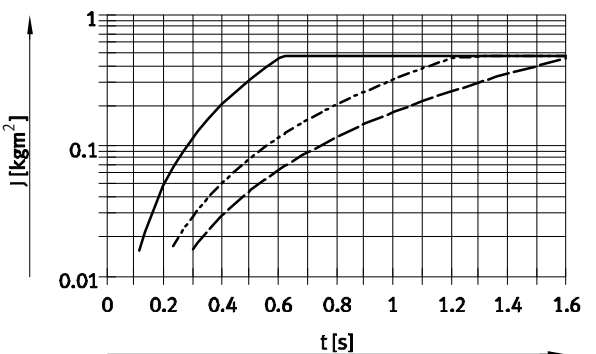


- 90°
- - - 180°
- · - · 246°

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

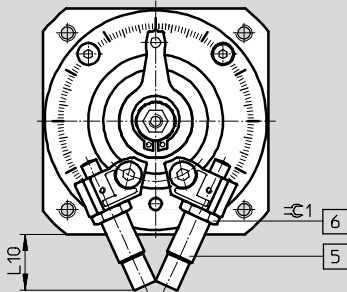
Technical data DSM-12 ... 63

Dimensions

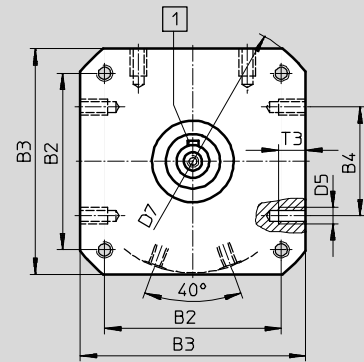
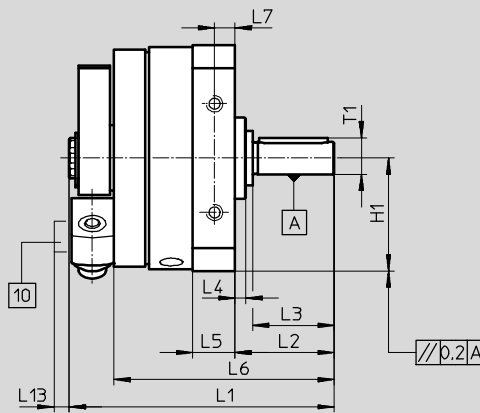
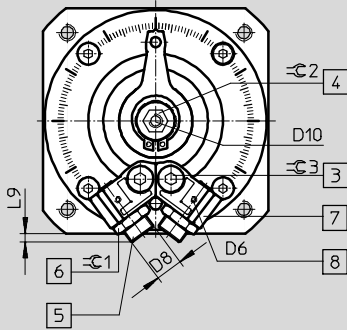
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DSM-... - With spigot shaft

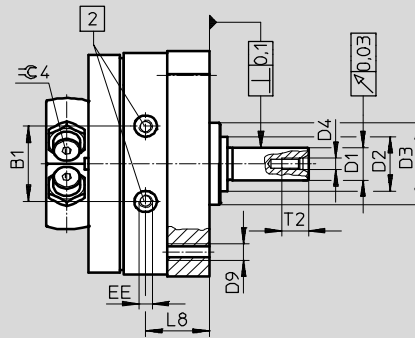
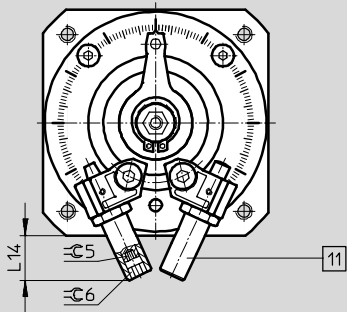
DSM-...-CC



DSM-...-P



DSM-...-P1



- | | | | |
|------------------------------|---|--|--------------------------------------|
| 1 Feather 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). The position of the internal hex is not defined | 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

| 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 | Feather 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

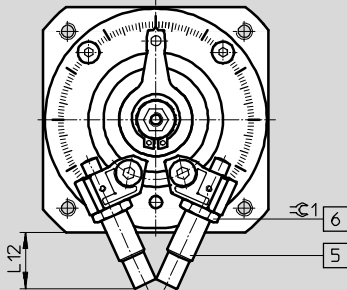
Technical data DSM-12 ... 63

Dimensions

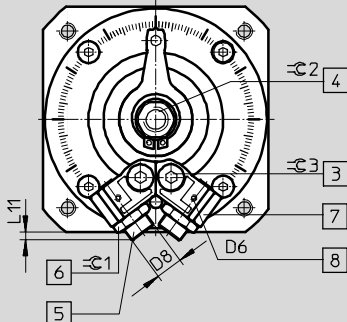
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DSM-...-FW – With flanged shaft

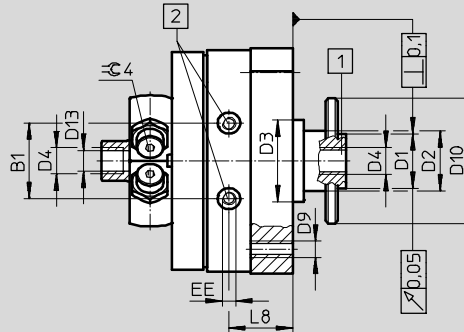
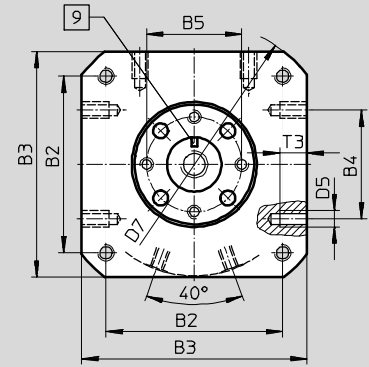
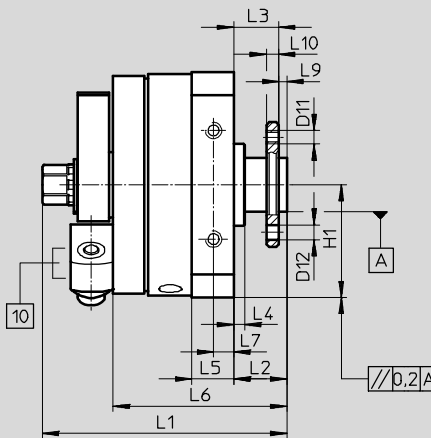
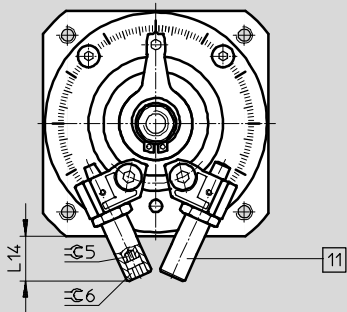
DSM-...-CC-FW



DSM-...-P-FW



DSM-...-P1-FW



- 1 Flanged shaft with through hole
- 2 Supply ports

- 3 Locking screw for clamping the stop
- 4 Manual override (internal hex). The position of the internal hex 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 The position of the marking corresponds to the position of the stop
- 10 Sensor bracket
- 11 End-position adjustment

Swivel modules DSM-B

Technical data 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 _{-0.3} | 28 | M5 | M5 |
| 25 | 28 | 65±0.3 | 83±0.3 | 40±0.2 | 35 | 20 | 20 _{-0.3} | 30 | G1/8 | M6 |
| 32 | 35.5 | 85±0.3 | 105±0.3 | 60±0.3 | 45 | 28 | 27 _{-0.4} | 42 | G1/8 | M8 |
| 40 | 43.8 | 105±0.3 | 130±0.5 | 80±0.3 | 54 | 36 | 36 _{-0.4} | 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 | - | - |

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

Swivel modules DSM-B

Technical data DSM-12 ... 63

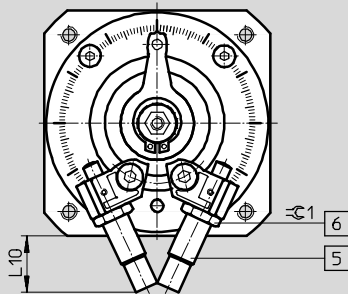
FESTO

Dimensions

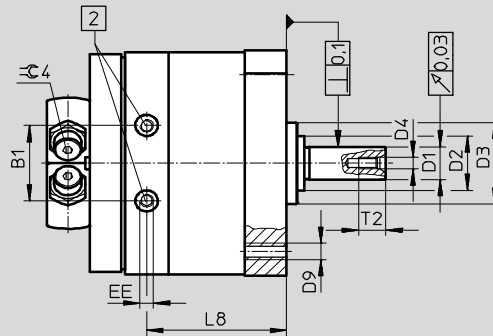
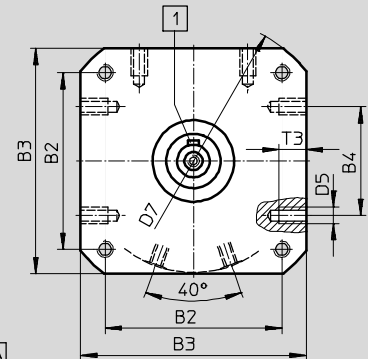
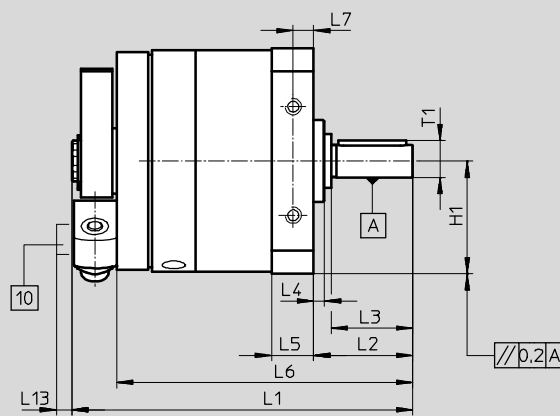
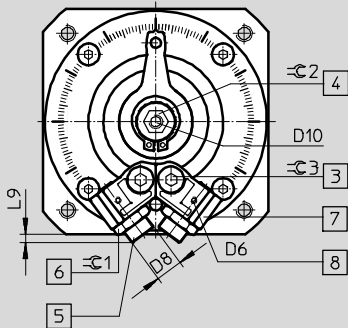
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DSM-T... – With spigot shaft and tandem rotary vanes

DSM-T...-CC



DSM-T...-P



- | | | | |
|------------------------------|---|--|--------------------------------------|
| 1 Feather 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). The position of the internal hex is not defined | 6 Lock nut for end-position adjustment | 10 Sensor bracket |
| | | 7 Infinitely adjustable stops | |

Swivel modules DSM-B

Technical data 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 _{-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 ∅ | 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 | G ¹ / ₈ | 52.5 | 164±0.5 | 51 | 40±0.2 | 8 | 19.2 ^{+0.2/-0.4} |
| 40 | G ¹ / ₈ | 65 | 200.5±0.6 | 62 | 50±0.3 | 8 | 23.7 ^{+0.2/-0.4} |
| 63 | G ¹ / 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 | ≈C 1 | ≈C 2 | ≈C 3 | ≈C 4 | Feather 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

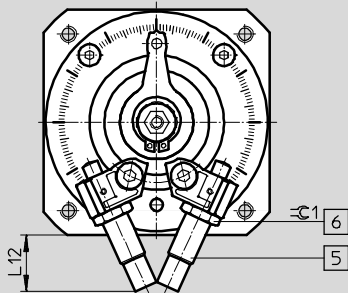
Technical data DSM-12 ... 63

Dimensions

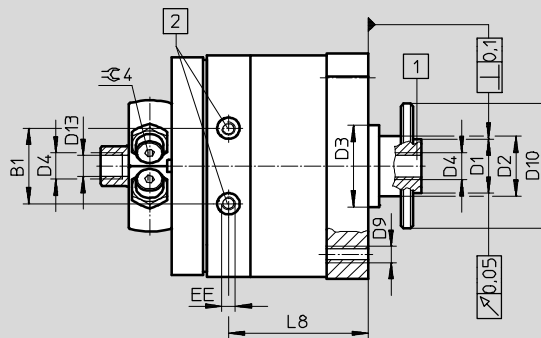
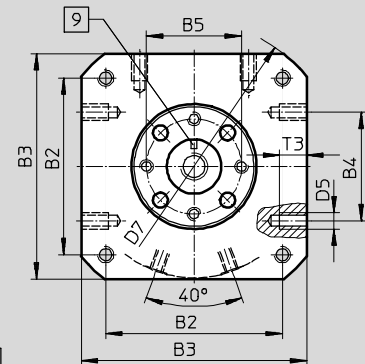
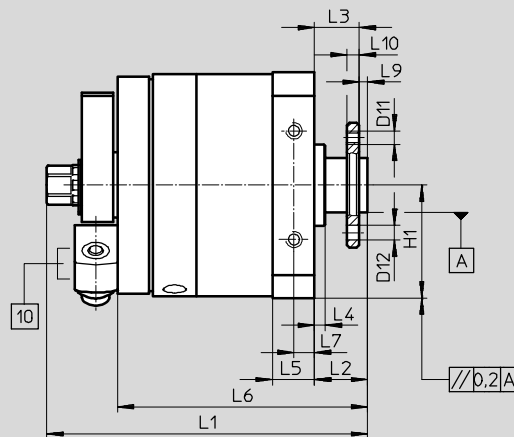
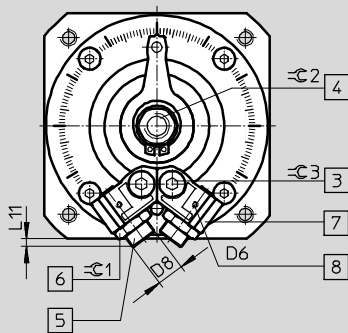
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DSM-T...-FW – With flanged shaft and tandem rotary vanes

DSM-T...-CC-FW



DSM-T...-P-FW



- | | | | |
|-----------------------------------|---|--|---|
| 1 Flanged shaft with through hole | 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). The position of the internal hex is not defined | 6 Lock nut for end-position adjustment | 9 The position of the marking corresponds to the position of the stop |
| | | 7 Infinitely adjustable stops | 10 Sensor bracket |

Swivel modules DSM-B

Technical data 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 _{-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 ∅ | 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 | 103+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

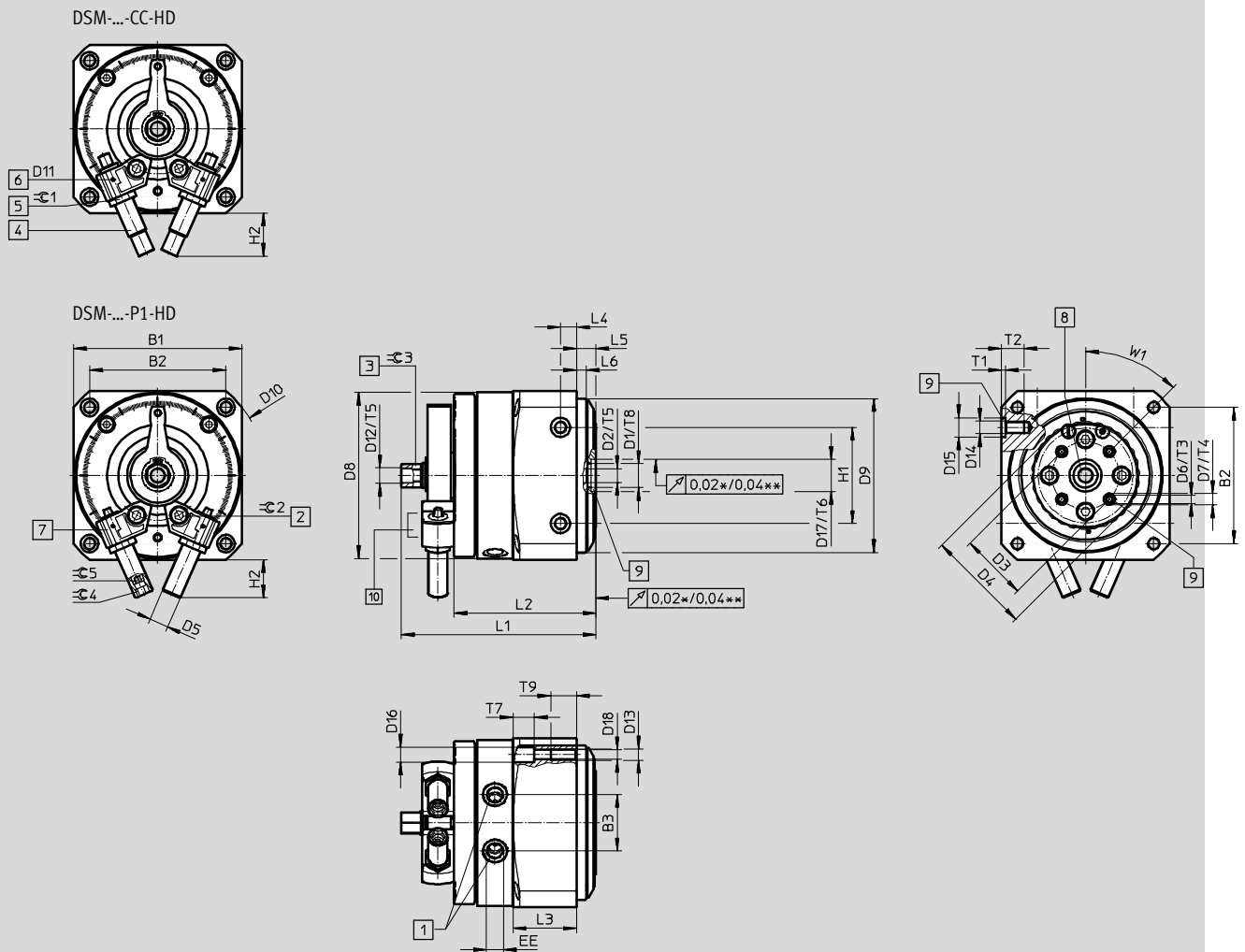
Technical data DSM-12 ... 63

FESTO

Dimensions

Download CAD data → www.festo.com

DSM-...-HD – With heavy-duty bearing



- | | | |
|---|---|--|
| <ul style="list-style-type: none"> 1 Supply ports 2 Locking screw for clamping the stop 3 Manual override (internal hex). The position of the internal hex is not defined 4 End-position adjustment | <ul style="list-style-type: none"> 5 Lock nut for end-position adjustment 6 Mounting thread for sensor bracket 7 Infinitely adjustable stops | <ul style="list-style-type: none"> 8 Flanged shaft with through hole 9 Hole for centring sleeve ZBH 10 Sensor bracket |
|---|---|--|

* Size 12 ... 25
 ** Size 32 ... 63

Swivel modules DSM-B

Technical data DSM-12 ... 63

| Size | B1 ±0.3 | B2 ±0.3 | B3 ±0.5 | D1 ¹⁾ | D2 ²⁾ ∅ | 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 | G $\frac{1}{8}$ | - | 30 | 50 | M10x1 |
| 32 | 105 | 85 | 35.5 | 15 | G $\frac{1}{8}$ | 42 | 65 | M12x1 |
| 40 | 130 | 105 | 43.8 | 20 | G $\frac{1}{4}$ | 56 | 90 | M16x1 |
| 63 | 152 | 125 | 50.3 | 20 | G $\frac{1}{4}$ | 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 | G $\frac{1}{8}$ | M6 | M6 |
| 32 | M5 | 7 | 103.5 | 96 | 135 | M2 | G $\frac{1}{8}$ | M8 | M8 |
| 40 | M8 | 12 | 128 | 126 | 168 | M2 | G $\frac{1}{4}$ | M10 | M10 |
| 63 | M8 | 12 | 149 | 150 | 200 | M3 | G $\frac{1}{4}$ | M12 | M10 |

| Size | D15 H7 | D16 | D17 H8 | D18 | EE | H1 ±0.03 | H2 max. | | L1 +0.4 -0.65 | L2 +1 |
|------|-----------|-----|-----------|------|-----------------|-------------|------------|------------|---------------------|----------|
| | | | | | | | DSM-...-P1 | DSM-...-CC | | |
| 12 | 7 | 6 | 12 | 3.3 | M5 | 30 | 21.2 | 22.7 | 76.3 | 53 |
| 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 | G $\frac{1}{8}$ | 60 | 23 | 29.1 | 121 | 88.5 |
| 40 | 12 | 15 | 25 | 8.5 | G $\frac{1}{8}$ | 80 | 36.5 | 43.5 | 154 | 112 |
| 63 | 12 | 18 | 25 | 10.2 | G $\frac{1}{4}$ | 80 | 44 | 72.5 | 185.5 | 129.5 |

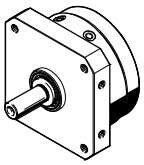
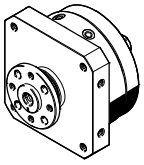
| Size | L3 | L4 ±0.1 | L5 ±0.2 | L6 ±0.1 | T1 +0.1 | T2 | T3 | T4 +0.1 | T5 | T6 +0.1 |
|------|------|------------|------------|------------|------------|----|-----|------------|----|------------|
| 12 | 22.3 | 10 | 10 | 4 | 1.5 | 9 | 9 | 1.2 | 6 | 2.5 |
| 16 | 27.6 | 10 | 10 | 4 | 1.5 | 9 | 9 | 1.5 | 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 | ≈C 1 | ≈C 2 | ≈C 3 h13 | ≈C 4 | | ≈C 5 DSM-...-P1 | W1 |
|------|-----|-----|----|------|------|-------------|------------|------------|--------------------|-----|
| | | | | | | | DSM-...-P1 | DSM-...-CC | | |
| 12 | 6.3 | 5.5 | 12 | 10 | 2.5 | 8 | 5 | 2.5 | 2.5 | 45° |
| 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
 - † - Note: This product conforms to ISO 1179-1 and to ISO 228-1

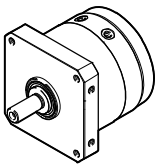
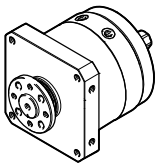
Swivel modules DSM-B

Technical data DSM-12 ... 63

| Ordering data – DSM-..., swivel module | | | | | |
|---|---|--------------|--------|----------------------|----------------------|
| Swivel module | Features | Swivel angle | Size | Part No. | Type |
| 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 |
| | | 240° | 32 | 566209 | DSM-32-270-P1-A-B |
| | | | 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 |
| 240° | | 32 | 547584 | DSM-32-270-CC-A-B | |
| | | 40 | 547588 | DSM-40-270-CC-A-B | |
| | | 63 | 552081 | DSM-63-270-CC-A-B | |
| 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 | 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 |
| | | 240° | 32 | 566210 | DSM-32-270-P1-FW-A-B |
| | | | 40 | 566212 | 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 |
| 240° | | 32 | 547585 | DSM-32-270-CC-FW-A-B | |
| | | 40 | 547589 | DSM-40-270-CC-FW-A-B | |
| | | 63 | 552082 | DSM-63-270-CC-FW-A-B | |

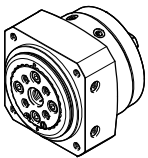
Swivel modules DSM-B

Technical data DSM-12 ... 63

| Ordering data – DSM-T-..., swivel module with tandem rotary vanes | | | | | |
|---|--------------------------------------|--------------|------|----------|------------------------|
| Swivel module | Features | Swivel angle | Size | Part No. | Type |
| 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 |
| | | 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 |
| 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 |
| | | 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 |

Swivel modules DSM-B

Technical data DSM-12 ... 63

| Ordering data – DSM-...-HD, swivel module with heavy-duty guide | | | | | |
|---|---|--------------|---------|----------------------|----------------------|
| Swivel module | Features | Swivel angle | Size | Part No. | Type |
| Heavy-duty bearing | | | | | |
|  | 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 |
| | | | 32 | 1369119 | DSM-32-270-P1-HD-A-B |
| | | 240° | 40 | 1369120 | DSM-40-270-P1-HD-A-B |
| | | | 63 | 1369121 | DSM-63-270-P1-HD-A-B |
| | CC With shock absorbers | 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 |
| 32 | | | 1369125 | DSM-32-270-CC-HD-A-B | |
| 240° | | 40 | 1369126 | DSM-40-270-CC-HD-A-B | |
| | | 63 | 1369127 | DSM-63-270-CC-HD-A-B | |

Swivel modules DSM/DSM-B

Accessories



Freewheel unit FLSM

For size 6, 8

Material:

Housing: Anodised aluminium

Shaft, sleeve: Size 6, 8:

Steel

Size 10:

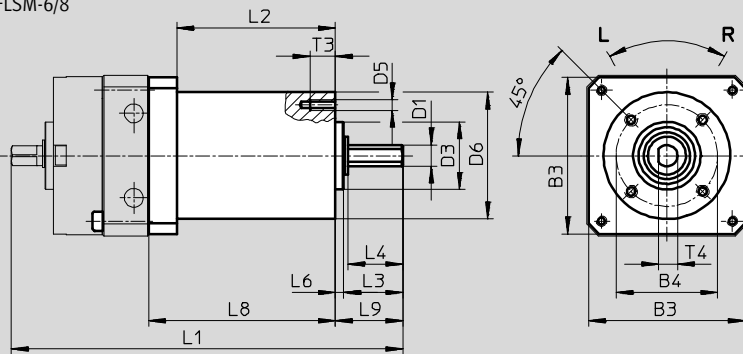
Hardened steel



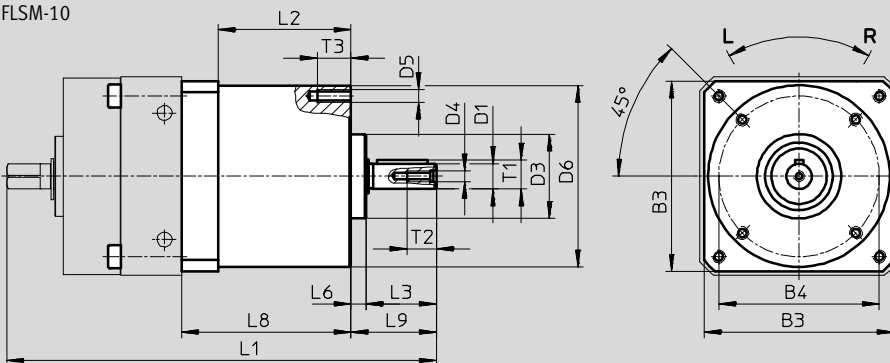
Note
The minimum possible swivel angle is 3°. Switching accuracy is, however, dependent on speed and load.

Dimensions and ordering data

FLSM-6/8



FLSM-10



| For size | B3 | B4 | D1 | 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 | Feather key to DIN 6885 | CRC ¹⁾ | Weight | Direction of rotation | Part No. | Type |
|----------|------|------|-----|----|----|-----|----------------------------|-------------------|--------|-------------------------|---------------|------------------|
| | ±0.1 | | | | | | | | [g] | | | |
| 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 CRC 2 to Festo standard FN 940070

Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Swivel modules DSM/DSM-B

Accessories



Freewheel unit FLSM


For size 12 ... 40

Material:

Housing: Anodised aluminium

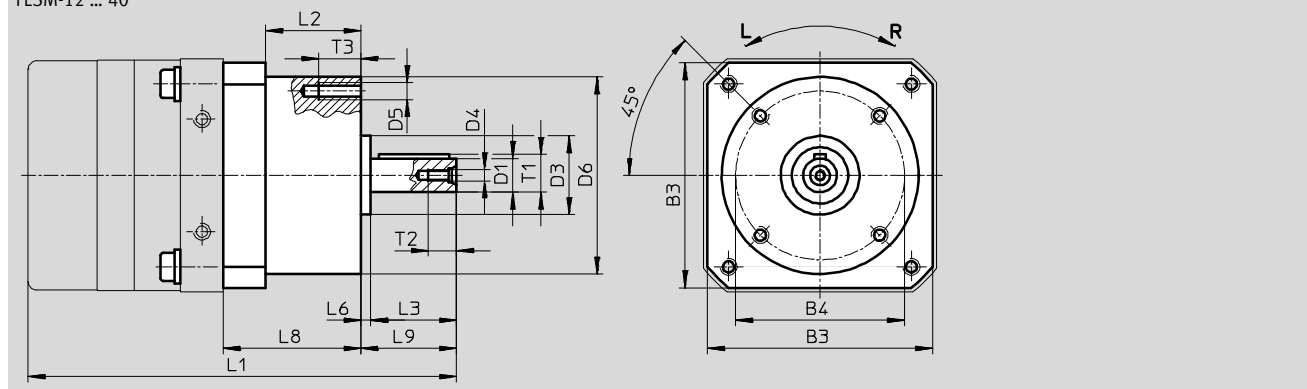
Shaft, sleeve: Hardened steel



 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 | B3 | B4 | D1 | D3 | D4 | D5 | D6 | L1 | L2 | L3 | L6 | L8 |
|----------|-----|-------|----------|----------|----|----|-----------|-------|-----------|----|------|------|
| | | ±0.15 | ∅7 g7 | ∅8 h8 | | | ∅ ±0.3 | | | | +0.2 | ±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 | L9 | T1 | T2 | T3 | Feather 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 CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Swivel modules DSM/DSM-B

Accessories

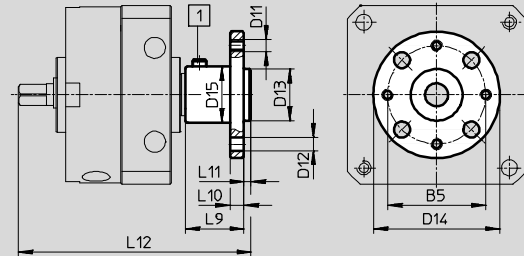


Push-on flange FWSR

Material:
Anodised wrought aluminium alloy
Free of copper, PTFE and silicone

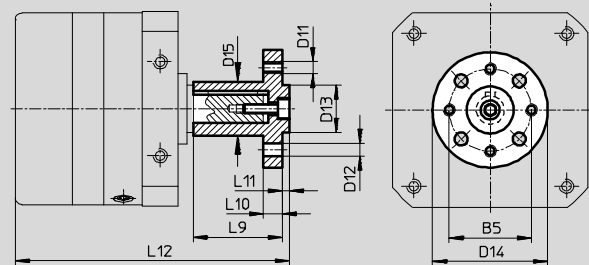


FWSR-6/8



1) Threaded pin M3x5 to DIN 916

FWSR-10 ... 40



| Dimensions and ordering data | | | | | | | | | | | | | | |
|------------------------------|----|-----|-----------------|----------------|----------|----------|------|-----|-----|-------|-------------------|---------------|----------|---------|
| For size | B5 | D11 | D12 ∅ H13 | D13 ∅ g7 | D14 ∅ | D15 ∅ | 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 |

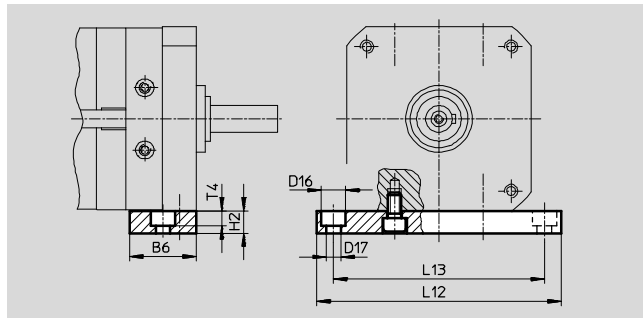
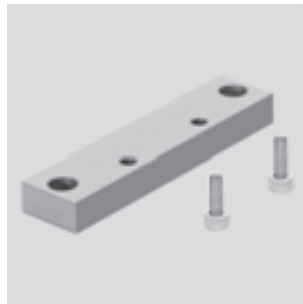
1) Corrosion resistance class CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Swivel modules DSM/DSM-B

Accessories

Mounting plate HSM

Material:
Aluminium

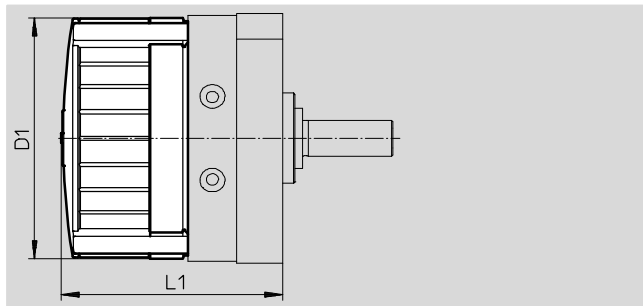
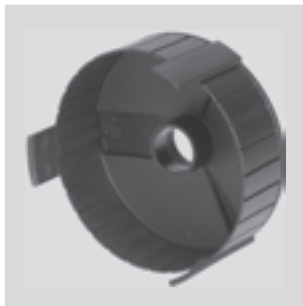


| Dimensions and ordering data | | | | | | | | | | | |
|------------------------------|----|----------|----------|----|-----|-----|-----|-------------------|---------------|----------|--------|
| For size | B6 | D16 ∅ | D17 ∅ | H2 | L12 | L13 | T4 | CRC ¹⁾ | Weight [g] | Part No. | Type |
| 12 | 20 | 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 CRC 2 to Festo standard FN 940070
Moderate corrosion stress. Indoor applications in which condensation may occur. External visible parts with primarily decorative requirements for the surface and which are in direct contact with the ambient atmosphere typical for industrial applications.

Cover cap AKM

Material:
Polyamide




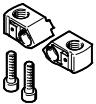


| Dimensions and ordering data | | | | | | |
|------------------------------|---------|-----------|-----------|----------------|----------|--------|
| For size | D1 ∅ | L1 | | | Part No. | Type |
| | | DSM-... | DSM-T-... | DSM-...-HD-... | | |
| 12 | 59 | 56.2±1.2 | 75.2±1.2 | 68.2±1.2 | 549194 | AKM-12 |
| 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 |

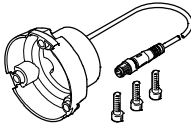
Swivel modules DSM/DSM-B

Accessories

FESTO

| Ordering data | | | | | |
|--|----------|---|----------------|-----------------------|------------------|
| | For size | Brief description | Part No. | Type | PU ¹⁾ |
| Cushioning kit | | | | | |
|  | 12 | <ul style="list-style-type: none"> Elastic cushioning components with fixed stop Included in the scope of delivery for 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 | <ul style="list-style-type: none"> Adjustable, elastic cushioning components with fixed stop Included in the scope of delivery for 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 | <ul style="list-style-type: none"> Self-adjusting shock absorbers with fixed stop Included in the scope of delivery for 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 | <ul style="list-style-type: none"> For mounting elastic cushioning components DSM-...-P-B, DYEF or shock absorbers 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 | |


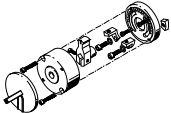
1) Packaging unit

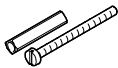
| Ordering data – Position sensor | | | | | |
|---|----------|---|----------------|----------------------------------|------------------|
| | For size | Description | Part No. | Type | PU ¹⁾ |
|  | 6 | <ul style="list-style-type: none"> For sensing the end positions Simple and reliable operation using one button Only one connecting cable required Possible sensing range: 0 ... 270° Repetition accuracy: ≤ 1° Number of switching outputs: 2 Switching output: PNP/NPN Switching element: N/O contact / N/C contact | 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 | |



Swivel modules DSM/DSM-B

Accessories

FESTO


| Ordering data – Kits | | | | | |
|---|----------|---|----------|---------------|--------------------------------|
| | For size | Brief description | Part No. | Type | |
| Mounting kit | | | | | Technical data → Internet: wsm |
|  | 6 | For proximity sensors 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 – 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 bracket | | | | | |
|---|--------------------|---|----------|---------------|------------------|
| | For size | Brief description | Part No. | Type | PU ¹⁾ |
|  | 12, 16, 25, 32, 40 | For proximity sensors SME-/SMT-10 | 550661 | SL-DSM-B | 2 |
| | | For proximity sensors SME-/SMT-8 | 552088 | SL-DSM-63-B | |
|  | 63 | For inductive proximity sensors SIEN-M5 | 1130882 | SL-DSM-S-M5-B | 2 |
| | | For inductive proximity sensors SIEN-M8 | 1132360 | SL-DSM-S-M8-B | |

1) Packaging unit

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


| 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 | | | | | | |
|  | For size 6, 8: Via mounting kit WSM-...-SME-10 For size 12, 25, 32, 40: Via sensor bracket SL-DSM-B clamped to DSM | 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 |

Swivel modules DSM/DSM-B


Accessories

FESTO



Proximity sensors for size 6 ... 40


| 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 | | | | | | |
|  | For size 6, 8, 10: Via mounting kit WSM-...-SME-10 For size 12 ... 40: Via sensor bracket SL-DSM-B clamped to DSM | Contacting | Cable, 3-wire, in-line | 2.5 | 173210 | SME-10-KL-LED-24 |
| | | | Plug M8x1, 3-pin, in-line | 0.3 | 173212 | SME-10-SL-LED-24 |

Proximity sensors for size 12 ... 40

| 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 | | | | | | |
|  | Via sensor bracket SL-DSM-B clamped to DSM | Contacting | Cable, 3-wire, in-line | 2.5 | 551365 | SME-10M-DS-24V-E-2,5-L-OE |
| | | | Plug M8x1, 3-pin, in-line | 0.3 | 551367 | SME-10M-DS-24V-E-0,3-L-M8D |

Proximity sensors for size 63

| Ordering data – Proximity sensors for T-slot, magneto-resistive | | | | | | Technical data → Internet: smt |
|---|--|---------------|-----------------------|------------------|----------|--------------------------------|
| | Type of mounting | Switch output | Electrical connection | Cable length [m] | Part No. | Type |
| N/O contact | | | | | | |
|  | Insertable in the slot from above, flush with cylinder profile, short design | PNP | Cable, 3-wire | 2.5 | 574335 | SMT-8M-A-PS-24V-E-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 574334 | SMT-8M-A-PS-24V-E-0,3-M8D |
| | | | Plug M12x1, 3-pin | 0.3 | 574337 | SMT-8M-A-PS-24V-E-0,3-M12 |
| | | NPN | Cable, 3-wire | 2.5 | 574338 | SMT-8M-A-NS-24V-E-2,5-OE |
| | | | Plug M8x1, 3-pin | 0.3 | 574339 | SMT-8M-A-NS-24V-E-0,3-M8D |
| N/C contact | | | | | | |
|  | Insertable in the slot from above, flush with cylinder profile, short design | PNP | Cable, 3-wire | 7.5 | 574340 | SMT-8M-A-PO-24V-E-7,5-OE |

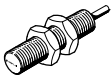
| Ordering data – Proximity sensors for T-slot, magnetic reed | | | | | | Technical data → Internet: sme |
|---|--|------------------|-----------------------|------------------|----------|--------------------------------|
| | Type of mounting | Switching output | Electrical connection | Cable length [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 |
| | | | Plug M8x1, 3-pin | 0.3 | 543861 | SME-8M-DS-24V-K-0,3-M8D |



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, 2.5 m | 150370 | SIEN-M5B-PS-K-L |
| | | | Plug | 150371 | SIEN-M5B-PS-S-L |
| | M8 | N/O contact | Cable, 2.5 m | 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 |
| | 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 | | | | 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 | G $\frac{1}{8}$ | 3 | | 193142 | GRLA- $\frac{1}{8}$ -QS-3-D |
| | | | 4 | | 193143 | GRLA- $\frac{1}{8}$ -QS-4-D |
| | | | 6 | | 193144 | GRLA- $\frac{1}{8}$ -QS-6-D |
| | | | 8 | | 193145 | GRLA- $\frac{1}{8}$ -QS-8-D |
| | | | 8 | | 193147 | GRLA- $\frac{1}{4}$ -QS-8-D |
| | 63 | G $\frac{1}{4}$ | 10 | | 193148 | GRLA- $\frac{1}{4}$ -QS-10-D |

| Ordering data – Centring sleeves for DSM-...-HD | | | Technical data → Internet: zbh | | |
|---|-----------|--|--------------------------------|------------|------------------|
| | For size | Description | Part No. | Type | PU ¹⁾ |
|  | 12, 16 | For centring the drive for lateral mounting | 186717 | ZBH-7 | 10 |
| | 25 | | 150927 | ZBH-9 | |
| | 32 ... 63 | | 189653 | ZBH-12 | |
| | 12 | For centring attachments on the rotating plate | 189652 | ZBH-5 | |
| | 16 ... 32 | | 186717 | ZBH-7 | |
| | 40, 63 | | 189653 | ZBH-12 | |
|  | 12, 16 | For centring attachments in the middle of the rotating plate | 189653 | ZBH-12 | |
| | 25 | | 191409 | ZBH-15 | |
|  | 40, 63 | | 150901 | SLZZ-25/16 | 1 |

1) Packaging unit

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To meet this commitment, we strive to ensure a consistent, integrated, and systematic approach to management that will meet or exceed the requirements of the ISO 9001 standard for Quality Management and the ISO 14001 standard for Environmental Management.

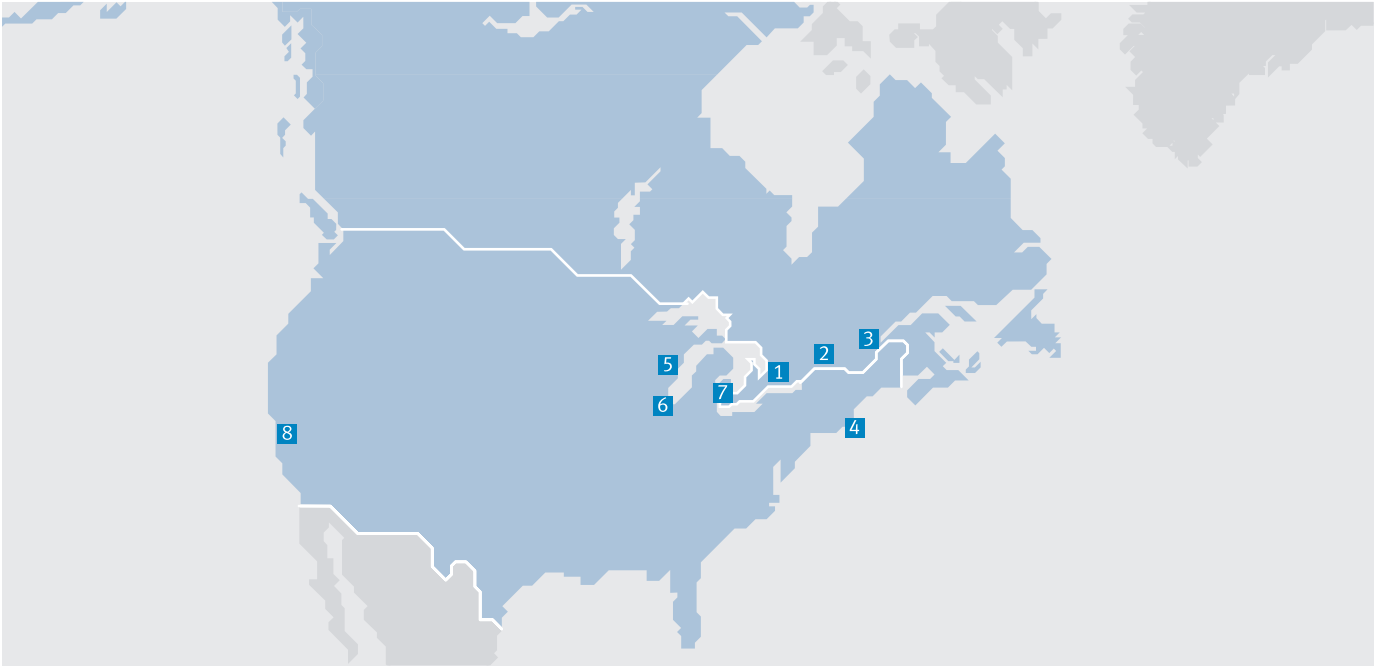


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